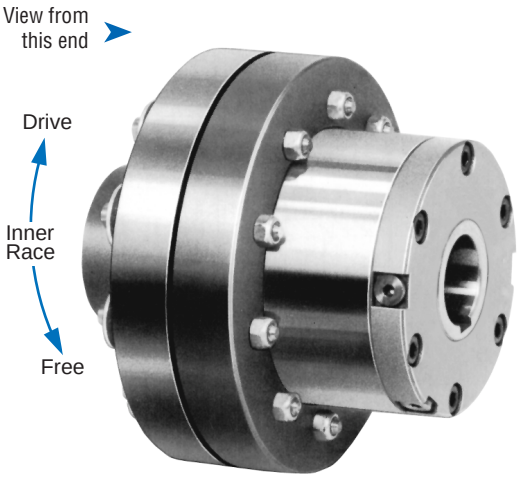
AL..KEED2, ALM..KEED2

Overrunning, Indexing, Backstopping
Ball Bearing Supported, Ramp & Roller Clutch Couplings



Right Hand rotation shown.
(Left Hand opposite.)
Specify direction of rotation when ordering.

Model AL..KEED2 is a ramp & roller type clutch coupling, self contained, sealed and bearing supported, using two 160 Series bearings. Unit is shipped oil lubricated.

In this design, a standard AL clutch is connected to a KEE flexible coupling for in-line mounting. The KEE model is a rugged coupling, economical and suitable for many applications.

D2 cover is used to enclose the unit. It is equipped with two screws for oil filling.

We recommend that the unit be supplied assembled.

If grease lubrication is used, the maximum overrunning speed is reduced by 50%.

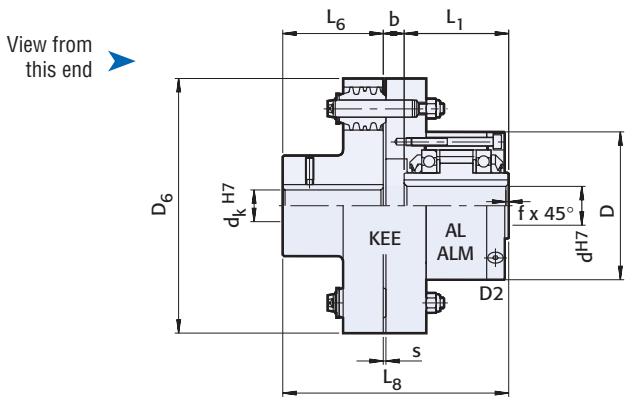
For bolt tightening torque values, see page 126.

Specifications

Model	Size	KEE Coupling	Torque Capacity lb.ft. (Nm)	Overrunning Speed Max. RPM Inner Race	Overrunning Speed Max. RPM Outer Race	Hub Bore Range d_K^{H7}	Shipping Weight lb. (kg)
AL.. KEED2	12	2	41 (55)	2,500	6,000	0.47 – 0.98 (12 – 25)	6.62 (3)
	15	3	90 (122)	1,900	6,000	0.63 – 1.18 (16 – 30)	9.70 (4.4)
	20	3	90 (122)	1,600	5,600	0.63 – 1.18 (16 – 30)	10.14 (4.6)
	25	4	213 (288)	1,400	4,500	0.79 – 1.57 (20 – 40)	14.11 (6.4)
	30	5	369 (500)	1,300	4,100	0.79 – 1.97 (20 – 50)	24.26 (11)
	35	6	535 (725)	1,100	3,800	0.98 – 2.56 (25 – 65)	37.48 (17)
	40	6	756 (1025)	950	3,400	0.98 – 2.56 (25 – 65)	41.90 (19)
	45	6	775 (1050)	900	3,200	0.98 – 2.56 (25 – 65)	41.90 (19)
	50	7	1,292 (1750)	850	2,800	1.18 – 2.95 (30 – 75)	68.36 (31)
	55	8	1,937 (2625)	720	2,650	1.38 – 3.54 (35 – 90)	103.64 (47)
	60	8	2,030 (2750)	680	2,450	1.38 – 3.54 (35 – 90)	108.05 (49)
	70	10	4,244 (5750)	580	2,150	1.77 – 4.33 (45 – 110)	198.45 (90)
	80	11	6,273 (8500)	480	1,900	2.17 – 4.92 (55 – 125)	235.94 (107)
	90	12	10,148 (13750)	380	1,700	2.56 – 5.51 (65 – 140)	374.85 (170)
	100	14	14,760 (20000)	350	1,450	2.95 – 6.30 (75 – 160)	507.15 (230)
	120	16	22,140 (30000)	250	1,250	3.35 – 7.09 (85 – 180)	727.65 (330)
	150	18	32,288 (43750)	180	980	3.74 – 7.87 (95 – 200)	1,102.50 (500)
	200	22	71,955 (97500)	120	750	4.92 – 9.84 (125 – 250)	2,127.83 (965)
	250	28	184,500 (250000)	100	620	6.30 – 12.60 (160 – 320)	3,803.62 (1725)
ALM.. KEED2	25	4	213 (288)	1,100	2,800	0.79 – 1.57 (20 – 40)	14.11 (6.4)
	30	5	434 (588)	1,000	2,500	0.79 – 1.97 (20 – 50)	24.26 (11)
	35	6	618 (838)	900	2,400	0.98 – 2.56 (25 – 65)	37.48 (17)

Note: For clutch bore (d^{H7}) and keyseat information see page 83. When ordering, please specify direction of rotation.

AL..KEED2, ALM..KEED2

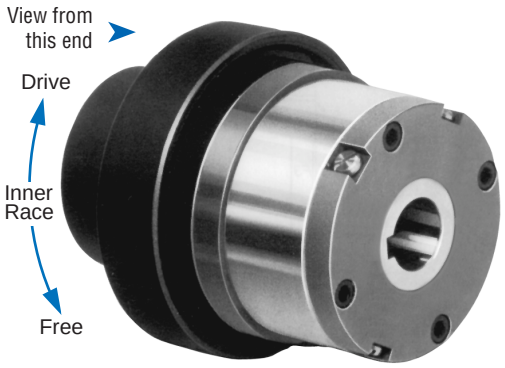


Dimensions inches (mm)

Model	Size	d^{H7}	D	L_1	D_6	L_6	L_8	b	s	f
AL.. KEED2	12	0.47 (12)	2.44 (62)	1.65 (42)	3.82 (97)	1.38 (35)	3.54 (90)	0.51 (13)	0.12 (3)	0.02 (0.5)
	15	0.59 (15)	2.68 (68)	2.05 (52)	4.41 (112)	1.57 (40)	4.33 (110)	0.71 (18)	0.12 (3)	0.03 (0.8)
	20	0.79 (20)	2.95 (75)	2.24 (57)	4.41 (112)	1.57 (40)	4.51 (114.5)	0.69 (17.5)	0.12 (3)	0.03 (0.8)
	25	0.98 (25)	3.54 (90)	2.36 (60)	5.12 (130)	1.97 (50)	5.02 (127.5)	0.69 (17.5)	0.12 (3)	0.04 (1)
	30	1.18 (30)	3.94 (100)	2.68 (68)	6.30 (160)	2.36 (60)	5.83 (148)	0.79 (20)	0.08 (2)	0.04 (1)
	35	1.38 (35)	4.33 (110)	2.91 (74)	7.48 (190)	2.95 (75)	6.61 (168)	0.75 (19)	0.08 (2)	0.04 (1)
	40	1.57 (40)	4.92 (125)	3.39 (86)	7.48 (190)	2.95 (75)	7.01 (178)	0.67 (17)	0.08 (2)	0.06 (1.5)
	45	1.77 (45)	5.12 (130)	3.39 (86)	7.48 (190)	2.95 (75)	7.01 (178)	0.67 (17)	0.08 (2)	0.06 (1.5)
	50	1.97 (50)	5.91 (150)	3.62 (92)	8.86 (225)	3.54 (90)	8.15 (207)	0.98 (25)	0.10 (2.5)	0.06 (1.5)
	55	2.17 (55)	6.30 (160)	4.09 (104)	10.63 (270)	3.94 (100)	9.19 (233.5)	1.16 (29.5)	0.12 (3)	0.08 (2)
	60	2.36 (60)	6.69 (170)	4.49 (114)	10.63 (270)	3.94 (100)	9.61 (244)	1.18 (30)	0.12 (3)	0.08 (2)
	70	2.76 (70)	7.48 (190)	5.28 (134)	13.39 (340)	5.51 (140)	12.30 (312.5)	1.52 (38.5)	0.12 (3)	0.10 (2.5)
	80	3.15 (80)	8.27 (210)	5.67 (144)	14.96 (380)	6.30 (160)	13.39 (340)	1.42 (36)	0.12 (3)	0.10 (2.5)
	90	3.54 (90)	9.06 (230)	6.22 (158)	17.32 (440)	7.09 (180)	15.28 (388)	1.97 (50)	0.14 (3.5)	0.12 (3)
	100	3.94 (100)	10.63 (270)	7.17 (182)	19.69 (500)	7.87 (200)	16.63 (422.5)	1.59 (40.5)	0.14 (3.5)	0.12 (3)
	120	4.72 (120)	12.20 (310)	7.95 (202)	22.05 (560)	8.66 (220)	18.54 (471)	1.93 (49)	0.16 (4)	0.12 (3)
	150	5.91 (150)	15.75 (400)	9.69 (246)	25.20 (640)	9.84 (250)	21.38 (543)	1.85 (47)	0.16 (4)	0.16 (4)
	200	7.87 (200)	20.47 (520)	12.83 (326)	34.65 (880)	12.60 (320)	27.58 (700.5)	2.15 (54.5)	0.18 (4.5)	0.20 (5)
	250	9.84 (250)	24.02 (610)	15.59 (396)	45.67 (1160)	15.75 (400)	34.17 (868)	2.83 (72)	0.20 (5)	0.20 (5)
ALM.. KEED2	25	0.98 (25)	3.54 (90)	2.36 (60)	5.12 (130)	1.97 (50)	5.02 (127.5)	0.69 (17.5)	0.12 (3)	0.04 (1)
	30	1.18 (30)	3.94 (100)	2.68 (68)	6.30 (160)	2.36 (60)	5.83 (148)	0.79 (20)	0.08 (2)	0.04 (1)
	35	1.38 (35)	4.33 (110)	2.91 (74)	7.48 (190)	2.95 (75)	6.61 (168)	0.75 (19)	0.08 (2)	0.04 (1)

AL..KMSD2, ALM..KMSD2

Overrunning, Indexing, Backstopping
Ball Bearing Supported, Ramp & Roller Clutch Couplings



Right Hand rotation shown.
(Left Hand opposite.)
Specify direction of rotation when ordering.

Model AL..KMSD2 is a ramp & roller type clutch coupling, self contained, sealed and bearing supported, using two 160 Series bearings. Unit is shipped oil lubricated.

In this design, a standard AL clutch is connected to a KMS flexible coupling for in-line mounting. The KMS model is a rugged coupling, economical and suitable for many applications.

D2 cover is used to enclose the unit. It is equipped with two screws for oil filling.

We recommend that the unit be supplied assembled.

If grease lubrication is used, the maximum overrunning speed is reduced by 50%.

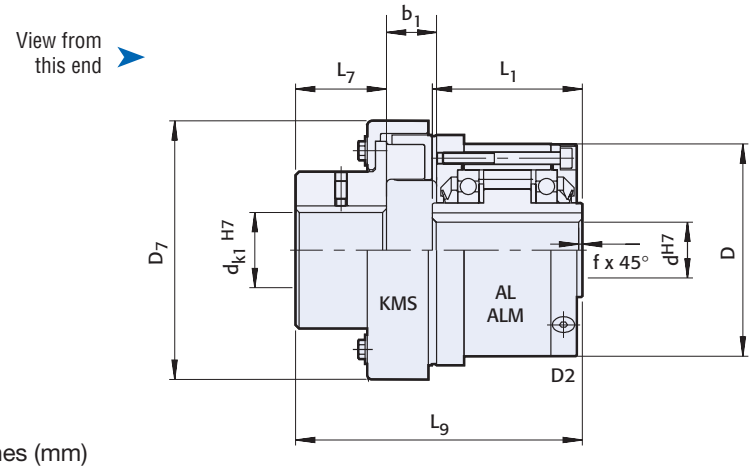
For bolt tightening torque values, see page 126.

Specifications

Model	Size	KMS	Torque Capacity lb.ft. (Nm)	Overrunning Speed Max. RPM Inner Race	Overrunning Speed Max. RPM Outer Race	Hub Bore Range $d_{K1}{}^{H7}$	Shipping Weight lb. (kg)
AL.. KMSD2	12	4	37 (50)	2,500	6,000	0.28 – 1.38 (7 – 35)	4.63 (2.1)
	15	6.3	58 (79)	1,900	6,000	0.47 – 1.57 (12 – 40)	5.95 (2.7)
	20	10	92 (125)	1,600	5,600	0.39 – 1.77 (10 – 45)	8.38 (3.8)
	25	10	92 (125)	1,400	4,500	0.39 – 1.77 (10 – 45)	9.70 (4.4)
	30	16	148 (200)	1,300	4,100	0.39 – 1.97 (10 – 50)	13.01 (5.9)
	35	25	231 (313)	1,100	3,800	0.59 – 2.17 (15 – 55)	17.86 (8.1)
	40	40	369 (500)	950	3,400	0.79 – 2.36 (20 – 60)	25.14 (11.4)
	45	63	582 (788)	900	3,200	0.79 – 2.76 (20 – 70)	29.33 (13.3)
	50	100	923 (1250)	850	2,800	0.98 – 2.95 (25 – 75)	42.12 (19.1)
	55	100	923 (1250)	720	2,650	0.98 – 2.95 (25 – 75)	44.98 (20.4)
	60	160	1,476 (2000)	680	2,450	1.18 – 3.15 (30 – 80)	59.76 (27.1)
	70	250	2,306 (3125)	580	2,150	1.38 – 3.54 (35 – 90)	89.08 (40.4)
	80	400	3,690 (5000)	480	1,900	1.77 – 3.94 (45 – 100)	125.69 (57)
	90	630	5,812 (7875)	380	1,700	2.36 – 4.72 (60 – 120)	191.84 (87)
	100	1000	9,225 (12500)	350	1,450	2.95 – 5.51 (75 – 140)	288.86 (131)
	120	1600	14,760 (20000)	250	1,250	3.54 – 6.30 (90 – 160)	432.18 (196)
	150	ON REQUEST					
	200	"					
	250	"					
ALM.. KMSD2	25	16	148 (200)	1,100	2,800	0.79 – 1.57 (20 – 40)	9.70 (4.4)
	30	25	231 (313)	1,000	2,500	0.79 – 1.97 (20 – 50)	13.01 (5.9)
	35	40	369 (500)	900	2,400	0.98 – 2.56 (25 – 65)	17.86 (8.1)

Note: For clutch bore (d^{H7}) and keyseat information see page 83. When ordering, please specify direction of rotation.

AL..KMSD2, ALM..KMSD2



Dimensions inches (mm)

Model	Size	d^{H7}	D	L_1	D_7	$d_{K1}{}^{H7}$	L_7	L_9	b_1
AL.. KMSD2	12	0.47 (12)	2.44 (62)	1.65 (42)	3.07 (78)	.28 – 1.38 (7 – 35)	1.57 (40)	3.94 (100)	0.71 (18)
	15	0.59 (15)	2.68 (68)	2.05 (52)	3.54 (90)	.47 – 1.57 (12 – 40)	1.77 (45)	4.57 (116)	0.77 (20)
	20	0.79 (20)	2.95 (75)	2.24 (57)	4.49 (114)	.39 – 1.77 (10 – 45)	1.89 (48)	4.86 (123.5)	0.67 (17)
	25	0.98 (25)	3.54 (90)	2.36 (60)	4.49 (114)	.39 – 1.77 (10 – 45)	1.89 (48)	4.98 (126.5)	0.67 (17)
	30	1.18 (30)	3.94 (100)	2.68 (68)	5.00 (127)	.39 – 1.97 (10 – 50)	2.05 (52)	5.51 (140)	0.75 (19)
	35	1.38 (35)	4.33 (110)	2.91 (74)	5.63 (143)	.59 – 2.17 (15 – 55)	2.24 (57)	6.10 (155)	0.87 (22)
	40	1.57 (40)	4.92 (125)	3.39 (86)	6.22 (158)	.79 – 2.36 (20 – 60)	2.40 (61)	6.81 (173)	1.02 (26)
	45	1.77 (45)	5.12 (130)	3.39 (86)	7.13 (181)	.79 – 2.76 (20 – 70)	2.64 (67)	7.32 (186)	1.18 (30)
	50	1.97 (50)	5.91 (150)	3.62 (92)	7.95 (202)	.98 – 2.95 (25 – 75)	2.95 (75)	8.21 (208.5)	1.38 (35)
	55	2.17 (55)	6.30 (160)	4.09 (104)	7.95 (202)	.98 – 2.95 (25 – 75)	2.95 (75)	8.52 (216.5)	1.38 (35)
	60	2.36 (60)	6.69 (170)	4.49 (114)	9.06 (230)	1.18 – 3.15 (30 – 80)	3.23 (82)	9.57 (243)	1.61 (41)
	70	2.76 (70)	7.48 (190)	5.28 (134)	10.12 (257)	1.38 – 3.54 (35 – 90)	3.50 (89)	10.93 (277.5)	1.85 (47)
	80	3.15 (80)	8.27 (210)	5.67 (144)	11.57 (294)	1.77 – 3.94 (45 – 100)	3.82 (97)	12.01 (305)	2.20 (56)
	90	3.54 (90)	9.06 (230)	6.22 (158)	13.07 (332)	2.36 – 4.72 (60 – 120)	4.57 (116)	13.64 (346.5)	2.52 (64)
	100	3.94 (100)	10.63 (270)	7.17 (182)	15.04 (382)	2.95 – 5.51 (75 – 140)	5.51 (140)	15.20 (386)	2.95 (75)
	120	4.72 (120)	12.20 (310)	7.95 (202)	17.01 (432)	3.54 – 6.30 (90 – 160)	6.30 (160)	18.03 (458)	2.95 (75)
	150	5.91 (150)	ON REQUEST						
	200	7.87 (200)	"						
	250	9.84 (250)	"						
ALM.. KMSD2	25	0.98 (25)	3.54 (90)	2.36 (60)	4.54 (113)	.47 – 1.97 (12 – 50)	2.05 (52)	5.22 (132.5)	0.75 (19)
	30	1.18 (30)	3.94 (100)	2.68 (68)	4.92 (125)	.59 – 2.17 (15 – 55)	2.24 (57)	5.91 (150)	0.87 (22)
	35	1.38 (35)	4.33 (110)	2.91 (74)	5.51 (140)	.71 – 2.36 (18 – 60)	2.40 (61)	6.42 (163)	1.02 (26)

Overrunning
Ball Bearing Supported, Sprag Clutch Couplings

FW Series

For in-line shaft applications

Outer race overrunning—intermediate speed

Inner race overrunning—high speed

FW clutch couplings are comprised of an FSO clutch with a disc coupling. The Model FSO clutch can not accommodate any misalignment, so a coupling is always required for shaft to shaft in-line mounting. The FW clutch couplings are designed for high speed inner race overrunning and intermediate speed outer race overrunning. They are usually selected for inner race overrunning. Where outer race overrunning is necessary, use the AL..KMSD2 clutch coupling.

FW clutch couplings accommodate angular and parallel misalignment, are torsionally stiff and can couple shafts of different sizes.

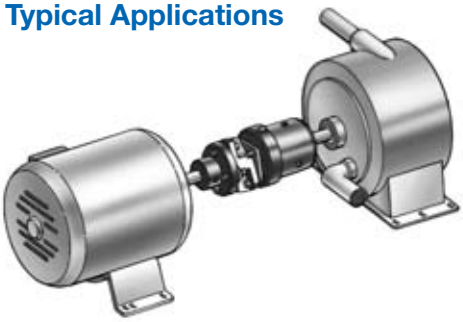
Increased clutch-coupling speeds are possible with FSO clutches having steel labyrinth grease seals.

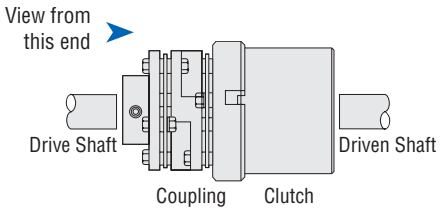
C/T is ideal for applications with high speed outer race overrunning and slow drive speed.

Models 403 through 712 are equipped with PCE sprags and are shipped from the factory with Mobil DTE Heavy Medium Oil.

FW-752 through 1018 clutches are shipped from the factory with Fiske Bothers Lubriplate Low-Temp Grease.

Typical Applications





The FW Series clutch coupling is designed for **inner race overrunning**. Mount the clutch half of the unit on the driven shaft.

FWW Series

For in-line shaft applications requiring low torque

FWW clutch couplings are designed for applications where the torque requirement is low in comparison to the shaft diameters. Both bore diameters in coupling hubs are larger than clutch bores in FW and FWW series.

C/T sprags are available in FWW series.

Increased clutch-coupling speeds are possible with FSO clutches having steel labyrinth seals.

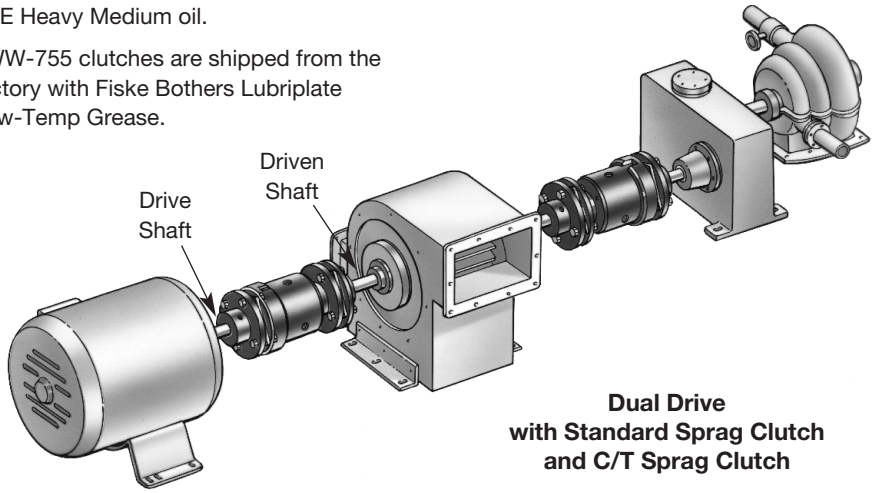
Check key and shaft stress before making final clutch or coupling selection since this may determine maximum allowable drive torque capacity.

FWW-420 through 745 clutches are shipped from the factory with Mobil DTE Heavy Medium oil.

FWW-755 clutches are shipped from the factory with Fiske Bothers Lubriplate Low-Temp Grease.

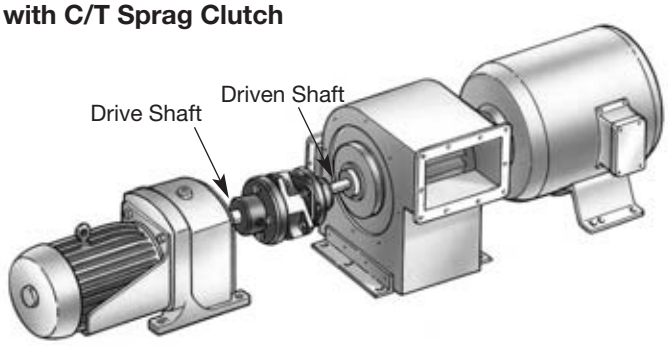
The FWW Series clutch coupling is designed for **inner race overrunning**. Mount the drive coupling on the drive shaft and the driven coupling on the driven shaft.

Note: Mounting is reversed for C/T Series.

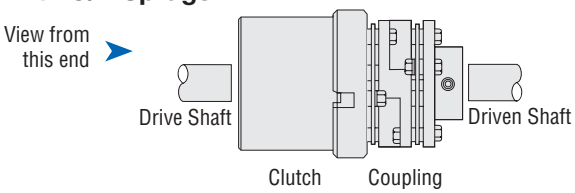


Dual Drive with Standard Sprag Clutch and C/T Sprag Clutch

Turning Gear Drive with C/T Sprag Clutch

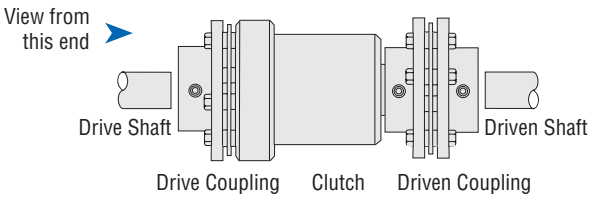


With C/T Sprags



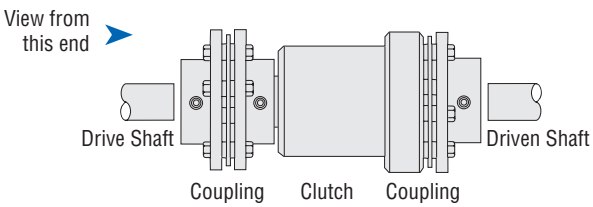
The model FW (C/T) clutch coupling is designed for outer race overrunning. Mount the clutch half of the unit on the drive shaft.

FWW



The model FWW clutch coupling is designed for **inner race overrunning**. Mount the drive coupling on the drive shaft and the driven coupling on the driven shaft.

With C/T Sprags



Note: Mounting is reversed for C/T Series.

Bore and keyseat tolerances for couplings

Couplings will be bored to AGMA Standard 511.02 for Flexible Couplings. Bore fit normally supplied is listed to the right.

For tolerances not listed, please consult Formsprag.

Standard bore tolerances inches (mm)

Nominal Shaft Dia.	Clearance Fit Class 1 Nominal	Interference* Fit Nominal
1/2“ through 1 1/2" (12.7 through 38.1)	+.001 / –.000 (+.025/–.000)	Less .001 +.0005 / –.000 (Less .025 +.013/–.000)
Over 1 1/2" through 2" (Over 38.1 through 50.8)	+.001 / –.000 (+.025/–.000)	Less .002 +.001 / –000 (Less .051 +.025/–.000)
Over 2" through 3" (Over 50.8 through 76.2)	+.0015 / –.000 (+.038/–.000)	Less .003 +.0015 / –.000" (Less .076 +.038/–.000)
Over 3" through 4" (Over 76.2 through 101.6)	+.0015 / –.000 (+.038/–.000)	Less .003 +.0015 / –.000" (Less .076 +.038/–.000)
Over 4" through 7" (Over 101.6 through 177.8)	+.002 / –.000 (+.051/–.000)	Less .003 +.0015 / –.000" (Less .076 +.038/.000)

* Available at extra charge. Sizes are standard unless otherwise specified.

Standard keyseats inches (mm)

Nominal Shaft Diameter Over	Through	Keyseat Width +.002 / –.000 (+.051/–.00)	Keyseat Length +.010 / –.000 (+.254/–.000)
3/8 (9.525)	7/16 (11.100)	3/32 (2.362)	1/16 (1.168)
7/16 (11.100)	9/16 (14.275)	1/8 (3.175)	1/16 (1.575)
9/16 (14.275)	7/8 (22.225)	3/16 (4.750)	3/32 (2.362)
7/8 (22.225)	1 1/4 (31.750)	1/4 (6.350)	1/8 (3.175)
1 1/4 (31.750)	1 3/8 (34.925)	5/16 (7.925)	5/32 (3.962)
1 3/8 (34.925)	1 3/4 (44.450)	3/8 (9.525)	3/16 (4.750)
1 3/4 (44.450)	2 1/4 (57.150)	1/2 (12.700)	1/4 (6.350)
2 1/4 (57.150)	2 3/4 (69.850)	5/8 (15.875)	5/16 (7.925)
2 3/4 (69.850)	3 1/4 (82.550)	3/4 (19.050)	3/8 (9.525)
3 1/4 (82.550)	3 3/4 (95.250)	7/8 (22.225)	7/16 (11.100)
3 3/4 (95.250)	4 1/2 (114.300)	1 (25.400)	1/2 (12.700)
4 1/2 (114.300)	5 1/2 (139.700)	1 1/4 (31.750)	5/8 (15.875)
5 1/2 (139.700)	7 (177.800)	1 1/2 (38.100)	3/4 (19.050)

FW

Specifications

FW Size	Torque Capacity lb.ft. (Nm)	HP Rating/ 100 RPM HP (kw)	Maximum Overrunning Speed (RPM)							Clutch Size*	Coupling Size	Shipping Weight lb. (kg)
			Standard Sprag			C/T Sprag						
			Outer Race	Inner† Race	Drive Speed	Outer Race	Inner Race	Sprag Lift-off	Drive Speed			
403	107 (145)	2.0 (.90)	850	2,800	6,000	5,000	2,800	1,300	1,100	FSO-400	C403	11 (5)
406	277 (375)	3.5 (2.6)	850	2,800	6,000	5,000	2,800	1,300	1,100	FSO-400	C406	13 (6)
504	277 (375)	3.5 (2.6)	800	2,500	6,000	4,000	2,500	1,200	1,000	FSO-500	C504	19 (9)
508	885 (1200)	11.0 (8.2)	800	2,500	5,000	4,000	2,500	1,200	1,000	FSO-500	C508	29 (13)
607	900 (1220)	6.2 (4.6)	750	2,200	5,000	3,600	2,200	1,200	1,000	FSO-600	C607	31 (14)
610	2,250 (3060)	29.0 (21.6)	750	2,200	3,750	3,600	2,200	1,200	1,000	FSO-600	C610	54 (25)
708	2,066 (2800)	18.0 (13.4)	450	1,600	3,000	2,500	1,600	1,000	800	FSO-700	C708	68 (31)
712	5,000 (6800)	48.0 (35.8)	450	1,600	3,000	2,500	1,600	1,000	800	FSO-700	C712	86 (30)
752	5,166 (7000)	48.0 (35.8)	650	1,000	3,000	1,800	1,000	800	650	FSO-750	C752	127 (58)
754	7,000 (9520)	90.0 (67.1)	650	1,000	2,800	1,800	1,000	800	650	FSO-750	C754	162 (74)
812	5,166 (7000)	48.0 (35.8)	525	850	3,000	1,500	850	675	525	FSO-800	C812	146 (66)
814	9,667 (13100)	90.0 (67.1)	525	850	2,800	1,500	850	675	525	FSO-800	C814	181 (82)
916	18,000 (24480)	250 (186)	500	700	2,000	1,350	700	650	500	FSO-900	C916	512 (233)
1018	27,000 (36720)	370 (276)	375	500	2,000	1,100	500	475	375	FSO-1027	C1018	619 (281)

* For clutch dimensions and bore/keyseat sizes, see pages 15 and 17.

† Labyrinth grease seals permit higher inner race overrunning speed; see pages 14 and 16.

FWW

Specifications

FWW Size	Torque Capacity lb.ft. (Nm)	HP Rating/ 100 RPM HP (kw)	Maximum RPM Overrunning Speed							Clutch Size*	Coupling Size	Shipping Weight lb. (kg)
			Standard Sprag			C/T Sprag						
			Outer Race	Inner† Race	Drive Speed	Outer Race	Inner Race	Sprag Lift-off	Drive Speed			
420	276 (375)	5.2 (3.8)	850	2,800	6,200	5,000	2,800	1,300	1,100	FSO-400	C420	20 (9)
530	885 (1200)	16.8 (12.5)	800	2,500	5,000	4,000	2,500	1,200	1,000	FSO-500	C530	42 (19)
640	2,066 (2800)	39.3 (29.3)	750	2,200	3,750	3,600	2,200	1,200	1,000	FSO-600	C640	91 (41)
745	5,000 (6800)	95.2 (71)	450	1,600	3,000	2,500	1,600	1,000	800	FSO-700	C745	150 (68)
755	7,000 (9520)	133.2 (99)	650	1,000	2,800	1,800	1,000	800	650	FSO-750	C755	323 (147)

* For clutch dimensions and bore/keyseat sizes, see pages 15 and 17.

† Labyrinth grease seals permit higher inner race overrunning speeds, see pages 14 and 16.

Coupling Bore Sizes

Coupling Size	Bore Range Min.	Bore Range Max.
C403	0.63 (15.9)	1.25 (31.8)
C406	0.84 (21.4)	1.63 (41.3)
C504	0.84 (21.4)	1.63 (41.3)
C508	1.13 (28.6)	2.37 (60.3)
C607	0.93 (23.5)	2.25 (57.1)
C610	1.50 (38.1)	3.74 (95.0)
C708	1.50 (38.1)	3.18 (80.7)
C712	1.81 (46.1)	3.74 (95.0)
C752	1.81 (46.1)	3.74 (95.0)
C754	2.19 (55.6)	4.44 (112.9)
C812	1.81 (46.1)	3.74 (95.0)
C814	2.19 (55.6)	4.44 (112.9)
C916	2.50 (63.5)	7.02 (178.2)
C1018	2.50 (63.5)	7.02 (178.2)
C420	0.84 (21.4)	1.63 (41.3)
C530	1.13 (28.6)	2.37 (60.3)
C640	1.50 (38.1)	3.18 (80.7)
C745	1.82 (46.2)	3.74 (95.0)
C755	2.19 (55.6)	4.44 (112.9)

Bore sizes and keyseats inches (mm)

Size	Bore Size	Keyseat	Bore Range Min.	Bore Range Max.
300	.500 (12.70) .625 (15.87) 15mm .750 (19.05)	1/8 x 1/16 (3.18 x 1.57) 3/16 x 3/32 (4.75 x 2.36) 5 x 2.3mm*** 3/16 x 3/32 (4.75 x 2.36)	.500 (12.70)	.750 (19.05)
400	.500 (12.70) .625 (15.87) 18 mm .750 (19.05) .875 (22.22)	1/8 x 1/16 (3.18 x 1.57) 3/16 x 3/32 (4.75 x 2.36) 6 x 2.8mm*** 3/16 x 3/32 (4.75 x 2.36) 3/16 x 1/16 (4.75 x 1.57)	.437 (11.10)	.875 (22.22)
500	.875 (22.22) 1.000 (25.40) 1.125 (28.57) 30mm 1.250 (31.75) 1.312 (33.32)	3/16 x 3/32 (4.75 x 2.36) 1/4 x 1/8 (6.35 x 3.18) 1/4 x 1/8 (6.35 x 3.18) 10 x 3.3mm*** 1/4 x 1/8 (6.35 x 3.18) 1/4 x 3/32 (6.35 x 2.29)	.750 (19.05)	1.312 (33.32)
550	1.250 (31.75) 1.312 (33.32) 1.5000 (38.10) 1.625 (41.27)	1/4 x 1/8 (6.35 x 3.18) 3/8 x 3/16 (9.52 x 4.75) 3/8 x 3/16 (9.52 x 4.75) 3/8 x 1/8 (9.52 x 3.18)	1.00 (25.40)	1.625 (41.27)
600	1.250 (31.75) 1.375 (34.92) 1.5000 (38.10) 40mm 1.625 (41.27) 1.750 (44.45) 45mm 50mm 2.000 (50.80)	1/4 x 1/8 (6.35 x 3.18) 3/8 x 3/16 (9.52 x 4.75) 3/8 x 3/16 (9.52 x 4.75) 12 x 3.3mm*** 3/8 x 3/16 (9.52 x 4.75) 3/8 x 3/16 (9.52 x 4.75) 14 x 3.8mm*** 14 x 3.8mm*** 3/8 x 1/8 (9.52 x 3.18)	.937 (23.80)	2.250*† (57.15)
650	1.937 (49.20) 2.000 (50.80) 2.250 (57.15) 2.437 (61.90) 2.500 (63.50)	1/2 x 1/4 (12.70 x 6.35) 1/2 x 1/4 (12.70 x 6.35) 1/2 x 1/4 (12.70 x 6.35) 5/8 x 1/8 (15.87 x 3.18) 5/8 x 1/8 (15.87 x 3.18)	1.69 (42.85)	2.500 (63.5)
700	1.937 (49.20) 50mm 2.000 (50.80) 2.250 (57.15) 60mm 2.437 (61.90) 2.500 (63.50) 65mm 2.750 (69.85) 70mm 2.937 (74.60) 75mm 80mm	1/2 x 1/4 (12.70 x 6.35) 14 x 3.8mm 1/2 x 1/4 (12.70 x 6.35) 1/2 x 1/4 (12.70 x 6.35) 18 x 4.4mm*** 5/8 x 5/16 (15.87 x 7.93) 5/8 x 5/16 (15.87 x 7.93) 18 x 4.4mm*** 5/8 x 7/32 (15.87 x 5.53) 20 x 4.9mm*** 5/8 x 1/8 (15.87 x 3.18) 20 x 4.9mm*** 22 x 5.4mm***	1.875 (47.62)	3.250**† (82.55)

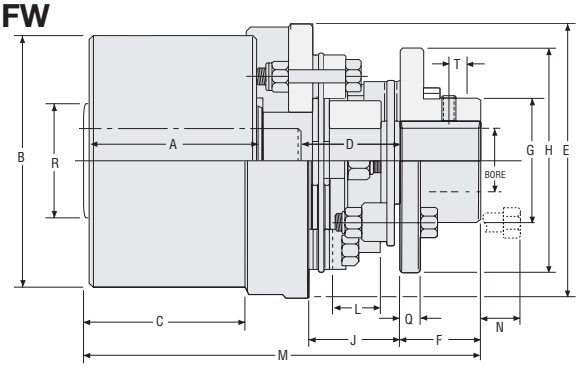
* 1/2 x 1/8 keyway.
** 3/4 x 1/4 keyway.
*** Contact Formsprag for keyseat information.

Bore sizes and keyseats†† inches (mm)

Size	Bore Size	Keyseat	Bore Range Min.	Bore Range Max.
750	2.437 (61.90) 2.500 (63.50) 65mm 2.750 (69.85) 70mm 2.937 (74.60) 75mm 3.000 (76.20) 80mm 3.250 (82.55) 3.437 (87.30)	5/8 x 5/16 (15.87 x 7.94) 5/8 x 5/16 (15.87 x 7.94) 18 x 4.4mm*** 5/8 x 5/16 (15.87 x 7.94) 20 x 4.9mm*** 3/4 x 3/8 (19.05 x 9.52) 20 x 4.9mm*** 3/4 x 3/8 (19.05 x 9.52) 22 x 5.4mm*** 3/4 x 1/4 (19.05 x 6.35) 3/4 x 3/16 (19.05 x 4.75)	2.250 (57.15)	3.437 (87.30)
800	3.000 (76.20) 80mm 3.250 (82.55) 85mm 3.437 (87.30) 3.500 (88.90) 90mm 3.750 (95.25) 100mm 3.937 (100.00) 4.000 (101.60) 4.250 (107.95) 110mm 4.437 (112.70)	3/4 x 3/8 (19.05 x 9.52) 22 x 5.4mm*** 3/4 x 3/8 (19.05 x 9.52) 22 x 5.4mmv*** 7/8 x 7/16 (22.23 x 11.11) 7/8 x 7/16 (22.23 x 11.11) 25 x 5.4mm*** 7/8 x 7/16 (22.23 x 11.11) 28 x 6.4mm*** 1 x 1/2 (25.40 x 12.70) 1 x 1/2 (25.40 x 12.70) 1 x 3/8 (25.40 x 9.52) 28 x 6.4mm*** 1 x 1/4 (25.40 x 6.35)	2.625 (66.67)	4.437 (112.70)
900	100mm 4.000 (101.60) 4.250 (107.95) 110mm 4.437 (112.70) 4.500 (114.30) 120mm 4.750 (120.65) 4.937 (125.40) 5.000 (127.00) 130mm 5.250 (133.35) 5.437 (138.10)	28 x 6.4mm*** 1 x 1/2 (25.40 x 12.70) 1 x 1/2 (25.40 x 12.70) 28 x 6.4mm*** 1 x 1/2 (25.40 x 12.70) 1 x 1/2 (25.40 x 12.70) 32 x 7.4mm*** 1 x 1/2 (25.40 x 12.70) 1 x 3/8 (25.40 x 9.52) 1 x 3/8 (25.40 x 9.52) 32 x 7.4mm*** 1 x 1/4 (25.40 x 6.35) 1 x 1/4 (25.40 x 6.35)	3.625 (92.07)	5.437 (138.10)
1027	4.937 (125.40) 130mm 150mm 6.000 (152.40) 6.250 (158.75) 6.625 (168.27) 6.750 (171.45) 6.875 (174.62) 175mm 7.000 (177.80)	1 1/4 x 5/8 (31.75 x 15.87) 36 x 8.4mm*** 45 x 10.4mm*** 1 1/4 x 5/8 (31.75 x 15.87) 1 1/2 x 1/2 (38.10 x 12.70) 1 1/2 x 1/2 (38.10 x 12.70) 1 1/2 x 1/2 (38.10 x 12.70) 1 1/2 x 1/2 (38.10 x 12.70) 45 x 10.4mm*** 1 1/2 x 7/16 (38.10 x 11.10)	4.937 (125.40)	7.000 (177.80)

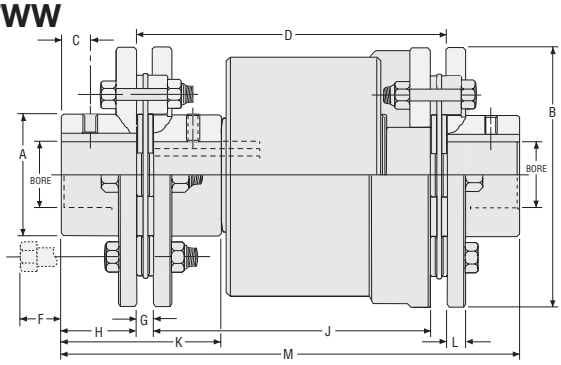
† The "E" dimension is larger for this bore size.
†† For finished dimensions of keys supplied with the clutch, contact Formsprag.

FW



Coupling sizes 403 through 712 have PCE sprags. C/T sprags are available for all sizes.

FWW



Coupling sizes 420 through 745 have PCE sprags. C/T sprags are available for all sizes.

FW

Dimensions inches (mm)

Size	A	B	C	D	E	F	G	H	J	L	M	N	Q	R	T
403	2.75 (69.85)	3.500/3.498 (88.90/88.85)	2.53 (64.26)	2.39/1.72 (60.71/43.69)	4.00 (101.60)	1.00 (25.40)	1.80 (45.72)	3.19 (81.03)	1.72 (43.69)	1.18 (29.97)	6.167 (156.64)	0.62 (15.75)	0.30 (7.62)	1.187 (30.15)	.375 (9.53)
406	2.75 (69.85)	3.500/3.498 (88.90/88.85)	2.53 (64.26)	2.67/1.74 (67.82/44.20)	4.08 (103.63)	1.32 (33.53)	2.40 (60.96)	4.08 (103.63)	1.74 (44.20)	1.06 (26.92)	6.740 (171.20)	0.87 (22.10)	0.35 (8.89)	1.187 (30.15)	.500 (12.70)
504	3.50 (88.90)	4.250/4.248 (107.95/107.90)	3.25 (82.55)	2.64/1.74 (67.06/44.20)	4.75 (120.65)	1.32 (33.53)	2.40 (60.96)	4.08 (103.63)	1.74 (44.20)	1.06 (26.92)	7.460 (189.48)	0.87 (22.10)	0.35 (8.89)	1.750 (44.45)	.500 (12.70)
508	3.50 (88.90)	4.250/4.248 (107.95/107.90)	3.25 (82.55)	3.70/2.48 (93.98/62.99)	5.63 (143.00)	1.88 (47.75)	3.30 (83.82)	5.51 (139.95)	2.48 (62.99)	1.54 (39.12)	9.085 (230.76)	1.25 (31.75)	0.55 (13.97)	1.750 (44.45)	.687 (17.45)
607	3.75 (95.25)	5.375/5.373 (136.53/136.47)	3.50 (88.90)	3.30/2.63 (83.82/66.80)	5.86 (148.84)	1.62 (41.15)	3.14 (79.76)	4.80 (121.92)	2.63 (66.80)	1.85 (46.99)	8.25 (209.55)	1.00 (25.40)	0.35 (8.89)	2.750 (69.85)	.625 (15.88)
610	3.75 (95.25)	5.375/5.373 (136.53/136.47)	3.50 (88.90)	5.35/4.17 (135.89/105.92)	7.79 (197.87)	3.00 (76.20)	5.23 (132.84)	7.79 (197.87)	4.17 (105.92)	3.08 (78.23)	11.25 (285.75)	1.30 (33.02)	0.55 (13.97)	2.750 (69.85)	1.20 (30.48)
708	5.00 (127.00)	7.125/7.123 (180.98/180.92)	4.94 (125.48)	4.60/3.58 (116.84/90.93)	7.12 (180.85)	2.25 (57.15)	4.44 (112.78)	5.70 (144.78)	3.58 (90.93)	2.64 (67.06)	11.70 (297.18)	1.00 (25.40)	0.45 (11.43)	4.000 (101.60)	.875 (22.23)
712	5.00 (127.00)	7.125/7.123 (180.98/180.92)	4.94 (125.48)	4.69/3.26 (119.13/82.80)	7.79 (197.87)	3.00 (76.20)	5.23 (132.84)	7.79 (197.87)	4.17 (105.92)	3.08 (78.23)	13.19 (335.03)	1.30 (33.02)	0.55 (13.97)	4.000 (101.60)	1.203 (30.56)
752	6.00 (152.40)	8.750/8.748 (222.25/222.20)	5.94 (150.88)	4.69/3.26 (119.13/82.80)	8.75 (222.25)	3.00 (76.20)	5.23 (132.84)	7.79 (197.87)	4.17 (105.92)	3.08 (78.23)	13.31 (338.07)	1.30 (33.02)	0.55 (13.97)	4.250 (107.95)	1.203 (30.56)
754	6.00 (152.40)	8.750/8.748 (222.25/222.20)	5.94 (150.88)	6.58/4.45 (167.13/113.03)	9.21 (233.93)	4.00 (101.60)	6.22 (157.99)	9.21 (233.93)	4.92 (124.97)	3.51 (89.15)	16.10 (408.94)	1.75 (44.45)	.66 (16.76)	4.250 (107.95)	1.562 (39.67)
812	6.00 (152.40)	10.000/9.998 (254.00/253.95)	5.94 (150.88)	4.69/3.26 (119.13/82.80)	10.00 (254.00)	3.00 (76.20)	5.23 (132.84)	7.79 (197.87)	4.17 (105.92)	3.08 (78.23)	13.31 (338.07)	1.30 (33.02)	.55 (13.97)	5.500 (139.70)	1.203 (30.56)
814	6.00 (152.40)	10.000/9.998 (254.00/253.95)	5.94 (150.88)	6.58/4.45 (167.13/113.03)	10.00 (254.00)	4.00 (101.60)	6.22 (157.99)	9.21 (233.93)	4.92 (124.97)	3.51 (89.15)	16.16 (410.46)	1.75 (44.45)	.66 (16.76)	5.500 (139.70)	1.562 (39.67)
916	6.38 (162.05)	12.000/11.997 (304.80/304.72)	6.06 (153.92)	9.05/6.78 (229.87/172.21)	12.50 (317.50)	6.00 (152.40)	9.80 (248.92)	14.10 (358.14)	7.87 (199.90)	6.30 (160.02)	21.60 (548.64)	1.30 (33.02)	.80 (20.32)	6.380 (162.05)	2.500 (63.50)
1018	6.63 (168.40)	15.000/14.997 (381.00/380.92)	6.56 (166.62)	9.05/6.78 (229.87/172.21)	15.50 (393.70)	6.00 (152.40)	9.80 (248.92)	14.10 (358.14)	7.87 (199.90)	6.30 (160.02)	21.80 (553.72)	1.30 (33.02)	.80 (20.32)	9.000 (228.60)	2.500 (63.50)

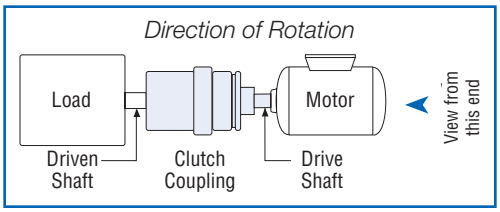
FWW

Dimensions inches (mm)

Size	A	B	C	D	F	G	H	J	K	L	M
420	2.40 (60.96)	4.08 (103.63)	0.50 (12.70)	5.68 (144.27)	0.87 (22.10)	0.34 (8.64)	1.32 (33.53)	5.00 (127.00)	2.98 (75.69)	0.35 (8.89)	8.32 (211.33)
530	3.30 (83.82)	5.51 (139.95)	0.69 (17.53)	7.70 (195.58)	1.25 (31.75)	0.55 (13.97)	1.88 (47.75)	6.61 (167.89)	4.23 (107.44)	0.55 (13.97)	11.46 (291.08)
640	5.66 (143.76)	6.65 (168.91)	0.87 (22.10)	7.92 (201.17)	1.00 (25.40)	0.45 (11.43)	2.24 (56.90)	7.01 (178.05)	5.60 (142.24)	0.35 (8.89)	12.42 (315.47)
745	6.50 (165.10)	7.79 (197.87)	1.20 (30.48)	10.26 (260.60)	1.30 (33.02)	0.55 (13.97)	3.00 (76.20)	9.16 (232.66)	6.85 (173.99)	0.45 (11.43)	16.26 (413.00)
755	7.83 (198.88)	9.21 (233.93)	1.56 (39.62)	12.70 (322.58)	1.75 (44.45)	0.66 (16.76)	4.00 (101.60)	11.37 (288.80)	9.07 (230.38)	0.55 (13.97)	20.71 (526.03)

Selection Procedure

1. Calculate the drive torque to be transmitted by the clutch coupling:
   $$\text{Drive Torque (lbs.-ft.)} = \frac{5250 \times \text{HP}}{\text{RPM}}$$
2. Select proper Service Factor from the table below.
3. Determine Design Torque:
   Design Torque (lbs.-ft.)
   = Service Factor x Drive Torque.
4. Determine shaft size and bore requirements of clutch and coupling. Check key and shaft stress before making final selection since this may determine maximum allowable drive torque capacity. Metric bore and keyseats available on request.
5. Determine overrunning speed and the type of clutch coupling required (FW or FWW). Standard FW and FWW Clutch Couplings (Form-Flex coupling combined with a FSO clutch) are designed for high speed inner race overrunning and intermediate speed outer race overrunning.
   a. FW C/T or FWW C/T models may be used in applications where the drive RPM is lower than the listed C/T maximum drive RPM and the outer race overrunning RPM is higher then the listed lift off RPM.
   b. FW C/T or FWW C/T models may not be used in applications where the drive RPM is higher than the listed maximum drive RPM.



6. Determine the direction of rotation required. These units are not symmetrical, rotational direction must be specified.
7. Select a clutch coupling from the catalog based on Design Torque, Bore Size and overrunning speed to meet the application requirements.
8. Check the maximum drive speed rating of the clutch coupling selected. If the application speed requirement is greater than the maximum drive speed rating consult Formsprag.
9. Check space limitations to allow axial space for assembly and disassembly of clutch coupling.
10. Do not exceed angular or parallel alignment shown on page 110.
11. Check lubrication requirements (refer to page 126). Grease is not recommended where ambient temperatures are below +20°F.

Service Factors

Formsprag Overrunning Clutch

Couplings are suitable for many different power transmission applications. Please refer to this table for proper service factor for your application.

Typical Prime movers are listed below, types of loads across the top, and your service factor opposite the typical prime movers.

		Driven Equipment Load Classifications			
		Light Steady Loads Starting torque is equal to or slightly greater than running torque.	**Moderate Loads** High starting torque or above average running torque.	**Medium Loads** Starting torque is approximately double running torque.	**Heavy-Duty Loads** High starting torque, shock loading, light torque reversals during drive.
					
		Centrifugal pumps, uniformly loaded conveyors, light-duty fans and blowers, liquid mixers and agitators, centrifugal compressors, lobe and vane type blowers, gear pumps, textile machinery, wood-working machinery.	Hot oil pumps, heavy-duty centrifugal pumps, cooling towers, slurry agitators, boiler feed pumps, hoists, conveyors.	Dredge pumps, dynamometer drives, light-duty hammermills, lineshafts, paper-converting machinery, rotary kilns, rotary or screw-type pumps for high viscosity fluids.	Mine ventilating fans, reciprocating pumps or compressors, papermaking machinery, heavy-duty hammermills, ore crushers, pulverizing mills.
Prime Mover	Steam, gas or air turbine	1.00	1.50	1.50	2.50
	AC electric motor	1.25	1.50	1.50	2.50
	DC electric motor with DOL start AC electric motor	1.25	1.50	1.75	3.00
	Gasoline, natural gas, propane or other spark ignition engine	1.75	1.75	Consult Formsprag	Consult Formsprag
	Diesel	Consult Formsprag	Consult Formsprag	Consult Formsprag	Consult Formsprag

DOL = Direct on Line

Installation and Alignment Procedure

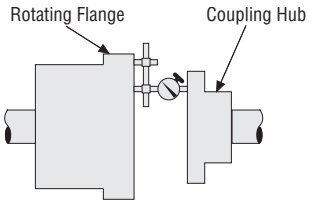
Mounting and Preliminary Alignment

Reasonable care in initial assembly and aligning will permit clutch-coupling to operate to full capacity, compensate for misalignment, and provide long service life.

1. Inspect shafts and bores and make sure they are free from burrs. Check for the proper fit of the keys to the shafts and bores.
2. Position the coupling hub so that the shaft end is flush with the machined face of the flange. Coupling hub shrink fits are not necessary with Form-Flex couplings. If the hub is bored for an interference fit, the hubs should be heated in oil at 200–250°F and then quickly positioned on the shaft. Do not spot heat as it may cause distortion.
3. Check clutch for proper rotation by overrunning (freewheeling) clutch by hand. Mount clutch and key on shaft. Mount so that clutch will stay in place in service. Use shoulders, snap rings, set collars, or locking keys. Fit the clutch/adapter assembly so that A) the machined face of the adapter is flush with the proper shaft end or B) the dimension as specified on the installation drawing between the shaft end and the machined face of the adapter is maintained.
4. Move the equipment to be connected into position. Set the gap between hub and adapter flanges to the “Adapter to Coupling Flange Dimension” within ± .010". For special clutch couplings, refer to the installation drawing for the proper dimension.

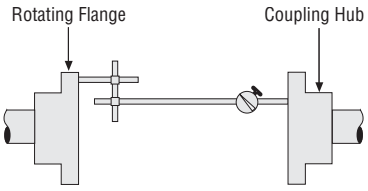
Angular Alignment

5. After preliminary alignment, secure a dial indicator to the adapter flange and indicate face of the coupling hub as shown in figures 1 and 2.
6. Rotate the adapter flange to which the indicator is attached to find minimum indicator reading. Set the indicator for zero reading.
7. Again, rotate the coupling half (with indicator attached) 360° to check misalignment.



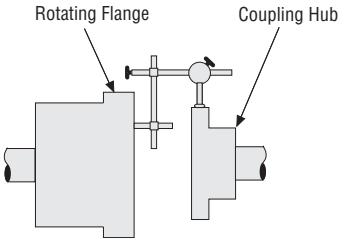
FW

Figure 1. Angular alignment.



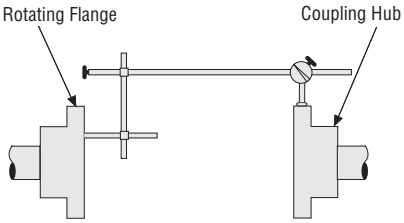
FWW

Figure 2. Angular alignment.



FW

Figure 3. Parallel alignment.



FWW

Figure 4. Parallel alignment.

Coupling Model No.	T.I.R.	
	Angular	Parallel
403	.028	.006
406	.036	.006
420	.036	.012
504	.036	.006
508	.048	.008
530	.048	.029
607	.042	.009
610	.068	.015
640	.058	.030
708	.050	.012
712	.068	.015
728	.052	.004
732	.066	.005
745	.068	.039
752	.068	.015
754	.080	.017
755	.080	.048
812	.068	.015
814	.080	.017
916	.062	.029
1018	.062	.029

* Bolts should be lubricated with grease before assembling.

8. Adjust position of connected equipment until indicator reading is within the allowable variation shown in the table at right.

Parallel Alignment

9. Reposition the indicator as shown in figure 3 and/or figure 4 and check for parallel alignment. Adjust the height of connected equipment to attain minimum misalignment. The allowable parallel misalignment is indicated in the table above.
10. Recheck angular alignment to make certain the values in the table have not been exceeded.

Coupling Assembly

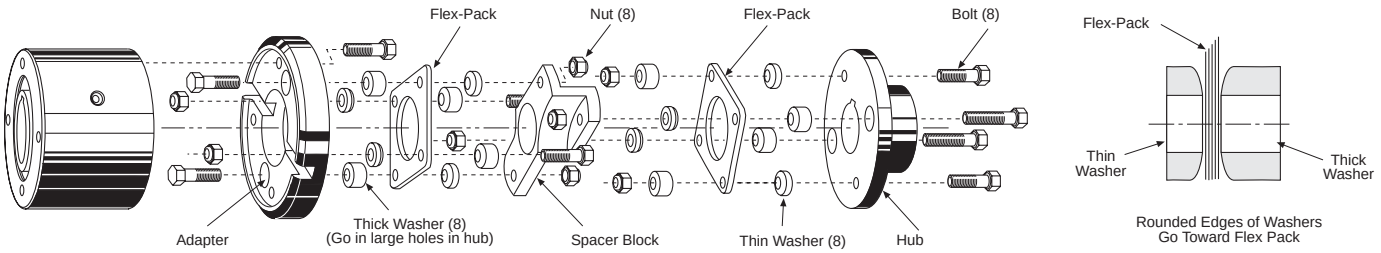
11. Assemble the clutch coupling.

    Note: The curved face of the washers must be placed adjacent to the flexible element pack. Do not drive or force bolts into position. The thick washers nest in the large clearance holes in the flanges.

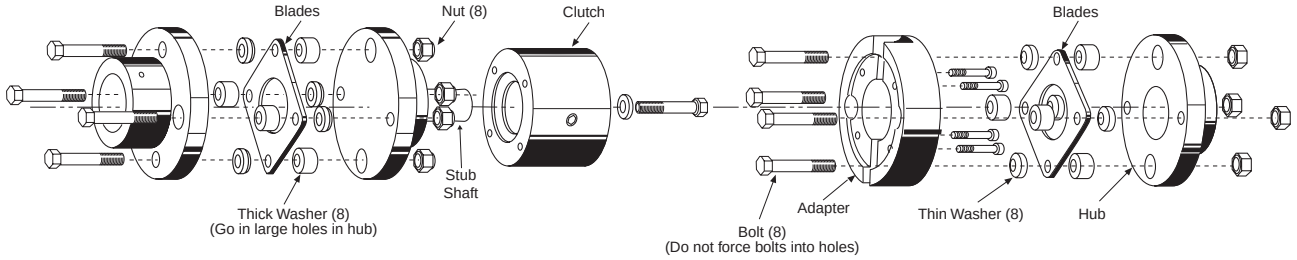
12. Torque tighten all nuts to the value shown below. Check torque on nuts after several hours of actual running. Use “Loctite” on bolts which fasten into tapped holes.

For further information write for installation and Maintenance Bulletin WRN 2332.

FW



FWW



Torque Values (mm)

Coupling Model No.	Tightening Torque lb.ft. (Nm.)*
403	8 (10.5)
406	19 (26)
420	19 (26)
504	19 (26)
508	66 (90)
530	66 (90)
607	37 (50)
610	236 (320)
640	110 (150)
708	110 (150)
712	236 (320)
728	58 (78.636)
732	115 (155.917)
745	115 (155.917)
752	236 (320)
754	465 (630)
755	465 (630)
812	236 (320)
814	465 (630)
916	553 (750)
1018	553 (750)

* Bolts should be lubricated with grease before assembling.

How to Order

Available Modifications

Special designs are available. Contact Formsprag Engineering.

- **Custom length spacers** to accommodate greater distance between shafts.
- **Dynamic balancing** for high speed applications
- **Splined bore** for splined shafts.
- **Taperlock and Q.D. bushings** for the coupling hub.
- **Tapered bore coupling hubs** for mill motors.
- **Holding brake** to provide overrunning drag when required for turbine or motor dual drive systems.

Example

When the assembly number is known, please specify:

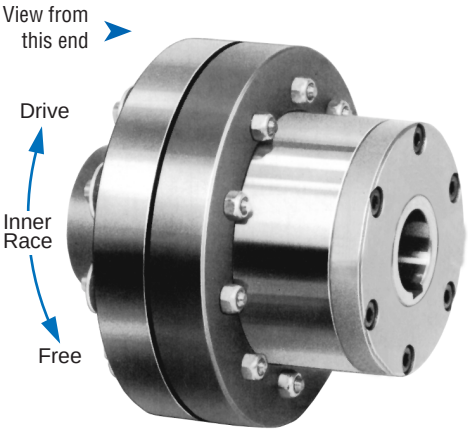
FW 504 – 36 RH

Series
Model No.
Assembly No.
Direction of Rotation (see page 109)

When the assembly number is not known, please specify:

Item	Example
Series and Model No.	FW-752
Clutch Bore (Driven or Driving)	Clutch 2.50" Driven Shaft
Keyseat Size (If other than listed on page 15)	
Coupling Bore (Driven or Driving)	Coupling 2.75" Driving Shaft
Keyseat Size (If other than listed on page 107)	
Direction of Rotation (see page 109)	Rotation RH
Lubricant, Oil/GR (Grease)	GR
Labyrinth seal optional	L

Overrunning
Ball Bearing Supported, Centrifugal Throwout (C/T) Sprag Clutch Couplings



Right Hand rotation shown.
(Left Hand opposite.)
Specify direction of rotation when ordering.

Model RIZ..ELG2 is a centrifugal throwout sprag clutch with a coupling for in-line shaft mounting applications. In this design only the inner race can overrun.

They are self-contained units designed for overrunning clutch applications. Typically used in creep drives, where the overrunning speed is high, but the drive speed low, and does not exceed the maximum driving speed specified in the table.

When ordered complete, the unit is shipped grease lubricated, ready for either horizontal or vertical installation.

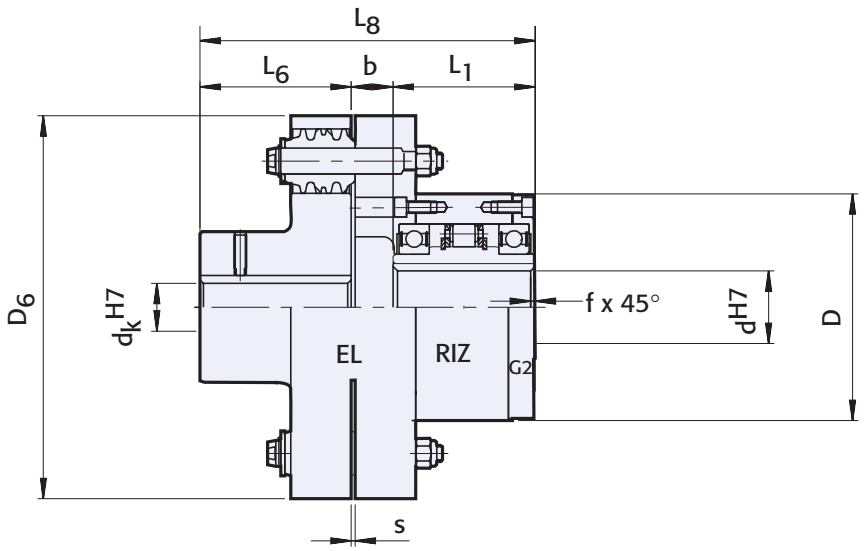
Specifications

Size	EL	Torque Capacity lb.ft. (Nm)	Overrunning Speed Max. RPM			Lubrication	Shipping Weight lb. (kg)
			Drive	Sprag Lift-off	Overrunning		
30	5	231 (313)	350	780	9,000	Grease	24.26 (11)
35	6	277 (375)	320	740	8,500	Grease	37.48 (17)
40	6	576 (781)	315	720	7,500	Grease	41.90 (19)
45	6	660 (894)	285	665	6,600	Grease	41.90 (19)
50	7	1,033 (1400)	265	610	6,000	Grease	68.36 (31)
60	8	1,384 (1875)	200	490	5,300	Grease	108.05 (49)
70	10	2,077 (2815)	210	480	4,100	Grease	198.45 (90)
80	11	3,321 (4500)	190	450	3,600	Grease	235.94 (107)
90	12	4,244 (5750)	180	420	2,700	Grease	374.85 (170)
100	14	7,011 (9500)	200	455	2,700	Grease	507.15 (230)
130	16	12,454 (16875)	180	415	2,400	Grease	727.65 (330)

Note: When ordering, please specify direction of rotation.

RIZ..ELG2

View from this end ➤



Dimensions inches (mm)

Size	d^{H7}	d_k^{H7} Bore Range	D	L_1	D_6	L_6	L_8	b	s	f
30	1.18 (30)	0.79 – 2.17 (20 – 55)	3.94 (100)	2.68 (68)	6.30 (160)	2.36 (60)	5.81 (147.5)	0.77 (19.5)	0.08 (2)	0.04 (1)
35	1.38 (35)	0.98 – 2.95 (25 – 75)	4.33 (110)	2.91 (74)	7.48 (190)	2.95 (75)	6.56 (166.5)	0.69 (17.5)	0.08 (2)	0.04 (1)
40	1.57 (40)	0.98 – 2.95 (25 – 75)	4.92 (125)	3.39 (86)	7.48 (190)	2.95 (75)	6.95 (176.5)	0.61 (15.5)	0.08 (2)	0.06 (1.5)
45	1.77 (45)	0.98 – 2.95 (25 – 75)	5.12 (130)	3.39 (86)	7.48 (190)	2.95 (75)	6.95 (176.5)	0.61 (15.5)	0.08 (2)	0.06 (1.5)
50	1.97 (50)	1.18 – 3.35 (30 – 85)	5.91 (150)	3.70 (94)	8.86 (225)	3.54 (90)	8.21 (208.5)	0.96 (24.5)	0.10 (2.5)	0.06 (1.5)
60	2.36 (60)	1.38 – 3.94 (35 – 100)	6.69 (170)	4.49 (114)	10.63 (270)	3.94 (100)	9.61 (244)	1.18 (30)	0.12 (3)	0.08 (2)
70	2.76 (70)	1.77 – 4.72 (45 – 120)	7.48 (190)	5.28 (134)	13.39 (340)	5.51 (140)	12.30 (312.5)	1.52 (38.5)	0.12 (3)	0.10 (2.5)
80	3.15 (80)	2.17 – 5.71 (55 – 145)	8.27 (210)	5.67 (144)	14.96 (380)	6.30 (160)	13.39 (340)	1.42 (36)	0.12 (3)	0.10 (2.5)
90	3.54 (90)	2.56 – 6.50 (65 – 165)	9.06 (230)	6.22 (158)	17.32 (440)	7.09 (180)	15.28 (388)	1.97 (50)	0.14 (3.5)	0.12 (3)
100	3.94 (100)	2.95 – 6.69 (75 – 170)	10.63 (270)	7.17 (182)	19.69 (500)	7.87 (200)	16.63 (422.5)	1.59 (40.5)	0.14 (3.5)	0.12 (3)
130	5.12 (130)	3.35 – 7.09 (85 – 180)	12.20 (310)	8.35 (212)	22.05 (560)	8.66 (220)	18.98 (482)	1.97 (50)	0.16 (4)	0.12 (3)

Note: For clutch bore and keyseat information see page 95.