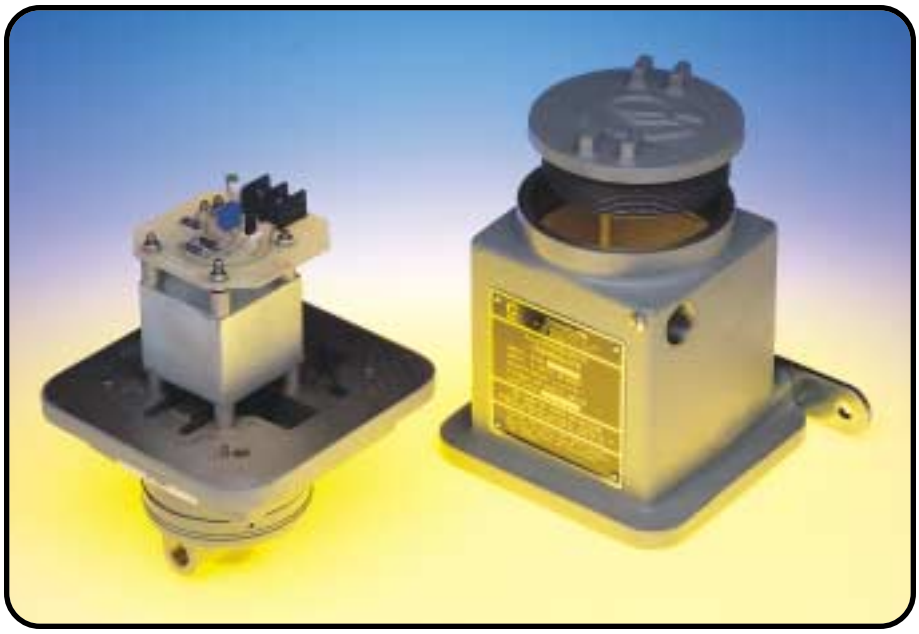
CONOFLOW ELECTRO-PNEUMATIC TRANSDUCERS GT_8 Series Milliampere Explosionproof



Conoflow's GT_8 Series Transducers are explosionproof approved by Factory Mutual (FM), Canadian Standards Association (CSA) and CENELEC. These units incorporate the same high-quality standards as our other I/P Transducer lines and are backed by Conoflow's years of experience as a leading manufacturer of instrumentation.

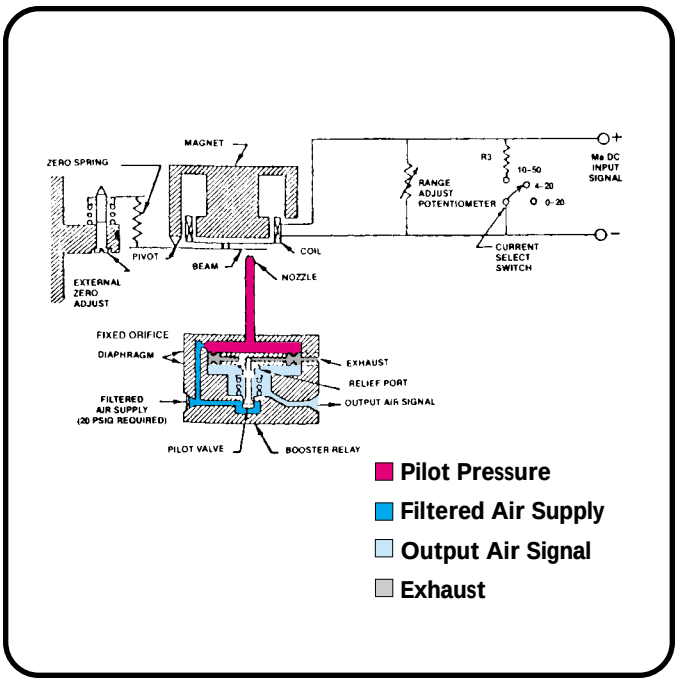
These units accept a variety of electrical input signals and convert them to proportional output signals of 3-15, 3-27 or 6-30 PSIG (21-103, 21-186 or 41-207 kPa). Other output signals are also available. Consult the factory for details.

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 1-5 or 0-20 mA DC are available upon request.

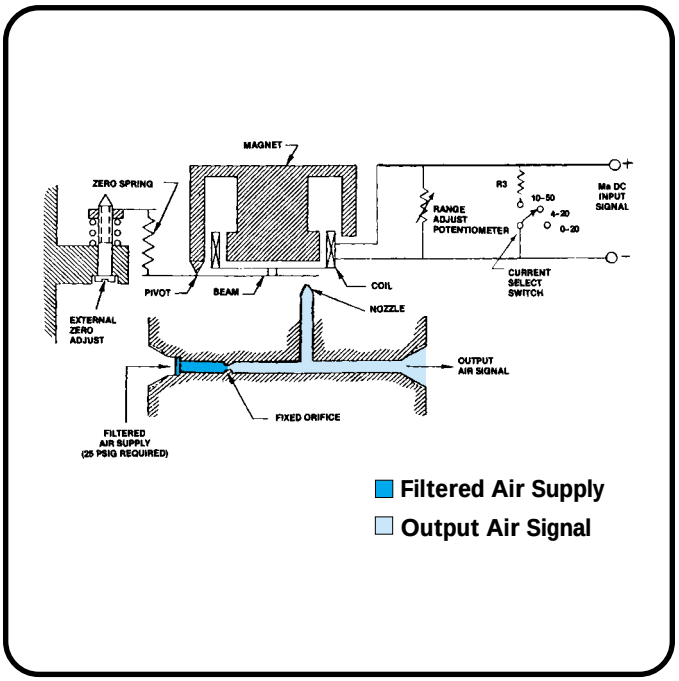
These transducers are available in either high or low capacity configurations (Maximum Air Delivery Rate). The high capacity models incorporate a booster relay which eliminates the need for additional boosters or relays when operating air actuated valves. The low capacity versions use a fixed orifice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

DIMENSIONAL DATA - ADVERTISING DRAWING:

GT Series - High Capacity: A28-26



High Capacity: Series GT28, GT48 and GT68



Low Capacity: Series GT18, GT38 and GT58

PRINCIPLE OF OPERATION

The Conoflow GT_8 Series Transducers are force balance units which accept a 4-20 or 10-50 mA DC input signal and convert it to a proportional 3-15, 3-27, or 6-30 PSIG (21-103, 21-186, or 41-207 kPa) output signal.

OPERATION - HIGH CAPACITY MODELS

In the direct acting mode, an increase in the input signal causes the coil to move away from the magnet which moves the balance beam toward the nozzle. This reduces the flow through the nozzle increasing the back pressure in the top chamber of the booster. The increased pressure in the booster causes the diaphragm assembly to move downward, opening the pilot valve and increasing the output pressure. The output pressure will continue to increase until it is equal to the nozzle back pressure and the forces on the diaphragm assembly are balanced.

A decrease in the input signal allows the coil to move toward the magnet which moves the balance beam away from the nozzle. This allows the flow through the nozzle to increase which reduces the back pressure in the top of the booster. Since the output pressure is greater than the nozzle back pressure, there is a net upward force on the diaphragm assembly which causes it to move upward allowing the pilot valve to close and the relief port to open. The excess output pressure is vented to atmosphere through the relief port until equilibrium is established.

In the reverse acting mode, an increase in the input signal causes the coil to move toward the magnet instead of away from it since the direction of the current through the coil is reversed. An increasing signal, therefore, causes a proportionally decreasing output.

OPERATION - LOW CAPACITY MODELS

In the direct acting mode, an increase in the input signal causes the coil to move away from the magnet which moves the balance beam toward the nozzle. This reduces the flow through the nozzle increasing the output pressure.

A decrease in the input signal allows the coil to move toward the magnet which moves the balance beam away from the nozzle. This allows the flow through the nozzle to increase reducing the output pressure.

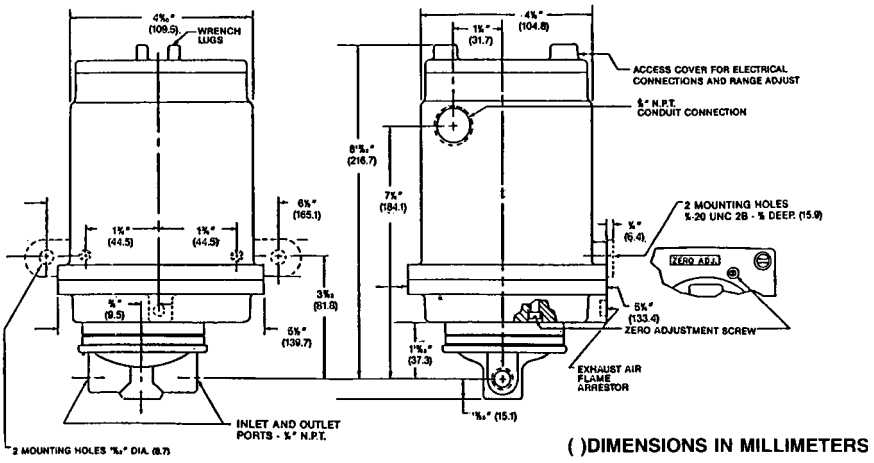
In the reverse acting mode, an increase in the input signal causes the coil to move toward the magnet instead of away from it since the direction of the current through the coil is reversed. An increasing signal, therefore, causes a proportionally decreasing output.

SPECIFICATIONS

OPERATING CHARACTERISTICS	GT18 (3)	GT28	GT38 (3)	GT48	GT58 (3)	GT68
Input Range	4-20 mA DC 10-50 mA DC					
Nominal Input Impedance	145 ohms 60 ohms					
Output Signal	3-15 PSI (21-103 kPa)		3-27 PSI (21-186 kPa)		6-30 PSI (41-207 kPa)	
Required Regulated Air Supply Pressure	25 PSI (172 kPa)		35 PSI (241 kPa)			
Air Consumption	0.2 SCFM (0.006 m^3/min)		0.3 SCFM (0.009 m^3/min)			
Air Delivery Rate (Max.)	0.17 SCFM (0.005 m^3/min)	5 SCFM (0.142 m^3/min)	0.15 SCFM (0.004 m^3/min)	5 SCFM (0.142 m^3/min)	0.15 SCFM (0.004 m^3/min)	5 SCFM (0.142 m^3/min)
Exhaust Rate (Max.)	0.17 SCFM (0.005 m^3/min)	1.7 SCFM (0.05 m^3/min	0.2 SCFM (0.006 m^3/min)	2.3 SCFM (0.065 m^3/min)	0.2 SCFM (0.006 m^3/min)	2.3 SCFM (0.065 m^3/min)
Linearity	± 1%					
Temperature Effect	0.2%FS/10°F (-12°C) for a 30°F (-1°C) change in 15 minutes					
Ambient Temperature Range	0° to +140°F (-18° to +60°C)					
Approx. Shipping Weight	13 lbs. (5.9 Kg)					

NOTES:
1. A Conoflow Model GFH60 Airpak Filter-Regulator or equal is recommended.
2. 0.1%FS/10°F (-12°C) for 30°F(-1°C) change in 15 minutes for models without booster relay.
3. These models DO NOT have booster relay and should be used in low volume applications.
4. Minimum piping requirements are 3/8" tubing or 1/4" pipe.
5. Explosionproof Approvals
   A. Conoflow's GT_8 Series Transducers have been Factory Mutual approved explosion-proof for Class I, Divisions 1 and 2, Groups B, C and D and dust-ignition-proof for Class II, Divisions 1 and 2, Groups E, F and G indoor hazardous locations.
   B. Conoflow's GT_8 Series Transducers have been Canadian Standards Association approved explosion-proof for Class I, Groups B, C and D and Class II, Groups E, F and G, indoor hazardous locations.
   C. Conoflow's GT28 (only) Transducer has been CENELEC approved explosionproof per EEx d IIB T6 for indoor hazardous locations.

DIMENSIONAL DATA



For Certified Dimensional Data, Refer to Drawing A28-26

CONTROL ENGINEERING DATA

Control Engineering Data is intended to provide a single source from which one can determine, in detail, the full scope of the product line. Operating principles and dimensional data are found in the instruction manual. Control Engineering Data also provides a means of communicating, by way of a code number, which is fully descriptive of the product selection.

NOTE:1. Catalog numbers as received must contain eight (8) characters.

1-3 Models

GT1 = Low Capacity (Note 1), 3-15 PSI (21-103 kPa) Output
GT2 = High Capacity, 3-15 PSI (21-103 kPa) Output
GT3 = Low Capacity (Note 1), 3-27 PSI (21-186 kPa) Output
GT4 = High Capacity, 3-27 PSI (21-186 kPa) Output
GT5 = Low Capacity (Note 1), 6-30 PSI (41-207 kPa) Output
GT6 = High Capacity, 6-30 PSI (41-207 kPa) Output
NOTE: 1. These models DO NOT have booster relay and should be employed in low volume applications.

4 Electrical Characteristics

8 = 0-20, 4-20 and 10-50 mA DC Milliampere Input - Low Impedance Coil

5 Electrical Inputs

Input Milliampere - DC
A = 0-20 mA DC -130 Ohms
E = 4-20 mA DC -145 Ohms
F = 10-50 mA DC - 60 Ohms

6 Accessories

A = GFH60XTKEG1C 0-25 PSI (0-172 kPa) Airpak-Filter Regulator w/ Gauge (Note 1)
B = GFH60XTKEG1F 0-60 PSI (0-414 kPa) Airpak-Filter Regulator w/ Gauge (Note 2)
C = GFX04 Filter Only - No Regulation Desired
D = No Filter - Regulator Desired
E = GFH60XTKEX1C 0-25 PSI (0-172 kPa) Airpak-Filter Regulator w/o Gauge (Note 1)
F = GFH60XTKEX1F 0-60 PSI (0-414 kPa) Airpak-Filter Regulator w/o Gauge (Note 2)
G = GFH60XTKEX2C 0-25 PSI (0-172 kPa) Airpak-Filter Regulator w/o Gauge (Note 1)
H = GFH60XTKEX2F 0-60 PSI (0-414 kPa) Airpak-Filter Regulator w/o Gauge (Note 2)
J = GFH60XTKEG2C 0-25 PSI (0-172 kPa) Airpak-Filter Regulator w/ Gauge (Note 1)
K = GFH60XTKEG2F 0-60 PSI (0-414 kPa) Airpak-Filter Regulator w/ Gauge (Note 2)
L = GFH60XTKEX3C 0-25 PSI (0-172 kPa) Airpak-Filter Regulator w/o Gauge (Note 1)
M = GFH60XTKEX3F 0-60 PSI (0-414 kPa) Airpak-Filter Regulator w/o Gauge (Note 2)
N = GFH60XTKEG3C 0-25 PSI (0-172 kPa) Airpak-Filter Regulator w/ Gauge (Note 1)
P = GFH60XTKEG3F 0-60 PSI (0-414 kPa) Airpak-Filter Regulator w/ Gauge (Note 2)
NOTES:
1. For use with 3-15 PSI (21-103 kPa) Output [12 PSI(83 kPa) Spans]
2. For use with 3-27 PSI (21-186 kPa) and 6-30 PSI (41-207 kPa) Output [24 PSI (166 kPa)] Spans

7 Housing Options

B = Canadian Standard Association (CSA) Approved - Indoor Explosion-Proof Housing
C = CENELEC Approved - Indoor Explosion-Proof Housing (Note 1)
F = Factory Mutual (FM) Approved - Indoor Explosion-Proof Housing
NOTE: 1. Applies to GT28 Only.

8 Mounting Options

A = 2” U-Clamp for Pipe Mounting
X = Standard - Unless Option Code is Specified

9-12 Special Range (Input)

NOTE: 1. When special, non-codable options are requested, factory will apply four digits.