

ITT Industries

AUTOMOTIVE
DEFENSE & ELECTRONICS
FLUID TECHNOLOGY

ITT CONOFLOW

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WARNING

Conoflow's products are designed and manufactured using materials and workmanship required to meet all applicable industry standards. The use of these products should be confined to services specified and/or recommended in the Conoflow catalogs, instructions or by Conoflow application engineers (i.e. exceeding pressure-temperature rating or using device for services other than those specified).

To avoid personal injury or equipment damage due to misuse or misapplication of a product, it is necessary to select the proper materials of construction and pressure-temperature ratings which are consistent with performance requirements.



FOREMOST
IN
CONTROL
ELEMENTS

INSTRUCTION AND MAINTENANCE MANUAL GH20/40 SERIES SERVICE REGULATORS

PRINCIPLE OF OPERATION

Refer To Figure 1

Turning the handwheel changes the force exerted by the range spring on the diaphragm assembly. In equilibrium, the force exerted by the range spring is balanced by the force from the output pressure acting underneath the diaphragm assembly.

An unbalance between the output pressure and the set pressure causes a corresponding reaction in the diaphragm and nozzle assemblies. If the output pressure rises above the set pressure, the diaphragm seat is lifted from the plug venting the excess pressure to atmosphere until equilibrium is reached. If the output pressure drops below the set pressure, the unbalanced force from the range spring acts through the diaphragm assembly unseating the nozzle plug. This allows supply pressure to flow through the nozzle to the downstream port increasing the output pressure. The output pressure increases until it balances the force on the diaphragm assembly by the range spring. At equilibrium, the plug assumes a position which supplies the required flow while maintaining the output pressure at the set pressure.

Refer to Figure 2

For applications where positive shut-off and minimum air consumption are required, molded rubber seats on the top and bottom of the nozzle plug are available.

Refer To Figure 3

A no bleed/no relief diaphragm assembly is used to prevent the process media from exhausting to atmosphere. This option is typically used with liquids and toxic gases. The principle of operation is the same as above except that excess output pressure is not vented to atmosphere. Instead, as the diaphragm seat lifts off of the plug and the nozzle closes, the excess pressure is relieved downstream.

A molded rubber seat on the nozzle plug is available for applications where positive shut-off is required.

INSTALLATION

CAUTION: Maximum Supply Pressure is 200 PSI(1379 kPa). Stainless Steel Models 300 PSI(2068 kPa)

Unit has two 1/4" N.P.T. connections. The inlet connection is marked "IN". IT IS RECOMMENDED THAT A FILTERED AIR SUPPLY BE USED.

Check all connections for leakage after installation.

The adjusting screw should be kept well lubricated with grease.

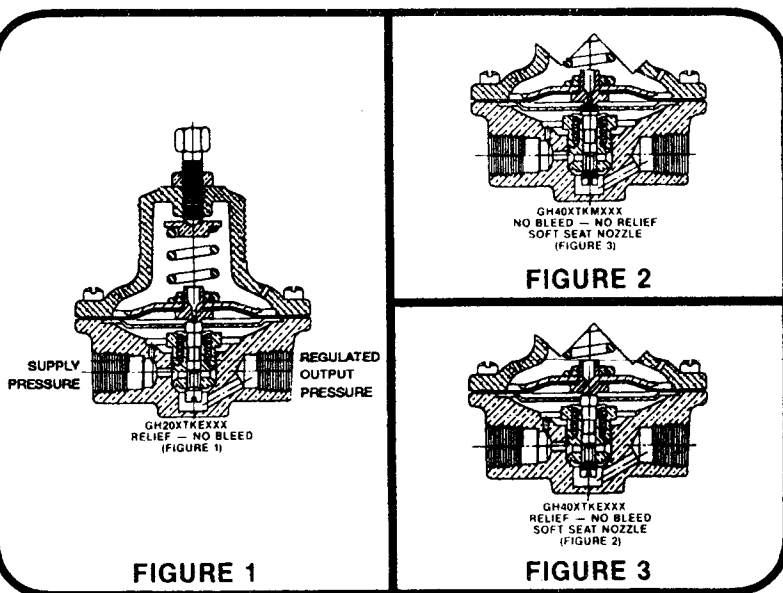
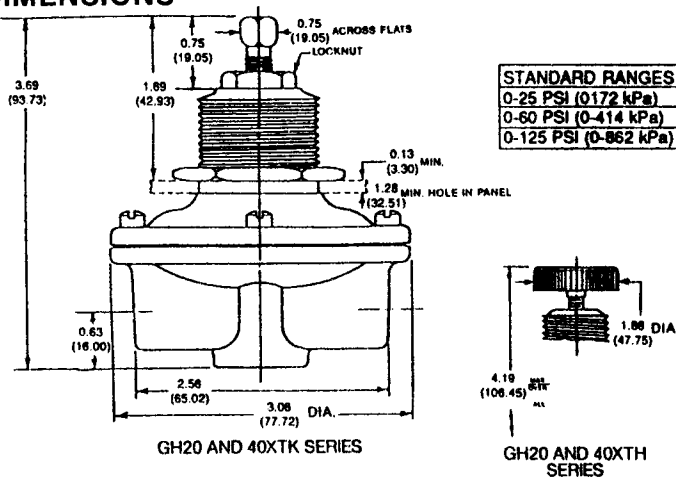


FIGURE 1

FIGURE 2

FIGURE 3

DIMENSIONS



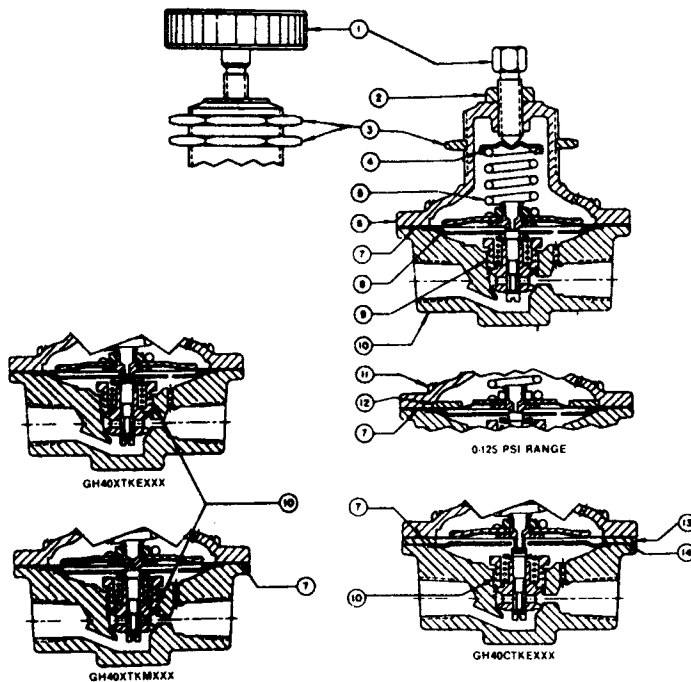
NOTES:
1. ALL CONNECTIONS ARE 1/4" NPT
2. () DIMENSIONS IN MILLIMETERS
* OPTION ACCESSORY, ONLY SUPPLIED WHEN SPECIFIED

FOR CERTIFIED DIMENSIONAL DRAWING, REFER TO
A17-3

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WARNING - TECHNICAL DATA SUBJECT TO EAR CONTROLS

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MAINTENANCE

Remove air supply pressure and bleed off output pressure prior to performing maintenance.

Periodic replacement of the diaphragm assembly and nozzle assembly is recommended for services where the unit is on stream continuously and where consistent, high accuracy regulation is required. The frequency of replacement will depend on the nature of the service, cleanliness of air, humidity of the air, etc.

To replace diaphragm assembly, loosen adjustment (knob or handwheel) until spring tension is relieved. Remove six screws (11) and lift off bonnet (6), spring plate (4), spring (5) and diaphragm assembly (7). Place new diaphragm assembly (7) over body (10) with diaphragm plate up. Place spring (5) and spring plate (4) on diaphragm assembly (7), re-install bonnet (6) and tighten down six screws (11). The six screws (11) should be tightened alternately.

NOTE: On the GH40CT version spacer (13) and gasket (14) must be placed over body prior to installing new diaphragm assembly.

To replace the nozzle assembly (9) proceed as above, also removing baffle plate (8). Use 3/8" socket wrench to remove and replace nozzle assembly to avoid damage to the nozzle. Nozzle assembly may be cleaned by immersion in a suitable solvent and blowing dry with air stream.

Item No.	Description	Qty. Req'd	GH20TKEXXX(2) GH40TKEXXX(2) GH40TKMAXX(2)	GH20TKEXBX(2) All Brass	GH20TKHXX(2) 303 St. Stl.	GH20TKHXSX (2) 316 St. Stl.	GH40CTKEXXX(2)
1	Knob-Wrench Style Handwheel Assembly	1	6017750	6017750	6017750	6384855	6017750
2	Hex Jam Nut 5/16"-24NF	1	6900212	6900212	6900211	6900211	6900212
3	Locknut (2 Req'd H Adjustment)	1	6017628	6017628	6017636	6017636	6017628
4	Spring Plate	1	6018857	6018857	6017172	6384765	6018857
5	Range Spring						
	-Green 0-25 PSI(0-172 kPa)	1	6017347	6017347	6019780	6284838	6017347
	-Red 0-60,125 PSI(0-414, 862 kPa)	1	6019921	6019921	6021042	6384839	6019921
6	Bonnet	1	6017727	6017412	6021026	6021026	6018972
7(1)	Diaphragm Assembly						
	0-25/60 PSI(0-172/414 kPa) KEXXX	1	6019939	6019939	6020325	6384835	6018964
	0-125 PSI(0-862 kPa) KEXXX	1	6019947	6019947	6021075	6384837	-----
	0-25/60 PSI(0-172/414 kPa) KMXXX	1	6018766	-----	-----	-----	-----
	0-125 PSI(0-862 kPa) KMXXX	1	6018634	-----	-----	-----	-----
8	Baffle Plate	1	6319115	6319115	6021059	6021059	6319115
9	Nozzle Assembly						
	H20-KEXXX	1	6347843	6347843	6020986	6384841	-----
	H40-KEXXX	1	6018758	6018758	-----	-----	6018758
	H40-KMXXX	1	6018741	-----	-----	-----	-----
10	Body	1	6320741	6320741	6021034	6021034	6320774
11	Fill. HD Screw #8-32 x 3/8" Lg.	6	6900039	6900039	6900046	6900046	6900185/1/2" Lg.
12	Restricting Plate (0-125 PSI [0-862 kPa] only)	1	6017487	6017487	6021083	6021083	-----
13	Spacer	1	-----	-----	-----	-----	6016935
14	Gasket	1	-----	-----	-----	-----	6017545

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NOTES: 1. Recommended Spare Parts.

2. For definition of catalog number, refer to Sales Bulletin C-2004.

3. When ordering spare parts, specify complete catalog no., item no. and part no. This will permit positive identification and rapid handling of order.

WARNING: MANUFACTURED WITH (1, 1, 1-TRICHLOROETHANE), A SUBSTANCE WHICH HARMS PUBLIC HEALTH AND ENVIRONMENT BY DESTROYING OZONE IN THE UPPER ATMOSPHERE.

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