

# ITT Industries

AUTOMOTIVE  
DEFENSE & ELECTRONICS  
FLUID TECHNOLOGY

## ITT CONOFLOW

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## INSTRUCTION AND MAINTENANCE MANUAL GH3T SERIES FIXED DIFFERENTIAL REGULATORS

### 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.

### PRINCIPLE OF OPERATION

The GH31 regulator maintains a constant pressure differential across an external valve or other residential, providing a constant flow rate, regardless of variations in upstream pressure. The pressure upstream of the needle valve is piped to the bonnet of the regulator and acts on the effective area of the diaphragm to create a downward force. This force is opposed by the pressure acting on the underside of the diaphragm and the compressed spring located under the plug which exerts an upward force equivalent to 3 PSI(21 kPa). Under operating conditions, the pressure downstream of the needle valve is always 3 PSI(21 kPa) less than the upstream pressure, thus the flow will remain constant for any given setting of the needle valve.

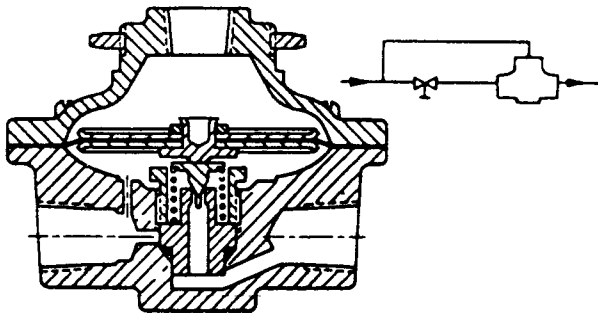
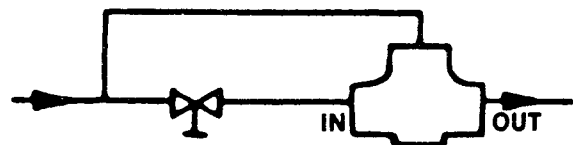
### INSTALLATION

**CAUTION:** Maximum Supply and Signal Pressure is 100 PSI(690 kPa)

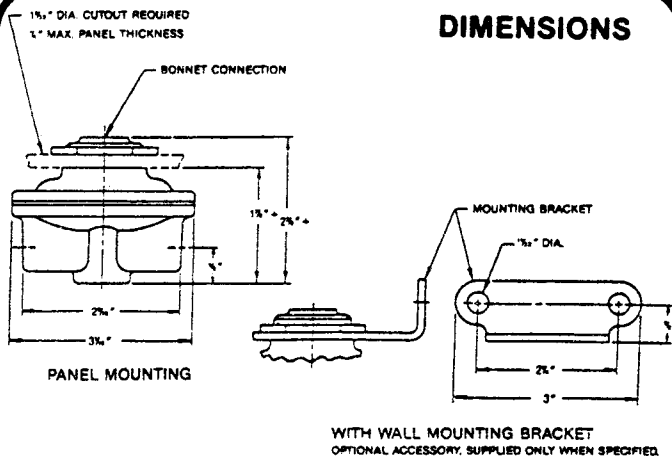
Unit has three 1/4" N.P.T. connections. The inlet connection is marked "IN" and is piped directly from the downstream side of the orifice. The bonnet connection is piped from the upstream side of the orifice. (See Figure 1). **IT IS RECOMMENDED THAT A FILTERED AIR SUPPLY BE USED.**

Check all connections for leakage after installation.

FIGURE 1



### DIMENSIONS



#### NOTES:

1. ALL CONNECTIONS ARE 1/4 NPT
2. "±" ADD 0.31(7.87) TO THIS DIM FOR GH21XTXKXS AND GH31XTXKXK
3. ( ) DIMENSIONS IN MILLIMETER

FOR CERTIFIED DIMENSIONAL DRAWING,  
REFER TO A17-18

PRINTED IN U.S.A.  
DATE: 10/91 - Rev. B

C-8024

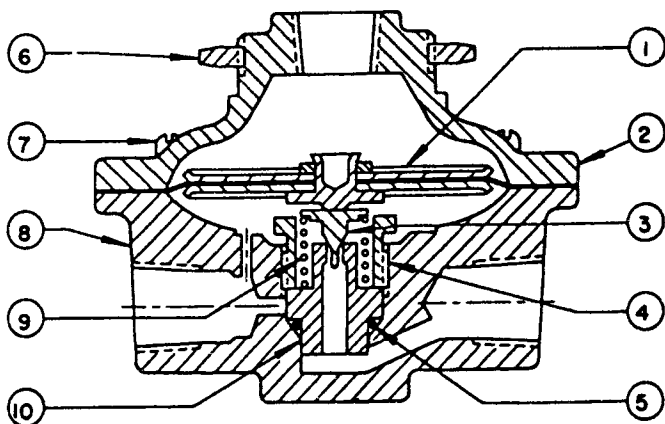
## MAINTENANCE

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 the diaphragm assembly (1), remove six screws (7) and lift off bonnet (2). Place new diaphragm assembly (1) over body orienting diaphragm assembly over tapped holes. Place bonnet (2) over diaphragm assembly and tighten six screws (7). The six screws should be tightened alternately.

To replace nozzle assembly remove plug (3) and plug spring (9). Use  $\frac{3}{8}$ " socket wrench socket to remove and replace nozzle retaining nut (4). Remove nozzle (10) and "O" ring (5). Nozzle assembly may be cleaned by immersion in a suitable solvent and blowing dry with air stream.



ITEM NO.	DESCRIPTION	QTY. REQ'D.	GH31XTXM <sup>(2)</sup>	GH31XTXKXK <sup>(2)</sup> 303 St. Stl.	GH31XTXKXS <sup>(2)</sup> 316 St. Stl.
1 (1)	Diaphragm Assembly	1	6019590	6020002	6384824
2	Bonnet	1	6020309	6018659	6018659
3	Plug	1	6019566	6019566	6384820
4	Nozzle Retaining Nut	1	6019574	6385082	6384230
5 (1)	O-Ring	1	6076640	6076665	6076665
6	Locknut	1	6017628	6017636	6017636
7	Fill. Hd. Screw #8-32 x 3/8" Lg.	6	6900046	6900046	6900046
8	Body	1	6018642	6018675	6018675
9	Plug Spring	1	6019962	6019962	6384822
10	Nozzle	1	6019582	6384232	6384829

NOTES: 1. Recommended Spare Parts can be purchased individually or as a spare parts kit under number: (Consist of item 1 and 5).

2. For definition of catalog number, refer to Sales Bulletin C-2006.

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

6385336  
Spare Parts Kit

6385337  
Spare Parts Kit  
GH31 303 St. Stl.

6385338  
Spare Parts Kit  
GH31 316 St. Stl.

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

WARNING: TECHNICAL DATA SUBJECT TO EAR CONTROLS

This document contains technical data whose export is restricted by the Export Administration Act of 1979, as amended (Title 50, U.S.C., App. 2401, et seq.) Violation of this export control law is subject to severe criminal penalties.