

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.

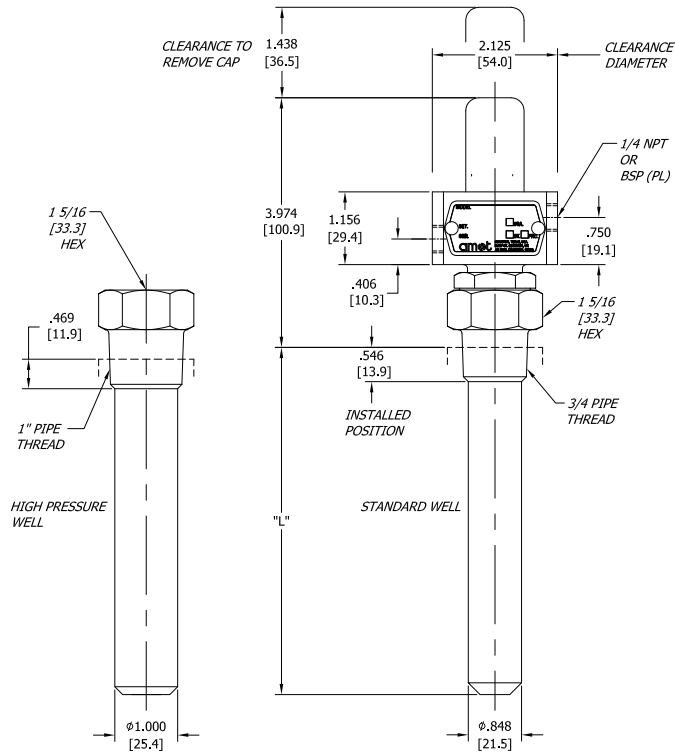
When the temperature of the fluid flowing past the well is below the tripping point, the temperature sensing element assembly is contracted and the loading spring keeps the valve spool in closed position. If the fluid temperature increases, the bi-metallic element assembly expands, moving the valve spool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

Specification

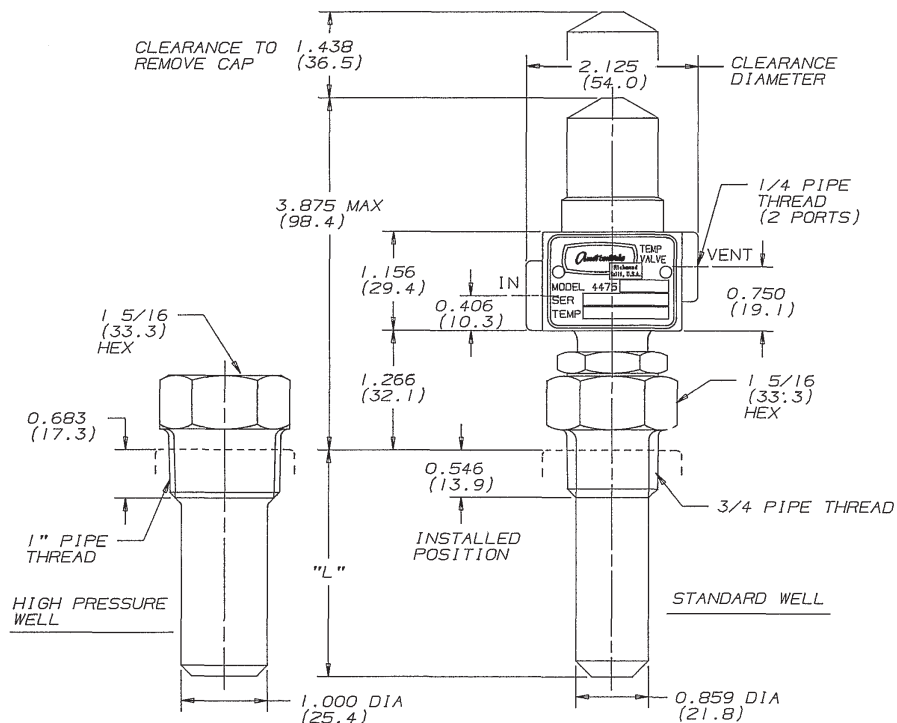
4075 Valve body	Anodized aluminum	
4475 Valve body	316 stainless steel	
4075 Installation threads	3/4" BSP(PL)	(3/4" NPT, 1" NPT)
4475 Installation threads	3/4" BSP(PL), BSP(Tr)	(3/4" NPT, 1" NPT)
Port threads	1/4" NPT	
Typical medium sensed	Gases	
Adjustable temp. trip range	54 - 260°C	(130 - 500°F)
Maximum allowable sensed temperature	260°C	(500°F)
Valve well	Stainless Steel	
Standard seals	Viton	
Max. pressure at IN port	8.62 bar	(125 psi)
Sensor type	Bi-metallic disc	
Net weight (max. without well)	0.9 kg	(2 lbs)
Override	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

Example	4075D	1	06	Code Description			
				Model			
Model Name	4075D			Anodized aluminum body			
				Thread			
Port thread and finish	1			1/4" NPT black anodised			
				Installed depth		Pressure rating*	
				mm	inches	bar	psi
	01	3/4" NPT		95	3.75	379	5,500
	02	3/4" NPT		146	5.75	379	5,500
	03	1" NPT		95	3.75	689	10,000
	04	1" NPT		146	5.75	689	10,000
Thermowell details installation thread	05	3/4" NPT		95	3.75	258	3,750
	06	3/4" NPT		146	5.75	258	3,750
	07	1" NPT		95	3.75	413	6,000
	08	1" NPT		146	5.75	413	6,000
	11	3/4" BSP(PL)		87	3.44	258	3,750
	12	3/4" BSP(PL)		138	5.44	258	3,750
	41	1/2" NPT		95.3	3.75	689	10,000

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

Example	4475B	0	34	Code Description			
				Model			
Model Name	4475B			316 Stainless Steel body			
				Thread			
Thread type	0			NPT			
				Installed depth		Pressure rating*	
				mm	inches	bar	psi
Thermowell details installation thread	31	3/4" NPT		95	3.75	258	3,750
	32	3/4" NPT		146	5.75	258	3,750
	33	1" NPT		95	3.75	413	6,000
	34	1" NPT		146	5.75	413	6,000
	35	3/4" BSP(PL)		87	3.44	258	3,750
	36	3/4" BSP(PL)		138	5.44	258	3,750

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.

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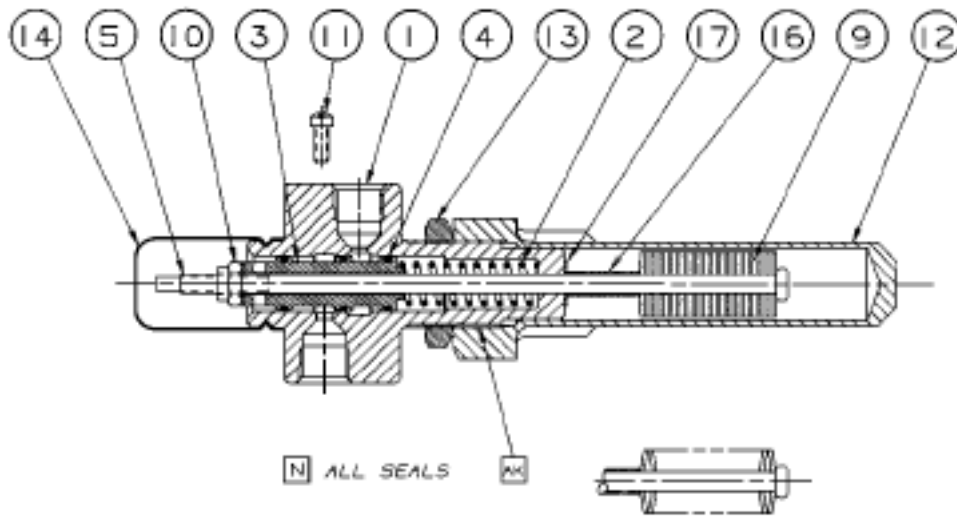
Adjustment

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

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