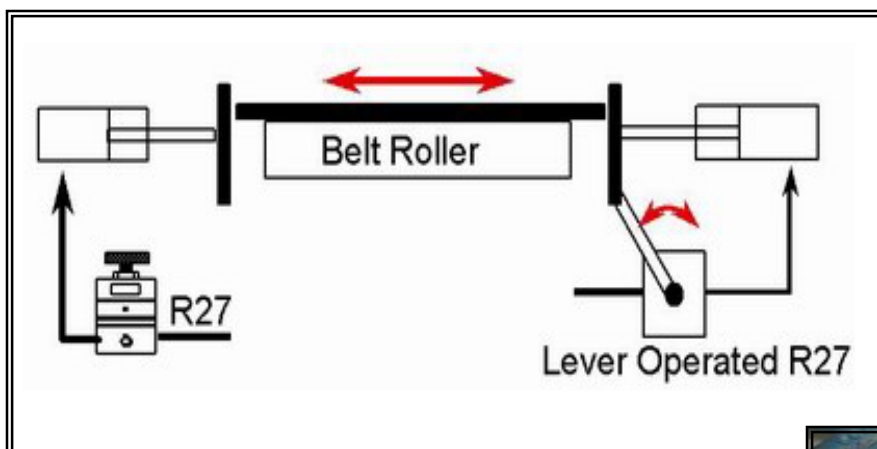


The Manostat precision pressure regulator series are designed for critical pressure control applications and have demonstrated outstanding reliability and durability in many thousands of applications worldwide. The base unit has been developed to be operated by various mechanisms making it ideal for many different applications. It is also suitable for dead-end (closed load) conditions.

Versions include; plunger, lever operated and volume boosting air relay.

- Reliable, durable
- Precise regulation
- Excellent setting sensitivity
- High relief
- Versatile design for varied applications

TYPICAL APPLICATIONS

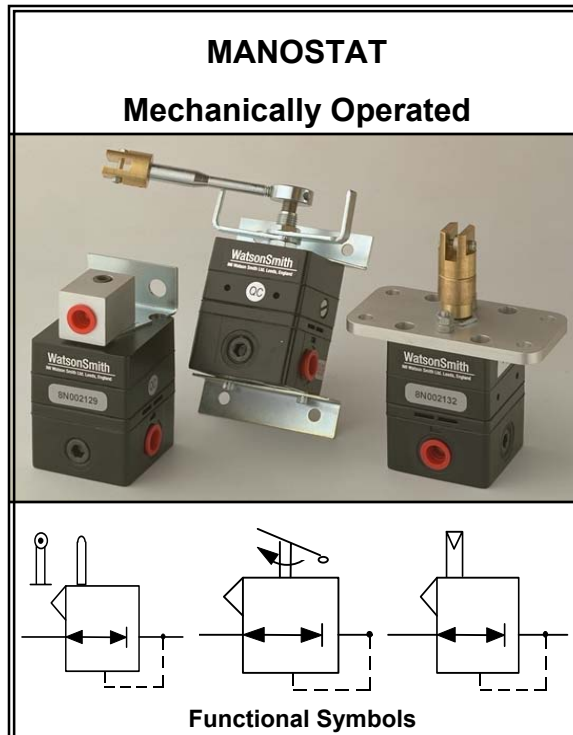


Solution:

The Manostat controls the position of a Conveyor belt.

The combination of a handwheel and a lever controlled unit compensate for any lateral deviation of the belt.

As the belt slips to the right the lever operated Manostat increases the cylinder pressure which forces the belt back to its central position.



Industry:

Textiles, Railway, Laboratory Equipment, paper processing. Open Loop Regulator Designed for applications where standard regulators are not sufficient



TECHNICAL DATA

Pneumatic

- Output Signal See ordering information.
Minimum outlet pressure 0.1-0.14bar (1.5-2psig). Pressure range can be limited by resetting the locknuts provided
- Air Supply Oil free, dry air or other dry gases, filtered to better than 25 microns; at least 0.2bar (3psig) above output pressure to a maximum of 10bar (150psig, 1000kPa)
- Flow Capacity Up to 300NI/min (10scfm).
- Air Consumption See ordering information
- Response Time less than 0.2 seconds for 50% load change
- Regulation % output change for 1bar/15psi supply pressure Accuracy change at mid-range output: see ordering information
- Sensitivity Better than 0.3mbar (0.005psi)
- Hysteresis and Repeatability Typically less than 0.05% setting at mid-range
- Temperature Effect Typically better than $\pm 1\%$ change of full span between -20°C and $+70^{\circ}\text{C}$
- Connections $1/4"$ NPT female standard (plus two integral $1/4"$ NPT gauge ports); others available on request

Physical

- Operating Temperature -20°C to $+70^{\circ}\text{C}$
- I.P. Rating IP65
- Material of Construction Zinc diecasting passivated and epoxy painted, Beryllium copper capsule; Nitrile diaphragms

Model Types

Plunger Operated:

- Dome fitting Direct linear movement in line with the manostat capsule axis changes the regulated pressure
- Clevis fitting Sinusoidal motions to vary the regulated pressure

Plunger force: The force required to operate these instruments will be dependent on pressure range and adjustment and can be expected to be between 4 and 30N.

Pre-travel on all instruments allows continuous contact with the operating cam outside of range.
Nominal Range Travel (10% manufacturing tolerance); See ordering information

Lever Operated:

Lever mechanism allows the manostat to operate as a pneumatic position converter. An angular movement of $125^{\circ} \pm 10\%$ gives a full range adjustment of regulated pressure, e.g. 3-15psig.

Torque load required to move lever is 13.75 Nmm (0.125 lb.in)

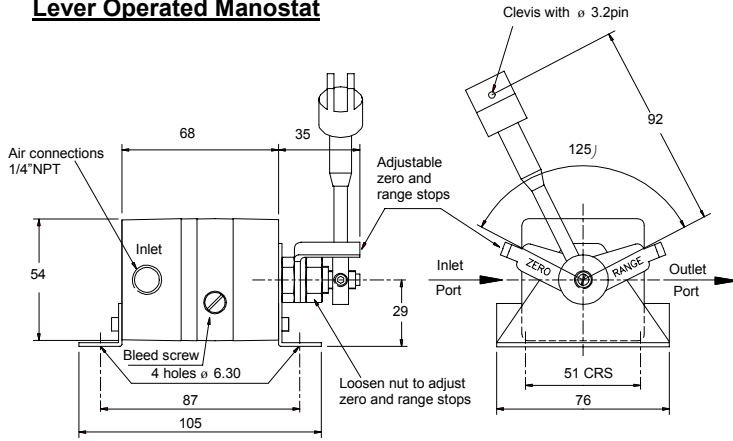
Volume Boosting Air Relay:

Remote control of regulated pressures possible with minimal air usage;

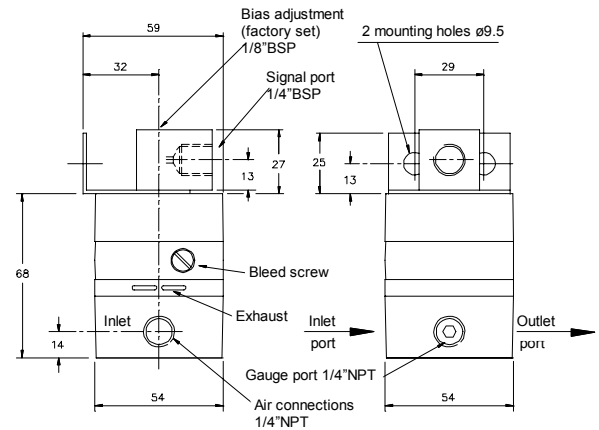
- Normal Direct relationship (1:1) between signal and regulated pressures
- Bias Positive or negative bias between pilot signal and regulated pressure can be set up of up to 2bar/30psig
- Vibration The unit is unaffected by moderate vibration
- Mounting Position Operation in any attitude is possible; integral mounting nut supplied.
- Panel mounting or through mounting holes on the unit (lever, plunger and pilot)

Installation Diagrams

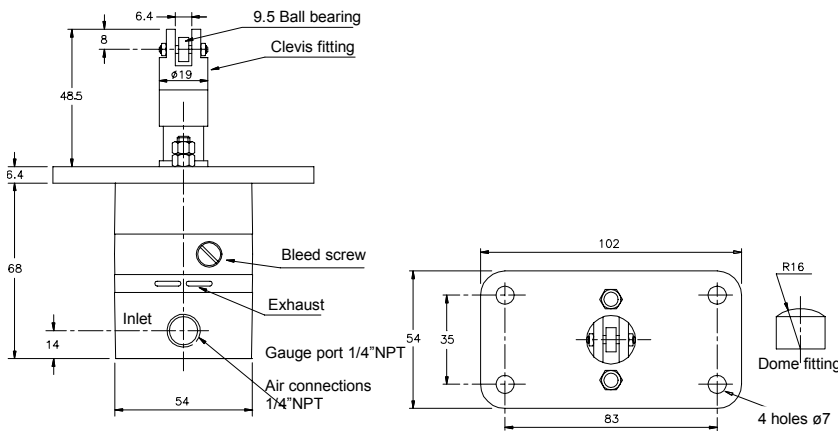
Lever Operated Manostat



Volume Boosting Relay



Plunger Operated Manostat



Ordering Information

Output pressure	Accuracy	Air Consumption	Range Travel	Plunger		Lever	Volume
				Dome	Clevis		Boosting relay
0.2-1bar,	0.10%	0.2L/min (0.006scfm)	0.93mm/0.037"			180100R	
3-15psi,	0.10%	0.2L/min (0.006scfm)	0.93mm/0.037"			-	
0.14-1.7bar,	0.10%	0.3L/min (0.01scfm)	1.65mm/0.065"			180200R	-
0.14-4bar,	0.05%	0.6L/min (0.02scfm)	1.65mm/0.065"		160300R		-
0.14-8bar,	0.02%	1.2L/min (0.04scfm)	1.65mm/0.065"			180400R	190400R

Options to special order: Alternative pneumatic connections.

Watson Smith Instrumentation Ltd.,
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 Telephone: +44 (0)1865 414141
 Email: sales@watson-smith.co.uk

Our Ref: dslevN 10/06
 Controlled Doc: 2006-112a

All instruments are tested on the Watson Smith Automatic Testing System and an individual test certificate is provided at no extra charge. Each unit is tested for linearity, hysteresis, total error, air consumption, response time and supply sensitivity.

Our policy is one of continuous research and development. We therefore reserve the right to amend without notice the specifications given in this document. Customers are responsible for ensuring that the product is used only for the purpose for which it is intended. In case of doubt Norgren will be pleased to advise.