CONOFLOW
VACUUM REGULATOR
GH20VT/GH28VT SERIES

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 stands 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.
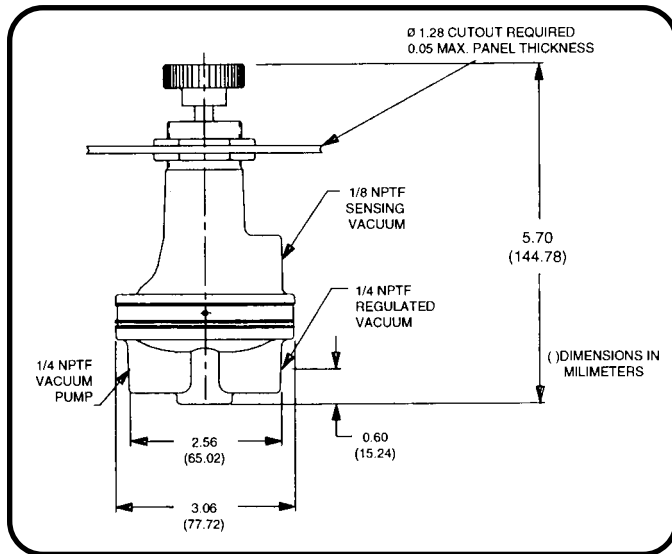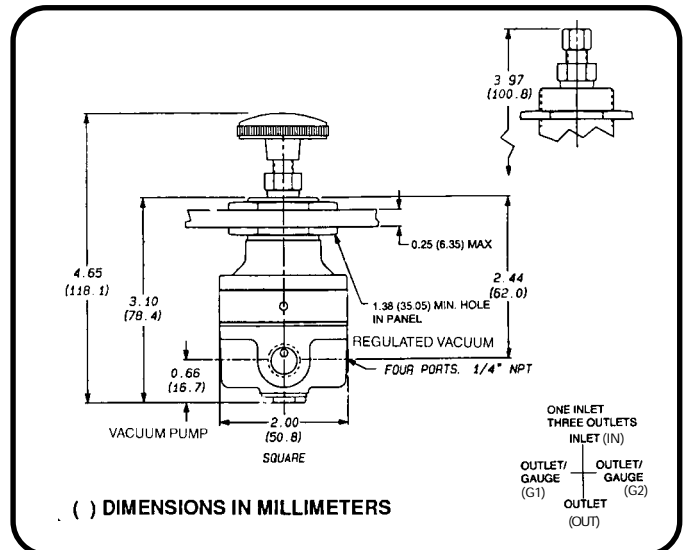
OPTIONS:
ADJUSTMENT:

Screwdriver Slot (Optional)

DIMENSIONAL DATA - ADVERTISING DRAWINGS:
GH20VT: A17-5
GH28VT: A17-90

For Certified Dimensional Drawing, Refer to A17-5 (GH20VT)

**For Certified Dimensional Drawing, Refer to A17-90 (GH28VT)**

PRINCIPLE OF OPERATION

These units are used to provide a regulated vacuum. Turning the handwheel changes the force exerted by the range spring on the diaphragm assembly. Additional forces are exerted on the diaphragm assembly at atmospheric pressure underneath the top diaphragm and the regulated vacuum above it. Equilibrium is reached when all three of these forces are in balance. The forces from the lower diaphragm are negligible due to its reduced effective area.

If the regulated vacuum drops below the set point, there is a net downward force on the diaphragm assembly which causes the nozzle to open. This allows the vacuum pump to increase the vacuum in the control chamber and in the regulator bonnet. As the vacuum increases, the upward force on the diaphragm assembly increases.

This causes the diaphragm assembly to move upward allowing the nozzle to close. In equilibrium, the nozzle assumes a position to provide the required flow while maintaining the vacuum at the set point.

If the regulated vacuum rises above the set point, the resulting upward force on the diaphragm assembly causes the diaphragm seat to lift off of the plug. This allows air at atmospheric pressure to enter the lower diaphragm decreasing the vacuum until the set point is reached.
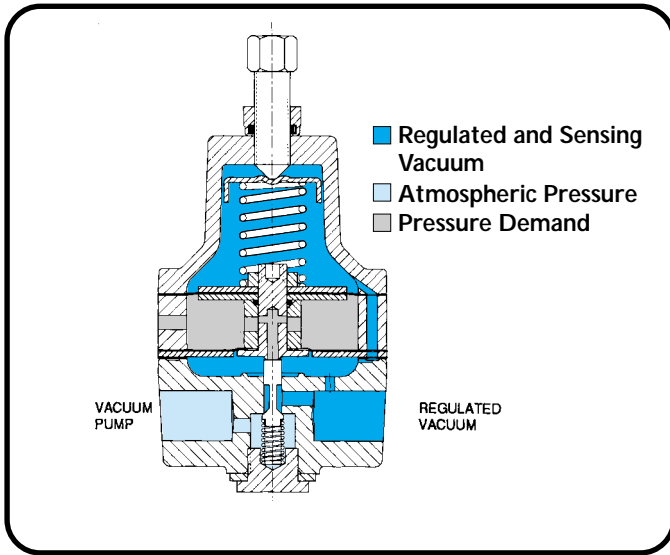
GH28VT Series - Relief-No Bleed Diaphragm
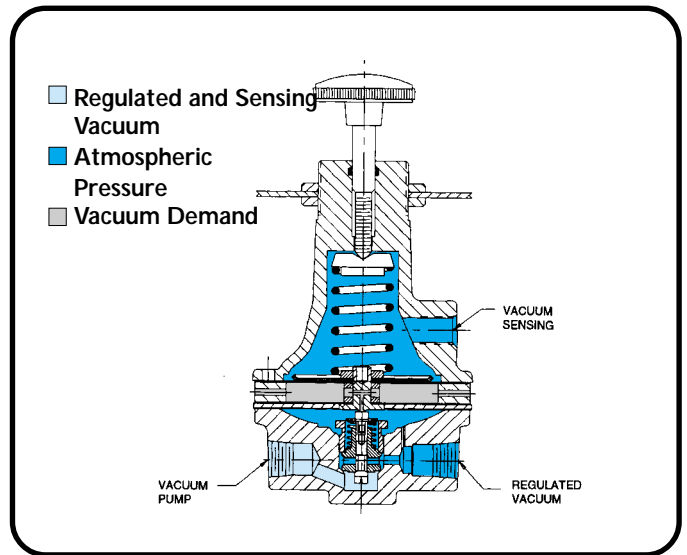
GH20VT Series - Relief-No Bleed Diaphragm

SPECIFICATIONS:

Operating Characteristics	GH20VTHEXXX_	GH20VTHHXKX_	GH28VTHEXXX_
Connections	1/4" NPT W/1/8" NPT Vacuum Sensing Port		1/4" NPT - 4 Ports
Regulated Vacuum	0-15" and 30" Hg (38.1 and 76.2 cm Hg)		
Flow Capacity (Max.)	1.5 SCFM (0.04 m3/min)		
Sensitivity	0.2" H$_2$O (0.51 cm)		
Ambient Temperature Range	-20°F to +150°F (-29°C to +66°C) (w/Buna Diaphragm)		
Approx. Shipping Weight	2-3/4 lbs. (1.3 Kg)	3 lbs. (1.4 Kg)	1 lb. (0.45 Kg)

MATERIALS OF CONSTRUCTION

Body	Brass	316 St. Stl.	Aluminum
Bonnet	Brass	316 St. Stl.	Aluminum
Diaphragm Assembly (1)	Buna "N"	Teflon/Buna "N"/Teflon	Buna "N"
Nozzle Assembly	Brass Body/St. Stl. Plug	302/303 St. Stl.	303 St. Stl.
Range Spring	St. Cad. Plt.	316 St. Stl.	St. Cad. Plt.

NOTE: (1) Other diaphragm materials available, consult the factory.

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. In addition to materials of construction and diaphragm selection, it also provides all necessary data, regarding adjustment options and range selections. 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 twelve (12) characters.

For Dimensional Data,
Refer to Drawing:

1-4 Models

GH20	= Regulator - Vacuum		A17-5
GH28	= Regulator - Miniature Vacuum		A17-90

5 Operational Feature

Vacuum Service

6 Bonnet Options

F = Tapped Bonnet for Flush Pack Panel Mounting (GH20V Series Only)
S = Plain Bonnet
T = Threaded Bonnet - (Standard)

7 Adjustment Options

H = Handwheel - Standard
K = Knob (Wrench Style)

8 Diaphragm Selections

The catalog number(s) listed under each diaphragm option is the standard diaphragm used in that regulator. These options apply to all output ranges of that unit. For non-standard diaphragm price adders, refer to price list CP-5000.
D = Neoprene (w/Relief, No Bleed) (See Note 1)
E = Buna "N" (w/Relief, No Bleed) GH20VTHEXXX_, GH28VTHEXXX_.
G = Silicone on Glass (w/Relief, No Bleed) (See Note 1)
H = Teflon (Sandwich Type - w/Relief, No Bleed) (See Note 1) GH20VTHEXKX_
J = Viton on Nomex (w/Relief, No Bleed) (See Note 1)
L = Nordel on Nomex (EPDM) (w/Relief, No Bleed)(See Note 1)
NOTE: 1. These options are not available on the GH28.

9 Seat Selections

A = Buna "N"
B = Neoprene
C = Viton
D = Low Leak Nozzle w/Metal Seat GH20 - 20CC Air/Min.
F = Low Leak Nozzle w/Metal Seat GH20 - Less than 15CC Air/Min.
N = Nordel
X = Standard - Unless option code is specified
NOTES: 1. All GH40 Models are standardly supplied with Buna "N" Soft Seats. If option B or C is required, specify accordingly. GH20 with soft seats are supplied as GH40.
2. Soft Seated Nozzles are not available on the GH28VT Regulator.
3. For list price adders, refer to price list CP-5000.

10 Material Options

K = Stainless Steel Construction (303 Stainless Steel Internals)
X = Standard - Unless option code is specified.
NOTE: 1. Option "K" is not available on the GH28.

11 Cleaning Options

A = Cleaned for Oxygen Service
X = Standard - Unless option code is specified.

12 Range Selections

N = 0-15" Hg (0-5 PSI)
P = 0-30" Hg (0-15 PSI)