

numatics®

Precision Regulators



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1. Economy Miniature Electro-Pneumatic Transducer – R84 Series

- I/P and E/P Versions
- Magnet Coil Technology

2. High Flow Precision Regulator – R88 Series

- R880 High Flow Regulator
- R881 Back Pressure Precision Regulator

3. Ratio Relay Volume Booster – R87 Series

- Precision Air Pilot Regulator
- 1:1 and 1:6 Ratios Available

4. Instrument Air Regulator – R89 Series

- Precision Regulator
- Integral 5 Micron Filter – Manual Drain

5. Electro-Pneumatic Transducer – R83 Series

- I/P and E/P Versions
- Magnet Coil Technology

6. Precision Regulator – R80 Series

- R800 Standard Series
- R820 High Relief Series

7. Miniature Electro-Pneumatic Transducer – R85 Series

- I/P and E/P Versions
- Piezo Electric Technology

I/P, E/P R85 Series

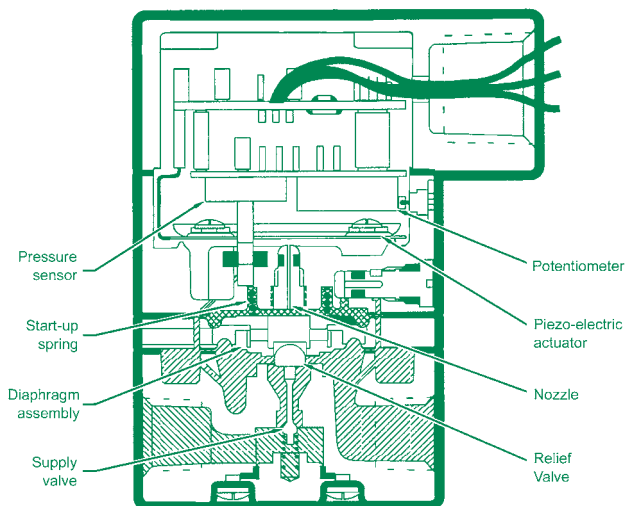
Application

The R85 Series I/P, E/P transducers are a series of compact electronic pressure regulators that convert an electrical signal (current or voltage) to a proportional pneumatic output. Utilizing internal solid-state feedback circuitry, the R85 provides precise, stable pressure outputs to final control elements. Immunity to the effects of vibration or mounting position, high tolerance to impure air, and low air consumption make this unit ideal for use in demanding applications.

The heart of this unique technology is a bimorph piezo actuator that is encapsulated in a protective skin. This protective skin provides defense against the humidity and contaminant often found in process operating environments.

Features

- Reliable in harsh environments
- Low air consumption - 3 SCFH typical
- High accuracy - +/-0.10% of span
- NEMA-4X (IP65) enclosure
- Vibration/position insensitive
- Compact size
- Wall, panel (included), pipe (included), or DIN rail mounting
- Supply pressures up to 100 PSIG
- Built-in volume booster - 10 SCFM flow
- Input/output ports on front and back
- Conduit fitting or DIN connector
- Split range operation
- Field reversible
- CE Approved



Specifications

	Miniature Electropneumatic Transducer I/P, E/P R85 Series	
Port sizes	Pneumatic: 1/4 Electric: 1/2 NPT	
Media	Clean, dry, oil-free, air filtered to 0.3 micron	
Mounting	Wall, Panel (included), 2" pipe (included), or DIN rail (optional)	
Materials	Housing: Chromate treated aluminum with baked paint. NEMA-4X (IP65) Elastomers: Buna-N Trim: Stainless steel, brass, zinc plated steel	
Weight:	13.0 oz (0.4 kg)	
Inputs	4-20mA	0-10 VDC 0-5 VDC
Outputs	3-15 PSIG 3-27 PSIG 2-60 PSIG 2-100 PSIG	0.21-1.03 BAR 0.21-1.86 BAR 0.14-4.14 BAR 0.14-6.89 BAR
Air Consumption	1.5 SCFH 0.04 m3/hr at mid range typical	
Supply pressure:	100 PSIG (7.0 BAR) maximum Note: Supply pressure must be at a minimum of 5 PSIG above maximum output	
Flow Capacity at mid range	4.5 SCFM (7.6 m3/hr) at 25 PSIG (1.7 BAR) supply 12 SCFM (20 m3/hr) at 100 PSIG (7 BAR) supply	
Relief Capacity	2.0 SCFM (3.4 m3/hr) at 5 PSIG (35 kPa) above set point	
Temperature limits	Operating: -40° F to +160° F (-40° C to +71° C) Storage: -40° F to +200° F (-40° C to +93° C)	
Loop load, I/P Transducer	7.5 VDC @ 20mA	
Supply Voltage, E/P Transducer	7-30 VDC, less than 3mA	
Signal impedance	7-30 VDC, less than 3mA	

Notes:

Electrical Connections – For both I/P and E/P models, the 1/2" conduit electrical connections are made to the red (+) and black (-) leads. The green lead is used for case ground. For both I/P and E/P models, the 43650 DIN electrical connections are made to terminal 1 (+) and terminal 2 (-). Terminal 3 is not used. Ground is for case ground.

Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.

How To Order

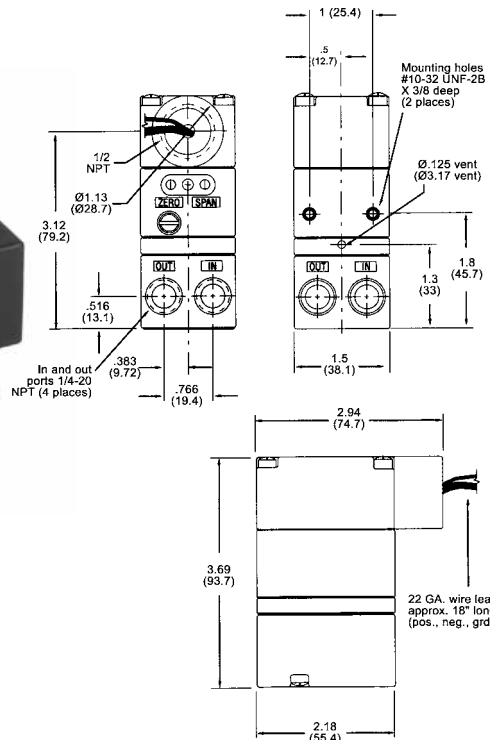
R 85 1 - 02 E A G

Model	R = Regulator	Options	G = Gauge R = DIN Rail Mount
Series	85 = I/P, E/P Miniature Transducer with Pressure Feedback Control	Electrical Connection	A = 1/2 NPT Conduit w/ Pigtail F = DIN 43650 Connector
Input Signal	1 = 4-20 Ma 2 = 0-5 VDC 3 = 0-10 VDC	Output Range	B = 3-15 PSIG C = 3-27 PSIG E = 2-60 PSIG F = 2-100 PSIG
Threads	- = NPTF G = G Tap (BSPF)	Port Size	02 = 1/4

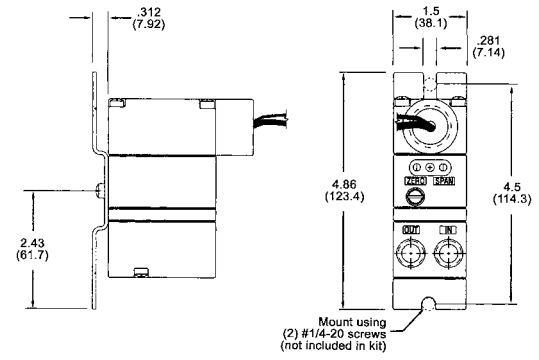
Dimensions: Inches (mm)



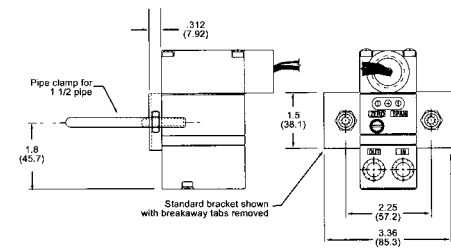
R851-02BF pictured



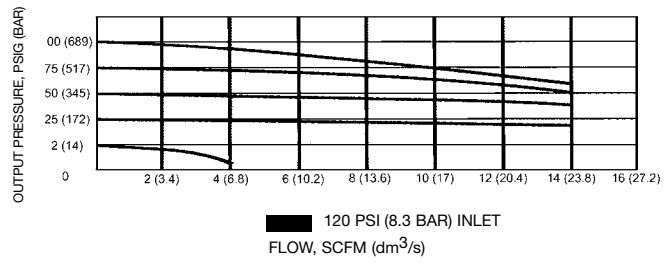
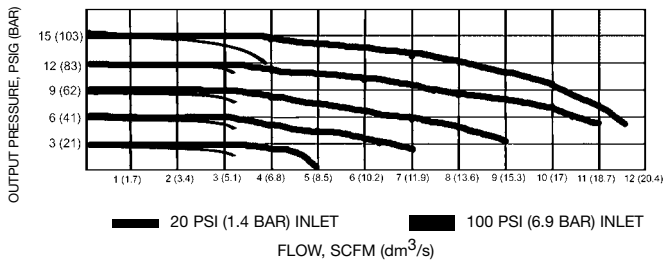
Panel Mounting (included with standard unit)



Pipe Mounting (included with standard unit)



Flow Ratings



Precision Regulators

Precision Regulator Repair Kits	
Kit #	Description
RKR800D	for 2-40 pressure range models
RKR800E	for 2-60 pressure range models
RKR800F	for 2-120 pressure range models
RKR820F	for 2-120 pressure range models

Replacement Adjustment Knob Kits	
Kit #	Description
RP8002	for R800 and R820 models

Electropneumatic Transducers

Electropneumatic Transducer Repair Kits	
Kit #	Description
RKR831BC	for 3-15 and 3-27 pressure range models
RKR831EF	for 2-60 and 3-120 pressure range models

High Flow Precision Regulators

Regulator Repair Kits	
Kit #	Description
RKR880A	for 0-2 pressure range models
RKR880B	for 0-15 pressure range models
RKR880C	for 0-30 pressure range models
RKR880E	for 1-60 pressure range models
RKR880F	for 2-150 pressure range models
RKR881	for back pressure regulator

Replacement Adjustment Knob Kits	
Kit #	Description
RP81	for R880 models

Mounting Brackets

High Flow Precision Regulator	
Kit #	Description
PK80	80 & 82 Series Bracket
PK88	87 & 82 Series Bracket
PK89	89 Series Bracket

Instrument Air Regulators

Instrument Air Regulator Repair Kits	
Kit #	Description
RKR89	for all models



World Class Supplier of Pneumatic Components



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