MGS™ Speed Reducers
New Solutions For You

As someone who stays abreast of the latest advances in gear drive technology, you'll appreciate what we've done to make the MGS line of speed reducers an exceptional value.

Over the past 50-plus years, we've listened to the needs of gear drive users throughout the world. We've responded to those needs with advanced design and manufacturing technologies — and added a healthy dose of good old-fashioned customer service.

The result of this effort is a very thoughtful line of products that are designed to meet a wide range of performance, durability, efficiency, and availability requirements. New solutions for old problems.

Modular Gear System — The Key to Value

The MGS, or Modular Gear System developed by Stöber design engineers is the foundation to this new line of products. It is comprised of interacting, highly engineered components such as: shafts, gears, housings, input and output flanges, motors, etc. This modular approach benefits you in three important ways:

Wide Selection
The MGS modular concept lets us deliver thousands of sizes, styles, and mounting configurations. A vast selection that you can choose from to meet your exact gear drive needs.

Availability
This modularity combined with advanced assembly techniques lets us build, fully test and deliver a custom-built drive in just hours .... not weeks.

Economy
Components for the MGS line of products are produced in large, very cost-efficient quantities. This savings is passed on to you in a finished product that never compromises quality — and always maximizes value.

And with MGS, you won't pay a premium for special handling to have your drive built and available in 24 hours.

3 Year Warranty

Increasing worldwide sales of MGS reducers has demonstrated the superior quality of this versatile Modular Gear System. Stober MGS Reducers shall be free from defects in material and workmanship for a maximum of 3 years from date of shipment to the customer.

Quality You Can Trust

Components for MGS gear drives are manufactured in accordance with the principles of ISO 9000 — the newest world standard for quality. And, this commitment to quality is evident with every MGS drive you choose.

For example, gearcases for our drives are made of durable cast iron and are precision machined for exacting gearset alignment. All MGS gears are precision crafted and feature an absolute minimum of backlash. High capacity anti-friction bearings, precision machined high tensile strength shafts, advance sealing material and more are integral to our promise of durability for years to come.

Easy To Select

As you leaf through this catalog, you'll notice that we've included the selection information you need to choose a gear drive for your application. It's all written in plain English and is easy-to-follow.

If you're exporting products with gear drives, an international version of this catalog is available with ratings and dimensions expressed in metric values such as kW, Nm, mm, etc.

A Commitment to NEMA C-Face Construction

When you choose an MGS speed reducer, you won't hear complaints about odd-ball motor mounting, gripes about poor motor availability, or a lot of groaning when the motor must be replaced.

Instead, you'll have the flexibility of: choosing a NEMA C-face motor to lower spare parts inventory costs; selecting an enclosure type that's readily available to meet your application demands; and watching how a motor can be replaced in just minutes and not hours.

C-face construction also lets you add components such as a clutch/brake or soft-start coupling simply and economically.

Application Engineering Support

For your toughest gear drive application problems, you can depend on Stober Technical Support to provide a solution that's durable, practical, and of course, affordable.

Application Matched Options

To meet specific operating conditions, a wide selection of options are available with MGS gear drives. Consult Stover Drives Inc. technical support for the following:

- Washdown protection packages
- Internal backstops
- Bushing kits
- Adjustable speed drives
- Combination units for higher ratios
- Adapters for high dynamic servo motors

Visit our web site:
www.stober.com
for other products available from Stober Drives Inc.

New Solutions for You!

"C" Series—Concentric Helical MGS Reducers

These versatile gear drives offer you performance, durability, and economy for a wide range of constant speed applications. High efficiency helical gearing keeps motor size to a minimum while conserving energy.

Performance Specifications:

- Horsepower ratings from 1/6 to 165
- Output torques to 62,000 in. lbs.
- Output speeds available from 875 to 6.3 RPM
- Speed reducer ratios from 2:1 to 276:1

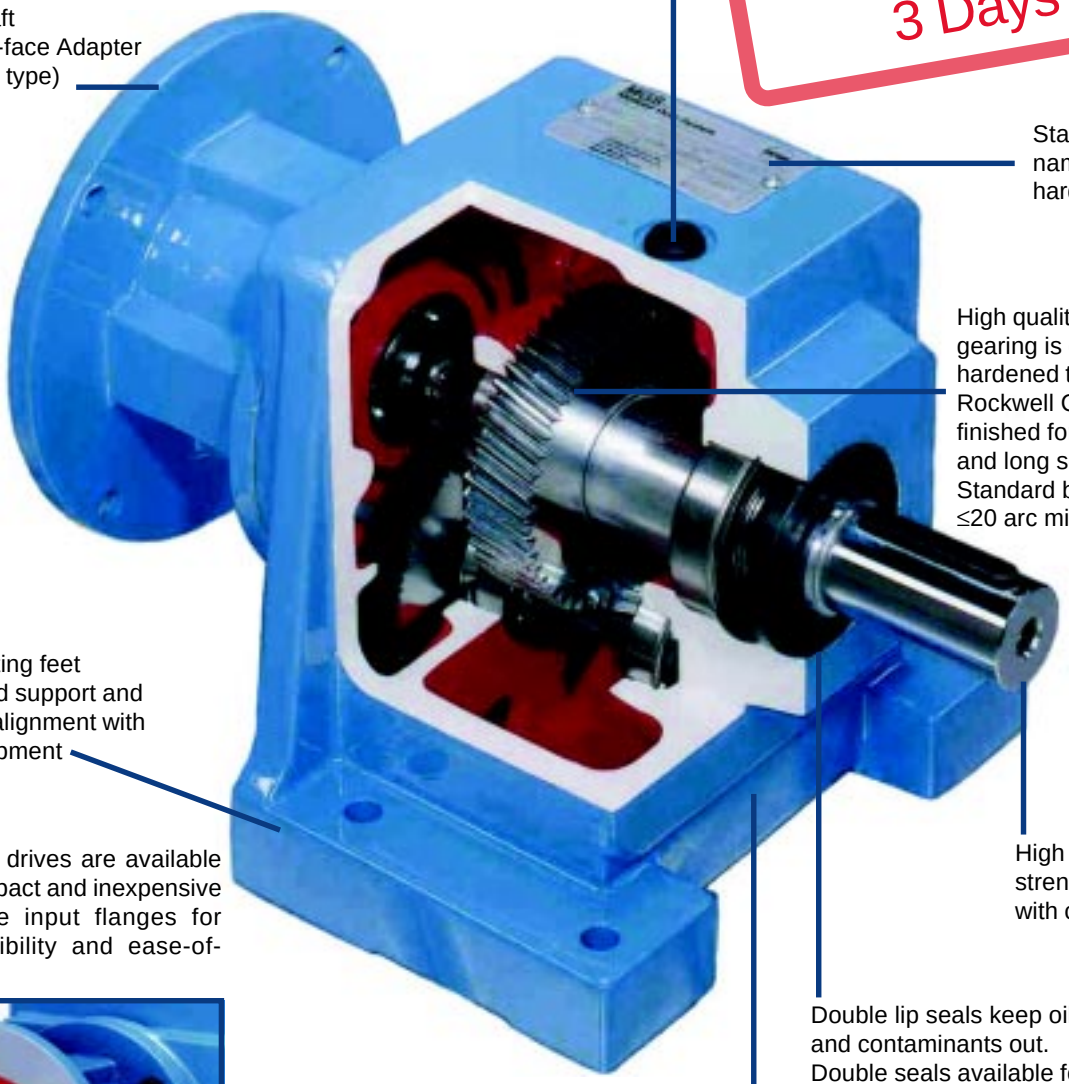
3 year warranty–your assurance of satisfactory product performance

Shipped with the proper amount and type of oil to prevent gear damaging dry start-ups

Strategically located oil fill, drain and breather ports for optimum mounting flexibility. Oil sight glass available.

Standard Delivery 3 Days

Input Options:
- Input shaft
- NEMA C-face Adapter (coupling type)



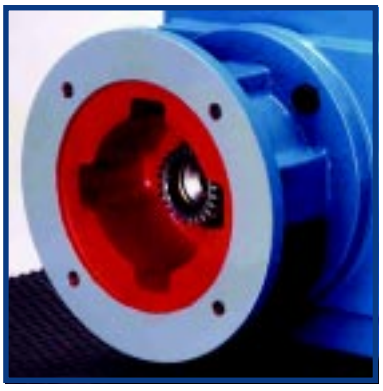
Stainless steel nameplate and hardware

High quality helical gearing is case hardened to 58-62 Rockwell C. Precision finished for low noise and long service life. Standard backlash is ≤20 arc minutes

Cast mounting feet provide rigid support and prolonged alignment with driven equipment

High tensile strength shafts with captured keys

All MGS gear drives are available with very compact and inexpensive NEMA C-face input flanges for optimum flexibility and ease-of-maintenance



Double lip seals keep oil in and contaminants out. Double seals available for severe duty applications.

Available with a one-piece cast iron housing. Precision machined bearing supports assure gearset alignment, prolongs bearing life, provides exceptional overhung load capacities to eliminate leakage problems common to drives with bolt-on output covers.

"F" Series—Offset Helical MGS Speed Reducers

Compact size and flexibility make these gear drives a popular choice for applications that require high performance, efficiency, and durability.

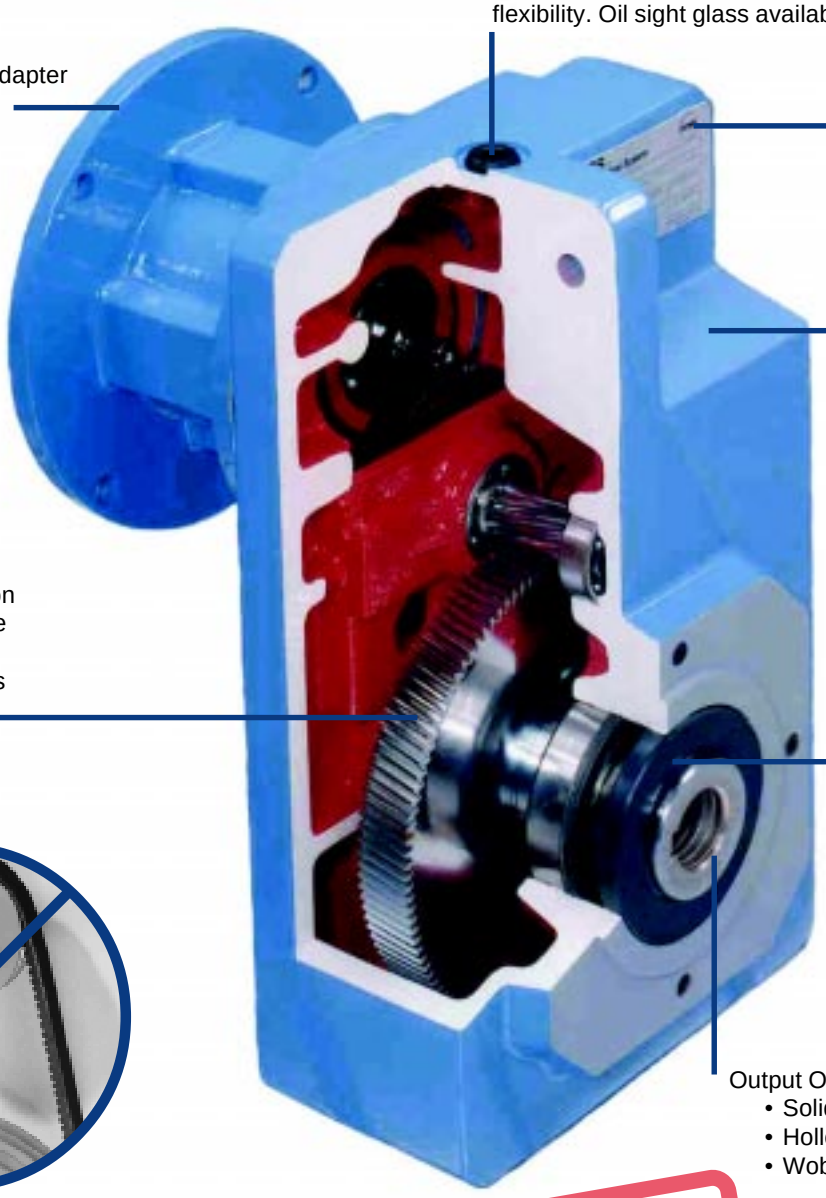
Performance Specifications:

- Horsepower ratings from 1/6 to 33
- Output torques to 9,743 in. lbs.
- Output speeds available from 406 to 3 RPM
- Speed reducer ratios from 4.3:1 to 552:1

3 year warranty–your assurance of satisfactory product performance

Input Options:
- Input shaft
- NEMA C-face Adapter (coupling type)

Strategically located oil fill, drain and breather ports for optimum mounting flexibility. Oil sight glass available.



Stainless steel nameplate and hardware

One-piece cast iron housing with precision machined bearing supports assure gearset alignment, prolongs bearing life, provides exceptional overhung load capacities, and eliminates leakage problems common to two-piece housings.

High quality helical gearing is case hardened to 58-62 Rockwell C. Precision finished for low noise and long service life. Standard backlash is ≤11 arc minutes

Double lip seals keep oil in and contaminants out. Double seals available for severe duty applications.

Output Options:
- Solid shaft
- Hollow
- Wobble free bushings

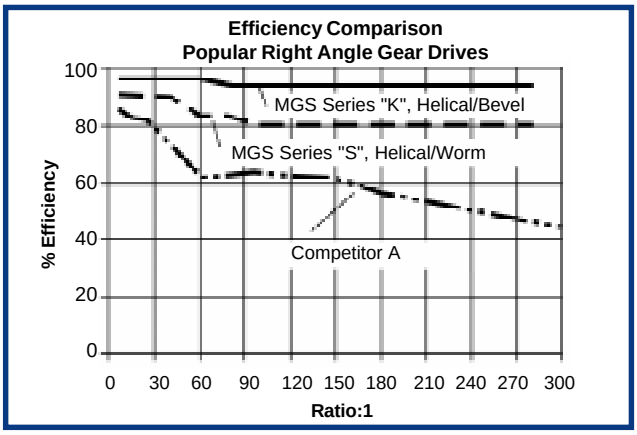
Series "F" gear drives are available with a wide selection of exact ratios and output speeds to eliminate the need for expensive and maintenance prone external input drives. It's a compact package that reduces product and installlation costs today– and maintenance costs tomorrow.

Standard Delivery 3 Days

Shipped with the proper amount and type of oil to prevent gear damaging dry start-ups

"K" Series—Right Angle Helical/Bevel MGS Reducers

Right angle helical/bevel gear drives offer higher input-to-output efficiencies than conventional worm gear drives. This added efficiency reduces your costs today through smaller gear drive and motor sizing. Tomorrow, you'll benefit through optimum energy savings.



MGS helical/bevel gear drives offer consistent, higher efficiencies than single-worm gear drives.

Performance Specifications:

- Horsepower ratings from 1/6 to 165
- Output torques to 106,296 in. lbs.
- Output speeds available from 437 to 4.5 RPM
- Speed reducer ratios from 4:1 to 381:1

3 year warranty–your assurance of satisfactory product performance

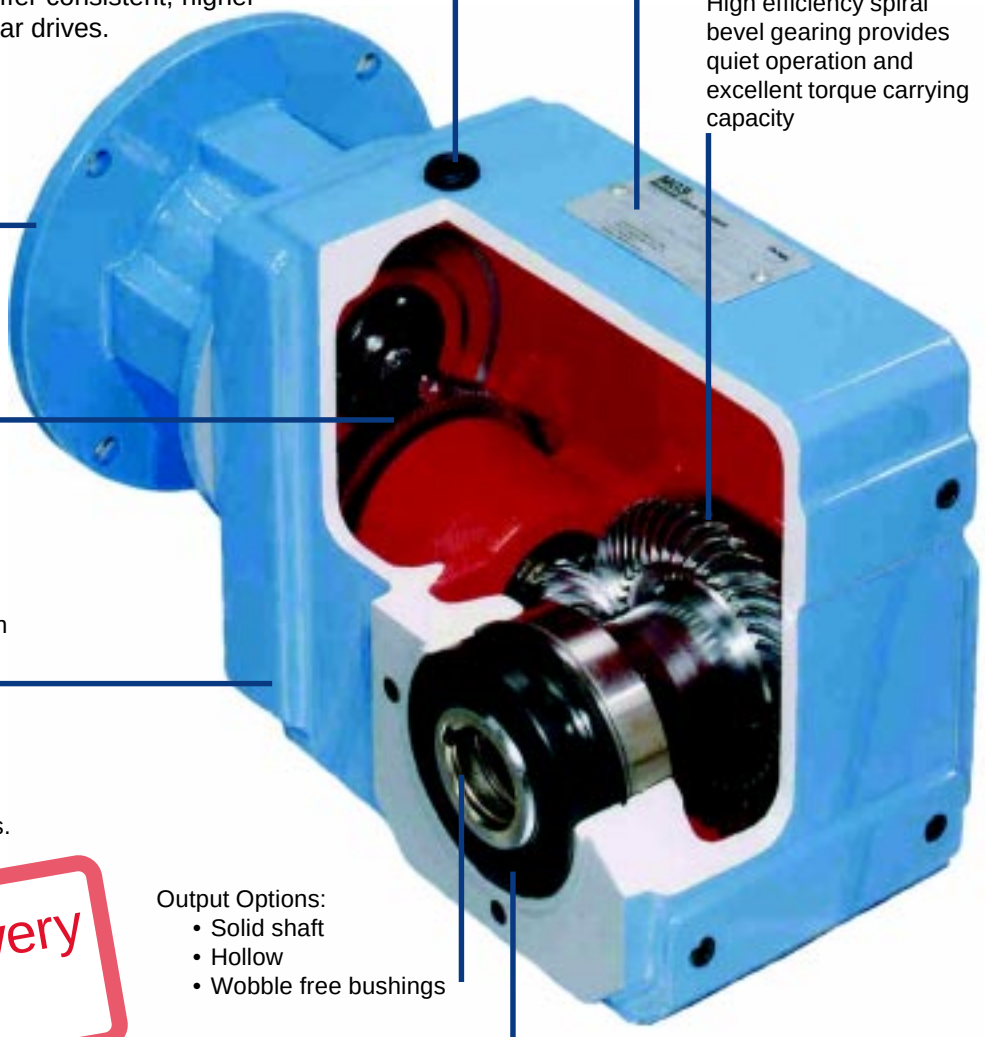
Shipped with the proper amount and type of oil to prevent gear damaging dry start-ups.

Strategically located oil fill, drain and breather ports for optimum mounting flexibility. Oil sight glass available.

Stainless steel nameplate and hardware

High efficiency spiral bevel gearing provides quiet operation and excellent torque carrying capacity

Input Options:
- Input shaft
- NEMA C-face Adapter (coupling type)



High quality helical gearing is case hardened to 58-62 Rockwell C. Precision finished for low noise and long service life. Standard backlash is ≤12 arc minutes

One-piece cast iron housing with precision machined bearing supports assure gearset alignment, prolongs bearing life, provides exceptional overhung load capacities, and eliminates leakage problems common to drives with bolt-on output covers.

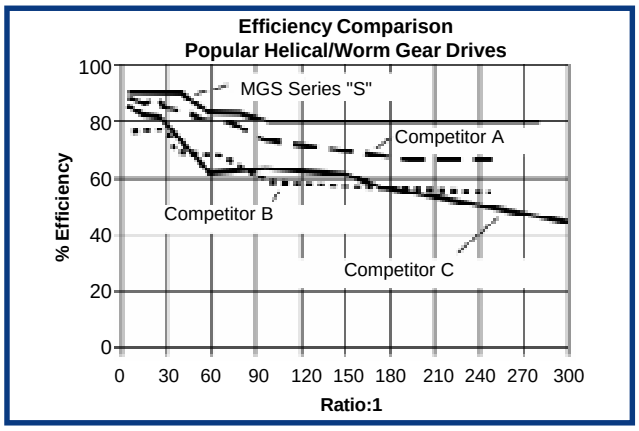
Output Options:
- Solid shaft
- Hollow
- Wobble free bushings

Double lip seals keep oil in and contaminants out. Double seals available for severe duty applications.

Standard Delivery 3 Days

"S" Series—Right Angle Helical/Worm MGS Reducers

These durable units combine economy and versatility for a wide range of applications. MGS helical-before-worm gearing offers twice the efficiency of two-stage worm drives.



Performance Specifications:

- Horsepower ratings from 1/6 to 8.19
- Output torques to 7,086 in. lbs.
- Output speeds available from 318 to 2.5 RPM
- Speed reducer ratios from 9.2:1 to 683:1

3 year warranty–your assurance of satisfactory product performance

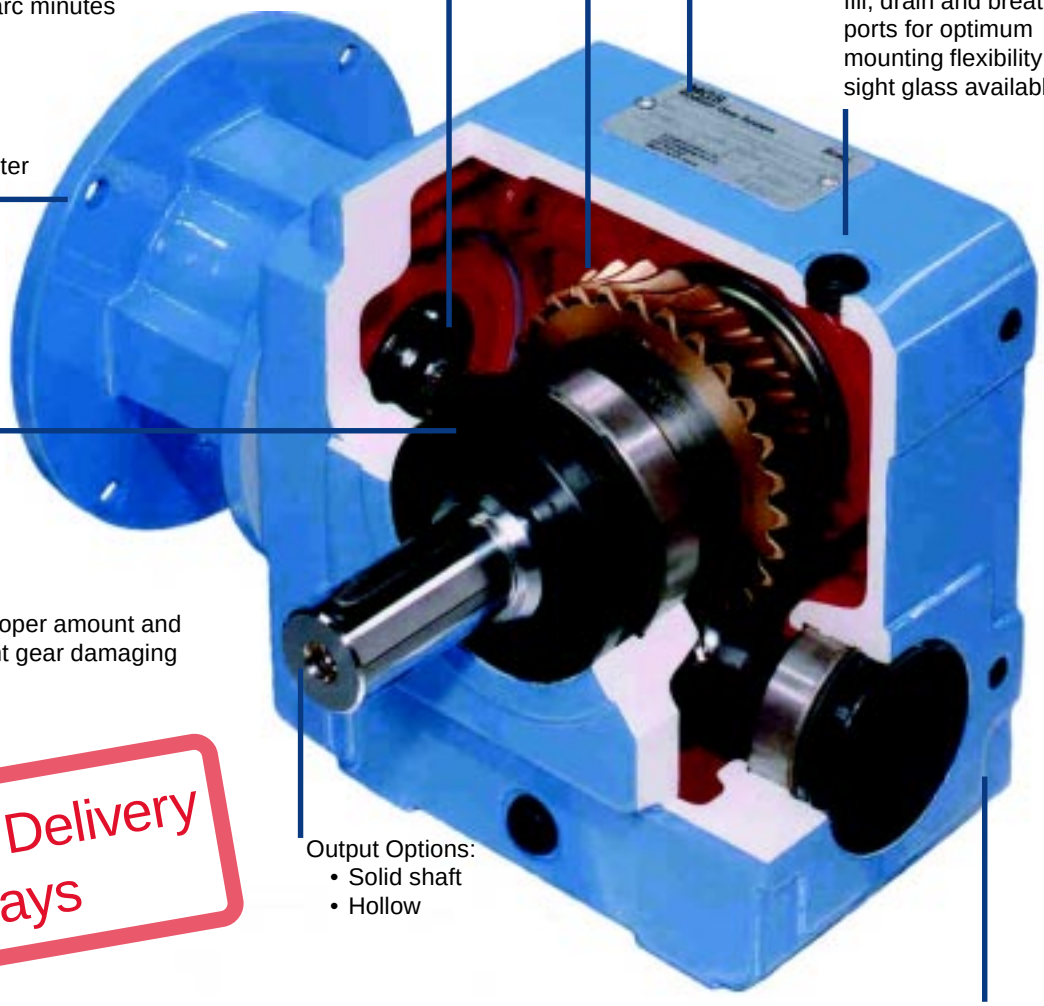
Centrifugally cast bronze worm gear and precision worm provide excellent torque carrying capacity and high efficiency

Stainless steel nameplate and hardware

High quality first stage helical gearing is case hardened to 58-62 Rockwell C. Precision finished with minimum backlash for low noise and long service life. Standard backlash is ≤20 arc minutes

Strategically located oil fill, drain and breather ports for optimum mounting flexibility. Oil sight glass available.

Input Options:
- Input shaft
- NEMA C-face Adapter (coupling type)



Double lip seals keep oil in and contaminants out. Double seals available for severe duty applications

Shipped with the proper amount and type of oil to prevent gear damaging dry start-ups

Standard Delivery 3 Days

Output Options:
- Solid shaft
- Hollow

One-piece cast iron housing with precision machined bearing supports assure gearset alignment, prolongs bearing life, provides exceptional overhung load capacities, and eliminates leakage problems common to drives with bolt-on output covers.

MGS™ Speed Reducers

Table of Contents

"C" Series

"F" Series

"K" Series

"S" Series

At Stober Drives, we are continuously seeking new ways to bring you new solutions to constant and adjustable speed drive problems, This ongoing process has resulted in innovative products such as our MGS line of speed reducers and, of course, our ComTrac line of adjustable speed traction drives.

In addition to practical and dependable product solutions, we are also concentrating on providing the services and support needed to help you obtain maximum value from our products. Some of these services include:

- A North American network of the nation's finest industrial distributors to provide timely, local response to your needs.
- Comprehensive and easy-to-read product selection aids such as this catalog, our web site, and a software-based selection program that is currently under development.
- A staff of talented application engineers with the answers you need to solve tough gear drive problems.
- In-depth installation, maintenance, and service instructions that are available for each drive to help obtain the maximum benefit from our products today — and in the future.
- Responsive customer service personnel that you can depend on to provide the right product at the right time — anytime.
- Export assistance. In addition to meeting North American standards, we can also provide products to meet international standards such as DIN and IEC.

On behalf of the worldwide family of Stöber employees, we thank you for trying our products and pledge to continue to meet your product and service needs with the newest solutions.

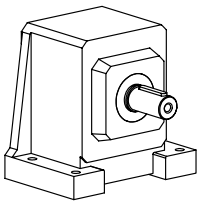
Sincerely,

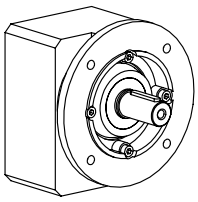
Bernd Stöber, Chairman
Stöber Antriebstechnik GmbH

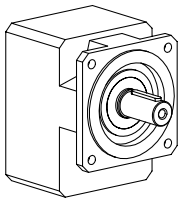
Patrick Stöber, VP/General Manager
Stober Drives, Inc.

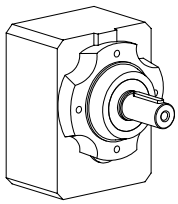
"C" Series—Concentric Helical MGS Speed Reducers

Housing Styles:

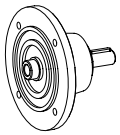

Style N, Foot Mount

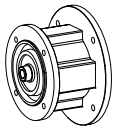

Style F, Round Flange


Style Q, Square Flange


Style G, Tapped Holes

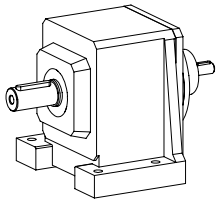
Input Options:

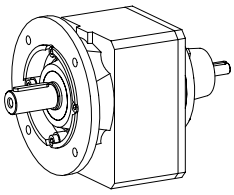

Type AW
Input Shaft

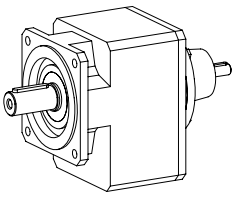

Type MR
NEMA C-Face Motor Adapter

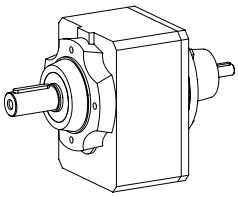
Speed Reducer Configurations:

Shaft Input

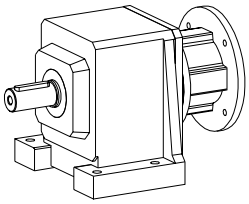

Style N, Foot Mount
See Page 36

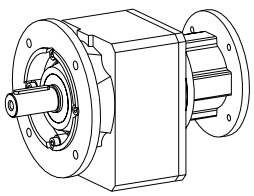

Style F, Round Flange
See Page 38

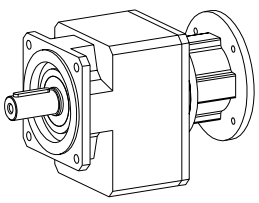

Style Q, Square Flange
See Page 40

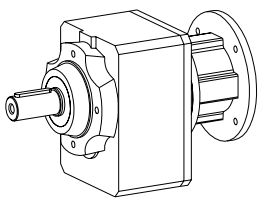

Style G, Tapped Holes
See Page 42

NEMA C-Face Input


Style N, Foot Mount
See Page 44


Style F, Round Flange
See Page 46

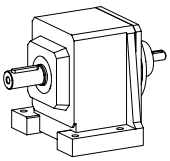

Style Q, Square Flange
See Page 48


Style G, Tapped Holes
See Page 50

Accessories:

Optional Round Flanges
See Page 52

Backstops
See Page 52



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
875 RPM		**Output (Approximate)**							**715 RPM**		**580 RPM**		**435 RPM**	
1.38	97	C002_0020	MR142/050	56C	AW142/010	1.997	98	166	1.13	97	0.91	97	0.69	97
2.63	184	C002_0020	MR163/050	56C	AW143/010	1.997	98	166	2.15	184	1.74	184	1.31	184
2.80	196	C102_0020	MR163/050	56C	AW143/010	2.018	98	236	2.28	196	1.85	196	1.39	196
4.06*	285	C002_0020	MR164/140	143/145TC	AW164/012	1.997	196	166	3.55*	304	3.09*	326	2.47	347
5.26	368	C102_0020	MR164/140	143/145TC	AW164/012	2.018	196	236	4.30	368	3.49	368	2.62	368
5.41	379	C202_0020	MR164/140	143/145TC	AW164/012	2.009	196	332	4.42	379	3.59	379	2.69	379
8.16*	572	C102_0020	MR205/180	182/184TC	AW165/012	2.018	196	236	7.13*	611	6.20*	655	5.12	721
12.40*	872	C202_0020	MR205/180	182/184TC	AW165/012	2.009	196	332	10.40*	890	8.43*	890	6.32	890
13.20*	926	C302_0020	MR205/180	182/184TC	AW165/012	2.020	196	437	10.80	926	8.76	926	6.57	926
20.40*	1,429	C302_0020	MR256/210	213/215TC	AW206/014	2.020	333	437	17.80*	1,529	15.50*	1,639	12.80*	1,804
29.40*	2,061	C402_0020	MR256/210	213/215TC	AW206/014	1.968	333	848	25.70*	2,204	22.40*	2,363	17.20*	2,419
35.90*	2,517	C502_0020	MR306/250	254/256TC	AW206/014	1.976	333	612	29.40*	2,517	23.80*	2,517	17.90	2,517
35.90*	2,517	C502_0020	MR306/250	254/256TC	AW206/014	1.976	333	612	29.40*	2,517	23.80*	2,517	17.90	2,517
45.70*	3,199	C502_0020	MR307/280	284/286TC	AW307/110	1.976	1072	612	39.90*	3,421	34.70*	3,669	28.70*	4,038
800 RPM		**Output (Approximate)**							**650 RPM**		**525 RPM**		**400 RPM**	
2.75	211	C102_0022	MR163/050	56C	AW143/010	2.177	98	241	2.24	211	1.82	211	1.36	211
5.18	398	C102_0022	MR164/140	143/145TC	AW164/012	2.177	196	241	4.23	398	3.43	398	2.57	398
5.38	413	C202_0022	MR164/140	143/145TC	AW164/012	2.184	196	340	4.39	413	3.56	413	2.67	413
7.64*	586	C102_0022	MR205/180	182/184TC	AW165/012	2.177	196	241	6.67*	627	5.80*	672	4.79	740
11.70*	896	C202_0022	MR205/180	182/184TC	AW165/012	2.184	196	340	10.20*	959	8.36*	968	6.27	968
13.00*	997	C302_0022	MR205/180	182/184TC	AW165/012	2.177	196	447	10.60	997	8.61	997	6.46	997
19.10*	1,465	C302_0022	MR256/210	213/215TC	AW206/014	2.177	333	447	16.70*	1,567	14.50*	1,681	12.00	1,850
27.90*	2,145	C402_0022	MR256/210	213/215TC	AW206/014	2.221	333	868	24.40*	2,295	21.20*	2,461	17.50*	2,708
37.30*	2,863	C502_0022	MR306/250	254/256TC	AW206/014	2.247	333	626	30.50*	2,863	24.70*	2,863	18.50	2,863
37.30*	2,863	C502_0022	MR306/250	254/256TC	AW206/014	2.247	333	626	30.50*	2,863	24.70*	2,863	18.50	2,863
43.50*	3,339	C502_0022	MR307/280	284/286TC	AW307/110	2.247	1072	626	38.00*	3,572	33.10*	3,830	27.30*	4,215
730 RPM		**Output (Approximate)**							**600 RPM**		**485 RPM**		**360 RPM**	
5.10	427	C102_0024	MR164/050	56C	AW164/012	2.394	196	247	4.17	427	3.38	427	2.54	427
5.10	427	C102_0024	MR164/140	143/145TC	AW164/012	2.394	196	247	4.17	427	3.38	427	2.54	427
710 RPM		**Output (Approximate)** **Continued Next Page**							**580 RPM**		**470 RPM**		**350 RPM**	
10.80*	934	C202_0025	MR205/180	182/184TC	AW165/012	2.475	196	350	9.46*	999	8.20*	1,068	6.15	1,068
13.00*	1,121	C302_0025	MR205/180	182/184TC	AW165/012	2.510	196	461	10.60	1,121	8.61	1,121	6.46	1,121
25.70*	2,219	C402_0025	MR256/210	213/215TC	AW206/014	2.456	333	894	22.50*	2,373	19.50*	2,544	16.10*	2,801

* For thermal HP capacity, see rating below.

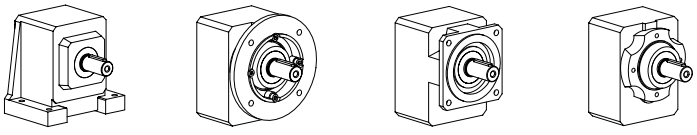
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

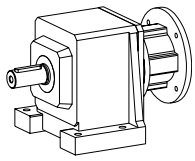
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data



NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

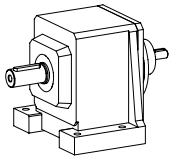
See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
710 RPM		**Output (Approximate) Continued**							**580 RPM**		**470 RPM**		**350 RPM**	
35.10*	3,031	C502_0025	MR306/250	254/256TC	AW206/014	2.450	333	645	28.70*	3,031	23.30*	3,031	17.50	3,031
35.10*	3,031	C502_0025	MR306/250	254/256TC	AW206/014	2.450	333	645	28.70*	3,031	23.30*	3,031	17.50	3,031
39.80*	3,436	C502_0025	MR307/280	284/286TC	AW307/110	2.450	1072	645	34.80*	3,676	30.30*	3,941	25.00*	4,338
680 RPM		**Output (Approximate)**							**550 RPM**		**450 RPM**		**335 RPM**	
5.10	461	C102_0026	MR164/050	56C	AW164/012	2.582	196	251	4.17	461	3.38	461	2.54	461
5.10	461	C102_0026	MR164/140	143/145TC	AW164/012	2.582	196	251	4.17	461	3.38	461	2.54	461
650 RPM		**Output (Approximate)**							**530 RPM**		**430 RPM**		**320 RPM**	
10.20*	960	C202_0027	MR205/180	182/184TC	AW165/012	2.690	196	358	8.90*	1,027	7.74*	1,102	6.11	1,160
12.80*	1,208	C302_0027	MR205/180	182/184TC	AW165/012	2.705	196	471	10.50	1,208	8.49	1,208	6.37	1,208
630 RPM		**Output (Approximate)**							**515 RPM**		**415 RPM**		**315 RPM**	
1.31	128	C002_0028	MR142/050	56C	AW142/010	2.769	98	180	1.07	128	0.87	128	0.65	128
2.49	242	C002_0028	MR163/050	56C	AW143/010	2.769	98	180	2.04	242	1.65	242	1.24	242
3.27*	317	C002_0028	MR164/140	143/145TC	AW164/012	2.769	196	180	2.86	340	2.49	364	2.05	401
23.80*	2,310	C402_0028	MR256/210	213/215TC	AW206/014	2.771	333	921	20.80*	2,471	18.10*	2,649	14.90*	2,916
35.50*	3,448	C502_0028	MR306/250	254/256TC	AW206/014	2.787	333	664	29.00*	3,448	23.50*	3,448	17.70	3,448
35.50*	3,448	C502_0028	MR306/250	254/256TC	AW206/014	2.787	333	664	29.00*	3,448	23.50*	3,448	17.70	3,448
37.00*	3,588	C502_0028	MR307/280	284/286TC	AW307/110	2.787	1072	664	32.30*	3,838	28.10*	4,115	23.20*	4,529
565 RPM		**Output (Approximate)**							**465 RPM**		**375 RPM**		**280 RPM**	
0.68	74	C002_0031	MR141/050	56C	AW141/010	3.067	98	185	0.56	74	0.45	74	0.34	74
1.28	138	C002_0031	MR142/050	56C	AW142/010	3.067	98	185	1.05	138	0.85	138	0.64	138
1.37	148	C102_0031	MR142/050	56C	AW142/010	3.091	98	263	1.12	148	0.91	148	0.68	148
2.44	264	C002_0031	MR163/050	56C	AW143/010	3.067	98	185	2.00	264	1.62	264	1.22	264
2.61	282	C102_0031	MR163/050	56C	AW143/010	3.091	98	263	2.13	282	1.73	282	1.30	282
3.05*	329	C002_0031	MR164/140	143/145TC	AW164/012	3.067	196	185	2.66	352	2.32	377	1.91	415
4.92	531	C102_0031	MR164/140	143/145TC	AW164/012	3.091	196	263	4.02	531	3.26	531	2.45	531
5.11	552	C202_0031	MR164/140	143/145TC	AW164/012	3.103	196	370	4.18	552	3.39	552	2.54	552
6.10*	659	C102_0031	MR205/180	182/184TC	AW165/012	3.091	196	263	5.33	705	4.64	755	3.83	831
9.33*	1,007	C202_0031	MR205/180	182/184TC	AW165/012	3.103	196	370	8.15*	1,077	7.09	1,155	5.85	1,272
12.40*	1,342	C302_0031	MR205/180	182/184TC	AW165/012	3.110	196	487	10.20	1,342	8.24	1,342	6.18	1,342
15.30*	1,650	C302_0031	MR256/210	213/215TC	AW206/014	3.110	333	487	13.40*	1,765	11.60	1,893	9.59	2,083
22.20*	2,398	C402_0031	MR256/210	213/215TC	AW206/014	3.099	333	945	19.40*	2,565	16.90*	2,750	13.90	3,027
34.10*	3,684	C502_0031	MR306/250	254/256TC	AW206/014	3.077	333	682	27.90*	3,684	22.60*	3,684	17.00	3,684

Part No. Explanation

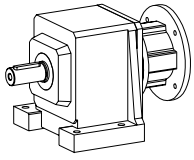
C 3 0 2 N 0620 AW 142 / 012

- C — Unit No. Concentric Helical
- 3 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Housing Style
- N — Ratio (0620 = 62.0:1)
- 0620 — Input Shaft
- AW — Flange No.
- 142 — Shaft Dia. ($^{1}/_{16}$ in.; example–012=$^{12}/_{16}$ or $^{3}/_{4}$)
- 012

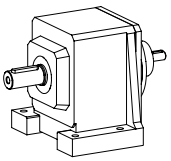


C 3 0 2 N 0620 MR 162 / 140

- C — Unit No. Concentric Helical
- 3 — Generation No.
- 0 — No. of Reductions
- 2 — Housing Style
- N — Ratio (0620 = 62.0:1)
- 0620 — Motor Adapter
- MR — Flange No.
- 162 — Motor Adapter
- 140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
525 RPM		**Output (Approximate)**							**430 RPM**		**350 RPM**		**265 RPM**	
0.69	80	C002_0033	MR141/050	56C	AW141/010	3.318	98	188	0.56	80	0.45	80	0.34	80
1.29	150	C002_0033	MR142/050	56C	AW142/010	3.318	98	188	1.05	150	0.85	150	0.64	150
1.38	160	C102_0033	MR142/050	56C	AW142/010	3.334	98	268	1.13	160	0.91	160	0.69	160
2.45	285	C002_0033	MR163/050	56C	AW143/010	3.318	98	188	2.00	285	1.63	285	1.22	285
2.62	305	C102_0033	MR163/050	56C	AW143/010	3.334	98	268	2.14	305	1.74	305	1.30	305
2.90	337	C002_0033	MR164/140	143/145TC	AW164/012	3.318	196	188	2.53	361	2.20	387	1.82	426
4.93	573	C102_0033	MR164/140	143/145TC	AW164/012	3.334	196	268	4.03	573	3.27	573	2.45	573
5.81*	676	C102_0033	MR205/180	182/184TC	AW165/012	3.334	196	268	5.08	723	4.42	775	3.65	853
520 RPM		**Output (Approximate)**							**425 RPM**		**345 RPM**		**260 RPM**	
5.10	600	C202_0034	MR164/140	143/145TC	AW164/012	3.373	196	378	4.17	600	3.38	600	2.54	600
8.81*	1,036	C202_0034	MR205/180	182/184TC	AW165/012	3.373	196	378	7.70*	1,108	6.70	1,188	5.53	1,308
12.30	1,447	C302_0034	MR205/180	182/184TC	AW165/012	3.352	196	498	10.10	1,447	8.15	1,447	6.11	1,447
14.40*	1,692	C302_0034	MR256/210	213/215TC	AW206/014	3.352	333	498	12.60*	1,810	10.90	1,941	9.03	2,136
500 RPM		**Output (Approximate)**							**410 RPM**		**330 RPM**		**250 RPM**	
20.40*	2,497	C402_0035	MR256/210	213/215TC	AW206/014	3.497	333	975	17.80*	2,670	15.50*	2,863	12.80	3,151
31.60*	3,871	C502_0035	MR306/250	254/256TC	AW206/014	3.501	333	704	27.60*	4,140	22.70*	4,191	17.00	4,191
450 RPM		**Output (Approximate)**							**370 RPM**		**300 RPM**		**225 RPM**	
0.67	90	C002_0038	MR141/050	56C	AW141/010	3.835	98	195	0.55	90	0.44	90	0.33	90
1.25	167	C002_0038	MR142/050	56C	AW142/010	3.835	98	195	1.02	167	0.83	167	0.62	167
1.32	180	C102_0039	MR142/050	56C	AW142/010	3.883	98	278	1.08	180	0.88	180	0.66	180
2.37	318	C002_0038	MR163/050	56C	AW143/010	3.835	98	195	1.94	318	1.57	318	1.18	318
2.52	342	C102_0039	MR163/050	56C	AW143/010	3.883	98	278	2.06	342	1.67	342	1.25	342
2.64	354	C002_0038	MR164/140	143/145TC	AW164/012	3.835	196	195	2.30	378	2.00	406	1.65	446
4.74	644	C102_0039	MR164/140	143/145TC	AW164/012	3.883	196	278	3.87	644	3.14	644	2.36	644
4.92	668	C202_0039	MR164/140	143/145TC	AW164/012	3.888	196	392	4.02	668	3.26	668	2.44	668
5.23	710	C102_0039	MR205/180	182/184TC	AW165/012	3.883	196	278	4.57	760	3.98	815	3.28	897
8.00*	1,086	C202_0039	MR205/180	182/184TC	AW165/012	3.888	196	392	6.99	1,162	6.08	1,246	5.02	1,371
11.90	1,616	C302_0039	MR205/180	182/184TC	AW165/012	3.878	196	516	9.72	1,616	7.89	1,616	5.91	1,616
12.30	1,675	C402_0039	MR205/180	182/184TC	AW165/012	3.894	196	1,001	10.10	1,675	8.17	1,675	6.13	1,675
13.10*	1,776	C302_0039	MR256/210	213/215TC	AW206/014	3.878	333	516	11.40	1,900	9.94	2,037	8.21	2,242
19.00*	2,587	C402_0039	MR256/210	213/215TC	AW206/014	3.894	333	1,001	16.60*	2,767	14.50	2,967	12.00	3,266
29.50*	4,001	C502_0039	MR256/210	213/215TC	AW206/014	3.867	333	722	25.70*	4,280	21.80*	4,467	16.40	4,467
29.50*	4,001	C502_0039	MR306/250	254/256TC	AW206/014	3.867	333	722	25.70*	4,280	21.80*	4,467	16.40	4,467

* For thermal HP capacity, see rating below.

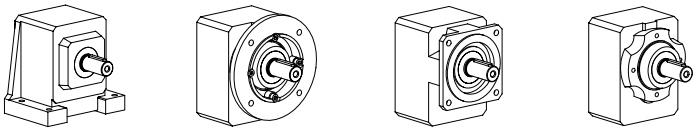
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

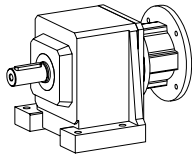
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data



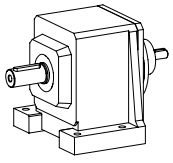
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

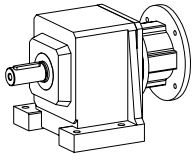
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
420 RPM		**Output (Approximate)**							**345 RPM**		**280 RPM**		**210 RPM**	
0.67	97	C002_0041	MR141/050	56C	AW141/010	4.149	98	199	0.54	97	0.44	97	0.33	97
1.25	181	C002_0041	MR142/050	56C	AW142/010	4.149	98	199	1.02	181	0.83	181	0.62	181
1.32	194	C102_0042	MR142/050	56C	AW142/010	4.189	98	284	1.08	194	0.88	194	0.66	194
2.37	345	C002_0041	MR163/050	56C	AW143/010	4.149	98	199	1.94	345	1.57	345	1.18	345
2.51	363	C002_0041	MR164/140	143/145TC	AW164/012	4.149	196	199	2.19	389	1.90	417	1.57	459
2.52	369	C102_0042	MR163/050	56C	AW143/010	4.189	98	284	2.06	369	1.67	369	1.25	369
4.73	694	C102_0042	MR164/140	143/145TC	AW164/012	4.189	196	284	3.86	694	3.13	694	2.35	694
4.94	725	C202_0042	MR164/140	143/145TC	AW164/012	4.226	196	400	4.04	725	3.27	725	2.46	725
4.97	729	C102_0042	MR205/180	182/184TC	AW165/012	4.189	196	284	4.34	780	3.78	837	3.12	921
7.60*	1,117	C202_0042	MR205/180	182/184TC	AW165/012	4.226	196	400	6.65	1,194	5.78	1,281	4.77	1,410
11.90	1,741	C302_0042	MR205/180	182/184TC	AW165/012	4.179	196	526	9.69	1,741	7.86	1,741	5.90	1,741
12.40*	1,821	C302_0042	MR256/210	213/215TC	AW206/014	4.179	333	526	10.80	1,948	9.43	2,089	7.78	2,299
37.60*	5,519	C612_0042	MR256/210	213/215TC	AW206/014	4.184	333	1,895	30.70*	5,519	24.90	5,519	18.70	5,519
37.60*	5,519	C612_0042	MR306/250	254/256TC	AW206/014	4.184	333	1,895	30.70*	5,519	24.90	5,519	18.70	5,519
51.90*	7,625	C612_0042	MR307/280	284/286TC	AW307/110	4.184	1072	1,895	45.40*	8,156	39.50*	8,745	32.60*	9,626
80.00*	11,748	C812_0042	MR307/280	284/286TC	AW307/110	4.225	1072	3,159	65.40*	11,748	53.00	11,748	39.80	11,748
140.0*	20,568	C812_0042	MR358/320	324/326TC	AW358/202	4.225	1569	3,159	122.0*	22,000	106.0*	23,429	79.30*	23,429
140.0*	20,568	C812_0042	MR358/360	364/365TC	AW358/202	4.225	1569	3,159	122.0*	22,000	106.0*	23,429	79.30*	23,429
165.0*	23,956	C912_0041	MR358/360	364/365TC	AW358/202	4.147	1569	3,779	135.0*	23,956	109.0*	23,956	82.10*	23,956
410 RPM		**Output (Approximate)**							**335 RPM**		**270 RPM**		**200 RPM**	
39.60	5,898	C712_0043	MR306/250	254/256TC	AW206/014	4.259	333	2,536	32.40	5,898	26.20	5,898	19.70	5,898
75.70*	11,269	C712_0043	MR307/280	284/286TC	AW307/110	4.259	1072	2,536	61.80*	11,269	50.10*	11,269	37.60	11,269
400 RPM		**Output (Approximate)**							**325 RPM**		**260 RPM**		**200 RPM**	
12.30	1,890	C402_0044	MR205/180	182/184TC	AW165/012	4.394	196	1,033	10.00	1,890	8.15	1,890	6.11	1,890
17.50*	2,694	C402_0044	MR256/210	213/215TC	AW206/014	4.394	333	1,033	15.30*	2,881	13.30	3,090	11.00	3,401
27.20*	4,176	C502_0044	MR306/250	254/256TC	AW206/014	4.399	333	745	23.70*	4,467	20.70*	4,790	16.40	5,081
375 RPM		**Output (Approximate)** **Continued Next Page**							**305 RPM**		**250 RPM**		**185 RPM**	
0.65	105	C002_0047	MR141/050	56C	AW141/010	4.680	98	205	0.53	105	0.43	105	0.32	105
1.21	198	C002_0047	MR142/050	56C	AW142/010	4.680	98	205	0.99	198	0.80	198	0.60	198
1.28	209	C102_0047	MR142/050	56C	AW142/010	4.658	98	292	1.05	209	0.85	209	0.64	209
2.30	376	C002_0047	MR163/050	56C	AW143/010	4.680	98	205	1.88	376	1.52	376	1.14	376
2.32	378	C002_0047	MR164/140	143/145TC	AW164/012	4.680	196	205	2.02	405	1.76	434	1.45	477
2.43	397	C102_0047	MR163/050	56C	AW143/010	4.658	98	292	1.98	397	1.61	397	1.21	397

Part No. Explanation

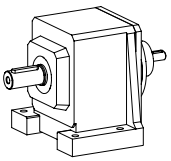
C 3 0 2 N 0620 AW 142 / 012
- Shaft Dia. ($^{1}/_{16}$ in.; example–012=$^{12}/_{16}$ or $^{3}/_{4}$)
- Flange No.
- Input Shaft
- Ratio (0620 = 62.0:1)
- Housing Style
- No. of Gear Reductions
- Generation No.
- Unit No.
- Concentric Helical



C 3 0 2 N 0620 MR 162 / 140
- Motor Frame Size (140=143/145TC)
- Flange No.
- Motor Adapter
- Ratio (0620 = 62.0:1)
- Housing Style
- No. of Reductions
- Generation No.
- Unit No.
- Concentric Helical



Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
375 RPM		**Output (Approximate) Continued**							**305 RPM**		**250 RPM**		**185 RPM**	
4.58	748	C102_0047	MR164/140	143/145TC	AW164/012	4.658	196	292	3.74	748	3.03	748	2.27	748
4.63	756	C102_0047	MR205/180	182/184TC	AW165/012	4.658	196	292	4.04	808	3.52	867	2.90	954
4.74	774	C202_0047	MR164/140	143/145TC	AW164/012	4.667	196	410	3.87	774	3.14	774	2.36	774
7.07	1,155	C202_0047	MR205/180	182/184TC	AW165/012	4.667	196	410	6.18	1,235	5.37	1,324	4.43	1,457
11.60	1,888	C302_0047	MR205/180	182/184TC	AW165/012	4.675	196	540	9.44	1,888	7.66	1,888	5.74	1,888
11.60	1,890	C302_0047	MR256/210	213/215TC	AW206/014	4.675	333	540	10.10	2,022	8.80	2,168	7.26	2,386
12.00	1,954	C402_0047	MR205/180	182/184TC	AW165/012	4.682	196	1,049	9.77	1,954	7.93	1,954	5.95	1,954
12.40	2,004	C502_0046	MR205/180	182/184TC	AW165/012	4.629	196	755	10.10	2,004	8.20	2,004	6.15	2,004
16.80*	2,751	C402_0047	MR256/210	213/215TC	AW206/014	4.682	333	1,049	14.70	2,943	12.80	3,156	10.60	3,473
26.20*	4,248	C502_0046	MR256/210	213/215TC	AW206/014	4.629	333	755	22.90*	4,544	19.90	4,872	15.90	5,167
26.20*	4,248	C502_0046	MR306/250	254/256TC	AW206/014	4.629	333	755	22.90*	4,544	19.90	4,872	15.90	5,167
345 RPM		**Output (Approximate)**							**280 RPM**		**230 RPM**		**170 RPM**	
0.64	113	C002_0051	MR141/050	56C	AW141/010	5.063	98	209	0.52	113	0.42	113	0.32	113
1.20	213	C002_0051	MR142/050	56C	AW142/010	5.063	98	209	0.98	213	0.80	213	0.60	213
1.28	225	C102_0050	MR142/050	56C	AW142/010	5.025	98	297	1.05	225	0.85	225	0.64	225
2.19	388	C002_0051	MR163/050	56C	AW143/010	5.063	98	209	1.87	407	1.52	407	1.14	407
2.19	388	C002_0051	MR164/140	143/145TC	AW164/012	5.063	196	209	1.91	415	1.66	445	1.37	490
2.44	429	C102_0050	MR163/050	56C	AW143/010	5.025	98	297	1.99	429	1.62	429	1.21	429
4.40	775	C102_0050	MR164/140	143/145TC	AW164/012	5.025	196	297	3.75	807	3.04	807	2.28	807
4.40	775	C102_0050	MR205/180	182/184TC	AW165/012	5.025	196	297	3.85	829	3.35	888	2.76	978
4.75	842	C202_0051	MR164/140	143/145TC	AW164/012	5.072	196	419	3.88	842	3.15	842	2.36	842
6.69	1,187	C202_0051	MR205/180	182/184TC	AW165/012	5.072	196	419	5.85	1,269	5.09	1,361	4.20	1,498
11.00	1,938	C302_0050	MR205/180	182/184TC	AW165/012	5.037	196	550	9.45	2,035	7.67	2,035	5.75	2,035
11.00	1,938	C302_0050	MR256/210	213/215TC	AW206/014	5.037	333	550	9.63	2,073	8.38	2,223	6.92	2,447
36.80*	6,534	C612_0051	MR306/250	254/256TC	AW206/014	5.083	333	1,987	30.10*	6,534	24.40	6,534	18.30	6,534
45.90*	8,136	C612_0051	MR307/280	284/286TC	AW307/110	5.083	1072	1,987	40.10*	8,702	34.90*	9,331	28.80	10,270
330 RPM		**Output (Approximate)** **Continued Next Page**							**270 RPM**		**220 RPM**		**165 RPM**	
11.90	2,205	C402_0053	MR205/180	182/184TC	AW165/012	5.284	196	1,082	9.74	2,205	7.90	2,205	5.93	2,205
12.30	2,279	C502_0053	MR205/180	182/184TC	AW165/012	5.265	196	780	10.10	2,279	8.17	2,279	6.13	2,279
15.50*	2,865	C402_0053	MR256/210	213/215TC	AW206/014	5.284	333	1,082	13.50	3,064	11.80	3,286	9.72	3,616
24.00*	4,435	C502_0053	MR306/250	254/256TC	AW206/014	5.265	333	780	21.00*	4,743	18.20	5,086	15.10	5,598
24.00*	4,435	C502_0053	MR256/210	213/215TC	AW206/014	5.265	333	780	21.00*	4,743	18.20	5,086	15.10	5,598
38.60	7,140	C712_0053	MR306/250	254/256TC	AW206/014	5.311	333	2,677	31.60	7,140	25.60	7,140	19.20	7,140
73.80*	13,643	C712_0053	MR307/280	284/286TC	AW307/110	5.311	1072	2,677	60.30*	13,643	48.90*	13,643	36.70	13,643

* For thermal HP capacity, see rating below.

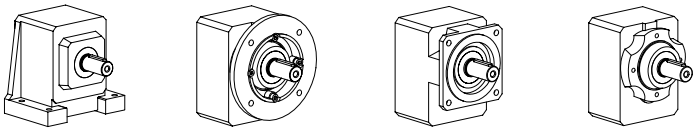
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

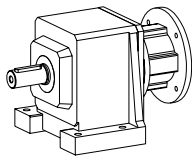
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data

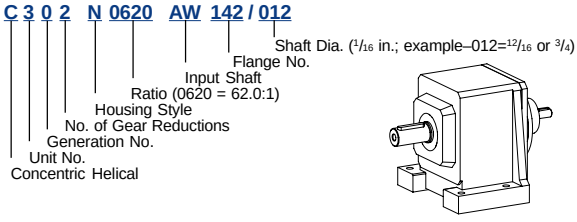


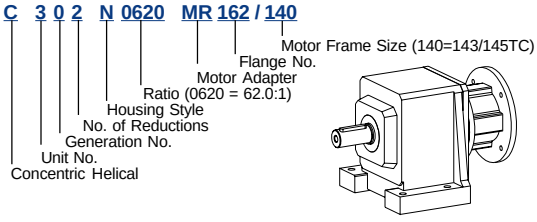
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

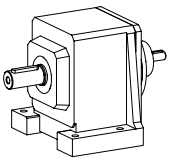
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
330 RPM		**Output (Approximate)** Continued							**270 RPM**		**220 RPM**		**165 RPM**	
160.0*	29,194	C912_0052	MR358/320	324/326TC	AW358/202	5.213	1569	4,001	131.0*	29,194	106.0*	29,194	79.60*	29,194
160.0*	29,194	C912_0052	MR358/360	364/365TC	AW358/202	5.213	1569	4,001	131.0*	29,194	106.0*	29,194	79.60*	29,194
325 RPM		**Output (Approximate)**							**265 RPM**		**215 RPM**		**160 RPM**	
77.00*	14,499	C812_0054	MR307/280	284/286TC	AW307/110	5.387	1072	3,362	62.90*	14,499	51.00	14,499	38.30	14,499
118.0*	22,304	C812_0054	MR358/320	324/326TC	AW358/202	5.387	1569	3,362	103.0*	23,857	90.00*	25,581	74.30*	28,155
118.0*	22,304	C812_0054	MR358/360	364/365TC	AW358/202	5.387	1569	3,362	103.0*	23,857	90.00*	25,581	74.30*	28,155
300 RPM		**Output (Approximate)**							**245 RPM**		**200 RPM**		**150 RPM**	
0.62	126	C002_0058	MR141/050	56C	AW141/010	5.824	98	217	0.51	126	0.41	126	0.31	126
1.16	237	C002_0058	MR142/050	56C	AW142/010	5.824	98	217	0.95	237	0.77	237	0.58	237
1.23	253	C102_0059	MR142/050	56C	AW142/010	5.875	98	309	1.01	253	0.82	253	0.61	253
2.00	407	C002_0058	MR163/050	56C	AW143/010	5.824	98	217	1.75	435	1.47	450	1.10	450
2.00	407	C002_0058	MR164/140	143/145TC	AW164/012	5.824	196	217	1.75	435	1.52	467	1.26	514
2.35	482	C102_0059	MR163/050	56C	AW143/010	5.875	98	309	1.92	482	1.56	482	1.17	482
2.42	491	C202_0058	MR163/050	56C	AW143/010	5.791	98	434	1.97	491	1.60	491	1.20	491
3.97	816	C102_0059	MR164/140	143/145TC	AW164/012	5.875	196	309	3.47	873	2.93	907	2.20	907
3.97	816	C102_0059	MR205/180	182/184TC	AW165/012	5.875	196	309	3.47	873	3.02	936	2.49	1,030
4.55	924	C202_0058	MR164/140	143/145TC	AW164/012	5.791	196	434	3.72	924	3.01	924	2.26	924
4.73	970	C302_0059	MR164/140	143/145TC	AW164/012	5.859	196	572	3.86	970	3.13	970	2.35	970
6.10	1,240	C202_0058	MR205/180	182/184TC	AW165/012	5.791	196	434	5.33	1,326	4.64	1,422	3.83	1,565
9.93	2,038	C302_0059	MR205/180	182/184TC	AW165/012	5.859	196	572	8.68	2,180	7.35	2,277	5.52	2,277
9.93	2,038	C302_0059	MR256/210	213/215TC	AW206/014	5.859	333	572	8.68	2,180	7.55	2,338	6.23	2,573
11.50	2,358	C402_0059	MR205/180	182/184TC	AW165/012	5.891	196	1,110	9.39	2,358	7.61	2,358	5.71	2,358
11.90	2,442	C502_0059	MR205/180	182/184TC	AW165/012	5.850	196	801	9.72	2,442	7.89	2,442	5.91	2,442
14.50	2,970	C402_0059	MR256/210	213/215TC	AW206/014	5.891	333	1,110	12.60	3,177	11.00	3,406	9.08	3,749
22.40*	4,593	C502_0059	MR256/210	213/215TC	AW206/014	5.850	333	801	19.60	4,913	17.00	5,268	14.00	5,798
22.40*	4,593	C502_0059	MR306/250	254/256TC	AW206/014	5.850	333	801	19.60	4,913	17.00	5,268	14.00	5,798
275 RPM		**Output (Approximate)** Continued Next Page							**225 RPM**		**185 RPM**		**135 RPM**	
0.62	136	C002_0063	MR141/050	56C	AW141/010	6.300	98	221	0.50	136	0.41	136	0.31	136
1.16	256	C002_0063	MR142/050	56C	AW142/010	6.300	98	221	0.95	256	0.77	256	0.58	256
1.24	274	C102_0063	MR142/050	56C	AW142/010	6.338	98	314	1.01	274	0.82	274	0.62	274
1.89	418	C002_0063	MR163/050	56C	AW143/010	6.300	98	221	1.65	447	1.44	479	1.10	486
1.89	418	C002_0063	MR164/140	143/145TC	AW164/012	6.300	196	221	1.65	447	1.44	479	1.19	527
2.36	520	C102_0063	MR163/050	56C	AW143/010	6.338	98	314	1.92	520	1.56	520	1.17	520

Part No. Explanation





Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
275 RPM		**Output (Approximate) Continued**							**225 RPM**		**185 RPM**		**135 RPM**	
2.42	533	C202_0063	MR163/050	56C	AW143/010	6.295	98	443	1.97	533	1.60	533	1.20	533
3.79	837	C102_0063	MR164/140	143/145TC	AW164/012	6.338	196	314	3.31	895	2.88	960	2.20	979
3.79	837	C102_0063	MR205/180	182/184TC	AW165/012	6.338	196	314	3.31	895	2.88	960	2.38	1,057
4.55	1,004	C202_0063	MR164/140	143/145TC	AW164/012	6.295	196	443	3.71	1,004	3.01	1,004	2.26	1,004
4.73	1,045	C302_0063	MR164/140	143/145TC	AW164/012	6.314	196	583	3.87	1,045	3.14	1,045	2.35	1,045
5.78	1,275	C202_0063	MR205/180	182/184TC	AW165/012	6.295	196	443	5.05	1,364	4.39	1,463	3.63	1,610
9.46	2,089	C302_0063	MR205/180	182/184TC	AW165/012	6.314	196	583	8.27	2,235	7.19	2,396	5.52	2,454
9.46	2,089	C302_0063	MR256/210	213/215TC	AW206/014	6.314	333	583	8.27	2,235	7.19	2,396	5.94	2,638
260 RPM		**Output (Approximate)**							**215 RPM**		**175 RPM**		**130 RPM**	
11.40	2,661	C402_0066	MR205/180	182/184TC	AW165/012	6.648	196	1,145	9.35	2,661	7.59	2,661	5.69	2,661
11.90	2,778	C502_0067	MR205/180	182/184TC	AW165/012	6.655	196	827	9.74	2,778	7.90	2,778	5.93	2,778
13.30	3,093	C402_0066	MR256/210	213/215TC	AW206/014	6.648	333	1,145	11.60	3,308	10.10	3,547	8.35	3,904
20.60*	4,795	C502_0067	MR256/210	213/215TC	AW206/014	6.655	333	827	18.00	5,129	15.60	5,499	12.90	6,053
20.60*	4,795	C502_0067	MR306/250	254/256TC	AW206/014	6.655	333	827	18.00	5,129	15.60	5,499	12.90	6,053
35.40*	8,078	C612_0065	MR256/210	213/215TC	AW206/014	6.518	333	2,115	29.00	8,078	23.50	8,078	17.60	8,078
35.40*	8,078	C612_0065	MR306/250	254/256TC	AW206/014	6.518	333	2,115	29.00	8,078	23.50	8,078	17.60	8,078
38.80*	8,839	C612_0065	MR307/280	284/286TC	AW307/110	6.518	1072	2,115	33.90*	9,454	29.50	10,137	24.30	11,158
74.70*	17,402	C812_0067	MR307/280	284/286TC	AW307/110	6.670	1072	3,545	61.00*	17,402	49.50	17,402	37.10	17,402
103.0*	23,950	C812_0067	MR358/320	324/326TC	AW358/202	6.670	1569	3,545	89.80*	25,617	78.10*	27,468	64.50*	30,232
103.0*	23,950	C812_0067	MR358/360	364/365TC	AW358/202	6.670	1569	3,545	89.80*	25,617	78.10*	27,468	64.50*	30,232
155.0*	35,288	C912_0065	MR358/360	364/365TC	AW358/202	6.516	1569	4,231	127.0*	35,288	103.0*	35,288	77.00*	35,288
255 RPM		**Output (Approximate)**							**210 RPM**		**170 RPM**		**125 RPM**	
37.00	8,824	C712_0068	MR306/250	254/256TC	AW206/014	6.811	333	2,852	30.30	8,824	24.60	8,824	18.40	8,824
62.30*	14,846	C712_0068	MR307/280	284/286TC	AW307/110	6.811	1072	2,852	54.50*	15,880	46.90*	16,861	35.20	16,861
245 RPM		**Output (Approximate)**							**200 RPM**		**160 RPM**		**120 RPM**	
36.60*	9,100	C612_0071	MR256/210	213/215TC	AW206/014	7.111	333	2,162	30.00*	9,141	24.40	9,141	18.30	9,141
36.60*	9,100	C612_0071	MR306/250	254/256TC	AW206/014	7.111	333	2,162	30.00*	9,141	24.40	9,141	18.30	9,141
36.60*	9,100	C612_0071	MR307/280	284/286TC	AW307/110	7.111	1072	2,162	32.00*	9,733	27.80	10,436	23.00	11,487
38.40	9,891	C712_0074	MR256/210	213/215TC	AW206/014	7.357	333	2,909	31.30	9,891	25.40	9,891	19.10	9,891
38.40	9,891	C712_0074	MR306/250	254/256TC	AW206/014	7.357	333	2,909	31.30	9,891	25.40	9,891	19.10	9,891
59.10*	15,232	C712_0074	MR307/280	284/286TC	AW307/110	7.357	1072	2,909	51.60*	16,293	44.90*	17,470	34.20	17,716
77.00*	19,659	C812_0073	MR307/280	284/286TC	AW307/110	7.304	1072	3,628	62.90*	19,659	51.00	19,659	38.30	19,659
96.60*	24,687	C812_0073	MR358/360	364/365TC	AW358/202	7.304	1569	3,628	84.50*	26,406	73.50*	28,314	60.60*	31,163
161.0*	41,478	C912_0074	MR358/360	364/365TC	AW358/202	7.406	1569	4,364	131.0*	41,478	107.0*	41,478	80.00*	41,478

* For thermal HP capacity, see rating below.

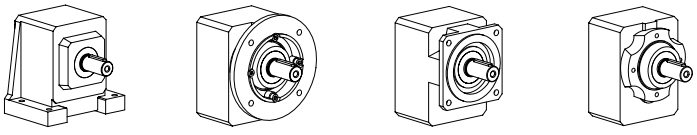
Base Module Thermal Capacity	C0 2.95	C1 5.36	C2 7.38	C3 12.34	C4 14.75	C5 20.12	C6 29.50	C7 40.23	C8 53.64	C9 67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

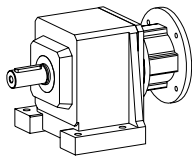
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data



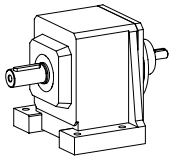
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

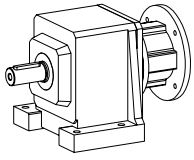
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
225 RPM		**Output (Approximate)**							**185 RPM**		**150 RPM**		**110 RPM**	
0.59	159	C002_0077	MR141/050	56C	AW141/010	7.714	98	232	0.48	159	0.39	159	0.29	159
1.11	299	C002_0077	MR142/050	56C	AW142/010	7.714	98	232	0.90	299	0.73	299	0.55	299
1.17	319	C102_0078	MR142/050	56C	AW142/010	7.796	98	331	0.95	319	0.77	319	0.58	319
1.20	329	C202_0078	MR142/050	56C	AW142/010	7.800	98	467	0.98	329	0.80	329	0.60	329
1.66	447	C002_0077	MR163/050	56C	AW143/010	7.714	98	232	1.45	478	1.26	512	1.04	564
1.66	447	C002_0077	MR163/140	143/145TC	AW143/010	7.714	98	232	1.45	478	1.26	512	1.04	564
2.23	608	C102_0078	MR163/050	56C	AW143/010	7.796	98	331	1.82	608	1.48	608	1.11	608
2.29	625	C202_0078	MR163/050	56C	AW143/010	7.800	98	467	1.87	625	1.52	625	1.14	625
3.29	897	C102_0078	MR164/140	143/145TC	AW164/012	7.796	196	331	2.87	960	2.50	1,029	2.06	1,132
3.29	897	C102_0078	MR205/180	182/184TC	AW165/012	7.796	196	331	2.87	960	2.50	1,029	2.06	1,132
4.31	1,177	C202_0078	MR164/140	143/145TC	AW164/012	7.800	196	467	3.52	1,177	2.86	1,177	2.14	1,177
4.48	1,222	C302_0078	MR164/140	143/145TC	AW164/012	7.841	196	614	3.66	1,222	2.97	1,222	2.22	1,222
5.02	1,370	C202_0078	MR205/180	182/184TC	AW165/012	7.800	196	467	4.39	1,465	3.82	1,571	3.15	1,729
8.23	2,247	C302_0078	MR205/180	182/184TC	AW165/012	7.841	196	614	7.19	2,403	6.26	2,577	4.89	2,684
8.23	2,247	C302_0078	MR256/210	213/215TC	AW206/014	7.841	333	614	7.19	2,403	6.26	2,577	4.89	2,684
10.90	2,972	C402_0078	MR205/180	182/184TC	AW165/012	7.816	196	1,192	8.90	2,972	7.22	2,972	5.41	2,972
11.30	3,083	C502_0078	MR205/180	182/184TC	AW165/012	7.762	196	860	9.23	3,083	7.49	3,083	5.61	3,083
12.00	3,264	C402_0078	MR256/210	213/215TC	AW206/014	7.816	333	1,192	10.50	3,491	9.09	3,743	7.50	4,120
18.50	5,047	C502_0078	MR256/210	213/215TC	AW206/014	7.762	333	860	16.20	5,399	14.10	5,789	11.60	6,371
18.50	5,047	C502_0078	MR306/250	254/256TC	AW206/014	7.762	333	860	16.20	5,399	14.10	5,789	11.60	6,371
210 RPM		**Output (Approximate)** **Continued Next Page**							**175 RPM**		**140 RPM**		**105 RPM**	
0.69	198	C002_0082	MR141/050	56C	AW141/010	8.235	98	236	0.56	198	0.46	198	0.34	198
1.30	372	C002_0082	MR142/050	56C	AW142/010	8.235	98	236	1.06	372	0.86	372	0.64	372
1.37	397	C102_0083	MR142/050	56C	AW142/010	8.263	98	336	1.12	397	0.91	397	0.68	397
1.85	531	C002_0082	MR163/050	56C	AW143/010	8.235	98	236	1.51	531	1.23	531	0.92	531
1.85	531	C002_0082	MR164/140	143/145TC	AW164/012	8.235	196	236	1.51	531	1.23	531	0.92	531
2.61	755	C102_0083	MR163/050	56C	AW143/010	8.263	98	336	2.13	755	1.73	755	1.30	755
3.68	1,063	C102_0083	MR164/140	143/145TC	AW164/012	8.263	196	336	3.00	1,063	2.44	1,063	1.83	1,063
3.68	1,063	C102_0083	MR205/180	182/184TC	AW165/012	8.263	196	336	3.00	1,063	2.44	1,063	1.83	1,063
5.07	1,457	C202_0082	MR164/140	143/145TC	AW164/012	8.190	196	473	4.15	1,457	3.36	1,457	2.52	1,457
6.16	1,770	C202_0082	MR205/180	182/184TC	AW165/012	8.190	196	473	5.04	1,772	4.09	1,772	3.07	1,772
9.54	2,758	C302_0083	MR205/180	182/184TC	AW165/012	8.250	196	623	8.34	2,950	7.11	3,100	5.33	3,100
9.54	2,758	C302_0083	MR256/210	213/215TC	AW206/014	8.250	333	623	8.34	2,950	7.11	3,100	5.33	3,100
16.00*	4,634	C402_0083	MR256/210	213/215TC	AW206/014	8.285	333	1,209	13.80	4,872	11.20	4,872	8.38	4,872
24.00*	6,945	C502_0083	MR256/210	213/215TC	AW206/014	8.263	333	873	20.00	7,086	16.20	7,086	12.20	7,086
24.00*	6,945	C502_0083	MR306/250	254/256TC	AW206/014	8.263	333	873	20.00	7,086	16.20	7,086	12.20	7,086

Part No. Explanation

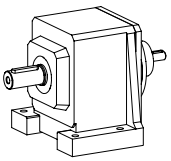
C 3 0 2 N 0620 AW 142 / 012
- C: Unit No. – Concentric Helical
- 3: Generation No.
- 0: No. of Gear Reductions
- 2: Housing Style
- N: Ratio (0620 = 62.0:1)
- 0620: Input Shaft
- AW: Flange No.
- 142: Shaft Dia. (1/16 in.; example–012=12/16 or 3/4)
- 012



C 3 0 2 N 0620 MR 162 / 140
- C: Unit No. – Concentric Helical
- 3: Generation No.
- 0: No. of Reductions
- 2: Housing Style
- N: Ratio (0620 = 62.0:1)
- 0620: Motor Adapter
- MR: Flange No.
- 162: Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
210 RPM		**Output (Approximate) Continued**							**175 RPM**		**140 RPM**		**105 RPM**	
33.20*	9,538	C612_0082	MR256/210	213/215TC	AW206/014	8.190	333	2,241	27.90	9,794	22.60	9,794	17.00	9,794
33.20*	9,538	C612_0082	MR306/250	254/256TC	AW206/014	8.190	333	2,241	27.90	9,794	22.60	9,794	17.00	9,794
33.20*	9,538	C612_0082	MR307/280	284/286TC	AW307/110	8.190	1072	2,241	29.00	10,202	25.20	10,939	20.80	12,040
149.0*	43,123	C912_0083	MR358/320	324/326TC	AW358/202	8.288	1569	4,490	122.0*	43,123	98.90*	43,123	74.20*	43,123
149.0*	43,123	C912_0083	MR358/360	364/365TC	AW358/202	8.288	1569	4,490	122.0*	43,123	98.90*	43,123	74.20*	43,123
205 RPM		**Output (Approximate)**							**170 RPM**		**135 RPM**		**100 RPM**	
35.80	10,617	C712_0085	MR306/250	254/256TC	AW206/014	8.490	333	3,013	29.20	10,617	23.70	10,617	17.80	10,617
53.90*	15,977	C712_0085	MR307/280	284/286TC	AW307/110	8.490	1072	3,013	47.10*	17,090	41.00*	18,324	33.80	20,169
71.60*	21,248	C812_0085	MR307/280	284/286TC	AW307/110	8.472	1072	3,766	58.50*	21,248	47.50	21,248	35.60	21,248
87.40*	25,938	C812_0085	MR358/320	324/326TC	AW358/202	8.472	1569	3,766	76.40*	27,744	66.50*	29,748	54.90*	32,742
87.40*	25,938	C812_0085	MR358/360	364/365TC	AW358/202	8.472	1569	3,766	76.40*	27,744	66.50*	29,748	54.90*	32,742
200 RPM		**Output (Approximate)**							**160 RPM**		**130 RPM**		**95 RPM**	
31.00*	9,886	C612_0091	MR306/250	254/256TC	AW206/014	9.118	333	2,301	27.10	10,574	23.50	11,300	17.60	11,300
31.00*	9,886	C612_0091	MR307/280	284/286TC	AW307/110	9.118	1072	2,301	27.10	10,574	23.60	11,338	18.00	11,515
74.60*	23,596	C812_0090	MR307/280	284/286TC	AW307/110	9.043	1072	3,827	61.00*	23,596	49.50	23,596	37.10	23,596
83.80*	26,509	C812_0090	MR358/320	324/326TC	AW358/202	9.043	1569	3,827	73.30*	28,354	63.70*	30,403	50.10	31,889
83.80*	26,509	C812_0090	MR358/360	364/365TC	AW358/202	9.043	1569	3,827	73.30*	28,354	63.70*	30,403	50.10	31,889
190 RPM		**Output (Approximate) Continued Next Page**							**155 RPM**		**125 RPM**		**90 RPM**	
0.69	222	C002_0092	MR141/050	56C	AW141/010	9.228	98	243	0.56	222	0.46	222	0.34	222
1.29	417	C002_0092	MR142/050	56C	AW142/010	9.228	98	243	1.06	417	0.86	417	0.64	417
1.38	447	C102_0093	MR142/050	56C	AW142/010	9.326	98	346	1.12	447	0.91	447	0.68	447
1.65	531	C002_0092	MR163/050	56C	AW143/010	9.228	98	243	1.35	531	1.09	531	0.82	531
1.65	531	C002_0092	MR164/140	143/145TC	AW164/012	9.228	196	243	1.35	531	1.09	531	0.82	531
2.62	851	C102_0093	MR163/050	56C	AW143/010	9.326	98	346	2.14	851	1.73	851	1.30	851
3.27	1,063	C102_0093	MR164/140	143/145TC	AW164/012	9.326	196	346	2.67	1,063	2.17	1,063	1.62	1,063
3.27	1,063	C102_0093	MR205/180	182/184TC	AW165/012	9.326	196	346	2.67	1,063	2.17	1,063	1.62	1,063
5.07	1,670	C202_0094	MR164/140	143/145TC	AW164/012	9.387	196	489	4.15	1,670	3.36	1,670	2.52	1,670
5.38	1,772	C202_0094	MR205/180	182/184TC	AW165/012	9.387	196	489	4.40	1,772	3.57	1,772	2.68	1,772
8.83	2,871	C302_0093	MR205/180	182/184TC	AW165/012	9.310	196	642	7.72	3,071	6.32	3,100	4.74	3,100
8.83	2,871	C302_0093	MR256/210	213/215TC	AW206/014	9.310	333	642	7.72	3,071	6.32	3,100	4.74	3,100
14.80*	4,809	C402_0093	MR256/210	213/215TC	AW206/014	9.261	333	1,246	12.20	4,872	9.93	4,872	7.45	4,872
21.80*	7,086	C502_0093	MR306/250	254/256TC	AW206/014	9.261	333	899	17.80	7,086	14.40	7,086	10.80	7,086
37.10	12,224	C712_0094	MR306/250	254/256TC	AW206/014	9.435	333	3,092	30.30	12,224	24.60	12,224	18.50	12,224
50.30*	16,550	C712_0094	MR307/280	284/286TC	AW307/110	9.435	1072	3,092	43.90*	17,702	35.70	17,716	26.80	17,716

* For thermal HP capacity, see rating below.

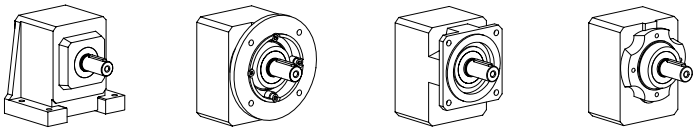
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

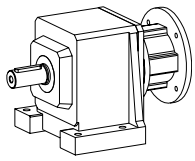
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data



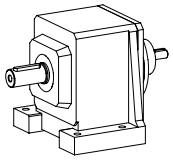
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

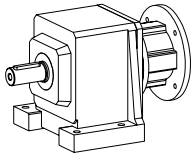
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
190 RPM		**Output (Approximate) Continued**							**155 RPM**		**125 RPM**		**90 RPM**	
154.0*	50,135	C912_0093	MR358/320	324/326TC	AW358/202	9.258	1569	4,624	126.0*	50,135	102.0*	50,135	76.60*	50,135
154.0*	50,135	C912_0093	MR358/360	364/365TC	AW358/202	9.258	1569	4,624	126.0*	50,135	102.0*	50,135	76.60*	50,135
175 RPM		**Output (Approximate)**							**145 RPM**		**115 RPM**		**85 RPM**	
28.90	10,232	C612_0100	MR306/250	254/256TC	AW206/014	10.11	333	2,362	25.20	10,944	21.90	11,685	16.40	11,685
28.90	10,232	C612_0100	MR307/280	284/286TC	AW307/110	10.11	1072	2,362	25.20	10,944	22.00	11,735	18.00	12,844
34.90	12,091	C712_0099	MR306/250	254/256TC	AW206/014	9.912	333	3,132	28.50	12,091	23.10	12,091	17.30	12,091
48.50*	16,824	C712_0099	MR307/280	284/286TC	AW307/110	9.912	1072	3,132	42.40*	17,995	36.90	19,295	30.50	21,237
69.70*	24,693	C812_0100	MR307/280	284/286TC	AW307/110	10.15	1072	3,937	56.90*	24,693	46.20	24,693	34.60	24,693
77.80*	27,549	C812_0100	MR358/320	324/326TC	AW358/202	10.15	1569	3,937	68.00*	29,467	59.10*	31,596	48.80	34,776
77.80*	27,549	C812_0100	MR358/360	364/365TC	AW358/202	10.15	1569	3,937	68.00*	29,467	59.10*	31,596	48.80	34,776
145.0*	49,562	C912_0098	MR358/320	324/326TC	AW358/202	9.789	1569	4,684	118.0*	49,562	96.00*	49,562	72.00*	49,562
145.0*	49,562	C912_0098	MR358/360	364/365TC	AW358/202	9.789	1569	4,684	118.0*	49,562	96.00*	49,562	72.00*	49,562
170 RPM		**Output (Approximate)**							**135 RPM**		**110 RPM**		**80 RPM**	
0.66	239	C002_0105	MR141/050	56C	AW141/010	10.30	98	250	0.54	239	0.44	239	0.33	239
1.24	449	C002_0105	MR142/050	56C	AW142/010	10.30	98	250	1.02	449	0.82	449	0.62	449
1.33	481	C102_0105	MR142/050	56C	AW142/010	10.38	98	356	1.09	481	0.88	481	0.66	481
1.47	531	C002_0105	MR163/050	56C	AW143/010	10.30	98	250	1.20	531	0.97	531	0.73	531
1.47	531	C002_0105	MR164/140	143/145TC	AW164/012	10.30	196	250	1.20	531	0.97	531	0.73	531
2.53	915	C102_0105	MR163/050	56C	AW143/010	10.38	98	356	2.07	915	1.68	915	1.26	915
2.94	1,063	C102_0105	MR164/140	143/145TC	AW164/012	10.38	196	356	2.40	1,063	1.95	1,063	1.46	1,063
2.94	1,063	C102_0105	MR205/180	182/184TC	AW165/012	10.38	196	356	2.40	1,063	1.95	1,063	1.46	1,063
4.87	1,762	C202_0105	MR164/140	143/145TC	AW164/012	10.26	196	501	3.98	1,762	3.23	1,762	2.42	1,762
4.90	1,772	C202_0105	MR205/180	182/184TC	AW165/012	10.26	196	501	4.01	1,772	3.25	1,772	2.44	1,772
8.21	2,969	C302_0105	MR205/180	182/184TC	AW165/012	10.29	196	659	7.01	3,100	5.69	3,100	4.26	3,100
8.21	2,969	C302_0105	MR256/210	213/215TC	AW206/014	10.29	333	659	7.01	3,100	5.69	3,100	4.26	3,100
12.40	4,479	C402_0105	MR205/180	182/184TC	AW165/012	10.41	196	1,279	10.10	4,479	8.21	4,479	6.16	4,479
13.50	4,872	C402_0105	MR256/210	213/215TC	AW206/014	10.41	333	1,279	11.00	4,872	8.93	4,872	6.70	4,872
19.60	7,086	C502_0105	MR256/210	213/215TC	AW206/014	10.38	333	923	16.00	7,086	13.00	7,086	9.75	7,086
19.60	7,086	C502_0105	MR306/250	254/256TC	AW206/014	10.38	333	923	16.00	7,086	13.00	7,086	9.75	7,086
150 RPM		**Output (Approximate) Continued Next Page**							**120 RPM**		**100 RPM**		**75 RPM**	
0.66	268	C002_0115	MR141/050	56C	AW141/010	11.54	98	257	0.54	268	0.44	268	0.33	268
1.24	503	C002_0115	MR142/050	56C	AW142/010	11.54	98	257	1.01	503	0.82	503	0.62	503
1.31	531	C002_0115	MR163/050	56C	AW143/010	11.54	98	257	1.07	531	0.87	531	0.65	531

Part No. Explanation

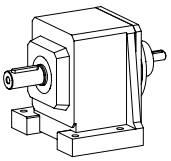
C 3 0 2 N 0620 AW 142 / 012
- Unit No. / Concentric Helical
- Generation No.
- No. of Gear Reductions
- Housing Style
- Ratio (0620 = 62.0:1)
- Input Shaft
- Flange No.
- Shaft Dia. ($^{1}/_{16}$ in.; example–012=$^{12}/_{16}$ or $^{3}/_{4}$)



C 3 0 2 N 0620 MR 162 / 140
- Unit No. / Concentric Helical
- Generation No.
- No. of Reductions
- Housing Style
- Ratio (0620 = 62.0:1)
- Motor Adapter
- Flange No.
- Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
150 RPM		**Output (Approximate)** **Continued**							**120 RPM**		**100 RPM**		**75 RPM**	
1.31	531	C002_0115	MR164/140	143/145TC	AW164/012	11.54	196	257	1.07	531	0.87	531	0.65	531
1.34	543	C102_0115	MR142/050	56C	AW142/010	11.72	98	366	1.09	543	0.89	543	0.67	543
2.55	1,032	C102_0115	MR163/050	56C	AW143/010	11.72	98	366	2.08	1,032	1.69	1,032	1.27	1,032
2.62	1,063	C102_0115	MR164/140	143/145TC	AW164/012	11.72	196	366	2.14	1,063	1.74	1,063	1.30	1,063
2.62	1,063	C102_0115	MR205/180	182/184TC	AW165/012	11.72	196	366	2.14	1,063	1.74	1,063	1.30	1,063
4.31	1,772	C202_0120	MR164/140	143/145TC	AW164/012	11.76	196	517	3.52	1,772	2.85	1,772	2.14	1,772
4.31	1,772	C202_0120	MR205/180	182/184TC	AW165/012	11.76	196	517	3.52	1,772	2.85	1,772	2.14	1,772
7.62	3,090	C302_0115	MR205/180	182/184TC	AW165/012	11.61	196	678	6.25	3,100	5.07	3,100	3.80	3,100
7.62	3,090	C302_0115	MR256/210	213/215TC	AW206/014	11.61	333	678	6.25	3,100	5.07	3,100	3.80	3,100
12.00	4,872	C402_0115	MR205/180	182/184TC	AW165/012	11.64	196	1,316	9.82	4,872	7.97	4,872	5.97	4,872
12.00	4,872	C402_0115	MR256/210	213/215TC	AW206/014	11.64	333	1,316	9.82	4,872	7.97	4,872	5.97	4,872
17.50	7,086	C502_0115	MR256/210	213/215TC	AW206/014	11.64	333	950	14.30	7,086	11.60	7,086	8.69	7,086
17.50	7,086	C502_0115	MR306/250	254/256TC	AW206/014	11.64	333	950	14.30	7,086	11.60	7,086	8.69	7,086
26.30	10,667	C612_0115	MR256/210	213/215TC	AW206/014	11.46	333	2,443	23.00	11,410	18.80	11,515	14.10	11,515
26.30	10,667	C612_0115	MR306/250	254/256TC	AW206/014	11.46	333	2,443	23.00	11,410	18.80	11,515	14.10	11,515
26.30	10,667	C612_0115	MR307/280	284/286TC	AW307/110	11.46	1072	2,443	23.00	11,410	18.80	11,515	14.10	11,515
35.70	14,708	C712_0120	MR256/250	213/215TC	AW206/014	11.76	333	3,269	29.20	14,708	23.70	14,708	17.80	14,708
35.70	14,708	C712_0120	MR306/250	254/256TC	AW206/014	11.76	333	3,269	29.20	14,708	23.70	14,708	17.80	14,708
43.10*	17,716	C712_0120	MR307/280	284/286TC	AW307/110	11.76	1072	3,269	35.20	17,716	28.50	17,716	21.40	17,716
70.80*	28,708	C812_0115	MR307/280	284/286TC	AW307/110	11.49	1072	4,072	58.10*	28,811	47.10	28,811	35.30	28,811
70.80*	28,708	C812_0115	MR358/320	324/326TC	AW358/202	11.49	1569	4,072	61.90*	30,707	52.10	31,889	39.10	31,889
70.80*	28,708	C812_0115	MR358/360	364/365TC	AW358/202	11.49	1569	4,072	61.90*	30,707	52.10	31,889	39.10	31,889
129.0*	53,148	C912_0120	MR358/360	364/365TC	AW358/202	11.77	1569	4,904	106.0*	53,148	85.60*	53,148	64.20	53,148
140 RPM		**Output (Approximate)** **Continued Next Page**							**115 RPM**		**90 RPM**		**70 RPM**	
0.65	283	C002_0125	MR141/050	56C	AW141/010	12.57	98	262	0.53	283	0.43	283	0.32	283
1.21	531	C002_0125	MR142/050	56C	AW142/010	12.57	98	262	0.99	531	0.80	531	0.60	531
1.21	531	C002_0125	MR163/050	56C	AW143/010	12.57	98	262	0.99	531	0.81	531	0.60	531
1.21	531	C002_0125	MR164/140	143/145TC	AW164/012	12.57	196	262	0.99	531	0.81	531	0.60	531
1.28	558	C102_0125	MR142/050	56C	AW142/010	12.45	98	373	1.04	558	0.85	558	0.63	558
2.43	1,062	C102_0125	MR163/050	56C	AW143/010	12.45	98	373	1.98	1,062	1.61	1,062	1.21	1,062
2.43	1,063	C102_0125	MR164/140	143/145TC	AW164/012	12.45	196	373	1.99	1,063	1.61	1,063	1.21	1,063
2.43	1,063	C102_0125	MR205/180	182/184TC	AW165/012	12.45	196	373	1.99	1,063	1.61	1,063	1.21	1,063
4.05	1,772	C202_0125	MR164/140	143/145TC	AW164/012	12.31	196	525	3.31	1,772	2.68	1,772	2.01	1,772
4.05	1,772	C202_0125	MR205/180	182/184TC	AW165/012	12.31	196	525	3.31	1,772	2.68	1,772	2.01	1,772
7.09	3,100	C302_0125	MR205/180	182/184TC	AW165/012	12.40	196	691	5.79	3,100	4.70	3,100	3.52	3,100

* For thermal HP capacity, see rating below.

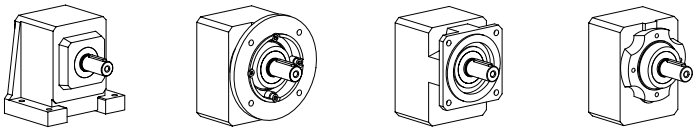
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

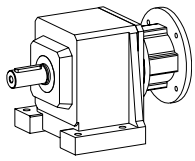
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data

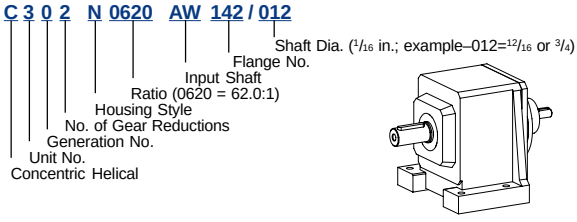


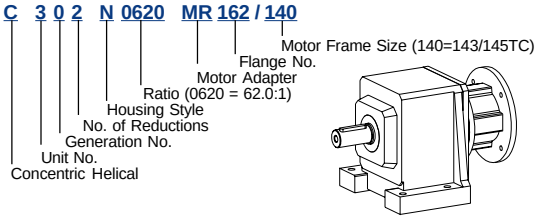
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

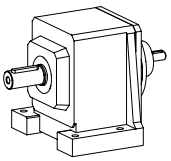
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
140 RPM		**Output (Approximate) Continued**							**115 RPM**		**90 RPM**		**70 RPM**	
7.09	3,100	C302_0125	MR256/210	213/215TC	AW206/014	12.40	333	691	5.79	3,100	4.70	3,100	3.52	3,100
11.10	4,872	C402_0125	MR205/180	182/184TC	AW165/012	12.52	196	1,342	9.10	4,872	7.38	4,872	5.54	4,872
11.10	4,872	C402_0125	MR256/210	213/215TC	AW206/014	12.52	333	1,342	9.10	4,872	7.38	4,872	5.54	4,872
12.30	5,379	C502_0125	MR205/180	182/184TC	AW165/012	12.43	196	968	10.00	5,379	8.15	5,379	6.11	5,379
16.20	7,086	C502_0125	MR256/210	213/215TC	AW206/014	12.43	333	968	13.20	7,086	10.70	7,086	8.05	7,086
16.20	7,086	C502_0125	MR306/250	254/256TC	AW206/014	12.43	333	968	13.20	7,086	10.70	7,086	8.05	7,086
25.20	11,005	C612_0125	MR256/210	213/215TC	AW206/014	12.58	333	2,490	22.00	11,771	19.10	12,622	14.60	12,844
25.20	11,005	C612_0125	MR306/250	254/256TC	AW206/014	12.58	333	2,490	22.00	11,771	19.10	12,622	14.60	12,844
25.20	11,005	C612_0125	MR307/280	284/286TC	AW307/110	12.58	1072	2,490	22.00	11,771	19.10	12,622	14.60	12,844
35.50	15,554	C812_0125	MR306/250	254/256TC	AW256/102	12.75	680	4,150	29.00	15,554	23.60	15,554	17.70	15,554
67.90*	29,720	C812_0125	MR307/280	284/286TC	AW307/110	12.75	1072	4,150	55.50*	29,720	45.00	29,720	33.80	29,720
67.90*	29,724	C812_0125	MR358/320	324/326TC	AW358/202	12.75	1569	4,150	59.40*	31,794	51.60	34,090	42.30	37,204
67.90*	29,724	C812_0125	MR358/360	364/365TC	AW358/202	12.75	1569	4,150	59.40*	31,794	51.60	34,090	42.30	37,204
130.0*	56,695	C912_0125	MR358/320	324/326TC	AW358/202	12.42	1569	4,980	113.0*	60,257	91.30*	60,257	68.50*	60,257
130.0*	56,695	C912_0125	MR358/360	364/365TC	AW358/202	12.42	1569	4,980	113.0*	60,257	91.30*	60,257	68.50*	60,257
130 RPM		**Output (Approximate)**							**105 RPM**		**85 RPM**		**65 RPM**	
33.00	15,235	C712_0130	MR306/250	254/256TC	AW206/014	13.18	333	3,364	27.00	15,235	21.90	15,235	16.40	15,235
34.90	16,750	C712_0135	MR306/250	254/256TC	AW206/014	13.73	333	3,398	28.50	16,750	23.10	16,750	17.30	16,750
36.90	17,716	C712_0135	MR307/280	284/286TC	AW307/110	13.73	1072	3,398	30.10	17,716	24.50	17,716	18.30	17,716
40.10	18,501	C712_0130	MR307/280	284/286TC	AW307/110	13.18	1072	3,364	35.10	19,789	30.50	21,219	22.90	21,259
125 RPM		**Output (Approximate) Continued Next Page**							**100 RPM**		**80 RPM**		**60 RPM**	
0.65	316	C002_0140	MR141/050	56C	AW141/010	14.08	98	270	0.53	316	0.43	316	0.32	316
1.08	531	C002_0140	MR142/050	56C	AW142/010	14.08	98	270	0.89	531	0.72	531	0.54	531
1.08	531	C002_0140	MR163/050	56C	AW143/010	14.08	98	270	0.89	531	0.72	531	0.54	531
1.08	531	C002_0140	MR164/140	143/145TC	AW164/012	14.08	196	270	0.89	531	0.72	531	0.54	531
1.28	630	C102_0140	MR142/050	56C	AW142/010	14.06	98	384	1.05	630	0.85	630	0.64	630
2.17	1,063	C102_0140	MR163/050	56C	AW143/010	14.06	98	384	1.77	1,063	1.44	1,063	1.08	1,063
2.17	1,063	C102_0140	MR164/140	143/145TC	AW164/012	14.06	196	384	1.77	1,063	1.44	1,063	1.08	1,063
2.17	1,063	C102_0140	MR205/180	182/184TC	AW165/012	14.06	196	384	1.77	1,063	1.44	1,063	1.08	1,063
3.61	1,772	C202_0140	MR164/140	143/145TC	AW164/012	14.11	196	540	2.95	1,772	2.40	1,772	1.80	1,772
3.61	1,772	C202_0140	MR205/180	182/184TC	AW165/012	14.11	196	540	2.95	1,772	2.40	1,772	1.80	1,772
6.32	3,100	C302_0140	MR205/180	182/184TC	AW165/012	13.99	196	711	5.17	3,100	4.19	3,100	3.14	3,100
6.32	3,100	C302_0140	MR256/210	213/215TC	AW206/014	13.99	333	711	5.17	3,100	4.19	3,100	3.14	3,100
9.94	4,872	C402_0140	MR205/180	182/184TC	AW165/012	13.99	196	1,380	8.12	4,872	6.59	4,872	4.94	4,872
9.94	4,872	C402_0140	MR256/210	213/215TC	AW206/014	13.99	333	1,380	8.12	4,872	6.59	4,872	4.94	4,872

Part No. Explanation





Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
125 RPM		**Output (Approximate) Continued**							**100 RPM**		**80 RPM**		**60 RPM**	
12.30	6,029	C502_0140	MR205/180	182/184TC	AW165/012	13.93	196	996	10.00	6,029	8.15	6,029	6.11	6,029
14.50	7,086	C502_0140	MR256/210	213/215TC	AW206/014	13.93	333	996	11.80	7,086	9.58	7,086	7.19	7,086
23.30	11,443	C612_0140	MR256/210	213/215TC	AW206/014	14.15	333	2,562	19.20	11,515	15.60	11,515	11.70	11,515
23.30	11,443	C612_0140	MR306/250	254/256TC	AW206/014	14.15	333	2,562	19.20	11,515	15.60	11,515	11.70	11,515
23.30	11,443	C612_0140	MR307/280	284/286TC	AW307/110	14.15	1072	2,562	19.20	11,515	15.60	11,515	11.70	11,515
62.20*	30,492	C812_0140	MR307/280	284/286TC	AW307/110	13.76	1072	4,270	53.20	31,889	43.10	31,889	32.30	31,889
62.20*	30,492	C812_0140	MR358/320	324/326TC	AW358/202	13.76	1569	4,270	53.20	31,889	43.10	31,889	32.30	31,889
62.20*	30,492	C812_0140	MR358/360	364/365TC	AW358/202	13.76	1569	4,270	53.20	31,889	43.10	31,889	32.30	31,889
108.0*	53,148	C912_0140	MR358/320	324/326TC	AW358/202	13.91	1569	5,124	88.60*	53,148	71.90*	53,148	53.90	53,148
108.0*	53,148	C912_0140	MR358/360	364/365TC	AW358/202	13.91	1569	5,124	88.60*	53,148	71.90*	53,148	53.90	53,148
110 RPM		**Output (Approximate)**							**90 RPM**		**75 RPM**		**55 RPM**	
0.62	338	C002_0155	MR141/050	56C	AW141/010	15.64	98	277	0.51	338	0.41	338	0.31	338
0.98	531	C002_0155	MR142/050	56C	AW142/010	15.64	98	277	0.80	531	0.65	531	0.48	531
0.98	531	C002_0155	MR163/050	56C	AW143/010	15.64	98	277	0.80	531	0.65	531	0.48	531
0.98	531	C002_0155	MR164/140	143/145TC	AW164/012	15.64	196	277	0.80	531	0.65	531	0.48	531
1.24	678	C102_0155	MR142/050	56C	AW142/010	15.71	98	394	1.02	678	0.82	678	0.62	678
1.95	1,063	C102_0155	MR163/050	56C	AW143/010	15.71	98	394	1.59	1,063	1.29	1,063	0.97	1,063
1.95	1,063	C102_0155	MR164/140	143/145TC	AW164/012	15.71	196	394	1.59	1,063	1.29	1,063	0.97	1,063
1.95	1,063	C102_0155	MR205/180	182/184TC	AW165/012	15.71	196	394	1.59	1,063	1.29	1,063	0.97	1,063
2.38	1,294	C202_0155	MR163/050	56C	AW143/010	15.28	98	555	1.94	1,294	1.57	1,294	1.18	1,294
3.25	1,772	C202_0155	MR164/140	143/145TC	AW164/012	15.28	196	555	2.66	1,772	2.16	1,772	1.62	1,772
3.25	1,772	C202_0155	MR205/180	182/184TC	AW165/012	15.28	196	555	2.66	1,772	2.16	1,772	1.62	1,772
4.72	2,573	C302_0155	MR164/140	143/145TC	AW164/012	15.54	196	730	3.86	2,573	3.13	2,573	2.35	2,573
5.69	3,100	C302_0155	MR205/180	182/184TC	AW165/012	15.54	196	730	4.65	3,100	3.77	3,100	2.83	3,100
5.69	3,100	C302_0155	MR256/210	213/215TC	AW206/014	15.54	333	730	4.65	3,100	3.77	3,100	2.83	3,100
12.00	6,558	C502_0155	MR205/180	182/184TC	AW165/012	15.71	196	1,023	9.83	6,558	7.98	6,558	5.98	6,558
13.00	7,086	C502_0155	MR256/210	213/215TC	AW206/014	15.71	333	1,023	10.60	7,086	8.62	7,086	6.47	7,086
105 RPM		**Output (Approximate)** **Continued Next Page**							**85 RPM**		**70 RPM**		**53 RPM**	
8.69	4,872	C402_0160	MR205/180	182/184TC	AW165/012	15.75	196	1,427	7.10	4,872	5.76	4,872	4.32	4,872
8.69	4,872	C402_0160	MR256/210	213/215TC	AW206/014	15.75	333	1,427	7.10	4,872	5.76	4,872	4.32	4,872
11.90	6,650	C612_0160	MR205/180	182/184TC	AW205/014	16.20	333	2,649	9.70	6,650	7.87	6,650	5.90	6,650
21.40	11,974	C612_0160	MR256/210	213/215TC	AW206/014	16.20	333	2,649	18.70	12,807	15.20	12,844	11.40	12,844
21.40	11,974	C612_0160	MR306/250	254/256TC	AW206/014	16.20	333	2,649	18.70	12,807	15.20	12,844	11.40	12,844

* For thermal HP capacity, see rating below.

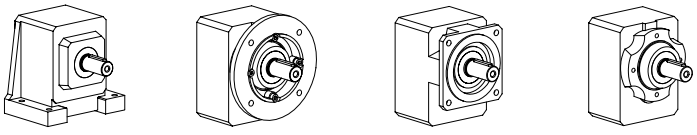
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

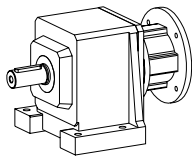
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data

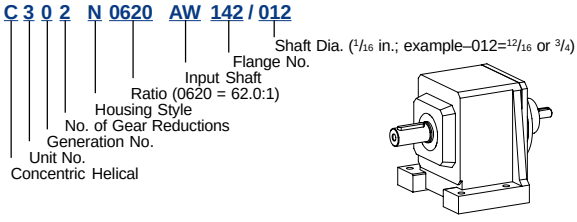


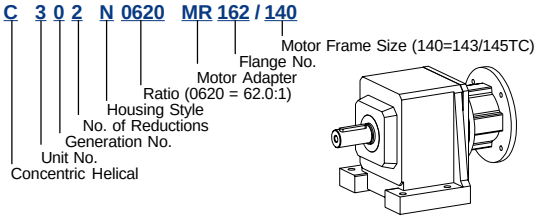
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

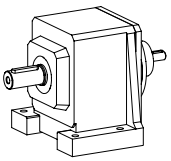
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
105 RPM		**Output (Approximate)** Continued							**85 RPM**		**70 RPM**		**53 RPM**	
21.40	11,974	C612_0160	MR307/280	284/286TC	AW307/110	16.20	1072	2,649	18.70	12,807	15.20	12,844	11.40	12,844
31.90	18,522	C712_0165	MR256/210	213/215TC	AW206/014	16.73	333	3,563	26.10	18,522	21.10	18,522	15.90	18,522
31.90	18,522	C712_0165	MR306/250	254/256TC	AW206/014	16.73	333	3,563	26.10	18,522	21.10	18,522	15.90	18,522
33.00	19,764	C812_0170	MR306/250	254/256TC	AW256/102	17.10	680	4,488	27.00	19,764	21.90	19,764	16.40	19,764
34.50	20,033	C712_0165	MR307/280	284/286TC	AW307/110	16.73	1072	3,563	29.90	21,259	24.30	21,259	18.20	21,259
54.80*	32,780	C812_0170	MR307/280	284/286TC	AW307/110	17.10	1072	4,488	47.90	35,063	41.20	37,204	30.90	37,204
54.80*	32,780	C812_0170	MR358/320	324/326TC	AW358/202	17.10	1569	4,488	47.90	35,063	41.20	37,204	30.90	37,204
54.80*	32,780	C812_0170	MR358/360	364/365TC	AW358/202	17.10	1569	4,488	47.90	35,063	41.20	37,204	30.90	37,204
65.40	37,994	C912_0165	MR307/280	284/286TC	AW307/110	16.46	1072	5,345	53.50	37,994	43.40	37,994	32.50	37,994
107.0*	62,006	C912_0165	MR358/320	324/326TC	AW358/202	16.46	1569	5,345	87.30*	62,006	70.80*	62,006	53.10	62,006
107.0*	62,006	C912_0165	MR358/360	364/365TC	AW358/202	16.46	1569	5,345	87.30*	62,006	70.80*	62,006	53.10	62,006
100 RPM		**Output (Approximate)** Continued Next Page							**80 RPM**		**65 RPM**		**50 RPM**	
0.62	379	C002_0175	MR141/050	56C	AW141/010	17.52	98	286	0.50	379	0.41	379	0.31	379
0.87	531	C002_0175	MR142/050	56C	AW142/010	17.52	98	286	0.71	531	0.57	531	0.43	531
0.87	531	C002_0175	MR163/050	56C	AW143/010	17.52	98	286	0.71	531	0.57	531	0.43	531
0.87	531	C002_0175	MR164/140	143/145TC	AW164/012	17.52	196	286	0.71	531	0.57	531	0.43	531
1.25	764	C102_0175	MR142/050	56C	AW142/010	17.73	98	406	1.02	764	0.83	764	0.62	764
1.73	1,063	C102_0175	MR163/050	56C	AW143/010	17.73	98	406	1.41	1,063	1.15	1,063	0.86	1,063
1.73	1,063	C102_0175	MR164/140	143/145TC	AW164/012	17.73	196	406	1.41	1,063	1.15	1,063	0.86	1,063
1.73	1,063	C102_0175	MR205/180	182/184TC	AW165/012	17.73	196	406	1.41	1,063	1.15	1,063	0.86	1,063
2.42	1,484	C202_0175	MR163/050	56C	AW143/010	17.52	98	572	1.97	1,484	1.60	1,484	1.20	1,484
2.89	1,772	C202_0175	MR164/140	143/145TC	AW164/012	17.52	196	572	2.36	1,772	1.91	1,772	1.43	1,772
2.89	1,772	C202_0175	MR205/180	182/184TC	AW165/012	17.52	196	572	2.36	1,772	1.91	1,772	1.43	1,772
4.73	2,904	C302_0175	MR164/140	143/145TC	AW164/012	17.54	196	752	3.86	2,904	3.13	2,904	2.35	2,904
5.05	3,100	C302_0175	MR205/180	182/184TC	AW165/012	17.54	196	752	4.13	3,100	3.35	3,100	2.51	3,100
5.05	3,100	C302_0175	MR256/210	213/215TC	AW206/014	17.54	333	752	4.13	3,100	3.35	3,100	2.51	3,100
7.94	4,872	C402_0175	MR205/180	182/184TC	AW165/012	17.60	196	1,460	6.48	4,872	5.26	4,872	3.95	4,872
7.94	4,872	C402_0175	MR256/210	213/215TC	AW206/014	17.60	333	1,460	6.48	4,872	5.26	4,872	3.95	4,872
11.50	7,086	C502_0175	MR205/180	182/184TC	AW165/012	17.60	196	1,054	9.43	7,086	7.65	7,086	5.74	7,086
11.50	7,086	C502_0175	MR256/210	213/215TC	AW206/014	17.60	333	1,054	9.43	7,086	7.65	7,086	5.74	7,086
18.80	11,515	C612_0175	MR256/210	213/215TC	AW206/014	17.60	333	2,710	15.30	11,515	12.40	11,515	9.32	11,515
18.80	11,515	C612_0175	MR306/250	254/256TC	AW206/014	17.60	333	2,710	15.30	11,515	12.40	11,515	9.32	11,515
18.80	11,515	C612_0175	MR307/280	284/286TC	AW307/110	17.60	1072	2,710	15.30	11,515	12.40	11,515	9.32	11,515
27.70	17,716	C712_0185	MR256/210	213/215TC	AW206/014	18.26	333	3,649	22.70	17,716	18.40	17,716	13.80	17,716

Part No. Explanation





Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
100 RPM		**Output (Approximate) Continued**							**80 RPM**		**65 RPM**		**50 RPM**	
27.70	17,716	C712_0185	MR306/250	254/256TC	AW206/014	18.26	333	3,649	22.70	17,716	18.40	17,716	13.80	17,716
27.70	17,716	C712_0185	MR307/280	284/286TC	AW307/110	18.26	1072	3,649	22.70	17,716	18.40	17,716	13.80	17,716
34.40	21,089	C812_0175	MR306/250	254/256TC	AW256/102	17.29	680	4,517	28.10	21,089	22.80	21,089	17.10	21,089
51.90	31,889	C812_0175	MR307/280	284/286TC	AW307/110	17.29	1072	4,517	42.40	31,889	34.40	31,889	25.80	31,889
51.90	31,889	C812_0175	MR358/320	324/326TC	AW358/202	17.29	1569	4,517	42.40	31,889	34.40	31,889	25.80	31,889
51.90	31,889	C812_0175	MR358/360	364/365TC	AW358/202	17.29	1569	4,517	42.40	31,889	34.40	31,889	25.80	31,889
86.60*	53,148	C912_0175	MR358/320	324/326TC	AW358/202	17.65	1569	5,420	70.70*	53,148	57.40	53,148	43.00	53,148
86.60*	53,148	C912_0175	MR358/360	364/365TC	AW358/202	17.65	1569	5,420	70.70*	53,148	57.40	53,148	43.00	53,148
90 RPM		**Output (Approximate)**							**75 RPM**		**60 RPM**		**45 RPM**	
11.30	7,748	C612_0195	MR205/180	182/184TC	AW205/014	19.61	333	2,786	9.23	7,748	7.49	7,748	5.62	7,748
18.60	12,760	C612_0195	MR256/210	213/215TC	AW206/014	19.61	333	2,786	15.30	12,844	12.40	12,844	9.31	12,844
18.60	12,760	C612_0195	MR306/250	254/256TC	AW206/014	19.61	333	2,786	15.30	12,844	12.40	12,844	9.31	12,844
32.00	22,638	C812_0200	MR306/250	254/256TC	AW256/102	20.26	680	4,679	26.20	22,638	21.20	22,638	15.90	22,638
33.00	23,345	C912_0200	MR306/250	254/256TC	AW306/110	20.15	1072	5,614	27.00	23,345	21.90	23,345	16.40	23,345
49.10	34,684	C812_0200	MR307/280	284/286TC	AW307/110	20.26	1072	4,679	42.90	37,099	34.90	37,204	26.20	37,204
49.10	34,684	C812_0200	MR358/320	324/326TC	AW358/202	20.26	1569	4,679	42.90	37,099	34.90	37,204	26.20	37,204
49.10	34,684	C812_0200	MR358/360	364/365TC	AW358/202	20.26	1569	4,679	42.90	37,099	34.90	37,204	26.20	37,204
63.10	44,610	C912_0200	MR307/280	284/286TC	AW307/110	20.15	1072	5,614	51.60	44,610	41.80	44,610	31.40	44,610
87.70*	62,006	C912_0200	MR358/320	324/326TC	AW358/202	20.15	1569	5,614	71.70*	62,006	58.20	62,006	43.60	62,006
87.70*	62,006	C912_0200	MR358/360	364/365TC	AW358/202	20.15	1569	5,614	71.70*	62,006	58.20	62,006	43.60	62,006
85 RPM		**Output (Approximate)** **Continued Next Page**							**70 RPM**		**55 RPM**		**40 RPM**	
0.59	426	C002_0210	MR141/050	56C	AW141/010	20.71	98	298	0.48	426	0.39	426	0.29	426
0.73	531	C002_0210	MR142/050	56C	AW142/010	20.71	98	298	0.60	531	0.49	531	0.36	531
0.73	531	C002_0210	MR163/050	56C	AW143/010	20.71	98	298	0.60	531	0.49	531	0.36	531
1.18	854	C102_0210	MR142/050	56C	AW142/010	20.84	98	423	0.96	854	0.78	854	0.58	854
1.19	867	C202_0210	MR142/050	56C	AW142/010	20.58	98	596	0.98	867	0.79	867	0.59	867
1.46	1,063	C102_0210	MR163/050	56C	AW143/010	20.84	98	423	1.20	1,063	0.97	1,063	0.73	1,063
1.46	1,063	C102_0210	MR164/140	143/145TC	AW164/012	20.84	196	423	1.20	1,063	0.97	1,063	0.73	1,063
1.46	1,063	C102_0210	MR205/180	182/184TC	AW165/012	20.84	196	423	1.20	1,063	0.97	1,063	0.73	1,063
2.27	1,650	C202_0210	MR163/050	56C	AW143/010	20.58	98	596	1.86	1,650	1.51	1,650	1.13	1,650
2.44	1,772	C202_0210	MR164/140	143/145TC	AW164/012	20.58	196	596	1.99	1,772	1.62	1,772	1.21	1,772
2.44	1,772	C202_0210	MR205/180	182/184TC	AW165/012	20.58	196	596	1.99	1,772	1.62	1,772	1.21	1,772
4.27	3,100	C302_0210	MR164/140	143/145TC	AW164/012	20.80	196	785	3.49	3,100	2.83	3,100	2.12	3,100

* For thermal HP capacity, see rating below.

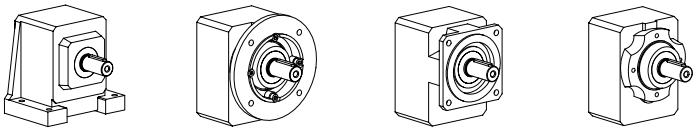
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

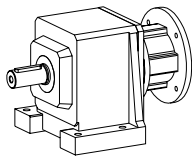
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data

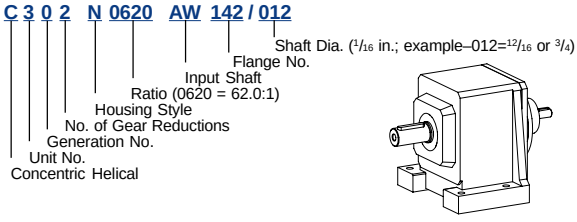


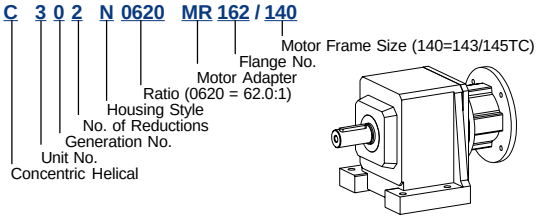
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

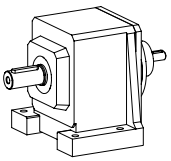
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
85 RPM		**Output (Approximate) Continued**							**70 RPM**		**55 RPM**		**40 RPM**	
4.27	3,100	C302_0210	MR205/180	182/184TC	AW165/012	20.80	196	785	3.49	3,100	2.83	3,100	2.12	3,100
4.27	3,100	C302_0210	MR256/210	213/215TC	AW206/014	20.80	333	785	3.49	3,100	2.83	3,100	2.12	3,100
6.71	4,872	C402_0210	MR205/180	182/184TC	AW165/012	20.90	196	1,523	5.48	4,872	4.45	4,872	3.34	4,872
6.71	4,872	C402_0210	MR256/210	213/215TC	AW206/014	20.90	333	1,523	5.48	4,872	4.45	4,872	3.34	4,872
9.76	7,086	C502_0210	MR205/180	182/184TC	AW165/012	20.84	196	1,099	7.98	7,086	6.47	7,086	4.85	7,086
9.76	7,086	C502_0210	MR256/210	213/215TC	AW206/014	20.84	333	1,099	7.98	7,086	6.47	7,086	4.85	7,086
29.30	21,259	C712_0210	MR256/210	213/215TC	AW206/014	20.67	333	3,768	23.90	21,259	19.40	21,259	14.60	21,259
29.30	21,259	C712_0210	MR306/250	254/256TC	AW206/014	20.67	333	3,768	23.90	21,259	19.40	21,259	14.60	21,259
29.30	21,259	C712_0210	MR307/280	284/286TC	AW307/110	20.67	1072	3,768	23.90	21,259	19.40	21,259	14.60	21,259
75 RPM		**Output (Approximate)**							**60 RPM**		**50 RPM**		**37 0RPM**	
0.59	478	C002_0230	MR141/050	56C	AW141/010	23.21	98	306	0.48	478	0.39	478	0.29	478
0.65	531	C002_0230	MR142/050	56C	AW142/010	23.21	98	306	0.54	531	0.43	531	0.33	531
0.65	531	C002_0230	MR163/050	56C	AW143/010	23.21	98	306	0.54	531	0.43	531	0.33	531
1.17	964	C102_0240	MR142/050	56C	AW142/010	23.52	98	437	0.96	964	0.78	964	0.58	964
1.21	994	C202_0240	MR142/050	56C	AW142/010	23.59	98	615	0.99	994	0.80	994	0.60	994
1.29	1,063	C102_0240	MR163/050	56C	AW143/010	23.52	98	437	1.05	1,063	0.86	1,063	0.64	1,063
1.29	1,063	C102_0240	MR164/140	143/145TC	AW164/012	23.52	196	437	1.05	1,063	0.86	1,063	0.64	1,063
1.29	1,063	C102_0240	MR205/180	182/184TC	AW165/012	23.52	196	437	1.05	1,063	0.86	1,063	0.64	1,063
2.15	1,772	C202_0240	MR163/050	56C	AW143/010	23.59	98	615	1.76	1,772	1.43	1,772	1.07	1,772
2.15	1,772	C202_0240	MR164/140	143/145TC	AW164/012	23.59	196	615	1.76	1,772	1.43	1,772	1.07	1,772
2.15	1,772	C202_0240	MR205/180	182/184TC	AW165/012	23.59	196	615	1.76	1,772	1.43	1,772	1.07	1,772
3.82	3,100	C302_0230	MR164/140	143/145TC	AW164/012	23.47	196	807	3.12	3,100	2.53	3,100	1.90	3,100
3.82	3,100	C302_0230	MR205/180	182/184TC	AW165/012	23.47	196	807	3.12	3,100	2.53	3,100	1.90	3,100
3.82	3,100	C302_0230	MR256/210	213/215TC	AW206/014	23.47	333	807	3.12	3,100	2.53	3,100	1.90	3,100
6.00	4,872	C402_0230	MR205/180	182/184TC	AW165/012	23.36	196	1,566	4.90	4,872	3.98	4,872	2.98	4,872
6.00	4,872	C402_0230	MR256/210	213/215TC	AW206/014	23.36	333	1,566	4.90	4,872	3.98	4,872	2.98	4,872
8.73	7,086	C502_0230	MR205/180	182/184TC	AW165/012	23.36	196	1,130	7.13	7,086	5.79	7,086	4.34	7,086
8.73	7,086	C502_0230	MR256/210	213/215TC	AW206/014	23.36	333	1,130	7.13	7,086	5.79	7,086	4.34	7,086
11.50	9,303	C612_0230	MR205/180	182/184TC	AW205/014	22.67	333	2,906	9.36	9,303	7.60	9,303	5.70	9,303
14.20	11,515	C612_0230	MR256/210	213/215TC	AW206/014	22.67	333	2,906	11.60	11,515	9.40	11,515	7.05	11,515
14.20	11,515	C612_0230	MR307/280	284/286TC	AW307/110	22.67	1072	2,906	11.60	11,515	9.40	11,515	7.05	11,515
21.80	17,716	C712_0230	MR256/210	213/215TC	AW206/014	23.18	333	3,875	17.80	17,716	14.50	17,716	10.80	17,716
21.80	17,716	C712_0230	MR306/250	254/256TC	AW206/014	23.18	333	3,875	17.80	17,716	14.50	17,716	10.80	17,716
21.80	17,716	C712_0230	MR307/280	284/286TC	AW307/110	23.18	1072	3,875	17.80	17,716	14.50	17,716	10.80	17,716
33.00	26,799	C812_0230	MR256/210	213/215TC	AW256/102	23.19	680	4,844	27.00	26,799	21.90	26,799	16.40	26,799

Part No. Explanation





Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
75 RPM		**Output (Approximate) Continued**							**60 RPM**		**50 RPM**		**37 RPM**	
33.00	26,799	C812_0230	MR306/250	254/256TC	AW256/102	23.19	680	4,844	27.00	26,799	21.90	26,799	16.40	26,799
39.30	31,889	C812_0230	MR307/280	284/286TC	AW307/110	23.19	1072	4,844	32.10	31,889	26.00	31,889	19.50	31,889
39.30	31,889	C812_0230	MR358/320	324/326TC	AW358/202	23.19	1569	4,844	32.10	31,889	26.00	31,889	19.50	31,889
39.30	31,889	C812_0230	MR358/360	364/365TC	AW358/202	23.19	1569	4,844	32.10	31,889	26.00	31,889	19.50	31,889
65.50	53,148	C912_0230	MR307/280	284/286TC	AW307/110	23.39	1072	5,813	53.50	53,148	43.40	53,148	32.50	53,148
65.50	53,148	C912_0230	MR358/320	324/326TC	AW358/202	23.39	1569	5,813	53.50	53,148	43.40	53,148	32.50	53,148
65.50	53,148	C912_0230	MR358/360	364/365TC	AW358/202	23.39	1569	5,813	53.50	53,148	43.40	53,148	32.50	53,148
70 RPM		**Output (Approximate)**							**55 RPM**		**45 RPM**		**35 RPM**	
0.57	498	C002_0250	MR141/050	56C	AW141/010	24.97	98	312	0.47	498	0.38	498	0.28	498
0.61	531	C002_0250	MR142/050	56C	AW142/010	24.97	98	312	0.50	531	0.40	531	0.30	531
0.61	531	C002_0250	MR163/050	56C	AW143/010	24.97	98	312	0.50	531	0.40	531	0.30	531
1.13	989	C102_0250	MR142/050	56C	AW142/010	25.13	98	444	0.93	989	0.75	989	0.56	989
1.15	1,004	C202_0250	MR142/050	56C	AW142/010	24.64	98	625	0.94	1,004	0.76	1,004	0.57	1,004
1.22	1,063	C102_0250	MR163/050	56C	AW143/010	25.13	98	444	0.99	1,063	0.81	1,063	0.60	1,063
1.22	1,063	C102_0250	MR164/140	143/145TC	AW164/012	25.13	196	444	0.99	1,063	0.81	1,063	0.60	1,063
2.03	1,772	C202_0250	MR163/050	56C	AW143/010	24.64	98	625	1.66	1,772	1.34	1,772	1.01	1,772
2.03	1,772	C202_0250	MR164/140	143/145TC	AW164/012	24.64	196	625	1.66	1,772	1.34	1,772	1.01	1,772
2.03	1,772	C202_0250	MR205/180	182/184TC	AW165/012	24.64	196	625	1.66	1,772	1.34	1,772	1.01	1,772
2.27	1,988	C302_0250	MR163/050	56C	AW163/012	24.80	196	822	1.86	1,988	1.51	1,988	1.13	1,988
2.38	2,076	C402_0250	MR163/050	56C	AW163/012	24.92	196	1,595	1.94	2,076	1.57	2,076	1.18	2,076
3.55	3,100	C302_0250	MR164/140	143/145TC	AW164/012	24.80	196	822	2.90	3,100	2.35	3,100	1.76	3,100
3.55	3,100	C302_0250	MR205/180	182/184TC	AW165/012	24.80	196	822	2.90	3,100	2.35	3,100	1.76	3,100
4.47	3,909	C402_0250	MR164/140	143/145TC	AW164/012	24.92	196	1,595	3.66	3,909	2.96	3,909	2.22	3,909
5.57	4,872	C402_0250	MR205/180	182/184TC	AW165/012	24.92	196	1,595	4.56	4,872	3.70	4,872	2.77	4,872
8.11	7,086	C502_0250	MR205/180	182/184TC	AW165/012	25.07	196	1,151	6.63	7,086	5.37	7,086	4.03	7,086
8.11	7,086	C502_0250	MR256/210	213/215TC	AW206/014	25.07	333	1,151	6.63	7,086	5.37	7,086	4.03	7,086
10.80	9,408	C612_0250	MR205/180	182/184TC	AW205/014	24.93	333	2,960	8.80	9,408	7.14	9,408	5.35	9,408
11.40	10,002	C712_0250	MR205/180	182/184TC	AW205/014	25.31	333	3,947	9.35	10,002	7.59	10,002	5.69	10,002
14.70	12,844	C612_0250	MR256/210	213/215TC	AW206/014	24.93	333	2,960	12.00	12,844	9.74	12,844	7.31	12,844
24.30	21,259	C712_0250	MR256/210	213/215TC	AW206/014	25.31	333	3,947	19.90	21,259	16.10	21,259	12.10	21,259
24.30	21,259	C712_0250	MR306/250	254/256TC	AW206/014	25.31	333	3,947	19.90	21,259	16.10	21,259	12.10	21,259
32.10	28,014	C912_0250	MR256/210	213/215TC	AW306/110	25.34	1072	5,921	26.20	28,014	21.20	28,014	15.90	28,014
32.10	28,014	C912_0250	MR306/250	254/256TC	AW306/110	25.34	1072	5,921	26.20	28,014	21.20	28,014	15.90	28,014
61.30	53,532	C912_0250	MR307/280	284/286TC	AW307/110	25.34	1072	5,921	50.10	53,532	40.60	53,532	30.50	53,532
71.00*	62,006	C912_0250	MR358/320	324/326TC	AW358/202	25.34	1569	5,921	58.00	62,006	47.00	62,006	35.30	62,006
71.00*	62,006	C912_0250	MR358/360	364/365TC	AW358/202	25.34	1569	5,921	58.00	62,006	47.00	62,006	35.30	62,006

* For thermal HP capacity, see rating below.

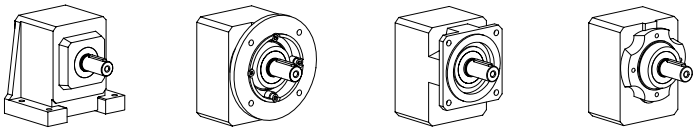
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

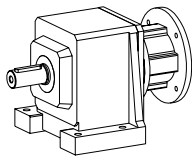
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data

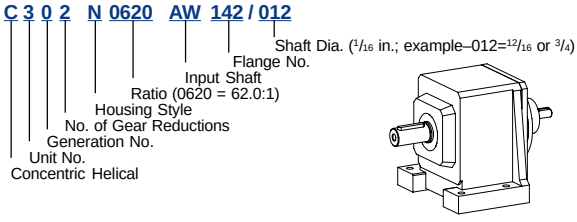


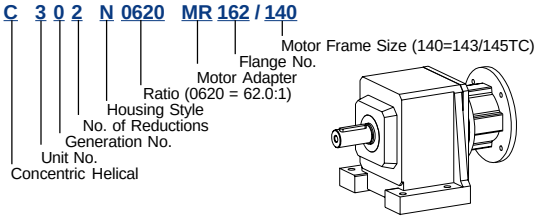
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

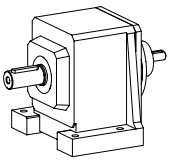
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
65 RPM		**Output (Approximate)**							**52 RPM**		**42 RPM**		**32 RPM**	
11.30	10,839	C612_0270	MR205/180	182/184TC	AW205/014	27.43	333	3,031	9.22	10,839	7.48	10,839	5.61	10,839
12.00	11,515	C612_0270	MR256/210	213/215TC	AW206/014	27.43	333	3,031	9.80	11,515	7.95	11,515	5.96	11,515
30.30	27,583	C812_0260	MR306/250	254/256TC	AW256/102	26.06	680	4,986	24.70	27,583	20.10	27,583	15.00	27,583
32.00	30,697	C812_0270	MR256/210	213/215TC	AW256/102	27.47	680	5,051	26.10	30,697	21.20	30,697	15.90	30,697
32.00	30,697	C812_0270	MR306/250	254/256TC	AW256/102	27.47	680	5,051	26.10	30,697	21.20	30,697	15.90	30,697
33.20	31,889	C812_0270	MR307/280	284/286TC	AW307/110	27.47	1072	5,051	27.10	31,889	22.00	31,889	16.50	31,889
33.20	31,889	C812_0270	MR358/320	324/326TC	AW358/202	27.47	1569	5,051	27.10	31,889	22.00	31,889	16.50	31,889
33.20	31,889	C812_0270	MR358/360	364/365TC	AW358/202	27.47	1569	5,051	27.10	31,889	22.00	31,889	16.50	31,889
40.80	37,204	C812_0260	MR307/280	284/286TC	AW307/110	26.06	1072	4,986	33.40	37,204	27.10	37,204	20.30	37,204
60 RPM		**Output (Approximate)**							**50 RPM**		**40 RPM**		**30 RPM**	
0.54	531	C002_0280	MR141/050	56C	AW141/010	27.99	98	321	0.44	531	0.36	531	0.27	531
0.54	531	C002_0280	MR142/050	56C	AW142/010	27.99	98	321	0.44	531	0.36	531	0.27	531
0.54	531	C002_0280	MR163/050	56C	AW143/010	27.99	98	321	0.44	531	0.36	531	0.27	531
1.08	1,063	C102_0280	MR142/050	56C	AW142/010	28.36	98	457	0.88	1,063	0.72	1,063	0.54	1,063
1.08	1,063	C102_0280	MR163/050	56C	AW143/010	28.36	98	457	0.88	1,063	0.72	1,063	0.54	1,063
1.08	1,063	C102_0280	MR164/140	143/145TC	AW164/012	28.36	196	457	0.88	1,063	0.72	1,063	0.54	1,063
1.17	1,150	C202_0280	MR142/050	56C	AW142/010	28.24	98	643	0.96	1,150	0.78	1,150	0.58	1,150
1.80	1,772	C202_0280	MR163/050	56C	AW143/010	28.24	98	643	1.47	1,772	1.20	1,772	0.90	1,772
1.80	1,772	C202_0280	MR164/140	143/145TC	AW164/012	28.24	196	643	1.47	1,772	1.20	1,772	0.90	1,772
1.80	1,772	C202_0280	MR205/180	182/184TC	AW165/012	28.24	196	643	1.47	1,772	1.20	1,772	0.90	1,772
2.28	2,244	C302_0280	MR163/050	56C	AW163/012	27.99	196	846	1.87	2,244	1.51	2,244	1.14	2,244
2.36	2,321	C402_0280	MR163/050	56C	AW163/012	27.86	196	1,642	1.93	2,321	1.57	2,321	1.17	2,321
3.15	3,100	C302_0280	MR164/140	143/145TC	AW164/012	27.99	196	846	2.58	3,100	2.09	3,100	1.57	3,100
3.15	3,100	C302_0280	MR205/180	182/184TC	AW165/012	27.99	196	846	2.58	3,100	2.09	3,100	1.57	3,100
4.45	4,370	C402_0280	MR164/140	143/145TC	AW164/012	27.86	196	1,642	3.63	4,370	2.95	4,370	2.21	4,370
4.96	4,872	C402_0280	MR205/180	182/184TC	AW165/012	27.86	196	1,642	4.05	4,872	3.29	4,872	2.46	4,872
7.21	7,086	C502_0280	MR205/180	182/184TC	AW165/012	28.10	196	1,185	5.89	7,086	4.78	7,086	3.59	7,086
7.21	7,086	C502_0280	MR256/210	213/215TC	AW206/014	28.10	333	1,185	5.89	7,086	4.78	7,086	3.59	7,086
17.70	17,716	C712_0290	MR256/210	213/215TC	AW206/014	28.64	333	4,084	14.50	17,716	11.70	17,716	8.79	17,716
17.70	17,716	C712_0290	MR306/250	254/256TC	AW206/014	28.64	333	4,084	14.50	17,716	11.70	17,716	8.79	17,716
17.70	17,716	C712_0290	MR307/280	284/286TC	AW307/110	28.64	1072	4,084	14.50	17,716	11.70	17,716	8.79	17,716
33.10	33,168	C912_0290	MR256/210	213/215TC	AW306/110	28.63	1072	6,126	27.10	33,168	22.00	33,168	16.50	33,168
33.10	33,168	C912_0290	MR306/250	254/256TC	AW306/110	28.63	1072	6,126	27.10	33,168	22.00	33,168	16.50	33,168
53.10	53,148	C912_0290	MR307/280	284/286TC	AW307/110	28.63	1072	6,126	43.40	53,148	35.20	53,148	26.40	53,148
53.10	53,148	C912_0290	MR358/320	324/326TC	AW358/202	28.63	1569	6,126	43.40	53,148	35.20	53,148	26.40	53,148
53.10	53,148	C912_0290	MR358/360	364/365TC	AW358/202	28.63	1569	6,126	43.40	53,148	35.20	53,148	26.40	53,148

Part No. Explanation





Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
55 RPM	**Output (Approximate)**								**45 RPM**		**37 RPM**		**28 0RPM**	
0.49	531	C002_0310	MR141/050	56C	AW141/010	31.26	98	329	0.40	531	0.32	531	0.24	531
0.49	531	C002_0310	MR142/050	56C	AW142/010	31.26	98	329	0.40	531	0.32	531	0.24	531
0.49	531	C002_0310	MR163/050	56C	AW143/010	31.26	98	329	0.40	531	0.32	531	0.24	531
0.98	1,063	C102_0310	MR142/050	56C	AW142/010	31.07	98	468	0.80	1,063	0.65	1,063	0.49	1,063
0.98	1,063	C102_0310	MR163/050	56C	AW143/010	31.07	98	468	0.80	1,063	0.65	1,063	0.49	1,063
0.98	1,063	C102_0310	MR164/140	143/145TC	AW164/012	31.07	196	468	0.80	1,063	0.65	1,063	0.49	1,063
1.10	1,199	C202_0310	MR142/050	56C	AW142/010	30.69	98	659	0.90	1,199	0.73	1,199	0.55	1,199
1.63	1,772	C202_0310	MR163/050	56C	AW143/010	30.69	98	659	1.33	1,772	1.08	1,772	0.81	1,772
1.63	1,772	C202_0310	MR164/140	143/145TC	AW164/012	30.69	196	659	1.33	1,772	1.08	1,772	0.81	1,772
2.19	2,376	C302_0310	MR163/050	56C	AW163/012	31.04	196	868	1.79	2,376	1.45	2,376	1.09	2,376
2.86	3,100	C302_0310	MR164/140	143/145TC	AW164/012	31.04	196	868	2.33	3,100	1.89	3,100	1.42	3,100
2.86	3,100	C302_0310	MR205/180	182/184TC	AW165/012	31.04	196	868	2.33	3,100	1.89	3,100	1.42	3,100
4.30	4,665	C402_0310	MR164/140	143/145TC	AW164/012	31.15	196	1,684	3.51	4,665	2.85	4,665	2.14	4,665
4.49	4,872	C402_0310	MR205/180	182/184TC	AW165/012	31.15	196	1,684	3.67	4,872	2.97	4,872	2.23	4,872
6.53	7,086	C502_0310	MR205/180	182/184TC	AW165/012	31.23	196	1,215	5.33	7,086	4.33	7,086	3.24	7,086
10.30	11,562	C612_0320	MR205/180	182/184TC	AW205/014	32.41	333	3,155	8.38	11,562	6.80	11,562	5.10	11,562
11.40	12,844	C612_0320	MR256/210	213/215TC	AW206/014	32.41	333	3,155	9.31	12,844	7.55	12,844	5.66	12,844
30.10	33,952	C912_0320	MR256/210	213/215TC	AW306/110	32.13	1072	6,310	24.60	33,952	20.00	33,952	15.00	33,952
30.10	33,952	C912_0320	MR306/250	254/256TC	AW306/110	32.13	1072	6,310	24.60	33,952	20.00	33,952	15.00	33,952
55.00	62,006	C912_0320	MR307/280	284/286TC	AW307/110	32.13	1072	6,310	44.90	62,006	36.40	62,006	27.30	62,006
55.00	62,006	C912_0320	MR358/320	324/326TC	AW358/202	32.13	1569	6,310	44.90	62,006	36.40	62,006	27.30	62,006
55.00	62,006	C912_0320	MR358/360	364/365TC	AW358/202	32.13	1569	6,310	44.90	62,006	36.40	62,006	27.30	62,006
50 RPM	**Output (Approximate)**	**Continued Next Page**							**40 RPM**		**33 RPM**		**25 RPM**	
0.43	531	C002_0350	MR141/050	56C	AW141/010	35.03	98	340	0.35	531	0.29	531	0.22	531
0.43	531	C002_0350	MR142/050	56C	AW142/010	35.03	98	340	0.35	531	0.29	531	0.22	531
0.43	531	C002_0350	MR163/050	56C	AW143/010	35.03	98	340	0.35	531	0.29	531	0.22	531
0.87	1,063	C102_0350	MR142/050	56C	AW142/010	35.06	98	483	0.71	1,063	0.57	1,063	0.43	1,063
0.87	1,063	C102_0350	MR163/050	56C	AW143/010	35.06	98	483	0.71	1,063	0.57	1,063	0.43	1,063
0.87	1,063	C102_0350	MR164/140	143/145TC	AW164/012	35.06	196	483	0.71	1,063	0.57	1,063	0.43	1,063
1.12	1,375	C202_0350	MR142/050	56C	AW142/010	35.18	98	680	0.92	1,375	0.74	1,375	0.56	1,375
1.45	1,772	C202_0350	MR163/050	56C	AW143/010	35.18	98	680	1.18	1,772	0.96	1,772	0.72	1,772
1.45	1,772	C202_0350	MR164/140	143/145TC	AW164/012	35.18	196	680	1.18	1,772	0.96	1,772	0.72	1,772
2.19	2,680	C302_0350	MR163/050	56C	AW163/012	35.03	196	895	1.79	2,680	1.45	2,680	1.09	2,680
2.53	3,100	C302_0350	MR164/140	143/145TC	AW164/012	35.03	196	895	2.07	3,100	1.68	3,100	1.26	3,100
2.53	3,100	C302_0350	MR205/180	182/184TC	AW165/012	35.03	196	895	2.07	3,100	1.68	3,100	1.26	3,100

* For thermal HP capacity, see rating below.

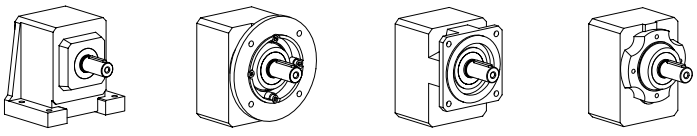
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

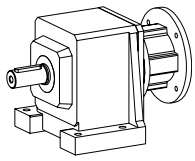
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data



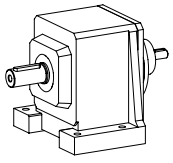
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

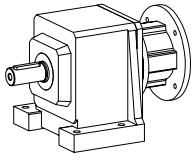
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
50 RPM		**Output (Approximate)** Continued							**40 RPM**		**33 RPM**		**25 RPM**	
3.97	4,872	C402_0350	MR164/140	143/145TC	AW164/012	34.82	196	1,736	3.25	4,872	2.63	4,872	1.98	4,872
3.97	4,872	C402_0350	MR205/180	182/184TC	AW165/012	34.82	196	1,736	3.25	4,872	2.63	4,872	1.98	4,872
5.78	7,086	C502_0350	MR205/180	182/184TC	AW165/012	35.00	196	1,253	4.72	7,086	3.83	7,086	2.87	7,086
9.39	11,515	C612_0350	MR205/180	182/184TC	AW205/014	34.87	333	3,222	7.68	11,515	6.23	11,515	4.67	11,515
9.39	11,515	C612_0350	MR256/210	213/215TC	AW206/014	34.87	333	3,222	7.68	11,515	6.23	11,515	4.67	11,515
10.70	12,608	C712_0340	MR205/180	182/184TC	AW205/014	33.80	333	4,253	8.74	12,608	7.09	12,608	5.32	12,608
11.30	13,856	C712_0350	MR205/180	182/184TC	AW205/014	35.06	333	4,296	9.24	13,856	7.49	13,856	5.62	13,856
14.50	17,716	C712_0350	MR256/210	213/215TC	AW206/014	35.06	333	4,296	11.80	17,716	9.58	17,716	7.18	17,716
18.00	21,259	C712_0340	MR256/210	213/215TC	AW206/014	33.80	333	4,253	14.70	21,259	12.00	21,259	8.97	21,259
18.00	21,259	C712_0340	MR306/250	254/256TC	AW206/014	33.80	333	4,253	14.70	21,259	12.00	21,259	8.97	21,259
26.00	31,889	C812_0350	MR256/210	213/215TC	AW256/102	35.33	680	5,370	21.30	31,889	17.20	31,889	12.90	31,889
26.00	31,889	C812_0350	MR306/250	254/256TC	AW256/102	35.33	680	5,370	21.30	31,889	17.20	31,889	12.90	31,889
26.00	31,889	C812_0350	MR307/280	284/286TC	AW307/110	35.33	1072	5,370	21.30	31,889	17.20	31,889	12.90	31,889
28.70	33,846	C812_0340	MR306/250	254/256TC	AW256/102	33.58	680	5,317	23.50	33,846	19.00	33,846	14.30	33,846
31.60	37,204	C812_0340	MR307/280	284/286TC	AW307/110	33.58	1072	5,317	25.80	37,204	20.90	37,204	15.70	37,204
31.60	39,802	C912_0360	MR306/250	254/256TC	AW306/110	36.01	1072	6,487	25.80	39,802	21.00	39,802	15.70	39,802
42.20	53,148	C912_0360	MR307/280	284/286TC	AW307/110	36.01	1072	6,487	34.50	53,148	28.00	53,148	21.00	53,148
42.20	53,148	C912_0360	MR358/320	324/326TC	AW358/202	36.01	1569	6,487	34.50	53,148	28.00	53,148	21.00	53,148
42.20	53,148	C912_0360	MR358/360	364/365TC	AW358/202	36.01	1569	6,487	34.50	53,148	28.00	53,148	21.00	53,148
45 RPM		**Output (Approximate)** Continued Next Page							**35 RPM**		**30 RPM**		**20 RPM**	
0.36	531	C002_0420	MR141/050	56C	AW141/010	41.77	98	355	0.30	531	0.24	531	0.18	531
0.36	531	C002_0420	MR142/050	56C	AW142/010	41.77	98	355	0.30	531	0.24	531	0.18	531
0.54	783	C102_0420	MR141/050	56C	AW141/010	41.57	98	504	0.44	783	0.36	783	0.27	783
0.73	1,063	C102_0420	MR142/050	56C	AW142/010	41.57	98	504	0.60	1,063	0.48	1,063	0.36	1,063
0.73	1,063	C102_0420	MR163/050	56C	AW143/010	41.57	98	504	0.60	1,063	0.48	1,063	0.36	1,063
1.05	1,510	C202_0410	MR142/050	56C	AW142/010	40.85	98	707	0.86	1,510	0.70	1,510	0.52	1,510
1.23	1,772	C202_0410	MR163/050	56C	AW143/010	40.85	98	707	1.01	1,772	0.82	1,772	0.61	1,772
1.23	1,772	C202_0410	MR164/140	143/145TC	AW164/012	40.85	196	707	1.01	1,772	0.82	1,772	0.61	1,772
2.08	2,981	C302_0410	MR163/050	56C	AW163/012	41.35	196	931	1.70	2,981	1.38	2,981	1.03	2,981
2.16	3,100	C302_0410	MR164/140	143/145TC	AW164/012	41.35	196	931	1.76	3,100	1.43	3,100	1.07	3,100
3.34	4,872	C402_0420	MR164/140	143/145TC	AW164/012	41.75	196	1,813	2.73	4,872	2.22	4,872	1.66	4,872
3.34	4,872	C402_0420	MR205/180	182/184TC	AW165/012	41.75	196	1,813	2.73	4,872	2.22	4,872	1.66	4,872
4.15	6,054	C502_0420	MR164/140	143/145TC	AW164/012	41.69	196	1,308	3.39	6,054	2.75	6,054	2.06	6,054
4.86	7,086	C502_0420	MR205/180	182/184TC	AW165/012	41.69	196	1,308	3.97	7,086	3.22	7,086	2.42	7,086
7.86	10,811	C612_0390	MR205/180	182/184TC	AW205/014	39.40	333	3,316	6.42	10,811	5.21	10,811	3.91	10,811

Part No. Explanation

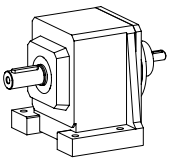
C 3 0 2 N 0620 AW 142 / 012
- C — Unit No. Concentric Helical
- 3 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Housing Style
- N — Ratio (0620 = 62.0:1)
- 0620 — Input Shaft
- AW — Flange No.
- 142 — Shaft Dia. ($^{1}/_{16}$ in.; example–012=$^{12}/_{16}$ or $^{3}/_{4}$)
- 012



C 3 0 2 N 0620 MR 162 / 140
- C — Unit No. Concentric Helical
- 3 — Generation No.
- 0 — No. of Reductions
- 2 — Housing Style
- N — Ratio (0620 = 62.0:1)
- 0620 — Motor Adapter
- MR — Flange No.
- 162 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
45 RPM		**Output (Approximate) Continued**							**35 RPM**		**30 RPM**		**20 RPM**	
10.20	14,633	C712_0410	MR205/180	182/184TC	AW205/014	41.02	333	4,468	8.33	14,633	6.76	14,633	5.07	14,633
12.90	18,552	C712_0410	MR256/210	213/215TC	AW206/014	41.02	333	4,468	10.60	18,552	8.57	18,552	6.43	18,552
24.00	33,529	C812_0400	MR256/210	213/215TC	AW256/102	39.94	680	5,548	19.60	33,529	15.90	33,529	11.90	33,529
24.00	33,529	C812_0400	MR306/250	254/256TC	AW256/102	39.94	680	5,548	19.60	33,529	15.90	33,529	11.90	33,529
28.80	39,604	C912_0390	MR306/250	254/256TC	AW306/110	39.30	1072	6,632	23.50	39,604	19.10	39,604	14.30	39,604
38.70	53,223	C912_0390	MR307/280	284/286TC	AW307/110	39.30	1072	6,632	31.60	53,223	25.60	53,223	19.20	53,223
40 RPM		**Output (Approximate)**							**30 RPM**		**25 RPM**		**19 RPM**	
0.32	531	C002_0470	MR141/050	56C	AW141/010	46.81	98	365	0.27	531	0.22	531	0.16	531
0.32	531	C002_0470	MR142/050	56C	AW142/010	46.81	98	365	0.27	531	0.22	531	0.16	531
0.54	883	C102_0470	MR141/050	56C	AW141/010	46.91	98	519	0.44	883	0.36	883	0.27	883
0.65	1,063	C102_0470	MR142/050	56C	AW142/010	46.91	98	519	0.53	1,063	0.43	1,063	0.32	1,063
0.65	1,063	C102_0470	MR163/050	56C	AW143/010	46.91	98	519	0.53	1,063	0.43	1,063	0.32	1,063
1.06	1,731	C202_0470	MR142/050	56C	AW142/010	46.82	98	731	0.86	1,731	0.70	1,731	0.53	1,731
1.08	1,772	C202_0470	MR163/050	56C	AW143/010	46.82	98	731	0.88	1,772	0.72	1,772	0.54	1,772
1.08	1,772	C202_0470	MR164/140	143/145TC	AW164/012	46.82	196	731	0.88	1,772	0.72	1,772	0.54	1,772
1.89	3,100	C302_0470	MR163/050	56C	AW163/012	46.67	196	962	1.55	3,100	1.26	3,100	0.94	3,100
1.89	3,100	C302_0470	MR164/140	143/145TC	AW164/012	46.67	196	962	1.55	3,100	1.26	3,100	0.94	3,100
2.98	4,872	C402_0470	MR164/140	143/145TC	AW164/012	46.67	196	1,866	2.43	4,872	1.97	4,872	1.48	4,872
2.98	4,872	C402_0470	MR205/180	182/184TC	AW165/012	46.67	196	1,866	2.43	4,872	1.97	4,872	1.48	4,872
4.15	6,784	C502_0470	MR164/140	143/145TC	AW164/012	46.72	196	1,346	3.39	6,784	2.75	6,784	2.06	6,784
4.33	7,086	C502_0470	MR205/180	182/184TC	AW165/012	46.72	196	1,346	3.54	7,086	2.87	7,086	2.15	7,086
7.26	11,515	C612_0450	MR205/180	182/184TC	AW205/014	45.33	333	3,436	5.93	11,515	4.81	11,515	3.61	11,515
7.26	11,515	C612_0450	MR256/210	213/215TC	AW206/014	45.33	333	3,436	5.93	11,515	4.81	11,515	3.61	11,515
10.70	17,464	C712_0470	MR205/180	182/184TC	AW205/014	46.82	333	4,617	8.72	17,464	7.07	17,464	5.31	17,464
10.80	17,716	C712_0470	MR256/210	213/215TC	AW206/014	46.82	333	4,617	8.85	17,716	7.18	17,716	5.38	17,716
10.80	17,716	C712_0470	MR306/250	254/256TC	AW206/014	46.82	333	4,617	8.85	17,716	7.18	17,716	5.38	17,716
20.00	31,889	C812_0460	MR256/210	213/215TC	AW256/102	45.54	680	5,735	16.30	31,889	13.30	31,889	9.94	31,889
20.00	31,889	C812_0460	MR306/250	254/256TC	AW256/102	45.54	680	5,735	16.30	31,889	13.30	31,889	9.94	31,889
20.00	31,889	C812_0460	MR307/280	284/286TC	AW307/110	45.54	1072	5,735	16.30	31,889	13.30	31,889	9.94	31,889
30.20	48,237	C912_0460	MR306/250	254/256TC	AW306/110	45.65	1072	6,882	24.70	48,237	20.00	48,237	15.00	48,237
33.30	53,148	C912_0460	MR307/280	284/286TC	AW307/110	45.65	1072	6,882	27.20	53,148	22.10	53,148	16.60	53,148
33.30	53,148	C912_0460	MR358/320	324/326TC	AW358/202	45.65	1569	6,882	27.20	53,148	22.10	53,148	16.60	53,148
33.30	53,148	C912_0460	MR358/360	364/365TC	AW358/202	45.65	1569	6,882	27.20	53,148	22.10	53,148	16.60	53,148

* For thermal HP capacity, see rating below.

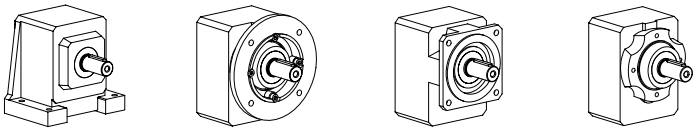
Base Module Thermal Capacity	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

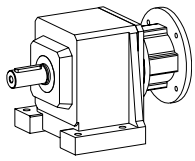
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data



NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

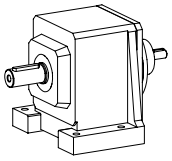
See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
35 RPM		**Output (Approximate)**							**28 RPM**		**23 RPM**		**17 RPM**	
0.30	531	C002_0500	MR141/050	56C	AW141/010	49.94	98	371	0.25	531	0.20	531	0.15	531
0.52	902	C102_0500	MR141/050	56C	AW141/010	49.94	98	527	0.42	902	0.34	902	0.26	902
0.61	1,063	C102_0500	MR142/050	56C	AW142/010	49.94	98	527	0.50	1,063	0.40	1,063	0.30	1,063
1.01	1,740	C202_0490	MR142/050	56C	AW142/010	49.23	98	740	0.83	1,740	0.67	1,740	0.50	1,740
1.03	1,772	C202_0490	MR163/050	56C	AW143/010	49.23	98	740	0.84	1,772	0.68	1,772	0.51	1,772
1.78	3,100	C302_0500	MR163/050	56C	AW163/012	49.74	196	977	1.45	3,100	1.18	3,100	0.88	3,100
1.78	3,100	C302_0500	MR164/140	143/145TC	AW164/012	49.74	196	977	1.45	3,100	1.18	3,100	0.88	3,100
2.05	3,587	C402_0500	MR163/050	56C	AW163/012	50.19	196	1,896	1.68	3,587	1.36	3,587	1.02	3,587
2.79	4,872	C402_0500	MR164/140	143/145TC	AW164/012	50.19	196	1,896	2.28	4,872	1.85	4,872	1.39	4,872
4.02	7,016	C502_0500	MR164/140	143/145TC	AW164/012	49.82	196	1,368	3.28	7,016	2.66	7,016	2.00	7,016
4.06	7,086	C502_0500	MR205/180	182/184TC	AW165/012	49.82	196	1,368	3.32	7,086	2.69	7,086	2.02	7,086
7.58	12,844	C613_0490	MR205/180	182/184TC	AW205/014	49.28	333	3,507	6.19	12,844	5.02	12,844	3.77	12,844
12.10	21,259	C713_0510	MR256/210	213/215TC	AW256/102	50.85	680	4,714	9.92	21,259	8.05	21,259	6.03	21,259
17.50	29,720	C813_0490	MR256/210	213/215TC	AW256/102	49.18	680	5,845	14.30	29,720	11.60	29,720	8.71	29,720
30 RPM		**Output (Approximate)**							**25 RPM**		**21 RPM**		**15 RPM**	
0.27	531	C002_0560	MR141/050	56C	AW141/010	55.97	98	382	0.22	531	0.18	531	0.13	531
0.52	1,018	C102_0560	MR141/050	56C	AW141/010	56.36	98	543	0.42	1,018	0.34	1,018	0.26	1,018
0.54	1,063	C102_0560	MR142/050	56C	AW142/010	56.36	98	543	0.44	1,063	0.36	1,063	0.27	1,063
0.90	1,772	C202_0560	MR142/050	56C	AW142/010	56.42	98	765	0.74	1,772	0.60	1,772	0.45	1,772
0.90	1,772	C202_0560	MR163/050	56C	AW143/010	56.42	98	765	0.74	1,772	0.60	1,772	0.45	1,772
1.58	3,100	C302_0560	MR163/050	56C	AW163/012	56.14	196	1,006	1.29	3,100	1.05	3,100	0.79	3,100
1.58	3,100	C302_0560	MR164/140	143/145TC	AW164/012	56.14	196	1,006	1.29	3,100	1.05	3,100	0.79	3,100
2.04	4,009	C402_0560	MR163/050	56C	AW163/012	56.10	196	1,952	1.67	4,009	1.35	4,009	1.02	4,009
2.48	4,872	C402_0560	MR164/140	143/145TC	AW164/012	56.10	196	1,952	2.03	4,872	1.65	4,872	1.23	4,872
3.61	7,086	C502_0560	MR164/140	143/145TC	AW164/012	55.83	196	1,409	2.95	7,086	2.39	7,086	1.80	7,086
3.61	7,086	C502_0560	MR205/180	182/184TC	AW165/012	55.83	196	1,409	2.95	7,086	2.39	7,086	1.80	7,086
5.97	11,515	C612_0550	MR205/180	182/184TC	AW205/014	55.11	333	3,607	4.88	11,515	3.96	11,515	2.97	11,515
8.92	17,716	C712_0570	MR205/180	182/184TC	AW205/014	56.82	333	4,847	7.29	17,716	5.91	17,716	4.43	17,716
8.92	17,716	C712_0570	MR256/210	213/215TC	AW206/014	56.82	333	4,847	7.29	17,716	5.91	17,716	4.43	17,716
8.92	17,716	C712_0570	MR306/250	254/256TC	AW206/014	56.82	333	4,847	7.29	17,716	5.91	17,716	4.43	17,716
16.80	31,889	C812_0540	MR306/250	254/256TC	AW256/102	54.15	680	5,987	13.80	31,889	11.20	31,889	8.37	31,889
27.10	53,148	C912_0560	MR306/250	254/256TC	AW306/110	55.83	1072	7,248	22.10	53,148	18.00	53,148	13.50	53,148
27.10	53,148	C912_0560	MR307/280	284/286TC	AW307/110	55.83	1072	7,248	22.10	53,148	18.00	53,148	13.50	53,148

Part No. Explanation

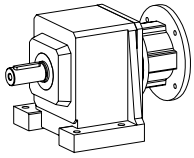
C 3 0 2 N 0620 AW 142 / 012

- C — Unit No. Concentric Helical
- 3 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Housing Style
- N — Ratio (0620 = 62.0:1)
- 0620 — Input Shaft
- AW — Flange No.
- 142 — Shaft Dia. (1/16 in.; example–012=12/16 or 3/4)
- 012

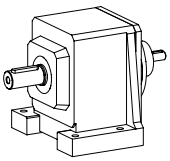


C 3 0 2 N 0620 MR 162 / 140

- C — Unit No. Concentric Helical
- 3 — Generation No.
- 0 — No. of Reductions
- 2 — Housing Style
- N — Ratio (0620 = 62.0:1)
- 0620 — Motor Adapter
- MR — Flange No.
- 162 — Motor Adapter
- 140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
25 RPM		**Output (Approximate)**							**20 RPM**		**18 RPM**		**13 0RPM**	
0.22	531	C002_0700	MR141/050	56C	AW141/010	69.88	98	404	0.18	531	0.14	531	0.11	531
0.24	531	C002_0620	MR141/050	56C	AW141/010	62.35	98	392	0.20	531	0.16	531	0.12	531
0.43	1,063	C102_0700	MR142/050	56C	AW142/010	70.46	98	574	0.35	1,063	0.29	1,063	0.22	1,063
0.43	1,063	C102_0700	MR141/050	56C	AW141/010	70.46	98	574	0.35	1,063	0.29	1,063	0.22	1,063
0.48	1,054	C102_0620	MR142/050	56C	AW142/010	62.43	98	558	0.40	1,054	0.32	1,054	0.24	1,054
0.48	1,054	C102_0620	MR141/050	56C	AW141/010	62.43	98	558	0.40	1,054	0.32	1,054	0.24	1,054
0.72	1,772	C202_0700	MR142/050	56C	AW142/010	70.32	98	808	0.59	1,772	0.48	1,772	0.36	1,772
0.77	1,658	C202_0610	MR142/050	56C	AW142/010	61.35	98	782	0.63	1,658	0.51	1,658	0.38	1,658
1.27	3,100	C302_0700	MR163/050	56C	AW163/012	69.88	196	1,064	1.03	3,100	0.84	3,100	0.63	3,100
1.27	3,100	C302_0700	MR163/140	143/145TC	AW163/012	69.88	196	1,064	1.03	3,100	0.84	3,100	0.63	3,100
1.35	2,932	C302_0620	MR163/050	56C	AW163/012	61.92	196	1,033	1.10	2,932	0.89	2,932	0.67	2,932
1.35	2,932	C302_0620	MR163/140	143/145TC	AW163/012	61.92	196	1,033	1.10	2,932	0.89	2,932	0.67	2,932
1.95	4,293	C402_0630	MR163/050	56C	AW163/012	62.51	196	2,009	1.60	4,293	1.29	4,293	0.97	4,293
1.96	4,798	C402_0700	MR163/050	56C	AW163/012	69.88	196	2,064	1.60	4,798	1.30	4,798	0.97	4,798
1.99	4,872	C402_0700	MR164/140	143/145TC	AW164/012	69.88	196	2,064	1.63	4,872	1.32	4,872	0.99	4,872
2.02	4,440	C402_0630	MR164/140	143/145TC	AW164/012	62.51	196	2,009	1.65	4,440	1.34	4,440	1.00	4,440
2.89	7,086	C502_0700	MR164/140	143/145TC	AW164/012	69.96	196	1,489	2.36	7,086	1.92	7,086	1.44	7,086
2.90	6,325	C502_0620	MR164/140	143/145TC	AW164/012	62.43	196	1,446	2.37	6,325	1.92	6,325	1.44	6,325
4.78	11,515	C612_0690	MR205/180	182/184TC	AW205/014	68.89	333	3,814	3.91	11,515	3.17	11,515	2.38	11,515
5.93	12,844	C613_0630	MR205/180	182/184TC	AW205/014	63.46	333	3,728	4.85	12,844	3.93	12,844	2.95	12,844
7.23	17,716	C712_0700	MR205/180	182/184TC	AW205/014	69.54	333	5,107	5.91	17,716	4.80	17,716	3.60	17,716
9.56	21,259	C713_0650	MR256/210	213/215TC	AW256/102	64.55	680	5,004	7.81	21,259	6.34	21,259	4.75	21,259
13.20	31,889	C812_0690	MR256/210	213/215TC	AW256/102	68.89	680	6,358	10.80	31,889	8.77	31,889	6.58	31,889
13.20	31,889	C812_0690	MR306/250	254/256TC	AW256/102	68.89	680	6,358	10.80	31,889	8.77	31,889	6.58	31,889
15.40	34,895	C813_0660	MR256/210	213/215TC	AW256/102	65.96	680	6,289	13.40	37,204	10.90	37,204	8.14	37,204
21.70	53,148	C912_0700	MR306/250	254/256TC	AW306/110	69.96	1072	7,661	17.70	53,148	14.40	53,148	10.80	53,148
20 RPM		**Output (Approximate)** **Continued Next Page**							**18 RPM**		**15 RPM**		**10 RPM**	
0.38	1,063	C103_0820	MR141/050	56C	AW141/010	81.64	98	597	0.31	1,063	0.25	1,063	0.19	1,063
0.38	1,063	C103_0820	MR142/050	56C	AW142/010	81.64	98	597	0.31	1,063	0.25	1,063	0.19	1,063
0.57	1,582	C203_0810	MR141/050	56C	AW141/010	80.62	98	838	0.46	1,582	0.38	1,582	0.28	1,582
0.57	1,599	C303_0810	MR141/050	56C	AW141/010	81.47	98	1,102	0.47	1,599	0.38	1,599	0.29	1,599
0.64	1,772	C203_0800	MR163/050	56C	AW163/012	79.59	196	835	0.53	1,772	0.43	1,772	0.32	1,772
0.64	1,772	C203_0800	MR164/140	143/145TC	AW164/012	79.59	196	835	0.53	1,772	0.43	1,772	0.32	1,772
0.64	1,772	C203_0810	MR142/050	56C	AW142/010	80.62	98	838	0.52	1,772	0.42	1,772	0.32	1,772
1.08	3,003	C303_0810	MR142/050	56C	AW142/010	81.47	98	1,102	0.88	3,003	0.72	3,003	0.54	3,003

* For thermal HP capacity, see rating below.

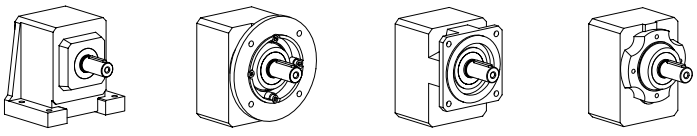
Base Module Thermal Capacity	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

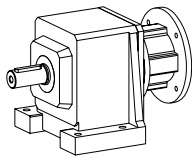
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data



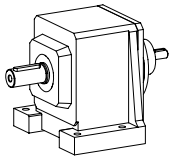
NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

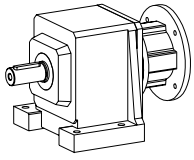
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
20 RPM		**Output (Approximate)** **Continued**							**18 RPM**		**15 RPM**		**10 RPM**	
1.13	3,100	C303_0800	MR163/050	56C	AW163/012	80.43	196	1,099	0.92	3,100	0.75	3,100	0.56	3,100
1.13	3,100	C303_0800	MR164/140	143/145TC	AW164/012	80.43	196	1,099	0.92	3,100	0.75	3,100	0.56	3,100
1.75	4,872	C403_0810	MR163/050	56C	AW163/012	80.81	196	2,139	1.43	4,872	1.16	4,872	0.87	4,872
1.75	4,872	C403_0810	MR164/140	143/145TC	AW164/012	80.81	196	2,139	1.43	4,872	1.16	4,872	0.87	4,872
2.18	6,075	C503_0810	MR163/050	56C	AW163/012	80.60	196	1,543	1.78	6,075	1.45	6,075	1.08	6,075
2.19	5,715	C613_0760	MR163/050	56C	AW163/012	75.81	196	3,907	1.79	5,715	1.45	5,715	1.09	5,715
2.19	6,606	C613_0880	MR163/050	56C	AW163/012	87.64	196	4,050	1.79	6,606	1.45	6,606	1.09	6,606
2.55	7,086	C503_0810	MR164/140	143/145TC	AW164/012	80.60	196	1,543	2.08	7,086	1.69	7,086	1.27	7,086
2.97	7,748	C613_0760	MR164/140	143/145TC	AW164/012	75.81	196	3,907	2.42	7,748	1.97	7,748	1.47	7,748
3.08	9,303	C613_0880	MR164/140	143/145TC	AW164/012	87.64	196	4,050	2.52	9,303	2.04	9,303	1.53	9,303
3.74	11,515	C613_0890	MR205/180	182/184TC	AW205/014	88.78	333	4,050	3.06	11,515	2.48	11,515	1.86	11,515
4.86	12,844	C613_0770	MR205/180	182/184TC	AW205/014	76.79	333	3,920	3.97	12,844	3.22	12,844	2.41	12,844
5.76	17,716	C713_0890	MR256/210	213/215TC	AW256/102	89.42	680	5,400	4.71	17,716	3.82	17,716	2.86	17,716
6.73	18,728	C713_0810	MR205/180	182/184TC	AW205/014	80.96	333	5,293	5.88	20,032	5.06	21,259	3.80	21,259
7.72	21,259	C713_0800	MR256/210	213/215TC	AW256/102	79.73	680	5,279	6.31	21,259	5.12	21,259	3.84	21,259
7.98	21,761	C813_0790	MR205/180	182/184TC	AW205/014	79.34	333	6,582	6.52	21,761	5.29	21,761	3.97	21,761
10.40	31,889	C813_0890	MR256/210	213/215TC	AW256/102	89.44	680	6,750	8.47	31,889	6.87	31,889	5.15	31,889
13.60	36,631	C813_0780	MR256/210	213/215TC	AW256/102	78.13	680	6,558	11.30	37,204	9.18	37,204	6.88	37,204
15.40	41,472	C913_0780	MR256/210	213/215TC	AW256/102	77.73	680	7,870	13.50	44,360	11.00	44,610	8.25	44,610
19 RPM		**Output (Approximate)** **Continued Next Page**							**16 RPM**		**13 RPM**		**10 RPM**	
0.33	1,063	C103_0920	MR141/050	56C	AW141/010	92.13	98	607	0.27	1,063	0.22	1,063	0.17	1,063
0.33	1,063	C103_0920	MR142/050	56C	AW142/010	92.13	98	607	0.27	1,063	0.22	1,063	0.17	1,063
0.56	1,772	C203_0920	MR141/050	56C	AW141/010	92.40	98	855	0.46	1,772	0.37	1,772	0.28	1,772
0.56	1,772	C203_0920	MR142/050	56C	AW142/010	92.40	98	855	0.46	1,772	0.37	1,772	0.28	1,772
0.57	1,772	C203_0910	MR163/050	56C	AW163/012	91.22	196	855	0.46	1,772	0.37	1,772	0.28	1,772
0.57	1,772	C203_0910	MR164/140	143/145TC	AW164/012	91.22	196	855	0.46	1,772	0.37	1,772	0.28	1,772
0.57	1,804	C303_0920	MR141/050	56C	AW141/010	91.93	98	1,125	0.46	1,804	0.38	1,804	0.28	1,804
0.98	3,100	C303_0920	MR142/050	56C	AW142/010	91.93	98	1,125	0.80	3,100	0.65	3,100	0.49	3,100
0.99	3,100	C303_0910	MR163/050	56C	AW163/012	90.76	196	1,125	0.81	3,100	0.66	3,100	0.49	3,100
0.99	3,100	C303_0910	MR164/140	143/145TC	AW164/012	90.76	196	1,125	0.81	3,100	0.66	3,100	0.49	3,100
1.57	4,872	C403_0900	MR163/050	56C	AW163/012	90.32	196	2,182	1.28	4,872	1.04	4,872	0.78	4,872
1.57	4,872	C403_0900	MR164/140	143/145TC	AW164/012	90.32	196	2,182	1.28	4,872	1.04	4,872	0.78	4,872
2.19	6,808	C503_0900	MR163/050	56C	AW163/012	90.32	196	1,575	1.79	6,808	1.45	6,808	1.09	6,808
2.28	7,086	C503_0900	MR164/140	143/145TC	AW164/012	90.32	196	1,575	1.86	7,086	1.51	7,086	1.13	7,086

Part No. Explanation

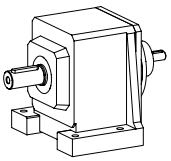
C 3 0 2 N 0620 AW 142 / 012
- Shaft Dia. ($^{1}/_{16}$ in.; example–012=$^{12}/_{16}$ or $^{3}/_{4}$)
- Flange No.
- Input Shaft
- Ratio (0620 = 62.0:1)
- Housing Style
- No. of Gear Reductions
- Generation No.
- Unit No.
- Concentric Helical



C 3 0 2 N 0620 MR 162 / 140
- Motor Frame Size (140=143/145TC)
- Flange No.
- Motor Adapter
- Ratio (0620 = 62.0:1)
- Housing Style
- No. of Reductions
- Generation No.
- Unit No.
- Concentric Helical



Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
19 RPM		**Output (Approximate) Continued**							**16 RPM**		**13 RPM**		**10 RPM**	
7.95	24,910	C813_0910	MR205/180	182/184TC	AW205/014	90.82	333	6,750	6.50	24,910	5.27	24,910	3.95	24,910
17.10	53,148	C913_0900	MR256/210	213/215TC	AW256/102	90.22	680	8,100	14.00	53,148	11.30	53,148	8.49	53,148
18 RPM		**Output (Approximate)**							**15 RPM**		**12 RPM**		**9 RPM**	
3.82	12,844	C613_0980	MR205/180	182/184TC	AW205/014	97.63	333	4,050	3.12	12,844	2.53	12,844	1.90	12,844
5.85	20,010	C713_0990	MR205/180	182/184TC	AW205/014	99.14	333	5,400	5.08	21,259	4.12	21,259	3.09	21,259
6.32	21,259	C713_0980	MR256/210	213/215TC	AW256/102	97.63	680	5,400	5.16	21,259	4.19	21,259	3.14	21,259
10.70	37,204	C813_1010	MR256/210	213/215TC	AW256/102	100.5	680	6,750	8.78	37,204	7.12	37,204	5.34	37,204
16 RPM		**Output (Approximate)**							**13 RPM**		**11 RPM**		**8 RPM**	
0.28	1,063	C103_1110	MR141/050	56C	AW141/010	111.1	98	607	0.23	1,063	0.18	1,063	0.14	1,063
0.28	1,063	C103_1110	MR142/050	56C	AW142/010	111.1	98	607	0.23	1,063	0.18	1,063	0.14	1,063
0.46	1,772	C203_1110	MR141/050	56C	AW141/010	110.6	98	855	0.38	1,772	0.31	1,772	0.23	1,772
0.46	1,772	C203_1110	MR142/050	56C	AW142/010	110.6	98	855	0.38	1,772	0.31	1,772	0.23	1,772
0.47	1,772	C203_1090	MR163/050	56C	AW163/012	109.2	196	855	0.39	1,772	0.31	1,772	0.23	1,772
0.47	1,772	C203_1090	MR164/140	143/145TC	AW164/012	109.2	196	855	0.39	1,772	0.31	1,772	0.23	1,772
0.57	2,151	C303_1100	MR141/050	56C	AW141/010	109.6	98	1,125	0.46	2,151	0.38	2,151	0.28	2,151
0.82	3,100	C303_1100	MR142/050	56C	AW142/010	109.6	98	1,125	0.67	3,100	0.54	3,100	0.41	3,100
0.83	3,100	C303_1080	MR163/050	56C	AW163/012	108.2	196	1,125	0.68	3,100	0.55	3,100	0.41	3,100
0.83	3,100	C303_1080	MR164/140	143/145TC	AW164/012	108.2	196	1,125	0.68	3,100	0.55	3,100	0.41	3,100
1.31	4,872	C403_1080	MR163/050	56C	AW163/012	107.7	196	2,182	1.07	4,872	0.87	4,872	0.65	4,872
1.31	4,872	C403_1080	MR164/140	143/145TC	AW164/012	107.7	196	2,182	1.07	4,872	0.87	4,872	0.65	4,872
1.89	7,086	C503_1090	MR163/050	56C	AW163/012	108.6	196	1,575	1.54	7,086	1.25	7,086	0.94	7,086
1.89	7,086	C503_1090	MR164/140	143/145TC	AW164/012	108.6	196	1,575	1.54	7,086	1.25	7,086	0.94	7,086
2.19	7,994	C613_1060	MR163/050	56C	AW163/012	106.1	196	4,050	1.79	7,994	1.45	7,994	1.09	7,994
2.97	10,839	C613_1060	MR164/140	143/145TC	AW164/012	106.1	196	4,050	2.43	10,839	1.97	10,839	1.48	10,839
3.11	11,515	C613_1070	MR205/180	182/184TC	AW205/014	107.4	333	4,050	2.54	11,515	2.06	11,515	1.55	11,515
4.68	17,716	C713_1100	MR256/210	213/215TC	AW256/102	110.5	680	5,400	3.82	17,716	3.10	17,716	2.32	17,716
7.94	29,507	C813_1080	MR205/180	182/184TC	AW205/014	107.6	333	6,750	6.49	29,507	5.26	29,507	3.95	29,507
8.73	31,889	C813_1060	MR256/210	213/215TC	AW256/102	105.9	680	6,750	7.14	31,889	5.79	31,889	4.34	31,889
14.00	53,148	C913_1100	MR256/210	213/215TC	AW256/102	110.4	680	8,100	11.50	53,148	9.30	53,148	6.97	53,148
14 RPM		**Output (Approximate)**							**12 RPM**		**9 RPM**		**7 RPM**	
2.94	12,844	C613_1270	MR205/180	182/184TC	AW205/014	126.9	333	4,050	2.40	12,844	1.95	12,844	1.46	12,844
4.75	21,259	C713_1300	MR256/210	213/215TC	AW256/102	130.4	680	5,400	3.88	21,259	3.15	21,259	2.36	21,259
8.32	37,204	C813_1300	MR256/210	213/215TC	AW256/102	129.5	680	6,750	6.80	37,204	5.51	37,204	4.14	37,204

* For thermal HP capacity, see rating below.

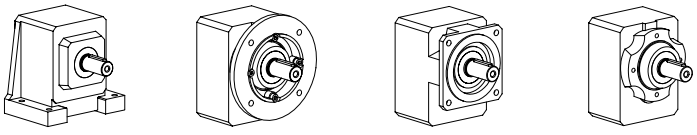
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

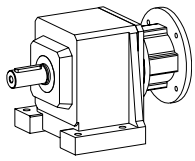
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data



NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

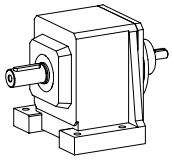
See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
13 RPM		**Output (Approximate)**							**10 RPM**		**9 RPM**		**6 RPM**	
0.22	1,063	C103_1370	MR141/050	56C	AW141/010	137.3	98	607	0.18	1,063	0.15	1,063	0.11	1,063
0.22	1,063	C103_1370	MR142/050	56C	AW142/010	137.3	98	607	0.18	1,063	0.15	1,063	0.11	1,063
0.37	1,772	C203_1380	MR141/050	56C	AW141/010	137.8	98	855	0.30	1,772	0.25	1,772	0.19	1,772
0.37	1,772	C203_1380	MR142/050	56C	AW142/010	137.8	98	855	0.30	1,772	0.25	1,772	0.19	1,772
0.38	1,772	C203_1360	MR163/050	56C	AW163/012	136.0	196	855	0.31	1,772	0.25	1,772	0.19	1,772
0.38	1,772	C203_1360	MR164/140	143/145TC	AW164/012	136.0	196	855	0.31	1,772	0.25	1,772	0.19	1,772
0.57	2,692	C303_1370	MR141/050	56C	AW141/010	137.2	98	1,125	0.47	2,692	0.38	2,692	0.28	2,692
0.66	3,100	C303_1370	MR142/050	56C	AW142/010	137.2	98	1,125	0.54	3,100	0.43	3,100	0.33	3,100
0.67	3,100	C303_1350	MR163/050	56C	AW163/012	135.4	196	1,125	0.54	3,100	0.44	3,100	0.33	3,100
0.67	3,100	C303_1350	MR164/140	143/145TC	AW164/012	135.4	196	1,125	0.54	3,100	0.44	3,100	0.33	3,100
1.05	4,872	C403_1350	MR163/050	56C	AW163/012	134.6	196	2,182	0.86	4,872	0.69	4,872	0.52	4,872
1.05	4,872	C403_1350	MR164/140	143/145TC	AW164/012	134.6	196	2,182	0.86	4,872	0.69	4,872	0.52	4,872
1.52	7,086	C503_1350	MR163/050	56C	AW163/012	135.3	196	1,575	1.24	7,086	1.01	7,086	0.76	7,086
1.52	7,086	C503_1350	MR164/140	143/145TC	AW164/012	135.3	196	1,575	1.24	7,086	1.01	7,086	0.76	7,086
2.18	10,164	C613_1350	MR163/050	56C	AW163/012	134.8	196	4,050	1.78	10,164	1.45	10,164	1.09	10,164
2.44	11,515	C613_1370	MR205/180	182/184TC	AW205/014	136.6	333	4,050	1.99	11,515	1.61	11,515	1.21	11,515
2.47	11,515	C613_1350	MR164/140	143/145TC	AW164/012	134.8	196	4,050	2.02	11,515	1.64	11,515	1.23	11,515
3.75	17,716	C713_1370	MR205/180	182/184TC	AW205/014	137.3	333	5,400	3.06	17,716	2.48	17,716	1.86	17,716
3.81	17,716	C713_1350	MR256/210	213/215TC	AW256/102	135.3	680	5,400	3.11	17,716	2.52	17,716	1.89	17,716
4.66	21,259	C713_1320	MR205/180	182/184TC	AW205/014	132.4	333	5,400	3.81	21,259	3.09	21,259	2.32	21,259
6.71	31,889	C813_1380	MR205/180	182/184TC	AW205/014	138.4	333	6,750	5.49	31,889	4.45	31,889	3.34	31,889
6.80	31,889	C813_1360	MR256/210	213/215TC	AW256/102	136.3	680	6,750	5.56	31,889	4.51	31,889	3.38	31,889
11.10	53,148	C913_1390	MR256/210	213/215TC	AW256/102	138.9	680	8,100	9.08	53,148	7.36	53,148	5.52	53,148
10 RPM		**Output (Approximate)** **Continued Next Page**							**8 RPM**		**7 RPM**		**5 RPM**	
0.17	1,063	C103_1840	MR141/050	56C	AW141/010	183.7	98	607	0.14	1,063	0.11	1,063	0.08	1,063
0.17	1,063	C103_1840	MR142/050	56C	AW142/010	183.7	98	607	0.14	1,063	0.11	1,063	0.08	1,063
0.28	1,772	C203_1810	MR163/050	56C	AW163/012	181.0	196	855	0.23	1,772	0.19	1,772	0.14	1,772
0.28	1,772	C203_1810	MR164/140	143/145TC	AW164/012	181.0	196	855	0.23	1,772	0.19	1,772	0.14	1,772
0.28	1,772	C203_1830	MR141/050	56C	AW141/010	183.4	98	855	0.23	1,772	0.19	1,772	0.14	1,772
0.28	1,772	C203_1830	MR142/050	56C	AW142/010	183.4	98	855	0.23	1,772	0.19	1,772	0.14	1,772
0.49	3,100	C303_1830	MR141/050	56C	AW141/010	182.8	98	1,125	0.40	3,100	0.33	3,100	0.24	3,100
0.49	3,100	C303_1830	MR142/050	56C	AW142/010	182.8	98	1,125	0.40	3,100	0.33	3,100	0.24	3,100
0.50	3,100	C303_1800	MR163/050	56C	AW164/012	180.4	196	1,125	0.41	3,100	0.33	3,100	0.25	3,100
0.50	3,100	C303_1800	MR163/140	143/145TC	AW163/012	180.4	196	1,125	0.41	3,100	0.33	3,100	0.25	3,100
0.78	4,872	C403_1800	MR163/050	56C	AW163/012	180.4	196	2,182	0.64	4,872	0.52	4,872	0.39	4,872

Part No. Explanation

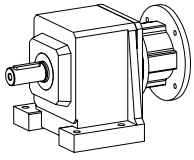
C 3 0 2 N 0620 AW 142 / 012

- C — Unit No. Concentric Helical
- 3 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Housing Style
- N — Ratio (0620 = 62.0:1)
- 0620 — Input Shaft
- AW — Flange No.
- 142 — Shaft Dia. ($^{1}/_{16}$ in.; example–012=$^{12}/_{16}$ or $^{3}/_{4}$)
- 012

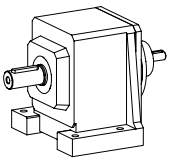


C 3 0 2 N 0620 MR 162 / 140

- C — Unit No. Concentric Helical
- 3 — Generation No.
- 0 — No. of Reductions
- 2 — Housing Style
- N — Ratio (0620 = 62.0:1)
- 0620 — Motor Adapter
- MR — Flange No.
- 162 — Motor Adapter
- 140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 154.



"C" Series–Concentric Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
10 RPM		**Output (Approximate) Continued**							**8 RPM**		**7 RPM**		**5 RPM**	
0.78	4,872	C403_1800	MR164/140	143/145TC	AW164/012	180.4	196	2,182	0.64	4,872	0.52	4,872	0.39	4,872
1.14	7,086	C503_1810	MR163/050	56C	AW163/012	180.6	196	1,575	0.93	7,086	0.75	7,086	0.57	7,086
1.14	7,086	C503_1810	MR164/140	143/145TC	AW164/012	180.6	196	1,575	0.93	7,086	0.75	7,086	0.57	7,086
1.88	11,515	C613_1780	MR205/180	182/184TC	AW205/014	177.6	333	4,050	1.53	11,515	1.25	11,515	0.93	11,515
1.91	11,515	C613_1750	MR163/050	56C	AW163/012	175.3	196	4,050	1.56	11,515	1.26	11,515	0.95	11,515
1.91	11,515	C613_1750	MR164/140	143/145TC	AW164/012	175.3	196	4,050	1.56	11,515	1.26	11,515	0.95	11,515
2.81	17,716	C713_1830	MR205/180	182/184TC	AW205/014	183.4	333	5,400	2.29	17,716	1.86	17,716	1.40	17,716
2.85	17,716	C713_1810	MR256/210	213/215TC	AW256/102	180.6	680	5,400	2.32	17,716	1.89	17,716	1.41	17,716
5.20	31,889	C813_1780	MR205/180	182/184TC	AW205/014	178.4	333	6,750	4.25	31,889	3.45	31,889	2.59	31,889
5.27	31,889	C813_1760	MR256/210	213/215TC	AW256/102	175.6	680	6,750	4.30	31,889	3.49	31,889	2.62	31,889
8.78	53,148	C913_1760	MR256/210	213/215TC	AW256/102	176.1	680	8,100	7.17	53,148	5.82	53,148	4.36	53,148
8 RPM		**Output (Approximate)**							**7 RPM**		**5 RPM**		**4 RPM**	
0.14	1,063	C103_2210	MR141/050	56C	AW141/010	220.8	98	607	0.11	1,063	0.09	1,063	0.07	1,063
0.14	1,063	C103_2210	MR142/050	56C	AW142/010	220.8	98	607	0.11	1,063	0.09	1,063	0.07	1,063
0.23	1,772	C203_2210	MR141/050	56C	AW141/010	221.0	98	855	0.19	1,772	0.15	1,772	0.12	1,772
0.23	1,772	C203_2210	MR142/050	56C	AW142/010	221.0	98	855	0.19	1,772	0.15	1,772	0.12	1,772
0.41	3,100	C303_2170	MR163/050	56C	AW163/012	217.1	196	1,125	0.34	3,100	0.27	3,100	0.21	3,100
0.41	3,100	C303_2170	MR164/140	143/145TC	AW164/012	217.1	196	1,125	0.34	3,100	0.27	3,100	0.21	3,100
0.41	3,100	C303_2200	MR141/050	56C	AW141/010	219.9	98	1,125	0.33	3,100	0.27	3,100	0.20	3,100
0.41	3,100	C303_2200	MR142/050	56C	AW142/010	219.9	98	1,125	0.33	3,100	0.27	3,100	0.20	3,100
0.65	4,872	C403_2170	MR163/050	56C	AW163/012	216.9	196	2,182	0.53	4,872	0.43	4,872	0.32	4,872
0.65	4,872	C403_2170	MR164/140	143/145TC	AW164/012	216.9	196	2,182	0.53	4,872	0.43	4,872	0.32	4,872
0.95	7,086	C503_2160	MR163/050	56C	AW163/012	215.9	196	1,575	0.78	7,086	0.63	7,086	0.47	7,086
0.95	7,086	C503_2160	MR164/140	143/145TC	AW164/012	215.9	196	1,575	0.78	7,086	0.63	7,086	0.47	7,086
1.57	11,515	C613_2130	MR163/050	56C	AW163/012	213.1	196	4,050	1.28	11,515	1.04	11,515	0.78	11,515
1.57	11,515	C613_2130	MR164/140	143/145TC	AW164/012	213.1	196	4,050	1.28	11,515	1.04	11,515	0.78	11,515
2.31	17,716	C713_2230	MR205/180	182/184TC	AW205/014	222.5	333	5,400	1.89	17,716	1.53	17,716	1.15	17,716
2.35	17,716	C713_2190	MR256/210	213/215TC	AW256/102	219.2	680	5,400	1.92	17,716	1.56	17,716	1.17	17,716
4.36	31,889	C813_2120	MR205/180	182/184TC	AW205/014	212.1	333	6,750	3.57	31,889	2.89	31,889	2.17	31,889
4.43	31,889	C813_2090	MR256/210	213/215TC	AW256/102	208.9	680	6,750	3.62	31,889	2.94	31,889	2.20	31,889
7.16	53,148	C913_2150	MR256/210	213/215TC	AW256/102	215.4	680	8,100	5.85	53,148	4.75	53,148	3.56	53,148

* For thermal HP capacity, see rating below.

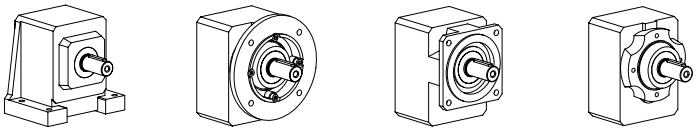
Base Module	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

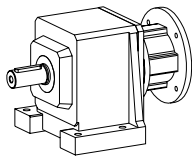
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Housing Style Q is available on special order.

"C" Series–Concentric Helical MGS Reducer Selection Data



NOTE:
① Complete Base Module Part Number by adding Housing Style. Example: C302**N**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

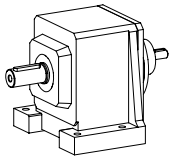
See pages 36 to 51 for dimensions of "C" Series–Concentric Helical reducers.
See page 52 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
6.5 RPM		**Output (Approximate)**							**5 RPM**		**4 RPM**		**3 RPM**	
0.11	1,063	C103_2760	MR141/050	56C	AW141/010	275.9	98	607	0.09	1,063	0.07	1,063	0.06	1,063
0.11	1,063	C103_2760	MR142/050	56C	AW142/010	275.9	98	607	0.09	1,063	0.07	1,063	0.06	1,063
0.19	1,772	C203_2750	MR141/050	56C	AW141/010	275.4	98	855	0.15	1,772	0.12	1,772	0.09	1,772
0.19	1,772	C203_2750	MR142/050	56C	AW142/010	275.4	98	855	0.15	1,772	0.12	1,772	0.09	1,772
0.33	3,100	C303_2740	MR141/050	56C	AW141/010	273.7	98	1,125	0.27	3,100	0.22	3,100	0.16	3,100
0.33	3,100	C303_2740	MR142/050	56C	AW142/010	273.7	98	1,125	0.27	3,100	0.22	3,100	0.16	3,100
0.52	4,872	C403_2700	MR163/050	56C	AW163/012	270.2	196	2,182	0.43	4,872	0.35	4,872	0.26	4,872
0.52	4,872	C403_2700	MR164/140	143/145TC	AW164/012	270.2	196	2,182	0.43	4,872	0.35	4,872	0.26	4,872
0.76	7,086	C503_2710	MR163/050	56C	AW163/012	270.5	196	1,575	0.62	7,086	0.50	7,086	0.38	7,086
0.76	7,086	C503_2710	MR164/140	143/145TC	AW164/012	270.5	196	1,575	0.62	7,086	0.50	7,086	0.38	7,086
1.26	11,515	C613_2660	MR163/050	56C	AW163/012	266.4	196	4,050	1.03	11,515	0.83	11,515	0.62	11,515
1.26	11,515	C613_2660	MR164/140	143/145TC	AW164/012	266.4	196	4,050	1.03	11,515	0.83	11,515	0.62	11,515
3.43	31,889	C813_2700	MR205/180	182/184TC	AW205/014	269.8	333	6,750	2.80	31,889	2.27	31,889	1.70	31,889
3.48	31,889	C813_2660	MR256/210	213/215TC	AW256/102	265.7	680	6,750	2.84	31,889	2.31	31,889	1.73	31,889

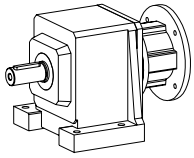
NOTE: For slower speeds than those listed above, units can be combined. Contact Stober Drives Inc.

Part No. Explanation

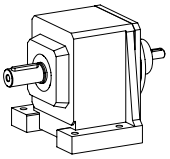
C 3 0 2 N 0620 AW 142 / 012
- C: Concentric Helical
- 3: Unit No.
- 0: Generation No.
- 2: No. of Gear Reductions
- N: Housing Style
- 0620: Ratio (0620 = 62.0:1)
- AW: Input Shaft
- 142: Flange No.
- 012: Shaft Dia. ($^{1}/_{16}$ in.; example–012=$^{12}/_{16}$ or $^{3}/_{4}$)



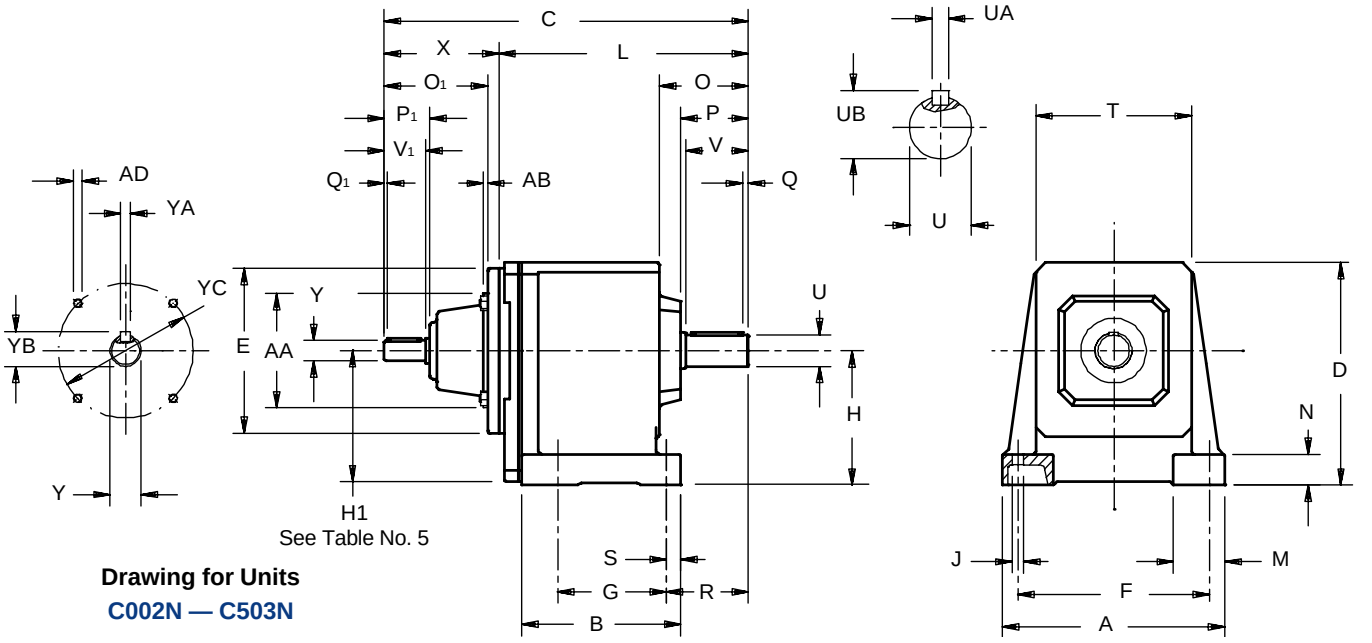
C 3 0 2 N 0620 MR 162 / 140
- C: Concentric Helical
- 3: Unit No.
- 0: Generation No.
- 2: No. of Reductions
- N: Housing Style
- 0620: Ratio (0620 = 62.0:1)
- MR: Motor Adapter
- 162: Flange No.
- 140: Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 154.



"C" Series—MGS Dimensional Data Concentric Helical with Input Shaft



Drawing for Units
C002N — C503N

Table No. 1 **"C" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style**

Base Module	A	B	D	F	G	H	J	M	N	O	P	Q	R
C002	5.20	3.74	5.67	4.33	2.44	3.23	.28	1.38	.79	2.24	1.73	.16	2.17
C102/C103	6.93	4.65	6.97	5.91	2.76	4.02	.35	1.65	.98	2.72	2.13	.16	2.64
C202/C203	7.87	5.31	7.68	6.69	3.35	4.53 ①	.43	1.97	1.18	3.39	2.56	.16	3.11
C302/C303	8.46	6.06	8.46	7.28	4.13	5.12 ①	.43	1.97	1.18	3.35	2.56	.16	3.11
C402/C403	10.04	7.09	9.65	8.66	4.33	5.71	.55	2.36	1.38	4.17	3.39	.16	4.13
C502/C503	11.42	7.76	11.42	9.65	5.12	6.69	.71	2.76	1.57	4.21	3.39	.16	4.25
C612/C613	11.81	10.43	12.40	9.65	8.46	7.87 ①	.71	2.95	1.57	6.02	4.17	.20	5.12
C712/C713	14.37	11.22	14.76	11.81	9.25	9.25 ①	.71	3.54	1.97	7.28	5.00	.20	6.42
C812/C813	17.13	14.17	17.72	13.39	11.81	11.42	.87	3.74	2.17	8.58	5.83	.39	7.48
C912/C913	20.08	16.14	20.87	15.75	13.39	13.39	1.02	4.33	2.36	10.08	7.01	.39	8.74

① See Table No. 5.

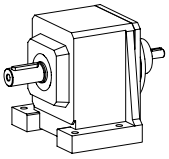
Table No. 2

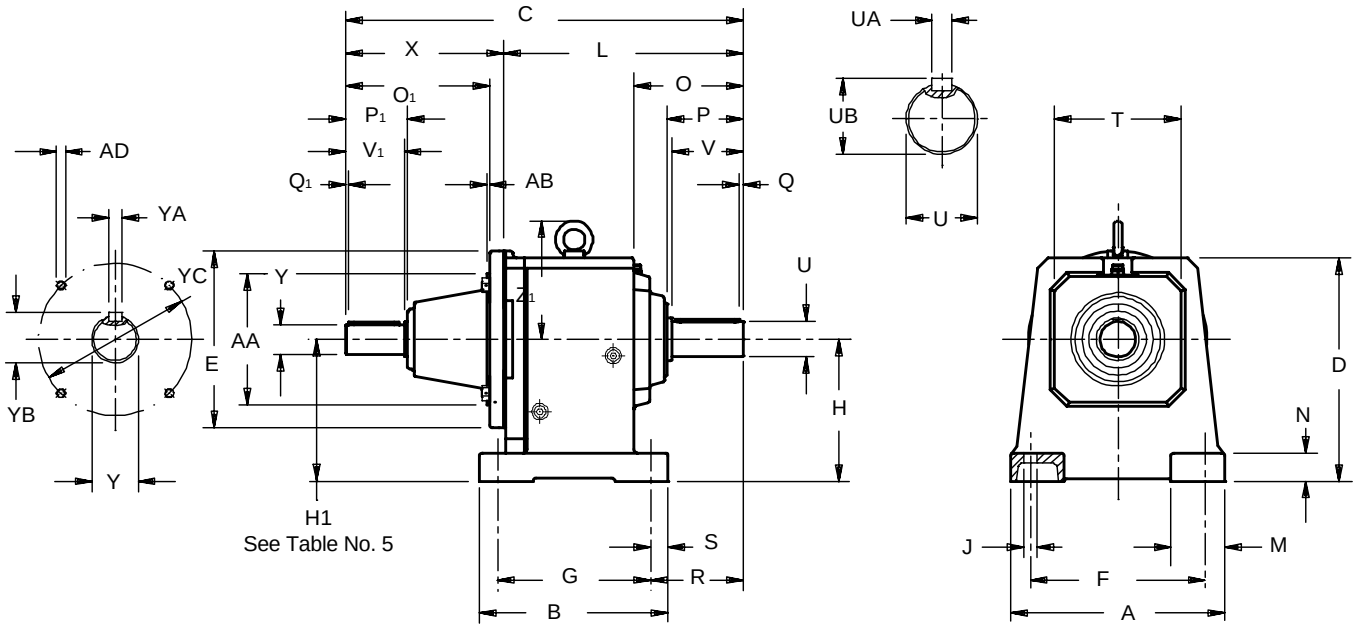
Base Module	S	T	U	V	Z_1	UA – Key	UB
C002	.43	3.82	.7500	1.57	—	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83
C102/C103	.51	5.12	1.0000	1.97	—	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11
C202/C203	.55	5.59	1.2500	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C302/C303	.55	6.06	1.2500	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C402/C403	.75	7.01	1.6250	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C502/C503	.87	7.68	1.6250	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C612/C613	.98	8.86	2.1250	3.94	6.57	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35
C712/C713	.98	10.43	2.3750	4.72	7.91	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
C812/C813	1.14	12.20	2.8750	5.51	8.70	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
C912/C913	1.34	14.37	3.6250	6.69	10.24	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

Table No. 3 **"C" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style**

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times ^3/_{16} \times ^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$^3/_{16} \times ^3/_{16} \times 1^7/_{16}$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.24	8.46	31
AW30_/110	11.81	8.39	3.54	.24	3.25	9.02	1.6250	9.055	.20	M12	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	10.43	51
AW35_/202	13.78	10.83	4.88	.28	4.50	11.61	2.1250	9.842	.24	M16	$^1/_2 \times ^1/_2 \times 3^{15}/_{16}$	2.35	11.81	100

"C" Series—MGS Dimensional Data Concentric Helical with Input Shaft





Drawing for Units
C612N — C913N

Table No. 4 "C" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style

Base	AW14_/010		AW16_/012		AW20_/014		AW25_/102		AW30_/110		AW35_/202		Approx.
Module	C	L	C	L	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	10.08	6.06	10.91	6.22	—	—	—	—	—	—	—	—	18
C102	11.38	7.36	12.21	7.52	13.11	7.60	—	—	—	—	—	—	29
C103	12.84	8.82	—	—	—	—	—	—	—	—	—	—	34
C202	12.48	8.46	13.31	8.62	14.21	8.70	—	—	—	—	—	—	38
C203①	13.94	9.92	15.00	10.31	—	—	—	—	—	—	—	—	45
C302	—	—	14.06	9.37	14.96	9.45	17.37	9.57	—	—	—	—	49
C303①	14.69	10.67	15.75	11.06	—	—	—	—	—	—	—	—	56
C402	—	—	15.95	11.26	16.85	11.34	19.26	11.46	—	—	—	—	71
C403	—	—	17.64	12.95	—	—	—	—	—	—	—	—	78
C502	—	—	16.78	12.09	17.68	12.17	20.08	12.28	21.85	12.83	—	—	95
C503	—	—	18.47	13.78	—	—	—	—	—	—	—	—	111
C612①	—	—	—	—	18.62	13.11	21.03	13.23	22.76	13.74	—	—	115
C613①	—	—	19.45	14.76	21.06	15.55	—	—	—	—	—	—	159
C712	—	—	—	—	20.71	15.20	23.08	15.28	24.81	15.79	—	—	199
C713①	—	—	—	—	23.11	17.60	—	—	—	—	—	—	221
C812	—	—	—	—	—	—	25.71	17.91	27.05	18.03	30.94	19.33	322
C813	—	—	—	—	25.75	20.24	28.51	20.71	—	—	—	—	342
C912	—	—	—	—	—	—	—	—	30.08	21.06	33.58	21.97	596
C913	—	—	—	—	—	—	30.36	22.56	—	—	—	—	678

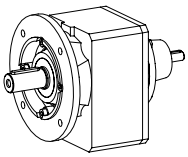
① See Table No. 5.

Table No. 5 "C" Series – Input Dimension (Inches)

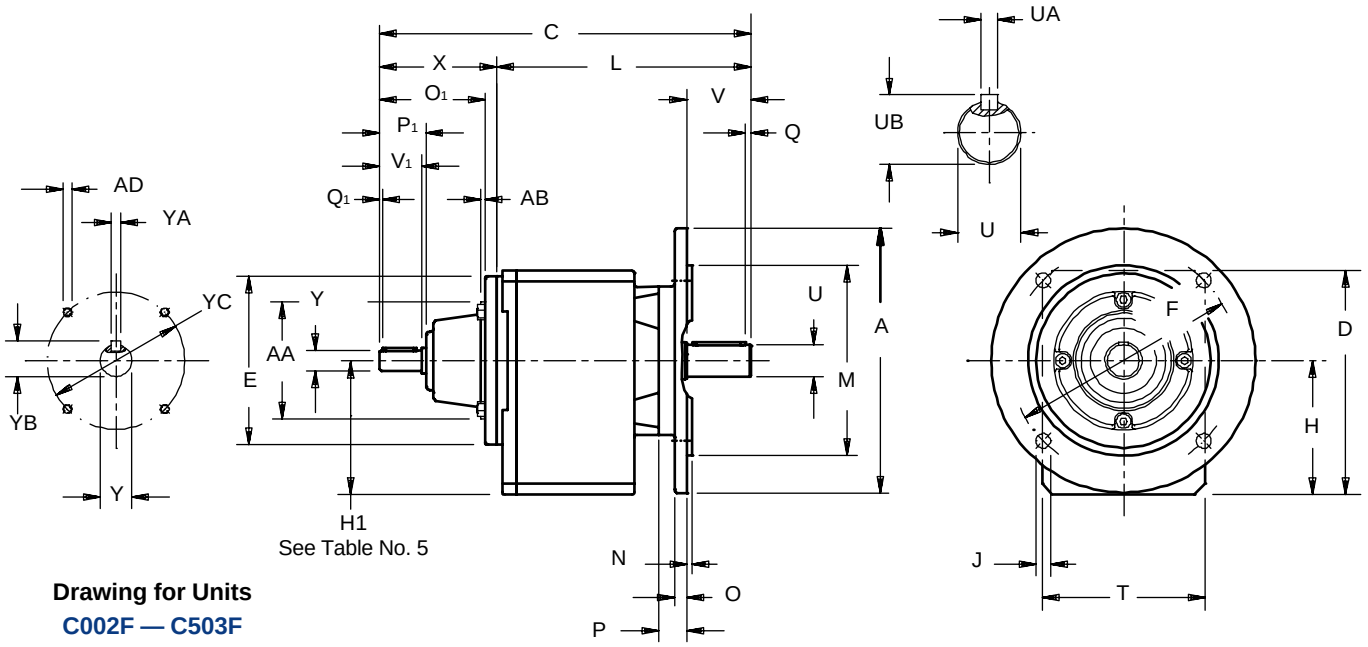
Base	AW16_/012	AW20_/014	AW25_/102	AW30_/110
Module	H1	H1	H1	H1
C203	3.09	–	–	–
C303	3.66	–	–	–
C612	–	7.63	7.63	7.63
C613	–	–	7.63	–
C713	–	–	10.00	–

See pages 8-35 for MGS Reducer Selection Data and available ratios.
See pages 151-154 for tolerances, lubrication and mounting position.
All weights are approximate.

Part No. Example
Foot Mounting with Input Shaft
C302N0620 AW163/012



"C" Series—MGS Dimensional Data Concentric Helical with Input Shaft



Drawing for Units
C002F — C503F

Table No. 1 **"C" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style**

Base Module	A	D	F	H	J	M	N	O	P	Q	T
C002	6.30	5.55	5.12	3.11	.35	4.331	.12	.39	.71	.16	3.82
C102/C103	7.87	6.89	6.50	3.94	.43	5.118	.14	.47	.83	.16	5.12
C202/C203	7.87	7.56	6.50	4.41 ①	.43	5.118	.14	.47	1.06	.16	5.59
C302/C303	9.84	8.35	8.46	5.00 ①	.55	7.087	.16	.47	1.06	.16	6.06
C402/C403	9.84	9.55	8.46	5.61	.55	7.087	.16	.55	1.10	.16	7.01
C502/C503	11.81	11.26	10.43	6.54	.55	9.055	.16	.63	1.14	.16	7.68
C612/C613	11.81	11.97	10.43	7.68 ①	.55	9.055	.16	.67	1.42	.20	8.86
C712/C713	13.78	14.61	11.81	9.09 ①	.71	9.842	.20	.71	1.73	.20	10.43
C812/C813	15.75	17.52	13.78	11.22	.71	11.811	.20	.79	1.77	.39	12.20
C912/C913	17.72	20.63	15.75 ②	13.15	.71	13.780	.20	.91	1.97	.39	14.37

① See Table No. 5
② C912 and C913 have 8 mounting holes in the output flange instead of 4 as shown in the drawing.

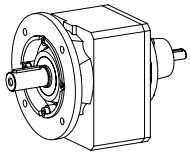
Table No. 2

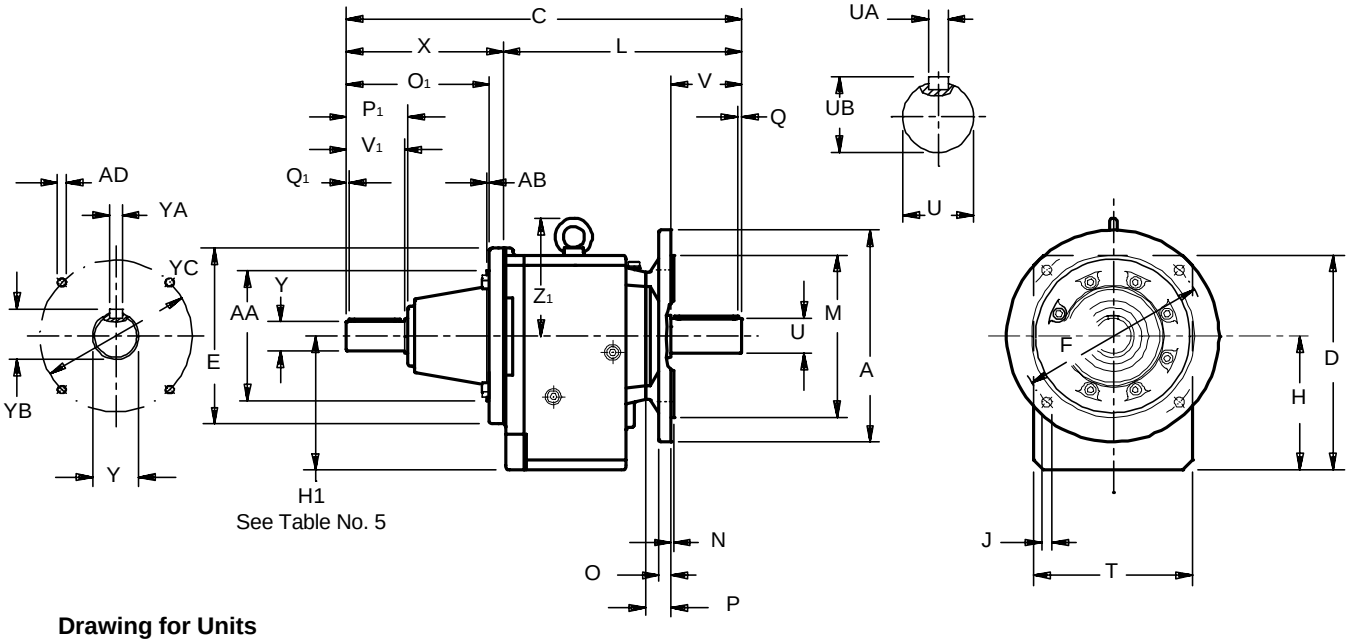
Base Module	U	V	UA	UB	Z_1
C002	.7500	1.57	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	—
C102/C103	1.0000	1.97	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11	—
C202/C203	1.2500	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36	—
C302/C303	1.2500	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36	—
C402/C403	1.6250	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	—
C502/C503	1.6250	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	—
C612/C613	2.1250	3.94	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35	6.57
C712/C713	2.3750	4.72	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65	7.91
C812/C813	2.8750	5.51	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21	8.70
C912/C913	3.6250	6.69	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01	10.24

Table No. 3 **"C" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style**

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times ^3/_{16} \times ^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$^3/_{16} \times ^3/_{16} \times 1^7/_{16}$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.24	8.46	31
AW30_/110	11.81	8.39	3.54	.24	3.25	9.02	1.6250	9.055	.20	M12	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	10.43	51
AW35_/202	13.78	10.83	4.88	.28	4.50	11.61	2.1250	9.842	.24	M16	$^1/_2 \times ^1/_2 \times 3^{15}/_{16}$	2.35	11.81	100

"C" Series—MGS Dimensional Data Concentric Helical with Input Shaft





Drawing for Units
C612F — C913F

Table No. 4 "C" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style

Base	AW14_/010		AW16_/012		AW20_/014		AW25_/102		AW30_/110		AW35_/202		Approx.
Module	C	L	C	L	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	10.08	6.06	10.91	6.22	—	—	—	—	—	—	—	—	18
C102	11.38	7.36	12.21	7.52	13.11	7.60	—	—	—	—	—	—	29
C103	12.84	8.82	—	—	—	—	—	—	—	—	—	—	34
C202	12.48	8.46	13.31	8.62	14.21	8.70	—	—	—	—	—	—	38
C203 ①	13.94	9.92	15.00	10.31	—	—	—	—	—	—	—	—	45
C302	—	—	14.06	9.37	14.96	9.45	17.37	9.57	—	—	—	—	49
C303 ①	14.69	10.67	15.75	11.06	—	—	—	—	—	—	—	—	56
C402	—	—	15.95	11.26	16.85	11.34	19.26	11.46	—	—	—	—	71
C403	—	—	17.64	12.95	—	—	—	—	—	—	—	—	78
C502	—	—	16.78	12.09	17.68	12.17	20.08	12.28	21.85	12.83	—	—	95
C503	—	—	18.47	13.78	—	—	—	—	—	—	—	—	111
C612 ①	—	—	—	—	18.62	13.11	21.03	13.23	22.76	13.74	—	—	115
C613 ①	—	—	19.45	14.76	21.06	15.55	—	—	—	—	—	—	159
C712	—	—	—	—	20.71	15.20	23.08	15.28	24.81	15.79	—	—	199
C713 ①	—	—	—	—	23.11	17.60	—	—	—	—	—	—	221
C812	—	—	—	—	—	—	25.71	17.91	27.05	18.03	30.94	19.33	322
C813	—	—	—	—	25.75	20.24	28.51	20.71	—	—	—	—	342
C912	—	—	—	—	—	—	—	—	30.08	21.06	33.58	21.97	596
C913	—	—	—	—	—	—	30.36	22.56	—	—	—	—	678

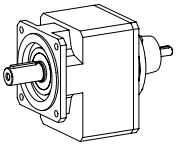
① See Table No. 5

Table No. 5 "C" Series – Input Dimension (Inches)

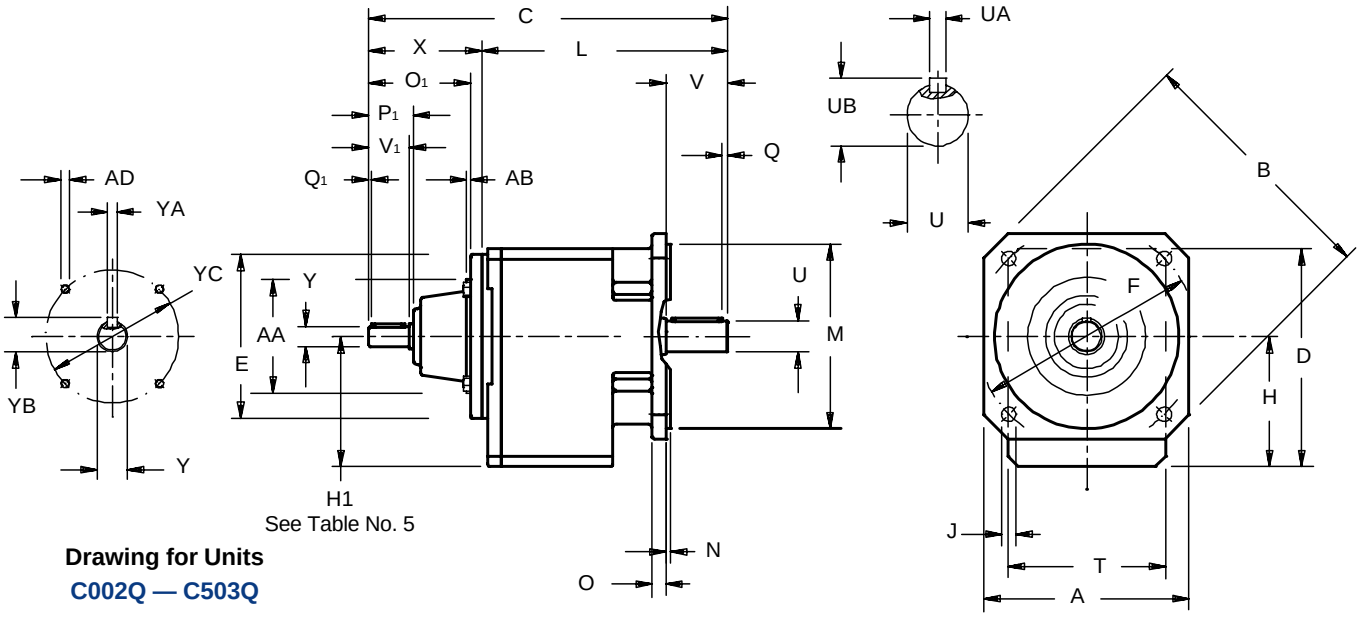
Base	AW16_/012	AW20_/014	AW25_/102	AW30_/110
Module	H1	H1	H1	H1
C203	2.97	–	–	–
C303	3.54	–	–	–
C612	–	7.44	7.44	7.44
C613	–	–	7.44	–
C713	–	–	9.84	–

See page 52 for Optional Flange Diameters.
See pages 8-35 for MGS Reducer Selection Data and available ratios.
See pages 151-154 for tolerances, lubrication and mounting position.
All weights are approximate.

Part No. Example
Round Flange with Input Shaft
C302F0620 AW163/012



"C" Series—MGS Dimensional Data Concentric Helical with Input Shaft



Drawing for Units
C002Q — C503Q

Table No. 1 **"C" Series – Square Flange Unit Dimensions (Inches) – "Q" Housing Style**

Base Module	A	B	D	F	H	J	M	N	O	Q	T
C002	4.88	6.30	5.55	5.12	3.11	.35	4.33	.14	.35	.16	3.82
C102/C103	5.71	7.56	6.89	6.50	3.94	.43	5.12	.14	.43	.16	5.12
C202/C203	5.71	7.56	7.56	6.50	4.41 ①	.43	5.12	.14	.43	.16	5.59
C302/C303	7.87	9.84	8.35	8.46	5.00 ①	.55	7.09	.16	.55	.16	6.06
C402/C403	7.87	9.84	9.55	8.46	5.61	.55	7.09	.16	.55	.16	7.01
C502/C503	9.84	11.81	11.26	10.43	6.54	.55	9.06	.16	.63	.16	7.68

① See Table No. 5

Table No. 2

Base Module	U	V	UA – Key	UB
C002	.7500	1.57	$^{3}/_{16} \times {}^{3}/_{16} \times 1^{7}/_{32}$	.83
C102/C103	1.0000	1.97	$^{1}/_{4} \times {}^{1}/_{4} \times 1^{9}/_{16}$	1.11
C202/C203	1.2500	2.36	$^{1}/_{4} \times {}^{1}/_{4} \times 1^{15}/_{16}$	1.36
C302/C303	1.2500	2.36	$^{1}/_{4} \times {}^{1}/_{4} \times 1^{15}/_{16}$	1.36
C402/C403	1.6250	3.15	$^{3}/_{8} \times {}^{3}/_{8} \times 2^{7}/_{8}$	1.79
C502/C503	1.6250	3.15	$^{3}/_{8} \times {}^{3}/_{8} \times 2^{7}/_{8}$	1.79

This Housing Style is available on special order.

"C" Series—MGS Dimensional Data Concentric Helical with Input Shaft

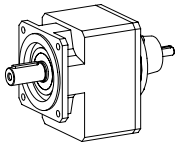


Table No. 3 "C" Series – Square Flange Unit Dimensions (Inches) – "Q" Housing Style

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times {}^3/_{16} \times {}^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times {}^3/_{16} \times 1^7/_{32}$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$^3/_{16} \times {}^3/_{16} \times 1^7/_{16}$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times {}^1/_4 \times 1^{15}/_{16}$	1.24	8.46	31
AW30_/110	11.81	8.39	3.54	.24	3.25	9.02	1.6250	9.055	.20	M12	$^3/_8 \times {}^3/_8 \times 2^7/_8$	1.79	10.43	51

Table No. 4 "C" Series – Square Flange Unit Dimensions (Inches) – "Q" Housing Style

Base Module	AW14_/010		AW16_/012		AW20_/014		AW25_/102		AW30_/110		Approx. Wt.(lbs.)
	C	L	C	L	C	L	C	L	C	L	
C002	10.08	6.06	10.91	6.22	—	—	—	—	—	—	18
C102	11.38	7.36	12.21	7.52	13.11	7.60	—	—	—	—	29
C103	12.84	8.82	—	—	—	—	—	—	—	—	34
C202	12.48	8.46	13.31	8.62	14.21	8.70	—	—	—	—	38
C203 ①	13.94	9.92	15.00	10.31	—	—	—	—	—	—	45
C302	—	—	14.06	9.37	14.96	9.45	17.37	9.57	—	—	49
C303 ①	14.69	10.67	15.75	11.06	—	—	—	—	—	—	56
C402	—	—	15.95	11.26	16.85	11.34	19.26	11.46	—	—	71
C403	—	—	17.64	12.95	—	—	—	—	—	—	78
C502	—	—	16.78	12.09	17.68	12.17	20.08	12.28	21.85	12.83	95
C503	—	—	18.47	13.78	—	—	—	—	—	—	111

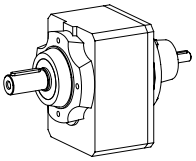
① See Table No. 5

Table No. 5
Input Dimension (Inches)

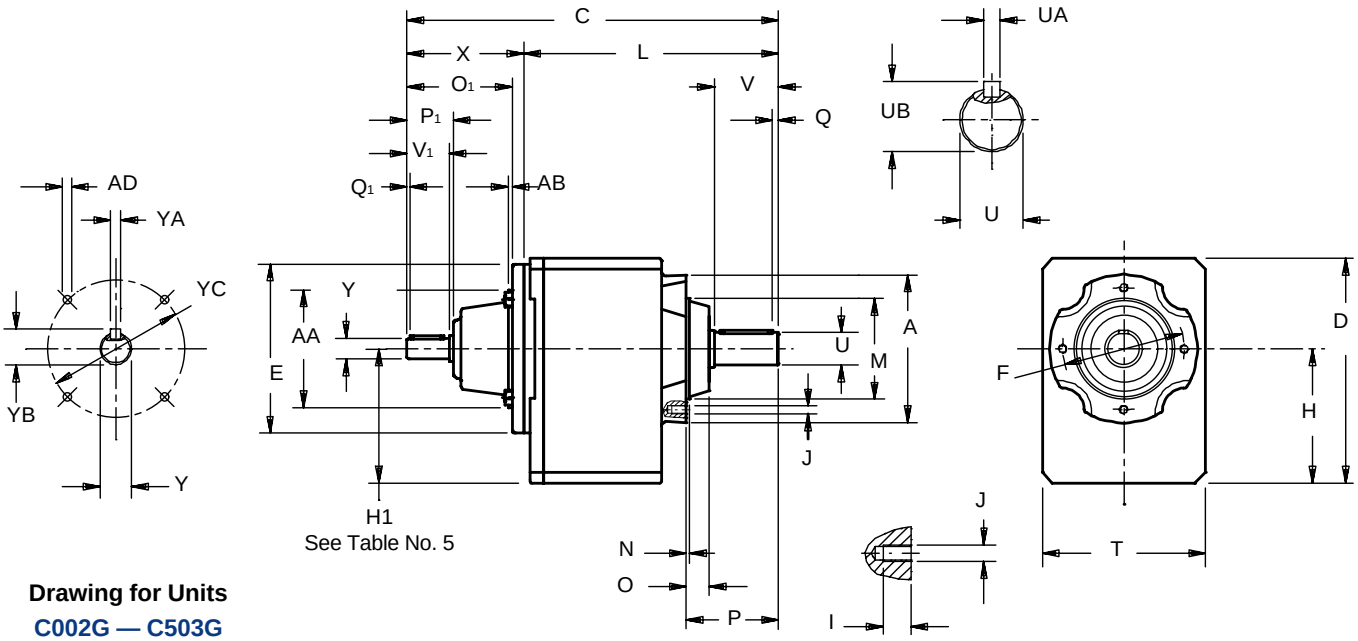
Base Module	AW16_/012
	H1
C203	2.97
C303	3.54

See pages 8-35 for MGS Reducer Selection Data and available ratios.
See pages 151-154 for tolerances, lubrication and mounting position.
All weights are approximate.

Part No. Example
Square Flange with Input Shaft
C302Q0620 AW163/012



"C" Series—MGS Dimensional Data
Concentric Helical with Input Shaft



Drawing for Units
C002G — C503G

Table No. 1 **"C" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style**

Base Module	A	D	F	H	I	J	M	N	O	P	Q	T
C002	3.43	5.55	2.95	3.11	.39	M6	2.165	.12	.55	2.28	.16	3.82
C102/C103	4.72	6.89	3.94	3.94	.51	M6	3.150	.12	.67	2.80	.16	5.12
C202/C203	5.51	7.56	4.53	4.41 ①	.51	M8	3.740	.12	.87	3.43	.16	5.59
C302/C303	5.51	8.35	4.53	5.00 ①	.51	M8	3.740	.12	.87	3.43	.16	6.06
C402/C403	6.30	9.55	5.12	5.61	.63	M10	4.331	.14	.87	4.25	.16	7.01
C502/C503	7.56	11.26	6.50 ②	6.54	.63	M10	5.118	.14	.91	4.29	.16	7.68
C612/C613	7.09	11.97	6.50	7.68 ①	.63	M10	5.512	.20	1.18	5.35	.20	8.86
C712/C713	7.68	14.61	7.28	9.09 ①	.75	M12	6.102	.31	1.46	6.46	.20	10.43
C812/C813	8.90	17.52	8.46	11.22	.75	M12	7.283	.20	1.46	7.28	.39	12.20
C912/C913	11.02	20.63	10.43	13.15	1.02	M16	9.055	.20	1.65	8.66	.39	14.37

① See Table No. 5
② C502/C503 has 8 holes instead of 4 as shown in the drawing.

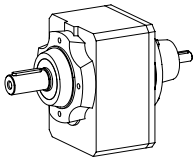
Table No. 2

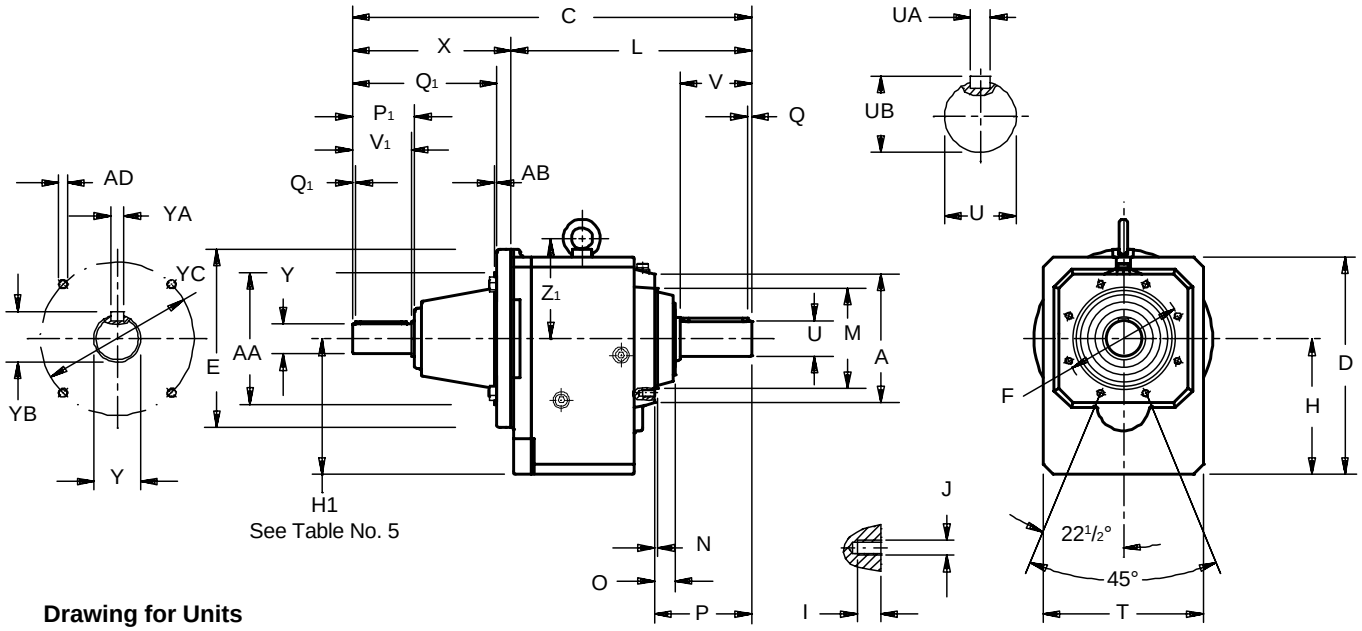
Base Module	U	V	Z_1	UA–Key	UB
C002	.7500	1.57	—	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83
C102/C103	1.0000	1.97	—	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11
C202/C203	1.2500	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C302/C303	1.2500	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C402/C403	1.6250	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C502/C503	1.6250	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C612/C613	2.1250	3.94	6.57	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35
C712/C713	2.3750	4.72	7.91	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
C812/C813	2.8750	5.51	8.70	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
C912/C913	3.6250	6.69	10.24	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

Table No. 3 **"C" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style**

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times ^3/_{16} \times ^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$^3/_{16} \times ^3/_{16} \times 1^7/_{16}$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.24	8.46	31
AW30_/110	11.81	8.39	3.54	.24	3.25	9.02	1.6250	9.055	.20	M12	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	10.43	51
AW35_/202	13.78	10.83	4.88	.28	4.50	11.61	2.1250	9.842	.24	M16	$^1/_2 \times ^1/_2 \times 3^{15}/_{16}$	2.35	11.81	100

"C" Series—MGS Dimensional Data Concentric Helical with Input Shaft





Drawing for Units
C612G — C913G

Table No. 4 "C" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Base	AW14_/010		AW16_/012		AW20_/014		AW25_/102		AW30_/110		AW35_/202		Approx.
Module	C	L	C	L	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	10.08	6.06	10.91	6.22	—	—	—	—	—	—	—	—	18
C102	11.38	7.36	12.21	7.52	13.11	7.60	—	—	—	—	—	—	29
C103	12.84	8.82	—	—	—	—	—	—	—	—	—	—	34
C202	12.48	8.46	13.31	8.62	14.21	8.70	—	—	—	—	—	—	38
C203 ①	13.94	9.92	15.00	10.31	—	—	—	—	—	—	—	—	45
C302	—	—	14.06	9.37	14.96	9.45	17.37	9.57	—	—	—	—	49
C303 ①	14.69	10.67	15.75	11.06	—	—	—	—	—	—	—	—	56
C402	—	—	15.95	11.26	16.85	11.34	19.26	11.46	—	—	—	—	71
C403	—	—	17.64	12.95	—	—	—	—	—	—	—	—	78
C502	—	—	16.78	12.09	17.68	12.17	20.08	12.28	21.85	12.83	—	—	95
C503	—	—	18.47	13.78	—	—	—	—	—	—	—	—	111
C612 ①	—	—	—	—	18.62	13.11	21.03	13.23	22.76	13.74	—	—	115
C613 ①	—	—	19.45	14.76	21.06	15.55	—	—	—	—	—	—	159
C712	—	—	—	—	20.71	15.20	23.08	15.28	24.81	15.79	—	—	199
C713 ①	—	—	—	—	23.11	17.60	—	—	—	—	—	—	221
C812	—	—	—	—	—	—	25.71	17.91	27.05	18.03	30.94	19.33	322
C813	—	—	—	—	25.75	20.24	28.51	20.71	—	—	—	—	342
C912	—	—	—	—	—	—	—	—	30.08	21.06	33.58	21.97	596
C913	—	—	—	—	—	—	30.36	22.56	—	—	—	—	678

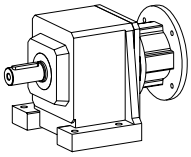
① See Table No. 5

Table No. 5 "C" Series – Input Dimension (Inches)

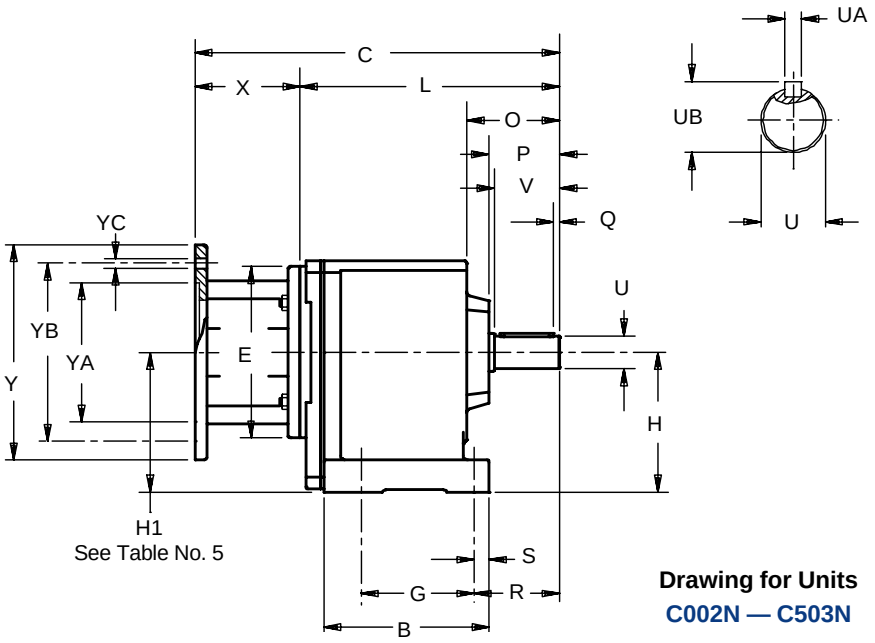
Base	AW16_/012	AW20_/014	AW25_/102	AW30_/110
Module	H1	H1	H1	H1
C203	2.97	–	–	–
C303	3.54	–	–	–
C612	–	7.44	7.44	7.44
C613	–	–	7.44	–
C713	–	–	9.84	–

See pages 8-35 for MGS Reducer Selection Data and available ratios.
See pages 151-154 for tolerances, lubrication and mounting position.
All weights are approximate.

Part No. Example
Tapped Holes Housing with Input Shaft
C302G0620 AW163/012



"C" Series—MGS Dimensional Data
Concentric Helical with Motor Adapter



Drawing for Units
C002N — C503N

Table No. 1 **"C" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style**

Base Module	A	B	D	F	G	H	J	M	N	O	P	Q	R
C002	5.20	3.74	5.67	4.33	2.44	3.23	.28	1.38	.79	2.24	1.73	.16	2.17
C102/C103	6.93	4.65	6.97	5.91	2.76	4.02	.35	1.65	.98	2.72	2.13	.16	2.64
C202/C203	7.87	5.31	7.68	6.69	3.35	4.53①	.43	1.97	1.18	3.39	2.56	.16	3.11
C302/C303	8.46	6.06	8.46	7.28	4.13	5.12①	.43	1.97	1.18	3.35	2.56	.16	3.11
C402/C403	10.04	7.09	9.65	8.66	4.33	5.71	.55	2.36	1.38	4.17	3.39	.16	4.13
C502/C503	11.42	7.76	11.42	9.65	5.12	6.69	.71	2.76	1.57	4.21	3.39	.16	4.25
C612/C613	11.81	10.43	12.40	9.65	8.46	7.87①	.71	2.95	1.57	6.02	4.17	.20	5.12
C712/C713	14.37	11.22	14.76	11.81	9.25	9.25①	.71	3.54	1.97	7.28	5.00	.20	6.42
C812/C813	17.13	14.17	17.72	13.39	11.81	11.42	.87	3.74	2.17	8.58	5.83	.39	7.48
C912/C913	20.08	16.14	20.87	15.75	13.39	13.39	1.02	4.33	2.36	10.08	7.01	.39	8.74

① See Table No. 5

Table No. 2

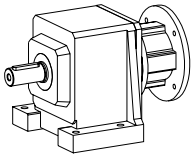
Base Module	S	T	U	V	Z_1	UA – Key	UB
C002	.43	3.62	.7500	1.57	—	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83
C102/C103	.51	4.88	1.0000	1.97	—	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11
C202/C203	.55	5.43	1.2500	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C302/C303	.55	5.91	1.2500	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C402/C403	.75	6.89	1.6250	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C502/C503	.87	7.56	1.6250	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C612/C613	.98	6.97	2.1250	3.94	6.57	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35
C712/C713	.98	7.56	2.3750	4.72	7.91	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
C812/C813	1.14	8.78	2.8750	5.51	8.70	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
C912/C913	1.34	10.91	3.6250	6.69	10.24	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

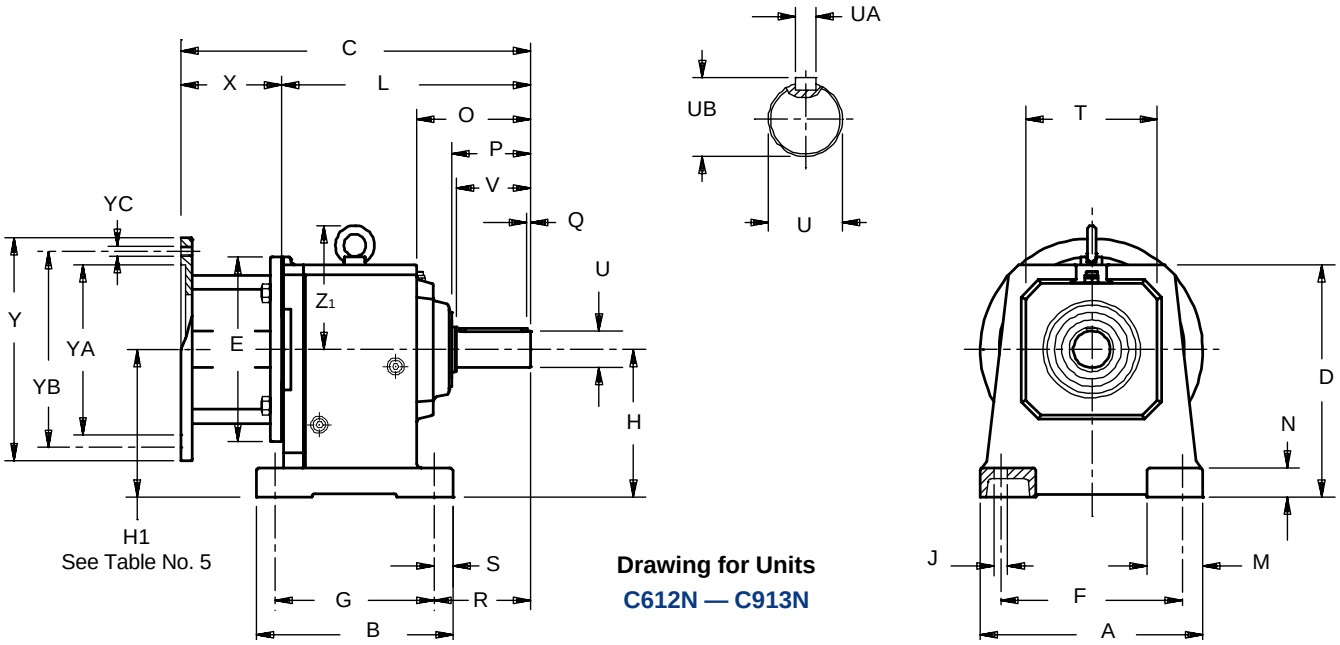
Table No. 3

"C" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR30_/180	182/184TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/210	213/215TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/250	254/256TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/280	284/286TC	11.81	6.50	11.13	10.500	9.00	.57	75
MR35_/320	324/326TC	13.78	7.09	13.37	12.500	11.00	.70	133
MR35_/360	364/365TC	13.78	7.09	13.37	12.500	11.00	.70	133

"C" Series—MGS Dimensional Data Concentric Helical with Motor Adapter





Drawing for Units
C612N — C913N

Table No. 4 "C" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style

Base	MR14_/050		MR16_/140 ②		MR20_/180		MR25_/210 ③		MR30_/250 ④		MR35_/320 ⑤		Approx.
Module	C	L	C	L	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	9.37	6.06	10.08	6.22	—	—	—	—	—	—	—	—	18
C102	10.67	7.36	11.38	7.52	12.40	7.60	—	—	—	—	—	—	29
C103	12.13	8.82	—	—	—	—	—	—	—	—	—	—	34
C202	11.77	8.46	12.48	8.62	13.50	8.70	—	—	—	—	—	—	38
C203 ①	13.23	9.92	14.17	10.31	—	—	—	—	—	—	—	—	45
C302	—	—	13.23	9.37	14.25	9.45	14.88	9.57	—	—	—	—	49
C303 ①	13.98	10.67	14.92	11.06	—	—	—	—	—	—	—	—	56
C402	—	—	15.12	11.26	16.14	11.34	16.77	11.46	—	—	—	—	71
C403	—	—	16.81	12.95	—	—	—	—	—	—	—	—	78
C502	—	—	15.95	12.09	16.97	12.17	17.59	12.28	19.33	12.83	—	—	95
C503	—	—	17.64	13.78	—	—	—	—	—	—	—	—	111
C612 ①	—	—	—	—	17.91	13.11	18.54	13.23	20.24	13.74	—	—	115
C613 ①	—	—	18.62	14.76	20.35	15.55	—	—	—	—	—	—	159
C712	—	—	—	—	20.00	15.20	20.59	15.28	22.29	15.79	—	—	199
C713 ①	—	—	—	—	22.40	17.60	—	—	—	—	—	—	221
C812	—	—	—	—	—	—	23.22	17.91	24.53	18.03	26.42	19.33	322
C813	—	—	—	—	25.04	20.24	26.02	20.71	—	—	—	—	342
C912	—	—	—	—	—	—	—	—	27.56	21.06	29.06	21.97	596
C913	—	—	—	—	—	—	27.87	22.56	—	—	—	—	678

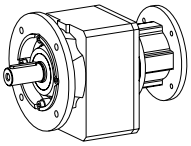
① See Table No. 5
② Also available as **MR16_/050** for a NEMA 56C frame motor.
③ Also available as **MR25_/180** for a NEMA 182/184TC frame motor.
④ Also available as **MR30_/180** for a NEMA 182/184TC, **MR30_/210** for a NEMA 213/215TC , and **MR30_/280** for a NEMA 284/286TC frame motor.
⑤ Also available as **MR35_/360** for a NEMA 364/365TC frame motor.

Table No. 5 "C" Series – Input Dimension (Inches)

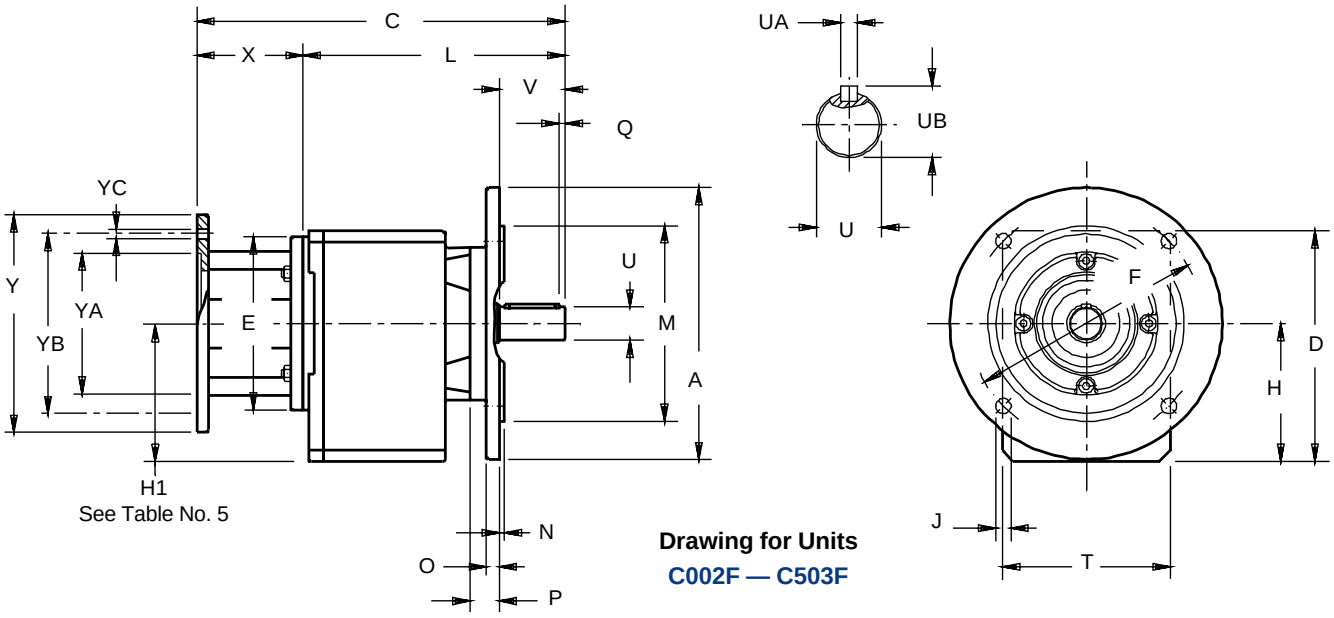
Base	MR16_/050②	MR20_/180	MR25_/210	MR30_/250
Module	H1	H1	H1	H1
C203	3.09	–	–	–
C303	3.66	–	–	–
C612	–	7.63	7.63	7.63
C613	–	–	7.63	–
C713	–	–	10.00	–

See pages 8-35 for MGS Reducer Selection Data and available ratios.
See pages 151-154 for tolerances, lubrication and mounting position.
All weights are approximate.

Part No. Example
Foot Mounting with Motor Adapter
C302N0620 MR163/140



"C" Series—MGS Dimensional Data
Concentric Helical with Motor Adapter



Drawing for Units
C002F — C503F

Table No. 1 **"C" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style**

Base Module	A	D	F	H	J	M	N	O	P	Q	T
C002	6.30	5.55	5.12	3.11	.35	4.331	.12	.39	.71	.16	3.82
C102/C103	7.87	6.89	6.50	3.94	.43	5.118	.14	.47	.83	.16	5.12
C202/C203	7.87	7.56	6.50	4.41 ①	.43	5.118	.14	.47	1.06	.16	5.59
C302/C303	9.84	8.35	8.46	5.00 ①	.55	7.087	.16	.47	1.06	.16	6.06
C402/C403	9.84	9.55	8.46	5.61	.55	7.087	.16	.55	1.10	.16	7.01
C502/C503	11.81	11.26	10.43	6.54	.55	9.055	.16	.63	1.14	.16	7.68
C612/C613	11.81	11.97	10.43	7.44 ①	.55	9.055	.16	.67	1.42	.20	8.86
C712/C713	13.78	14.61	11.81	9.09 ①	.71	9.842	.20	.71	1.73	.20	10.43
C812/C813	15.75	17.52	13.78	11.22	.71	11.811	.20	.79	1.77	.39	12.20
C912/C913	17.72	20.63	15.75 *	13.15	.71	13.780	.20	.91	1.97	.39	14.37

① See Table No. 5
* C912 and C913 have 8 mounting holes in the output flange instead of 4 as shown in the drawing.

Table No. 2

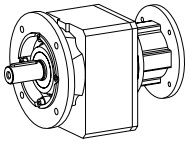
Base Module	U	V	UA	UB	Z_1
C002	.7500	1.57	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	—
C102/C103	1.0000	1.97	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11	—
C202/C203	1.2500	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36	—
C302/C303	1.2500	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36	—
C402/C403	1.6250	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	—
C502/C503	1.6250	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	—
C612/C613	2.1250	3.94	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35	6.57
C712/C713	2.3750	4.72	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65	7.91
C812/C813	2.8750	5.51	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21	8.70
C912/C913	3.6250	6.69	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01	10.24

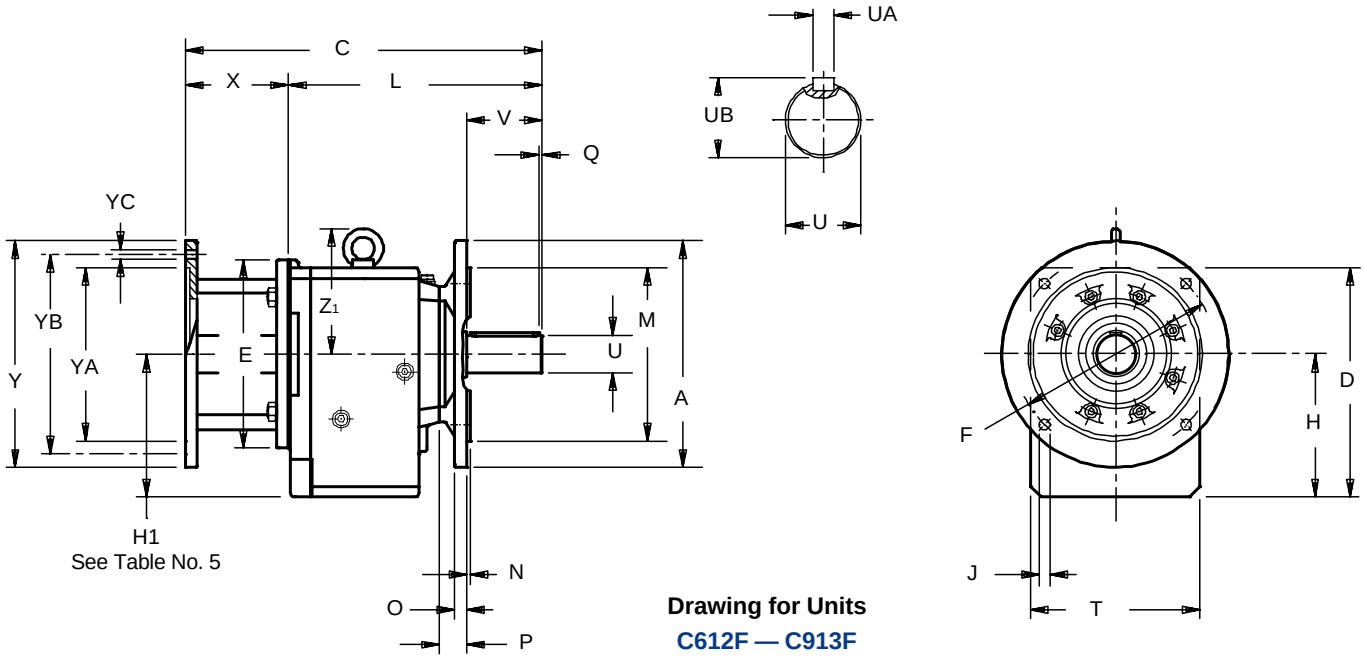
Table No. 3

"C" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR30_/180	182/184TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/210	213/215TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/250	254/256TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/280	284/286TC	11.81	6.50	11.13	10.500	9.00	.57	75
MR35_/320	324/326TC	13.78	7.09	13.37	12.500	11.00	.70	133
MR35_/360	364/365TC	13.78	7.09	13.37	12.500	11.00	.70	133

"C" Series—MGS Dimensional Data Concentric Helical with Motor Adapter





Drawing for Units
C612F — C913F

Table No. 4 "C" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style

Base	MR14_/050		MR16_/140 ②		MR20_/180		MR25_/210 ③		MR30_/250 ④		MR35_/320 ⑤		Approx.
Module	C	L	C	L	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	9.37	6.06	10.08	6.22	—	—	—	—	—	—	—	—	18
C102	10.67	7.36	11.38	7.52	12.40	7.60	—	—	—	—	—	—	29
C103	12.13	8.82	—	—	—	—	—	—	—	—	—	—	34
C202	11.77	8.46	12.48	8.62	13.50	8.70	—	—	—	—	—	—	38
C203 ①	13.23	9.92	14.17	10.31	—	—	—	—	—	—	—	—	45
C302	—	—	13.23	9.37	14.25	9.45	14.88	9.57	—	—	—	—	49
C303 ①	13.98	10.67	14.92	11.06	—	—	—	—	—	—	—	—	56
C402	—	—	15.12	11.26	16.14	11.34	16.77	11.46	—	—	—	—	71
C403	—	—	16.81	12.95	—	—	—	—	—	—	—	—	78
C502	—	—	15.95	12.09	16.97	12.17	17.59	12.28	19.33	12.83	—	—	95
C503	—	—	17.64	13.78	—	—	—	—	—	—	—	—	111
C612 ①	—	—	—	—	17.91	13.11	18.54	13.23	20.24	13.74	—	—	115
C613 ①	—	—	18.62	14.76	20.35	15.55	—	—	—	—	—	—	159
C712	—	—	—	—	20.00	15.20	20.59	15.28	22.29	15.79	—	—	199
C713 ①	—	—	—	—	22.40	17.60	—	—	—	—	—	—	221
C812	—	—	—	—	—	—	23.22	17.91	24.53	18.03	26.42	19.33	322
C813	—	—	—	—	25.04	20.24	26.02	20.71	—	—	—	—	342
C912	—	—	—	—	—	—	—	—	27.56	21.06	29.06	21.97	596
C913	—		—	—	—	—	27.87	22.56	—	—	—	—	678

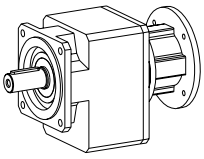
① See Table No. 5
② Also available as **MR16_/050** for a NEMA 56C frame motor.
③ Also available as **MR25_/180** for a NEMA 182/184TC frame motor.
④ Also available as **MR30_/180** for a NEMA 182/184TC, **MR30_/210** for a NEMA 213/215TC , and **MR30_/280** for a NEMA 284/286TC frame motor.
⑤ Also available as **MR35_/360** for a NEMA 364/365TC frame motor.

Table No. 5 "C" Series – Input Dimension (Inches)

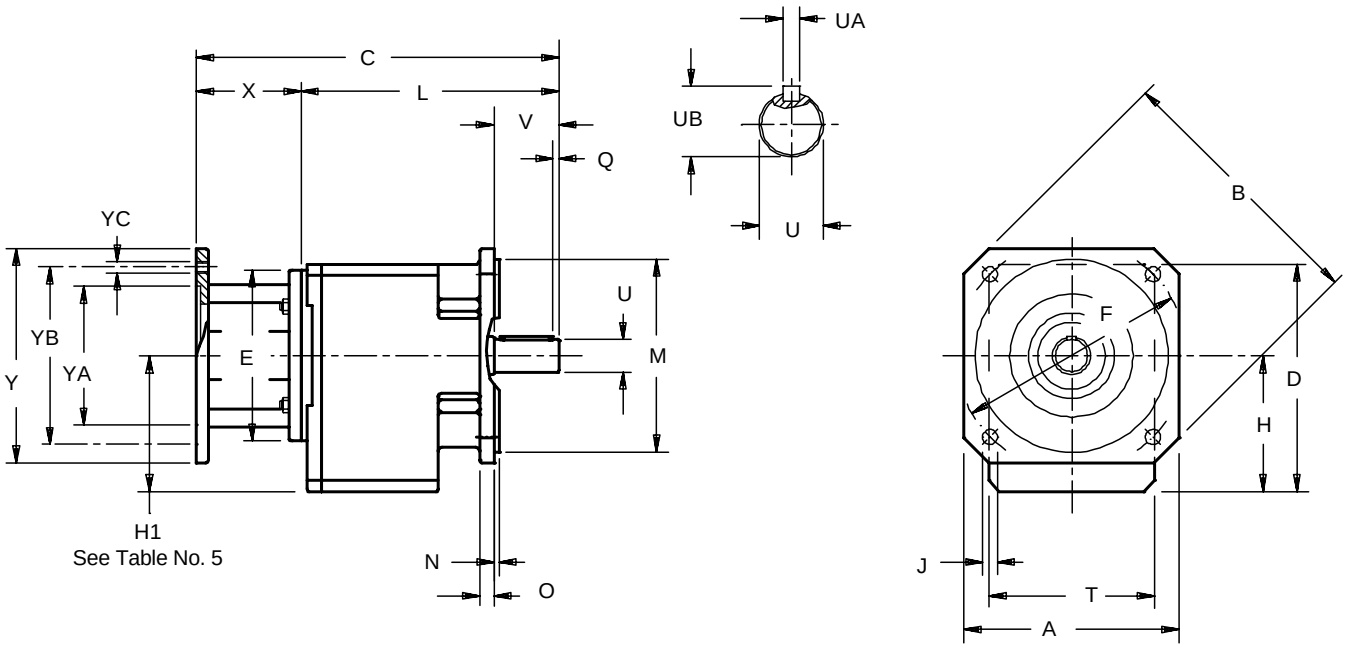
Base	MR16_/140②	MR20_/180	MR25_/210	MR30_/250
Module	H1	H1	H1	H1
C203	2.97	–	–	–
C303	3.54	–	–	–
C612	–	7.44	7.44	7.44
C613	–	–	7.44	–
C713	–	–	9.84	–

See page 52 for Optional Flange Diameters.
See pages 8-35 for MGS Reducer Selection Data and available ratios.
See pages 151-154 for tolerances, lubrication and mounting position.
All weights are approximate.

Part No. Example
Round Flange with Motor Adapter
C302F0620 MR163/140



"C" Series—MGS Dimensional Data
Concentric Helical with Motor Adapter



Drawing for Units
C002Q — C503Q

Table No. 1 **"C" Series – Square Flange Unit Dimensions (Inches) – "Q" Housing Style**

Base Module	A	B	D	F	H	J	M	N	O	Q	T
C002	4.88	6.30	5.55	5.12	3.11	.35	4.33	.14	.35	.16	3.82
C102/C103	5.71	7.56	6.89	6.50	3.94	.43	5.12	.14	.43	.16	5.12
C202/C203	5.71	7.56	7.56	6.50	4.41 ①	.43	5.12	.14	.43	.16	5.59
C302/C303	7.87	9.84	8.35	8.46	5.00 ①	.55	7.09	.16	.55	.16	6.06
C402/C403	7.87	9.84	9.55	8.46	5.61	.55	7.09	.16	.55	.16	7.01
C502/C503	9.84	11.81	11.26	10.43	6.54	.55	9.06	.16	.63	.16	7.68

① See Table No. 5

Table No. 2

Base Module	U	V	UA – Key	UB
C002	.7500	1.57	$^{3}/_{16} \times {}^{3}/_{16} \times 1^{7}/_{32}$	.83
C102/C103	1.0000	1.97	$^{1}/_{4} \times {}^{1}/_{4} \times 1^{9}/_{16}$	1.11
C202/C203	1.2500	2.36	$^{1}/_{4} \times {}^{1}/_{4} \times 1^{15}/_{16}$	1.36
C302/C303	1.2500	2.36	$^{1}/_{4} \times {}^{1}/_{4} \times 1^{15}/_{16}$	1.36
C402/C403	1.6250	3.15	$^{3}/_{8} \times {}^{3}/_{8} \times 2^{7}/_{8}$	1.79
C502/C503	1.6250	3.15	$^{3}/_{8} \times {}^{3}/_{8} \times 2^{7}/_{8}$	1.79

This Housing Style is available on special order.

"C" Series—MGS Dimensional Data Concentric Helical with Motor Adapter

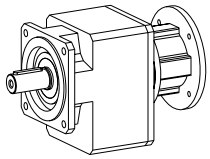


Table No. 3

"C" Series – Square Flange Unit Dimensions (Inches) – "Q" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR30_/180	182/184TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/210	213/215TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/250	254/256TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/280	284/286TC	11.81	6.50	11.13	10.500	9.00	.57	75

Table No. 4 "C" Series – Square Flange Unit Dimensions (Inches) – "Q" Housing Style

Base	MR14_/050		MR16_/140 ②		MR20_/180		MR25_/210 ③		MR30_/250 ④		Approx.
Module	C	L	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	9.37	6.06	10.08	6.22	—	—	—	—	—	—	18
C102	10.67	7.36	11.38	7.52	12.40	7.60	—	—	—	—	29
C103	12.13	8.82	—	—	—	—	—	—	—	—	34
C202	11.77	8.46	12.48	8.62	13.50	8.70	—	—	—	—	38
C203 ①	13.23	9.92	14.17	10.31	—	—	—	—	—	—	45
C302	—	—	13.23	9.37	14.25	9.45	14.88	9.57	—	—	49
C303 ①	13.98	10.67	14.92	11.06	—	—	—	—	—	—	56
C402	—	—	15.12	11.26	16.14	11.34	16.77	11.46	—	—	71
C403	—	—	16.81	12.95	—	—	—	—	—	—	78
C502	—	—	15.95	12.09	16.97	12.17	17.59	12.28	19.33	12.83	95
C503	—	—	17.64	13.78	—	—	—	—	—	—	111

① See Table No. 5
② Also available as **MR16_/050** for a NEMA 56C frame motor.
③ Also available as **MR25_/180** for a NEMA 182/184TC frame motor.
④ Also available as **MR30_/180** for a NEMA 182/184TC, **MR30_/210** for a NEMA 213/215TC , and **MR30_/280** for a NEMA 284/286TC frame motor.

Table No. 5

Input Dimension (Inches)

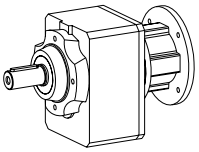
Base	MR16_/140②
Module	H1
C203	2.97
C303	3.54

See pages 8-35 for MGS Reducer Selection Data and available ratios.
See pages 151-154 for tolerances, lubrication and mounting position.
All weights are approximate.

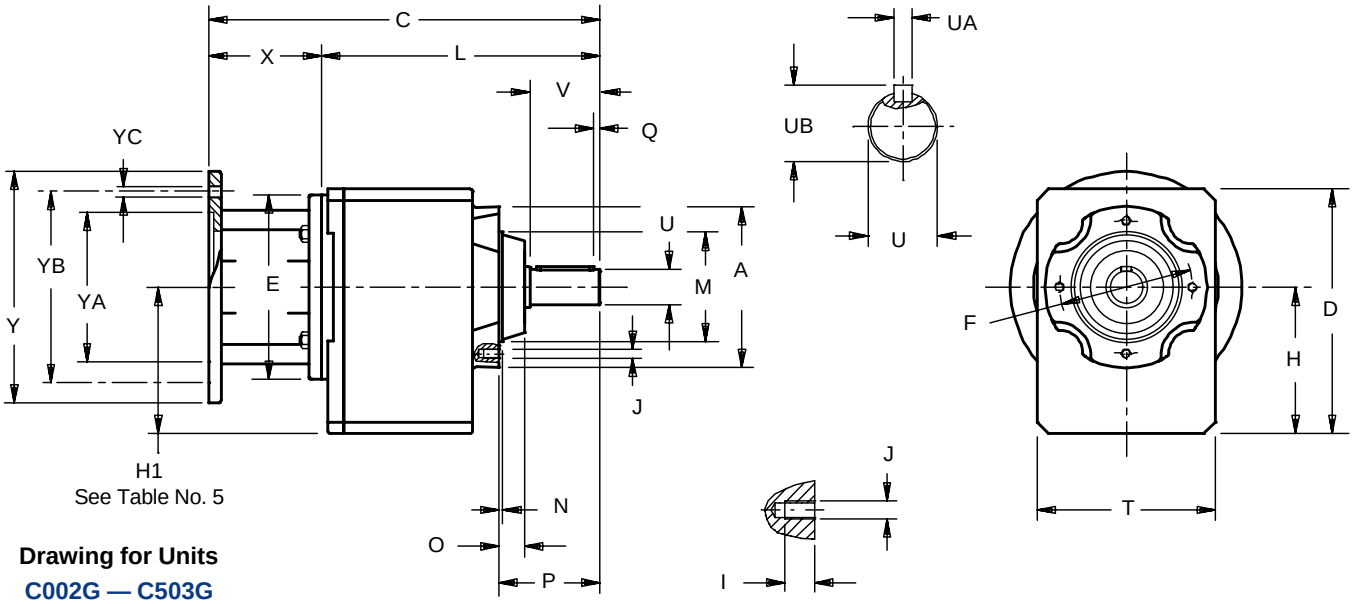
Part No. Example

Square Flange with Motor Adapter

C302Q0620 MR163/140



"C" Series—MGS Dimensional Data
Concentric Helical with Motor Adapter



Drawing for Units
C002G — C503G

Table No. 1 **"C" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style**

Base Module	A	D	F	H	I	J	M	N	O	P	Q	T
C002	3.43	5.55	2.95	3.11	.39	M6	2.165	.12	.55	2.28	.16	3.82
C102/C103	4.72	6.89	3.94	3.94	.51	M6	3.150	.12	.67	2.80	.16	5.12
C202/C203	5.51	7.56	4.53	4.41 ①	.51	M8	3.740	.12	.87	3.43	.16	5.59
C302/C303	5.51	8.35	4.53	5.00 ①	.51	M8	3.740	.12	.87	3.43	.16	6.06
C402/C403	6.30	9.55	5.12	5.61	.63	M10	4.331	.14	.87	4.25	.16	7.01
C502/C503	7.56	11.26	6.50 ②	6.54	.63	M10	5.118	.14	.91	4.29	.16	7.68
C612/C613	7.09	11.97	6.50	7.44 ①	.63	M10	5.512	.20	1.18	5.35	.20	8.86
C712/C713	7.68	14.61	7.28	9.09 ①	.75	M12	6.102	.31	1.46	6.46	.20	10.43
C812/C813	8.90	17.52	8.46	11.22	.75	M12	7.283	.20	1.46	7.28	.39	12.20
C912/C913	11.02	20.63	10.43	13.15	1.02	M16	9.055	.20	1.65	8.66	.39	14.37

① See Table No. 5
② C502/C503 has 8 holes instead of 4 as shown in the drawing.

Table No. 2

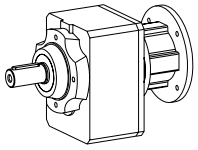
Base Module	U	V	Z_1	UA–Key	UB
C002	.7500	1.57	—	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83
C102/C103	1.0000	1.97	—	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11
C202/C203	1.2500	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C302/C303	1.2500	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C402/C403	1.6250	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C502/C503	1.6250	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C612/C613	2.1250	3.94	6.57	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35
C712/C713	2.3750	4.72	7.91	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
C812/C813	2.8750	5.51	8.70	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
C912/C913	3.6250	6.69	10.24	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

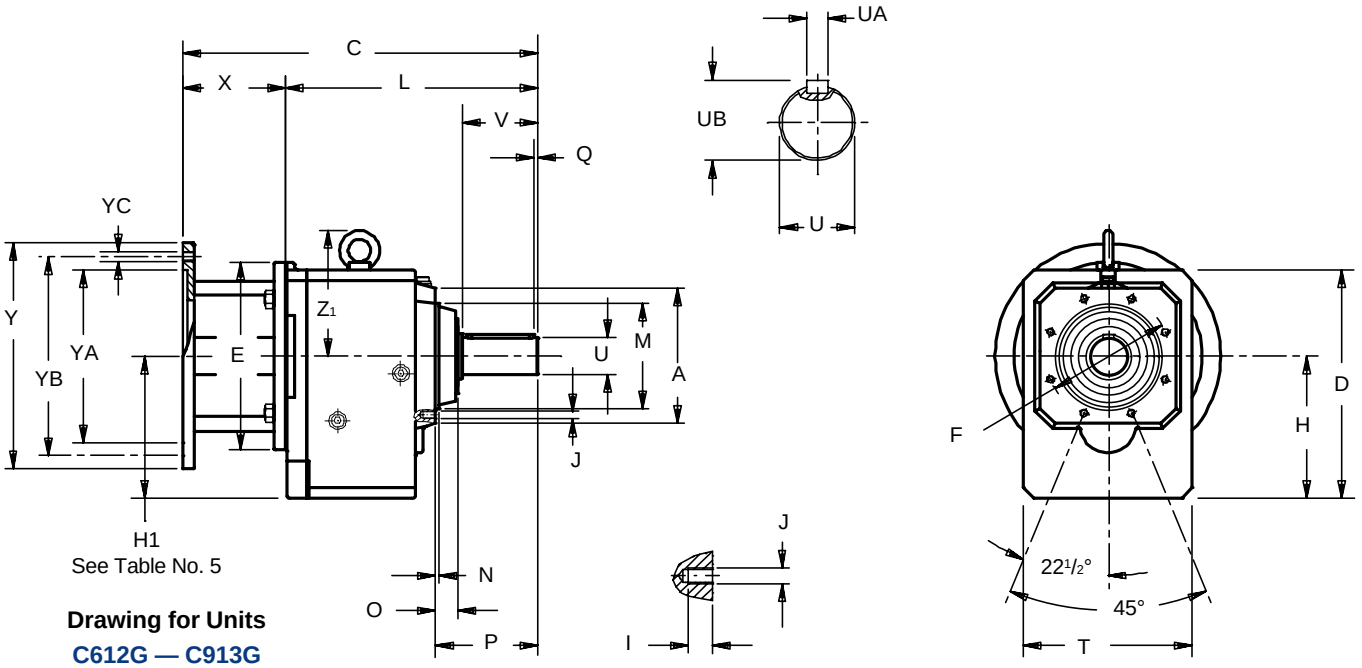
Table No. 3

"C" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR30_/180	182/184TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/210	213/215TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/250	254/256TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/280	284/286TC	11.81	6.50	11.13	10.500	9.00	.57	75
MR35_/320	324/326TC	13.78	7.09	13.37	12.500	11.00	.70	133
MR35_/360	364/365TC	13.78	7.09	13.37	12.500	11.00	.70	133

"C" Series—MGS Dimensional Data Concentric Helical with Motor Adapter





Drawing for Units
C612G — C913G

Table No. 4 "C" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Base	MR14_/050		MR16_/140 ③		MR20_/180		MR25_/210 ④		MR30_/250 ⑤		MR35_/320 ⑥		Approx.
Module	C	L	C	L	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	9.37	6.06	10.08	6.22	—	—	—	—	—	—	—	—	18
C102	10.67	7.36	11.38	7.52	12.40	7.60	—	—	—	—	—	—	29
C103	12.13	8.82	—	—	—	—	—	—	—	—	—	—	34
C202	11.77	8.46	12.48	8.62	13.50	8.70	—	—	—	—	—	—	38
C203 ①	13.23	9.92	14.17	10.31	—	—	—	—	—	—	—	—	45
C302	—	—	13.23	9.37	14.25	9.45	14.88	9.57	—	—	—	—	49
C303 ①	13.98	10.67	14.92	11.06	—	—	—	—	—	—	—	—	56
C402	—	—	15.12	11.26	16.14	11.34	16.77	11.46	—	—	—	—	71
C403	—	—	16.81	12.95	—	—	—	—	—	—	—	—	78
C502	—	—	15.95	12.09	16.97	12.17	17.59	12.28	19.33	12.83	—	—	95
C503	—	—	17.64	13.78	—	—	—	—	—	—	—	—	111
C612 ①	—	—	—	—	17.91	13.11	18.54	13.23	20.24	13.74	—	—	115
C613 ①	—	—	18.62	14.76	20.35	15.55	—	—	—	—	—	—	159
C712	—	—	—	—	20.00	15.20	20.59	15.28	22.29	15.79	—	—	199
C713 ①	—	—	—	—	22.40	17.60	—	—	—	—	—	—	221
C812	—	—	—	—	—	—	23.22	17.91	24.53	18.03	26.42	19.33	322
C813	—	—	—	—	25.04	20.24	26.02	20.71	—	—	—	—	342
C912	—	—	—	—	—	—	—	—	27.56	21.06	29.06	21.97	596
C913	—	—	—	—	—	—	27.87	22.56	—	—	—	—	678

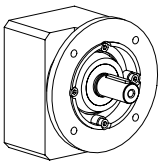
① See Table No. 5
③ Also available as **MR16_/050** for a NEMA 56C frame motor.
④ Also available as **MR25_/180** for a NEMA 182/184TC frame motor.
⑤ Also available as **MR30_/180** for a NEMA 182/184TC, **MR30_/210** for a NEMA 213/215TC , and **MR30_/280** for a NEMA 284/286TC frame motor.
⑥ Also available as **MR35_/360** for a NEMA 364/365TC frame motor.

Table No. 5 "C" Series – Input Dimension (Inches)

Base	MR16_/140③	MR20_/180	MR25_/210	MR30_/250
Module	H1	H1	H1	H1
C203	2.97	–	–	–
C303	3.54	–	–	–
C612	–	7.44	7.44	7.44
C613	–	–	7.44	–
C713	–	–	9.84	–

See pages 8-35 for MGS Reducer Selection Data and available ratios.
See pages 151-154 for tolerances, lubrication and mounting position.
All weights are approximate.

Part No. Example
Tapped Holes Housing with Motor Adapter
C302G0620 MR163/140



"C" Series — Concentric Helical Optional Round Flanges and Backstops

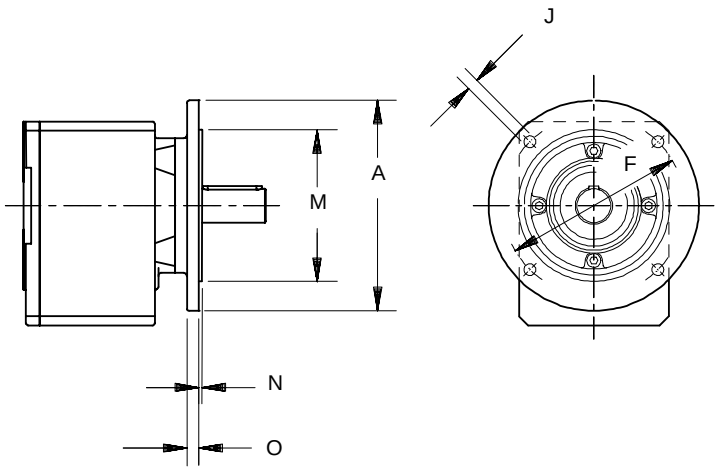


Table No. 1
"C" Series — Optional Flange Dimensions (Inches)

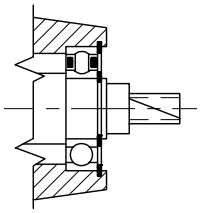
Base Module	Flange Designation	A	F	J	M	N	O
C0	**120**	4.724	3.93	.28	3.150	.12	.39
	140	5.512	4.53	.35	3.740	.12	.39
	160 *	6.300	5.12	.35	4.331	.12	.39
C1	**140**	5.512	4.53	.35	3.740	.14	.32
	160	6.300	5.12	.35	4.331	.14	.39
	200 *	7.874	6.50	.43	5.118	.14	.47
C2	**160**	6.300	5.12	.35	4.331	.14	.39
	200 *	7.874	6.50	.43	5.118	.14	.47
	250	9.843	8.46	.55	7.087	.16	.47
C3	**160**	6.300	5.12	.35	4.331	.14	.39
	200	7.874	6.50	.43	5.118	.14	.47
	250 *	9.843	8.46	.55	7.087	.16	.47
C4	**200**	7.874	6.50	.43	5.118	.16	.55
	250 *	9.843	8.46	.55	7.087	.16	.55
	300	11.811	10.43	.55	9.055	.16	.55
C5	**250**	9.843	8.46	.55	7.087	.16	.55
	300 *	11.811	10.43	.55	9.055	.16	.63
C6	**300** *	11.811	10.43	.55	9.055	.16	.67
C7	**350** *	13.780	11.81	.71	9.842	.20	.71
C8	**350**	13.780	11.81	.71	9.842	.20	.71
	400 *	15.748	13.78	.71	11.811	.20	.79
	450	17.717	15.75	.71	13.780	.20	.79
C9	**450** *	17.717	15.75	.71	13.780	.20	.91

* This is the standard flange diameter. This flange is shipped unless otherwise specified.

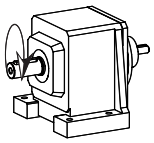
Backstops

HP ratings shown are based on 2.0 Service Factor. Maximum HP should not be exceeded.
DO NOT USE BACKSTOPS ON MAN LIFTS!

The direction of rotation of the OUTPUT *must* be specified when ordered.
(Examples shown are EL1 mounting with output rotating clockwise.)



Backstop for all units using: AW14_/010 , AW16_/012, MR14_/050, MR16_/050 and MR16_/140



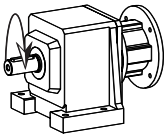
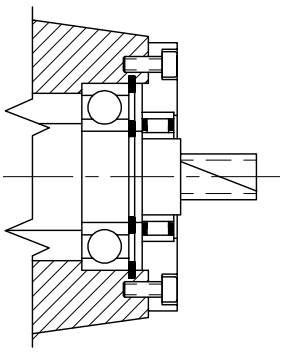


Table No. 1
AW with Backstop

Input Part No.	Shaft Size	Max. HP * @ 1750 RPM
AWB14_/010	.625	2.1
AWB16_/012	.750	10.4
AWB20_/014	.875	18.2
AWB25_/102	1.125	29.1
AWB30_/110	1.625	40.5
AWB35_/202	2.125	54.0

Table No. 2
MR with Backstop

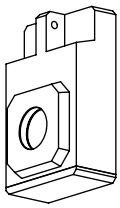
Adapter Part No.	NEMA Frame	Max. HP * @ 1750 RPM
MRB14_/050	56C	2.1
MRB16_/050	56C	10.4
MRB16_/140	143/145TC	10.4
MRB20_/050	56C	18.2
MRB20_/140	143/145TC	18.2
MRB20_/180	182/184TC	18.2
MRB25_/180	182/184TC	29.1
MRB25_/210	213/215TC	29.1
MRB30_/180	182/184TC	40.5
MRB30_/210	213/215TC	40.5
MRB30_/250	254/256TC	40.5
MRB30_/280	284/286TC	40.5
MRB35_/320	324/326TC	54.0
MRB35_/360	364/365TC	54.0



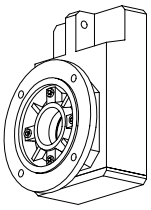
Backstop for AW20_/ 014 through AW35_/202 and MR20_/050 through MR35_/360.
These backstops cannot be assembled in: "C" Series – C603, C703, C803, or C903.

"F" Series—Offset Helical MGS Speed Reducers

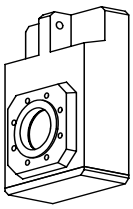
Housing Styles:



Style B*, Basic Design

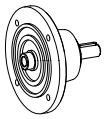


Style F, Round Flange

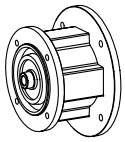


Style G, Tapped Holes

Input Options:

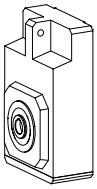


Type AW
Input Shaft

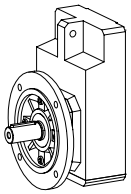


Type MR
NEMA C-Face Adapter

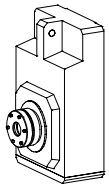
Output Options:



Type A
Hollow



Type V
Solid

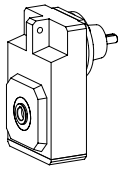


Type W
Wobble Free Bushing
See Page 71

Speed Reducer Configurations:

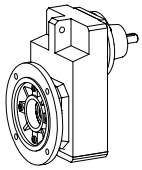
Shaft Input

Basic Design

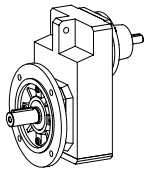


Style AB
Hollow Output
See Page 64

Round Flange

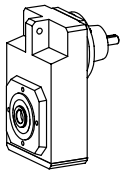


Style AF
Hollow Output
Available



Style VF
Solid Output
See Page 65

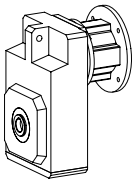
Tapped Holes



Style AG
Hollow Output
See Page 66

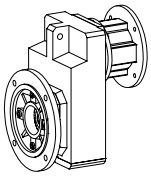
NEMA C-Face Input

Basic Design

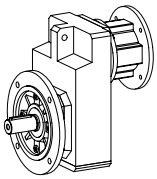


Style AB
Hollow Output
See Page 67

Round Flange

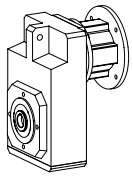


Style AF
Hollow Output
Available



Style VF
Solid Output
See Page 68

Tapped Holes



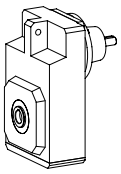
Style AG
Hollow Output
See Page 69

Accessories:

Torque Arm Brackets
See Page 70

Backstops
See Page 70

* The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.



"F" Series–Offset Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

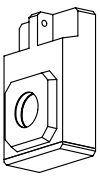
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
405 RPM	**Output (Approximate)**								**330 RPM**		**270 RPM**		**200 RPM**	
1.39	209	F102_0043	MR142/050	56C	AW142/010	4.308	98	374	1.13	209	0.92	209	0.69	209
2.64	398	F102_0043	MR163/050	56C	AW143/010	4.308	98	374	2.16	398	1.75	398	1.31	398
3.74*	564	F102_0043	MR164/140	143/145TC	AW164/012	4.308	196	374	3.27*	603	2.85	647	2.35	712
385 RPM	**Output (Approximate)**								**315 RPM**		**255 RPM**		**190 RPM**	
33.00*	5,249	F602_0045	MR206/180	182/184TC	AW206/014	4.546	333	1,129	28.70*	5,589	23.30*	5,589	17.50*	5,589
33.00*	5,249	F602_0045	MR256/210	213/215TC	AW206/014	4.546	333	1,129	28.70*	5,589	23.30*	5,589	17.50*	5,589
375 RPM	**Output (Approximate)**								**305 RPM**		**250 RPM**		**185 RPM**	
2.77	454	F202_0047	MR163/050	56C	AW143/010	4.680	98	491	2.26	454	1.84	454	1.38	454
5.22	855	F202_0047	MR164/140	143/145TC	AW164/012	4.680	196	491	4.27	855	3.46	855	2.60	855
5.40	877	F302_0046	MR164/140	143/145TC	AW164/012	4.644	196	681	4.41	877	3.58	877	2.68	877
7.05*	1,154	F202_0047	MR205/180	182/184TC	AW165/012	4.680	196	491	6.16*	1,234	5.36	1,323	4.42	1,456
11.80*	1,915	F302_0046	MR205/180	182/184TC	AW165/012	4.644	196	681	10.30*	2,048	8.40*	2,059	6.30	2,059
13.10*	2,145	F402_0047	MR205/180	182/184TC	AW165/012	4.678	196	841	10.70	2,145	8.69	2,145	6.51	2,145
19.40*	3,171	F402_0047	MR256/210	213/215TC	AW206/014	4.678	333	841	16.90*	3,392	14.70*	3,637	12.20	4,003
315 RPM	**Output (Approximate)**								**255 RPM**		**210 RPM**		**155 RPM**	
5.10	991	F202_0056	MR163/050	56C	AW164/012	5.552	196	512	4.17	991	3.38	991	2.54	991
5.10	991	F202_0056	MR164/140	143/145TC	AW164/012	5.552	196	512	4.17	991	3.38	991	2.54	991
305 RPM	**Output (Approximate)**								**250 RPM**		**200 RPM**		**150 RPM**	
10.30*	2,052	F302_0057	MR205/180	182/184TC	AW165/012	5.720	196	716	9.00*	2,195	7.83*	2,354	6.16	2,468
12.80*	2,597	F402_0058	MR205/180	182/184TC	AW165/012	5.813	196	888	10.40	2,597	8.47	2,597	6.35	2,597
28.40*	5,651	F602_0057	MR256/210	213/215TC	AW206/014	5.673	333	1,194	24.80*	6,044	21.60*	6,481	16.90*	6,791
270 RPM	**Output (Approximate)**								**220 RPM**		**180 RPM**		**135 RPM**	
1.31	297	F102_0065	MR142/050	56C	AW142/010	6.462	98	414	1.07	297	0.87	297	0.65	297
2.50	564	F102_0065	MR163/050	56C	AW143/010	6.462	98	414	2.04	564	1.65	564	1.24	564
2.86	646	F102_0065	MR164/140	143/145TC	AW164/012	6.462	196	414	2.50	690	2.17	740	1.79	815
245 RPM	**Output (Approximate)** **Continued Next Page**								**200 RPM**		**160 RPM**		**120 RPM**	
0.69	172	F102_0072	MR141/050	56C	AW141/010	7.156	98	425	0.56	172	0.45	172	0.34	172
1.29	323	F102_0072	MR142/050	56C	AW142/010	7.156	98	425	1.05	323	0.85	323	0.64	323

* For thermal HP capacity, see rating below.

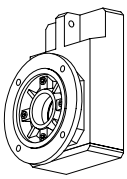
Base Module	F1	F2	F3	F4	F6
Thermal Capacity	2.95	5.36	7.38	12.34	14.75

Housing Styles

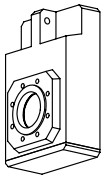
B* – Basic Design



F – Round Flange



G – Tapped Holes

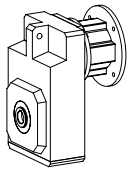


Some Housing Styles are available as Hollow (A) or Solid (V) Output.
* The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10

"F" Series–Offset Helical MGS Reducer Selection Data



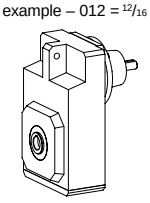
NOTE:
① Complete Base Module Part Number by adding Output and Housing Style. Example: F302**AB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 64 to 72 for dimensions of "F" Series–Offset Helical reducers.
See page 72 for backstop ratings.

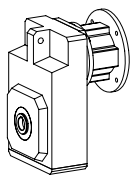
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
245 RPM		**Output (Approximate) Continued**							**200 RPM**		**160 RPM**		**120 RPM**	
1.37	344	F202_0072	MR142/050	56C	AW142/010	7.167	98	546	1.12	344	0.91	344	0.68	344
2.45	615	F102_0072	MR163/050	56C	AW143/010	7.156	98	425	2.00	615	1.63	615	1.22	615
2.61	655	F202_0072	MR163/050	56C	AW143/010	7.167	98	546	2.13	655	1.73	655	1.30	655
2.66	668	F102_0072	MR164/140	143/145TC	AW164/012	7.156	196	425	2.33	714	2.02	766	1.67	843
4.91	1,232	F202_0072	MR164/140	143/145TC	AW164/012	7.167	196	546	4.02	1,232	3.26	1,232	2.44	1,232
5.09	1,276	F302_0072	MR164/140	143/145TC	AW164/012	7.172	196	759	4.16	1,276	3.37	1,276	2.53	1,276
5.30	1,330	F202_0072	MR205/180	182/184TC	AW165/012	7.167	196	546	4.64	1,422	4.03	1,525	3.33	1,678
8.83*	2,214	F302_0072	MR205/180	182/184TC	AW165/012	7.172	196	759	7.72*	2,368	6.71	2,539	5.54	2,794
12.40*	3,107	F402_0072	MR205/180	182/184TC	AW165/012	7.202	196	936	10.10	3,107	8.21	3,107	6.16	3,107
14.60*	3,661	F402_0072	MR256/210	213/215TC	AW206/014	7.202	333	936	12.80*	3,916	11.10	4,199	9.16	4,621
24.40*	6,106	F602_0072	MR256/210	213/215TC	AW206/014	7.159	333	1,265	21.30*	6,532	18.50*	7,003	15.30*	7,708
195 RPM		**Output (Approximate)**							**160 RPM**		**130 RPM**		**95 RPM**	
0.67	208	F102_0089	MR141/050	56C	AW141/010	8.948	98	449	0.54	208	0.44	208	0.33	208
1.25	391	F102_0089	MR142/050	56C	AW142/010	8.948	98	449	1.02	391	0.83	391	0.62	391
1.33	417	F202_0090	MR142/050	56C	AW142/010	9.006	98	578	1.08	417	0.88	417	0.66	417
2.30	720	F102_0089	MR163/050	56C	AW143/010	8.948	98	449	1.94	742	1.57	742	1.18	742
2.30	720	F102_0089	MR164/140	143/145TC	AW164/012	8.948	196	449	2.01	770	1.75	825	1.44	908
2.52	794	F202_0090	MR163/050	56C	AW143/010	9.006	98	578	2.06	794	1.67	794	1.25	794
4.56	1,435	F202_0090	MR164/140	143/145TC	AW164/012	9.006	196	578	3.88	1,493	3.15	1,493	2.36	1,493
4.56	1,435	F202_0090	MR205/180	182/184TC	AW165/012	9.006	196	578	3.99	1,535	3.47	1,646	2.86	1,811
4.91	1,543	F302_0090	MR164/140	143/145TC	AW164/012	8.986	196	803	4.01	1,543	3.25	1,543	2.44	1,543
7.59*	2,386	F302_0090	MR205/180	182/184TC	AW165/012	8.986	196	803	6.63	2,552	5.77	2,737	4.76	3,012
11.90	3,742	F402_0090	MR205/180	182/184TC	AW165/012	8.980	196	990	9.72	3,742	7.88	3,742	5.91	3,742
12.30	3,869	F602_0090	MR205/180	182/184TC	AW165/012	8.995	196	1,339	10.10	3,869	8.15	3,869	6.11	3,869
12.50*	3,940	F402_0090	MR256/210	213/215TC	AW206/014	8.980	333	990	10.90	4,215	9.52	4,519	7.86	4,974
20.90*	6,589	F602_0090	MR256/210	213/215TC	AW206/014	8.995	333	1,339	18.30*	7,048	15.90*	7,557	13.10	8,318
160 RPM		**Output (Approximate)** **Continued Next Page**							**130 RPM**		**105 RPM**		**80 RPM**	
0.65	245	F102_0110	MR141/050	56C	AW141/010	10.92	98	471	0.53	245	0.43	245	0.32	245
1.22	461	F102_0110	MR142/050	56C	AW142/010	10.92	98	471	0.99	461	0.81	461	0.60	461
1.28	485	F202_0110	MR142/050	56C	AW142/010	10.80	98	606	1.04	485	0.85	485	0.64	485
2.03	769	F102_0110	MR163/050	56C	AW143/010	10.92	98	471	1.77	822	1.53	876	1.15	876
2.03	769	F102_0110	MR164/140	143/145TC	AW164/012	10.92	196	471	1.77	822	1.54	882	1.27	971

Part No. Explanation

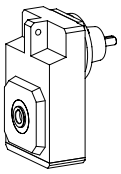
F 6 0 2 A B 0560 AW 163 / 012
- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Gear Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- AW — Input Shaft
- 163 — Flange No.
- 012 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)



F 6 0 2 A B 0560 MR 163 /140
- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- MR — Motor Adapter
- 163 — Flange No.
- 140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 155.



"F" Series–Offset Helical
MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

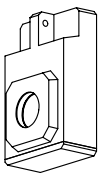
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
160 RPM		**Output (Approximate) Continued**							**130 RPM**		**105 RPM**		**80 RPM**	
2.43	921	F202_0110	MR163/050	56C	AW143/010	10.80	98	606	1.99	921	1.61	921	1.21	921
4.02	1,525	F202_0110	MR164/140	143/145TC	AW164/012	10.80	196	606	3.52	1,631	3.03	1,734	2.27	1,734
4.02	1,525	F202_0110	MR205/180	182/184TC	AW165/012	10.80	196	606	3.52	1,631	3.06	1,749	2.52	1,924
4.72	1,788	F302_0110	MR164/140	143/145TC	AW164/012	10.78	196	841	3.86	1,788	3.13	1,788	2.35	1,788
6.69	2,536	F302_0110	MR205/180	182/184TC	AW165/012	10.78	196	841	5.85	2,713	5.09	2,909	4.20	3,201
11.10	4,194	F402_0110	MR205/180	182/184TC	AW165/012	10.82	196	1,038	9.42	4,372	7.65	4,372	5.73	4,372
11.10	4,194	F402_0110	MR256/210	213/215TC	AW206/014	10.82	333	1,038	9.67	4,486	8.41	4,810	6.94	5,294
11.90	4,514	F602_0110	MR205/180	182/184TC	AW165/012	10.82	196	1,403	9.73	4,514	7.89	4,514	5.92	4,514
18.50*	7,007	F602_0110	MR256/210	213/215TC	AW206/014	10.82	333	1,403	16.20*	7,495	14.10	8,036	11.60	8,845
130 RPM		**Output (Approximate)**							**105 RPM**		**85 RPM**		**65 RPM**	
0.62	294	F102_0135	MR141/050	56C	AW141/010	13.59	98	498	0.51	294	0.41	294	0.31	294
1.16	552	F102_0135	MR142/050	56C	AW142/010	13.59	98	498	0.95	552	0.77	552	0.58	552
1.24	587	F202_0135	MR142/050	56C	AW142/010	13.63	98	641	1.01	587	0.82	587	0.62	587
1.74	827	F102_0135	MR163/050	56C	AW143/010	13.59	98	498	1.52	885	1.33	949	1.09	1,044
1.74	827	F102_0135	MR164/140	143/145TC	AW164/012	13.59	196	498	1.52	885	1.33	949	1.09	1,044
2.36	1,118	F202_0135	MR163/050	56C	AW143/010	13.63	98	641	1.93	1,118	1.56	1,118	1.17	1,118
2.39	1,134	F302_0135	MR163/140	143/145TC	AW143/010	13.38	98	890	1.95	1,134	1.58	1,134	1.19	1,134
3.47	1,647	F202_0135	MR164/140	143/145TC	AW164/012	13.63	196	641	3.04	1,762	2.64	1,889	2.18	2,079
3.47	1,647	F202_0135	MR205/180	182/184TC	AW165/012	13.63	196	641	3.04	1,762	2.64	1,889	2.18	2,079
4.50	2,135	F302_0135	MR164/140	143/145TC	AW164/012	13.38	196	890	3.68	2,135	2.98	2,135	2.24	2,135
4.74	2,246	F402_0135	MR164/140	143/145TC	AW164/012	13.57	196	1,098	3.87	2,246	3.14	2,246	2.36	2,246
5.75	2,725	F302_0135	MR205/180	182/184TC	AW165/012	13.38	196	890	5.02	2,915	4.37	3,125	3.61	3,440
9.54	4,522	F402_0135	MR205/180	182/184TC	AW165/012	13.57	196	1,098	8.34	4,837	7.25	5,186	5.53	5,273
9.54	4,522	F402_0135	MR256/210	213/215TC	AW206/014	13.57	333	1,098	8.34	4,837	7.25	5,186	5.98	5,708
11.50	5,449	F602_0135	MR205/180	182/184TC	AW165/012	13.61	196	1,483	9.39	5,449	7.62	5,449	5.71	5,449
16.00*	7,564	F602_0135	MR256/210	213/215TC	AW206/014	13.61	333	1,483	13.90	8,091	12.10	8,676	10.00	9,549
95 RPM		**Output (Approximate)** **Continued Next Page**							**75 RPM**		**60 RPM**		**45 RPM**	
0.68	444	F102_0185	MR141/050	56C	AW141/010	18.46	98	539	0.56	444	0.45	444	0.34	444
1.28	834	F102_0185	MR142/050	56C	AW142/010	18.46	98	539	1.05	834	0.85	834	0.64	834
1.38	895	F202_0185	MR142/050	56C	AW142/010	18.65	98	693	1.13	895	0.91	895	0.69	895
1.41	916	F102_0185	MR163/050	56C	AW143/010	18.46	98	539	1.23	980	1.07	1,051	0.81	1,063
1.41	916	F102_0185	MR164/140	143/145TC	AW164/012	18.46	196	539	1.23	980	1.07	1,051	0.81	1,063

* For thermal HP capacity, see rating below.

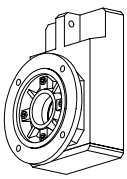
Base Module	F1	F2	F3	F4	F6
Thermal Capacity	2.95	5.36	7.38	12.34	14.75

Housing Styles

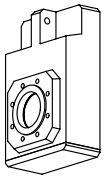
B* – Basic Design



F – Round Flange



G – Tapped Holes

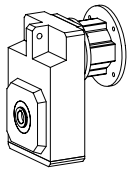


Some Housing Styles are available as Hollow (A) or Solid (V) Output.
* The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size
TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10

"F" Series–Offset Helical MGS Reducer Selection Data



NOTE:
① Complete Base Module Part Number by adding Output and Housing Style. Example: F302**AB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

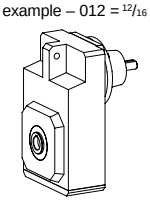
See pages 64 to 72 for dimensions of "F" Series–Offset Helical reducers.
See page 72 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
95 RPM		**Output (Approximate) Continued**							**75 RPM**		**60 RPM**		**45 RPM**	
2.62	1,703	F202_0185	MR163/050	56C	AW143/010	18.65	98	693	2.14	1,703	1.74	1,703	1.30	1,703
2.82	1,829	F202_0185	MR164/140	143/145TC	AW164/012	18.65	196	693	2.46	1,956	2.14	2,097	1.63	2,126
2.82	1,829	F202_0185	MR205/180	182/184TC	AW165/012	18.65	196	693	2.46	1,956	2.14	2,097	1.63	2,126
4.65	3,051	F302_0190	MR164/140	143/145TC	AW164/012	18.77	196	965	4.06	3,263	3.37	3,339	2.53	3,339
4.65	3,051	F302_0190	MR205/180	182/184TC	AW165/012	18.77	196	965	4.06	3,263	3.53	3,499	2.68	3,543
7.74	5,025	F402_0185	MR205/180	182/184TC	AW165/012	18.62	196	1,187	6.77	5,375	5.88	5,763	4.75	6,201
7.74	5,025	F402_0185	MR256/210	213/215TC	AW206/014	18.62	333	1,187	6.77	5,375	5.88	5,763	4.75	6,201
12.90	8,383	F602_0185	MR256/210	213/215TC	AW206/014	18.52	333	1,605	11.30	8,966	9.82	9,614	7.46	9,744
75 RPM		**Output (Approximate)**							**60 RPM**		**50 RPM**		**35 RPM**	
0.66	536	F102_0230	MR141/050	56C	AW141/010	23.08	98	570	0.54	536	0.44	536	0.33	536
1.21	987	F102_0230	MR142/050	56C	AW142/010	23.08	98	570	1.01	1,006	0.82	1,006	0.62	1,006
1.21	987	F102_0230	MR163/050	56C	AW143/010	23.08	98	570	1.06	1,055	0.87	1,063	0.65	1,063
1.21	987	F102_0230	MR164/140	143/145TC	AW164/012	23.08	196	570	1.06	1,055	0.87	1,063	0.65	1,063
1.33	1,085	F202_0230	MR142/050	56C	AW142/010	23.43	98	733	1.09	1,085	0.88	1,085	0.66	1,085
2.43	1,974	F202_0230	MR163/050	56C	AW143/010	23.43	98	733	2.07	2,065	1.68	2,065	1.26	2,065
2.43	1,974	F202_0230	MR164/140	143/145TC	AW164/012	23.43	196	733	2.12	2,111	1.73	2,126	1.30	2,126
2.43	1,974	F202_0230	MR205/180	182/184TC	AW165/012	23.43	196	733	2.12	2,111	1.73	2,126	1.30	2,126
4.00	3,288	F302_0240	MR164/140	143/145TC	AW164/012	23.52	196	1,021	3.49	3,517	2.86	3,543	2.14	3,543
4.00	3,288	F302_0240	MR205/180	182/184TC	AW165/012	23.52	196	1,021	3.49	3,517	2.86	3,543	2.14	3,543
6.65	5,408	F402_0230	MR205/180	182/184TC	AW165/012	23.21	196	1,256	5.81	5,785	5.05	6,201	3.79	6,201
6.65	5,408	F402_0230	MR256/210	213/215TC	AW206/014	23.21	333	1,256	5.81	5,785	5.05	6,201	3.79	6,201
11.10	9,045	F602_0230	MR205/180	182/184TC	AW165/012	23.27	196	1,698	9.72	9,675	7.94	9,744	5.96	9,744
11.10	9,045	F602_0230	MR256/210	213/215TC	AW206/014	23.27	333	1,698	9.72	9,675	7.94	9,744	5.96	9,744
60 RPM		**Output (Approximate) Continued Next Page**							**50 RPM**		**40 RPM**		**30 RPM**	
0.64	632	F102_0280	MR141/050	56C	AW141/010	28.17	98	598	0.53	632	0.43	632	0.32	632
1.07	1,054	F102_0280	MR142/050	56C	AW142/010	28.17	98	598	0.88	1,063	0.72	1,063	0.54	1,063
1.07	1,054	F102_0280	MR163/050	56C	AW143/010	28.17	98	598	0.88	1,063	0.72	1,063	0.54	1,063
1.07	1,054	F102_0280	MR164/140	143/145TC	AW164/012	28.17	196	598	0.88	1,063	0.72	1,063	0.54	1,063
1.28	1,260	F202_0280	MR142/050	56C	AW142/010	28.11	98	769	1.05	1,260	0.85	1,260	0.64	1,260
2.13	2,097	F202_0280	MR163/050	56C	AW143/010	28.11	98	769	1.77	2,126	1.43	2,126	1.08	2,126
2.13	2,097	F202_0280	MR164/140	143/145TC	AW164/012	28.11	196	769	1.77	2,126	1.43	2,126	1.08	2,126
2.13	2,097	F202_0280	MR205/180	182/184TC	AW165/012	28.11	196	769	1.77	2,126	1.43	2,126	1.08	2,126

Part No. Explanation

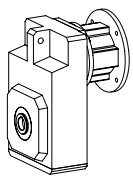
F 6 0 2 A B 0560 AW 163 / 012

- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Gear Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- AW — Input Shaft
- 163 — Flange No.
- / 012 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)

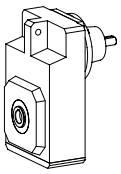


F 6 0 2 A B 0560 MR 163 /140

- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- MR — Motor Adapter
- 163 — Flange No.
- /140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 155.



"F" Series–Offset Helical
MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

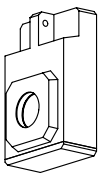
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
60 RPM		**Output (Approximate)** Continued							**50 RPM**		**40 RPM**		**30 RPM**	
3.55	3,495	F302_0280	MR164/140	143/145TC	AW164/012	28.23	196	1,068	2.95	3,543	2.39	3,543	1.79	3,543
3.55	3,495	F302_0280	MR205/180	182/184TC	AW165/012	28.23	196	1,068	2.95	3,543	2.39	3,543	1.79	3,543
5.86	5,756	F402_0280	MR205/180	182/184TC	AW165/012	27.99	196	1,317	5.12	6,157	4.18	6,201	3.14	6,201
5.86	5,756	F402_0280	MR256/210	213/215TC	AW206/014	27.99	333	1,317	5.12	6,157	4.18	6,201	3.14	6,201
9.78	9,619	F602_0280	MR205/180	182/184TC	AW165/012	27.99	196	1,780	8.10	9,744	6.57	9,744	4.93	9,744
9.78	9,619	F602_0280	MR256/210	213/215TC	AW206/014	27.99	333	1,780	8.10	9,744	6.57	9,744	4.93	9,744
50 RPM		**Output (Approximate)**							**40 RPM**		**30 RPM**		**25 RPM**	
0.62	757	F102_0350	MR141/050	56C	AW141/010	35.05	98	632	0.50	757	0.41	757	0.31	757
0.86	1,063	F102_0350	MR142/050	56C	AW142/010	35.05	98	632	0.71	1,063	0.57	1,063	0.43	1,063
0.86	1,063	F102_0350	MR163/050	56C	AW143/010	35.05	98	632	0.71	1,063	0.57	1,063	0.43	1,063
0.86	1,063	F102_0350	MR164/140	143/145TC	AW164/012	35.05	196	632	0.71	1,063	0.57	1,063	0.43	1,063
1.24	1,529	F202_0350	MR142/050	56C	AW142/010	35.46	98	813	1.02	1,529	0.82	1,529	0.62	1,529
1.73	2,126	F202_0350	MR163/050	56C	AW143/010	35.46	98	813	1.41	2,126	1.15	2,126	0.86	2,126
1.73	2,126	F202_0350	MR164/140	143/145TC	AW164/012	35.46	196	813	1.41	2,126	1.15	2,126	0.86	2,126
1.73	2,126	F202_0350	MR205/180	182/184TC	AW165/012	35.46	196	813	1.41	2,126	1.15	2,126	0.86	2,126
2.41	2,967	F302_0350	MR163/050	56C	AW143/010	35.03	98	1,129	1.97	2,967	1.60	2,967	1.20	2,967
2.88	3,543	F302_0350	MR164/140	143/145TC	AW164/012	35.03	196	1,129	2.35	3,543	1.91	3,543	1.43	3,543
2.88	3,543	F302_0350	MR205/180	182/184TC	AW165/012	35.03	196	1,129	2.35	3,543	1.91	3,543	1.43	3,543
4.72	5,806	F402_0350	MR164/140	143/145TC	AW164/012	35.08	196	1,393	3.86	5,806	3.13	5,806	2.35	5,806
5.04	6,201	F402_0350	MR205/180	182/184TC	AW165/012	35.08	196	1,393	4.12	6,201	3.34	6,201	2.51	6,201
5.04	6,201	F402_0350	MR256/210	213/215TC	AW206/014	35.08	333	1,393	4.12	6,201	3.34	6,201	2.51	6,201
7.92	9,744	F602_0350	MR205/180	182/184TC	AW165/012	35.21	196	1,883	6.47	9,744	5.25	9,744	3.94	9,744
7.92	9,744	F602_0350	MR256/210	213/215TC	AW206/014	35.21	333	1,883	6.47	9,744	5.25	9,744	3.94	9,744
35 RPM		**Output (Approximate)** Continued Next Page							**30 RPM**		**25 RPM**		**18.5 RPM**	
0.59	956	F102_0460	MR141/050	56C	AW141/010	46.43	98	678	0.48	956	0.39	956	0.29	956
0.65	1,063	F102_0460	MR142/050	56C	AW142/010	46.43	98	678	0.53	1,063	0.43	1,063	0.33	1,063
0.65	1,063	F102_0460	MR163/050	56C	AW143/010	46.43	98	678	0.53	1,063	0.43	1,063	0.33	1,063
1.17	1,927	F202_0470	MR142/050	56C	AW142/010	47.04	98	874	0.96	1,927	0.78	1,927	0.58	1,927
1.21	1,989	F302_0470	MR142/050	56C	AW142/010	47.19	98	1,214	0.99	1,989	0.80	1,989	0.60	1,989
1.29	2,126	F202_0470	MR163/050	56C	AW143/010	47.04	98	874	1.06	2,126	0.86	2,126	0.64	2,126
1.29	2,126	F202_0470	MR164/140	143/145TC	AW164/012	47.04	196	874	1.06	2,126	0.86	2,126	0.64	2,126

* For thermal HP capacity, see rating below.

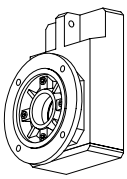
Base Module	F1	F2	F3	F4	F6
Thermal Capacity	2.95	5.36	7.38	12.34	14.75

Housing Styles

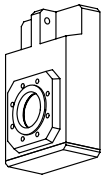
B* – Basic Design



F – Round Flange



G – Tapped Holes

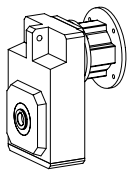


Some Housing Styles are available as Hollow (A) or Solid (V) Output.
* The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size
TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10

"F" Series–Offset Helical MGS Reducer Selection Data



NOTE:
① Complete Base Module Part Number by adding Output and Housing Style. Example: F302**AB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

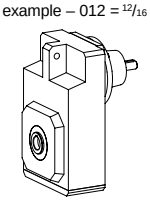
See pages 64 to 72 for dimensions of "F" Series–Offset Helical reducers.
See page 72 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
35 RPM		**Output (Approximate) Continued**							**30 RPM**		**25 RPM**		**18.5 RPM**	
1.29	2,126	F202_0470	MR205/180	182/184TC	AW165/012	47.04	196	874	1.06	2,126	0.86	2,126	0.64	2,126
2.15	3,543	F302_0470	MR163/050	56C	AW143/010	47.19	98	1,214	1.76	3,543	1.43	3,543	1.07	3,543
2.15	3,543	F302_0470	MR164/140	143/145TC	AW164/012	47.19	196	1,214	1.76	3,543	1.43	3,543	1.07	3,543
2.15	3,543	F302_0470	MR205/180	182/184TC	AW165/012	47.19	196	1,214	1.76	3,543	1.43	3,543	1.07	3,543
3.77	6,201	F402_0470	MR164/140	143/145TC	AW164/012	46.94	196	1,498	3.08	6,201	2.50	6,201	1.87	6,201
3.77	6,201	F402_0470	MR205/180	182/184TC	AW165/012	46.94	196	1,498	3.08	6,201	2.50	6,201	1.87	6,201
3.77	6,201	F402_0470	MR256/210	213/215TC	AW206/014	46.94	333	1,498	3.08	6,201	2.50	6,201	1.87	6,201
5.93	9,744	F602_0470	MR205/180	182/184TC	AW165/012	46.72	196	2,024	4.84	9,744	3.93	9,744	2.95	9,744
5.93	9,744	F602_0470	MR256/210	213/215TC	AW206/014	46.72	333	2,024	4.84	9,744	3.93	9,744	2.95	9,744
30 RPM		**Output (Approximate)**							**25 RPM**		**20 RPM**		**15.5 RPM**	
0.54	1,063	F102_0560	MR141/050	56C	AW141/010	55.97	98	710	0.44	1,063	0.36	1,063	0.27	1,063
0.54	1,063	F102_0560	MR142/050	56C	AW142/010	55.97	98	710	0.44	1,063	0.36	1,063	0.27	1,063
0.54	1,063	F102_0560	MR163/050	56C	AW143/010	55.97	98	710	0.44	1,063	0.36	1,063	0.27	1,063
1.07	2,126	F202_0570	MR142/050	56C	AW142/010	56.73	98	916	0.88	2,126	0.71	2,126	0.53	2,126
1.07	2,126	F202_0570	MR163/050	56C	AW143/010	56.73	98	916	0.88	2,126	0.71	2,126	0.53	2,126
1.07	2,126	F202_0570	MR164/140	143/145TC	AW164/012	56.73	196	916	0.88	2,126	0.71	2,126	0.53	2,126
1.17	2,300	F302_0560	MR142/050	56C	AW142/010	56.49	98	1,269	0.96	2,300	0.78	2,300	0.58	2,300
1.81	3,543	F302_0560	MR163/050	56C	AW143/010	56.49	98	1,269	1.48	3,543	1.20	3,543	0.90	3,543
1.81	3,543	F302_0560	MR164/140	143/145TC	AW164/012	56.49	196	1,269	1.48	3,543	1.20	3,543	0.90	3,543
1.81	3,543	F302_0560	MR205/180	182/184TC	AW165/012	56.49	196	1,269	1.48	3,543	1.20	3,543	0.90	3,543
2.29	4,487	F402_0560	MR163/050	56C	AW163/012	55.97	196	1,565	1.87	4,487	1.52	4,487	1.14	4,487
2.37	4,642	F602_0560	MR163/050	56C	AW163/012	55.71	196	2,116	1.93	4,642	1.57	4,642	1.18	4,642
3.16	6,201	F402_0560	MR164/140	143/145TC	AW164/012	55.97	196	1,565	2.58	6,201	2.10	6,201	1.57	6,201
3.16	6,201	F402_0560	MR205/180	182/184TC	AW165/012	55.97	196	1,565	2.58	6,201	2.10	6,201	1.57	6,201
4.46	8,739	F602_0560	MR164/140	143/145TC	AW164/012	55.71	196	2,116	3.64	8,739	2.95	8,739	2.22	8,739
4.97	9,744	F602_0560	MR205/180	182/184TC	AW165/012	55.71	196	2,116	4.06	9,744	3.29	9,744	2.47	9,744
25 RPM		**Output (Approximate) Continued Next Page**							**20 RPM**		**16.5 RPM**		**12.5 RPM**	
0.43	1,063	F102_0700	MR141/050	56C	AW141/010	70.06	98	751	0.35	1,063	0.29	1,063	0.22	1,063
0.43	1,063	F102_0700	MR142/050	56C	AW142/010	70.06	98	751	0.35	1,063	0.29	1,063	0.22	1,063
0.43	1,063	F102_0700	MR163/050	56C	AW143/010	70.06	98	751	0.35	1,063	0.29	1,063	0.22	1,063
0.87	2,126	F202_0700	MR142/050	56C	AW142/010	70.13	98	966	0.71	2,126	0.57	2,126	0.43	2,126
0.87	2,126	F202_0700	MR163/050	56C	AW143/010	70.13	98	966	0.71	2,126	0.57	2,126	0.43	2,126

Part No. Explanation

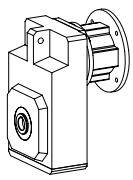
F 6 0 2 A B 0560 AW 163 / 012

- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Gear Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- AW — Input Shaft
- 163 — Flange No.
- 012 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)

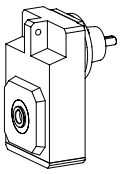


F 6 0 2 A B 0560 MR 163 /140

- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- MR — Motor Adapter
- 163 — Flange No.
- 140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 155.



"F" Series–Offset Helical
MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

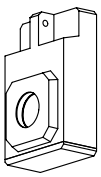
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
25 RPM		**Output (Approximate) Continued**							**20 RPM**		**16.5 RPM**		**12.5 RPM**	
0.87	2,126	F202_0700	MR164/140	143/145TC	AW164/012	70.13	196	966	0.71	2,126	0.57	2,126	0.43	2,126
1.12	2,750	F302_0700	MR142/050	56C	AW142/010	70.36	98	1,342	0.92	2,750	0.74	2,750	0.56	2,750
1.45	3,543	F302_0700	MR163/050	56C	AW143/010	70.36	98	1,342	1.18	3,543	0.96	3,543	0.72	3,543
1.45	3,543	F302_0700	MR164/140	143/145TC	AW164/012	70.36	196	1,342	1.18	3,543	0.96	3,543	0.72	3,543
2.19	5,361	F402_0700	MR163/050	56C	AW163/012	70.06	196	1,655	1.79	5,361	1.45	5,361	1.09	5,361
2.53	6,201	F402_0700	MR164/140	143/145TC	AW164/012	70.06	196	1,655	2.07	6,201	1.68	6,201	1.26	6,201
2.53	6,201	F402_0700	MR205/180	182/184TC	AW165/012	70.06	196	1,655	2.07	6,201	1.68	6,201	1.26	6,201
3.98	9,744	F602_0700	MR164/140	143/145TC	AW164/012	69.64	196	2,237	3.25	9,744	2.64	9,744	1.98	9,744
3.98	9,744	F602_0700	MR205/180	182/184TC	AW165/012	69.64	196	2,237	3.25	9,744	2.64	9,744	1.98	9,744
18.5 RPM		**Output (Approximate)**							**15.5 RPM**		**12.5 RPM**		**9 RPM**	
0.32	1,063	F102_0940	MR141/050	56C	AW141/010	93.63	98	808	0.27	1,063	0.21	1,063	0.16	1,063
0.32	1,063	F102_0940	MR142/050	56C	AW142/010	93.63	98	808	0.27	1,063	0.21	1,063	0.16	1,063
0.54	1,767	F202_0940	MR141/050	56C	AW141/010	93.82	98	1,039	0.44	1,767	0.36	1,767	0.27	1,767
0.65	2,126	F202_0940	MR142/050	56C	AW142/010	93.82	98	1,039	0.53	2,126	0.43	2,126	0.32	2,126
0.65	2,126	F202_0940	MR163/050	56C	AW143/010	93.82	98	1,039	0.53	2,126	0.43	2,126	0.32	2,126
1.06	3,461	F302_0940	MR142/050	56C	AW142/010	93.64	98	1,443	0.86	3,461	0.70	3,461	0.52	3,461
1.08	3,543	F302_0940	MR163/050	56C	AW143/010	93.64	98	1,443	0.88	3,543	0.72	3,543	0.54	3,543
1.08	3,543	F302_0940	MR164/140	143/145TC	AW164/012	93.64	196	1,443	0.88	3,543	0.72	3,543	0.54	3,543
1.90	6,201	F402_0930	MR163/050	56C	AW163/012	93.33	196	1,778	1.55	6,201	1.26	6,201	0.94	6,201
1.90	6,201	F402_0930	MR164/140	143/145TC	AW164/012	93.33	196	1,778	1.55	6,201	1.26	6,201	0.94	6,201
2.99	9,744	F602_0930	MR164/140	143/145TC	AW164/012	93.33	196	2,403	2.44	9,744	1.98	9,744	1.48	9,744
2.99	9,744	F602_0930	MR205/180	182/184TC	AW165/012	93.33	196	2,403	2.44	9,744	1.98	9,744	1.48	9,744
15.5 RPM		**Output (Approximate)**							**12.5 RPM**		**10.5 RPM**		**8 RPM**	
0.27	1,063	F102_1120	MR141/050	56C	AW141/010	111.9	98	845	0.22	1,063	0.18	1,063	0.13	1,063
0.52	2,036	F202_1130	MR141/050	56C	AW141/010	112.7	98	1,088	0.42	2,036	0.34	2,036	0.26	2,036
0.54	2,126	F202_1130	MR142/050	56C	AW142/010	112.7	98	1,088	0.44	2,126	0.36	2,126	0.27	2,126
0.90	3,543	F302_1130	MR142/050	56C	AW142/010	112.8	98	1,511	0.73	3,543	0.60	3,543	0.45	3,543
0.90	3,543	F302_1130	MR163/050	56C	AW143/010	112.8	98	1,511	0.73	3,543	0.60	3,543	0.45	3,543
1.58	6,201	F402_1120	MR163/050	56C	AW163/012	112.3	196	1,862	1.29	6,201	1.05	6,201	0.79	6,201
1.58	6,201	F402_1120	MR164/140	143/145TC	AW164/012	112.3	196	1,862	1.29	6,201	1.05	6,201	0.79	6,201
2.04	8,018	F602_1120	MR163/050	56C	AW163/012	112.2	196	2,516	1.67	8,018	1.35	8,018	1.02	8,018
2.48	9,744	F602_1120	MR164/140	143/145TC	AW164/012	112.2	196	2,516	2.03	9,744	1.65	9,744	1.23	9,744

* For thermal HP capacity, see rating below.

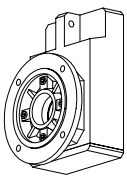
Base Module	F1	F2	F3	F4	F6
Thermal Capacity	2.95	5.36	7.38	12.34	14.75

Housing Styles

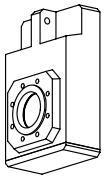
B* – Basic Design



F – Round Flange



G – Tapped Holes

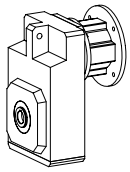


Some Housing Styles are available as Hollow (A) or Solid (V) Output.
* The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size
TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10

"F" Series–Offset Helical MGS Reducer Selection Data



NOTE:
① Complete Base Module Part Number by adding Output and Housing Style. Example: F302**AB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

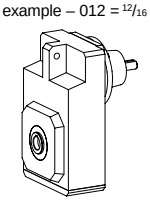
See pages 64 to 72 for dimensions of "F" Series–Offset Helical reducers.
See page 72 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
12.5 RPM		**Output (Approximate)**							**10 RPM**		**8 RPM**		**6 RPM**	
0.22	1,063	F102_1400	MR141/050	56C	AW141/010	139.8	98	893	0.18	1,063	0.14	1,063	0.11	1,063
0.43	2,126	F202_1410	MR141/050	56C	AW141/010	140.9	98	1,150	0.35	2,126	0.29	2,126	0.21	2,126
0.43	2,126	F202_1410	MR142/050	56C	AW142/010	140.9	98	1,150	0.35	2,126	0.29	2,126	0.21	2,126
0.72	3,543	F302_1410	MR142/050	56C	AW142/010	140.6	98	1,598	0.59	3,543	0.48	3,543	0.36	3,543
1.27	6,201	F402_1400	MR163/050	56C	AW163/012	139.8	196	1,967	1.04	6,201	0.84	6,201	0.63	6,201
1.27	6,201	F402_1400	MR163/140	143/145TC	AW163/012	139.8	196	1,967	1.04	6,201	0.84	6,201	0.63	6,201
1.96	9,596	F602_1400	MR163/140	143/145TC	AW163/012	139.8	196	2,658	1.60	9,596	1.30	9,596	0.98	9,596
1.99	9,744	F602_1400	MR164/140	143/145TC	AW164/012	139.8	196	2,658	1.63	9,744	1.32	9,744	0.99	9,744
9.5 RPM		**Output (Approximate)**							**8 RPM**		**6 RPM**		**5 RPM**	
0.34	2,126	F203_1840	MR141/050	56C	AW141/010	184.3	98	1,215	0.27	2,126	0.22	2,126	0.17	2,126
0.34	2,126	F203_1840	MR142/050	56C	AW142/010	184.3	98	1,215	0.27	2,126	0.22	2,126	0.17	2,126
0.56	3,543	F303_1850	MR141/050	56C	AW141/010	184.8	98	1,687	0.45	3,543	0.37	3,543	0.28	3,543
0.56	3,543	F303_1850	MR142/050	56C	AW142/010	184.8	98	1,687	0.45	3,543	0.37	3,543	0.28	3,543
0.57	3,543	F303_1820	MR163/050	56C	AW163/012	182.4	196	1,687	0.46	3,543	0.37	3,543	0.28	3,543
0.57	3,543	F303_1820	MR164/140	143/145TC	AW164/012	182.4	196	1,687	0.46	3,543	0.37	3,543	0.28	3,543
0.57	3,608	F403_1840	MR141/050	56C	AW141/010	183.9	98	2,081	0.46	3,608	0.38	3,608	0.28	3,608
0.98	6,201	F403_1840	MR142/050	56C	AW142/010	183.9	98	2,081	0.80	6,201	0.65	6,201	0.49	6,201
0.99	6,201	F403_1820	MR163/050	56C	AW163/012	181.5	196	2,081	0.81	6,201	0.66	6,201	0.49	6,201
0.99	6,201	F403_1820	MR164/140	143/145TC	AW164/012	181.5	196	2,081	0.81	6,201	0.66	6,201	0.49	6,201
1.57	9,744	F603_1810	MR163/050	56C	AW163/012	180.6	196	2,812	1.28	9,744	1.04	9,744	0.78	9,744
1.57	9,744	F603_1810	MR164/140	143/145TC	AW164/012	180.6	196	2,812	1.28	9,744	1.04	9,744	0.78	9,744
8 RPM		**Output (Approximate)** **Continued Next Page**							**6.5 RPM**		**5 RPM**		**4 RPM**	
0.28	2,126	F203_2220	MR141/050	56C	AW141/010	222.2	98	1,215	0.23	2,126	0.18	2,126	0.14	2,126
0.28	2,126	F203_2220	MR142/050	56C	AW142/010	222.2	98	1,215	0.23	2,126	0.18	2,126	0.14	2,126
0.46	3,543	F303_2210	MR141/050	56C	AW141/010	221.2	98	1,687	0.38	3,543	0.31	3,543	0.23	3,543
0.46	3,543	F303_2210	MR142/050	56C	AW142/010	221.2	98	1,687	0.38	3,543	0.31	3,543	0.23	3,543
0.47	3,543	F303_2180	MR163/050	56C	AW163/012	218.4	196	1,687	0.38	3,543	0.31	3,543	0.23	3,543
0.47	3,543	F303_2180	MR164/140	143/145TC	AW164/012	218.4	196	1,687	0.38	3,543	0.31	3,543	0.23	3,543
0.57	4,301	F403_2190	MR141/050	56C	AW141/010	219.2	98	2,081	0.47	4,301	0.38	4,301	0.28	4,301
0.82	6,201	F403_2190	MR142/050	56C	AW142/010	219.2	98	2,081	0.67	6,201	0.54	6,201	0.41	6,201
0.83	6,201	F403_2160	MR163/050	56C	AW163/012	216.4	196	2,081	0.68	6,201	0.55	6,201	0.41	6,201
0.83	6,201	F403_2160	MR164/140	143/145TC	AW164/012	216.4	196	2,081	0.68	6,201	0.55	6,201	0.41	6,201

Part No. Explanation

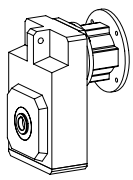
F 6 0 2 A B 0560 AW 163 / 012

- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Gear Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- AW — Input Shaft
- 163 — Flange No.
- / 012 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)

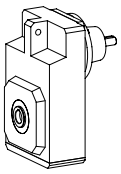


F 6 0 2 A B 0560 MR 163 /140

- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- MR — Motor Adapter
- 163 — Flange No.
- /140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 155.



"F" Series–Offset Helical MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

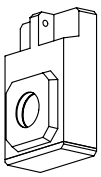
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
8 RPM		**Output (Approximate) Continued**							**6.5 RPM**		**5 RPM**		**4 RPM**	
1.31	9,744	F603_2150	MR163/050	56C	AW163/012	215.4	196	2,812	1.07	9,744	0.87	9,744	0.65	9,744
1.31	9,744	F603_2150	MR164/140	143/145TC	AW164/012	215.4	196	2,812	1.07	9,744	0.87	9,744	0.65	9,744
6.5 RPM		**Output (Approximate)**							**5 RPM**		**4 RPM**		**3 RPM**	
0.22	2,126	F203_2750	MR141/050	56C	AW141/010	274.7	98	1,215	0.18	2,126	0.15	2,126	0.11	2,126
0.22	2,126	F203_2750	MR142/050	56C	AW142/010	274.7	98	1,215	0.18	2,126	0.15	2,126	0.11	2,126
0.37	3,543	F303_2760	MR141/050	56C	AW141/010	275.6	98	1,687	0.30	3,543	0.25	3,543	0.19	3,543
0.37	3,543	F303_2760	MR142/050	56C	AW142/010	275.6	98	1,687	0.30	3,543	0.25	3,543	0.19	3,543
0.38	3,543	F303_2720	MR163/050	56C	AW163/012	272.1	196	1,687	0.31	3,543	0.25	3,543	0.19	3,543
0.38	3,543	F303_2720	MR164/140	143/145TC	AW164/012	272.1	196	1,687	0.31	3,543	0.25	3,543	0.19	3,543
0.57	5,384	F403_2740	MR141/050	56C	AW141/010	274.4	98	2,081	0.47	5,384	0.38	5,384	0.28	5,384
0.66	6,201	F403_2740	MR142/050	56C	AW142/010	274.4	98	2,081	0.54	6,201	0.43	6,201	0.33	6,201
0.66	6,201	F403_2710	MR163/050	56C	AW163/012	270.9	196	2,081	0.54	6,201	0.44	6,201	0.33	6,201
0.66	6,201	F403_2710	MR164/140	143/145TC	AW164/012	270.9	196	2,081	0.54	6,201	0.44	6,201	0.33	6,201
1.05	9,744	F603_2690	MR163/050	56C	AW163/012	269.3	196	2,812	0.86	9,744	0.70	9,744	0.52	9,744
1.05	9,744	F603_2690	MR164/140	143/145TC	AW164/012	269.3	196	2,812	0.86	9,744	0.70	9,744	0.52	9,744
5 RPM		**Output (Approximate)**							**4 RPM**		**3 RPM**		**2.5 RPM**	
0.17	2,126	F203_3670	MR141/050	56C	AW141/010	367.5	98	1,215	0.14	2,126	0.11	2,126	0.08	2,126
0.17	2,126	F203_3670	MR142/050	56C	AW142/010	367.5	98	1,215	0.14	2,126	0.11	2,126	0.08	2,126
0.28	3,543	F303_3670	MR141/050	56C	AW141/010	366.8	98	1,687	0.23	3,543	0.19	3,543	0.14	3,543
0.28	3,543	F303_3670	MR142/050	56C	AW142/010	366.8	98	1,687	0.23	3,543	0.19	3,543	0.14	3,543
0.28	3,543	F303_3620	MR163/050	56C	AW163/012	362.1	196	1,687	0.23	3,543	0.19	3,543	0.14	3,543
0.28	3,543	F303_3620	MR164/140	143/145TC	AW164/012	362.1	196	1,687	0.23	3,543	0.19	3,543	0.14	3,543
0.49	6,201	F403_3660	MR141/050	56C	AW141/010	365.6	98	2,081	0.40	6,201	0.33	6,201	0.24	6,201
0.49	6,201	F403_3660	MR142/050	56C	AW142/010	365.6	98	2,081	0.40	6,201	0.33	6,201	0.24	6,201
0.50	6,201	F403_3610	MR163/050	56C	AW163/012	360.9	196	2,081	0.41	6,201	0.33	6,201	0.25	6,201
0.50	6,201	F403_3610	MR164/140	143/145TC	AW164/012	360.9	196	2,081	0.41	6,201	0.33	6,201	0.25	6,201
0.78	9,744	F603_3610	MR163/050	56C	AW163/012	360.9	196	2,812	0.64	9,744	0.52	9,744	0.39	9,744
0.78	9,744	F603_3610	MR164/140	143/145TC	AW164/012	360.9	196	2,812	0.64	9,744	0.52	9,744	0.39	9,744

* For thermal HP capacity, see rating below.

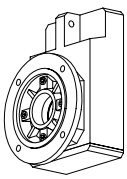
Base Module	F1	F2	F3	F4	F6
Thermal Capacity	2.95	5.36	7.38	12.34	14.75

Housing Styles

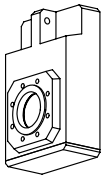
B* – Basic Design



F – Round Flange



G – Tapped Holes

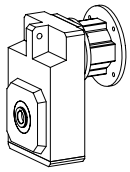


Some Housing Styles are available as Hollow (A) or Solid (V) Output.
* The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10

"F" Series–Offset Helical MGS Reducer Selection Data



NOTE:
① Complete Base Module Part Number by adding Output and Housing Style. Example: F302**AB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 64 to 72 for dimensions of "F" Series–Offset Helical reducers.
See page 72 for backstop ratings.

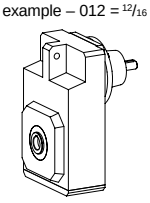
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
4 RPM		**Output (Approximate)**							**3 RPM**		**2.5 RPM**		**2 RPM**	
0.14	2,126	F203_4420	MR141/050	56C	AW141/010	441.5	98	1,215	0.11	2,126	0.09	2,126	0.07	2,126
0.14	2,126	F203_4420	MR142/050	56C	AW142/010	441.5	98	1,215	0.11	2,126	0.09	2,126	0.07	2,126
0.23	3,543	F303_4420	MR141/050	56C	AW141/010	442.0	98	1,687	0.19	3,543	0.15	3,543	0.12	3,543
0.23	3,543	F303_4420	MR142/050	56C	AW142/010	442.0	98	1,687	0.19	3,543	0.15	3,543	0.12	3,543
0.41	6,201	F403_4400	MR141/050	56C	AW141/010	439.7	98	2,081	0.33	6,201	0.27	6,201	0.20	6,201
0.41	6,201	F403_4400	MR142/050	56C	AW142/010	439.7	98	2,081	0.33	6,201	0.27	6,201	0.20	6,201
0.41	6,201	F403_4340	MR163/050	56C	AW163/012	434.1	196	2,081	0.34	6,201	0.27	6,201	0.21	6,201
0.41	6,201	F403_4340	MR164/140	143/145TC	AW164/012	434.1	196	2,081	0.34	6,201	0.27	6,201	0.21	6,201
0.65	9,744	F603_4340	MR163/050	56C	AW163/012	433.8	196	2,812	0.53	9,744	0.43	9,744	0.32	9,744
0.65	9,744	F603_4340	MR164/140	143/145TC	AW164/012	433.8	196	2,812	0.53	9,744	0.43	9,744	0.32	9,744
3 RPM		**Output (Approximate)**							**2.5 RPM**		**2 RPM**		**1.5 RPM**	
0.11	2,126	F203_5520	MR141/050	56C	AW141/010	551.9	98	1,215	0.09	2,126	0.07	2,126	0.06	2,126
0.11	2,126	F203_5520	MR142/050	56C	AW142/010	551.9	98	1,215	0.09	2,126	0.07	2,126	0.06	2,126
0.19	3,543	F303_5510	MR141/050	56C	AW141/010	550.9	98	1,687	0.15	3,543	0.12	3,543	0.09	3,543
0.19	3,543	F303_5510	MR142/050	56C	AW142/010	550.9	98	1,687	0.15	3,543	0.12	3,543	0.09	3,543
0.33	6,201	F403_5470	MR141/050	56C	AW141/010	547.4	98	2,081	0.27	6,201	0.22	6,201	0.16	6,201
0.33	6,201	F403_5470	MR142/050	56C	AW142/010	547.4	98	2,081	0.27	6,201	0.22	6,201	0.16	6,201
0.52	9,744	F603_5400	MR163/050	56C	AW163/012	540.4	196	2,812	0.43	9,744	0.35	9,744	0.26	9,744
0.52	9,744	F603_5400	MR164/140	143/145TC	AW164/012	540.4	196	2,812	0.43	9,744	0.35	9,744	0.26	9,744

NOTE: For slower speeds than those listed, units can be combined. Contact Stober Drives Inc.

Part No. Explanation

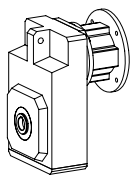
F 6 0 2 A B 0560 AW 163 / 012

- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Gear Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- AW — Input Shaft
- 163 — Flange No.
- 012 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)

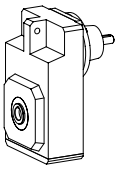


F 6 0 2 A B 0560 MR 163 /140

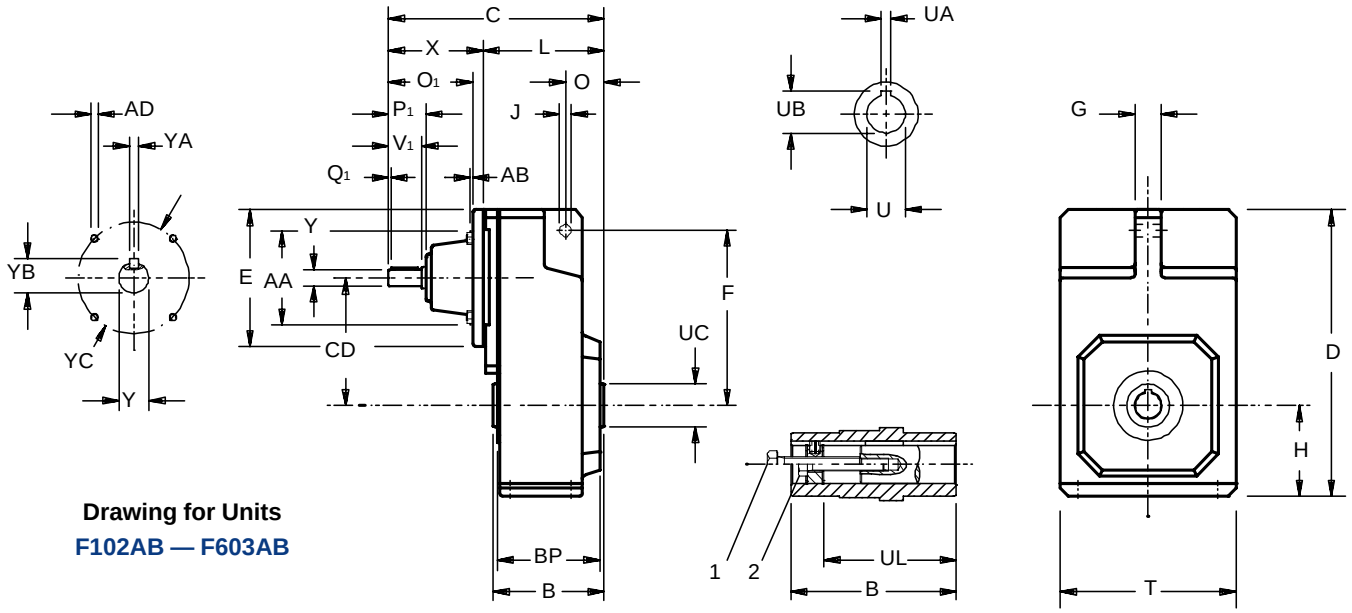
- F — Offset Helical
- 6 — Unit No.
- 0 — Generation No.
- 2 — No. of Reductions
- A — Output Style (A-Hollow; V-Solid)
- B — Housing Style
- 0560 — Ratio (0560 = 56.0:1)
- MR — Motor Adapter
- 163 — Flange No.
- 140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 155.



"F" Series—MGS Dimensional Data
Offset Helical with Input Shaft



Drawing for Units
F102AB — F603AB

Table No. 1 **"F" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Base module	CD	B	D	F	G	H	J	O	T	U	BP	UA	UB	UC	UL	1
F102	4.02	3.74	9.37	5.91	.79	2.91	.43	1.38	5.71	.7500	3.43	.187	.84	1.38	2.87	3/8-16
F202/F203	5.16	4.53	11.77	7.13	.87	3.66	.43	1.57	7.09	1.0000	4.13	.250	1.12	1.77	3.62	1/2-13
F302/F303	5.89	5.12	13.23	8.07	1.18	4.17	.55	1.77	8.11	1.2500	4.72	.250	1.37	1.97	4.06	1/2-13
F402/F403	6.65 ①	5.71	14.57	8.98	1.18	4.57	.55	1.77	9.06	1.5000	5.31	.375	1.67	2.17	4.49	3/4-10
F602/F603	7.72	7.09	17.64	10.63	1.38	5.39	.87	2.77	10.43	2.0000	6.54	.500	2.23	2.76	5.63	3/4-10

① C.D. is 5.19 for F403 with AW16_/012 input.

Table No. 2 **"F" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Input Shaft	E	O1	P1	Q1	V1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	3/16 × 3/16 × 31/32	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	3/16 × 3/16 × 1 7/32	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	3/16 × 3/16 × 1 7/16	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	1/4 × 1/4 × 1 15/16	1.24	8.46	31

Table No. 3 **"F" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Base	AW14_/010		AW16_/012		AW20_/014		AW25_/102		Approx.
Module	C	L	C	L	C	L	C	L	Wt. lbs.
F102	8.11	4.09	8.94	4.25	—	—	—	—	38
F202	8.86	4.84	9.69	5.00	10.59	5.08	—	—	51
F203	10.32	6.30	—	—	—	—	—	—	64
F302	9.45	5.43	10.28	5.59	11.18	5.67	—	—	67
F303	10.91	6.89	—	—	—	—	—	—	73
F402	—	—	10.87	6.18	11.77	6.26	14.18	6.38	84
F403	11.50	7.48	12.56	7.87	—	—	—	—	91
F602	—	—	12.17	7.48	13.07	7.56	15.48	7.68	165
F603	—	—	13.86	9.17	—	—	—	—	177

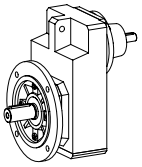
1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

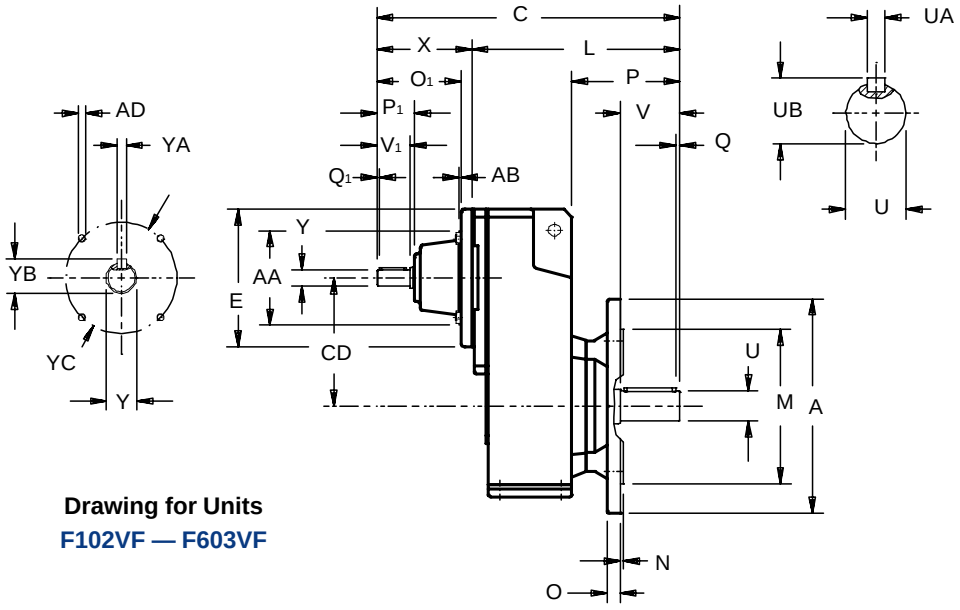
See pages 54-63 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 155 for tolerances, lubrication, and mounting positions.

The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.
All weights are approximate.

Part No. Example
Basic Unit with Input Shaft
F302AB0620 AW163/012

"F" Series—MGS Dimensional Data
Offset Helical with Input Shaft





Drawing for Units
F102VF — F603VF

Table No. 1 **"F" Series – Round Flange Dimensions (Inches) – "F" Housing Style**

Base Module	CD	A	D	F	G	H	J	M	N	O	P	Q	T	U	V	UA–Key	UB
F102	4.02	6.30	9.37	5.12	.79	2.91	.35	4.331	.14	.39	3.80	.16	5.71	1.0000	1.97	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11
F202/F203	5.16	7.87	11.77	6.50	.87	3.66	.43	5.118	.14	.55	4.53	.16	7.09	1.2500	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
F302/F303	5.89	9.84	13.23	8.46	1.18	4.17	.55	7.087	.16	.59	5.10	.16	8.11	1.3750	2.76	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
F402/F403	6.65 ①	9.84	14.57	8.46	1.18	4.57	.55	7.087	.16	.59	5.49	.16	9.06	1.6250	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
F602/F603	7.72	11.81	17.64	10.43	1.38	5.39	.55	9.055	.16	.67	6.44	.20	10.43	2.1250	3.94	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35

① C.D. is 5.19 for F403 with AW16_/012 input.

Table No. 2 **"F" Series – Round Flange Dimensions (Inches) – "F" Housing Style**

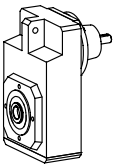
Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times ^3/_{16} \times ^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$^3/_{16} \times ^3/_{16} \times 1^7/_{16}$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.24	8.46	31

Table No. 3
"F" Series — Round Flange Dimensions (Inches) – "F" Housing Style

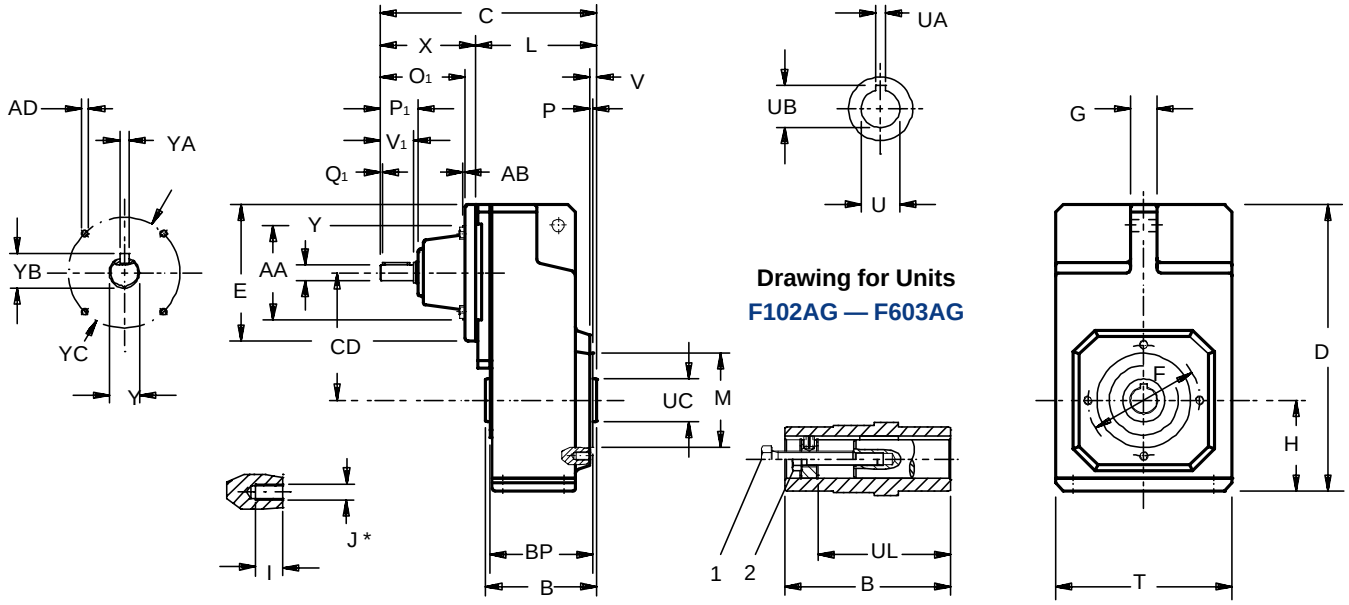
Base	AW14_/010		AW16_/012		AW20_/014		AW25_/102		Approx.
Module	C	L	C	L	C	L	C	L	Wt. lbs.
F102	10.40	7.09	11.10	7.24	—	—	—	—	38
F202	11.70	8.39	12.40	8.54	13.42	8.62	—	—	51
F203	13.15	9.84	—	—	—	—	—	—	64
F302	12.76	9.45	13.47	9.61	14.49	9.69	—	—	67
F303	14.22	10.91	—	—	—	—	—	—	73
F402	—	—	14.45	10.59	15.47	10.67	16.10	10.79	84
F403	15.20	11.89	16.14	12.28	—	—	—	—	91
F602	—	—	16.46	12.60	17.48	12.68	18.11	12.80	165
F603	—	—	18.15	14.29	—	—	—	—	177

Part No. Example
Round Flange with Input Shaft
F302VF0620 AW163/012

See pages 54-63 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 155 for tolerances, lubrication, and mounting positions.
All weights are approximate.



"F" Series—MGS Dimensional Data
Offset Helical with Input Shaft



Drawing for Units
F102AG — F603AG

Table No. 1 **"F" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style**

Base Module	CD	B	D	F	G	H	I	J *	M	P	T	U	V	BP	UA	UB	UC	UL	1
F102	4.02	3.74	9.37	3.35	.79	2.91	.51	M8	2.756	.10	5.71	.7500	.26	3.43	.187	.84	1.38	2.87	3/8-16
F202/F203	5.16	4.53	11.77	4.53	.87	3.66	.51	M8	3.740	.12	7.09	1.0000	.31	4.13	.250	1.12	1.77	3.62	1/2-13
F302/F303	5.89	5.12	13.23	5.12	1.18	4.17	.63	M10	4.331	.14	8.11	1.2500	.33	4.72	.250	1.37	1.97	4.06	1/2-13
F402/F403	6.65 ①	5.71	14.57	5.12	1.18	4.57	.63	M10	4.331	.14	9.06	1.5000	.33	5.31	.375	1.67	2.17	4.49	3/4-10
F602/F603	7.72	7.09	17.64	6.50	1.38	5.39	.63	M10	5.118	.14	10.43	2.0000	.41	6.54	.500	2.23	2.76	5.63	3/4-10

* F602 and F603 has 8 tapped holes instead of 4 as shown on drawing.
① C.D. is 5.19 for F403 with AW16_/012 input.

Table No. 2 **"F" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style**

Input Shaft	E	O1	P1	Q1	V1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	3/16 × 3/16 × 31/32	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	3/16 × 3/16 × 1 7/32	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	3/16 × 3/16 × 1 7/16	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	1/4 × 1/4 × 1 15/16	1.24	8.46	31

Table No. 3
"F" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

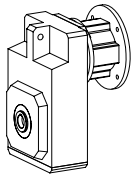
Base	AW14_/010		AW16_/012		AW20_/014		AW25_/102		Approx.
Module	C	L	C	L	C	L	C	L	Wt. lbs.
F102	8.11	4.09	8.94	4.25	—	—	—	—	38
F202	8.86	4.84	9.69	5.00	10.59	5.08	—	—	51
F203	10.32	6.30	—	—	—	—	—	—	64
F302	9.45	5.43	10.28	5.59	11.18	5.67	—	—	67
F303	10.91	6.89	—	—	—	—	—	—	73
F402	—	—	10.87	6.18	11.77	6.26	14.18	6.38	84
F403	11.50	7.48	12.56	7.87	—	—	—	—	91
F602	—	—	12.17	7.48	13.07	7.56	15.48	7.68	165
F603	—	—	13.86	9.17	—	—	—	—	177

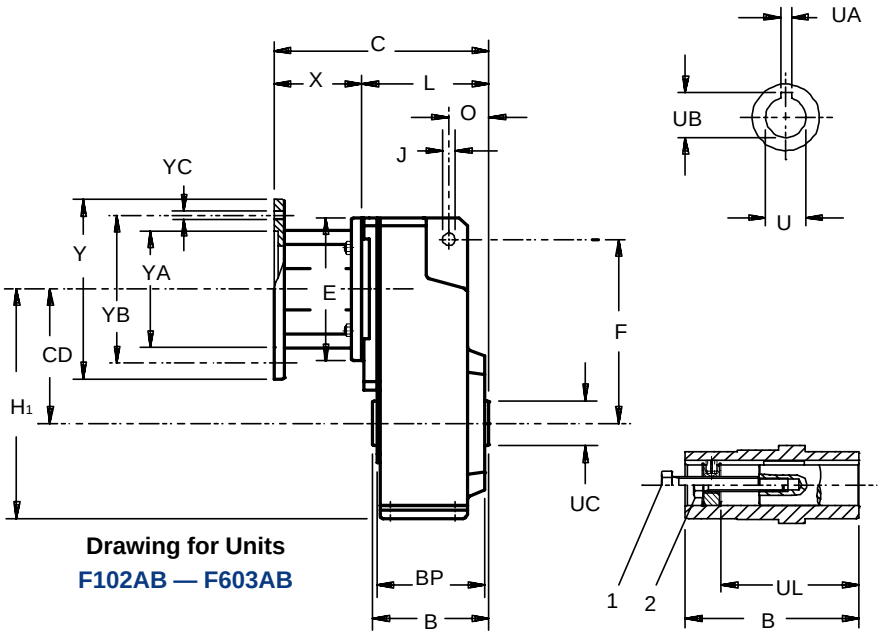
Part No. Example
Tapped Holes Housing with Input Shaft
F302AG0620 AW163/012

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 54-63 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 155 for tolerances, lubrication, and mounting positions.
All weights are approximate.

"F" Series—MGS Dimensional Data
Offset Helical with Motor Adapter





Drawing for Units
F102AB — F603AB

Table No. 1 **"F" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Base Module	CD	B	D	F	G	H	H_1	J	O	T	U	BP	UA	UB	UC	UL	1
F102	4.02	3.74	9.37	5.91	.79	2.91	6.93	.43	1.38	5.71	.7500	3.43	.187	.84	1.38	2.87	3/8-16
F202/F203	5.16	4.53	11.77	7.13	.87	3.66	8.82	.43	1.57	7.09	1.0000	4.13	.250	1.12	1.77	3.62	1/2-13
F302/F303	5.89	5.12	13.23	8.07	1.18	4.17	10.06	.55	1.77	8.11	1.2500	4.72	.250	1.37	1.97	4.06	1/2-13
F402/F403	6.65 ①	5.71	14.57	8.98	1.18	4.57	11.22	.55	1.77	9.06	1.5000	5.31	.375	1.67	2.17	4.49	3/4-10
F602/F603	7.72	7.09	17.64	10.63	1.38	5.39	13.11	.87	2.77	10.43	2.0000	6.54	.500	2.23	2.76	5.63	3/4-10

① C.D. is 5.19 for F403 with MR16_/050 or MR16_/140 input.

Table No. 2

"F" Series – Basic Unit Dimensions (Inches) – "B" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36

Part No. Example
Basic Unit with Motor Adapter
F302AB0620 MR163/140

Table No. 3

"F" Series – Basic Unit Dimensions (Inches) – "B" Housing Style

Base	MR14_/050		MR16_/140 ②		MR20_/180		MR25_/210 ③		Approx.
Module	C	L	C	L	C	L	C	L	Wt. lbs.
F102	7.40	4.09	8.11	4.25	—	—	—	—	38
F202	8.15	4.84	8.86	5.00	9.88	5.08	—	—	51
F203	9.61	6.30	—	—	—	—	—	—	64
F302	8.74	5.43	9.45	5.59	10.47	5.67	—	—	67
F303	10.20	6.89	—	—	—	—	—	—	73
F402	—	—	10.04	6.18	11.06	6.26	11.68	6.38	84
F403	10.79	7.48	11.73	7.87	—	—	—	—	91
F602	—	—	11.34	7.48	12.36	7.56	12.99	7.68	165
F603	—	—	13.03	9.17	—	—	—	—	177

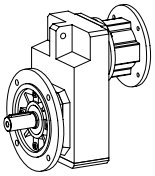
② Also available as **MR16_/050** for a NEMA 56C frame motor.
③ Also available as **MR25_/180** for a NEMA 182/184TC frame motor.

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

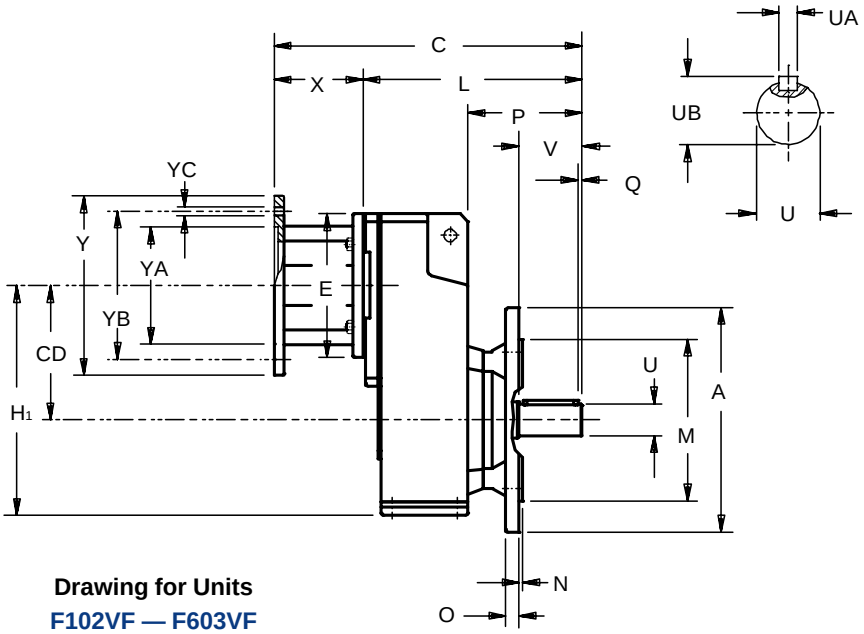
See pages 54-63 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 155 for tolerances, lubrication, and mounting positions.

The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

All weights are approximate.



"F" Series—MGS Dimensional Data
Offset Helical with Motor Adapter



Drawing for Units
F102VF — F603VF

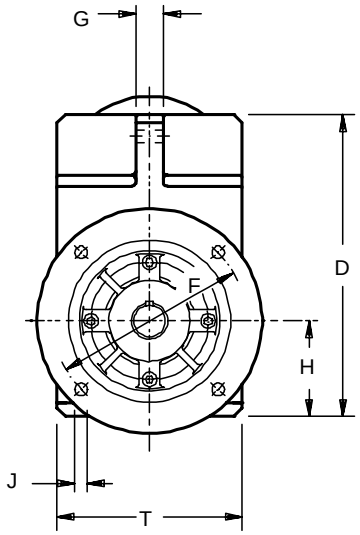


Table No. 1 **"F" Series – Round Flange Dimensions (Inches) – "F" Housing Style**

Base Module	CD	A	D	F	G	H	H_1	J	M	N	O	P	Q	T	U	V	UA–Key	UB
F102	4.02	6.30	9.37	5.12	.79	2.91	6.93	.35	4.331	.14	.39	3.80	.16	5.71	1.0000	1.97	$^1/_4 \times {}^1/_4 \times 1^9/_{16}$	1.11
F202/F203	5.16	7.87	11.77	6.50	.87	3.66	8.82	.43	5.118	.14	.55	4.53	.16	7.09	1.2500	2.36	$^1/_4 \times {}^1/_4 \times 1^{15}/_{16}$	1.36
F302/F303	5.89	9.84	13.23	8.46	1.18	4.17	10.06	.55	7.087	.16	.59	5.10	.16	8.11	1.3750	2.76	$^5/_{16} \times {}^5/_{16} \times 2^5/_{16}$	1.51
F402/F403	6.65 ①	9.84	14.57	8.46	1.18	4.57	11.22	.55	7.087	.16	.59	5.49	.16	9.06	1.6250	3.15	$^3/_8 \times {}^3/_8 \times 2^7/_8$	1.79
F602/F603	7.72	11.81	17.64	10.43	1.38	5.39	13.11	.55	9.055	.16	.67	6.44	.20	10.43	2.1250	3.94	$^1/_2 \times {}^1/_2 \times 3^5/_{32}$	2.35

① C.D. is 5.19 for F403 with MR16_/050 or MR16_/140 input.

Table No. 2

"F" Series — Round Flange Dimensions (Inches) – "F" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36

Part No. Example

Round Flange with Motor Adapter

F302VF0620 MR163/140

Table No. 3

"F" Series—Round Flange Dimensions (Inches)–"F" Housing Style

Base	MR14_/050		MR16_/140 ②		MR20_/180		MR25_/210 ③		Approx.
Module	C	L	C	L	C	L	C	L	Wt. lbs.
F102	10.40	7.09	11.10	7.24	—	—	—	—	38
F202	11.70	8.39	12.40	8.54	13.42	8.62	—	—	51
F203	13.15	9.84	—	—	—	—	—	—	64
F302	12.76	9.45	13.47	9.61	14.49	9.69	—	—	67
F303	14.22	10.91	—	—	—	—	—	—	73
F402	—	—	14.45	10.59	15.47	10.67	16.10	10.79	84
F403	15.20	11.89	16.14	12.28	—	—	—	—	91
F602	—	—	16.46	12.60	17.48	12.68	18.11	12.80	165
F603	—	—	18.15	14.29	—	—	—	—	177

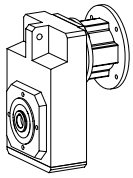
② Also available as **MR16_/050** for a NEMA 56C frame motor.
③ Also available as **MR25_/180** for a NEMA 182/184TC frame motor.

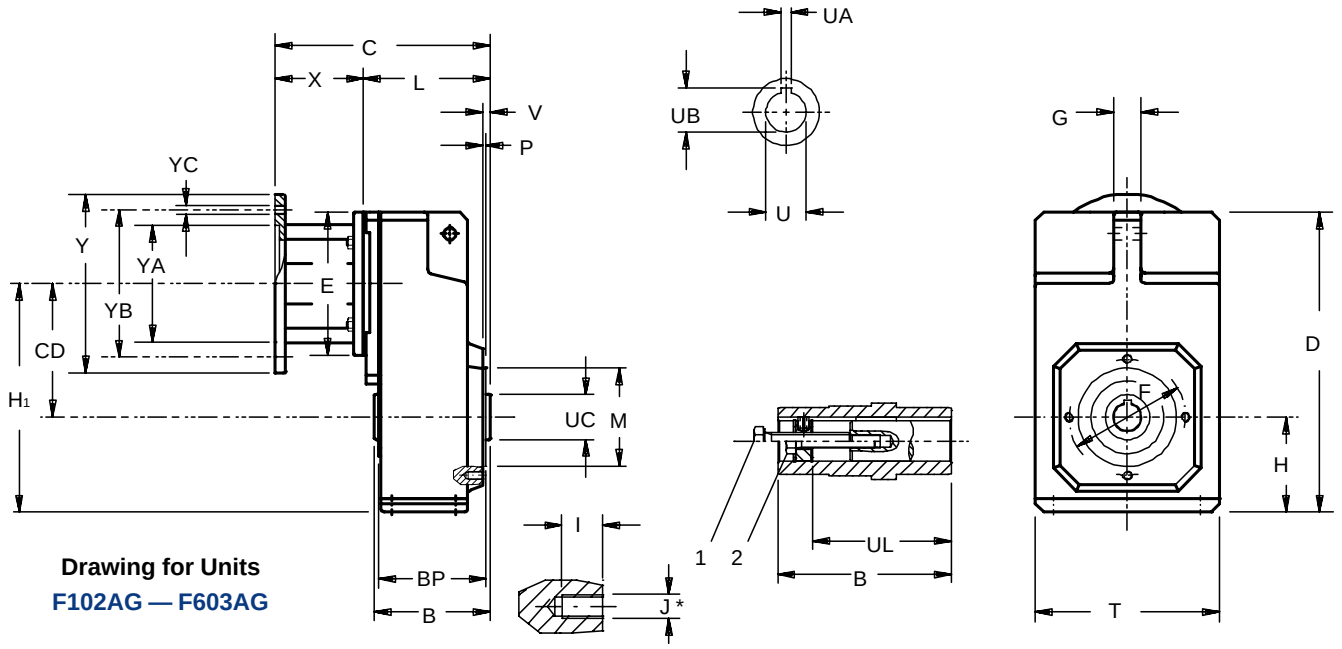
See pages 54-63 for MGS Reducer Selection Data and available ratios.

See pages 151, 153, and 155 for tolerances, lubrication, and mounting positions.

All weights are approximate.

"F" Series—MGS Dimensional Data
Offset Helical with Motor Adapter





Drawing for Units
F102AG — F603AG

Table No. 1 "F" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Base Module	CD	B	D	F	G	H	H_1	I	J *	M	P	T	U	V	BP	UA	UB	UC	UL	1
F102	4.02	3.74	9.37	3.35	.79	2.91	6.93	.51	M8	2.756	.10	5.71	.7500	.26	3.43	.187	.84	1.38	2.87	3/8-16
F202/F203	5.16	4.53	11.77	4.53	.87	3.66	8.82	.51	M8	3.740	.12	7.09	1.0000	.31	4.13	.250	1.12	1.77	3.62	1/2-13
F302/F303	5.89	5.12	13.23	5.12	1.18	4.17	10.06	.63	M10	4.331	.14	8.11	1.2500	.33	4.72	.250	1.37	1.97	4.06	1/2-13
F402/F403	6.65 ①	5.71	14.57	5.12	1.18	4.57	11.22	.63	M10	4.331	.14	9.06	1.5000	.33	5.31	.375	1.67	2.17	4.49	3/4-10
F602/F603	7.72	7.09	17.64	6.50	1.38	5.39	13.11	.63	M10	5.118	.14	10.43	2.0000	.41	6.54	.500	2.23	2.76	5.63	3/4-10

* F602 and F603 has 8 tapped holes instead of 4 as shown on drawing.
① C.D. is 5.19 for F403 with MR16_/050 or MR16_/140 input.

Table No. 2
"F" Series — Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36

Part No. Example
Tapped Holes Housing with Motor Adapter
F302AG0620 MR163/140

Table No. 3 "F" Series
Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Base	MR14_/050		MR16_/140 ②		MR20_/180		MR25_/210 ③		Approx.
Module	C	L	C	L	C	L	C	L	Wt. lbs.
F102	7.40	4.09	8.11	4.25	—	—	—	—	38
F202	8.15	4.84	8.86	5.00	9.88	5.08	—	—	51
F203	9.61	6.30	—	—	—	—	—	—	64
F302	8.74	5.43	9.45	5.59	10.47	5.67	—	—	67
F303	10.20	6.89	—	—	—	—	—	—	73
F402	—	—	10.04	6.18	11.06	6.26	11.68	6.38	84
F403	10.79	7.48	11.73	7.87	—	—	—	—	91
F602	—	—	11.34	7.48	12.36	7.56	12.99	7.68	165
F603	—	—	13.03	9.17	—	—	—	—	177

② Also available as **MR16_/050** for a NEMA 56C frame motor.
③ Also available as **MR25_/180** for a NEMA 182/184TC frame motor.

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 54-63 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 155 for tolerances, lubrication, and mounting positions.

All weights are approximate.

"F" Series MGS Reducer Backstops and Rubber Buffer for Torque Arm Mounting

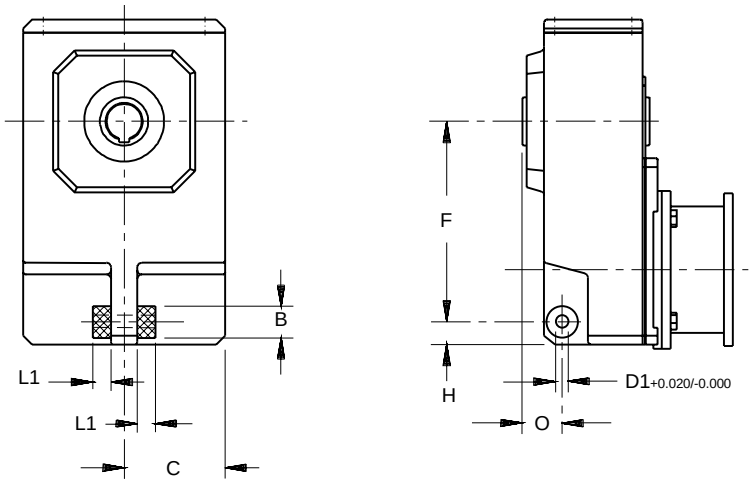


Table No. 1 "F" Series — Rubber Buffer Dimensions (Inches)

Base Module	Part No.	B	C	F	H	D1	L1	O
F102/F103	25192	1.18	2.86	5.91	2.44	.43	.59	1.38
F202/F203	25192	1.18	3.55	7.31	2.95	.43	.59	1.57
F302/F303	25193	1.57	4.06	8.07	3.17	.55	.79	1.77
F402/F403	25193	1.57	4.53	8.98	3.35	.55	.79	1.77
F602/F603	25194	2.36	5.22	10.63	4.53	.57	1.18	2.77

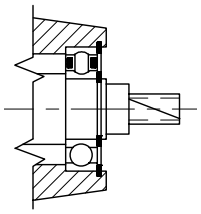
Order two (2) rubber buffers for each unit.
Torque arms are not supplied by Stober.

Backstops

HP ratings shown are based on 2.0 Service Factor. Maximum HP should not be exceeded.

DO NOT USE BACKSTOPS ON MAN LIFTS!

The direction of rotation of the OUTPUT *must* be specified when ordered. (Examples shown are EL1 mounting with output rotating clockwise.)



Backstop for all units using: AW14_/010 , AW16_/012, MR14_/050, MR16_/050 and MR16_/140

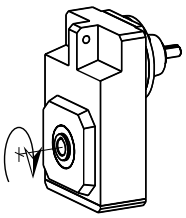


Table No. 1
AW with Backstop

Input Part No.	Shaft Size	Max. HP * @ 1750 RPM
AWB14_/010	.625	2.1
AWB16_/012	.750	10.4
AWB20_/014	.875	18.2
AWB25_/102	1.125	29.1
AWB30_/110	1.625	40.5
AWB35_/202	2.125	54.0

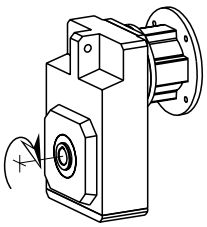
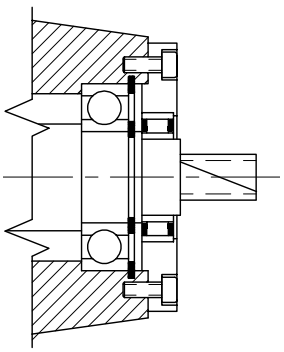


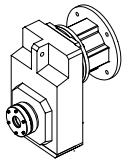
Table No. 2
MR with Backstop

Adapter Part No.	NEMA Frame	Max. HP * @ 1750 RPM
MRB14_/050	56C	2.1
MRB16_/050	56C	10.4
MRB16_/140	143/145TC	10.4
MRB20_/050	56C	18.2
MRB20_/140	143/145TC	18.2
MRB20_/180	182/184TC	18.2
MRB25_/180	182/184TC	29.1
MRB25_/210	213/215TC	29.1
MRB30_/180	182/184TC	40.5
MRB30_/210	213/215TC	40.5
MRB30_/250	254/256TC	40.5
MRB30_/280	284/286TC	40.5
MRB35_/320	324/326TC	54.0
MRB35_/360	364/365TC	54.0

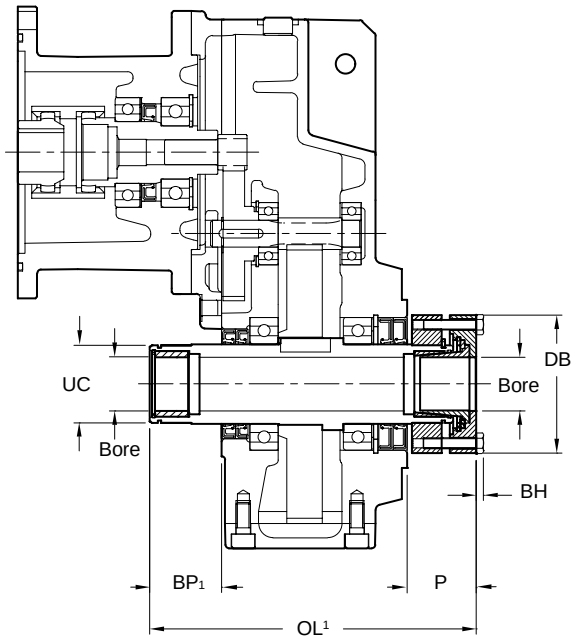


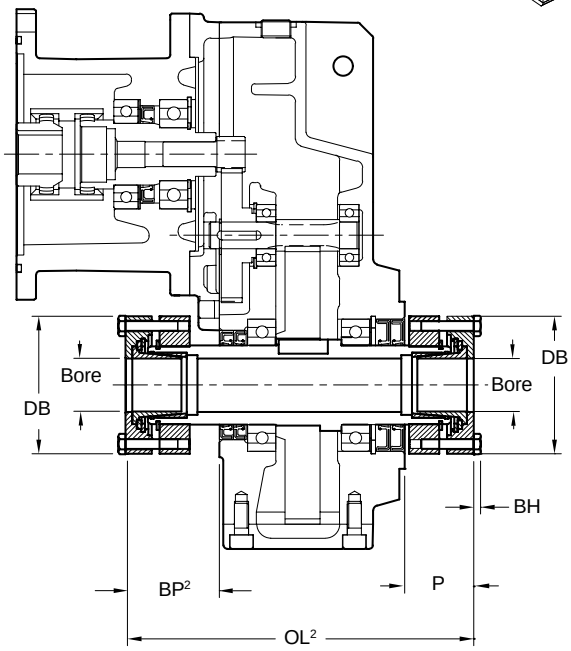
Backstop for AW20_/ 014 through AW35_/202 and MR20_/050 through MR35_/360.

"F" Series—MGS Dimensional Data
Wobble Free Bushings



(see Page 72 for features)





Important: A 1/32 x 45° chamfer minimum is recommended for the shaft end.
The double bushing cannot be mounted on sizes F203, F303, F403, or F603.

Table No. 1 "WF" and "WFN" Bushing Dimensions (Inches)

Base Module	BH	BP1	BP2	DB	OL1	OL2	P	UC	Capscrews No.–Size	Tight. Torque (in/lbs.)	Tight. Torque Nm
F102	.16	1.77	2.11	2.68	6.40	6.73	1.18	1.34	6–M6 x 25 mm	89	10
F202/F203	.16	1.59	2.09	3.07	7.26	7.77	1.54	1.73	8–M6 x 30 mm	89	10
F302/F303	.16	1.67	2.19	3.31	7.95	8.46	1.54	1.89	8–M6 x 30 mm	89	10
F402/F403	.20	1.83	2.46	3.82	8.93	9.57	1.78	2.13	8–M8 x 30 mm	221	25
F602/F603	.24	1.93	2.58	4.13	10.24	10.84	1.77	2.52	8–M10 x 35 mm	434	49

Part No. Example

Basic Unit with Motor Adapter
1 3/8" Bore Single Bushing
F402WB0560 MR164/140
WF4–106

Basic Unit with Motor Adapter
1 3/8" Bore Double Bushing–No Covers
F402WB0560 MR164/140
WFN4–106

Bushing Part No. Explanation

WF 2 – 103
- 103 = Output Bore in inches – 1 3/16
- 2 = Base Module Size example: F202/F203)
- WF = Wobble Free

WF N 2 – 103
- N = No Covers

Table No. 2
Bushing Kit Part Numbers

Bore Size	Single Side No Covers	Double Side No Covers
3/4	WF1-075	WFN1-075
1	WF2-100	WFN2-100
1 3/16	WF2-103	WFN2-103
1	WF3-100	WFN3-100
1 3/16	WF3-103	WFN3-103
1 1/4	WF3-104	WFN3-104
1 3/8	WF3-106	WFN3-106
1 7/16	WF3-107	WFN3-107
1 1/2	WF3-108	WFN3-108
1	WF4-100	WFN4-100
1 3/16	WF4-103	WFN4-103
1 1/4	WF4-104	WFN4-104
1 3/8	WF4-106	WFN4-106
1 7/16	WF4-107	WFN4-107
1 1/2	WF4-108	WFN4-108
1 7/16	WF6-107	WFN6-107
1 1/2	WF6-108	WFN6-108
1 5/8	WF6-110	WFN6-110
1 11/16	WF6-111	WFN6-111
1 3/4	WF6-112	WFN6-112
1 7/8	WF6-114	WFN6-114
1 15/16	WF6-115	WFN6-115
2	WF6-200	WFN6-200

Table No. 3 "WF" and "WFN" Bushing – Stock Bore Sizes

Base Module	Bores Sizes 3/4	1	1 3/16	1 1/4	1 3/8	1 7/16	1 1/2	1 5/8	1 11/16	1 3/4	1 7/8	1 15/16	2
F102	x	—	—	—	—	—	—	—	—	—	—	—	—
F202/F203	—	x	x	—	—	—	—	—	—	—	—	—	—
F302/F303	—	x	x	x	x	x	x	—	—	—	—	—	—
F402/F403	—	x	x	x	x	x	x	—	—	—	—	—	—
F602/F603	—	—	x	—	—	x	x	x	x	x	x	x	x

NOTES: A complete bushing kit includes the locking ring assembly, tapered cone, support ring, and all hardware to mount the kit into the MGS reducer.

The bushing will accept a shaft with a tolerance of +.000/-.005.

MGS Speed Reducer
Wobble Free Bushing Features

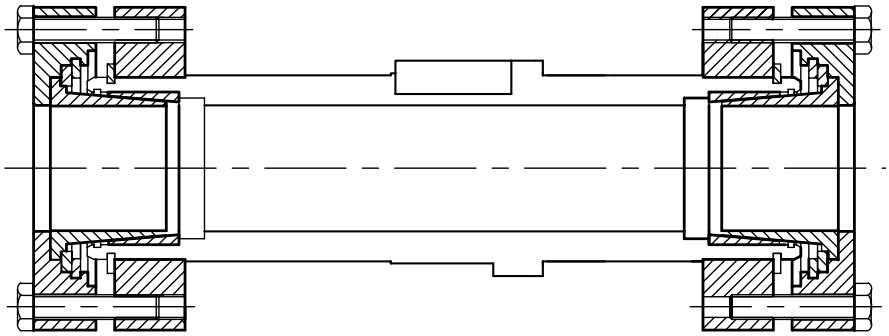
"No Key and Wobble Free"

The Stober "Wobble Free" bushing is a unique patented stainless steel system which can be supplied on a single side or double sides. These bushings can be mounted in the "F" Series and "K" Series MGS reducers. Each case size can be provided with a variety of bushing bore sizes. See pages 71 and 124 for sizes available. The unit is selected based on horsepower or torque rating, output speed or ratio, and the shaft size of the driven equipment.

Some special features of the bushing system are:

- All quills and bushing parts are high tensile stainless steel – providing the additional benefit of corrosion resistance.
- Featuring a distinct support side and a clamp side, the dual tapered cones will overcome a wide range of tolerances normally found with standard shaft materials. There is no shaft key necessary.
- All hardware is stainless steel or nickel plated.
- Units sizes K102 through K614 can be supplied with output covers on one or both sides which protect the seals and also cover the rotating bushing. F102 through F603 can only have a cover mounted on Side 5. The closed cover has an O-ring for added protection. (See Page 124 for illustration of covers.)
- Wobble Free – tapered cones in conjunction with a support ring or support side bushing prevent the "rocking" of the reducer on the shaft, common with many bushing designs.
- The reducer output bore can be changed any time by changing the bushing kit.

Double Sided Bushing

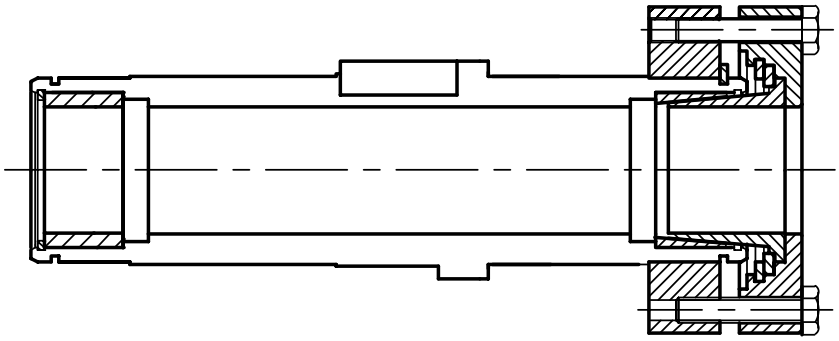


Support Side Clamp Side

This unique design allows the unit to be mounted on the shaft from either side of the reducer by reversing the clamp side and support side bushings. The clamp side is determined by the customer but is usually the easily accessible outside bushing.

The double sided bushing is not installed into the unit at assembly, but with easy-to-follow installation instructions, the unit and bushing can be mounted on the machinery quickly – without any special tools.

Single Sided Bushing



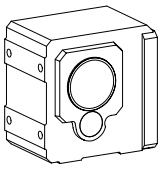
Support Side Clamp Side

The single sided bushing is assembled at the time of the order. The bushing side extension must be specified by the customer before assembly. The bushing is installed into the unit for shipping and is not interchangeable once the unit is built.

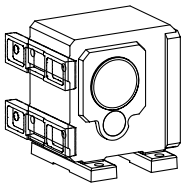
Detailed instructions for mounting the bushing are included with each bushing kit.

"K" Series—Right Angle Helical/Bevel MGS Reducers

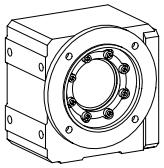
Housing Styles:



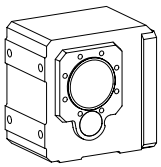
Style B*, Basic Design



Style N, Foot Mount

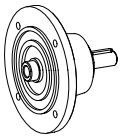


Style F, Round Flange

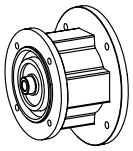


Style G, Tapped Holes

Input Options:

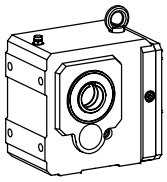


Type AW
Input Shaft

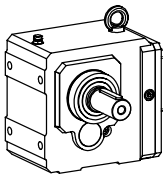


Type MR
NEMA C-Face Adapter

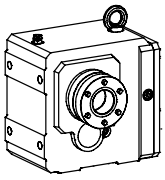
Output Options:



Type A
Hollow Output



Type V
Solid Output

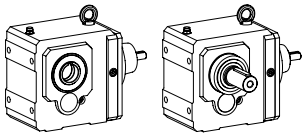


Type W
Wobble Free Bushing
See Page 124

Speed Reducer Configurations:

Shaft Input

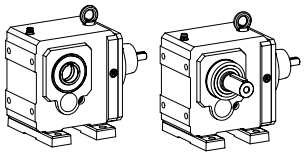
Basic Design



Style AB
Hollow Output
See Page 102

Style VB
Solid Output
Available

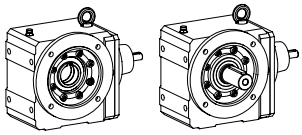
Foot Mount



Style AN
Hollow Output
Available

Style VN
Solid Output
See Page 104

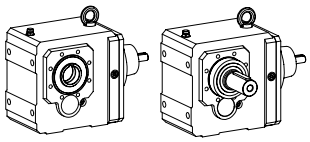
Round Flange



Style AF
Hollow Output
Available

Style VF
Solid Output
See Page 106

Tapped Holes

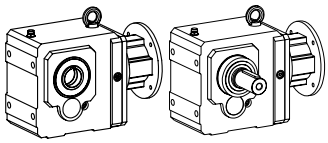


Style AG
Hollow Output
See Page 108

Style VG
Solid Output
Available

NEMA C-Face Input

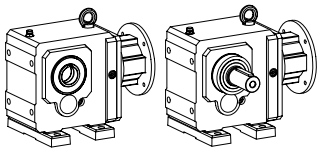
Basic Design



Style AB
Hollow Output
See Page 114

Style VB
Solid Output
Available

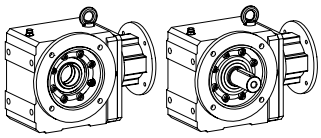
Foot Mount



Style AN
Hollow Output
Available

Style VN
Solid Output
See Page 116

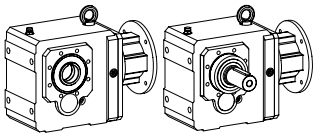
Round Flange



Style AF
Hollow Output
Available

Style VF
Solid Output
See Page 118

Tapped Holes



Style AG
Hollow Output
See Page 120

Style VG
Solid Output
Available

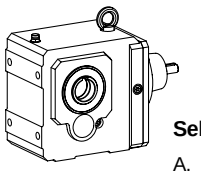
Accessories:

Torque Arm Brackets
See Page 125

Optional Round Flanges
See Page 126

Backstops
See Page 99

* The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
430 RPM		**Output (Approximate)**							**360 RPM**		**290 RPM**		**215 RPM**	
1.39	194	K102_0040	MR142/050	56C	AW142/010	4.000	98	572	1.13	194	0.92	194	0.69	194
2.64	369	K102_0040	MR163/050	56C	AW143/010	4.000	98	572	2.16	369	1.75	369	1.31	369
2.81	392	K202_0040	MR163/050	56C	AW143/010	4.000	98	624	2.29	392	1.86	392	1.39	392
3.83*	535	K102_0040	MR164/140	143/145TC	AW164/012	4.000	196	572	3.34*	573	2.91	614	2.40	676
5.28	739	K202_0040	MR164/140	143/145TC	AW164/012	4.000	196	624	4.32	739	3.50	739	2.63	739
5.46	764	K302_0040	MR164/140	143/145TC	AW164/012	4.000	196	936	4.46	764	3.62	764	2.71	764
6.84*	956	K202_0040	MR205/180	182/184TC	AW165/012	4.000	196	624	5.98*	1,023	5.20	1,097	4.29	1,207
12.00*	1,675	K302_0040	MR205/180	182/184TC	AW165/012	4.000	196	936	10.50*	1,792	8.49*	1,793	6.37	1,793
13.30*	1,854	K402_0040	MR205/180	182/184TC	AW165/012	4.000	196	1,165	10.80	1,854	8.78	1,854	6.59	1,854
18.00*	2,514	K402_0040	MR256/210	213/215TC	AW206/014	4.000	333	1,165	15.70*	2,689	13.70*	2,883	11.30	3,173
400 RPM		**Output (Approximate)**							**325 RPM**		**265 RPM**		**200 RPM**	
2.77	423	K202_0044	MR163/050	56C	AW143/010	4.364	98	637	2.27	423	1.84	423	1.38	423
5.22	797	K202_0044	MR164/140	143/145TC	AW164/012	4.364	196	637	4.27	797	3.46	797	2.60	797
5.40	824	K302_0044	MR164/140	143/145TC	AW164/012	4.364	196	956	4.41	824	3.58	824	2.68	824
6.45*	984	K202_0044	MR205/180	182/184TC	AW165/012	4.364	196	637	5.64*	1,053	4.90	1,129	4.05	1,243
11.30*	1,724	K302_0044	MR205/180	182/184TC	AW165/012	4.364	196	956	9.87*	1,844	8.40*	1,935	6.30	1,935
13.10*	2,000	K402_0044	MR205/180	182/184TC	AW165/012	4.364	196	1,190	10.70	2,000	8.69	2,000	6.51	2,000
17.00*	2,588	K402_0044	MR256/210	213/215TC	AW206/014	4.364	333	1,190	14.80*	2,768	12.90*	2,968	10.60	3,267
335 RPM		**Output (Approximate)**							**275 RPM**		**225 RPM**		**165 RPM**	
5.10	924	K202_0052	MR164/050	56C	AW164/012	5.177	196	665	4.17	924	3.38	924	2.54	924
5.10	924	K202_0052	MR164/140	143/145TC	AW164/012	5.177	196	665	4.17	924	3.38	924	2.54	924
325 RPM		**Output (Approximate)**							**265 RPM**		**215 RPM**		**160 RPM**	
9.79*	1,849	K302_0054	MR205/180	182/184TC	AW165/012	5.375	196	1,009	8.56*	1,977	7.44*	2,120	6.11	2,319
12.80*	2,423	K402_0054	MR205/180	182/184TC	AW165/012	5.422	196	1,255	10.50	2,423	8.51	2,423	6.38	2,423
315 RPM		**Output (Approximate)** **Continued Next Page**							**255 RPM**		**210 RPM**		**155 RPM**	
1.39	270	K102_0056	MR142/050	56C	AW142/010	5.568	98	621	1.13	270	0.92	270	0.69	270
2.64	514	K102_0056	MR163/050	56C	AW143/010	5.568	98	621	2.16	514	1.75	514	1.31	514
3.07*	598	K102_0056	MR164/140	143/145TC	AW164/012	5.568	196	621	2.68	639	2.33	686	1.93	755
1.31	275	K102_0060	MR142/050	56C	AW142/010	6.000	98	633	1.07	275	0.87	275	0.65	275
2.50	524	K102_0060	MR163/050	56C	AW143/010	6.000	98	633	2.04	524	1.66	524	1.24	524
2.77	582	K202_0060	MR163/140	143/145TC	AW143/010	6.000	98	690	2.27	582	1.84	582	1.38	582

* For thermal HP capacity, see rating below.

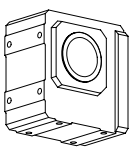
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

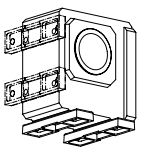
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

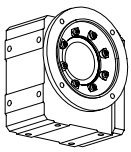
B – Basic Design



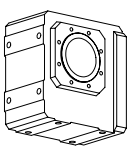
N – Foot Mounted



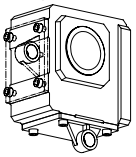
F – Round Flange



G – Tapped Holes

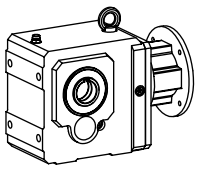


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

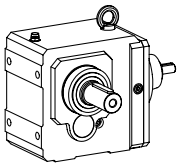
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
315 RPM		**Output (Approximate) Continued**							**255 RPM**		**210 RPM**		**155 RPM**	
2.92	613	K102_0060	MR164/140	143/145TC	AW164/012	6.000	196	633	2.56	656	2.22	704	1.83	774
5.22	1,095	K202_0060	MR164/140	143/145TC	AW164/012	6.000	196	690	4.27	1,096	3.46	1,096	2.60	1,096
5.22	1,095	K202_0060	MR205/180	182/184TC	AW165/012	6.000	196	690	4.56	1,172	3.97	1,256	3.28	1,383
5.40	1,133	K302_0060	MR164/140	143/145TC	AW164/012	6.000	196	1,036	4.41	1,133	3.58	1,133	2.68	1,133
9.14*	1,918	K302_0060	MR205/180	182/184TC	AW165/012	6.000	196	1,036	7.99*	2,051	6.95	2,199	5.73	2,421
13.10*	2,750	K402_0060	MR205/180	182/184TC	AW165/012	6.000	196	1,289	10.70	2,750	8.69	2,750	6.52	2,750
13.70*	2,878	K402_0060	MR256/210	213/215TC	AW206/014	6.000	333	1,289	12.00	3,078	10.40	3,301	8.61	3,633
260 RPM		**Output (Approximate)**							**215 RPM**		**175 RPM**		**130 RPM**	
0.69	159	K102_0066	MR141/050	56C	AW141/010	6.644	98	649	0.56	159	0.45	159	0.34	159
1.29	300	K102_0066	MR142/050	56C	AW142/010	6.644	98	649	1.06	300	0.86	300	0.64	300
1.37	321	K202_0067	MR142/050	56C	AW142/010	6.683	98	710	1.12	321	0.91	321	0.68	321
2.46	571	K102_0066	MR163/050	56C	AW143/010	6.644	98	649	2.01	571	1.63	571	1.22	571
2.60	610	K202_0067	MR163/050	56C	AW143/010	6.683	98	710	2.13	610	1.72	610	1.29	610
2.73	635	K102_0066	MR164/140	143/145TC	AW164/012	6.644	196	649	2.39	679	2.08	728	1.71	801
4.84	1,135	K202_0067	MR164/140	143/145TC	AW164/012	6.683	196	710	4.00	1,149	3.25	1,149	2.44	1,149
4.84	1,135	K202_0067	MR205/180	182/184TC	AW165/012	6.683	196	710	4.23	1,214	3.68	1,301	3.04	1,432
5.11	1,198	K302_0067	MR164/140	143/145TC	AW164/012	6.740	196	1,065	4.18	1,198	3.39	1,198	2.54	1,198
8.50*	1,993	K302_0067	MR205/180	182/184TC	AW165/012	6.740	196	1,065	7.43*	2,132	6.46	2,286	5.33	2,516
12.40*	2,899	K402_0067	MR205/180	182/184TC	AW165/012	6.719	196	1,325	10.10	2,899	8.19	2,899	6.15	2,899
12.70*	2,988	K402_0067	MR256/210	213/215TC	AW206/014	6.719	333	1,325	11.10	3,196	9.69	3,427	8.00	3,772
245 RPM		**Output (Approximate)**							**200 RPM**		**160 RPM**		**120 RPM**	
4.66	1,159	K202_0071	MR164/140	143/145TC	AW164/012	7.118	196	720	4.07	1,240	3.38	1,270	2.54	1,270
7.91*	2,056	K302_0074	MR205/180	182/184TC	AW165/012	7.391	196	1,093	6.92	2,199	6.02	2,358	4.97	2,595
11.90	3,094	K402_0075	MR205/180	182/184TC	AW165/012	7.456	196	1,361	10.40	3,309	8.47	3,331	6.35	3,331
22.60*	5,709	K513_0073	MR256/210	213/215TC	AW206/014	7.347	333	1,628	19.80*	6,107	17.20*	6,548	14.20	7,207
29.80*	7,536	K613_0073	MR306/250	254/256TC	AW206/014	7.323	333	2,082	26.10*	8,061	22.70*	8,644	18.10	9,188
29.80*	7,536	K613_0073	MR307/280	284/286TC	AW307/110	7.323	1072	2,082	26.10*	8,061	22.70*	8,644	18.70	9,513
37.70*	9,826	K713_0076	MR306/250	254/256TC	AW206/014	7.563	333	2,732	30.80*	9,826	25.00	9,826	18.70	9,826
39.70	10,155	K813_0074	MR306/250	254/256TC	AW206/014	7.445	333	3,461	32.40	10,155	26.30	10,155	19.70	10,155
47.90*	12,467	K713_0076	MR307/280	284/286TC	AW307/110	7.563	1072	2,732	41.80*	13,335	36.40*	14,298	30.00*	15,737
75.80*	19,405	K813_0074	MR307/280	284/286TC	AW307/110	7.445	1072	3,461	62.00*	19,405	50.30*	19,405	37.70	19,405

Part No. Explanation

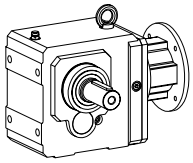
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- 012

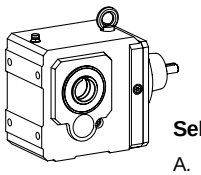


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
215 RPM	**Output (Approximate)**								**180 RPM**		**145 RPM**		**110 RPM**	
21.10*	5,907	K513_0081	MR256/210	213/215TC	AW206/014	8.134	333	1,670	18.50*	6,318	16.10*	6,774	13.30	7,456
27.90*	7,796	K613_0081	MR256/210	213/215TC	AW206/014	8.107	333	2,135	24.40*	8,339	21.20*	8,942	17.50	9,841
27.90*	7,796	K613_0081	MR306/250	254/256TC	AW206/014	8.107	333	2,135	24.40*	8,339	21.20*	8,942	17.50	9,841
27.90*	7,796	K613_0081	MR307/280	284/286TC	AW307/110	8.107	1072	2,135	24.40*	8,339	21.20*	8,942	17.50	9,841
79.50*	21,733	K913_0079	MR307/280	284/286TC	AW307/110	7.934	1072	4,630	65.00*	21,733	52.70	21,733	39.50	21,733
146.0*	39,800	K913_0079	MR358/320	324/326TC	AW358/202	7.934	1569	4,630	127.0*	42,572	105.0*	43,339	78.80*	43,339
146.0*	39,800	K913_0079	MR358/360	364/365TC	AW358/202	7.934	1569	4,630	127.0*	42,572	105.0*	43,339	78.80*	43,339
165.0*	45,199	K1013_0079	MR358/320	324/326TC	AW358/202	7.943	1569	9,878	135.0*	45,199	110.0*	45,199	82.20*	45,199
165.0*	45,199	K1013_0079	MR358/360	364/365TC	AW358/202	7.943	1569	9,878	135.0*	45,199	110.0*	45,199	82.20*	45,199
210 RPM	**Output (Approximate)**								**170 RPM**		**140 RPM**		**105 RPM**	
0.66	193	K102_0083	MR141/050	56C	AW141/010	8.309	98	686	0.54	193	0.44	193	0.33	193
1.25	362	K102_0083	MR142/050	56C	AW142/010	8.309	98	686	1.02	362	0.83	362	0.62	362
1.32	389	K202_0084	MR142/050	56C	AW142/010	8.397	98	751	1.08	389	0.88	389	0.66	389
2.35	683	K102_0083	MR163/050	56C	AW143/010	8.309	98	686	1.94	689	1.57	689	1.18	689
2.35	683	K102_0083	MR164/140	143/145TC	AW164/012	8.309	196	686	2.06	731	1.79	784	1.48	863
2.52	740	K202_0084	MR163/050	56C	AW143/010	8.397	98	751	2.06	740	1.67	740	1.25	740
4.17	1,224	K202_0084	MR164/140	143/145TC	AW164/012	8.397	196	751	3.64	1,310	3.14	1,392	2.36	1,392
4.17	1,224	K202_0084	MR205/180	182/184TC	AW165/012	8.397	196	751	3.64	1,310	3.17	1,404	2.62	1,546
4.94	1,450	K302_0084	MR164/140	143/145TC	AW164/012	8.444	196	1,127	4.03	1,450	3.27	1,450	2.45	1,450
7.32	2,149	K302_0084	MR205/180	182/184TC	AW165/012	8.444	196	1,127	6.39	2,298	5.56	2,464	4.59	2,712
11.00	3,216	K402_0084	MR205/180	182/184TC	AW165/012	8.377	196	1,402	9.57	3,440	7.88	3,490	5.91	3,490
11.00	3,216	K402_0084	MR256/210	213/215TC	AW206/014	8.377	333	1,402	9.57	3,440	8.32	3,688	6.87	4,060
37.60*	10,879	K713_0084	MR306/250	254/256TC	AW206/014	8.373	333	2,805	30.70*	10,879	24.90	10,879	18.70	10,879
39.60	11,243	K813_0082	MR306/250	254/256TC	AW206/014	8.243	333	3,552	32.40	11,243	26.20	11,243	19.70	11,243
44.60*	12,897	K713_0084	MR307/280	284/286TC	AW307/110	8.373	1072	2,805	39.00*	13,795	33.90*	14,792	28.00	16,280
75.70*	21,484	K813_0082	MR307/280	284/286TC	AW307/110	8.243	1072	3,552	61.80*	21,484	50.20*	21,484	37.60	21,484
190 RPM	**Output (Approximate)** **Continued Next Page**								**155 RPM**		**125 RPM**		**95 RPM**	
0.69	222	K102_0092	MR141/050	56C	AW141/010	9.249	98	704	0.56	222	0.46	222	0.34	222
1.30	418	K102_0092	MR142/050	56C	AW142/010	9.249	98	704	1.06	418	0.86	418	0.65	418
1.37	441	K202_0092	MR142/050	56C	AW142/010	9.190	98	769	1.12	441	0.91	441	0.68	441
2.20	708	K102_0092	MR163/050	56C	AW143/010	9.249	98	704	1.92	757	1.63	795	1.23	795
2.20	708	K102_0092	MR164/140	143/145TC	AW164/012	9.249	196	704	1.92	757	1.67	812	1.38	894
2.60	839	K202_0092	MR163/050	56C	AW143/010	9.190	98	769	2.13	839	1.73	839	1.29	839

* For thermal HP capacity, see rating below.

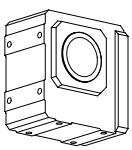
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

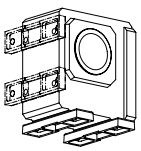
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

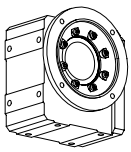
B – Basic Design



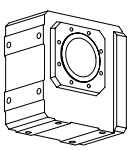
N – Foot Mounted



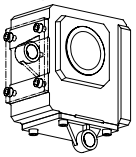
F – Round Flange



G – Tapped Holes

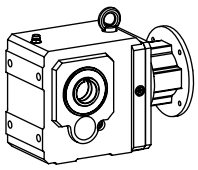


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

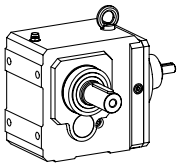
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
190 RPM		**Output (Approximate)** **Continued**							**155 RPM**		**125 RPM**		**95 RPM**	
3.92	1,262	K202_0092	MR164/140	143/145TC	AW164/012	9.190	196	769	3.42	1,350	2.98	1,448	2.44	1,579
3.92	1,262	K202_0092	MR205/180	182/184TC	AW165/012	9.190	196	769	3.42	1,350	2.98	1,448	2.46	1,593
5.08	1,648	K302_0093	MR164/140	143/145TC	AW164/012	9.267	196	1,155	4.15	1,648	3.37	1,648	2.53	1,648
6.83	2,217	K302_0093	MR205/180	182/184TC	AW165/012	9.267	196	1,155	5.97	2,371	5.20	2,543	4.29	2,798
10.30	3,323	K402_0092	MR205/180	182/184TC	AW165/012	9.238	196	1,435	9.01	3,554	7.84	3,811	6.15	3,986
10.30	3,323	K402_0092	MR256/210	213/215TC	AW206/014	9.238	333	1,435	9.01	3,554	7.84	3,811	6.47	4,195
19.40*	6,147	K513_0092	MR256/210	213/215TC	AW206/014	9.168	333	1,723	16.90*	6,575	14.70	7,050	12.20	7,759
25.90*	8,097	K613_0091	MR306/250	254/256TC	AW206/014	9.081	333	2,196	22.60*	8,661	19.70	9,287	16.20	10,221
25.90*	8,097	K613_0091	MR307/280	284/286TC	AW307/110	9.081	1072	2,196	22.60*	8,661	19.70	9,287	16.20	10,221
36.60*	11,631	K713_0092	MR306/250	254/256TC	AW206/014	9.188	333	2,871	29.90*	11,631	24.30	11,631	18.20	11,631
38.50	12,294	K813_0093	MR306/250	254/256TC	AW206/014	9.284	333	3,658	31.40	12,294	25.50	12,294	19.10	12,294
41.90*	13,302	K713_0092	MR307/280	284/286TC	AW307/110	9.188	1072	2,871	36.60*	14,229	31.90*	15,257	26.30	16,792
72.30*	23,108	K813_0093	MR307/280	284/286TC	AW307/110	9.284	1072	3,658	60.10*	23,492	48.70*	23,492	36.60	23,492
170 RPM		**Output (Approximate)** **Continued Next Page**							**140 RPM**		**115 RPM**		**85 RPM**	
0.64	228	K102_0100	MR141/050	56C	AW141/010	10.14	98	721	0.53	228	0.43	228	0.32	228
1.21	428	K102_0100	MR142/050	56C	AW142/010	10.14	98	721	0.99	428	0.80	428	0.60	428
1.28	452	K202_0100	MR142/050	56C	AW142/010	10.07	98	787	1.04	452	0.85	452	0.64	452
2.07	730	K102_0100	MR163/050	56C	AW143/010	10.14	98	721	1.81	781	1.53	814	1.14	814
2.07	730	K102_0100	MR164/140	143/145TC	AW164/012	10.14	196	721	1.81	781	1.57	837	1.30	922
2.43	859	K202_0100	MR163/050	56C	AW143/010	10.07	98	787	1.99	859	1.61	859	1.21	859
3.68	1,302	K202_0100	MR164/140	143/145TC	AW164/012	10.07	196	787	3.22	1,392	2.80	1,493	2.27	1,617
3.68	1,302	K202_0100	MR205/180	182/184TC	AW165/012	10.07	196	787	3.22	1,392	2.80	1,493	2.31	1,643
4.75	1,680	K302_0100	MR164/140	143/145TC	AW164/012	10.14	196	1,180	3.88	1,680	3.15	1,680	2.36	1,680
6.46	2,284	K302_0100	MR205/180	182/184TC	AW165/012	10.14	196	1,180	5.65	2,443	4.91	2,619	4.05	2,883
9.68	3,423	K402_0100	MR205/180	182/184TC	AW165/012	10.10	196	1,469	8.46	3,662	7.36	3,926	5.74	4,078
9.68	3,423	K402_0100	MR256/210	213/215TC	AW206/014	10.10	333	1,469	8.46	3,662	7.36	3,926	6.08	4,321
18.30*	6,359	K513_0100	MR256/210	213/215TC	AW206/014	10.15	333	1,764	16.00*	6,802	13.90	7,293	11.40	7,972
24.10*	8,376	K613_0100	MR306/250	254/256TC	AW206/014	10.05	333	2,256	21.00*	8,959	18.30	9,606	15.10	10,573
24.10*	8,376	K613_0100	MR307/280	284/286TC	AW307/110	10.05	1072	2,256	21.00*	8,959	18.30	9,606	15.10	10,573
37.00*	12,878	K713_0100	MR256/210	213/215TC	AW206/014	10.17	333	2,938	30.20*	12,878	24.50	12,878	18.40	12,878
37.00*	12,878	K713_0100	MR306/250	254/256TC	AW206/014	10.17	333	2,938	30.20*	12,878	24.50	12,878	18.40	12,878
38.40	13,611	K813_0105	MR256/210	213/215TC	AW206/014	10.28	333	3,754	31.40	13,611	25.50	13,611	19.10	13,611
38.40	13,611	K813_0105	MR306/250	254/256TC	AW206/014	10.28	333	3,754	31.40	13,611	25.50	13,611	19.10	13,611
39.50*	13,761	K713_0100	MR307/280	284/286TC	AW307/110	10.17	1072	2,938	34.50*	14,719	30.00*	15,783	24.80	17,371

Part No. Explanation

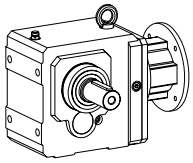
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. (1/16 in.; example – 012 = 12/16 or 3/4)
- 012

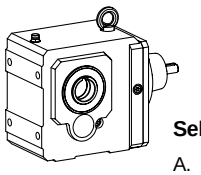


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
170 RPM		**Output (Approximate) Continued**							**140 RPM**		**115 RPM**		**85 RPM**	
67.50*	23,904	K813_0105	MR307/280	284/286TC	AW307/110	10.28	1072	3,754	59.00*	25,569	48.70*	26,010	36.50	26,010
77.00*	26,819	K913_0100	MR307/280	284/286TC	AW307/110	10.12	1072	4,918	62.90*	26,819	51.10	26,819	38.30	26,819
124.0*	43,159	K913_0100	MR358/320	324/326TC	AW358/202	10.12	1569	4,918	108.0*	46,164	94.20*	49,499	76.40*	53,483
124.0*	43,159	K913_0100	MR358/360	364/365TC	AW358/202	10.12	1569	4,918	108.0*	46,164	94.20*	49,499	76.40*	53,483
158.0*	55,083	K1013_0100	MR358/320	324/326TC	AW358/202	9.99	1569	10,493	129.0*	55,083	105.0*	55,083	78.70*	55,083
158.0*	55,083	K1013_0100	MR358/360	364/365TC	AW358/202	9.99	1569	10,493	129.0*	55,083	105.0*	55,083	78.70*	55,083
150 RPM		**Output (Approximate)**							**125 RPM**		**100 RPM**		**75 RPM**	
0.66	268	K102_0115	MR141/050	56C	AW141/010	11.56	98	745	0.54	268	0.44	268	0.33	268
1.25	504	K102_0115	MR142/050	56C	AW142/010	11.56	98	745	1.02	504	0.83	504	0.62	504
1.32	535	K202_0115	MR142/050	56C	AW142/010	11.55	98	813	1.08	535	0.88	535	0.66	535
1.89	763	K102_0115	MR163/050	56C	AW143/010	11.56	98	745	1.65	816	1.44	875	1.18	959
1.89	763	K102_0115	MR164/140	143/145TC	AW164/012	11.56	196	745	1.65	816	1.44	875	1.19	963
2.52	1,017	K202_0115	MR163/050	56C	AW143/010	11.55	98	813	2.06	1,017	1.67	1,017	1.25	1,017
3.37	1,362	K202_0115	MR164/140	143/145TC	AW164/012	11.55	196	813	2.95	1,457	2.56	1,562	2.12	1,719
3.37	1,362	K202_0115	MR205/180	182/184TC	AW165/012	11.55	196	813	2.95	1,457	2.56	1,562	2.12	1,719
4.94	1,994	K302_0115	MR164/140	143/145TC	AW164/012	11.61	196	1,220	4.03	1,994	3.27	1,994	2.45	1,994
5.92	2,390	K302_0115	MR205/180	182/184TC	AW165/012	11.61	196	1,220	5.17	2,556	4.50	2,741	3.71	3,016
8.85	3,576	K402_0115	MR205/180	182/184TC	AW165/012	11.52	196	1,518	7.74	3,825	6.73	4,102	5.56	4,514
8.85	3,576	K402_0115	MR256/210	213/215TC	AW206/014	11.52	333	1,518	7.74	3,825	6.73	4,102	5.56	4,514
16.70*	6,643	K513_0115	MR256/210	213/215TC	AW206/014	11.57	333	1,824	14.60	7,105	12.70	7,618	10.00	7,972
22.00*	8,736	K613_0115	MR256/210	213/215TC	AW206/014	11.41	333	2,332	19.20	9,344	16.70	10,020	13.80	11,028
22.00*	8,736	K613_0115	MR306/250	254/256TC	AW206/014	11.41	333	2,332	19.20	9,344	16.70	10,020	13.80	11,028
35.20*	14,381	K713_0120	MR256/210	213/215TC	AW206/014	11.78	333	3,057	28.80	14,381	23.40	14,381	17.50	14,381
35.20*	14,381	K713_0120	MR306/250	254/256TC	AW206/014	11.78	333	3,057	28.80	14,381	23.40	14,381	17.50	14,381
35.40*	14,452	K713_0120	MR307/280	284/286TC	AW307/110	11.78	1072	3,057	31.00*	15,458	26.90	16,575	22.20	18,243
37.20	15,194	K813_0120	MR256/210	213/215TC	AW206/014	11.91	333	3,889	30.40	15,194	24.70	15,194	18.50	15,194
37.20	15,194	K813_0120	MR306/250	254/256TC	AW206/014	11.91	333	3,889	30.40	15,194	24.70	15,194	18.50	15,194
61.50*	25,105	K813_0120	MR307/280	284/286TC	AW307/110	11.91	1072	3,889	53.80*	26,853	46.80*	28,793	35.40	29,035
140 RPM		**Output (Approximate)** **Continued Next Page**							**115 RPM**		**92 RPM**		**70 RPM**	
0.62	273	K102_0125	MR141/050	56C	AW141/010	12.62	98	762	0.51	273	0.41	273	0.31	273
1.16	512	K102_0125	MR142/050	56C	AW142/010	12.62	98	762	0.95	512	0.77	512	0.58	512
1.24	547	K202_0125	MR142/050	56C	AW142/010	12.70	98	831	1.01	547	0.82	547	0.62	547
1.78	785	K102_0125	MR163/050	56C	AW143/010	12.62	98	762	1.56	840	1.35	901	1.10	974

* For thermal HP capacity, see rating below.

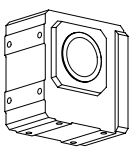
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

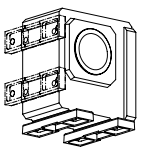
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

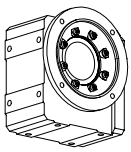
B – Basic Design



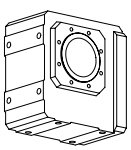
N – Foot Mounted



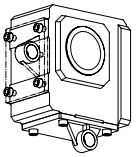
F – Round Flange



G – Tapped Holes

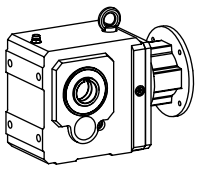


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

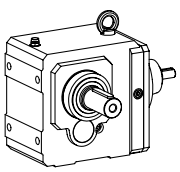
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
140 RPM		**Output (Approximate) Continued**							**115 RPM**		**92 RPM**		**70 RPM**	
1.78	785	K102_0125	MR164/140	143/145TC	AW164/012	12.62	196	762	1.56	840	1.35	901	1.10	974
2.36	1,042	K202_0125	MR163/050	56C	AW143/010	12.70	98	831	1.93	1,042	1.56	1,042	1.17	1,042
2.41	1,066	K302_0125	MR163/050	56C	AW143/010	12.58	98	1,247	1.97	1,066	1.60	1,066	1.20	1,066
3.19	1,406	K202_0125	MR164/140	143/145TC	AW164/012	12.70	196	831	2.78	1,504	2.42	1,613	2.00	1,772
3.19	1,406	K202_0125	MR205/180	182/184TC	AW165/012	12.70	196	831	2.78	1,504	2.42	1,613	2.00	1,772
4.54	2,005	K302_0125	MR164/140	143/145TC	AW164/012	12.58	196	1,247	3.71	2,005	3.01	2,005	2.26	2,005
4.75	2,095	K402_0125	MR164/140	143/145TC	AW164/012	12.66	196	1,552	3.88	2,095	3.15	2,095	2.36	2,095
5.56	2,455	K302_0125	MR205/180	182/184TC	AW165/012	12.58	196	1,247	4.86	2,625	4.23	2,815	3.49	3,098
8.36	3,690	K402_0125	MR205/180	182/184TC	AW165/012	12.66	196	1,552	7.31	3,947	6.36	4,233	5.25	4,659
8.36	3,690	K402_0125	MR256/210	213/215TC	AW206/014	12.66	333	1,552	7.31	3,947	6.36	4,233	5.25	4,659
20.80*	9,038	K613_0125	MR306/250	254/256TC	AW206/014	12.63	333	2,384	18.20	9,667	15.80	10,366	13.00	11,409
74.00*	32,191	K913_0125	MR307/280	284/286TC	AW307/110	12.52	1072	5,199	60.50*	32,191	49.10	32,191	36.80	32,191
107.0*	46,343	K913_0125	MR358/360	364/365TC	AW358/202	12.52	1569	5,199	93.20*	49,570	81.00*	53,151	66.90*	58,501
153.0*	66,579	K1013_0125	MR358/360	364/365TC	AW358/202	12.48	1569	11,092	125.0*	66,579	102.0*	66,579	76.10*	66,579
135 RPM		**Output (Approximate)**							**110 RPM**		**90 RPM**		**65 RPM**	
15.30*	6,872	K513_0130	MR256/210	213/215TC	AW206/014	12.81	333	1,880	13.40	7,350	11.60	7,882	8.81	7,972
33.30*	14,950	K713_0130	MR306/250	254/256TC	AW206/014	13.04	333	3,132	28.90	15,921	23.50	15,921	17.60	15,921
33.30*	14,950	K713_0130	MR307/280	284/286TC	AW307/110	13.04	1072	3,132	29.10	15,991	25.30	17,147	20.90	18,872
37.40	16,822	K813_0130	MR306/250	254/256TC	AW206/014	13.18	333	3,985	30.60	16,822	24.80	16,822	18.60	16,822
57.80*	25,971	K813_0130	MR307/280	284/286TC	AW307/110	13.18	1072	3,985	50.50*	27,779	43.90*	29,786	35.50	32,146
125 RPM		**Output (Approximate)**							**100 RPM**		**85 RPM**		**62 RPM**	
0.65	317	K102_0140	MR141/050	56C	AW141/010	14.11	98	782	0.53	317	0.43	317	0.32	317
1.22	595	K102_0140	MR142/050	56C	AW142/010	14.11	98	782	1.00	595	0.81	595	0.61	595
1.27	621	K202_0140	MR142/050	56C	AW142/010	13.85	98	853	1.04	621	0.84	621	0.63	621
1.67	816	K102_0140	MR163/050	56C	AW143/010	14.11	98	782	1.46	873	1.27	936	1.05	1,030
1.67	816	K102_0140	MR164/140	143/145TC	AW164/012	14.11	196	782	1.46	873	1.27	936	1.05	1,030
2.42	1,181	K202_0140	MR163/050	56C	AW143/010	13.85	98	853	1.98	1,181	1.60	1,181	1.20	1,181
2.96	1,447	K202_0140	MR164/140	143/145TC	AW164/012	13.85	196	853	2.59	1,548	2.25	1,660	1.80	1,772
2.96	1,447	K202_0140	MR205/180	182/184TC	AW165/012	13.85	196	853	2.59	1,548	2.25	1,660	1.80	1,772
4.73	2,311	K302_0140	MR164/140	143/145TC	AW164/012	13.94	196	1,279	3.87	2,311	3.14	2,311	2.35	2,311
5.20	2,540	K302_0140	MR205/180	182/184TC	AW165/012	13.94	196	1,279	4.55	2,717	3.96	2,913	3.16	3,100
7.80	3,806	K402_0140	MR205/180	182/184TC	AW165/012	13.89	196	1,592	6.82	4,071	5.93	4,366	4.89	4,805
7.80	3,806	K402_0140	MR256/210	213/215TC	AW206/014	13.89	333	1,592	6.82	4,071	5.93	4,366	4.89	4,805

Part No. Explanation

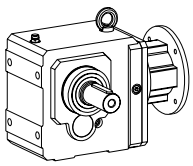
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- 012

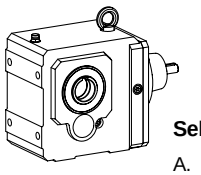


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
120 RPM	**Output (Approximate)**								**95 RPM**		**80 RPM**		**60 RPM**	
12.40	6,159	K513_0145	MR205/180	182/184TC	AW165/012	14.54	196	1,929	10.10	6,159	8.19	6,159	6.14	6,159
14.40	7,168	K513_0145	MR256/210	213/215TC	AW206/014	14.54	333	1,929	12.60	7,667	10.60	7,972	7.95	7,972
18.90	9,427	K613_0145	MR306/250	254/256TC	AW206/014	14.33	333	2,467	16.50	10,083	14.40	10,812	11.90	11,900
30.50*	15,595	K713_0150	MR306/250	254/256TC	AW206/014	14.80	333	3,233	26.70	16,681	22.60	17,436	17.00	17,436
30.50*	15,595	K713_0150	MR307/280	284/286TC	AW307/110	14.80	1072	3,233	26.70	16,681	23.20	17,886	19.20	19,686
35.80	18,282	K813_0150	MR306/250	254/256TC	AW206/014	14.84	333	4,113	29.30	18,282	23.70	18,282	17.80	18,282
52.90*	27,018	K813_0150	MR307/280	284/286TC	AW307/110	14.84	1072	4,113	46.20*	28,900	40.20	30,988	33.20	34,106
110 RPM	**Output (Approximate)**								**90 RPM**		**75 RPM**		**55 RPM**	
12.40	6,819	K513_0160	MR205/180	182/184TC	AW165/012	16.09	196	1,977	10.10	6,819	8.22	6,819	6.17	6,819
13.50	7,415	K513_0160	MR256/210	213/215TC	AW206/014	16.09	333	1,977	11.80	7,931	9.61	7,972	7.21	7,972
17.70	9,753	K613_0160	MR306/250	254/256TC	AW206/014	15.87	333	2,529	15.50	10,432	13.50	11,185	11.10	12,311
71.50*	39,304	K913_0160	MR307/280	284/286TC	AW307/110	15.91	1072	5,513	58.40*	39,304	47.40	39,304	35.50	39,304
91.30*	50,190	K913_0160	MR358/360	364/365TC	AW358/202	15.91	1569	5,513	79.80*	53,685	69.40*	57,563	56.10*	62,006
148.0*	81,364	K1013_0160	MR358/360	364/365TC	AW358/202	15.88	1569	11,762	121.0*	81,364	98.10*	81,364	73.60*	81,364
105 RPM	**Output (Approximate)** **Continued Next Page**								**85 RPM**		**70 RPM**		**53 RPM**	
0.59	344	K102_0165	MR141/050	56C	AW141/010	16.71	98	815	0.49	344	0.39	344	0.30	344
1.12	647	K102_0165	MR142/050	56C	AW142/010	16.71	98	815	0.91	647	0.74	647	0.56	647
1.16	690	K202_0170	MR142/050	56C	AW142/010	16.86	98	895	0.95	690	0.77	690	0.58	690
1.20	714	K302_0170	MR142/050	56C	AW142/010	16.94	98	1,343	0.98	714	0.80	714	0.60	714
1.49	863	K102_0165	MR163/050	56C	AW143/010	16.71	98	815	1.30	923	1.12	974	0.84	974
1.49	863	K102_0165	MR163/140	143/145TC	AW143/010	16.71	98	815	1.30	923	1.12	974	0.84	974
2.22	1,314	K202_0170	MR163/050	56C	AW143/010	16.86	98	895	1.81	1,314	1.47	1,314	1.10	1,314
2.29	1,358	K302_0170	MR163/050	56C	AW143/010	16.94	98	1,343	1.87	1,358	1.52	1,358	1.14	1,358
2.61	1,545	K202_0170	MR164/140	143/145TC	AW164/012	16.86	196	895	2.28	1,653	1.98	1,772	1.49	1,772
2.61	1,545	K202_0170	MR205/180	182/184TC	AW165/012	16.86	196	895	2.28	1,653	1.98	1,772	1.49	1,772
4.31	2,556	K302_0170	MR164/140	143/145TC	AW164/012	16.94	196	1,343	3.52	2,556	2.86	2,556	2.14	2,556
4.45	2,639	K402_0170	MR164/140	143/145TC	AW164/012	16.94	196	1,671	3.64	2,639	2.95	2,639	2.21	2,639
4.57	2,710	K302_0170	MR205/180	182/184TC	AW165/012	16.94	196	1,343	4.00	2,899	3.47	3,100	2.60	3,100
6.86	4,067	K402_0170	MR205/180	182/184TC	AW165/012	16.94	196	1,671	6.00	4,350	5.22	4,665	4.09	4,872
6.86	4,067	K402_0170	MR256/210	213/215TC	AW206/014	16.94	333	1,671	6.00	4,350	5.22	4,665	4.09	4,872
12.50	7,314	K613_0170	MR205/180	182/184TC	AW165/012	17.16	196	2,567	10.20	7,314	8.30	7,314	6.23	7,314
17.10	10,009	K613_0170	MR306/250	254/256TC	AW206/014	17.16	333	2,567	15.00	10,706	13.00	11,479	10.80	12,635
28.30	16,133	K713_0165	MR306/250	254/256TC	AW206/014	16.39	333	3,323	24.70	17,256	21.50	18,503	16.80	19,304

* For thermal HP capacity, see rating below.

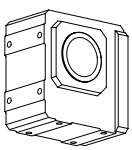
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

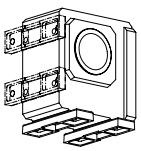
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

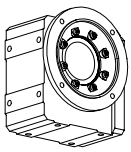
B – Basic Design



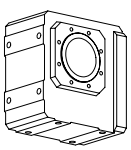
N – Foot Mounted



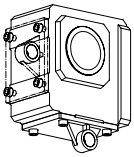
F – Round Flange



G – Tapped Holes

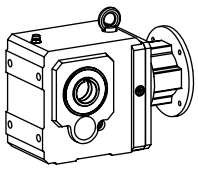


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

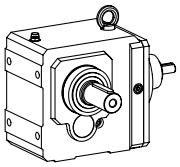
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
105 RPM		**Output (Approximate)** Continued							**85 RPM**		**70 RPM**		**53 RPM**	
28.30	16,133	K713_0165	MR307/280	284/286TC	AW307/110	16.39	1072	3,323	24.70	17,256	21.50	18,503	17.80	20,365
35.50	20,241	K813_0165	MR306/250	254/256TC	AW206/014	16.43	333	4,228	29.00	20,241	23.50	20,241	17.70	20,241
49.10*	27,951	K813_0165	MR307/280	284/286TC	AW307/110	16.43	1072	4,228	42.90*	29,897	37.30	32,057	30.80	35,283
100 RPM		**Output (Approximate)**							**82 RPM**		**65 RPM**		**50 RPM**	
0.62	380	K102_0175	MR141/050	56C	AW141/010	17.56	98	826	0.51	380	0.41	380	0.31	380
1.17	713	K102_0175	MR142/050	56C	AW142/010	17.56	98	826	0.96	713	0.78	713	0.58	713
1.23	753	K202_0175	MR142/050	56C	AW142/010	17.47	98	901	1.01	753	0.82	753	0.61	753
1.44	877	K102_0175	MR163/050	56C	AW143/010	17.56	98	826	1.26	938	1.09	1,006	0.87	1,063
1.44	877	K102_0175	MR164/140	143/145TC	AW164/012	17.56	196	826	1.26	938	1.09	1,006	0.87	1,063
2.35	1,433	K202_0175	MR163/050	56C	AW143/010	17.47	98	901	1.92	1,433	1.56	1,433	1.17	1,433
2.40	1,465	K302_0175	MR163/050	56C	AW143/010	17.29	98	1,352	1.96	1,465	1.59	1,465	1.19	1,465
2.56	1,563	K202_0175	MR164/140	143/145TC	AW164/012	17.47	196	901	2.24	1,672	1.93	1,772	1.44	1,772
2.56	1,563	K202_0175	MR205/180	182/184TC	AW165/012	17.47	196	901	2.24	1,672	1.93	1,772	1.44	1,772
4.48	2,729	K302_0175	MR164/140	143/145TC	AW164/012	17.29	196	1,352	3.70	2,758	3.00	2,758	2.25	2,758
4.48	2,729	K302_0175	MR205/180	182/184TC	AW165/012	17.29	196	1,352	3.91	2,919	3.37	3,100	2.53	3,100
4.72	2,881	K402_0175	MR164/140	143/145TC	AW164/012	17.41	196	1,683	3.86	2,881	3.13	2,881	2.35	2,881
6.73	4,104	K402_0175	MR205/180	182/184TC	AW165/012	17.41	196	1,683	5.88	4,390	5.12	4,707	3.97	4,872
6.73	4,104	K402_0175	MR256/210	213/215TC	AW206/014	17.41	333	1,683	5.88	4,390	5.12	4,707	3.97	4,872
12.00	7,185	K513_0175	MR205/180	182/184TC	AW165/012	17.48	196	2,021	9.77	7,185	7.93	7,185	5.95	7,185
12.70	7,622	K513_0175	MR256/210	213/215TC	AW206/014	17.48	333	2,021	10.80	7,972	8.80	7,972	6.60	7,972
34.70	20,821	K813_0175	MR306/250	254/256TC	AW206/014	17.33	333	4,284	28.30	20,821	23.00	20,821	17.20	20,821
47.40*	28,449	K813_0175	MR307/280	284/286TC	AW307/110	17.33	1072	4,284	41.40*	30,430	36.00	32,629	29.70	35,912
95 RPM		**Output (Approximate)**							**78 RPM**		**63 RPM**		**48 RPM**	
26.60	16,730	K713_0185	MR306/250	254/256TC	AW206/014	18.27	333	3,407	23.20	17,895	20.20	19,187	16.40	20,804
26.60	16,730	K713_0185	MR307/280	284/286TC	AW307/110	18.27	1072	3,407	23.20	17,895	20.20	19,187	16.70	21,118
90 RPM		**Output (Approximate)** Continued Next Page							**75 RPM**		**60 RPM**		**45 RPM**	
11.80	7,885	K513_0195	MR205/180	182/184TC	AW165/012	19.35	196	2,075	9.75	7,955	7.91	7,955	5.93	7,955
11.80	7,885	K513_0195	MR256/210	213/215TC	AW206/014	19.35	333	2,075	9.77	7,972	7.93	7,972	5.94	7,972
12.40	8,098	K613_0190	MR205/180	182/184TC	AW165/012	18.99	196	2,642	10.10	8,098	8.19	8,098	6.14	8,098
15.80	10,354	K613_0190	MR256/210	213/215TC	AW206/014	18.99	333	2,642	13.80	11,075	12.00	11,876	9.74	12,844
15.80	10,354	K613_0190	MR306/250	254/256TC	AW206/014	18.99	333	2,642	13.80	11,075	12.00	11,876	9.74	12,844
35.20	23,051	K813_0190	MR256/210	213/215TC	AW206/014	19.18	333	4,379	28.70	23,051	23.30	23,051	17.50	23,051

Part No. Explanation

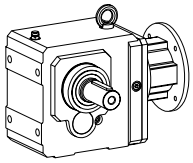
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- 012

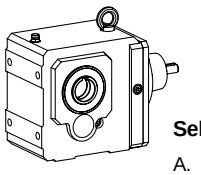


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
90 RPM		**Output (Approximate) Continued**							**75 RPM**		**60 RPM**		**45 RPM**	
35.20	23,051	K813_0190	MR306/250	254/256TC	AW206/014	19.18	333	4,379	28.70	23,051	23.30	23,051	17.50	23,051
44.90*	29,431	K813_0190	MR307/280	284/286TC	AW307/110	19.18	1072	4,379	39.20	31,480	34.10	33,755	28.20	37,152
69.70*	45,677	K913_0190	MR307/280	284/286TC	AW307/110	19.06	1072	5,762	56.90*	45,677	46.20	45,677	34.60	45,677
81.30*	53,307	K913_0190	MR358/360	364/365TC	AW358/202	19.06	1569	5,762	71.10*	57,019	61.80*	61,139	47.00	62,006
143.0*	93,513	K1013_0190	MR358/360	364/365TC	AW358/202	18.75	1569	12,292	117.0*	93,513	94.50*	93,513	70.90*	93,513
85 RPM		**Output (Approximate)**							**70 RPM**		**55 RPM**		**43 RPM**	
0.57	401	K102_0200	MR141/050	56C	AW141/010	20.15	98	858	0.46	401	0.38	401	0.28	401
1.06	754	K102_0200	MR142/050	56C	AW142/010	20.15	98	858	0.87	754	0.71	754	0.53	754
1.13	801	K202_0200	MR142/050	56C	AW142/010	20.33	98	936	0.92	801	0.75	801	0.56	801
1.17	826	K302_0200	MR142/050	56C	AW142/010	20.28	98	1,404	0.95	826	0.77	826	0.58	826
1.30	919	K102_0200	MR163/050	56C	AW143/010	20.15	98	858	1.12	974	0.91	974	0.68	974
1.30	919	K102_0200	MR163/140	143/145TC	AW143/010	20.15	98	858	1.12	974	0.91	974	0.68	974
2.15	1,523	K202_0200	MR163/050	56C	AW143/010	20.33	98	936	1.76	1,523	1.43	1,523	1.07	1,523
2.22	1,571	K302_0200	MR163/050	56C	AW143/010	20.28	98	1,404	1.81	1,571	1.47	1,571	1.10	1,571
2.29	1,619	K402_0200	MR163/050	56C	AW163/012	20.20	196	1,747	1.87	1,619	1.52	1,619	1.14	1,619
2.32	1,645	K202_0200	MR164/140	143/145TC	AW164/012	20.33	196	936	2.03	1,759	1.66	1,772	1.24	1,772
4.07	2,878	K302_0200	MR164/140	143/145TC	AW164/012	20.28	196	1,404	3.41	2,958	2.77	2,958	2.08	2,958
4.07	2,878	K302_0200	MR205/180	182/184TC	AW165/012	20.28	196	1,404	3.55	3,078	2.90	3,100	2.18	3,100
4.31	3,049	K402_0200	MR164/140	143/145TC	AW164/012	20.20	196	1,747	3.52	3,049	2.86	3,049	2.14	3,049
6.09	4,313	K402_0200	MR205/180	182/184TC	AW165/012	20.20	196	1,747	5.33	4,613	4.56	4,872	3.42	4,872
24.80	17,307	K713_0200	MR306/250	254/256TC	AW206/014	20.23	333	3,495	21.70	18,512	18.90	19,849	15.20	21,259
24.80	17,307	K713_0200	MR307/280	284/286TC	AW307/110	20.23	1072	3,495	21.70	18,512	18.90	19,849	15.20	21,259
80 RPM		**Output (Approximate)**							**65 RPM**		**53 RPM**		**40 RPM**	
10.60	7,972	K513_0220	MR205/180	182/184TC	AW165/012	21.99	196	2,138	8.66	7,972	7.02	7,972	5.27	7,972
10.60	7,972	K513_0220	MR256/210	213/215TC	AW206/014	21.99	333	2,138	8.66	7,972	7.02	7,972	5.27	7,972
11.90	8,916	K613_0220	MR205/180	182/184TC	AW165/012	21.68	196	2,735	9.68	8,916	7.86	8,916	5.89	8,916
14.40	10,822	K613_0220	MR306/250	254/256TC	AW206/014	21.68	333	2,735	12.60	11,576	10.90	12,412	8.49	12,844
75 RPM		**Output (Approximate) Continued Next Page**							**60 RPM**		**50 RPM**		**38 RPM**	
0.59	479	K102_0230	MR141/050	56C	AW141/010	23.26	98	887	0.48	479	0.39	479	0.29	479
1.11	900	K102_0230	MR142/050	56C	AW142/010	23.26	98	887	0.91	900	0.74	900	0.55	900
1.17	950	K202_0230	MR142/050	56C	AW142/010	23.18	98	968	0.96	950	0.78	950	0.58	950
1.19	964	K102_0230	MR163/050	56C	AW143/010	23.26	98	887	1.04	1,031	0.87	1,063	0.65	1,063

* For thermal HP capacity, see rating below.

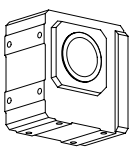
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

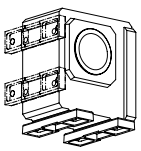
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

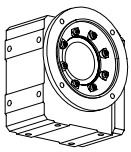
B – Basic Design



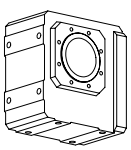
N – Foot Mounted



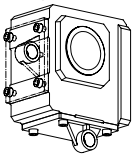
F – Round Flange



G – Tapped Holes

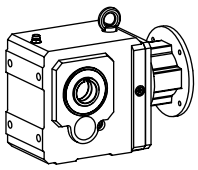


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

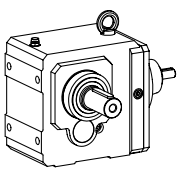
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
75 RPM		**Output (Approximate)** **Continued**							**60 RPM**		**50 RPM**		**38 RPM**	
1.19	964	K102_0230	MR163/140	143/145TC	AW143/010	23.26	98	887	1.04	1,031	0.87	1,063	0.65	1,063
1.21	981	K302_0230	MR142/050	56C	AW142/010	23.29	98	1,452	0.99	981	0.80	981	0.60	981
2.12	1,718	K202_0230	MR163/050	56C	AW143/010	23.18	98	968	1.79	1,772	1.45	1,772	1.09	1,772
2.12	1,718	K202_0230	MR164/140	143/145TC	AW164/012	23.18	196	968	1.79	1,772	1.45	1,772	1.09	1,772
2.12	1,718	K202_0230	MR205/180	182/184TC	AW165/012	23.18	196	968	1.79	1,772	1.45	1,772	1.09	1,772
2.30	1,867	K302_0230	MR163/050	56C	AW143/010	23.29	98	1,452	1.88	1,867	1.53	1,867	1.15	1,867
3.72	3,014	K302_0230	MR164/140	143/145TC	AW164/012	23.29	196	1,452	3.13	3,100	2.54	3,100	1.90	3,100
3.72	3,014	K302_0230	MR205/180	182/184TC	AW165/012	23.29	196	1,452	3.13	3,100	2.54	3,100	1.90	3,100
4.48	3,629	K402_0230	MR164/140	143/145TC	AW164/012	23.29	196	1,807	3.66	3,629	2.97	3,629	2.23	3,629
5.58	4,523	K402_0230	MR205/180	182/184TC	AW165/012	23.29	196	1,807	4.88	4,838	3.98	4,872	2.99	4,872
5.58	4,523	K402_0230	MR256/210	213/215TC	AW206/014	23.29	333	1,807	4.88	4,838	3.98	4,872	2.99	4,872
22.50	17,994	K713_0230	MR306/250	254/256TC	AW206/014	22.74	333	3,615	19.70	19,247	17.10	20,637	13.20	21,259
22.50	17,994	K713_0230	MR307/280	284/286TC	AW307/110	22.74	1072	3,615	19.70	19,247	17.10	20,637	13.20	21,259
32.90	26,233	K813_0230	MR306/250	254/256TC	AW206/014	23.04	333	4,600	26.90	26,233	21.80	26,233	16.30	26,233
39.20	31,286	K813_0230	MR307/280	284/286TC	AW307/110	23.04	1072	4,600	34.30	33,465	29.80	35,882	23.20	37,204
70 RPM		**Output (Approximate)** **Continued Next Page**							**55 RPM**		**45 RPM**		**35 RPM**	
0.54	475	K102_0250	MR141/050	56C	AW141/010	25.22	98	906	0.44	475	0.36	475	0.27	475
0.96	850	K102_0250	MR142/050	56C	AW142/010	25.22	98	906	0.79	850	0.64	850	0.48	850
0.96	850	K102_0250	MR163/050	56C	AW143/010	25.22	98	906	0.79	850	0.64	850	0.48	850
0.96	850	K102_0250	MR163/140	143/145TC	AW143/010	25.22	98	906	0.79	850	0.64	850	0.48	850
1.07	948	K202_0250	MR142/050	56C	AW142/010	25.13	98	989	0.88	948	0.71	948	0.53	948
1.12	987	K302_0250	MR142/050	56C	AW142/010	25.26	98	1,483	0.91	987	0.74	987	0.56	987
2.00	1,765	K202_0250	MR163/050	56C	AW143/010	25.13	98	989	1.64	1,772	1.33	1,772	1.00	1,772
2.00	1,765	K202_0250	MR164/140	143/145TC	AW164/012	25.13	196	989	1.64	1,772	1.33	1,772	1.00	1,772
2.13	1,877	K302_0250	MR163/050	56C	AW143/010	25.26	98	1,483	1.74	1,877	1.41	1,877	1.06	1,877
2.19	1,935	K402_0250	MR163/050	56C	AW163/012	25.28	196	1,846	1.79	1,935	1.45	1,935	1.09	1,935
3.48	3,069	K302_0250	MR164/140	143/145TC	AW164/012	25.26	196	1,483	2.84	3,069	2.31	3,069	1.73	3,069
4.13	3,642	K402_0250	MR164/140	143/145TC	AW164/012	25.28	196	1,846	3.38	3,642	2.74	3,642	2.05	3,642
5.03	4,434	K402_0250	MR205/180	182/184TC	AW165/012	25.28	196	1,846	4.11	4,434	3.33	4,434	2.50	4,434
9.63	7,972	K513_0240	MR205/180	182/184TC	AW165/012	24.35	196	2,191	7.87	7,972	6.38	7,972	4.79	7,972
9.63	7,972	K513_0240	MR256/210	213/215TC	AW206/014	24.35	333	2,191	7.87	7,972	6.38	7,972	4.79	7,972
11.90	9,871	K613_0240	MR205/180	182/184TC	AW165/012	24.01	196	2,801	9.74	9,871	7.90	9,871	5.93	9,871
13.50	11,196	K613_0240	MR306/250	254/256TC	AW206/014	24.01	333	2,801	11.80	11,975	10.30	12,840	7.71	12,844
21.40	18,615	K713_0250	MR306/250	254/256TC	AW206/014	25.17	333	3,692	18.70	19,912	16.20	21,259	12.20	21,259

Part No. Explanation

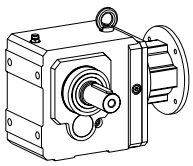
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- 012

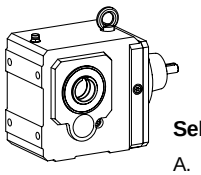


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

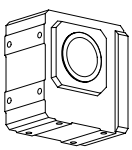
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
70 RPM		**Output (Approximate) Continued**							**55 RPM**		**45 RPM**		**35 RPM**	
21.40	18,615	K713_0250	MR307/280	284/286TC	AW307/110	25.17	1072	3,692	18.70	19,912	16.20	21,259	12.20	21,259
34.70	28,771	K913_0240	MR306/250	254/256TC	AW256/102	23.94	680	6,108	28.40	28,771	23.00	28,771	17.30	28,771
33.00	29,044	K813_0260	MR306/250	254/256TC	AW206/014	25.51	333	4,712	27.00	29,044	21.90	29,044	16.40	29,044
36.80	32,366	K813_0260	MR307/280	284/286TC	AW307/110	25.51	1072	4,712	32.20	34,620	28.00	37,121	21.00	37,204
66.40*	54,978	K913_0240	MR307/280	284/286TC	AW307/110	23.94	1072	6,108	54.20*	54,978	44.00	54,978	33.00	54,978
69.40*	57,516	K913_0240	MR358/360	364/365TC	AW358/202	23.94	1569	6,108	60.70*	61,521	49.60	62,006	37.20	62,006
128.0*	106,296	K1013_0240	MR358/360	364/365TC	AW358/202	23.79	1569	13,031	105.0*	106,296	85.10*	106,296	63.80	106,296
60 RPM		**Output (Approximate)**							**50 RPM**		**40 RPM**		**30 RPM**	
0.57	559	K102_0280	MR141/050	56C	AW141/010	28.05	98	930	0.47	559	0.38	559	0.28	559
1.05	1,025	K102_0280	MR142/050	56C	AW142/010	28.05	98	930	0.88	1,050	0.71	1,050	0.53	1,050
1.05	1,025	K102_0280	MR163/050	56C	AW143/010	28.05	98	930	0.89	1,063	0.72	1,063	0.54	1,063
1.05	1,025	K102_0280	MR163/140	143/145TC	AW143/010	28.05	98	930	0.89	1,063	0.72	1,063	0.54	1,063
1.13	1,101	K202_0280	MR142/050	56C	AW142/010	27.95	98	1,014	0.92	1,101	0.75	1,101	0.56	1,101
1.16	1,136	K302_0280	MR142/050	56C	AW142/010	27.88	98	1,521	0.95	1,136	0.77	1,136	0.58	1,136
1.81	1,772	K202_0280	MR163/050	56C	AW143/010	27.95	98	1,014	1.48	1,772	1.20	1,772	0.90	1,772
1.81	1,772	K202_0280	MR164/140	143/145TC	AW164/012	27.95	196	1,014	1.48	1,772	1.20	1,772	0.90	1,772
2.21	2,160	K302_0280	MR163/050	56C	AW143/010	27.88	98	1,521	1.81	2,160	1.47	2,160	1.10	2,160
2.28	2,226	K402_0280	MR163/050	56C	AW163/012	27.77	196	1,893	1.86	2,226	1.51	2,226	1.13	2,226
3.18	3,100	K302_0280	MR164/140	143/145TC	AW164/012	27.88	196	1,521	2.60	3,100	2.11	3,100	1.58	3,100
3.18	3,100	K302_0280	MR205/180	182/184TC	AW165/012	27.88	196	1,521	2.60	3,100	2.11	3,100	1.58	3,100
4.29	4,192	K402_0280	MR164/140	143/145TC	AW164/012	27.77	196	1,893	3.51	4,192	2.85	4,192	2.13	4,192
4.91	4,796	K402_0280	MR205/180	182/184TC	AW165/012	27.77	196	1,893	4.08	4,872	3.31	4,872	2.48	4,872
7.94	7,972	K513_0290	MR205/180	182/184TC	AW165/012	29.18	196	2,298	6.49	7,972	5.26	7,972	3.95	7,972
7.94	7,972	K513_0290	MR256/210	213/215TC	AW206/014	29.18	333	2,298	6.49	7,972	5.26	7,972	3.95	7,972
11.20	11,254	K613_0290	MR205/180	182/184TC	AW165/012	28.77	196	2,939	9.16	11,254	7.43	11,254	5.57	11,254
11.80	11,838	K713_0290	MR205/180	182/184TC	AW205/014	29.28	333	3,828	9.64	11,838	7.82	11,838	5.86	11,838
11.80	11,892	K613_0290	MR256/210	213/215TC	AW206/014	28.77	333	2,939	10.40	12,720	8.48	12,844	6.36	12,844
11.80	11,892	K613_0290	MR306/250	254/256TC	AW206/014	28.77	333	2,939	10.40	12,720	8.48	12,844	6.36	12,844
19.50	19,577	K713_0290	MR256/210	213/215TC	AW206/014	29.28	333	3,828	17.00	20,941	14.00	21,259	10.50	21,259
19.50	19,577	K713_0290	MR306/250	254/256TC	AW206/014	29.28	333	3,828	17.00	20,941	14.00	21,259	10.50	21,259
19.50	19,577	K713_0290	MR307/280	284/286TC	AW307/110	29.28	1072	3,828	17.00	20,941	14.00	21,259	10.50	21,259
31.80	31,893	K813_0290	MR256/210	213/215TC	AW206/014	29.25	333	4,871	26.00	31,893	21.10	31,893	15.80	31,893
31.80	31,893	K813_0290	MR306/250	254/256TC	AW206/014	29.25	333	4,871	26.00	31,893	21.10	31,893	15.80	31,893
33.70	33,876	K813_0290	MR307/280	284/286TC	AW307/110	29.25	1072	4,871	29.50	36,234	24.60	37,204	18.40	37,204

* For thermal HP capacity, see rating below.

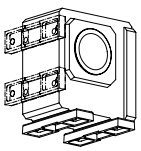
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

Housing Styles

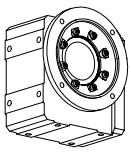
B – Basic Design



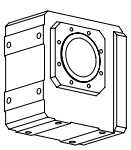
N – Foot Mounted



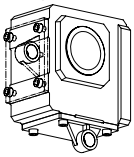
F – Round Flange



G – Tapped Holes



BD – Torque Arm Bracket

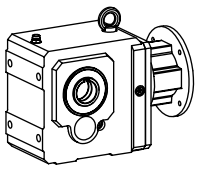


These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

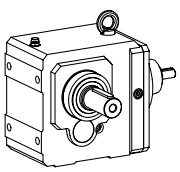
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
55 RPM	**Output (Approximate)**								**45 RPM**		**35 RPM**		**27 RPM**	
2.20	2,441	K403_0320	MR163/050	56C	AW163/012	32.39	196	1,962	1.80	2,441	1.46	2,441	1.10	2,441
3.15	3,490	K403_0320	MR164/140	143/145TC	AW164/012	32.39	196	1,962	2.57	3,490	2.09	3,490	1.57	3,490
7.20	7,972	K513_0320	MR205/180	182/184TC	AW165/012	32.31	196	2,356	5.88	7,972	4.77	7,972	3.58	7,972
7.20	7,972	K513_0320	MR256/210	213/215TC	AW206/014	32.31	333	2,356	5.88	7,972	4.77	7,972	3.58	7,972
11.10	12,302	K613_0320	MR205/180	182/184TC	AW165/012	31.85	196	3,013	9.19	12,461	7.46	12,461	5.59	12,461
11.10	12,302	K613_0320	MR306/250	254/256TC	AW206/014	31.85	333	3,013	9.47	12,844	7.68	12,844	5.76	12,844
11.80	13,106	K713_0320	MR205/180	182/184TC	AW205/014	32.42	333	3,924	9.67	13,106	7.84	13,106	5.88	13,106
18.30	20,253	K713_0320	MR306/250	254/256TC	AW206/014	32.42	333	3,924	15.70	21,259	12.70	21,259	9.54	21,259
18.30	20,253	K713_0320	MR307/280	284/286TC	AW307/110	32.42	1072	3,924	15.70	21,259	12.70	21,259	9.54	21,259
31.60	35,045	K813_0320	MR306/250	254/256TC	AW206/014	32.39	333	4,992	26.00	35,311	21.10	35,311	15.80	35,311
31.60	35,045	K813_0320	MR307/280	284/286TC	AW307/110	32.39	1072	4,992	27.40	37,204	22.30	37,204	16.70	37,204
33.00	36,561	K913_0320	MR306/250	254/256TC	AW256/102	32.12	680	6,569	27.00	36,561	21.90	36,561	16.40	36,561
56.00*	62,006	K913_0320	MR307/280	284/286TC	AW307/110	32.12	1072	6,569	45.70	62,006	37.10	62,006	27.80	62,006
56.00*	62,006	K913_0320	MR358/360	364/365TC	AW358/202	32.12	1569	6,569	45.70	62,006	37.10	62,006	27.80	62,006
64.70	71,685	K1013_0320	MR307/280	284/286TC	AW307/110	31.53	1072	14,015	52.90	71,685	42.90	71,685	32.20	71,685
95.90*	106,296	K1013_0320	MR358/360	364/365TC	AW358/202	31.53	1569	14,015	78.40*	106,296	63.60	106,296	47.70	106,296
53 RPM	**Output (Approximate)**								**42 RPM**		**33 RPM**		**26 RPM**	
0.51	598	K102_0340	MR141/050	56C	AW141/010	33.71	98	974	0.42	598	0.34	598	0.25	598
0.54	633	K202_0340	MR141/050	56C	AW141/010	33.62	98	1,063	0.44	633	0.36	633	0.27	633
0.55	647	K102_0340	MR142/050	56C	AW142/010	33.71	98	974	0.45	647	0.36	647	0.27	647
1.01	1,190	K202_0340	MR142/050	56C	AW142/010	33.62	98	1,063	0.83	1,190	0.67	1,190	0.50	1,190
1.06	1,243	K302_0340	MR142/050	56C	AW142/010	33.62	98	1,594	0.86	1,243	0.70	1,243	0.53	1,243
1.16	1,364	K202_0340	MR163/050	56C	AW143/010	33.62	98	1,063	0.95	1,364	0.77	1,364	0.58	1,364
1.16	1,364	K202_0340	MR163/140	143/145TC	AW143/010	33.62	98	1,063	0.95	1,364	0.77	1,364	0.58	1,364
1.88	2,217	K302_0340	MR163/050	56C	AW143/010	33.62	98	1,594	1.54	2,217	1.25	2,217	0.94	2,217
1.88	2,217	K302_0340	MR164/140	143/145TC	AW164/012	33.62	196	1,594	1.54	2,217	1.25	2,217	0.94	2,217
2.06	2,428	K402_0340	MR163/050	56C	AW163/012	33.68	196	1,984	1.69	2,428	1.37	2,428	1.03	2,428
2.18	2,461	K303_0330	MR163/050	56C	AW163/012	32.65	196	1,584	1.78	2,461	1.44	2,461	1.08	2,461
2.74	3,100	K303_0330	MR164/140	143/145TC	AW164/012	32.65	196	1,584	2.24	3,100	1.82	3,100	1.36	3,100
2.93	3,445	K402_0340	MR164/140	143/145TC	AW164/012	33.68	196	1,984	2.39	3,445	1.94	3,445	1.46	3,445

Part No. Explanation

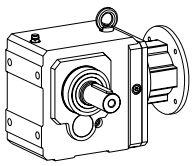
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. (1/16 in.; example – 012 = 12/16 or 3/4)
- 012

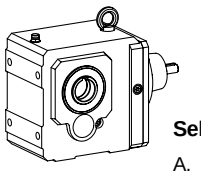


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
50 RPM	**Output (Approximate)**								**40 RPM**		**33 RPM**		**25 RPM**	
0.54	661	K102_0350	MR141/050	56C	AW141/010	35.10	98	983	0.44	661	0.36	661	0.27	661
0.87	1,063	K102_0350	MR142/050	56C	AW142/010	35.10	98	983	0.71	1,063	0.58	1,063	0.43	1,063
0.87	1,063	K102_0350	MR163/050	56C	AW143/010	35.10	98	983	0.71	1,063	0.58	1,063	0.43	1,063
1.07	1,303	K202_0350	MR142/050	56C	AW142/010	34.55	98	1,072	0.87	1,303	0.71	1,303	0.53	1,303
1.11	1,357	K302_0350	MR142/050	56C	AW142/010	34.73	98	1,608	0.91	1,357	0.74	1,357	0.55	1,357
1.45	1,772	K202_0350	MR163/050	56C	AW143/010	34.55	98	1,072	1.19	1,772	0.96	1,772	0.72	1,772
1.45	1,772	K202_0350	MR164/140	143/145TC	AW164/012	34.55	196	1,072	1.19	1,772	0.96	1,772	0.72	1,772
2.12	2,581	K302_0350	MR163/050	56C	AW143/010	34.73	98	1,608	1.73	2,581	1.40	2,581	1.05	2,581
2.18	2,660	K402_0350	MR163/050	56C	AW163/012	34.76	196	2,001	1.78	2,660	1.45	2,660	1.09	2,660
2.18	2,693	K403_0360	MR163/050	56C	AW163/012	35.72	196	2,016	1.78	2,693	1.44	2,693	1.08	2,693
2.18	2,701	K303_0360	MR163/050	56C	AW163/012	35.83	196	1,620	1.79	2,701	1.45	2,701	1.09	2,701
2.38	2,856	K513_0350	MR163/050	56C	AW163/012	34.80	196	2,403	1.94	2,856	1.58	2,856	1.18	2,856
2.51	3,100	K303_0360	MR164/140	143/145TC	AW164/012	35.83	196	1,620	2.05	3,100	1.66	3,100	1.25	3,100
2.54	3,100	K302_0350	MR164/140	143/145TC	AW164/012	34.73	196	1,608	2.08	3,100	1.69	3,100	1.26	3,100
3.22	3,986	K403_0360	MR164/140	143/145TC	AW164/012	35.72	196	2,016	2.64	3,986	2.14	3,986	1.60	3,986
4.00	4,872	K402_0350	MR164/140	143/145TC	AW164/012	34.76	196	2,001	3.27	4,872	2.65	4,872	1.99	4,872
4.00	4,872	K402_0350	MR205/180	182/184TC	AW165/012	34.76	196	2,001	3.27	4,872	2.65	4,872	1.99	4,872
4.48	5,377	K513_0350	MR164/140	143/145TC	AW164/012	34.80	196	2,403	3.66	5,377	2.97	5,377	2.23	5,377
6.64	7,972	K513_0350	MR205/180	182/184TC	AW165/012	34.80	196	2,403	5.43	7,972	4.40	7,972	3.30	7,972
10.50	12,648	K613_0350	MR205/180	182/184TC	AW165/012	34.61	196	3,074	8.74	12,844	7.09	12,844	5.32	12,844
10.50	12,648	K613_0350	MR306/250	254/256TC	AW206/014	34.61	333	3,074	8.74	12,844	7.09	12,844	5.32	12,844
11.50	13,793	K713_0350	MR205/180	182/184TC	AW205/014	35.44	333	4,003	9.39	13,793	7.62	13,793	5.71	13,793
17.40	20,862	K713_0350	MR306/250	254/256TC	AW206/014	35.44	333	4,003	14.50	21,259	11.70	21,259	8.81	21,259
29.40	36,348	K813_0360	MR306/250	254/256TC	AW206/014	36.14	333	5,131	24.60	37,204	20.00	37,204	15.00	37,204
29.40	36,348	K813_0360	MR307/280	284/286TC	AW307/110	36.14	1072	5,131	24.60	37,204	20.00	37,204	15.00	37,204
45 RPM	**Output (Approximate)**	**Continued Next Page**							**35 RPM**		**30 RPM**		**23 RPM**	
0.39	545	K102_0400	MR141/050	56C	AW141/010	40.30	98	1,018	0.32	545	0.26	545	0.19	545
0.52	730	K202_0400	MR141/050	56C	AW141/010	40.39	98	1,111	0.42	730	0.34	730	0.26	730
0.58	774	K203_0390	MR141/050	56C	AW141/010	39.45	98	1,103	0.47	774	0.38	774	0.29	774
0.73	1,023	K202_0400	MR142/050	56C	AW142/010	40.39	98	1,111	0.59	1,023	0.48	1,023	0.36	1,023
1.01	1,431	K302_0410	MR142/050	56C	AW142/010	40.51	98	1,670	0.83	1,431	0.67	1,431	0.50	1,431
1.08	1,454	K203_0390	MR142/050	56C	AW142/010	39.45	98	1,103	0.88	1,454	0.72	1,454	0.54	1,454
1.20	1,705	K302_0410	MR163/050	56C	AW143/010	40.51	98	1,670	0.98	1,705	0.80	1,705	0.60	1,705
1.20	1,705	K302_0410	MR163/140	143/145TC	AW143/010	40.51	98	1,670	0.98	1,705	0.80	1,705	0.60	1,705

* For thermal HP capacity, see rating below.

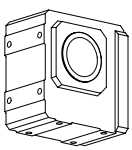
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

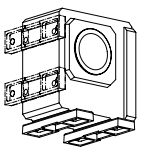
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

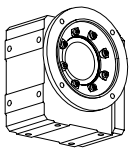
B – Basic Design



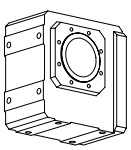
N – Foot Mounted



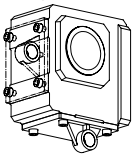
F – Round Flange



G – Tapped Holes

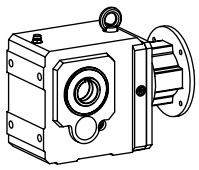


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

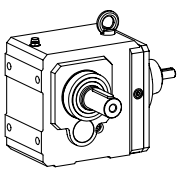
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
45 RPM		**Output (Approximate)** **Continued**							**35 RPM**		**30 RPM**		**23 RPM**	
1.93	2,728	K402_0410	MR163/050	56C	AW163/012	40.51	196	2,078	1.57	2,728	1.28	2,728	0.96	2,728
1.93	2,728	K402_0410	MR164/140	143/145TC	AW164/012	40.51	196	2,078	1.57	2,728	1.28	2,728	0.96	2,728
2.19	2,944	K403_0390	MR163/050	56C	AW163/012	39.05	196	2,059	1.79	2,944	1.45	2,944	1.09	2,944
2.19	2,954	K303_0390	MR163/050	56C	AW163/012	39.19	196	1,655	1.79	2,954	1.45	2,954	1.09	2,954
2.30	3,100	K303_0390	MR164/140	143/145TC	AW164/012	39.19	196	1,655	1.88	3,100	1.53	3,100	1.15	3,100
2.35	3,161	K513_0390	MR163/050	56C	AW163/012	38.53	196	2,473	1.92	3,161	1.56	3,161	1.17	3,161
3.03	4,078	K403_0390	MR164/140	143/145TC	AW164/012	39.05	196	2,059	2.48	4,078	2.01	4,078	1.51	4,078
4.42	5,953	K513_0390	MR164/140	143/145TC	AW164/012	38.53	196	2,473	3.61	5,953	2.93	5,953	2.20	5,953
5.92	7,972	K513_0390	MR205/180	182/184TC	AW165/012	38.53	196	2,473	4.84	7,972	3.93	7,972	2.94	7,972
9.77	12,844	K613_0380	MR205/180	182/184TC	AW165/012	38.32	196	3,144	7.99	12,844	6.48	12,844	4.86	12,844
9.77	12,844	K613_0380	MR306/250	254/256TC	AW206/014	38.32	333	3,144	7.99	12,844	6.48	12,844	4.86	12,844
11.30	15,271	K713_0390	MR205/180	182/184TC	AW205/014	39.23	333	4,119	9.27	15,271	7.52	15,271	5.64	15,271
15.80	21,259	K713_0390	MR306/250	254/256TC	AW206/014	39.23	333	4,119	12.90	21,259	10.50	21,259	7.85	21,259
26.90	37,204	K813_0400	MR306/250	254/256TC	AW206/014	40.01	333	5,280	21.90	37,204	17.80	37,204	13.30	37,204
26.90	37,204	K813_0400	MR307/280	284/286TC	AW307/110	40.01	1072	5,280	21.90	37,204	17.80	37,204	13.30	37,204
31.90	41,877	K913_0380	MR306/250	254/256TC	AW256/102	38.04	680	6,856	26.00	41,877	21.10	41,877	15.80	41,877
32.70	44,046	K1013_0390	MR306/250	254/256TC	AW306/110	38.60	1072	14,714	26.70	44,046	21.70	44,046	16.30	44,046
47.20	62,006	K913_0380	MR307/280	284/286TC	AW307/110	38.04	1072	6,856	38.50	62,006	31.30	62,006	23.50	62,006
47.20	62,006	K913_0380	MR358/360	364/365TC	AW358/202	38.04	1569	6,856	38.50	62,006	31.30	62,006	23.50	62,006
62.50	84,169	K1013_0390	MR307/280	284/286TC	AW307/110	38.60	1072	14,714	51.10	84,169	41.50	84,169	31.10	84,169
79.00*	106,296	K1013_0390	MR358/360	364/365TC	AW358/202	38.60	1569	14,714	64.50	106,296	52.30	106,296	39.30	106,296
40 RPM		**Output (Approximate)** **Continued Next Page**							**30 RPM**		**25 RPM**		**20 RPM**	
0.51	832	K102_0470	MR141/050	56C	AW141/010	46.92	98	1,058	0.41	832	0.34	832	0.25	832
0.54	871	K202_0460	MR141/050	56C	AW141/010	46.22	98	1,151	0.44	871	0.36	871	0.27	871
0.55	900	K102_0470	MR142/050	56C	AW142/010	46.92	98	1,058	0.45	900	0.36	900	0.27	900
0.57	888	K203_0450	MR141/050	56C	AW141/010	45.22	98	1,143	0.47	888	0.38	888	0.28	888
1.01	1,635	K202_0460	MR142/050	56C	AW142/010	46.22	98	1,151	0.83	1,635	0.67	1,635	0.50	1,635
1.06	1,709	K302_0460	MR142/050	56C	AW142/010	46.22	98	1,726	0.86	1,709	0.70	1,709	0.53	1,709
1.08	1,667	K203_0450	MR142/050	56C	AW142/010	45.22	98	1,143	0.88	1,667	0.71	1,667	0.53	1,667
1.10	1,772	K202_0460	MR163/050	56C	AW143/010	46.22	98	1,151	0.90	1,772	0.73	1,772	0.54	1,772
1.10	1,772	K202_0460	MR163/140	143/145TC	AW143/010	46.22	98	1,151	0.90	1,772	0.73	1,772	0.54	1,772
1.88	3,048	K302_0460	MR163/050	56C	AW143/010	46.22	98	1,726	1.54	3,048	1.25	3,048	0.94	3,048
1.88	3,048	K302_0460	MR164/140	143/145TC	AW164/012	46.22	196	1,726	1.54	3,048	1.25	3,048	0.94	3,048

Part No. Explanation

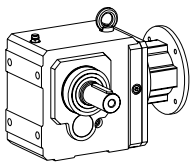
K 4 0 2 V B 0690 AW 163 / 012

- K — Right Angle Helical/Bevel
- 4 — Unit No.
- 0 — Generation No.
- 2 — No. of Gear Reductions
- V — Output Style (A-hollow; V-solid)
- B — Housing Style
- 0690 — Ratio (0690 = 69.0:1)
- AW — Input Shaft
- 163 — Flange No.
- 012 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)

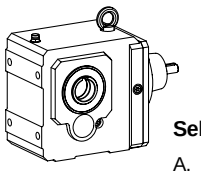


K 4 0 2 V B 0690 MR 163 / 140

- K — Right Angle Helical/Bevel
- 4 — Unit No.
- 0 — Generation No.
- 2 — No. of Reductions
- V — Output Style (A-hollow; V-solid)
- B — Housing Style
- 0690 — Ratio (0690 = 69.0:1)
- MR — Motor Adapter
- 163 — Flange No.
- 140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

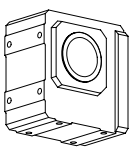
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
40 RPM		**Output (Approximate)** Continued							**30 RPM**		**25 RPM**		**20 RPM**	
2.00	3,100	K303_0450	MR163/050	56C	AW163/012	44.89	196	1,714	1.63	3,100	1.33	3,100	0.99	3,100
2.00	3,100	K303_0450	MR164/140	143/145TC	AW164/012	44.89	196	1,714	1.63	3,100	1.33	3,100	0.99	3,100
2.06	3,339	K402_0460	MR163/050	56C	AW163/012	46.31	196	2,148	1.69	3,339	1.37	3,339	1.03	3,339
2.17	3,357	K403_0450	MR163/050	56C	AW163/012	44.54	196	2,134	1.77	3,357	1.44	3,357	1.08	3,357
2.93	4,736	K402_0460	MR164/140	143/145TC	AW164/012	46.31	196	2,148	2.39	4,736	1.94	4,736	1.46	4,736
3.10	4,799	K403_0450	MR164/140	143/145TC	AW164/012	44.54	196	2,134	2.53	4,799	2.05	4,799	1.54	4,799
4.29	6,416	K513_0430	MR164/140	143/145TC	AW164/012	43.50	196	2,539	3.51	6,416	2.85	6,416	2.13	6,416
5.34	7,972	K513_0430	MR205/180	182/184TC	AW165/012	43.50	196	2,539	4.36	7,972	3.54	7,972	2.65	7,972
8.60	12,844	K613_0430	MR205/180	182/184TC	AW165/012	43.11	196	3,247	7.02	12,844	5.70	12,844	4.27	12,844
10.80	16,749	K713_0450	MR205/180	182/184TC	AW205/014	45.05	333	4,268	8.83	16,749	7.16	16,749	5.37	16,749
11.30	17,223	K813_0440	MR205/180	182/184TC	AW205/014	44.25	333	5,407	9.23	17,223	7.49	17,223	5.62	17,223
13.70	21,259	K713_0450	MR256/210	213/215TC	AW206/014	45.05	333	4,268	11.20	21,259	9.09	21,259	6.82	21,259
13.70	21,259	K713_0450	MR306/250	254/256TC	AW206/014	45.05	333	4,268	11.20	21,259	9.09	21,259	6.82	21,259
24.40	37,204	K813_0440	MR256/210	213/215TC	AW206/014	44.25	333	5,407	19.90	37,204	16.20	37,204	12.10	37,204
24.40	37,204	K813_0440	MR306/250	254/256TC	AW206/014	44.25	333	5,407	19.90	37,204	16.20	37,204	12.10	37,204
35 RPM		**Output (Approximate)** Continued Next Page							**28 RPM**		**23 RPM**		**18 RPM**	
0.25	442	K102_0500	MR141/050	56C	AW141/010	50.31	98	1,076	0.21	442	0.17	442	0.13	442
0.49	853	K202_0500	MR141/050	56C	AW141/010	50.49	98	1,173	0.40	853	0.32	853	0.24	853
0.49	853	K202_0500	MR142/050	56C	AW142/010	50.49	98	1,173	0.40	853	0.32	853	0.24	853
0.57	966	K303_0490	MR141/050	56C	AW141/010	49.26	98	1,750	0.47	966	0.38	966	0.29	966
0.57	976	K203_0500	MR141/050	56C	AW141/010	49.76	98	1,173	0.46	976	0.38	976	0.28	976
0.78	1,364	K302_0500	MR142/050	56C	AW142/010	50.49	98	1,760	0.64	1,364	0.52	1,364	0.39	1,364
1.03	1,772	K203_0500	MR142/050	56C	AW142/010	49.76	98	1,173	0.84	1,772	0.68	1,772	0.51	1,772
1.08	1,816	K303_0490	MR142/050	56C	AW142/010	49.26	98	1,750	0.88	1,816	0.71	1,816	0.54	1,816
1.36	2,387	K402_0500	MR163/050	56C	AW163/012	50.43	196	2,191	1.11	2,387	0.90	2,387	0.68	2,387
1.36	2,387	K402_0500	MR163/140	143/145TC	AW163/012	50.43	196	2,191	1.11	2,387	0.90	2,387	0.68	2,387
1.84	3,100	K303_0490	MR163/050	56C	AW163/012	48.63	196	1,750	1.50	3,100	1.22	3,100	0.92	3,100
1.84	3,100	K303_0490	MR164/140	143/145TC	AW164/012	48.63	196	1,750	1.50	3,100	1.22	3,100	0.92	3,100
2.19	3,689	K403_0490	MR163/050	56C	AW163/012	48.94	196	2,178	1.79	3,689	1.45	3,689	1.09	3,689
2.89	4,872	K403_0490	MR164/140	143/145TC	AW164/012	48.94	196	2,178	2.36	4,872	1.92	4,872	1.44	4,872
4.29	7,103	K513_0480	MR164/140	143/145TC	AW164/012	48.16	196	2,604	3.51	7,103	2.85	7,103	2.13	7,103
4.82	7,972	K513_0480	MR205/180	182/184TC	AW165/012	48.16	196	2,604	3.94	7,972	3.19	7,972	2.40	7,972
7.76	12,844	K613_0480	MR205/180	182/184TC	AW165/012	47.73	196	3,330	6.34	12,844	5.15	12,844	3.86	12,844
10.80	18,542	K713_0500	MR205/180	182/184TC	AW205/014	49.88	333	4,382	8.79	18,542	7.13	18,542	5.35	18,542
11.30	19,069	K813_0490	MR205/180	182/184TC	AW205/014	48.99	333	5,543	9.25	19,069	7.51	19,069	5.63	19,069

* For thermal HP capacity, see rating below.

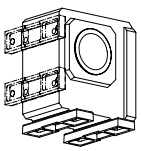
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

Housing Styles

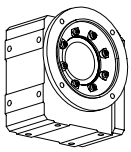
B – Basic Design



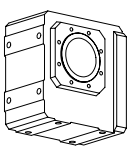
N – Foot Mounted



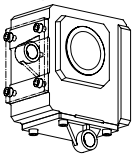
F – Round Flange



G – Tapped Holes



BD – Torque Arm Bracket

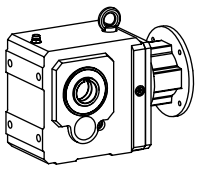


These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

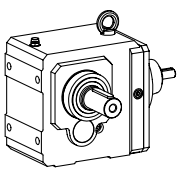
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
35 RPM		**Output (Approximate)** **Continued**							**28 RPM**		**23 RPM**		**18 RPM**	
12.30	21,259	K713_0500	MR256/210	213/215TC	AW206/014	49.88	333	4,382	10.10	21,259	8.17	21,259	6.13	21,259
12.30	21,259	K713_0500	MR306/250	254/256TC	AW206/014	49.88	333	4,382	10.10	21,259	8.17	21,259	6.13	21,259
22.10	37,204	K813_0490	MR256/210	213/215TC	AW206/014	48.99	333	5,543	18.10	37,204	14.60	37,204	11.00	37,204
22.10	37,204	K813_0490	MR306/250	254/256TC	AW206/014	48.99	333	5,543	18.10	37,204	14.60	37,204	11.00	37,204
30.30	51,023	K913_0490	MR306/250	254/256TC	AW256/102	48.94	680	7,294	24.80	51,023	20.10	51,023	15.10	51,023
31.40	52,857	K1013_0490	MR306/250	254/256TC	AW306/110	48.54	1072	15,562	25.60	52,857	20.80	52,857	15.60	52,857
36.80	62,006	K913_0490	MR307/280	284/286TC	AW307/110	48.94	1072	7,294	30.10	62,006	24.40	62,006	18.30	62,006
60.00	101,004	K1013_0490	MR307/280	284/286TC	AW307/110	48.54	1072	15,562	49.00	101,004	39.80	101,004	29.80	101,004
63.10	106,296	K1013_0490	MR358/360	364/365TC	AW358/202	48.54	1569	15,562	51.60	106,296	41.80	106,296	31.40	106,296
30 RPM		**Output (Approximate)** **Continued Next Page**							**25 RPM**		**20 RPM**		**15 RPM**	
0.39	758	K102_0560	MR141/050	56C	AW141/010	56.10	98	1,105	0.32	758	0.26	758	0.19	758
0.51	1,003	K202_0560	MR141/050	56C	AW141/010	55.54	98	1,205	0.42	1,003	0.34	1,003	0.26	1,003
0.57	1,065	K203_0540	MR141/050	56C	AW141/010	54.25	98	1,196	0.47	1,065	0.38	1,065	0.28	1,065
0.57	1,071	K303_0550	MR141/050	56C	AW141/010	54.58	98	1,799	0.47	1,071	0.38	1,071	0.28	1,071
0.72	1,407	K202_0560	MR142/050	56C	AW142/010	55.54	98	1,205	0.59	1,407	0.48	1,407	0.36	1,407
0.95	1,772	K203_0540	MR142/050	56C	AW142/010	54.25	98	1,196	0.78	1,772	0.63	1,772	0.47	1,772
1.01	1,968	K302_0560	MR142/050	56C	AW142/010	55.71	98	1,808	0.83	1,968	0.67	1,968	0.50	1,968
1.07	2,012	K303_0550	MR142/050	56C	AW142/010	54.58	98	1,799	0.87	2,012	0.71	2,012	0.53	2,012
1.20	2,345	K302_0560	MR163/140	143/145TC	AW143/010	55.71	98	1,808	0.98	2,345	0.80	2,345	0.60	2,345
1.67	3,100	K303_0540	MR163/050	56C	AW163/012	53.88	196	1,795	1.36	3,100	1.10	3,100	0.83	3,100
1.67	3,100	K303_0540	MR164/140	143/145TC	AW164/012	53.88	196	1,795	1.36	3,100	1.10	3,100	0.83	3,100
1.93	3,752	K402_0560	MR163/050	56C	AW163/012	55.71	196	2,251	1.57	3,752	1.28	3,752	0.96	3,752
1.93	3,752	K402_0560	MR164/140	143/145TC	AW164/012	55.71	196	2,251	1.57	3,752	1.28	3,752	0.96	3,752
2.17	4,047	K403_0540	MR163/050	56C	AW163/012	53.69	196	2,233	1.78	4,047	1.44	4,047	1.08	4,047
2.62	4,872	K403_0540	MR164/140	143/145TC	AW164/012	53.69	196	2,233	2.14	4,872	1.73	4,872	1.30	4,872
4.00	7,972	K513_0580	MR164/140	143/145TC	AW164/012	58.30	196	2,729	3.26	7,972	2.65	7,972	1.99	7,972
4.00	7,972	K513_0580	MR205/180	182/184TC	AW165/012	58.30	196	2,729	3.26	7,972	2.65	7,972	1.99	7,972
4.13	8,231	K613_0580	MR164/140	143/145TC	AW164/012	57.54	196	3,490	3.37	8,231	2.73	8,231	2.05	8,231
6.44	12,844	K613_0580	MR205/180	182/184TC	AW165/012	57.54	196	3,490	5.26	12,844	4.27	12,844	3.20	12,844
10.20	20,583	K713_0590	MR205/180	182/184TC	AW205/014	58.57	333	4,563	8.30	20,583	6.73	20,583	5.05	20,583
10.50	21,259	K713_0590	MR306/250	254/256TC	AW206/014	58.57	333	4,563	8.57	21,259	6.95	21,259	5.22	21,259
10.70	21,709	K813_0590	MR205/180	182/184TC	AW205/014	59.08	333	5,806	8.75	21,709	7.10	21,709	5.33	21,709
18.40	37,204	K813_0590	MR306/250	254/256TC	AW206/014	59.08	333	5,806	15.00	37,204	12.20	37,204	9.13	37,204
28.50	62,006	K913_0630	MR306/250	254/256TC	AW256/102	63.07	680	7,774	23.30	62,006	18.90	62,006	14.20	62,006
28.50	62,006	K913_0630	MR307/280	284/286TC	AW307/110	63.07	1072	7,774	23.30	62,006	18.90	62,006	14.20	62,006

Part No. Explanation

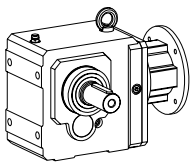
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. (Right Angle Helical/Bevel)
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. (1/16 in.; example – 012 = 12/16 or 3/4)
- 012

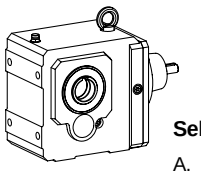


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. (Right Angle Helical/Bevel)
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
30 RPM		**Output (Approximate)** **Continued**							**25 RPM**		**20 RPM**		**15 RPM**	
30.20	64,059	K1013_0620	MR306/250	254/256TC	AW306/110	61.55	1072	16,484	24.70	64,059	20.00	64,059	15.00	64,059
50.10	106,296	K1013_0620	MR307/280	284/286TC	AW307/110	61.55	1072	16,484	41.00	106,296	33.20	106,296	24.90	106,296
50.10	106,296	K1013_0620	MR358/360	364/365TC	AW358/202	61.55	1569	16,484	41.00	106,296	33.20	106,296	24.90	106,296
25 RPM		**Output (Approximate)** **Continued Next Page**							**20 RPM**		**18 RPM**		**13 RPM**	
0.25	616	K102_0700	MR141/050	56C	AW141/010	70.03	98	1,170	0.21	616	0.17	616	0.12	616
0.48	1,173	K202_0690	MR141/050	56C	AW141/010	69.43	98	1,273	0.40	1,173	0.32	1,173	0.24	1,173
0.48	1,173	K202_0690	MR142/050	56C	AW142/010	69.43	98	1,273	0.40	1,173	0.32	1,173	0.24	1,173
0.57	1,296	K203_0660	MR141/050	56C	AW141/010	66.03	98	1,259	0.46	1,296	0.38	1,296	0.28	1,296
0.57	1,302	K303_0660	MR141/050	56C	AW141/010	66.35	98	1,888	0.47	1,302	0.38	1,302	0.28	1,302
0.57	1,302	K403_0660	MR141/050	56C	AW141/010	66.35	98	2,350	0.47	1,302	0.38	1,302	0.28	1,302
0.57	1,329	K303_0680	MR141/050	56C	AW141/010	67.73	98	1,902	0.46	1,329	0.38	1,329	0.28	1,329
0.57	1,338	K403_0680	MR141/050	56C	AW141/010	68.17	98	2,367	0.47	1,338	0.38	1,338	0.28	1,338
0.57	1,343	K203_0680	MR141/050	56C	AW141/010	68.42	98	1,268	0.47	1,343	0.38	1,343	0.28	1,343
0.75	1,772	K203_0680	MR142/050	56C	AW142/010	68.42	98	1,268	0.62	1,772	0.50	1,772	0.38	1,772
0.78	1,772	K203_0660	MR142/050	56C	AW142/010	66.03	98	1,259	0.63	1,772	0.51	1,772	0.39	1,772
0.78	1,876	K302_0690	MR142/050	56C	AW142/010	69.43	98	1,909	0.63	1,876	0.51	1,876	0.39	1,876
1.06	2,496	K303_0680	MR142/050	56C	AW142/010	67.73	98	1,902	0.87	2,496	0.70	2,496	0.53	2,496
1.07	2,445	K303_0660	MR142/050	56C	AW142/010	66.35	98	1,888	0.88	2,445	0.71	2,445	0.53	2,445
1.07	2,445	K403_0660	MR142/050	56C	AW142/010	66.35	98	2,350	0.88	2,445	0.71	2,445	0.53	2,445
1.07	2,512	K403_0680	MR142/050	56C	AW142/010	68.17	98	2,367	0.87	2,512	0.71	2,512	0.53	2,512
1.34	3,100	K303_0670	MR163/050	56C	AW163/012	66.87	196	1,894	1.10	3,100	0.89	3,100	0.67	3,100
1.34	3,100	K303_0670	MR164/140	143/145TC	AW164/012	66.87	196	1,894	1.10	3,100	0.89	3,100	0.67	3,100
1.36	3,283	K402_0690	MR163/050	56C	AW163/012	69.34	196	2,376	1.11	3,283	0.90	3,283	0.67	3,283
1.36	3,283	K402_0690	MR163/140	143/145TC	AW163/012	69.34	196	2,376	1.11	3,283	0.90	3,283	0.67	3,283
1.38	3,100	K303_0650	MR163/050	56C	AW163/012	65.50	196	1,881	1.13	3,100	0.91	3,100	0.69	3,100
1.38	3,100	K303_0650	MR164/140	143/145TC	AW164/012	65.50	196	1,881	1.13	3,100	0.91	3,100	0.69	3,100
2.04	4,933	K513_0700	MR163/050	56C	AW163/012	70.08	196	2,862	1.67	4,933	1.35	4,933	1.02	4,933
2.11	4,872	K403_0670	MR163/050	56C	AW163/012	67.30	196	2,357	1.72	4,872	1.40	4,872	1.05	4,872
2.11	4,872	K403_0670	MR164/140	143/145TC	AW164/012	67.30	196	2,357	1.72	4,872	1.40	4,872	1.05	4,872
2.17	4,872	K403_0650	MR163/050	56C	AW163/012	65.50	196	2,341	1.77	4,872	1.44	4,872	1.08	4,872
2.17	4,872	K403_0650	MR164/140	143/145TC	AW164/012	65.50	196	2,341	1.77	4,872	1.44	4,872	1.08	4,872
3.01	7,269	K513_0700	MR164/140	143/145TC	AW164/012	70.08	196	2,862	2.46	7,269	2.00	7,269	1.50	7,269
3.55	7,972	K513_0650	MR164/140	143/145TC	AW164/012	64.54	196	2,812	2.90	7,972	2.35	7,972	1.76	7,972
3.55	7,972	K513_0650	MR205/180	182/184TC	AW165/012	64.54	196	2,812	2.90	7,972	2.35	7,972	1.76	7,972

* For thermal HP capacity, see rating below.

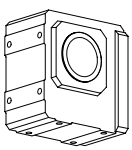
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

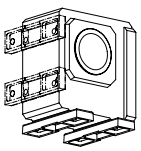
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

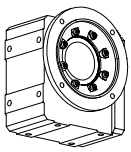
B – Basic Design



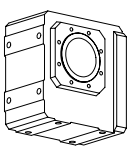
N – Foot Mounted



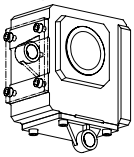
F – Round Flange



G – Tapped Holes

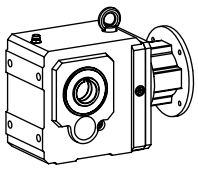


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

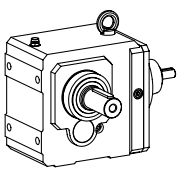
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
25 RPM		**Output (Approximate)** **Continued**							**20 RPM**		**18 RPM**		**13 RPM**	
4.00	9,541	K613_0690	MR164/140	143/145TC	AW164/012	68.77	196	3,649	3.27	9,541	2.65	9,541	1.99	9,541
4.15	9,113	K613_0640	MR164/140	143/145TC	AW164/012	63.71	196	3,574	3.39	9,113	2.75	9,113	2.06	9,113
4.88	11,640	K613_0690	MR205/180	182/184TC	AW165/012	68.77	196	3,649	3.99	11,640	3.24	11,640	2.43	11,640
5.85	12,844	K613_0640	MR205/180	182/184TC	AW165/012	63.71	196	3,574	4.78	12,844	3.88	12,844	2.91	12,844
7.85	19,247	K713_0710	MR205/180	182/184TC	AW205/014	71.20	333	4,786	6.41	19,247	5.20	19,247	3.90	19,247
9.46	21,259	K713_0650	MR205/180	182/184TC	AW205/014	64.85	333	4,683	7.73	21,259	6.27	21,259	4.70	21,259
9.46	21,259	K713_0650	MR306/250	254/256TC	AW206/014	64.85	333	4,683	7.73	21,259	6.27	21,259	4.70	21,259
10.70	24,034	K813_0650	MR205/180	182/184TC	AW205/014	65.41	333	5,959	8.74	24,034	7.09	24,034	5.32	24,034
16.40	37,204	K814_0670	MR256/210	213/215TC	AW256/102	66.83	680	5,999	13.40	37,204	10.80	37,204	8.13	37,204
16.50	37,204	K813_0650	MR306/250	254/256TC	AW206/014	65.41	333	5,959	13.50	37,204	11.00	37,204	8.23	37,204
20 RPM		**Output (Approximate)** **Continued Next Page**							**18 RPM**		**15 RPM**		**10 RPM**	
0.57	1,563	K203_0800	MR141/050	56C	AW141/010	79.61	98	1,318	0.47	1,563	0.38	1,563	0.28	1,563
0.57	1,558	K303_0790	MR141/050	56C	AW141/010	79.42	98	1,975	0.47	1,558	0.38	1,558	0.28	1,558
0.57	1,552	K403_0790	MR141/050	56C	AW141/010	79.11	98	2,458	0.46	1,552	0.38	1,552	0.28	1,552
0.65	1,772	K203_0800	MR142/050	56C	AW142/010	79.61	98	1,318	0.53	1,772	0.43	1,772	0.32	1,772
1.00	3,100	K303_0900	MR163/050	56C	AW163/012	90.06	196	2,025	0.82	3,100	0.66	3,100	0.50	3,100
1.00	3,100	K303_0900	MR164/140	143/145TC	AW164/012	90.06	196	2,025	0.82	3,100	0.66	3,100	0.50	3,100
1.07	2,928	K303_0790	MR142/050	56C	AW142/010	79.42	98	1,975	0.88	2,928	0.71	2,928	0.53	2,928
1.07	2,915	K403_0790	MR142/050	56C	AW142/010	79.11	98	2,458	0.87	2,915	0.71	2,915	0.53	2,915
1.15	3,100	K303_0780	MR163/050	56C	AW163/012	78.41	196	1,968	0.94	3,100	0.76	3,100	0.57	3,100
1.15	3,100	K303_0780	MR164/140	143/145TC	AW164/012	78.41	196	1,968	0.94	3,100	0.76	3,100	0.57	3,100
1.57	4,872	K403_0900	MR163/050	56C	AW163/012	90.06	196	2,520	1.28	4,872	1.04	4,872	0.78	4,872
1.57	4,872	K403_0900	MR164/140	143/145TC	AW164/012	90.06	196	2,520	1.28	4,872	1.04	4,872	0.78	4,872
1.81	4,872	K403_0780	MR163/050	56C	AW163/012	78.10	196	2,449	1.48	4,872	1.20	4,872	0.90	4,872
1.81	4,872	K403_0780	MR164/140	143/145TC	AW164/012	78.10	196	2,449	1.48	4,872	1.20	4,872	0.90	4,872
1.96	5,904	K513_0870	MR163/050	56C	AW163/012	87.29	196	3,024	1.60	5,904	1.30	5,904	0.98	5,904
2.03	5,462	K513_0780	MR163/050	56C	AW163/012	77.59	196	2,941	1.66	5,462	1.35	5,462	1.01	5,462
2.03	6,106	K513_0870	MR164/140	143/145TC	AW164/012	87.29	196	3,024	1.66	6,106	1.35	6,106	1.01	6,106
2.19	6,314	K514_0850	MR163/050	56C	AW163/012	85.03	196	3,004	1.79	6,314	1.45	6,314	1.09	6,314
2.19	6,225	K614_0840	MR163/050	56C	AW163/012	83.84	196	3,828	1.79	6,225	1.45	6,225	1.09	6,225
2.76	7,972	K514_0850	MR164/140	143/145TC	AW164/012	85.03	196	3,004	2.26	7,972	1.83	7,972	1.37	7,972
2.90	8,601	K613_0860	MR164/140	143/145TC	AW164/012	86.18	196	3,855	2.37	8,601	1.92	8,601	1.44	8,601
2.96	7,972	K513_0780	MR164/140	143/145TC	AW164/012	77.59	196	2,941	2.42	7,972	1.96	7,972	1.47	7,972
3.13	8,916	K614_0840	MR164/140	143/145TC	AW164/012	83.84	196	3,828	2.56	8,916	2.08	8,916	1.56	8,916

Part No. Explanation

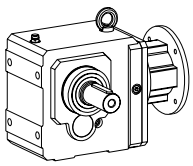
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. (1/16 in.; example – 012 = 12/16 or 3/4)
- 012

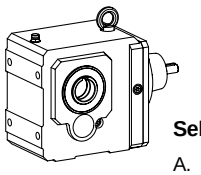


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
20 RPM		**Output (Approximate) Continued**							**18 RPM**		**15 RPM**		**10 RPM**	
4.03	10,563	K613_0760	MR164/140	143/145TC	AW164/012	76.14	196	3,737	3.29	10,563	2.67	10,563	2.00	10,563
4.83	14,805	K713_0890	MR205/180	182/184TC	AW205/014	89.00	333	5,040	3.95	14,805	3.20	14,805	2.40	14,805
4.90	12,844	K613_0760	MR205/180	182/184TC	AW165/012	76.14	196	3,737	4.00	12,844	3.25	12,844	2.43	12,844
7.04	21,259	K714_0890	MR205/180	182/184TC	AW205/014	89.06	333	5,040	5.75	21,259	4.67	21,259	3.50	21,259
7.78	21,259	K713_0790	MR205/180	182/184TC	AW205/014	78.83	333	4,917	6.36	21,259	5.16	21,259	3.87	21,259
8.22	24,846	K813_0880	MR205/180	182/184TC	AW205/014	87.76	333	6,412	6.72	24,846	5.45	24,846	4.09	24,846
10.20	25,198	K813_0720	MR205/180	182/184TC	AW205/014	71.70	333	6,101	8.34	25,198	6.76	25,198	5.07	25,198
10.20	27,898	K813_0790	MR205/180	182/184TC	AW205/014	79.38	333	6,256	8.35	27,898	6.77	27,898	5.08	27,898
12.30	37,204	K814_0890	MR256/210	213/215TC	AW256/102	88.89	680	6,412	10.10	37,204	8.17	37,204	6.13	37,204
12.90	31,945	K813_0720	MR306/250	254/256TC	AW206/014	71.70	333	6,101	10.60	31,945	8.57	31,945	6.43	31,945
13.00	35,367	K813_0790	MR306/250	254/256TC	AW206/014	79.38	333	6,256	10.60	35,367	8.58	35,367	6.44	35,367
14.80	37,204	K814_0740	MR256/210	213/215TC	AW256/102	73.99	680	6,149	12.10	37,204	9.82	37,204	7.37	37,204
23.90	62,006	K913_0750	MR306/250	254/256TC	AW256/102	75.00	680	8,123	19.60	62,006	15.90	62,006	11.90	62,006
28.90	74,725	K1013_0750	MR306/250	254/256TC	AW306/110	75.28	1072	17,330	23.60	74,725	19.10	74,725	14.30	74,725
38.80	100,420	K1013_0750	MR307/280	284/286TC	AW307/110	75.28	1072	17,330	31.70	100,420	25.70	100,420	19.30	100,420
19 RPM		**Output (Approximate)**							**16 RPM**		**13 RPM**		**9.5 RPM**	
0.56	1,772	K203_0910	MR141/050	56C	AW141/010	90.79	98	1,350	0.46	1,772	0.37	1,772	0.28	1,772
0.56	1,772	K203_0910	MR142/050	56C	AW142/010	90.79	98	1,350	0.46	1,772	0.37	1,772	0.28	1,772
0.57	1,790	K303_0910	MR141/050	56C	AW141/010	91.23	98	2,025	0.47	1,790	0.38	1,790	0.28	1,790
0.57	1,790	K403_0910	MR141/050	56C	AW141/010	91.23	98	2,520	0.47	1,790	0.38	1,790	0.28	1,790
0.99	3,100	K303_0910	MR142/050	56C	AW142/010	91.23	98	2,025	0.81	3,100	0.66	3,100	0.49	3,100
1.07	3,362	K403_0910	MR142/050	56C	AW142/010	91.23	98	2,520	0.88	3,362	0.71	3,362	0.53	3,362
2.18	6,892	K614_0930	MR163/140	143/145TC	AW163/012	92.83	196	3,870	1.78	6,892	1.45	6,892	1.08	6,892
3.13	9,871	K614_0930	MR164/140	143/145TC	AW164/012	92.83	196	3,870	2.55	9,871	2.07	9,871	1.55	9,871
17.50	54,978	K914_0920	MR256/210	213/215TC	AW256/102	92.35	680	8,437	14.30	54,978	11.60	54,978	8.72	54,978
18 RPM		**Output (Approximate) Continued Next Page**							**15 RPM**		**12 RPM**		**9 RPM**	
1.96	6,536	K513_0970	MR163/050	56C	AW163/012	96.64	196	3,026	1.60	6,536	1.30	6,536	0.97	6,536
2.03	6,760	K513_0970	MR164/140	143/145TC	AW164/012	96.64	196	3,026	1.66	6,760	1.34	6,760	1.01	6,760
2.19	6,990	K514_0940	MR163/050	56C	AW163/012	94.14	196	3,026	1.79	6,990	1.45	6,990	1.09	6,990
2.50	7,972	K514_0940	MR164/140	143/145TC	AW164/012	94.14	196	3,026	2.04	7,972	1.65	7,972	1.24	7,972
2.90	9,522	K613_0950	MR164/140	143/145TC	AW164/012	95.41	196	3,870	2.37	9,522	1.92	9,522	1.44	9,522

* For thermal HP capacity, see rating below.

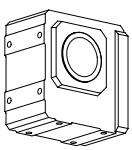
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

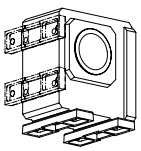
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

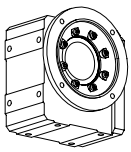
B – Basic Design



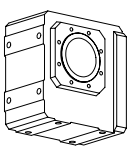
N – Foot Mounted



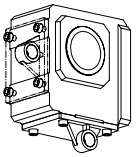
F – Round Flange



G – Tapped Holes

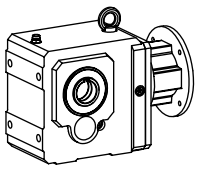


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

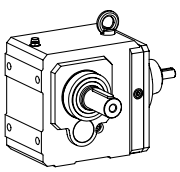
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
18 RPM		**Output (Approximate) Continued**							**15 RPM**		**12 RPM**		**9 RPM**	
4.83	16,391	K713_0990	MR205/180	182/184TC	AW205/014	98.54	333	5,040	3.94	16,391	3.20	16,391	2.40	16,391
6.36	21,259	K714_0990	MR205/180	182/184TC	AW205/014	98.60	333	5,040	5.19	21,259	4.21	21,259	3.16	21,259
7.93	25,336	K914_0940	MR205/180	182/184TC	AW205/014	93.78	333	8,437	6.48	25,336	5.26	25,336	3.94	25,336
8.25	27,508	K813_0970	MR205/180	182/184TC	AW205/014	97.17	333	6,412	6.74	27,508	5.47	27,508	4.10	27,508
11.10	37,204	K814_0980	MR256/210	213/215TC	AW256/102	98.41	680	6,412	9.10	37,204	7.39	37,204	5.54	37,204
14.50	47,613	K913_0950	MR306/250	254/256TC	AW256/102	95.41	680	8,437	11.80	47,613	9.60	47,613	7.20	47,613
25.60	82,847	K1013_0940	MR306/250	254/256TC	AW306/110	94.33	1072	18,000	20.90	82,847	16.90	82,847	12.70	82,847
16 RPM		**Output (Approximate)**							**13 RPM**		**10.5 RPM**		**8 RPM**	
0.47	1,772	K203_1090	MR141/050	56C	AW141/010	109.5	98	1,350	0.38	1,772	0.31	1,772	0.23	1,772
0.47	1,772	K203_1090	MR142/050	56C	AW142/010	109.5	98	1,350	0.38	1,772	0.31	1,772	0.23	1,772
0.57	2,134	K403_1090	MR141/050	56C	AW141/010	108.8	98	2,520	0.46	2,134	0.38	2,134	0.28	2,134
0.57	2,143	K303_1090	MR141/050	56C	AW141/010	109.2	98	2,025	0.47	2,143	0.38	2,143	0.28	2,143
0.83	3,100	K303_1080	MR163/050	56C	AW163/012	107.8	196	2,025	0.68	3,100	0.55	3,100	0.41	3,100
0.83	3,100	K303_1080	MR164/140	143/145TC	AW164/012	107.8	196	2,025	0.68	3,100	0.55	3,100	0.41	3,100
0.82	3,100	K303_1090	MR142/050	56C	AW142/010	109.2	98	2,025	0.67	3,100	0.55	3,100	0.41	3,100
1.07	4,008	K403_1090	MR142/050	56C	AW142/010	108.8	98	2,520	0.87	4,008	0.71	4,008	0.53	4,008
1.32	4,872	K403_1070	MR163/050	56C	AW163/012	107.4	196	2,520	1.08	4,872	0.87	4,872	0.65	4,872
1.32	4,872	K403_1070	MR164/140	143/145TC	AW164/012	107.4	196	2,520	1.08	4,872	0.87	4,872	0.65	4,872
2.08	7,972	K514_1130	MR163/050	56C	AW163/012	112.8	196	3,026	1.70	7,972	1.38	7,972	1.03	7,972
2.08	7,972	K514_1130	MR164/140	143/145TC	AW164/012	112.8	196	3,026	1.70	7,972	1.38	7,972	1.03	7,972
2.19	8,260	K614_1110	MR163/050	56C	AW163/012	111.3	196	3,870	1.79	8,260	1.45	8,260	1.09	8,260
2.19	8,407	K714_1130	MR163/050	56C	AW163/012	113.2	196	5,040	1.79	8,407	1.45	8,407	1.09	8,407
2.98	11,254	K614_1110	MR164/140	143/145TC	AW164/012	111.3	196	3,870	2.44	11,254	1.98	11,254	1.48	11,254
3.09	11,838	K714_1130	MR164/140	143/145TC	AW164/012	113.2	196	5,040	2.52	11,838	2.05	11,838	1.54	11,838
5.47	21,259	K714_1150	MR205/180	182/184TC	AW205/014	114.7	333	5,040	4.47	21,259	3.62	21,259	2.72	21,259
7.88	30,655	K814_1150	MR205/180	182/184TC	AW205/014	114.6	333	6,412	6.50	30,956	5.27	30,956	3.96	30,956
9.71	37,204	K814_1130	MR256/210	213/215TC	AW256/102	112.8	680	6,412	7.93	37,204	6.43	37,204	4.82	37,204
14 RPM		**Output (Approximate) Continued Next Page**							**12 RPM**		**9 RPM**		**7 RPM**	
1.88	7,972	K514_1250	MR163/050	56C	AW163/012	124.9	196	3,026	1.53	7,972	1.25	7,972	0.93	7,972
1.88	7,972	K514_1250	MR164/140	143/145TC	AW164/012	124.9	196	3,026	1.53	7,972	1.25	7,972	0.93	7,972
2.19	9,145	K614_1230	MR163/050	56C	AW163/012	123.2	196	3,870	1.79	9,145	1.45	9,145	1.09	9,145
2.19	9,308	K714_1250	MR163/050	56C	AW163/012	125.4	196	5,040	1.79	9,308	1.45	9,308	1.09	9,308

Part No. Explanation

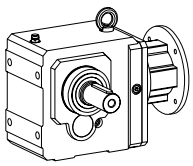
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- 012

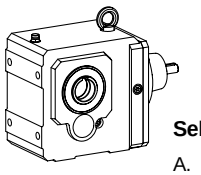


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
14 RPM		**Output (Approximate) Continued**							**12 RPM**		**9 RPM**		**7 RPM**	
2.98	12,461	K614_1230	MR164/140	143/145TC	AW164/012	123.2	196	3,870	2.44	12,461	1.98	12,461	1.48	12,461
3.09	13,106	K714_1250	MR164/140	143/145TC	AW164/012	125.4	196	5,040	2.52	13,106	2.05	13,106	1.54	13,106
4.94	21,259	K714_1270	MR205/180	182/184TC	AW205/014	127.0	333	5,040	4.03	21,259	3.27	21,259	2.45	21,259
7.88	33,940	K814_1270	MR205/180	182/184TC	AW205/014	126.9	333	6,412	6.50	34,272	5.27	34,272	3.96	34,272
7.96	33,985	K914_1260	MR205/180	182/184TC	AW205/014	125.8	333	8,437	6.51	33,985	5.28	33,985	3.96	33,985
8.77	37,204	K814_1250	MR256/210	213/215TC	AW256/102	124.9	680	6,412	7.16	37,204	5.81	37,204	4.36	37,204
14.80	62,006	K914_1240	MR256/210	213/215TC	AW256/102	123.9	680	8,437	12.10	62,006	9.78	62,006	7.34	62,006
17.40	71,685	K1014_1220	MR256/210	213/215TC	AW256/102	121.6	680	18,000	14.20	71,685	11.50	71,685	8.63	71,685
13 RPM		**Output (Approximate)**							**10 RPM**		**8 RPM**		**6 RPM**	
0.38	1,772	K203_1350	MR141/050	56C	AW141/010	135.3	98	1,350	0.31	1,772	0.25	1,772	0.19	1,772
0.38	1,772	K203_1350	MR142/050	56C	AW142/010	135.3	98	1,350	0.31	1,772	0.25	1,772	0.19	1,772
0.57	2,669	K303_1360	MR141/050	56C	AW141/010	136.0	98	2,025	0.47	2,669	0.38	2,669	0.28	2,669
0.57	2,672	K403_1360	MR141/050	56C	AW141/010	136.1	98	2,520	0.47	2,672	0.38	2,672	0.28	2,672
0.66	3,100	K303_1360	MR142/050	56C	AW142/010	136.0	98	2,025	0.54	3,100	0.44	3,100	0.33	3,100
0.67	3,100	K303_1340	MR163/050	56C	AW163/012	134.3	196	2,025	0.55	3,100	0.44	3,100	0.33	3,100
0.67	3,100	K303_1340	MR164/140	143/145TC	AW164/012	134.3	196	2,025	0.55	3,100	0.44	3,100	0.33	3,100
1.04	4,872	K403_1360	MR142/050	56C	AW142/010	136.1	98	2,520	0.85	4,872	0.69	4,872	0.52	4,872
1.05	4,872	K403_1340	MR163/050	56C	AW163/012	134.4	196	2,520	0.86	4,872	0.70	4,872	0.52	4,872
1.05	4,872	K403_1340	MR164/140	143/145TC	AW164/012	134.4	196	2,520	0.86	4,872	0.70	4,872	0.52	4,872
1.74	7,972	K514_1350	MR163/050	56C	AW163/012	134.6	196	3,026	1.42	7,972	1.15	7,972	0.87	7,972
1.74	7,972	K514_1350	MR164/140	143/145TC	AW164/012	134.6	196	3,026	1.42	7,972	1.15	7,972	0.87	7,972
2.18	9,936	K614_1340	MR163/050	56C	AW163/012	133.8	196	3,870	1.78	9,936	1.45	9,936	1.08	9,936
2.19	10,173	K714_1370	MR163/050	56C	AW163/012	137.0	196	5,040	1.79	10,173	1.45	10,173	1.09	10,173
2.82	12,844	K614_1340	MR164/140	143/145TC	AW164/012	133.8	196	3,870	2.30	12,844	1.87	12,844	1.40	12,844
2.97	13,793	K714_1370	MR164/140	143/145TC	AW164/012	137.0	196	5,040	2.42	13,793	1.97	13,793	1.47	13,793
4.50	21,259	K714_1390	MR205/180	182/184TC	AW205/014	138.8	333	5,040	3.68	21,259	2.98	21,259	2.24	21,259
6.71	32,248	K814_1420	MR205/180	182/184TC	AW205/014	141.5	333	6,412	5.87	34,494	5.10	36,986	3.85	37,204
7.88	37,204	K814_1390	MR256/210	213/215TC	AW256/102	139.4	680	6,412	6.44	37,204	5.22	37,204	3.92	37,204
12 RPM		**Output (Approximate) Continued Next Page**							**9.5 RPM**		**8 RPM**		**6 RPM**	
1.58	7,972	K514_1490	MR163/050	56C	AW163/012	149.0	196	3,026	1.29	7,972	1.05	7,972	0.78	7,972
1.58	7,972	K514_1490	MR164/140	143/145TC	AW164/012	149.0	196	3,026	1.29	7,972	1.05	7,972	0.78	7,972
2.19	11,001	K614_1480	MR163/050	56C	AW163/012	148.2	196	3,870	1.79	11,001	1.45	11,001	1.09	11,001
2.19	11,264	K714_1520	MR163/050	56C	AW163/012	151.7	196	5,040	1.79	11,264	1.45	11,264	1.09	11,264

* For thermal HP capacity, see rating below.

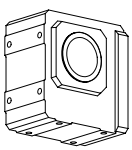
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

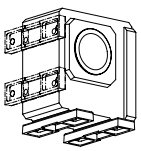
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

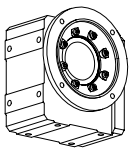
B – Basic Design



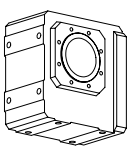
N – Foot Mounted



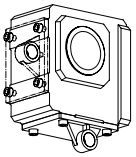
F – Round Flange



G – Tapped Holes

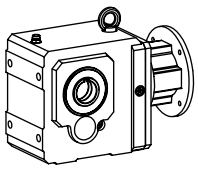


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

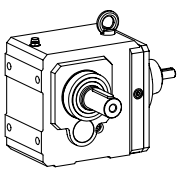
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
12 RPM		**Output (Approximate)** **Continued**							**9.5 RPM**		**8 RPM**		**6 RPM**	
2.55	12,844	K614_1480	MR164/140	143/145TC	AW164/012	148.2	196	3,870	2.09	12,844	1.69	12,844	1.27	12,844
2.97	15,271	K714_1520	MR164/140	143/145TC	AW164/012	151.7	196	5,040	2.42	15,271	1.97	15,271	1.47	15,271
4.07	21,259	K714_1540	MR205/180	182/184TC	AW205/014	153.7	333	5,040	3.32	21,259	2.69	21,259	2.02	21,259
6.71	35,704	K814_1570	MR205/180	182/184TC	AW205/014	156.7	333	6,412	5.72	37,204	4.64	37,204	3.48	37,204
7.11	37,204	K814_1540	MR256/210	213/215TC	AW256/102	154.3	680	6,412	5.81	37,204	4.72	37,204	3.54	37,204
7.96	40,254	K914_1490	MR205/180	182/184TC	AW205/014	149.0	333	8,437	6.51	40,254	5.28	40,254	3.96	40,254
12.50	62,006	K914_1470	MR256/210	213/215TC	AW256/102	146.7	680	8,437	10.20	62,006	8.25	62,006	6.19	62,006
15.50	78,249	K1014_1490	MR256/210	213/215TC	AW256/102	148.9	680	18,000	13.50	83,697	11.00	84,169	8.28	84,169
10 RPM		**Output (Approximate)**							**8.5 RPM**		**7 RPM**		**5 RPM**	
0.49	3,048	K303_1790	MR163/050	56C	AW163/012	178.7	196	2,025	0.40	3,048	0.33	3,048	0.25	3,048
0.49	3,048	K303_1790	MR164/140	143/145TC	AW164/012	178.7	196	2,025	0.40	3,048	0.33	3,048	0.25	3,048
0.77	4,736	K403_1790	MR163/050	56C	AW163/012	179.1	196	2,520	0.63	4,736	0.51	4,736	0.38	4,736
0.77	4,736	K403_1790	MR164/140	143/145TC	AW164/012	179.1	196	2,520	0.63	4,736	0.51	4,736	0.38	4,736
1.40	7,972	K514_1680	MR163/050	56C	AW163/012	168.2	196	3,026	1.14	7,972	0.93	7,972	0.69	7,972
1.40	7,972	K514_1680	MR164/140	143/145TC	AW164/012	168.2	196	3,026	1.14	7,972	0.93	7,972	0.69	7,972
2.19	12,376	K614_1670	MR163/050	56C	AW163/012	166.7	196	3,870	1.79	12,376	1.45	12,376	1.09	12,376
2.19	12,934	K714_1740	MR163/050	56C	AW163/012	174.2	196	5,040	1.79	12,934	1.45	12,934	1.09	12,934
2.27	12,844	K614_1670	MR164/140	143/145TC	AW164/012	166.7	196	3,870	1.86	12,844	1.51	12,844	1.13	12,844
2.83	16,749	K714_1740	MR164/140	143/145TC	AW164/012	174.2	196	5,040	2.32	16,749	1.88	16,749	1.41	16,749
3.55	21,259	K714_1760	MR205/180	182/184TC	AW205/014	176.5	333	5,040	2.90	21,259	2.35	21,259	1.77	21,259
5.86	34,455	K814_1730	MR205/180	182/184TC	AW205/014	173.3	333	6,412	5.12	36,855	4.19	37,204	3.14	37,204
6.42	37,204	K814_1710	MR256/210	213/215TC	AW256/102	170.7	680	6,412	5.25	37,204	4.26	37,204	3.19	37,204
9.5 RPM		**Output (Approximate)** **Continued Next Page**							**8 RPM**		**6 RPM**		**4.5 RPM**	
0.28	1,772	K203_1810	MR141/050	56C	AW141/010	181.0	98	1,350	0.23	1,772	0.19	1,772	0.14	1,772
0.28	1,772	K203_1810	MR142/050	56C	AW142/010	181.0	98	1,350	0.23	1,772	0.19	1,772	0.14	1,772
0.49	3,048	K303_1810	MR141/050	56C	AW141/010	181.0	98	2,025	0.40	3,048	0.32	3,048	0.24	3,048
0.49	3,048	K303_1810	MR142/050	56C	AW142/010	181.0	98	2,025	0.40	3,048	0.32	3,048	0.24	3,048
0.57	3,559	K403_1810	MR141/050	56C	AW141/010	181.4	98	2,520	0.47	3,559	0.38	3,559	0.28	3,559
0.76	4,736	K403_1810	MR142/050	56C	AW142/010	181.4	98	2,520	0.62	4,736	0.50	4,736	0.38	4,736
1.26	7,972	K514_1860	MR163/050	56C	AW163/012	186.2	196	3,026	1.03	7,972	0.84	7,972	0.63	7,972
1.26	7,972	K514_1860	MR164/140	143/145TC	AW164/012	186.2	196	3,026	1.03	7,972	0.84	7,972	0.63	7,972
2.05	12,844	K614_1850	MR163/050	56C	AW163/012	184.6	196	3,870	1.68	12,844	1.36	12,844	1.02	12,844

Part No. Explanation

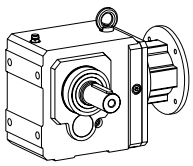
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. (1/16 in.; example – 012 = 12/16 or 3/4)
- 012

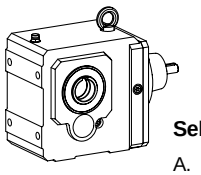


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
9.5 RPM		**Output (Approximate) Continued**							**8 RPM**		**6 RPM**		**4.5 RPM**	
2.05	12,844	K614_1850	MR164/140	143/145TC	AW164/012	184.6	196	3,870	1.68	12,844	1.36	12,844	1.02	12,844
5.81	37,204	K814_1890	MR256/210	213/215TC	AW256/102	189.0	680	6,412	4.74	37,204	3.85	37,204	2.89	37,204
9.68	62,006	K914_1890	MR256/210	213/215TC	AW256/102	188.8	680	8,437	7.91	62,006	6.41	62,006	4.81	62,006
13.10	83,137	K1014_1870	MR256/210	213/215TC	AW256/102	187.2	680	18,000	11.40	88,925	9.95	95,350	7.90	101,004
9 RPM		**Output (Approximate)**							**7.5 RPM**		**5.5 RPM**		**4.5 RPM**	
2.19	14,321	K714_1930	MR163/050	56C	AW163/012	192.9	196	5,040	1.79	14,321	1.45	14,321	1.09	14,321
2.83	18,542	K714_1930	MR164/140	143/145TC	AW164/012	192.9	196	5,040	2.32	18,542	1.88	18,542	1.41	18,542
3.21	21,259	K714_1950	MR205/180	182/184TC	AW205/014	195.4	333	5,040	2.62	21,259	2.13	21,259	1.59	21,259
5.72	37,204	K814_1920	MR205/180	182/184TC	AW205/014	191.9	333	6,412	4.67	37,204	3.79	37,204	2.84	37,204
6.71	43,670	K914_1920	MR205/180	182/184TC	AW205/014	191.7	333	8,437	5.87	46,711	5.10	50,085	3.90	51,023
8 RPM		**Output (Approximate)**							**6.5 RPM**		**5.5 RPM**		**4 RPM**	
0.19	1,407	K203_2180	MR141/050	56C	AW141/010	217.5	98	1,350	0.15	1,407	0.12	1,407	0.09	1,407
0.19	1,407	K203_2180	MR142/050	56C	AW142/010	217.5	98	1,350	0.15	1,407	0.12	1,407	0.09	1,407
0.31	2,345	K303_2180	MR141/050	56C	AW141/010	218.2	98	2,025	0.26	2,345	0.21	2,345	0.16	2,345
0.31	2,345	K303_2180	MR142/050	56C	AW142/010	218.2	98	2,025	0.26	2,345	0.21	2,345	0.16	2,345
0.50	3,752	K403_2180	MR141/050	56C	AW141/010	218.2	98	2,520	0.41	3,752	0.33	3,752	0.25	3,752
0.50	3,752	K403_2180	MR142/050	56C	AW142/010	218.2	98	2,520	0.41	3,752	0.33	3,752	0.25	3,752
0.51	3,752	K403_2150	MR163/050	56C	AW163/012	215.4	196	2,520	0.41	3,752	0.34	3,752	0.25	3,752
0.51	3,752	K403_2150	MR164/140	143/145TC	AW164/012	215.4	196	2,520	0.41	3,752	0.34	3,752	0.25	3,752
1.04	7,972	K514_2250	MR163/050	56C	AW163/012	225.4	196	3,026	0.85	7,972	0.69	7,972	0.52	7,972
1.04	7,972	K514_2250	MR164/140	143/145TC	AW164/012	225.4	196	3,026	0.85	7,972	0.69	7,972	0.52	7,972
1.70	12,844	K614_2230	MR163/050	56C	AW163/012	222.5	196	3,870	1.39	12,844	1.13	12,844	0.85	12,844
1.70	12,844	K614_2230	MR164/140	143/145TC	AW164/012	222.5	196	3,870	1.39	12,844	1.13	12,844	0.85	12,844
2.19	16,815	K714_2260	MR163/050	56C	AW163/012	226.5	196	5,040	1.79	16,815	1.45	16,815	1.09	16,815
2.55	19,568	K714_2260	MR164/140	143/145TC	AW164/012	226.5	196	5,040	2.19	20,583	1.78	20,583	1.33	20,583
2.73	21,259	K714_2290	MR205/180	182/184TC	AW205/014	229.4	333	5,040	2.23	21,259	1.81	21,259	1.36	21,259
4.72	37,046	K814_2310	MR205/180	182/184TC	AW205/014	231.4	333	6,412	3.87	37,204	3.14	37,204	2.36	37,204
4.81	37,204	K814_2280	MR256/210	213/215TC	AW256/102	227.9	680	6,412	3.93	37,204	3.19	37,204	2.39	37,204
7 RPM		**Output (Approximate)** **Continued Next Page**							**5.5 RPM**		**4.5 RPM**		**3.5 RPM**	
0.79	7,269	K514_2710	MR163/050	56C	AW163/012	271.0	196	3,026	0.65	7,269	0.52	7,269	0.39	7,269
0.79	7,269	K514_2710	MR164/140	143/145TC	AW164/012	271.0	196	3,026	0.65	7,269	0.52	7,269	0.39	7,269
0.94	7,972	K514_2500	MR163/050	56C	AW163/012	249.6	196	3,026	0.77	7,972	0.62	7,972	0.47	7,972
0.94	7,972	K514_2500	MR164/140	143/145TC	AW164/012	249.6	196	3,026	0.77	7,972	0.62	7,972	0.47	7,972

* For thermal HP capacity, see rating below.

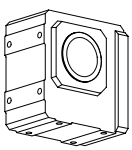
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

NEMA Frame Size TEFC 1750 RPM

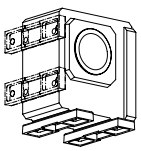
C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

Housing Styles

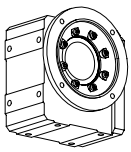
B – Basic Design



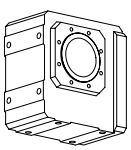
N – Foot Mounted



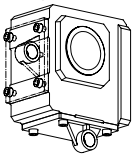
F – Round Flange



G – Tapped Holes

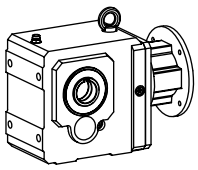


BD – Torque Arm Bracket



These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: K302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

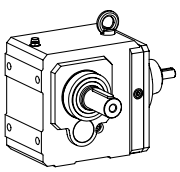
See pages 100-126 for dimensions of "K" Series–Right Angle Helical/Bevel reducers.
See page 99 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
7 RPM		**Output (Approximate) Continued**							**5.5 RPM**		**4.5 RPM**		**3.5 RPM**	
1.29	11,640	K614_2660	MR163/050	56C	AW163/012	265.9	196	3,870	1.05	11,640	0.86	11,640	0.64	11,640
1.29	11,640	K614_2660	MR164/140	143/145TC	AW164/012	265.9	196	3,870	1.05	11,640	0.86	11,640	0.64	11,640
1.54	12,844	K614_2460	MR163/050	56C	AW163/012	246.3	196	3,870	1.26	12,844	1.02	12,844	0.76	12,844
1.54	12,844	K614_2460	MR164/140	143/145TC	AW164/012	246.3	196	3,870	1.26	12,844	1.02	12,844	0.76	12,844
2.19	18,617	K714_2510	MR163/050	56C	AW163/012	250.7	196	5,040	1.79	18,617	1.45	18,617	1.09	18,617
2.47	21,259	K714_2540	MR205/180	182/184TC	AW205/014	254.0	333	5,040	2.02	21,259	1.64	21,259	1.23	21,259
2.50	21,259	K714_2510	MR164/140	143/145TC	AW164/012	250.7	196	5,040	2.04	21,259	1.66	21,259	1.24	21,259
4.28	37,204	K814_2560	MR205/180	182/184TC	AW205/014	256.2	333	6,412	3.50	37,204	2.84	37,204	2.13	37,204
4.35	37,204	K814_2520	MR256/210	213/215TC	AW256/102	252.3	680	6,412	3.55	37,204	2.88	37,204	2.16	37,204
5.63	47,165	K914_2470	MR205/180	182/184TC	AW205/014	247.0	333	8,437	4.92	50,449	4.28	54,094	3.53	59,538
7.51	62,006	K914_2430	MR256/210	213/215TC	AW256/102	243.3	680	8,437	6.14	62,006	4.98	62,006	3.73	62,006
11.10	89,576	K1014_2370	MR256/210	213/215TC	AW256/102	237.4	680	18,000	9.72	95,813	8.45	102,735	6.56	106,296
6 RPM		**Output (Approximate)**							**5 RPM**		**4 RPM**		**3 RPM**	
0.13	1,173	K203_2720	MR141/050	56C	AW141/010	271.9	98	1,350	0.10	1,173	0.08	1,173	0.06	1,173
0.13	1,173	K203_2720	MR142/050	56C	AW142/010	271.9	98	1,350	0.10	1,173	0.08	1,173	0.06	1,173
0.20	1,876	K303_2720	MR141/050	56C	AW141/010	271.9	98	2,025	0.16	1,876	0.13	1,876	0.10	1,876
0.20	1,876	K303_2720	MR142/050	56C	AW142/010	271.9	98	2,025	0.16	1,876	0.13	1,876	0.10	1,876
0.35	3,283	K403_2720	MR141/050	56C	AW141/010	271.6	98	2,520	0.29	3,283	0.23	3,283	0.17	3,283
0.35	3,283	K403_2720	MR142/050	56C	AW142/010	271.6	98	2,520	0.29	3,283	0.23	3,283	0.17	3,283
0.78	7,972	K514_3000	MR163/050	56C	AW163/012	300.0	196	3,026	0.64	7,972	0.52	7,972	0.39	7,972
0.78	7,972	K514_3000	MR164/140	143/145TC	AW164/012	300.0	196	3,026	0.64	7,972	0.52	7,972	0.39	7,972
1.29	12,844	K614_2940	MR163/050	56C	AW163/012	294.4	196	3,870	1.05	12,844	0.85	12,844	0.64	12,844
1.29	12,844	K614_2940	MR164/140	143/145TC	AW164/012	294.4	196	3,870	1.05	12,844	0.85	12,844	0.64	12,844
2.06	19,247	K714_2750	MR163/050	56C	AW163/012	275.3	196	5,040	1.68	19,247	1.37	19,247	1.02	19,247
2.06	19,247	K714_2750	MR164/140	143/145TC	AW164/012	275.3	196	5,040	1.68	19,247	1.37	19,247	1.02	19,247
2.06	21,259	K714_3050	MR163/050	56C	AW163/012	304.8	196	5,040	1.68	21,259	1.36	21,259	1.02	21,259
2.06	21,259	K714_3050	MR164/140	143/145TC	AW164/012	304.8	196	5,040	1.68	21,259	1.36	21,259	1.02	21,259
3.35	31,945	K814_2810	MR205/180	182/184TC	AW205/014	280.8	333	6,412	2.74	31,945	2.22	31,945	1.67	31,945
3.35	35,367	K814_3110	MR205/180	182/184TC	AW205/014	310.9	333	6,412	2.74	35,367	2.22	35,367	1.67	35,367
3.40	31,945	K814_2770	MR256/210	213/215TC	AW256/102	276.6	680	6,412	2.78	31,945	2.26	31,945	1.69	31,945
3.40	35,367	K814_3060	MR256/210	213/215TC	AW256/102	306.2	680	6,412	2.78	35,367	2.26	35,367	1.69	35,367
4.91	49,061	K914_2940	MR205/180	182/184TC	AW205/014	293.8	333	8,437	4.29	52,477	3.74	56,268	3.08	61,931
9.38	92,409	K1014_2900	MR256/210	213/215TC	AW256/102	290.4	680	18,000	8.20	98,843	6.76	100,420	5.07	100,420

Part No. Explanation

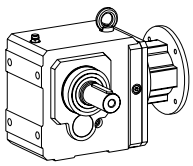
K 4 0 2 V B 0690 AW 163 / 012

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Gear Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Input Shaft
- AW — Flange No.
- 163 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- 012

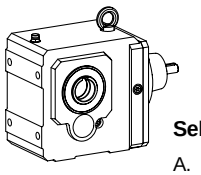


K 4 0 2 V B 0690 MR 163 / 140

- K — Unit No. Right Angle Helical/Bevel
- 4 — Generation No.
- 0 — No. of Reductions
- 2 — Output Style (A-hollow; V-solid)
- V — Housing Style
- B — Ratio (0690 = 69.0:1)
- 0690 — Motor Adapter
- MR — Flange No.
- 163 — Motor Frame Size (140=143/145TC)
- 140



Mounting position must be specified when ordering. See pages 156 and 157.



"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
5 RPM		**Output (Approximate)**							**4.5 RPM**		**3.5 RPM**		**2.5 RPM**	
0.53	6,106	K514_3380	MR163/050	56C	AW163/012	337.5	196	3,026	0.44	6,106	0.35	6,106	0.27	6,106
0.53	6,106	K514_3380	MR164/140	143/145TC	AW164/012	337.5	196	3,026	0.44	6,106	0.35	6,106	0.27	6,106
0.53	6,760	K514_3740	MR163/050	56C	AW163/012	373.7	196	3,026	0.44	6,760	0.35	6,760	0.27	6,760
0.53	6,760	K514_3740	MR164/140	143/145TC	AW164/012	373.7	196	3,026	0.44	6,760	0.35	6,760	0.27	6,760
0.76	8,601	K614_3330	MR163/050	56C	AW163/012	333.2	196	3,870	0.62	8,601	0.50	8,601	0.38	8,601
0.76	8,601	K614_3330	MR164/140	143/145TC	AW164/012	333.2	196	3,870	0.62	8,601	0.50	8,601	0.38	8,601
0.76	9,522	K614_3690	MR163/050	56C	AW163/012	368.9	196	3,870	0.62	9,522	0.50	9,522	0.38	9,522
0.76	9,522	K614_3690	MR164/140	143/145TC	AW164/012	368.9	196	3,870	0.62	9,522	0.50	9,522	0.38	9,522
1.27	14,805	K714_3440	MR163/050	56C	AW163/012	344.1	196	5,040	1.04	14,805	0.84	14,805	0.63	14,805
1.27	14,805	K714_3440	MR164/140	143/145TC	AW164/012	344.1	196	5,040	1.04	14,805	0.84	14,805	0.63	14,805
1.27	16,391	K714_3810	MR163/050	56C	AW163/012	381.0	196	5,040	1.04	16,391	0.84	16,391	0.63	16,391
1.27	16,391	K714_3810	MR164/140	143/145TC	AW164/012	381.0	196	5,040	1.04	16,391	0.84	16,391	0.63	16,391
3.75	47,613	K914_3740	MR205/180	182/184TC	AW205/014	373.7	333	8,437	3.07	47,613	2.49	47,613	1.87	47,613

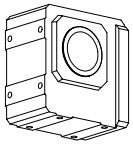
NOTE: For slower speeds than those shown, units can be combined. Contact Stober Drives Inc.

* For thermal HP capacity, see rating below.

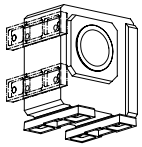
Base Module	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Thermal Capacity	2.95	5.36	7.38	12.34	14.75	20.12	29.50	40.23	53.64	67.05

Housing Styles

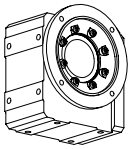
B – Basic Design



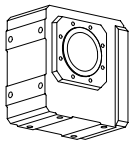
N – Foot Mounted



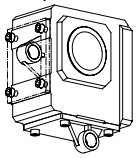
F – Round Flange



G – Tapped Holes



BD – Torque Arm Bracket

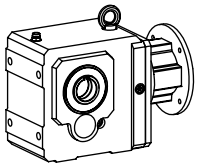


These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143/145TC	1, 1 1/2, 2
182/184TC	3, 5
213/215TC	7 1/2, 10
254/256TC	15, 20
284/286TC	25, 30
324/326TC	40, 50
364/365TC	60, 75

"K" Series–Right Angle Helical/Bevel MGS Reducer Selection Data



Backstops

HP ratings shown are based on 2.0 Service Factor. Maximum HP should not be exceeded.
DO NOT USE BACKSTOPS ON MAN LIFTS!

The direction of rotation of the OUTPUT *must* be specified when ordered.
(Examples shown are EL1 mounting with output rotating clockwise.)

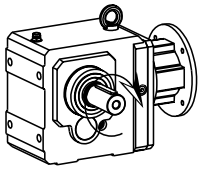


Table No. 1
MR with Backstop

Adapter Part No.	NEMA Frame	Max. HP * @ 1750 RPM
MRB14_/050	56C	2.1
MRB16_/050	56C	10.4
MRB16_/140	143/145TC	10.4
MRB20_/050	56C	18.2
MRB20_/140	143/145TC	18.2
MRB20_/180	182/184TC	18.2
MRB25_/180	182/184TC	29.1
MRB25_/210	213/215TC	29.1
MRB30_/180	182/184TC	40.5
MRB30_/210	213/215TC	40.5
MRB30_/250	254/256TC	40.5
MRB30_/280	284/286TC	40.5
MRB35_/320	324/326TC	54.0
MRB35_/360	364/365TC	54.0

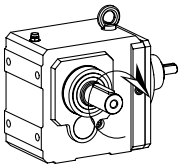
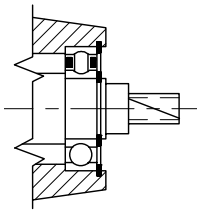
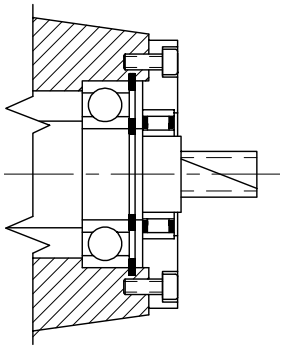


Table No. 2
AW with Backstop

Input Part No.	Shaft Size	Max. HP * @ 1750 RPM
AWB14_/010	.625	2.1
AWB16_/012	.750	10.4
AWB20_/014	.875	18.2
AWB25_/102	1.125	29.1
AWB30_/110	1.625	40.5
AWB35_/202	2.125	54.0



Backstop for all units using:
AW14_/010, AW16_/012,
MR14_/050, MR16_/050 and MR16_/140



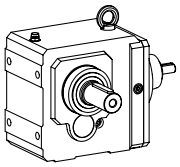
Backstop for all units using:
AW20_/ 014 through AW35_/202 and MR20_/050 through MR35_/360.

These backstops cannot be assembled into: K714, K814, K914 and K1014.

Part No. Explanation

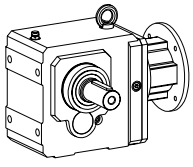
K 4 0 2 V B 0690 AW 163 / 012

- Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- Flange No.
- Input Shaft
- Ratio (0690 = 69.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Gear Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Bevel



K 4 0 2 V B 0690 MR 163 / 140

- Motor Frame Size (140=143/145TC)
- Flange No.
- Motor Adapter
- Ratio (0690 = 69.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Bevel



Mounting position must be specified when ordering. See pages 156 and 157.

"K102" Series—MGS Dimensional Data Helical/Bevel with Input Shaft

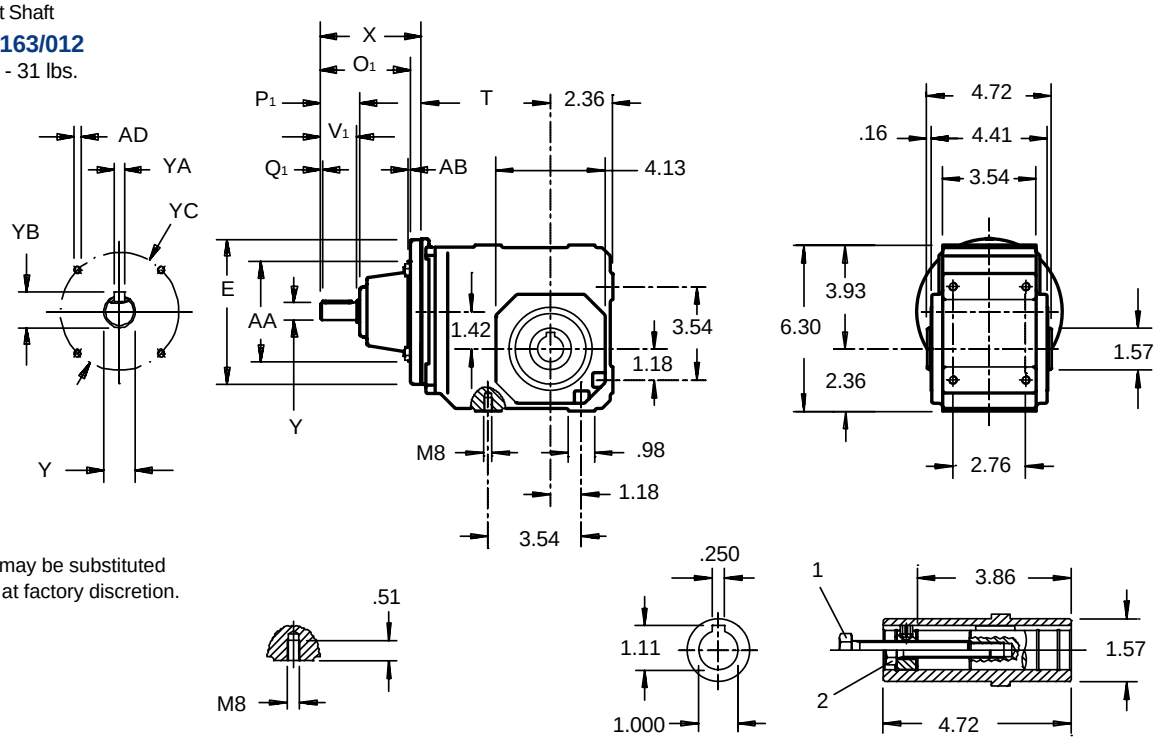
Drawing for Unit K102AB

Part No. Example

Basic Unit with Input Shaft

K102AB0175 AW163/012

Base Module Weight - 31 lbs.



The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

Drawing for Unit K102VN

Part No. Example

Foot Mounting Unit with Input Shaft

K102VN0175 AW163/012

Base Module Weight - 31 lbs.

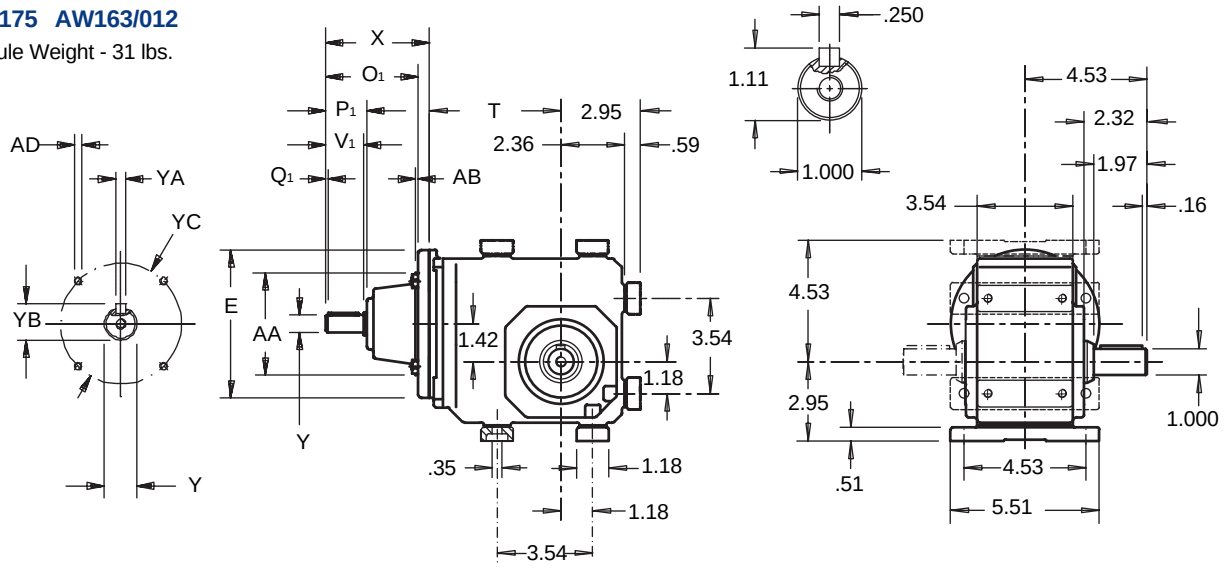


Table No. 1 **"AW" Dimensions (Inches)**

Input Shaft	E	O_1	P_1	Q_1	T	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	4.88	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times ^3/_{16} \times ^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	5.04	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	5.12	12

"K102" Series—MGS Dimensional Data Helical/Bevel with Input Shaft

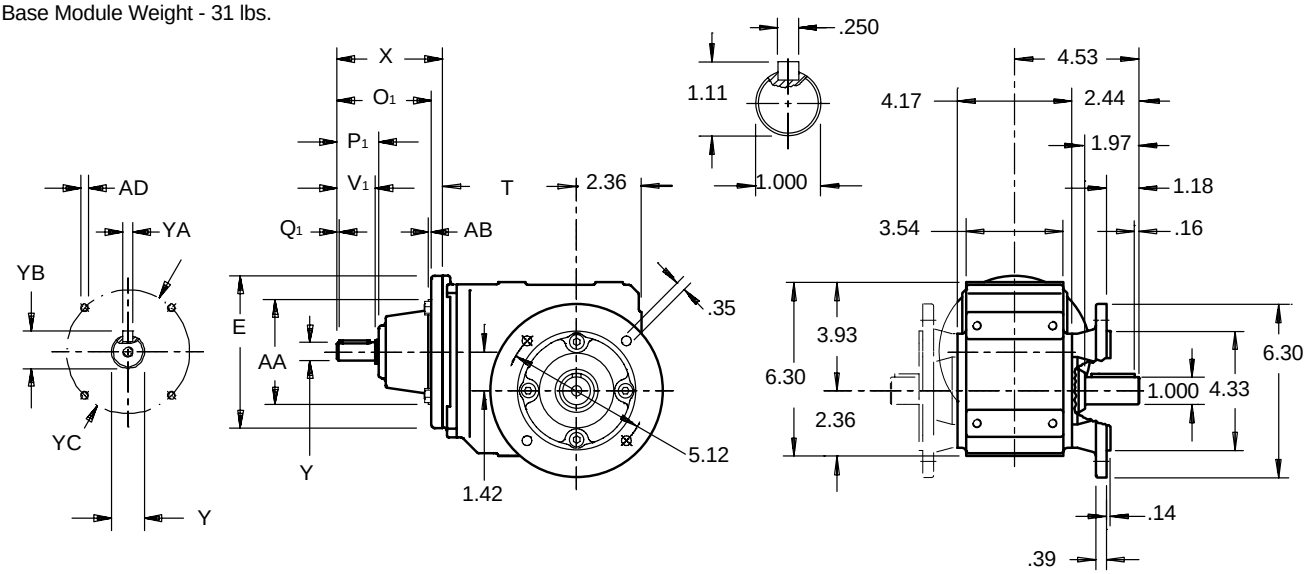
Drawing for Unit K102VF

Part No. Example

Round Flange with Input Shaft

K102VF0175 AW163/012

Base Module Weight - 31 lbs.



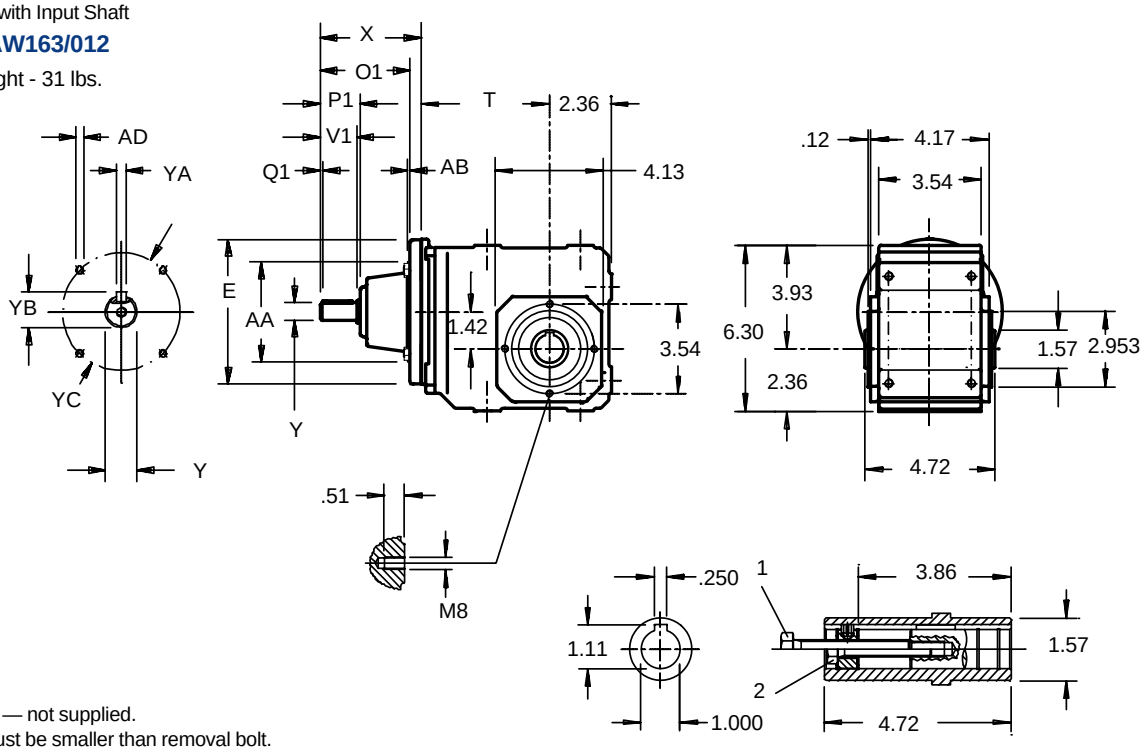
Drawing for Unit K102AG

Part No. Example

Tapped Hole Housing with Input Shaft

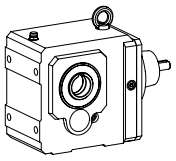
K102AG0175 AW163/012

Base Module Weight - 31 lbs.

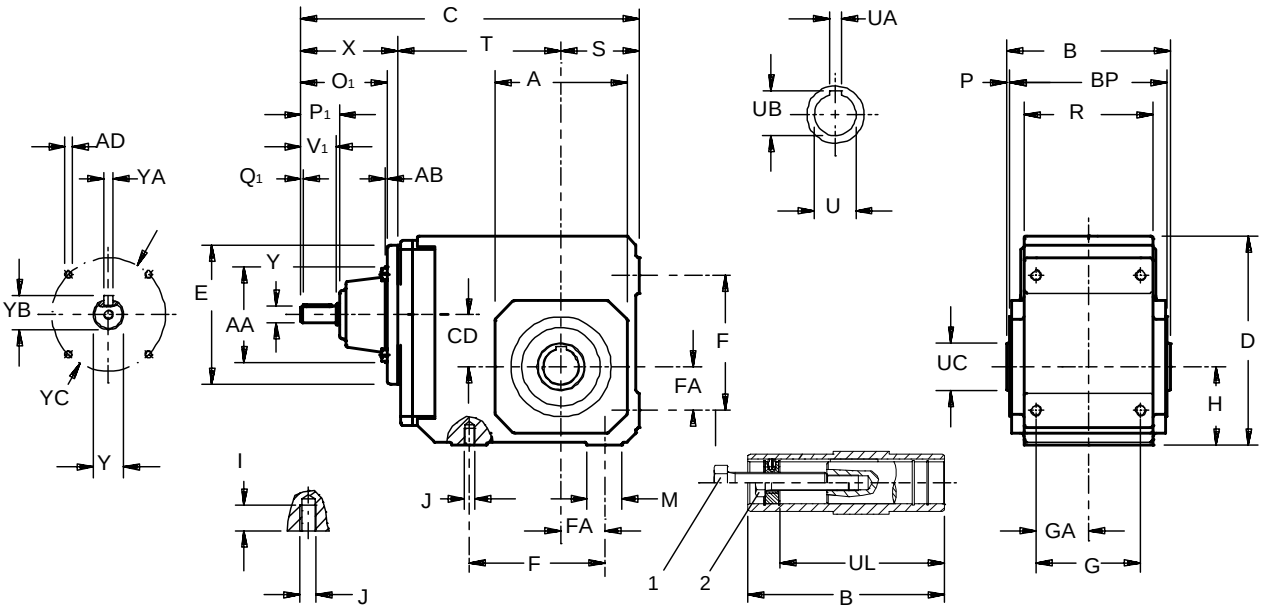


1. Removal Bolt 1/2-13 — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 156 for tolerances, lubrication, and mounting positions.
All weights are approximate.



"K" Series—MGS Dimensional Data
Helical/Bevel with Input Shaft



Drawing for Units
K202AB — K403AB

Table No. 1 **"K" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Base Module	A	B	D	F	G	H	I	J	M	P	R	S	U	Z_1
K202/203	4.57	5.83	7.48	4.53	3.54	2.56	.63	M10	1.18	.16	4.53	2.56	1.1875	—
K302/303	5.20	6.30	8.39	5.12	4.13	2.95	.63	M10	1.38	.16	5.12	2.95	1.3750	—
K402/403	5.98	7.40	9.45	6.10	4.72	3.54	.75	M12	1.57	.16	5.83	3.54	1.5000	—
K513/514	5.71	7.87	10.24	5.51	4.92	6.30	1.02	M16	1.97	.16	6.30	3.94	2.0000	5.98
K613/614	7.09	8.46	12.20	6.30	5.12	7.48	1.02	M16	2.17	.16	6.61	4.72	2.0000	6.77
K713/714	7.68	9.53	13.46	7.09	5.71	8.35	1.22	M20	2.36	.18	7.48	4.92	2.3750	7.52
K813/814	8.90	11.81	16.14	9.45	7.28	10.43	1.50	M24	2.76	.20	9.25	5.71	2.7500	8.11
K913/914	11.02	13.78	19.49	11.02	8.86	12.40	1.89	M30	3.15	.20	11.22	7.09	3.2500	9.84

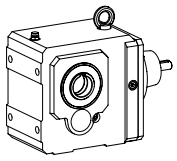
Table No. 2

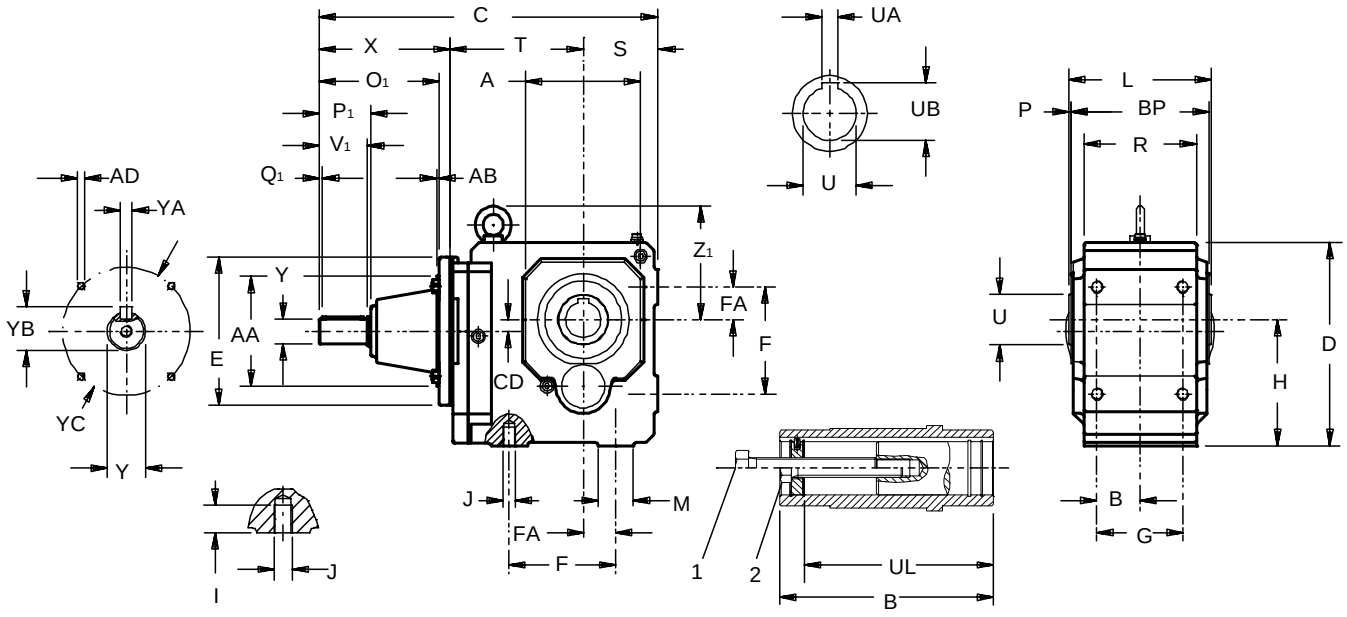
Base Module	BP	FA	GA	UA	UB	UC	UL	1
K202/203	5.51	1.38	1.77	.250	1.31	1.77	4.78	1/2-13
K302/303	5.98	1.57	2.07	.312	1.52	1.97	4.92	5/8-11
K402/403	7.09	1.97	2.36	.375	1.67	2.17	6.18	3/4-10
K513/514	7.56	1.57	2.46	.500	2.13	2.56	6.46	3/4-10
K613/614	8.15	1.97	2.56	.500	2.23	2.76	7.05	3/4-10
K713/714	9.17	2.17	2.85	.625	2.66	3.35	8.43	1-8
K813/814	11.42	2.95	3.64	.625	3.03	3.94	10.35	1-8
K913/914	13.39	3.74	4.43	.750	3.59	4.33	11.89	1-8

Table No. 3 **"K" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	3/16 × 3/16 × 31/32	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	3/16 × 3/16 × 1 7/32	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	3/16 × 3/16 × 1 7/16	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	1/4 × 1/4 × 1 15/16	1.24	8.46	21
AW30_/110	11.81	8.39	3.54	.24	3.25	9.02	1.6250	9.055	.20	M12	3/8 × 3/8 × 2 7/8	1.79	10.43	51
AW35_/202	13.78	10.83	4.88	.28	4.50	11.61	2.1250	9.842	.24	M16	1/2 × 1/2 × 3 15/16	2.35	11.81	100

"K" Series—MGS Dimensional Data Helical/Bevel with Input Shaft





Drawing for Units
K513AB — K914AB

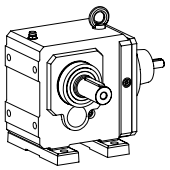
Table No. 4 **"K" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Base	AW14_/010			AW16_/012			AW20_/014			AW25_/102			AW30_/110			AW35_/202			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	12.21	5.63	1.81	13.04	5.79	1.81	13.94	5.87	—	—	—	—	—	—	—	—	—	40
K203	1.81	13.67	7.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	2.07	13.39	6.42	2.07	14.21	6.57	2.07	15.11	6.65	—	—	—	—	—	—	—	—	—	67
K303	2.07	14.84	7.87	.63	15.91	8.27	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	2.36	15.59	7.36	2.36	16.49	7.44	2.36	18.90	7.56	—	—	—	—	—	—	93
K403	2.36	16.22	8.66	.91	17.29	9.06	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	.59	15.40	6.77	.59	16.30	6.85	.59	18.71	6.97	—	—	—	—	—	—	106
K514	—	—	—	.59	17.09	8.46	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	.71	16.93	7.52	.71	17.83	7.60	.71	20.24	7.72	.71	22.01	8.27	—	—	—	170
K614	—	—	—	.71	18.62	9.21	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	19.13	8.70	.79	21.54	8.82	.79	23.27	9.33	—	—	—	221
K714	—	—	—	.79	19.96	10.35	.79	21.57	11.14	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	.94	20.94	9.72	.94	23.31	9.80	.94	25.04	10.31	—	—	—	309
K814	—	—	—	—	—	—	.94	23.35	12.13	—	—	—	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	26.46	11.57	.98	28.20	12.09	.98	31.69	12.99	508
K914	—	—	—	—	—	—	.98	26.50	13.90	.98	29.26	14.37	—	—	—	—	—	—	530

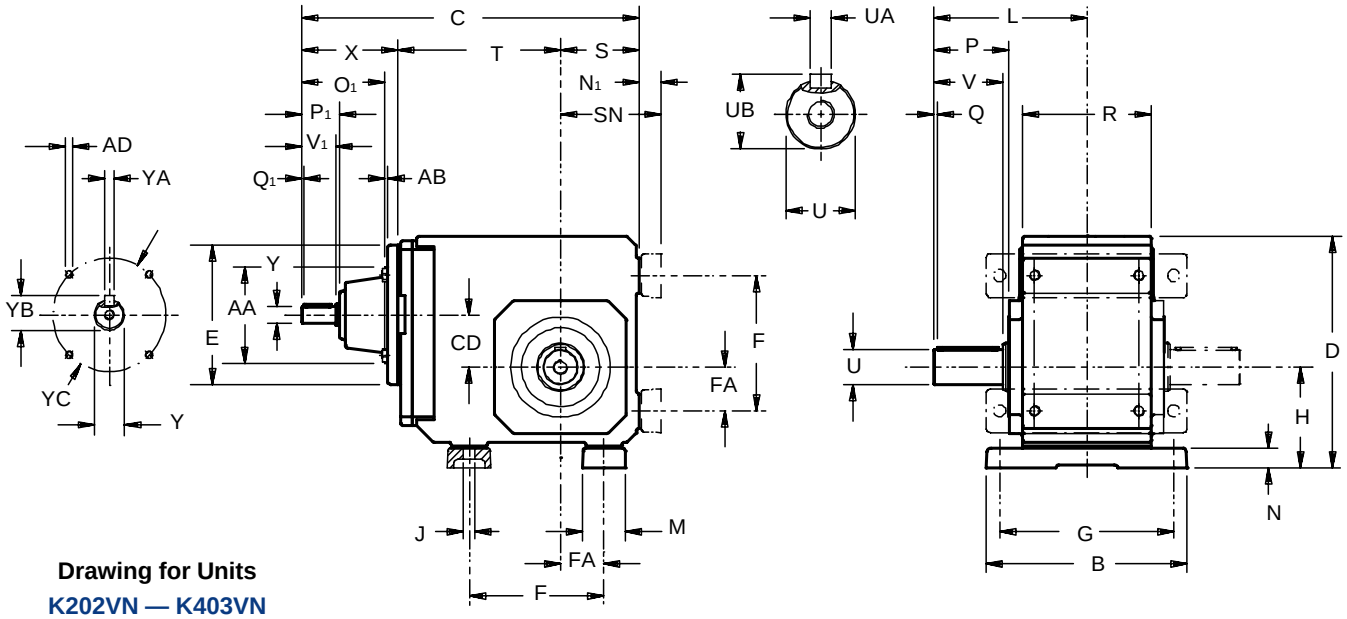
Part No. Example
Basic Unit with Input Shaft
K302AB0620 AW163/012

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, 156, and 157 for tolerances, lubrication, and mounting positions.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.
All weights are approximate.



"K" Series—MGS Dimensional Data Helical/Bevel with Input Shaft



Drawing for Units
K202VN — K403VN

Table No. 1 **"K" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style**

Base Module	B	D	F	G	H	J	L	M	N	O	P	Q	R	S
K202/203	7.28	8.39	4.53	6.10	3.46	.43	5.31	1.57	.79	—	2.56	.16	4.53	2.56
K302/303	7.87	9.29	5.12	6.69	3.86	.43	5.59	1.77	.79	—	2.60	.16	5.12	2.95
K402/403	9.06	10.43	6.10	7.87	4.53	.55	6.54	1.97	.87	—	3.39	.16	5.83	3.54
K513/514	9.45	11.42	5.51	7.87	7.48	.71	8.74	2.36	1.06	5.10	3.90	.16	6.30	3.94
K613/614	9.84	13.39	6.30	8.27	8.66	.71	9.29	2.56	1.06	5.35	4.31	.16	6.61	4.72
K713/714	11.42	14.96	7.09	9.45	9.84	.87	10.91	2.76	1.38	6.46	5.14	.16	7.48	4.92
K813/814	14.17	17.91	9.45	11.81	12.20	1.02	12.83	3.35	1.61	7.28	5.94	.20	9.25	5.71
K913/914	16.93	21.46	11.02	14.17	14.37	1.30	15.16	3.74	1.81	8.66	7.13	.31	11.22	7.09

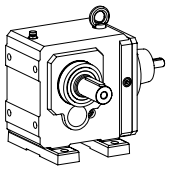
Table No. 2

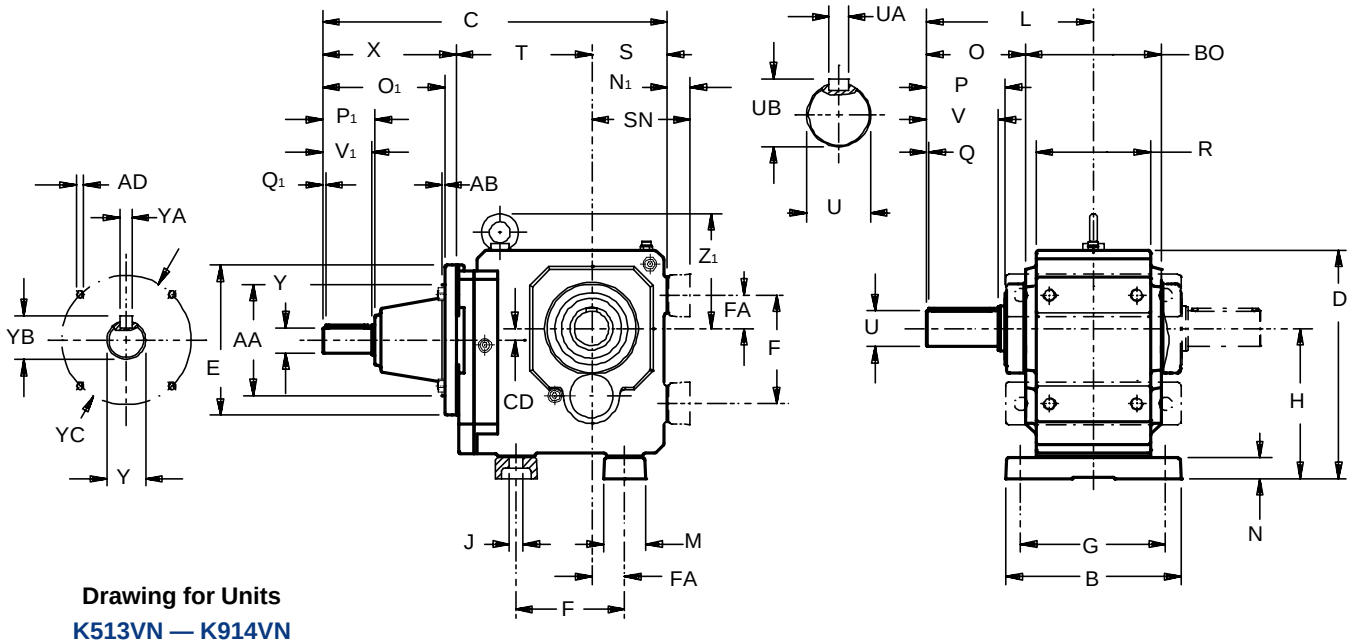
Base Module	U	V	Z_1	BO	FA	N_1	SN	UA – Key	UB
K202/203	1.2500	2.36	—	—	1.38	.91	3.46	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K302/303	1.2500	2.36	—	—	1.57	.91	3.86	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K402/403	1.3750	2.76	—	—	1.97	.98	4.53	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
K513/514	1.7500	3.54	5.98	7.28	1.57	1.18	5.12	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K613/614	1.7500	3.94	6.77	7.87	1.97	1.18	5.91	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K713/714	2.3750	4.72	7.52	8.90	2.17	1.50	6.42	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
K813/814	2.8750	5.51	8.11	11.10	2.95	1.77	7.48	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
K913/914	3.6250	6.69	9.84	12.99	3.74	1.97	9.06	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

Table No. 3 **"K" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style**

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times ^3/_{16} \times ^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$^3/_{16} \times ^3/_{16} \times 1^7/_{16}$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.24	8.46	21
AW30_/110	11.81	8.39	3.54	.24	3.25	9.02	1.6250	9.055	.20	M12	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	10.43	51
AW35_/202	13.78	10.83	4.88	.28	4.50	11.61	2.1250	9.842	.24	M16	$^1/_2 \times ^1/_2 \times 3^{15}/_{16}$	2.35	11.81	100

"K" Series—MGS Dimensional Data Helical/Bevel with Input Shaft





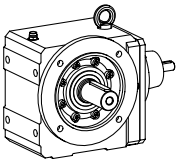
Drawing for Units
K513VN — K914VN

Table No. 4 **"K" Series –Foot Mounting Unit Dimensions (Inches) – "N" Housing Style**

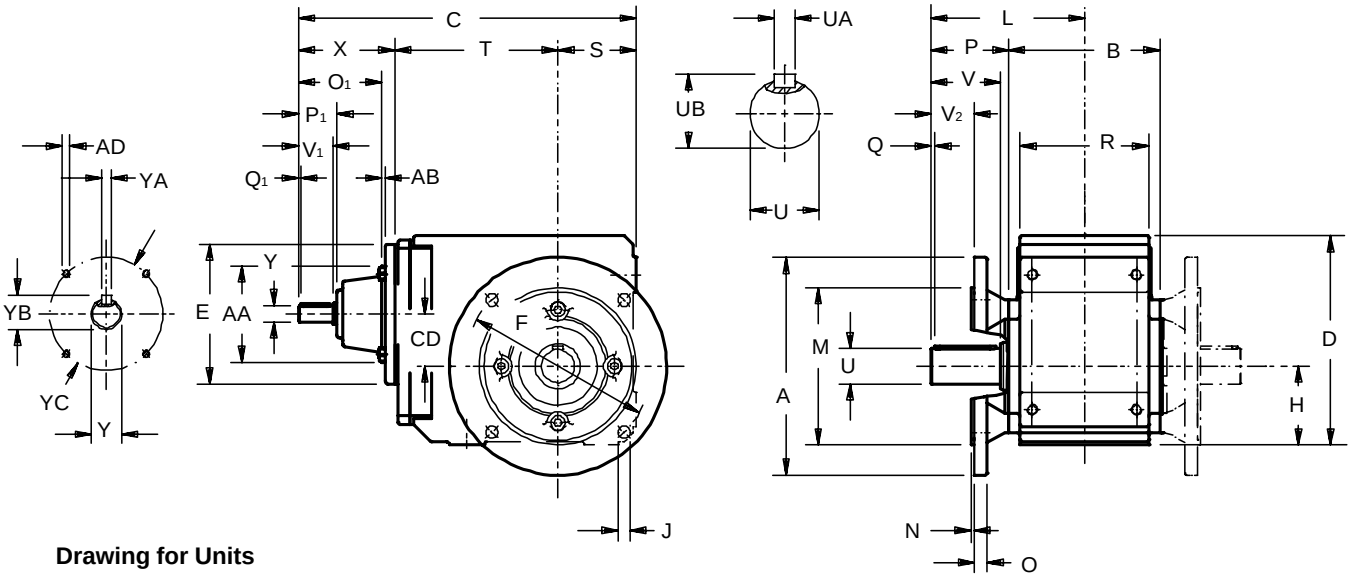
Base	AW14_/010			AW16_/012			AW20_/014			AW25_/102			AW30_/110			AW35_/202			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	12.21	5.63	1.81	13.04	5.79	1.81	13.94	5.87	—	—	—	—	—	—	—	—	—	40
K203	1.81	13.67	7.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	2.07	13.39	6.42	2.07	14.21	6.57	2.07	15.11	6.65	—	—	—	—	—	—	—	—	—	67
K303	2.07	14.84	7.87	.63	15.91	8.27	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	2.36	15.59	7.36	2.36	16.49	7.44	2.36	18.90	7.56	—	—	—	—	—	—	93
K403	2.36	16.22	8.66	.91	17.29	9.06	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	.59	15.40	6.77	.59	16.30	6.85	.59	18.71	6.97	—	—	—	—	—	—	106
K514	—	—	—	.59	17.09	8.46	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	.71	16.93	7.52	.71	17.83	7.60	.71	20.24	7.72	.71	22.01	8.27	—	—	—	170
K614	—	—	—	.71	18.62	9.21	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	19.13	8.70	.79	21.54	8.82	.79	23.27	9.33	—	—	—	221
K714	—	—	—	.79	19.96	10.35	.79	21.57	11.14	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	.94	20.94	9.72	.94	23.31	9.80	.94	25.04	10.31	—	—	—	309
K814	—	—	—	—	—	—	.94	23.35	12.13	—	—	—	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	26.46	11.57	.98	28.20	12.09	.98	31.69	12.99	508
K914	—	—	—	—	—	—	.98	26.50	13.90	.98	29.26	14.37	—	—	—	—	—	—	530

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, 156, and 157 for tolerances, lubrication, and mounting positions.
All weights are approximate.

Part No. Example
Foot Mounting with Input Shaft
K302VN0620 AW163/012



"K" Series—MGS Dimensional Data
Helical/Bevel with Input Shaft



Drawing for Units
K202VF — K403VF

Table No. 1 **"K" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style**

Base Module	A	B	D	F	H	J	L	M	N	O	P	Q	R	S
K202/203	7.87	5.28	7.48	6.50	2.56	.43	5.31	5.118	.14	.47	2.68	.16	4.53	2.56
K302/303	7.87	5.75	8.39	6.50	2.95	.43	5.59	5.118	.14	.55	2.72	.16	5.12	2.95
K402/403	9.84	6.81	9.45	8.46	3.54	.55	6.54	7.087	.16	.59	3.52	.16	5.83	3.54
K513/514	9.84	7.28	10.24	8.46	6.30	.55	8.74	7.087	.16	.59	5.10	.16	6.30	3.94
K613/614	11.81	7.87	12.20	10.43	7.48	.55	9.29	9.055	.16	.67	5.35	.16	6.61	4.72
K713/714	13.78	8.90	13.46	11.81	8.35	.71	10.91	9.842	.20	.71	6.46	.16	7.48	4.92
K813/814	15.75	11.10	16.14	13.78	10.43	.71	12.83	11.811	.20	.79	7.28	.20	9.25	5.71
K913/914	17.72	12.99	19.49	15.75 *	12.40	.71	15.16	13.780	.20	.91	8.66	.31	11.22	7.09

* K903 and K904 has 8 mounting holes in the output flange instead of 4 as shown in drawing.

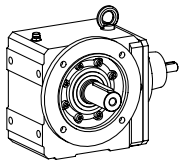
Table No. 2

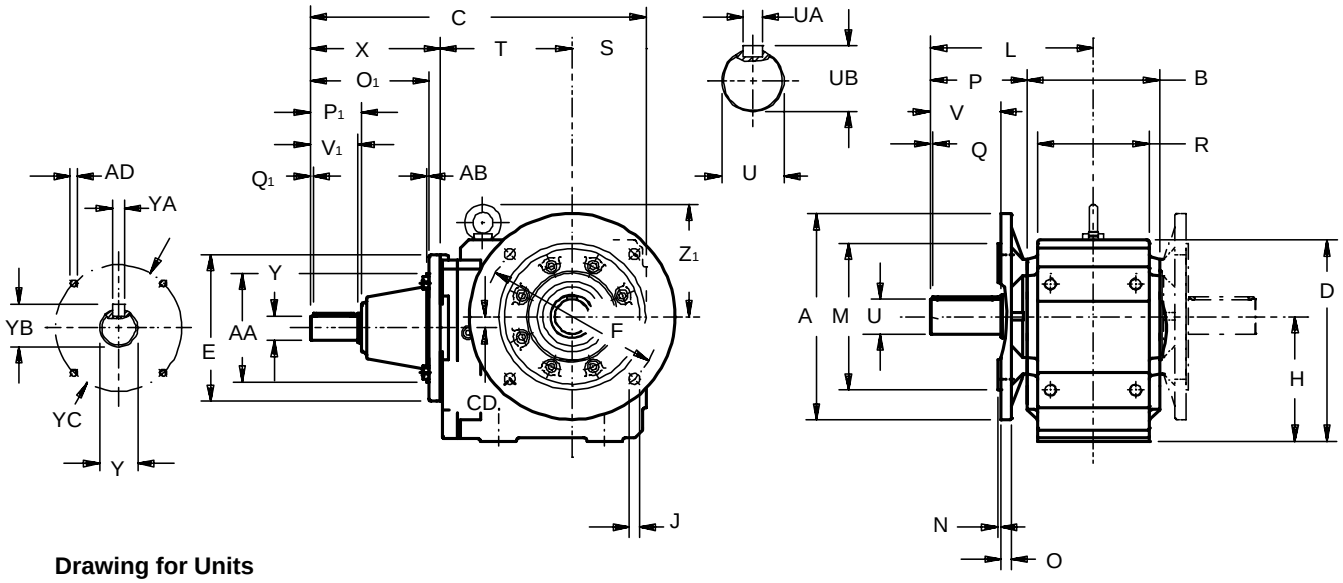
Base Module	U	V	V_2	Z_1	UA – Key	UB
K202/203	1.2500	2.36	1.42	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K302/303	1.2500	2.36	1.22	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K402/403	1.3750	2.76	1.95	—	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
K513/514	1.7500	3.54	—	5.98	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K613/614	1.7500	3.94	—	6.77	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K713/714	2.3750	4.72	—	7.52	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
K813/814	2.8750	5.51	—	8.11	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
K913/914	3.6250	6.69	—	9.84	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

Table No. 3 **"K" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style**

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times ^3/_{16} \times ^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$^3/_{16} \times ^3/_{16} \times 1^7/_{16}$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.24	8.46	21
AW30_/110	11.81	8.39	3.54	.24	3.25	9.02	1.6250	9.055	.20	M12	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	10.43	51
AW35_/202	13.78	10.83	4.88	.28	4.50	11.61	2.1250	9.842	.24	M16	$^1/_2 \times ^1/_2 \times 3^{15}/_{16}$	2.35	11.81	100

"K" Series—MGS Dimensional Data Helical/Bevel with Input Shaft





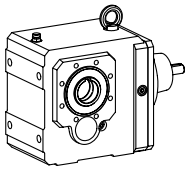
Drawing for Units
K513VF — K914VF

Table No. 4 **"K" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style**

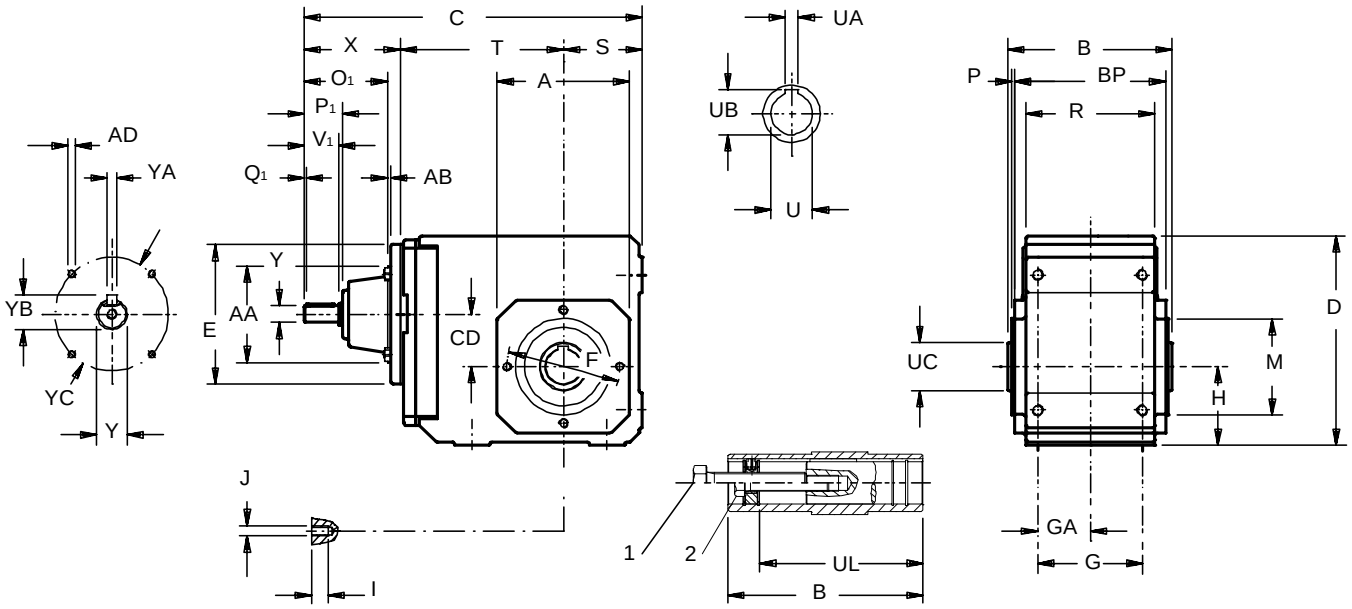
Base Module	AW14_/010			AW16_/012			AW20_/014			AW25_/102			AW30_/110			AW35_/202			Wt.
	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	12.21	5.63	1.81	13.04	5.79	1.81	13.94	5.87	—	—	—	—	—	—	—	—	—	40
K203	1.81	13.67	7.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	2.07	13.39	6.42	2.07	14.21	6.57	2.07	15.11	6.65	—	—	—	—	—	—	—	—	—	67
K303	2.07	14.84	7.87	.63	15.91	8.27	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	2.36	15.59	7.36	2.36	16.49	7.44	2.36	18.90	7.56	—	—	—	—	—	—	93
K403	2.36	16.22	8.66	.91	17.29	9.06	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	.59	15.40	6.77	.59	16.30	6.85	.59	18.71	6.97	—	—	—	—	—	—	106
K514	—	—	—	.59	17.09	8.46	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	.71	16.93	7.52	.71	17.83	7.60	.71	20.24	7.72	.71	22.01	8.27	—	—	—	170
K614	—	—	—	.71	18.62	9.21	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	19.13	8.70	.79	21.54	8.82	.79	23.27	9.33	—	—	—	221
K714	—	—	—	.79	19.96	10.35	.79	21.57	11.14	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	.94	20.94	9.72	.94	23.31	9.80	.94	25.04	10.31	—	—	—	309
K814	—	—	—	—	—	—	.94	23.35	12.13	—	—	—	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	26.46	11.57	.98	28.20	12.09	.98	31.69	12.99	508
K914	—	—	—	—	—	—	.98	26.50	13.90	.98	29.26	14.37	—	—	—	—	—	—	530

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, 156, and 157 for tolerances, lubrication, and mounting positions.
All weights are approximate.

Part No. Example
Round Flange with Input Shaft
K302VF0620 AW163/012



"K" Series—MGS Dimensional Data Helical/Bevel with Input Shaft



Drawing for Units
K202AG — K403AG

Table No. 1 **"K" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style**

Base Module	A	B	D	F	G	H	I	J	M	P	R	S	U	Z_1
K202/203	4.57	5.83	7.48	3.94	3.54	2.56	.51	M8	3.228	.12	4.53	2.56	1.1875	—
K302/303	5.20	6.30	8.39	4.53	4.13	2.95	.51	M8	3.740	.12	5.12	2.95	1.3750	—
K402/403	5.98	7.40	9.45	5.12	4.72	3.54	.63	M10	4.331	.14	5.83	3.54	1.5000	—
K513/514	5.71	7.87	10.24	5.12	4.92	6.30	.63	M10	4.331	.14	6.30	3.94	2.0000	5.98
K613/614	7.09	8.46	12.20	6.50	5.12	7.48	.63	M10	5.512	.14	6.61	4.72	2.0000	6.77
K713/714	7.68	9.53	13.46	7.28	5.71	8.35	.75	M12	6.102	.14	7.48	4.92	2.3750	7.52
K813/814	8.90	11.81	16.14	8.46	7.28	10.43	.75	M12	7.283	.16	9.25	5.71	2.7500	8.11
K913/914	11.02	13.78	19.49	10.43	8.86	12.40	1.02	M16	9.055	.20	11.22	7.09	3.2500	9.84

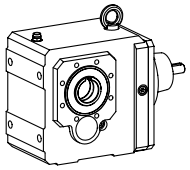
Table No. 2

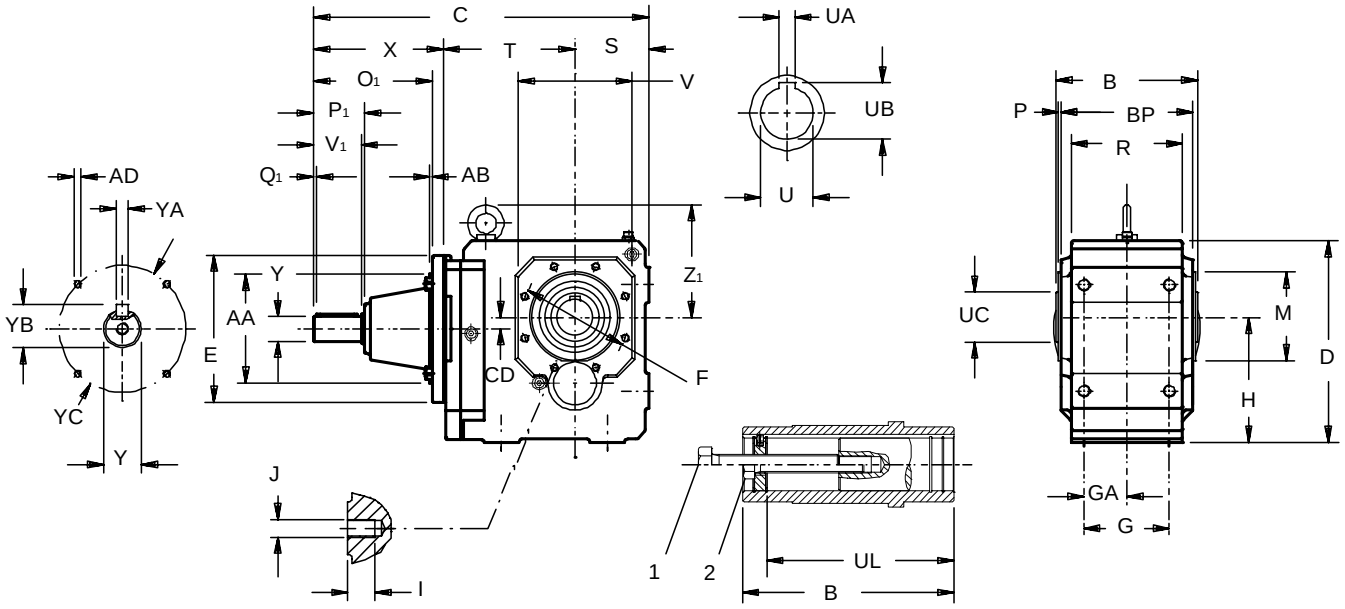
Base Module	BP	GA	UA	UB	UC	UL	1
K202/203	5.28	1.77	.250	1.31	1.77	4.78	1/2-13
K302/303	5.75	2.07	.312	1.52	1.97	4.92	5/8-11
K402/403	6.81	2.36	.375	1.67	2.17	6.18	3/4-10
K513/514	7.28	2.46	.500	2.13	2.56	6.46	3/4-10
K613/614	7.87	2.56	.500	2.23	2.76	7.05	3/4-10
K713/714	8.90	2.85	.625	2.66	3.35	8.43	1-8
K813/814	11.10	3.64	.625	3.03	3.94	10.35	1-8
K913/914	12.99	4.43	.750	3.59	4.33	11.89	1-8

Table No. 3 **"F" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style**

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	3/16 × 3/16 × 31/32	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	3/16 × 3/16 × 1 7/32	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	3/16 × 3/16 × 1 7/16	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	1/4 × 1/4 × 1 15/16	1.24	8.46	21
AW30_/110	11.81	8.39	3.54	.24	3.25	9.02	1.6250	9.055	.20	M12	3/8 × 3/8 × 2 7/8	1.79	10.43	51
AW35_/202	13.78	10.83	4.88	.28	4.50	11.61	2.1250	9.842	.24	M16	1/2 × 1/2 × 3 15/16	2.35	11.81	100

"K" Series—MGS Dimensional Data Helical/Bevel with Input Shaft





Drawing for Units
K513AG — K914AG

Table No. 4 **"K" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style**

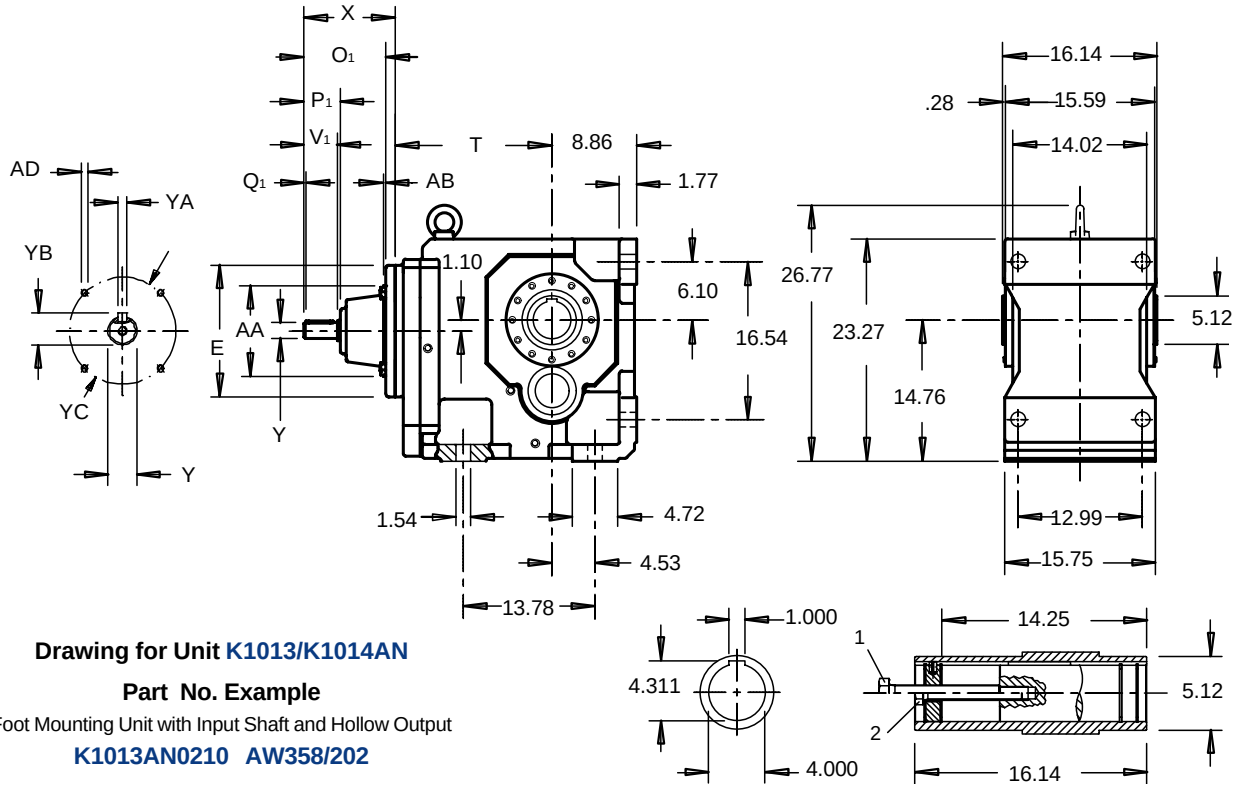
Base	AW14_/010			AW16_/012			AW20_/014			AW25_/102			AW30_/110			AW35_/202			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	12.21	5.63	1.81	13.04	5.79	1.81	13.94	5.87	—	—	—	—	—	—	—	—	—	40
K203	1.81	13.67	7.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	2.07	13.39	6.42	2.07	14.21	6.57	2.07	15.11	6.65	—	—	—	—	—	—	—	—	—	67
K303	2.07	14.84	7.87	.63	15.91	8.27	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	2.36	15.59	7.36	2.36	16.49	7.44	2.36	18.90	7.56	—	—	—	—	—	—	93
K403	2.36	16.22	8.66	.91	17.29	9.06	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	.59	15.40	6.77	.59	16.30	6.85	.59	18.71	6.97	—	—	—	—	—	—	106
K514	—	—	—	.59	17.09	8.46	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	.71	16.93	7.52	.71	17.83	7.60	.71	20.24	7.72	.71	22.01	8.27	—	—	—	170
K614	—	—	—	.71	18.62	9.21	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	19.13	8.70	.79	21.54	8.82	.79	23.27	9.33	—	—	—	221
K714	—	—	—	.79	19.96	10.35	.79	21.57	11.14	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	.94	20.94	9.72	.94	23.31	9.80	.94	25.04	10.31	—	—	—	309
K814	—	—	—	—	—	—	.94	23.35	12.13	—	—	—	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	26.46	11.57	.98	28.20	12.09	.98	31.69	12.99	508
K914	—	—	—	—	—	—	.98	26.50	13.90	.98	29.26	14.37	—	—	—	—	—	—	530

Part No. Example
Tapped Holes Housing with Input Shaft
K302AG0620 AW163/012

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, 156, and 157 for tolerances, lubrication, and mounting positions.
All weights are approximate.

"K10" Series—MGS Dimensional Data
Helical/Bevel with Input Shaft

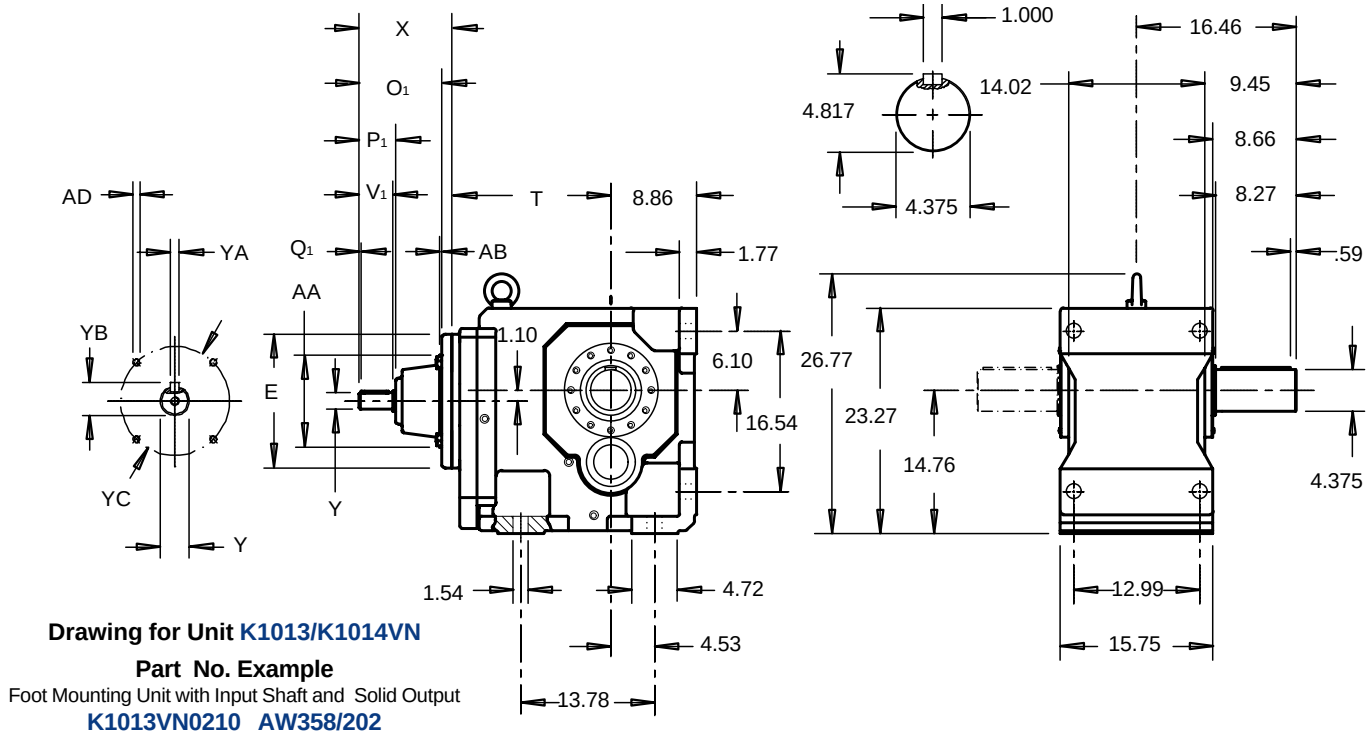


Drawing for Unit K1013/K1014AN

Part No. Example

Foot Mounting Unit with Input Shaft and Hollow Output

K1013AN0210 AW358/202



Drawing for Unit K1013/K1014VN

Part No. Example

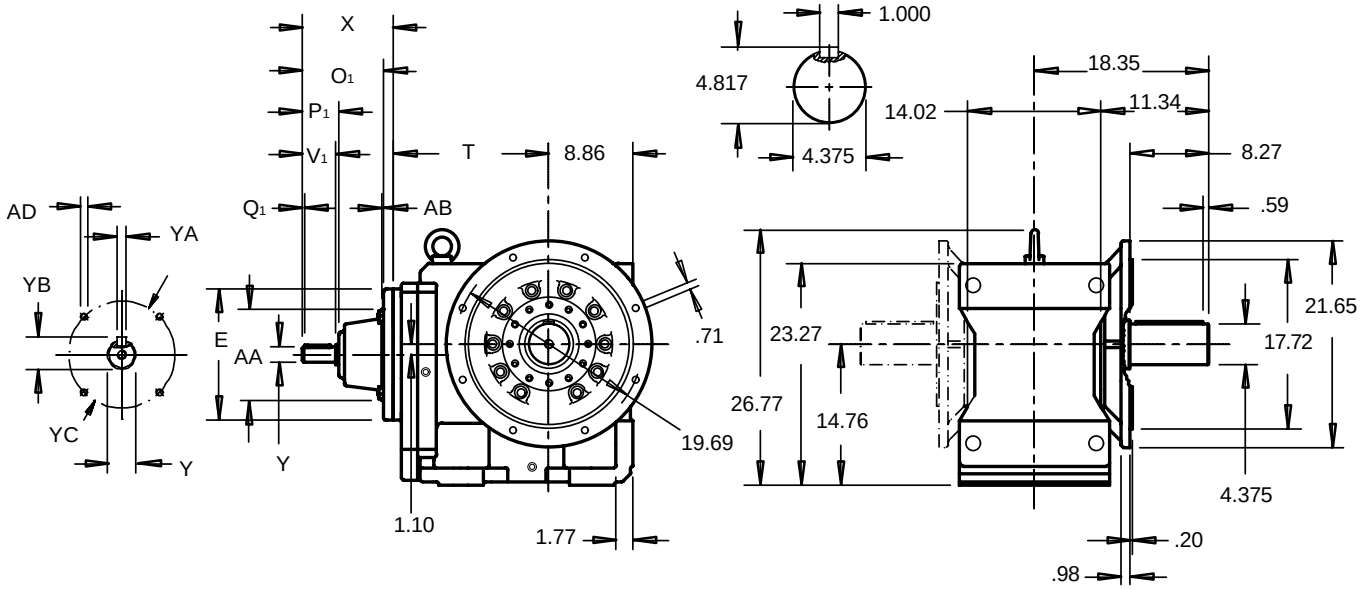
Foot Mounting Unit with Input Shaft and Solid Output

K1013VN0210 AW358/202

Table No. 1 **"AW" Dimensions (Inches)**

Input Shaft	E	O1	P1	Q1	V1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.24	8.46	31
AW30_/110	11.81	8.39	3.54	.24	3.25	9.02	1.6250	9.055	.20	M12	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	10.43	51
AW35_/202	13.78	10.83	4.88	.28	4.50	11.61	2.1250	9.842	.24	M16	$^1/_2 \times ^1/_2 \times 3^{15}/_{16}$	2.35	11.81	100

"K10" Series—MGS Dimensional Data Helical/Bevel with Input Shaft



Drawing for Unit K1013/K1014VF

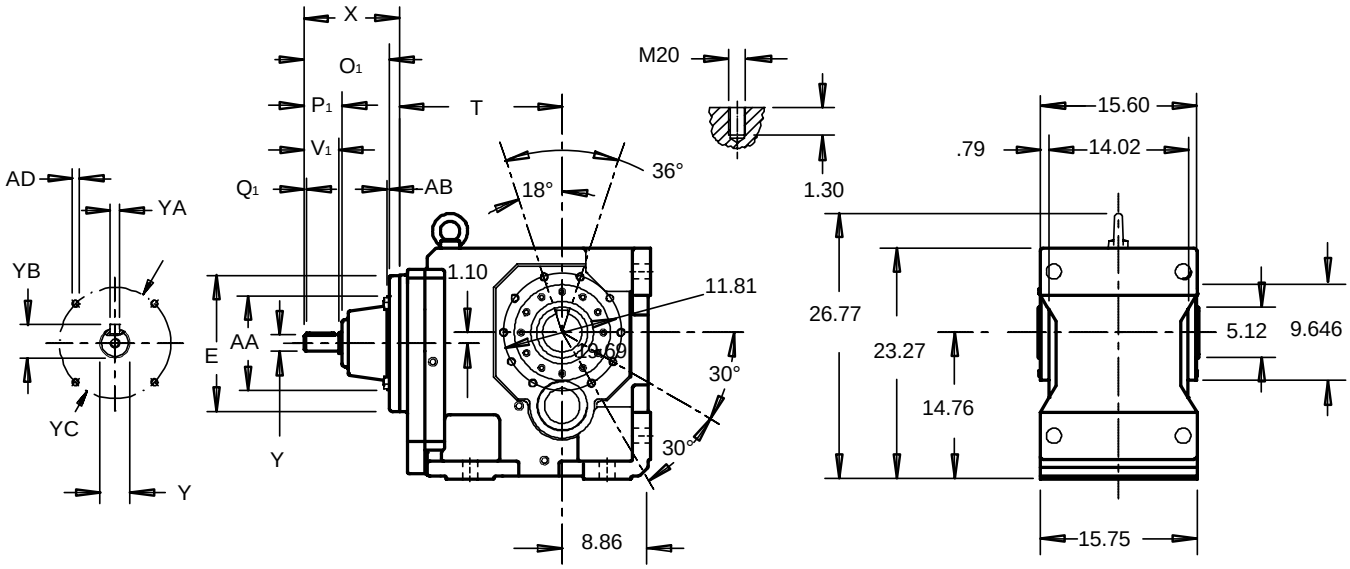
Part No. Example

Flange Mounting Unit with Input Shaft

K1013VF0210 AW358/202

Table No. 2 "K" Series – Dimensions (Inches)

Base Module	AW25_/102 T	AW30_/110 T	AW35_/202 T	Wt. lbs
K1013	—	15.43	16.34	913
K1014	17.72	18.70	—	993

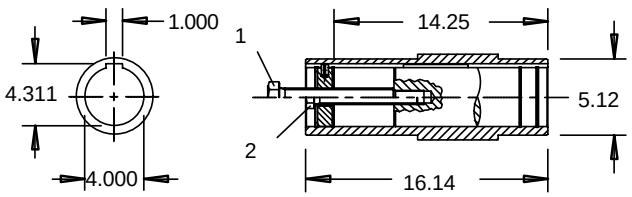


Drawing for Unit K1003/K1004AG

Part No. Example

Tapped Hole Unit with Input Shaft

K1013AG0210 AW358/202



1. Removal Bolt $1^{1}/_{4}$-7 — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 157 for tolerances, lubrication, and mounting positions.
All weights are approximate.

"K102" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter

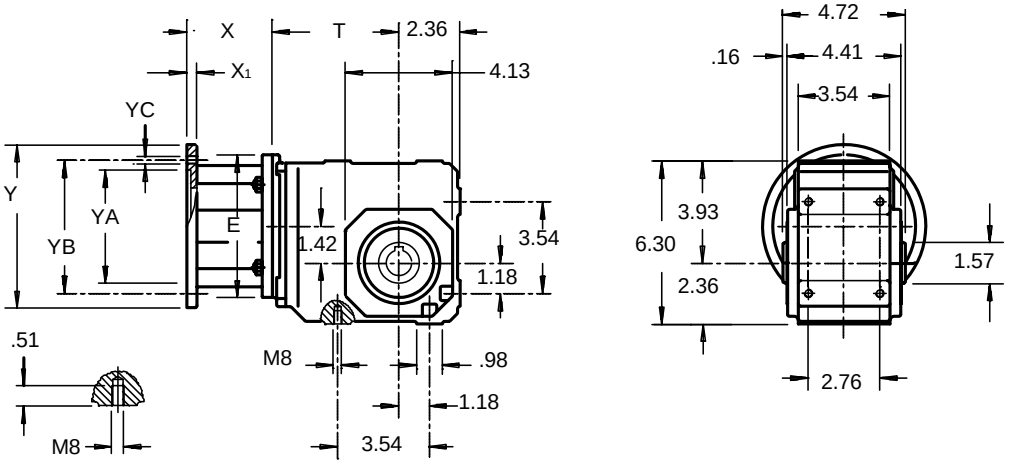
Drawing for Unit K102AB

Part No. Example

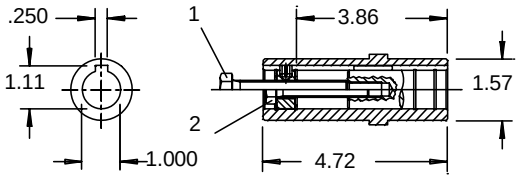
Basic Unit with Motor Adapter

K102AB0175 MR163/050

Base Module Weight - 31 lbs.



The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.



Drawing for Unit K102VN

Part No. Example

Foot Mounting Unit with Motor Adapter

K102VN0175 MR163/050

Base Module Weight - 31 lbs.

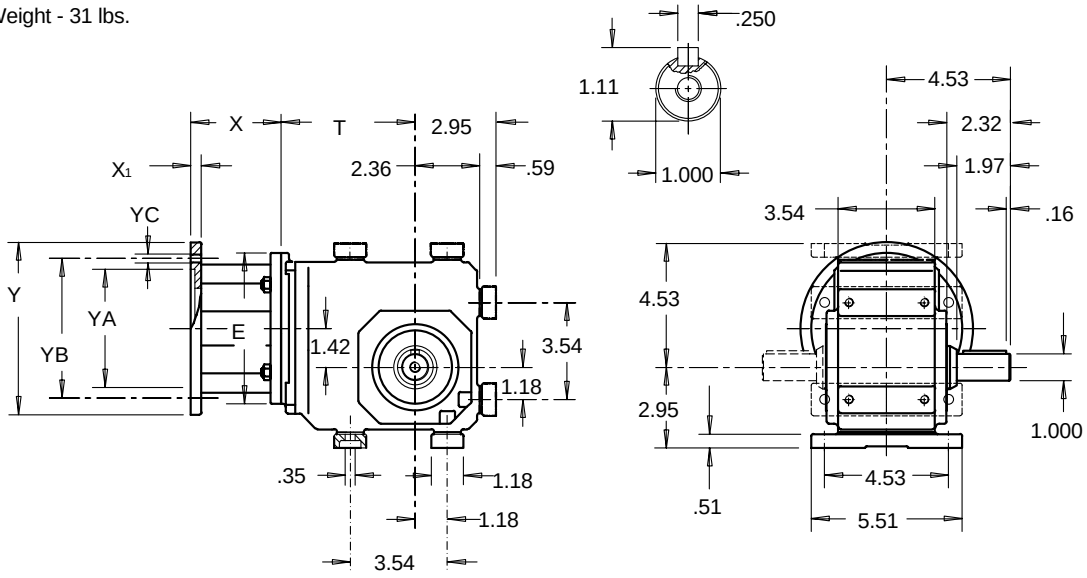


Table No. 1 **"K" Series – Dimensions (Inches)**

Motor Adapter	NEMA C-Flange	E	T	X	X1	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	4.88	3.31	.39	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	5.04	3.86	.43	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	5.04	3.86	.43	6.50	4.500	5.87	.41	16

"K102" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter

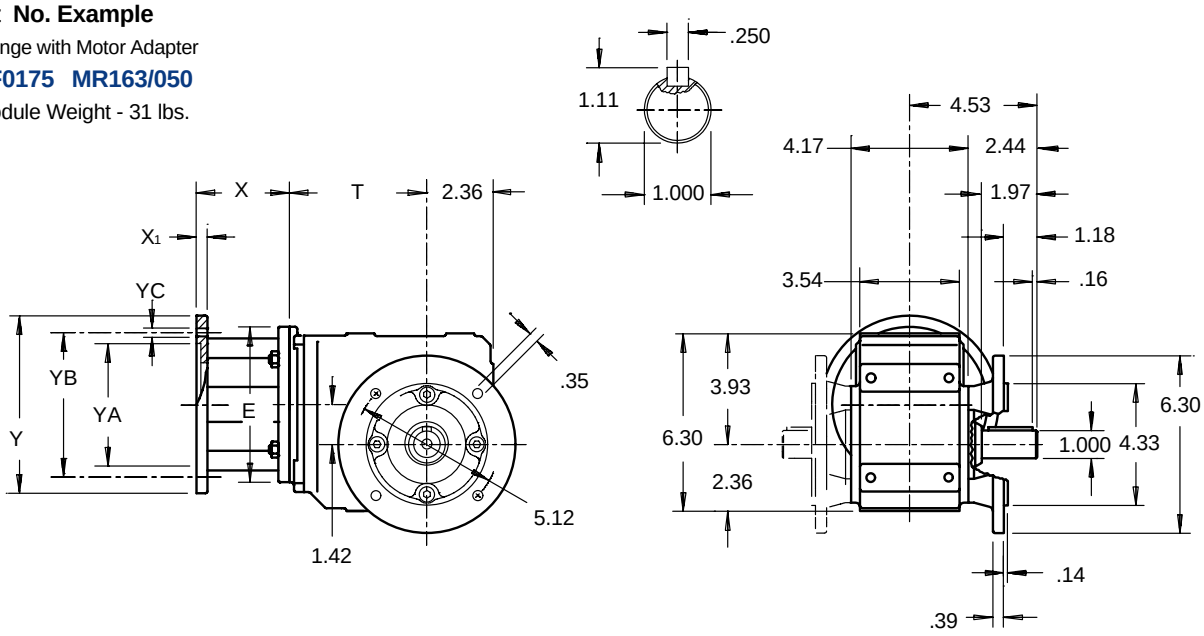
Drawing for Unit K102VF

Part No. Example

Round Flange with Motor Adapter

K102VF0175 MR163/050

Base Module Weight - 31 lbs.



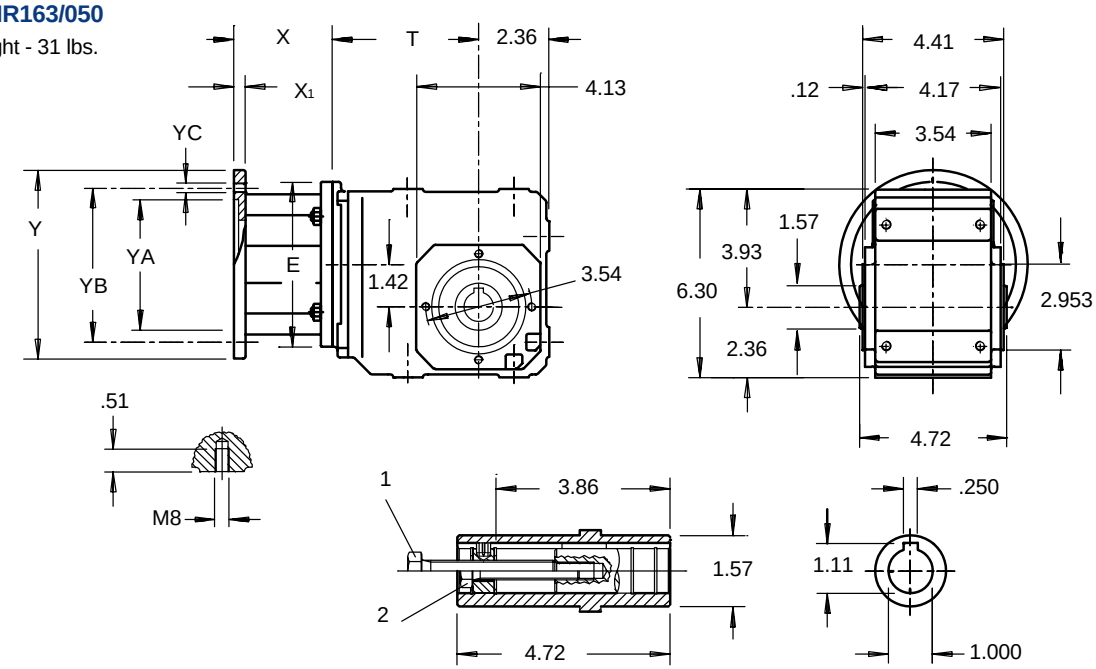
Drawing for Unit K102AG

Part No. Example

Tapped Hole Housing with Motor Adapter

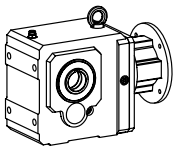
K102AG0175 MR163/050

Base Module Weight - 31 lbs.



1. Removal Bolt $^1/_2$-13 — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 156 for tolerances, lubrication, and mounting positions.
All weights are approximate.



"K" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter

Drawing for Units
K202AB — K403AB

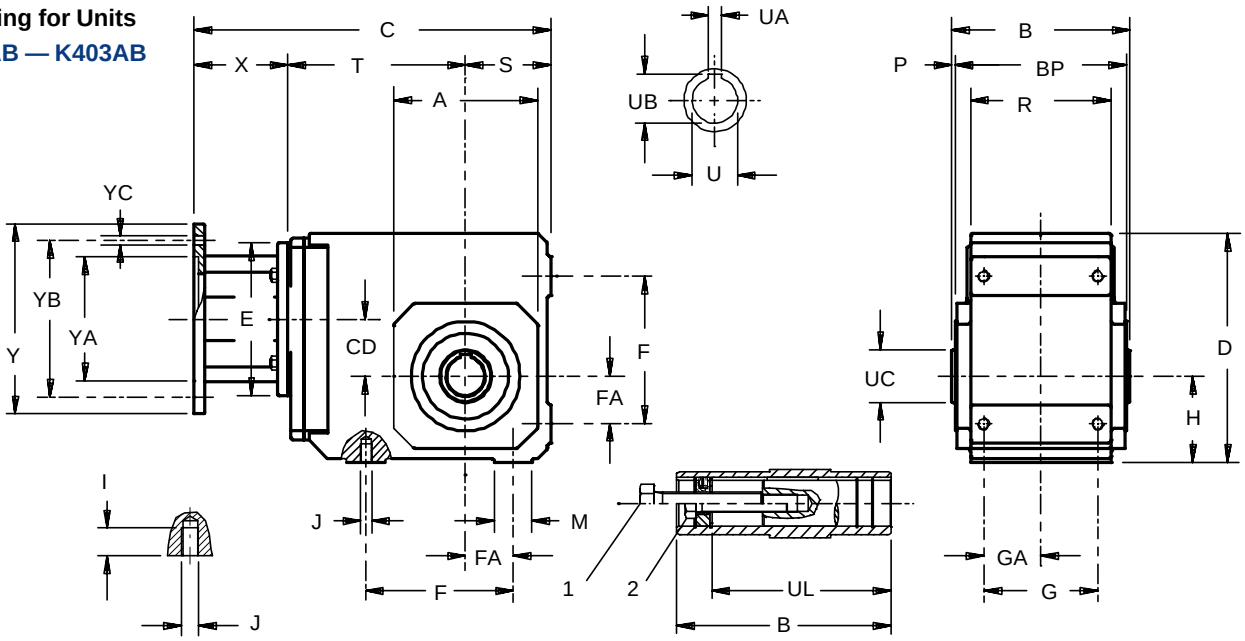


Table No. 1 **"K" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Base Module	A	B	D	F	G	H	I	J	M	P	R	S	U	Z_1
K202/203	4.57	5.83	7.48	4.53	3.54	2.56	.63	M10	1.18	.16	4.53	2.56	1.1875	—
K302/303	5.20	6.30	8.39	5.12	4.13	2.95	.63	M10	1.38	.16	5.12	2.95	1.3750	—
K402/403	5.98	7.40	9.45	6.10	4.72	3.54	.75	M12	1.57	.16	5.83	3.54	1.5000	—
K513/514	5.71	7.87	10.24	5.51	4.92	6.30	1.02	M16	1.97	.16	6.30	3.94	2.0000	5.98
K613/614	7.09	8.46	12.20	6.30	5.12	7.48	1.02	M16	2.17	.16	6.61	4.72	2.0000	6.77
K713/714	7.68	9.53	13.46	7.09	5.71	8.35	1.22	M20	2.36	.18	7.48	4.92	2.3750	7.52
K813/814	8.90	11.81	16.14	9.45	7.28	10.43	1.50	M24	2.76	.20	9.25	5.71	2.7500	8.11
K913/914	11.02	13.78	19.49	11.02	8.86	12.40	1.89	M30	3.15	.20	11.22	7.09	3.2500	9.84

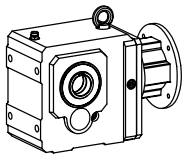
Table No. 2

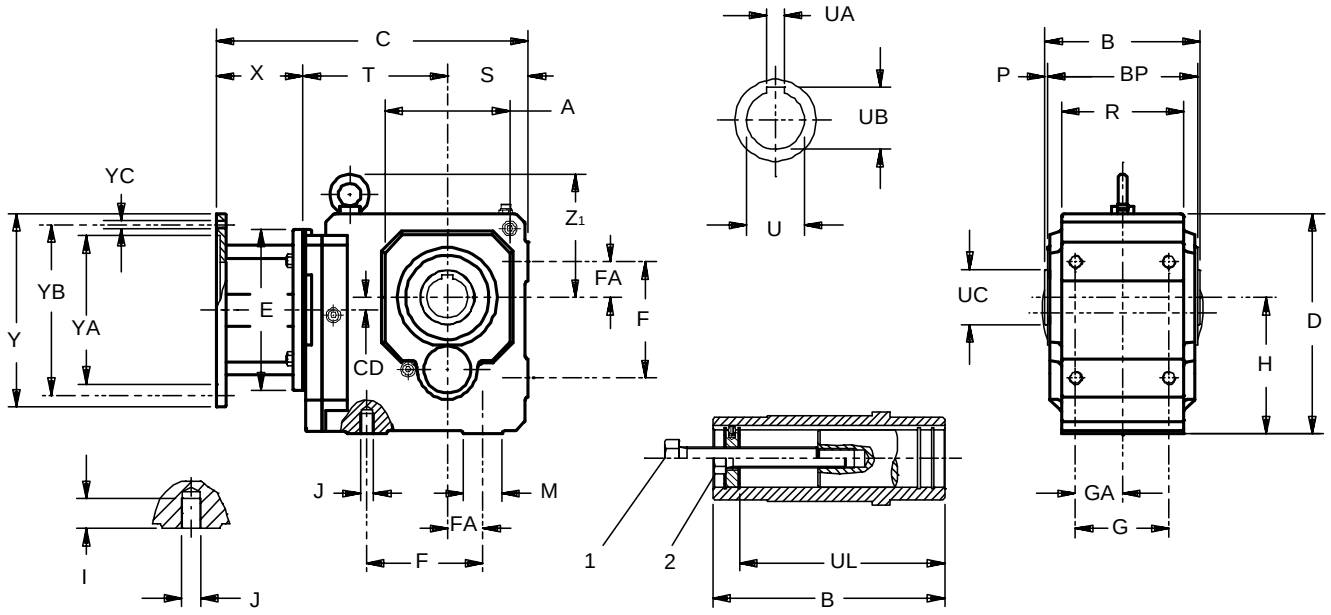
Base Module	BP	FA	GA	UA	UB	UC	UL	1
K202/203	5.51	1.38	1.77	.250	1.31	1.77	4.78	1/2-13
K302/303	5.98	1.57	2.07	.312	1.52	1.97	4.92	5/8-11
K402/403	7.09	1.97	2.36	.375	1.67	2.17	6.18	3/4-10
K513/514	7.56	1.57	2.46	.500	2.13	2.56	6.46	3/4-10
K613/614	8.15	1.97	2.56	.500	2.23	2.76	7.05	3/4-10
K713/714	9.17	2.17	2.85	.625	2.66	3.35	8.43	1-8
K813/814	11.42	2.95	3.64	.625	3.03	3.94	10.35	1-8
K913/914	13.39	3.74	4.43	.750	3.59	4.33	11.89	1-8

Table No. 3 **"K" Series**
Basic Unit Dimensions (Inches) – "B" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR30_/180	182/184TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/210	213/215TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/250	254/256TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/280	284/286TC	11.81	6.50	11.13	10.500	9.00	.57	75
MR35_/320	324/326TC	13.78	7.09	13.37	12.500	11.00	.70	133
MR35_/360	364/365TC	13.78	7.09	13.37	12.500	11.00	.70	133

"K" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter





Drawing for Units
K513AB — K914AB

Table No. 4 **"K" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

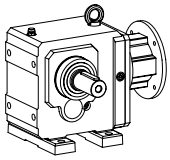
Base	MR14_/050			MR16_/140 ①			MR20_/180			MR25_/210 ②			MR30_/250 ③			MR35_/320 ④			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	—	—	—	—	—	—	—	—	—	40
K203	1.81	12.96	7.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	2.07	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	—	—	—	—	—	—	—	—	—	67
K303	2.07	14.13	7.87	.63	15.08	8.27	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	2.36	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	—	—	—	—	—	—	93
K403	2.36	15.51	8.66	.91	16.46	9.06	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	.59	14.57	6.77	.59	15.59	6.85	.59	16.22	6.97	—	—	—	—	—	—	106
K514	—	—	—	.59	16.26	8.46	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	.71	16.10	7.52	.71	17.12	7.60	.71	17.75	7.72	.71	19.49	8.27	—	—	—	170
K614	—	—	—	.71	17.79	9.21	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	18.42	8.70	.79	19.05	8.82	.79	20.75	9.33	—	—	—	221
K714	—	—	—	.79	19.13	10.35	.79	20.86	11.14	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	.94	20.23	9.72	.94	20.82	9.80	.94	22.52	10.31	—	—	—	309
K814	—	—	—	—	—	—	.94	22.64	12.13	—	—	—	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	23.97	11.57	.98	25.68	12.09	.98	27.17	12.99	508
K914	—	—	—	—	—	—	.98	25.79	13.90	.98	26.77	14.37	—	—	—	—	—	—	530

① Also available as **MR16_/050** for a NEMA 56C frame motor.
② Also available as **MR25_/180** for a NEMA 182/184TC frame motor.
③ Also available as **MR30_/180** for a NEMA 182/184TC, **MR30_/210** for a NEMA 213/215TC , and **MR30_/280** for a NEMA 284/286TC frame motor.
④ Also available as **MR35_/360** for a NEMA 364/365TC frame motor.

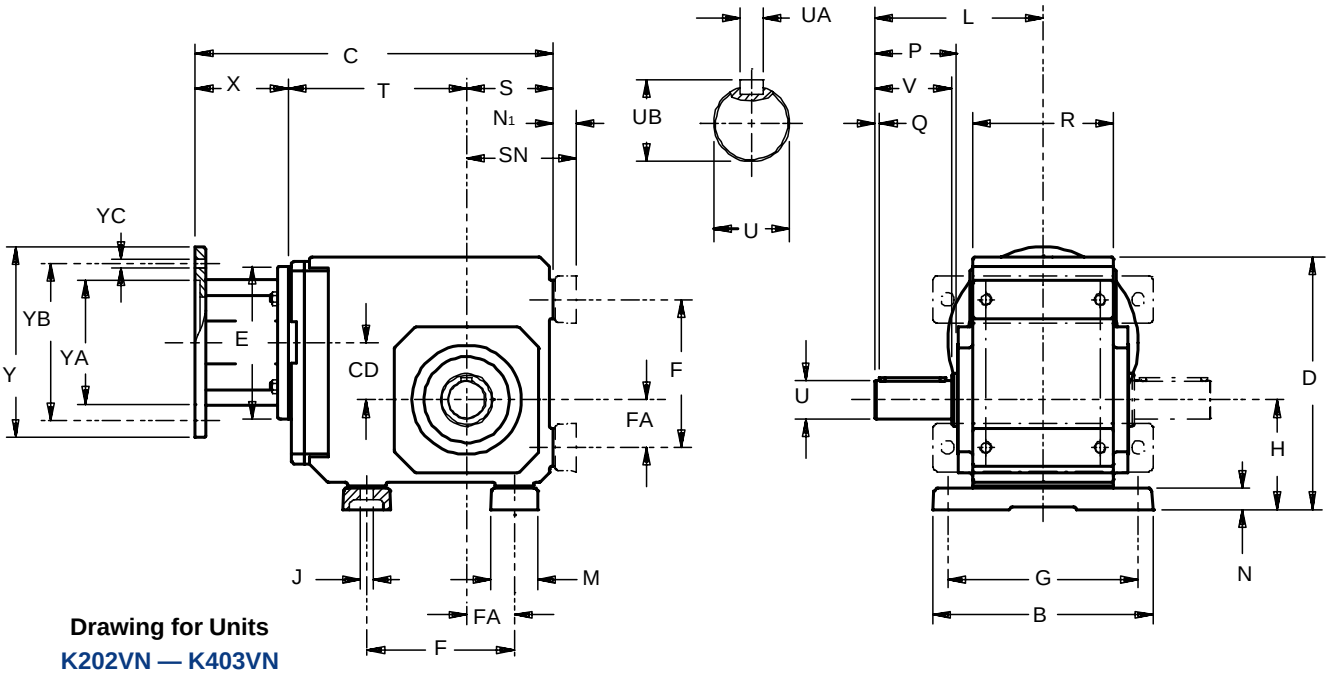
Part No. Example
Basic Unit with Motor Adapter
K303AB0650 MR163/140

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, 156, and 157 for tolerances, lubrication, and mounting positions.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.
All weights are approximate.



"K" Series—MGS Dimensional Data
Helical/Bevel with Motor Adapter



Drawing for Units
K202VN — K403VN

Table No. 1 **"K" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style**

Base Module	B	D	F	G	H	J	L	M	N	O	P	Q	R	S
K202/203	7.28	8.39	4.53	6.10	3.46	.43	5.31	1.57	.79	—	2.56	.16	4.53	2.56
K302/303	7.87	9.29	5.12	6.69	3.86	.43	5.59	1.77	.79	—	2.60	.16	5.12	2.95
K402/403	9.06	10.43	6.10	7.87	4.53	.55	6.54	1.97	.87	—	3.39	.16	5.83	3.54
K513/514	9.45	11.42	5.51	7.87	7.48	.71	8.74	2.36	1.06	5.10	3.90	.16	6.30	3.94
K613/614	9.84	13.39	6.30	8.27	8.66	.71	9.29	2.56	1.06	5.35	4.31	.16	6.61	4.72
K713/714	11.42	14.96	7.09	9.45	9.84	.87	10.91	2.76	1.38	6.46	5.14	.16	7.48	4.92
K813/814	14.17	17.91	9.45	11.81	12.20	1.02	12.83	3.35	1.61	7.28	5.94	.20	9.25	5.71
K913/914	16.93	21.46	11.02	14.17	14.37	1.30	15.16	3.74	1.81	8.66	7.13	.31	11.22	7.09

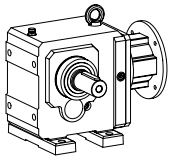
Table No. 2

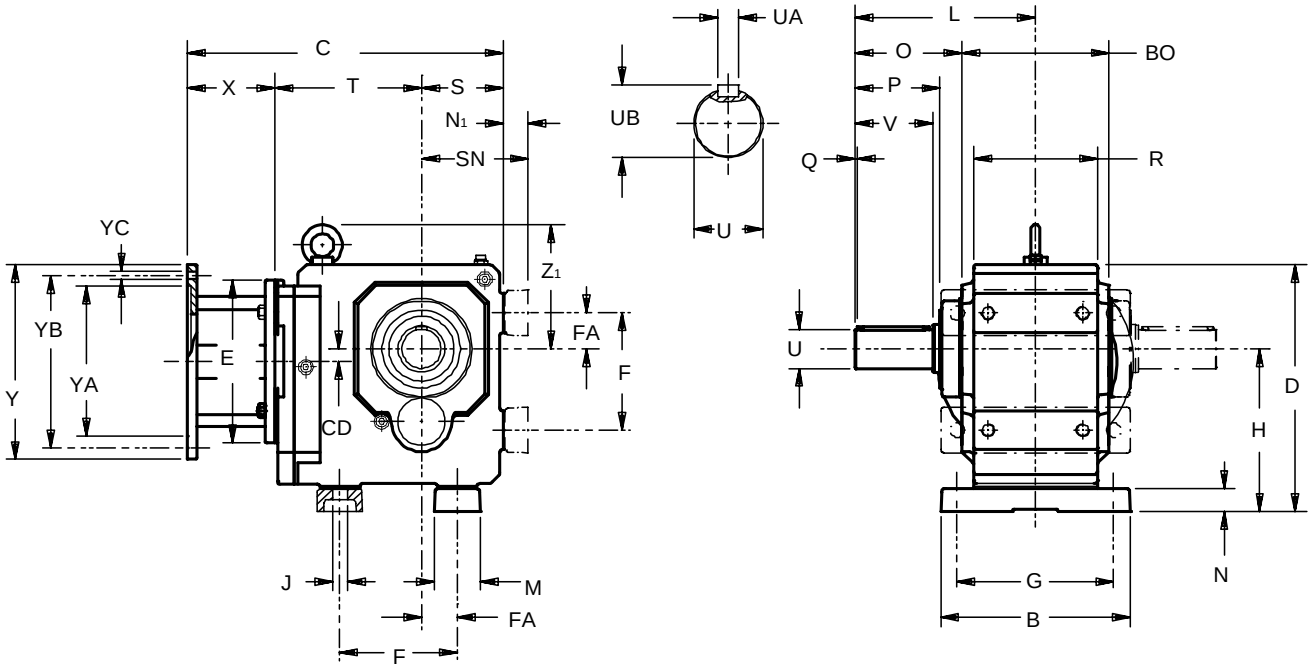
Base Module	U	V	Z_1	BO	FA	N_1	SN	UA – Key	UB
K202/203	1.2500	2.36	—	—	1.38	.91	3.46	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K302/303	1.2500	2.36	—	—	1.57	.91	3.86	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K402/403	1.3750	2.76	—	—	1.97	.98	4.53	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
K513/514	1.7500	3.54	5.98	7.28	1.57	1.18	5.12	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K613/614	1.7500	3.94	6.77	7.87	1.97	1.18	5.91	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K713/714	2.3750	4.72	7.52	8.90	2.17	1.50	6.42	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
K813/814	2.8750	5.51	8.11	11.10	2.95	1.77	7.48	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
K913/914	3.6250	6.69	9.84	12.99	3.74	1.97	9.06	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

Table No. 3 **"K" Series**
Foot Mounting Unit Dimensions (Inches) – "N" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR30_/180	182/184TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/210	213/215TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/250	254/256TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/280	284/286TC	11.81	6.50	11.13	10.500	9.00	.57	75
MR35_/320	324/326TC	13.78	7.09	13.37	12.500	11.00	.70	133
MR35_/360	364/365TC	13.78	7.09	13.37	12.500	11.00	.70	133

"K" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter





Drawing for Units
K513VN — K914VN

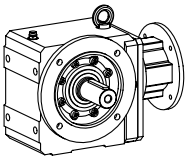
Table No. 4 "K" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style

Base	MR14_/050			MR16_/140 ①			MR20_/180			MR25_/210 ②			MR30_/250 ③			MR35_/320 ④			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	—	—	—	—	—	—	—	—	—	40
K203	1.81	12.96	7.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	2.07	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	—	—	—	—	—	—	—	—	—	67
K303	2.07	14.13	7.87	.63	15.08	8.27	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	2.36	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	—	—	—	—	—	—	93
K403	2.36	15.51	8.66	.91	16.46	9.06	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	.59	14.57	6.77	.59	15.59	6.85	.59	16.22	6.97	—	—	—	—	—	—	106
K514	—	—	—	.59	16.26	8.46	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	.71	16.10	7.52	.71	17.12	7.60	.71	17.75	7.72	.71	19.49	8.27	—	—	—	170
K614	—	—	—	.71	17.79	9.21	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	18.42	8.70	.79	19.05	8.82	.79	20.75	9.33	—	—	—	221
K714	—	—	—	.79	19.13	10.35	.79	20.86	11.14	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	.94	20.23	9.72	.94	20.82	9.80	.94	22.52	10.31	—	—	—	309
K814	—	—	—	—	—	—	.94	22.64	12.13	—	—	—	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	23.97	11.57	.98	25.68	12.09	.98	27.17	12.99	508
K914	—	—	—	—	—	—	.98	25.79	13.90	.98	26.77	14.37	—	—	—	—	—	—	530

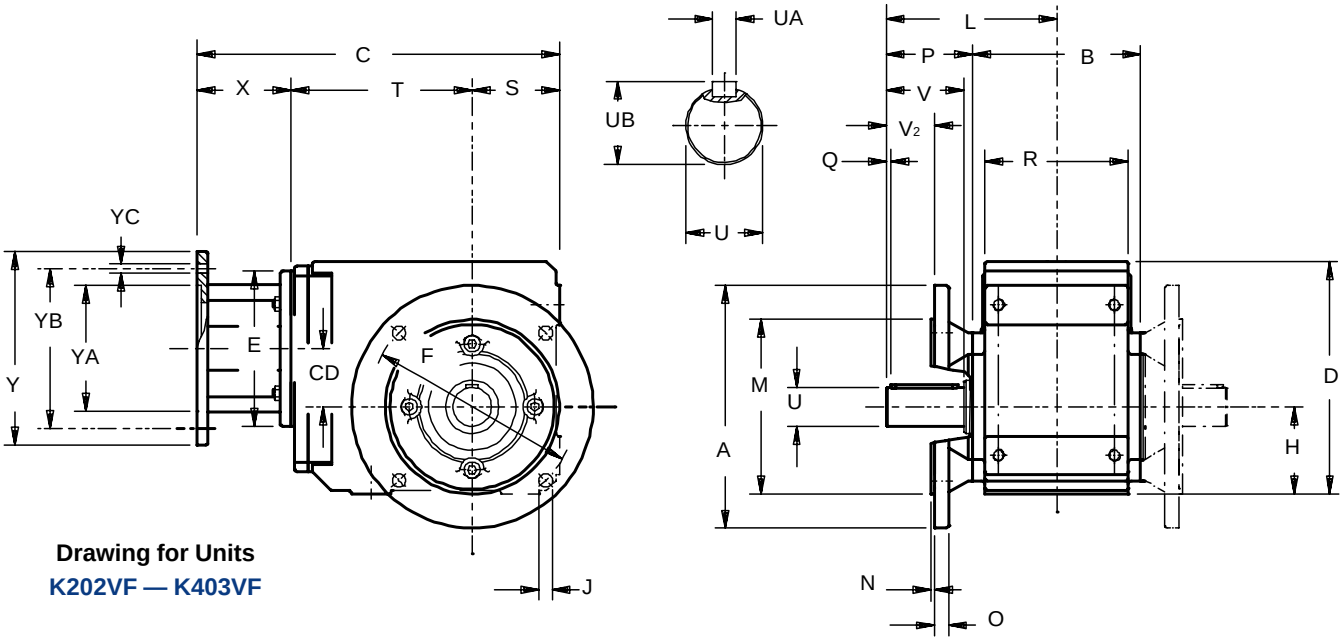
① Also available as **MR16_/050** for a NEMA 56C frame motor.
② Also available as **MR25_/180** for a NEMA 182/184TC frame motor.
③ Also available as **MR30_/180** for a NEMA 182/184TC, **MR30_/210** for a NEMA 213/215TC , and **MR30_/280** for a NEMA 284/286TC frame motor.
④ Also available as **MR35_/360** for a NEMA 364/365TC frame motor.

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, 156, and 157 for tolerances, lubrication, and mounting positions.
All weights are approximate.

Part No. Example
Foot Mounting with Motor Adapter
K303VN0650 MR163/140



"K" Series—MGS Dimensional Data
Helical/Bevel with Motor Adapter



Drawing for Units
K202VF — K403VF

Table No. 1 **"K" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style**

Base Module	A	B	D	F	H	J	L	M	N	O	P	Q	R	S
K202/203	7.87	5.28	7.48	6.50	2.56	.43	5.31	5.118	.14	.47	2.68	.16	4.53	2.56
K302/303	7.87	5.75	8.39	6.50	2.95	.43	5.59	5.118	.14	.55	2.72	.16	5.12	2.95
K402/403	9.84	6.81	9.45	8.46	3.54	.55	6.54	7.087	.16	.59	3.52	.16	5.83	3.54
K513/514	9.84	7.28	10.24	8.46	6.30	.55	8.74	7.087	.16	.59	5.10	.16	6.30	3.94
K613/614	11.81	7.87	12.20	10.43	7.48	.55	9.29	9.055	.16	.67	5.35	.16	6.61	4.72
K713/714	13.78	8.90	13.46	11.81	8.35	.71	10.91	9.842	.20	.71	6.46	.16	7.48	4.92
K813/814	15.75	11.10	16.14	13.78	10.43	.71	12.83	11.811	.20	.79	7.28	.20	9.25	5.71
K913/914	17.72	12.99	19.49	15.75 *	12.40	.71	15.16	13.780	.20	.91	8.66	.31	11.22	7.09

* K913 and K914 has 8 mounting holes in the output flange instead of 4 as shown in drawing.

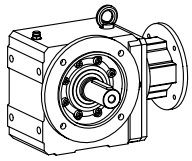
Table No. 2

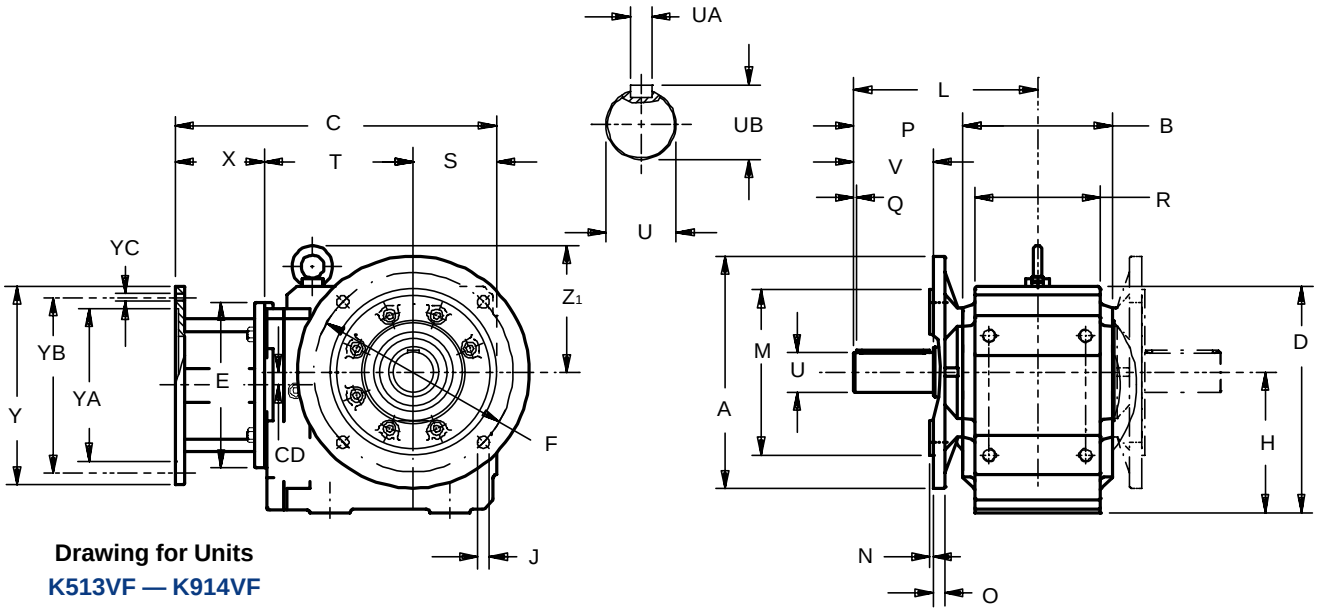
Base Module	U	V	V_2	Z_1	UA – Key	UB
K202/203	1.2500	2.36	1.42	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K302/303	1.2500	2.36	1.22	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K402/403	1.3750	2.76	1.95	—	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
K513/514	1.7500	3.54	—	5.98	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K613/614	1.7500	3.94	—	6.77	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K713/714	2.3750	4.72	—	7.52	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
K813/814	2.8750	5.51	—	8.11	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
K913/914	3.6250	6.69	—	9.84	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

Table No. 3 **"K" Series**
Round Flange Unit Dimensions (Inches) – "F" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR30_/180	182/184TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/210	213/215TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/250	254/256TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/280	284/286TC	11.81	6.50	11.13	10.500	9.00	.57	75
MR35_/320	324/326TC	13.78	7.09	13.37	12.500	11.00	.70	133
MR35_/360	364/365TC	13.78	7.09	13.37	12.500	11.00	.70	133

"K" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter





Drawing for Units
K513VF — K914VF

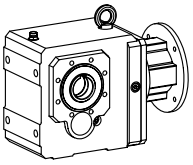
Table No. 4 **"K" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style**

Base	MR14_/050			MR16_/140 ①			MR20_/180			MR25_/210 ②			MR30_/250 ③			MR35_/320 ④			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	—	—	—	—	—	—	—	—	—	40
K203	1.81	12.96	7.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	2.07	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	—	—	—	—	—	—	—	—	—	67
K303	2.07	14.13	7.87	.63	15.08	8.27	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	2.36	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	—	—	—	—	—	—	93
K403	2.36	15.51	8.66	.91	16.46	9.06	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	.59	14.57	6.77	.59	15.59	6.85	.59	16.22	6.97	—	—	—	—	—	—	106
K514	—	—	—	.59	16.26	8.46	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	.71	16.10	7.52	.71	17.12	7.60	.71	17.75	7.72	.71	19.49	8.27	—	—	—	170
K614	—	—	—	.71	17.79	9.21	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	18.42	8.70	.79	19.05	8.82	.79	20.75	9.33	—	—	—	221
K714	—	—	—	.79	19.13	10.35	.79	20.86	11.14	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	.94	20.23	9.72	.94	20.82	9.80	.94	22.52	10.31	—	—	—	309
K814	—	—	—	—	—	—	.94	22.64	12.13	—	—	—	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	23.97	11.57	.98	25.68	12.09	.98	27.17	12.99	508
K914	—	—	—	—	—	—	.98	25.79	13.90	.98	26.77	14.37	—	—	—	—	—	—	530

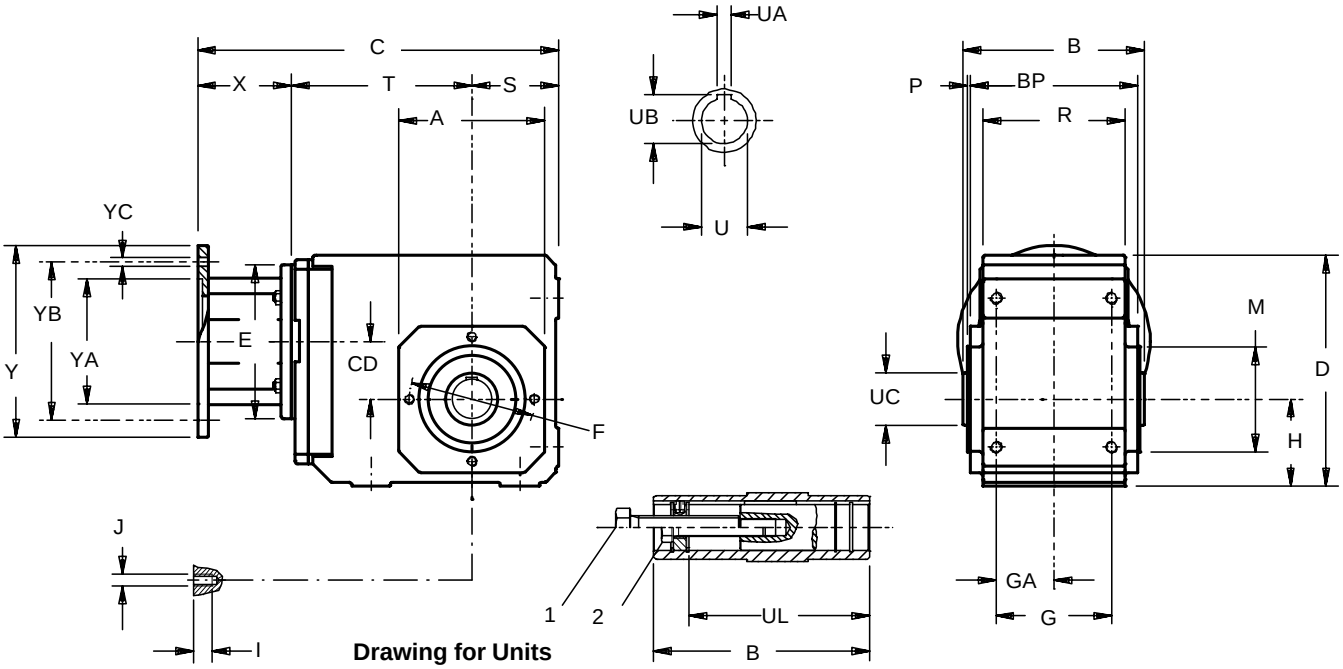
① Also available as **MR16_/050** for a NEMA 56C frame motor.
② Also available as **MR25_/180** for a NEMA 182/184TC frame motor.
③ Also available as **MR30_/180** for a NEMA 182/184TC, **MR30_/210** for a NEMA 213/215TC , and **MR30_/280** for a NEMA 284/286TC frame motor.
④ Also available as **MR35_/360** for a NEMA 364/365TC frame motor.

Part No. Example
Round Flange with Motor Adapter
K303VF0650 MR163/140

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, 156, and 157 for tolerances, lubrication, and mounting positions.
All weights are approximate.



"K" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter



Drawing for Units
K202AG — K403AG

Table No. 1 **"K" Series – Tapped Hole Unit Dimensions (Inches) – "G" Housing Style**

Base Module	A	B	D	F	G	H	I	J	M	P	R	S	U	Z_1
K202/203	4.57	5.83	7.48	3.94	3.54	2.56	.51	M8	3.228	.12	4.53	2.56	1.1875	—
K302/303	5.20	6.30	8.39	4.53	4.13	2.95	.51	M8	3.740	.12	5.12	2.95	1.3750	—
K402/403	5.98	7.40	9.45	5.12	4.72	3.54	.63	M10	4.331	.14	5.83	3.54	1.5000	—
K513/514	5.71	7.87	10.24	5.12	4.92	6.30	.63	M10	4.331	.14	6.30	3.94	2.0000	5.98
K613/614	7.09	8.46	12.20	6.50	5.12	7.48	.63	M10	5.512	.14	6.61	4.72	2.0000	6.77
K713/714	7.68	9.53	13.46	7.28	5.71	8.35	.75	M12	6.102	.14	7.48	4.92	2.3750	7.52
K813/814	8.90	11.81	16.14	8.46	7.28	10.43	.75	M12	7.283	.16	9.25	5.71	2.7500	8.11
K913/914	11.02	13.78	19.49	10.43	8.86	12.40	1.02	M16	9.055	.20	11.22	7.09	3.2500	9.84

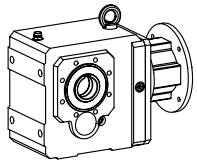
Table No. 2

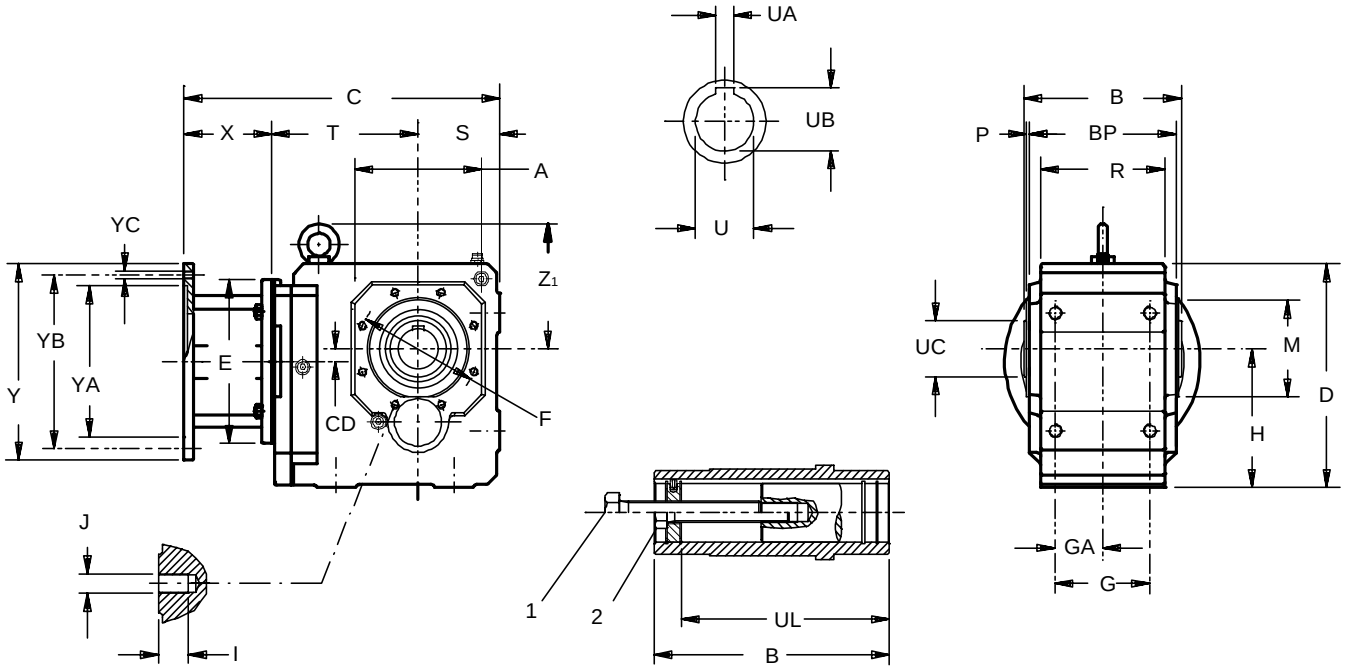
Base Module	BP	GA	UA	UB	UC	UL	1
K202/203	5.28	1.77	.250	1.31	1.77	4.78	1/2-13
K302/303	5.75	2.07	.312	1.52	1.97	4.92	5/8-11
K402/403	6.81	2.36	.375	1.67	2.17	6.18	3/4-10
K513/514	7.28	2.46	.500	2.13	2.56	6.46	3/4-10
K613/614	7.87	2.56	.500	2.23	2.76	7.05	3/4-10
K713/714	8.90	2.85	.625	2.66	3.35	8.43	1-8
K813/814	11.10	3.64	.625	3.03	3.94	10.35	1-8
K913/914	12.99	4.43	.750	3.59	4.33	11.89	1-8

Table No. 3 **"K" Series**
Tapped Hole Unit Dimensions (Inches) – "G" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR30_/180	182/184TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/210	213/215TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/250	254/256TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/280	284/286TC	11.81	6.50	11.13	10.500	9.00	.57	75
MR35_/320	324/326TC	13.78	7.09	13.37	12.500	11.00	.70	133
MR35_/360	364/365TC	13.78	7.09	13.37	12.500	11.00	.70	133

"K" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter





Drawing for Units
K513AG — K914AG

Table No. 4 "K" Series – Tapped Hole Unit Dimensions (Inches) – "G" Housing Style

Base	MR14_/050			MR16_/140 ①			MR20_/180			MR25_/210 ②			MR30_/250 ③			MR35_/320 ④			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	11.50	5.63	1.81	12.21	5.79	1.81	13.23	5.87	—	—	—	—	—	—	—	—	—	40
K203	1.81	12.96	7.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	2.07	12.68	6.42	2.07	13.38	6.57	2.07	14.40	6.65	—	—	—	—	—	—	—	—	—	67
K303	2.07	14.13	7.87	.63	15.08	8.27	—	—	—	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	2.36	14.76	7.36	2.36	15.74	7.44	2.36	16.41	7.56	—	—	—	—	—	—	93
K403	2.36	15.51	8.66	.91	16.46	9.06	—	—	—	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	.59	14.57	6.77	.59	15.59	6.85	.59	16.22	6.97	—	—	—	—	—	—	106
K514	—	—	—	.59	16.26	8.46	—	—	—	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	.71	16.10	7.52	.71	17.12	7.60	.71	17.75	7.72	.71	19.49	8.27	—	—	—	170
K614	—	—	—	.71	17.79	9.21	—	—	—	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	18.42	8.70	.79	19.05	8.82	.79	20.75	9.33	—	—	—	221
K714	—	—	—	.79	19.13	10.35	.79	20.86	11.14	—	—	—	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	.94	20.23	9.72	.94	20.82	9.80	.94	22.52	10.31	—	—	—	309
K814	—	—	—	—	—	—	.94	22.64	12.13	—	—	—	—	—	—	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	23.97	11.57	.98	25.68	12.09	.98	27.17	12.99	508
K914	—	—	—	—	—	—	.98	25.79	13.90	.98	26.77	14.37	—	—	—	—	—	—	530

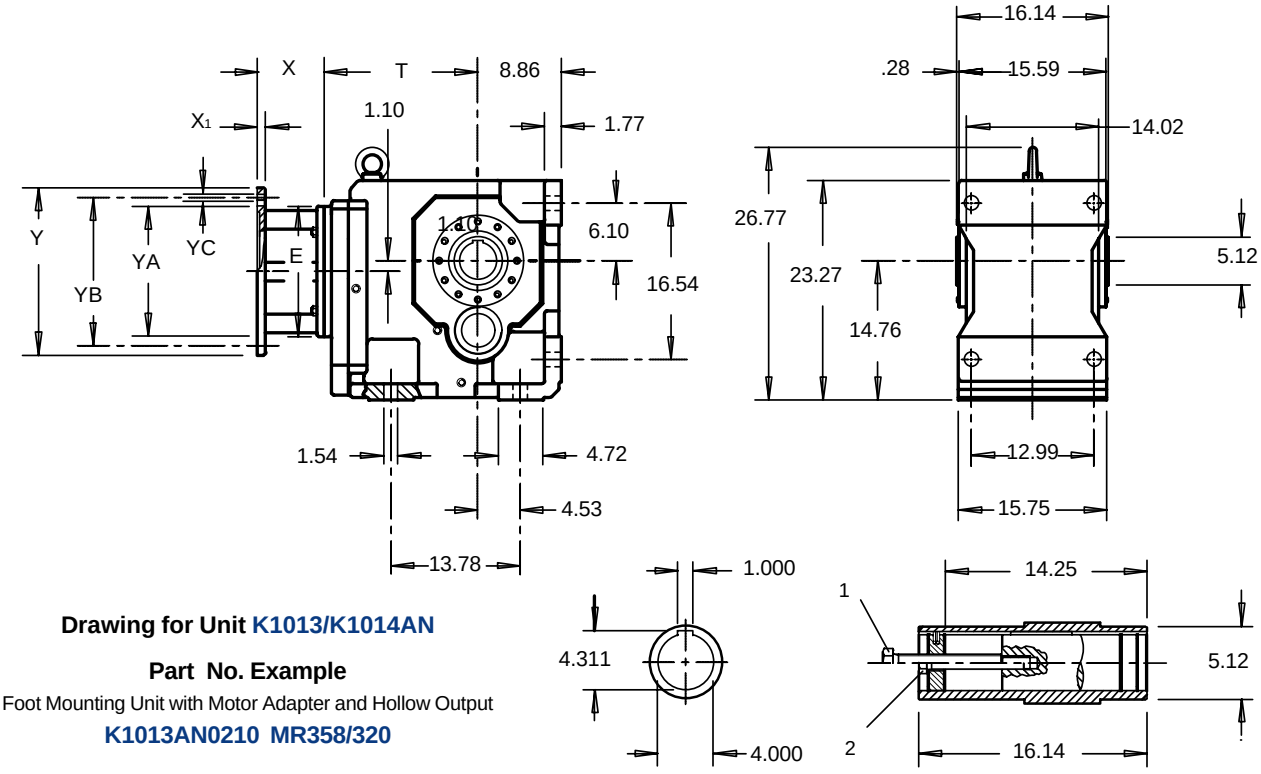
① Also available as **MR16_/050** for a NEMA 56C frame motor.
② Also available as **MR25_/180** for a NEMA 182/184TC frame motor.
③ Also available as **MR30_/180** for a NEMA 182/184TC, **MR30_/210** for a NEMA 213/215TC , and **MR30_/280** for a NEMA 284/286TC frame motor.
④ Also available as **MR35_/360** for a NEMA 364/365TC frame motor.

Part No. Example
Tapped Holes Housing with Motor Adapter
K303AG0650 MR163/140

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, 156, and 157 for tolerances, lubrication, and mounting positions.
All weights are approximate.

"K10" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter



Drawing for Unit K1013/K1014AN

Part No. Example

Foot Mounting Unit with Motor Adapter and Hollow Output

K1013AN0210 MR358/320

Drawing for Unit K1013/K1014VN

Part No. Example

Foot Mounting Unit with Motor Adapter and Solid Output

K1013VN0210 MR358/320

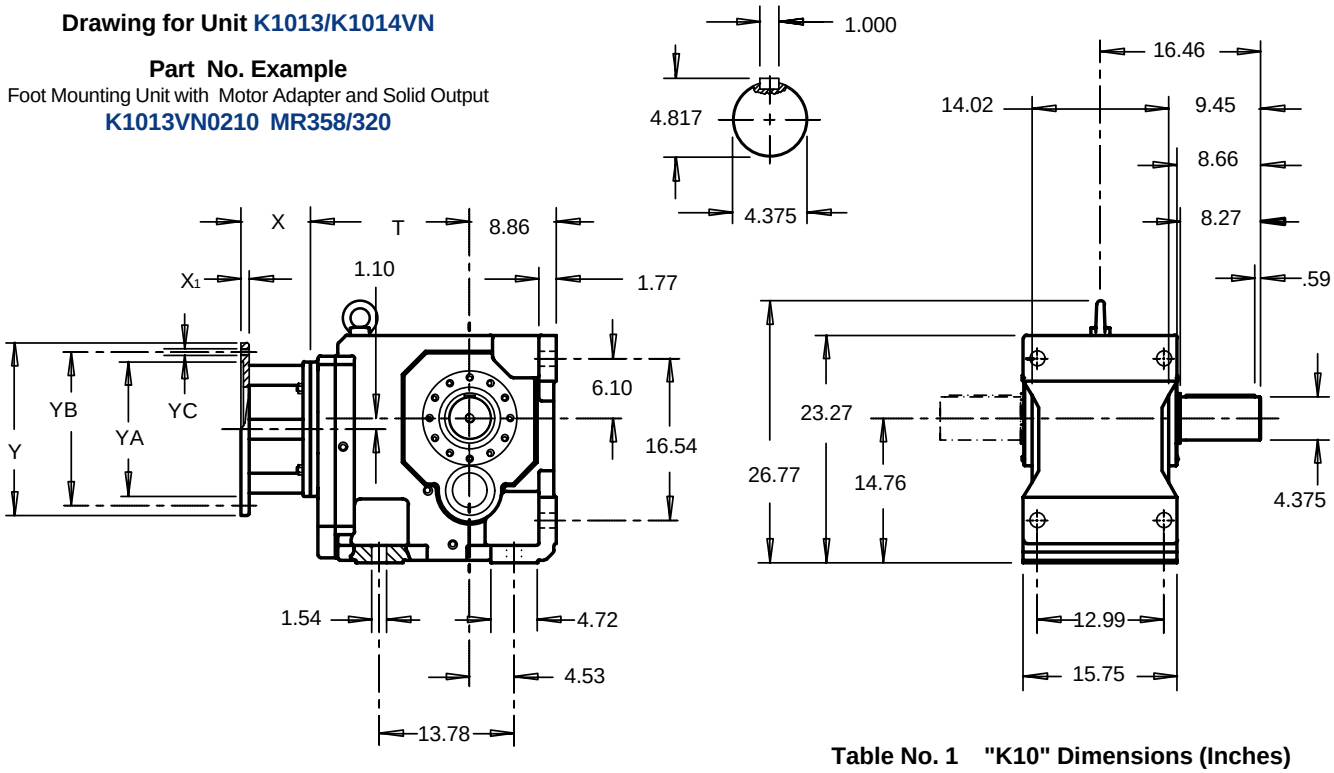


Table No. 1 "K10" Dimensions (Inches)

Base	MR25_/180	MR30_/210	MR35_/320	Wt.
Module	T	T	T	lbs.
K1013	—	15.43	16.34	913
K1014	17.72	—	—	993

See Table No. 2, Page 123 for more motor adapters.

1. Removal Bolt 1¼-7 — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 74-99 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 157 for tolerances, lubrication, and mounting positions.
All weights are approximate.

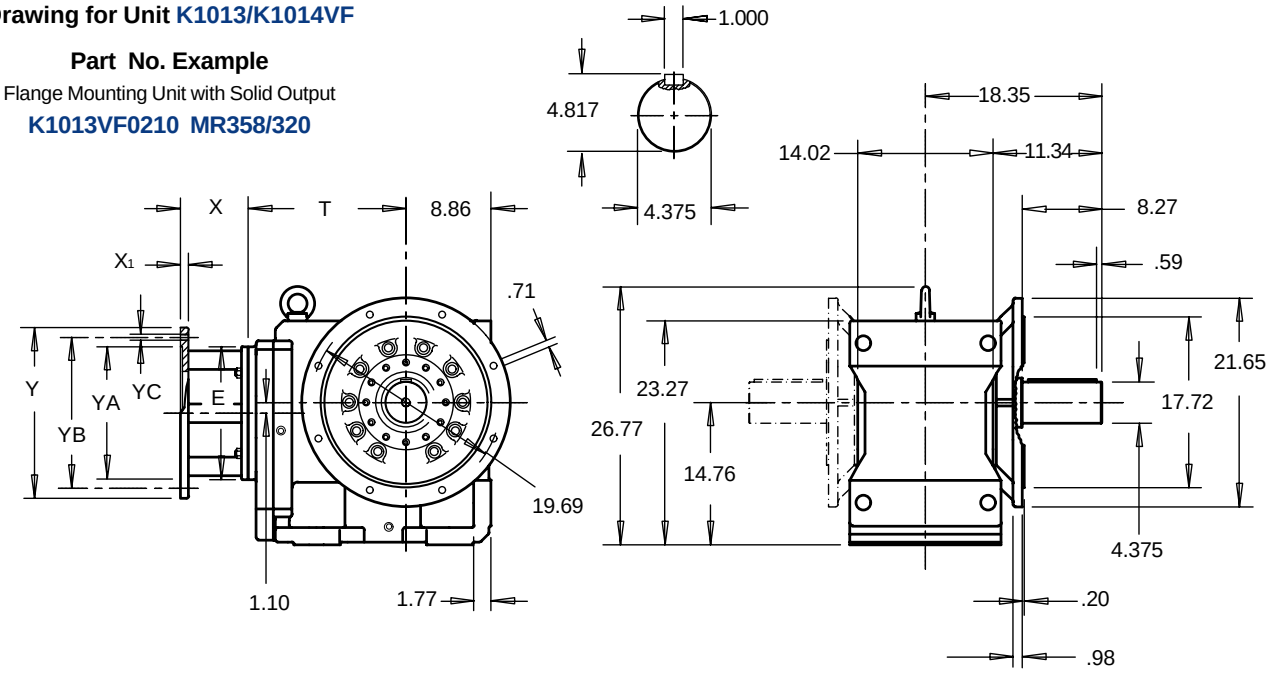
"K10" Series—MGS Dimensional Data Helical/Bevel with Motor Adapter

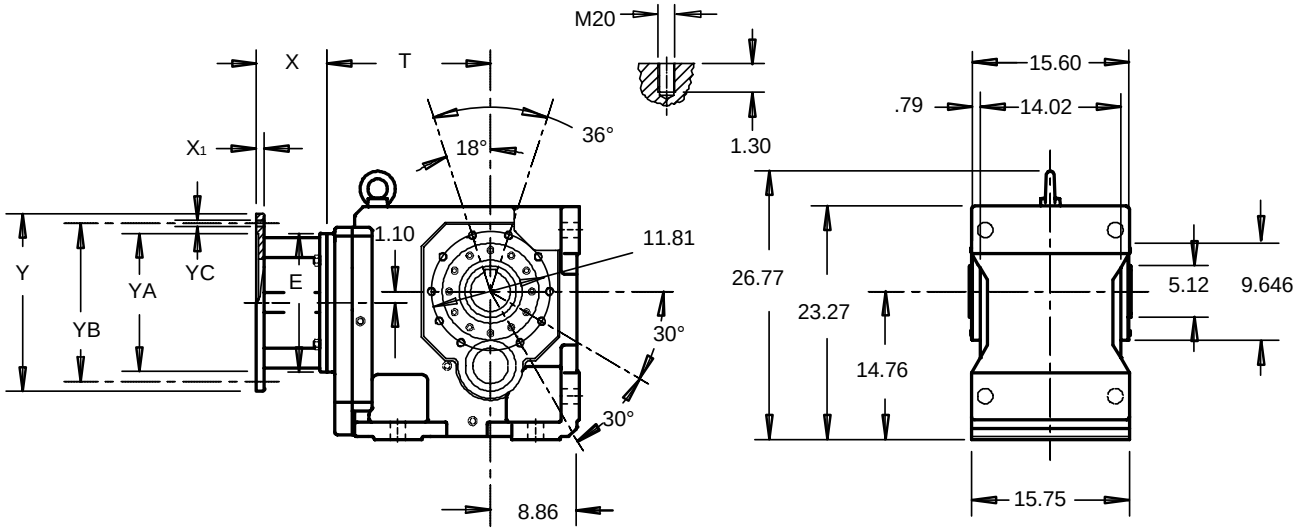
Drawing for Unit K1013/K1014VF

Part No. Example

Flange Mounting Unit with Solid Output

K1013VF0210 MR358/320





Drawing for Unit K1013/K1014AG

Part No. Example

Tapped Hole Unit with Solid Output

K1013AG0210 MR358/320

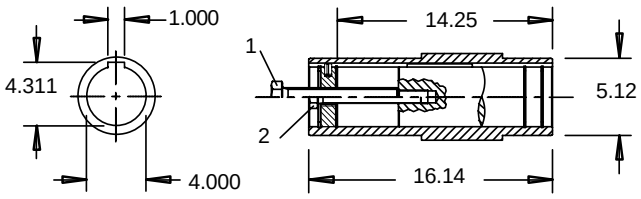
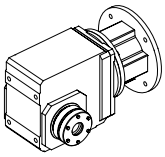


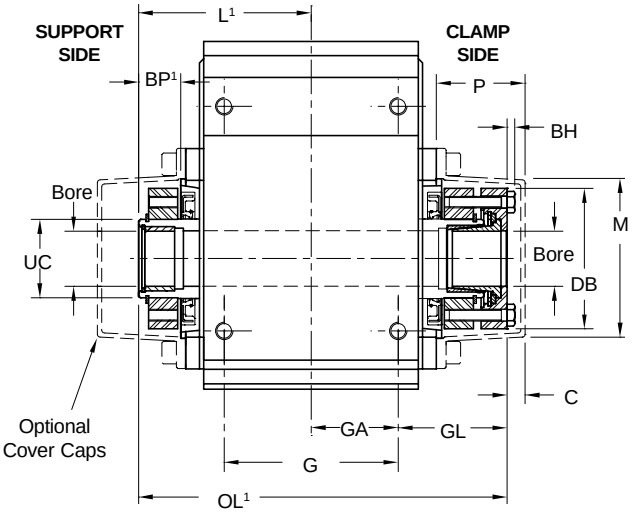
Table No. 2 "K" Series – Motor Adapter Dimensions (Inches)

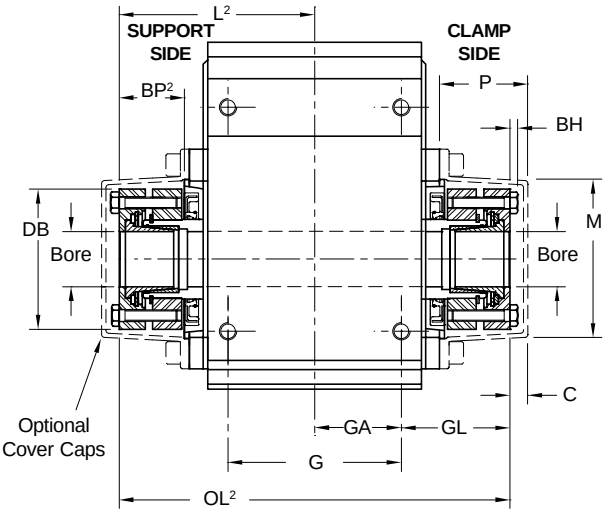
Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs.
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR30_/180	182/184TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/210	213/215TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/250	254/256TC	11.81	6.50	9.00	8.500	7.25	.57	75
MR30_/280	284/286TC	11.81	6.50	11.13	10.500	9.00	.57	75
MR35_/320	324/326TC	13.78	7.09	13.37	12.500	11.00	.70	133
MR35_/360	364/365TC	13.78	7.09	13.37	12.500	11.00	.70	133



"K" Series—MGS Helical/Bevel Reducer Wobble Free Bushings

(see Page 72 for features)





Important: A $^{1}/_{32}$ x 45° chamfer minimum is recommended for the shaft end.

Table No. 1 "K" Series with "WF" Bushing Dimensions (Inches)

Base Module	BH	BP1	BP2	C	DB	G	GA	GL	L1	L2	M	OL1	OL2
K102	.16	.95	1.62	.24	2.76	2.76	1.38	2.28	3.15	3.82	3.07	6.81	7.32
K202/K203	.16	1.02	1.54	.39	3.07	3.54	1.77	2.52	3.78	4.45	3.46	8.07	8.58
K302/K303	.16	1.02	1.55	.43	3.31	4.13	2.07	2.47	4.02	4.70	3.78	8.56	9.08
K402/K403	.20	1.14	1.83	.47	3.82	4.72	2.36	2.97	4.69	5.53	4.33	10.02	10.66
K513/K514	.20	1.18	1.87	.43	4.13	4.92	2.46	3.15	4.96	5.81	4.54	10.57	11.22
K613/K614	.24	1.38	2.11	.51	4.65	5.12	2.56	3.54	5.12	6.34	5.00	11.22	12.20
K713/K714	.24	1.61	2.70	–	5.43	5.71	2.85	4.44	6.20	7.29	–	14.28	14.58
K813/K814	.31	2.03	2.99	–	6.22	7.28	3.64	5.06	7.58	8.70	–	16.28	17.40

Table No. 2 "WF" Bushing Dimensions (Inches)

Base Module	P	UC	Capscrews No.-Size	Tightening Torque in/lbs	Tightening Torque Nm
K102	1.97	1.54	6-M6 x 25 mm	89	10
K202/K203	2.05	1.73	6-M6 x 30 mm	89	10
K302/K303	2.09	1.93	8-M6 x 30 mm	89	10
K402/K403	2.40	2.13	8-M8 x 30 mm	221	25
K513/K514	2.40	2.56	8-M8 x 30 mm	221	25
K613/K614	2.68	2.91	8-M10 x 35 mm	434	49
K713/K714	–	3.35	8-M10 x 40mm	610	69
K813/K814	–	3.94	8-M12 x 40mm	1062	120

Part No. Example

Basic Unit with Motor Adapter
$1^{3}/_{8}$" Bore Single Bushing
K402WB0560 MR164/140 WF4–106

Basic Unit with Motor Adapter
$1^{3}/_{8}$" Bore Double Bushing–No Covers
K402WB0560 MR164/140 WFN4–106

Unit with Motor Adapter
$1^{3}/_{8}$" Bore Double Bushing with Covers
K402WG0560 MR164/140 WFB4–106

Table No. 3 "K" Series "WF" Bushing Stock Bores (Inches)

Base Module	Stock Bores 1	$1^{3}/_{16}$	$1^{1}/_{4}$	$1^{3}/_{8}$	$1^{7}/_{16}$	$1^{1}/_{2}$	$1^{5}/_{8}$	$1^{11}/_{16}$	$1^{3}/_{4}$	$1^{7}/_{8}$	$1^{15}/_{16}$	2	$2^{3}/_{16}$	$2^{3}/_{8}$	$2^{7}/_{16}$	$2^{3}/_{4}$
K102	x	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K202/K203	x	x	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K302/K303	x	x	x	x	x	x	—	—	—	—	—	—	—	—	—	—
K402/K403	x	x	x	x	x	x	—	—	—	—	—	—	—	—	—	—
K513/K514	—	—	—	—	x	x	x	x	x	x	x	x	—	—	—	—
K613/K614	—	—	—	—	x	x	x	x	x	—	x	x	x	—	—	—
K713/K714	—	—	—	—	—	—	—	—	—	—	x	x	x	x	—	—
K813/K814	—	—	—	—	—	—	—	—	—	—	—	—	x	x	x	x

NOTES: A complete bushing kit includes the locking ring assembly, tapered cone, support ring, and all hardware to mount the kit into the MGS reducer.

The WF1-100, WFN1-100, and WFB1-100 bushing does not have a tapered cone.

The optional cover caps can be ordered separately.

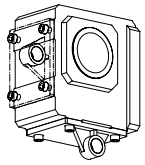
The bushing will accept a shaft with a tolerance of +.000/-.005.

Table No. 4 Stock Bushing Kits

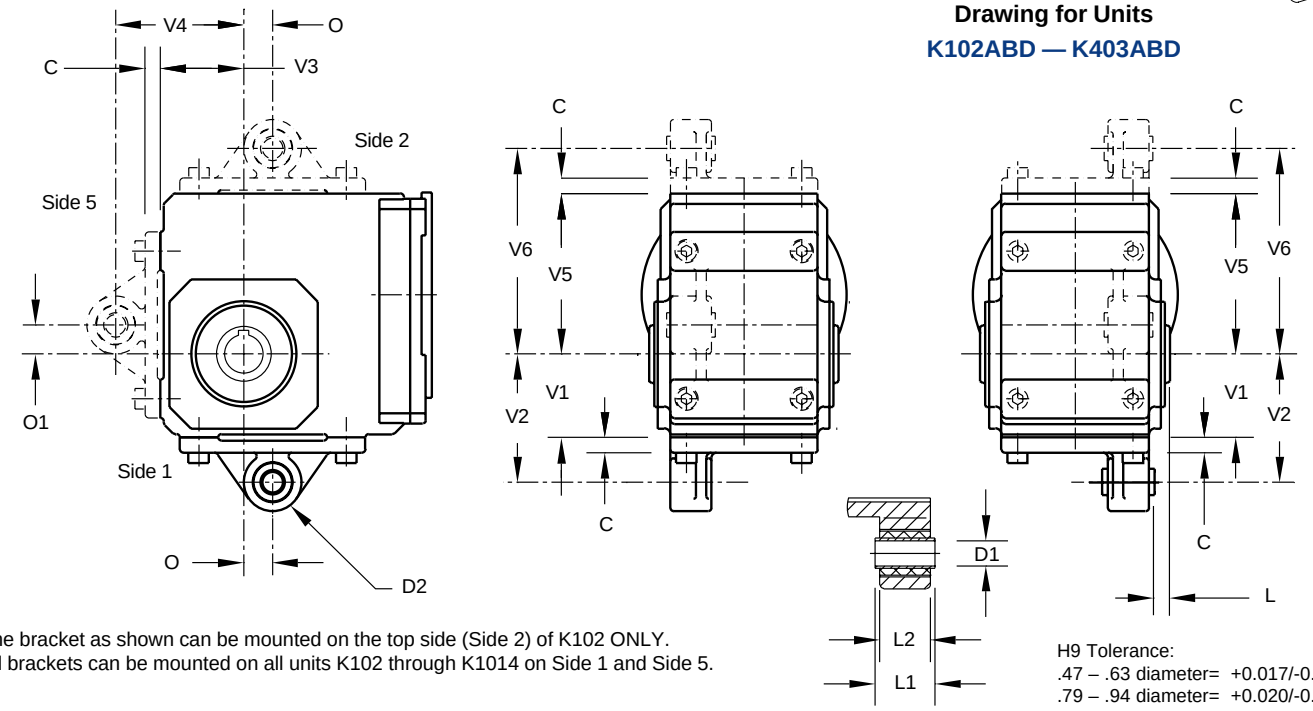
Bore Size	Single Side No Covers	Double Side No Covers	Double Side with Covers
1	WF1-100	WFN1-100	WFB1-100
1	WF2-100	WFN2-100	WFB2-100
$1^{3}/_{16}$	WF2-103	WFN2-103	WFB2-103
1	WF3-100	WFN3-100	WFB3-100
$1^{3}/_{16}$	WF3-103	WFN3-103	WFB3-103
$1^{1}/_{4}$	WF3-104	WFN3-104	WFB3-104
$1^{3}/_{8}$	WF3-106	WFN3-106	WFB3-106
$1^{7}/_{16}$	WF3-107	WFN3-107	WFB3-107
$1^{1}/_{2}$	WF3-108	WFN3-108	WFB3-108
1	WF4-100	WFN4-100	WFB4-100
$1^{3}/_{16}$	WF4-103	WFN4-103	WFB4-103
$1^{1}/_{4}$	WF4-104	WFN4-104	WFB4-104
$1^{3}/_{8}$	WF4-106	WFN4-106	WFB4-106
$1^{7}/_{16}$	WF4-107	WFN4-107	WFB4-107
$1^{1}/_{2}$	WF4-108	WFN4-108	WFB4-108
$1^{7}/_{16}$	WF5-107	WFN5-107	WFB5-107
$1^{1}/_{2}$	WF5-108	WFN5-108	WFB5-108
$1^{5}/_{8}$	WF5-110	WFN5-110	WFB5-110
$1^{11}/_{16}$	WF5-111	WFN5-111	WFB5-111
$1^{3}/_{4}$	WF5-112	WFN5-112	WFB5-112
$1^{7}/_{8}$	WF5-114	WFN5-114	WFB5-114
$1^{15}/_{16}$	WF5-115	WFN5-115	WFB5-115
2	WF5-200	WFN5-200	WFB5-200
$1^{7}/_{16}$	WF6-107	WFN6-107	WFB6-107
$1^{1}/_{2}$	WF6-108	WFN6-108	WFB6-108
$1^{5}/_{8}$	WF6-110	WFN6-110	WFB6-110
$1^{11}/_{16}$	WF6-111	WFN6-111	WFB6-111
$1^{3}/_{4}$	WF6-112	WFN6-112	WFB6-112
$1^{15}/_{16}$	WF6-115	WFN6-115	WFB6-115
2	WF6-200	WFN6-200	WFB6-200
$2^{3}/_{16}$	WF6-203	WFN6-203	WFB6-203
$1^{15}/_{16}$	WF7-115	WFN7-115	–
2	WF7-200	WFN7-200	–
$2^{3}/_{16}$	WF7-203	WFN7-203	–
$2^{3}/_{8}$	WF7-206	WFN7-206	–
$2^{3}/_{16}$	WF8-203	WFN8-203	–
$2^{3}/_{8}$	WF8-206	WFN8-206	–
$2^{7}/_{16}$	WF8-207	WFN8-207	–
$2^{3}/_{4}$	WF8-212	WFN8-212	–
40mm	–	WFN4-40	WFB4-40
	–	WFN5-40	WFB5-40
	–	WFN6-40	WFB6-40

"K" Series—MGS Helical/BevelReducer with Torque Arm Bracket

(torque arm supplied by others)



Drawing for Units
K102ABD — K403ABD



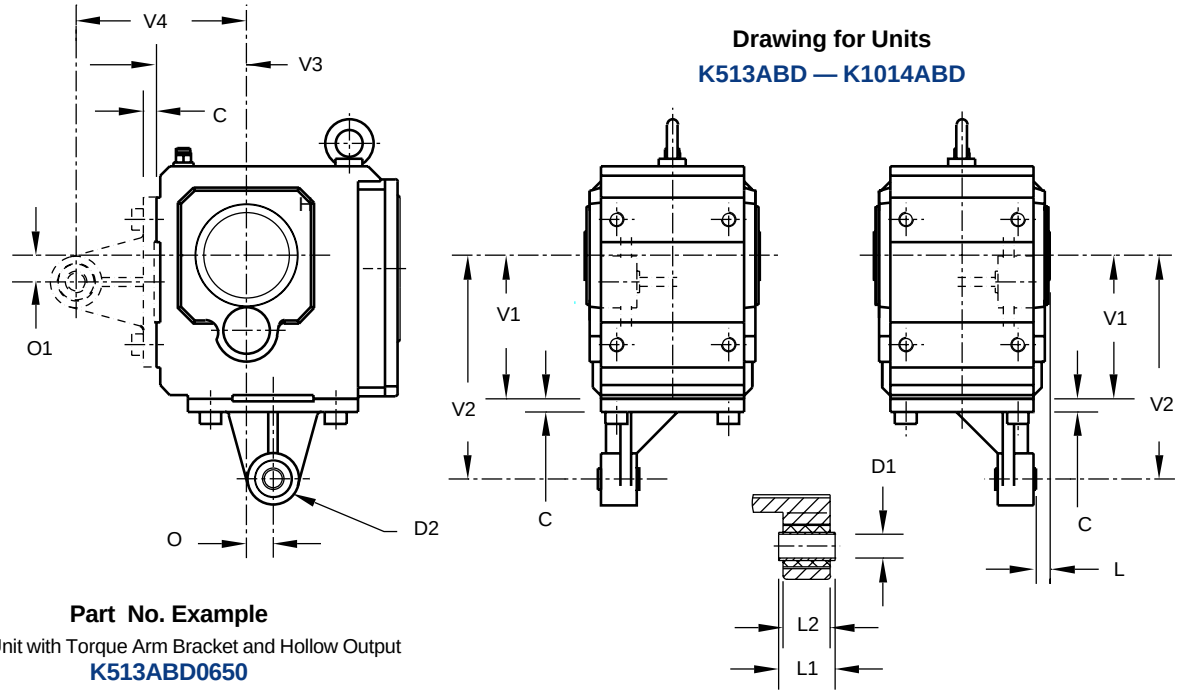
The bracket as shown can be mounted on the top side (Side 2) of K102 ONLY.
All brackets can be mounted on all units K102 through K1014 on Side 1 and Side 5.

H9 Tolerance:
.47 – .63 diameter= +0.017/-0.000
.79 – .94 diameter= +0.020/-0.000
1.57 diameter = +0.024/-0.000

Table No. 1 **"K" Series — Torque Arm Bracket Dimensions (Inches)**

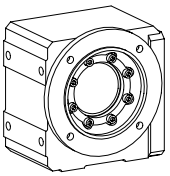
Base Module	C	D1 H9	D2	L	L1	L2	O	O1	V1	V2	V3	V4	V5	V6
K102	.39	.47	1.69	.51	1.10	.94	.59	.59	2.36	3.54	2.36	3.54	3.93	5.12
K202/K203	.47	.63	1.77	.53	1.50	1.26	.89	.89	2.56	3.93	2.56	3.93	–	–
K302/K303	.47	.63	1.77	.47	1.50	1.26	.98	.98	2.95	4.72	2.95	4.72	–	–
K402/K403	.55	.79	2.17	.67	1.81	1.57	1.08	1.08	3.54	5.91	3.54	5.91	–	–
K513/K514	.59	.79	2.28	.67	1.81	1.57	1.18	1.18	6.30	9.84	3.93	7.48	–	–
K613/K614	.59	.79	2.28	.81	1.81	1.57	1.18	1.18	7.48	9.84	4.72	7.09	–	–
K713/K714	.67	.79	2.68	.91	2.76	2.52	1.38	1.38	8.35	11.81	4.92	8.39	–	–
K813/K814	.67	.94	2.83	1.02	4.53	4.02	1.77	1.77	10.43	13.78	5.71	9.06	–	–
K913/K914	.79	.94	2.95	1.02	4.53	4.02	1.77	1.77	12.40	17.72	7.09	12.40	–	–
K1013/K1014	1.65	1.57	4.72	.24	4.88	4.65	2.36	2.17	14.76	21.65	8.86	15.75	–	–

Drawing for Units
K513ABD — K1014ABD

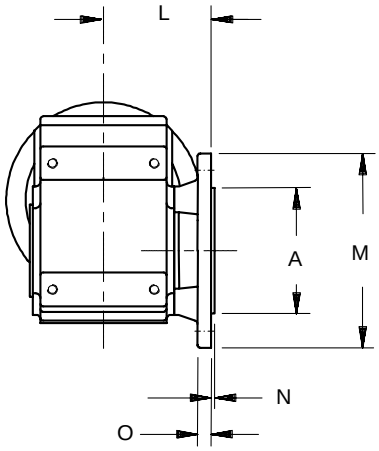


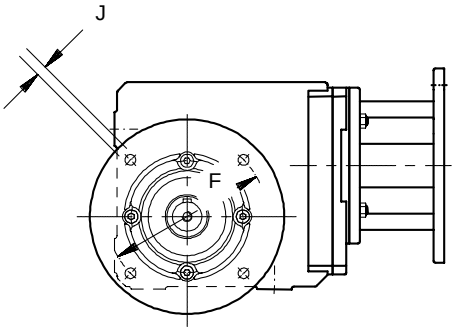
Part No. Example

Basic Unit with Torque Arm Bracket and Hollow Output
K513ABD0650

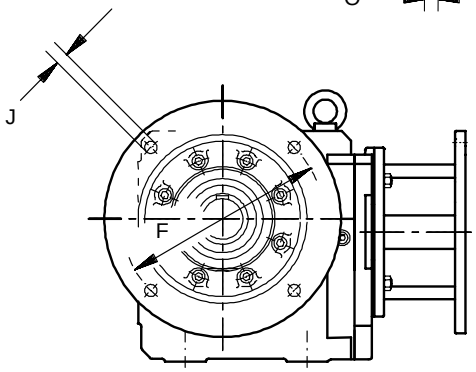


"K" Series — Optional Round Flanges

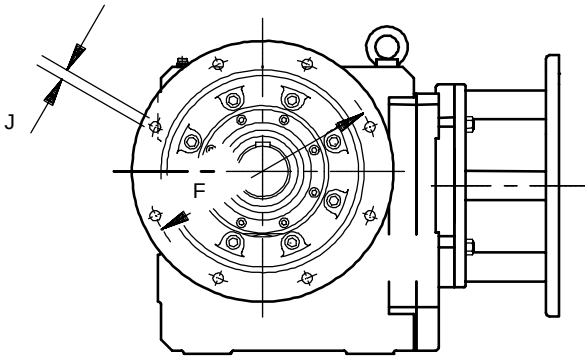




Drawing for Units
K102F—K403F



Drawing for Units
K513F—K814F



Drawing for Units
K913F—K1014F

Mounting holes are offset from vertical 22½° as shown.

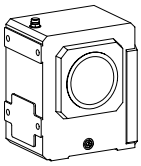
Table No. 1 "K" Series — Optional Flange Dimensions (Inches)

Base Module	Flange Designation	A	F	J	L	M	N	O
K102	140	5.512	4.53	.35	3.35	3.740	.12	.39
	160 *	6.300	5.12	.35	3.35	4.331	.14	.39
K202/K203	160	6.300	5.12	.35	3.90	4.331	.14	.47
	200 *	7.874	6.50	.43	3.90	5.118	.14	.47
K302/K303	160	6.300	5.12	.35	4.37	4.331	.14	.55
	200 *	7.874	6.50	.43	4.37	5.118	.14	.55
K402/K403	250 *	9.843	8.46	.55	4.98	7.087	.16	.59
K513/K514	250 *	9.843	8.46	.55	5.20	7.087	.16	.59
K613/K614	300 *	11.811	10.43	.55	5.35	9.055	.16	.67
K713/K714	350 *	13.780	11.81	.71	6.18	9.843	.20	.71
K813/K814	350	13.780	11.81	.71	7.32	9.843	.20	.79
	400 *	15.748	13.78	.71	7.32	11.811	.20	.79
	450	17.717	15.75	.71	7.32	13.781	.20	.79
K913/K914	450 *	17.717	15.75	.71	8.46	13.780	.20	.91
K1013/K1014	550 *	21.654	19.69	.71	10.08	17.717	.20	.98

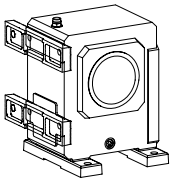
* This is the standard flange diameter. This flange is shipped unless otherwise specified.

"S" Series—Right Angle Helical/Worm MGS Reducers

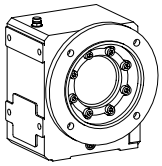
Housing Styles:



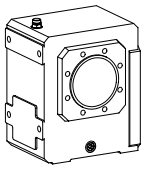
Style B*, Basic Design



Style N, Foot Mount

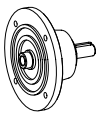


Style F, Round Flange

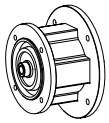


Style G, Tapped Holes

Input Options:

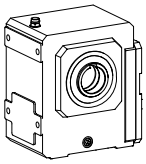


Type AW
Input Shaft

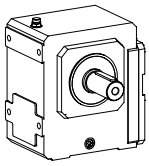


Type MR
NEMA C-Face Adapter

Output Options:



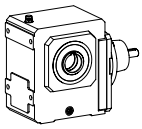
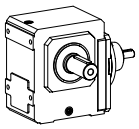
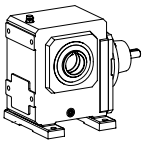
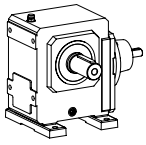
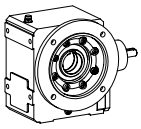
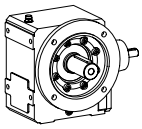
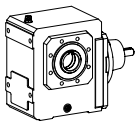
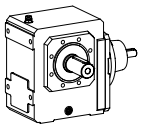
Type A
Hollow Output



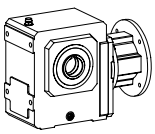
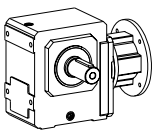
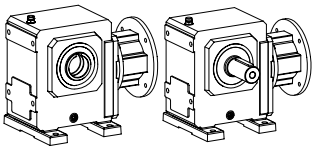
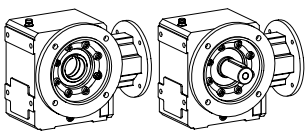
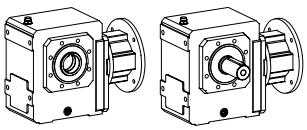
Type V
Solid Output

Speed Reducer Configurations:

Shaft Input

Basic Design		Foot Mount		Round Flange		Tapped Holes	
							
Style AB Hollow Output See Page 138	Style VB Solid Output Available	Style AN Hollow Output Available	Style VN Solid Output See Page 139	Style AF Hollow Output Available	Style VF Solid Output See Page 140	Style AG Hollow Output See Page 141	Style VG Solid Output Available

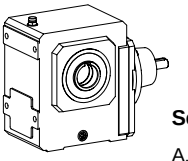
NEMA C-Face Input

Basic Design		Foot Mount		Round Flange		Tapped Holes	
							
Style AB Hollow Output See Page 142	Style VB Solid Output Available	Style AN Hollow Output Available	Style VN Solid Output See Page 143	Style AF Hollow Output Available	Style VF Solid Output See Page 144	Style AG Hollow Output See Page 145	Style VG Solid Output Available

Accessories:

Torque Arm Bracket	Optional Round Flanges	Backstops
See Page 146	See Page 147	See Page 146

* The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.



"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.

B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)

C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.

D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

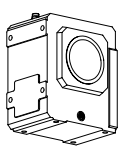
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
190 RPM	**Output (Approximate)**								**155 RPM**		**125 RPM**		**95 RPM**	
0.86	245	S102_0092	MR141/050	56C	AW141/010	9.200	98	593	0.70	244	0.57	242	0.43	241
1.61	461	S102_0092	MR142/050	56C	AW142/010	9.200	98	593	1.32	458	1.07	456	0.80	453
1.71	493	S202_0092	MR142/050	56C	AW142/010	9.232	98	862	1.40	490	1.14	487	0.85	484
1.78	511	S102_0092	MR163/050	56C	AW143/010	9.200	98	593	1.69	589	1.60	684	1.37	777
1.78	511	S102_0092	MR164/140	143/145TC	AW164/012	9.200	196	593	1.69	589	1.60	684	1.37	777
3.26	939	S202_0092	MR163/050	56C	AW143/010	9.232	98	862	2.67	933	2.16	928	1.62	921
3.47	998	S202_0092	MR164/140	143/145TC	AW164/012	9.232	196	862	3.27	1,145	3.08	1,320	2.79	1,585
3.47	998	S202_0092	MR205/180	182/184TC	AW165/012	9.232	196	862	3.27	1,145	3.08	1,320	2.79	1,585
5.17	1,499	S302_0093	MR164/140	143/145TC	AW164/012	9.310	196	1,078	5.20	1,834	4.25	1,836	3.18	1,822
5.17	1,499	S302_0093	MR205/180	182/184TC	AW165/012	9.310	196	1,078	5.20	1,834	5.23	2,261	4.68	2,680
8.19	2,382	S402_0093	MR205/180	182/184TC	AW165/012	9.281	196	1,402	8.12	2,874	8.05	3,491	7.38	4,234
8.19	2,382	S402_0093	MR256/210	213/215TC	AW206/014	9.281	333	1,402	8.12	2,874	8.05	3,491	7.38	4,234
150 RPM	**Output (Approximate)**								**125 RPM**		**100 RPM**		**75 RPM**	
0.83	294	S102_0115	MR141/050	56C	AW141/010	11.50	98	627	0.67	293	0.55	291	0.41	289
1.55	553	S102_0115	MR142/050	56C	AW142/010	11.50	98	627	1.27	550	1.03	547	0.77	543
1.66	595	S202_0115	MR142/050	56C	AW142/010	11.60	98	912	1.36	591	1.10	588	0.83	584
1.68	598	S102_0115	MR163/050	56C	AW143/010	11.50	98	627	1.59	691	1.43	760	1.19	837
1.68	598	S102_0115	MR164/140	143/145TC	AW164/012	11.50	196	627	1.59	691	1.43	760	1.19	837
3.16	1,131	S202_0115	MR163/050	56C	AW143/010	11.60	98	912	2.58	1,125	2.10	1,118	1.57	1,110
3.26	1,165	S202_0115	MR164/140	143/145TC	AW164/012	11.60	196	912	3.07	1,337	2.89	1,541	2.42	1,710
3.26	1,165	S202_0115	MR205/180	182/184TC	AW165/012	11.60	196	912	3.07	1,337	2.89	1,541	2.42	1,710
5.20	1,877	S302_0115	MR164/140	143/145TC	AW164/012	11.66	196	1,141	5.06	2,219	4.10	2,207	3.08	2,191
5.20	1,877	S302_0115	MR205/180	182/184TC	AW165/012	11.66	196	1,141	5.23	2,298	4.88	2,625	4.06	2,889
8.08	2,924	S402_0115	MR205/180	182/184TC	AW165/012	11.57	196	1,483	8.01	3,528	7.67	4,141	6.38	4,557
8.08	2,924	S402_0115	MR256/210	213/215TC	AW206/014	11.57	333	1,483	8.01	3,528	7.67	4,141	6.38	4,557
125 RPM	**Output (Approximate)** **Continued Next Page**								**100 RPM**		**80 RPM**		**60 RPM**	
0.81	346	S102_0140	MR141/050	56C	AW141/010	14.04	98	657	0.66	344	0.54	343	0.40	340
1.52	650	S102_0140	MR142/050	56C	AW142/010	14.04	98	657	1.24	647	1.01	643	0.76	640

For thermal HP capacity, see rating below.

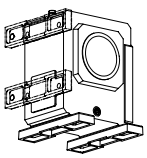
Base Module	S1	S2	S3	S4
Thermal Capacity	2.95	5.36	7.38	12.34

Housing Styles

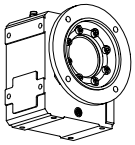
B – Basic Design



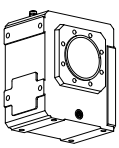
N – Foot Mounted



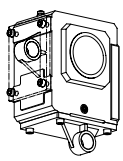
F – Round Flange



G – Tapped Holes



BD – Torque Arm Bracket

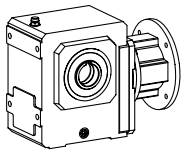


These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size
TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143T/145T	1, 1 1/2, 2
182T/184T	3, 5
213T/215T	7 1/2, 10

"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: S302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

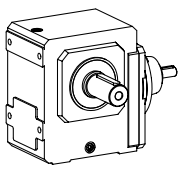
See pages 138-147 for dimensions of "S" Series–Right Angle Helical/Wormreducers.
See page 146 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
125 RPM		**Output (Approximate) Continued**							**100 RPM**		**80 RPM**		**60 RPM**	
1.60	687	S202_0140	MR142/050	56C	AW142/010	13.91	98	956	1.31	683	1.06	679	0.79	675
1.61	689	S102_0140	MR163/050	56C	AW143/010	14.04	98	657	1.45	758	1.27	812	1.06	894
1.61	689	S102_0140	MR164/140	143/145TC	AW164/012	14.04	196	657	1.45	758	1.27	812	1.06	894
3.04	1,307	S202_0140	MR163/050	56C	AW143/010	13.91	98	956	2.48	1,299	2.01	1,292	1.51	1,283
3.07	1,319	S202_0140	MR164/140	143/145TC	AW164/012	13.91	196	956	2.89	1,513	2.57	1,651	2.14	1,817
3.07	1,319	S202_0140	MR205/180	182/184TC	AW165/012	13.91	196	956	2.89	1,513	2.57	1,651	2.14	1,817
5.20	2,253	S302_0140	MR164/140	143/145TC	AW164/012	14.00	196	1,196	4.86	2,563	3.94	2,549	2.96	2,532
5.20	2,253	S302_0140	MR205/180	182/184TC	AW165/012	14.00	196	1,196	4.93	2,602	4.31	2,790	3.59	3,070
8.00	3,479	S402_0140	MR205/180	182/184TC	AW165/012	13.95	196	1,554	7.77	4,110	6.79	4,407	5.65	4,851
8.00	3,479	S402_0140	MR256/210	213/215TC	AW206/014	13.95	333	1,554	7.77	4,110	6.79	4,407	5.65	4,851
100 RPM		**Output (Approximate)**							**80 RPM**		**65 RPM**		**50 RPM**	
0.77	412	S102_0175	MR141/050	56C	AW141/010	17.47	98	695	0.63	410	0.51	408	0.39	406
1.43	762	S102_0175	MR142/050	56C	AW142/010	17.47	98	695	1.19	770	0.96	766	0.72	762
1.43	762	S102_0175	MR163/050	56C	AW143/010	17.47	98	695	1.26	815	1.10	874	0.91	962
1.43	762	S102_0175	MR164/140	143/145TC	AW164/012	17.47	196	695	1.26	815	1.10	874	0.91	962
1.55	828	S202_0175	MR142/050	56C	AW142/010	17.55	98	1,011	1.27	824	1.03	820	0.77	814
2.89	1,544	S202_0175	MR163/050	56C	AW143/010	17.55	98	1,011	2.41	1,567	1.96	1,559	1.47	1,549
2.89	1,544	S202_0175	MR164/140	143/145TC	AW164/012	17.55	196	1,011	2.56	1,664	2.24	1,784	1.86	1,964
2.89	1,544	S202_0175	MR205/180	182/184TC	AW165/012	17.55	196	1,011	2.56	1,664	2.24	1,784	1.86	1,964
3.02	1,625	S302_0175	MR163/050	56C	AW143/010	17.37	98	1,264	2.46	1,617	2.00	1,608	1.50	1,598
4.85	2,614	S302_0175	MR164/140	143/145TC	AW164/012	17.37	196	1,264	4.26	2,796	3.73	2,998	2.82	3,008
4.85	2,614	S302_0175	MR205/180	182/184TC	AW165/012	17.37	196	1,264	4.26	2,796	3.73	2,998	3.10	3,300
5.92	3,199	S402_0175	MR164/140	143/145TC	AW164/012	17.49	196	1,644	4.84	3,182	3.92	3,165	2.94	3,144
7.67	4,143	S402_0175	MR205/180	182/184TC	AW165/012	17.49	196	1,644	6.74	4,432	5.89	4,752	4.90	5,230
7.67	4,143	S402_0175	MR256/210	213/215TC	AW206/014	17.49	333	1,644	6.74	4,432	5.89	4,752	4.90	5,230
75 RPM		**Output (Approximate)** **Continued Next Page**							**60 RPM**		**50 RPM**		**35 RPM**	
0.73	517	S102_0230	MR141/050	56C	AW141/010	23.14	98	747	0.60	514	0.49	512	0.36	510
1.19	837	S102_0230	MR142/050	56C	AW142/010	23.14	98	747	1.04	895	0.91	960	0.68	958

Part No. Explanation

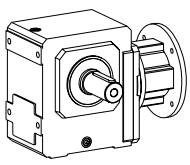
S 3 0 2 V B 0590 AW 165 / 012

- Shaft Dia. (1/16 in.; example – 012 = 12/16 or 3/4)
- Flange No.
- Input Shaft
- Ratio (0590 = 59.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Gear Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Worm

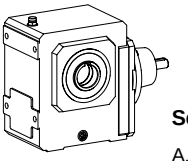


S 3 0 2 V B 0590 MR 164 / 140

- Motor Frame Size (140=143/145TC)
- Flange No.
- Motor Adapter
- Ratio (0590 = 59.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Worm



Mounting position must be specified when ordering. See page 158.



"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

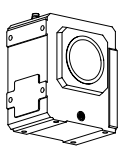
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
75 RPM		**Output (Approximate) Continued**							**60 RPM**		**50 RPM**		**35 RPM**	
1.19	837	S102_0230	MR163/140	143/145TC	AW143/010	23.14	98	747	1.04	895	0.91	960	0.75	1,056
1.47	1,037	S202_0230	MR142/050	56C	AW142/010	23.29	98	1,087	1.20	1,032	0.97	1,027	0.73	1,021
1.52	1,081	S302_0230	MR142/050	56C	AW142/010	23.40	98	1,359	1.24	1,076	1.00	1,071	0.75	1,065
2.42	1,709	S202_0230	MR163/050	56C	AW143/010	23.29	98	1,087	2.12	1,828	1.85	1,954	1.39	1,943
2.42	1,709	S202_0230	MR164/140	143/145TC	AW164/012	23.29	196	1,087	2.12	1,828	1.85	1,960	1.54	2,152
2.42	1,709	S202_0230	MR205/180	182/184TC	AW165/012	23.29	196	1,087	2.12	1,828	1.85	1,960	1.54	2,152
2.88	2,056	S302_0230	MR163/050	56C	AW143/010	23.40	98	1,359	2.36	2,046	1.91	2,037	1.43	2,025
4.05	2,887	S302_0230	MR164/140	143/145TC	AW164/012	23.40	196	1,359	3.55	3,088	3.11	3,311	2.58	3,644
4.05	2,887	S302_0230	MR205/180	182/184TC	AW165/012	23.40	196	1,359	3.55	3,088	3.11	3,311	2.58	3,644
5.60	4,007	S402_0230	MR164/140	143/145TC	AW164/012	23.40	196	1,767	4.58	3,987	3.71	3,968	2.78	3,943
6.38	4,566	S402_0230	MR205/180	182/184TC	AW165/012	23.40	196	1,767	5.61	4,883	4.90	5,236	4.07	5,763
6.38	4,566	S402_0230	MR256/210	213/215TC	AW206/014	23.40	333	1,767	5.61	4,883	4.90	5,236	4.07	5,763
60 RPM		**Output (Approximate)**							**50 RPM**		**40 RPM**		**30 RPM**	
0.71	600	S102_0280	MR141/050	56C	AW141/010	27.90	98	782	0.58	598	0.47	596	0.35	593
1.06	890	S102_0280	MR142/050	56C	AW142/010	27.90	98	782	0.93	952	0.81	1,021	0.64	1,066
1.06	890	S102_0280	MR163/140	143/145TC	AW143/010	27.90	98	782	0.93	952	0.81	1,021	0.64	1,066
1.42	1,197	S202_0280	MR142/050	56C	AW142/010	28.08	98	1,138	1.16	1,192	0.94	1,187	0.70	1,180
1.46	1,246	S302_0280	MR142/050	56C	AW142/010	28.01	98	1,422	1.19	1,240	0.97	1,235	0.73	1,228
2.15	1,819	S202_0280	MR163/050	56C	AW143/010	28.08	98	1,138	1.89	1,946	1.65	2,087	1.32	2,214
2.15	1,819	S202_0280	MR164/140	143/145TC	AW164/012	28.08	196	1,138	1.89	1,946	1.65	2,087	1.32	2,214
2.78	2,369	S302_0280	MR163/050	56C	AW143/010	28.01	98	1,422	2.27	2,359	1.84	2,348	1.38	2,335
3.60	3,065	S302_0280	MR164/140	143/145TC	AW164/012	28.01	196	1,422	3.16	3,278	2.76	3,515	2.29	3,869
3.60	3,065	S302_0280	MR205/180	182/184TC	AW165/012	28.01	196	1,422	3.16	3,278	2.76	3,515	2.29	3,869
5.39	4,610	S402_0280	MR164/140	143/145TC	AW164/012	27.90	196	1,849	4.41	4,588	3.57	4,566	2.68	4,540
5.66	4,841	S402_0280	MR205/180	182/184TC	AW165/012	27.90	196	1,849	4.97	5,178	4.35	5,552	3.61	6,111
50 RPM		**Output (Approximate)** **Continued Next Page**							**40 RPM**		**30 RPM**		**25 RPM**	
0.68	707	S102_0350	MR141/050	56C	AW141/010	34.92	98	826	0.55	704	0.45	702	0.34	699
0.92	960	S102_0350	MR142/050	56C	AW142/010	34.92	98	826	0.78	992	0.63	988	0.47	984

For thermal HP capacity, see rating below.

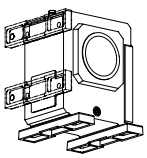
Base Module	S1	S2	S3	S4
Thermal Capacity	2.95	5.36	7.38	12.34

Housing Styles

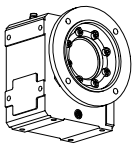
B – Basic Design



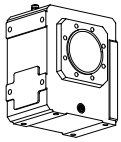
N – Foot Mounted



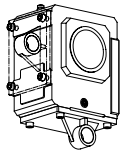
F – Round Flange



G – Tapped Holes



BD – Torque Arm Bracket

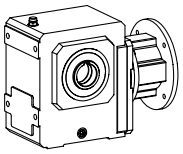


These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size
TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143T/145T	1, 1 1/2, 2
182T/184T	3, 5
213T/215T	7 1/2, 10

"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: S302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

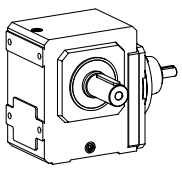
See pages 138-147 for dimensions of "S" Series–Right Angle Helical/Wormreducers.
See page 146 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
50 RPM		**Output (Approximate) Continued**							**40 RPM**		**30 RPM**		**25 RPM**	
0.92	960	S102_0350	MR163/050	56C	AW143/010	34.92	98	826	0.78	992	0.63	988	0.47	984
1.35	1,411	S202_0350	MR142/050	56C	AW142/010	34.71	98	1,202	1.10	1,405	0.89	1,400	0.67	1,393
1.40	1,482	S302_0350	MR142/050	56C	AW142/010	34.89	98	1,503	1.15	1,476	0.93	1,470	0.70	1,463
1.86	1,953	S202_0350	MR163/050	56C	AW143/010	34.71	98	1,202	1.64	2,089	1.39	2,176	1.04	2,166
1.86	1,953	S202_0350	MR164/140	143/145TC	AW164/012	34.71	196	1,202	1.64	2,089	1.39	2,176	1.04	2,166
2.67	2,820	S302_0350	MR163/050	56C	AW143/010	34.89	98	1,503	2.18	2,808	1.77	2,796	1.33	2,783
2.75	2,911	S402_0350	MR163/050	56C	AW163/012	34.92	196	1,954	2.25	2,898	1.82	2,886	1.37	2,871
3.12	3,298	S302_0350	MR164/140	143/145TC	AW164/012	34.89	196	1,503	2.74	3,527	2.27	3,591	1.70	3,573
4.92	5,217	S402_0350	MR164/140	143/145TC	AW164/012	34.92	196	1,954	4.04	5,219	3.28	5,197	2.46	5,170
4.92	5,217	S402_0350	MR205/180	182/184TC	AW165/012	34.92	196	1,954	4.04	5,219	3.28	5,197	2.46	5,170
40 RPM		**Output (Approximate)**							**30 RPM**		**25 RPM**		**20 RPM**	
0.77	935	S102_0440	MR141/050	56C	AW141/010	43.68	98	874	0.63	928	0.51	921	0.39	912
0.82	995	S102_0440	MR142/050	56C	AW142/010	43.68	98	874	0.73	1,065	0.65	1,161	0.53	1,264
0.82	995	S102_0440	MR163/050	56C	AW143/010	43.68	98	874	0.73	1,065	0.65	1,161	0.53	1,264
0.82	995	S102_0440	MR164/140	143/145TC	AW164/012	43.68	196	874	0.73	1,065	0.65	1,161	0.53	1,264
1.42	1,751	S202_0440	MR142/050	56C	AW142/010	43.88	98	1,272	1.25	1,876	1.03	1,889	0.77	1,872
1.42	1,751	S202_0440	MR163/050	56C	AW143/010	43.88	98	1,272	1.25	1,876	1.13	2,075	0.95	2,309
1.42	1,751	S202_0440	MR164/140	143/145TC	AW164/012	43.88	196	1,272	1.25	1,876	1.13	2,075	0.95	2,309
1.42	1,751	S202_0440	MR205/180	182/184TC	AW165/012	43.88	196	1,272	1.25	1,876	1.13	2,075	0.95	2,309
2.63	3,301	S302_0430	MR163/050	56C	AW143/010	43.44	98	1,590	2.33	3,557	2.00	3,725	1.50	3,690
2.63	3,301	S302_0430	MR164/140	143/145TC	AW164/012	43.44	196	1,590	2.33	3,557	2.10	3,910	1.74	4,294
2.63	3,301	S302_0430	MR205/180	182/184TC	AW165/012	43.44	196	1,590	2.33	3,557	2.10	3,910	1.74	4,294
3.86	4,893	S402_0440	MR164/140	143/145TC	AW164/012	43.71	196	2,067	3.43	5,267	3.08	5,799	2.57	6,386
3.86	4,893	S402_0440	MR205/180	182/184TC	AW165/012	43.71	196	2,067	3.43	5,267	3.08	5,799	2.57	6,386
3.86	4,893	S402_0440	MR256/210	213/215TC	AW206/014	43.71	333	2,067	3.43	5,267	3.08	5,799	2.57	6,386
30 RPM		**Output (Approximate)** **Continued Next Page**							**25 RPM**		**20 RPM**		**15 RPM**	
0.69	1,100	S102_0580	MR141/050	56C	AW141/010	57.86	98	940	0.60	1,159	0.49	1,152	0.36	1,142
0.69	1,100	S102_0580	MR142/050	56C	AW142/010	57.86	98	940	0.61	1,189	0.53	1,261	0.43	1,339

Part No. Explanation

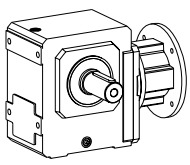
S 3 0 2 V B 0590 AW 165 / 012

- Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- Flange No.
- Input Shaft
- Ratio (0590 = 59.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Gear Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Worm

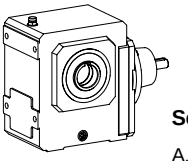


S 3 0 2 V B 0590 MR 164 / 140

- Motor Frame Size (140=143/145TC)
- Flange No.
- Motor Adapter
- Ratio (0590 = 59.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Worm



Mounting position must be specified when ordering. See page 158.



"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

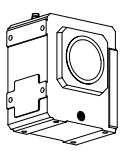
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
30 RPM		**Output (Approximate)** Continued							**25 RPM**		**20 RPM**		**15 RPM**	
0.69	1,100	S102_0580	MR163/140	56C	AW143/010	57.86	98	940	0.61	1,189	0.53	1,261	0.43	1,339
1.19	1,945	S202_0580	MR142/050	56C	AW142/010	58.22	98	1,367	1.08	2,141	0.95	2,306	0.73	2,342
1.19	1,945	S202_0580	MR163/050	56C	AW143/010	58.22	98	1,367	1.08	2,141	0.95	2,306	0.77	2,482
1.19	1,945	S202_0580	MR164/140	143/145TC	AW164/012	58.22	196	1,367	1.08	2,141	0.95	2,306	0.77	2,482
1.19	1,945	S202_0580	MR205/180	182/184TC	AW165/012	58.22	196	1,367	1.08	2,141	0.95	2,306	0.77	2,482
1.52	2,508	S302_0590	MR142/050	56C	AW142/010	58.50	98	1,709	1.24	2,491	1.00	2,474	0.75	2,453
2.25	3,725	S302_0590	MR163/050	56C	AW143/010	58.50	98	1,709	2.01	4,040	1.75	4,306	1.41	4,591
2.25	3,725	S302_0590	MR164/140	143/145TC	AW164/012	58.50	196	1,709	2.01	4,040	1.75	4,306	1.41	4,591
2.25	3,725	S302_0590	MR205/180	182/184TC	AW165/012	58.50	196	1,709	2.01	4,040	1.75	4,306	1.41	4,591
3.29	5,500	S402_0590	MR164/140	143/145TC	AW164/012	58.50	196	2,222	2.95	5,984	2.57	6,393	2.08	6,832
3.29	5,500	S402_0590	MR205/180	182/184TC	AW165/012	58.50	196	2,222	2.95	5,984	2.57	6,393	2.08	6,832
3.29	5,500	S402_0590	MR256/210	213/215TC	AW206/014	58.50	333	2,222	2.95	5,984	2.57	6,393	2.08	6,832
25 RPM		**Output (Approximate)**							**20 RPM**		**15 RPM**		**12 RPM**	
0.62	1,183	S102_0700	MR141/050	56C	AW141/010	69.75	98	983	0.54	1,254	0.46	1,314	0.35	1,327
0.62	1,183	S102_0700	MR142/050	56C	AW142/010	69.75	98	983	0.54	1,254	0.46	1,314	0.37	1,379
0.62	1,183	S102_0700	MR163/050	56C	AW143/010	69.75	98	983	0.54	1,254	0.46	1,314	0.37	1,379
1.09	2,128	S202_0700	MR142/050	56C	AW142/010	70.20	98	1,431	0.97	2,290	0.84	2,426	0.67	2,573
1.09	2,128	S202_0700	MR163/050	56C	AW143/010	70.20	98	1,431	0.97	2,290	0.84	2,426	0.67	2,573
1.09	2,128	S202_0700	MR164/140	143/145TC	AW164/012	70.20	196	1,431	0.97	2,290	0.84	2,426	0.67	2,573
1.46	2,883	S302_0700	MR142/050	56C	AW142/010	70.03	98	1,789	1.19	2,864	0.97	2,846	0.73	2,824
2.03	4,009	S302_0700	MR163/050	56C	AW143/010	70.03	98	1,789	1.78	4,272	1.53	4,494	1.22	4,732
2.03	4,009	S302_0700	MR164/140	143/145TC	AW164/012	70.03	196	1,789	1.78	4,272	1.53	4,494	1.22	4,732
2.03	4,009	S302_0700	MR205/180	182/184TC	AW165/012	70.03	196	1,789	1.78	4,272	1.53	4,494	1.22	4,732
2.97	5,927	S402_0700	MR164/140	143/145TC	AW164/012	69.75	196	2,325	2.61	6,333	2.25	6,676	1.79	7,044
2.97	5,927	S402_0700	MR205/180	182/184TC	AW165/012	69.75	196	2,325	2.61	6,333	2.25	6,676	1.79	7,044
20 RPM		**Output (Approximate)** Continued Next Page							**15 RPM**		**13 RPM**		**10 RPM**	
0.54	1,262	S102_0870	MR141/050	56C	AW141/010	87.30	98	1,039	0.46	1,318	0.39	1,366	0.31	1,417

For thermal HP capacity, see rating below.

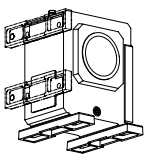
Base Module	S1	S2	S3	S4
Thermal Capacity	2.95	5.36	7.38	12.34

Housing Styles

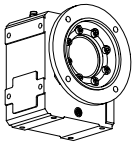
B – Basic Design



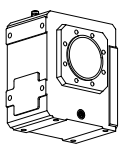
N – Foot Mounted



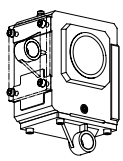
F – Round Flange



G – Tapped Holes



BD – Torque Arm Bracket

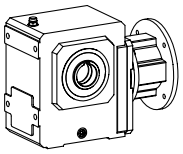


These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size
TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143T/145T	1, 1 1/2, 2
182T/184T	3, 5
213T/215T	7 1/2, 10

"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: S302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

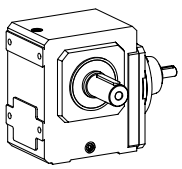
See pages 138-147 for dimensions of "S" Series–Right Angle Helical/Wormreducers.
See page 146 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
20 RPM		**Output (Approximate) Continued**							**15 RPM**		**13 RPM**		**10 RPM**	
0.54	1,262	S102_0870	MR142/050	56C	AW142/010	87.30	98	1,039	0.46	1,318	0.39	1,366	0.31	1,417
0.54	1,262	S102_0870	MR163/140	143/145TC	AW143/010	87.30	98	1,039	0.46	1,318	0.39	1,366	0.31	1,417
0.95	2,297	S202_0870	MR142/050	56C	AW142/010	86.79	98	1,512	0.83	2,428	0.71	2,538	0.56	2,657
0.95	2,297	S202_0870	MR163/050	56C	AW143/010	86.79	98	1,512	0.83	2,428	0.71	2,538	0.56	2,657
0.95	2,297	S202_0870	MR164/140	143/145TC	AW164/012	86.79	196	1,512	0.83	2,428	0.71	2,538	0.56	2,657
1.40	3,424	S302_0870	MR142/050	56C	AW142/010	87.23	98	1,890	1.15	3,403	0.93	3,384	0.70	3,360
1.76	4,293	S302_0870	MR163/050	56C	AW143/010	87.23	98	1,890	1.52	4,504	1.29	4,682	1.01	4,872
1.76	4,293	S302_0870	MR164/140	143/145TC	AW164/012	87.23	196	1,890	1.52	4,504	1.29	4,682	1.01	4,872
2.59	6,374	S402_0870	MR163/050	56C	AW163/012	87.30	196	2,457	2.23	6,698	1.82	6,691	1.37	6,644
2.59	6,374	S402_0870	MR164/140	143/145TC	AW164/012	87.30	196	2,457	2.23	6,698	1.90	6,972	1.46	7,086
2.59	6,374	S402_0870	MR205/180	182/184TC	AW165/012	87.30	196	2,457	2.23	6,698	1.90	6,972	1.46	7,086
15 RPM		**Output (Approximate)**							**12 RPM**		**10 RPM**		**7 RPM**	
0.43	1,340	S102_1170	MR141/050	56C	AW141/010	116.7	98	1,117	0.37	1,382	0.31	1,417	0.23	1,417
0.43	1,340	S102_1170	MR142/050	56C	AW142/010	116.7	98	1,117	0.37	1,382	0.31	1,417	0.23	1,417
0.67	2,148	S202_1160	MR141/050	56C	AW141/010	116.1	98	1,625	0.55	2,138	0.45	2,128	0.34	2,116
0.78	2,478	S202_1160	MR142/050	56C	AW142/010	116.1	98	1,625	0.66	2,575	0.56	2,657	0.42	2,657
0.78	2,478	S202_1160	MR163/140	56C	AW143/010	116.1	98	1,625	0.66	2,575	0.56	2,657	0.42	2,657
1.32	4,260	S302_1160	MR142/050	56C	AW142/010	116.1	98	2,031	1.08	4,237	0.87	4,216	0.66	4,191
1.42	4,580	S302_1160	MR163/050	56C	AW143/010	116.1	98	2,031	1.21	4,738	1.01	4,872	0.76	4,872
1.42	4,580	S302_1160	MR164/140	143/145TC	AW164/012	116.1	196	2,031	1.21	4,738	1.01	4,872	0.76	4,872
2.09	6,817	S402_1160	MR163/050	56C	AW163/012	116.3	196	2,640	1.78	7,060	1.46	7,086	1.10	7,086
2.09	6,817	S402_1160	MR164/140	143/145TC	AW164/012	116.3	196	2,640	1.78	7,060	1.46	7,086	1.10	7,086
12 RPM		**Output (Approximate) Continued Next Page**							**10 RPM**		**8 RPM**		**6 RPM**	
0.38	1,378	S102_1400	MR141/050	56C	AW141/010	139.5	98	1,164	0.32	1,407	0.26	1,401	0.19	1,394
0.66	2,464	S202_1400	MR141/050	56C	AW141/010	139.5	98	1,693	0.54	2,453	0.44	2,442	0.33	2,430
0.68	2,557	S203_1360	MR141/050	56C	AW141/010	136.3	98	1,693	0.58	2,640	0.47	2,634	0.35	2,621
0.68	2,557	S203_1360	MR142/050	56C	AW142/010	136.3	98	1,693	0.58	2,640	0.47	2,657	0.36	2,657
0.69	2,567	S202_1400	MR142/050	56C	AW142/010	139.5	98	1,693	0.58	2,649	0.47	2,657	0.36	2,657

Part No. Explanation

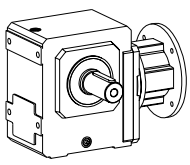
S 3 0 2 V B 0590 AW 165 / 012

- S — Right Angle Helical/Worm
- 3 — Unit No.
- 0 — Generation No.
- 2 — No. of Gear Reductions
- V — Output Style (A-hollow; V-solid)
- B — Housing Style
- 0590 — Ratio (0590 = 59.0:1)
- AW — Input Shaft
- 165 — Flange No.
- 012 — Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)

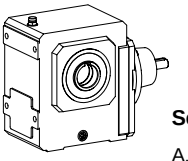


S 3 0 2 V B 0590 MR 164 / 140

- S — Right Angle Helical/Worm
- 3 — Unit No.
- 0 — Generation No.
- 2 — No. of Reductions
- V — Output Style (A-hollow; V-solid)
- B — Housing Style
- 0590 — Ratio (0590 = 59.0:1)
- MR — Motor Adapter
- 164 — Flange No.
- 140 — Motor Frame Size (140=143/145TC)



Mounting position must be specified when ordering. See page 158.



"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

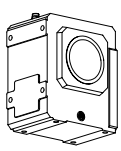
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
12 RPM		**Output (Approximate) Continued**							**10 RPM**		**8 RPM**		**6 RPM**	
0.71	2,709	S303_1370	MR141/050	56C	AW141/010	137.1	98	2,117	0.58	2,695	0.47	2,683	0.35	2,669
1.13	4,281	S303_1370	MR142/050	56C	AW142/010	137.1	98	2,117	0.92	4,260	0.75	4,241	0.56	4,218
1.21	4,584	S302_1400	MR142/050	56C	AW142/010	139.9	98	2,117	0.99	4,562	0.80	4,542	0.60	4,517
1.21	4,584	S302_1400	MR163/140	143/145TC	AW143/010	139.9	98	2,117	0.99	4,562	0.80	4,542	0.60	4,517
1.24	4,703	S303_1350	MR163/050	56C	AW163/012	135.3	196	2,117	1.05	4,839	0.86	4,872	0.65	4,872
1.24	4,703	S303_1350	MR164/140	143/145TC	AW164/012	135.3	196	2,117	1.05	4,839	0.86	4,872	0.65	4,872
1.83	7,000	S403_1350	MR163/050	56C	AW163/012	134.9	196	2,752	1.52	7,086	1.24	7,086	0.93	7,086
1.83	7,000	S403_1350	MR164/140	143/145TC	AW164/012	134.9	196	2,752	1.52	7,086	1.24	7,086	0.93	7,086
1.84	7,041	S402_1400	MR163/050	56C	AW163/012	139.9	196	2,752	1.52	7,086	1.24	7,086	0.93	7,086
1.84	7,041	S402_1400	MR164/140	143/145TC	AW164/012	139.9	196	2,752	1.52	7,086	1.24	7,086	0.93	7,086
10 RPM		**Output (Approximate)**							**8 RPM**		**6 RPM**		**5 RPM**	
0.25	1,143	S102_1740	MR141/050	56C	AW141/010	174.1	98	1,230	0.21	1,138	0.17	1,134	0.13	1,129
0.49	2,251	S202_1740	MR141/050	56C	AW141/010	174.4	98	1,789	0.40	2,242	0.32	2,234	0.24	2,224
0.49	2,251	S202_1740	MR142/050	56C	AW142/010	174.4	98	1,789	0.40	2,242	0.32	2,234	0.24	2,224
0.57	2,651	S203_1720	MR141/050	56C	AW141/010	171.8	98	1,789	0.47	2,657	0.38	2,657	0.29	2,657
0.57	2,651	S203_1720	MR142/050	56C	AW142/010	171.8	98	1,789	0.47	2,657	0.38	2,657	0.29	2,657
0.71	3,344	S303_1700	MR141/050	56C	AW141/010	170.1	98	2,236	0.58	3,330	0.47	3,316	0.35	3,300
0.72	3,395	S403_1710	MR141/050	56C	AW141/010	171.2	98	2,907	0.58	3,380	0.47	3,366	0.36	3,350
0.78	3,648	S302_1740	MR142/050	56C	AW142/010	174.4	98	2,236	0.63	3,633	0.51	3,618	0.39	3,601
1.03	4,848	S303_1680	MR163/050	56C	AW163/012	167.9	196	2,236	0.85	4,872	0.69	4,872	0.52	4,872
1.03	4,848	S303_1680	MR164/140	143/145TC	AW164/012	167.9	196	2,236	0.85	4,872	0.69	4,872	0.52	4,872
1.03	4,855	S303_1700	MR142/050	56C	AW142/010	170.1	98	2,236	0.85	4,872	0.69	4,872	0.52	4,872
1.13	5,367	S403_1710	MR142/050	56C	AW142/010	171.2	98	2,907	0.92	5,343	0.75	5,321	0.56	5,295
1.36	6,443	S402_1740	MR163/140	143/145TC	AW163/012	174.1	196	2,907	1.11	6,415	0.90	6,388	0.68	6,357
1.49	7,086	S403_1690	MR163/050	56C	AW163/012	169.0	196	2,907	1.23	7,086	1.00	7,086	0.75	7,086
1.49	7,086	S403_1690	MR164/140	143/145TC	AW164/012	169.0	196	2,907	1.23	7,086	1.00	7,086	0.75	7,086
7 RPM		**Output (Approximate)** **Continued Next Page**							**6 RPM**		**5 RPM**		**4 RPM**	
0.26	1,253	S102_2420	MR141/050	56C	AW141/010	242.0	98	1,237	0.22	1,306	0.19	1,350	0.15	1,398
0.26	1,253	S102_2420	MR142/050	56C	AW142/010	242.0	98	1,237	0.22	1,306	0.19	1,350	0.15	1,398

For thermal HP capacity, see rating below.

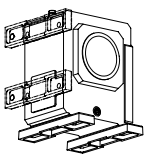
Base Module	S1	S2	S3	S4
Thermal Capacity	2.95	5.36	7.38	12.34

Housing Styles

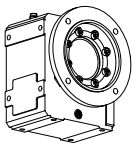
B – Basic Design



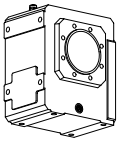
N – Foot Mounted



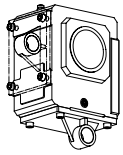
F – Round Flange



G – Tapped Holes



BD – Torque Arm Bracket

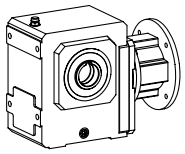


These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size
TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143T/145T	1, 1 1/2, 2
182T/184T	3, 5
213T/215T	7 1/2, 10

"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: S302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

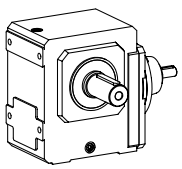
See pages 138-147 for dimensions of "S" Series–Right Angle Helical/Wormreducers.
See page 146 for backstop ratings.

1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
7 RPM		**Output (Approximate) Continued**							**6 RPM**		**5 RPM**		**4 RPM**	
0.43	2,657	S203_2280	MR141/050	56C	AW141/010	228.0	98	1,800	0.35	2,657	0.29	2,657	0.22	2,657
0.43	2,657	S203_2280	MR142/050	56C	AW142/010	228.0	98	1,800	0.35	2,657	0.29	2,657	0.22	2,657
0.72	4,475	S303_2290	MR141/050	56C	AW141/010	229.1	98	2,250	0.58	4,459	0.47	4,444	0.36	4,426
0.72	4,516	S403_2290	MR141/050	56C	AW141/010	229.1	98	2,925	0.58	4,498	0.47	4,483	0.36	4,464
0.78	4,872	S303_2260	MR163/050	56C	AW163/012	226.2	196	2,250	0.64	4,872	0.52	4,872	0.39	4,872
0.78	4,872	S303_2260	MR164/140	143/145TC	AW164/012	226.2	196	2,250	0.64	4,872	0.52	4,872	0.39	4,872
0.78	4,872	S303_2290	MR142/050	56C	AW142/010	229.1	98	2,250	0.64	4,872	0.52	4,872	0.39	4,872
1.12	7,086	S403_2260	MR163/050	56C	AW163/012	226.2	196	2,925	0.92	7,086	0.75	7,086	0.56	7,086
1.12	7,086	S403_2260	MR164/140	143/145TC	AW164/012	226.2	196	2,925	0.92	7,086	0.75	7,086	0.56	7,086
1.12	7,086	S403_2290	MR142/050	56C	AW142/010	229.1	98	2,925	0.92	7,086	0.75	7,085	0.56	7,056
6 RPM		**Output (Approximate)**							**5 RPM**		**4 RPM**		**3 RPM**	
0.22	1,300	S102_2890	MR141/050	56C	AW141/010	289.3	98	1,237	0.19	1,344	0.16	1,381	0.12	1,417
0.36	2,657	S203_2750	MR141/050	56C	AW141/010	275.0	98	1,800	0.30	2,657	0.24	2,657	0.18	2,657
0.36	2,657	S203_2750	MR142/050	56C	AW142/010	275.0	98	1,800	0.30	2,657	0.24	2,657	0.18	2,657
0.65	4,872	S303_2710	MR163/050	56C	AW163/012	270.8	196	2,250	0.54	4,872	0.44	4,872	0.33	4,872
0.65	4,872	S303_2710	MR164/140	143/145TC	AW164/012	270.8	196	2,250	0.54	4,872	0.44	4,872	0.33	4,872
0.65	4,872	S303_2740	MR141/050	56C	AW141/010	274.3	98	2,250	0.54	4,872	0.44	4,872	0.33	4,872
0.65	4,872	S303_2740	MR142/050	56C	AW142/010	274.3	98	2,250	0.54	4,872	0.44	4,872	0.33	4,872
0.71	5,367	S403_2730	MR141/050	56C	AW141/010	273.2	98	2,925	0.58	5,348	0.47	5,331	0.35	5,312
0.94	7,086	S403_2700	MR163/050	56C	AW163/012	269.7	196	2,925	0.77	7,086	0.63	7,086	0.47	7,086
0.94	7,086	S403_2700	MR164/140	143/145TC	AW164/012	269.7	196	2,925	0.77	7,086	0.63	7,086	0.47	7,086
0.94	7,086	S403_2730	MR142/050	56C	AW142/010	273.2	98	2,925	0.77	7,086	0.63	7,086	0.47	7,086
5 RPM		**Output (Approximate) Continued Next Page**							**4 RPM**		**3 RPM**		**2.5 RPM**	
0.19	1,348	S102_3610	MR141/050	56C	AW141/010	361.2	98	1,237	0.16	1,383	0.13	1,413	0.10	1,417
0.29	2,657	S203_3400	MR141/050	56C	AW141/010	339.9	98	1,800	0.24	2,657	0.19	2,657	0.15	2,657
0.29	2,657	S203_3400	MR142/050	56C	AW142/010	339.9	98	1,800	0.24	2,657	0.19	2,657	0.15	2,657
0.53	4,872	S303_3370	MR163/050	56C	AW163/012	337.3	196	2,250	0.43	4,872	0.35	4,872	0.26	4,872
0.53	4,872	S303_3370	MR164/140	143/145TC	AW164/012	337.3	196	2,250	0.43	4,872	0.35	4,872	0.26	4,872

Part No. Explanation

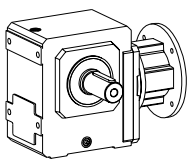
S 3 0 2 V B 0590 AW 165 / 012

- Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- Flange No.
- Input Shaft
- Ratio (0590 = 59.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Gear Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Worm

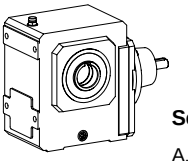


S 3 0 2 V B 0590 MR 164 / 140

- Motor Frame Size (140=143/145TC)
- Flange No.
- Motor Adapter
- Ratio (0590 = 59.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Worm



Mounting position must be specified when ordering. See page 158.



"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data

Selection Procedure:

A. Under the Input RPM heading, find **Approximate Output RPM** nearest the requirement.
B. In the **Input HP** column locate the rating that is greater than or equal to the required HP. See page 149 for SF selection. (If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)
C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.
D. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

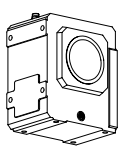
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
5 RPM		**Output (Approximate) Continued**							**4 RPM**		**3 RPM**		**2.5 RPM**	
0.53	4,872	S303_3420	MR141/050	56C	AW141/010	341.7	98	2,250	0.43	4,872	0.35	4,872	0.26	4,872
0.53	4,872	S303_3420	MR142/050	56C	AW142/010	341.7	98	2,250	0.43	4,872	0.35	4,872	0.26	4,872
0.72	6,691	S403_3420	MR141/050	56C	AW141/010	341.9	98	2,925	0.59	6,671	0.47	6,652	0.36	6,631
0.76	7,086	S403_3380	MR163/050	56C	AW163/012	337.6	196	2,925	0.62	7,086	0.51	7,086	0.38	7,086
0.76	7,086	S403_3380	MR164/140	143/145TC	AW164/012	337.6	196	2,925	0.62	7,086	0.51	7,086	0.38	7,086
0.76	7,086	S403_3420	MR142/050	56C	AW142/010	341.9	98	2,925	0.62	7,086	0.51	7,086	0.38	7,086
4 RPM		**Output (Approximate)**							**3 RPM**		**2.5 RPM**		**2 RPM**	
0.22	2,657	S203_4550	MR141/050	56C	AW141/010	454.7	98	1,800	0.18	2,657	0.15	2,657	0.11	2,657
0.22	2,657	S203_4550	MR142/050	56C	AW142/010	454.7	98	1,800	0.18	2,657	0.15	2,657	0.11	2,657
0.40	4,872	S303_4490	MR163/050	56C	AW163/012	448.9	196	2,250	0.33	4,872	0.26	4,872	0.20	4,872
0.40	4,872	S303_4490	MR164/140	143/145TC	AW164/012	448.9	196	2,250	0.33	4,872	0.26	4,872	0.20	4,872
0.40	4,872	S303_4550	MR141/050	56C	AW141/010	454.7	98	2,250	0.33	4,872	0.26	4,872	0.20	4,872
0.40	4,872	S303_4550	MR142/050	56C	AW142/010	454.7	98	2,250	0.33	4,872	0.26	4,872	0.20	4,872
0.57	7,086	S403_4500	MR163/050	56C	AW163/012	449.7	196	2,925	0.47	7,086	0.38	7,086	0.29	7,086
0.57	7,086	S403_4500	MR164/140	143/145TC	AW164/012	449.7	196	2,925	0.47	7,086	0.38	7,086	0.29	7,086
0.57	7,086	S403_4560	MR141/050	56C	AW141/010	455.5	98	2,925	0.47	7,086	0.38	7,086	0.29	7,086
0.57	7,086	S403_4560	MR142/050	56C	AW142/010	455.5	98	2,925	0.47	7,086	0.38	7,086	0.29	7,086
3 RPM		**Output (Approximate)**							**2.5 RPM**		**2 RPM**		**1.5 RPM**	
0.18	2,655	S203_5460	MR141/050	56C	AW141/010	546.4	98	1,800	0.15	2,650	0.12	2,645	0.09	2,640
0.18	2,655	S203_5460	MR142/050	56C	AW142/010	546.4	98	1,800	0.15	2,650	0.12	2,645	0.09	2,640
0.30	4,475	S303_5480	MR141/050	56C	AW141/010	548.0	98	2,250	0.25	4,465	0.20	4,457	0.15	4,447
0.30	4,475	S303_5480	MR142/050	56C	AW142/010	548.0	98	2,250	0.25	4,465	0.20	4,457	0.15	4,447
0.48	7,086	S403_5410	MR163/050	56C	AW163/012	541.0	196	2,925	0.39	7,086	0.32	7,086	0.24	7,086
0.48	7,086	S403_5410	MR164/140	143/145TC	AW164/012	541.0	196	2,925	0.39	7,086	0.32	7,086	0.24	7,086
0.48	7,086	S403_5480	MR141/050	56C	AW141/010	548.0	98	2,925	0.39	7,086	0.32	7,086	0.24	7,086
0.48	7,086	S403_5480	MR142/050	56C	AW142/010	548.0	98	2,925	0.39	7,086	0.32	7,086	0.24	7,086

For thermal HP capacity, see rating below.

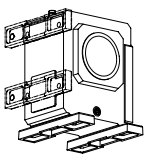
Base Module	S1	S2	S3	S4
Thermal Capacity	2.95	5.36	7.38	12.34

Housing Styles

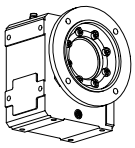
B – Basic Design



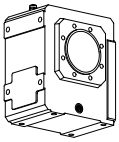
N – Foot Mounted



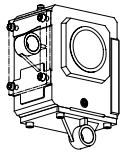
F – Round Flange



G – Tapped Holes



BD – Torque Arm Bracket

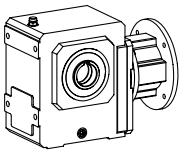


These Housing Styles are available as Hollow (A) or Solid (V) Output.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

NEMA Frame Size
TEFC 1750 RPM

C-Frame	Motor HP
56C	1/3 - 1 1/2
143T/145T	1, 1 1/2, 2
182T/184T	3, 5
213T/215T	7 1/2, 10

"S" Series–Right Angle Helical/Worm MGS Reducer Selection Data



NOTE: ① Complete Base Module Part Number by adding Output and Housing Style. Example: S302**VB**0560.
② Select Input Option and add to completed Part Number. See below.
③ Overhung Load is measured at the center of the shaft extension.
④ Other frame sizes may also be available. See page 150.

See pages 138-147 for dimensions of "S" Series–Right Angle Helical/Wormreducers.
See page 146 for backstop ratings.

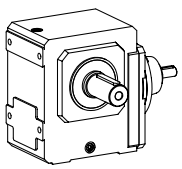
1750 RPM Input		Base Module ①	Input Options ②			Exact Ratio	Overhung Load ③		1450 RPM Input		1160 RPM Input		870 RPM Input	
Input HP	Output Torque in. lbs.		Motor Adapter ④	NEMA C-Frame	Input Shaft		Input Shaft lbs.	Output Shaft lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.	Input HP	Output Torque in. lbs.
2.5 RPM	**Output (Approximate)**								**2 RPM**		**1.5 RPM**		**1 RPM**	
0.12	2,208	S203_6830	MR141/050	56C	AW141/010	683.0	98	1,800	0.10	2,204	0.08	2,201	0.06	2,197
0.12	2,208	S203_6830	MR142/050	56C	AW142/010	683.0	98	1,800	0.10	2,204	0.08	2,201	0.06	2,197
0.19	3,572	S303_6830	MR141/050	56C	AW141/010	683.0	98	2,250	0.16	3,565	0.13	3,559	0.10	3,552
0.19	3,572	S303_6830	MR142/050	56C	AW142/010	683.0	98	2,250	0.16	3,565	0.13	3,559	0.10	3,552
0.34	6,303	S403_6820	MR141/050	56C	AW141/010	682.1	98	2,925	0.28	6,291	0.23	6,280	0.17	6,268
0.34	6,303	S403_6820	MR142/050	56C	AW142/010	682.1	98	2,925	0.28	6,291	0.23	6,280	0.17	6,268

NOTE: For slower speeds than those listed above, units can be combined. Contact Stober Drives Inc.

Part No. Explanation

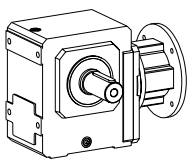
S 3 0 2 V B 0590 AW 165 / 012

- Shaft Dia. ($^{1}/_{16}$ in.; example – 012 = $^{12}/_{16}$ or $^{3}/_{4}$)
- Flange No.
- Input Shaft
- Ratio (0590 = 59.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Gear Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Worm

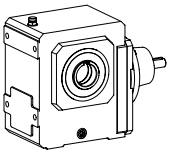


S 3 0 2 V B 0590 MR 164 / 140

- Motor Frame Size (140=143/145TC)
- Flange No.
- Motor Adapter
- Ratio (0590 = 59.0:1)
- Housing Style
- Output Style (A-hollow; V-solid)
- No. of Reductions
- Generation No.
- Unit No.
- Right Angle Helical/Worm



Mounting position must be specified when ordering. See page 158.



"S" Series—MGS Dimensional Data Helical/Worm with Input Shaft

Drawing for Units
S102AB — S403AB

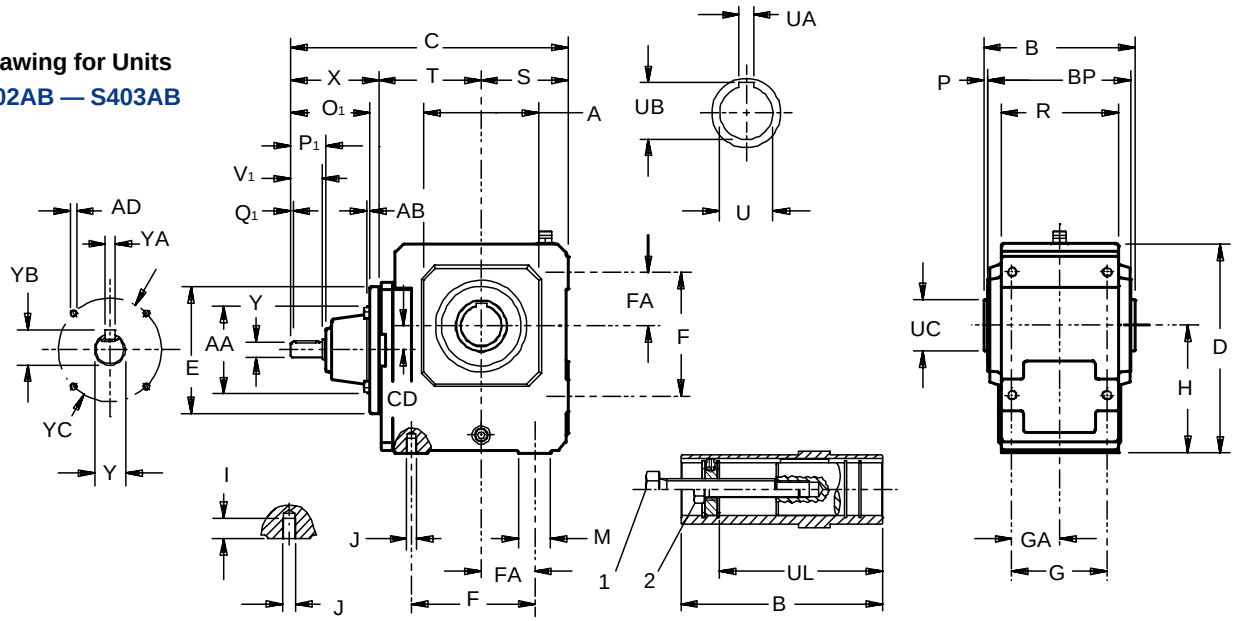


Table No. 1 **"S" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Base Module	A	B	D	F	G	H	I	J	M	P	R	S	U
S102	4.13	4.72	6.57	3.54	2.76	3.94	.51	M8	.98	.16	3.54	2.76	1.0000
S202/203	5.20	5.91	7.87	4.53	3.54	4.72	.63	M10	1.18	.16	4.53	3.35	1.3750
S302/303	5.98	6.61	9.17	5.12	4.13	5.51	.63	M10	1.38	.16	5.12	3.94	1.5000
S402/403	5.71	7.48	10.35	6.10	4.72	6.30	.75	M12	1.57	.20	5.83	4.33	1.7500

Table No. 2 **"S" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Base Module	BP	FA	GA	UA	UB	UC	UL	1
S102	4.41	1.57	1.38	.250	1.12	1.57	3.86	1/2-13
S202/203	5.59	2.05	1.77	.312	1.52	1.97	4.70	5/8-11
S302/303	6.30	2.05	2.07	.375	1.67	2.17	5.39	3/4-10
S402/403	7.09	2.64	2.36	.375	1.92	2.56	6.04	3/4-10

Part No. Example
Basic Unit with Input Shaft
S302AB0620 AW163/012

Table No. 3 **"S" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$3/16 \times 3/16 \times 31/32$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$3/16 \times 3/16 \times 1\,7/32$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$3/16 \times 3/16 \times 1\,7/16$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$1/4 \times 1/4 \times 1\,15/16$	1.24	8.46	31

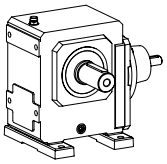
Table No. 4 **"S" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

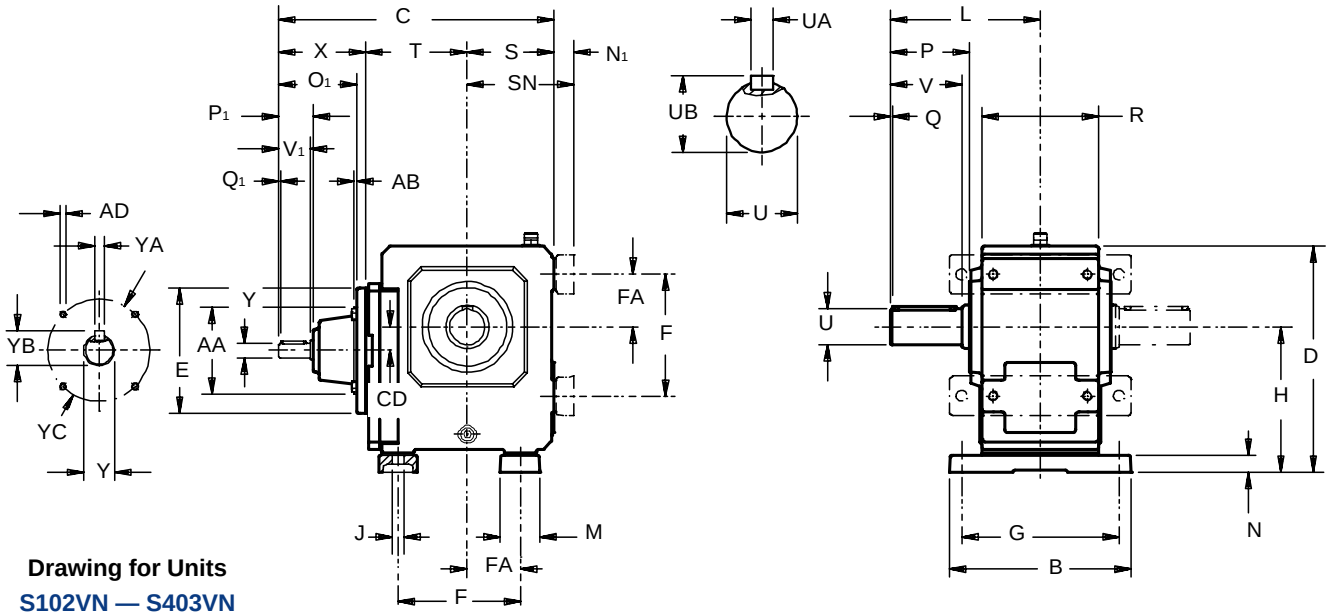
Base	AW14_/010			AW16_/012			AW20_/014			AW25_/102			Approx.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	Wt. lbs.
S102	.55	10.05	3.27	.55	10.88	3.43	—	—	—	—	—	—	31
S202	.67	11.23	3.86	.67	12.06	4.02	.67	12.95	4.09	—	—	—	49
S203	.67	12.68	5.31	—	—	—	—	—	—	—	—	—	53
S302	1.00	12.41	4.45	1.00	13.24	4.61	1.00	14.14	4.69	—	—	—	60
S303	1.00	13.87	5.91	2.44	14.93	6.30	—	—	—	—	—	—	67
S402	—	—	—	1.18	14.10	5.08	1.18	15.00	5.16	1.18	17.37	5.24	80
S403	1.18	14.73	6.38	2.64	15.79	6.77	—	—	—	—	—	—	95

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 128-137 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 158 for tolerances, lubrication, and mounting positions.
The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

"S" Series—MGS Dimensional Data Helical/Worm with Input Shaft





Drawing for Units
S102VN — S403VN

Table No. 1 "S" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style

Base Module	B	D	F	G	H	J	L	M	N	N_1	P	Q	R	S	V
S102	5.51	7.17	3.54	4.53	4.53	.35	4.53	1.18	.51	.59	2.32	.16	3.54	2.76	1.97
S202/203	7.28	8.78	4.53	6.10	5.63	.43	5.43	1.57	.79	.91	2.64	.16	4.53	3.35	2.36
S302/303	7.87	10.08	5.12	6.69	6.42	.43	6.69	1.77	.79	.91	3.54	.16	5.12	3.94	3.15
S402/403	9.06	11.34	6.10	7.87	7.28	.55	7.48	1.97	.87	.98	3.94	.16	5.83	4.33	3.54

Table No. 2 "S" Series – Foot Mounting Unit Dimensions

Base Module	U	FA	SN	UA – Key	UB
S102	1.0000	1.57	3.35	$^1/_4 \times ^1/_4 \times 1^1/_2$	1.11
S202/203	1.2500	2.05	4.25	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
S302/303	1.3750	2.05	4.84	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
S402/403	1.7500	2.64	5.31	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92

Part No. Example
Foot Mounting with Input Shaft
S302VN0620 AW163/012

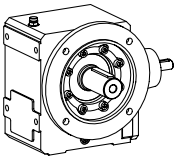
Table No. 3 "S" Series – Foot Mounting Dimensions (Inches) – "N" Housing Style

Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times ^3/_{16} \times ^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$^3/_{16} \times ^3/_{16} \times 1^7/_{16}$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.24	8.46	31

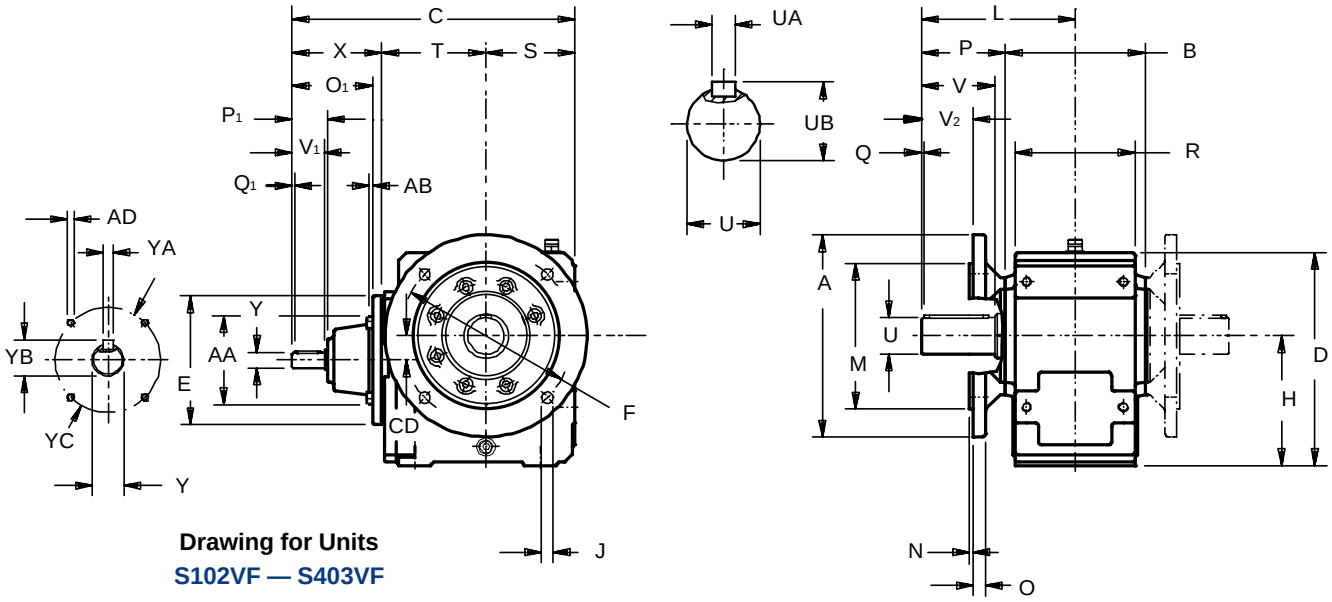
Table No. 4 "S" Series – Foot Mounting Dimensions (Inches) – "N" Housing Style

Base	AW14_/010			AW16_/012			AW20_/014			AW25_/102			Approx.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	Wt. lbs.
S102	.55	10.05	3.27	.55	10.88	3.43	—	—	—	—	—	—	31
S202	.67	11.23	3.86	.67	12.06	4.02	.67	12.95	4.09	—	—	—	49
S203	.67	12.68	5.31	—	—	—	—	—	—	—	—	—	53
S302	1.00	12.41	4.45	1.00	13.24	4.61	1.00	14.14	4.69	—	—	—	60
S303	1.00	13.87	5.91	2.44	14.93	6.30	—	—	—	—	—	—	67
S402	—	—	—	1.18	14.10	5.08	1.18	15.00	5.16	1.18	17.37	5.24	80
S403	1.18	14.73	6.38	2.64	15.79	6.77	—	—	—	—	—	—	95

See pages 128-137 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 158 for tolerances, lubrication, and mounting positions.



"S" Series—MGS Dimensional Data Helical/Worm with Input Shaft



Drawing for Units
S102VF — S403VF

Table No. 1 "S" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style

Base Module	A	B	D	F	H	J	L	M	N	O	P	Q	R	S
S102	6.30	4.17	6.57	5.12	3.94	.35	4.53	4.331	.14	.39	2.44	.16	3.54	2.76
S202/203	7.87	5.28	7.87	6.50	4.72	.43	5.43	5.118	.14	.55	2.80	.16	4.53	3.35
S302/303	9.84	6.02	9.17	8.46	5.51	.55	6.69	7.087	.16	.59	3.68	.16	5.12	3.94
S402/403	9.84	6.81	10.35	8.46	6.30	.55	7.48	7.087	.16	.59	4.07	.16	5.83	4.33

Table No. 2 "S" Series – Round Flange Unit Dimensions

Base Module	U	V	V_2	UA – Key	UB
S102	1.0000	1.97	1.18	$^1/_4 \times ^1/_4 \times 1^1/_2$	1.11
S202/203	1.2500	2.36	1.30	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
S302/303	1.3750	3.15	2.11	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
S402/403	1.7500	3.54	2.52	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92

Part No. Example
Round Flange with Input Shaft
S302VF0620 AW163/012

Table No. 3 "S" Series – Round Flange Dimensions (Inches) – "F" Housing Style

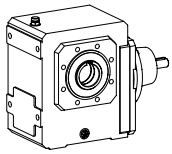
Input Shaft	E	O_1	P_1	Q_1	V_1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	$^3/_{16} \times ^3/_{16} \times ^{31}/_{32}$	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	$^3/_{16} \times ^3/_{16} \times 1^7/_{16}$	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.24	8.46	31

Table No. 4 "S" Series – Round Flange Dimensions (Inches) – "F" Housing Style

Base Module	AW14_/010			AW16_/012			AW20_/014			AW25_/102			Approx. Wt. lbs.
	CD	C	T	CD	C	T	CD	C	T	CD	C	T	
S102	.55	10.05	3.27	.55	10.88	3.43	—	—	—	—	—	—	31
S202	.67	11.23	3.86	.67	12.06	4.02	.67	12.95	4.09	—	—	—	49
S203	.67	12.68	5.31	—	—	—	—	—	—	—	—	—	53
S302	1.00	12.41	4.45	1.00	13.24	4.61	1.00	14.14	4.69	—	—	—	60
S303	1.00	13.87	5.91	2.44	14.93	6.30	—	—	—	—	—	—	67
S402	—	—	—	1.18	14.10	5.08	1.18	15.00	5.16	1.18	17.37	5.24	80
S403	1.18	14.73	6.38	2.64	15.79	6.77	—	—	—	—	—	—	95

See pages 128-137 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 158 for tolerances, lubrication, and mounting positions.

"S" Series—MGS Dimensional Data Helical/Worm with Input Shaft



Drawing for Units
S102AG — S403AG

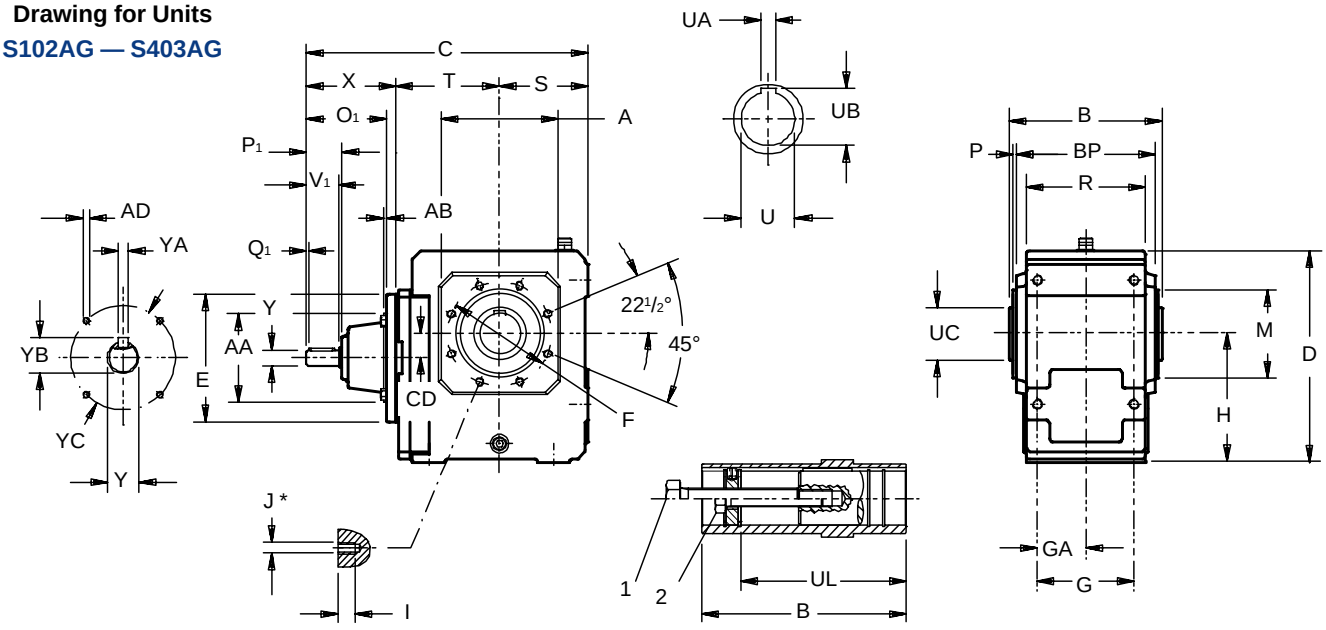


Table No. 1 "S" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Base Module	A	B	D	F	G	H	I	J *	M	P	R	S	U
S102	4.13	4.72	6.57	3.54	2.76	3.94	.51	M8	2.953	.12	3.54	2.76	1.0000
S202/203	5.20	5.91	7.87	4.53	3.54	4.72	.51	M8	3.740	.16	4.53	3.35	1.3750
S302/303	5.98	6.61	9.17	5.12	4.13	5.51	.63	M10	4.331	.14	5.12	3.94	1.5000
S402/403	5.71	7.48	10.35	5.12	4.72	6.30	.63	M10	4.331	.14	5.83	4.33	1.7500

* S102 through S303 has 4 tapped holes instead of 8 as shown on drawing.

Table No. 2 "S" Series – Tapped Holes Unit Dimensions

Base Module	BP	GA	UA	UB	UC	UL	1
S102	4.17	1.38	.250	1.12	1.57	3.86	1/2-13
S202/203	5.28	1.77	.312	1.52	1.97	4.69	5/8-11
S302/303	6.02	2.05	.375	1.67	2.17	5.39	3/4-10
S402/403	6.81	2.36	.375	1.92	2.56	6.24	3/4-10

Part No. Example

Tapped Holes Housing with Input Shaft

S302AG0620 AW163/012

Table No. 3 "S" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

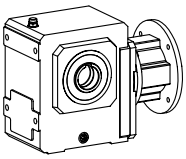
Input Shaft	E	O1	P1	Q1	V1	X	Y	AA	AB	AD	YA – Key	YB	YC	Wt. lbs.
AW14_/010	5.51	3.58	1.38	.12	1.25	4.02	.6250	3.740	.16	M8	3/16 × 3/16 × 31/32	.71	4.53	8
AW16_/012	6.30	4.21	1.69	.12	1.50	4.69	.7500	4.331	.18	M8	3/16 × 3/16 × 1 7/32	.83	5.12	12
AW20_/014	7.87	5.00	1.97	.16	1.75	5.51	.8750	5.118	.16	M10	3/16 × 3/16 × 1 7/16	.96	6.50	18
AW25_/102	9.84	7.20	2.48	.20	2.25	7.80	1.1250	7.087	.16	M12	1/4 × 1/4 × 1 15/16	1.24	8.46	31

Table No. 4 "S" Series–Tapped Holes Unit Dimensions (Inches)—"G" Housing Style

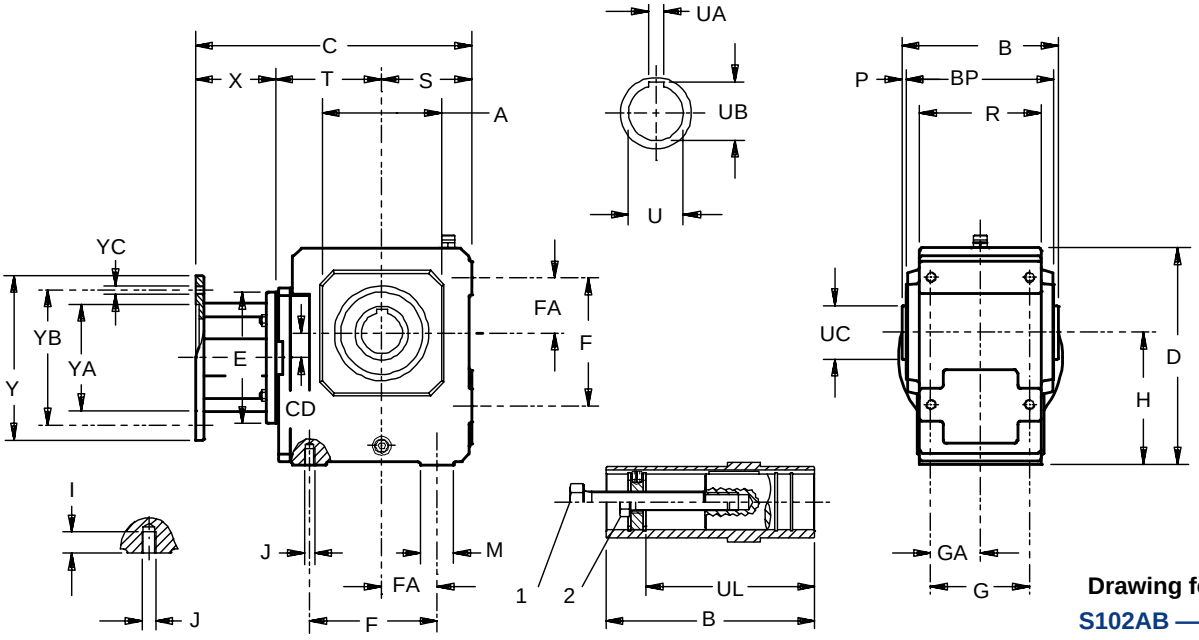
Base	AW14_/010			AW16_/012			AW20_/014			AW25_/102			Approx.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	Wt. lbs.
S102	.55	10.05	3.27	.55	10.88	3.43	—	—	—	—	—	—	31
S202	.67	11.23	3.86	.67	12.06	4.02	.67	12.95	4.09	—	—	—	49
S203	.67	12.68	5.31	—	—	—	—	—	—	—	—	—	53
S302	1.00	12.41	4.45	1.00	13.24	4.61	1.00	14.14	4.69	—	—	—	60
S303	1.00	13.87	5.91	2.44	14.93	6.30	—	—	—	—	—	—	67
S402	—	—	—	1.18	14.10	5.08	1.18	15.00	5.16	1.18	17.37	5.24	80
S403	1.18	14.73	6.38	2.64	15.79	6.77	—	—	—	—	—	—	95

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 128-137 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 158 for tolerances, lubrication, and mounting positions.



"S" Series—MGS Dimensional Data Helical/Worm with Motor Adapter



Drawing for Units
S102AB — S403AB

Table No. 1 **"S" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

Base Module	A	B	D	F	G	H	I	J	M	P	R	S	U
S102	4.13	4.72	6.57	3.54	2.76	3.94	.51	M8	.98	.16	3.54	2.76	1.0000
S202/203	5.20	5.91	7.87	4.53	3.54	4.72	.63	M10	1.18	.16	4.53	3.35	1.3750
S302/303	5.98	6.61	9.17	5.12	4.13	5.51	.63	M10	1.38	.16	5.12	3.94	1.5000
S402/403	5.71	7.48	10.35	6.10	4.72	6.30	.75	M12	1.57	.20	5.83	4.33	1.7500

Table No. 2 **"S" Series – Basic Unit Dimensions (Inches)**

Base Module	BP	FA	GA	UA	UB	UC	UL	1
S102	4.41	1.57	1.38	.250	1.12	1.57	3.86	1/2-13
S202/203	5.59	2.05	1.77	.312	1.52	1.97	4.70	5/8-11
S302/303	6.30	2.05	2.07	.375	1.67	2.17	5.39	3/4-10
S402/403	7.09	2.64	2.36	.375	1.92	2.56	6.04	3/4-10

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 128-137 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 158 for tolerances, lubrication, and mounting positions.

The "G" Housing Style may be substituted for a "B" Housing Style at factory discretion.

All weights are approximate.

Table No. 3
"S" Series – Basic Unit Dimensions (Inches) – "B" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36

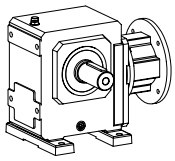
Table No. 4 **"S" Series – Basic Unit Dimensions (Inches) – "B" Housing Style**

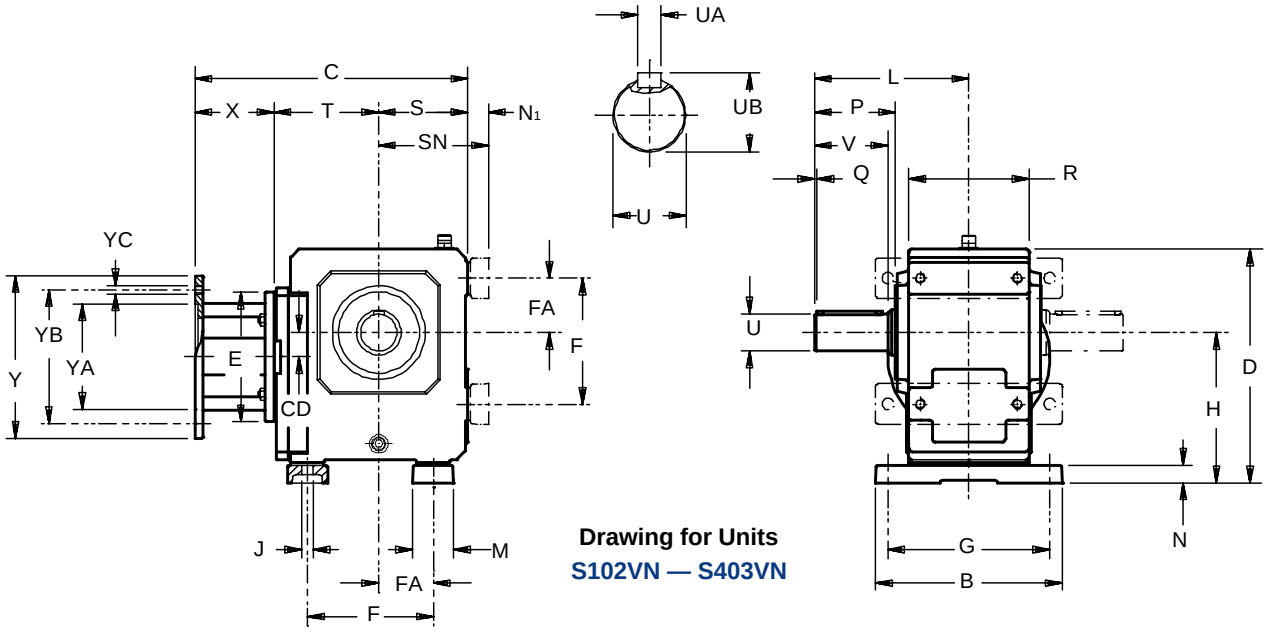
Base	MR14_/050			MR16_/140 ①			MR20_/180			MR25_/210 ②			Approx.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	Wt. lbs.
S102	.55	9.34	3.27	.55	10.05	3.43	—	—	—	—	—	—	31
S202	.67	10.52	3.86	.67	11.23	4.02	.67	12.24	4.09	—	—	—	49
S203	.67	11.97	5.31	—	—	—	—	—	—	—	—	—	53
S302	1.00	11.70	4.45	1.00	12.41	4.61	1.00	13.43	4.69	—	—	—	60
S303	1.00	13.16	5.91	2.44	14.10	6.30	—	—	—	—	—	—	67
S402	—	—	—	1.18	13.27	5.08	1.18	14.29	5.16	1.18	14.88	5.24	80
S403	1.18	14.02	6.38	2.64	14.96	6.77	—	—	—	—	—	—	95

① Also available as **MR16_/050** for a NEMA 56C frame motor.
② Also available as **MR25_/180** for a NEMA 182/184TC frame motor.

Part No. Example
Basic Unit with Motor Adapter
S302AB0620 MR163/140

"S" Series—MGS Dimensional Data Helical/Worm with Motor Adapter





Drawing for Units
S102VN — S403VN

Table No. 1 "S" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style

Base Module	B	D	F	G	H	J	L	M	N	N_1	P	Q	R	S	V
S102	5.51	7.17	3.54	4.53	4.53	.35	4.53	1.18	.51	.59	2.32	.16	3.54	2.76	1.97
S202/203	7.28	8.78	4.53	6.10	5.63	.43	5.43	1.57	.79	.91	2.64	.16	4.53	3.35	2.36
S302/303	7.87	10.08	5.12	6.69	6.42	.43	6.69	1.77	.79	.91	3.54	.16	5.12	3.94	3.15
S402/403	9.06	11.34	6.10	7.87	7.28	.55	7.48	1.97	.87	.98	3.94	.16	5.83	4.33	3.54

Table No. 2 "S" Series – Foot Mounting Unit Dimensions

Base Module	U	FA	SN	UA – Key	UB
S102	1.0000	1.57	3.35	$^1/_4 \times ^1/_4 \times 1^1/_2$	1.11
S202/203	1.2500	2.05	4.25	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
S302/303	1.3750	2.05	4.84	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
S402/403	1.7500	2.64	5.31	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92

See pages 128-137 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 158 for tolerances, lubrication, and mounting positions.
All weights are approximate.

Table No. 3
"S" Series – Foot Mounting Dimensions (Inches) – "N" Housing Style

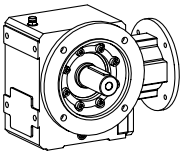
Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36

Part No. Example
Foot Mounting with Motor Adapter
S302VN0620 MR163/140

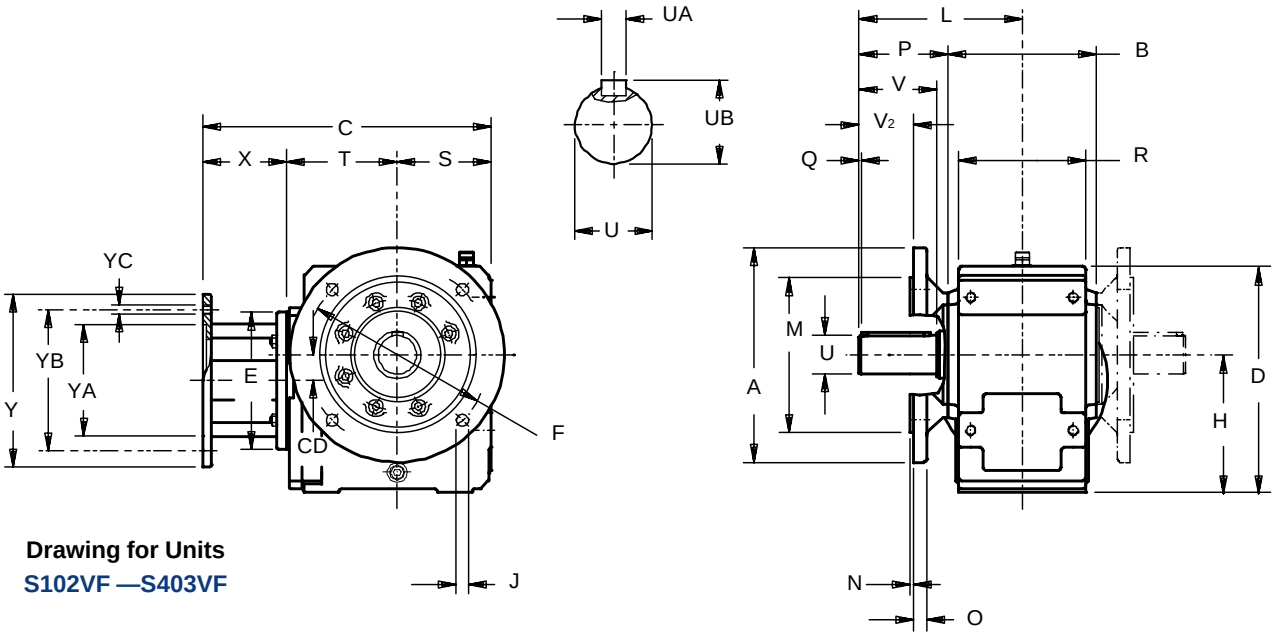
Table No. 4 "S" Series – Foot Mounting Dimensions (Inches) – "N" Housing Style

Base	MR14_/050			MR16_/140 ①			MR20_/180			MR25_/210 ②			Approx.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	Wt. lbs.
S102	.55	9.34	3.27	.55	10.05	3.43	—	—	—	—	—	—	31
S202	.67	10.52	3.86	.67	11.23	4.02	.67	12.24	4.09	—	—	—	49
S203	.67	11.97	5.31	—	—	—	—	—	—	—	—	—	53
S302	1.00	11.70	4.45	1.00	12.41	4.61	1.00	13.43	4.69	—	—	—	60
S303	1.00	13.16	5.91	2.44	14.10	6.30	—	—	—	—	—	—	67
S402	—	—	—	1.18	13.27	5.08	1.18	14.29	5.16	1.18	14.88	5.24	80
S403	1.18	14.02	6.38	2.64	14.96	6.77	—	—	—	—	—	—	95

① Also available as **MR16_/050** for a NEMA 56C frame motor.
② Also available as **MR25_/180** for a NEMA 182/184TC frame motor.



"S" Series—MGS Dimensional Data Helical/Worm with Motor Adapter



Drawing for Units
S102VF —S403VF

Table No. 1 "S" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style

Base Module	A	B	D	F	H	J	L	M	N	O	P	Q	R	S
S102	6.30	4.17	6.57	5.12	3.94	.35	4.53	4.331	.14	.39	2.44	.16	3.54	2.76
S202/203	7.87	5.28	7.87	6.50	4.72	.43	5.43	5.118	.14	.55	2.80	.16	4.53	3.35
S302/303	9.84	6.02	9.17	8.46	5.51	.55	6.69	7.087	.16	.59	3.68	.16	5.12	3.94
S402/403	9.84	6.81	10.35	8.46	6.30	.55	7.48	7.087	.16	.59	4.07	.16	5.83	4.33

Table No. 2 "S" Series – Round Flange Unit Dimensions

Base Module	U	V	V_2	UA – Key	UB
S102	1.0000	1.97	1.18	$^1/_4 \times ^1/_4 \times 1^1/_2$	1.11
S202/203	1.2500	2.36	1.30	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
S302/303	1.3750	3.15	2.11	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
S402/403	1.7500	3.54	2.52	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92

See pages 128-137 for MGS Reducer Selection Data and available ratios.
See pages 151, 153, and 158 for tolerances, lubrication, and mounting positions.
All weights are approximate,

Table No. 2
"S" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style

Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36

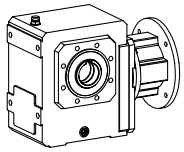
Part No. Example
Round Flange with Motor Adapter
S302VF0620 MR163/140

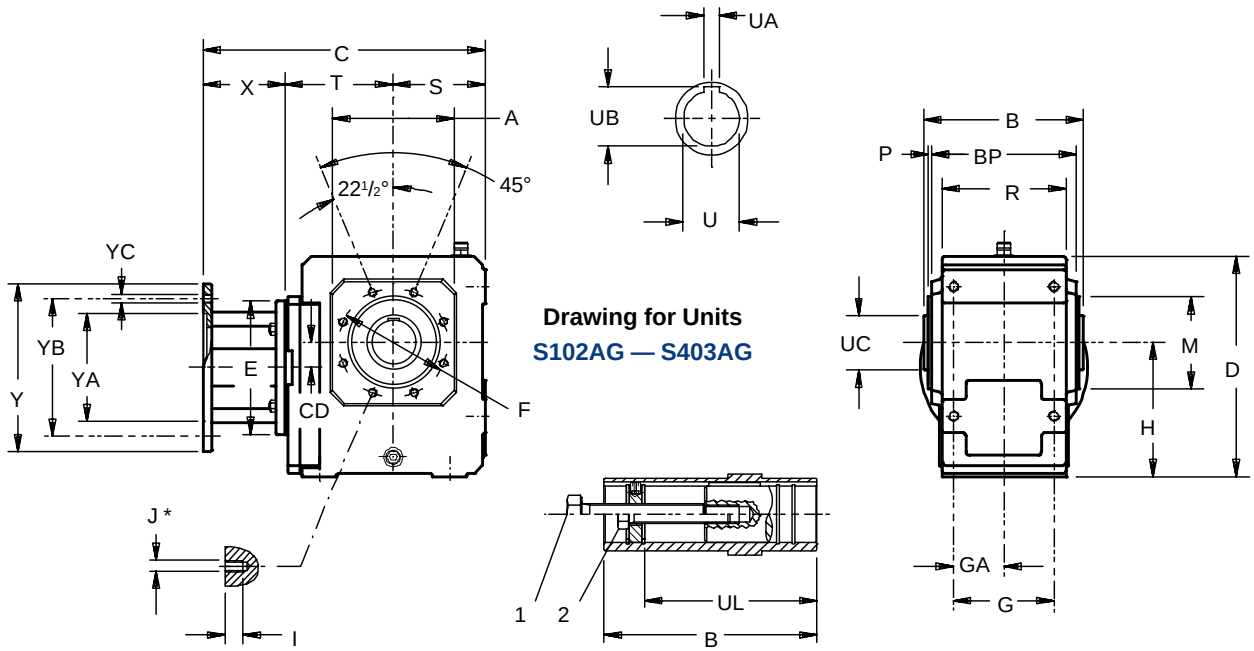
Table No. 4 "S" Series– Round Flange Unit Dimensions (Inches) –"F" Housing Style

Base	MR14_/050			MR16_/140 ①			MR20_/180			MR25_/210 ②			Approx
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	Wt. lbs.
S102	.55	9.34	3.27	.55	10.05	3.43	—	—	—	—	—	—	31
S202	.67	10.52	3.86	.67	11.23	4.02	.67	12.24	4.09	—	—	—	49
S203	.67	11.97	5.31	—	—	—	—	—	—	—	—	—	53
S302	1.00	11.70	4.45	1.00	12.41	4.61	1.00	13.43	4.69	—	—	—	60
S303	1.00	13.16	5.91	2.44	14.10	6.30	—	—	—	—	—	—	67
S402	—	—	—	1.18	13.27	5.08	1.18	14.29	5.16	1.18	14.88	5.24	80
S403	1.18	14.02	6.38	2.64	14.96	6.77	—	—	—	—	—	—	95

① Also available as **MR16_/050** for a NEMA 56C frame motor.
② Also available as **MR25_/180** for a NEMA 182/184TC frame motor.

"S" Series—MGS Dimensional Data Helical/Worm with Motor Adapter





Drawing for Units
S102AG — S403AG

Table No. 1 "S" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Base Module	A	B	D	F	G	H	I	J *	M	P	R	S	U
S102	4.13	4.72	6.57	3.54	2.76	3.94	.51	M8	2.953	.12	3.54	2.76	1.0000
S202/203	5.20	5.91	7.87	4.53	3.54	4.72	.51	M8	3.740	.16	4.53	3.35	1.3750
S302/303	5.98	6.61	9.17	5.12	4.13	5.51	.63	M10	4.331	.14	5.12	3.94	1.5000
S402/403	5.71	7.48	10.35	5.12	4.72	6.30	.63	M10	4.331	.14	5.83	4.33	1.7500

* S102 through S303 has 4 tapped holes instead of 8 as shown on drawing.

Table No. 2 "S" Series – Tapped Holes Unit Dimensions

Base Module	BP	GA	UA	UB	UC	UL	1
S102	4.17	1.38	.250	1.12	1.57	3.86	1/2-13
S202/203	5.28	1.77	.312	1.52	1.97	4.69	5/8-11
S302/303	6.02	2.05	.375	1.67	2.17	5.39	3/4-10
S402/403	6.81	2.36	.375	1.92	2.56	6.24	3/4-10

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 128-137 for MGS Reducer Selection Data and available ratios.

See pages 151, 153, and 158 for tolerances, lubrication, and mounting positions.

All weights are approximate.

Table No. 3
"S" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

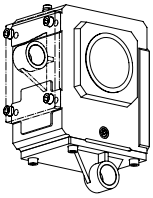
Motor Adapter	NEMA C-Flange	E	X	Y	YA	YB	YC	Wt. lbs
MR14_/050	56C	5.51	3.31	6.50	4.500	5.87	.41	9
MR16_/050	56C	6.30	3.86	6.50	4.500	5.87	.41	16
MR16_/140	143/145TC	6.30	3.86	6.50	4.500	5.87	.41	16
MR20_/180	182/184TC	7.87	4.80	9.00	8.500	7.25	.55	23
MR25_/180	182/184TC	9.84	5.31	9.00	8.500	7.25	.55	36
MR25_/210	213/215TC	9.84	5.31	9.00	8.500	7.25	.55	36

Part No. Example
Tapped Holes Housing with Motor Adapter
S302AG0620 MR163/140

Table No. 4 "S" Series –Tapped Holes Unit Dimensions (Inches) –"G" Housing Style

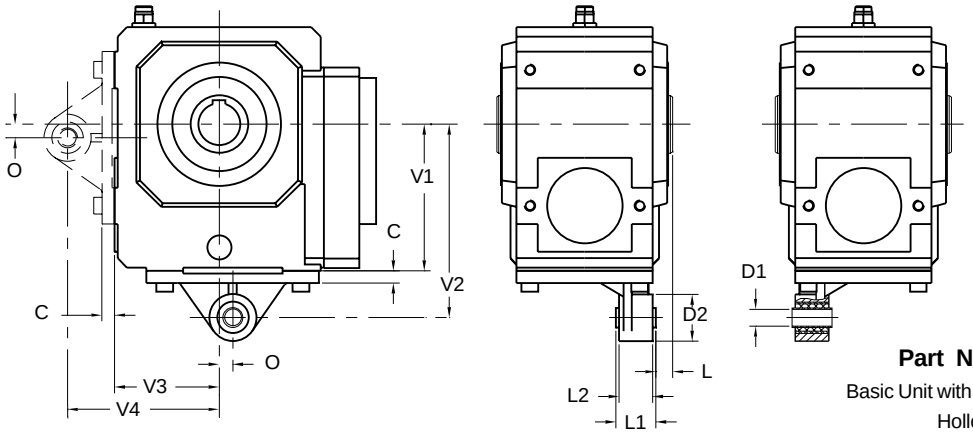
Base	MR14_/050			MR16_/140 ①			MR20_/180			MR25_/210 ②			Approx.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	Wt. lbs.
S102	.55	9.34	3.27	.55	10.05	3.43	—	—	—	—	—	—	31
S202	.67	10.52	3.86	.67	11.23	4.02	.67	12.24	4.09	—	—	—	49
S203	.67	11.97	5.31	—	—	—	—	—	—	—	—	—	53
S302	1.00	11.70	4.45	1.00	12.41	4.61	1.00	13.43	4.69	—	—	—	60
S303	1.00	13.16	5.91	2.44	14.10	6.30	—	—	—	—	—	—	67
S402	—	—	—	1.18	13.27	5.08	1.18	14.29	5.16	1.18	14.88	5.24	80
S403	1.18	14.02	6.38	2.64	14.96	6.77	—	—	—	—	—	—	95

① Also available as **MR16_/050** for a NEMA 56C frame motor.
② Also available as **MR25_/180** for a NEMA 182/184TC frame motor.



"S" Series MGS–Helical/Worm Torque Arm Bracket and Backstops

(torque arm supplied by others)



Part No. Example

Basic Unit with Torque Arm Bracket
Hollow Output

S302ABD0620

Table No. 1 **"S" Series — Torque Arm Bracket Dimensions (Inches)**

Base Module	C	D1 H9	D2	L	L1	L2	O	V1	V2	V3	V4
S102	.39	.47	1.69	.51	1.10	.94	.20	3.93	5.12	2.76	3.93
S202/S203	.47	.63	1.77	.57	1.50	1.26	.22	4.72	6.10	3.35	4.72
S302/S303	.47	.63	1.77	.63	1.50	1.26	.51	5.51	7.28	3.93	5.71
S402/S403	.55	.79	2.17	.71	1.81	1.57	.41	6.30	8.66	4.33	6.69

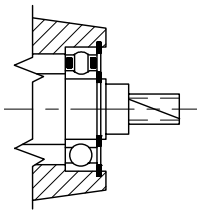
H9 tolerances: .47 to .63 diameter = +0.017/-.000; .79 diameter = +0.020/-.000

Backstops

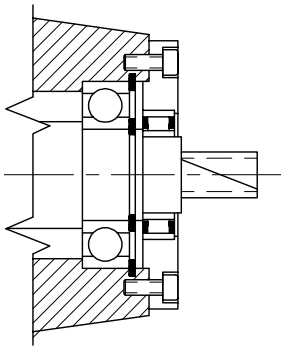
HP ratings shown are based on 2.0 Service Factor. Maximum HP should not be exceeded.

DO NOT USE BACKSTOPS ON MAN LIFTS!

The direction of rotation of the OUTPUT *must* be specified when ordered.
(Examples shown are EL1 mounting with output on Side 4 rotating clockwise.)



Backstop for all units using: AW14_/010 , AW16_/012, MR14_/050, MR16_/050 and MR16_/140



Backstop for AW20_/ 014 through AW35_/202 and MR20_/050 through MR35_/360.

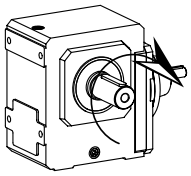


Table No. 1
AW with Backstop

Input Part No.	Shaft Size	Max. HP * @ 1750 RPM
AWB14_/010	.625	2.1
AWB16_/012	.750	10.4
AWB20_/014	.875	18.2
AWB25_/102	1.125	29.1

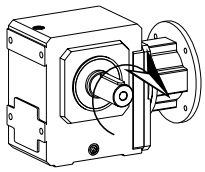
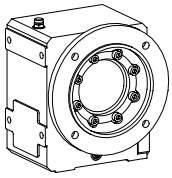


Table No. 2
MR with Backstop

Adapter Part No.	NEMA Frame	Max. HP * @ 1750 RPM
MRB14_/050	56C	2.1
MRB16_/050	56C	10.4
MRB16_/140	143/145TC	10.4
MRB20_/050	56C	18.2
MRB20_/140	143/145TC	18.2
MRB20_/180	182/184TC	18.2
MRB25_/180	182/184TC	29.1
MRB25_/210	213/215TC	29.1

"S" Series MGS–Dimensional Data Helical/Worm Optional Output Flange



Drawing for Units
S102F—S403F

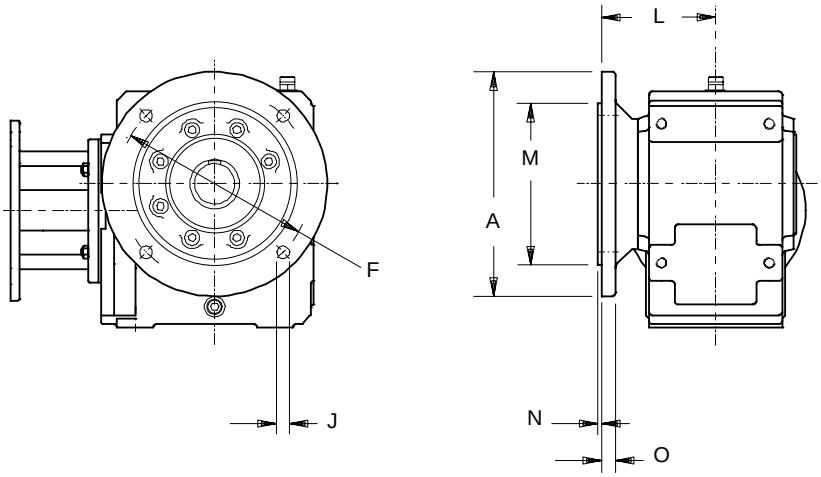
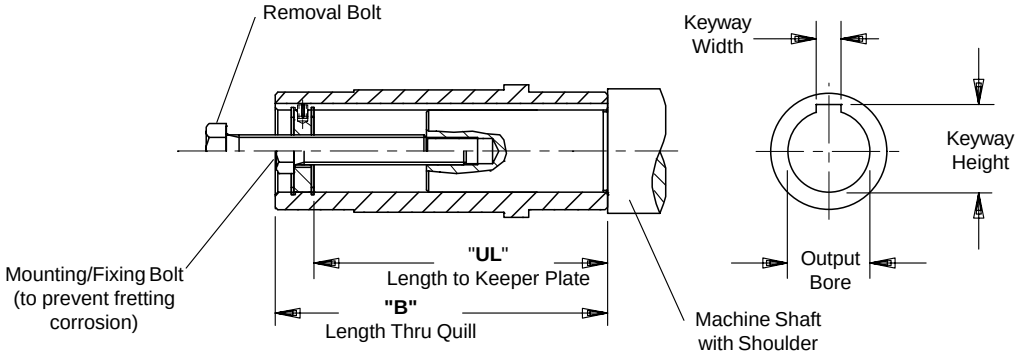


Table No. 1 "S" Series — Optional Flange Dimensions (Inches)

Base Module	Flange Designation	A	F	J	L	M	N	O
S1	**140**	5.512	4.53	.35	3.35	3.740	.12	.39
	160 *	6.300	5.12	.35	3.35	4.331	.14	.39
S2	**160**	6.300	5.12	.35	4.13	4.331	.14	.55
	200 *	7.874	6.50	.43	4.13	5.118	.14	.55
S3	250 *	9.843	8.46	.55	4.58	7.087	.16	.59
S4	250 *	9.843	8.46	.55	4.96	7.087	.16	.59

* This is the standard flange diameter. This flange is shipped unless otherwise specified.

MGS Reducer Installation of Any Unit with Hollow Output



Mounting Hollow Output Reducers

A Stober hollow output reducer can be mounted from either side. The tolerance for the hollow bore is shown on page 152 and the shaft should be toleranced to fit this bore accordingly.

A keeper plate inside the quill is provided with each unit to prevent axial movement. This keeper plate is held in place with snap rings and can be easily removed for location on either end. A spring pin in the keeper plate mounts into the keyway of the quill and prevents rotation. The keeper plate center hole is tapped to fit the removal bolt.

Before installation, brush the inside of the quill with rust inhibiting grease. When mounting the unit onto the shaft, avoid hammering as this may damage the bearings. Do not mount the reducer dry as removal may be impossible.

The drawing above shows a mounting or fixing bolt and a removal bolt. The mounting/fixing bolt should be smaller in size than the removal bolt.

To use the keeper plate with a mounting/fixing bolt, drill and tap the end of the shaft that will be mounted into the reducer. Insert the mounting/fixing bolt through the keeper plate and thread into the shaft end. The machine shaft length should not be longer than the "UL" dimension. This will allow the shaft shoulder to pull against the face of the quill of the reducer.

Removal of Hollow Output Reducers

To dismantle the unit from the shaft, remove the mounting bolt. Thread the removal bolt into the keeper plate to press against the shaft and loosen the shaft from the unit. Removal of the reducer will be easier if the quill is greased before installation.

MGS Reducer Selection Procedures

Speed Reducer Selection

See MGS Selection Data.

A. Under the Input RPM heading, find **Nominal Output RPM** nearest the requirement.

B. In the **Input HP** column locate the rating that is greater than or equal to the required HP.

(If selection is based on Torque instead of HP, find an **Output Torque** that is equal to or greater than required.)

C. When HP or Torque rating is located, read across that row to select the **Base Module**, **Input Option** and **Overhung Loads**.

1. Complete Base Module Part Number by adding Housing Style.

Example: C302**N**0560.

See MGS Selection Data for housing options available from stock.

2. Select Input Option (Input Shaft or Motor Adapter) and add to completed Part Number.

Example: C302N0560 **AW163/012**. (Input Shaft)
or
Example: C302N0560 **MR163/140** (Motor Adapter)

D. Check **Overhung Load**.

E. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

Selection Example:

A foot mounted reducer is needed for a uniformly loaded belt conveyor. It will be driven by a 1½ HP, 1750 RPM 56C frame motor which should be flange mounted to the reducer. The output speed required is 95 RPM. The drive will operate 12 hours per day.

A. Determine the Service Factor (SF) from page 149.

Uniform load belt conveyor – Load Factor = **1.00** (f_B).
12 hours per day service – Hours of Service = **1.10** (f_L).

1.00 (f_B) x 1.10 (f_L) = **1.10** SF.

The required HP rating is

1½ HP Motor x 1.10 SF = **1.65**.

Note: Temperature and a Frequency Convertor are not considerations in this drive.

B. From page 21, under the 1750 Input RPM heading, find **100 RPM Output (Approximate)** which is close to 95.

C. In the **Input HP** column locate the rating that is greater than or equal to 1.65 HP. A rating of **1.73 HP** can be found.

D. Read across the row to select the **Base Module** and **Input Option**.

1. Complete Base Module Part Number by adding Housing Style **N** for foot mounting.

Example: **C102N0175**.

2. Select Input Option - Motor Adapter for a 56C frame and add to completed Part Number.

Example: C102N0175 **MR163/050**

(The MR164/140 shown in the line below could be used if a 143/145TC frame motor is required

E. Check **Overhung Load**.

F. If exact **Output RPM** is required, divide the **Input RPM** by the **Exact Ratio**.

$$\frac{\text{1750 Input RPM}}{\text{17.73 Exact Ratio}} = \text{98.70 Output RPM}$$

The following additional information should be known when selecting and ordering an MGS Reducer:

1. Mounting position
2. Shaft side extension on right angle units or bushing side when a single side bushing kit is needed.
3. Paint
4. Position of conduit box when a motor is ordered.
5. Operating voltage
6. Frequency
7. Type of motor enclosure.

MGS Reducer Service Factor

To select an MGS speed reducer for any application the following must be known:

Input Speed – Revolutions per Minute (RPM)
Output Speed – Revolutions per Minute (RPM)
Input Horsepower (HP) or Output Torque (in. lbs.)
Application Information to determine the Service Factor

If you have any questions regarding speed reducer selection, contact your Stober representative or the Stober Application Engineers for assistance.

Horsepower or Torque

MGS speed reducers can be selected by either HP or Output Torque. The following formulas can be used to convert horsepower to torque or torque to horsepower.

$$HP = \frac{\text{Torque (in./lbs.)} \times \text{Output Speed (RPM)}}{63{,}025}$$

$$\text{Torque (in./lbs.)} = \frac{HP \times 63{,}025}{\text{Output Speed (RPM)}}$$

Service Factor

Service Factor should be determined for conditions such as non-uniform load, hours of service, and elevated ambient temperature. (For applications powered by an AC motor, a Service Factor of 2.0 is normally sufficient.)

To establish a Service Factor (SF), use the information in Tables 1 to 4.

$$SF = f_B \times f_L \times f_T \times f_V$$

Choose an MGS reducer that will meet or exceed,

HP x SF or Torque (in./lbs.) x SF.

Table No. 1 Load Factor (f_B)

Uniform Load	1.0
Non-uniform Load	1.25
Medium Shock	1.4
Severe Shock	1.6

Contact Stober Engineering for selection assistance on applications requiring frequent starts and stops.

Table No. 2 Hours of Service Factor (f_L)

Hours	2	4	6	8	12	16	24
f_L	.75	.85	.95	1.0	1.10	1.15	1.20

Table No. 3 Ambient Temperature Factor (f_T)

Temperature (°F)	32	50	70	85	100	120
f_T	1.15	1.15	1.0	1.0	1.15	1.3

For temperatures less than 32° or greater than 120°, contact Stober Application Engineers.

Table No. 4 Torque Characteristic Factor (f_V)

Use for Frequency Convertor Only	
Constant Torque over the Entire Speed Variation	1.0
Increasing Output Torque from 87 – 50 Hz	1.7

NOTE: Do Not Service Factor the Motor.

Overhung Loads

Pulling forces or overhung load of pulleys, sheaves, sprockets, etc. on the reducer input and output shaft must not exceed the allowable limits shown in the MGS Selection Data tables. The overhung load shown in the selection tables is measured at the center of the shaft extension.

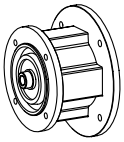
The following formula can be used to determine actual overhung load for a given drive.

$$OHL = \frac{126{,}000 \times HP \times K}{D \times RPM}$$

where

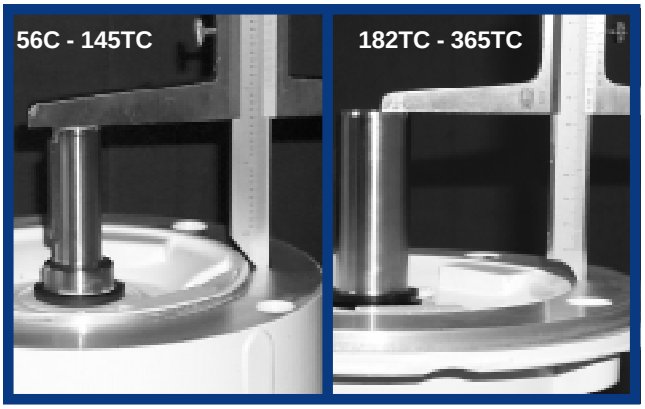
OHL = Overhung Load (lbs.)
HP = Horsepower
D = Pitch Dia. of Sprocket, Gear, Sheave, Pulley, etc.
RPM = Maximum Speed
K = 1.00 Chain Drives
1.25 Gear Drives
1.25 Gearbelt Drives
1.50 V-Belt Drives
2.50 Flat Belt Drives

No overhung load is encountered when an MGS reducer is flange mounted and/or coupling connected to another unit. However, the shafts of all components must be accurately aligned and secured to prevent pre-loading of the bearings and premature bearing failure.



MGS Speed Reducer
Motor Mounting Instructions

Step 1. Measure the Motor Shaft

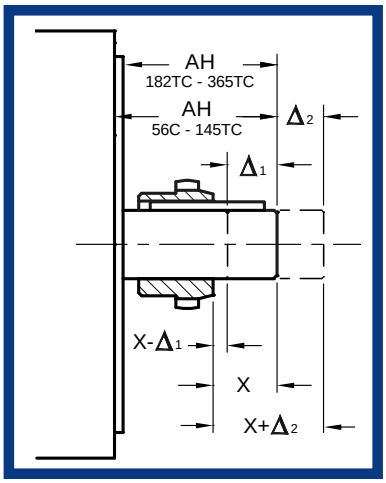


Accurate measurement of the motor shaft is vital to mounting the motor coupling correctly. The measurement must be taken from the face of the motor to the end of the motor shaft. If this dimension is the same as the NEMA standard "AH" dimension shown in Table No. 1, proceed with the motor mounting in Step 2.

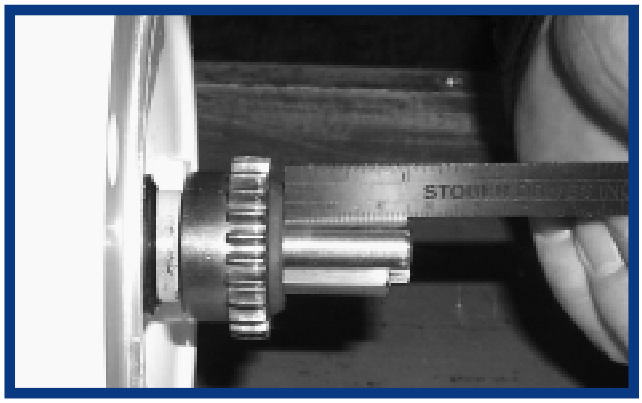
Table No. 1 NEMA Motor Shaft Dimensions

Motor Frame	"AH"	Shaft Dia.	Motor Frame	"AH"	Shaft Dia.
56C	2 1/16	5/8	**254/256TC**	3 3/4	1 5/8
143/145TC	2 1/8	7/8	**284/286TC**	4 3/8	1 7/8
182/184TC	2 5/8	1 1/8	**324/326TC**	5	2 1/8
213/215TC	3 1/8	1 3/8	**364/365TC**	5 5/8	2 3/8

If the motor shaft length measurement is less than "AH", **subtract** the difference (Δ_1) from the "X" dimension shown in Table No. 2.
If the motor shaft length measurement is greater than "AH", **add** the difference (Δ_2) to the "X" dimension shown in Table No. 2.



Step 2. Locate the Motor Coupling on the Motor Shaft



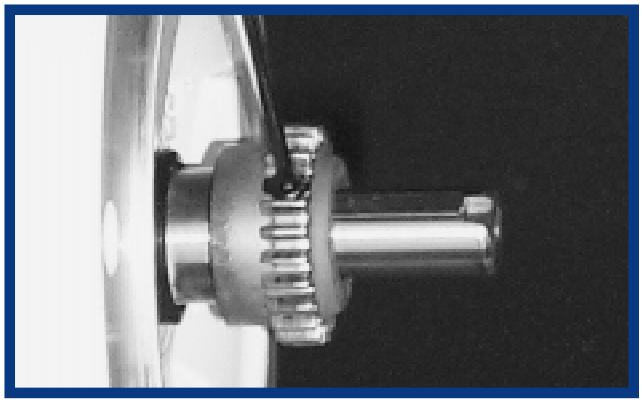
Mount the coupling with the hub projection toward the step or shoulder of the motor. The motor shaft should project through the coupling by the "X" dimension (or the value determined using the previous measurement).

Table No. 2 Location of Motor Coupling

Adapter Part No.	"X" mm	"X" inches	Adapter Part No.	"X" mm	"X" inches
MR14_/050	28	1.1	**MR25_/210**	46	1.8
MR16_/050	22	.9	**MR30_/180**	10	.4
MR16_/140	25	1.0	**MR30_/210**	26	1.0
MR20_/050	12	.5	**MR30_/250**	42	1.7
MR20_/140	12	.5	**MR30_/280**	58	2.3
MR20_/180	30	1.2	**MR35_/320**	64	2.5
MR25_/180	30	1.2	**MR35_/360**	80	3.1

"X" Tolerance – +1mm / -0mm (+0.040 / -0.000 inches)

Step 3. Tighten the Setscrew



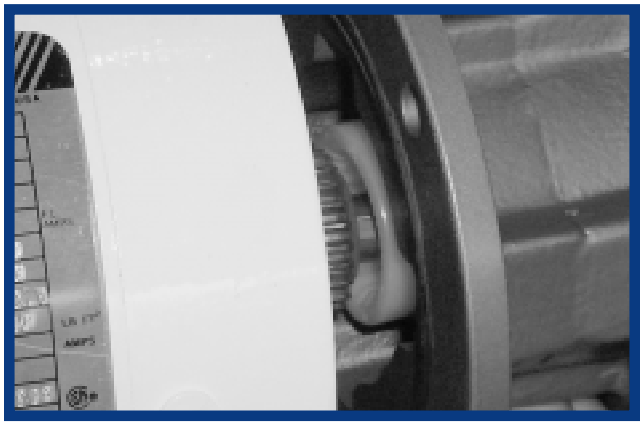
With the coupling hub located at the correct distance, tighten the setscrew in the coupling.

MGS Speed Reducer
Motor Mounting Instructions

Step 4. Secure the Motor Shaft Key

For ease of installation, secure the motor shaft key. Staking near the end of the keyway, on the sides of the key, or a temporary adhesive works well.

Step 5. Mount the Motor



With the coupling secure, insert the motor shaft into the motor adapter. The coupling sleeve is already installed on the mating reducer coupling hub inside the motor adapter. **The sleeve should move freely in an axial direction.** (Axial displacement ±.040 inches.)

With the motor in place, tighten the motor bolts.

Caution: If the motor coupling is not installed correctly, the input bearing may fail due to pre-load. This will void the warranty of the reducer and possibly fail the motor.

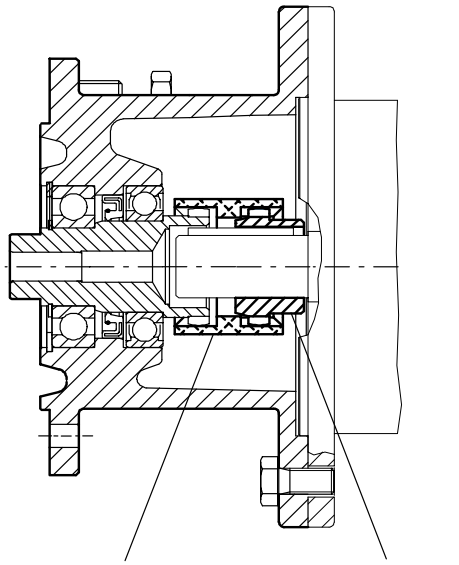


Table No. 1
Couplings Used with MR Motor Adapters

Adapter	NEMA Frame	Motor Hub	Sleeve
MR141/050	56C	M-19 x 5/8	M-19
MR142/050	56C	M-19 x 5/8	M-19
MR143/050	56C	M-19 x 5/8	M-19
MR163/050	56C	M-24 x 5/8	M-24
MR164/050	56C	M-24 x 5/8	M-24
MR165/050	56C	M-24 x 5/8	M-24
MR163/140	143/145TC	M-24 x 7/8	M-24
MR164/140	143/145TC	M-24 x 7/8	M-24
MR165/140	143/145TC	M-24 x 7/8	M-24
MR204/050	56C	M-32 x 5/8	M-32
MR205/050	56C	M-32 x 5/8	M-32
MR206/050	56C	M-32 x 5/8	M-32
MR204/140	143/145TC	M-32 x 7/8	M-32
MR205/140	143/145TC	M-32 x 7/8	M-32
MR206/140	143/145TC	M-32 x 7/8	M-32
MR204/180	182/184TC	M-32 x 1 1/8	M-32
MR205/180	182/184TC	M-32 x 1 1/8	M-32
MR206/180	182/184TC	M-32 x 1 1/8	M-32
MR255/180	182/184TC	M-38 x 1 1/8	M-38
MR256/180	182/184TC	M-38 x 1 1/8	M-38
MR255/210	213/215TC	M-38 x 1 3/8	M-38
MR256/210	213/215TC	M-38 x 1 3/8	M-38
MR257/210	213/215TC	M-38 x 1 3/8	M-38
MR306/180	182/184TC	M-48 x 1 1/8	M-48
MR307/180	182/184TC	M-48 x 1 1/8	M-48
MR306/210	213/215TC	M-48 x 1 3/8	M-48
MR307/210	213/215TC	M-48 x 1 3/8	M-48
MR306/250	254/256TC	M-48 x 1 5/8	M-48
MR307/250	254/256TC	M-48 x 1 5/8	M-48
MR306/280	284/286TC	M-48 x 1 7/8	M-48
MR307/280	284/286TC	M-48 x 1 7/8	M-48
MR300/250	254/256TC	M-48 x 1 5/8	M-48
MR300/280	284/286TC	M-48 x 1 7/8	M-48
MR358/320	324/326TC	M-65 x 2 1/8	M-65
MR350/320	324/326TC	M-65 x 2 1/8	M-65
MR358/360	364/365TC	M-65 x 2 3/8	M-65
MR350/360	364/365TC	M-65 x 2 3/8	M-65

MGS Reducer Tolerance Data

All Series Reducers

Table No. 1 Solid Shaft — "U" Dimension

Bore Range	Tolerance
.39 – .71	+.0000 / -.0005
.71 – 1.18	+.0000 / -.0006
1.18 – 1.97	+.0000 / -.0007
1.97 – 3.15	+.0000 / -.0008
3.15 Up	+.0000 / -.0009

"F", "K", and "S" Series Reducers

Table No. 2 Hollow Shaft — "U" Dimension

Bore Range	Tolerance
.39 – .71	+.0007 / -.0000
.71 – 1.18	+.0008 / -.0000
1.18 – 1.97	+.0010 / -.0000
1.97 – 3.15	+.0012 / -.0000
3.15 Up	+.0014 / -.0000

All Series Reducers with Input Shaft

Table No. 3 Pilot Diameter — "AA" Dimension

Bore Range	Tolerance
3.15 – 4.72	+.0007 / -.0005
4.72 – 7.09	+.0008 / -.0006
7.09 – 9.06	+.0010 / -.0007
9.06 – 12.40	+.0012 / -.0008
12.40 Up	+.0014 / -.0009

All Series Flange Mounting Reducers

Table No. 4 Pilot Diameter — "M" Dimension

Bore Range	Tolerance
3.15 – 4.72	+.0007 / -.0005
4.72 – 7.09	+.0008 / -.0006
7.09 – 9.06	+.0010 / -.0007
9.06 – 12.40	+.0012 / -.0008
12.40 Up	+.0014 / -.0009

All Series Reducers with Motor Adapter

Table No. 5 Pilot Bore Diameter — "YA" Dimension

Bore Range	Tolerance
1.97 – 3.15	+.0007 / -.0005
3.15 – 4.72	+.0008 / -.0006
4.72 – 7.09	+.0010 / -.0007
7.09 – 9.84	+.0012 / -.0008
9.84 – 12.40	+.0014 / -.0009

All Series Reducers

Table No. 6 Keyway Width — "UA" Dimension

Bore Range	Tolerance
All Sizes	+.0019 / -.0000

Table No. 7 Thermal Ratings

HP	kW	Base Modules			
2.95	2.2	C0	F1	K1	S1
5.36	4.0	C1	F2	K2	S2
7.38	5.5	C2	F3	K3	S3
12.34	9.2	C3	F4	K4	S4
14.75	11.0	C4	F6	K5	—
20.12	15.0	C5	—	K6	—
29.50	22.0	C6	—	K7	—
40.23	30.0	C7	—	K8	—
53.64	40.0	C8	—	K9	—
67.05	50.0	C9	—	K10	—

Table No. 8 Backlash

Series	**Measured in arc minutes***
C	≤ 20
F	≤ 11
K	≤ 12
S	≤ 20

* These measurements were taken from actual test of each series.

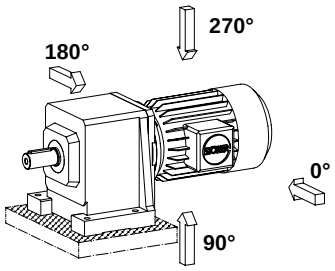
See Pages 4 and 5 for efficiency information.

MGS Reducer Lubrication and Mounting Data

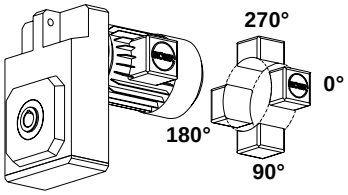
Conduit Location

On Stober reducers with motors mounted, the standard location for the conduit box is shown in the following diagrams and is specified as location **0°**. Should the conduit be required in any other position it should be specified at the time of order. The location of the conduit should be determined in connection with the mounting position shown on the following pages.

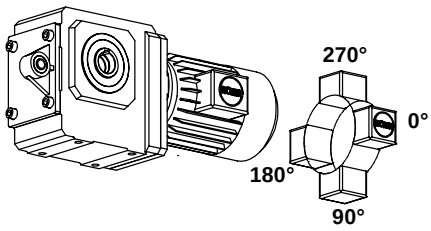
If no specification is made the units will be shipped with the conduit in the 0° position.



"C" Series



"F" Series



"K" and "S" Series

Table No. 1

Lubricant Manufacturer	Ambient Temperature +15°F to +125°F AGMA Lubricant No. 5EP
BP	Transgear 80W90
Chevron	AW Mach. Oil 150
Exxon	Spartan EP-220
Mobil	Mobilgear 630
Shell	Omala 220
Texaco	Meropa 220
Union	Gearlub 5EP

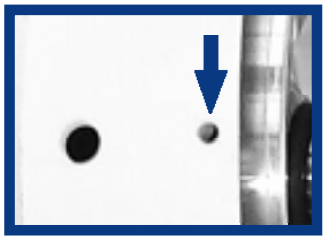
Lubrication and Mounting Position

All Stober units are shipped filled with the required amount of lubrication. In order to provide the proper lubrication quantity **the mounting position must be specified at the time the unit is ordered**. The mounting positions and the required amount of lubricant for each position are shown on the following pages.

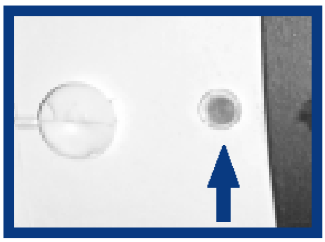
NOTE: Although the mounting positions are illustrated showing only gearmotors, Stober reducers require the same quantity of lubricant.

All MGS speed reducers can run at a maximum input speed of 4000 RPM except when mounted in the EL5 mounting position. If the mounting position is EL5, maximum input is 3000 RPM.

Some motor manufacturers provide a drain hole in the mounting face of washdown motors. In some mounting positions, water or other material can enter the motor adapter and fail the bearing.



Be sure this hole is covered during washing or when the unit is in a wet environment. The illustration below shows the method that Stober assembly personnel use to plug the hole.



Maintenance

With Stober reducers very little maintenance is required under normal operating conditions.

Breathers are provided on the following units:

C612 through C913
F602 through F603
K513 through K1014
S102 through S403

We recommend that the lubrication be changed in units supplied with breathers according to the following schedule:

Normal Operating Conditions	after 5000 Hours
Wet Operating Conditions	after 2000 Hours.

See Table No. 1 for the recommended lubricant manufacturers and specifications.

Units supplied without breathers are lubricated for life.

"C" Series – MGS
Lubrication and Mounting Data

Position EL1

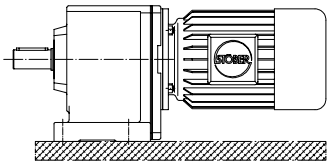


Table No. 1 Quantity of Lubricant

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
C002	10	.3	C612	135	4.0
C102	20	.6	C613	145	4.3
C103	27	.8	C712	223	6.6
C202	27	.8	C713	220	6.5
C203	34	1.0	C812	422	12.5
C302	41	1.2	C813	456	13.5
C303	47	1.4	C912	642	19.0
C402	61	1.8	C913	692	20.5
C403	68	2.0			
C502	95	2.8			
C503	101	3.0			

Position EL2

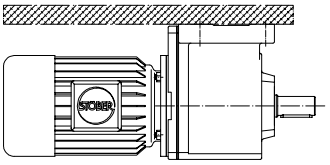


Table No. 2 Quantity of Lubricant

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
C002	14	.4	C612	169	5.0
C102	27	.8	C613	186	5.5
C103	34	1.0	C712	270	8.0
C202	41	1.2	C713	291	8.6
C203	51	1.5	C812	524	15.5
C302	54	1.6	C813	558	16.5
C303	61	1.8	C912	794	23.5
C402	91	2.7	C913	845	25.0
C403	101	3.0			
C502	135	4.0			
C503	152	4.5			

Position EL3

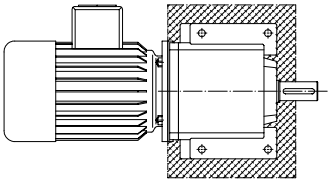


Table No. 3 Quantity of Lubricant

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
C002	10	.3	C612	142	4.2
C102	20	.6	C613	152	4.5
C103	30	.9	C712	216	6.4
C202	34	1.0	C713	230	6.8
C203	37	1.1	C812	456	13.5
C302	47	1.4	C813	490	14.5
C303	51	1.5	C912	693	20.5
C402	74	2.2	C913	743	22.0
C403	78	2.3			
C502	115	3.4			
C503	122	3.6			

Position EL4

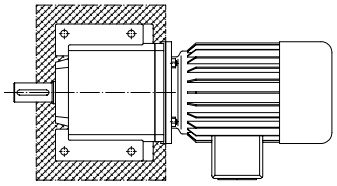


Table No. 4 Quantity of Lubricant

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
C002	10	.3	C612	142	4.2
C102	20	.6	C613	152	4.5
C103	30	.9	C712	216	6.4
C202	34	1.0	C713	230	6.8
C203	37	1.1	C812	456	13.5
C302	47	1.4	C813	490	14.5
C303	51	1.5	C912	693	20.5
C402	74	2.2	C913	743	22.0
C403	78	2.3			
C502	115	3.4			
C503	122	3.6			

Position EL5

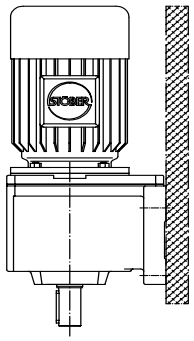


Table No. 5 Quantity of Lubricant

Module	Quantity	
	ozs.	liters
C002	17	.50
C102	39	1.16
C103	49	1.45
C202	53	1.58
C203	66	1.95
C302	79	2.34
C303	90	2.65
C402	127	3.75
C403	144	4.30
C502	196	5.80
C503	216	6.40
C612	223	6.60
C613	253	7.50
C712	348	10.30
C713	372	11.00
C812	591	17.50
C813	754	22.30
C912	1081	32.00
C913	1284	38.00

Position EL6

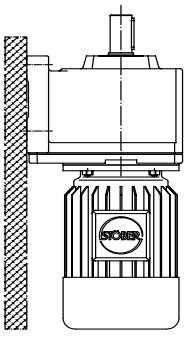


Table No. 6 Quantity of Lubricant

Module	Quantity	
	ozs.	liters
C002	17	.5
C102	37	1.1
C103	47	1.4
C202	61	1.8
C203	68	2.0
C302	74	2.2
C303	84	2.5
C402	112	3.3
C403	125	3.7
C502	169	5.0
C503	182	5.4
C612	210	6.2
C613	223	6.6
C712	318	9.4
C713	338	10.0
C812	558	16.5
C813	642	19.0
C912	1031	30.5
C913	1081	32.0

"F" Series – MGS
Lubrication and Mounting Data

Position EL1

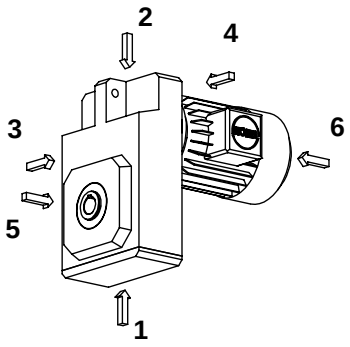


Table No. 1
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
F102	24	.7
F202	47	1.4
F203	68	2.0
F302	74	2.2
F303	95	2.8
F402	101	3.0
F403	139	4.1
F602	179	5.3
F603	250	7.4

Position EL2

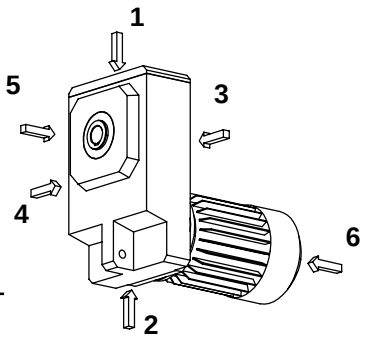


Table No. 2
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
F102	27	.8
F202	61	1.8
F203	74	2.2
F302	84	2.5
F303	105	3.1
F402	122	3.6
F403	132	3.9
F602	203	6.0
F603	237	7.0

Position EL3

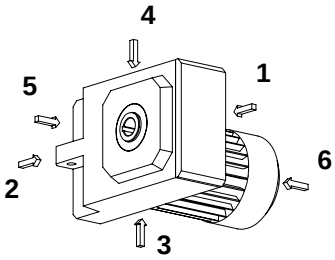


Table No. 3 **Quantity of Lubricant**

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
F102	24	.7	F402	95	2.8
F202	41	1.2	F403	101	3.0
F203	47	1.4	F602	162	4.8
F302	68	2.0	F603	182	5.4
F303	78	2.3			

Position EL4

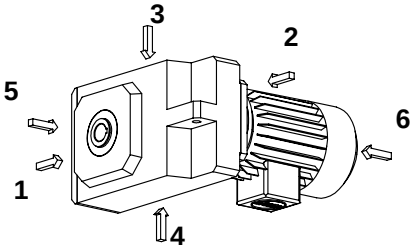


Table No. 4 **Quantity of Lubricant**

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
F102	24	.7	F402	95	2.8
F202	41	1.2	F403	101	3.0
F203	47	1.4	F602	162	4.8
F302	68	2.0	F603	182	5.4
F303	78	2.3			

Position EL5

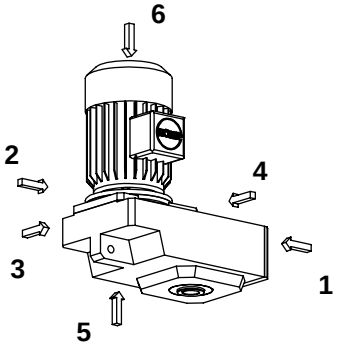


Table No. 5
Quantity of Lubricant

"A" – Hollow Output		
Module	ozs.	liters
F102	30	.90
F202	71	2.10
F203	76	2.25
F302	101	3.00
F303	117	3.45
F402	155	4.60
F403	169	5.00
F602	257	7.60
F603	274	8.10

"V" – Solid Output		
Module	ozs.	liters
F102	30	.90
F202	73	2.15
F203	81	2.40
F302	113	3.35
F303	122	3.50
F402	155	4.70
F403	179	5.30
F602	257	7.70
F603	291	8.20

Position EL6

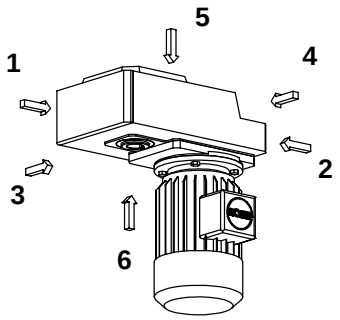


Table No. 6
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
F102	24	.7
F202	54	1.6
F203	64	1.9
F302	68	2.0
F303	78	2.3
F402	101	3.0
F403	118	3.5
F602	186	5.5
F603	220	6.5

"K" Series – MGS
Lubrication and Mounting Data

The unit shown has the shaft on Side 4 (left) in all drawings. Mounting position is not a description of shaft side extension.

Position EL1
K1 — K4

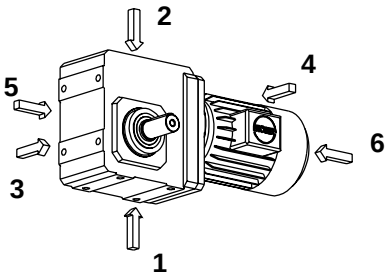


Table No. 1
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
K102	14	.4
K202	27	.8
K203	51	1.5
K302	41	1.2
K303	61	1.8
K402	84	2.5
K403	118	3.5

Position EL2
K1 — K4

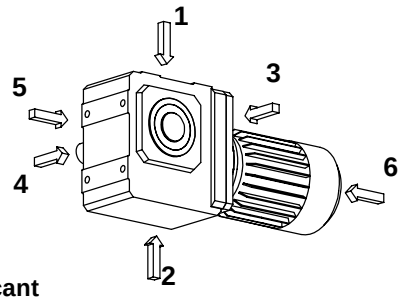


Table No. 2
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
K102	37	1.1
K202	61	1.8
K203	74	2.2
K302	84	2.5
K303	101	3.0
K402	135	4.0
K403	152	4.5

Position EL3
K1 — K4

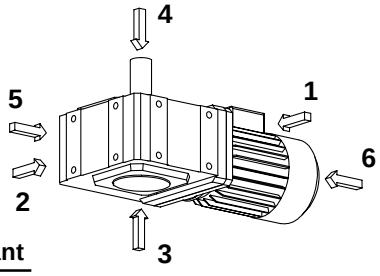


Table No. 3
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
K102	24	.7
K202	54	1.6
K203	64	1.9
K302	78	2.3
K303	91	2.7
K402	118	3.5
K403	135	4.0

Position EL4
K1 — K4

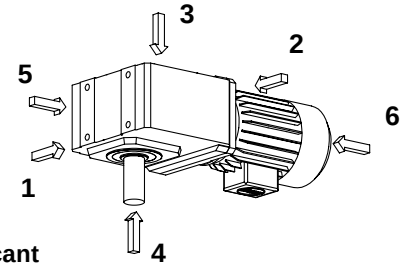


Table No. 4
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
K102	24	.7
K202	54	1.6
K203	64	1.9
K302	78	2.3
K303	91	2.7
K402	118	3.5
K403	135	4.0

Position EL5
K1 — K4

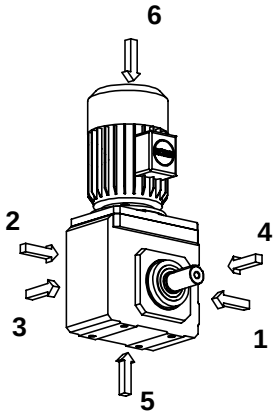


Table No. 5
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
K102	46	1.36
K202	75	2.25
K203	84	2.50
K302	118	3.50
K303	135	4.00
K402	179	5.30
K403	191	5.65

Position EL6
K1 — K4

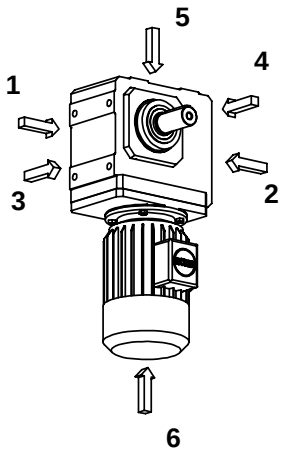


Table No. 6
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
K102	31	.9
K203	68	2.0
K203	81	2.4
K302	101	3.0
K303	118	3.5
K402	135	4.0
K403	152	4.5

"K" Series – MGS
Lubrication and Mounting Data

The unit shown has the shaft on Side 4 (left) in all drawings. Mounting position is not a description of shaft side extension.

Position EL1
K5 — K10

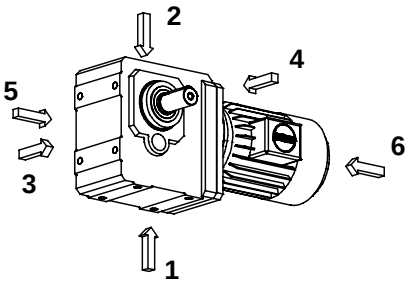


Table No. 1 **Quantity of Lubricant**

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
K513	101	3.0	K813	270	8.0
K514	135	4.0	K814	439	13.0
K613	132	3.9	K913	473	14.0
K614	182	5.4	K914	777	23.0
K713	170	5.0	K1013	1014	30.0
K714	270	8.0	K1014	1115	33.0

Position EL2
K5 — K10

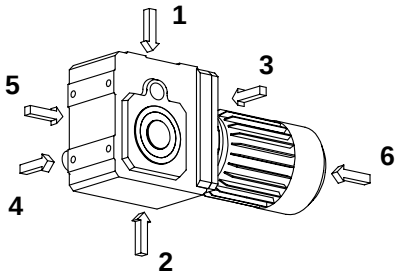


Table No. 2 **Quantity of Lubricant**

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
K513	135	4.0	K813	406	12.0
K514	152	4.5	K814	439	13.0
K613	169	5.0	K913	676	20.0
K614	186	5.5	K914	710	21.0
K713	237	7.0	K1013	1588	47.0
K714	253	7.5	K1014	1723	51.0

Position EL3
K5 — K10

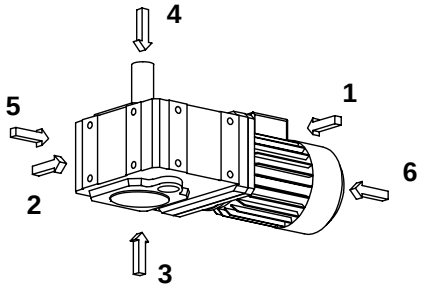


Table No. 3 **Quantity of Lubricant**

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
K513	118	3.5	K813	406	12.0
K514	135	4.0	K814	439	13.0
K613	169	5.0	K913	713	21.1
K614	186	5.5	K914	743	22.0
K713	220	6.5	K1013	1690	50.0
K714	237	7.0	K1014	1858	55.0

Position EL4
K5 — K10

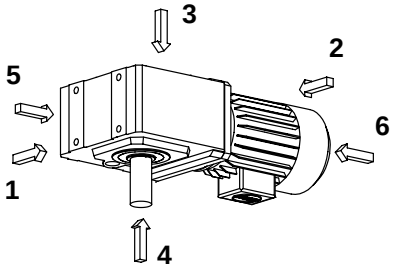


Table No. 4 **Quantity of Lubricant**

Module	Quantity		Module	Quantity	
	ozs.	liters		ozs.	liters
K513	118	3.5	K813	406	12.0
K514	135	4.0	K814	439	13.0
K613	169	5.0	K913	713	21.1
K614	186	5.5	K914	743	22.0
K713	220	6.5	K1013	1690	50.0
K714	237	7.0	K1014	1858	55.0

Position EL5
K5 — K10

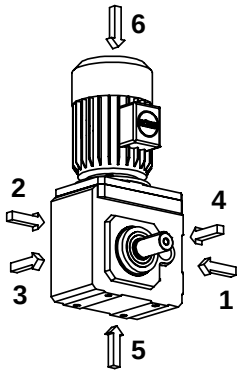


Table No. 5
Quantity of Lubricant

"A" Hollow Output

Module	ozs.	liters	Module	ozs.	liters
K513	193	5.7	K813	676	20.0
K514	220	6.5	K814	727	21.5
K613	280	8.3	K913	1250	37.0
K614	304	9.0	K914	1301	38.5
K713	372	11.0	K1013	1960	58.0
K714	416	12.3	K1014	2129	63.0

"V" Solid Output

Module	ozs.	liters	Module	ozs.	liters
K513	196	5.8	K813	710	21.0
K514	223	6.6	K814	760	22.5
K613	284	8.4	K913	1284	38.0
K614	311	9.2	K914	1362	40.3
K713	382	11.3	K1013	1960	58.0
K714	426	12.6	K1014	2129	63.0

Position EL6
K5 — K10

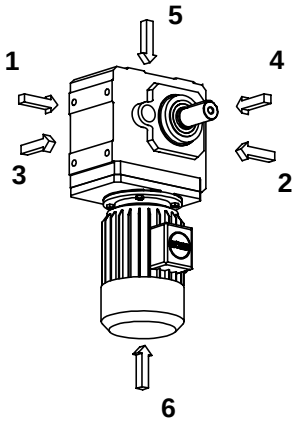


Table No. 6
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
K513	135	4.0
K514	152	4.5
K613	169	5.0
K614	203	6.0
K713	270	8.0
K714	287	8.5
K813	406	12.0
K814	439	13.0
K913	710	21.0
K914	743	22.0
K1013	1453	43.0
K1014	1656	49.0

"S" Series – MGS
Lubrication and Mounting Data

The unit shown has the shaft on Side 4 (left) in all drawings. Mounting position is not a description of shaft side extension.

Position EL1

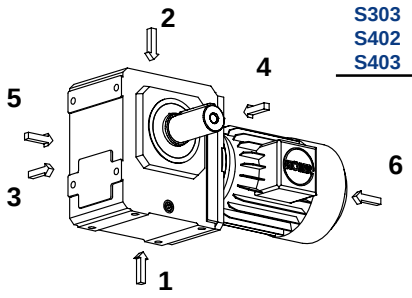


Table No. 1
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
S102	17	.50
S202	34	1.00
S203	41	1.20
S302	52	1.55
S303	63	1.85
S402	88	2.60
S403	108	3.20

Position EL2

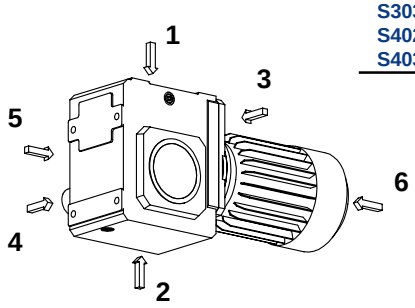


Table No. 2
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
S102	20	.6
S202	41	1.2
S203	47	1.4
S302	74	2.2
S303	85	2.5
S402	118	3.5
S403	135	4.0

Position EL3

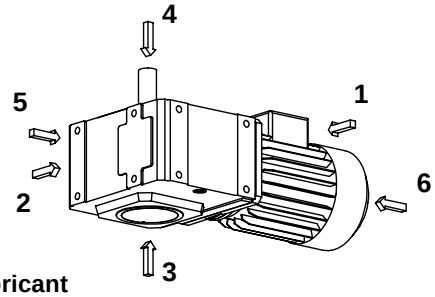


Table No. 3
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
S102	20	.6
S202	41	1.2
S203	47	1.4
S302	74	2.2
S303	85	2.5
S402	108	3.2
S403	122	3.6

Position EL4

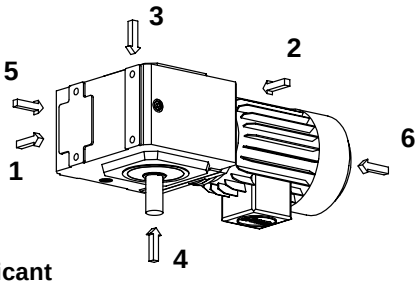


Table No. 4
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
S102	20	.6
S202	41	1.2
S203	47	1.4
S302	74	2.2
S303	85	2.5
S402	108	3.2
S403	122	3.6

Position EL5

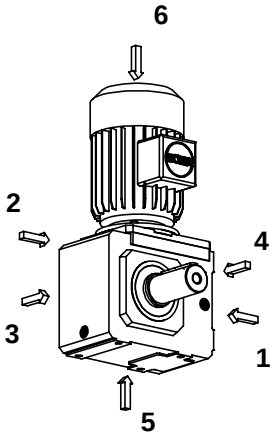


Table No. 5
Quantity of Lubricant

"A" – Hollow Output		
Module	ozs.	liters
S102	32	.95
S202	64	1.90
S203	71	2.10
S302	101	3.00
S303	111	3.28
S402	149	4.40
S403	162	4.80

"V" – Solid Output		
Module	ozs.	liters
S102	32	.95
S202	64	1.90
S203	74	2.20
S302	105	3.10
S303	114	3.38
S402	152	4.50
S403	166	4.90

Position EL6

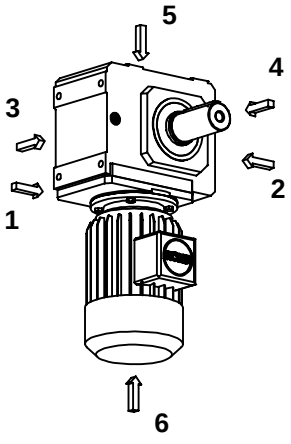


Table No. 6
Quantity of Lubricant

Module	Quantity	
	ozs.	liters
S102	24	.7
S202	54	1.6
S203	61	1.8
S302	81	2.4
S303	91	2.7
S402	118	3.5
S403	128	3.8

Stöber International Sales Location

STÖBER ANTRIEBSTECHNIK GmbH

Kieselbronner Strasse 12 • D-75177 Pforzheim

Phone: 0 72 31 -58 20 • Fax: 0 72 31 - 58 21 97 • E-mail: mail@stoeber.de

Austria
STÖBER ANTRIEBSTECHNIK GmbH
Fabriksplatz 1
4662 Steyrermühl
Phone: (0 76 13) 7 60 00
Fax: (0 76 13) 7 60 09
E-mail: office@stoeber.at

Belgium
VAN DOREN - PILLE N.V.
Industrieterrein De Prijkels
Venecoweg 25
9810 Nazareth
Phone: (09) 2 52 13 09
Fax: (09) 2 52 23 74

Bulgaria
Z & M PRIVATE COMPANY
5, Angel Kantchev Str
1000 Sofia
Phone: (2) 9 86 58 55
Fax: (2) 9 86 59 16
E-mail: zandm@techno-link.com

China
KRÜGER INTERSALES BEIJING
German Centre
Unit 0525-0530, Landmark Tower 2
8 North Dongsanhuan Road
Chaoyang District
Beijing 100004
Phone: 10-65 90 64 25 / 65 90 64 26
Fax: 10-65 90 67 85
E-mail: intersal@public.east.cn.net

Columbia
SOCOMEX LTDA.
Apdo. Aereo 11606
Santafe de Bogota D.C.
Phone: 2 85 61 05/2 85 64 96/2 85 63 36
Telex: 041432 - soco co
Fax: 13 35 04 87

Denmark
EEGHOLM
Grundtvigs Allé 165-169
P.O. Box 190
6400 Sønderborg
Phone: 73 12 12 12
Fax: 73 12 12 13
E-mail: eggholm@eggholm.dk

Finland
EIE MASKIN OY
PL 80
10600 Tammisaari
Phone: (0 19) 2 46 16 42
Fax: (0 19) 2 46 16 43
E-mail: eie@eie.fi

France
STÖBER SARL
47, Rue Maurice Flandin
69003 Lyon
Phone: (04) 72 13 24 38
Fax: (04) 72 13 24 57
E-mail: stoeber@wanadoo.fr

Hungary
BDI HUNGARY LTD
Fóti Street 141, Bldg 37
1046 Budapest
Phone: (1) 2 31 10 10
Fax: (1) 2 31 10 30
E-mail: bdi-hun@elender.hu

Greece
B. SACHPEROGLOU
37, Petrou Ralli Str.
Athens-302
Phone: 3 46 87 07
Telex: 219809 koma gr
Fax: 3 46 55 09

Great Britian
STOBER DRIVES LIMITED
Unit 9 Abbeymead Industrial Park
Brooker Road, Waltham Abbey
Essex, EN9 1HU
Phone: (0 19 92) 70 97 10
Fax: (0 19 92) 71 41 11
E-mail: mail@stober.co.uk

Italy
STÖBER TRASMISSIONI S.r.l.
Via Risorgimento, 8
20017 Mazzo di Rho (Milano)
Phone: (02) 93 90 95 70
Fax: (02) 93 90 93 25
E-mail: info@stoeber.it

Korea
DAE KWANG STOEBER CO. LTD.
441-10 Sangdewon-dong, Joongwon-ku
Sungnam-city, Kyuunggi-do
Postcode 462-120
Phone: (0 31) 7 35 02 93
Fax: (0 31) 7 36 02 81
E-mail: dkstoeber@netsgo.com

Netherlands
MIJNSBERGEN B.V.
Postbus 166
3640 AD Mijdrecht
Phone: (02 97) 28 58 21
Fax: (02 97) 27 23 26
E-mail: mijnsbergen@mijnsbergen.nl

Norway
ELMEKO AS
Postbox 80
1306 Baerum Postterminal
Phone: 67 57 22 70
Fax: 67 57 22 80
E-mail: elmeko@elmeko.no

Peru
POWERMATIC S.A.
Calle Torre de la Merced 259
Santa Catalina
Lima 13
Phone: (0 14) 72 91 81
Telex: 25752
Fax: (0 14) 37 00 73
E-mail:
powerma@mail.cosapidata.com.pe

Phillipines
LEELENG COMMERCIAL, INC.
387-393 Dasmariñas St.
P.O. Box 480
Manila
Phone: (2) 2 41 89 01 to 05, 2 42 75 50
Fax: (2) 2 41 40 60
E-mail: leeleng@manila.vasia.com

Poland
STOEBER POLSKA
ul.H.Kamienskiego 201-219
51-126 Wroclaw
Phone: (71) 3207417
Telex: (71) 3207417
E-mail: stoeber_polska@yuma.pl

Republic of South Africa
BEARING MAN LTD
P.O. Box 33431
Jeppestown 2043
Phone: (0 11) 6 20 15 00
Telex: (0 11) 6 20 17 75

Sweden
EIE MASKIN AB
Postfach 7
12421 Bandhagen
Phone: (8) 7 27 88 00
Fax: (8) 7 27 88 99
E-mail: eie@eie.se

Switzerland
INDUR ANTRIEBSTECHNIK AG
Margarethenstrasse 87
4008 Basel
Phone: (61) 2 79 29 00
Fax: (61) 2 72 29 10
E-mail: info@indur.ch

Spain
TAHFER COMERCIAL, S.A.
Jesus, 27
28917-LA FORTUNA
Phone: (91) 6 19 34 24
Telex: 48304 tahfr
Fax: (91) 6 19 77 92
E-mail: tahfercom@jet.es

Thailand
GERMAN ENGINEERING AND
MACHINERY CO., LTD.
947/161 Bangna Complex
Moo 12 Bangna Trad Rd. Km 3
Bangkok 10260
Phone: (2) 3 61 90 82
Fax: (2) 3 61 90 89

Turkey
YÜRE MAKINA SAN. ve TIC. LTD.STI.
Fevzi Cakmak Mah. 5. Cad.
19. Sok. No: 13
34200 ESENLER-ISTANBUL
Phone: (2) 12 6 28 55 73
Telex: (2) 12 6 28 55 73

Terms and Conditions of Sale

1. **GENERAL.** All orders for products supplied by STOBER DRIVES INC. ("Stober") shall be subject to these terms and conditions of sales. All transactions shall be governed by the laws of the Commonwealth of Kentucky. No modifications hereto will be binding unless agreed to in writing by Stober.

2. **CUSTOMER.** The term "Customer," as used herein, means the distributor, resale dealer, original equipment manufacturer or first end-user customer that purchases the Stober products.

3. **WARRANTY.** Stober products shall be free from defects in material and workmanship for a maximum of 36 months (single shift operation or 18 months multiple shift operation) for MGS products, 24 months (single shift operation or 12 months multiple shift operation) for TD and ServoFit products, from the date of shipment to the Customer. In the event that a product proves to be defective, Stober's sole obligation shall be, at its option, to repair or replace the product. The repaired or replacement product will be shipped F.O.B. Stober's facilities, freight prepaid by Stober.

No employee, agent or representative of Stober has the authority to waive, alter, vary or add to the terms hereof without the prior written approval of an officer of Stober. It is expressly agreed that (a) this section constitutes the final expression of the parties' understanding with respect to the warranty and (b) this section is a complete and exclusive statement of the terms of the warranty.

Stober shall have no obligation under the warranty set forth above in the event that:

(a) The Customer fails, within the warranty period to notify Stober in writing and provide Stober with evidence satisfactory to Stober of the alleged defect within five (5) days after it becomes known to the customer;

(b) After inspection of a product, Stober determines, in its sole discretion, that it is not defective in material or workmanship;

(c) Repair or replacement of a product is required through normal wear and tear;

(d) Any part in a product or any ingredient contained in a product requires replacement or repair through routine usage or normal wear and tear;

(e) A product is not maintained or used in accordance with Stober's applicable operating and/or maintenance manuals, whether by the Customer or any third party;

(f) A product has been subject to misuse, misapplication, negligence, neglect (including, but not limited to, improper maintenance or storage), accident, catastrophe, improper installation, modification, adjustment, repair or lubrication, whether by the Customer or any third party, without the prior written consent of Stober. Misuse shall include, but not be limited to, deterioration in a product due to chemical action and wear caused by the presence of abrasive materials;

(g) The system of connected rotating parts into which the product becomes incorporated is not compatible with the product, or it is not free from critical speed or torsional or other type of vibration within the specified operating range, no matter how induced; or

(h) The transmitted load and imposed torsional thrust and overhung loads are not within the published capacity limits for the unit sold.

Items manufactured by other parties but installed in or affixed to Stober's products are not warranted by Stober and bear only those warranties, express or implied, which are given by the manufacturer of such items, if any.

THE WARRANTY SET FORTH ABOVE IS INTENDED SOLELY FOR THE BENEFIT OF THE Customer AND DOES NOT APPLY TO ANY THIRD PARTY. ALL CLAIMS MUST BE MADE BY THE Customer AND MAY NOT BE MADE BY ANY THIRD PARTY. THIS WARRANTY MAY NOT BE TRANSFERRED OR ASSIGNED, IN WHOLE OR IN PART, BY THE Customer FOR ANY REASON WHATSOEVER. ANY SUCH ATTEMPTED TRANSFER OR ASSIGNMENT SHALL BE NULL AND VOID.

THIS WARRANTY TAKES THE PLACE OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHICH ARE HEREBY DISCLAIMED AND EXCLUDED BY STOBER, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF USE AND ALL OBLIGATIONS OR LIABILITIES ON THE PART OF STOBER FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE, REPAIR OR PERFORMANCE OF THE PRODUCTS.

4. **MODIFICATIONS.** Stober reserves the right, without notice to the Customer, to (a) change the specifications of any product, (b) improve a product in any manner that Stober deems necessary or appropriate and (c) discontinue the manufacture of any product.

5. **PURCHASE ORDERS.** The Customer will submit purchase orders for the products to Stober in writing, whether by mail or telefax, which shall set forth, at a minimum: (a) an identification of the products ordered, (b) prices for such products, (c) quantities, (d) requested delivery dates and (e) shipping instructions and shipping addresses.

6. **ACCEPTANCE OF ORDERS.** All purchase orders received from the Customer are subject to acceptance by Stober in writing.

7. **MODIFICATION OF ORDERS.** No accepted purchase order shall be modified or canceled except upon the written agreement of Stober and the Customer. Mutually agreed cancellations shall be subject to reasonable charges based upon expenses already incurred by Stober and commitments made by Stober. Mutually agreed change orders shall be subject to all provisions of these Terms and Conditions of Sale.

8. **PRICE INCREASES.** Stober may increase its prices for the products by providing the original purchaser of the products with at least thirty (30) days' prior written notice. Increased prices for products shall not apply to purchase orders accepted prior to the effective date of the price increase unless such orders provide for delivery more than thirty (30) days after the date of acceptance of the order.

9. **PRICING AND DELIVERY TERMS.** In accordance with KRS 355.2-319(1)(b), all products are delivered F.O.B. Stober's warehouse facility in Maysville, Kentucky, or such other facility as Stober may designate. Orders are then shipped per Customer's shipping instructions as set forth in Customer's purchase order. **CATALOG PRICING DOES NOT INCLUDE SHIPPING, HANDLING AND TAXES.** Once delivered to a common carrier of the Customer's choosing [or of Stober's choosing if Customer has failed to specify a common carrier on or before five (5) days prior to the requested delivery date] Stober shall have no further responsibility for the products and all risk of damage, loss or delay shall pass to the Customer. A handling fee is added to freight costs by Stober to cover the cost of having to pay the carrier within seven (7) days when the terms with the Customer are net 30. The Customer has the option of shipping collect with our carrier or the carrier of choice.

10. **PAYMENT TERMS.** Net 30 days. All orders will be shipped either prepaid by the Customer or C.O.D., at Stober's option, unless the Customer has established a previously approved credit line. If Stober approves a credit line for the Customer, all payments shall be due with thirty (30) days of the date of the invoice. If any invoice is not paid in full within such thirty (30) day period, then finance charges shall be assessed at the rate of one and one-half percent (1½%) per month (eighteen percent (18%) per year). If such rate is deemed to be usurious at any time, it shall be reduced to the maximum rate permitted by applicable law. Stober may stop or withhold shipment of products if the Customer does not fulfill its payment obligations. If Stober is insecure about payment for any reason, Stober may require full or partial payment in advance and as a condition to the continuation of its delivery of products.

11. **SECURITY INTEREST.** Unless and until the products are paid for in full, Stober reserves a security interest in them to secure the unpaid balance of the purchase price. The Customer hereby grants to Stober a power of attorney, coupled with an interest, to execute and file on behalf of the Customer all necessary financing statements and other documents required or appropriate to protect the security interest granted herein.

12. **ACCEPTANCE OF PRODUCTS.** The Customer will conduct any incoming inspection tests as soon as possible upon arrival of the products, but in no event later than ten (10) days after the date of receipt. Any products not rejected by written notice to Stober within such period shall be deemed accepted by the Customer. Stober shall not be liable for any additional costs, expenses or damages incurred by the Customer, directly or indirectly, as a result of any shortage, damage or discrepancy in a shipment.

13. **LIMITATION OF REMEDIES.**

(a) STOBER SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE CAUSED BY DELAY IN FURNISHING THE CUSTOMER WITH PRODUCTS.

(b) IN NO EVENT SHALL STOBER'S LIABILITY INCLUDE ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL LOSSES OR DAMAGES, EVEN IF STOBER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH POTENTIAL LOSS OR DAMAGE.

14. **MADE-TO-ORDER PRODUCTS.** Stober reserves the right to revoke and amend any price quotations offered to the Customer for made-to-order products, provided that such price quotations have not been accepted by the Customer prior to the date of revocation or amendment.

15. **DIES, TOOLS AND EQUIPMENT.** Charges incurred by the Customer for dies, tools and other equipment shall not confer ownership or the right to possession therein by the Customer. All such dies, tools and equipment shall remain the property of Stober, and Stober shall have the exclusive right to possession thereof. Stober shall maintain such tools and equipment in good working order.

16. **REGULATORY LAWS AND STANDARDS.** Stober makes no representation that its products conform to state or local laws, ordinances, regulations, codes or standards except as may be otherwise agreed to in writing by Stober.

17. **SIZES AND WEIGHTS.** Stober's products are made only in the sizes and to the specifications set forth in its catalogs and other literature. If any alteration is requested, such altered product will be treated as a made-to-order item. Stober assumes no responsibility for typographical errors which may appear in its catalogs or literature, and cannot accept alteration charges caused by such errors. Since weights shown in Stober's catalogs are approximate, they cannot be used in determining freight allowances set forth in its catalogs and other literature. Freight allowances will be determined at the time of shipment and shall be based on actual shipping weight.

18. **SYSTEM DESIGN.** Responsibility for system design to ensure proper use and application of Stober's products within their published specifications and ratings rests solely with the Customer. This includes, but is not limited to, an analysis of loads created by torsional vibrations within the entire system, regardless of how induced.

Stober Drives Inc.
1781 Downing Drive • Maysville, KY 41056
Phone: 606 759-5090 • FAX: 606 759-5045
www.stober.com • E-mail: sales@stober.com