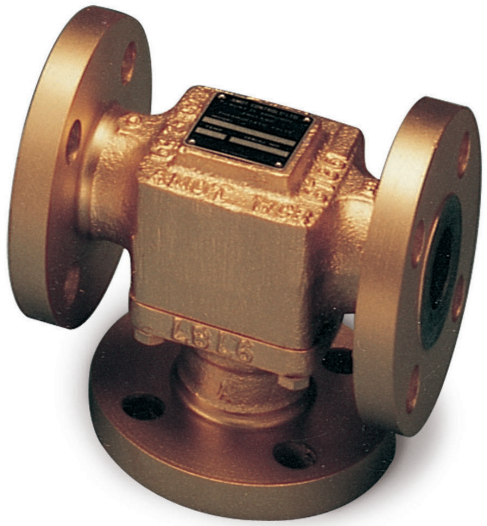
Thermostatic Control Valve

Model E

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 E

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

Key features

- Flow rates of 0.3 - 17 m^3/hr (1.3 - 75 US gpm)
- Combinations available:
  - Housings in cast iron, bronze, carbon steel, stainless steel
- DN15 to DN40 pipe sizes
- Threaded and flanged connections
- Tamper-proof temperature settings from 29°C - 114°C (85°F - 237°F)
- Pressure ratings up to 68 bar (986 psi)

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

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Overview

AMOT Model E 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 E valves may be used for diverting, mixing or 2-way water saving 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.

Housing materials

- Cast iron
- Bronze
- Carbon steel
- Stainless steel

Seal materials

- Buna N/Nitrile
- Viton
- Neoprene

Element materials

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

Leakholes

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 1.6 mm - 6.3 mm (1/16" - 1/4").

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.

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 29°C - 114°C (85°F - 237°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.

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.

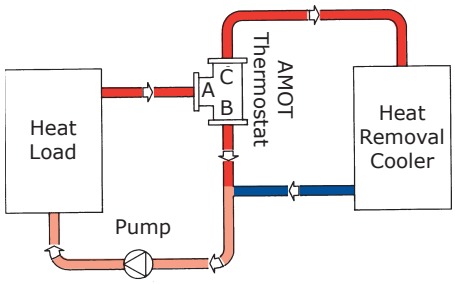
Manual override

If desired, AMOT Model E thermostatic valves can be supplied with a manual override which allows the user to direct flows through Ports A and C.

Applications

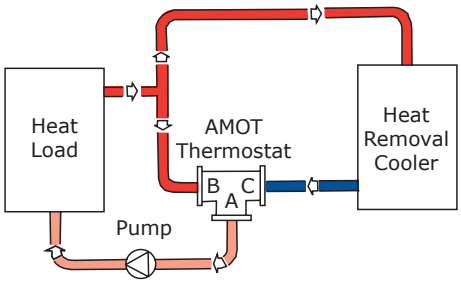
Diverting Applications

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 by-pass line.



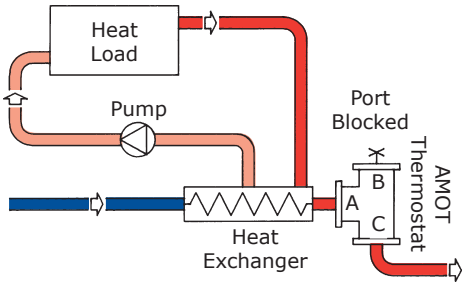
Mixing Applications

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.



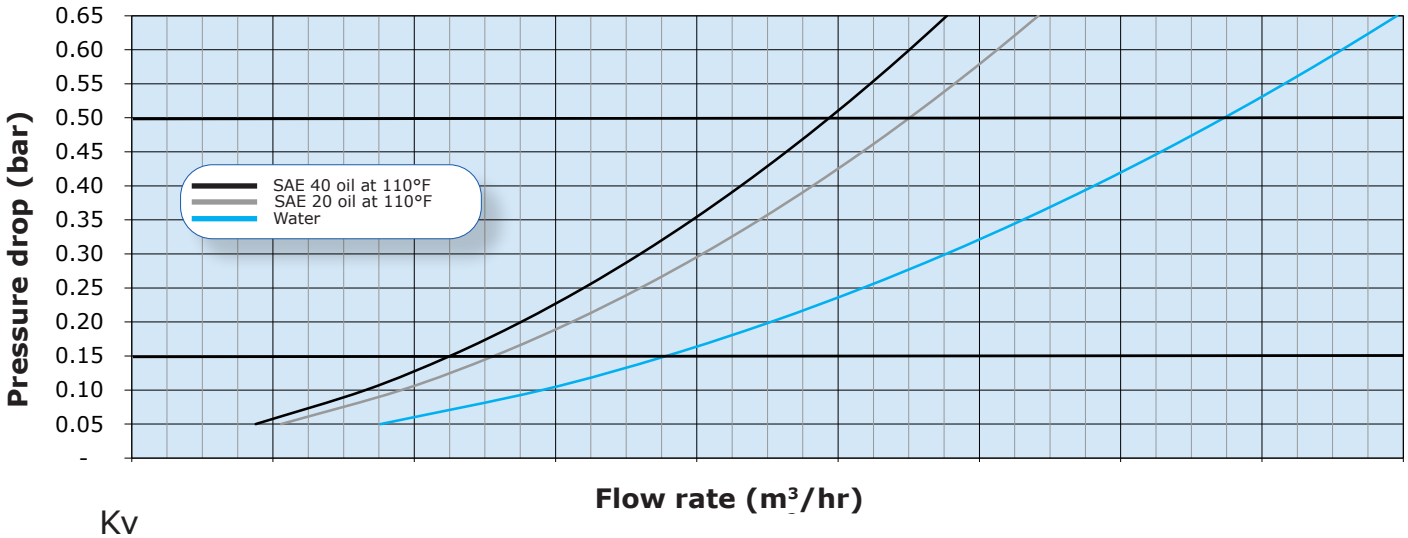
2-Way Water Saving Applications

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)

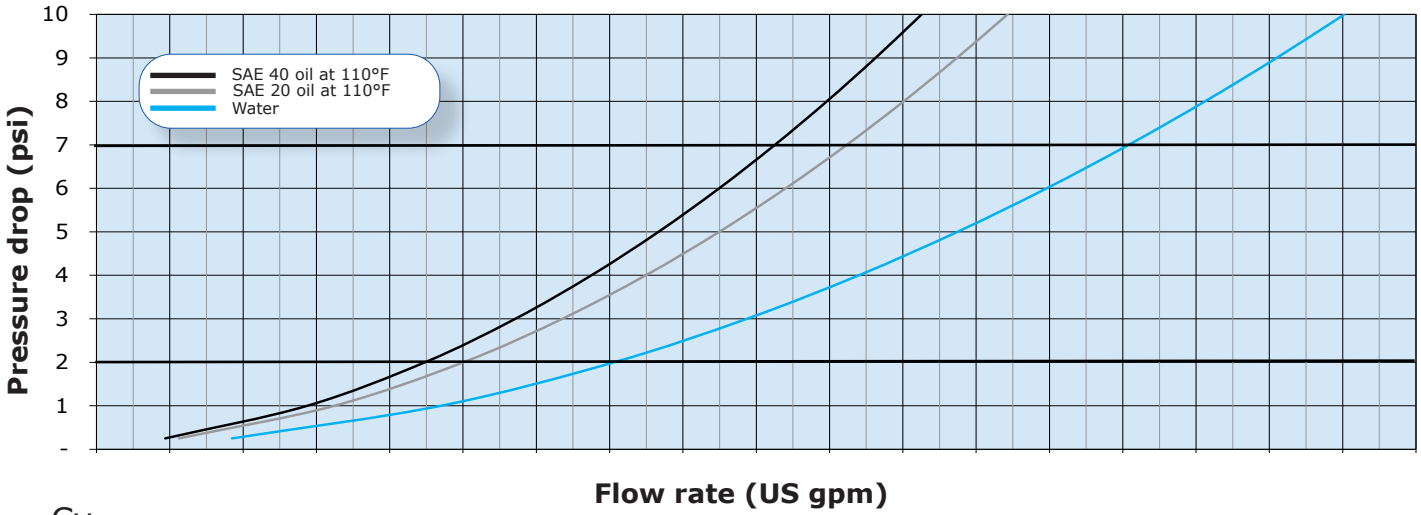


Kv									
0.8	0.14	0.2	0.26	0.33	0.4	0.46	0.52	0.58	0.65
1.6	0.28	0.4	0.52	0.65	0.78	0.9	1.0	1.2	1.3
3	0.52	0.7	1.0	1.2	1.5	1.7	1.9	2.2	2.4
4	0.69	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.2
6	1.0	1.5	1.9	2.4	2.9	3.4	3.9	4.4	4.8
8.7	1.5	2.1	2.8	3.5	4.3	5.0	5.6	6.3	7.0
11.5	2.0	2.8	3.7	4.7	5.6	6.6	7.5	8.4	9.3
15	2.6	3.7	4.9	6.1	7.3	8.6	9.7	11.0	12
24.7	4	6	8	10	12	14	16	18	20

AMOT thermostatic valves are designed to produce minimal pressure drop. The normal recommendation in sizing the valves is to select a pressure drop between 0.14 - 0.5 bar (2 - 7 psi).

Valve Characteristics Continued

Pressure drop (English units)



Cv																	
0.92	0.4	0.5	0.7	0.8	1.0	1.1	1.3	1.5	1.6	1.8	2.0	2.1	2.3	2.4	2.6	2.75	2.9
1.85	0.8	1.0	1.4	1.7	1.9	2.3	2.6	2.9	3.3	3.6	3.9	4.2	4.5	4.9	5.2	5.5	5.8
3.5	1.6	1.9	2.6	3.1	3.6	4.2	4.8	5.5	6.1	6.7	7.3	7.9	8.5	9.1	9.7	10.3	11.0
4.7	2.1	2.5	3.4	4.1	4.8	5.7	6.5	7.3	8.1	9.0	9.8	10.5	11.3	12.1	13.0	13.8	14.6
7	3.1	3.8	5.1	6.2	7.2	8.5	9.7	11.0	12.2	13.4	14.6	15.8	17.0	18.2	19.4	20.6	22.0
10	4.5	5.5	7.5	9.0	10.5	12.3	14.0	15.9	17.7	19.5	21.2	23.0	24.6	26.4	28.2	30.0	31.8
13.3	5.9	7.3	9.9	11.9	13.9	16.3	18.6	21.0	23.4	25.7	28.0	30.3	32.6	35.0	37.3	39.6	42.0
17.4	7.8	9.5	12.9	15.5	18.2	21.2	24.2	27.4	30.5	33.6	36.6	39.5	42.5	45.6	48.6	51.6	54.8
28.5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90

AMOT thermostatic valves are designed to produce minimal pressure drop. The normal recommendation in sizing the valves is to select a pressure drop between 0.14 - 0.5 bar (2 - 7 psi).

Flow coefficient

Flow coefficient (calculated)		
Size	**Kv**	**Cv**
1/2 E	0.8	0.92
	1.6	1.85
	3	3.5
	4	4.7
3/4 E	0.8	0.92
	1.6	1.85
	3	3.5
	6	7
	8.7	10
1 E	0.8	0.92
	1.6	1.85
	3	3.5
	6	7
	11.5	13.3
	15	17.4
1 ¼ E	24.7	28.5
1 ½ E	24.7	28.5

Kv = 0.865 Cv

Cv = 1.156 Kv

Kv 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 16º Celsius with a pressure drop across the valve of 1 bar. The basic formula to find a valve's Kv is shown below:

$$Kv = Q\sqrt{\frac{SG}{DP}} \qquad Q = Kv\sqrt{\frac{DP}{SG}} \qquad DP = \left[\frac{Q}{Kv}\right]^2 SG$$

Q = Flow in m^3/hr
DP = Pressure drop (bar)
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 60º Fahrenheit with a pressure drop across the valve of 1 psi. The basic formula to find a valve's Cv is shown below:

$$Cv = Q\sqrt{\frac{SG}{DP}} \qquad Q = Cv\sqrt{\frac{DP}{SG}} \qquad DP = \left[\frac{Q}{Cv}\right]^2 SG$$

Q = Flow in US Gallons/Min
DP = 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)

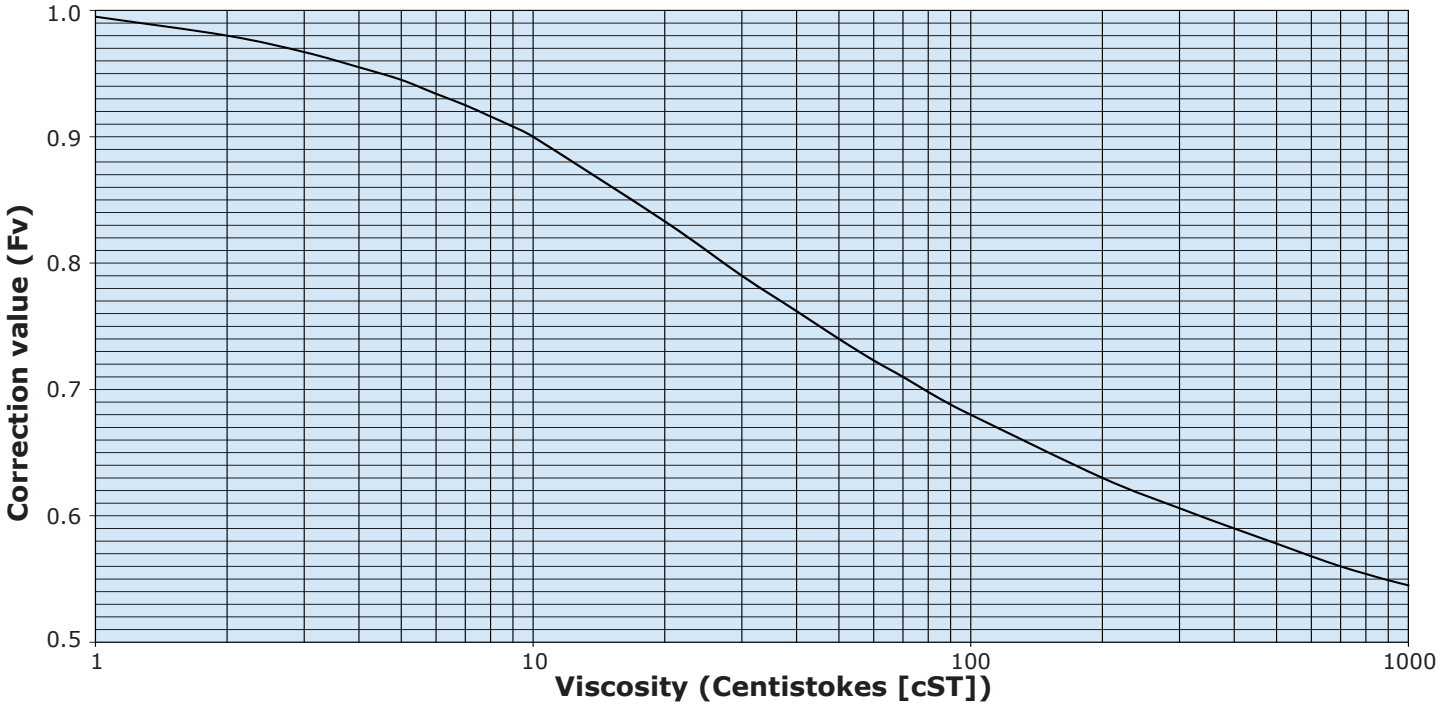
- Viscosity correction

  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)

Viscosity correction curve (Fv)



SAE oils viscosities

Engine oils	
Oil	**cST**
SAE 5W	6.8
SAE 10W	32
SAE 20	46
SAE 20W	68
SAE 30	100
SAE 40	150
SAE 50	220

Gear oils	
Oil	**cST**
SAE 75W	22
SAE 80W	46
SAE 85W	100
SAE 90	150
SAE 140	460

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

Based on leading oil manufacturers' published data.

Valve Characteristics Continued

Available versions

Cast iron	Bronze	Steel	Stainless steel
Threaded	**Threaded**	**Threaded**	**Threaded**
1 ¼ EL	1 ½ EO	1 ¼ EL	1 ¼ EL
1 ½ EL	**Flanged**	1 ½ EL	1 ½ EL
1 ½ EM	1 ½ EF	**Flanged**	**Flanged**
1 ½ EO	1 ½ EM	1/2 EF	1/2 EF
Flanged		1/2 EM	1/2 EM
1 ¼ EF		3/4 EF	3/4 EF
1 ½ EF		3/4 EM	3/4 EM
1 ½ EM		1 EF	1 EF
		1 EM	1 EM
		1 ½ EF	1 ½ EF
		1 ½ EM	1 ½ EM

Temperature and element characteristics

Code	Control temp.		Rated range				Max temp. cont.	
			Crack open		Full open			
	°C	°F	°C	°F	°C	°F	°C	°F
085	29	85	26	79	33	93	65	149
095	35	95	30	86	40	104	50	122
100	38	100	33	91	42	108	75	167
110	43	110	38	100	47	117	82	180
120	49	120	44	112	55	131	88	191
130	54	130	49	120	60	140	95	203
140	60	140	54	130	66	151	99	210
150	66	150	60	140	71	160	104	219
160	71	160	66	150	77	170	110	230
170	77	170	72	163	82	180	115	239
175	79	175	77	170	85	185	115	239
180	82	180	79	175	87	190	118	245
190	87	190	85	185	93	200	118	245
205	96	205	93	200	103	218	110	230
237	114	237	107	225	123	253	123	254

Element type and seal material

Code	Valve model	Element type	Element construction	Seal material
01	EF/EL/EO	5435X	Standard	Buna N/Nitrile
02	EF/EL/EO	5435P	Nickel plated	Viton
03	EF/EL/EO	5435X	Standard	Viton
04	EF/EL/EO	5435P	Nickel plated	Buna N/Nitrile
05	EF/EL/EO	5435X	Standard	Neoprene
07	EM	9831X	MO standard	Buna N/Nitrile
	EMRK/EMSK	10912X		
08	EM	9831P	MO nickel plated	Viton
	EMRK/EMSK	10912P		
09	EF/EL/EO	5435P	Nickel plated	Neoprene
11	EM	9831X	MO standard	Viton
	EMRK/EMSK	10912X		
14	EM	9831X	MO standard	Neoprene
	EMRK/EMSK	10912X		

How to Order

Use the table below to select the unique specification of your Model E Thermostatic Control Valve.
See next page for 1/2", 3/4", and 1" sizes.

USA/Canada Example	1 ½	EM	R	J	095	14			**Code description**	**Comments**
Europe/Asia-PAC Example	1 ½	EL	C	W	120	03	-0	-AA		
									Valve size (A) - inches (mm)	
Valve size (A)	1 ¼								1 ¼" (32)	
	1 ½								1 ½" (40)	
									Valve model (B)	
Valve model (B)		EF							Flanged	
		EL							Threaded	
		EM							Flanged w/ manual override	1 ½" ONLY
		EO							Threaded	
									Body material (C)	
Body material (C)			B						Bronze	EF, EM and EO ONLY
			C						Cast iron	EF, EM, and EL Only
			R						Stainless steel	EF, EM, and EL ONLY
			S						Carbon steel	
									Port connection (D)	
Port connection (D)				A					PN6	
				B					PN10	
				C					PN16	
				F					ASME 125 lb	Cast iron & bronze ONLY
				H					ASME 300 lb	Steel & stainless steel ONLY
				J					ASME 150 lb	
				K					ASME 600 lb	
				T					NPT to ANSI B2.1	
				U					BSP (PL) to BS 21	
				V					BSP (TR) Japanese (JIS)	
				W					SAE J5 14H	Straight thread, o-ring seal
									Control temperature °F (E)	
Control temperature °F (E)					*				For temperatures available, refer to the temperature and element characteristics table on page 9.	
									Element and seal material (F)	
Element and seal material (F)						**			For element and seal materials available, refer to the element type and seal material table on page 9.	
									Leakhole size (G) - inches (mm)	
Leakhole size (G)									None - Standard	USA/Canada ONLY
							0		None - Standard	Europe/Asia-PAC ONLY
							A		1/8" (3.2)	
							B		1/4" (6.3)	
							C		3/16" (5)	
							D		1/16" (1.6)	
									Customer special requirements (H)	
Customer special requirements (H)									Standard	USA/Canada ONLY
								-AA	Standard	Europe/Asia-PAC ONLY
								-***	Customer special code	

Example Code	½	EF	S	J	120	03	-0	-1	-AA	Code Description
										Valve size (A)
Valve size (A)	1/2									1/2 inch (DN15)
	3/4									3/4 inch (DN20)
	1									1 inch (DN25)
										Valve model (B)
Valve model (B)		EF								Flanged Connections
		EM								Flanged Connections w/ manual override (MO)
										Body material (C)
Body material (C)			S							Steel
			R							Stainless Steel
										Port connection (D)
Port connection (D)				B						EN 1092 PN10
				C						EN 1092 PN16
				H						ASME 300 lb 3/4" and 1" only
				J						ASME 150 lb
				4						EN 1092 PN40 3/4' and 1" only
										Control temperature °F (E)
Control temperature °F (E)					***					For temperatures available, refer to the temperature and element characteristics table on page 9.
										Element and seal material (F)
Element and seal material (F)						**				For element and seal materials available, refer to the element type and seal material table on page 9.
										Leakhole size (G)
Leakhole size (G)							0			None
							A			1/8" Dia.
							B			1/4" Dia.
							C			3/16" Dia.
							D			1/16" Dia.
										Kv, Flow coefficient (Cv)
Kv, Flow coefficient (Cv)								1		0.8 (0.92)
								2		1.6 (1.85)
								3		3 (3.5)
								4		4 (4.7) - 1/2" valve only
								5		6 (7) - 3/4" and 1 " valve only
								6		8.7 (10) - 3/4" valve only
								7		11.5 (13.3) - 1" valve only
								8		15 (17.4) - 1" valve only
										Customer special requirements (H)
Customer special requirements (H)									-AA	Standard
									-***	Customer special code

Specification

		Metric units	English units
Flow rate		0.3 - 17 m^3/hr	1.3 - 75 gpm
Body materials & pressure ratings	Cast iron	10 bar	145 psi
	1 ½ EL cast iron	24 bar	348 psi
	Bronze	10 bar	145 psi
	EL Steel	45 bar	652 psi
	EL Stainless Steel	40 bar	580 psi
	Carbon steel/stainless steel 150 lb flanged	16 bar	232 psi
	Carbon steel/stainless steel 300 lb flanged	45 bar	652 psi
	Carbon steel/stainless steel 600 lb flanged	68 bar	986 psi
Seal materials	Buna N/Nitrile, Viton, and Neoprene		
Mounting position	Any orientation		
Ports	Below nominal temperature	Ports A and B connected	
	Above nominal temperature	Ports A and C connected	
Port connections	Threaded	32 & 40 mm	1 ¼" & 1 ½"
	Flanged	15, 20, 25, 32 & 40 mm	1/2", 3/4", 1, 1 ¼" & 1 ½"
Valve sizes (nominal bore)		15, 20, 25, 32 & 40 mm	1/2", 3/4", 1, 1 ¼" & 1 ½"
Recommended pressure drop		0.14 - 0.5 bar	2 - 7 psi
Control temperatures		29°C - 114°C	85°F - 237°F

Weights

Approximate weights in kg (lbs)

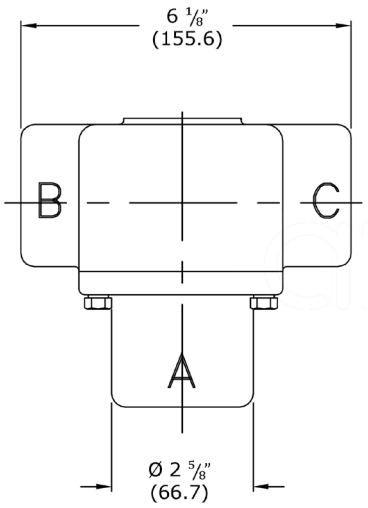
Valve size and model								
1/2 EF	**3/4 EF**	**1 EF**	**1 ½ EL/EO**	**1 ½ EFSK**	**1 ½ EFSH**	**1 ½ EFSJ**	**1 ¼ & 1 ½ EF**	**ELS/ELR**
7.5 (16.5)	8 (17.6)	8.5 (18.7)	5 (11)	16 (35)	14 (30)	12 (26.5)	9 (20)	5 (11)

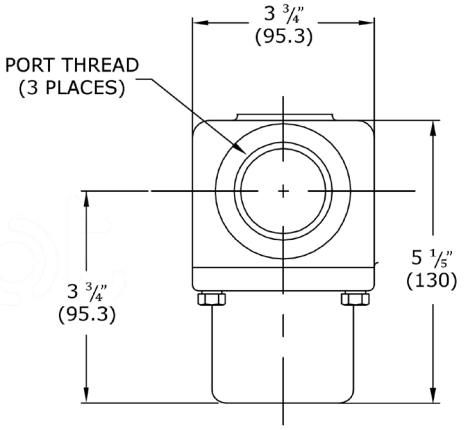
Valve Dimensions

Threaded models

Model 1 ½ EL/EO

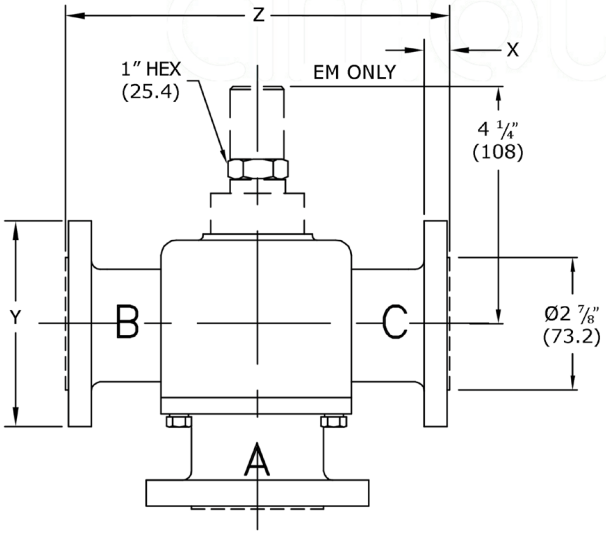
Dimensions - inches (mm)

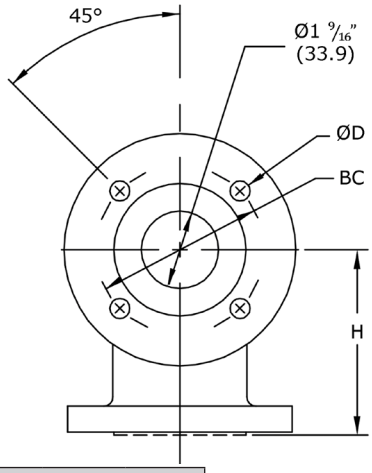




Flanged models

Model 1 ¼ EF, 1 ½ EF/EM





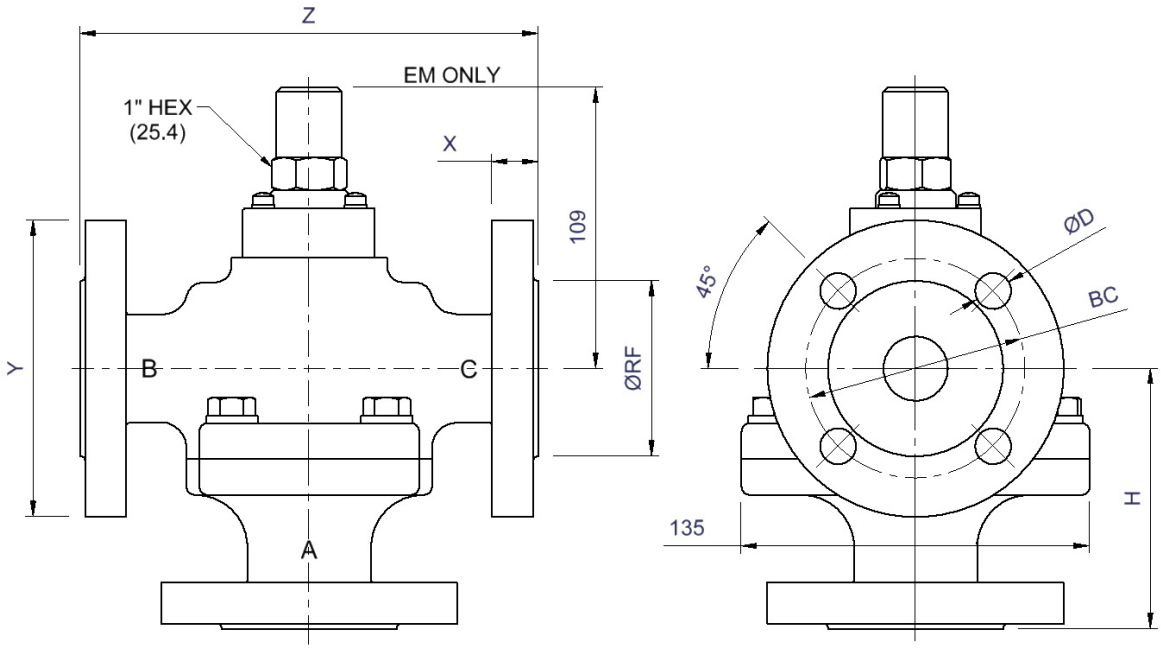
			Flange dimensions					
			H	X	Y	Z	BC	ØD
Port connection (D)[1]	A		-	18/25" (18)	5" (127)	-	3 29/32" (99)	3/5" (15.9)
	B & C		-	18/25" (18)	6" (150)	-	4 2/5" (110)	18/25" (18)
	F	1 ¼ EF	4" (101)	3/5" (15.9)	4 16/25" (117)	7" (177.8)	3 1/2" (89)	3/5" (15.9)
		1 ½ EF	4" (101)	18/25" (18)	5" (127)	7" (177.8)	3 9/10" (98.4)	3/5" (15.9)
	J		4" (101)	18/25" (18)	5" (127)	7" (177.8)	3 9/10" (98.4)	3/5" (15.9)
	H		4 4/5" (120)	4/5" (20.6)	6 3/25" (155)	8" (203.2)	4 1/2" (114)	9/10" (22.2)
	K		5" (127)	1 3/25" (28.5)	6 3/25" (155)	8 3/4" (222.3)	4 1/2" (114)	9/10" (22.2)

NOTES:

[1] See 'Port connection (D)' section in the How to Order table on page 10.

Flanged models

Model 1/2E, 3/4E, 1E



1 E		Flange dimensions						
		H	X	Y	Z	BC	ØD	ØRF
Port Connection (D)[1]	B & C & 4	4″ (101)	18/25″ (18)	4.53″ (115)	7″ (177.8)	3.35″ (85)	.55″ (14)	2.68″ (68)
	J	4″ (101)	.56″ (14.2)	4.3″ (110)	7″ (177.8)	3.13″ (79.4)	0.625″ (15.9)	2″ (50.8)
	H	4″ (101)	0.689″ (17.5)	4.92″ (125)	7″ (177.8)	3.5″ (8.9)	3/4″ (19)	2″ (50.8)

3/4 E		Flange dimensions						
		H	X	Y	Z	BC	ØD	ØRF
Port Connection (D)[1]	B & C & 4	4″ (101)	18/25″ (18)	4.13″ (105)	7″ (177.8)	2.95″ (75)	.55″ (14)	2.28″ (58)
	J	4″ (101)	0.5″ (12.7)	3.94″ (100)	7″ (177.8)	2.75″ (69.9)	0.625″ (15.9)	1.69″ (42.9)
	H	4″ (101)	0.62″ (15.8)	4.53″ (115)	7″ (177.8)	3.25″ (82.6)	3/4″ (19)	1.69″ (42.9)

1/2 E		Flange dimensions						
		H	X	Y	Z	BC	ØD	ØRF
Port Connection (D)[1]	B & C	4.72″ (120)	0.63″ (16)	3.58″ (91)	7″ (177.8)	2.56″ (65)	0.55″ (14)	1.77″ (45)
	J	4.72″ (120)	.44″ (11.1)	3.58″ (91)	7″ (177.8)	2.375″ (60.3)	0.625″ (15.9)	1.375″ (34.9)

NOTES:

[1] See 'Port connection (D)' section in the How to Order table on page 11.

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 and seals required for normal maintenance. Seal kits include new seal(s) and gasket. Whenever the element is replaced, the seal(s) and gasket should also be replaced.

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.

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.

AMOT does NOT offer service kits for EFRK, EFSK, EMRK, and EMSK Model E Thermostatic Valves. In order to properly service an EFRK, EFSK, EMRK, and/or EMSK please purchase an element and seal kit. Refer to the ordering instructions on page 12.

Service kit model number structure

1) Omit the Valve size (A).

2) Replace the Body material (C) and port connection (D) with **"KIT-"**.

3) If Special (H) is not blank, please contact the facility.

Example valve part number							
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**
1 ½	EL	C	T	095	01	B	
1 ¼	EF	C	F	100	01		
Example service kit model number							
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**
	EL	**KIT-**		095	01	B	
	EF	**KIT-**		100	01		

A - Valve size
B - Valve model
C - Body material
D - Port connection
E - Control temperature (°F)
F - Element and seal material
G - Leakhole size
H - Special

Ordering from Europe and Asia-PAC

Seal kits

Seal kits are available with seals and gasket only. Order seal kits using the basic seal kit model number, valve 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.

Element

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 element/seal material code, located in the Element and seal material (F) section of the AMOT valve part number. Find that value in Table 1 to identify the corresponding seal code.

2) Identify the valve model and port connection, located in the Valve model (B) and Port connection (D) sections of the AMOT valve part number, respectively. Use those values in Table 2 to identify the corresponding valve code.

3) Place first the seal code then the valve code after the basic part number to complete the seal kit model number, as shown in Table 3.

Table 1 - Seal code identification

Seal code	Element/seal material (F)[2]
1	01, 04, 07
2	02, 03, 08, 11
3	05, 09, 14

Table 2 - Valve code identification

Valve code	Valve model (B)	Port connection (D)[3]
01	EF/EL/EO	ALL except K
02	EM	
03	EF/EL/EO	K ONLY
04	EM	

Table 3 - Seal kit identification

	Basic part no.	Seal code (Table 1)	Valve code (Table 2)
	82334X	1, 2, 3	01, 02, 03, 04
Examples			
Valve part number	**Seal kit model number**		
1 ¼ ELCT09501-B-AA	82334X	1	01
1 ½ EMSK12008-0-AA	82334X	2	04

Element part number structure

1) Identify the valve model, located in the Valve model (B) section of the AMOT valve part number. Two examples are shown in Table 4.

2) Identify the body material code, located in the Body material (C) section of the AMOT valve part number.

3) Identify the port connection code, located in the Port connection (D) section of the AMOT valve part number.

4) Identify the element/seal material code, located in the Element and seal material (F) section of the AMOT valve part number.

5) Identify the temperature, located in the Control temperature °F (E) section of the AMOT valve part number.

6) Use those 5 codes to identify the proper element part number, as shown in Table 4.

Table 4 - Element part number identification

	Valve model (B)	Body material (C)	Port connection (D)[3]	Temperature °F (E)	Element/seal material (F)[2]			Element part number	Qty.
	EF/EL/EO	ALL	ALL	085-237	01, 03, 05			5435X(Temp.)	1
					02, 04, 09			5435P(Temp.)	
	EM	B, C	ALL except K		07, 11, 14			9831X(Temp.)	
					08			9831P(Temp.)	
		R, S	K		07, 11, 14			10912X(Temp.)	
					08			10912P(Temp.)	
Examples									
Valve part number								**Element part number**	**Qty.**
1 ¼	EL	C	T	095	01	-B	-AA	5435X095	1
1 ½	EM	S	K	120	08	-0	-AA	10912P120	1

NOTES:

[2] If your element/seal material code does not correspond with the given values, please contact the facility to confirm your element/seal material code.

[3] If your port connection code does not correspond with the given values, please contact the facility to confirm your port connection code.

Maintenance and Service Parts Continued

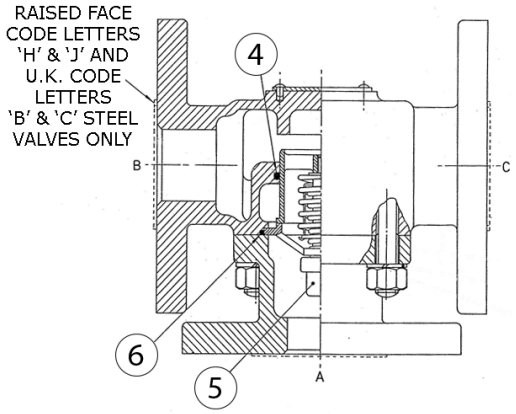
Service parts

Service kit parts[4]			
Ref no.	Qty.		Description
	EF/EL/EO	EM	
4	1	1	Element seal
5	1	1	Element
6	1	1	Housing seal
21	-	1	Shaft seal

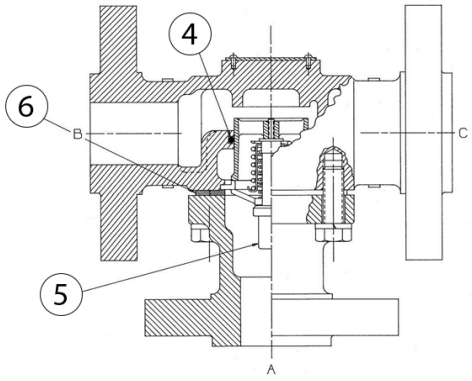
Seal kit parts					
Ref no.	Qty.				Description
	82334X(---)				
	(-)01	(-)02	(-)03	(-)04	
4	1	1	1	1	Element seal
6	1	1	-	-	Housing seal
6	-	-	1	1	Housing gasket
21	-	1	-	1	Shaft seal

NOTES:
[4] Does NOT include EFRK, EFSK, EMRK, or EMSK models.

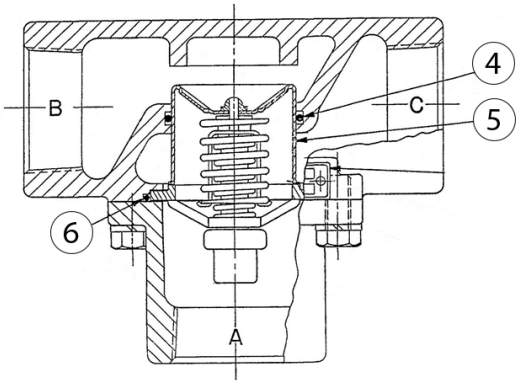
Model EF



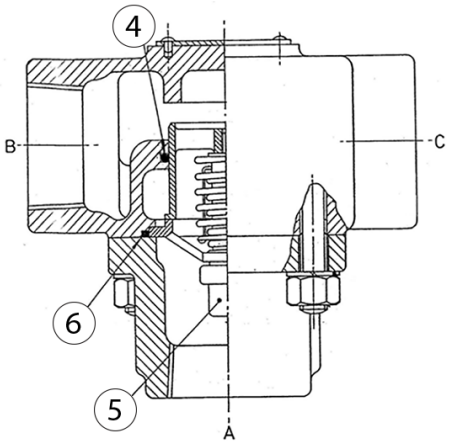
Model EFRK/EFSK



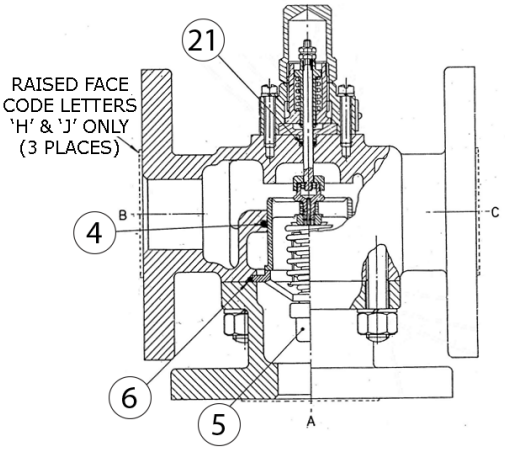
Model EL



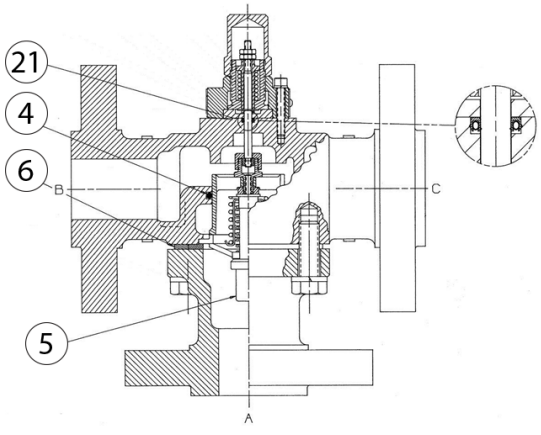
Model EO



Model EM



Model EMRK/EMSK



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⚠ WARNING

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.

www.amot.com