

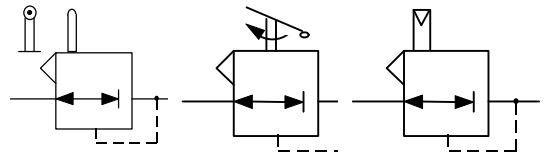
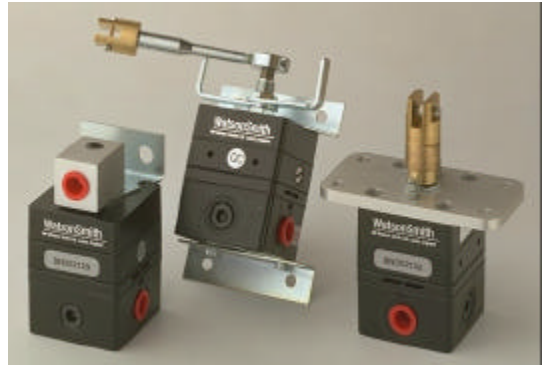
MANOSTAT PRECISION PRESSURE REGULATOR SERIES MECHANICALLY OPERATED

FEATURES

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

GENERAL DESCRIPTION

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.



Functional Symbols

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). A high relief version is available for applications requiring a rapid exhaust
- Air Consumption See ordering information
- Response Time less than 0.2 seconds for 50% load change
- Regulation Accuracy % output change for 1bar/15psi supply pressure 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:

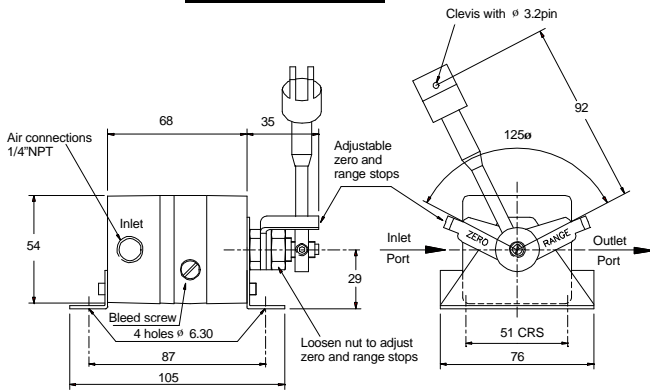
Remote control of regulated pressures possible with minimal air usage;

- 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

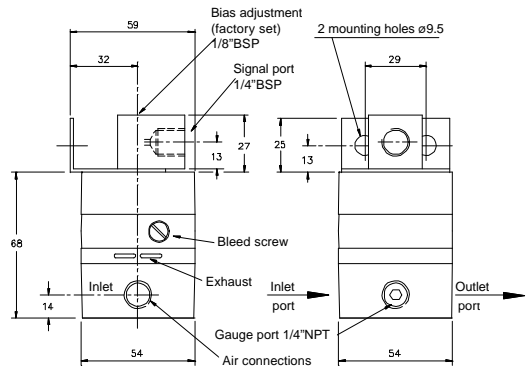
- Vibration The unit is unaffected by moderate vibration
- Mounting Position Operation in any attitude is possible; integral mounting nut supplied. Panel mounting or through mounting holes on the unit (lever, plunger and pilot)

INSTALLATION DIAGRAMS

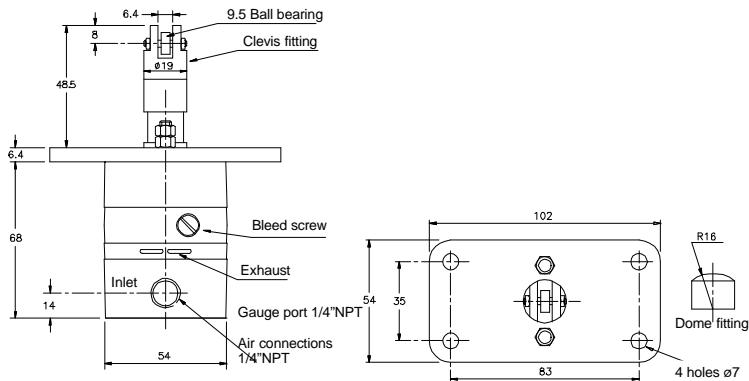
Lever Operated Manostat



Volume Boosting Relay



Plunger Operated Manostat



ORDERING INFORMATION

Output pressure		Accuracy	Air Consumption	Range Travel	Plunger		Lever	Volume Boosting relay
					Dome	Clevis		
0.2-1bar, 3-15psi,	Standard	0.10%	0.2L/min (0.006scfm)	0.93mm/0.037"	53140100R	53160100R	53180100R	53190100R
	High Relief	0.10%	0.2L/min (0.006scfm)	0.93mm/0.037"	53150100R	53170100R	-	53200100R
0.14-1.7bar, 2-25psig	Standard	0.10%	0.3L/min (0.01scfm)	1.65mm/0.065"	53140200R	53160200R	53180200R	-
	High Relief	0.10%	0.3L/min (0.01scfm)	1.65mm/0.065"	53150200R	53170200R	-	-
0.14-4bar, 2-60psig	Standard	0.05%	0.6L/min (0.02scfm)	1.65mm/0.065"	53140300R	53160300R	53180300R	-
	High Relief	0.05%	0.6L/min (0.02scfm)	1.65mm/0.065"	53150300R	53170300R	-	-
0.14-8bar, 2-120psi,	Standard	0.02%	1.2L/min (0.04scfm)	1.65mm/0.065"	53140400R	53160400R	53180400R	53190400R
	High Relief	0.02%	1.2L/min (0.04scfm)	1.65mm/0.065"	53150400R	53170400R	-	53200400R

Options: Alternative pneumatic connections.

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