CONOFLOW ELECTRO-PNEUMATIC TRANSDUCERS

GT_2 Series DC Voltage

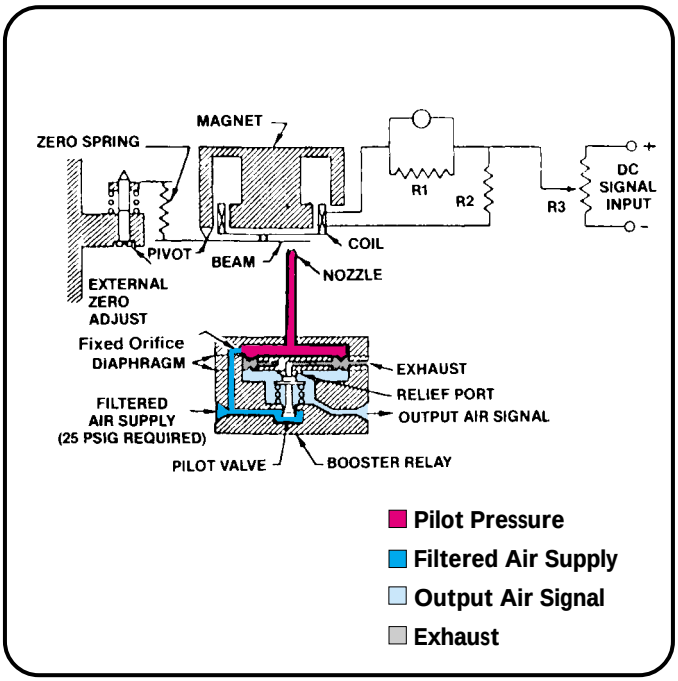
The Conoflow GT_2 Series Transducer accepts a DC voltage input and provides a proportional 3-15, 3-17 or 6-30 PSIG (21-103, 21-186 or 41-207 kPa) output. The input range is adjustable from a minimum of 0-5 VDC to a maximum of 0-60 VDC. Note that there are two circuit boards provided for this unit. One for input signals of 0-5 to 0-32 VDC and one for 0-33 to 0-60 VDC inputs. Two individual boards are provided as a 1.5K resistor is added to the circuit board for the 0-33 to 0-60 VDC input to reduce power dissipation in the range potentiometer at these higher inputs.

These transducers are available in either high or low flow 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 or final control elements. The low capacity versions use a fixed orifice and are utilized for input signals to pneumatic positioners. NEMA 3R housing requirements are optional.

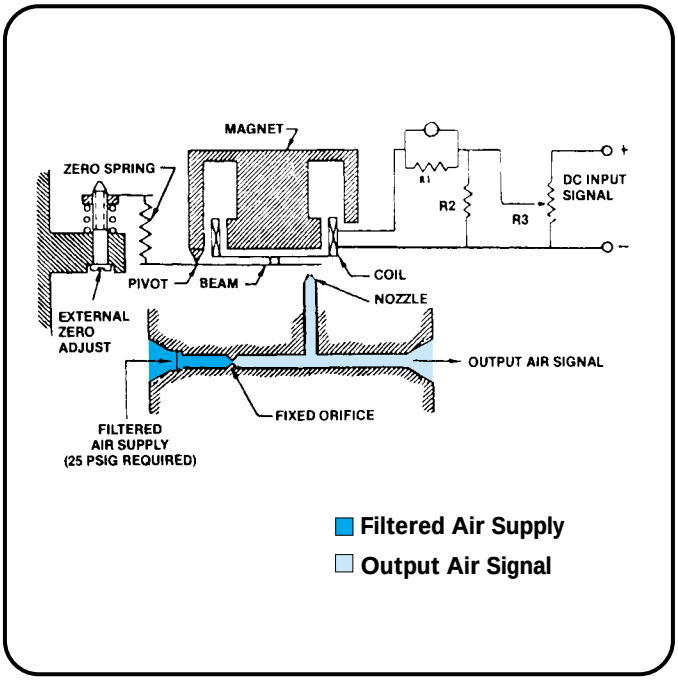
Design characteristics of quality and reliability are backed by Conoflow's high standard of manufacturing and years of experience as a leading manufacturer of precision-built instruments.

DIMENSIONAL DATA - ADVERTISING DRAWINGS:

GT Series - High Capacity: A28-7
GT Series - Low Capacity: A28-9
GT Series - 2" Pipe Mounting Bracket: A28-22



High Capacity: Series GT22, GT42 and GT62



Low Capacity: Series GT12, GT32 and GT52

PRINCIPLE OF OPERATION

The Conoflow GT_2 Series Transducers are force balance units which accept a 0-5 minimum to a 0-60 maximum Volts 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.

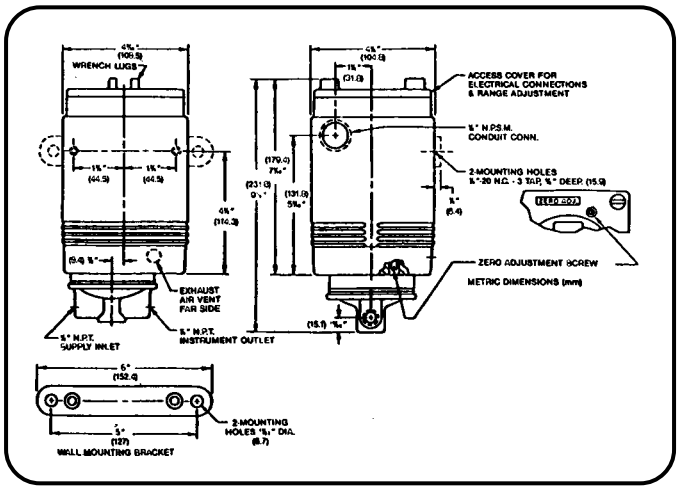
In the reverse acting mode, an increase in the input signal causes the coil to move toward the magnet instead of away from it since the direction of the current through the coil is reversed. An increasing signal, therefore, causes a proportionally decreasing output.

SPECIFICATIONS

OPERATING CHARACTERISTICS	GT12 (1)	GT22	GT32 (1)	GT42	GT52 (1)	GT62
Input Range	0-5 Volts DC Minimum to 0-60 Vlts DC Maximum					
Nominal Input Impedance	333 ohms to 4000 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 (3)	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 +150°F (-18° to +66°C)					
Approx. Shipping Weight	7 lbs. (178 Kg)					

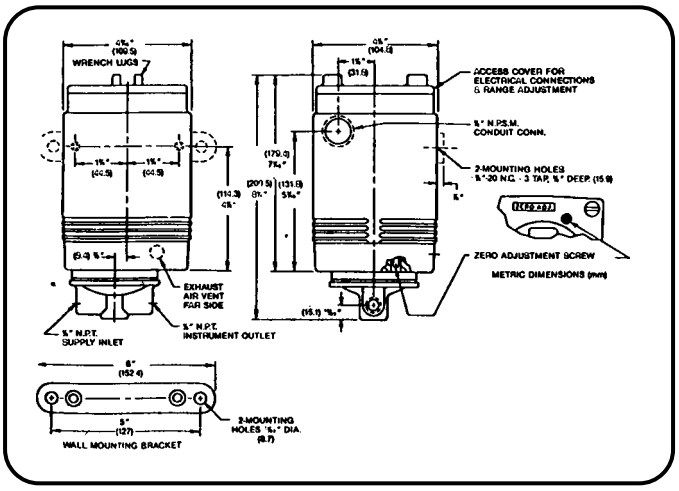
NOTES:
1. These models DO NOT have booster relay and should be used in low volume applications.
2. Minimum piping requirements are 3/8" tubing or 1/4" pipe.
3. A Conoflow Model GFH60 Airpak Filter-Regulator or equal is recommended.

DIMENSIONS (High Capacity: Series GT22, GT42 and GT62)



For Certified Dimensional Data, Refer to Drawing A28-7

DIMENSIONS (High Capacity: Series GT12, GT32 and GT52)



For Certified Dimensional Data, Refer to Drawing A28-9

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 (11) 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
GT7 = Low Capacity, (Notes 1 and 2), Special Output
GT8 = High Capacity, (Note 2), Special Output
NOTE: 1. These models DO NOT have booster relay and should be employed in low volume applications.
2. Customer to specify output span required (Consult the factory).

4 Electrical Characteristics

2 = DC Voltage, 0-5 VDC Minimum to 0-60 VDC Maximum Input
9 = Special Input - Customer to specify input required (Consult factory)
NOTE: 1. See position five (5) for input range coding.

5 Electrical Inputs

Input Voltage - DC

A = 0-15 VDC	F = 0-33 VDC	L = 0-50 VDC
B = 0-10 VDC	G = 0-5 VDC	M = 0-55 VDC
C = 0-20 VDC	H = 0-60 VDC	Y = Special input (Customer to specify calibration required). Units will calibrate between 0-5 VDC to 0-60 VDC.
D = 0-25 VDC	J = 0-40 VDC	
E = 0-32 VDC	K = 0-45 VDC	

NOTE: 1. IMPEDANCE 333 OHMS TO 4000 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 and 6-30 PSI (21-186 kPa and 41-207 kPa) Output [24 PSI (166 kPa)] Spans]

7 Housing Options

A = Light Weight Sheet Metal Cover (Note 1)
R = NEMA 3R Housing
X = Standard - Unless Option Code is Specified.
NOTE: 1. If option "A" or "R" is not specified, the standard cover will be supplied.

8 Mounting Options

A = 2" U-Clamp for Pipe Mounting
X = Standard - Unless Option Code is Specified
NOTE: 1. This option cannot be used when option "A" in position 7 is specified.
2. For dimensional data, refer to Advertising Drawing A28-22.

9 Operation Modes

R = Reverse Acting Output [15-3, 27-3 or 30-6 (103-21, 186-21 or 207-41 kPa)]
X = Standard- Unless Option Code is Specified.

10 Future Options

X = Standard- Unless Option Code is Specified.

10 Future Options

X = Standard- Unless Option Code is Specified.

12-15 Special Range (Input)

1. When option "Y" in position 5 is used, factory will apply four digits.