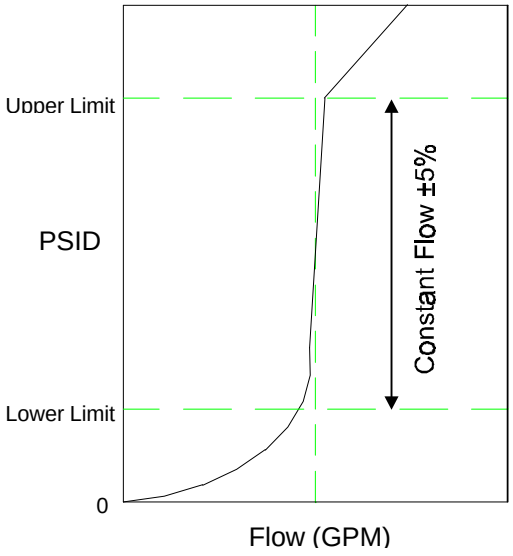
FLOW VERIFICATION

Every Griswold flow control valve is factory set to automatically maintain a specified flow rate within ±5% accuracy over 95% of the pressure differential (PSID) control range. Below and above this control range, Griswold valves work as fixed orifice-type valves and allow flow to vary. To determine how much the actual flow has varied from the specified rate follow the instructions below.

1. Connect your meter kit to the test plugs located on the valve body. If you are using another device which measures feet of head, then convert your readings to PSI (ft of head * 0.4327 = PSI)
2. Determine the pressure differential PSID across the valve by subtracting the downstream pressure from the upstream pressure.
3. Determine which PSID control range the valve is set for. Seven ranges are available. (Note: the fourth number of the valve model denotes the lower limit of the control range. #3522 means the valve should operate within a 2-32 PSID range.
4. If the PSID reading falls within the valves control range, then the valve is guaranteed to be maintaining the specified flow rate within ±5% accuracy.
5. If the actual PSID reading lies outside the valve's PSID operating range (either above or below) then calculate how much the flow rate has varied from the specified rate using the following equations and table.



$Q = C_f Q_o \sqrt{\Delta P}$

Where:
Q = Flow rate through valve (GPM)
C_f = Flow coefficient (See table below)
Q_o = Specified (factory set) flow rate of valve (GPM)
ΔP = Pressure differential across the valve (PSID)

PSID Operating Control Range	C_f	
	Below Control Range	Above Control Range
1-14	.82	.27
1-20	.72	.22
2-32	.58	.18
3-18	.63	.24
4-57	.41	.13
5-32	.45	.18
8-128	.29	.09

Example: If the pressure differential PSID reading across your valve is 3 PSID, the valve is pre-set at 50 GPM for an operating control range of 4-57 PSID, what is the flow through the valve?

$Q = C_f Q_o \sqrt{\Delta P} = .41*50*\sqrt{3}$

Therefore Q = 35.5 GPM

2803 Barranca Parkway, Irvine, CA 92606
(949) 559-6000 Fax (949) 559-6088
www.GriswoldControls.com

GRISWOLD CONTROLS

TEST PLUG TYPES AND CONNECTIONS

Both the single and dual hose meter kits are offered with your choice of hose connections: a pressure only fitting or a pressure/temperature probe. To connect the meter kit hose(s) and to determine the operating PSI differential, follow the steps below.

Pressure only Fitting #3622

Steps

1. Remove the test plug cap.
2. Turn the shut-off valve clockwise to close the line.
3. Turn on the fitting and tighten.
4. Turn the T-bar clockwise to depress the test plug core.
5. Open the shut-off valve to take the PSI reading.
6. To remove the hose kit, reverse steps 1 through 4.

Probe Type Fitting #3621

Steps

1. Remove the test plug cap.
2. Turn the shut-off valve clockwise to close the line.
3. Insert the probe.
4. Tighten the nut.
5. Open the shut-off valve to take the PSI reading.
6. To remove the hose kit, reverse steps 1 through 4.

Single Hose Meter Kit #3421

Steps

1. Connect the hose to the one test plug and take a reading.
2. Connect the hose to the other test plug and take a reading
3. Subtract the low PSI reading from the high PSI reading to get the PSI differential

Dual Hose Meter Kit #3429

Steps

1. After attaching both hoses, read the pressure on the gage. It doesn't matter which hose is attached to which valve fitting.
2. Depress the palm button to take the other PSI reading.
3. Subtract the low PSI reading from the high PSI reading to get the PSI differential

Direct Mounted Meter Kit # 3411

Steps

1. Attach the meter kit directly to the ¼" tappings on the valve body.
2. Turn the handle to position A and take the reading. Turn the handle to position B and take the reading.
3. Subtract the low PSI reading from the high PSI reading.
4. To determine the flow rate, refer to the flow rate table provided next to the handle.

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