**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

**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 15 - 400 m³/hr (68 - 1750 US gpm)
- Combinations available:
  - Housings in cast iron, ductile iron, bronze, carbon steel, stainless steel
- DN40 - DN200 (1 ½” - 8”) pipe sizes
- Threaded and flanged connections
- Tamper-proof temperature settings from 13°C - 116°C (55°F - 240°F)
- Pressure ratings up to 45 bar (655 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
Thermostatic Control Valve - Model B

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Overview

AMOT Model B 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 B valves may be used for diverting or mixing service.

They make very economical temperature limiting valves for engine and lubricating oil cooling, and 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 overheating of plastic piping. Other applications include electronic and battery cooling circuits, pump temperature relief valves etc.

Housing materials
- Cast iron
- Steel
- Ductile iron
- Bronze
- Stainless steel

Seal materials
- Buna N/Nitrile
- Viton
- Neoprene

Element materials
- A combination of bronze, brass and stainless steel (standard)
- A combination of nickel plated and 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 - 12.7 mm (\(1/16\)" - \(1/2\)").

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 13°C - 116°C (55°F - 240°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 (BM & BR)

Model BM
For BM type valves, in automatic mode the valve will control the temperature automatically, but actuating the manual override mechanism(s) on top of the valve will move the element(s) to the fully extended (hot) position, regardless of temperature. Each element assembly has its own manual override.

Model BR
BR type valves are fitted with a manual override which allows a progressive opening of port A to C. Manual override is often a requirement for marine applications. Each element assembly has its own manual override.

Manual override should only be used in case of an emergency or element failure.
Thermostatic Control Valve - Model B

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)

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).

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<th>Size</th>
<th>Flow Rate (m³/hr) - Water</th>
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<td>1 ½</td>
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<tr>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>2 ½</td>
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<td>58</td>
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<tr>
<td>6</td>
<td>88</td>
</tr>
<tr>
<td>8</td>
<td>127</td>
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</tbody>
</table>

Flow rate (m³/hr) - Water

Datasheet B Thermostatic Control Valve 1119rev17
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).

**Pressure drop (English units)**

<table>
<thead>
<tr>
<th>Size</th>
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<th>55</th>
<th>70</th>
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<th>100</th>
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<tr>
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<td>67</td>
<td>85</td>
<td>103</td>
<td>121</td>
<td>140</td>
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<td>2</td>
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<td>145</td>
<td>176</td>
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<tr>
<td>2 ½</td>
<td>60</td>
<td>96</td>
<td>132</td>
<td>168</td>
<td>204</td>
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<tr>
<td>3 ½</td>
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<td>266</td>
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**Flow rate (US gpm) - Water**

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<td>1,571</td>
<td>1,807</td>
<td>2,043</td>
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</tr>
</tbody>
</table>

**Flow coefficient**

**Kv** is the flow coefficient in metric units. It is defined as the flow rate in cubic meters per hour (m³/hr) of water at a temperature of 16⁰ Celsius with a pressure drop across the valve of 1 bar. The basic formula to find a valve’s Kv is shown below:

\[
Kv = Q \sqrt{\frac{SG}{DP}} \quad Q = \sqrt{\frac{DP}{SG}} \quad DP = \left[ \frac{Q}{Kv} \right]^2 \quad SG = \text{Specific gravity of fluid (Water = 1.0)} \quad KV = \text{Valve flow coefficient (Metric units)}
\]

**Cv** is the imperial coefficient. It is defined as the flow rate in US Gallons per minute (gpm) of water at a temperature of 60⁰ Fahrenheit with a pressure drop across the valve of 1 psi. The basic formula to find a valve’s Cv is shown below:

\[
Cv = Q \sqrt{\frac{SG}{DP}} \quad Q = \sqrt{\frac{DP}{SG}} \quad DP = \left[ \frac{Q}{Cv} \right]^2 \quad Q = \text{Flow in gpm} \quad DP = \text{Pressure drop (psi)} \quad SG = \text{Specific gravity of fluid (Water = 1.0)} \quad Cv = \text{Valve flow coefficient (English units)}
\]
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)

![Viscosity correction curve](image)

SAE oils viscosities

<table>
<thead>
<tr>
<th>Engine oils</th>
<th>Oil</th>
<th>cST</th>
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<td>SAE 140</td>
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Approximate viscosities of SAE oils at 43°C (110°F) (cST).

Based on leading oil manufacturers’ published data.
## Temperature and element characteristics

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<th>Max temp. cont.</th>
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<td>B</td>
<td>PN10</td>
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<tr>
<td>D</td>
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## Element type and seal material

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<td>09</td>
<td>6938S</td>
<td>Saltwater manual ove.</td>
<td>Buna N/Nitrile</td>
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<td>Short stroke, high ove.</td>
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<td>Short stroke, high</td>
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<td>44</td>
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<td>Standard</td>
<td>Neoprene</td>
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<td>1096P</td>
<td>Nickel plated</td>
<td>Neoprene</td>
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<tr>
<td>53</td>
<td>2433X</td>
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<td>66</td>
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<td>Standard with SS gage &amp; sliding valve</td>
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<td>67</td>
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<tr>
<td>71</td>
<td>49580X</td>
<td>Standard manual overt with SS gage &amp; sliding valve</td>
<td>Viton</td>
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# Thermostatic Control Valve - Model B

## How to Order

Use the table below to select the unique specification of your Model B Thermostatic Control Valve.

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<th>USA/Canada Example</th>
<th>3</th>
<th>BO</th>
<th>S</th>
<th>J</th>
<th>110</th>
<th>01</th>
<th>B</th>
<th>Code description</th>
<th>Comments</th>
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<td>1 ½&quot; (40)</td>
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<th>C</th>
<th>F</th>
<th>095</th>
<th>07</th>
<th>-C</th>
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<th>Valve size (A) - inches (mm)</th>
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<tr>
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<td>2 ½</td>
<td>2 ½&quot; (65)</td>
<td>2 Elements</td>
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<td>3</td>
<td>3&quot; (80)</td>
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<td>33</td>
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<td>3 Elements</td>
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| Valve model (B)        | BC | Flanged "T" configuration 2" |
|                       | BF | Flanged "F" configuration 2" - 2 ½" |
|                       | BG | Screwed/Screw retained sleeves 1 ½" - 2" |
|                       | BH | Screwed high pressure 1 ½" - 2" |
|                       | BM | Manual override 1 ½" - 6" (USA/Canada ONLY) |
|                       | BO | Screwed connections 1 ½" - 2" |
|                       | BO | Flanged 2" - 8" |
|                       | BR | Manual override 2" - 8" (Europe/Asia-PAC ONLY) |

| Body material (C)      | B | Bronze | Valve size ≠ 33 |
|                       | C | Cast iron | All valve sizes |
|                       | D | Ductile iron | Valve size ≠ 1 ½, 33 |
|                       | R | Stainless steel | Valve size = 2, 2 ½, 3, 4, 5, 6, 8 |
|                       | S | Steel | Valve size = 2, 2 ½, 3, 4, 5, 6, 8 |

| Port connection (D)    | * | For port connections available, refer to the port connections table on page 7. |

| Control temperature °F (E) | ** | For temperatures available, refer to the temperature and element characteristics table on page 7. |

| 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) - inches (mm) | Leakhole size (G) |
|----------------------------------|-----------------
| None - Standard | USA/Canada ONLY |
| 0                  | Europe/Asia-PAC ONLY |
| A                  | ½" (13) |
| B                  | ½" (6.5) |
| C                  | ¾" (9.5) |
| D                  | ¼" (3.2) |
| E                  | ½" (1.6) |
| F                  | ½" (2.4) |
| G                  | ¾" (5) |
| H                  | ½" (8) |

<table>
<thead>
<tr>
<th>Leakhole quantity (H) ** Europe/Asia-PAC ONLY</th>
<th>Leakhole quantity (H) ** Europe/Asia-PAC ONLY</th>
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<tr>
<td>Number of elements with a SINGLE (1) leakhole</td>
<td>Number of elements with a SINGLE (1) leakhole</td>
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<td>Valve size = 1 ½&quot; - 6&quot;</td>
<td>Valve size = 8&quot;</td>
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<td>None</td>
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<td>1 (Max for 1 ½&quot; &amp; 2&quot; valve sizes)</td>
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<td>2</td>
<td>2 (Max for 2 ½&quot; &amp; 3&quot; valve sizes)</td>
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<tr>
<td>3</td>
<td>3 (Max for 3&quot; (33) valve size)</td>
</tr>
<tr>
<td>4</td>
<td>4 (Max for 4&quot; valve size)</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
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<tr>
<td>6</td>
<td>6 (Max for 5&quot; valve size)</td>
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<td>7</td>
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<td>8</td>
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<td>9</td>
<td>9 (Max for 6&quot; valve size)</td>
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<th>Customer special requirements (J)</th>
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<td>-AA</td>
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<td>Customer special code</td>
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**Thermostatic Control Valve - Model B**

### Maximum Working Pressures

**Measurements in bar (psi)**

<table>
<thead>
<tr>
<th>Material</th>
<th>Valve size and model</th>
<th>1 ½ B (150)</th>
<th>2 B (150)</th>
<th>2 BG/BH</th>
<th>2 ½ B (150)</th>
<th>3 B (150)</th>
<th>33 B (150)</th>
<th>4 B (150)</th>
<th>5 B (150)</th>
<th>6 B (150)</th>
<th>8 B (150)</th>
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<td>10</td>
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<tr>
<td>Cast iron</td>
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<td>22 (320)</td>
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<td>10</td>
<td>6</td>
<td>10</td>
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<td>10</td>
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<tr>
<td>Ductile iron</td>
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<td>16</td>
<td>16</td>
<td>-</td>
<td>16</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Steel/Stainless steel</td>
<td></td>
<td>-</td>
<td>45</td>
<td>45</td>
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<td>15</td>
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**NOTE:** Certain flange options will lower the maximum working pressure of the valve. e.g. Choosing PN6 flanges (Port connection (D) = A) will give 6 bar (87 psi) maximum working pressure.

### Specification

<table>
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<tr>
<th>Metric units</th>
<th>English units</th>
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<td><strong>Flow rate</strong></td>
<td><strong>68 - 1750 US gpm</strong></td>
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</tbody>
</table>

- **Body materials**
  - Bronze: Seawater, shock resistance and low magnetic permeability
  - Cast iron: Fresh water and lubricating oils
  - Ductile iron: High performance iron
  - Steel: High strength/pressure ratings
  - Stainless steel: Corrosive and special applications

- **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**
  - Screwed: 40 and 50 mm BSP (PL) or NPT
  - Flanged: 50 - 200 mm DIN, ASME, JIS

- **Valve sizes (nominal bore)**
  - 40, 50, 65, 80, 100, 120, 150 and 200 mm
  - 1 ½", 2", 2 ½", 3", 4", 5", 6" and 8"

- **Control temperatures**
  - 13 - 116 °C
  - 55 - 240 °F

- **Accreditations available**
  - ATEX
    - II 2G Ex h IIC T6...T3 Gb X
  - CE
    - Complies with all relevant EU directives

### Weights

**Approximate weights in kg (lbs)**

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<th>Material</th>
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<th>1 ½ BM</th>
<th>1 ½ BO</th>
<th>1 ½ BC/BR</th>
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<th>2 ½ BC/BR</th>
<th>2 ½ BM</th>
<th>2 ½ BO</th>
<th>2 ½ BC/BR</th>
<th>2 ½ BM</th>
<th>2 ½ BO</th>
<th>2 ½ BC/BR</th>
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<tr>
<td>Cast iron/Ductile iron</td>
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<td>(24)</td>
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Datasheet B Thermostatic Control Valve 1119rev17
Valve Dimensions

**1 ½” - 2” BG/BH/BO**

**2” BC/BM/BR**

**Dimensions - mm (inches)**

<table>
<thead>
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<th>Dimensions</th>
<th>Port connection (D)</th>
<th>Valve model</th>
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<td><strong>Nominal bore size - mm (inches)</strong></td>
<td><strong>40 (1 ½”)</strong></td>
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<td>F</td>
<td>246 (9.69”)</td>
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<td>H</td>
<td>90.5 (3.58”)</td>
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<td>96.8 (3.81”)</td>
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<td>82.6 (3.25”)</td>
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<td>t</td>
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<td>K</td>
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Note: Contact AMOT for detailed outline drawings when required.
# Thermostatic Control Valve - Model B

## Valve Dimensions Continued

Note: Contact AMOT for detailed outline drawings when required.

### Dimensions - mm (inches)

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<th>Dimensions</th>
<th>Port connection (D)</th>
<th>BO/BM/BR</th>
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<th>33 BO/BR</th>
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<tr>
<td></td>
<td></td>
<td>65 (2 ½”)</td>
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<td>125 (5”)</td>
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<td>267 (10.50”)</td>
<td>267 (10.50”)</td>
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<td>J</td>
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<td>141.3 (5.56”)</td>
<td>141.3 (5.56”)</td>
<td>141.3 (5.56”)</td>
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<td>114.5 (4.56”)</td>
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<td>or 134 (5.28)</td>
<td>or 134 (5.28)</td>
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<td>or 130.2 (5.13)</td>
<td>or 119.5 (4.70)</td>
<td>or 330.3 (13)</td>
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<td>200 (7.87”)</td>
<td>200 (7.87”)</td>
<td>224 (8.82”)</td>
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<td>285 (11.22”)</td>
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<td>209.6 (8.25”)</td>
<td>245 (9.65”)</td>
<td>308 (12.13”)</td>
<td>349 (13.75”)</td>
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<td>or 240 (9.45”)</td>
<td>or 299 (11.77”)</td>
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<td>22 (0.87”)</td>
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<td>26 (1.02”)</td>
<td>26 (1.02”)</td>
<td>30 (1.18”)</td>
</tr>
<tr>
<td>K</td>
<td>A</td>
<td>130 (5.12”)</td>
<td>150 (5.91”)</td>
<td>160 (6.30”)</td>
<td>170 (6.70”)</td>
<td>200 (7.87”)</td>
<td>225 (8.86”)</td>
<td>295 (11.61”)</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>145 (5.71”)</td>
<td>160 (6.30”)</td>
<td>160 (6.30”)</td>
<td>180 (7.09”)</td>
<td>210 (8.27”)</td>
<td>240 (9.45”)</td>
<td>295 (11.61”)</td>
</tr>
<tr>
<td></td>
<td>F/J</td>
<td>139.7 (5.50”)</td>
<td>152.4 (6.00”)</td>
<td>152.4 (6.00”)</td>
<td>190.5 (7.50”)</td>
<td>216 (8.50”)</td>
<td>240 (9.45”)</td>
<td>299 (11.77”)</td>
</tr>
<tr>
<td>Ød</td>
<td>A</td>
<td>14 (0.55”)</td>
<td>18 (0.71”)</td>
<td>18 (0.71”)</td>
<td>18 (0.71”)</td>
<td>18 (0.71”)</td>
<td>18 (0.71”)</td>
<td>22 (0.87”)</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>18 (0.71”)</td>
<td>18 (0.71”)</td>
<td>18 (0.71”)</td>
<td>18 (0.71”)</td>
<td>18 (0.71”)</td>
<td>18 (0.71”)</td>
<td>23 (0.91”)</td>
</tr>
<tr>
<td></td>
<td>F/J</td>
<td>19.05 (0.75”)</td>
<td>19.05 (0.75”)</td>
<td>19.05 (0.75”)</td>
<td>19.05 (0.75”)</td>
<td>22.2 (0.87”)</td>
<td>23 (0.91”)</td>
<td>22 (0.87”)</td>
</tr>
<tr>
<td>n</td>
<td>A</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>8</td>
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<tr>
<td></td>
<td>B</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8 or 12*</td>
</tr>
<tr>
<td></td>
<td>F/J</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>A.D.</td>
<td>A</td>
<td>45°</td>
<td>45°</td>
<td>45°</td>
<td>45°</td>
<td>45°</td>
<td>22.5°</td>
<td>22.5°</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>45°</td>
<td>22.5°</td>
<td>22.5°</td>
<td>22.5°</td>
<td>22.5°</td>
<td>22.5°</td>
<td>22.5°</td>
</tr>
<tr>
<td></td>
<td>F/J</td>
<td>45°</td>
<td>45°</td>
<td>45°</td>
<td>22.5°</td>
<td>22.5°</td>
<td>22.5°</td>
<td>22.5°</td>
</tr>
</tbody>
</table>

* 8 holes on PN10 Flange, 12 holes on PN16 Flange
# Iron & bronze for first value; steel & stainless steel for second value
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), seals and gasket required for normal maintenance. Seal kits include new seals and gasket(s). Whenever element(s) are replaced, the seals and gasket(s) 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 element(s), seals and gasket 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) Replace Body material (C) and Port connection (D) with “KIT-”.
2) 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(s) only. Order seal kits using the seal kit model number which is identified by the valve size and element/seal material 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 8BO or 8BR Model B Thermostatic Valves. In order to properly service an 8BO and/or 8BR valve please purchase an element and seal kit. Refer to the ordering instructions on page 12.

<table>
<thead>
<tr>
<th>Example valve part number</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>1 ½</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example service kit model number</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
</tr>
<tr>
<td>1 ½</td>
</tr>
</tbody>
</table>

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

Element(s)
Order temperature elements using the element part number which is identified by the 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.
Thermostatic Control Valve - Model B

Maintenance and Service Parts Continued

Ordering from Europe and Asia-PAC continued

Seal kit model number structure

1) Identify the valve size and body material codes, located in the Valve size (A) and Body material (C) sections in the AMOT valve part number, respectively. Locate those values in Table 1 to identify the valve size code.

2) Identify the element/seal material code, located in the Element and seal material (F) section of the AMOT valve part number. Locate that value in Table 2 to identify the seal code.

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

Element part number structure

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

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

3) Use those 2 codes to identify the element part number, as shown in Table 4.

Table 1 - Valve size code

<table>
<thead>
<tr>
<th>Valve size code</th>
<th>Valve size (A)</th>
<th>Body material (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>1 ½</td>
<td>ALL</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
<td>ALL</td>
</tr>
<tr>
<td>25</td>
<td>2 ½</td>
<td>ALL</td>
</tr>
<tr>
<td>30</td>
<td>3</td>
<td>ALL</td>
</tr>
<tr>
<td>33</td>
<td>3 3/8</td>
<td>ALL</td>
</tr>
<tr>
<td>40</td>
<td>4</td>
<td>B/C/D</td>
</tr>
<tr>
<td>41</td>
<td>4 1/2</td>
<td>R/S</td>
</tr>
<tr>
<td>50</td>
<td>5</td>
<td>B/C/D</td>
</tr>
<tr>
<td>51</td>
<td>5 1/2</td>
<td>R/S</td>
</tr>
<tr>
<td>60</td>
<td>6</td>
<td>B/C/D</td>
</tr>
<tr>
<td>61</td>
<td>6 1/2</td>
<td>R/S</td>
</tr>
<tr>
<td>80</td>
<td>8</td>
<td>B/C/D</td>
</tr>
<tr>
<td>81</td>
<td>8 1/2</td>
<td>R/S</td>
</tr>
</tbody>
</table>

Table 2 - Seal code

<table>
<thead>
<tr>
<th>Seal code</th>
<th>Element/seal material (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>01, 05, 11</td>
</tr>
<tr>
<td>2</td>
<td>02, 03, 20</td>
</tr>
<tr>
<td>3</td>
<td>44, 45</td>
</tr>
<tr>
<td>4</td>
<td>07, 09</td>
</tr>
<tr>
<td>5</td>
<td>08, 53</td>
</tr>
</tbody>
</table>

Table 3 - Seal kit identification

<table>
<thead>
<tr>
<th>Basic part no.</th>
<th>Valve size code (Table 1)</th>
<th>Seal code (Table 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>46342X</td>
<td>15, 20, 25, 30, 33, 40, 41, 50, 51, 60, 61, 80, 81</td>
<td>1, 2, 3, 4, 5</td>
</tr>
</tbody>
</table>

Examples

<table>
<thead>
<tr>
<th>Valve part number</th>
<th>Seal kit model number</th>
</tr>
</thead>
<tbody>
<tr>
<td>4BORJ15001-D4-AA</td>
<td>46342X</td>
</tr>
<tr>
<td>8BRCF09007-00-AA</td>
<td>46342X</td>
</tr>
</tbody>
</table>

Table 4 - Element part number identification

<table>
<thead>
<tr>
<th>Temperature °F (E)</th>
<th>Element/seal material (F)</th>
<th>Element part number</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>055-240</td>
<td>01, 03, 44</td>
<td>1096X(Temp.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>02, 45</td>
<td>1096P(Temp.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>07, 53</td>
<td>2433X(Temp.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>08</td>
<td>2433P(Temp.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11, 20</td>
<td>5566X(Temp.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>05</td>
<td>6836S(Temp.)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>09</td>
<td>6938S(Temp.)</td>
<td></td>
</tr>
</tbody>
</table>

Examples

<table>
<thead>
<tr>
<th>Valve part number</th>
<th>Element part number</th>
<th>Qty.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>BO R J 150</td>
<td>-D 4</td>
</tr>
<tr>
<td>8</td>
<td>BR C F 090</td>
<td>-0 0</td>
</tr>
</tbody>
</table>

NOTES:

1 3” valve with 3 elements.
2 All body materials except Steel, and stainless steel.
3 Steel, and stainless steel body materials ONLY.
4 If your element/seal material code does not correspond with the given values, please contact the facility to confirm your element/seal material code.
### Service parts

**Service kit parts** (refer to diagrams below and on page 14)

<table>
<thead>
<tr>
<th>Ref no.</th>
<th>Valve size (inches)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>1 ½ 2 2 ½ 3 3 4 5 6</td>
<td>Element seal</td>
</tr>
<tr>
<td>8</td>
<td>1 ½ 2 2 ½ 3 3 4 5 6</td>
<td>Element</td>
</tr>
<tr>
<td>9</td>
<td>1 ½ 2 2 ½ 3 3 4 5 6</td>
<td>Housing seal</td>
</tr>
<tr>
<td>17</td>
<td>1 ½ 2 2 ½ 3 3 4 5 6</td>
<td>Stem seal</td>
</tr>
</tbody>
</table>

**Seal kit parts**

<table>
<thead>
<tr>
<th>Ref no.</th>
<th>Valve size (inches)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>1 ½ 2 2 ½ 3 3 4 5 6</td>
<td>Port seal</td>
</tr>
<tr>
<td>7</td>
<td>1 ½ 2 2 ½ 3 3 4 5 6</td>
<td>Element seal</td>
</tr>
<tr>
<td>9</td>
<td>1 ½ 2 2 ½ 3 3 4 5 6</td>
<td>Housing seal</td>
</tr>
<tr>
<td>17</td>
<td>1 ½ 2 2 ½ 3 3 4 5 6</td>
<td>Stem seal</td>
</tr>
</tbody>
</table>

NOTES:

1. 3” valve with 3 elements.

### Diagrams

**2” BC**

**1 ½” & 2” BM**

**1 ½” & 2” BR**

**2” BF**

**1 ½” & 2” BG, BH, BO**

**2 ½” - 6” BM**
Thermostatic Control Valve - Model B

Maintenance and Service Parts Continued

Service parts continued

2 ½” - 6” BO (except for 5B/6B Steel & SS)

2 ½” - 6” BR

8” BO (all other material)/8BR

5”, 6”, 8” BO (steel & ss)

8” BM (steel & ss)
Contact

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

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

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22525 Hamburg
Germany

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

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

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