# Thermostatic Control Valve

# Model C

#### **Typical applications**

- Lubricating oil temperature control
- Jacket water high temperature (HT)
- Secondary water low temperature (LT)
- Heat recovery
- Water saving applications
- Boiler inlet temperature control
- Co-generation, cooling towers
- Temperature mixing or diverting
- Engine and compressor cooling system



Model C

#### **Key benefits**

- No external power source required
- Simple, low cost installation
- No user setting needed
- 'Fit and forget' solution
- Small number of parts
- Simple maintenance and low cost of ownership
- Robust design capable of high vibration and shock applications
- Easy installation, operates in any mounting position
- Automatic self-sensing control with positive proportional valve action

#### Accreditations available

- PED Suitable for Group 1 & 2 liquids (Ensure materials are compatible)
- ATEX 🛛 😧 II 2G Ex h IIC T6...T3 Gb X
- **CE** Complies with all relevant EU directives

#### **Key features**

- Flow rates of 0.3 13.1 m<sup>3</sup>/hr (1.3 - 57.7 US gpm)
- Combinations available:
- Housings in cast iron, aluminum, bronze, carbon steel, stainless steel
- DN15 DN40 (1/2" 1 1/2") pipe sizes
- Threaded and flanged connections
- Tamper-proof temperature settings from 18°C 113°C (65°F 235°F)
- Pressure ratings up to 72 bar (1050 psi)



# Contents

Overview
Applications 4
Valve Characteristics 4
Pressure drop4
Flow coefficient5
Viscosity correction6
Viscosity correction curve6
SAE oils viscosities6
Available versions7
Temperature and element characteristics
Element type and seal material7
How to Order 8
Specification
Specification -
Weights
Weights
Weights
Weights9Valve Dimensions10Maintenance and Service Parts11
Weights9Valve Dimensions10Maintenance and Service Parts11Ordering from Americas and Canada11
Weights       9         Valve Dimensions       10         Maintenance and Service Parts       11         Ordering from Americas and Canada       11         Service kits       11
Weights       9         Valve Dimensions       10         Maintenance and Service Parts       11         Ordering from Americas and Canada       11         Service kits       11         Service kits       11         Service kit model number structure       11
Weights9Valve Dimensions10Maintenance and Service Parts11Ordering from Americas and Canada11Service kits11Service kits11Ordering from Europe and Asia-PAC11
Weights       9         Valve Dimensions       10         Maintenance and Service Parts       11         Ordering from Americas and Canada       11         Service kits       11         Service kits       11         Ordering from Europe and Asia-PAC       11         Seal kits       11
Weights9Valve Dimensions10Maintenance and Service Parts11Ordering from Americas and Canada11Service kits11Service kits11Ordering from Europe and Asia-PAC11Seal kits11Element(s)11
Weights9Valve Dimensions10Maintenance and Service Parts11Ordering from Americas and Canada11Service kits11Service kits11Ordering from Europe and Asia-PAC11Seal kits11Element(s)11Seal kit model number structure12

# Overview

AMOT Model C thermostatic valves are available in a wide selection of sizes and settings to fill a multitude of fluid temperature control requirements. These valves may be mounted in any position and use the proven expanding wax principle to actuate the 3-way temperature element assemblies. The model C valves may be used for diverting or mixing service.

**Housing materials** 

- Cast iron
- Aluminum
- Bronze
- Steel
- Stainless steel

#### Leakholes

• Buna N/Nitrile

- Viton
- Neoprene

They make very economical temperature limiting valves to prevent scalding in hot water supply systems; such as in emergency water systems for labs. Radiant heating systems can use these valves in limiting water temperature to prevent surface cracking and over-heating of plastic piping. Other applications include electronic and battery cooling circuits, pump temperature relief valves etc.

#### **Element materials**

- Bronze, brass and stainless steel
- Nickel plated/stainless steel
- Stainless steel

In some applications, it is necessary to have leak holes drilled in the element to ensure a small flow between ports A and C. Leak holes are available in sizes ranging from 0.8 mm - 6.3 mm  $(1/32^{"} - 1/4^{"})$ .

#### **Temperature settings**

A wide selection of element materials, seals and temperatures are available. Follow the equipment manufacturers' guidelines for heating/cooling systems.

Temperature settings are available from 18°C - 113°C (65°F - 235°F). Refer to the temperature and element characteristics table on page 7 for specific temperature settings. In general the temperature quoted is the nominal operating temperature in diverting mode on water systems.

For long life, AMOT valves should not be operated continuously at temperatures in excess of 14°C (25°F) of their maximum continuous rating. If this condition is anticipated then consult AMOT for suitable alternatives.

Please refer to the Leakhole size (G) section of the valve selection table on page 8 to determine the hole size required for specific applications.

For mixing and oil circuits the temperature may be one to two degrees higher due to flow, viscosity and other system parameters.

Elements and seals are available in a variety of materials. These materials are suitable for most applications. Please contact AMOT for material compatibility information.

# Applications

#### **Diverting Applications**

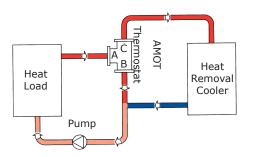
When valves are used for diverting services, the inlet is Port A (temperature sensing port), with Port C being connected to the cooler, and Port B connected to the cooler bypass line.

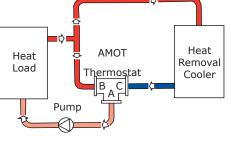
#### **Mixing Applications**

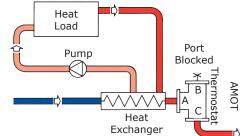
When valves are used for mixing service, Port C is the cold fluid inlet port from the cooler, Port B is the hot by-pass fluid inlet, and Port A the common outlet. Port A is the temperature sensing port and will mix the hot and cold fluids in the correct proportion so as to produce the desired outlet temperature leaving Port A.

#### 2-Way Water Saving Applications

Valve as shown maintains minimum flow through cooler to conserve water. Requires internal leak hole to permit small flow for sensing.





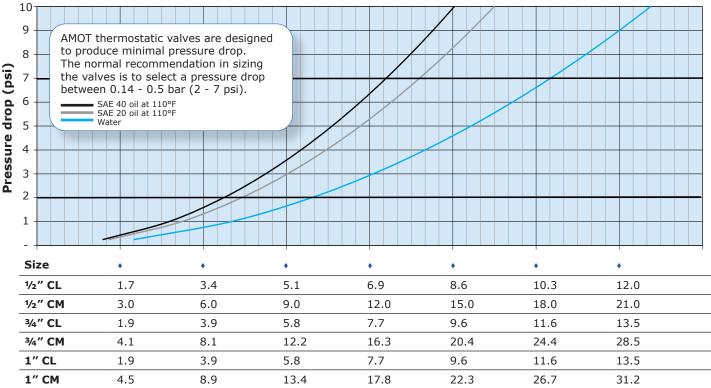


## Valve Characteristics Pressure drop (Metric units)

	0.65							
		AMOT thermostatic valve						
		to produce minimal press The normal recommenda						
Ŀ		the valves is to select a p						-
(bar)	0.45 l	oetween 0.14 - 0.5 bar (	2 - 7 psi).					
D d	0.40	SAE 40 oil at 110°F SAE 20 oil at 110°F						
drop	0.35	Water						
	0.30							
Pressure	0.25							
res	0.20							
٩	0.15							
	0.10							
	0.05							
	_							
	Size	•	•	•	•	•	•	
	¹⁄₂″ CL	0.9	1.2	1.5	1.9	2.2	2.6	
	1⁄2″ CM	1.5	2.1	2.7	3.3	3.9	4.5	
	³⁄4″ CL	1.0	1.3	1.7	2.1	2.5	2.9	_
	3∕4″ CM	2.0	2.8	3.6	4.4	5.2	6.0	
	1″ CL	1.0	1.3	1.7	2.1	2.5	2.9	
	1″ CM	2.2	3.1	4.0	4.9	5.8	6.6	
	1 ¼″ CC	<b>CM</b> 4.4	6.1	7.8	9.6	11.3	13.1	
	1 ¼″ CM	<b>1</b> 2.3	3.3	4.2	5.1	6.1	7.0	
	1 ½″ CL	. 1.1	1.5	1.9	2.3	2.7	3.2	
	1 ½″ CM	1/CF 2.3	3.3	4.2	5.1	6.1	7.0	
			Flo	w rate (m³/hr)	- Water			

# Valve Characteristics Continued

### Pressure drop (English units)



			Elever vete	(110	Mahaw			
1 1/2" CM/CF	4.7	9.4	14.1	18.9	23.6	28.3	33.0	
1 1⁄2″ CL	2.1	4.3	6.4	8.6	10.7	12.9	15.0	
1 ¼″ CM	4.7	9.4	14.1	18.9	23.6	28.3	33.0	
1 ¼" CCM	8.8	17.6	26.4	35.1	43.9	52.7	61.5	
1″ CM	4.5	8.9	13.4	17.8	22.3	26.7	31.2	
1″ CL	1.9	3.9	5.8	7.7	9.6	11.6	13.5	

Flow rate (US gpm) - Water

### Flow coefficient

Flow coefficient (calculated)								
Size	Kv	Cv						
1⁄2 CL	3.5	4.0						
½ CM	6.1	7.0						
34 CL	3.9	4.5						
3⁄4 CM	8.2	9.5						
1 CL	3.9	4.5						
1 CM	9.0	10.4						
1 ¼ CCM	17.7	20.5						
1 ¼ CM	9.5	11.0						
1 ½ CL	4.3	5.0						
1 ½ CM/CF 9.5 11.0								
<b>Kv</b> = 0.865	<b>Kv</b> = 0.865 Cv							
<b>Cv</b> = 1.156	Kv							

 $\mathbf{K}\mathbf{v}$  is the flow coefficient in metric units. It is defined as the flow rate in cubic meters per hour  $(m^3/hr)$  of water at a temperature of 16° Celsius with a pressure drop across the valve of 1 bar. The basic formula to find a valve's Kv is shown below:

 $Kv = Q \sqrt{\frac{SG}{DP}} \qquad Q = Kv \sqrt{\frac{DP}{SG}} \qquad DP = \left[\frac{Q}{Kv}\right]^2 SG \qquad Q = Flow in m^3/hr$ DP = Pressure drop (bar) SG = Specific gravity of fluid (Water = 1.0) SG = Specific gravity of fluid (Water = 1.0) Kv = Valve flow coefficient (Metric units)

Cv is the imperial coefficient. It is defined as the flow rate in US Gallons per minute (gpm) of water at a temperature of 60° Fahrenheit with a pressure drop across the valve of 1 psi. The basic formula to find a valve's Cv is shown below:

- $Cv = Q \sqrt{\frac{SG}{DP}}$   $Q = Cv \sqrt{\frac{DP}{SG}}$   $DP = \left[\frac{Q}{Cv}\right]^2 SG$  Q = Flow in US Gallons/MinDP = Pressure drop (psi)SG = Specific gravity of fluid (Water = 1.0)
  - Cv = Valve flow coefficient (English units)

# Valve Characteristics Continued

#### Viscosity correction

For the selection of valves for use with more viscous fluids than water, the following must be calculated in addition to using the previously mentioned formulae:

• Viscosity

Find the viscosity of the fluid to be used in the valve. This will generally be in centistokes (cST).

ISO grade oil is easy to calculate as the grade no. is the viscosity.

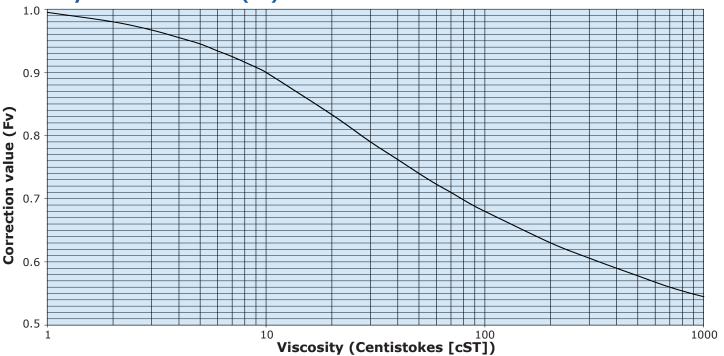
I.e. ISO VG 46 = 46 centistokes at 43°C (110°F)

• Viscosity correction

Once the viscosity value has been found, the flow coefficient correction factor can be established using the viscosity correction graph below.

The correction value (Fv) that is produced by the graph should then be multiplied by the original flow coefficient. This gives the corrected flow coefficient, which can then be used in the standard formula.

e.g.: 100 cST = correction factor of 0.68 0.68 x flow co. = corrected flow co. (Kv or Cv)



### SAE oils viscosities

Engine o	ils		Gear oils	
Oil	Dil cST		Oil	cST
SAE 5W	6.8		SAE 75W	22
SAE 10W	32		SAE 80W	46
SAE 20	46		SAE 85W	100
SAE 20W	68		SAE 90	150
SAE 30	100		SAE 140	460
SAE 40	150			
SAE 50	220			
6 B	394			
8 B	571			

Approximate viscosities of SAE oils at 43°C (110°F) (cST).

Based on leading oil manufacturers' published data.

#### Viscosity correction curve (Fv)

# Valve Characteristics Continued

## Available versions

Cast iron	Bronze	Aluminum	Steel	Stainless steel
Threaded	Threaded	Threaded	Threaded	Threaded
1/2 CL/CM	1/2 CL/CM	34 CL/CM	3/4 CL/CM	34 CL/CM
3/4 CL/CM	3/4 CL/CM	1 CL/CM	1 CL/CM	1 CL/CM
1 CL/CM	1 CL/CM	Flanged	Flanged	Flanged
1 ¼ CCM	1 ¼ CCM	None	1 1/2 CF/CL	1 1/2 CF/CL
1 ¼ CM	1 ¼ CM		Welded	Welded
1 ½ CL/CM	1 ½ CL/CM		3/4 CL/CM	3/4 CL/CM
Flanged	Flanged		1 CL/CM	1 CL/CM
1 ½ CF	1 ½ CF			

#### **Element type and seal material**

Code	Valve model	Element type	Element construction	Seal material	
01	CCM/CF/CM	1125X	Standard	Rupp N/Nitrilo	
01	CL	10765X	Stalluaru	Buna N/Nitrile	
02	CCM/CF/CM	1125P	Nickel plated	Viton	
02	CL	10765P	Nickel plated	Viton	
00	CCM/CF/CM	1125X	Chandaud	Viton	
06	CL	10765X	Standard		
00	CCM/CF/CM	1125P	Niekol plated	Buna N/Nitrile	
09	CL	10765P	Nickel plated		
35	CCM/CM	9778R	Short stroke, high overtemp.	Viton	
86	ALL	44844X	Salt water (SS)	Viton	
99	CCM/CF/CM	3362U	Special standard	Neoprene	
22	CL	10765U	Special standard		

# Temperature and element characteristics

	Con	trol	R	ated	Мах			
Code	ten		Cra op	ack en	Full	open	temp cont.	
	°C	°F	°C	°F	°C	°F	°C	°F
065	18	65	15	59	25	77	47	116
075	24	75	20	68	29	85	60	140
085	29	85	24	75	34	93	63	145
095	35	95	30	86	40	104	73	163
100	38	100	33	91	42	108	61	143
110	43	110	38	100	47	117	82	180
120	49	120	43	110	55	131	96	187
130	54	130	49	120	60	140	95	203
140	60	140	54	130	65	150	95	203
150	66	150	60	140	71	160	100	212
160	71	160	65	150	76	170	100	212
170	77	170	72	163	82	180	100	212
175	79	175	76	170	85	185	105	221
180	82	180	79	175	88	190	110	230
190	87	190	85	185	93	200	110	230
200	93	200	90	194	100	212	110	230
205	96	205	93	200	103	218	110	230
215	101	215	96	205	107	225	115	239
225	107	225	101	214	114	237	120	248
235	113	235	107	225	133	253	124	257

# How to Order

Use the table below to se	elect	the ι	inic	que	spec	ifica	atior	ו of	your	Model C Thermostati	c Control Valve.	
USA/Canada Example	1 1/2	CF	S	Н	095	06			-		0	
Europe/Asia-PAC Example	1 1/4	CCM	С	U	120	01	-F	1	-AA	Code description	Comments	
										Valve size (A) - inches	(mm)	
	1/2									1⁄2″ (15)		
	3⁄4									3⁄4″ (20)		
Valve size (A)	1									1″ (25)		
	1 1/4									1 ¼″ (32)		
	1 1/2									1 1⁄2″ (40)		
										Valve model (B)		
		CCM								High flow valve	2 Elements (1 ¼" Only)	
Value medal (D)		CF								Flanged connection	1 Element (1 ½" Only)	
Valve model (B)		CL								Low flow valve	1 Element	
		CM								Threaded valve	1 Element	
										Body material (C)		
			Α							Aluminum	3/4" & 1" CM/CL ONLY	
			В							Bronze		
Body material (C)			С							Cast iron	ALL	
			R							Stainless steel	3/4" & 1" CM/CL, 1 1/2" CF/CL	
			S							Steel	ONLY	
										Port connection (D)		
				С						EN 1092, PN 10, PN16		
				F						ASME 125 lb		
				Н						ASME 300 lb		
				J						ASME 150 lb	Steel & stainless steel ONLY	
				к						ASME 600 lb	USA/Canada ONLY Steel & stainless steel ONLY	
Port connection (D)				М						Socket weld	34" & 1" CMR/CMS/CLR/CLS	
				R						BSP (PL) DIN 3852	Bronze & cast iron ONLY	
				Т						NPT to USAS B2.1		
				U						BSP (PL) to BS 21		
				V						BSP (TR) Japanese (JIS)		
				Ŵ						SAE J5 14H	Straight thread, o-ring seal	
										Control temperature °		
Control temperature °F (E)					*					-	le, refer to the temperature	
										Element and seal mate		
Element and seal material	(F)					**				For element types and seal materials available, refer to the element type and seal material table on page 7.		
										Leakhole size (G) - inc		
										None - Standard	USA/Canada ONLY	
							0			None - Standard	Europe/Asia-PAC ONLY	
							В			<sup>1</sup> / <sub>32</sub> " (0.8)		
							C			$\frac{1}{16'}$ (1.6)		
Leakhole size (G)							D			3/32'' (2.4)		
							F					
							-			<sup>1</sup> / <sub>8</sub> " (3.2)		
							G			<sup>1</sup> / <sub>4</sub> " (6.3)		
							Н			<sup>3</sup> / <sub>16</sub> " (5)		
											** Europe/Asia-PAC ONLY	
			_					0		None		
Leakhole quantity (H) ** E	urope	e/Asia	a-P/	AC C	NLY			1		1	Specified on CCM ONLY	
								2		2		
										Customer special requ		
										Standard	USA/Canada ONLY	
Customer special requirem	ents (	(J)							-AA	Standard	Europe/Asia-PAC ONLY	
									_***	Customer special code		

# Specification

		Metric units	English units		
Flow rate		0.3 - 13.1 m³/hr	1.3 - 57.7 gpm		
	Cast iron	10 bar	150 psi		
	Bronze	10 bar	150 psi		
	Aluminum	24 bar	350 psi		
	Cast steel/stainless steel threaded	48 bar	700 psi		
Body materials & pressure ratings	Cast steel/stainless steel 150 lb flanged	16 bar	230 psi		
	Cast steel/stainless steel 300 lb flanged	45 bar	655 psi		
	Cast steel/stainless steel 600 lb flanged	72 bar	1050 psi		
Seal materials	Buna N/Nitrile, Viton, and Neoprene				
Mounting position	Any orientation				
Ports	Below nominal temperature	Ports A and B connected			
Ports	Above nominal temperature	Ports A and C connected			
Port connections	Threaded	15, 20, 25, 32 & 40 mm	1⁄2″, 3⁄4″, 1″, 1 1⁄4″ & 1 1⁄2″		
Port connections	Flanged	40 mm	1 1/2″		
Valve sizes (nominal bore)		15, 20, 25, 32 & 40 mm	1⁄2″, 3⁄4″, 1″, 1 1⁄4″ & 1 1⁄2″		
Recommended pressure drop		0.14 - 0.5 bar	2 - 7 psi		
Control temperatures		18°C - 113°C	65°F - 235°F		
A	PED	Suitable for Group 1 & 2 liquids. (Ensure materials are compatible)			
Accreditations available	ATEX	€ II 2G Ex h IIC T6T3 Gb X			
	CE	Complies with all relevant EU directives			

# Weights

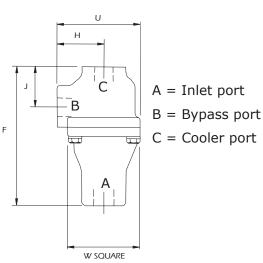
Approximate weights in kg (lbs)

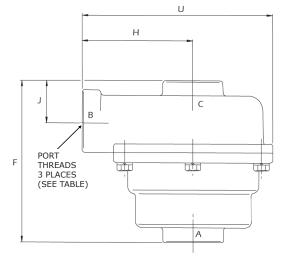
	Valve size and model										
Material	1/2 CL/CM	<sup>3</sup> / <sub>4</sub> CL/CM 1 CL/CM	1 ¼ CM 1 ½ CL/CM	1 ¼ CCM	1 1⁄2 CFCF	1 ½ CFRJ 1 ½ CFSJ	1 1/2 CFRH 1 1/2 CFSH	-			
Aluminum	-	1.2 (3)	-	-	-	-	-	-			
Bronze	2 (4)	2 (4)	3 (6.6)	-	-	-	-	-			
Cast iron	2 (4)	2 (4)	3 (6.6)	4.3 (9.5)	11 (24)	-	-	-			
Stainless steel	-	3.6 (8)	-	-	-	9 (20)	13.5 (30)	16.3 (36)			
Steel	_	3.6 (8)	-	_	-	9 (20)	13.5 (30)	16.3 (36)			

# Valve Dimensions

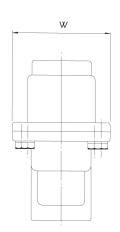
## Threaded models

#### Model CM





Model 1 <sup>1</sup>/<sub>4</sub> CCM

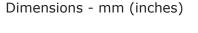


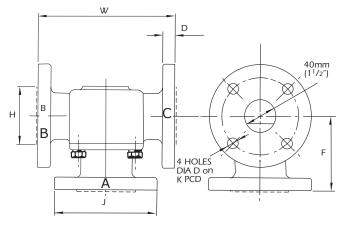
Dimensions - mm (inches)

Threaded		Valv	ve size and type		
dimensions	<sup>1</sup> / <sub>2</sub> ", <sup>3</sup> / <sub>4</sub> " & 1" CLB, CLC, CMB, CMC	<sup>3</sup> ⁄4" & 1" CLA, CMA	<sup>3</sup> /4" & 1" CLR, CLS, CMR, CMS	1 ¼" CM 1 ½" CL, CM	1 ¼″ CCM
F	152.4 (6")	160.3 (6 <sup>5</sup> / <sub>16</sub> ")	160.3 (6 5/16")	158.8 (6 <sup>1</sup> / <sub>4</sub> ")	155.6 (6 <sup>1</sup> /8")
Н	50.8 (2")	54 (2 <sup>1</sup> /8")	54 (2 <sup>1</sup> /8")	73 (2 7/8")	111 (4 <sup>3</sup> / <sub>8</sub> ")
J	44.5 (1 <sup>3</sup> / <sub>4</sub> ")	54 (2 <sup>1</sup> /8")	54 (2 <sup>1</sup> / <sub>8</sub> ")	38.1 (1 <sup>1</sup> / <sub>2</sub> ")	39.7 (1 <sup>5</sup> / <sub>16</sub> ")
U	90.5 (3 <sup>9</sup> / <sub>16</sub> ")	95.3 (3 <sup>3</sup> /4")	95.3 (3 <sup>3</sup> /4")	115.9 (4 %)16")	190.5 (7 <sup>1</sup> / <sub>2</sub> ")
W	79.4 (3 <sup>1</sup> / <sub>8</sub> ")	82.6 (3 <sup>1</sup> /4")	85.7 (3 <sup>3</sup> /8")	85.7 (3 <sup>3</sup> / <sub>8</sub> ")	98.4 (3 <sup>7</sup> / <sub>8</sub> ")

#### **Flanged models**

Model 1 1/2 CF





Flange	Port connection (D) <sup>1</sup>					
dimensions	F	J	н	К		
Н	-	73 (2 7/8")	73 (2 7/8")	73 (2 7/8")		
J	150 (6")	127 (5")	156 (6 7/50")	156 (6 7/50")		
F	100.8 (4")	100.8 (4")	120.6 (4 <sup>3</sup> / <sub>4</sub> ")	130 (5 <sup>6</sup> / <sub>50</sub> ")		
W	178 (7")	178 (7")	203.2 (8")	223 (8 <sup>39</sup> / <sub>50</sub> ")		
D	16 (5/8")	16 (5/8")	22 (31/36")	22.2 (7/8")		
К	98.4 (3 7/8")	98.4 (3 <sup>7</sup> / <sub>8</sub> ")	114.3 (4 <sup>1</sup> / <sub>2</sub> ")	114.3 (4 <sup>1</sup> / <sub>2</sub> ")		

#### NOTES:

<sup>1</sup> See 'Port connection (D)' section in the How to Order table on page 8.

# Maintenance and Service Parts

Over time, exposure to foreign chemicals and particulate matter as well as prolonged operation at extreme conditions may reduce the effectiveness of the valve. At such time, AMOT Thermostatic Valves can be restored to original performance by installing an AMOT thermostatic valve service kit or a seal kit and new temperature element(s).

#### Service kits are ONLY available for purchase from the Americas and Canada locations. If ordering from the Europe or Asia-PAC locations please purchase a seal kit and element to properly service your valve.

Service kits include all new thermostatic element(s) and seals required for normal maintenance. Seal kits include new seals and gasket. Whenever elements are replaced, the seals and gasket should also be replaced.

#### Ordering from Americas and Canada Service kits

# Service kits are ONLY available for purchase from the Americas and Canada locations.

Service kits are available with elements and seals required to service the valve. Order service kits using the AMOT valve part number and nominal temperature setting. Refer to the AMOT valve part number that is printed on the valve nameplate and the AMOT valve part number structure on page 8. The nominal temperature setting is also stamped onto the element flange.

#### Service kit model number structure

- 1) Omit Valve size (A).
- Keep the first three digits of the Valve model (B) and Body material (C).
- 3) Replace Port connection (D) with "KIT-".
- If Special (J) is not blank, please contact the facility.

### Ordering from Europe and Asia-PAC Seal kits

Seal kits are available with seals and gasket only. Order seal kits using the seal kit model number which is identified by the port connection code and seal code from the AMOT valve part number. Refer to the AMOT valve part number that is printed on the valve nameplate and the AMOT valve part number structure on page 8. AMOT recommends fully servicing thermostatic control valves with each regularly scheduled major overhaul of the turbine, engine, compressor or other associated equipment. AMOT recommends a service interval of not more than 24 months to ensure optimum valve performance.

AMOT designs and tests all its products to ensure that high quality standards are met. For good product life, carefully follow AMOT's installation and maintenance instructions; failure to do so could result in damage to the equipment being protected or controlled.

Thermostatic service kits may also be used for adapting valves to new service temperatures. Please request a new nameplate when adapting valves to a new service temperature by contacting the facility.

AMOT does NOT offer service kits for CFRK, CFSK, and CLSK Model C Thermostatic Valves. In order to properly service an CFRK, CFSK, and/or CLSK please purchase an element and seal kit. Refer to the ordering instructions on page 12.

Example valve part number							
Α	В	С	D	E	F	G	-J
1	СМ	S	М	130	02	В	
E	Example service kit model number						
Α	В	С	D	Е	F	G	-J
	CM	1S	KIT-	130	02	В	
Valve size D - Port connection C - Leakhole size							

 A - Valve size
 D - Port connection
 G - Leakhole size

 B - Valve model
 E - Control temperature (°F)
 J - Special

C - Body material F - Element and seal material

#### Element(s)

Order temperature elements using the element part number which is identified by the valve model, element/seal material code and nominal temperature setting from the AMOT valve part number. Refer to the AMOT valve part number that is printed on the valve nameplate and the AMOT valve part number structure on page 8.

# Maintenance and Service Parts Continued

#### **Ordering from Europe and Asia-PAC continued**

#### Seal kit model number structure

- 1) Identify the port connection code, located in the Port connection (D) section of the AMOT valve part number. Use that value to identify the basic model number in Table 1.
- 2) Identify the element/seal material code, located in the Element and seal material (F) section of the AMOT valve part number. Use that value to identify the corresponding seal code in Table 2.
- 3) Place the seal code after "X0" or "X1" in the basic model number to complete the seal kit model number, as shown in Table 3.

Table 1 - Basic model number identification				e 2 - Seal code entification
BasicPortmodel no.connection (D)2			Seal code	Element/seal material (F) <sup>3</sup>
9170X0	All EXCEPT K		01	01,09
9170X1	K		11	02, 06, 35, 86
			21	99

Table 3 - Seal kit identification							
	Basic model no. (Table 1)	Seal code (Table 2)					
	9170X0	01, 11, 21					
	9170X1						
Examples							
Valve part number Seal kit model number							
1 ¼CCMCT07506-B2-AA	9170X0	11					
1 1/2CFSK13099-00-AA	9170X1	21					

#### Element part number structure

- Identify the valve model, located in the Valve model (B) section of the AMOT valve part number.
- Identify the element/seal material code, located in the Element and seal material (F) section of the AMOT valve part number.
- Identify the temperature, located in the Control temperature °F (E) section of the AMOT valve part number.
- **4)** Use those 3 codes to identify the proper element part number, as shown in Table 4.

Table 4 - Element part number identification										
	Valve model (B)			Temperature °F (E)	Element/seal material (F) <sup>3</sup>				Element part number	Qty.
					01,06				1125X(Temp.)	Refer
	CCM/CE/CM				02, 09				1125P(Temp.)	to the
	CCM/CF/CM				86				44844X(Temp.)	Comments on the Valve body
				005 225	99				3362U(Temp.)	
				065-235	01,06				10765X(Temp.)	(B) section
	CL				02, 09				10765P(Temp.)	of the How to Order
					99				10765U(Temp.)	table on
	CCM/CM				35				9778R(Temp.)	page 8.
	Examples									
				Valve part numbe	er				Element part number	Qty.
1 1⁄4	CCM	С	Т	075	06	-B	2	-AA	1125X075	2
1 1/2	CF	S	К	130	99	-0	0	-AA	3362U130	1
NOTES										

#### NOTES:

<sup>2</sup> If your port connection code does not correspond with the given values, please contact the facility to confirm your port connection code.

<sup>3</sup> If your element/seal material code does not correspond with the given values, please contact the facility to confirm your element/seal material code.

# Maintenance and Service Parts Continued

#### **Service parts**

Service kit parts⁴						
Ref	Qi	Description				
no.	CF, CL, CM CCM		Description			
3	1	2	Element			
4	1	2	Element seal			
5	1	2	Housing seal			
6 <sup>5</sup>	1	_	Seal			

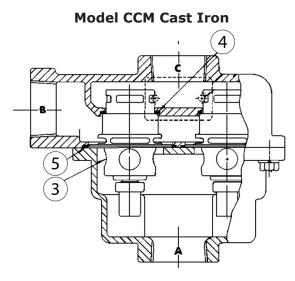
Seal kit parts							
Ref	Qt	Description					
no.	9170X0()	9170X1()	Description				
4	1	1	Element seal				
5	1	-	Housing seal				
5	-	1	Housing gasket				
6⁵	1	1	Seal				

#### NOTES:

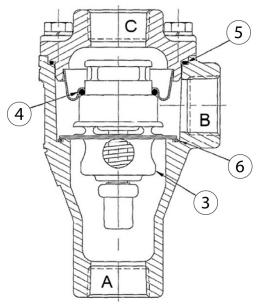
 $^{\scriptscriptstyle 4}$  Does NOT include CFRK, CFSK, or CLSK models.

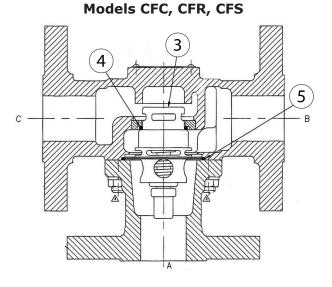
<sup>5</sup> CMA, CMR, CMS, CLA, CLR, CLS models ONLY.

<sup>6</sup> CCM model requires 2 sets of parts. Please purchase 2 seal kits in order to properly service the CCM model valve.

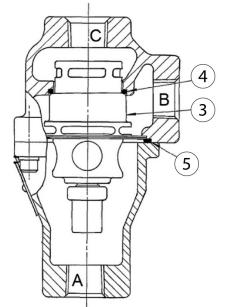


#### Models CLA, CLR, CLS, CMA, CMR, CMS





#### Models CLB, CLC, CMB, CMC



## Contact

#### Americas

AMOT USA 8824 Fallbrook Dr. Houston, TX 77064 USA

Tel: +1 (281) 940 1800 Fax: +1 (713) 559 9419 Email: customer.service@amot.com

#### Europe, Middle East and Africa

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

Tel: +44 1284 715739 Fax: +44 1284 760256 Email: info@amot.com

AMOT Germany Rondenbarg 25 22525 Hamburg Germany

Tel: +49 40 8537 1298 Fax: +49 40 8537 1331 Email: germany@amot.com

#### Asia Pacific

AMOT Shanghai Bd. 7A, No. 568, Longpan Rd., Malu Jiading Shanghai 201801 China

Tel: +86 21 5910 4052 Fax: +86 21 5237 8560 Email: shanghai@amot.com

This product can expose you to chemicals including Lead, which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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