

N2 Series electric cylinders are available with four motor types to meet a variety of application requirements. The N2-D family features a cost effective 24 VDC motor. When combined with D Series controls, the complete system provides simple extend-retract motion, positioning to pre-determined stopping locations, or positioning to an analog voltage command; all at the lowest installed cost.

Operating with a powerful 160 VDC motor, the N2-H family of cylinders are ideally suited for high load and duty cycle applications. Controls provide simple limit switch positioning and edge guiding, or positioning to an analog voltage command.

The N2-S/P family is a step motor based linear actuator. These systems are selected for applications that require high load and duty cycle, in-position holding, open loop

operation, repeatable positioning to 0.0005 inches [0.013 mm] and maintenance-free operation.

Industrial Devices' N2-B Series Electric Cylinders offer very high acceleration and duty cycle for the most demanding automated motion applications. The B8000 Servo Drives are designed to optimize the performance of the brushless servo motor.

All N2 Series Cylinders are available with several time-proven options to enhance operation in the industrial environment. Options include holding brakes, linear potentiometers or encoders for position feedback, dual rod-end bearings to increase side load and more. See the end of this section for more information.

		N2-D Series	N2-H Series		N2-S/P Series	N2-B Series
Motor Type		24 VDC Permanent Magnet	160 VDC Permanent Magnet Servo		1.8° Hybrid Stepper	Rare Earth Magnet Brushless Servo
Performance Curves		Page A-160	Page A-166		Page A-172	Page A-182
Load Capacity	lbs [N]	600 [2,670]	600 [2,670]		600 [2,670]	600 [2,670]
No Load Speed	in/s [mm/s]	24 [610]	25 [635]		25 [635]	30 [760]
Repeatability	in [mm]	±0.005 [.127]	± 0.005 [.127]		± 0.0005 [.0127]	± 0.001 [.025]
Compatible Controls Offered		D2200 D2300 D2400 D2500	H3301B H3321B H3501	B8001 B8961 B8962	<i>NextStep</i> <i>SmartStep</i> S6002 S6961 S6962	B8001 B8501 B8961 B8962



General Specifications

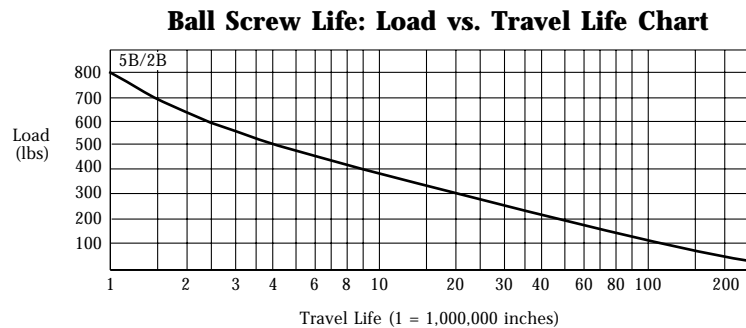
System Backlash	0.015 inches [0.38 mm]
Thrust Tube	
Side Load Moment	Consult factory.
Rotation	Does not rotate.
Standard Travel Lengths	2, 4, 6, 8, 10, 12, and 16.5 (18-DB); custom stroke lengths available

Construction Materials

Bearing Housings	Type 380 die cast aluminum, epoxy coated
Cylinder Housing	6063 T-6 aluminum, hard-coated anodized and Teflon impregnated
Thrust Tube	300 Series stainless steel, 1/8 hard, ground
Wiper Seal	Polyurethane
Lead Screw	
Pitch Choices	2, 5 Ball; 5, 8 Acme
Support Bearings	Ball bearings
Acme Screw; drive nut	0.625 inch diameter, carbon steel screw; lubricated polyacetal plastic (N2-D, N2-P) or bronze (N2-H, N2-S, N2-B) nut
Ball Screw; drive nut	0.625 inch diameter, carbon steel screw; alloy steel, heat-treated ball nut

Life

Acme Screw Life: Usable life for an acme screw is defined as the length of travel completed before backlash (of leadscrew/nut) exceeds 0.020 inches [0.5 mm]. A travel life of 1 million inches under the maximum rated load can be used as a general approximation, however, since wear is directly dependent on application conditions (load, duty cycle, move profiles and environment) it is difficult to quantify an accurate travel life.



Weight (Approximate, 2 inch stroke unit without options. Add 0.25 lbs [0.11kg] per additional inch of stroke.)

N2-D Series	7 lbs [3.2 kg]
N2-H Series	9 lbs [4.1 kg]
N2-S/P Series	
N2-P22	6 lbs [2.7 kg]
N2-S32	9 lbs [4.1 kg]
N2-B Series	6 lbs [2.7 kg]

Motor

Specifications/Dimensions See pages A-194 to A-198

Environmental Operation (See the Options and Accessories section, page A-231.)

Temperature Range	32° to 140°F, [0° to 60°C] -H high temperature option allows 32° to 160°F [0° to 70°C] -F sub-freezing temperature option allows -20° to 105°F [-29° to 40°C]
Moisture	Humid, but not direct moisture contact -W water resistant option allows some direct moisture contact
Contaminants	Non-corrosive, non-abrasive -PB protective boot option prevents moisture and dry contaminants from entering the cylinder through the wiper ring on the rod