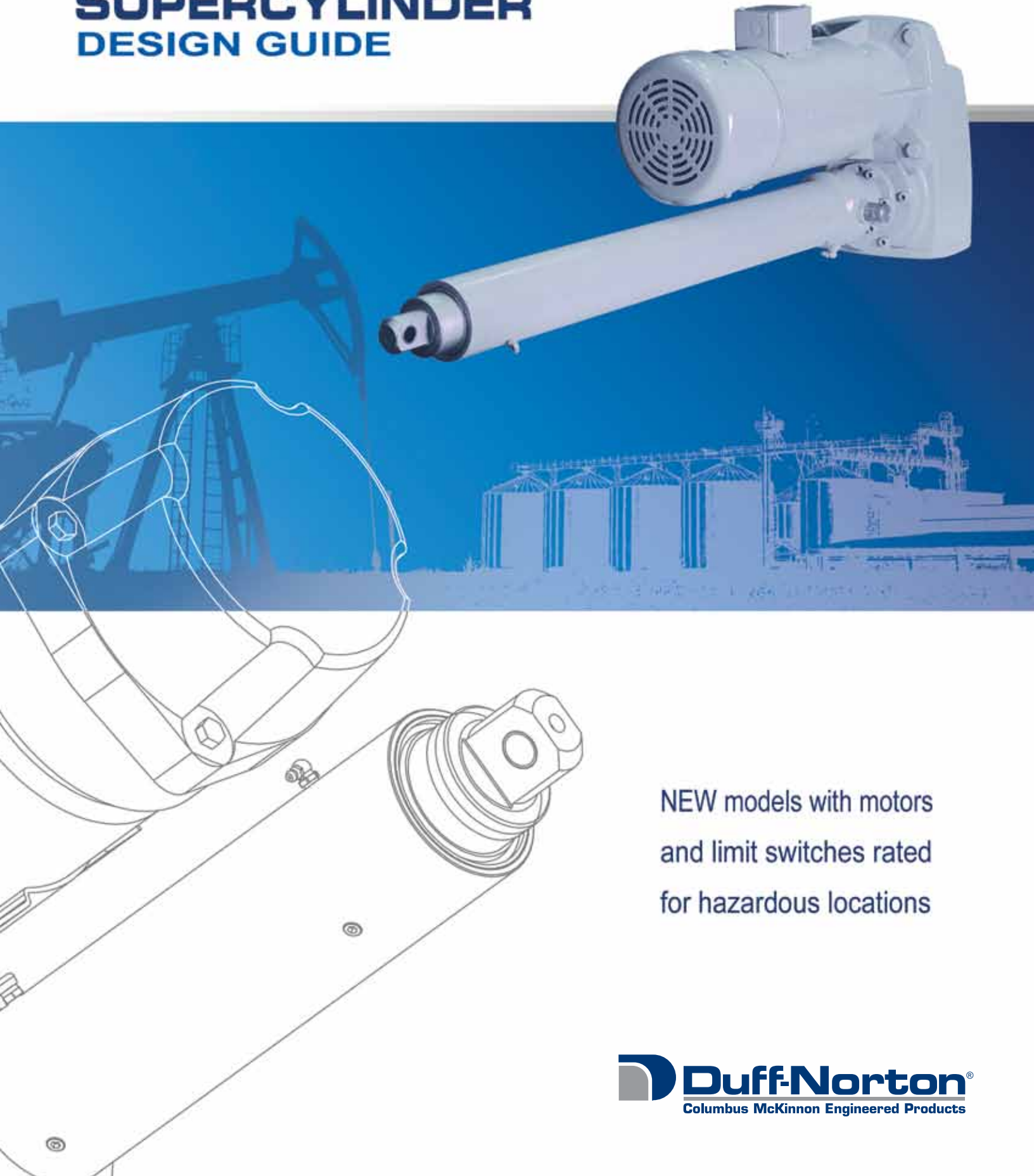


ELECTRIC CYLINDERS

SUPERCYLINDER DESIGN GUIDE



NEW models with motors
and limit switches rated
for hazardous locations

SUPERCYLINDER

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INTRODUCTION

Duff-Norton manufactures the industry's broadest range of high capacity electric cylinders. From 2 to 25 tons (17 to 186 kN), choose from clevis or trunnion mounting; offset, right angle or parallel in-line mounting; with speeds up to 6.3 in/s (160 mm/s).

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With an ISO 9001 registration since 1994, all Duff-Norton products, standard or custom designed, are subjected to the same rigorous testing and scrutiny to ensure maximum performance and quality.

Duff-Norton linear actuator products are specially designed for a variety of industrial and commercial applications. Our actuators are used for opening and closing, tilting and pivoting, lifting and lowering, and positioning.

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NOTE

Duff-Norton has made every effort to ensure that the information contained in the publication is accurate and reliable. Determining the suitability of our products for specific applications is the user's responsibility.

 **WARNING**

The equipment shown in this catalog is intended for industrial use only and should not be used to lift, support, or otherwise transport people unless you have written statement from Duff-Norton, which authorizes the specific actuator used in your applications as suitable for moving people.

SELECTION GUIDE

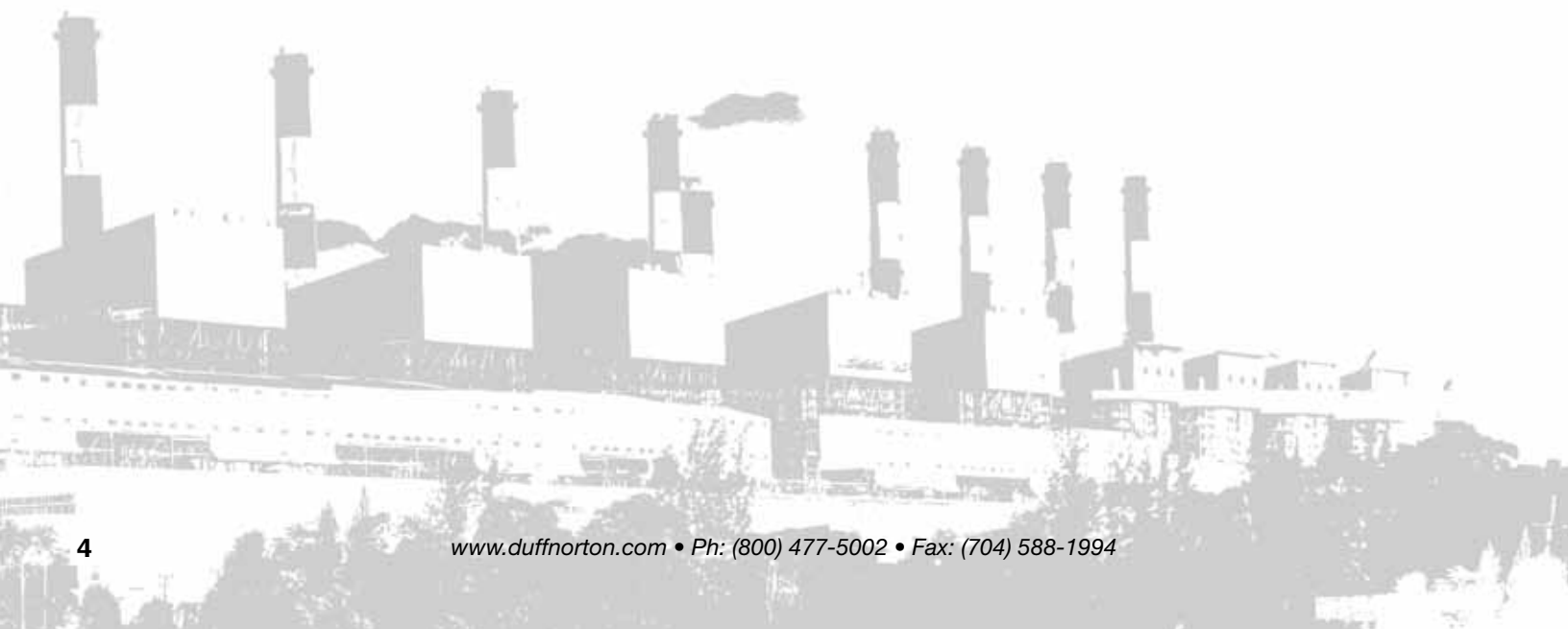
USERS GUIDE

FOR SELECTING A SUPERCYLINDER

Define the application's operating parameters:

- CapacityThe force required to move and hold the load
- VoltageAC motor voltage needed to operate the actuator
- TravelDistance or range of motion
- SpeedThe rate at which the linear actuator moves the load
- Duty CyclePercentage of time an actuator is in motion relative to total time
- OrientationRelative position or direction in which the force is applied
- EnvironmentSurrounding conditions in which the system will operate

Once you determine the linear actuator specifications, selection of an actuator model can be simplified by using the Quick Reference Table on page 6-7.



SUPERCYLINDER ACTUATOR

APPLICATION ANALYSIS FORM

Duff-Norton engineers will be pleased to make recommendations for your specific requirements. Please complete this form and send it to Duff-Norton Company. There is no obligation for this service.

Name: _____ Company: _____

Address: _____

Email Address: _____

Phone Number: _____ Ext: _____ Fax: _____

1. **Quantity:** _____
2. **Required Capacity:**
 Dynamic (moving): Compression _____ lbs., Tension _____ lbs.
 Static (holding): Compression _____ lbs., Tension _____ lbs.
3. **Speed:** _____ in./min. (with _____ Hz power)
4. **Stroke:** _____ in. (actual use)
5. **Duty:** _____ in./hour of total travel
6. **Required life:** _____ in. of travel (inches/hour X hours/day X days/year X years of service)
7. **Configuration:** (check one) Right Angle Offset Parallel
8. **Power:** _____ VAC 1 / 3 Phase (check one) 50 / 60 Hz (check one)
9. **Environment:** (check one) Inside Outside covered Outside exposed Washdown
Service Temperature: _____ °F (low) to _____ °F (high)
Exposure to: (Caustics, gases, dusts/abrasives, etc. _____


- 10a. **Mounting:** (SCW Series): tube pointed at _____ o'clock
- 10b. **Mounting Position Code:** (SCN Series, see page 30 in the catalog):
11. **Special requirements:** repeatability, quick stop, etc. _____

12. **Accessories:** limit switch (standard), digital encoder, mounting blocks, etc. _____



To mail please send completed sheet to:
Duff-Norton
Application Engineers
P.O. Box 7010, Charlotte, NC 28241

To Fax or Email please send to:
704-588-1994 • duffnorton@cmworks.com







 WARNING
Improper use can result in personal injury. To avoid injury: <ul style="list-style-type: none">• Do not use actuators to lift, support, or transport people, without written approval from Duff-Norton.• Read all product warnings and operating instructions.



SUPERCYLINDER

QUICK REFERENCE

FOR SELECTING A SUPERCYLINDER

Series	SCW02	SCW03	SCW05	SCW10	SCW20	SCW25	
Capacity	4000 lb (17,792 N)	6000 lb (26,689 N)	10,000 lb (44,482 N)	20,000 lb (88,964 N)	35,000 lb (155,687 N)	50,000 lb (222,411 N)	
Product Image							
Voltagess	230/460 VAC Standard	230/460 VAC Standard	230/460 VAC Standard	230/460 VAC Standard	230/460 VAC Standard	230/460 VAC Standard	
Standard Stroke Lengths (inch)	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	
Maximum Speed at Rated Load	Up to 72 in/s (1,828 mm/s)	Up to 119 in/s (3,022 mm/s)	Up to 135.6 in/s (3,444 mm/s)	Up to 108 in/s (2,743 mm/s)	Up to 21.6 in/s (548 mm/s)	Up to 19.8 in/s (502 mm/s)	
Limit Switches (Adjustable)	Standard	Standard	Standard	Standard	Standard	Standard	
Feedback	Optional	Optional	Optional	Optional	Optional	Optional	
Motor Overload Protection	Optional	Optional	Optional	Optional	Optional	Optional	
Temperature Range	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)	
Translating Tube	Hard Chrome Plated	Hard Chrome Plated	Hard Chrome Plated	Hard Chrome Plated	Hard Chrome Plated	Hard Chrome Plated	
Options	Trunnion Mounting Bellows Boot	Trunnion Mounting Bellows Boot	Trunnion Mounting Bellows Boot	Trunnion Mounting Bellows Boot	Trunnion Mounting Bellows Boot	Trunnion Mounting Bellows Boot	
Catalog Sheet pdf Code	SCW02	SCW03	SCW05	SCW10	SCW20	SCW25	
Catalog Page	10	10	14	18	22	26	

	SCN03	SCN06	SCN12	SCN25	SCD02 & SCD03	SCD06
	6000 lb (26,689 N)	12,000 lb (53,378 N)	24,000 lb (106,752 N)	50,000 lb (222,409 N)	3747 lb (16,667 N) 3789 LB (16,854 N)	3265 lb (14,523 N)
						
	230/460 VAC Standard	230/460 VAC Standard	230/460 VAC Standard	230/460 VAC Standard	230/460 VAC Standard	230/460 VAC Standard
	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	6, 12, 18, 24, 36 in (152, 304, 457, 609, 914 mm) Custom Lengths Available	Up to 31 inches (depending on model)	Up to 36 inches (depending on model)
	Up to 182.4 in/s (4,633 mm/s)	Up to 379.5 in/s (9,639 mm/s)	Up to 188.5 in/s (4,787 mm/s)	Up to 259.7 in/s (6,596 mm/s)	Up to 11.9 in/s (302 mm/s)	Up to 13.6 in/s (345 mm/s)
	Standard	Standard	Standard	Standard	Standard	Standard
	Optional	Optional	Optional	Optional	Optional	Optional
	Optional	Optional	Optional	Optional	Optional	Optional
	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)	0°F to 120°F (-18°C to 50°C)
	Hard Chrome Plated	Hard Chrome Plated	Hard Chrome Plated	Hard Chrome Plated	Hard Chrome Plated	Hard Chrome Plated
	Bellows Boot	Bellows Boot	Bellows Boot	Bellows Boot	Bellows Boot	Bellows Boot
	SCN03	SCN06	SCN12	SCN25	SCD02 & SCD03	SCD06
	32	40	48	56	64	66

SUPERCYLINDER

FEATURES & BENEFITS

FOR HAZARDOUS CONDITIONS

Duff-Norton now offers new models of our popular SCN and SCW Series SuperCylinders with motors and limit switches rated for hazardous locations.

CERTIFICATIONS

Motors are available for Class 1, Group D and Class 2, Group F & G environments (as defined in NFPA Publication 70).

Limit switches are marked either NEMA 7 for use in Class 1, Group D locations, or NEMA 9 for use in Class 2, Group E, F & G locations (as defined in NFPA Publication 70).

The SCN Series combines the ball screw driven translating tube system with trunnion mounted high-efficiency helical or helical-bevel, oil filled gearboxes. The SCW Series combines a ball screw or ACME screw driven translating tube system with our existing clevis mounted worm gear actuators.

Both Duff-Norton SuperCylinder series use a precision guided translating tube system to broaden application capabilities. A ground and chrome plated translating tube sliding in polymeric bearings produces excellent resistance to buckling. This lets SuperCylinders achieve stroke lengths much greater than are possible with conventional double clevis mounted mechanical actuators.

Enclosure of the screw by the tube system shields it from environmental contaminants and retains lubricants, requiring less maintenance and allowing longer service. SuperCylinders use hydraulic cylinder grade wiper seals to effectively exclude dirt from the screw area.

The modular concept employed by Duff-Norton for both SuperCylinder series allows an unlimited number of configuration possibilities for tailoring of the SuperCylinder to an application. The selection of available gear ratios is unmatched by any similar product. This exceptional choice of ratios allows precise tailoring of the actuator speed and load specifications. Many additional motor and ratio options are available to meet specific capacity, speed, or life requirements.

- Speeds Up To 379 in/min
- Capacities Up To 50,000 lbs
- Strokes Up To 161 inches
- Ball Screw or Acme Screw
- Clevis Mounting or Trunnion Mounting
- Aluminum Bronze Worm Gears (SCW Series)
- Continuous Duty Ratings (SCN Series)
- Low Power Requirements (SCN Series)
- Helical & Helical Bevel Gears (SCN Series)

NOTE

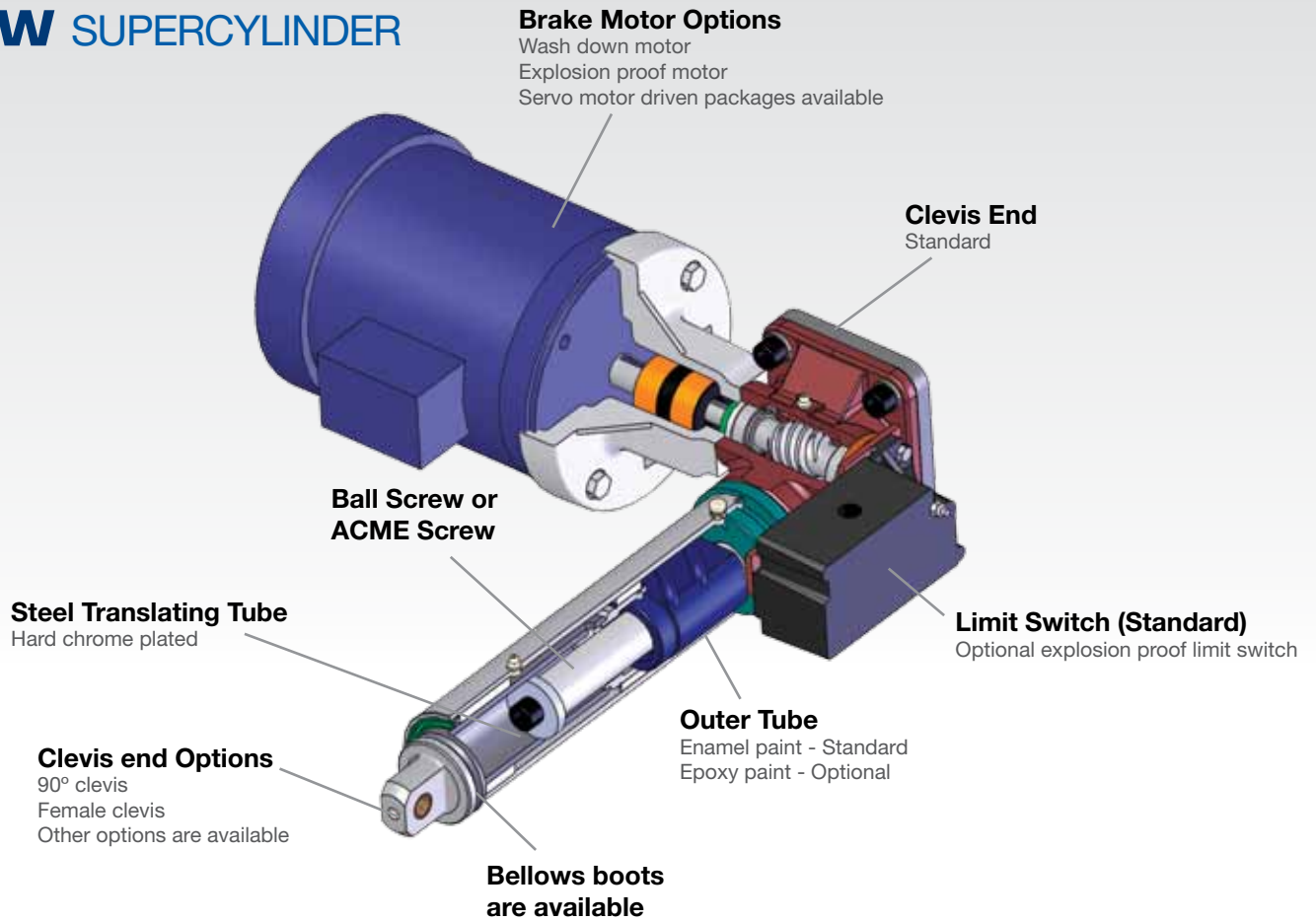
SuperCylinders do not incorporate any protection against mechanical overloading, either externally applied or through internal jamming. In applications where overloading is a possibility, appropriate electronic or mechanical devices should be incorporated to prevent operation of the actuator if overloaded.

WARNING

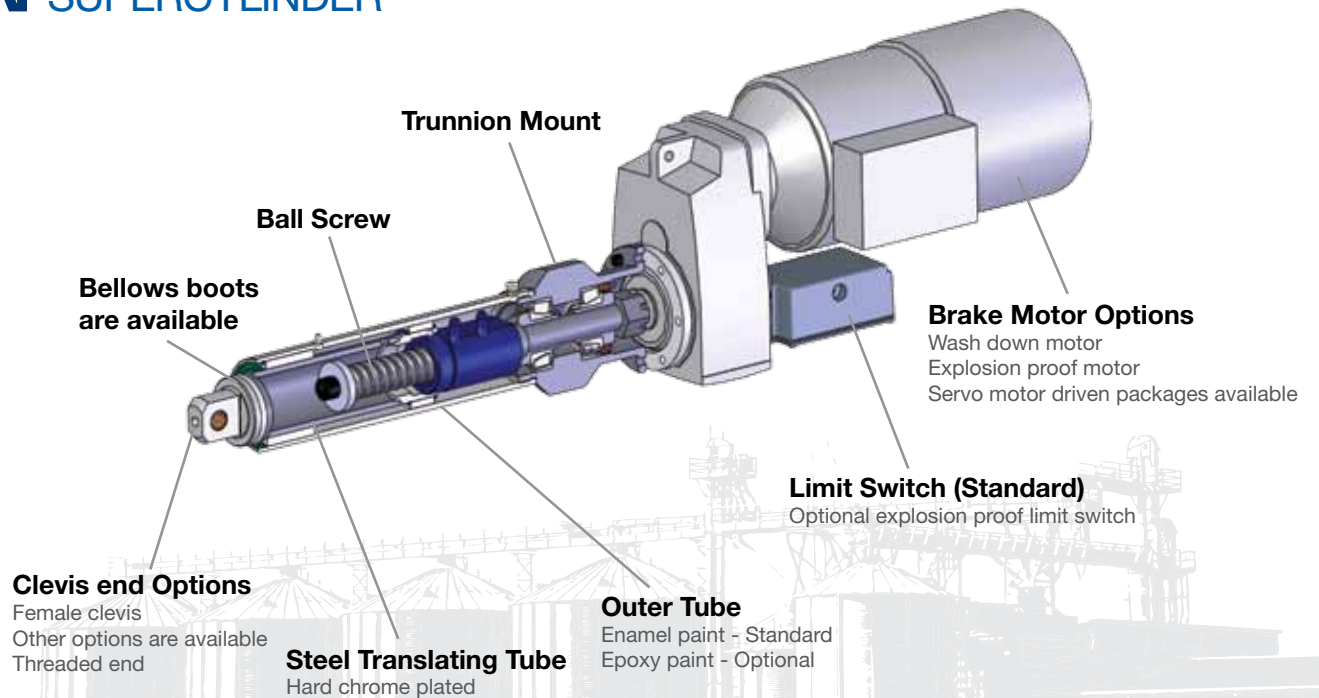
The equipment shown in this catalog is intended for industrial use only and should not be used to lift, support, or otherwise transport people unless you have written statement from Duff-Norton Company, which authorizes the specific actuator unit as used in your applications suitable for moving people.

**HAZARDOUS
CONDITION**

SCW SUPERCYLINDER



SCN SUPERCYLINDER



SERIES

SCW02 & SCW03

2 & 3 TON (17 & 26.6 kN)

SPEED:	Up to 119 in/min (3022 mm/min)
BRAKE MOTOR:	230/460 VAC, 3 ph, 60 Hz
STROKES:	Up to 59 in (1498 mm)
TEMPERATURE RANGE:	0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory



FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting

OPTIONS

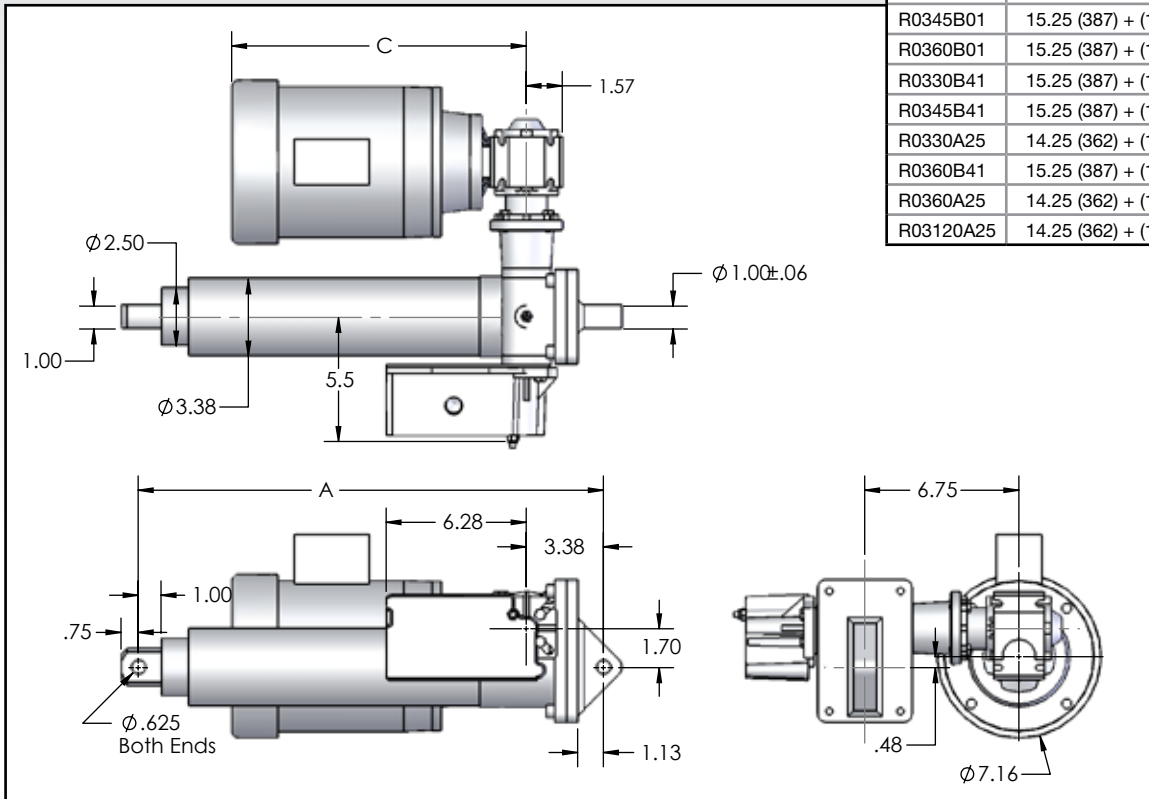
- Food grade component options available
- Explosion proof motor and limit switch (see pages 12-13)
- Product designs for outdoor applications
- Manual override
- Other special packages are available depending upon your application needs

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length in (mm)	Speed at Rated Load		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
SCW02											
W0206A25	2360	10,497	6, 12, 18, 24, 36	152, 304, 457, 609, 914	14.25 (362) + (1.25 x stroke)	72	30	51.6	1311	2	1.49
W0206B25	3280	14,590			15.25 (387) + (1.25 x stroke)	72	30	58.4	1483	1	0.74
W0212A25	1300	5782			15.25 (387) + (1.25 x stroke)	36	15	51.6	1311	3/4*	0.56
W0212B25	4000	17,792			15.25 (387) + (1.25 x stroke)	36	15	52.9	1344	3/4	0.55
W0224B25	3500	15,568			15.25 (387) + (1.25 x stroke)	18	8	56.5	1435	1/2	0.37
SCW03											
W0306B41	4300	19,127	6, 12, 18, 24, 36	152, 304, 457, 609, 914	15.25 (387) + (1.25 x stroke)	119	50	54	1371	2	1.49
R0330B01	3900	17,347			15.25 (387) + (1.25 x stroke)	57.5	24	53	1473	1	0.74
R0345B01	2800	12,454			15.25 (387) + (1.25 x stroke)	38.3	16	59	1344	1/2	0.37
R0360B01	3600	16,012			15.25 (387) + (1.25 x Stroke)	28	12	55	1397	1/2	0.37
R0330B41	6000	26,689			15.25 (387) + (1.25 x stroke)	23.8	10	46	1168	3/4	0.56
R0345B41	4500	20,016			15.25 (387) + (1.25 x Stroke)	15.8	7	53	1346	1/3	0.25
R0330A25	5300	23,575			14.25 (362) + (1.25 x stroke)	14.4	6	34	863	1	0.74
R0360B41	5700	25,354			15.25 (387) + (1.25 x stroke)	11.9	5	47	1193	1/3	0.25
R0360A25	4860	21,617			14.25 (362) + (1.25 x stroke)	7.2	3	36	914	1/2*	0.37
R03120A25	5440	24,197			14.25 (362) + (1.25 x stroke)	3.6	2	34	863	1/3*	0.25

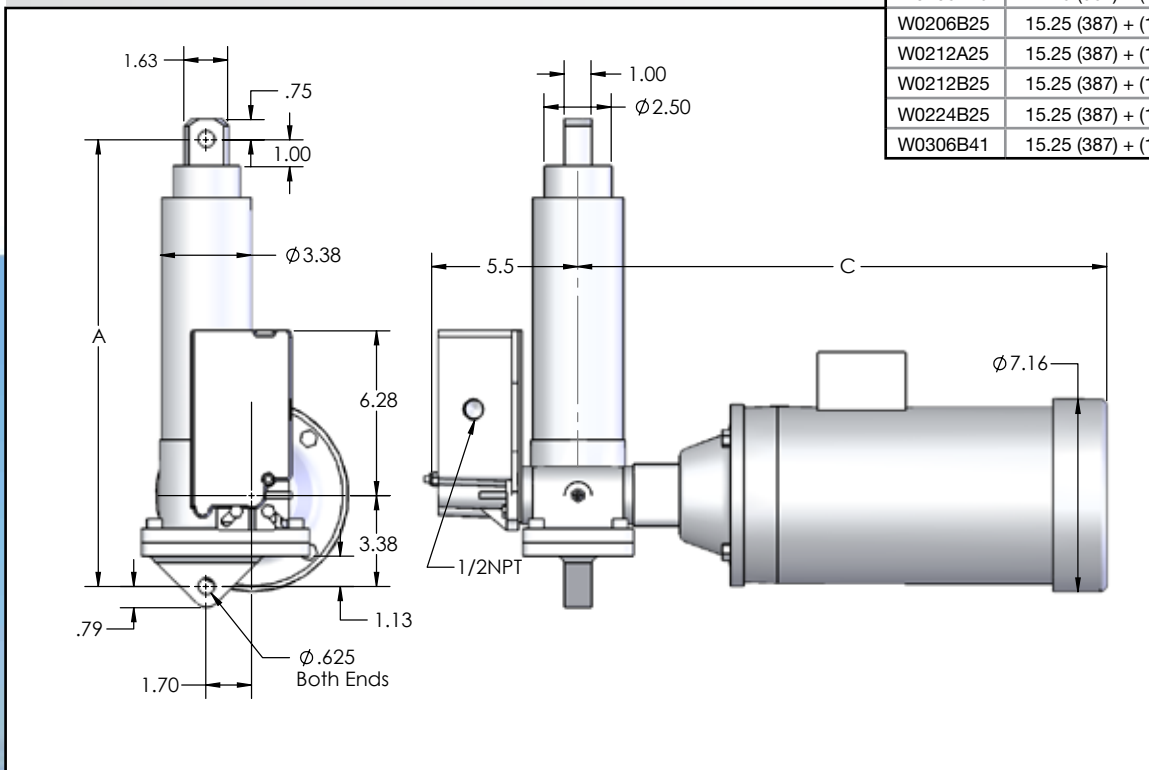
*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact factory for details.

PARALLEL MOTOR



Model	A	C
R0330B01	15.25 (387) + (1.25 x Stroke)	17.64
R0345B01	15.25 (387) + (1.25 x Stroke)	17.14
R0360B01	15.25 (387) + (1.25 x Stroke)	17.14
R0330B41	15.25 (387) + (1.25 x Stroke)	17.14
R0345B41	15.25 (387) + (1.25 x Stroke)	15.64
R0330A25	14.25 (362) + (1.25 x Stroke)	17.64
R0360B41	15.25 (387) + (1.25 x Stroke)	15.64
R0360A25	14.25 (362) + (1.25 x Stroke)	17.14
R03120A25	14.25 (362) + (1.25 x Stroke)	17.64

RIGHT ANGLE MOTOR



Model	A	C
W0206A25	14.25 (362) + (1.25 x Stroke)	22.1
W0206B25	15.25 (387) + (1.25 x Stroke)	19.7
W0212A25	15.25 (387) + (1.25 x Stroke)	19.2
W0212B25	15.25 (387) + (1.25 x Stroke)	19.2
W0224B25	15.25 (387) + (1.25 x Stroke)	19.2
W0306B41	15.25 (387) + (1.25 x Stroke)	22.1

SERIES

SCW02 & SCW03 HAZARDOUS RATED

2 & 3 TON (17 & 26.6 kN)

SPEED:	Up to 2.3 in/s (58 mm/s)
BRAKE MOTOR:	230/460 VAC, 3 ph, 60 Hz Class 1, Group D and Class 2, Group F & G
STROKES:	Up to 61 in (1562 mm)
TEMPERATURE RANGE:	0°F to 120°F (-18°C to 50°C)*



*For other temperatures please consult the factory

FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting
- **Motor rated for Class 1, Group D and Class 2, Groups F & G**
- **Limit switches rated for NEMA 7/Class 1, Group D or NEMA 9/Class 2, Groups E, F & G.**

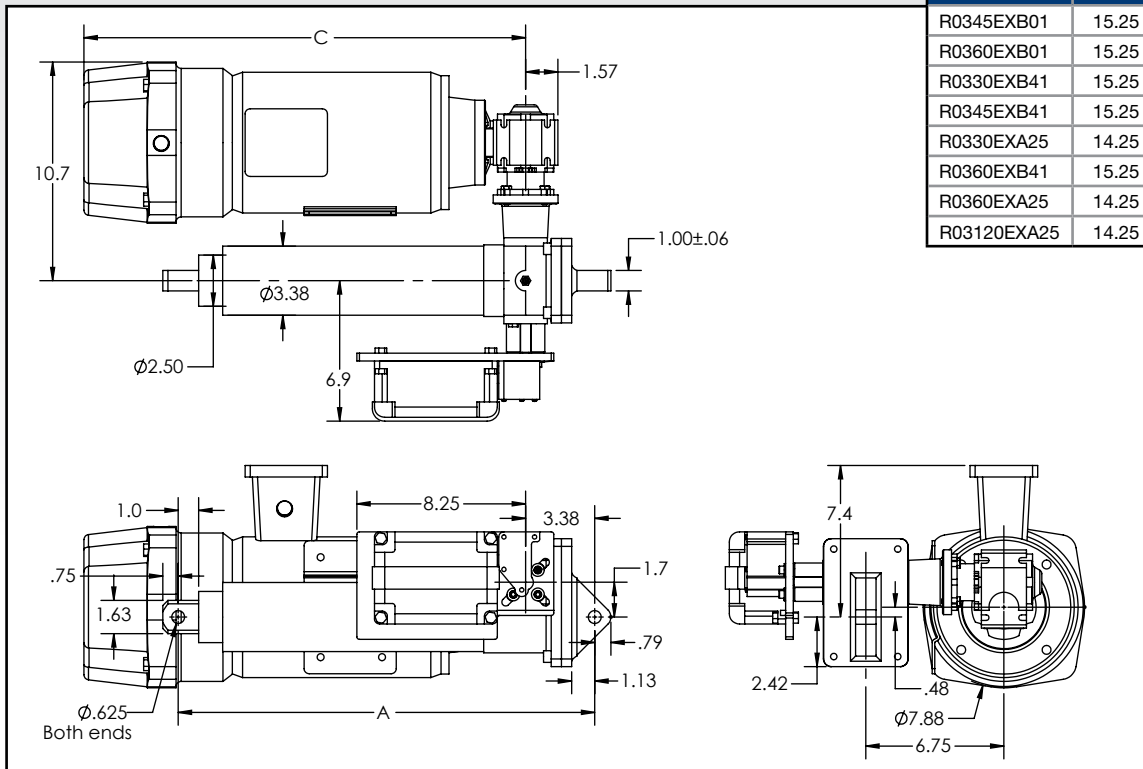
Specify when ordering.

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length in (mm)	Speed at Rated Load		Max Stroke		Motor		Screw Type	Configu-ration	Mounting
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW			
SCW02														
W0206EXA25	1180	5249	6, 12, 18, 24, 36	152, 304, 459, 609, 914	14.25 (362) + (1.25 x stroke)	72	30	51.6	1311	1	0.75	Acme	Right Angle	Clevis
W0206EXB25	3280	14,590			15.25 (387) + (1.25 x stroke)	72	30	58.4	1483	1	0.75	Ball	Right Angle	Clevis
W0224EXB25	3500	15,569			15.25 (387) + (1.25 x stroke)	18	8	56.5	1435	1/2	0.37	Ball	Right Angle	Clevis
SCW03														
W0306EXB41	2150	9564	6, 12, 18, 24, 36	152, 304, 459, 609, 914	15.25 (387) + (1.25 x stroke)	119	50	61.5	1562	1	0.75	Ball	Right Angle	Clevis
R0330EXB01	3600	16,014			15.25 (387) + (1.25 x stroke)	57.5	24	55.7	1415	1	0.75	Ball	Parallel	Clevis
R0345EXB01	3040	13,523			15.25 (387) + (1.25 x stroke)	38.3	16	59.4	1508	1/2	0.37	Ball	Parallel	Clevis
R0360EXB01	3480	15,480			15.25 (387) + (1.25 x stroke)	28.8	12	56.7	1439	1/2	0.37	Ball	Parallel	Clevis
R0345EXB41	6000	26,688			15.25 (387) + (1.25 x stroke)	15.8	7	46.3	1176	1/2	0.37	Ball	Parallel	Clevis
R0330EXA25	5330	23,709			14.25 (362) + (1.25 x stroke)	14.4	6	34.6	878	1	0.75	Acme	Parallel	Clevis
R0360EXA25	5100	22,686			14.25 (362) + (1.25 x stroke)	7.2	3	35.4	898	1/2*	0.37	Acme	Parallel	Clevis

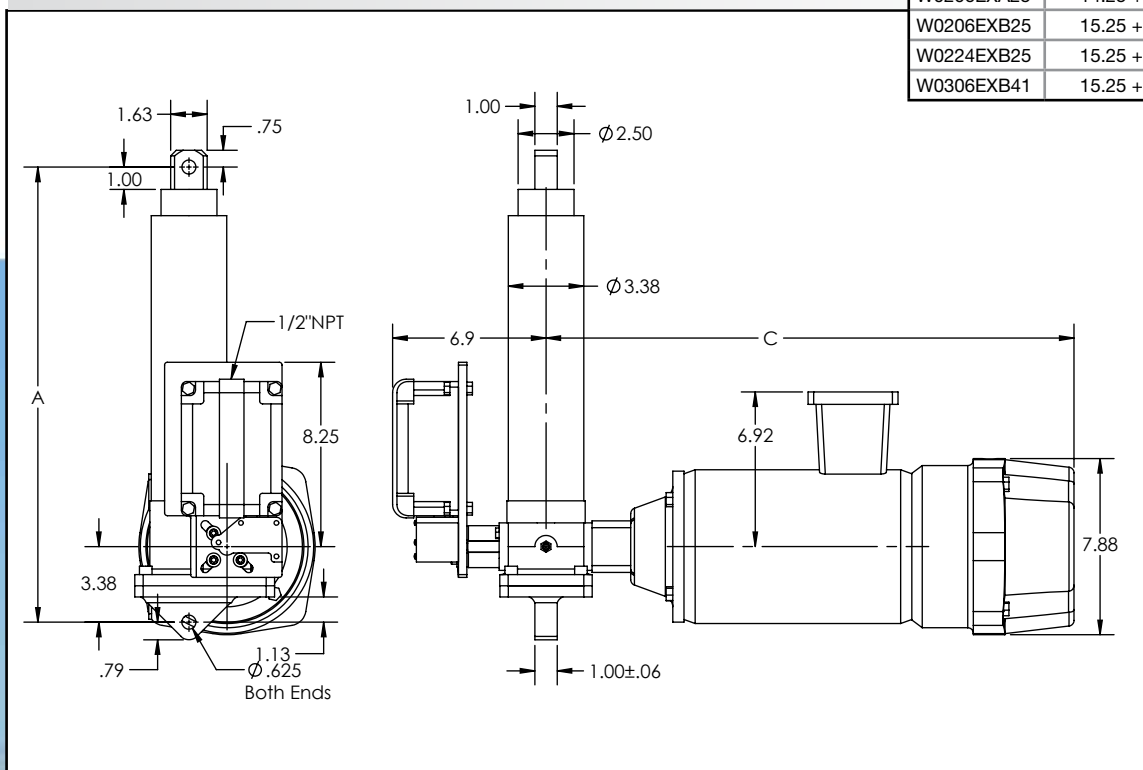
*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact factory for details

PARALLEL MOTOR



Model	A	C
R0345EXB01	15.25 + (1.25 x Stroke)	21.58
R0360EXB01	15.25 + (1.25 x Stroke)	21.58
R0330EXB41	15.25 + (1.25 x Stroke)	21.58
R0345EXB41	15.25 + (1.25 x Stroke)	21.58
R0330EXA25	14.25 + (1.25 x Stroke)	21.58
R0360EXB41	15.25 + (1.25 x Stroke)	21.58
R0360EXA25	14.25 + (1.25 x Stroke)	21.58
R03120EXA25	14.25 + (1.25 x Stroke)	21.58

RIGHT ANGLE MOTOR



Model	A	C
W0206EXA25	14.25 + (1.25 x stroke)	19.2
W0206EXB25	15.25 + (1.25 x stroke)	19.2
W0224EXB25	15.25 + (1.25 x stroke)	19.2
W0306EXB41	15.25 + (1.25 x stroke)	19.2

SERIES

SCW05

5 TON (44.4 kN)

SPEED: Up to 135.6 in/min (3444 mm/min)

BRAKE MOTOR: 230/460 VAC, 3 ph, 60 Hz

STROKES: Up to 79 in (2006 mm)

TEMPERATURE RANGE: 0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory



FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting

OPTIONS

- Food grade component options available
- Explosion proof motor and limit switch (See pages 16-17)
- Product designs for outdoor applications
- Manual override
- Other special packages are available upon your application needs

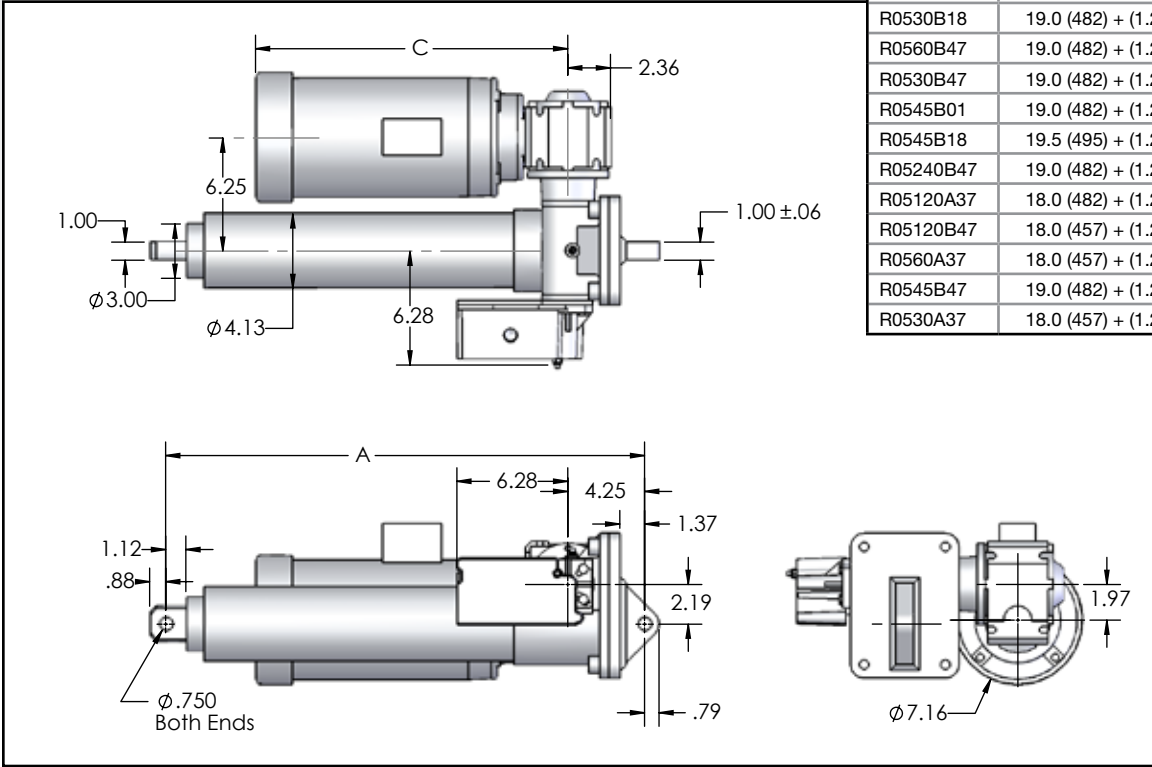
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length	Speed at Rated Load		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
W0506B47	5850	26,022	6, 12, 18, 24, 36	152, 304, 457, 609, 914	19.0 (482) + (1.25 x Stroke)	136	58	79	2006	3	2.24
R0530B18	6400	28,467			19.5 (495) + (1.25 x Stroke)	108	46	76	1930	3	2.24
R0545B18	9280	41,279			19.5 (495) + (1.25 x Stroke)	72	30	62	1572	3	2.24
R0530B01	8000	35,585			19.0 (482) + (1.25 x Stroke)	57.5	24	68	1727	2	1.49
R0545B01	8700	38,698			19.0 (482) + (1.25 x Stroke)	38.3	16	66	1676	1-1/2	1.12
R0530B47	9100	40,477			19.0 (482) + (1.25 x Stroke)	27.2	12	64	1625	1	0.75
R0530A37	10,000	44,482			18.0 (457) + (1.25 x Stroke)	21.5	9	57	1447	3	2.24
R0545B47	9900	44,036			19.0 (482) + (1.25 x Stroke)	18.1	8	61	1549	3/4	0.56
R0560B47	8600	38,253			19.0 (482) + (1.25 x Stroke)	13.6	6	66	1676	1/2	0.37
R0560A37	10,000	44,482			18.0 (457) + (1.25 x Stroke)	10.8	5	57	1447	1-1/2	1.10
R05120B47	10,000	44,482			18.0 (457) + (1.25 x Stroke)	6.8	3	61	1549	1/3	0.25
R05120A37	9300	41,367			18.0 (482) + (1.25 x Stroke)	5.4	2	59	1499	3/4*	0.55
R05240B47	10,000	44,482			19.0 (482) + (1.25 x Stroke)	3.4	1	61	1549	1/4	0.18

*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact factory for details.

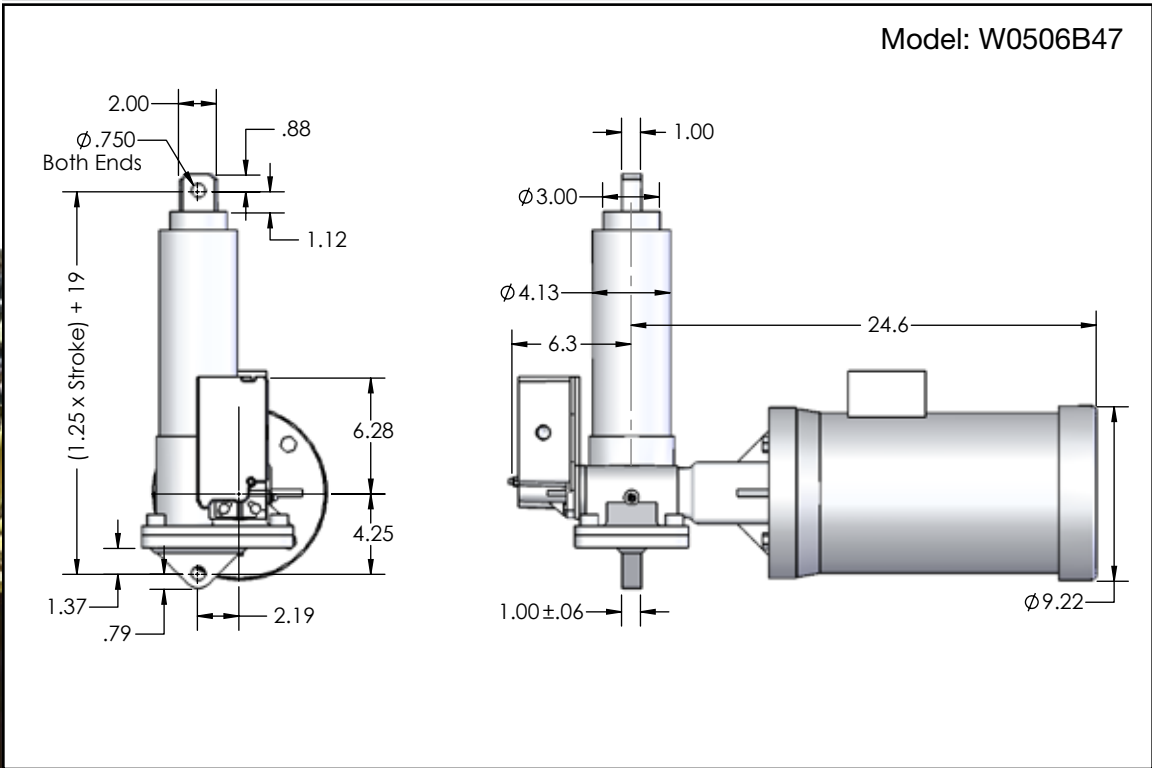
PARALLEL MOTOR

Model	A	C
W0506B47	19.0 (482) + (1.25 x Stroke)	21.77
R0530B01	19.0 (482) + (1.25 x Stroke)	20.61
R0530B18	19.0 (482) + (1.25 x Stroke)	21.77
R0560B47	19.0 (482) + (1.25 x Stroke)	17.26
R0530B47	19.0 (482) + (1.25 x Stroke)	17.26
R0545B01	19.0 (482) + (1.25 x Stroke)	19.61
R0545B18	19.5 (495) + (1.25 x Stroke)	21.77
R05240B47	19.0 (482) + (1.25 x Stroke)	15.76
R05120A37	18.0 (482) + (1.25 x Stroke)	17.26
R05120B47	18.0 (457) + (1.25 x Stroke)	15.76
R0560A37	18.0 (457) + (1.25 x Stroke)	19.61
R0545B47	19.0 (482) + (1.25 x Stroke)	17.26
R0530A37	18.0 (457) + (1.25 x Stroke)	21.77



RIGHT ANGLE MOTOR

Model: W0506B47



SERIES

SCW05 HAZARDOUS RATED

5 TON (44.4 kN)

- SPEED:** Up to 2.3 in/s (58 mm/s)
- BRAKE MOTOR:** 230/460 VAC, 3 ph, 60 Hz
Class 1, Group D and Class 2, Group F & G
- STROKES:** Up to 79 in (2007 mm)
- TEMPERATURE RANGE:** 0°F to 120°F (-18°C to 50°C)*



*For other temperatures please consult the factory

FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting
- Motor rated for Class 1, Group D and Class 2, Groups F & G
- Limit switches rated for NEMA 7/Class 1, Group D or NEMA 9/Class 2, Groups E, F & G. Specify when ordering.

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length in (mm)	Speed at Rated Load		Max Stroke		Motor		Screw Type	Configu- ration	Mounting
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW			
W0506EXB47	5850	26,022	6, 12, 18, 24, 36	152, 304, 459, 609, 914	19.0 (482) + (1.25 x Stroke)	136	58	79.0	2007	3	2.24	Ball	Right Angle	Clevis
R0530EXB01	4000	17,793			19.0 (482) + (1.25 x Stroke)	57.5	24	79.0	2007	1	0.75	Ball	Parallel	Clevis
R0530EXB47	9200	40,924			19.0 (482) + (1.25 x Stroke)	27.2	12	64.2	1631	1	0.75	Ball	Parallel	Clevis
R0530EXA37	3700	16,458			18.0 (457) + (1.25 x Stroke)	21.5	9	77.8	1976	1	0.75	Acme	Parallel	Clevis
R0560EXB47	8900	39,589			19.0 (482) + (1.25 x Stroke)	13.6	6	65.3	1659	1/2	0.37	Ball	Parallel	Clevis
R05120EXA37	9800	43,593			18.0 (457) + (1.25 x Stroke)	5.4	2	57.9	1471	3/4*	0.56	Acme	Parallel	Clevis

*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact factory for details.

SERIES

SCW10

10 TON (88.9 kN)

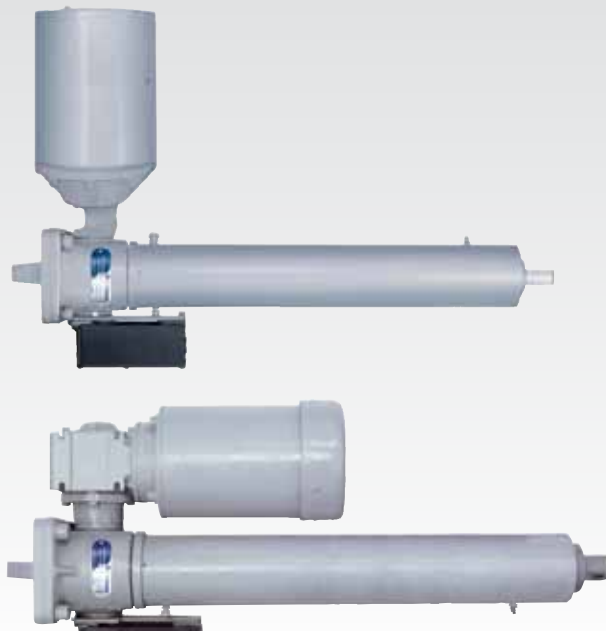
SPEED: Up to 108 in/min (2743 mm/min)

BRAKE MOTOR: 230/460 VAC, 3 ph, 60 Hz

STROKES: Up to 108 in (2743 mm)

TEMPERATURE RANGE: 0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory



FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting

OPTIONS

- Food grade component options available
- Explosion proof motor and limit switch (see pages 20-21)
- Product designs for outdoor applications
- Manual override
- Other special packages are available upon your application needs

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length	Speed at Rated Load		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
W1008B50	11,000	48,930	6, 12, 18, 24, 36	152, 304, 457, 609, 914	22.125 (562) + (1.25 x Stroke)	108	46	108	2743	5	3.68
W1012B50	9600	42,702			22.125 (562) + (1.25 x Stroke)	72	30	108	2743	3	2.21
R1040A50	20,000	88,964			19.625 (489) + (1.25 x Stroke)	21.6	9	68	1727	5	3.68
R1040B50	20,000	88,964			22.125 (562) + (1.25 x Stroke)	21.6	9	108	2743	2	1.47
R1060B50	16,200	72,058			22.125 (562) + (1.25 x Stroke)	14.4	6	108	2743	1	0.74
R1080B50	20,000	88,964			22.125 (562) + (1.25 x Stroke)	10.8	5	108	2743	1	0.74
R1080A50	17,150	76,284			19.625 (489) + (1.25 x Stroke)	10.8	5	74	1880	2	1.47
R10160B50	19,100	84,957			22.125 (562) + (1.25 x Stroke)	5.4	2	108	2743	1/2	0.37
R10160A50	20,000	88,964			19.625 (489) + (1.25 x Stroke)	5.4	2	68	1752	1-1/2	1.10
R10320A50	19,100	84,957			19.625 (489) + (1.25 x Stroke)	2.7	1	70	1778	3/4*	0.55

*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact factory for details.

SERIES

SCW10 HAZARDOUS RATED

10 TON (88.9 kN)

- SPEED:** Up to 1.8 in/s (46 mm/s)
- BRAKE MOTOR:** 230/460 VAC, 3 ph, 60 Hz
Class 1, Group D and Class 2, Group F & G
- STROKES:** Up to 108 in (2743 mm)
- TEMPERATURE RANGE:** 0°F to 120°F (-18°C to 50°C)*



*For other temperatures please consult the factory

FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting
- **Motor rated for Class 1, Group D and Class 2, Groups F & G**
- **Limit switches rated for NEMA 7/Class 1, Group D or NEMA 9/Class 2, Groups E, F & G.**

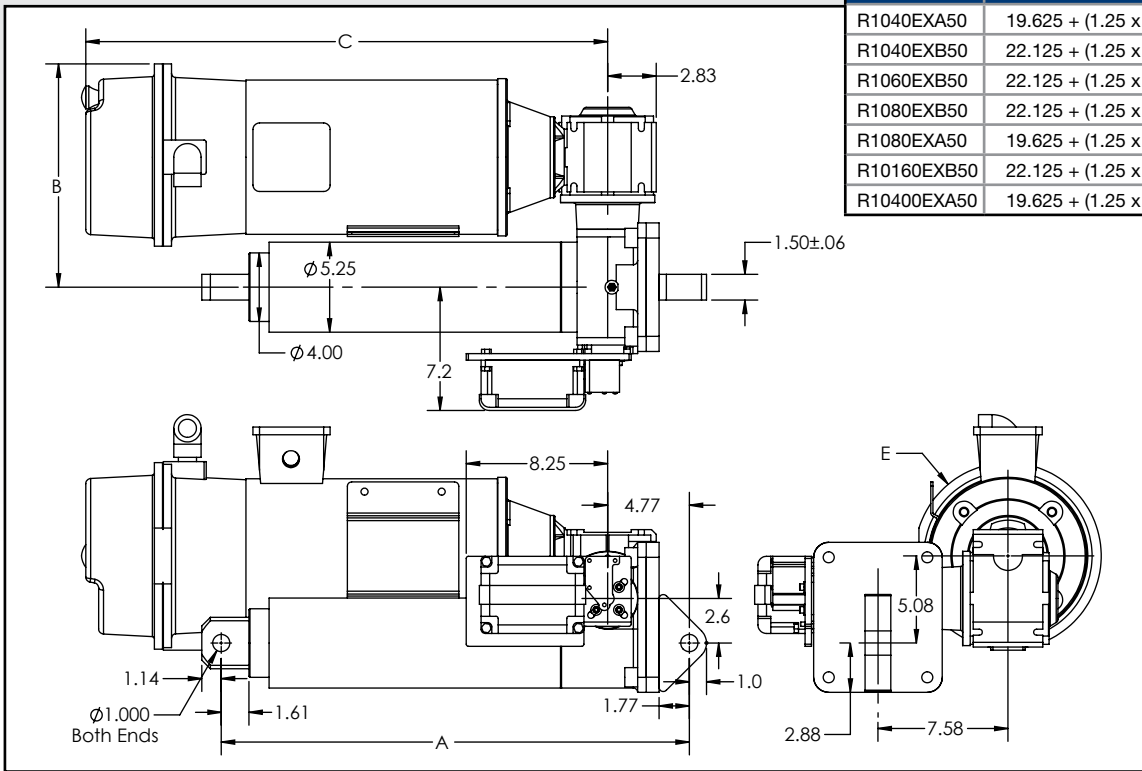
Specify when ordering.

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length in (mm)	Speed at Rated Load		Max Stroke		Motor		Screw Type	Configu-ration	Mounting
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW			
W1008EXB50	11,000	48,930	6, 12, 18, 24, 36	152, 304, 459, 609, 914	22.125 (562) + (1.25 x Stroke)	108	46	108	2743	5	3.73	Ball	Right Angle	Clevis
W1012EXB50	9600	42,703			22.125 (562) + (1.25 x Stroke)	72	30	108	2743	3	2.24	Ball	Right Angle	Clevis
R1040EXA50	20,000	88,964			19.625 (498) + (1.25 x Stroke)	21.6	9	69	1752	5	3.73	Acme	Parallel	Clevis
R1060EXB50	15,500	68,947			22.125 (562) + (1.25 x Stroke)	14.4	6	108	2743	1	0.75	Ball	Parallel	Clevis
R1080EXB50	20,000	88,964			22.125 (562) + (1.25 x Stroke)	10.8	5	108	2743	1	0.75	Ball	Parallel	Clevis
R1080EXA50	17,500	77,844			19.625 (498) + (1.25 x Stroke)	10.8	5	73.8	1873	2	1.49	Acme	Parallel	Clevis
R10160EXB50	18,900	84,071			22.125 (562) + (1.25 x Stroke)	5.4	2	108	2743	1/2	0.37	Ball	Parallel	Clevis
R10400EXA50	15,040	66,898			19.625 (498) + (1.25 x Stroke)	2.2	1	80	2032	1/2	0.37	Acme	Parallel	Clevis

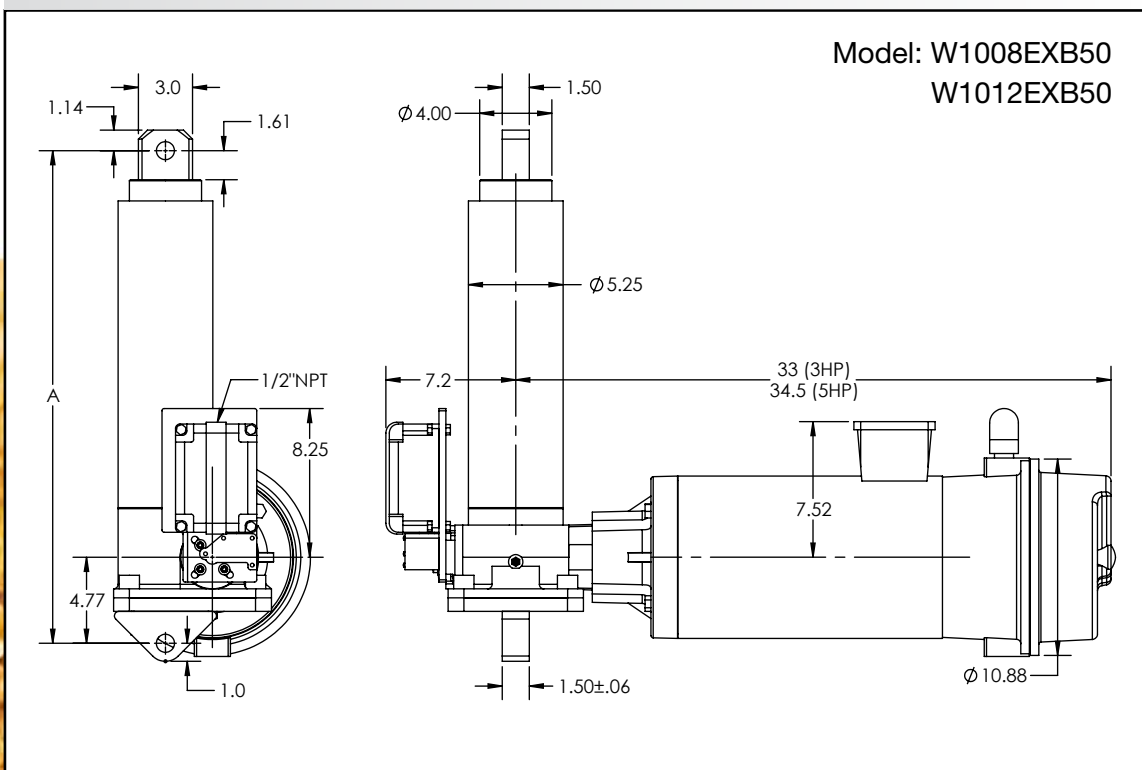
*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

PARALLEL MOTOR



Model	A	C	E
R1040EXA50	19.625 + (1.25 x Stroke)	33.53	10.88
R1040EXB50	22.125 + (1.25 x Stroke)	27.06	10.88
R1060EXB50	22.125 + (1.25 x Stroke)	22.72	7.88
R1080EXB50	22.125 + (1.25 x Stroke)	22.72	7.88
R1080EXA50	19.625 + (1.25 x Stroke)	27.06	7.88
R10160EXB50	22.125 + (1.25 x Stroke)	22.72	7.88
R10400EXA50	19.625 + (1.25 x Stroke)	22.66	7.88

RIGHT ANGLE MOTOR



SERIES

SCW20

20 TON (177.9 kN)



SPEED: Up to 21.6 in/min (2743 mm/min)

BRAKE MOTOR: 230/460 VAC, 3 ph, 60 Hz

STROKES: Up to 132 in (3352 mm)

TEMPERATURE RANGE: 0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory

FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting

OPTIONS

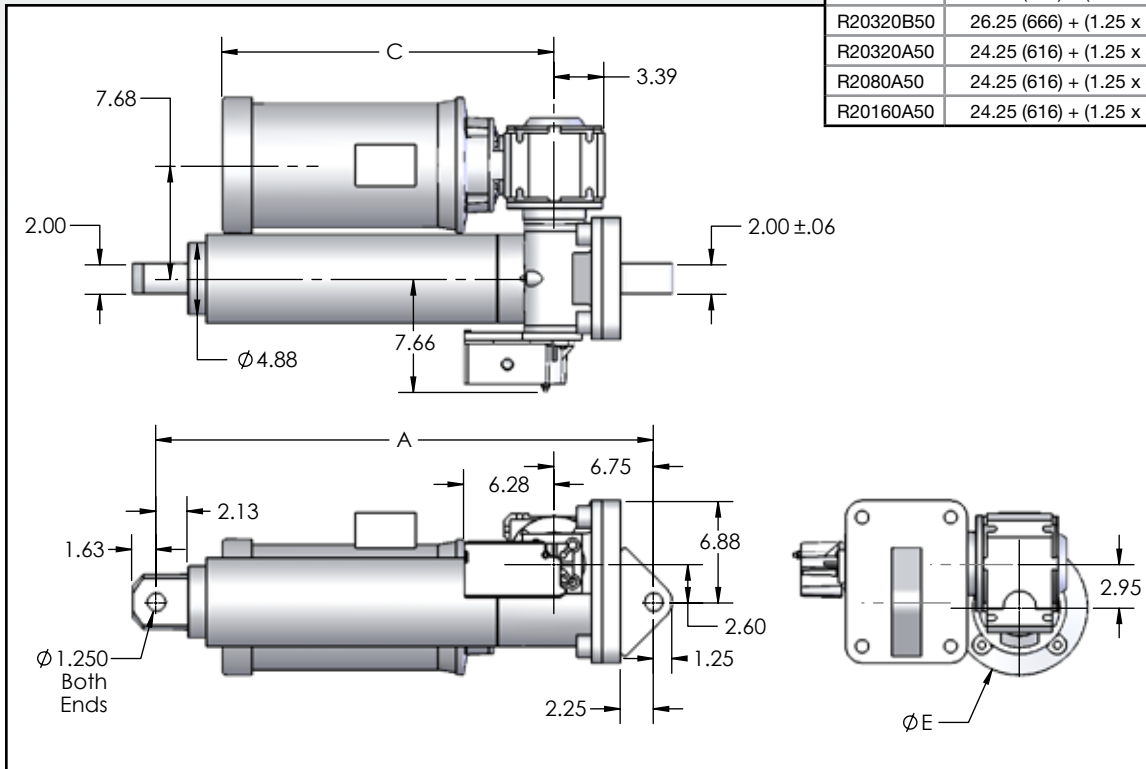
- Food grade component options available
- Explosion proof motor and limit switch (see pages 24-25)
- Product designs for outdoor applications
- Manual override
- Other special packages are available upon your application needs

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length	Speed at Rated Load		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
R2040B50	30,900	137,444	6, 12, 18, 24, 36	152, 304, 457, 609, 914	26.25 (666) + (1.25 x Stroke)	21.6	9	132	3352	3	2.24
R2060B50	30,300	134,775			26.25 (666) + (1.25 x Stroke)	14.4	6	132	3352	2	1.49
R2080B50	29,900	134,192			26.25 (666) + (1.25 x Stroke)	10.8	5	132	3352	1-1/2	1.12
R2080A50	32,000	142,343			24.25 (616) + (1.25 x Stroke)	10.8	5	98	2489	5*	3.73
R20160B50	27,400	121,876			26.25 (666) + (1.25 x Stroke)	5.4	2	132	3352	3/4	0.56
R20160A50	35,000	155,687			24.25 (616) + (1.25 x Stroke)	5.4	2	94	2388	3*	2.21
R20320B50	30,800	136,999			26.25 (666) + (1.25 x Stroke)	2.7	1	132	3352	1/2	0.37
R20320A50	29,700	132,107			24.25 (616) + (1.25 x Stroke)	2.7	1	102	2591	1-1/2*	1.12

*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

Model	A	C	E
R20160B50	26.25 (666) + (1.25 x Stroke)	19.09	7.16
R2080B50	26.25 (666) + (1.25 x Stroke)	20.97	7.16
R2060B50	26.25 (666) + (1.25 x Stroke)	21.97	7.16
R2040B50	26.25 (666) + (1.25 x Stroke)	23.07	9.22
R20320B50	26.25 (666) + (1.25 x Stroke)	19.09	7.16
R20320A50	24.25 (616) + (1.25 x Stroke)	20.97	7.16
R2080A50	24.25 (616) + (1.25 x Stroke)	23.52	9.22
R20160A50	24.25 (616) + (1.25 x Stroke)	23.07	9.22



SERIES

SCW20 HAZARDOUS RATED

20 TON (177.9 kN)

- SPEED:** Up to 0.4 in/s (9 mm/s)
- BRAKE MOTOR:** 230/460 VAC, 3 ph, 60 Hz
Class 1, Group D and Class 2, Group F & G
- STROKES:** Up to 132 in (3353 mm)
- TEMPERATURE RANGE:** 0°F to 120°F (-18°C to 50°C)*



*For other temperatures please consult the factory

FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting
- **Motor rated for Class 1, Group D and Class 2, Groups F & G**
- **Limit switches rated for NEMA 7/Class 1, Group D or NEMA 9/Class 2, Groups E, F & G.**

Specify when ordering.

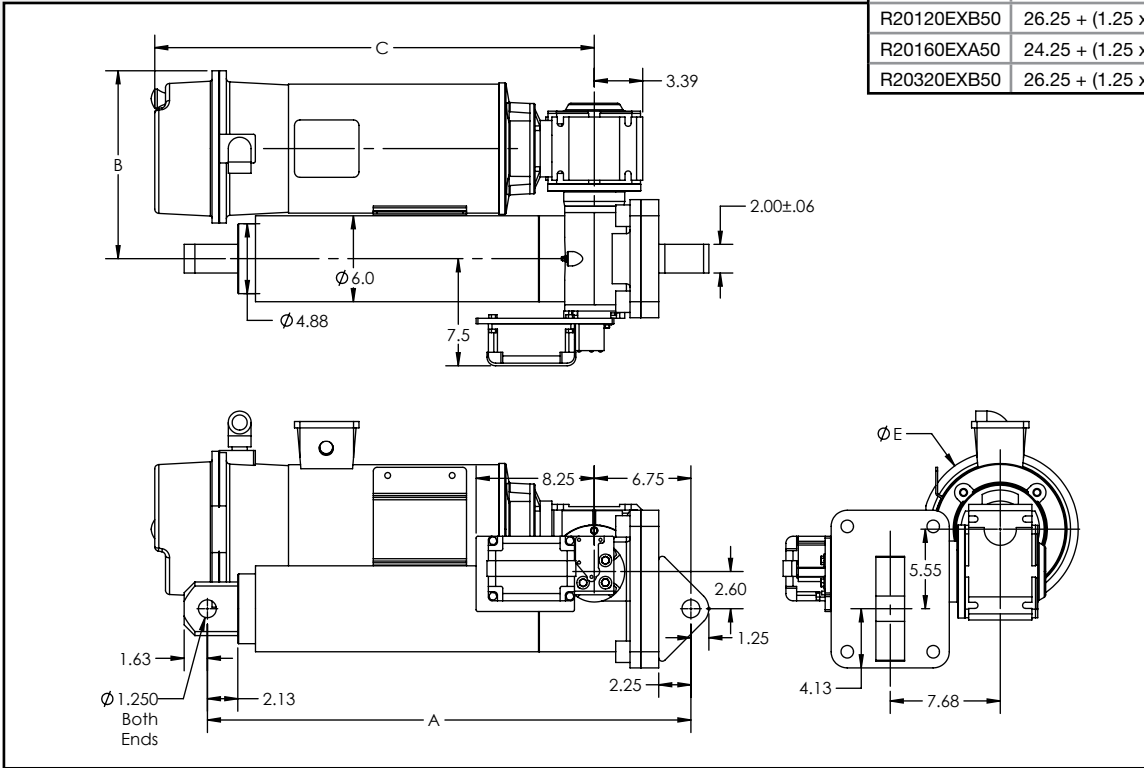
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length in (mm)	Speed at Rated Load		Max Stroke		Motor		Screw Type	Configu-ration	Mounting
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW			
R2040EXB50	30,700	136,560	6, 12, 18, 24, 36	152, 304, 459, 609, 914	26.25 (666) + (1.25 x Stroke)	21.6	9	132.0	3353	3	2.24	Ball	Parallel	Clevis
R2080EXA50	32,000	142,343			24.25 (616) + (1.25 x Stroke)	10.8	5	99.0	2514	5*	3.73	Acme	Parallel	Clevis
R20120EXB50	28,200	125,434			26.25 (666) + (1.25 x Stroke)	7.2	3	129.0	3277	1	0.75	Ball	Parallel	Clevis
R20160EXA50	35,000	155,688			24.25 (616) + (1.25 x Stroke)	5.4	2	94.6	2404	3*	2.24	Acme	Parallel	Clevis
R20320EXB50	30,900	137,450			26.25 (666) + (1.25 x Stroke)	2.7	1	132.0	3353	1/2	0.37	Ball	Parallel	Clevis

*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

PARALLEL MOTOR

Model	A	C	E
R2040EXB50	26.25 + (1.25 x Stroke)	30.68	10.88
R2080EXA50	24.25 + (1.25 x Stroke)	33.77	10.88
R20120EXB50	26.25 + (1.25 x Stroke)	23.54	7.88
R20160EXA50	24.25 + (1.25 x Stroke)	30.68	10.88
R20320EXB50	26.25 + (1.25 x Stroke)	23.56	7.88



SERIES

SCW25

25 TON (222 kN)



SPEED: Up to 19.58 in/min (502 mm/min)

BRAKE MOTOR: 230/460 VAC, 3 ph, 60 Hz

STROKES: Up to 140 in (3581 mm)

TEMPERATURE RANGE: 0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory

FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting

OPTIONS

- Food grade component options available
- Explosion proof motor and limit switch (see pages 28-29)
- Product designs for outdoor applications
- Manual override
- Other special packages are available upon your application needs

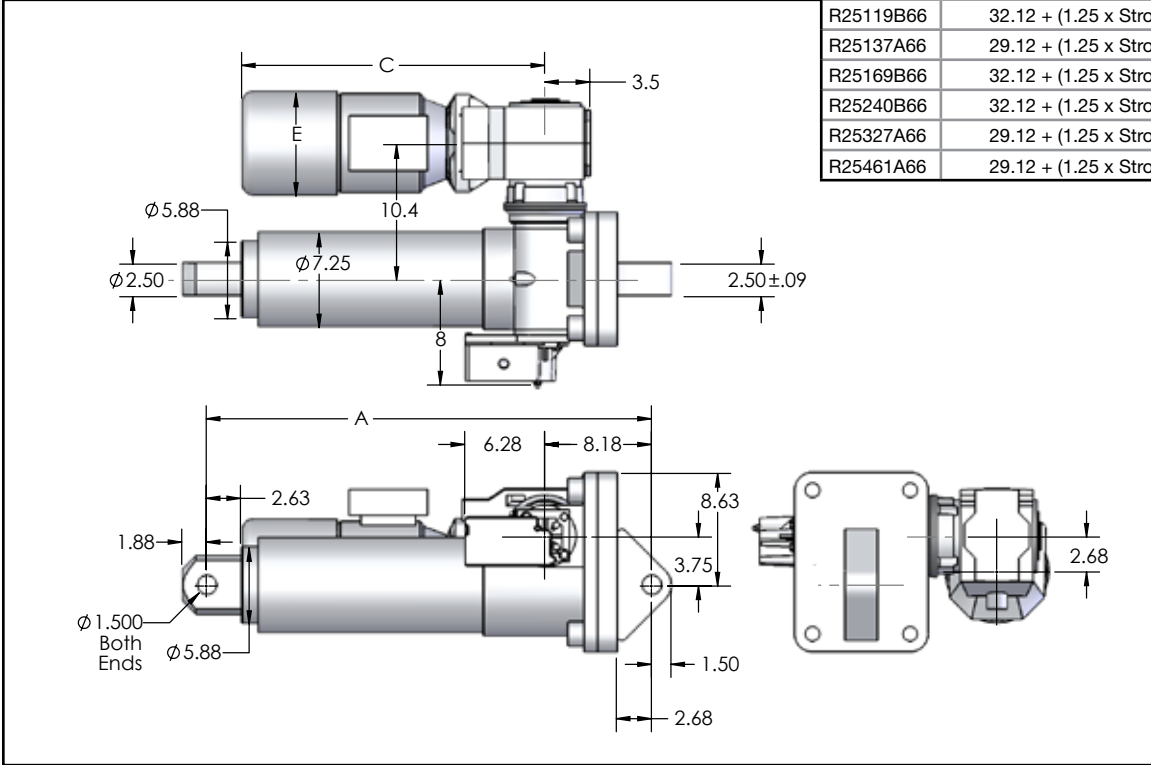
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length	Speed at Rated Load		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
R2555B66	50,000	222,411	6, 12, 18, 24, 36	152, 304, 457, 609, 914	32.12 (815) + (1.25 x Stroke)	20.8	9	130	3302	5	3.73
R2587B66	50,000	222,411			32.12 (815) + (1.25 x Stroke)	13.0	6	130	3327	3	2.24
R2589A66	49,840	221,699			29.12 (740) + (1.25 x Stroke)	12.9	5	137	3505	7-1/2	5.59
R25119B66	49,030	220,057			32.12 (815) + (1.25 x Stroke)	9.5	4	131	3327	2	1.49
R25137A66	50,000	222,411			29.12 (740) + (1.25 x Stroke)	8.4	4	137	3505	5	3.73
R25169B66	50,000	222,411			32.12 (815) + (1.25 x Stroke)	6.7	3	130	3302	1-1/2	1.12
R25240B66	49,090	218,363			32.12 (815) + (1.25 x Stroke)	4.7	2	131	3302	1	0.75
R25327A66	49,890	221,921			29.12 (740) + (1.25 x Stroke)	3.5	1	137	3505	2*	1.49
R25461A66	50,000	222,411			29.12 (815) + (1.25 x Stroke)	2.5	1	137	3480	1-1/2*	1.12

*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

PARALLEL MOTOR

Model	A	C	E
R2555B66	32.12 + (1.25 x Stroke)	23.07	7.91
R2587B66	32.12 + (1.25 x Stroke)	23.07	7.91
R2589A66	29.12 + (1.25 x Stroke)	29.22	10.47
R25119B66	32.12 + (1.25 x Stroke)	21.20	7.20
R25137A66	29.12 + (1.25 x Stroke)	24.32	7.91
R25169B66	32.12 + (1.25 x Stroke)	21.20	7.20
R25240B66	32.12 + (1.25 x Stroke)	19.19	6.43
R25327A66	29.12 + (1.25 x Stroke)	22.45	7.91
R25461A66	29.12 + (1.25 x Stroke)	22.45	7.20



SERIES

SCW25 HAZARDOUS RATED

25 TON (222 kN)

SPEED:	Up to 0.3 in/s (9 mm/s)
BRAKE MOTOR:	230/460 VAC, 3 ph, 60 Hz Class 1, Group D and Class 2, Group F & G
STROKES:	Up to 137 in (3498 mm)
TEMPERATURE RANGE:	0°F to 120°F (-18°C to 50°C)*



*For other temperatures please consult the factory

FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw or acme screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Double clevis mounting
- **Motor rated for Class 1, Group D and Class 2, Groups F & G**
- **Limit switches rated for NEMA 7/Class 1, Group D or NEMA 9/Class 2, Groups E, F & G.**

Specify when ordering.

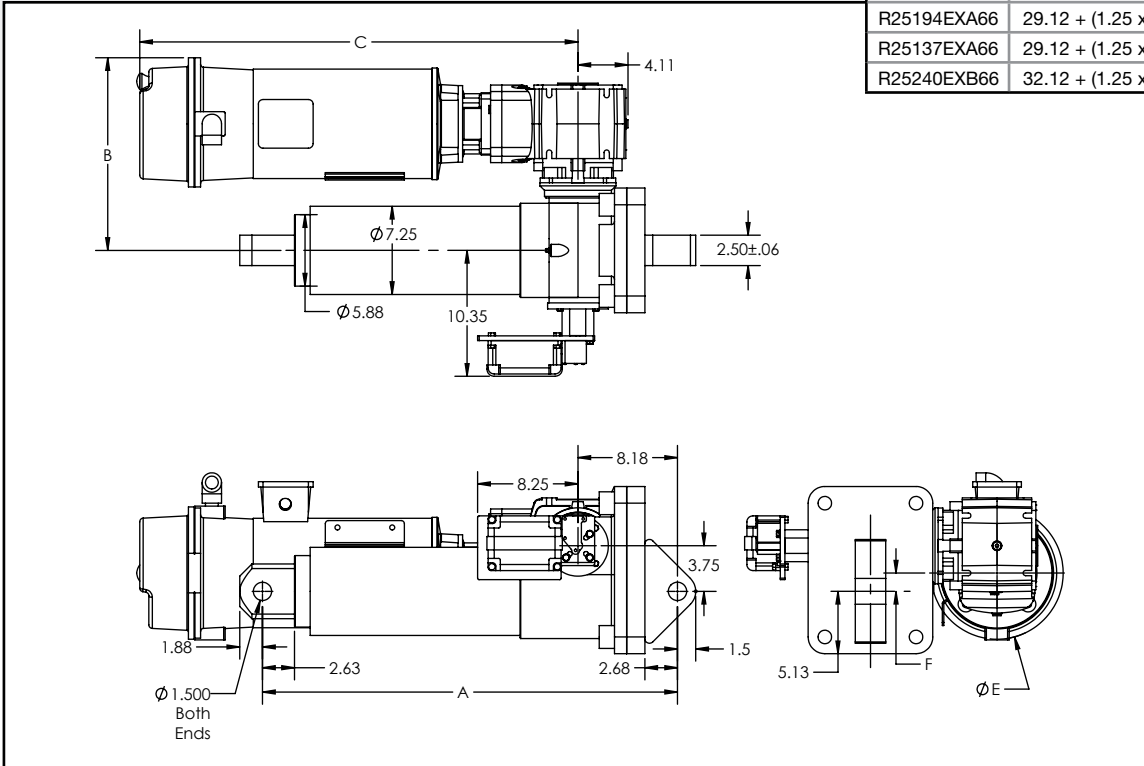
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Length		Retracted Length in (mm)	Speed at Rated Load		Max Stroke		Motor		Screw Type	Configu- ration	Mounting
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW			
R2555EXB66	50,000	222,411	6, 12, 18, 24, 36	152,	26.25 (666) + (1.25 x Stroke)	20.8	9	130.3	3310	5	3.73	Ball	Parallel	Clevis
R2587EXB66	50,000	222,411		304,	26.25 (666) + (1.25 x Stroke)	13	6	130.3	3310	3	2.24	Ball	Parallel	Clevis
R25137EXA66	50,000	222,411		459,	26.25 (666) + (1.25 x Stroke)	8.4	4	137.6	3494	5	3.73	Acme	Parallel	Clevis
R25194EXA66	43,900	195269		609,	29.12 (740) + (1.25 x Stroke)	5.2	2	139.0	3531	3	2.24	Acme	Parallel	Clevis
R25240EXB66	49,090	218,363		914	24.25 (616) + (1.25 x Stroke)	4.7	2	131.5	3341	1	0.75	Ball	Parallel	Clevis

*NOTE: Models with asterisk by motor HP are inherently load holding. Motor brake may be omitted if slight drift is acceptable. Slight drift is not detrimental. Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

PARALLEL MOTOR

Model	A	C	E
R2555EXB66	32.12 + (1.25 x Stroke)	37.88	10.88
R2587EXB66	32.12 + (1.25 x Stroke)	34.79	10.88
R25194EXA66	29.12 + (1.25 x Stroke)	36.32	10.88
R25137EXA66	29.12 + (1.25 x Stroke)	39.12	10.88
R25240EXB66	32.12 + (1.25 x Stroke)	28.87	7.88



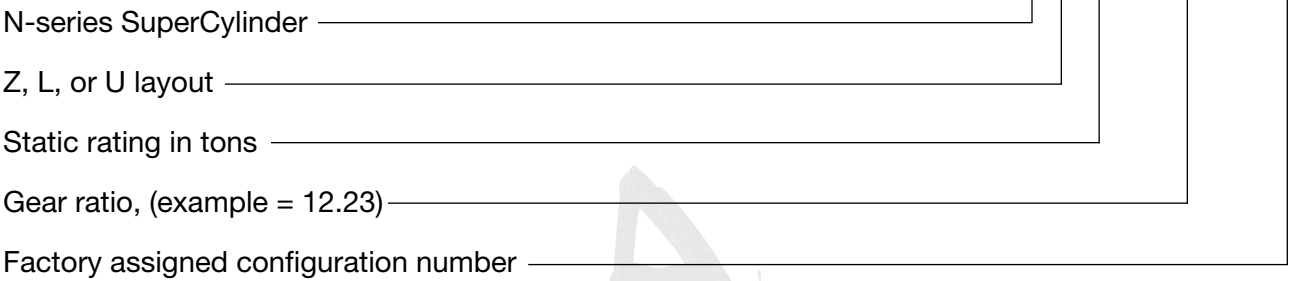
LINEAR ACTUATOR

HOW TO ORDER

(NZ, NL, and NU Series)

1. Specify model from tables (example: NLEX-0385)
2. Specify stroke, available in 1 inch increments. Maximum stroke may be limited by column buckling strength, and varies with load rating. Contact factory to confirm availability of any stroke over 54 inches. Units are designed so that there is 1/2 inch overtravel before internal jam in both the retracted and extended positions.
3. Specify fitted horsepower. This can be the standard model horsepower shown in the charts or a different horsepower determined by life vs. load. Contact our application engineers for more information.
4. Specify voltage. Standard voltage is 230/460 volt, 3 phase, 60 Hz. For other voltage requirements, contact our application engineers.
5. Specify mounting position (see charts, page 11). This is required to allow proper oil filling of the gearbox. Choose position that most closely matches actual installed position.
6. Specify mounting blocks if needed. See page 16 for mounting information.
7. Model nomenclature:

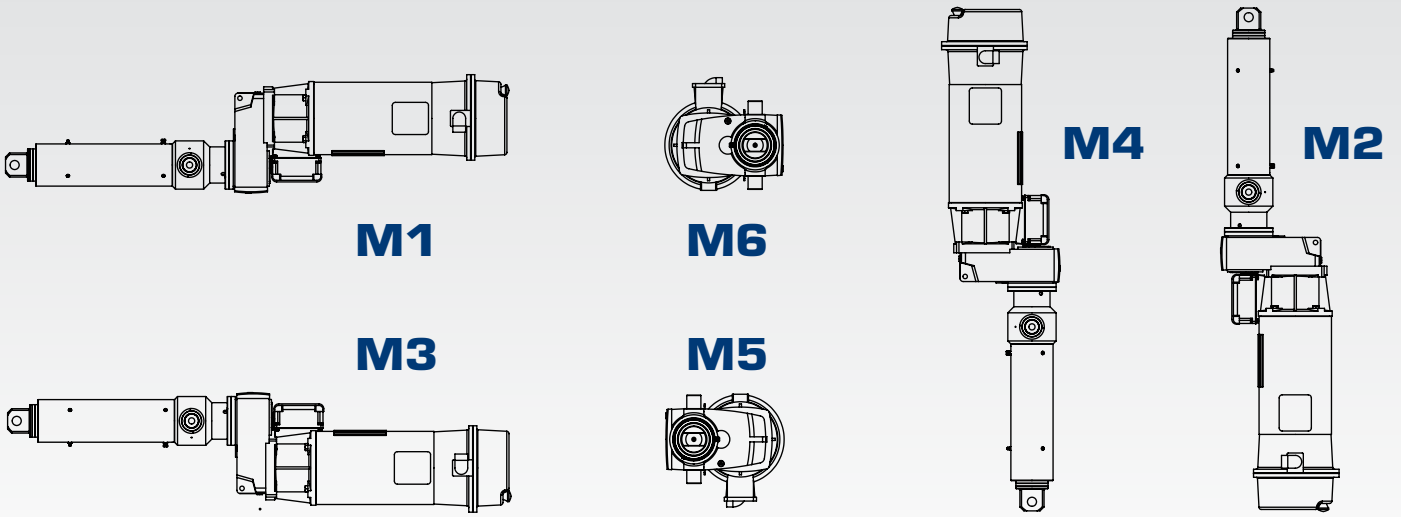
NZ06-1223-001



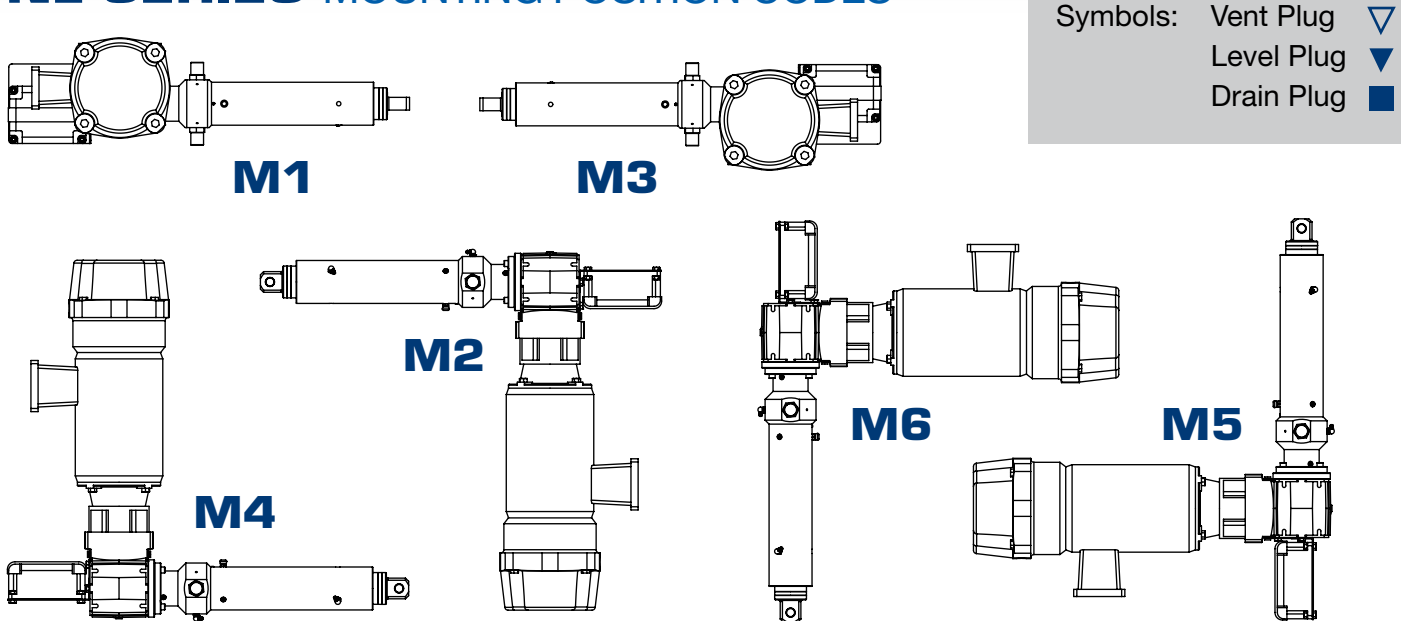
Intrinsically safe potentiometer feedback option

Hazardous-duty SuperCylinders are available with a potentiometer in a standard NEMA 4 enclosure that can be used with an intrinsically safe barrier when properly installed. Contact Duff-Norton for complete specifications: call 800-477-5002 or email duffnorton@cmworks.com.

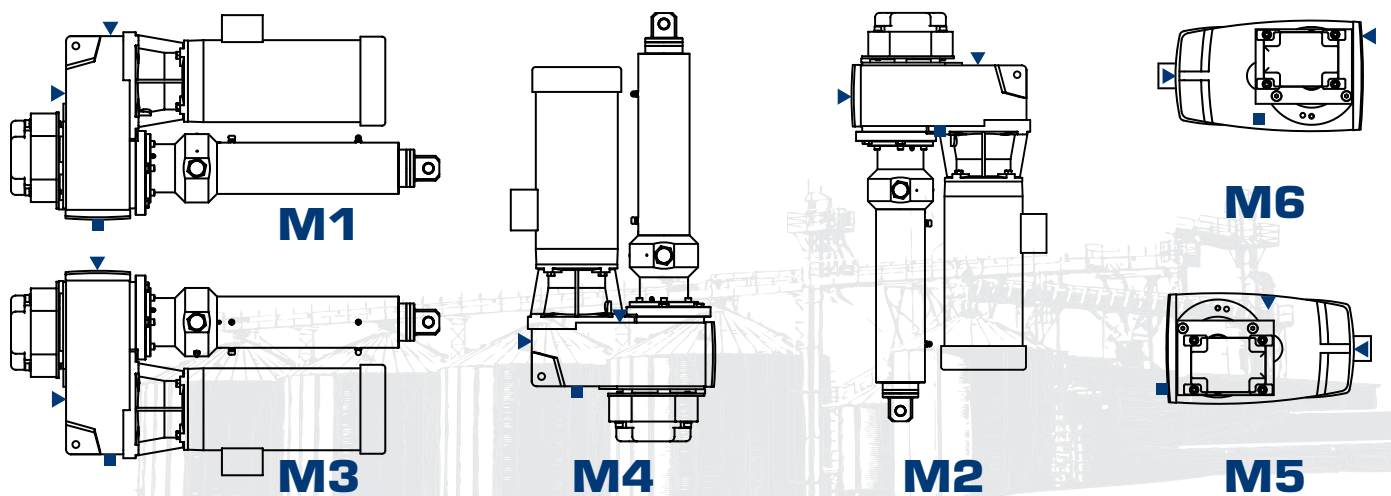
NZ SERIES MOUNTING POSITION CODES



NL SERIES MOUNTING POSITION CODES



NU SERIES MOUNTING POSITION CODES



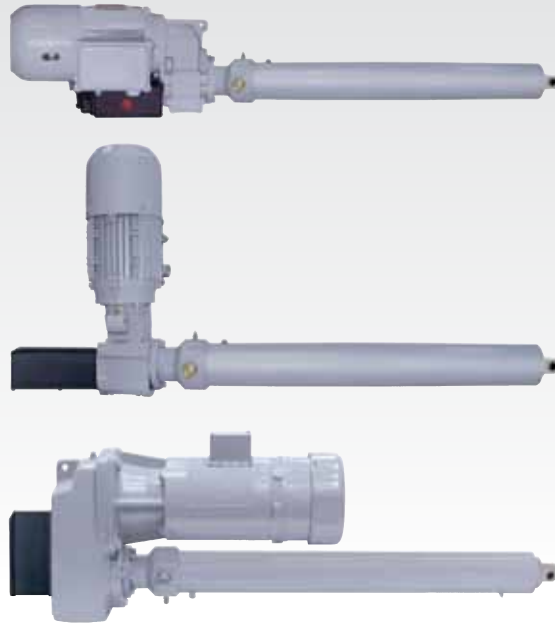
SERIES

SCN03

3 TON (26.6 kN)

SPEED:	Up to 182.4 in/min (4633 mm/min)
BRAKE MOTOR:	TEFC 230/460 VAC, 3 ph, 60 Hz
STROKES:	Up to 61 in (1549 mm)
TEMPERATURE RANGE:	0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory



FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Clevis and trunnion mounting
- Motor configuration include: parallel, right angle and OFFSET

OPTIONS

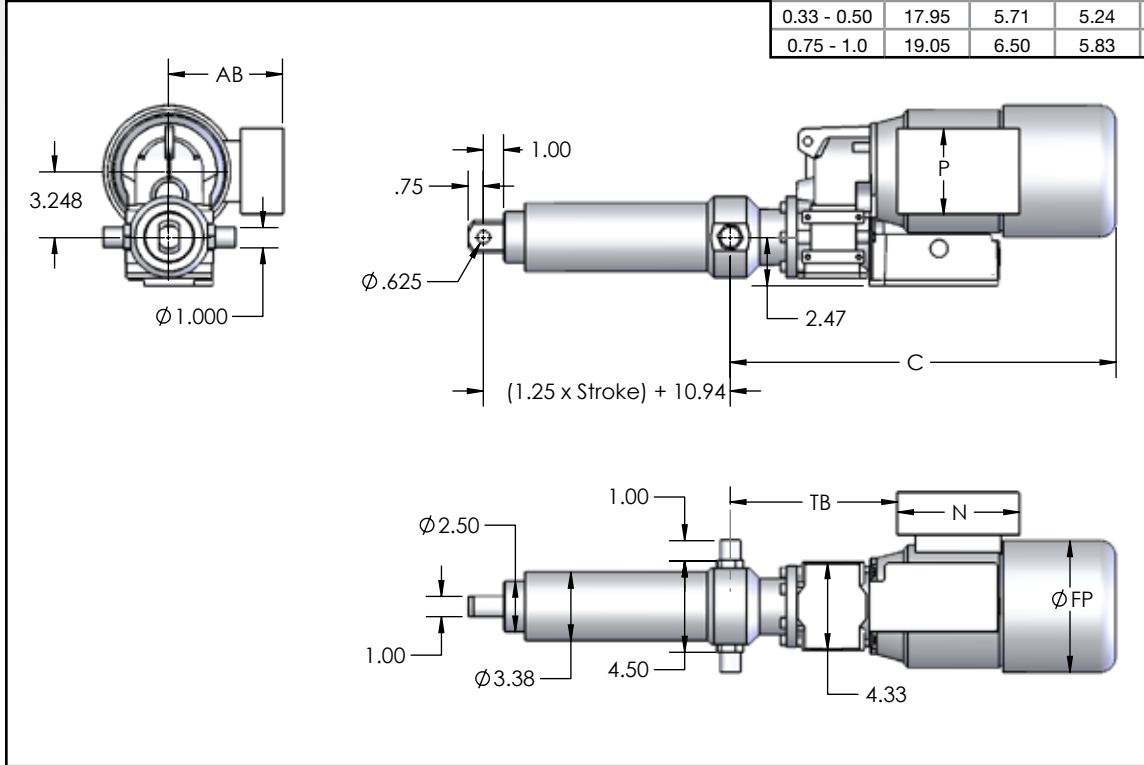
- Food grade component options available
- Explosion proof motor and limit switch (see pages 36-39)
- Product designs for outdoor applications
- Manual override
- Other special packages are available upon your application needs





OFFSET MOTOR

Motor HP	C	FP	AB	TB	N	P
0.16 - 0.25	17.00	5.17	4.84	7.94	5.20	3.43
0.33 - 0.50	17.95	5.71	5.24	8.25	5.20	3.43
0.75 - 1.0	19.05	6.50	5.83	8.21	6.02	4.25



PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NZ03-0424	2134	9492	6, 12, 18, 24, 36	152, 304, 457, 609, 914	10.94 (277) + (1.25 x Stroke)	165.6	70	61	1549	1	0.74
NZ03-0534	2687	11,952				131.5	56	61	1549	1	0.74
NZ03-0635	3196	14,216				110.6	47	61	1549	1	0.74
NZ03-0726	3654	16,235				96.7	41	59	1499	1	0.74
NZ03-0864	3261	14,505				81.3	34	61	1549	3/4	0.56
NZ03-0949	3582	15,933				74.0	31	59	1499	3/4	0.56
NZ03-1166	2934	13,051				60.2	25	61	1549	1/2	0.37
NZ03-1384	3482	15,487				50.7	21	60	1524	1/2	0.37
NZ03-1492	3754	16,697				47.1	20	58	1473	1/2	0.37
NZ03-1653	4159	18,499				42.5	18	55	1397	1/2	0.37
NZ03-1879	4728	21,031				37.4	16	52	1321	1/2	0.37
NZ03-2235	3712	16,511				31.4	13	58	1473	1/3	0.24
NZ03-2455	4077	18,143				28.6	12	56	1422	1/3	0.24
NZ03-2913	4838	21,519				24.1	10	51	1295	1/3	0.24
NZ03-3181	5283	23,498				22.1	9	49	1244	1/3	0.24
NZ03-3480	5779	25,706				20.2	9	47	1193	1/3	0.24
NZ03-3773	6000	26,689				18.6	8	45	1143	1/3	0.24
NZ03-4185	5265	23,419				16.8	7	49	1245	1/4	0.19
NZ03-4965	6000	26,689				14.1	6	45	1143	1/4	0.19
NZ03-5933	6000	26,689				11.8	5	41	1041	1/4	0.19
NZ03-8171	6000	26,689	8.6	4	44	1118	1/6	0.12			

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

SERIES

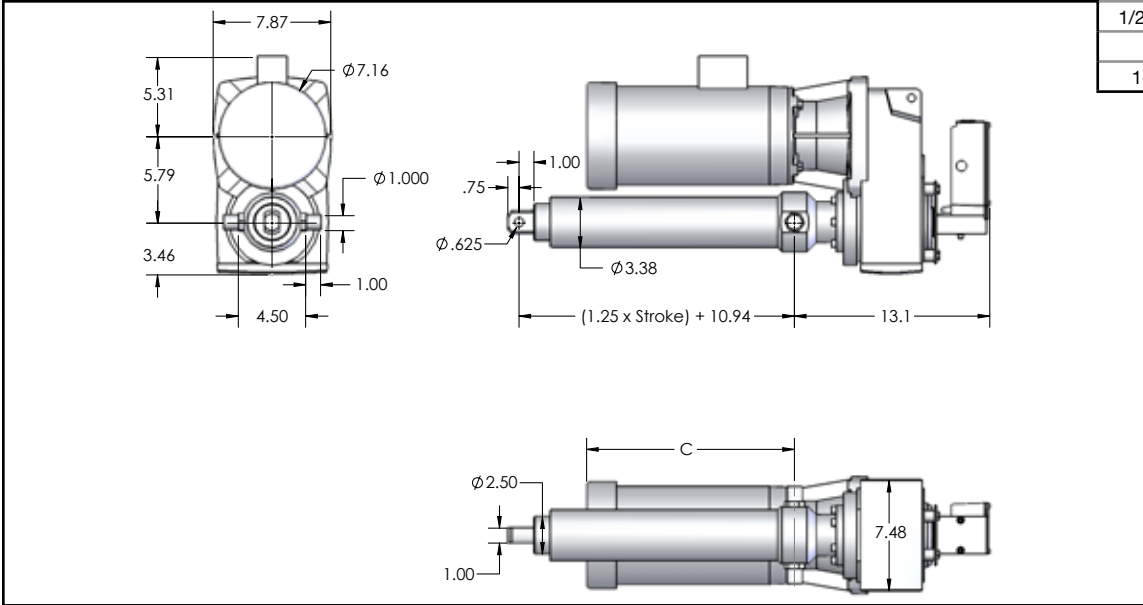
SCN03

3 TON (26.6 kN)



PARALLEL MOTOR

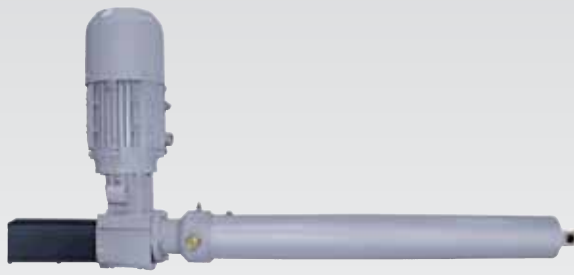
Motor HP	C
1/3	11.92
1/2 - 3/4	13.42
1	13.92
1-1/2	15.36



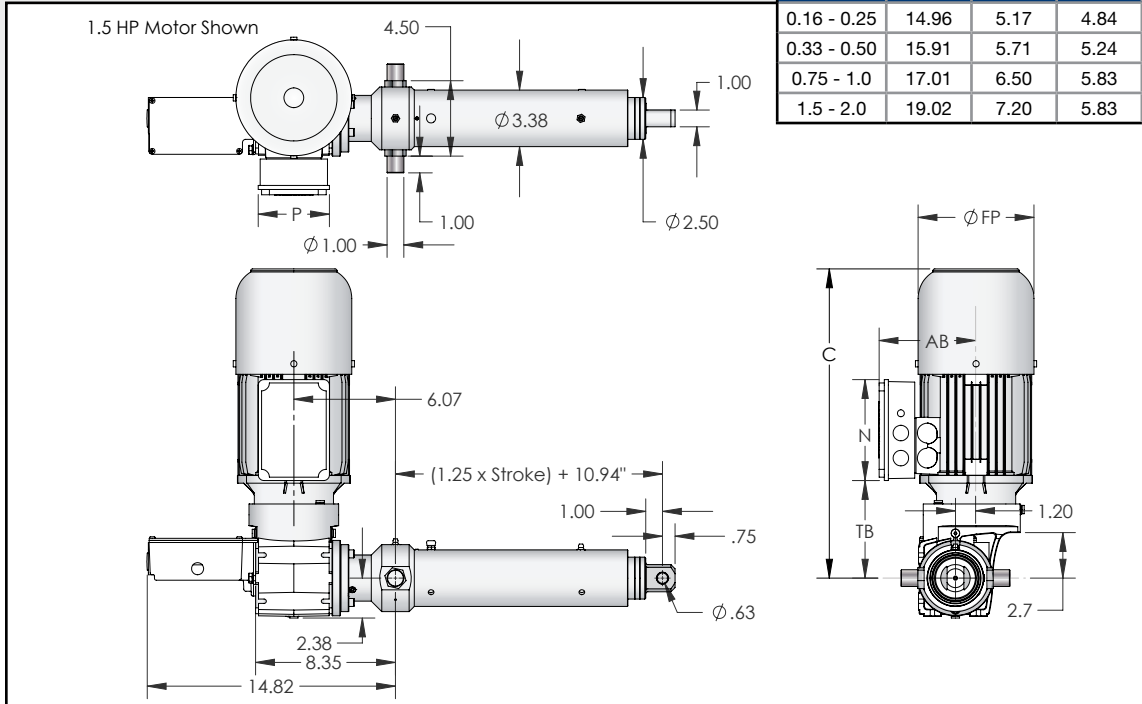
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
NU03-0451	3404	15,141	6, 12, 18, 24, 36	152, 304, 457, 609, 914	10.94 (277) + (1.25 x Stroke)	155.7	66	61	1549	1-1/2	1.11
NU03-0572	2879	12,806				122.7	52	61	1549	1	0.74
NU03-0643	3236	14400				109.2	46	61	1549	1	0.74
NU03-0748	3764	16749				93.9	40	58	1473	1	0.74
NU03-0837	3159	14,051				83.9	36	61	1549	3/4	0.56
NU03-0903	3408	15165				77.8	33	61	1549	3/4	0.56
NU03-1015	3831	17,048				69.2	29	57	1447	3/4	0.56
NU03-1181	2972	13,220				59.4	25	61	1549	1/2	0.37
NU03-1323	3329	14814				53.1	22	61	1549	1/2	0.37
NU03-1653	4159	18,508				42.5	18	55	1397	1/2	0.37
NU03-1851	3074	13,673				37.9	16	61	1549	1/3	0.24
NU03-2190	3637	16184				32.1	14	59	1499	1/3	0.24
NU03-2396	3979	17706				29.3	12	56	1422	1/3	0.24
NU03-2497	4147	18454				28.1	12	55	1397	1/3	0.24
NU03-2683	3375	15,012				26.2	665	61	1549	1/4	0.19
NU03-2965	3730	16,599				23.7	11	58	1473	1/4	0.19
NU03-3123	3929	17,484				22.5	10	57	1447	1/4	0.19
NU03-3654	4597	20456				19.2	8	52	1320	1/4	0.19
NU03-3718	4678	20,817				18.9	8	52	1321	1/4	0.19
NU03-4511	3632	16,155				15.6	7	59	1499	1/6	0.12
NU03-5396	4345	19335				13.0	6	54	1371	1/6	0.12
NU03-6383	5139	22868				11.0	5	50	1270	1/6	0.12
NU03-6967	5610	24,965				10.1	4	47	1193	1/6	0.12
NU03-8242	6000	26,700				8.5	4	44	1117	1/6	0.12
NU03-10098	6000	26700				7.0	3	39	990	1/6	0.12
NU03-10407	6000	26700				6.7	3	39	990	1/6	0.12
NU03-12751	6000	26700				5.5	2	35	889	1/6	0.12

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.



RIGHT ANGLE MOTOR



Motor HP	C	FP	AB	TB	N	P
0.16 - 0.25	14.96	5.17	4.84	5.94	5.20	3.43
0.33 - 0.50	15.91	5.71	5.24	6.26	5.20	3.43
0.75 - 1.0	17.01	6.50	5.83	6.22	6.02	4.25
1.5 - 2.0	19.02	7.20	5.83	6.42	6.02	4.25

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
NL03-0358	2702	12,021	6, 12, 18, 24, 36	152, 304, 457, 609, 914	10.94 (278) + (1.25 x Stroke)	196.1	83	61	1549	1-1/2	1.12
NL03-0397	2997	13,330				176.9	75	61	1549	1-1/2	1.12
NL03-0465	3510	15,614				151.0	64	61	1549	1-1/2	1.12
NL03-0517	2602	11,573				135.8	57	61	1549	1	0.75
NL03-0583	2934	13,051				120.4	51	61	1549	1	0.75
NL03-0667	3357	14,931				105.3	45	61	1549	1	0.75
NL03-0758	3815	16,968				92.6	39	58	1473	1	0.75
NL03-0867	3272	14,556				81.0	34	61	1549	3/4	0.56
NL03-0985	3718	16,537				71.3	30	59	1499	3/4	0.56
NL03-1111	2795	12,435				63.2	27	61	1549	1/2	0.37
NL03-1278	3216	14,304				54.9	23	61	1549	1/2	0.37
NL03-1600	4026	17,908				43.9	19	57	1448	1/2	0.37
NL03-1852	3076	13,681				37.9	16	61	1549	1/3	0.25
NL03-2080	3454	15,365				33.8	14	61	1549	1/3	0.25
NL03-2407	3997	17,781				29.2	12	57	1448	1/3	0.25
NL03-2716	3417	15,200				25.9	11	61	1549	1/4	0.19
NL03-3157	3972	17,667				22.2	9	57	1448	1/4	0.19
NL03-3562	4481	19,934				19.7	8	54	1372	1/4	0.19
NL03-4098	5156	22,934				17.1	7	50	1270	1/4	0.19
NL03-4767	5997	26,677				14.7	6	46	1168	1/4	0.19
NL03-5378	4330	19,262	13.1	6	54	1372	1/6	0.12			
NL03-6188	4982	22,163	11.3	5	51	1295	1/6	0.12			

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

* C-face only

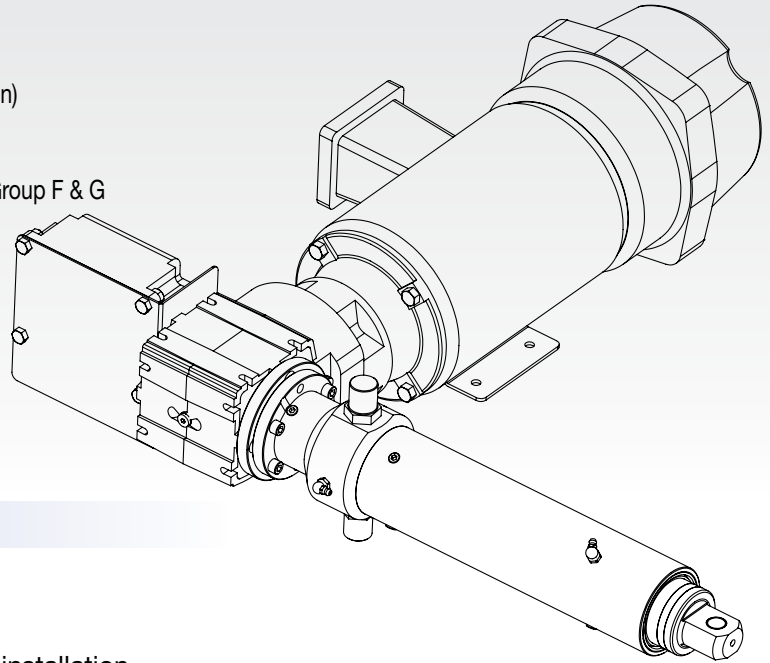
SERIES

SCN03 HAZARDOUS RATED

3 TON (26.6 kN)

SPEED:	Up to 182.4 in/min (4632 mm/min)
BRAKE MOTOR:	230/460 VAC, 3 ph, 60 Hz Class 1, Group D and Class 2, Group F & G
STROKES:	Up to 61 in (1549 mm)
TEMPERATURE RANGE:	0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory

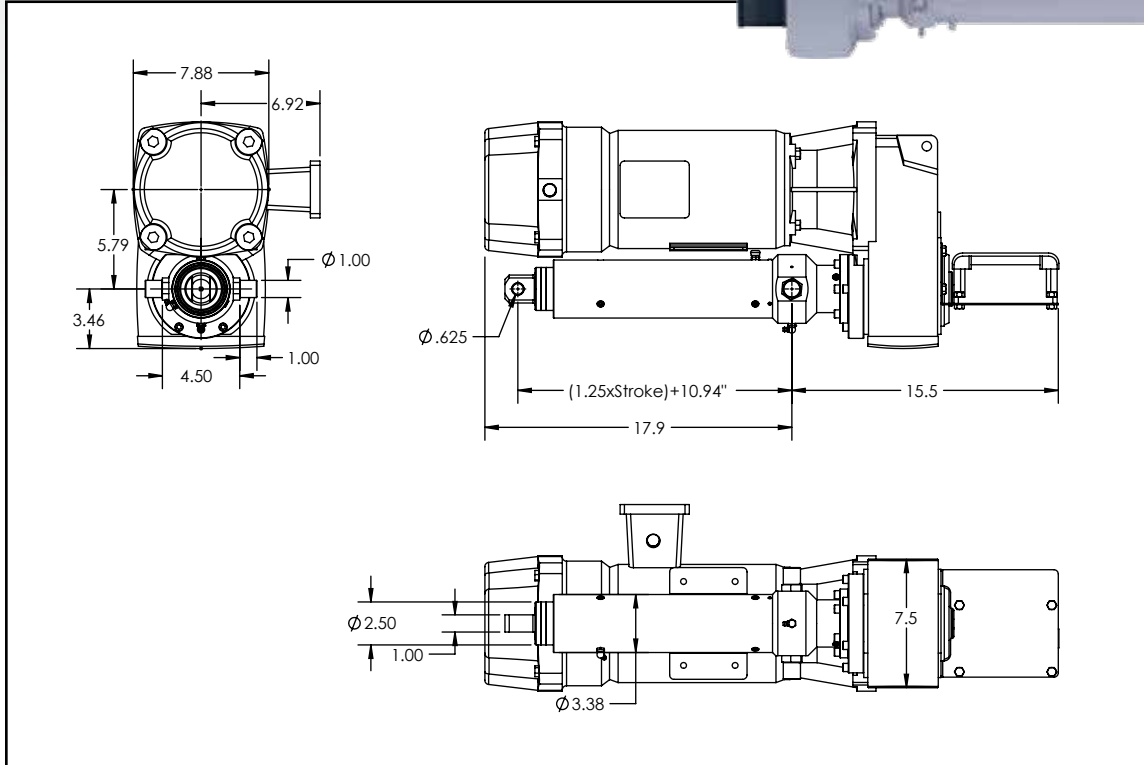
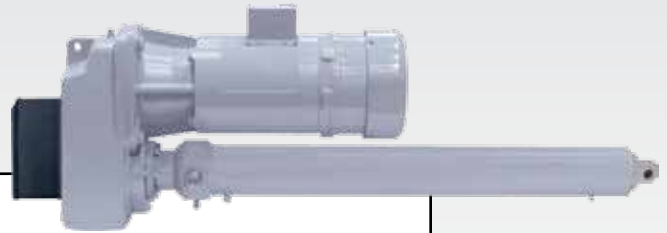


FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Clevis and trunnion mounting
- Motor configuration include: parallel, right angle and OFFSET
- **Motor rated for Class 1, Group D and Class 2, Groups F & G**
- **Limit switches rated for NEMA 7/Class 1, Group D or NEMA 9/Class 2, Groups E, F & G. Specify when ordering.**



PARALLEL MOTOR



PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
NU03EX-0451	2270	10,096	6, 12, 18, 24, 36	152, 304, 459, 609, 914	10.94 (277) + (1.25 x Stroke)	155.7	66	61	1549	1	0.75
NU03EX-0572	2879	12,804				122.7	52	61	1549	1	0.75
NU03EX-0643	3236	14,394				109.2	46	61	1549	1	0.75
NU03EX-0748	3764	16,744				93.9	40	58	1473	1	0.75
NU03EX-0837	3159	14,052				83.9	36	61	1549	0.75	0.56
NU03EX-1323	3329	14,808				53.1	22	61	1549	0.5	0.37
NU03EX-1653	4159	18,501				42.5	18	55	1397	0.5	0.37
NU03EX-1851	4657	20,717				37.9	16	53	1346	0.5	0.37
NU03EX-2190	5510	24,512				32.1	14	48	1219	0.5	0.37
NU03EX-2396	6029	26,817				29.3	12	46	1168	0.5	0.37

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

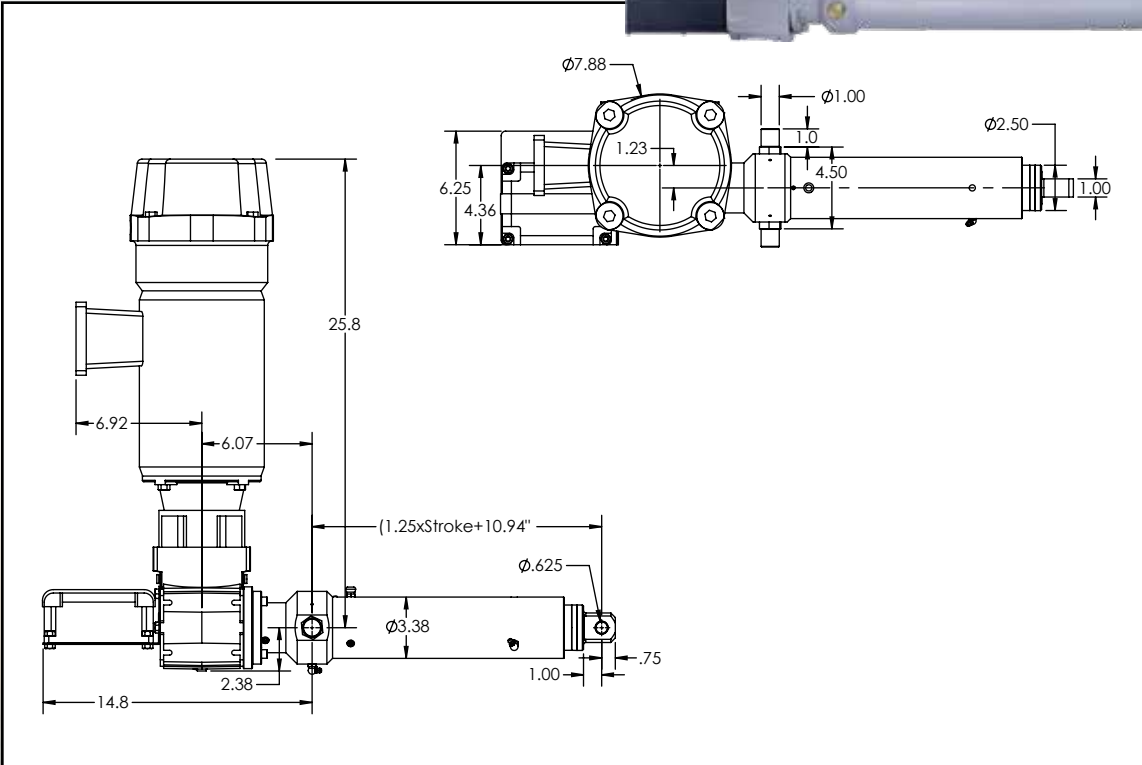
SERIES

SCN03 HAZARDOUS RATED

3 TON (26.6 kN)



RIGHT ANGLE



PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Maximum Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
NL03EX-0358	1802	8018	6, 12, 18, 24, 36	152, 304, 459, 609, 914	10.94 (277) + (1.25 x Stroke)	196.1	83	61	1549	1	0.75
NL03EX-0397	1998	8891				176.9	75	61	1549	1	0.75
NL03EX-0465	2340	10413				151.0	64	61	1549	1	0.75
NL03EX-0517	2602	11596				135.8	57	61	1549	1	0.75
NL03EX-0583	2934	13056				120.4	51	61	1549	1	0.75
NL03EX-0667	3357	14938				105.3	45	61	1549	1	0.75
NL03EX-0758	3815	16976				92.6	39	58	1473	1	0.75
NL03EX-1111	2795	12437				63.2	27	61	1549	1/2	0.37
NL03EX-1278	3216	14311				54.9	23	61	1549	1/2	0.37
NL03EX-1600	4026	17915				43.9	19	57	1447	1/2	0.37
NL03EX-1852	4660	20737				37.9	16	53	1346	1/2	0.37
NL03EX-2080	5234	23291				33.8	14	50	1270	1/2	0.37
NL03EX-2407	6000	26700				29.2	12	46	1168	1/2	0.37

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.



SERIES

SCN06

6 TON (53 kN)

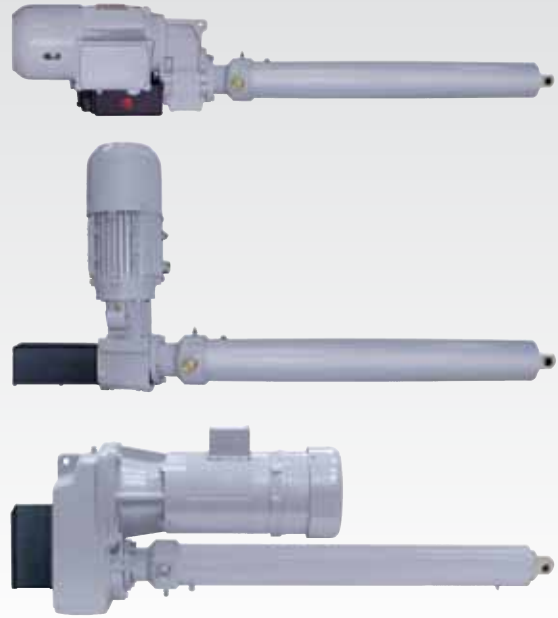
SPEED: Up to 320.8 in/min (8147 mm/min)

BRAKE MOTOR: TEFC 230/460 VAC, 3 ph, 60 Hz

STROKES: Up to 80 in (2032 mm)

TEMPERATURE RANGE: 0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory



FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Clevis and trunnion mounting
- Motor configuration include: parallel, right angle and OFFSET

OPTIONS

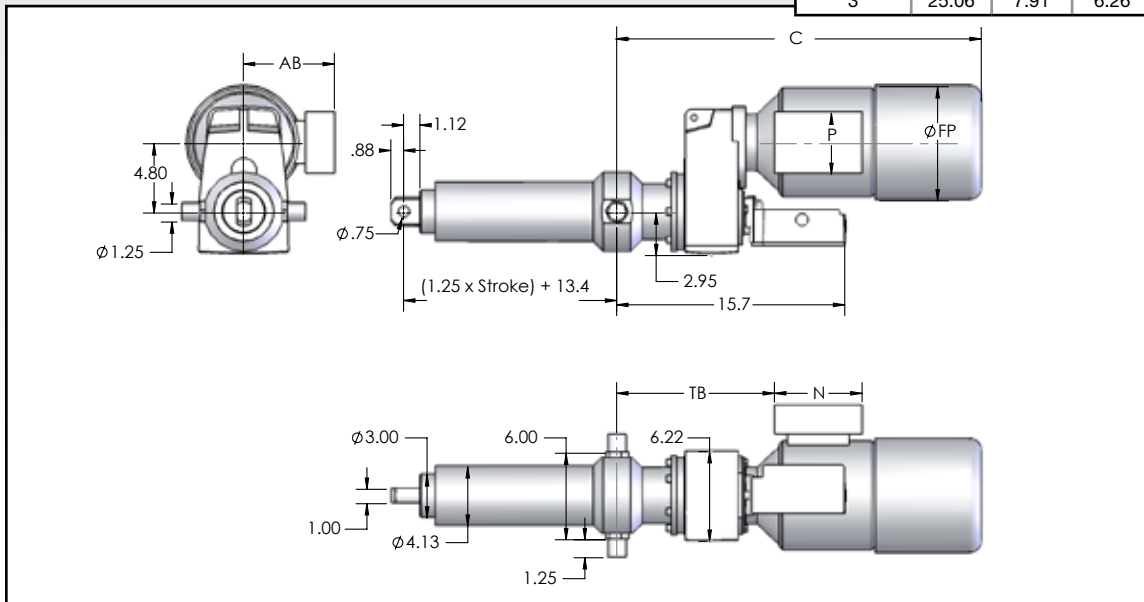
- Food grade component options available
- Explosion proof motor and limit switch (see pages 44-47)
- Product designs for outdoor applications
- Manual override
- Other special packages are available upon your application needs





Motor HP	C	FP	AB	TB	N	P
0.16 - 0.25	18.33	5.17	4.84	9.31	5.20	3.43
0.33 - 0.50	20.00	5.71	5.24	10.14	5.20	3.43
0.75 - 1.0	21.21	6.50	5.83	10.42	6.02	4.25
1.5 - 2.0	23.25	7.20	5.83	10.61	6.02	4.25
3	25.06	7.91	6.26	10.85	6.02	4.25

OFFSET MOTOR



PRODUCT INFORMATION

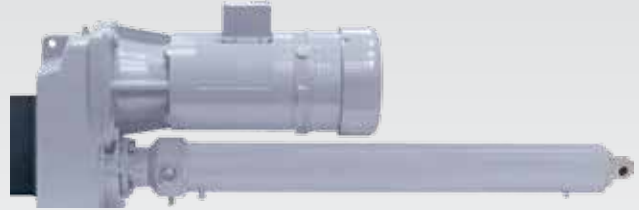
Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NZH6-0479	4942	21,983	6, 12, 18, 24, 36	152, 304, 457, 609, 914	13.4 (340) + (1.25 x Stroke)	354.9	150	80	2032	5	3.73
NZH6-0547	5643	25,101				310.8	132	80	2032	5	3.73
NZH6-0643	6633	29,505				264.4	112	75	1905	5	3.73
NZH6-0724	4481	19,931				234.8	99	80	2032	3	2.20
NZH6-0824	5100	22,684				206.3	87	80	2032	3	2.20
NZH6-0918	5682	25,273				185.2	78	80	2032	3	2.20
NZ06-0479	6308	28,061				168.2	71	77	1956	3	2.20
NZ06-0547	7204	32,044				147.3	62	72	1829	3	2.20
NZ06-0643	5645	25,112				125.3	53	80	2032	2	1.49
NZ06-0724	6357	28,276				111.3	47	77	1956	2	1.49
NZ06-0824	7235	32,181				97.8	41	72	1828	2	1.49
NZ06-0918	8060	35,852				87.8	37	68	1727	2	1.49
NZ06-1034	6809	30,287				77.9	33	74	1880	1-1/2	1.11
NZ06-1176	7744	34,446				68.5	29	69	1753	1-1/2	1.11
NZ06-1411	6194	27,553				57.1	24	78	1981	1	0.74
NZ06-1721	7555	33,907				46.8	20	70	1778	1	0.74
NZ06-2057	9030	40,168				39.2	17	64	1626	1	0.74
NZ06-2522	8304	36,936				32.0	14	67	1702	3/4	0.55
NZ06-2833	9328	41,491				28.4	12	63	1600	3/4	0.55
NZ06-3208	10,562	46,983				25.1	11	59	1499	3/4	0.55
NZ06-4107	9015	40,099				19.6	8	64	1626	1/2	0.37
NZ06-4925	10,810	48,515				16.4	7	59	1498	1/2	0.37
NZ06-5889	12,926	57,497				13.7	6	54	1372	1/2	0.37
NZ06-7217	10,455	46,506				11.2	5	60	1524	1/3	0.24
NZ06-7899	11,443	50,901				10.2	4	57	1447	1/3	0.24
NZ06-8117	11,759	52,306				9.9	4	56	1422	1/3	0.24
NZ06-8894	12,000	53,376				9.1	4	54	1371	1/3	0.24
NZ06-9248	12,000	53,376				8.7	4	53	1346	1/3	0.24
NZ06-10114	12,000	53,376	8.0	3	50	1270	1/3	0.24			
NZ06-10608	12,000	53,376	7.6	3	49	1244	1/3	0.24			
NZ06-10950	12,000	53,378	7.4	3	48	1219	1/3	0.24			
NZ06-11816	12,000	53,378	6.8	3	54	1372	1/4	0.19			
NZ06-13660	12,000	53,376	5.9	2	50	1270	1/4	0.19			
NZ06-15812	12,000	53,378	5.1	2	46	1168	1/4	0.19			

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

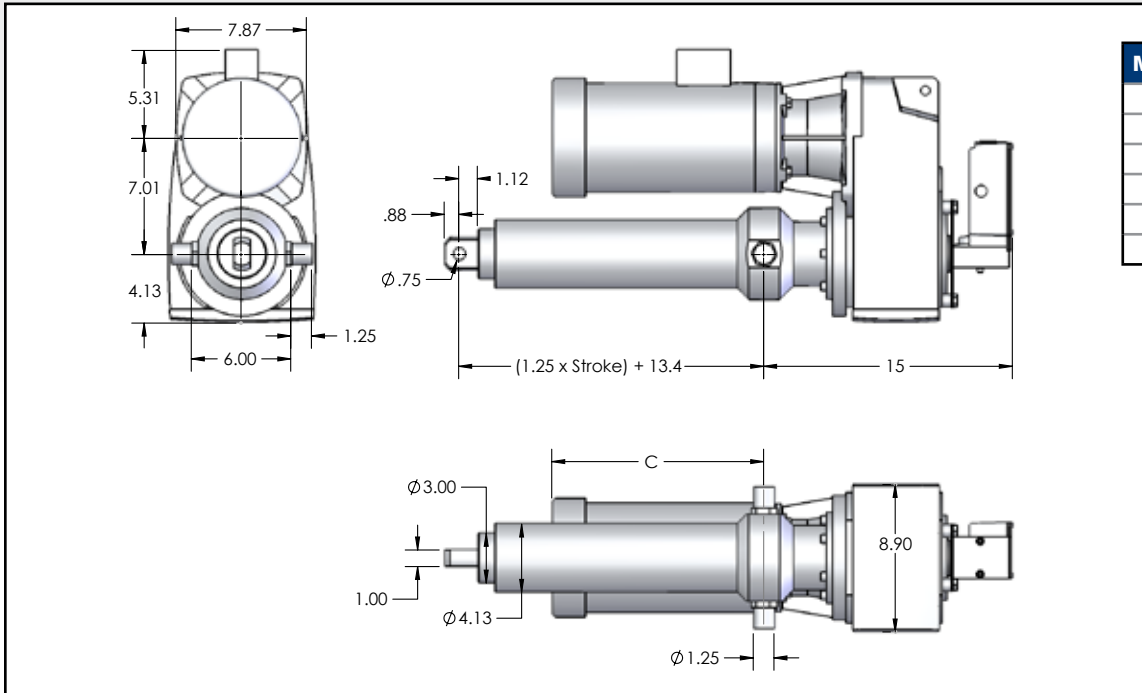
SERIES

SCN06

6 TON (53 kN)



PARALLEL MOTOR

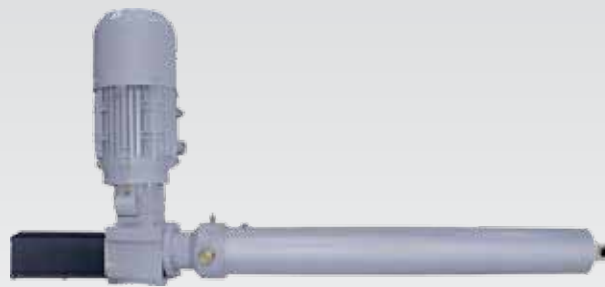


Motor HP	C
1/3	11.16
1/2 - 3/4	12.86
1	13.18
1-1/2	14.18
2	15.16
3	16.04

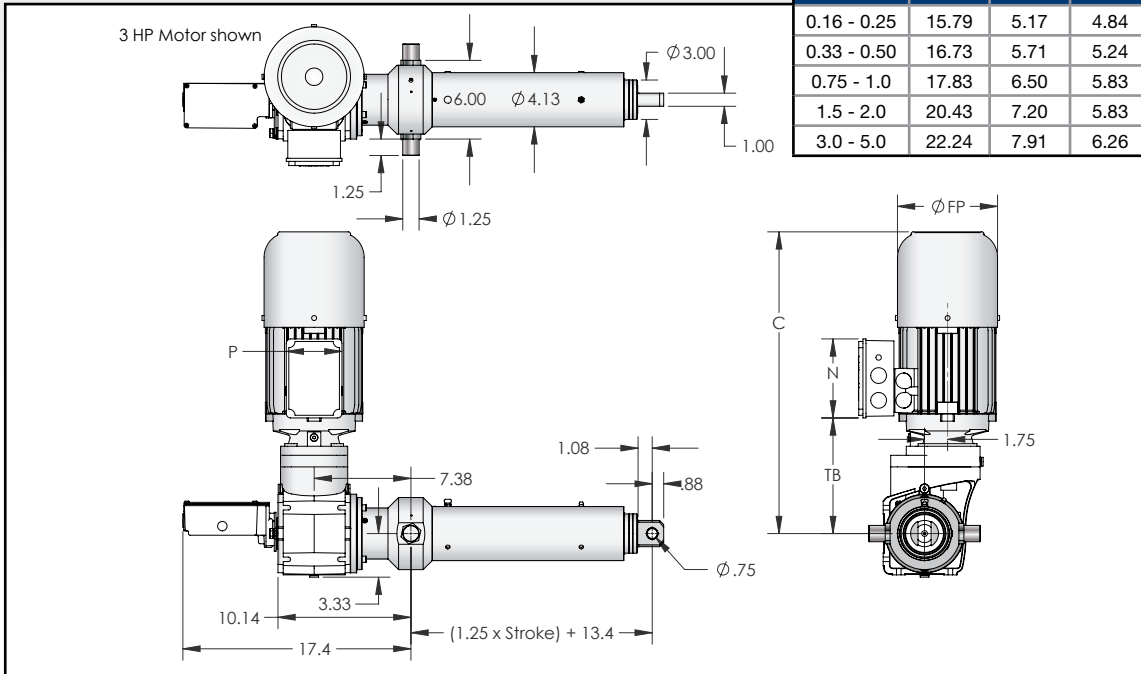
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
NUH6-0448	2773	12,335	6, 12, 18, 24, 36	152, 304, 457, 609, 914	13.4 (340) + (1.25 x Stroke)	379.5	161	80	2032	3	2.20
NUH6-0568	3516	15,779				299.3	127	80	2032	3	2.20
NUH6-0670	4147	18,447				253.7	107	80	2032	3	2.20
NU06-0448	5900	26,479				179.9	76	80	2032	3	2.20
NU06-0568	7480	33,271				141.9	60	71	1803	3	2.20
NU06-0670	8823	39,251				120.3	51	65	1651	3	2.20
NU06-0831	7296	32,454				97.0	41	72	1829	2	1.49
NU06-0831	7296	32,452				97.0	41	72	1829	2	1.49
NU06-0980	8604	38,615				82.2	35	66	1676	2	1.49
NU06-1138	9992	44,446				70.8	30	61	1549	2	1.49
NU06-1411	9291	41,328				57.1	24	63	1600	1-1/2	1.11
NU06-1667	7318	32,552				48.3	20	71	1803	1	0.74
NU06-2018	8859	39,759				39.9	17	65	1651	1	0.74
NU06-2138	9386	42,124				37.7	16	63	1600	1	0.74
NU06-2245	9855	43,837				35.9	15	62	1575	1	0.74
NU06-2371	7806	34,722				34.0	14	69	1753	3/4	0.55
NU06-2588	8521	38,242				31.1	13	66	1676	3/4	0.55
NU06-2870	9449	42,407				28.1	12	63	1600	3/4	0.55
NU06-3193	10,513	46,764				25.2	11	60	1524	3/4	0.55
NU06-3777	8290	36,875				21.3	9	67	1702	1/2	0.37
NU06-4202	9223	41,393				19.2	8	64	1625	1/2	0.37
NU06-4485	9844	44,180				18.0	8	62	1574	1/2	0.37
NU06-5297	11,627	51,719				15.2	6	57	1448	1/2	0.37
NU06-6412	9288	40,319				12.6	5	63	1600	1/3	0.24
NU06-6589	9545	42,458				12.2	5	63	1600	1/3	0.24
NU06-7976	11555	51,859				10.0	4	57	1447	1/3	0.24
NU06-8874	12000	53,856				9.1	4	54	1371	1/3	0.24
NU06-10088	12000	53,856				8.0	3	50	1275	1/3	0.24
NU06-11223	12,000	53,378				7.2	3	48	1219	1/3	0.24

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.



RIGHT ANGLE MOTOR



Motor HP	C	FP	AB	TB	N	P
0.16 - 0.25	15.79	5.17	4.84	6.47	5.20	3.43
0.33 - 0.50	16.73	5.71	5.24	7.30	5.20	3.43
0.75 - 1.0	17.83	6.50	5.83	7.58	6.02	4.25
1.5 - 2.0	20.43	7.20	5.83	7.70	6.02	4.25
3.0 - 5.0	22.24	7.91	6.26	8.01	6.02	4.25

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NLH6-0372	3838	17,071				457.0	193	80	2032	5	3.73
NLH6-0431	4446	19,778				394.4	167	80	2032	5	3.73
NLH6-0513	5292	23,541				331.4	140	80	2032	5	3.73
NLH6-0583	6014	26,754				291.6	123	79	2007	5	3.73
NLH6-0667	4129	18,365				254.9	108	80	2032	3	2.24
NLH6-0701	4339	19,301				242.5	103	80	2032	3	2.24
NL06-0372	4899	21,793				216.6	92	80	2032	3	2.24
NL06-0431	5676	25,249				187.0	79	80	2032	3	2.24
NL06-0513	6756	30,053				157.1	67	75	1905	3	2.24
NL06-0583	7678	34,154				138.2	59	70	1778	3	2.24
NL06-0667	5856	26,050				120.8	51	80	2032	2	1.49
NL06-0701	6155	27,378				115.0	49	78	1981	2	1.49
NL06-0819	7191	31,986				98.4	42	73	1854	2	1.49
NL06-0911	5999	26,684				88.5	37	79	2007	1-1/2	1.12
NL06-1033	6802	30,258	6, 12, 18,	152, 304, 457,	13.4 (340)	78.0	33	75	1905	1-1/2	1.12
NL06-1120	7375	32,806	24, 36	609, 914	+ (1.25 x Stroke)	71.9	30	72	1829	1-1/2	1.12
NL06-1256	8271	36,790				64.2	27	68	1727	1-1/2	1.12
NL06-1412	9298	41,359				57.1	24	64	1626	1 1/2	1.12
NL06-1584	6954	30,932				50.9	22	74	1880	1	0.75
NL06-1833	8047	35,794				44.0	19	69	1753	1	0.75
NL06-2004	8797	39,133				40.2	17	66	1676	1	0.75
NL06-2249	9873	43,917				35.8	15	62	1575	1	0.75
NL06-2506	8251	36,702				32.2	12	68	1727	3/4	0.56
NL06-2811	9255	41,169				28.7	10	64	1626	3/4	0.56
NL06-3280	10,799	48,038				24.6	10	59	1499	3/4	0.56
NL06-3680	8078	35,931				21.9	9	69	1753	1/2	0.37
NL06-4146	9100	40,480				19.4	8	65	1651	1/2	0.37
NL06-4664	10,237	45,538				17.3	7	61	1549	1/2	0.37
NL06-4946	10,856	48,291				16.3	7	59	1499	1/2	0.37
NL06-5549	8039	35,758				14.5	6	69	1753	1/3	0.25

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

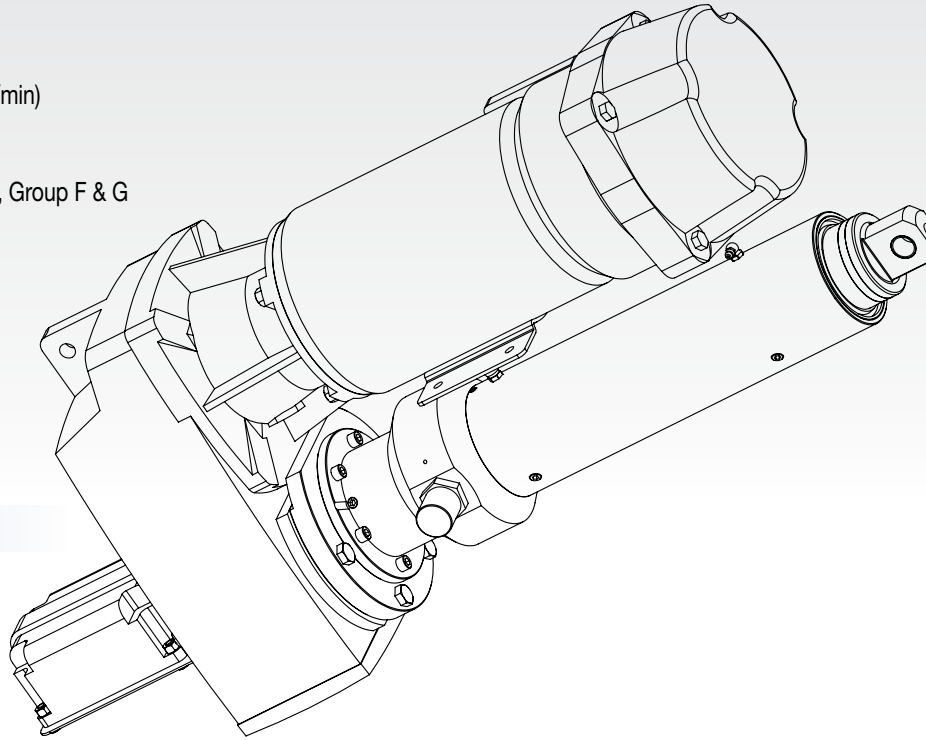
SERIES

SCN06 HAZARDOUS RATED

6 TON (53 kN)

SPEED:	Up to 379.5 in/min (9638 mm/min)
BRAKE MOTOR:	230/460 VAC, 3 ph, 60 Hz Class 1, Group D and Class 2, Group F & G
STROKES:	Up to 80 in (2032 mm)
TEMPERATURE RANGE:	0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory



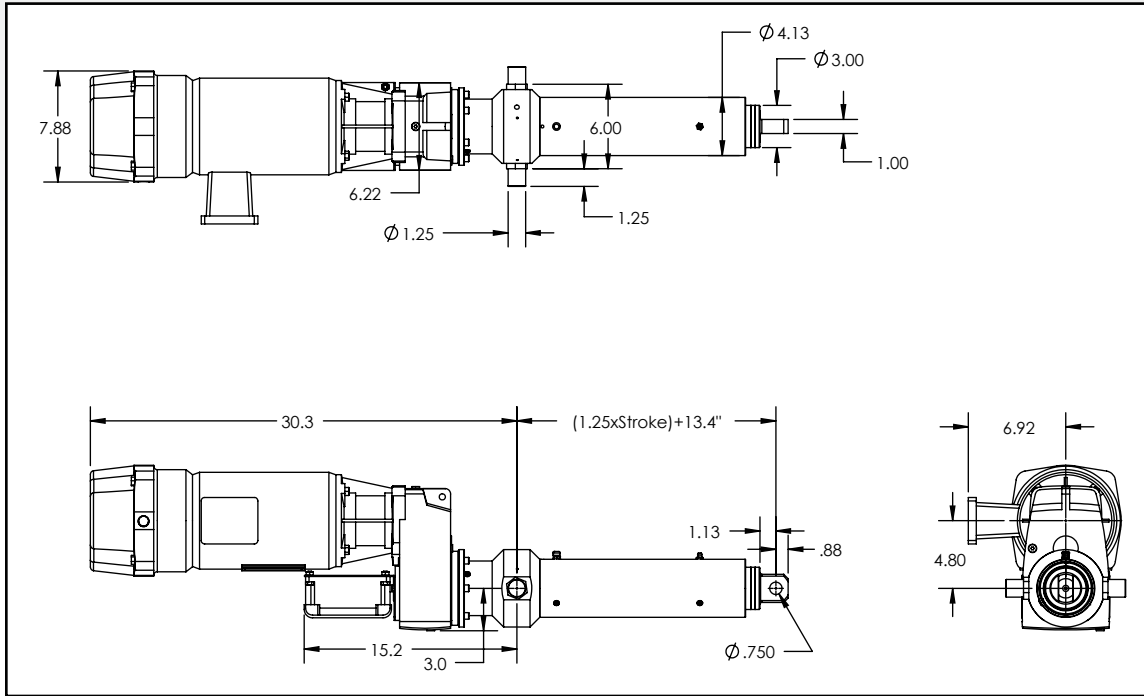
FEATURES & BENEFITS

- Easy to install - reduces installation costs
 - Custom designed for your application
 - Low maintenance design - easy to maintain after installation
 - Long product life expectancy
 - Ball screw
 - Ductile iron housing
 - Chrome plated translating tube
 - Adjustable end of stroke limit switches
 - Clevis and trunnion mounting
 - Motor configuration include: parallel, right angle and OFFSET
 - **Motor rated for Class 1, Group D and Class 2, Groups F & G**
 - **Limit switches rated for NEMA 7/Class 1, Group D or NEMA 9/Class 2, Groups E, F & G.**
- Specify when ordering.**





OFFSET MOTOR



PRODUCT INFORMATION

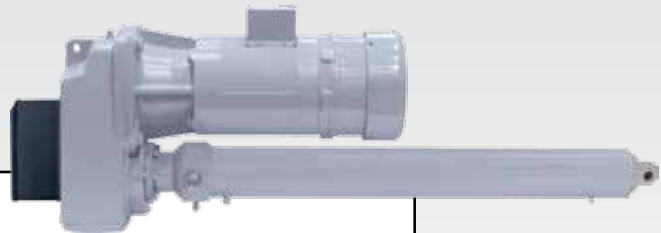
Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
NZH6EX-0479	988	4396				354.9	150	79	2007	1	0.75
NZH6EX-0547	1129	5020				310.8	132	79	2007	1	0.75
NZH6EX-0643	1327	5901				264.4	112	79	2007	1	0.75
NZH6EX-0724	1494	6645				234.8	99	79	2007	1	0.75
NZH6EX-0824	1700	7563				206.3	87	79	2007	1	0.75
NZH6EX-0918	1894	8425				185.2	78	79	2007	1	0.75
NZ06EX-0479	2103	9354				168.2	71	79	2007	1	0.75
NZ06EX-0547	2401	10,682				147.3	62	79	2007	1	0.75
NZ06EX-0643	2823	12,556				125.3	53	79	2007	1	0.75
NZ06EX-0724	3178	14,138	6, 12, 18, 24, 36	152, 304, 459, 609, 914	13.4 (304 + (1.25 x Stroke))	111.3	47	79	2007	1	0.75
NZ06EX-0824	3617	16,091				97.8	41	79	2007	1	0.75
NZ06EX-0918	4030	17,926				87.8	37	79	2007	1	0.75
NZ06EX-1034	4539	20,191				77.9	33	79	2007	1	0.75
NZ06EX-1176	5163	22,964				68.5	29	79	2007	1	0.75
NZ06EX-1411	6194	27,553				57.1	24	78	1981	1	0.75
NZ06EX-1721	7555	33,607				46.8	20	70	1778	1	0.75
NZ06EX-2057	9030	40,168				39.2	17	64	1626	1	0.75
NZ06EX-4107	9015	40,100				19.6	8	64	1626	0.5	0.37
NZ06EX-4925	10,810	48,086				16.4	7	59	1499	0.5	0.37
NZ06EX-5889	12,926	57,499				13.7	6	54	1372	0.5	0.37

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

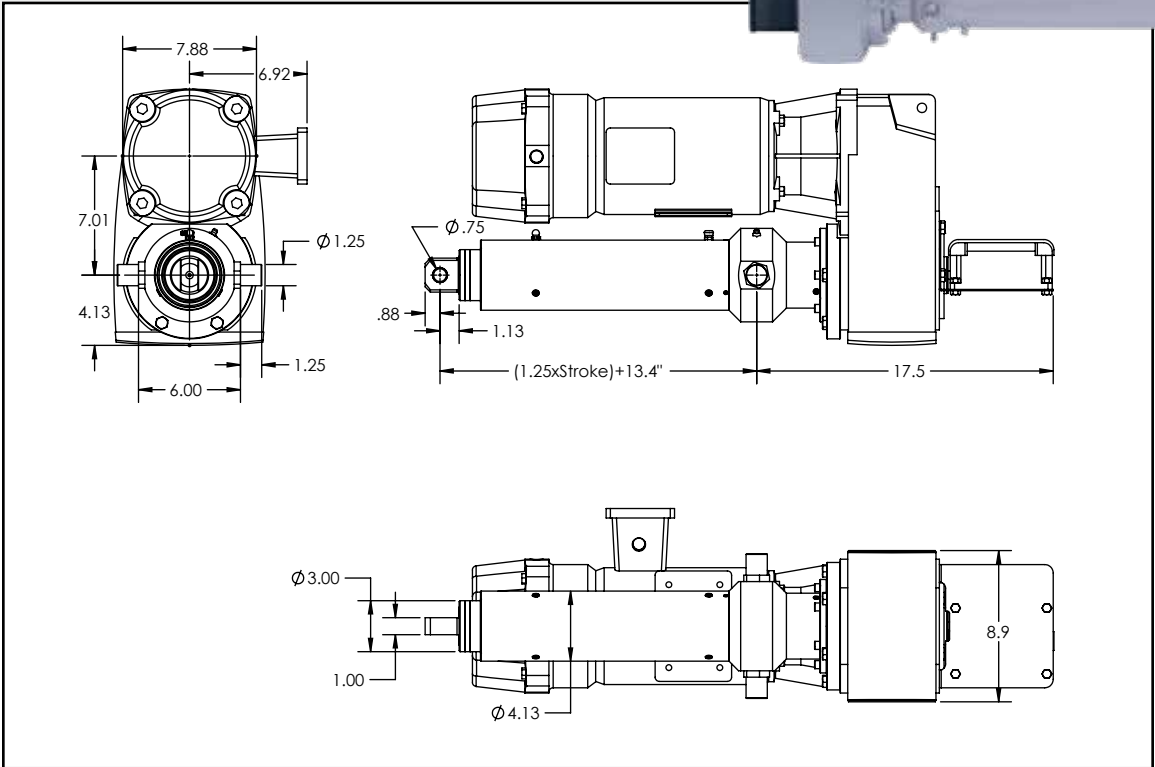
SERIES

SCN06 HAZARDOUS RATED

6 TON (53 kN)



PARALLEL MOTOR



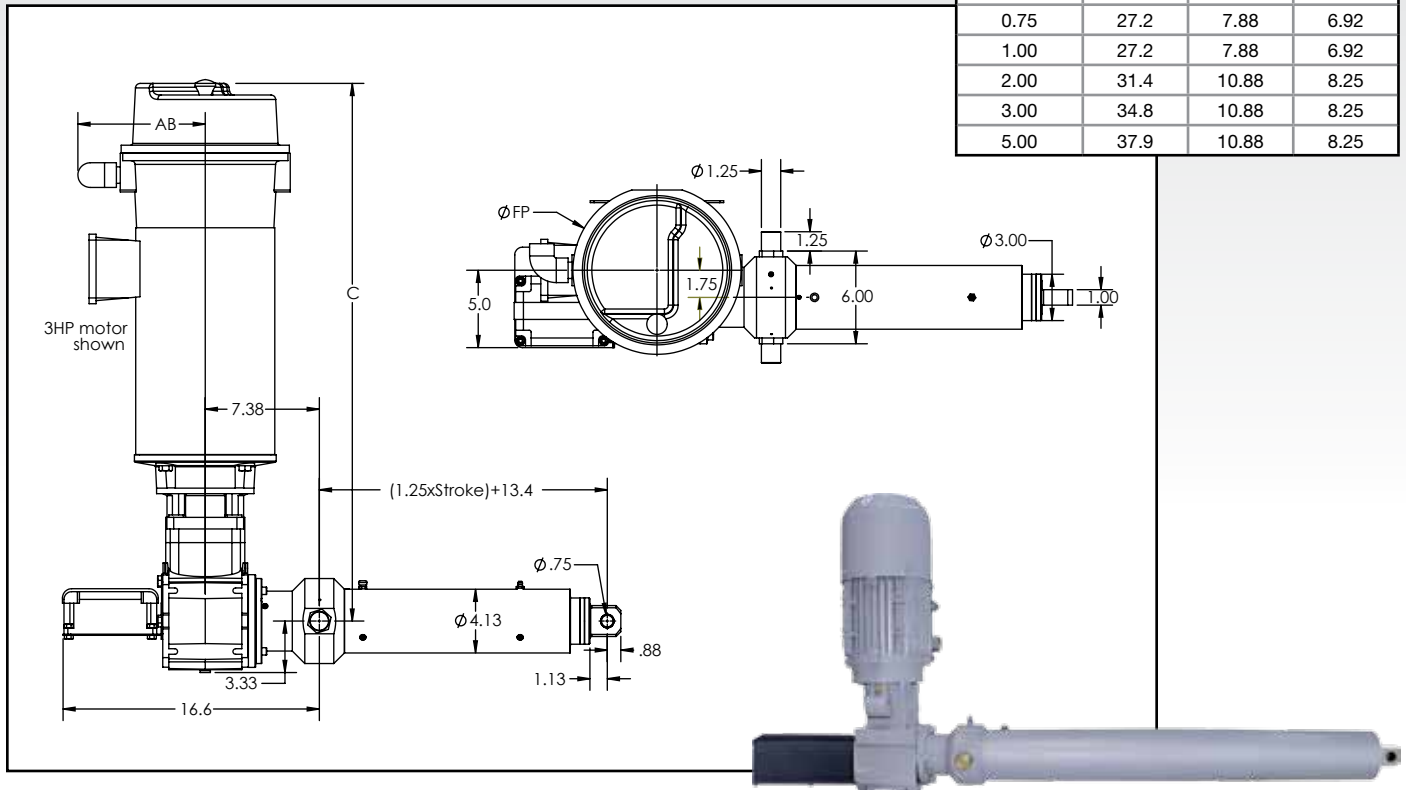
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NUH6EX-0448	924	4112				379.5	161	80	2032	1	0.75
NUH6EX-0568	1172	5213				299.3	127	80	2032	1	0.75
NUH6EX-0670	1382	6149				253.7	107	80	2032	1	0.75
NUH6EX-0831	1715	7627				204.6	87	80	2032	1	0.75
NU06EX-0448	1967	8748				179.9	76	80	2032	1	0.75
NU06EX-0568	2493	11,092				141.9	60	79	2007	1	0.75
NU06EX-0670	2941	13,083				120.3	51	79	2007	1	0.75
NU06EX-0831	3648	16,227				97.0	41	79	2007	1	0.75
NU06EX-0980	4302	19,137				82.2	35	79	2007	1	0.75
NU06EX-1138	4996	22,222	6, 12, 18, 24, 36	152, 304, 459, 609, 914	13.4 (304) + (1.25 x Stroke)	70.8	30	79	2007	1	0.75
NU06EX-1411	6194	27,553				57.1	24	78	1981	1	0.75
NU06EX-1667	7318	32,552				48.3	20	71	1803	1	0.75
NU06EX-2018	8859	39,406				39.9	17	65	1651	1	0.75
NU06EX-2138	9386	41,750				37.7	16	63	1600	1	0.75
NU06EX-2245	9855	43,839				35.9	15	62	1575	1	0.75
NU06EX-3777	8290	36,878				21.3	9	67	1702	0.5	0.37
NU06EX-4202	9223	41,027				19.2	8	64	1626	0.5	0.37
NU06EX-4485	9844	43,790				18.0	8	62	1575	0.5	0.37
NU06EX-5297	11,627	51,719				15.2	6	57	1448	0.5	0.37

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

RIGHT ANGLE

Motor HP	C	FP	AB
0.50	27.2	7.88	6.92
0.75	27.2	7.88	6.92
1.00	27.2	7.88	6.92
2.00	31.4	10.88	8.25
3.00	34.8	10.88	8.25
5.00	37.9	10.88	8.25



PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NLH6EX-0372	3838	17,225				457.0	193	80	2032	5	3.73
NLH6EX-0431	4446	19,954				394.4	167	80	2032	5	3.73
NLH6EX-0513	5292	23,751				331.4	140	80	2032	5	3.73
NLH6EX-0583	6014	26,991				291.6	123	79	2006	5	3.73
NLH6EX-0667	4129	18,531				254.9	108	80	2032	3	2.24
NLH6EX-0701	4339	19,474				242.5	103	80	2032	3	2.24
NL06EX-0372	4899	21,987				216.6	92	80	2032	3	2.24
NL06EX-0431	5676	25,474				187.0	79	80	2032	3	2.24
NL06EX-0513	6756	30,321	6, 12, 18, 24, 36	152, 304, 459, 609, 914	13.4 (304) + (1.25 x Stroke)	157.1	67	75	1905	3	2.24
NL06EX-0583	7678	34,459				138.2	59	70	1778	3	2.24
NL06EX-1412	6199	27,821				57.1	24	78	1981	1	0.75
NL06EX-1584	6954	31,210				50.9	22	74	1879	1	0.75
NL06EX-1833	8047	35,802				44.0	19	69	1752	1	0.75
NL06EX-2004	8797	39,481				40.2	17	66	1676	1	0.75
NL06EX-2249	9873	43,915				35.8	15	62	1575	1	0.75
NL06EX-3680	8078	35,931				21.9	9	69	1752	1/2	0.37
NL06EX-4146	9100	40,477				19.4	8	65	1651	1/2	0.37

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

SERIES

SCN12

12 TON (106.7 kN)

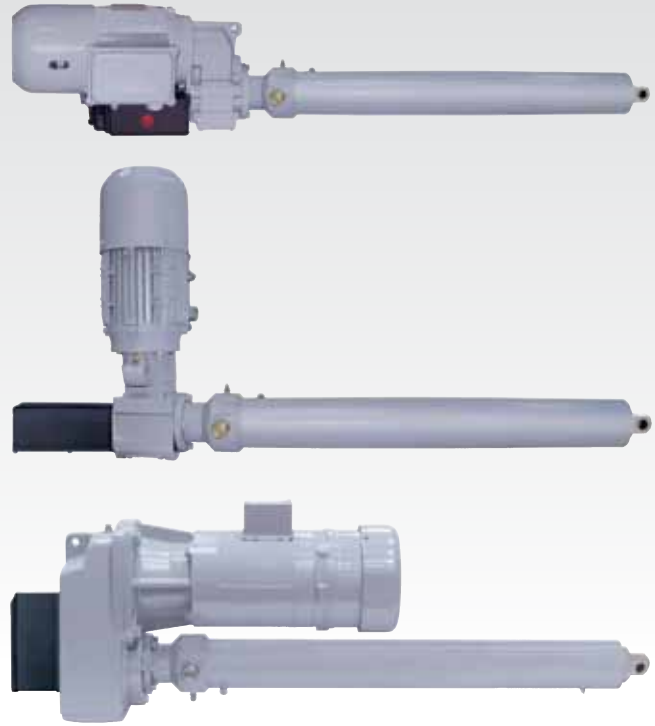
SPEED: Up to 188.5 in/min (4787 mm/min)

BRAKE MOTOR: TEFC 230/460 VAC, 3 ph, 60 Hz

STROKES: Up to 110 in (2794 mm)

TEMPERATURE RANGE: 0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory

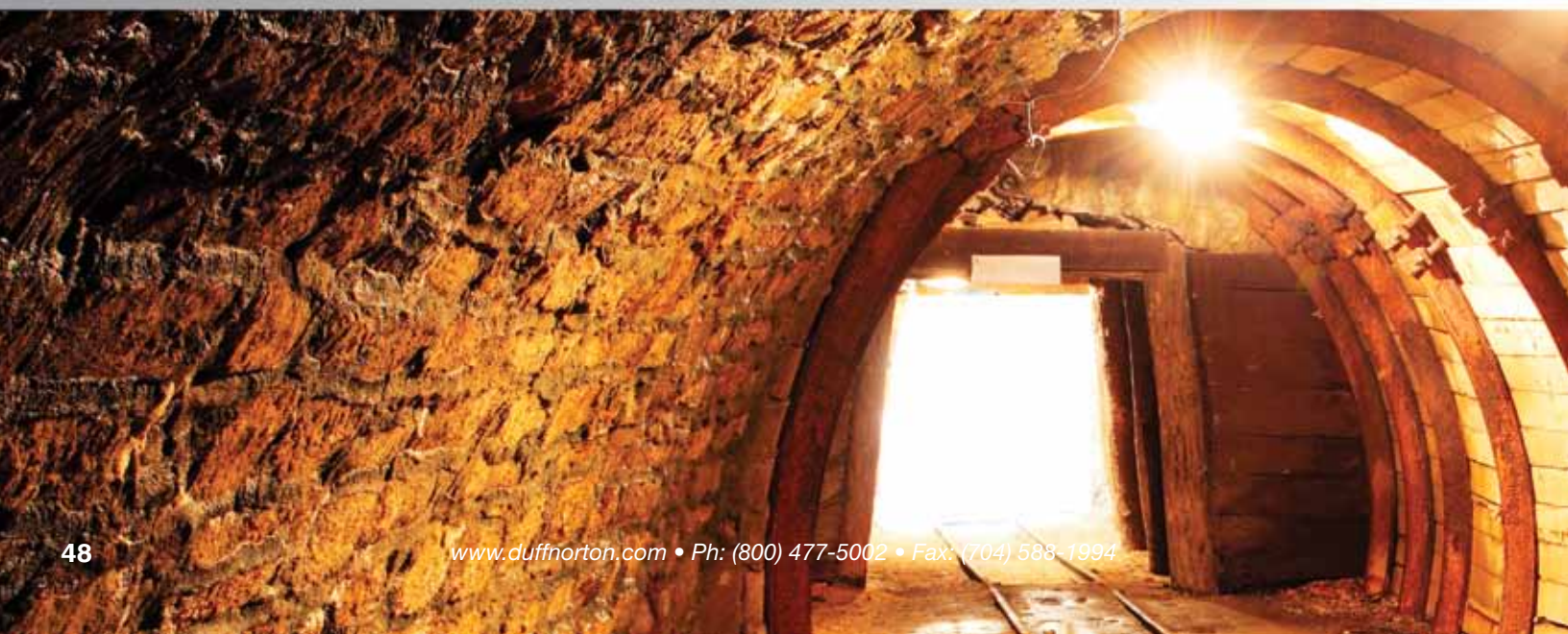


FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Clevis and trunnion mounting
- Motor configuration include: parallel, right angle and OFFSET

OPTIONS

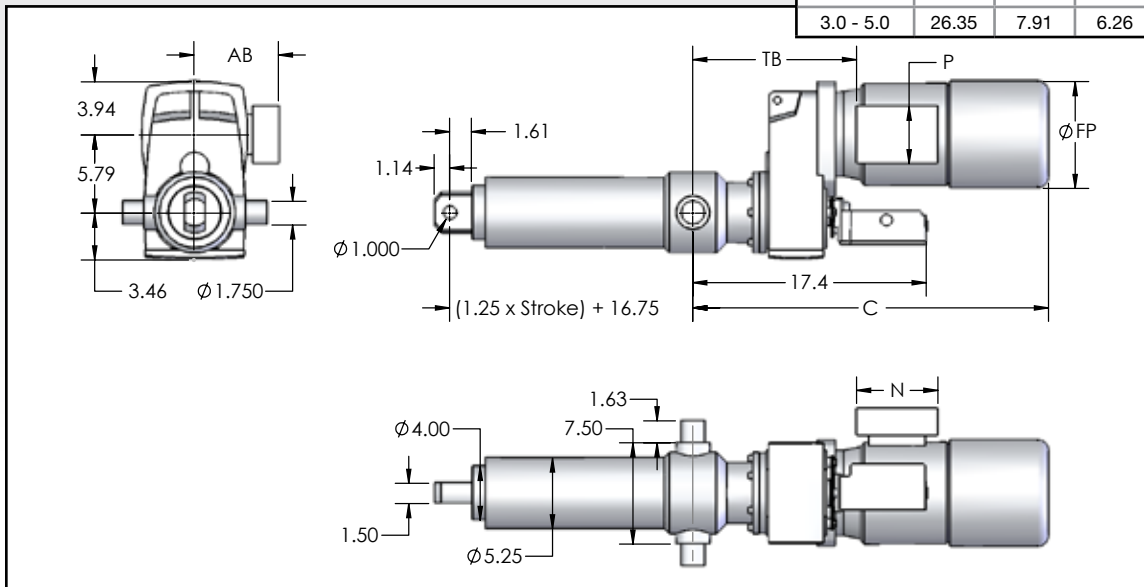
- Food grade component options available
- Explosion proof motor and limit switch (see pages 52-55)
- Product designs for outdoor applications
- Manual override
- Other special packages are available upon your application needs





Motor HP	C	FP	AB	TB	N	P
0.33 - 0.50	25.84	5.71	5.24	11.82	5.20	3.43
0.75 - 1.0	25.92	6.50	5.83	11.70	6.02	4.25
1.5 - 2.0	26.11	7.20	5.85	11.90	6.02	4.25
3.0 - 5.0	26.35	7.91	6.26	12.13	6.02	4.25

OFFSET MOTOR



PRODUCT INFORMATION

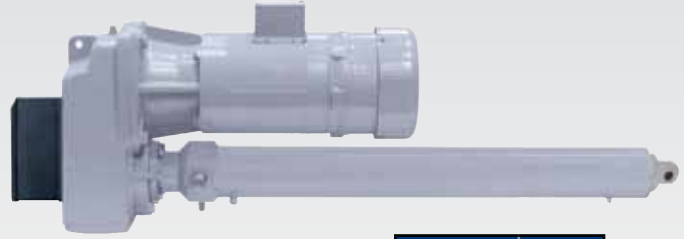
Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NZ12-0451	9305	41,390				188.5	80	110	2794	5	3.72
NZ12-0572	11,802	52,496				148.6	63	110	2794	5	3.72
NZ12-0643	13,267	59,012				132.2	56	110	2794	5	3.72
NZ12-0748	15,433	68,649				113.6	48	110	2794	5	3.72
NZ12-0837	17,270	76,821				101.6	43	110	2794	5	3.72
NZ12-0903	18,631	82,874				94.1	40	107	2717	5	3.72
NZ12-1015	20,942	93,151				83.7	35	101	2565	5	3.72
NZ12-1181	14,620	65,031				72.0	30	110	2794	3	2.23
NZ12-1323	16,378	72,850				64.2	27	110	2794	3	2.23
NZ12-1653	20,464	91,022				51.4	22	102	2591	3	2.23
NZ12-1851	15,277	67,950				45.9	19	110	2794	2	1.49
NZ12-2190	18,074	80,394				38.8	16	109	2769	2	1.49
NZ12-2396	19,774	87,959				35.5	15	104	2641	2	1.49
NZ12-2497	20,608	91,664				34.0	14	102	2591	2	1.49
NZ12-2683	16,607	73,869				31.7	13	110	2794	1-1/2	1.12
NZ12-2965	18,353	81,635	6, 12, 18, 24, 36	152, 304, 457, 609, 914	16.75 (425) + (1.25 x Stroke)	28.7	12	108	2743	1/2	0.37
NZ12-3132	19,331	85,985				27.2	12	105	2667	1/2	0.37
NZ12-3654	22,618	100,603				23.3	10	97	2464	1-1/2	1.12
NZ12-3718	15,343	68,244				22.9	10	110	2794	1	0.74
NZ12-4511	18,615	82,803				18.8	8	108	2743	1	0.74
NZ12-5396	22,267	99,044				15.8	7	98	2489	1	0.74
NZ12-6383	24,000	106,753				13.3	6	89	2261	1	0.74
NZ12-6967	24,000	106,752				12.2	5	85	2159	1	0.74
NZ12-8242	24,000	106,752				10.3	4	91	2311	3/4	0.56
NZ12-10098	24,000	106,753				8.4	4	81	2057	3/4	0.56
NZ12-10407	24,000	106,752				8.2	3	80	2032	3/4	0.56
NZ12-12751	24,000	106,752				6.7	3	89	2261	1/2	0.37
NZ12-13186	24,000	106,753				6.4	3	88	2235	1/2	0.37
NZ12-14996	24,000	106,752				5.7	2	82	2082	1/2	0.37
NZ12-18511	24,000	106,752				4.6	2	91	2311	1/3	0.25
NZ12-23611	24,000	106,752				3.6	2	80	2032	1/3	0.25
NZ12-27627	24,000	106,752				3.1	1	85	2159	1/4	0.19

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

SERIES

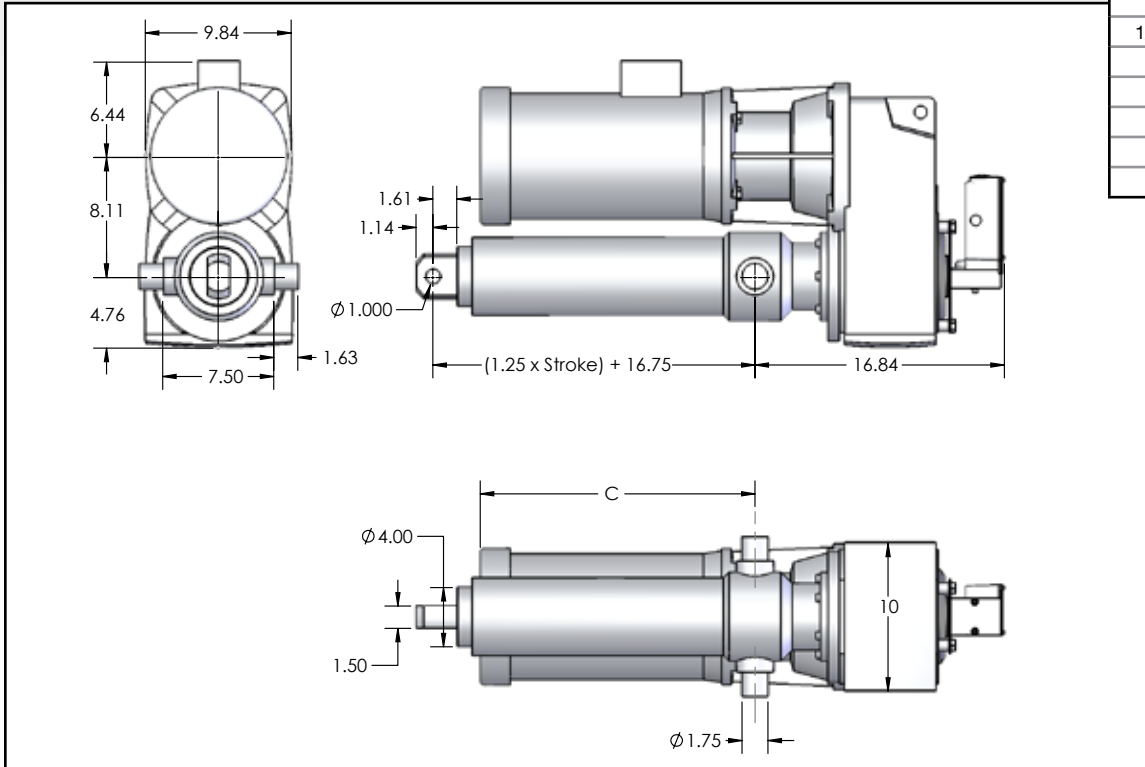
SCN12

12 TON (106.7 kN)



PARALLEL MOTOR

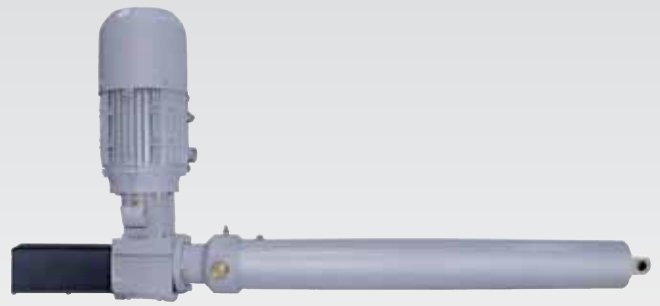
Motor HP	C
1/3	11.84
1/2 - 3/4	13.34
1	13.84
1-1/2	14.84
2	15.84
3	16.07
5	16.52



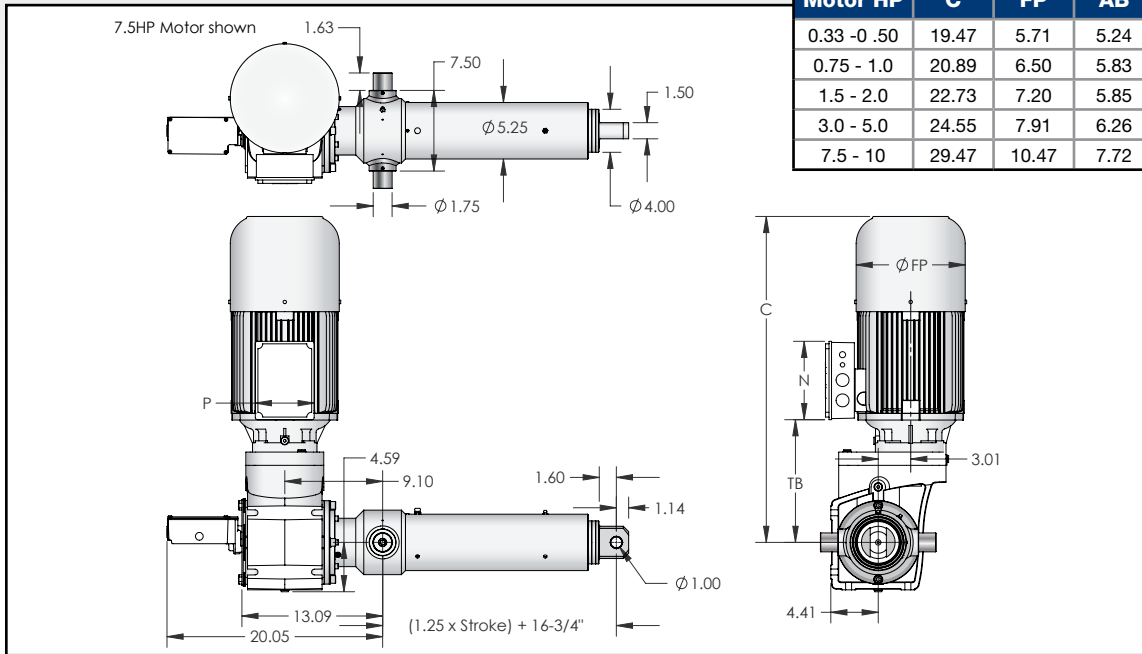
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
NU12-0470	9697	43,134	6, 12, 18, 24, 36	152, 304, 457, 609, 914	16.75 (425) + (1.25 x Stroke)	180.9	77	110	2794	5	3.72
NU12-0500	10,316	45,886				170.0	72	110	2794	5	3.72
NU12-0543	11,204	49,838				156.5	66	110	2794	5	3.72
NU12-0606	12,503	55,616				140.3	59	110	2794	5	3.72
NU12-0713	14,711	65,435				119.2	50	110	2794	5	3.72
NU12-0823	17,187	76,452				102.0	43	110	2794	5	3.72
NU12-0923	19,044	84,708				92.1	39	106	2692	5	3.72
NU12-1085	13,432	59,746				78.3	33	110	2794	3	2.23
NU12-1268	15,697	69,824				67.0	28	110	2794	3	2.23
NU12-1520	18,817	83,702				55.9	24	107	2717	3	2.23
NU12-1818	15,004	66,738				46.8	20	110	2794	2	1.49
NU12-2145	17,703	78,746				39.6	17	110	2794	2	1.49
NU12-2239	18,479	82,195				38.0	16	108	2743	2	1.49
NU12-2625	21,664	96,363				32.4	14	99	2515	2	1.49
NU12-2643	16,360	72,770				32.2	14	110	2794	1-1/2	1.12
NU12-3234	20,018	89,041				26.3	11	103	2616	1-1/2	1.12
NU12-3681	22,785	101,347				23.1	10	96	2438	1-1/2	1.12
NU12-4074	16,812	74,783				20.9	9	110	2794	1	0.74
NU12-4505	18,590	82,689				18.9	8	108	2743	1	0.74
NU12-9052	24,000	106,753				9.4	4	86	2184	3/4	0.56
NU12-11078	22,857	101,669	7.7	3	96	2438	1/2	0.37			
NU12-15540	21,162	94,128	5.5	2	100	2540	1/3	0.25			

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.



RIGHT ANGLE MOTOR



Motor HP	C	FP	AB	TB	N	P
0.33 - 0.50	19.47	5.71	5.24	9.82	5.20	3.43
0.75 - 1.0	20.89	6.50	5.83	9.90	6.02	4.25
1.5 - 2.0	22.73	7.20	5.85	10.09	6.02	4.25
3.0 - 5.0	24.55	7.91	6.26	10.33	6.02	4.25
7.5 - 10	29.47	10.47	7.72	10.13	7.28	5.47

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/min	in	mm	HP	kW
NL12-0417	12,906	57,408				203.8	86	110	2794	7-1/2	5.59
NL12-0512	15,846	70,486				166.0	70	110	2794	7-1/2	5.59
NL12-0639	19,777	87,970				133.0	56	105	2667	7-1/2	5.59
NL12-0718	14,814	65,897				118.4	50	110	2794	5	3.73
NL12-0885	18,260	81,224				96.0	41	109	2769	5	3.73
NL12-0981	20,241	90,035				86.6	37	103	2616	5	3.73
NL12-1128	23,274	103,527				75.4	32	96	2438	5	3.73
NL12-1250	15,475	68,834				68.0	29	110	2794	3	2.24
NL12-1379	17,072	75,938				61.6	26	110	2794	3	2.24
NL12-1542	19,089	84,914				55.1	23	107	2718	3	2.24
NL12-1708	21,144	94,055				49.8	21	101	2565	3	2.24
NL12-1884	15,549	69,165				45.1	19	110	2794	2	1.49
NL12-1917	15,821	70,376				44.3	19	110	2794	2	1.49
NL12-2114	17,447	77,608				40.2	17	110	2794	2	1.49
NL12-2259	18,644	82,932				37.6	16	108	2743	2	1.49
NL12-2464	20,336	90,457				34.5	15	103	2616	2	1.49
NL12-2534	20,913	93,027				33.5	14	101	2565	2	1.49
NL12-2765	17,115	76,131				30.7	13	110	2794	1-1/2	1.12
NL12-2838	17,567	78,141				30.0	13	110	2794	1-1/2 *	1.12*
NL12-3185	19,715	87,695				26.7	11	105	2667	1-1/2 *	1.12*
NL12-3504	21,689	96,478				24.3	10	100	2540	1-1/2	1.12
NL12-3932	16,226	72,175				21.6	9	110	2794	1	0.75
NL12-4344	17,926	79,738				19.6	8	110	2794	1	0.75
NL12-4692	19,362	86,126				18.1	8	106	2692	1	0.75
NL12-5264	21,722	96,625				16.1	7	99	2515	1	0.75
NL12-5968	18,470	82,161				14.2	6	108	2743	3/4	0.56
NL12-6696	20,724	92,183				12.7	5	102	2591	3/4	0.56

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details. *C-face only

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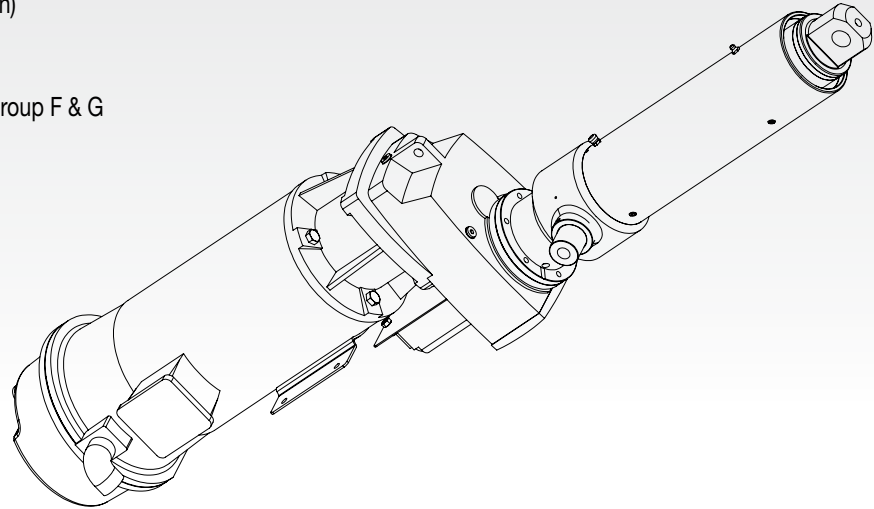
SERIES

SCN12 HAZARDOUS RATED

12 TON (106.7 kN)

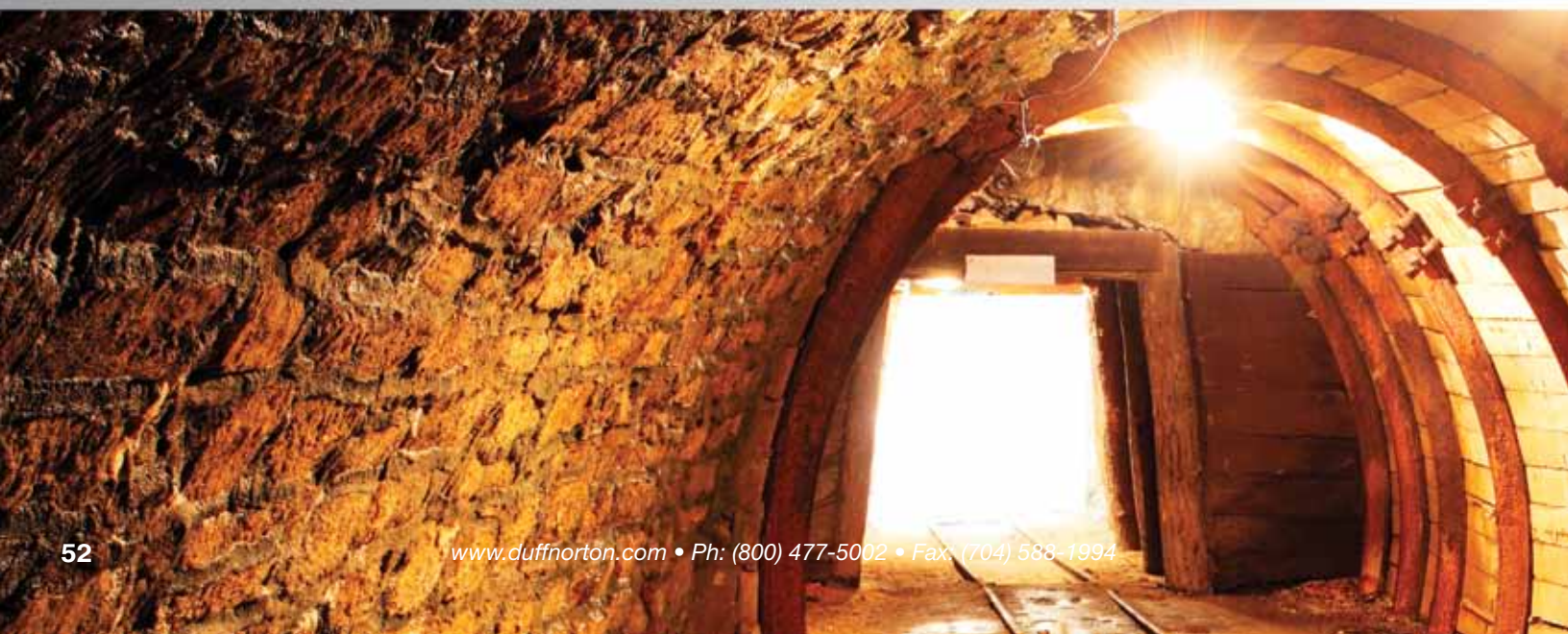
SPEED:	Up to 188.5 in/min (4787 mm/min)
BRAKE MOTOR:	230/460 VAC, 3 ph, 60 Hz Class 1, Group D and Class 2, Group F & G
STROKES:	Up to 110 in (2794 mm)
TEMPERATURE RANGE:	0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory



FEATURES & BENEFITS

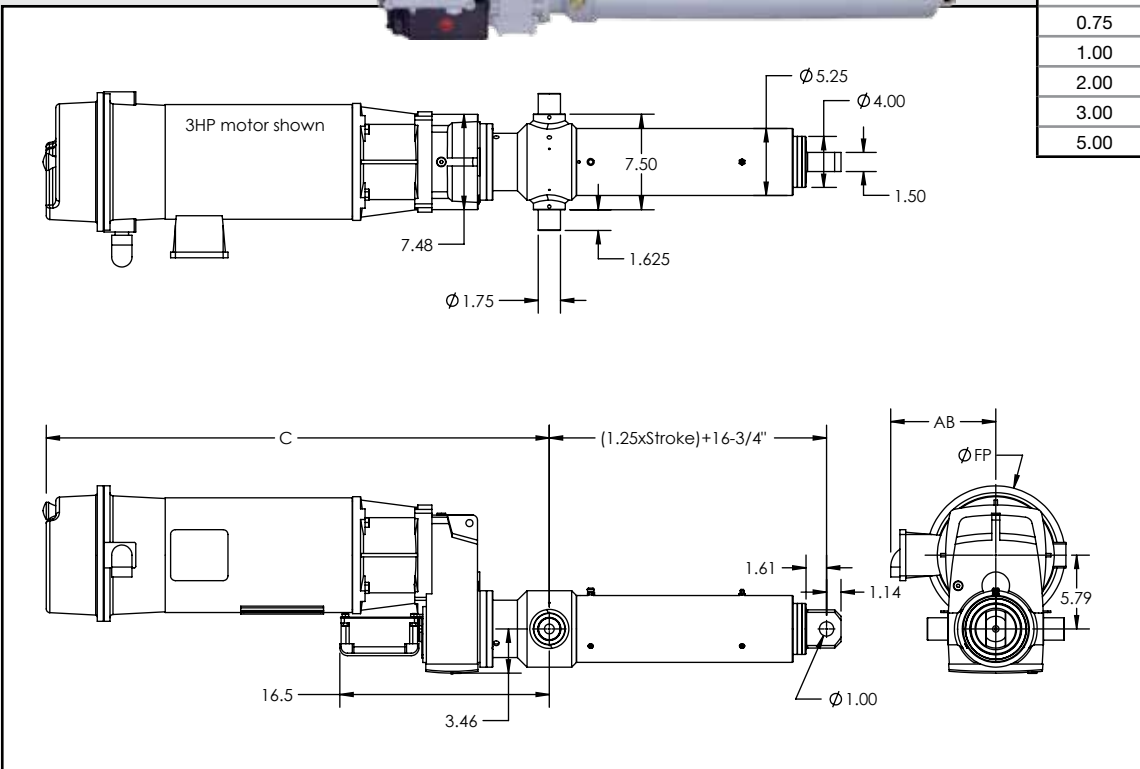
- Easy to install - reduces installation costs
 - Custom designed for your application
 - Low maintenance design - easy to maintain after installation
 - Long product life expectancy
 - Ball screw
 - Ductile iron housing
 - Chrome plated translating tube
 - Adjustable end of stroke limit switches
 - Clevis and trunnion mounting
 - Motor configuration include: parallel, right angle and OFFSET
 - **Motor rated for Class 1, Group D and Class 2, Groups F & G**
 - **Limit switches rated for NEMA 7/Class 1, Group D or NEMA 9/Class 2, Groups E, F & G.**
- Specify when ordering.**



OFFSET MOTOR



Motor HP	C	FP	AB
0.50	32	7.88	6.92
0.75	32	7.88	6.92
1.00	32	7.88	6.92
2.00	35.75	10.88	8.25
3.00	39.5	10.88	8.25
5.00	42.6	10.88	8.25



PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NZ12EX-0451	9305	41,392				188.5	80	110	2794	5	3.73
NZ12EX-0572	11,802	52,498				148.6	63	110	2794	5	3.73
NZ12EX-0643	13,267	59,014				132.2	56	110	2794	5	3.73
NZ12EX-0748	15,433	68,651				113.6	48	110	2794	5	3.73
NZ12EX-0837	17,270	76,819				101.6	43	110	2794	5	3.73
NZ12EX-0903	18,631	82,877				94.1	40	107	2718	5	3.73
NZ12EX-1015	20,942	93,156				83.7	35	101	2565	5	3.73
NZ12EX-1181	14,620	65,035				72.0	30	110	2794	3	2.24
NZ12EX-1323	16,378	72,854				64.2	27	110	2794	3	2.24
NZ12EX-1653	20,464	91,027	6, 12, 18, 24, 36	152, 304, 459, 609, 914	16.75 (425) + (1.25 x Stroke)	51.4	22	102	2591	3	2.24
NZ12EX-3123	12,887	57,325				27.2	12	108	2743	1	0.75
NZ12EX-3654	15,078	67,072				23.3	10	108	2743	1	0.75
NZ12EX-3718	15,343	68,247				22.9	10	108	2743	1	0.75
NZ12EX-4511	18,615	82,803				18.8	8	108	2743	1	0.75
NZ12EX-5396	22,267	99,048				15.8	7	98	2489	1	0.75
NZ12EX-6383	24,000	106,757				13.3	6	90	2286	1	0.75
NZ12EX-6967	24,000	106,757				12.2	5	90	2286	1	0.75
NZ12EX-12751	24,000	106,757				6.7	3	90	2286	0.5	0.37
NZ12EX-13186	24,000	106,757				6.4	3	90	2286	0.5	0.37
NZ12EX-14996	24,000	106,757				5.7	2	90	2286	0.5	0.37

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

SERIES

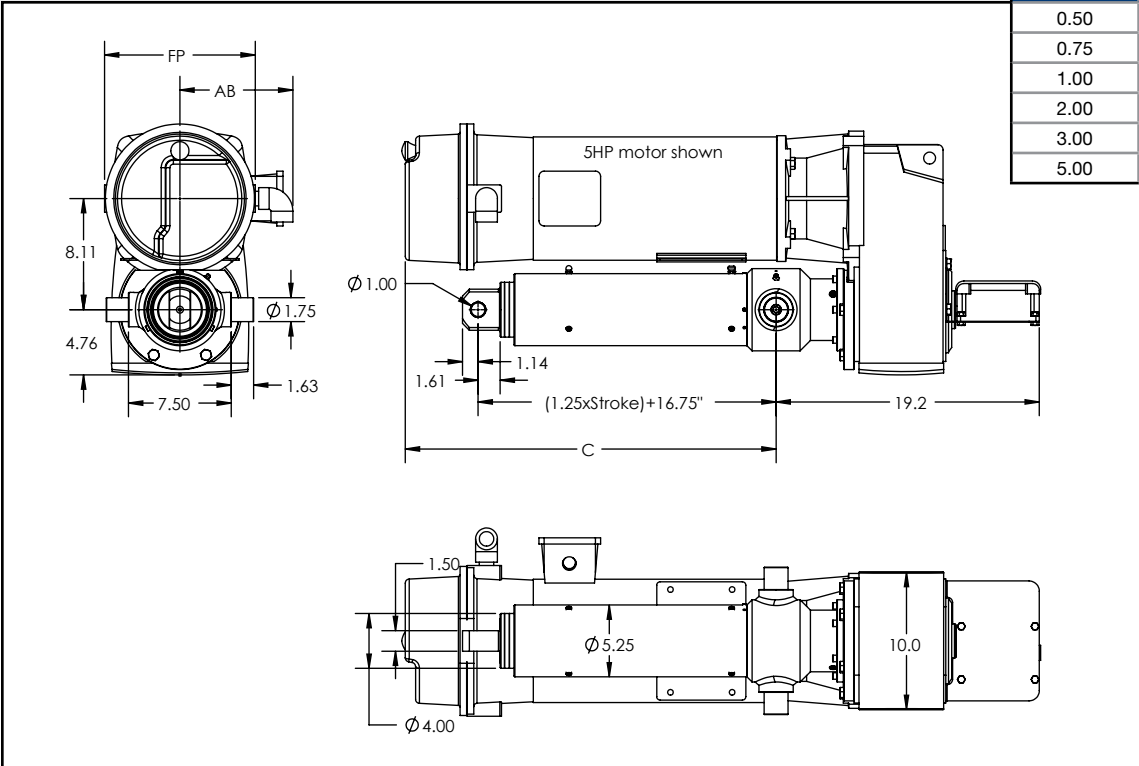
SCN12 HAZARDOUS RATED

12 TON (106.7 kN)



PARALLEL MOTOR

Motor HP	C	FP	AB
0.50	17.38	7.88	6.92
0.75	17.38	7.88	6.92
1.00	17.38	7.88	6.92
2.00	20.5	10.88	8.25
3.00	23.9	10.88	8.25
5.00	27	10.88	8.25



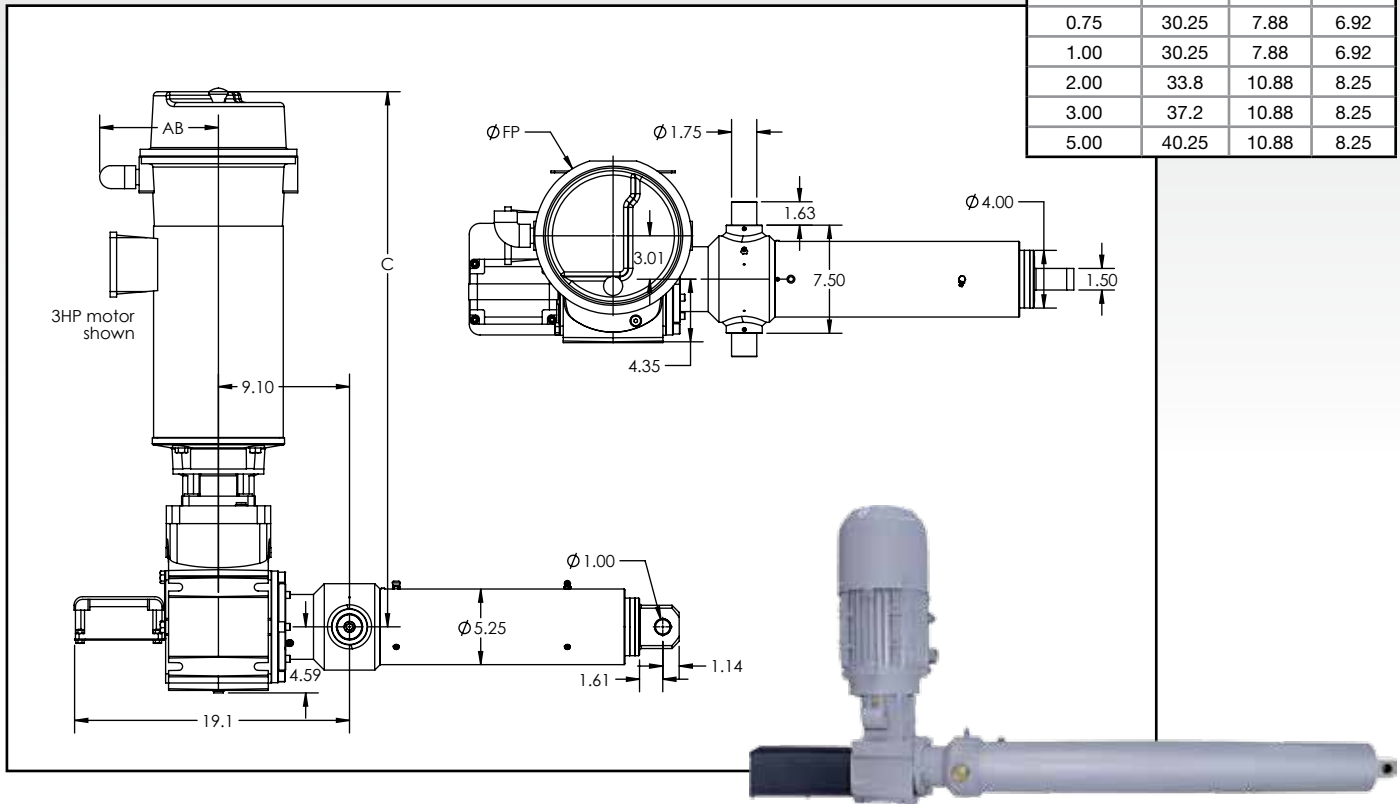
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NU12EX-0470	9697	43,136	6, 12, 18, 24, 36	152, 304, 459, 609, 914	16.75 (425) + (1.25 x Stroke)	180.9	77	110	2794	5	3.73
NU12EX-0500	10,316	45,890				170.0	72	110	2794	5	3.73
NU12EX-0543	11,204	49,836				156.5	66	110	2794	5	3.73
NU12EX-0606	12,503	55,618				140.3	59	110	2794	5	3.73
NU12EX-0713	14,711	65,439				119.2	50	110	2794	5	3.73
NU12EX-0823	17,187	76,452				102.0	43	110	2794	5	3.73
NU12EX-0923	19,044	84,712				92.1	39	106	2692	5	3.73
NU12EX-1085	13,432	59,748				78.3	33	110	2794	3	2.24
NU12EX-1268	15,697	69,826				67.0	28	110	2794	3	2.24
NU12EX-1520	18,817	83,703				55.9	24	107	2718	3	2.24
NU12EX-3234	13,345	59,363				26.3	11	108	2743	1	0.75
NU12EX-3681	15,190	67,568				23.1	10	108	2743	1	0.75
NU12EX-4074	16,812	74,782				20.9	9	108	2743	1	0.75
NU12EX-4505	18,590	82,693				18.9	8	108	2743	1	0.75
NU12EX-11078	22,857	101,673				7.7	3	96	2438	0.5	0.37

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

RIGHT ANGLE MOTOR

Motor HP	C	FP	AB
0.50	30.25	7.88	6.92
0.75	30.25	7.88	6.92
1.00	30.25	7.88	6.92
2.00	33.8	10.88	8.25
3.00	37.2	10.88	8.25
5.00	40.25	10.88	8.25



PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
NL12EX-0512	10,564	46,909	6, 12, 18, 24, 36	152, 304, 459, 609, 914	16.75 (425) + (1.25 x Stroke)	166.0	70	108	2743	5	3.73
NL12EX-0718	14,814	66,486				118.4	50	108	2743	5	3.73
NL12EX-0885	18,260	81,221				96.0	41	107	2718	5	3.73
NL12EX-0981	20,241	90,033				86.6	37	101	2565	5	3.73
NL12EX-1128	23,274	103,523				75.4	32	87	2210	5	3.73
NL12EX-1250	15,475	68,833				68.0	29	108	2743	3	2.24
NL12EX-1379	17,072	75,937				61.6	26	108	2743	3	2.24
NL12EX-1542	19,089	84,909				55.1	23	104	2642	3	2.24
NL12EX-1708	21,144	94,049				49.8	21	99	2515	3	2.24
NL12EX-3504	14,459	64,301				24.3	10	108	2743	1	0.75
NL12EX-3932	16,226	72,174				21.6	9	108	2743	1	0.75
NL12EX-4344	17,926	79,735				19.6	8	108	2743	1	0.75

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

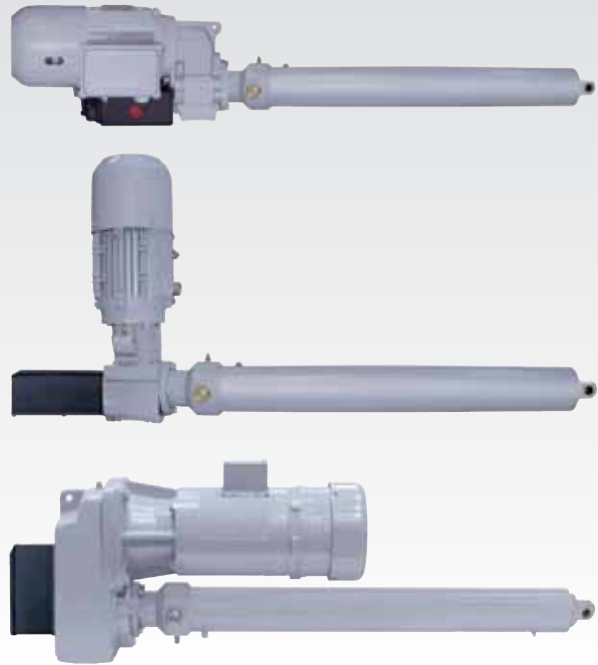
SERIES

SCN25

25 TON (222 kN)

SPEED:	Up to 259.7 in/min (6596 mm/min)
BRAKE MOTOR:	TEFC 230/460 VAC, 3 ph, 60 Hz
STROKES:	Up to 161 in (4089 mm)
TEMPERATURE RANGE:	0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory



FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw
- Ductile iron housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Clevis and trunnion mounting
- Motor configuration include: parallel, right angle and OFFSET

OPTIONS

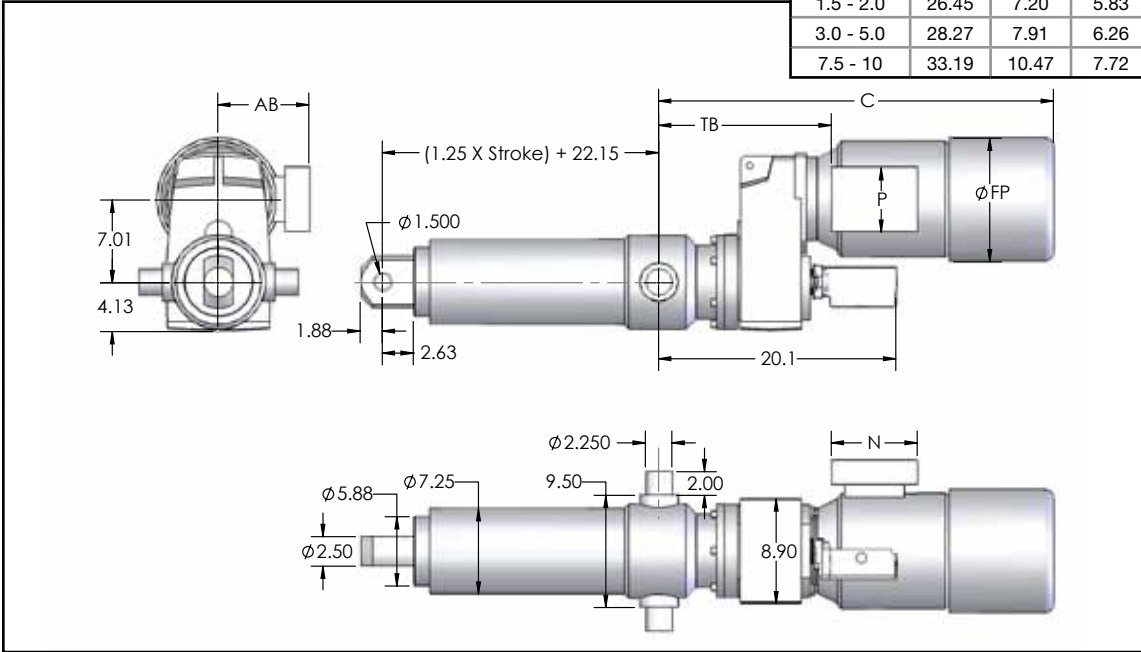
- Food grade component options available
- Explosion proof motor and limit switch (see pages 60-63)
- Product designs for outdoor applications
- Manual override
- Other special packages are available upon your application needs
- Capacities up to 50 tons available in all configurations. Contact Duff-Norton with load and speed requirements for more information





OFFSET MOTOR

Motor HP	C	FP	AB	TB	N	P
0.33 - 0.50	23.19	5.71	5.24	14.05	5.20	3.43
0.75 - 1.0	24.41	6.50	5.83	14.13	6.02	4.25
1.5 - 2.0	26.45	7.20	5.83	14.33	6.02	4.25
3.0 - 5.0	28.27	7.91	6.26	14.57	6.02	4.25
7.5 - 10	33.19	10.47	7.72	14.37	7.28	5.47



PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/min	in	mm	HP	kW
NZ25-0448	14,005	62,298	6, 12, 18, 24, 36	152, 304, 457, 609, 914	22.15 (562) + (1.25 x Stroke)	250.4	106	161	4089	10	7.40
NZ25-0568	17,757	78,984				197.5	84	161	4089	10	7.40
NZ25-0670	20,945	93,164				167.5	71	161	4089	10	7.40
NZ25-0831	25,979	115,555				135.0	57	161	4089	10	7.40
NZ25-0980	30,637	136,277				114.5	48	161	4089	10	7.40
NZ25-1138	26,628	118,687				98.6	42	161	4089	7-1/2	5.52
NZ25-1411	33,083	147,158				79.5	34	160	4064	7-1/2	5.52
NZ25-1667	26,057	115,907				67.3	28	161	4089	5	3.72
NZ25-2018	31,543	140,304				55.6	24	161	4089	5	3.73
NZ25-2138	33,419	148,649				52.5	22	159	4039	5	3.73
NZ25-2245	35,091	156,092				50.0	21	155	3937	5	3.72
NZ25-2371	22,236	98,910				47.3	20	161	4089	3	2.23
NZ25-2588	24,272	107,963				43.4	18	161	4089	3	2.24
NZ25-2870	26,916	119,723				39.1	17	161	4089	3	2.24
NZ25-3193	29,946	133,201				35.1	15	161	4089	3	2.24
NZ25-3777	35,423	157,563				29.7	13	154	3912	3	2.24
NZ25-4202	39,409	175,292				26.7	11	146	3708	3	2.24
NZ25-4485	42,063	187,098				25.0	11	142	3607	3	2.24
NZ25-5297	49,678	220,977				21.2	9	130	3302	3	2.23
NZ25-6412	40,090	178,328				17.5	7	145	3683	5	1.49
NZ25-7976	49,869	221,819				14.1	6	130	3302	2	1.49
NZ25-8874	50,000	222,409				12.6	5	123	3124	2	1.49
NZ25-10088	47,305	210,422				11.1	5	133	3378	1-1/2	1.12
NZ25-11223	50,000	222,409				10.0	4	127	3225	1-1/2	1.12
NZ25-12693	39,681	176,506				8.8	4	146	3708	1	0.74
NZ25-16146	50,000	222,409				6.9	3	129	3076	1	0.74
NZ25-19069	44,710	198,877				5.9	2	137	3479	3/4	0.56
NZ25-23083	50,000	222,409				4.9	2	125	3175	3/4	0.56
NZ25-28714	44,883	199,645	3.9	2	137	3479	1/2	0.37			
NZ25-40858	42,151	187,494	2.7	1	141	3581	1/3	0.25			
NZ25-48256	49,783	221,442	2.3	1	130	3302	1/3	0.25			

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

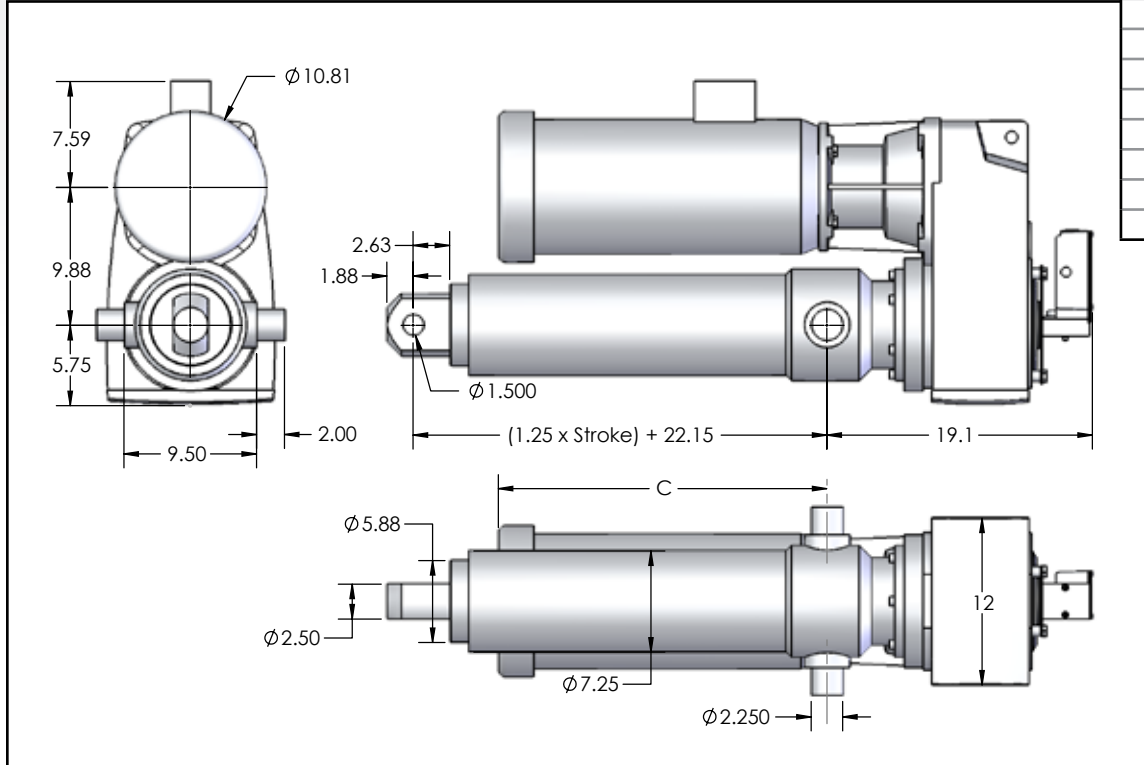
SERIES

SCN25

25 TON (222 kN)



PARALLEL MOTOR

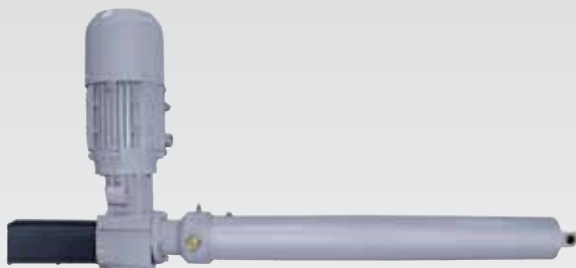


Motor HP	C
1/2 - 3/4	14.12
1	14.82
1-1/2	15.80
2	16.80
3	16.86
5	17.31
7-1/2	22.79
10	25.49

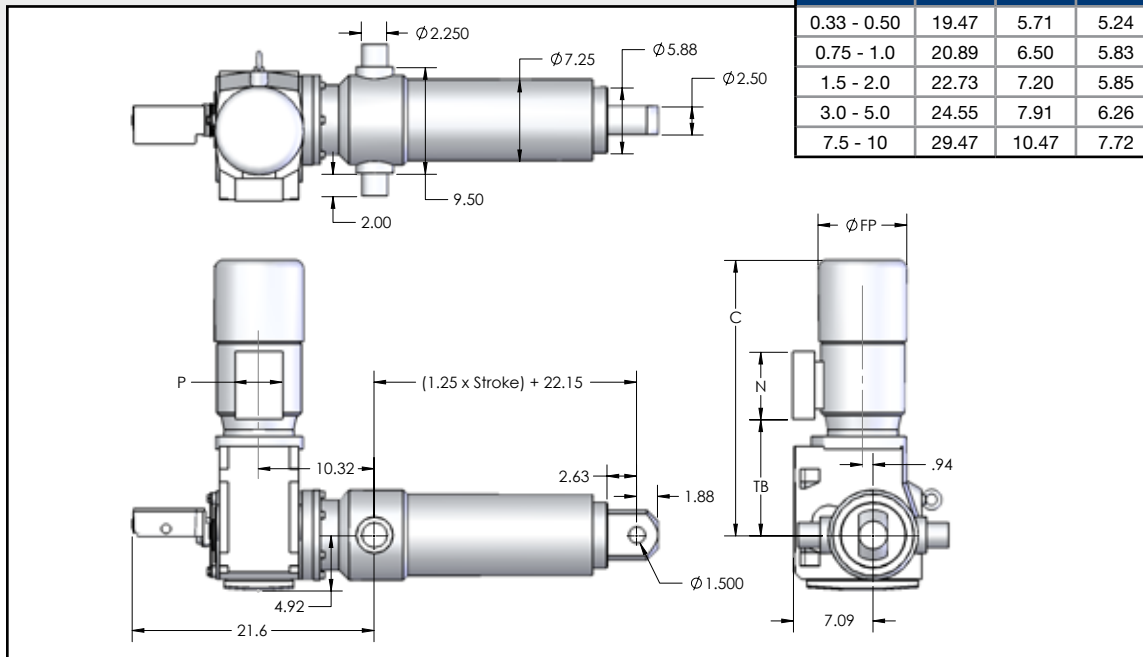
PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N	in	mm		in/min	mm/s	in	mm	HP	kW
NU25-0432	13,505	60,073	6, 12, 18, 24, 36	152, 304, 457, 609, 914	22.15 (562) + (1.25 x Stroke)	259.7	110	161	4089	10	7.40
NU25-0501	15,662	69,665				224.0	95	161	4089	10	7.40
NU25-0529	16,537	73,557				212.1	90	161	4089	10	7.40
NU25-0571	17,850	79,401				196.5	83	161	4089	10	7.40
NU25-0633	19,789	88,022				177.3	75	161	4089	10	7.40
NU25-0717	22,415	99,707				156.5	66	161	4089	10	7.40
NU25-0870	27,198	120,978				129.0	55	161	4089	10	7.40
NU25-0946	29,547	131,426				118.6	50	161	4089	10	7.40
NU25-1071	33,481	148,925				104.8	44	159	4039	10	7.40
NU25-1300	40,640	180,775				86.3	37	144	3657	10	7.40
NU25-1538	36,060	160,403				73.0	31	153	3886	7-1/2	5.52
NU25-1759	41,242	183,446				63.8	27	143	3632	7-1/2	5.52
NU25-1888	44,267	196,906				59.4	25	138	3505	7-1/2	5.52
NU25-2036	31,824	141,561				55.1	23	161	4089	5	3.72
NU25-2500	39,077	173,816				44.9	19	147	3734	5	3.73
NU25-3050	28,605	127,238				36.8	16	161	4089	3	2.23
NU25-3343	31,352	139,455				33.6	14	161	4089	3	2.24
NU25-3546	33,256	147,930				31.6	13	159	4039	3	2.23
NU25-4080	38,264	170,199				27.5	12	148	3759	3	2.24
NU25-5555	50,000	222,409				20.2	9	127	3225	3	2.23
NU25-8161	50,000	222,409	13.7	6	129	3276	2	1.49			
NU25-10019	46,982	208,977	11.2	5	134	3404	1-1/2	1.12			
NU25-13403	41,900	186,379	8.4	4	142	3606	1	0.74			

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.



RIGHT ANGLE MOTOR



Motor HP	C	FP	AB	TB	N	P
0.33 - 0.50	19.47	5.71	5.24	9.82	5.20	3.43
0.75 - 1.0	20.89	6.50	5.83	9.90	6.02	4.25
1.5 - 2.0	22.73	7.20	5.85	10.09	6.02	4.25
3.0 - 5.0	24.55	7.91	6.26	10.33	6.02	4.25
7.5 - 10	29.47	10.47	7.72	10.13	7.28	5.47

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NL25-0848	26,510	117,921				132.3	56	161	4089	10	7.40
NL25-1073	33,544	149,211				104.6	44	159	4039	10	7.40
NL25-1268	39,640	176,320				88.5	37	146.0	3708	10	7.40
NL25-1349	42,172	187,582				83.2	35	141.0	3581	10	7.40
NL25-1573	49,175	218,738				71.3	30	131	3327	10	7.40
NL25-1708	40,046	178,133				65.7	28	145	3683	7-1/2	5.52
NL25-2023	31,621	140,657				55.5	23	161	4089	5	3.72
NL25-2391	37,373	166,236				46.9	20	150.0	3810	5	3.73
NL25-2503	39,124	174,025				44.8	19	147.0	3734	5	3.73
NL25-2966	46,361	206,223				37.8	16	135	3429	5	3.72
NL25-3561	33,397	148,556				31.5	13	159	4039	3	2.23
NL25-3805	35,685	158,728				29.5	12	154.0	3912	3	2.24
NL25-4036	37,852	168,374				27.8	12	149	3785	3	2.23
NL25-4770	44,736	198,987				23.5	10	137.0	3480	3	2.24
NL25-4994	46,836	208,328				22.5	10	134.0	3404	3	2.24
NL25-5917	50,000	222,409				19.0	8	123	3124	3	2.23
NL25-6408	40,065	178,217				17.5	7	145	3683	2	1.49
NL25-7591	47,462	211,112				14.8	6	133.0	3378	2	1.49
NL25-8417	50,000	222,402				13.3	6	127.0	3226	2	1.49
NL25-9350	50,000	222,409				12.0	5	120	3048	2	1.49
NL25-11077	50,000	222,402				10.1	4	127.0	3226	1-1/2	1.12
NL25-11770	50,000	222,402				9.5	4	124.0	3150	1-1/2	1.12
NL25-13944	43,591	193,900				8.0	3	139	3530	1	0.74
NL25-15874	49,625	220,734				7.1	3	130.0	3302	1	0.75
NL25-18806	50,000	222,402				6.0	3	120.0	3048	1	0.75
NL25-19745	46,295	205,927				5.7	2	135	3429	3/4	0.56
NL25-23392	50,000	222,402				4.8	2	124.0	3150	3/4	0.56
NL25-24972	50,000	222,402				4.5	2	120.0	3048	3/4	0.56
NL25-29585	46,244	205,701				3.8	2	135	3429	1/2	0.37

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

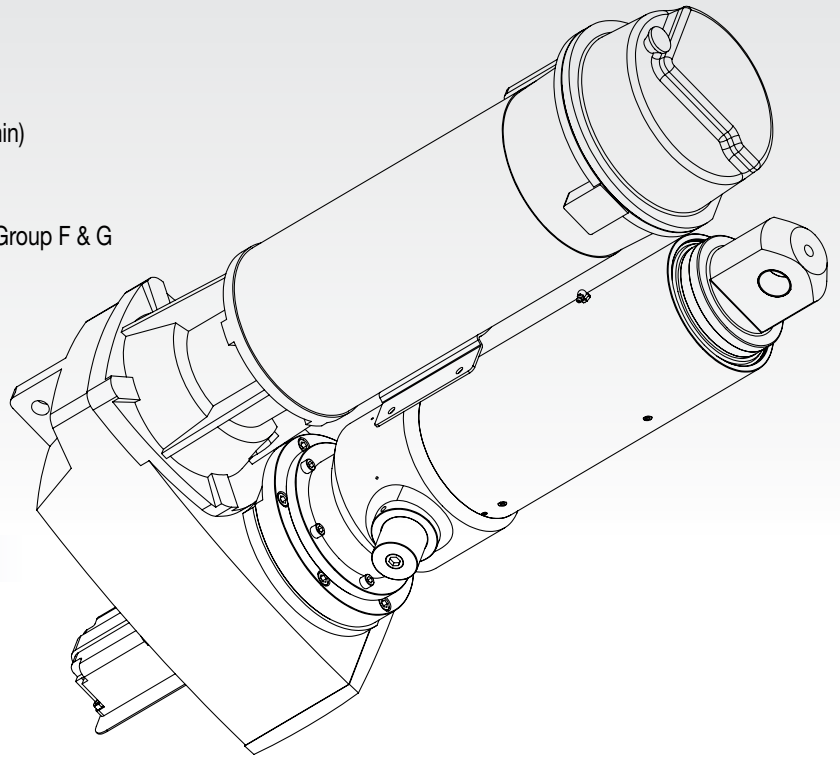
SERIES

SCN25 HAZARDOUS RATED

25 TON (222 kN)

SPEED:	Up to 259.7 in/min (6596 mm/min)
BRAKE MOTOR:	230/460 VAC, 3 ph, 60 Hz Class 1, Group D and Class 2, Group F & G
STROKES:	Up to 161 in (4089 mm)
TEMPERATURE RANGE:	0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory

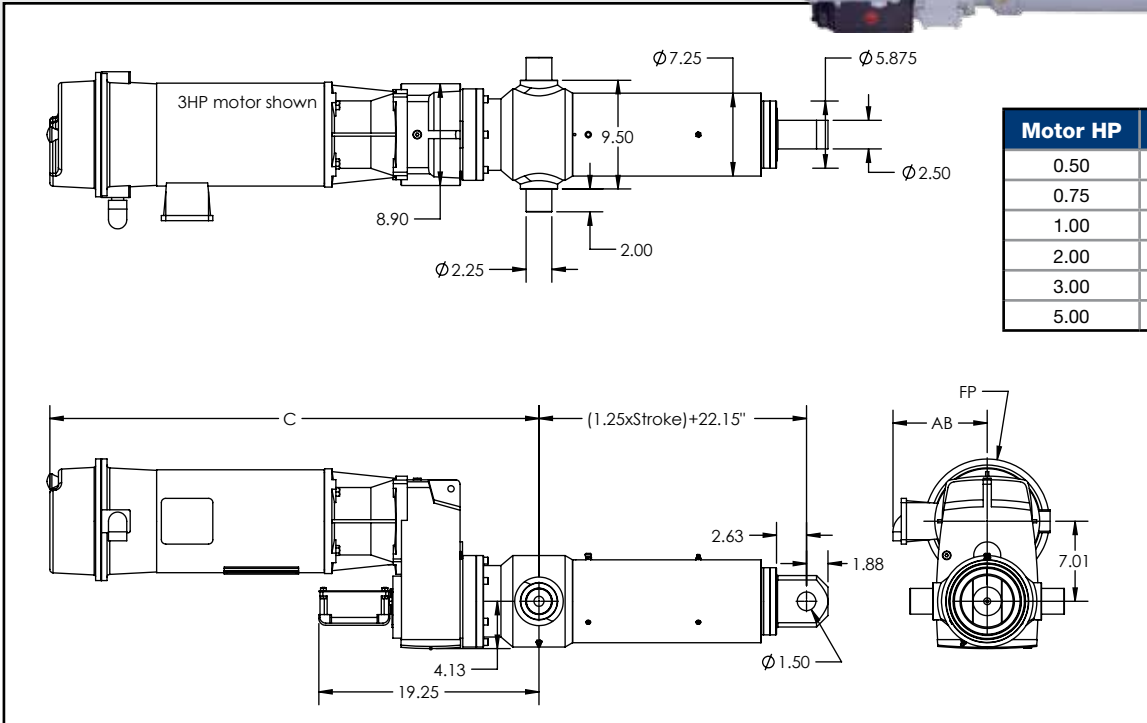


FEATURES & BENEFITS

- Easy to install - reduces installation costs
 - Custom designed for your application
 - Low maintenance design - easy to maintain after installation
 - Long product life expectancy
 - Ball screw
 - Ductile iron housing
 - Chrome plated translating tube
 - Adjustable end of stroke limit switches
 - Clevis and trunnion mounting
 - Motor configuration include: parallel, right angle and OFFSET
 - **Motor rated for Class 1, Group D and Class 2, Groups F & G**
 - **Limit switches rated for NEMA 7/Class 1, Group D or NEMA 9/Class 2, Groups E, F & G.**
- Specify when ordering.**



OFFSET MOTOR



Motor HP	C	FP	AB
0.50	34.2	7.88	6.92
0.75	34.2	7.88	6.92
1.00	34.2	7.88	6.92
2.00	39.4	10.88	8.25
3.00	42.8	10.88	8.25
5.00	45.9	10.88	8.25

PRODUCT INFORMATION

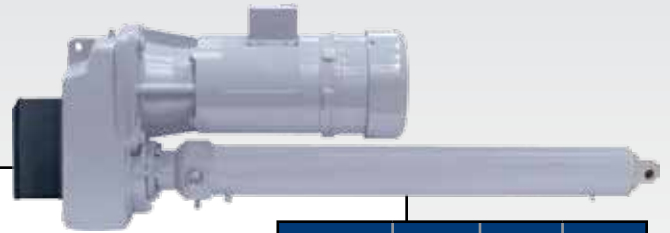
Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NZ25EX-0448	7003	31,149				250.4	106	157	3988	5	3.73
NZ25EX-0568	8878	39,493				197.5	84	157	3988	5	3.73
NZ25EX-0670	10,473	46,585				167.5	71	157	3988	5	3.73
NZ25EX-0831	12,989	57,779				135.0	57	157	3988	5	3.73
NZ25EX-0980	15,318	68,139				114.5	48	157	3988	5	3.73
NZ25EX-1138	17,788	79,125				98.6	42	157	3988	5	3.73
NZ25EX-1411	22,055	98,106				79.5	34	157	3988	5	3.73
NZ25EX-1667	26,057	115,906				67.3	28	157	3988	5	3.73
NZ25EX-2018	31,543	140,311				55.6	24	157	3988	5	3.73
NZ25EX-2138	33,419	148,654				52.5	22	159	4039	5	3.73
NZ25EX-2245	35,091	156,094				50.0	21	155	3937	5	3.73
NZ25EX-2371	22,236	98,913	6, 12, 18, 24, 36	152, 304, 459, 609, 914	22.15 (562) + (1.25 x Stroke)	47.3	20	161	4089	3	2.24
NZ25EX-2588	24,272	107,966				43.4	17	161	4089	3	2.24
NZ25EX-2870	26,916	119,730				39.1	15	161	4089	3	2.24
NZ25EX-3139	29,946	133,205				35.1	15	161	4089	3	2.24
NZ25EX-3777	35,423	157,568				29.7	13	154	3912	3	2.24
NZ25EX-4202	39,409	175,298				26.7	11	146	3708	3	2.24
NZ25EX-4485	42,063	187,104				25.0	11	142	3607	3	2.24
NZ25EX-5297	49,678	220,979				21.2	9	130	3302	3	2.24
NZ25EX-10088	31,537	140,283				11.1	5	157	3988	1	0.75
NZ25EX-11223	35,085	156,066				10.0	4	156	3962	1	0.75
NZ25EX-12693	38,681	176,508				8.8	4	146	3708	1	0.75
NZ25EX-16146	50,000	222,411				6.9	3	129	3277	1	0.75
NZ25EX-28714	44,883	199,647				3.9	2	137	3480	0.5	0.37

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

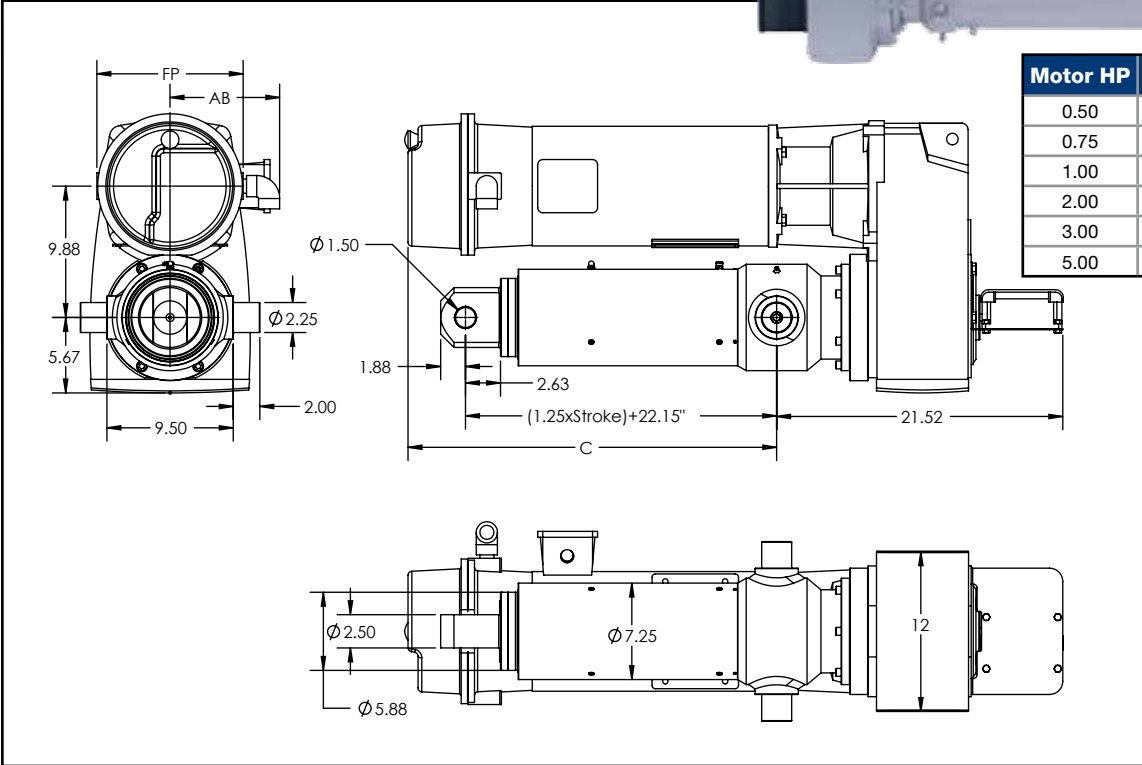
SERIES

SCN25 HAZARDOUS RATED

25 TON (222 kN)



PARALLEL MOTOR



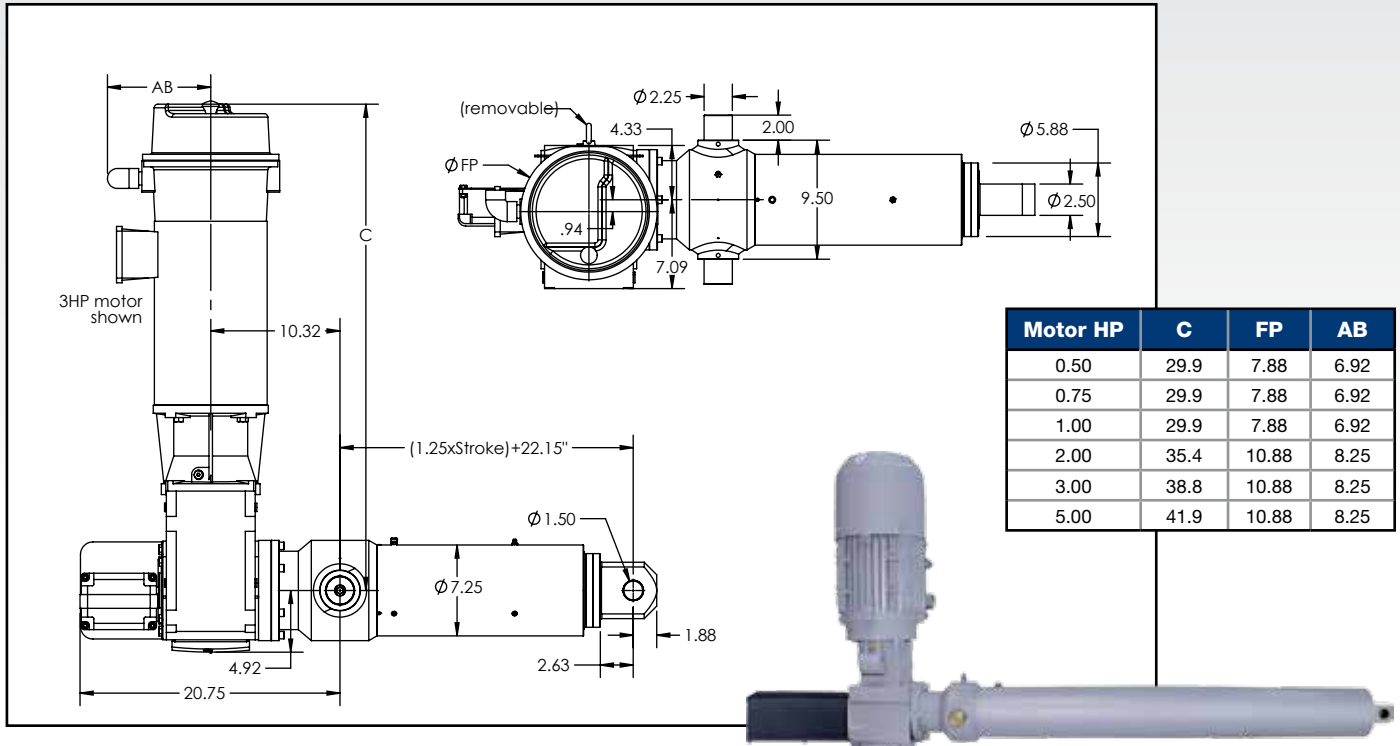
Motor HP	C	FP	AB
0.50	14.5	7.88	6.92
0.75	14.5	7.88	6.92
1.00	14.5	7.88	6.92
2.00	21.25	10.88	8.25
3.00	24.7	10.88	8.25
5.00	27.75	10.88	8.25

PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/min	in	mm	HP	kW
NU25EX-0432	6753	30,037				259.7	110	157	3988	5	3.73
NU25EX-0501	7831	34,834				224.0	95	157	3988	5	3.73
NU25EX-0529	8269	36,781				212.1	90	157	3988	5	3.73
NU25EX-0571	8925	39,701				196.5	83	157	3988	5	3.73
NU25EX-0633	9894	44,012				177.3	75	157	3988	5	3.73
NU25EX-0717	11,207	49,853				156.5	66	157	3988	5	3.73
NU25EX-0870	13,599	60,491				129.0	55	157	3988	5	3.73
NU25EX-0946	14,787	65,775				118.6	50	157	3988	5	3.73
NU25EX-1071	16,741	74,466				104.8	44	157	3988	5	3.73
NU25EX-1300	20,320	90,389				86.3	37	157	3988	5	3.73
NU25EX-1538	24,040	106,937	6, 12, 18, 24, 36	152, 304, 459, 609, 914	22.15 (562) + (1.25 x Stroke)	73.0	31	157	3988	5	3.73
NU25EX-1759	27,495	122,303				63.8	27	157	3988	5	3.73
NU25EX-1888	29,511	131,272				59.4	25	157	3988	5	3.73
NU25EX-2036	31,824	141,562				55.1	23	157	3988	5	3.73
NU25EX-2500	39,077	173,824				44.9	19	157	3734	5	3.73
NU25EX-3050	28,605	127,239				36.8	16	161	4089	3	2.24
NU25EX-3343	31,352	139,463				33.6	14	161	4089	3	2.24
NU25EX-3546	33,256	147,931				31.6	13	159	4039	3	2.24
NU25EX-4080	38,264	170,209				27.5	12	148	3759	3	2.24
NU25EX-5555	50,000	222,411				20.2	9	127	3226	3	2.24
NU25EX-10019	31,321	139,323				11.2	5	157	3988	1	0.75
NU25EX-13403	41,900	186,381				8.4	4	142	3607	1	0.75

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

RIGHT ANGLE



PRODUCT INFORMATION

Part Number	Rated Load		Standard Stroke Lengths		Retracted Length	Speed		Max Stroke		Motor	
	lbs	N	in	mm	in (mm)	in/min	mm/s	in	mm	HP	kW
NL25EX-0848	13,255	58,961	6, 12, 18, 24, 36	152, 304, 459, 609, 914	22.15 (562) + (1.25 x Stroke)	132.3	56	157	3988	5	3.75
NL25EX-1073	16,772	74,605				104.6	44	157	3988	5	3.75
NL25EX-1268	19,820	88,164				88.5	37	157	3988	5	3.75
NL25EX-1349	21,086	93,795				83.2	35	157	3988	5	3.75
NL25EX-1573	24,578	109,370				71.3	30	157	3988	5	3.75
NL25EX-1708	26,698	118,757				65.7	28	157	3988	5	3.75
NL25EX-2023	31,621	140,658				55.5	23	161	4089	5	3.75
NL25EX-2391	37,373	166,245				46.9	20	150	3810	5	3.75
NL25EX-2503	39,124	174,033				44.8	19	147	3734	5	3.75
NL25EX-2966	46,361	206,225				37.8	16	135	3429	5	3.75
NL25EX-3561	33,397	148,557				31.5	13	157	3988	3	2.24
NL25EX-3805	35,685	158,736				29.5	12	154	3912	3	2.24
NL25EX-4036	37,852	168,373				27.8	12	149	3785	3	2.24
NL25EX-4770	44,736	198,994				23.5	10	137	3480	3	2.24
NL25EX-4994	46,836	208,339				22.5	10	134	3404	3	2.24
NL25EX-5917	50,000	222,411				19.0	8	123	3124	3	2.24
NL25EX-11077	34,629	154,036				10.1	4	157	3988	1	0.75
NL25EX-11770	36,795	163,673				9.5	4	152	3861	1	0.75
NL25EX-13944	43,591	193,904				8.0	3	139	3531	1	0.75
NL25EX-15874	49,625	220,743				7.1	3	130	3302	1	0.75
NL25EX-18806	50,000	222,441	6.0	3	130	3302	1	0.75			
NL25EX-29585	46,244	205,703	3.8	2	135	3429	0.5	0.37			

Consult the factory for additional speeds and capacities. Stroke lengths are available in 1 inch increments, please contact the factory for details.

SERIES

SCN50

50 TON (490 kN)

SPEED: Up to 393.5 in/min (9995 mm/min)

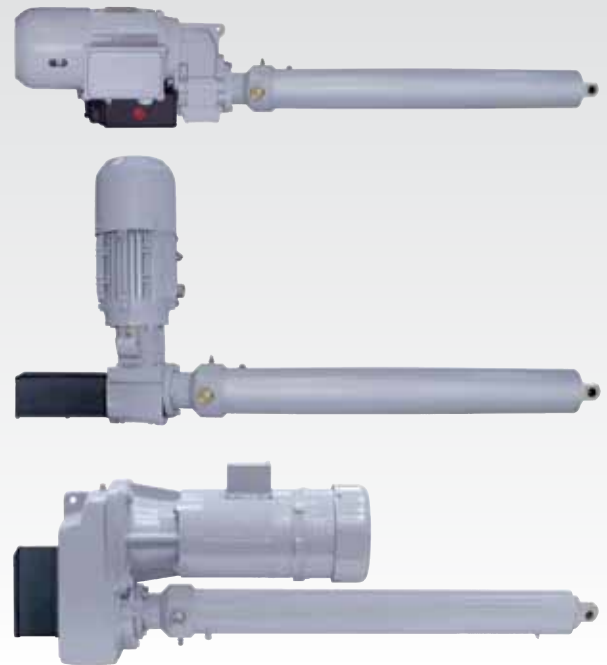
BRAKE MOTOR: TEFC 230/460 VAC, 3 ph, 60 Hz

STROKES: Up to 176 in (4470 mm)*

TEMPERATURE RANGE: 0°F to 120°F (-18°C to 50°C)**

*Consult Duff-Norton engineering for longer stroke lengths

**For other temperatures please consult the factory



FEATURES & BENEFITS

- Easy to install - reduces installation costs
- Custom designed for your application
- Low maintenance design - easy to maintain after installation
- Long product life expectancy
- Ball screw
- Steel trunnion housing
- Chrome plated translating tube
- Adjustable end of stroke limit switches
- Trunnion mounting
- Motor configurations include: parallel, right angle and offset

OPTIONS

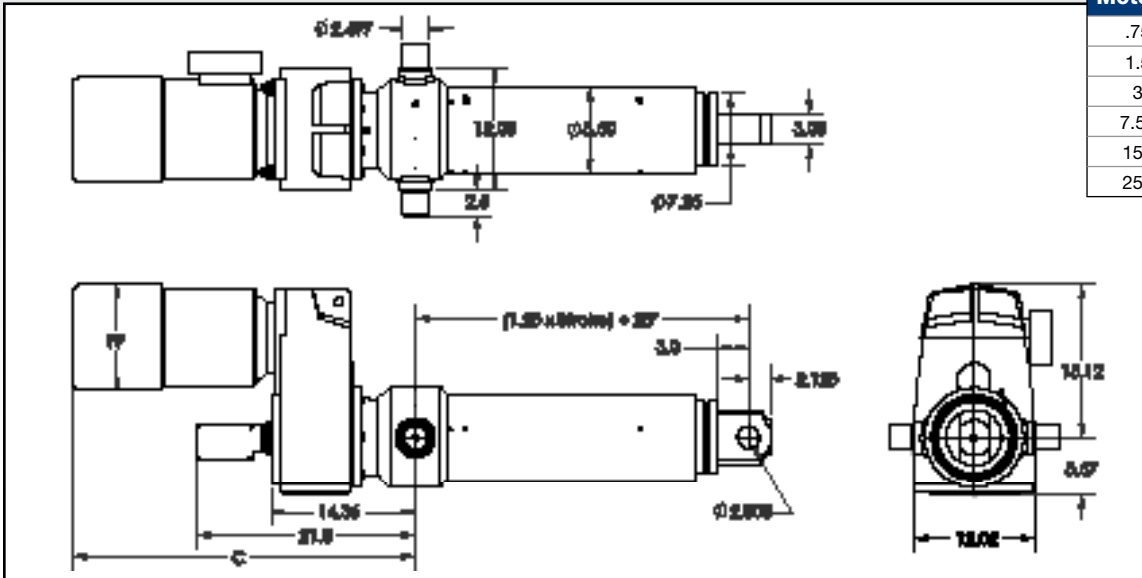
- Encoder/potentiometer for position feedback
- Food grade component options available
- Product designs for outdoor applications
- Other special packages are available upon your application needs





OFFSET MOTOR

Motor HP	C	FP
.75-1	26.13	6.14
1.5-2	27.42	6.92
3-5	29.23	7.63
7.5-10	34.15	10.16
15-20	38.99	12.60
25-30	40.72	14.09



PRODUCT INFORMATION

Part Number	Rated Load		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N		in/min	mm/min	in	mm	HP	kW
NZ50-0432	26,740	118.95	(1.25 x Stroke) + 28 (711)	393.5	9995	176*	4470	30	22.4
NZ50-0501	31,011	137.94		339.3	8619	176*	4470	30	22.4
NZ50-0529	32,744	145.65		321.4	8163	176*	4470	30	22.4
NZ50-0571	35,344	157.22		297.7	7562	176*	4470	30	22.4
NZ50-0633	39,182	174.29		268.6	6821	176*	4470	30	22.4
NZ50-0717	44,381	197.42		237.1	6022	176*	4470	30	22.4
NZ50-0870	53,852	239.54		195.4	4963	176*	4470	30	22.4
NZ50-0946	58,556	260.47		179.7	4564	176*	4470	30	22.4
NZ50-1071	66,293	294.89		158.7	4032	176*	4470	30	22.4
NZ50-1300	80,468	357.94		130.8	3322	176*	4470	30	22.4
NZ50-1538	95,200	423.47		110.5	2808	162	4115	30	22.4
NZ50-1759	90,733	403.60		96.6	2455	166	4216	25	18.6
NZ50-1888	97,387	433.20		90.0	2287	160	4064	25	18.6
NZ50-2036	105,021	467.16		83.5	2121	157	3988	25	18.6
NZ50-2500	103,164	458.90		68.0	1727	157	3988	20	14.9
NZ50-3050	94,395	419.89		55.7	1416	162	4115	15	11.2
NZ50-3343	103,463	460.23		50.9	1292	157	3988	15	11.2
NZ50-3546	73,164	325.45		47.9	1218	176*	4470	10	7.5
NZ50-4080	84,182	374.46		41.7	1058	173	4394	10	7.5
NZ50-4194	86,534	384.92		40.5	1030	170	4318	10	7.5
NZ50-5149	106,238	472.57		33.0	839	157	3988	10	7.5
NZ50-5555	85,961	382.37		30.6	777	171	4343	7.5	5.6
NZ50-6863	106,202	472.41		24.8	629	157	3988	7.5	5.6
NZ50-8161	84,192	374.50		20.8	529	173	4394	5	3.7
NZ50-9181	94,715	421.31		18.5	470	162	4115	5	3.7
NZ50-10019	103,360	459.77		17.0	431	157	3988	5	3.7
NZ50-13403	82,962	369.03		12.7	322	174	4420	3	2.2
NZ50-15392	95,274	423.80		11.0	281	161	4089	3	2.2
NZ50-17127	106,013	471.57		9.9	252	157	3988	3	2.2
NZ50-20257	83,592	371.83		8.4	213	173	4394	2	1.5
NZ50-24870	102,627	456.51		6.8	174	157	3988	2	1.5
NZ50-26999	83,560	371.69		6.3	160	173	4394	1.5	1.1
NZ50-33148	102,590	456.34		5.1	130	157	3988	1.5	1.1
NZ50-36169	111,940	497.93	4.7	119	157	3988	1.5	1.1	
NZ50-42779	88,265	392.62	4.0	101	168	4267	1	0.7	
NZ50-52520	108,363	482.02	3.2	82	157	3988	1	0.7	
NZ50-57018	88,233	392.48	3.0	76	168	4267	0.75	0.6	
NZ50-70003	108327	481.86	2.4	62	157	3988	0.75	0.6	

*Consult Duff-Norton engineering for longer stroke lengths. Note: For models shaded in blue, add 2.74 inches to "C" dimension.

SERIES

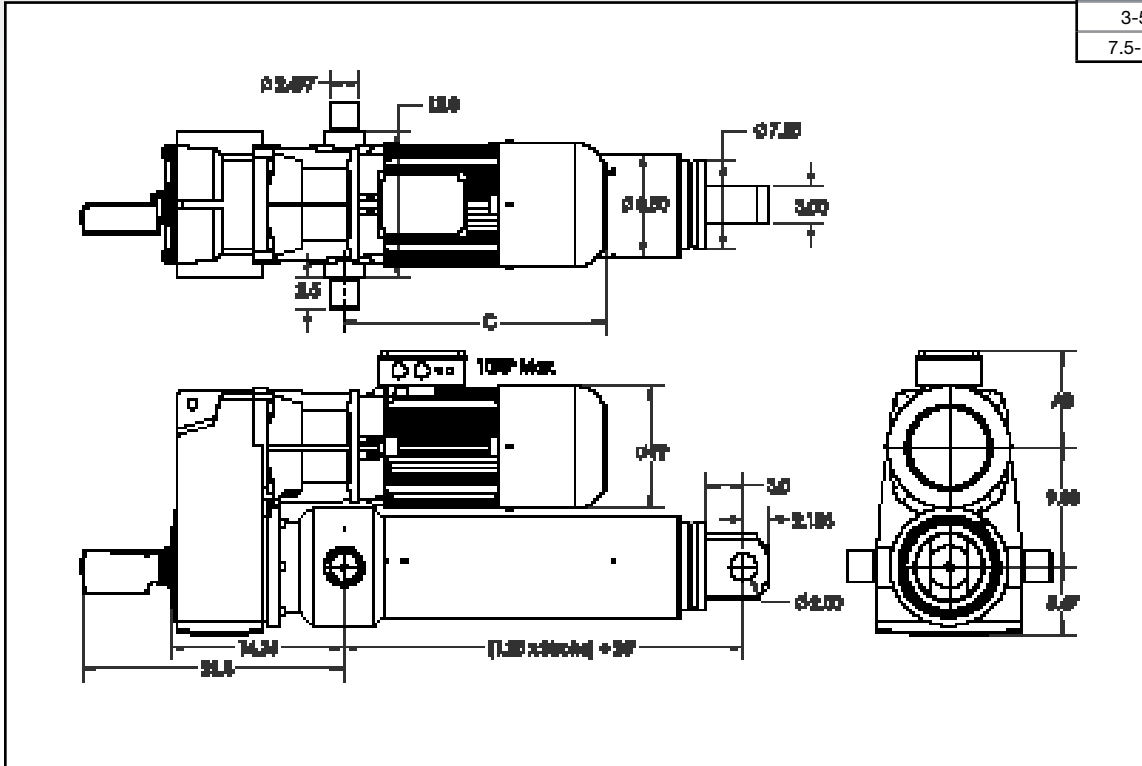
SCN50

50 TON (490 kN)



PARALLEL MOTOR

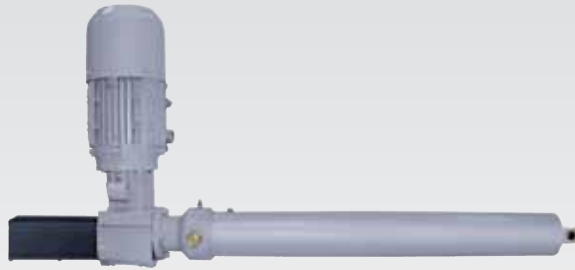
Motor HP	C	FP	AB
3-5	17.15	7.63	6.65
7.5-10	21.91	10.16	8.03



PRODUCT INFORMATION

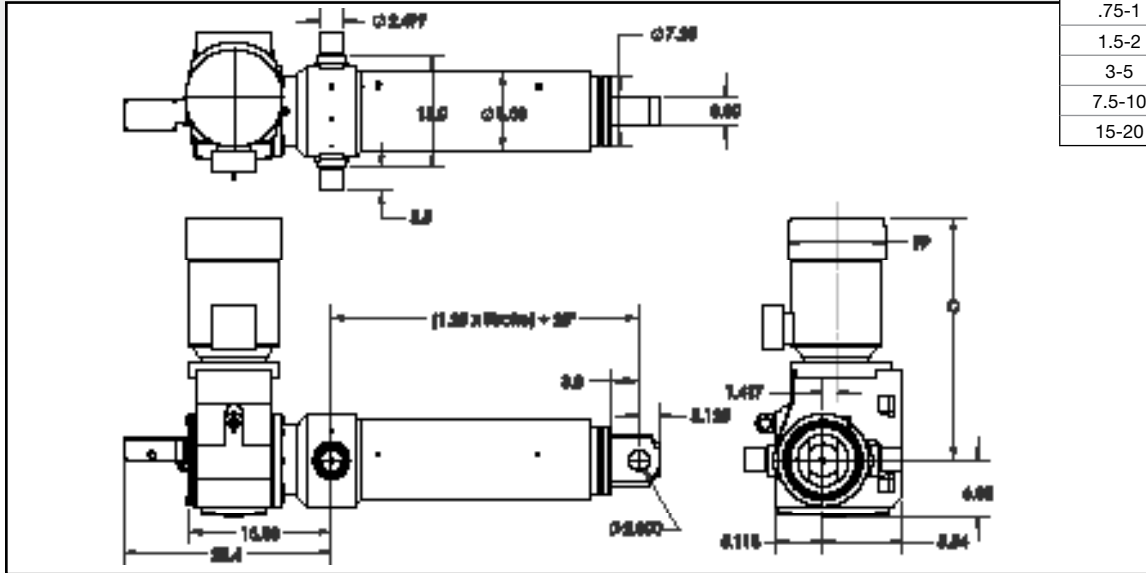
Part Number	Rated Load		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N		in/min	mm/min	in	mm	HP	kW
NU50-1888	38,955	172.96	(1.25 x Stroke) + 28 (711)	90.0	2287	176*	4470	10	7.5
NU50-2036	42,008	186.52		83.5	2121	176*	4470	10	7.5
NU50-2500	51,582	229.02		68.0	1727	176*	4470	10	7.5
NU50-3050	62,930	279.41		55.7	1416	176*	4470	10	7.5
NU50-3343	68,975	306.25		50.9	1292	176*	4470	10	7.5
NU50-3546	73,164	324.85		47.9	1218	176*	4470	10	7.5
NU50-4080	84,182	373.77		41.7	1058	173	4394	10	7.5
NU50-4194	86,534	384.21		40.5	1030	170	4318	10	7.5
NU50-5149	106,238	471.70		33.0	839	157	3988	10	7.5
NU50-5555	85,961	381.67		30.6	777	171	4343	7.5	5.6
NU50-6863	106,202	471.54		24.8	629	157	3988	7.5	5.6
NU50-8161	84,192	373.81		20.8	529	173	4394	5	3.7
NU50-9181	94,715	420.53		18.5	470	162	4115	5	3.7
NU50-10019	103,360	458.92		17.0	431	157	3988	5	3.7
NU50-13403	82,962	368.35		12.7	322	174	4420	3	2.2

*Consult Duff-Norton engineering for longer stroke lengths.



RIGHT ANGLE MOTOR

Motor HP	C	FP
.75-1	27.56	6.14
1.5-2	29.61	6.92
3-5	31.42	7.63
7.5-10	36.34	10.16
15-20	41.19	12.60



PRODUCT INFORMATION

Part Number	Rated Load		Retracted Length in (mm)	Speed		Max Stroke		Motor	
	lbs	N		in/min	mm/min	in	mm	HP	kW
NL50-0883	36,437	161.78	(1.25 x Stroke) + 28 (711)	192.5	4890	176*	4470	20	14.9
NL50-0939	38,748	172.04		181.0	4599	176*	4470	20	14.9
NL50-1021	42,132	187.07		166.5	4229	176*	4470	20	14.9
NL50-1140	47,043	208.87		149.1	3788	176*	4470	20	14.9
NL50-1340	55,296	245.51		126.9	3222	176*	4470	20	14.9
NL50-1566	64,622	286.92		108.6	2757	176*	4470	20	14.9
NL50-1820	75,103	333.46		93.4	2373	176*	4470	20	14.9
NL50-2032	83,852	372.30		83.7	2125	173	4394	20	14.9
NL50-2389	98,583	437.71		71.2	1807	159	4039	20	14.9
NL50-2791	86,379	383.52		60.9	1547	170	4318	15	11.2
NL50-3170	98,109	435.60		53.6	1362	159	4039	15	11.2
NL50-3439	106,434	472.57		49.4	1256	157	3988	15	11.2
NL50-4054	83,645	371.38		41.9	1065	173	4394	10	7.5
NL50-4767	98,356	436.70		35.7	906	159	4039	10	7.5
NL50-5569	86,178	382.63		30.5	775	170	4318	7.5	5.6
NL50-6325	97,877	434.57		26.9	683	159	4039	7.5	5.6
NL50-6861	106,171	471.40		24.8	629	157	3988	7.5	5.6
NL50-7618	78,590	348.94		22.3	567	176*	4470	5	3.7
NL50-8643	89,165	395.89		19.7	500	167	4242	5	3.7
NL50-9556	98,583	437.71		17.8	452	159	4039	5	3.7
NL50-11779	72,910	323.72		14.4	367	176*	4470	3	2.2
NL50-13279	82,195	364.94		12.8	325	175	4445	3	2.2
NL50-15979	98,907	439.15		10.6	270	158	4013	3	2.2
NL50-19512	80,517	357.50		8.7	221	176*	4470	2	1.5
NL50-23501	96,978	430.58		7.2	184	160	4064	2	1.5
NL50-27373	112,956	501.53		6.2	158	157	3988	2	1.5
NL50-32969	102,036	453.04		5.2	131	157	3988	1.5	1.1
NL50-40482	125,288	556.28		4.2	107	157	3988	1.5	1.1
NL50-56804	117,202	520.38		3.0	76	157	3988	1	0.7
NL50-64518	99,839	443.28		2.6	67	157	3988	0.75	0.6
NL50-88160	90,949	403.81	1.9	49	166	4216	0.5	0.4	

*Consult Duff-Norton engineering for longer stroke lengths. Note: For models shaded in blue, add 2.74 inches to "C" dimension.

SERIES

SCD02 & SCD03

3747 LB (16,667 N) & 3789 LB (16,854 N)

SPEED:	Up to 11.9 in/sec (302 mm/sec)
BRAKE MOTOR:	230/460 VAC, 3 ph, 60 Hz
STROKES:	Up to 36 in (914 mm)
TEMPERATURE RANGE:	-0°F to 120°F (-18°C to 50°C)*

*For other temperatures please consult the factory



FEATURES & BENEFITS

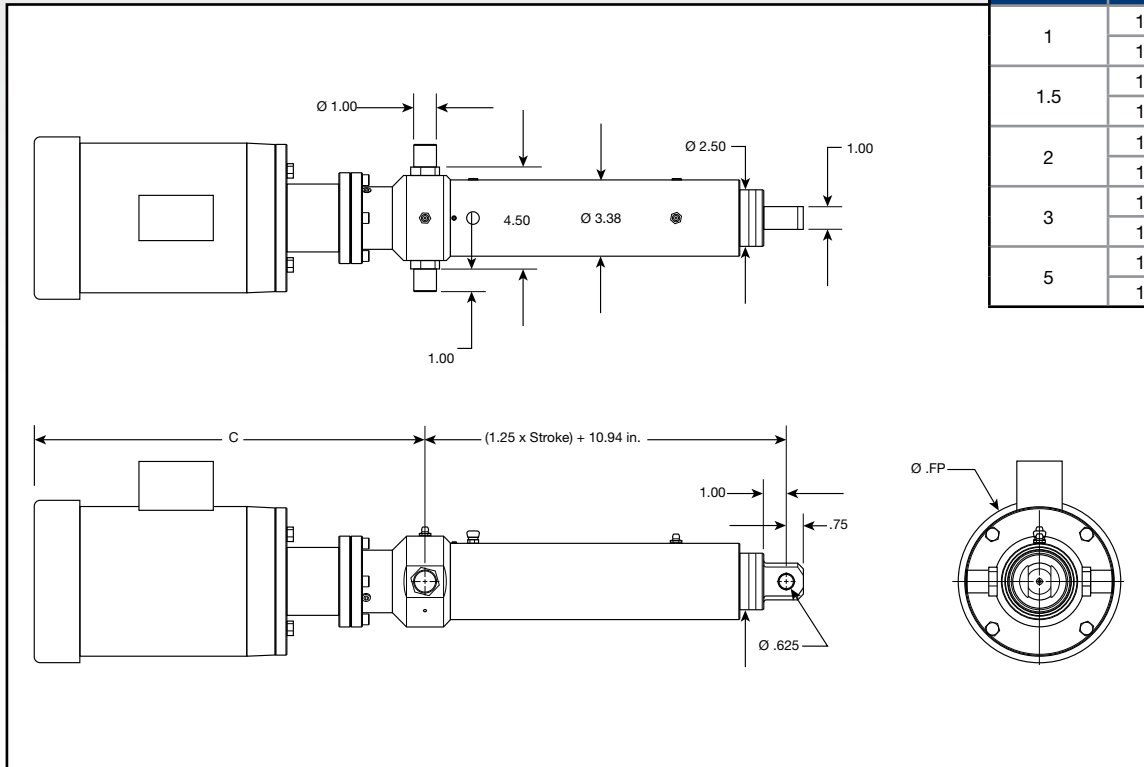
- Easy to install - reduces installation costs
 - Custom designed for your application
 - Low maintenance design - easy to maintain after installation
 - Long product life expectancy
 - Steel trunnion housing
 - Chrome plated translating tube
 - Hydraulic cylinder grade wiper seals
 - Guided at both ends by polymeric bearings
 - Trunnion mounting
 - Ring Kit Encoder
 - Standard brake motors use Class F insulation with Class B rise (1.15 S.F.)
 - Standard brake motors totally enclosed and fan cooled. IP66 or wash-down motors available.
 - Standard brake motors are UL, CSA, or CE marked, depending on voltage
- Specify when ordering.

WARNING

- The SCD Series SuperCylinders are capable of extremely high speeds. As such, the user should be careful to properly integrate the cylinder's Ring Kit Encoder or other controlling device with the control system to ensure the cylinder functions as desired.
- We recommend using soft start and stop for smooth operation and added life.
- Motor brakes should always be used with SCD models, and must be separately switched from to motor to assure fast brake response.



Motor HP	RPM	C	FP
1	1140	22.38	7.16
	1725	20.06	7.16
1.5	1140	23.38	7.16
	1725	21.50	7.16
2	1140	24.35	9.22
	1725	22.50	7.16
3	1140	27.35	9.22
	1725	23.23	9.22
5	1140	28.62	10.81
	1725	23.68	9.22



PRODUCT INFORMATION

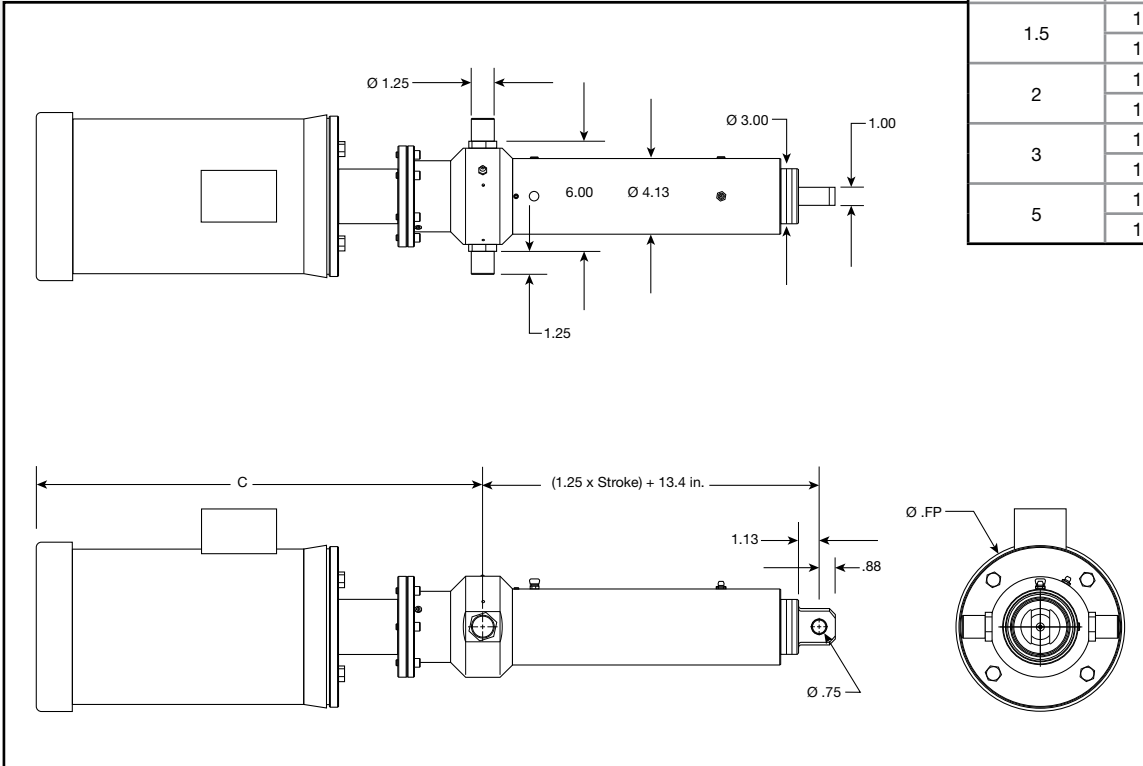
Model Number	Capacity (lbs)	Speed (in/sec)	Motor RPM	HP	Max Stroke (in)	Screw Life (million in)	Dia x Lead (in)
SCD02							
ND02-410	825	7.19	1725	1	24	7.5	1.00 x .25
ND02-610	1249	4.75	1140	1	30	2.1	1.00 x .25
ND02-415	1238	7.19	1725	1.5	24	2.2	1.00 x .25
ND02-615	1873	4.75	1140	1.5	30	0.6	1.00 x .25
ND02-420	1651	7.19	1725	2	24	0.9	1.00 x .25
ND02-620	2498	4.75	1140	2	30	0.3	1.00 x .25
ND02-430	2476	7.19	1725	3	24	0.3	1.00 x .25
ND02-630	3747	4.75	1140	3	30	0.1	1.00 x .25
SCD03							
ND03-410	500	11.87	1725	1	25	472.4	1.17 x .41
ND03-610	756	7.85	1140	1	31	136.7	1.17 x .41
ND03-415	749	11.87	1725	1.5	25	140.5	1.17 x .41
ND03-615	1134	7.85	1140	1.5	31	40.5	1.17 x .41
ND03-420	999	11.87	1725	2	25	59.2	1.17 x .41
ND03-620	1512	7.85	1140	2	31	17.1	1.17 x .41
ND03-430	1499	11.87	1725	3	25	17.5	1.17 x .41
ND03-630	2268	7.85	1140	3	31	5.1	1.17 x .41
ND03-450	2498	11.87	1725	5	25	3.8	1.17 x .41
ND03-650	3780	7.85	1140	5	31	1.1	1.17 x .41

SERIES

SCD06

3265 LB (14,523 N)

Motor HP	RPM	C	FP
1	1140	23.56	7.16
	1725	21.25	7.16
1.5	1140	24.56	7.16
	1725	22.68	7.16
2	1140	25.53	9.22
	1725	23.68	7.16
3	1140	28.53	9.22
	1725	24.00	9.22
5	1140	24.41	10.81
	1725	24.86	9.22



PRODUCT INFORMATION

Model Number	Capacity (lbs)	Speed (in/sec)	Motor RPM	HP	Max Stroke (in)	Screw Life (million in)	Dia x Lead (in)
ND06-410	435	13.63	1725	1	29	12331.9	1.50 x .47
ND06-610	659	9.00	1140	1	36	3546.8	1.50 x .47
ND06-415	653	13.63	1725	1.5	29	3645.5	1.50 x .47
ND06-615	988	9.00	1140	1.5	36	1052.5	1.50 x .47
ND06-420	871	13.63	1725	2	29	1536.2	1.50 x .47
ND06-620	1317	9.00	1140	2	36	444.4	1.50 x .47
ND06-430	1306	13.63	1725	3	29	455.7	1.50 x .47
ND06-630	1976	9.00	1140	3	36	131.6	1.50 x .47
ND06-450	2177	13.63	1725	5	29	98.4	1.50 x .47
ND06-650	3293	9.00	1140	5	36	28.4	1.50 x .47
ND06-475	3265	13.63	1725	7.5	29	29.2	1.50 x .47

NOTE

- Catalog pages provide performance specifications for standard NEMA brake motors. Models with IEC or Servo adapter flanges and motors can be provided.
- Should your application require performance criteria outside of our standard model performances, please see page 67 for the relevant performance/design formulas.

SERIES

SCD

Design Formulae

Customized Performance Considerations

There are many factors to be considered when designing applications for direct drive models. Please review the following formulas carefully, and feel free to contact our customer service department with questions.

Screw Specifications:

Dia x Lead (in)	D _{min}	L ₁₀ Rating	Max RPM
1.00 x 0.25	0.82	1612	3000
1.17 x .413	0.87	3894	2560
1.50 x .474	1.14	10,050	2000

Max RPM = maximum screw speed due to ball velocity limit.

L₁₀ rating = Load (lbs) to produce 10% failure rate after 1,000,000 inches of travel.

D_{min} = Screw minor dia.(in.)

Design Formulae:

$$\text{Speed (in/sec)} = \frac{\text{Screw Lead} \times \text{Motor RPM}}{60}$$

$$\text{Capacity (lbs)} = \frac{5.65 \times \text{Motor torque (in-lbs)}}{\text{Screw Lead}}$$

$$\text{Motor torque (in-lbs)} = \frac{\text{Horsepower} \times 63000}{\text{RPM}}$$

$$\text{Screw Life (million inches of travel)} = \left[\frac{\text{L}_{10} \text{ Rating}}{\text{Load}} \right]^3 \times \text{Screw Lead}$$

NOTE

- Critical Speed: High speed rotating shafts are subject to destructive vibrations. To prevent instability, the speed and length must be held within limits per the following equation:

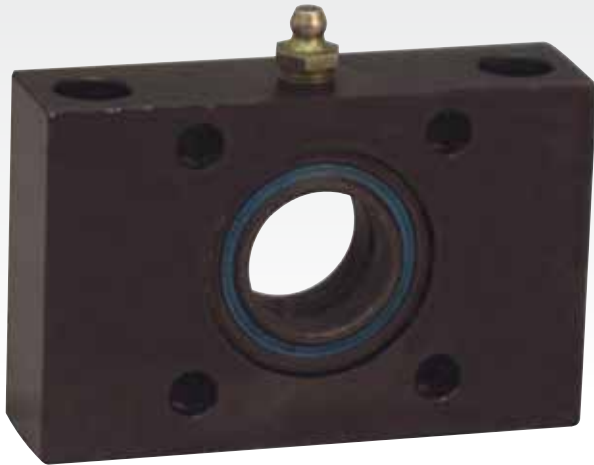
$$\text{RPM}_{\text{max}} = 1.37 \times 10^6 \times \frac{D_{\text{min}}}{L^2} \quad \text{where } L = \text{Actuator stroke (inches)}$$

- This equation for critical RPM includes a 0.80 factor of safety.

SUPERCYLINDER

MOUNTING COMPONENTS

TRUNNION BLOCKS



ANSI Standard through holes, and black oxide finish



ANSI Standard tapped holes, and dust seal

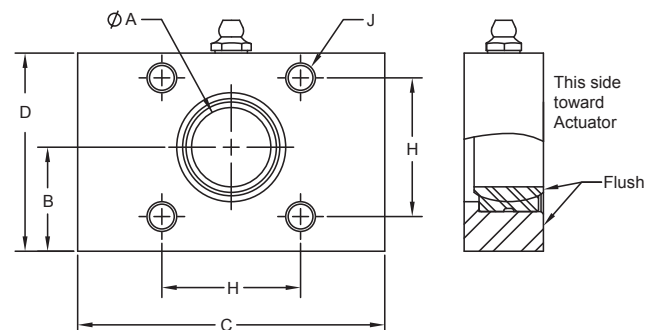
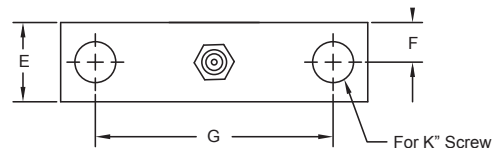
Duff-Norton SCN and SCD SuperCylinders are available with trunnion mounting only and are fitted with trunnion pins as standard. The trunnion pins are designed to fit standard dimension radial spherical plain bearings (Torrington type SF, or SKF type GEZ, for example). Duff-Norton offers Trunnion Blocks to facilitate the installation of SCN and SCD series SuperCylinders. These blocks are solid steel and house properly sized spherical plain bearings. The blocks are drilled for mounting either as a conventional pillow blocks or as a flange units. Heat-treated fasteners should be used for all attachments.

If Duff-Norton Trunnion Blocks are not chosen for the SuperCylinder's installation, we strongly recommended that the trunnion pins be supported by some type of self-aligning bearing, as perfect alignment of trunnion support bearings is difficult to achieve. Standard pillow blocks are not recommended, as their maximum static load rating is usually less than that of the SuperCylinder. In addition, most pillow blocks use gray cast iron frames, which are subject to fracture under heavy loads.

PRODUCT SPECIFICATIONS

Capacity	Part #	A	B	C	D	E	F	G	H	J	K
3 Ton	NZ03-510	1.00	1.31	3.87	2.50	1.00	0.50	3.00	1.75	3/8-16	1/2
6 Ton	NZ06-510	1.25	1.56	4.50	3.00	1.12	0.56	3.50	2.00	1/2-13	5/8
12 Ton	NZ12-510	1.75	2.06	5.50	4.00	1.50	0.75	4.25	2.75	5/8-11	3/4
25 Ton	NZ25-510	2.25	2.56	7.50	5.00	2.00	1.00	5.50	3.25	3/4-10	1-1/4

Measurements in inches



HOW TO ORDER:

SuperCylinder Series	Mounting Blocks (2 Required)
NZ03, NL03, NU03	Part No. NZ03-510
NZ06, NL06, NU06	Part No. NZ06-510
NZ12, NL12, NU12	Part No. NZ12-510
NZ25, NL25, NU25	Part No. NZ25-510

SUPERCYLINDER

FREQUENTLY ASKED QUESTIONS

Are there advantages to using Duff-Norton linear actuators over other linear motion solutions?

Duff-Norton electromechanical actuators offer many advantages over hydraulic cylinders when low maintenance, installation, operating costs and environmental impact are considerations. Our engineers are available to help you determine which actuator best suits your application and can offer a complete turnkey packaged solution for your motion requirements.

Can two or more Duff-Norton linear actuators be synchronized?

Tandem actuators can be used in certain applications. Small differences in motor speed may cause the actuators to get out of synchronization. Contact Duff-Norton application engineers to discuss your application.

What is the difference between static load and dynamic load?

Dynamic, working, or lifting load is the force that will be applied to the actuator while it is in motion. Static load, also called holding load, is the force that will be applied to the actuator when it is not in motion.

What is duty cycle and how is it calculated?

Duty Cycle relates to the operation of the electric motor powering the actuator. It is the maximum amount of time the motor may run expressed as a percentage of total time. A 25% duty cycle indicates that the motor may be run intermittently for 15 minutes every hour.

Are Duff-Norton limit switches pre-set?

Duff-Norton does not preset limit switches on its linear actuators. Limit switches allow you the flexibility to set the limits of travel on your actuator to fit your particular application. Easy to follow instructions are included in the installation manual, and you may phone the factory if further assistance is required. The customer is responsible for properly setting the limit switch in the unit. If the limit switches are not set, or are improperly set, the unit may be damaged during operation. In addition, limit switches may require resetting if the translating tube of your actuator is rotated manually, as this will change the limit switch setting.

What are side loading and eccentric loading, and why should they be avoided?

Side loading, or radial loading, is a force applied perpendicular to the actuator center line. Eccentric loading is any force whose center of gravity does not act through the longitudinal axis of the actuator. Both side loading and eccentric loading should always be avoided as they can cause binding and shorten the life of the actuator.

What are the “Do’s” and “Don’ts” of mounting Duff-Norton electromechanical actuators?

Duff-Norton linear actuators can be used in tension, compression, or combination applications. Eccentric and side loading should be avoided. Please consult the technical data sheets to ensure that all hardware used in conjunction with the actuator can withstand the maximum restraining torque.

What are the most common factors in the failure of a linear actuator?

Improper loading, failure to set limit switches, excessive duty and extreme environments may contribute to premature actuator failure.

Can Duff-Norton actuators perform complex tasks?

Yes. Complex positioning tasks can be managed through the use of position feedback devices and electronic controls.

Do Duff-Norton linear actuators require maintenance?

Maintenance is minimal but Duff-Norton recommends periodic lubrication to maintain optimal performance. The installation and maintenance guide will give you specific instructions for your model.

Does Duff-Norton make larger linear actuators?

Duff-Norton’s electric cylinders are rated for capacities up to 25 tons. Duff-Norton also offers a full line of mechanical actuators with capacities up to 250 tons, motorized actuators up to 75 tons. In addition, Duff-Norton also offers customized controls that may be used in conjunction with any actuation system.

How can I determine which Duff-Norton linear actuator is best suited for my application?

Technical information pertaining to each model is contained in individual technical data sheets (see enclosed literature request form.) Should you require any further assistance in selecting the proper actuator for your application, please call your local stocking distributor, or Duff-Norton’s application engineering department at (800) 477-5002.

SUPERCYLINDER

GLOSSARY

Axial Load	A load whose center of gravity runs through the axis of the actuator screw
Current Draw	Amount of current (amperes) required by a motor to move a load. It increases as the load increases
Cycle	A complete sequence of extension and retraction by the actuator
Double Lead Screw	A double lead screw has two separate threads that wrap around the outside diameter of the screw. The advantage of this type of screw is the lifting nut will travel twice the distance with each single turn of the screw
Duty Cycle	Percentage of time an actuator is in motion relative to total time. Example: If the total running time for an actuator is 20 seconds in every minute, the duty cycle is 33%
Extension/Retraction Rate	The speed at which an actuator extends and retracts.
Jog	To move the actuator in short increments
Limit Switch	A device used to limit the extension or retraction of an actuator to a pre-set position
Load	Material to be moved by the actuator
Overload Clutch	A built-in device that slips when the actuator reaches a predetermined load limit preventing damage to the unit
Peak Load	The maximum momentary load that an actuator can control
Pivot Mount	A clevis mount that allows the actuator to pivot while in operation
Potentiometer	A device that provides position feedback information from an actuator
Restraining Torque	The amount of torque exerted on the brackets during operation
Screw Pitch	The screw pitch is the distance from a point on a screw thread to the equivalent point on an adjacent thread
Side Load	A load exerted on the side of the actuator housing or translating tube. Side loading can shorten the life of an actuator. Also called radial load
Static Load	The maximum load an actuator can hold when not operating
Stroke Length	The total travel of the translating tube from retracted to fully extended
Tension Load	A load that pulls on the actuator along the axis of its screw
Translating Tube	The tube that extends in and out of the actuator
Wiper Seal	A seal between the actuator housing and the translating tube to keep contaminants out of the actuator. Also called a scraper seal

TERMS OF SALE

All sales by Seller are made pursuant to the following terms. No other or additional terms or conditions are or will be accepted.

ACCEPTANCE OF ORDERS -

All orders, whether placed directly or through an agent, and all subsequent amendments thereto, are subject to a final approval and acceptance by Seller's main office.

LIMITATION OF WARRANTIES, REMEDIES AND DAMAGES -

THE WARRANTY STATED BELOW IS GIVEN IN PLACE OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE. NO PROMISE OR AFFIRMATION OF FACT MADE BY ANY AGENT OR REPRESENTATIVE OF SELLER SHALL CONSTITUTE A WARRANTY BY SELLER OR GIVE RISE TO ANY LIABILITY OR OBLIGATION.

Seller warrants that on the date of its delivery to carrier the goods are free from defects in workmanship and materials.

SELLER'S SOLE OBLIGATION IN THE EVENT OF BREACH OF WARRANTY OR CONTRACT OR FOR NEGLIGENCE OR OTHERWISE WITH RESPECT TO GOODS SOLD SHALL BE EXCLUSIVELY LIMITED TO REPAIR OR REPLACEMENT, F.O.B. SELLER'S POINT OF SHIPMENT, OF ANY PARTS WHICH SELLER DETERMINES TO HAVE BEEN DEFECTIVE or if Seller determines that such repair or replacement is not feasible, to a refund of the purchase price upon return of the goods to Seller.

Any action against Seller for breach of warranty, negligence or otherwise must be commenced within one year after such cause of action accrues.

NO CLAIM AGAINST SELLER FOR ANY DEFECT IN THE GOODS SHALL BE VALID OR ENFORCEABLE UNLESS BUYER'S WRITTEN NOTICE THEREOF IS RECEIVED BY SELLER WITHIN ONE YEAR FROM THE DATE OF SHIPMENT.

Seller shall not be liable for any damage, injury or loss arising out of the use of the goods if, prior to such damage, injury or loss, such goods are (1) damaged or misused following Seller's delivery to carrier; (2) not maintained, inspected, or used in compliance with applicable law and Seller's written instructions and recommendations; or (3) installed, repaired, altered or modified without compliance with such law, instructions or recommendations.

UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES AS THOSE TERMS ARE DEFINED IN SECTION 2-715 OF THE UNIFORM COMMERCIAL CODE.

TERMS OF PAYMENT -

Unless otherwise stated herein, payment of each invoice is required within thirty (30) days after date of shipment. Any balance unpaid after the required payment date shall be subject to a service charge of 1% per month from such date.

PRICE ADJUSTMENTS -

Amendments made by the Buyer to orders already placed shall, without formal notice to the Buyer, be subject to extra charges. If the estimated shipping date for the goods is more than sixty (60) days after date of order, the price of the goods are subject to increase by Seller.

TAXES -

Any sales, use, excise, and other taxes applicable to this transaction and the goods and/or services furnished by Seller are not included in the price and shall be paid by Buyer when due. If Seller pays any such taxes, Buyer shall reimburse Seller upon demand.

INDEMNIFICATION AND SAFE OPERATION -

Buyer shall comply with and require its employees to comply with directions set forth in instructions and manuals furnished by Seller and shall use and require its employees to follow such instructions and manuals and to use reasonable care in the use and maintenance of the goods. Buyer shall not remove or permit anyone to remove any warning or instruction signs on the goods. In the event of personal injury or damage to property or business arising from the use of the goods, Buyer shall, within forty-eight (48) hours thereafter, give Seller written notice of such injury or damage. Buyer shall cooperate with Seller in investigating any such injury or damage and in the defense of any claims arising therefrom.

If Buyer fails to comply with this section or if any injury or damage is caused, in whole or in part, by Buyer's failure to comply with applicable federal or state safety requirements, Buyer shall indemnify and hold Seller harmless against any claims, loss or expense for injury or damage arising from the use of the goods.

GOVERNING LAW -

This agreement shall be governed by and construed under the laws of the State of New York.

DELIVERY AND DELAYS -

Unless otherwise specified herein, deliveries shall be F.O.B. Seller's point of shipment and risk of loss shall pass to Buyer upon Seller's delivery to carrier. All shipping dates are approximate and Seller shall not be liable for loss or damage because of delays occasioned by labor disputes, damage to facilities, or failure of suppliers or subcontractors to meet scheduled deliveries or any other cause beyond Seller's reasonable control or making its performance commercially impracticable.

Notwithstanding other provisions hereof, if shipment is delayed at Buyer's request, the goods shall be deemed to be stored at Buyer's risk and expense and Seller may thereupon bill Buyer for the full price and storage costs. Buyer shall pay such bill within 30 days after mailing thereof.

BUYER'S INSPECTION UPON RECEIPT OF SHIPMENT -

Buyer shall inspect the goods as soon as received. If any loss or damage is discovered, Buyer must notify both the carrier and Seller at once. Seller will cooperate with Buyer in filing claims with the carrier.

CHANGES AND CANCELLATION -

Seller reserves the right to change or cancel any order whenever circumstances require allocation of production or delivery or Seller deems change or cancellation to be necessary to comply with applicable laws, ordinances, regulations, directives or administrative actions. Seller reserves the right to make changes in materials or design which it determines appropriate for the goods.

SECURITY INTEREST AND REPOSSESSION -

Until full payment has been made therefor, Seller shall have a security interest in goods shipped to Buyer and the goods shall remain personal property. Upon request Buyer shall execute and deliver to Seller security agreements and financing statements further evidencing Seller's security interest. Buyer authorizes Seller to file a financing statement or statements relating to the goods, without Buyer's signature thereon, as Seller may deem appropriate and appoints Seller as Buyer's attorney-in-fact for the limited purpose of executing (without requiring Seller to do so) financing statements in Buyer's name and performing other acts which Seller deems appropriate to perfect and continue its security interest and to protect and preserve the goods.

In the event Buyer defaults in making any payment due Seller, Seller in addition to any other rights or remedies provided by law, shall have the right, with or without legal process, to enter the place where said goods are located and to repossess the goods in accordance with the Uniform Commercial Code.

ASSURANCES -

Shipment by Seller shall at all times be subject to the prior approval of its credit personnel and Seller may, at any time, decline to make shipment except upon receipt of prior payment or upon other terms and conditions or security satisfactory to such personnel.

PATENTS -

Except as to goods manufactured according to design supplied by Buyer, Seller will defend and hold Buyer free and harmless in a suit or proceeding brought against Buyer insofar as it is based on a claim that use of the goods by Buyer constitutes an infringement of any existing U.S. Patents, provided, however, that Buyer gives Seller prompt written notice of such suit or proceeding; permits Seller, through its counsel, to defend and/or settle the same; and gives Seller all necessary information, assistance and authority to enable Seller so to do. If Buyer's use of the goods is held to constitute infringement and further use is enjoined, Seller shall, at its option, either (i) procure for Buyer the right to continue using the goods; or (ii) replace the goods with non-infringing goods; or (iii) modify the goods to non-infringing goods. The foregoing states Seller's entire liability for patent infringement and shall not be construed to render Seller liable for damages based on product output.

MISCELLANEOUS -

This instrument constitutes the entire agreement between Seller and Buyer, superseding all previous understandings and writings regarding this transaction. Any amendment or modification of this Agreement shall be void unless in writing and signed by Seller.

No delay or omission by Seller in exercising any right or remedy hereunder shall be a waiver thereof or of any other right or remedy, and no single or partial exercise thereof shall preclude any other or further exercise thereof or the exercise of any other right or remedy. All rights and remedies of Seller are cumulative.

Sales made pursuant to this Agreement shall be governed by the Uniform Commercial Code as the same may from time to time be construed and in effect in the state wherein Seller has its main office.

ARBITRATION -

All disputes that may arise between the parties regarding the interpretation of the contract and the legal effect of the contract shall, to the exclusion of any court of law, be arbitrated and determined in accordance with the latest Commercial Arbitration Rules of the American Arbitration Association. The arbitration proceeding shall be held in the city in that state where the principal office of the Seller is located. The parties recognize and consent to the above mentioned arbitration association's jurisdiction over each and every one of them.

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