

## Eclipse Servo Motor Brake

Flange Mounted, Spring Engaged, Air Released

Split Hub, Clamp Collar

Sizes 2, 3, 4, and 5

# ECLIPSE™ SERVO MOTOR BRAKE

The Eclipse Servo Motor Brake family now includes a line of spring-engaged servo motor brakes equipped with a split hub, clamp collar for attachment to the servo motor shaft. With superior torque outputs, these brakes provide rugged durability for dynamic stopping applications. Eclipse brakes offer consistent long-lasting performance with no maintenance needed. Nexen's servo motor brakes run with at least 20-50% more torque than competitive brakes and provide safe, simple operation.

The easy-to-use flange-mounted Eclipse brakes solve many of the problems associated with brake motors. Use them with standard motors for brake motor functionality and off-the-self availability. The servo brakes are available in a variety of input and output flange/shaft combinations and have many features to increase the safety of your machines.



- Simple installation with split hub, shaft collar
  - Spring engaged, air released
  - True pilot mounting
  - High torque when compared to electric brakes
  - Zero backlash for precision holding
  - Bidirectional braking
  - Long facing life
  - Cool operation, high efficiency, less energy consumption
  - Designed for horizontal or vertical applications
  - Strong enough to stall the servo motor
  - Quick, safe emergency stopping and holding
  - Remains engaged and holds load during motor change outs
  - Ideal for use with linear ball-screw stages and belt drives
  - Field Serviceable
  - Low inertia
  - Output flange replicates motor flange
  - Quick exhaust valve included
  - High torsional rigidity
  - High overhung load capacity
  - Meets IP67 dust and waterproof standards
- Optional Solenoid Valve allows for:**
- Visual disengagement indication
  - Manual disengagement on valve
  - Simple connections with 24VDC control and 80 PSIG shop air

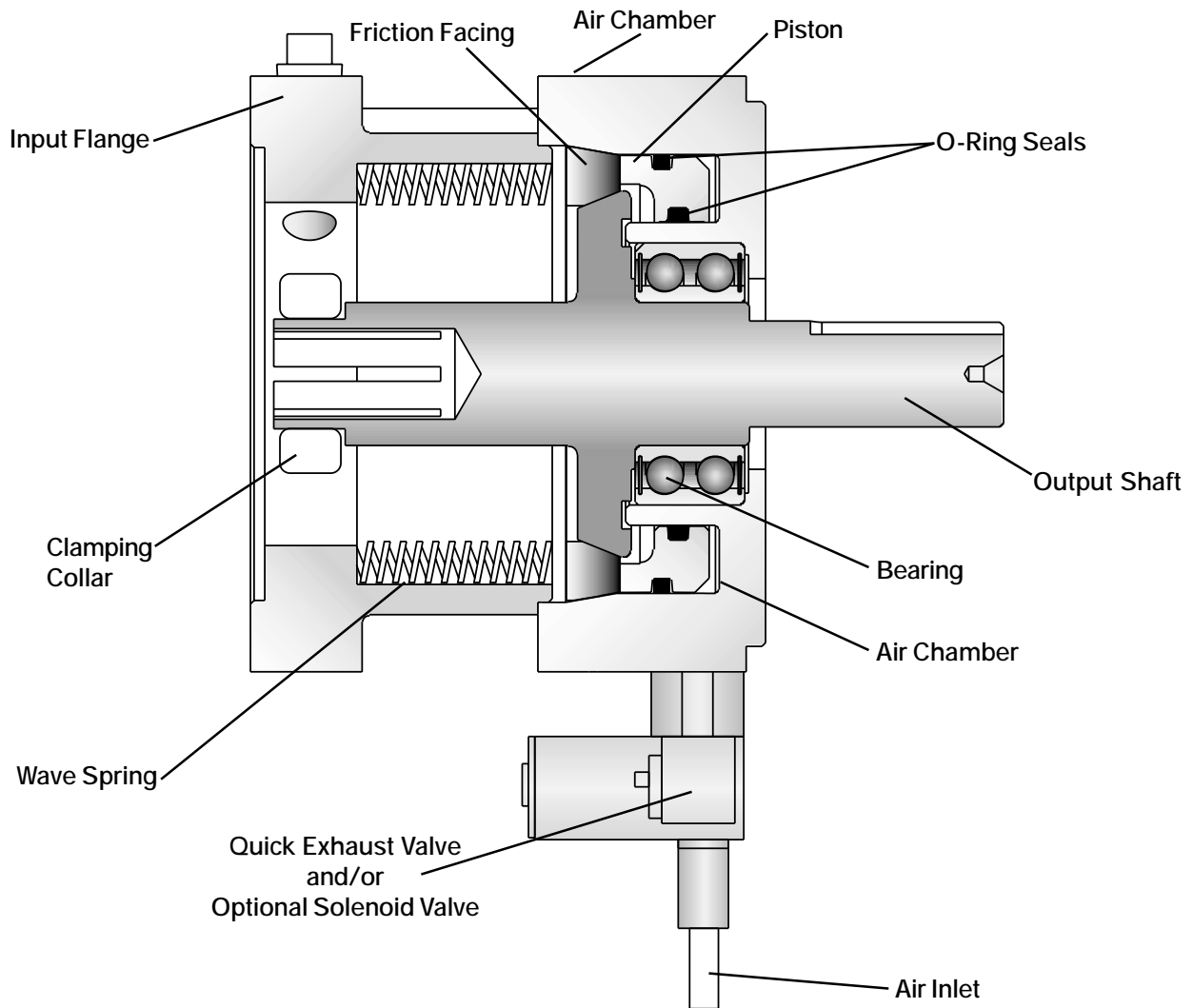
## ALTERNATIVES AVAILABLE

### Contact Nexen<sup>1</sup>:

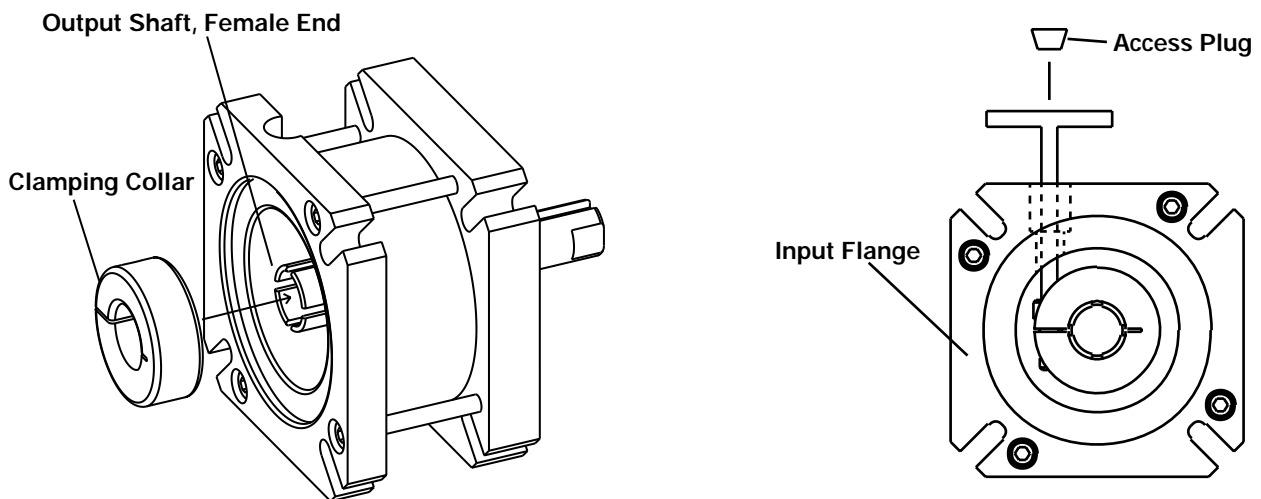
- For reduced torque models and other sizes not shown.
- For information on future models that will cover a variety of servo motor families as well as all popular servo motor manufacturers.
- For other output flange options.
- For optional solenoid valve. Pneumatic units accept an optional solenoid valve (normally closed) controlled by 24VDC at 104 mA. Solenoid valves are fitted with 18" flying leads standard. To order the solenoid valve (optional), please refer to Nexen product #964650.

<sup>1</sup> See Back page for contact information.

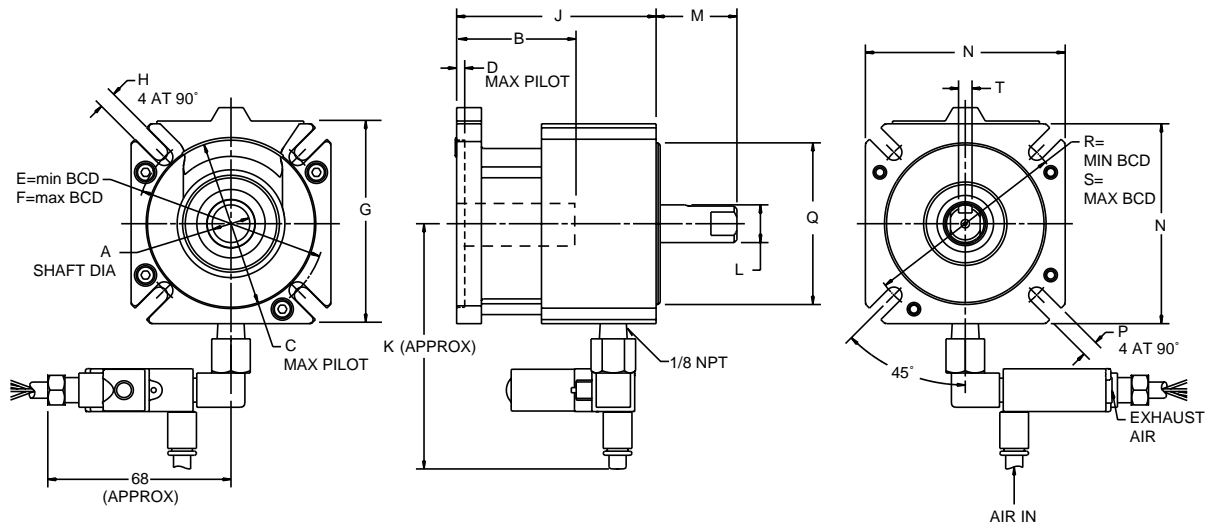
## SERVO MOTOR BRAKE, CROSS SECTIONAL VIEW



## SERVO MOTOR BRAKE, ISOMETRIC AND END VIEWS



# SERVO MOTOR BRAKE, APPROXIMATE DIMENSIONS



\*shown with optional solenoid valve (product #964650)

Product Number	NEMA Sizes	Bore Dia. (A)	Max Shaft Insert (B)	Max Pilot (C)	Pilot Depth (D)	Min - Max BCD (E - F)	Flange (G)	Bolt Slot (H)	Length (J)
<b>Input Flange</b>									
<b>Size 2</b>									
964605	23	0.375	35.1 [2.74]	38.1 [1.50]	4.4 [0.17]	66.7 [2.63]	57.2 [2.25]	#10-24	70.3 [2.74]
964606		0.250	35.1 [2.74]	38.1 [1.50]	4.4 [0.17]	66.7 [2.63]	57.2 [2.25]	#10-24	70.3 [2.74]
<b>Size 3</b>									
964709		14.0 [0.55]	42.3 [1.67]	80.0 [3.10]	5.0 [0.2]	90.0-108.72 [3.54-4.28]	92.0 [3.6]	7.1 [0.28]	77.7 [3.06]
964710 <sup>1</sup>		14.0 [0.55]	42.3 [1.67]	80.0 [3.10]	5.0 [0.2]	90.0-108.72 [3.54-4.28]	92.0 [3.6]	7.1 [0.28]	77.7 [3.06]
<b>Size 4</b>									
964814		19.0 [0.75]	59.1 [2.33]	110.0 [4.33]	3.5 [0.14]	125.72 [4.95]	125.0 [4.9]	10.0 [0.39]	106.5 [4.19]
964815		24.0 [0.94]	59.1 [2.33]	131.0 [5.16]	6.2 [0.24]	150.0-186.3 [5.9-7.33]	125.0 [4.9]	12.0 [0.47]	105.0 [4.13]
964816		19.0 [0.75]	59.1 [2.33]	95.0 [0.748]	3.5 [0.14]	125.72-150.0 [4.95-5.90]	125.0 [4.9]	10.0 [0.39]	104.0 [4.09]
964817		24.0 [0.94]	59.1 [2.33]	110.0 [4.33]	3.5 [0.14]	125.72-150.0 [4.95-5.90]	125.0 [4.9]	10.0 [0.39]	106.5 [4.19]
964818		19.0 [0.75]	59.1 [2.33]	96.0 [3.78]	3.5 [0.14]	115.0-150.0 [4.53-5.90]	125.0 [4.9]	10.0 [0.39]	106.5 [4.19]
964819		19.0 [0.75]	59.1 [2.33]	110.0 [4.33]	3.5 [0.14]	125.72-150.0 [4.95-5.90]	125.0 [4.9]	10.0 [0.39]	106.5 [4.19]
<b>Size 5</b>									
964906		32.0 [1.26]	62.0 [2.44]	130.0 [5.12]	4.0 [0.16]	215.0 [8.46]	178.0 [7.0]	15.0 [0.59]	140.0 [5.51]
964907		24.0 [0.94]	62.0 [2.44]	131.0 [5.16]	6.2 [0.24]	150.0-186.3 [5.9-7.33]	150.0 [5.9]	12.0 [0.47]	132.5 [5.22]

<sup>1</sup> Holding Torque: 6 Nm [55 in-lb]  
Release Pressure: 4.3 bar [62 psi]

## SPECIFICATIONS

Size	Min Holding Torque	Max RPM	Engage (on) Time, Ms <sup>1</sup>	Release (off) Time, Ms <sup>2</sup>	Torsional Rigidity	Inertia with Coupling	Overhung Load	Weight
2	2.25 Nm [20 in-lb]	10,000	8	92	6180 Nm/rad [4550 lb-ft/rad]	0.005 kg-m <sup>2</sup> [0.12 lb-ft <sup>2</sup> ]	833 N [190 lbs]	1.1 kg [2.4 lbs]
3	8 Nm [70 in-lb]	10,000	12	75	9613 Nm/rad [7090 lb-ft/rad]	0.008 kg-m <sup>2</sup> [0.18 lb-ft <sup>2</sup> ]	1070 N [240 lbs]	1.5 kg [3.2 lbs]
4	22 Nm [200 in-lb]	10,000	50	80	2381 Nm/rad [17550 lb-ft/rad]	0.067 kg-m <sup>2</sup> [1.60 lb-ft <sup>2</sup> ]	2334 N [525 lbs]	3.0 kg [8.5 lbs]
5	45 Nm [400 in-lb]	10,000	60	100	22562 Nm/rad [16640 lb-ft/rad]	0.150 kg-m <sup>2</sup> [3.60 lb-ft <sup>2</sup> ]	2447 [550 lbs]	6.3 [13.8]

<sup>1</sup> 1/8 NPT quick exhaust

<sup>2</sup> .03 orifice, 3-way valve

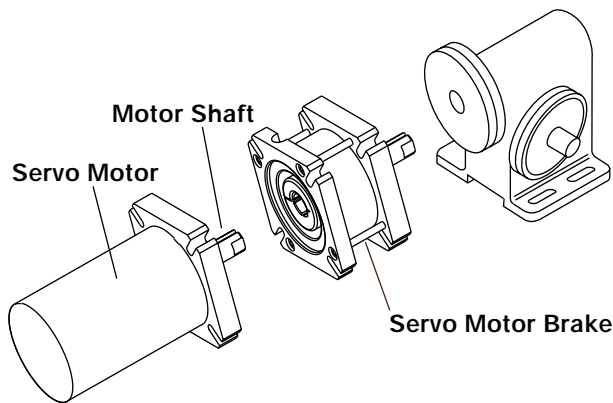
Total Depth with Optional Valve (K)	Shaft Dia. (L)	Shaft Length (M)	Flange (N)	Bolt Slot or Tapped Hole (P)	Pilot (Q)	Min - Max BC (R-S)	Keyway (T)	Product Number
<b>Body</b>	<b>Output Flange</b>							
82.5 [3.3]	0.375	31.8 [1.25]	57.2 [2.25]	#10-24	38.1 [1.50]	66.7 [2.63]	---	964605
2.5 [3.3]	0.250	20.6 [0.81]	57.2 [2.25]	#10-24	38.1 [1.50]	66.7 [2.63]	---	964606
100.0 [3.9]	14.0 [0.55]	30.0 [1.20]	92.0 [3.6]	7.0 [0.28]	80.0 [3.10]	100.0-108.7 [3.9-4.28]	5.0 [0.2]	964709
100.0 [3.9]	14.0 [0.55]	30.0 [1.20]	92.0 [3.6]	7.0 [0.28]	80.0 [3.10]	100.0-108.7 [3.9-4.28]	5.0 [0.2]	964710 <sup>1</sup>
110.0 [4.3]	19.0 [0.75]	50.0 [1.97]	125.0 [4.9]	10.0 [0.39]	110.0 [4.33]	130.0-150.0 [5.12-5.90]	6.0 [0.24]	964814
117.0 [4.6]	22.0 [0.875]	53.97 [2.12]	125.0 [4.9]	3/8 - 16	114.3 [4.50]	149.2-150.0 [5.875-5.90]	4.80 [0.189]	964815
117.0 [4.6]	22.2 [0.875]	53.97 [2.12]	125.0 [4.9]	3/8 - 16	114.3 [4.50]	149.2-150.0 [5.875-5.90]	4.80 [0.189]	964816
110.0 [4.3]	24.0 [0.94]	50.0 [1.97]	125.0 [4.9]	10.0 [0.39]	110.0 [4.33]	130.0-150.0 [5.12-5.90]	8.0 [0.31]	964817
117.0 [4.6]	19.0 [0.75]	40.0 [1.57]	125.0 [4.9]	10.0 [0.39]	95.0 [3.74]	115.0-150.0 [4.53-5.90]	6.0 [0.24]	964818
110.0 [4.3]	19.0 [0.75]	50.0 [1.57]	125.0 [4.9]	10.0 [0.39]	110.0 [4.33]	130.0-150.0 [5.12-5.90]	6.0 [0.24]	964819
129.0 [5.1]	24.0 [0.94]	53.97 [2.12]	150.0 [5.9]	3/8 - 16	114.3 [4.50]	149.2 [5.875]	4.80 [0.189]	964906
129.0 5.1	22.2 [0.875]	50.0 [1.97]	150.0 [5.9]	12.0 [0.47]	130.0 [5.12]	165.0-186.3 [6.5-7.33]	8.0 [0.31]	964906

## SERVO MOTOR BRAKE/NEMA 'C' OUTPUT FLANGE

The Eclipse Servo Motor Brake/Adaptor adapts your servo motor to industry standard NEMA outputs, such as gearboxes.

Size	Eclipse Brake Input Flange mm <sup>2</sup> [in <sup>2</sup> ]	Max Pilot mm [in]	Min BCD mm [in]	Bore mm [in]	Torque Nm [in-lb]	Output Flange	Use Nexen Product Number
4	125 [0.19]	95.0 [3.74]	125.72 [4.95]	19.0 [0.75]	200.0 [1770.15]	NEMA 143/145TC	964816
4	150 [0.23]	110.0 [4.33]	150.0 [5.91]	24.0 [0.94]	200.0 [1770.15]	NEMA 143/145TC	964817

## SERVO MOTOR BRAKE INSTALLATION



Eclipse Servo Motor Brakes mount between the motor and a gear box with true pilot mounting. These brakes come in a wide range of input and output flange/shaft combinations. The standard output flange replicates the motor flange. Please contact Nexen for flange alternatives.

## FIND OUT MORE

For additional information on Nexen servo motor brakes, visit our website at [www.nexengroup.com](http://www.nexengroup.com) or call 800-843-7445.

In accordance with Nexen's established policy of constant product improvement, the specifications contained in this document are subject to change without notice. Technical data listed in this document are based on the latest information available at the time of printing and are also subject to change without notice. For current information, please consult [www.nexengroup.com](http://www.nexengroup.com).

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