

### DESCRIPTION

The ORION® Series 9100 bronze control valve is available with a Stainless Steel bonnet extension for cold service to  $-325^{\circ}\text{F}$  ( $-198^{\circ}\text{C}$ ), see ASME/ANSI B16.24.

This option uses the standard bronze bonnet with a removable extension made of 316SST:

- Available in a short 4 in. (101 mm) or long 6 in. (152 mm) extension (SST portion).
- Standard packing is a single set of PTFE chevron rings with live spring loading.
- Mounting brackets are available for use in high-vibration applications.

### APPLICATION

This option is suitable for cold, non-corrosive liquids and vapors, whenever external icing is possible or when the packing must be insulated from the cold fluid passing through the valve body.

### FEATURES

The stainless steel extension is a superior insulator, compared to conventional bronze extensions, due to its greater strength and resistance to heat transfer.

### MATERIALS

<b>Body &amp; Bonnet</b>	B62 Bronze
<b>Extension</b>	316 SST Hex (ASTM A 479)
<b>Gaskets</b>	Copper
<b>Innervalve</b>	316L SST
<b>Packing</b>	PTFE chevron rings
<b>Optional</b>	Graphite and REK® (Kalrez) or double packing with 1/8 in. (3 mm) NPT purge port

### DESIGN REFERENCES

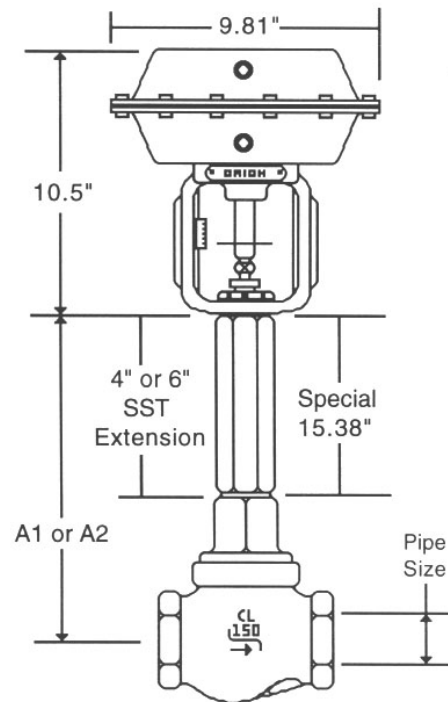
- ASME/ANSI B16.25 Class 150 (copper alloy standard)
- MSE SP-80 and ASME B31.3

**NOTE:** Along with other design criteria, the degree of exterior icing possible will determine the required length of bonnet extension, which is a function of fluid temperature and ambient humidity.  $-325^{\circ}\text{F}$  ( $-198^{\circ}\text{C}$ ) is the minimum allowable temperature for B62 bronze material, regardless of packing or extension.

### PRESSURE VS TEMPERATURE RATING

<b>300 psig (20.7 bar)</b>	@ $-325...70^{\circ}\text{F}$ ( $-198.3...21.1^{\circ}\text{C}$ )
<b>150 psig (10.3 bar)</b>	@ $406^{\circ}\text{F}$ ( $207^{\circ}\text{C}$ )
<b>Max. Pressure Drop</b>	Consult the factory
<b>Upper Temperature Limit</b>	$406^{\circ}\text{F}$ ( $207^{\circ}\text{C}$ )
<b>Lower Temperature Limit</b>	Long extension: $-325^{\circ}\text{F}$ ( $-198^{\circ}\text{C}$ ) Short extension: $-224^{\circ}\text{F}$ ( $-123^{\circ}\text{C}$ )

### DIMENSIONS



Valve Size NPT	Dimension "A" (C/L of Body to Actuator Match Point)	
	A1 Short Extension 4 in. (101.6 mm)	A2 Long Extension 6 in. (152.4 mm)
3/4 in. (19.1 mm)	8.44 in. (215 mm)	10.44 in. (266 mm)
1 in. (25.4 mm)	8.44 in. (215 mm)	10.44 in. (266 mm)
1-1/4 in. (31.8 mm)	9.22 in. (235 mm)	11.22 in. (285 mm)
1-1/2 in. (38.1 mm)	9.22 in. (235 mm)	11.22 in. (285 mm)
2 in. Std. (50.8 mm)	9.62 in. (245 mm)	11.62 in. (296 mm)
Special "A" = 21.0 in. (533.4 mm) (Extension made from round material.)		

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