



## H25 Series BASO® Dual Outlet 100% Shutoff Automatic Pilot Gas Valve

### Application

The H25 Series dual outlet safety valve allows independent burner operation so you can control two separate burners.

### Installation

**IMPORTANT:** Only qualified personnel should install or service BASO® Gas Products. These instructions are a guide for such personnel. Carefully follow all instructions in this document and all instructions for the appliance.

**IMPORTANT:** Make all gas installations in accordance with applicable local, national, and regional regulations.



**WARNING: Risk of Explosion or Fire.**

Shut off the gas supply at the main manual shutoff valve before installing or servicing the H25. Failure to shut off the gas supply can result in the release of gas during installation or servicing, which can lead to an explosion or fire, and may result in severe personal injury or death.

**IMPORTANT:** Verify that the valve is installed only in applications where the specified maximum ambient (surface) temperature and maximum operating pressures will not exceed the limits in the *Technical Specifications* section.

To install the H25 valve:

1. Shut off the gas at the main manual shutoff valve.
2. When installing the valve on the manifold, ensure that the gas flows through the valve body is in the direction indicated by the arrow on the valve body. If the valve is installed with the gas flow in the opposite direction of the arrow, leakage can occur.

**IMPORTANT:** Do not use a wrench on any surface other than the flat sides of the valve body. The H25 may be damaged in the mounting process if a wrench is used on the top and bottom surface. Using a wrench incorrectly may void the warranty.

3. Mount the valve to the pipework. The H25 valve may be mounted in any convenient position. Use an approved pipe joint sealing compound on the male threads before assembly. Remove excess compound after mounting the valve to the pipework. Threads of the pipe and nipples must be smooth and free of tears and burrs. Steam clean the I.D. of all piping to remove foreign substances such as cutting oil or thread chips. A sediment trap must be installed in accordance with the National Fuel Gas Code (ANSI Z223.1).
4. Attach a thermocouple securely to each pilot burner, and screw the terminal end to each BASO® power unit terminal on the valve. Make sure these connections are clean. Tighten the thermocouple lead nut finger tight, plus a maximum of 1/8 turn. **Do not overtighten.**
5. Pilot gas connections.
  - a. **Internal Pilot Gas Valve Models** receive pilot gas internally from the valve body.

**Note:** Pilot gas flow comes out of either gas valve top housing ports.

On internal pilot gas valve models, plumb the pilot burner fitting to either of the pilot gas ports on the valve. Plug the unused pilot gas port on the gas valve. See Figure 1.

- b. **External Pilot Gas Valve Models** receive pilot gas from an external gas source.

**Note:** Pilot gas flows through the pilot connection ports on housing which can flow in either direction as indicated by the arrows.

On external pilot gas valve models, plumb the pilot gas line from the external gas source to either pilot gas port on the gas valve. Plumb the other pilot gas port to the pilot burner fitting. See Figure 2.

- c. Gas valve models with **black arrows** are limited to application up the 175°F (80°C).
- d. Gas valve models with **red arrows** are limited to application up to 300°F (150°C).



**WARNING: Risk of Explosion or Fire.**

Never connect an external gas line to an internal pilot gas model. Pilot gas would flow freely in one port and out the other, which could lead to an explosion or fire and may result in severe personal injury or death.



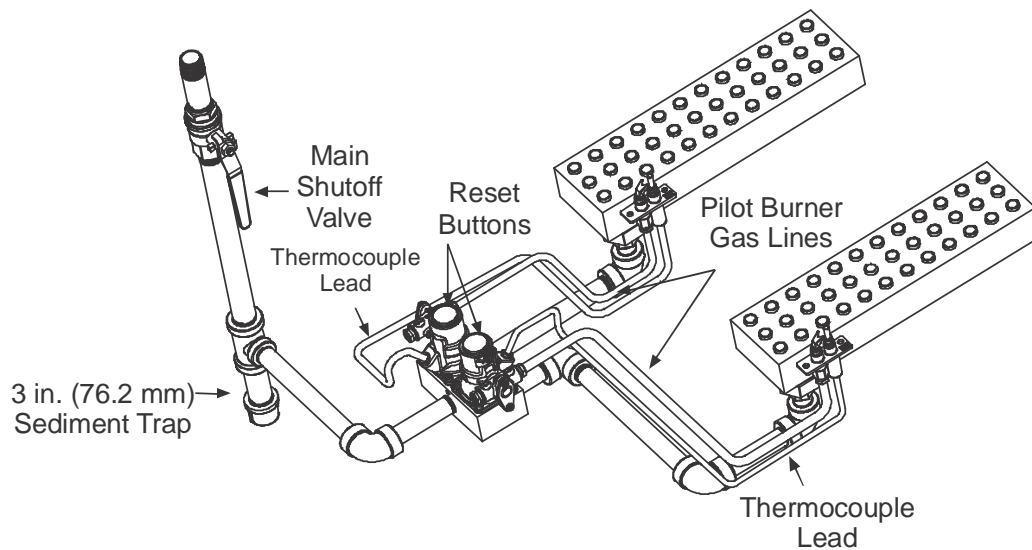
**WARNING: Risk of Explosion or Fire.**

Verify that there are no gas leaks by testing with appropriate equipment. Never use a match or lighter to test for the presence of gas. Failure to test properly can lead to an explosion or fire, and may result in severe personal injury or death.

- 6. Check for leakage:
  - a. Close the main upstream manual shutoff valve and open the pressure connection between the manual shutoff valve and the H25 valve.
  - b. Connect air tubing with a maximum pressure of 1-1/2 times the valve's maximum operating pressure (as indicated on the valve) to the opened pressure connection.
  - c. Paint all valve body connections with a rich soap and water solution.

If bubbles occur, this is an indication of a leak. To stop a leak, tighten joints and connections. Replace the part if the leak cannot be stopped.

If bubbles do not occur, remove the air tubing and close the pressure connection.



**Figure 1: Typical Installation for Internal Pilot Gas Flow**

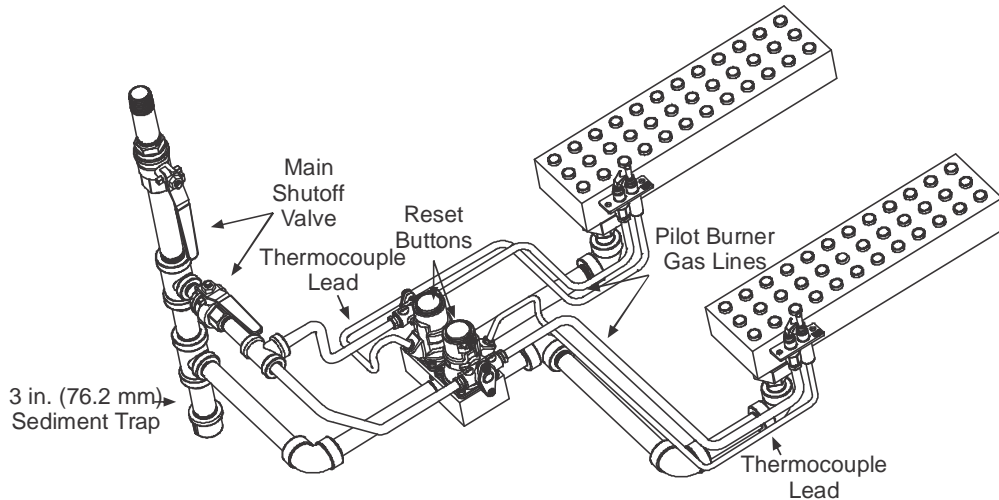


Figure 2: Typical Installation for External Pilot Gas Flow

## Setup and Adjustments

### Checkout



**WARNING: Risk of Explosion or Fire.**

Follow this or an equivalent checkout procedure after installation. Before leaving the installation, verify that the gas valve functions properly and the system has no gas leaks. Gas leaks can lead to an explosion or fire, and may result in severe personal injury or death.

Make sure all components are functioning properly by performing the following test:

1. Open all upstream shutoff valves and test all joints and connections of leaks with a soap solution.
2. Close the main upstream shutoff valve and wait at least five minutes for unburned gas to escape from the appliance, and then reopen the shutoff valve.
3. Push the reset button on either BASO power unit and light that pilot burner (see Figure 1 or Figure 2). Continue to hold the reset button for 30 to 45 seconds or until the pilot remains burning when the reset button is released. The main burner will begin burning.
4. Check the millivoltage (mV) output of the thermocouple and the milliampere (mA) dropout range of each BASO power unit to ensure that they meet the values listed in Table 1 and Table 2. Step-by-step procedures for these checks are included with the *Y99AB-4 BASO Test Kit Application Note*.
5. Observe at least three complete operating cycles to make sure that all components are functioning properly.

6. Push the reset button of the other (second) BASO power unit and light that pilot burner (see Figure 1 or Figure 2). Continue to hold the reset button for 30 to 45 seconds or until the pilot remains burning when the reset button is released. The main burner will begin burning. Repeat Steps 4 and 5.
7. Reset the thermostat to the desired setting before leaving the installation.

**Note:** BASO recommends using only BASO thermocouples that come from the original equipment manufacturer to provide optimum performance for your safety shutoff device.

Table 1: Thermocouple Output

Thermocouple		mV Range	
Lead Type	Turn Down	Normal	Not Less Than
K15	4 mV	20-28	15
K16	4 mV	25-35	17
K17	4 mV	30-40	25
K19	4 mV	25-35	17

Table 2: Dropout Range

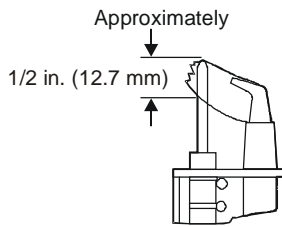
mA Range of Power Unit Assembly	
Low	High
100	300

## Pilot Servicing

If pilot flame problems occur, check the following:

- If the pilot flame burns yellow, it may be due to dirt or lint covering the lower portion of the pilot burner. Remove this using a soft brush or a vacuum.
- A flame approximately 1/2 in. (12.7 mm) high must surround the thermocouple tip (see Figure 3).
- Because this is an electrical connection, the thermocouple lead connection to the BASO power unit must be clean and free of grease.

**Note:** If the flame is lower on the tip than shown in Figure 3, this will cause premature valve dropout.



**Figure 3: Flame Position**

## Repairs and Replacement



### **WARNING: Risk of Explosion or Fire.**

Shut off the gas supply at the main manual shutoff valve before installing or servicing the H25. Failure to shut off the gas supply can result in the release of gas during installation or servicing, which can lead to an explosion or fire, and may result in severe personal injury or death.

Field repairs must not be made to the H25 valve. If the thermocouple meets the output listed in Table 1 and the valve does not function, replace the entire valve. Any attempt to repair this assembly voids the manufacturer's warranty. For a replacement valve, contact the original equipment manufacturer or the nearest BASO Gas Products distributor.

## Y99AY Manually Operated Pilot Adjust Adapter Fittings

### Description

The Y99AY Series Manually Operated Pilot Adjust Adapter Fittings are used to change flame height to the pilot burner device requiring lower BTU/hr. Each straight pilot valve comes with an adjustment screw, which allows for precision pilot flame adjustments. Available in single pack or bulk pack (50 per box).

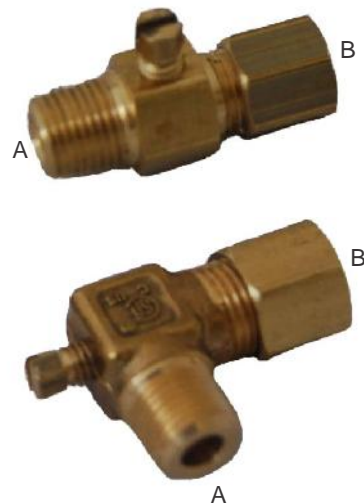
### Agency Listing

CSA (AGA/CGA) Certificate Number 1258559-112051

**Table 3: Y99AY Selection Chart**

Part Number	A Thread Size	B Thread Size
<b>Y99AY-1 (Straight)</b>	1/8 NPT	3/16 CC
<b>Y99AY-2 (Straight)</b>	1/8 NPT	1/4 CC
<b>Y99AY-3 (Elbow)</b>	1/8 NPT	3/16 CC
<b>Y99AY-4 (Elbow)</b>	1/8 NPT	1/4 CC

Rated 0.5 psi



**Figure 4: Y99AY Manually Operated Pilot Adjust Adapter Fitting**

## Technical Specifications

<b>Product</b>	H25 Series BASO Dual Outlet Pilot Gas Valve
<b>Maximum Operating Pressure</b>	0.5 psi (35 mbar)
<b>Valve Body</b>	Aluminum
<b>Permissible Ambient (Surface) Temperature</b>	-30 to 175°F (-34 to 79°C) 32 to 300°F (0 to 149°C)
<b>Recommended Thermocouple Lead Lengths</b>	K15: 12 to 48 in. (305 to 1,220 mm) K16: 12 to 72 in. (305 to 1,830 mm) K17: 18 to 72 in. (457 to 1,830 mm) K19: 18 to 72 in. (457 to 1,830 mm)
<b>Body Connections</b>	3/8 in. NPT Inlet x 3/8 in. NPT Outlet 1/2 in. NPT Inlet x 1/2 in. NPT Outlet
<b>Types of Gas</b>	Natural, Liquefied Petroleum (LP), and LP gas-air mixtures
<b>Packaging</b>	Bulk pack supplied to original equipment manufacturer (individual pack optional)
<b>Bulk Pack Quantity</b>	32
<b>Bulk Pack Weight</b>	52 LB (24 kg)
<b>Agency Listing</b>	CSA (AGA/CGA) Certificate Number 229521-1656080
<b>Specification Standards</b>	ANSI Z21.78, CSA 6.20 UL Standard 372

*Performance specifications are nominal and conform to acceptable industry standards. All agency certification of BASO products is performed under dry and controlled indoor environmental conditions. Use of BASO products beyond these conditions is not recommended and may void the warranty. Product must be protected if exposed to water (dripping, spraying, rain, etc.) or other harsh environments. The original equipment manufacturer or end user is responsible for the correct application of BASO products. Consult BASO Gas Products LLC for questionable applications. BASO Gas Products LLC shall not be liable for damages or product malfunctions resulting from misapplication or misuse of its products.*

Refer to the *H25 Series BASO Dual Outlet 100% Shutoff Automatic Pilot Gas Valve Product Bulletin (BASO-PB-H25)* for necessary information on operating and performance specifications of this product.



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