

# Temperature Regulating Valve

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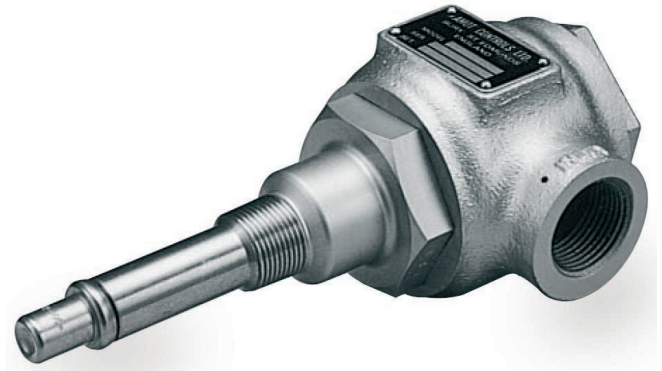
Model 2470

## Typical applications

- Engine and compressor cooling systems
- Cogeneration heat recovery systems
- Lube oil systems
- Two-way regulating of cooling circuits

## Key benefits

- Tamper-proof temperature settings
- Simple operation
- Remote sensing capabilities
- Virtually no maintenance



**Model 2470**  
**Temperature Regulating Valve**

# Temperature Regulating Valve - Model 2470

## Operation

The 2470 is a two-way temperature regulating valve with remote sensing to modulate or shut off flow resulting from temperature changes. It can be used to sense the regulating medium or another fluid.

The 2470 valve uses a highly reliable expanding wax element encased in a bronze retaining cup, which produces exceptional valve travel per unit of temperature change.

Where additional element insertion length is required, extensions can be added as shown in the How to Order tables on pages 4 and 5. Stainless steel wells are also available for use in corrosive environments or where fluid containment is necessary.

### Model 2470B(-)1

Opens with a rise in temperature above the setpoint and will close on falling temperature. With a valve seat of Nitrile rubber, this unit, when fully opened,

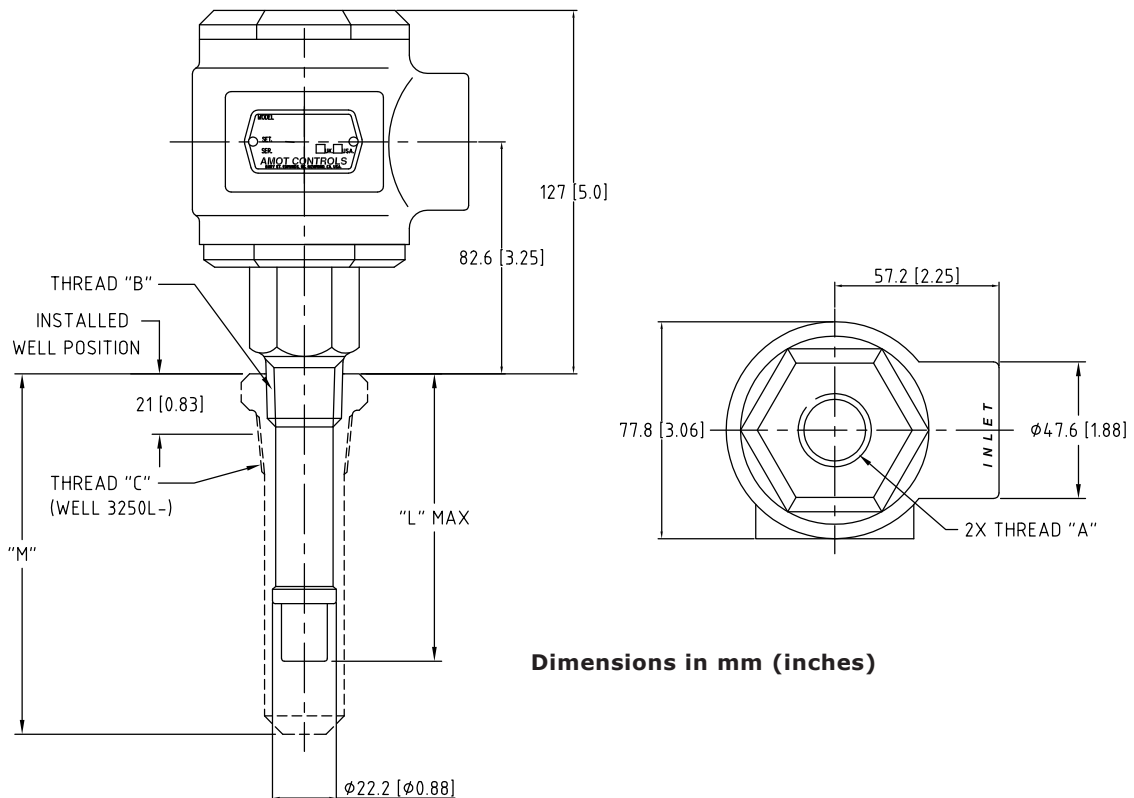
will withstand 8.6 bar (125 psi) water pressure with no leaking.

### Model 2470B(-)3

Closes with a rise in temperature above the setpoint and will open on falling temperature. With a valve seal of Nitrile rubber, this unit, when fully closed, will withstand 8.6 bar (125 psi) water pressure without leaking,

To obtain maximum life from the temperature elements the valve must not be operated continuously at more than 10°C (50°F) above the opening point of the 2470B(-)1 or more than -1°C (30°F) above the closing point of the 2470B(-)3. If it is necessary to operate at a continuous over-temperature, consult the factory for alternative elements.

## Dimensions



Dimensions in mm (inches)

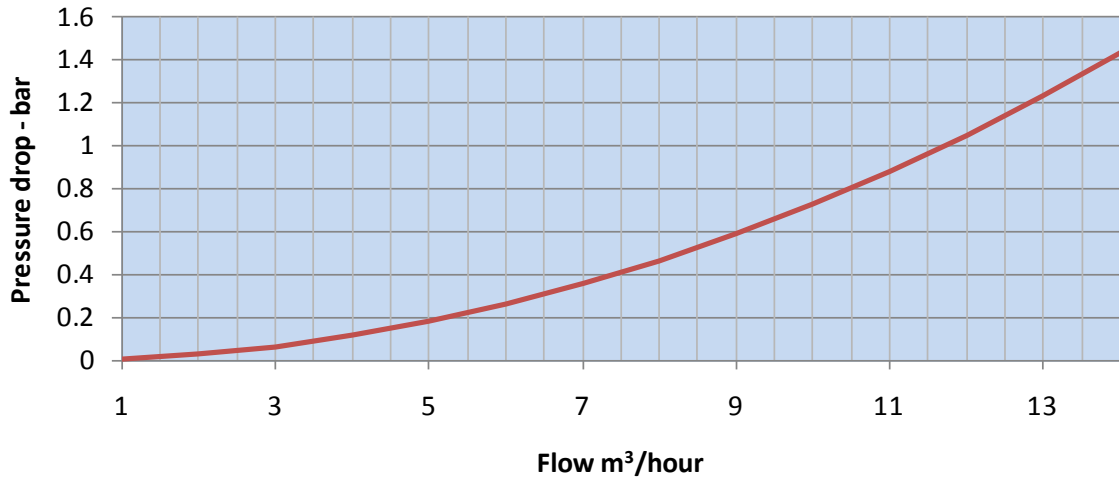
EXT.NO.	"L" INSTALLED DEPTH	"M" WELL DEPTH	WELL PART NO.
0	51	-	-
3	87	100	3250L004
4	100	113	3250L005
5	113	125	3250L006
6	125	138	3250L007
7	138	-	-

THREAD "A"	THREAD "B"	THREAD "C"
1" NPT	3/4 NPT	1" NPT
1" BSP (P1)	3/4 BSP (Tr)	1" BSP (Tr)
1" BSP (DIN 3852 FORM X)	"	"

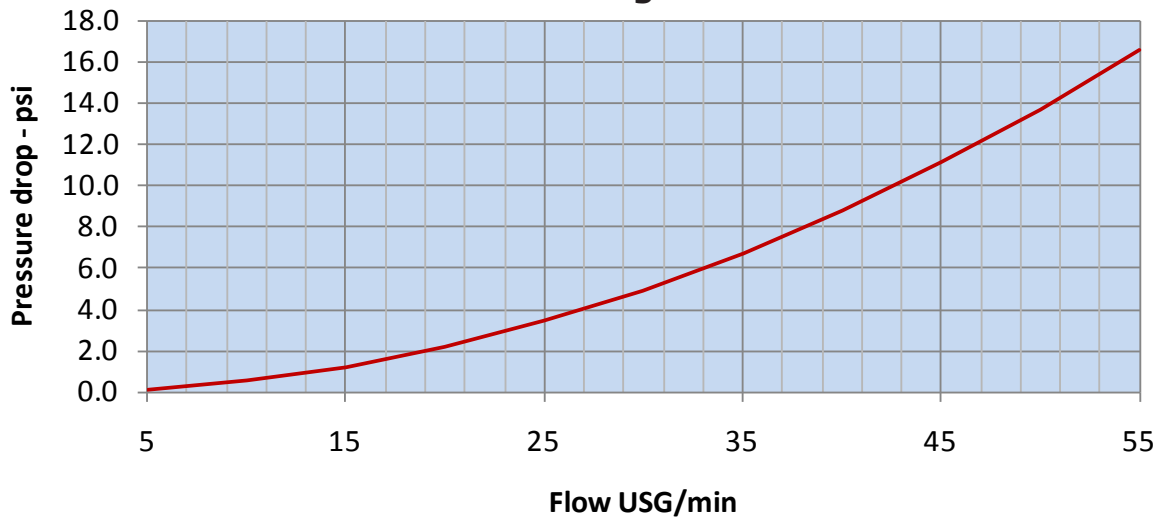
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## Flow Rate

**Flow rate - Metric units**



**Flow rate - English units**



## Stainless Steel Well

Well installed depth dimensions (mm)			
Element installed depth - L	Well installed depth - M	Well part no.	Temp. element extension code
50	Not available	Not available	0
87	100	3250L014 (NPT) 40380L014 (BSPT)	3
100	113	3250L015 (NPT) 40380L015 (BSPT)	4

Models 3250L and 40380 stainless steel wells are available for the 2470 thermostatic valve. If valves and wells are ordered at the same time, they will be assembled at the factory using AMOT 40081 heat transfer compound.

When ordered separately, AMOT 40081 heat transfer compound should be ordered and inserted in the well before installing the 2470 valve. Sufficient compound should be used to fully cover the valve element extension.

Excess pressure due to compound expansion will be vented via the small relief hole in the 3250 well. If compound is not used, an excessive temperature lag between the sensed fluid and valve operating point may be experienced.

# Temperature Regulating Valve - Model 2470

## Specification

<b>Body material</b>	Cast iron		
<b>Internal parts</b>	Bronze		
<b>Temperature element and extensions</b>	Brass		
<b>Adapter assembly</b>	Stainless steel		
<b>Dynamic seal</b>	EPR		
<b>Maximum pressure on element</b>	55.2 bar	(800 psi)	
<b>Maximum perssure on well*</b>	344.7 bar	(5000 psi)	
<b>Flow coefficient</b>	Kv = 11.7	(Cv = 13.5)	
<b>Maximum shutoff pressure</b>	2470B(-)1	8.6 bar Liquid	(125 psi Liquid)
	2470B(-)3	8.6 bar Liquid	(125 psi Liquid)
<b>Net weight</b>	2.1 kg	(4.6 lb)	

## Available Temperature Ranges

Use this table to select the desired temperature range code. Note the option of with or without a thermowell.

Temperature with thermowell				Temperature without thermowell				Code
Open on rising		Close on rising		Open on rising		Close on rising		
Deg C	Deg F	Deg C	Deg F	Deg C	Deg F	Deg C	Deg F	
27	80	35	95	21	70	29	85	A
35	95	46	115	29	85	41	105	B
43	110	52	125	38	100	46	115	C
49	120	60	140	43	110	54	130	D
54	130	66	150	49	120	60	140	E
60	140	71	160	54	130	66	150	F
66	150	77	170	60	140	71	160	G
74	165	82	180	68	155	77	170	H
79	175	88	190	74	165	82	180	K
82	180	91	195	77	170	85	185	M
91	195	99	210	85	185	93	200	N
99	210	107	225	93	200	102	215	P
102	215	113	235	96	205	107	225	R
107	225	118	245	102	215	113	235	S
113	235	127	260	107	225	121	250	T

# Temperature Regulating Valve - Model 2470

## How to Order

Use the tables below to select the unique specification of your 2470 temperature regulating valve.

Example	2470B	1	3	G	4	2	AA	Comments
								<b>Basic Model</b>
Basic Model	2470B							Cast Iron body
								<b>Port Thread A/Install Thread B</b>
								<b>Port A</b> <b>Installation B</b>
Thread		1						1" NPT      3/4" NPT
		3						1" BSP (PL)      3/4 BPS (Tr)
								<b>Function</b>
Function		1						Open on rising temperature
		3						Close on rising temperature
								<b>Temperature range</b> (see comments)
								<b>Temperature element extension</b>
								<b>mm</b> <b>inch</b>
Temperature element extension installed depth					0			50      2
					3			87      3.44
					4			100      3.94
								<b>Thermal well code</b>
Thermal well code					N			Not fitted
					1			1" BSP (TR)
					2			1" NPT
					V			Calibrated in a well, not fitted
								<b>Special requirements</b>
Special requirements						AA		

### If ordering in the USA use the table below:

Use the tables below to select the unique specification of your 2470 temperature regulating valve.

Example	2470B	1	3	G	4	-	Comments
							<b>Basic Model</b>
Basic Model	2470B						Cast Iron body
							<b>Port Thread A/Install Thread B</b>
							<b>Port A</b> <b>Installation B</b>
Thread		1					1" NPT      3/4" NPT
		3					1" BSP (PL)      3/4 BPS (Tr)
		5					1" BSP (PL) DIN 3852 Form X      3/4 BPS (Tr)
							<b>Function</b>
Function		1					Open on rising temperature rubber seat
		2					Close on rising temperature metal seat
		3					Close on rising temperature rubber seat
							<b>Temperature range</b>
Temperature range							(see comments) See Temperature Range Table for code
							<b>Element extension</b>
							<b>mm</b> <b>inch</b>
Element extension installed depth					0		50      2
					3		87      3-7/16
					4		100      3-15/16
					5		113      4-7/16
					6		125      4-15/16
					7		138      5-7/16
							<b>Calibration</b>
Well Calibration					-		no calibration
					V		calibrated in a well

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