



## H17 Series BASO® Automatic Pilot Valve

### Application

The H17 Series pilot valves provide complete shutoff in the event that the flame heating the thermocouple is extinguished. Applications include room heaters, infrared heaters, salamanders, and refrigerators.

H17 models are also available with a higher ambient temperature, up to a maximum of 300°F (150°C), for use on commercial ovens, broilers, and other applications.

**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.



**CAUTION: Risk of Electric Shock.**

Disconnect power supply before making electrical connections to avoid electric shock.

**Note:** In applications that do not require electrical power, disregard the above caution.



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

Shut off the gas supply at the main manual shutoff valve before installing or servicing the H17. 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 do not exceed the limits in the *Technical Specifications* section.

To install the H17 valve:

1. Shut off power to the appliance (if applicable).
2. Shut off the gas at the main manual shutoff valve.
3. Ensure that the gas flows through the valve body 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 casting flats provided at the inlet and outlet ends of the valve body. The H17 may be damaged in the mounting process if a wrench is used on any other surface. Using a wrench incorrectly may void the warranty.

4. Mount the valve to the pipework. The H17 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 all piping to remove foreign substances such as cutting oil or thread chips. A sediment trap should also be installed in accordance with the National Fuel Gas Code (ANSI Z223.1). See Figure 1.
5. Attach the thermocouple securely to the pilot burner, and screw the terminal end to the BASO® power unit terminal on the valve. Make sure this connection is clean. Tighten the thermocouple lead nut finger tight plus a maximum of 1/8 turn. Do not overtighten.

6. Attach the pilot gas line to the pilot burner fitting and to the pilot gas outlet of the H17 valve. In applications that light the main burner directly, the pilot tap should be fit with a suitable plug.



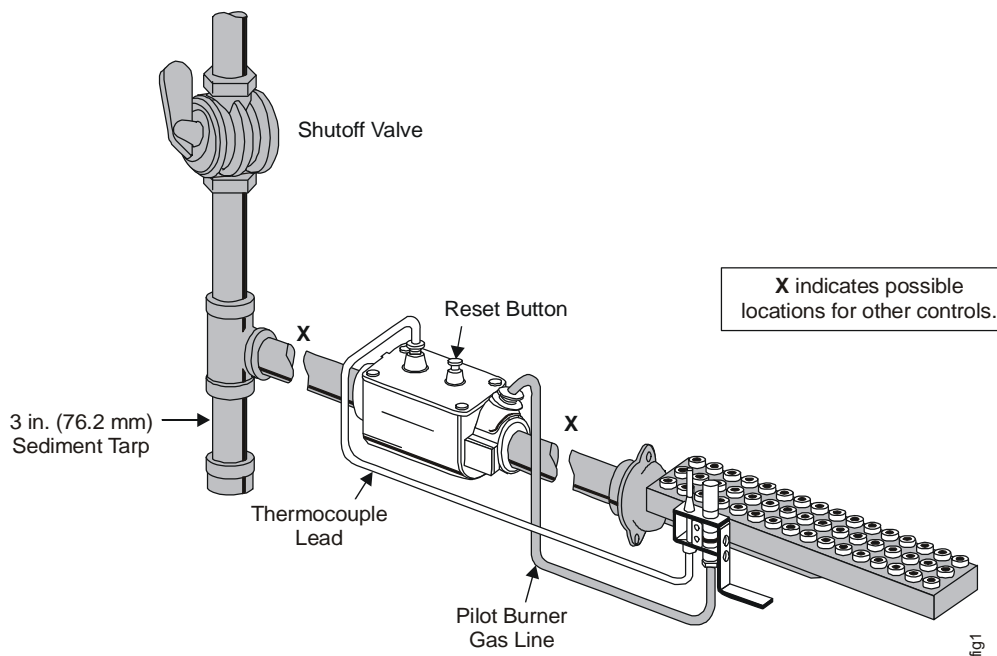
**WARNING: Risk of Explosion or Fire.**

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.

7. Check for leakage.
  - a. Shut off the gas at the main manual shutoff valve, and open the pressure connection between the manual shutoff valve and the H17 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 pipe and pilot tube 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.
8. Perform the *Checkout* section before leaving the installation.



**Figure 1: Typical H17 Installation**

## Setup and Adjustments

### Checkout Procedure



**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 that the system has no gas leaks. Gas leaks can lead to an explosion or fire, and may result in severe personal injury or death.



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

Keep hands and clothing clear when manually lighting the pilot. Gas flows to both main and pilot burners when reset button is pressed. Excess gas 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. Test all joints and connections for leaks with a rich soap and water solution. If leaks occur, see Step 7 in the *Installation* section.
2. Close the manual shutoff valve and wait at least 5 minutes for unburned gas to escape from the appliance, and then reopen the shutoff valve.
3. Push the reset button of the BASO power unit and light the pilot burner, or the main burner in applications without a pilot burner. Continue to hold the reset button for 30 to 45 seconds or until the pilot or main burner remains burning when the reset button is released.
4. In applications that use a pilot burner along with a thermostatically operated electric valve, set the thermostat to the highest setting. The main burner ignites from the pilot burner.
5. Set the thermostat to the lowest setting. The main burner will extinguish.
6. Extinguish all flames by closing the manual shutoff valve. Verify that the valve drops out within 90 seconds.
7. Relight the pilot burner or main burner in required applications.

8. Check the millivoltage output of the thermocouple and milliampere dropout range at the BASO power unit terminal to see that they meet the values in Table 1 and Table 2. Step-by-step procedures for these checks are included with the *Y99AB-4 BASO Test Kit Application Note (Part No. 24-8711-838)*.
9. Observe at least three complete operating cycles to make sure that all components are functioning properly.
10. Return 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
K14	4 mV	20-28	15
K15	4 mV	20-28	15
K16	4 mV	25-35	17
K17	4 mV	30-40	25
K19	4 mV	25-35	17

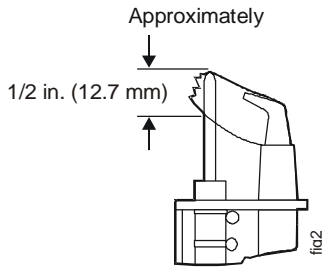
**Table 2: Dropout Range**

Series Number	mA Range of Power Unit Assembly	
	Low	High
H17_A	100	300
H17_B	50	165

### 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 2.
- Because this is an electrical connection, the thermocouple lead connection to the BASO power unit must be clean and free of grease.



**Figure 2: Flame Position**

## Repairs and Replacements



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

Shut off the gas supply at the main manual shutoff valve before installing or servicing the H17. 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 H17 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.

## Technical Specifications

<b>Product</b>	H17 Series BASO Automatic Pilot Valve
<b>Maximum Operating Pressure</b>	0.5 psi (35 mbar)
<b>Valve Body</b>	Aluminum
<b>Permissible Ambient (Surface) Temperature</b>	-40 to 150°F (-40 to 66°C) standard models -40 to 300°F (-40 to 150°C) high temperature models
<b>Recommended Thermocouple Lead Lengths</b>	K14: 36 or 72 in. (914 or 1,829 mm) K15: 12 to 48 in. (305 to 1,220 mm) K16: 12 to 72 in. (305 to 1,830 mm) K19: 18 to 72 in. (457 to 1,830 mm)
<b>Inlet/Outlet Pipe Size</b>	1/8, 1/4, 3/8, and 1/2 in. NPT
<b>Types of Gas</b>	Natural, Liquefied Petroleum (LP), or LP gas-air mixtures
<b>Packaging</b>	Bulk pack supplied to original equipment manufacturer (individual pack optional)
<b>Bulk Pack Quantity</b>	60
<b>Bulk Pack Weight</b>	27 lb (12 kg)
<b>Agency Listing</b>	CSA (AGA, CGA) Certificate Number 229521-1656088 UL File Number MH2926 (H17AA, BA, and CA only)
<b>Specification Standards</b>	ANSI Z21.20, CAN1-6.4 ANSI Z21.21, CSA 6.5 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 *H17 Series BASO Automatic Pilot Valve Product Bulletin (BASO-PB-H17)* for necessary information on operating and performance specifications of this product.



BASO Gas Products LLC

450 East Horseshoe Road  
PO Box 170  
Watertown, WI 53094  
1-877-227-6427 (1-877-BASOGAS)

[www.baso.com](http://www.baso.com)  
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