

# High Temperature Valves

## Models 4075 and 4475

### Overview

The 4075/4475 high temperature valve is used to sense gas or liquid high temperature conditions. The field adjustable temperature setting from 54°C to 260°C (130°F to 500°F) provides wide setpoint flexibility. The standard thermowell provides extended life of the sensor and simplifies calibration and maintenance.

### Typical applications

- Jacket water temperature
- Compressor discharge temperature
- Steam temperature
- Lube oil temperature
- Processs temperature

### Key features and benefits

- 316 Stainless Steel or Cast Aluminum available
- Field adjustable from 54°C to 260°C (130°F to 500°F)
- Reliable protection
- Few moving parts
- Easy installation - low maintenance
- Thermowell included
- Compatible with complete AMOT shutdown systems
- Viton seals



**Type 4075**  
**High Temperature Valve**

# High Temperature Valves - Models 4075/4475

## Operation

The 4075/4475 is widely used for sensing high pressure natural gas compressor discharge temperature. When a valve is positioned at each compressor cylinder discharge manifold, an increase in temperature past the valves set point will cause the valve to vent off a control signal.

Removal is quick and easy with the stainless steel which is supplied as part of the standard valve assembly. The valve assembly is held into the well by straight thread connections and a locking nut. Unscrewing the valve body/locknut and disconnecting the tubing fittings is all that is required to remove the valve from the well.

The bi-metallic temperature sensing discs arranged in a stack deflect uniformly as the temperature increases providing a long life, low maintenance actuator for the valve spool.

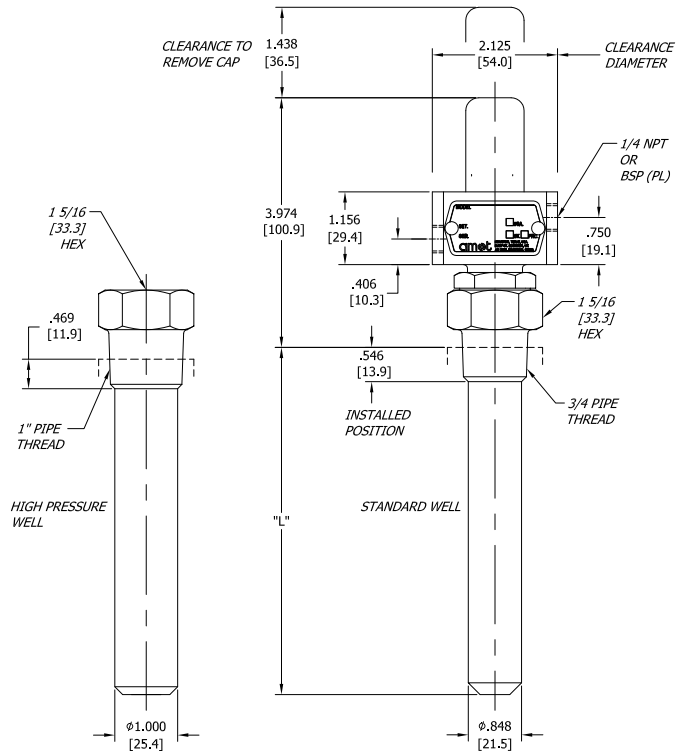
When the temperature of the fluid flowing past the well is below the tripping point, the temperature sensing element assembly is contracted and the loading spring keeps the valve spool in closed position. If the fluid temperature increases, the bi-metallic element assembly expands, moving the valve spool downward (opening valve) against the springs and opening the IN to the VENT port.

## Specification

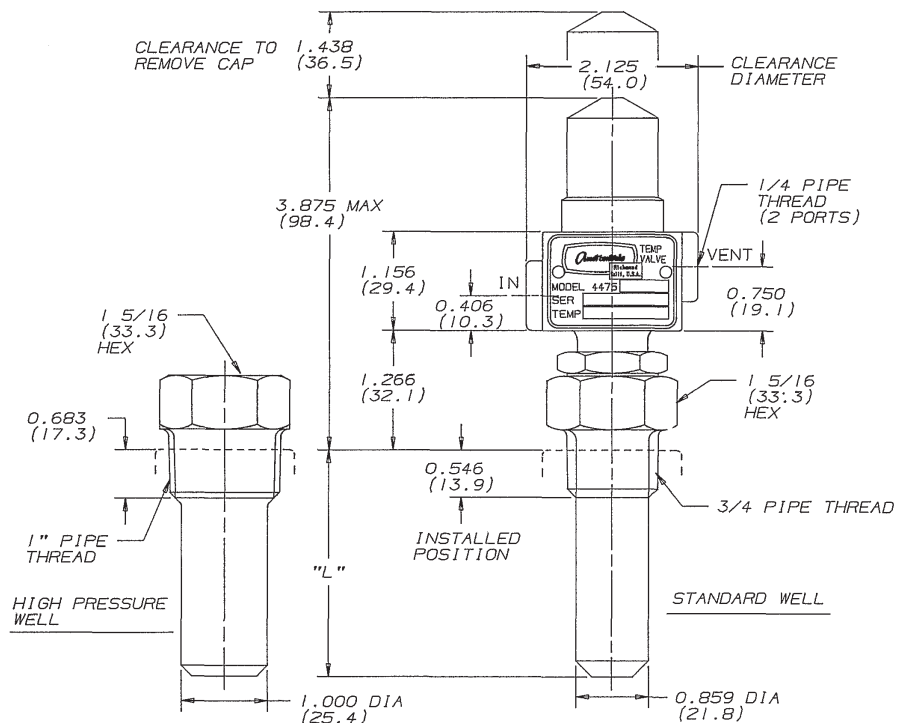
<b>4075 Valve body</b>	Anodized aluminum	
<b>4475 Valve body</b>	316 stainless steel	
<b>4075 Installation threads</b>	3/4" BSP(PL)	(3/4" NPT, 1" NPT)
<b>4475 Installation threads</b>	3/4" BSP(PL), BSP(Tr)	(3/4" NPT, 1" NPT)
<b>Port threads</b>	1/4" NPT	
<b>Typical medium sensed</b>	Gases	
<b>Adjustable temp. trip range</b>	54 - 260°C	(130 - 500°F)
<b>Maximum allowable sensed temperature</b>	260°C	(500°F)
<b>Valve well</b>	Stainless Steel	
<b>Standard seals</b>	Viton	
<b>Max. pressure at IN port</b>	8.62 bar	(125 psi)
<b>Sensor type</b>	Bi-metallic disc	
<b>Net weight (max. without well)</b>	0.9 kg	(2 lbs)
<b>Override</b>	None	

# High Temperature Valves - Models 4075/4475

## Dimensions - Model 4075



## Dimensions - Model 4475



# High Temperature Valves - Models 4075/4475

## How to order

Use the table below to select the unique specification of your 4075 High Temperature Valve

<b>Example</b>	4075D	1	06	<b>Code Description</b>			
				<b>Model</b>			
<b>Model Name</b>	4075D			Anodized aluminum body			
				<b>Thread</b>			
<b>Port thread and finish</b>		1		NPT black anodised			
				<b>Installed depth</b>		<b>Pressure rating*</b>	
				<b>mm</b>	<b>inches</b>	<b>bar</b>	<b>psi</b>
<b>Thermowell details installation thread</b>	05			3/4" NPT	95	3.75	258 3750
	06			3/4" NPT	146	5.75	258 3750
	07			1" NPT	95	3.75	413 6000
	08			1" NPT	146	5.75	413 6000
	11			3/4" BSP(PL)	87	3.44	258 3750
	12			3/4" BSP(PL)	138	5.44	258 3750

Temperature range 54°C to 260°C (130°F to 500°F)

Specify trip point temperature when ordering if required to be factory set.

\*Pressures shown are maximum allowable. To obtain working pressure, factors of safety should be applied as required by appropriate codes or regulations. In certain adverse conditions, a corrosion or erosion allowance should also be made.

Use the table below to select the unique specification of your 4475 High Temperature Valve

<b>Example</b>	4475B	0	34	<b>Code Description</b>			
				<b>Model</b>			
<b>Model Name</b>	4475B			316 Stainless Steel body			
				<b>Thread</b>			
<b>Thread type</b>		0		NPT			
				<b>Installed depth</b>		<b>Pressure rating*</b>	
				<b>mm</b>	<b>inches</b>	<b>bar</b>	<b>psi</b>
<b>Thermowell details installation thread</b>	31			3/4" NPT	95	3.75	258 3750
	32			3/4" NPT	146	5.75	258 3750
	33			1" NPT	95	3.75	413 6000
	34			1" NPT	146	5.75	413 6000
	35			3/4" BSP(PL)	87	3.44	258 3750
	36			3/4" BSP(PL)	138	5.44	258 3750

Temperature range 54°C to 260°C (130°F to 500°F)

Specify trip point temperature when ordering if required to be factory set.

\*Pressures shown are maximum allowable. To obtain working pressure, factors of safety should be applied as required by appropriate codes or regulations. In certain adverse conditions, a corrosion or erosion allowance should also be made.

# High Temperature Valves - Models 4075/4475

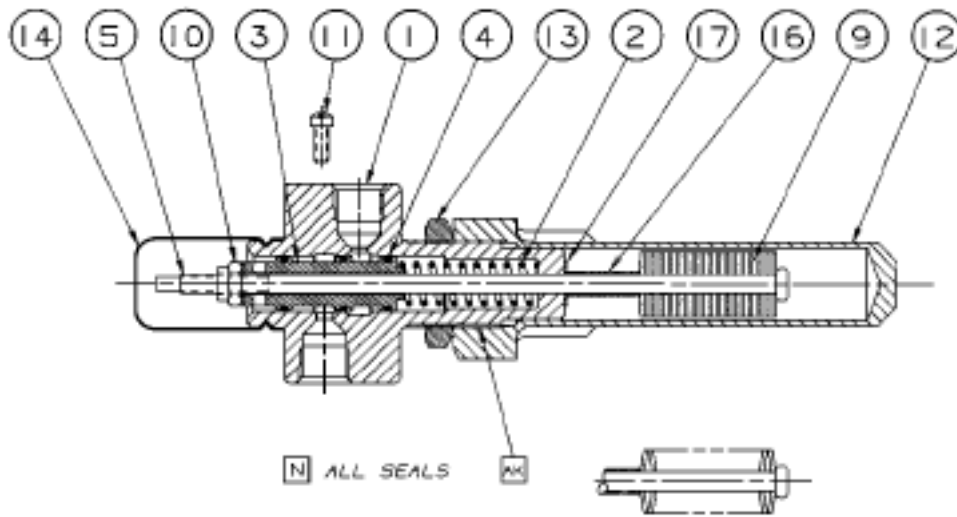
## Adjustment

Refer to cut-away view below. This model is checked at the factory for proper operation in a still air calibrating oven at approximately 150°C (300°F). To set the unit on the job to suit operating conditions, it should be piped into the safety control systems and be operational. The master safety control shut off valve should be overridden during adjustments so the machine will continue running. First remove Cap (14) by pulling upward. It is held in position by a groove in the Cap. Gradually lower the setting by holding the flats of Rod (5) firmly with a small adjustable wrench, and turning Locknut (10) clockwise until the safety control indicator registers a trip. Turn Locknut (10) a turn or so counterclockwise, depending on the temperature rise desired

for shutdown above the normal operating temperature. One complete turn of the Locknut (10) adjusts the temperature 25 to 35°F. Nut (10) should be turned sufficiently to effect a bubble-tight seal at the VENT port under normal operating conditions. After adjustment, check to see that the unit operates by manually pushing down on the top of Rod (5) (observing the shutdown indicator for that function).

If the recommended setting procedure is not possible, setting can be done using a pressure gauge in the VENT port, and turning Adjusting Nut (10) until the valve cracks open, giving a gauge reading.

## Service Parts



Cut-away View

Refer to cut-away view above.

Ref no.:	Qty	Description	Part no. for standard finish
4	3	O-ring, Viton	396L001
N	A/R	Grease, high temperature	866L001

## Americas

---

AMOT USA  
8824 Fallbrook Dr  
Houston  
TX 77064  
USA

Tel: +1 (281) 940 1800  
Fax +1 (713) 559 9419  
Email sales@amotusa.com

## Asia and Australasia

---

AMOT Shanghai  
Rm A308 Building A8  
Jiahua Business Center  
808 Hongqiao Road  
Shanghai 200030  
China

Tel +86 (0) 21 6447 9708  
Fax +86 (0) 21 6447 9718  
Email shanghai@amot.com

AMOT Singapore  
10 Eunos Road 8 #12-06  
Singapore Post Centre  
Singapore 408600

Tel +65 6408 6265  
Fax +65 6293 3307  
Email singapore@amot.com

## Europe and Africa

---

AMOT  
Western Way  
Bury St Edmunds  
Suffolk, IP33 3SZ  
England

Tel +44 (0) 1284 762222  
Fax +44 (0) 1284 760256  
Email info@amot.com

AMOT Controls GmbH  
Rondenbarg 25  
22525 Hamburg  
Germany

Tel +49 (0) 40 8537 1298  
Fax +49 (0) 40 8537 1331  
Email germany@amot.com

AMOT Russia  
#34 Shabolovka Street  
Building 2  
Moscow 115419  
Russia

Tel: +7 495 617 12 93  
Fax: +7 495 913 97 65