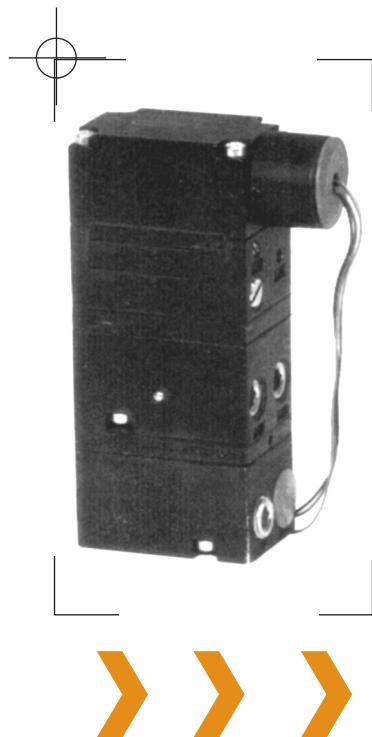


ELECTRO-PNEUMATIC CONVERTERS

Converts an electric current input signal into a pneumatic signal.



EN 50 & EN 40
Dimensions
page 305



EN 50 Electro-Pneumatic Converter

The EN 50 is designed to accept a low power 4-20 mA or 0-10 volt signal, and to convert this signal into a proportional pneumatic pressure.

Standard Features

- High pneumatic pressure output
- Excellent linearity and response
- Temperature compensated
- Compact size
- Simple Installation and Maintenance
- Flexible mounting options
- Field reversible for reverse output operation
- Optional volume booster available for even more flow capacity
- CE marked

Function

The electro-pneumatic converter, Model EN 50, converts a current or voltage signal into a proportional pneumatic output. The typical application is controlling a pneumatic clutch or brake from an electronic controller. Nexen tension controllers, either the open loop or closed loop types, require the EN 50 as an interface to control a pneumatic clutch or brake.

Filtering

Instrument quality air, per ISA Standards D7.3-1981, is required. Use a filter to remove dirt and liquid from the air line ahead of the transducer if necessary. If an air line lubricator is used, it must be located downstream, beyond the transducer.

Product Number	Description
912142	See page 305

Available in three output ranges

The EN 50 Electro-pneumatic transducer is available in 3 output ranges to match your requirements.

Model	Product Number	Signal Input	Air Output
EN 50-15	964229	4-20 mA	0-15 psig (0-100 kPa)
EN 50-60	964230	4-20 mA	0-60 psig (0-420 kPa)
EN 50-85	964231	4-20 mA	0-85 psig (0-595 kPa)
EN 50-85V	964232	0-10 volts	0-85 psig (0-595 kPa)



Air Volume Booster

For those rare applications where long air lines require extra air volume, a volume booster is available. Order part number 964228.

Specifications

FUNCTIONAL

SPECIFICATIONS

EN 50-15

EN 50-60

EN 50-85

EN 50-85V

Output Range	0-15 psig (0-100 kPa)	0-60 psig (0-420 kPa)	0-85 psig (0-595 kPa)	0-85 psig (0-595 kPa)
Supply Pressure	20-150 psig (140-1050 kPa)	65-150 psig (455-1050 kPa)	90-150 psig (630-1050 kPa) ^①	90-150 psig (630-1050 kPa)
Effects on Output	.5 psig (4 kPa) @ 25 psig (175 kPa)	1.0 psig (7 kPa) @ 25 psig (175 kPa)	1.5 psig (10.5 kPa) @ 25 psig (175 kPa)	1.5 psig (10.5 kPa) @ 25 psig (175 kPa)
Minimum Span	12.5 (84)	25 (175)	50 (350)	50 (350)
Air Consumption (SCFM)	12.0 (0.34m ³ /Hr)	13.0 (0.36m ³ /Hr)	6.0 (0.48m ³ /Hr)	6.0 (0.48m ³ /Hr)
Flow Rate (SCFM)	11 SCFM (3.19 m ³ /Hr) @ 150 psig (1050 kPa) and 9 psig (63 kPa) output			
Impedance/Input Signal	250 Ohms	256 Ohms	270 Ohms	893 Ohms

^① If the supply pressure is less than the lower pressure, The maximum output pressure is reduced proportionally.

PERFORMANCE

SPECIFICATIONS

EN 50-15

EN 50-60

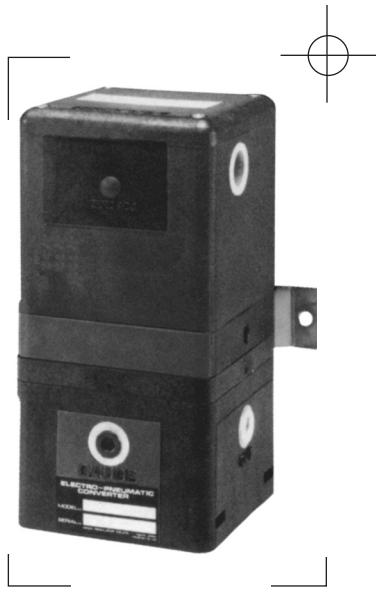
EN 50-85

EN 50-85V

Impedance/Input Signal (%FS)	±0.75	±1.0	±1.0	±1.0
Hysteresis and Repeatability	<1.0% FS @ 35 psig supply	<1.0% FS @ 65 psig supply	<1.0% FS @ 125 psig supply	<1.0% FS @ 125 psig supply
Temperature Range	-20° F to +150° F (-30° C to +65° C)			
Materials of Construction	Body and Housing: Aluminum, Orifice: Sapphire, Trim: Stainless Steel, Brass, and Zinc Plated Steel			

ELECTRO-PNEUMATIC CONVERTERS

Converts an electric current input signal into a pneumatic signal.



EN 40 Electro-Pneumatic Converter

The EN 40 is designed to input a DC signal in the ranges of 4-20 mA or 10-50 mA, and to convert this signal into a proportional pneumatic pressure.

Standard Features

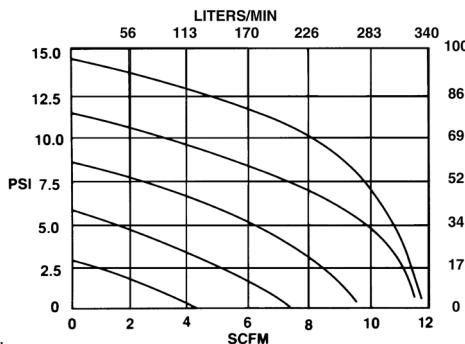
- High pneumatic pressure output
- Excellent linearity and response
- Compact size
- Simple installation and maintenance
- External zero adjustment
- Can be mounted at angles of up to 15°
- Temperature compensated
- Volume booster incorporated
- Can be applied to manifold circuits

Function

The electro-pneumatic converter, Model EN 40, converts a current signal into a proportional pneumatic output. It also incorporates a volume booster to assure the flow rate and pneumatic pressure required by pneumatic equipment for industrial use.

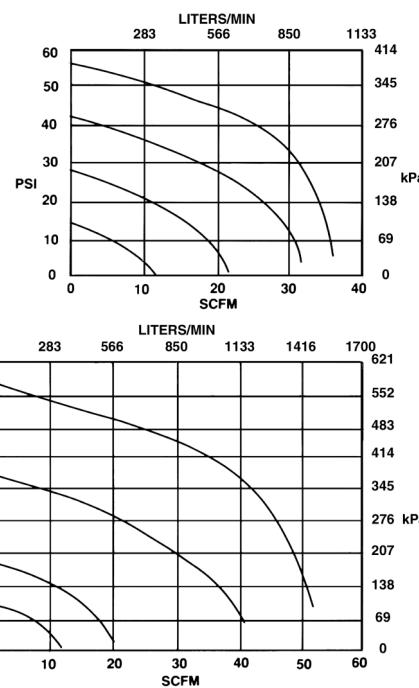
Flow vs. Pressure

EN 40-1D @ 20 psi input-138 kPa



Flow vs. Pressure

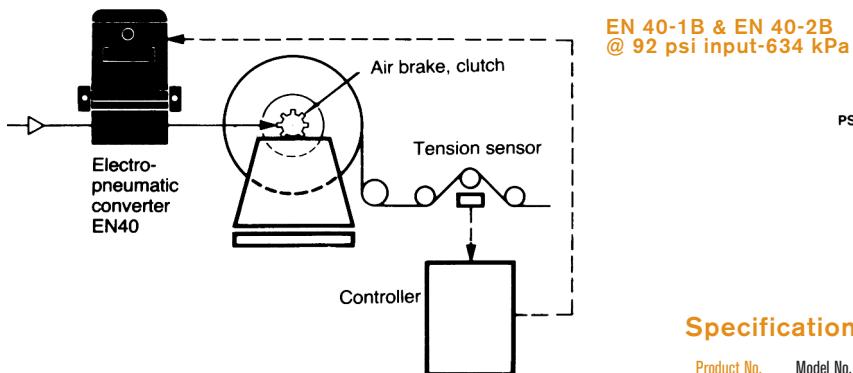
EN 40-1A @ 70 psi input-483 kPa



Applications

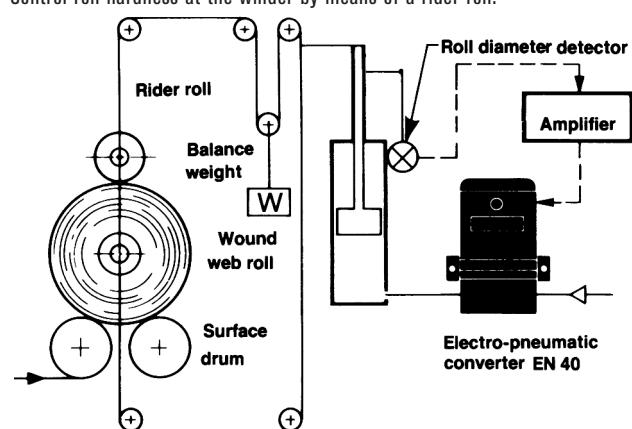
Tension Control

Model EN 40 is employed in web tension control systems using an air brake or clutch.



Rider Roll Control

Control roll hardness at the winder by means of a rider roll.



Specifications EN 40

Product No.	Model No.	Current Input	Air Output	Air Input Maximum	Air Consumption
912001	EN 40-1D	4-20 mA	0-15 psi	20 psi	.18 SCFM @20 psi
			10-100 kPa	138 kPa	5 kPa
912004	EN 40-2B	10-50 mA	0-85 psi	100 psi	.42 SCFM @85 psi
			0-595 kPa	690 kPa	12 kPa
912028	EN 40-1B	4-20 mA	0-85 psi	100 psi	.42 SCFM @85 psi
			0-595 kPa	690 kPa	12 kPa
912035	EN 40-1A	4-20 mA	0-57 psi	70 psi	.32 SCFM @57 psi
			0-343 kPa	483 kPa	9 kPa

Load Resistance 450 Linearity ±1% Weight 4.4 lbs

Filtration

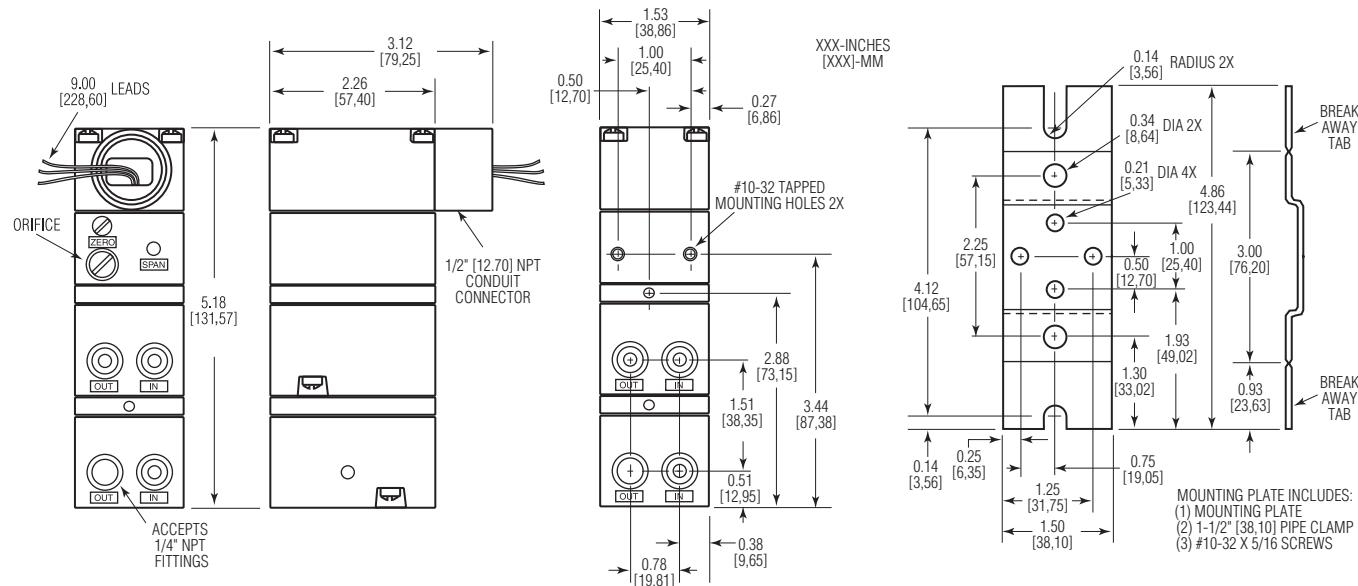
This converter must be used with an air supply filtered to 0.10 micron. We recommend Nexen filters.

Product Number	Description
912142	3 micron prefilter and .1 micron final filter

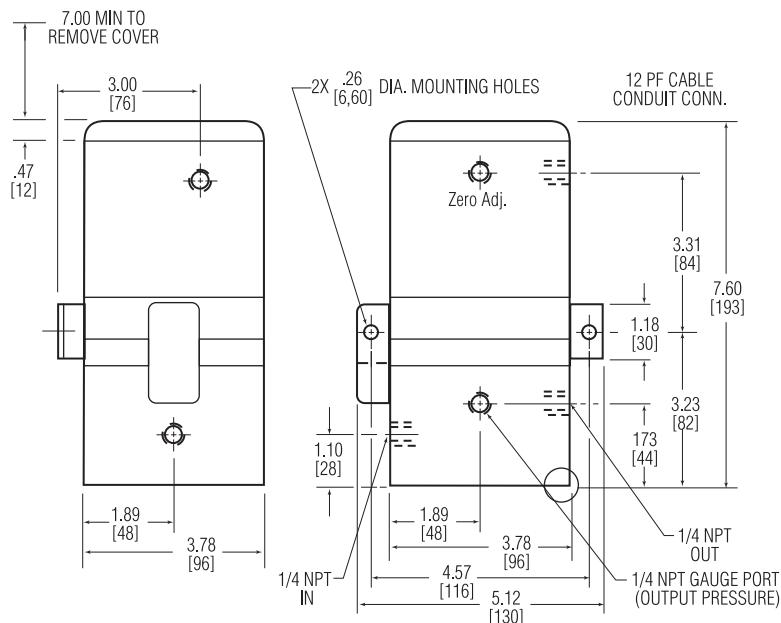
ELECTRO-PNEUMATIC CONVERTERS

Converts an electric current input signal into a pneumatic signal.

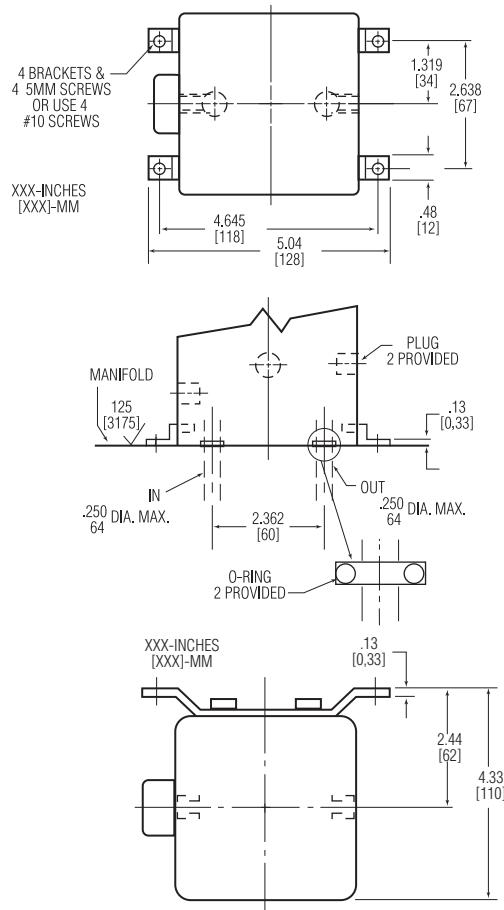
Dimensions EN 50



Dimensions EN 40



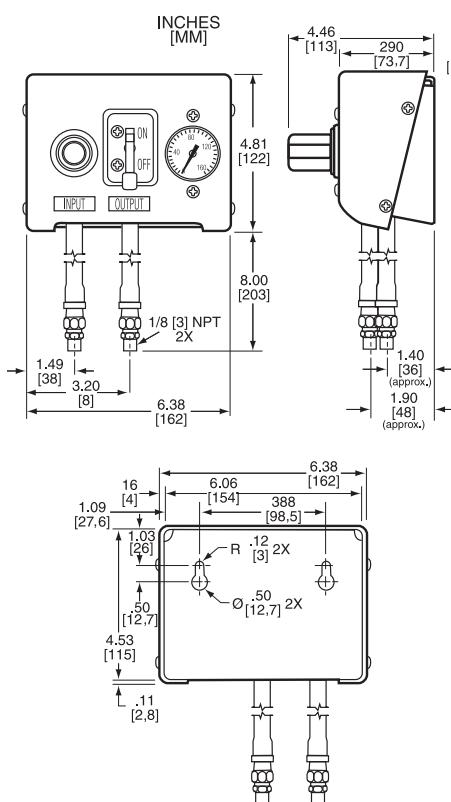
Base Mounting Dimensions



AUXILIARY PNEUMATIC CONTROLS

Single Stage Caliper Control

This simple, easy-to-use control is ideal as a manual brake control. Simply connect inlet and outlet lines and set the regulator to desired starting air pressure. Turn the regulator down as roll diameter decreases to maintain constant tension. Turn the toggle valve on or off to allow airflow to the brake calipers.

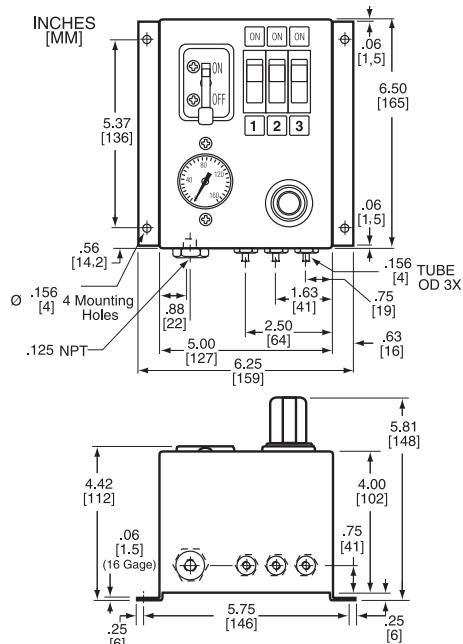


Regulation of air pressure to control brake calipers

- Wall mount
- 5-125 psi (34-862 kPa) range gauge
- 3/32" (4mm) internal flow passages
- 1500 SCFM (42,475 liter/min) flow rate at 100 psi (690 kPa)
- 300 psi (2068 kPa) maximum inlet pressure
- 180° F (82° C) maximum operating temperature
- 1/8 NPT air inlet connection (1)
- On/Off toggle valve control
- Perfect as a manual backup to an automatic tension control system

3-Stage Caliper Control

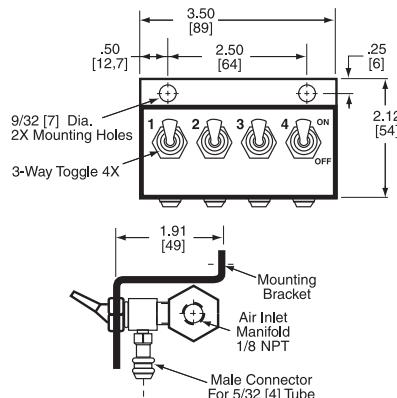
Use this control to direct regulated air pressure to three separate sets of caliper connections. Like the single caliper model, this control has an adjustable regulator, but 3 rocker valves allow you to individually control 3 set of calipers. The sets can be configured as you see fit. You control caliper sets as a single, as a pair, or as a series. This gives you up to 8 different control configurations. This flexibility means you can control lines running delicate tissue or heavy stock without worrying about variations in brake control.



- Wall mount
- 5-125 psi (34-862 kPa) range gauge
- 3/32" (2.38 mm) internal flow passages
- 1500 SCFM (42,475 liter/min) flow rate at 100 psi (690 kPa)
- 300 psi (2068 kPa) maximum inlet pressure
- 180° F (82° C) maximum operating temperature
- 5/32" (4 mm) push-insert output connections (3)
- On/Off toggle valve and 3 rocker control valves
- 8 possible configurations
- Perfect as a manual backup to an automatic tension control system

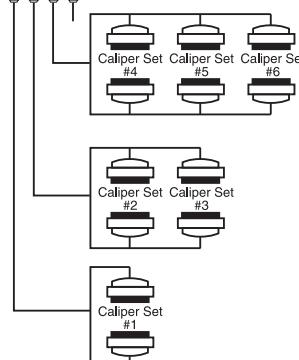
Four Stage Caliper Manifold

This manifold gives you 16 combinations of on/off caliper control. Run pressure-regulated air to the manifold and use the on/off valves to select the correct combination of calipers.



- Mounts directly to guard or wall
- 3/32" (2.38 mm) internal flow passages
- 1500 SCFM (42,475 liter/min) flow rate at 100 psi (690 kPa)
- 300 psi (2068 kPa) maximum inlet pressure
- 180° F (82° C) maximum operating temperature
- 1/8 NPT air inlet connection (1)
- 5/32" (4 mm) push-insert output connections (4)
- 4 on/off toggle valves
- 16 possible configurations (on/off only)

Typical Multi- Stage Air Line Connection



Ordering Information

Model	Product Number	Shipping Wt. Lbs.[kg]
Single Stage Caliper Control	854000	2.5 [1,1]
3-Stage Caliper Control	835120	5.7 [2,6]
Four Stage Caliper Manifold	835134	1.0 [0,45]