



→ Pressure Switches including Low Pressure Switches, High Pressure Switches and Pneumatic Switches from NeoDyn.

NeoDyn Pressure switches are snap acting devices, designed to actuate when a specific pressure, of a gas or liquid being monitored, is sensed. When the set point pressure is detected, the switch works to open or close a circuit. This allows for enhanced alarm and control which in turn improves the dependability and safety of the workplace. Neo-Dyn's standard design features a snap acting Belleville spring that ensures improved cycle life, repeatability, and vibration resistance. Pressure switches are designed to suit many applications with variations in the interface, set point capabilities, media types, material compatibilities, temperature variations, size, and environmental conditions.

When it comes to general purpose pressure switches, NeoDyn's standard product lines are used in a wide range of industries and offer the variety necessary to meet the different requirements. If the pressure switch you are looking for is not listed, please submit your request. Our customersupport and engineering staff are ready and able to provide you with a switch customfitted to your application.

→ Pressure Switches General Purpose



100P NEMA 4 & 13

Series Pressure Switch/Internal Adjustment. The 100P (diaphragm sensor) for pneumatic and low impulse hydraulics up to 3,000 psig system pressure. Enclosure 3.



101P NEMA 4 & 13

Series Pressure Switch/External Adjustment. The 101P (diaphragm sensor) is for pneumatic and low impulse hydraulics up to 3,000 psig. Enclosure 3.



105P/105PP NEMA 1 & 2

Series Tamper Proof Pressure Switch. These all purpose miniature switches are of extremely light weight and durable construction. Small size improves vibration and shock resistance. Enclosure 2 or 5.



[Go Back To Our Line Card](#)



110P NEMA 4 & 13

Series Pressure Switch/Internal Adjustment This weatherproof design for low pressure applications. Enclosure 3.



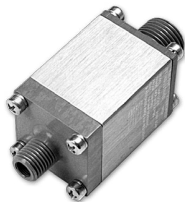
115P/115PP NEMA 4 & 13

Series Pressure Switch/Tamper Proof. This compact and versatile pressure switch with built to order set points is fully tamper proof. Excellent set point stability and vibration resistant design for weather proof application. Enclosure 3.



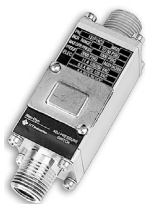
125P NEMA 4 & 13

Series Pressure Switch/Tamper Proof. Designed for high pressure pneumatic or low impulse hydraulic applications requiring a narrow deadband. Suited to weather proof application. Enclosure 3.



130P NEMA 4 & 13

Series Pressure/Vacuum Switch is a compact versatile pressure/vacuum switch is suitable for numerous applications serving low to midrange pressure applications. Enclosure 3.



131P NEMA 4X & 13

Series Pressure/Internal Switch (Weather Proof) is a compact adjustable pressure switch for high pressure pneumatic and low impulse hydraulic process applications. Enclosure 3.



132P NEMA 4 & 13

Series Pressure Switch/Internal Adjustment. Compact adjustable switch for pneumatic or low impulse hydraulic process applications. Excellent set point stability and vibration resistance. Enclosure 3.



[Go Back To Our Line Card](#)



142P NEMA 4 & 13

Series Ultra Low Vacuum/Pressure Switch. Ultra low pressure and vacuum to pressure crossover (142P) and features many applications with a wide range of internal wetted materials that replace the necessity for diaphragm seals. Enclosure 3.



200P NEMA 4 & 13

Series Pressure Switch/Internal Adjustment. 200P (piston sensor) is for hydraulic system pressures up to 10,000 psig. Enclosure 3.



201P NEMA 4 & 13

Series Pressure Switch/External Adjustment. The 201P (piston sensor) is for hydraulic system pressures up to 10,000 psig.



225P NEMA 4 & 13

Series Pressure Switch/Tamper Proof. Incorporates a sealed piston sensor for high impulse hydraulic applications. Suited to weather proof application. Enclosure 3.



231P NEMA 4X & 13

Series Pressure Switch/Internal Adjustment. Compact, adjustable pressure switch for high pressure hydraulic process applications. Enclosure 3.



232P NEMA 4 & 1

Series Pressure Switch/Internal Adjustment. Compact adjustable switch for high pressure hydraulic process applications. Excellent set point stability and vibration resistance. Enclosure 3.



[Go Back To Our Line Card](#)

→ GFH45 Series Airpak® Filter Regulators

Conoflow's GFH Series Airpak® Filter Regulators are widely used to provide clean, regulated air pressure to instruments and controls, automatic machinery and other pneumatic devices.

These ruggedly built units are available in either brass or stainless steel construction affording versatility in meeting today's instrument and industrial applications. The brass model has a maximum pressure rating of 300 PSI (2068 kPa) (GFH45).

Buna "N" elastomers are standard for the GFH45 and incorporate a 35 micron polypropylene filter. Cellulose (10 micron) and stainless steel (40 micron) filters are available. Consult the factory for details. Three regulated pressure ranges of 0-25, 0-60, 0-125 (0-172, 0-414, and 0-862 kPa) are available with adjustments made by means of a wrench knob. Handwheel adjustment. Preset and tamperproof versions are available.

The unit incorporates four 1/4" NPT connections. The additional porting allows installation of a gauge for monitoring output pressure. Brass, steel and stainless steel case gauges are available.

The GFH45 is designed for reliability with an absolute minimum of maintenance. The characteristics are a result of Conoflow's high standards of manufacturing and years of experience as a leading producer of pneumatic instrumentation.



GFH45

Options:

Pressure Gauges

2" Diameter – Steel, Brass or Stainless Steel Case

Ranges: 0-30, 0-60, and 0-160 PSI (0-207, 0-414, 0-1103 kPa)

Mounting

Line – All Variations

Wall – GFH45 (Standard)

Flush-back panel mounted (3-hole) (Optional)

Adjustment

Knob – Optional

Handwheel – Standard

Preset – Factory output setting CAN be field adjusted

Tamperproof – Factory output setting CANNOT be field adjusted

Dimensional Data – Advertising Drawings

GFH45: A17-83



[Go Back To Our Line Card](#)

→ GFX02/GFX04 Series Filters

Conoflow's GFX Series Filters are used to provide clean air to instruments and other pneumatic devices. The 35 micron filter removes foreign particles from the air allowing intermediate and final control devices to operate at peak efficiency. Available in either brass or aluminum construction, the GFX Series Filters cover most of today's instrument and industrial applications. Each filter has a maximum supply pressure rating of 300 PSI (2068 kPa). These units have two 1/4" NPT connections with an arrow on the cap denoting air flow direction. An optional center port is available. Designed for reliable, almost maintenance-free service, these filters are backed by Conoflow's high standards of manufacture and years of experience as a producer of precision instruments.

Options:

Mounting: Bracket for wall mounting

Connection Port: Center 1/4" NPT



→ GH04 Series Cushion Loading Regulator

Conoflow's GH04 Series Cushion Loading Regulator is used to provide clean air to instruments and other pneumatic devices. The 35 micron filter removes foreign particles from the air allowing intermediate and final control devices to operate at peak efficiency. Available in either brass or aluminum construction, the GH04 Series Cushion Loading Regulator covers most of today's instrument and industrial applications. Each regulator has a maximum supply pressure rating of 300 PSI (2068 kPa). These units have two 1/4" NPT connections with an arrow on the cap denoting air flow direction. An optional center port is available. Designed for reliable, almost maintenance-free service, these regulators are backed by Conoflow's high standards of manufacture and years of experience as a producer of precision instruments.



[Go Back To Our Line Card](#)

→ G10 Series Regulators

Manual Loading Regulators and Manual Loading Stations

Conoflow's GH10 Manual Loading Regulators are precision units designed for use in laboratory environments, remote loading of pneumatic devices, speed changers and other general purpose applications.

Available in brass, aluminum or stainless steel construction and combinations of the same, the GH10 Regulators cover a wide variety of applications. Maximum supply pressure ratings on the brass units are 200 PSI (1379 kPa) and the stainless steel models are rated at 300 PSI (2068 kPa). The brass units use Buna "N" diaphragms with Teflon/Buna "N" diaphragms with Teflon/Buna "N" sandwich type diaphragms used in the stainless steel models. Other diaphragm materials are available upon request. Regulated pressure ranges of 0-3, 5, 15, 25, 35, 50, and 125 PSI (0-21, 35, 103, 172, 241, 345, and 862 kPa) are standard.

For precise and accurate regulation the diaphragms incorporate a relief and constant bleed feature. The constant bleed is an engineered orifice to increase sensitivity by keeping the nozzle plug in a dynamic state, nullifying hysteresis and deadband. For applications with corrosive and/or toxic media, the regulators are available with a no bleed/no relief diaphragm which maintains the medium heat in the system. Tapped bonnets are available for remote venting of the exhaust gas.

Each unit has two 1/4" NPT connections and can be line, wall or flush-back panel mounted. The easily adjustable handwheels are standard with wrench knob, preset and tamperproof options available.

These products are guaranteed by Conoflow's high standards of manufacture and years of experience as a leading producer of precision instruments.

Options:

Mounting

Line – All Variations

Wall – Bracket required

Panel – All Variations (Standard)

Flush-back panel mounted (3-hole)

Adjustment

Knob (Wrench Style) – Optional

Handwheel – Standard

Preset – Factory output setting CAN be field adjusted

Tamperproof – Factory output setting CANNOT be field adjusted

Dimensional Data – Advertising Drawings

GH10: A17-2



[Go Back To Our Line Card](#)

→ GH20/GH40 Series Regulators

Service and Pressure Reducing Regulators

Conoflow's Service (GH20 Series) Regulators are rugged units with flow capabilities and performance characteristics which allow the units to operate in both instrument and industrial applications. For applications where positive shut-off and minimum air consumption are required, the soft-seated nozzle GH40 versions are available.

The GH20/40 Series units are available in brass/aluminum combinations, all brass or all stainless steel constructions. Maximum supply pressure ratings for the GH20 Series are 200 PSI (1379 kPa), 300 PSI (2068 kPa) for stainless steel models and the diaphragms are standard in the brass and aluminum units with Teflon/Buna "N"/Teflon sandwich diaphragms used in the stainless steel models. Other diaphragm materials are available. Consult the factory. Connections for the GH20/40 Series are 1/4" NPT. Each unit has an easily adjustable wrench knob with handwheels, tamperproof and preset versions available.

These units are manufactured to Conoflow's high standards and are backed by years of experience as a leading producer of precision built instruments.



Options:

Mounting

Line – All Variations
Flush-back panel mounting
GH20/40 – 3 Hole (Refer to Drawing A17-2)

Adjustment

Knob: Standard GH20/4- (Optional GH20/40)
Handwheel: (Optional GH20/40)

Dimensional Data – Advertising Drawings:

GH20/40: A17-3



[Go Back To Our Line Card](#)

→ GH21 and GDH21 Series Regulators

Differential Pressure Regulators

Conoflow's Differential Pressure Regulators are used to maintain a constant pressure differential across a variable or fixed orifice, providing a constant flow rate regardless of variations in upstream or downstream pressure. Various forms of differential pressure regulators are available.

The GH21XT maintains a fixed differential of 3 PSI (21 kPa) across the bonnet connection and body outlet. Adjustment of the flow rate is made downstream of the system. These units are normally used with flow rate indicators having built in needle valves.

These units are available in brass and aluminum construction, (GH21XTXM), all stainless steel (GH21XTXKK, GH21XTXKXS) or all aluminum construction (GH26/27FXM). The GH21 Series has 1/4" NPT connections and is rated for a 200 PSI (1379 kPa) maximum supply pressure, 300 PSI (2068 kPa) for stainless steel models. The GH26XF has 3/8" NPT connections with the GH27XF having 1/2" NPT (Signal Port 1/4" NPT). Both units (GH26/27) are rated for 100 PSI (1379 kPa) maximum supply pressure.

The GH21F maintains a fixed differential of 3 PSI (21 kPa) across the bonnet connection and the body outlet, plus an integral needle valve is provided to allow flow rate adjustment within the regulator. This unit is normally used with flow rate indicators without needle valves. Construction of this unit is brass. The maximum supply pressure rating is 200 PSI (1379 kPa) and connections are 1/4" NPT.

The GH21At provides an adjustable differential pressure across the bonnet connection and body outlet within the limits of the regulator range. The flow rate is controlled by adjusting the range spring to vary the pressure drop across a fixed orifice instead of using a needle valve.

These units are available in brass (GH21ATXEXXX_) or stainless steel (GH21ATXKXXK_, GH21ATXKXSX_) construction. The brass units have a maximum supply pressure rating of 200 PSI (1379) with the stainless steel units being rated at 300 PSI (2068 kPa). The body connections are 1/4" NPT with an 1/8" NPT signal port connection. Regulated ranges are 0-5, 15, 25, 35, 50 and 0-125 PSI (0-35, 103, 172, 241, 345 and 862 kPa).

The GH31XT provides a 3 PSI (21 kPa) upstream differential pressure across a needle valve or other orifice to maintain a constant flow rate independent of line pressure variations. These units are also available in brass (GH31XTCM) or stainless steel (GH31XTXKK, GH31XTXKS) construction. Connections are 1/4" NPT and both are rated at a maximum supply pressure rating of 100 PSI (690 kPa).

The brass or brass/aluminum combination units use Buna "N" diaphragms as standard with the stainless steel units having Teflon/Buna "N"/Teflon sandwich type diaphragms. Other diaphragm materials are available.

For purging systems using air, water or gas, the Conoflow GDH21 Differential Purge Assemblies are available. These units incorporate a GH21XT Regulator, needle valve and flow rate indicator, completely piped and ready for installation. A variety of ranges and styles of flow rate indicators are available. Refer to Charts 1 and 2 on Page 37 using a needle valve.



Options:

Dimensional Data	Advertising Drawings:
GH21F:	A17-7
GH21/31/41:	A17-18
GH21AT:	A17-19
GDH21 1 and 2:	A13-4
GDH21 5 and 6:	A13-5
GDH21 7 and 8:	A13-8
GDH21 9 and 10:	A13-7
GDH21 11 and 12:	A13-9
GDH214:	A13-10
GDH213:	A13-11



[Go Back To Our Line Card](#)

→ GH20VT/GH28VT Series Vacuum Regulator



Options:

Adjustment

Screwdriver Slot (Optional)

Dimensional Data – Advertising Drawings:

GH20VT: A17-5

GH28VT: A17-90

Conoflow's Vacuum Regulators are designed to accurately regulate the sub-atmospheric pressure of a vessel being evacuated. These units are especially suited for laboratory work and test standards for simulation of high altitude conditions.

Standard construction of the Model GH28VT is aluminum with Buna "N" diaphragms. The GH20VT Series is available in either brass or stainless steel construction. The brass units are supplied with Buna "N" diaphragms

and the stainless steel versions utilize Teflon/Buna "N"/Teflon sandwich diaphragms. Regulated vacuum ranges of 0-15" and 0-30" Hg (38.1 and 76.2 cm Hg) are standard.

Connections for the GH20VT Series are 1/4" NPT with the bonnet sensing port having an 1/8" NPT connection. The Model GH28VT has four 1/4" NPT

connections (this unit has no bonnet sensing port). An easily adjustable handwheel or knob (wrench style) is available.

These units are backed by Conoflow's high standards of manufacture and years of experience as a leading producer of precision instrumentation.

→ GH22 Series Ratio/Flow Boosting Relay

The Conoflow GH22 Series Relay is used to boost, amplify or reduce the pneumatic signal of a controller or similar instrument in a predetermined ratio. Using an independent supply of pressure for greater flow volume, the unit relays an instrument signal to a final control element such as a valve actuator.

The GH22 is supplied in a brass/aluminum combination and has a maximum

supply pressure rating of 200 PSI (1379 kPa). Buna "N" diaphragms are standard. Connections are 1/4" NPT. Maximum signal pressures are 150 PSI (1034 kPa) (ratio 3:1, 2:1, 1:1), 75 PSI (517 kPa) (ratio 1:2) and 50 PSI (345 kPa) for ratio 1:3.

A large selection of ratios, 1:1 (flow boosting), 1:2 and 1:3 (multiplying) and a 2:1 and 3:1 (dividing), meets a wide range of application requirements.

These units are backed by Conoflow's years of experience as a leading manufacturer of precision built instruments.



[Go Back To Our Line Card](#)

→ GH30 Series Back Pressure Regulator



The Conoflow Series GH30 Back Pressure Regulator is used to maintain a constant upstream pressure of gas, vapor or liquid. Designed for accurate regulation under low flow conditions, these units are widely used for protection of analysis instrumentation or as a relief valve in supply pressure lines to control devices.

The GH30 Regulator is available in brass/aluminum combinations or all stainless steel construction. Buna "N" diaphragms are standard with Teflon/ Buna "N"/Teflon used in the stainless steel models for corrosive services. Regulated pressure ranges are 0-3, 5, 15, 25, 35, 50 and 125 PSI (0-21, 35, 103, 241, 345 and 862 kPa). Connections are ¼" NPT.

These units are backed by Conoflow's years of experience as a leading manufacturer of precision built instruments.

Options:

Adjustment

Handwheel (Standard)

Wrench Knob

Dimensional Data – Advertising Drawings:

GH30: A17-2

→ HP300 Series



Turning the control knob clockwise will increase the force on the range spring and, in turn, the outlet set pressure. Conversely, turning the control knob counter-clockwise will decrease the force on the range spring and decrease the outlet set pressure. In equilibrium, the force exerted by the range spring is balanced by the outlet pressure.

An unbalance between the outlet pressure and the set pressure causes a corresponding reaction on the sensor and valve. If the outlet pressure rises above the set pressure, the piston sensor will lift allowing the main valve to seat. This action causes the relief valve to open relieving the excess pressure to atmosphere until equilibrium is reached.

If the outlet pressure falls below the set pressure, the range spring will push the sensor down and unseat the main valve. This allows supply pressure to flow through the main valve to the downstream port increasing the set pressure. At equilibrium, the valve plug assumes a position which supplies the required flow while maintaining the outlet pressure at the set pressure.



[Go Back To Our Line Card](#)

→ HP400 Regulator

Pressure Reducing - Piston Type

Conoflow's HP400 is a piston-sensing, self-contained pressure reducing regulator.

High inlet and outlet pressures allow use of this regulator in component testing, calibration systems, manufacturing processes and other applications that require

an economical regulator having reliable and safe operating characteristics.

The brass constructed HP400 Regulator has a maximum supply pressure rating of 3500 PSIG (24.2 MPa). Control setting range for this unit is 20 to 2500 PSIG (0.138-17.25 MPa). Adjustments within the range are made with a large handwheel furnished with the standard unit. Optional adjustment devices include

a wrench style knob with a locking device or a "T" bar handle.

This unit is supplied with 1/4" NPT inlet and outlet connections. Inlet and outlet gauge ports (1/4" NPT) are standard. The regulator is non-relieving with a captured bonnet.

Feature Summary

High inlet pressure 3500 PSIG (24.2 MPa)

6000 PSIG (41.40 MPa) inlet pressure available

High outlet pressure 2500 PSIG (17.25 MPa)

Piston sensing for safe and reliable service life

Economical brass construction

Captured bonnet - standard

Mounting nuts available for optional panel mounting

Regulator cleaned to ITT Conoflow Specification (ES8A 01 294)

CGA cylinder connections available

Options:

Mounting

Line - All variations (Supplied with plain bonnet)

Panel - (2 Panel mounting nuts) Optional

Adjustments

Handwheel (Large)

Knob (Wrench style - with locking device) - Optional

"T" bar handle - Optional

Cylinder Connections

CGA connections are available



Dimensional Data – Advertising Drawings:

HP400-C1: Standard unit

HP400-C2: "T" bar handle

HP400-C3: Wrench Knob with locking device

HP400 Maintenance Kit

80400-11, 12, 13, 14, 15, 16, 17, 18 - For all control setting ranges

HP400 Overhaul Kit

81400-11, 12, 13, 14, 15, 16, 17, 18 For all control setting ranges



[Go Back To Our Line Card](#)

→ HP500 Regulator

Pressure Reducing - Diaphragm Type - High Purity

The HP500 Regulator is a self-contained, diaphragm sensing high purity regulator. A broad offering of materials of construction and five control pressure ranges allow use of this unit in applications that include the regulating of specialty gases, gas chromatography, research labs as well as the regulation of corrosive and non-corrosive gases and liquids. Material options include brass, 316 stainless steel and 316L stainless steel. N.A.C.E., Monel and Hastelloy constructions are available upon request. The brass units are rated for a maximum supply pressure of 5,000 PSIG (34.5 MPa) and the stainless steel units are rated to 6,000 PSIG (41.40 MPa). Optional 15 Ra microinch wetted surfaces are available.

This high purity, pressure regulator is designed to accurately control pressure ranges of 4-25, 4-50, 5-100, 6-250 and 10-500 (0-0.173, 0-0.345, 0-0.690, 0-1.73 and 0-3.45 MPa). The HP500 has 1/4" NPT inlet and outlet connections. Gauge ports are optional. To suit high purity applications, Vacuseal, VCR and Ultra Seal welded fittings are available. Adjustments within each range are made with a standard large handwheel. A wrench style knob with a locking device and a "T" bar handle are optional adjustments. These products are guaranteed by Conoflow's high standards of manufacture and years of experience as a leading producer of precision instruments.



Feature Summary

- Relieving and non-relieving diaphragms offered
- Brass, 316 Stainless Steel, 316L Stainless Steel, N.A.C.E., Monel and Hastelloy constructions available
- Design leak rate 2 x 10⁻⁸ atm cc/sec of helium
- High purity internal connections optional
- Vacuseal, VCR, Ultra Seal welded fittings optional
- Five regulated outlet ranges from 4-25 PSIG to 10-500 PSIG (0.03-0.173 MPa to 0.069-3.45 MPa)
- 15 Ra microinch wetted surfaces available
- Optional 1/4" gauge ports
- Metal-to-metal diaphragm to body seal
- Line and rear mountings are standard
- Panel mounting is optional
- Regulator cleaned to ITT Conoflow Specification (ES8A 01 294)
- CGA cylinder connections available

Dimensional Data – Advertising Drawings:

- HP500-C1: Standard Unit (Large Handwheel)
- HP500-C2: "T" Bar Handle
- HP500-C3: Wrench Knob with Locking Drive

Options:

Mounting

- Line – All variations (Supplied with plain bonnet)
- Panel – (2 Panel mounting nuts) Optional
- Rear Mounting – Standard

Adjustments

- Handwheel (Large) – Standard
- Knob (Wrench style - with locking device) – Optional
- "T" bar handle – Optional
- Gauges
- 2" and 2 1/2" diameters
- Brass, steel and stainless steel construction
- Cylinder Connections
- CGA Cylinder connections are available



[Go Back To Our Line Card](#)

→ HP600 Regulator

Pressure Reducing - Tied Diaphragm Type - High Purity

The HP600 High Purity model is a self-contained, pressure reducing regulator which incorporates a tied diaphragm design.

This style of mechanical link between the diaphragm and main valve assists in preventing pressure “creep” even when media accumulation has occurred on the valve seat. Applications for this regulator are high purity gas handling, regulation of HCL, silane, phosphine and ammonia, semiconductor manufacturing, research labs, and regulation of corrosive and specialty gases. The 316 Stainless Steel constructed unit has a maximum supply pressure rating of 3000 PSIG (20.7 MPa). The convoluted 316 Stainless Steel diaphragm provides accurate and reliable regulation over four control setting ranges from 2-25, 3-50, 3-100 and 4-150 PSIG (0.014-0.173, 0.021-0.345, 0.021-0.690 and 0.028-1.04 MPa)

Pressure adjustments are made with a large handwheel or by an optional wrench style knob with a locking device or an optional “T” bar handle.

The HP600 has ¼” NPT inlet and outlet connections. Inlet and outlet gauge ports are standard. High purity internal connections and VCR, Vacuseal and Ultra Seal welded fittings are available upon request. Line and rear mounting are standard for this regulator.

Feature Summary

316 Stainless Steel, 316L Stainless Steel and N.A.C.E. constructions available

High purity internal connections - optional

VCR, Vacuseal, Ultra Seal welded fittings - optional

Leakage to 2 x 10⁻⁸ atm cc/sec helium

Multiple control ranges available

In-line and rear mounting are standard

Non-Relieving, positionable captured bonnet (Standard)

Regulator cleaned to ITT Conoflow Specification (ES8A 01 294)

CGA cylinder connections available

5,000 PSIG (34.50 MPa) inlet pressure available

Dimensional Data – Advertising Drawings:

HP600-C1: Standard unit



Options:

Mounting

Line – All variations

Rear Mounting (Standard)

Adjustments

Handwheel (Large)

Knob (Wrench style - with locking device) – Optional

“T” bar handle – Optional

Cylinder Connections

CGA connections are available

Gauges

2” and 2½” diameters

Brass, steel and stainless steel construction



[Go Back To Our Line Card](#)

→ HP610 Regulator

Pressure Reducing - Diaphragm Type - High Purity

The HP610 is a high purity, self-contained, spring-loaded, pressure reducing regulator. This unit is designed for use in applications requiring high flow rates and the ability to relieve outlet media pressure. Non-relieving models are also available.

The 316 Stainless Steel constructed unit has a maximum supply pressure rating to 250 PSIG (1.73 MPa). The convoluted 316 Stainless Steel diaphragm provides accurate and reliable regulation over a control setting range of 0 - 50 PSIG (0 - 0.35 MPa).

The HP610 has one 1/4" NPT inlet connection and two 1/4" NPT outlet connections. Both outlet ports provide the same flow capacity with the central port generally being used as a gauge port.



Feature Summary

Relieving style diaphragm provides accurate regulation in dead-ended applications

Internal finish on wetted components is 20 Ra

Inboard leakage to 2 x 10⁻⁸ atm cc/sec helium

High flow rate capability

Non-relieving model available

Regulator cleaned to ITT Conoflow Specification (ES8A 01 294)

Dimensional Data – Advertising Drawings:

HP610-C: Standard unit

Options:

Mounting

Line – All variations

Panel – 1 nut - Standard

Adjustments

Handwheel (Large)

Gauges

2" and 2 1/2" diameters

Brass, steel and stainless steel construction



[Go Back To Our Line Card](#)

→ HP700 Regulator

Two Stage - Diaphragm Type - High Purity

Conoflow's HP700 Series regulator is a two stage, high purity unit designed to provide constant outlet pressure regardless of inlet pressure fluctuations. This unit is available in either brass or stainless steel construction. Maximum supply pressure rating for either material is 3500 PSIG (24.2 MPa). To provide optimum performance in specific applications, this unit is offered with relieving, non-relieving, and tied (non-relieving) diaphragm options. Typical applications for the HP700 regulator are gas chromatography, calibration systems, cylinder gases, and precise regulation of corrosive and non-corrosive media. Adjustment within each of five available ranges is made with a standard large handwheel. A wrench style knob with a locking device and a "T" bar handle are available as optional adjustments. This unit is supplied with 1/4" inlet and outlet connections. Inlet and outlet gauge ports (1/4" NPT) are standard. High purity internal connections and VCR, Vacuseal and Ultra Seal welded fittings are optional. Captured bonnets for both stages are standard. This regulator is designed for reliability with an absolute minimum of maintenance. The characteristics are a result of Conoflow's high standards of manufacturing and years of experience as a leading manufacturer of pneumatic instrumentation.

Feature Summary

Maximum rated inlet 3500 PSIG (24.2 MPa)
 6000 PSIG (41.40 MPa) inlet pressure available
 Captured bonnets (Standard)
 Leak rate 2×10^{-8} atm cc/sec helium
 Brass and stainless steel construction
 Optional - VCR, Vacuseal and Ultra Seal welded fittings or high purity internal connections
 Control pressure ranges: 4-25, 4-50, 5-100 and 6-250 PSIG
 (0.03-0.173, 0.03-0.345, 0.04-0.690, 0.04-1.04 and 0.04-1.73 MPa)
 In-line mounting is standard. Panel mounting hardware is optional.
 CGA cylinder connections available

Dimensional Data – Advertising Drawings:

HP700-C1: Standard Unit (Large Handwheel)
 HP700-C2: "T" Bar Handle
 HP700-C3: Wrench Knob with Locking Device



Options:

Mounting

Line - All variations
 Panel Mounting - No panel mounting nuts
 Panel Mounting - 2 nuts - Optional

Adjustments

Handwheel (Large)
 Knob (Wrench style - with locking device) - Optional
 "T" Bar Handle - Optional

Cylinder Connections:

CGA cylinder connections are available

Gauges

2" and 2 1/2" diameters
 Brass, steel and stainless steel construction



[Go Back To Our Line Card](#)

→ GT210 Series Transducers

Miniature I/P - E/P Transducers

Conoflow's Electro-pneumatic Transducers accept a variety of electrical input signals and convert them to proportional pneumatic output signals. The miniature transducer is available with two different circuit boards. One board accepts current inputs of 4-20/10-50 mA DC and the other accepts inputs of 0-5 or 1-9 VDC input, respectively.

Connection of electrical source is made through a ½" NPSM conduit connection in two different manners. One unit is offered with a metal cover having a removable top access cover for direct connection to the internal terminal block. The second option is made through connection to 2 leads which are 20" long (#18 GA. wire - 20" long/positive red - negative black). All operation adjustments (zero and span adjustments) are accessible from the front of the transducer. As an added feature, the conduit connection is optionally available equipped with a Hirschmann connector.

These units are available with output signals of 3-15, 3-27, or 6-30 PSIG (21-103, 21-186, or 41-207 kPa). Special output signals are available, consult the factory. The unit can be mounted in any position and output signals are field reversible. Supply pressure up to 40 PSI (276 kPa) can be used. Optional gauge ports are available for monitoring the output signal.

Intrinsically Safe approvals are listed for both incandive and non-incandive barriers.

The GT210 (with metal cover) Series Transducer, when purchased with an EMI-RFI Adaptor (6386522), conforms to SAMA PMC33.1-1978 for Classes 1 and 2, Bands A, B and C with less that 0.25% error.

Typical applications for these units include controllers, relays, HVAC systems, energy management systems, valve actuators and control room applications.



Dimensional Data – Advertising Drawings:

GT210: A28-45 Metal cover with top access cover

GT210: A28-46 Metal cover with 20" leads

GT210: A28-50 2" Pipe Mounting Bracket



Go Back To Our Line Card

→ GT 8 Series Milliampere Transducers

Conoflow's Electro-pneumatic Transducers accept a variety of electrical input signals and convert them to proportional output signals of 3-15, 3-27 or 6-30 PSIG (21-103, 21-186 or 41-207 kPa). The GT_8 Series Transducers incorporate low impedance circuitry and a range selector jumper switch which can be positioned to accept 4-20 or 10-50 mA DC current inputs. The selector feature permits stocking only one unit that can be used in various locations throughout the plant. For easy field adjustment these units are equipped with an external zero setting and a built-in potentiometer on the circuit board for span adjustment. Optional input signal of 0-20 mA is available on the GT-8 Series.

These transducers are available in either high or low capacity configurations (Maximum Air Delivery Rate). The high capacity models incorporate a booster relay which eliminates the need for additional boosters or relays when operating air actuated valves. The low capacity versions use a fixed orifice and are utilized for input signals to pneumatic positioners. NEMA 3R housing requirements are optional.

The GT_8 Series Transducer, when purchased with an EMI-RFI Adaptor (6386522), conforms to SAMA PMC-33.1-1978 for Classes 1 and 2, Bands A, B and C with less than 0.25% error.

The GT_8 Series Transducers are approved intrinsically safe by Factory Mutual, Canadian Standard Association, and CENELEC. For explosionproof models, refer to Pages 114-117.



Dimensional Data – Advertising Drawings:

GT Series - High Capacity: A28-7

GT Series - Low Capacity: A28-9

GT Series - 2" Pipe Mounting Bracket



[Go Back To Our Line Card](#)

→ GB50 Series

Pneumatic Piston Actuators

Conoflow's Pneumatic Piston Actuators are compact units designed to function in today's high performance instrument systems.

Piston diameters of 3" to 8" are available with standard strokes up to 10" (for stroke lengths greater than 10", consult the factory). Integral positioners are standard for modulating service.

Force produced is a function of the supply pressure which can be varied from 20 to 100 PSI (138 to 690 kPa). Fast stroking speeds are made possible through the use of a high capacity positioner coupled with a unique cushion-loading regulator. The GB50 Series Piston Actuators are designed for use in corrosive atmospheres or adverse weather conditions.

Optional Accessories:

1. Model FR95XBKEX(C,F,G) Airpak® (Filter Regulator) with gauge.
Specify 0-60 or 0-125 PSI (0-414 or 0-861 kPa) range.
(Bracket mounting is standard).
2. I/P or E/P Transducer. Specify range. (See Transducer Data Sheets).
3. Airlock Feature, Solenoid Valve, Limit Switch and other accessories are available, consult the factory.

Dimensional Data – Advertising Drawings:

GB50: A7-107, 108, 108 and 110

GB51: A7-114, 115, 116, and 117

GB50 Series (Yoke Type): A7-100, 101, 102 and 103

GB50 Series (On/Off): A6-41 and 113

Piping: A50-48



[Go Back To Our Line Card](#)

→ GB52SC - GB53SC Series

Pneumatic Lever Actuators

Conoflow's Pneumatic Lever Actuators are rugged and powerful units used to automatically position dampers, louvers, variable pitch fans and to make various mechanical adjustments to process machinery. Low profile (only 18" high) requires less headroom. A sturdy ductile iron yoke with large mounting base provides rigid mounting. The steel lever arm has eight take-off positions for stroke flexibility.

The Lever Actuator is a combination piston actuator and lever mechanism. These actuators are available in piston diameters of 6" and 8" with a maximum lever travel of 12". Force produced is a function of the supply pressure which may be varied from 20 to 100 PSI (137 to 690 kPa) and the lever take-off position.

The actuator assembly is completely enclosed to protect all moving parts from corrosive atmospheres and adverse weather conditions. All exterior parts are coated with a corrosion-resistant paint.

Optional Accessories:

Model FR95 Airpak® (Filter Regulator) with gauge, specify 0-60 or 0-125 PSI (0-414 or 0-861 kPa) range. (Bracket mounting is standard).

2. I/P or E/P Transducer. Specify range. (See Transducer Data Sheets).

3. Airlock Feature, Solenoid Valve, Limit Switch and other accessories are available, consult the factory.

Dimensional Data – Advertising Drawings:

GB52SC - GB53SC: A7-111

Piping: A50-48



[Go Back To Our Line Card](#)

→ GC31/GC34 Commandaire® Positioners

The Commandaire® Positioner is a top mounted, integral positioner used with piston or spring and diaphragm actuators. Utilizing a force balance principle this unit provides proportional positioning of an actuator with stroke lengths up to 10". The completely enclosed design eliminates exposed levers or linkages making the Commandaire® Positioner rugged and reliable. This unit has a single-stage pilot which affords a high degree of stability and excellent positioning accuracy. This high capacity 5 SCFM (0.14 m³/min) at 100 PSI (690 kPa) pilot valve exhausts or feeds supply pressure 20 to 100 PSI (138 to 690 kPa) to the actuator producing fast response. Small changes in the instrument signal are amplified by the high volume pilot assuring fast, stable and precise positioning of the actuator stem. Available in four versions, the Commandaire® Positioner can be top or bottom loading, direct or reverse acting. Refer to chart below for details:

Dimensional Data – Advertising Drawings:

Fail Safe Schematic: A50-48

GC31: A50-49

GC32: A50-50

GC33: A50-51

GC34: A50-52



[Go Back To Our Line Card](#)

→ Airlock Fail-Safe System

Today's systems demand ultimate performance from all components in the system. These include not only the primary instruments, but also the final control element, an integral part of the control loop. To meet these demands the actuator positioning the final control element must provide true proportional control in response to a signal regardless of the stem load and stuffing box friction. Without precise actuator positioning, the critical function of the final control element is reduced. In many applications, spring and diaphragm actuators, due to their inherent lack of power, cannot offer precise positioning performance. Adding a positioner will improve this performance, but it is restricted by the power-absorbing spring. Conversely, a springless actuator such as Conoflow's Pneumatic Piston Actuator, which utilizes air pressures up to 100 PSI (690 kPa), can deliver thrusts in excess of 12,000 pounds, and strokes up to 10". (For stroke lengths greater than 10", consult the factory.) Positioning accuracy meets the requirements of modern day instrumentation.

The springless Piston Actuator utilizes a cushion of air under the piston whose pressure is maintained by a loading regulator. Output from an integrally mounted positioner determines the position of the piston. A differential pressure across the piston determines the direction and speed of motion. Balance is achieved by an equalization of forces as determined by stem position and instrument signal pressure.

To provide a fail-safe system (extend or retract the stem in the event of air supply failure), Conoflow offers their Airlock Fail-Safe System. Integrally mounted on the actuator, this compact unit provides positive action to open or close a valve.



[Go Back To Our Line Card](#)

→ Principle of Operation

Designed for pneumatic systems, Conoflow Series GVB Snap-Acting Relays change ports to switch or lock in secondary air source when the main supply pressure falls below a predetermined set point. In the event of supply or pilot pressure failure, the positive action relay with one common and two inlet or outlet ports will automatically:

- Switch from main to auxiliary supply pressure
- Lock an actuator in its last position
- Extend or retract an actuator stem
- Divert flow or pressure from one device to another

The Series GVB Snap-Acting Relays have an integral pilot which eliminates the extra piping and connections required with other lock-up valves. Compact and lightweight, the relays are easily piped and mounted.

→ Principle of Operation (GVB11)

The pressure at which the relays will actuate can be adjusted at any point between 25 PSI (172 kPa) and 85 PSI (586 kPa). Signal or pilot pressure acting in the upper diaphragm overcomes the force of the spring in the bonnet and permits air to flow into the lower chamber. This pressure buildup forces the spring-loaded spool valve to open common Port "A" to "B". When the pressure drops below the preset point, the exhaust port opens and common Port "A" is switched from "B" to "C" by releasing the spring loaded spool valve.

The spool valve will return to its original position ("A" to "B" when the pressure to the pilot is less than or equal to 20% greater than the set point. For example, if the set pressure is 50 PSI (345 kPa), the units will return to its original position when the pressure to the pilot builds up to approximately 60 PSI (414 kPa).

Model GVB12 Relay has two spool sections mounted in tandem with the lower ports designated as "A1", "B1" and "C1".



[Go Back To Our Line Card](#)

→ Principle of Operation

The purpose of the GH232T is to reduce the cushion load to the actuator in proportion to the positioner output pressure. This effectively provides the advantage of a full reversal positioner by providing full differential pressure across the actuator piston if necessary.

There are three active pressure chambers in the GH232T. The chambers are labeled S, B and C on the sectional drawing. The supply pressure is connected to the port marked "IN". Note that this port is also connected to the chamber designated "S". The positioner output pressure is connected to the middle port marked "B". The output of the GH232T is ported to chamber "C".

The operation of the GH232T can be explained by evaluating the balance of forces on the diaphragm assembly. In equilibrium, the upward forces must balance the downward forces. Note that there are two sizes of diaphragm area in this device. The effective area of the larger diaphragm is equal to two times the area of the smaller diaphragm.

Let the various pressures in each chamber be designated by the letter assigned to each. The smaller diaphragm area will be designated as "A", and the larger area will therefore be equal to 2A. Balancing the resulting upward and downward forces provides the following result:

$$(S \cdot A) + (B \cdot A) = (B \cdot 2A) + (C \cdot A)$$

Dividing through by the area "A" and rearranging yields: $C = S - B$

In other words, the output of the GH232T, "C", is equal to the supply pressure minus the positioner output pressure. Therefore, as the positioner output pressure increases, the cushion load pressure provided by the GH232T decreases accordingly. As the positioner output reaches its maximum which is the full differential pressure, the output of the GH232T goes to zero providing the full differential pressure across the actuator piston. At intermediate positioner output pressures, the cushion load is adjusted as necessary to provide the actuator force required.

Installation

Caution:
Maximum Supply Pressure is 100 PSI.

Unit has two 1/4" NPT connections. Port "B" is 1/8" NPT. It is recommended that a filtered air supply be used.

Check all connections for leakage after installation.



[Go Back To Our Line Card](#)