



# H19 Series BASO® High Pressure Safety Pilot Valve

## Application

The H19 Series high pressure safety pilot valves are designed for commercial and industrial applications with gas pressures up to and including 25 psi (1.72 bar [172 kPa]). The H19TB Series is gas pressure is 15 psi (1.03 bar [103 kPa]). Applications include industrial heaters, crop dryers and similar appliances.

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

## Installation

**IMPORTANT:** Only qualified personnel should install or service BASO® Gas Products 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 installations in accordance with applicable local, national, and regional regulations.

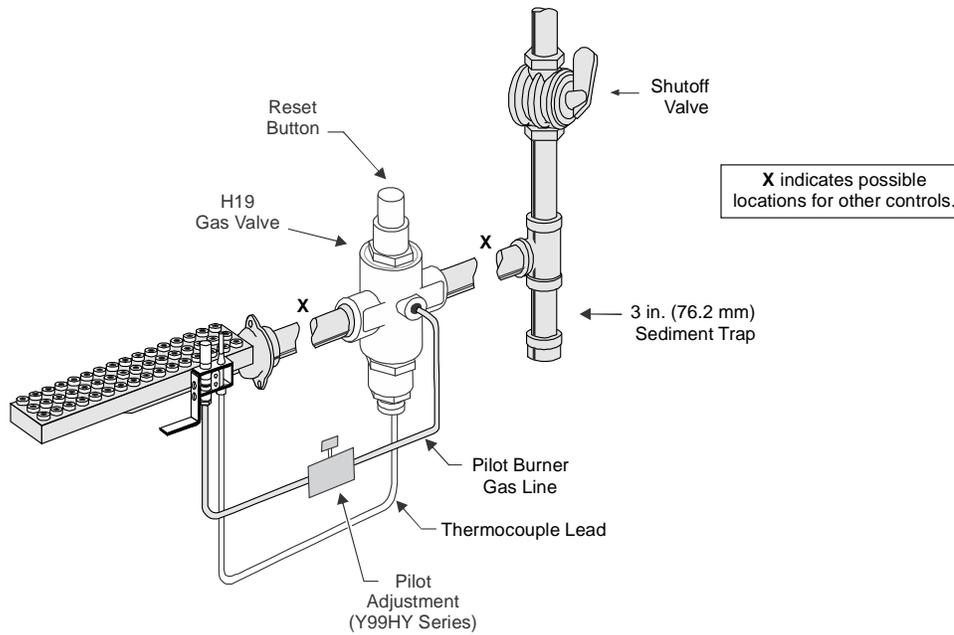
 **CAUTION: Risk of Electric Shock.**  
Disconnect power supply before making electrical connections to avoid electric shock.

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

 **WARNING: Risk of Explosion or Fire.**  
Shut off the gas supply at the main manual shutoff valve before installing or servicing the H19. 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.

To install the H19 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.
4. Mount the valve to the pipework. The H19 valve may be mounted in any convenient position. In Liquefied Petroleum (LP) gas applications, mount the valve high enough to prevent entry of fuel in the liquid state. 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 (NFPA 54).



**Figure 1: Typical H19 Gas Valve Installation**

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 (if used) and to the pilot gas outlet of the H19 valve.
7. Check for leakage.
  - a. Shutoff the gas at the main manual shutoff valve and open the pressure connection between the manual shutoff valve and the H19 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 connection. 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.

## 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 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.

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 main upstream shutoff valve and wait at least 5 minutes for unburned gas to escape from the appliance, and then reopen the valve.

**IMPORTANT:** When the reset button is depressed, gas flows to both the main and pilot burners on valves without the flow interruption feature.

- Push the reset button and light the burner being served. (If the appliance is equipped with a pilot burner, light the pilot burner.) Continue to hold the reset button for 30 to 45 seconds or until the burner flame continues to burn when the button is released.

**IMPORTANT:** Pilot burners designed for low-pressure applications cannot be used without suitable pressure regulation.

- Extinguish the burner by closing the main upstream manual shutoff valve. Verify that the valve drops out within 90 seconds.
- Relight the burner.  
Check the millivoltage (mV) output of the thermocouple and the milliampere (mA) dropout range of the BASO power unit to ensure that they meet the values listing in Table 1 and Table 2. Step-by-step procedures for these checks are included with the *Y99AB-4 BASO Test Kit Application Note*. **Note: BASO recommends only BASO thermocouples that come from the original equipment manufacturer to provide optimum performance for you safety shutoff device.**
- Observe at least three complete operating cycles to make sure that all components are functioning properly.
- Reset the thermostat to the desired setting before leaving the installation.

**Table 1: Thermocouple Output**

Thermocouple		mV Range	
Lead Type	TurnDown	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

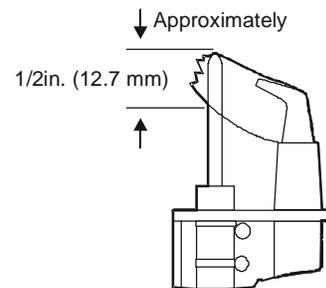
**Table 2: Dropout Range**

Part Number	mA Range of Power Unit Assembly	
	Low	High
H19LA-1, H19NA-4, H19RA-2, and H19TA-3	100	300
H19TB	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. This can be removed with a soft brush or a vacuum.
- A flame approximately 1/2 in. (12.7 mm) high must surround the thermocouple tip (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 Replacement



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

Shut off the gas supply at the main manual shutoff valve before installing or servicing the H19. 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 H19 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>	H19 Series BASO High Pressure Safety Pilot Valve
<b>Rated Inlet Pressure</b>	25 psi (1.72 bar [172 kPa]) 15 psi (1.03 bar [103 kPa]) H19TB only
<b>Valve Body</b>	Aluminum
<b>Permissible Ambient (Surface) Temperature</b>	-40 to 150°F (-40 to 66°C) -40 to 225°F (-40 to 107°C) H19TB only
<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>Inlet and Outlet Body Connections</b>	1/4 or 3/8 in. NPT (25 psi valves) 1/4 in. NPT (H19TB15 psi valve)
<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>	30 lb (14 kg)
<b>Agency Listing</b>	CSA Certificate Number 229521-1656106  Australian Gas Association Certificate Number 6734 AGA Class 3, Valve Type Safeguard (excludes H19TB)  UL Recognized File Number MH2926 (excludes H19TB)
<b>Specification Standards</b>	ANSI Z21.20, CAN1-6.4 ANSI Z21.21, CSA 6.5 AS 4620 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 *H19 Series BASO High Pressure Safety Pilot Valve Series Product Bulletin (BASO-PB-H19HP)* for necessary information on operating and performance specifications for this product.



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