

Changes shown by ♦

SCOPE

- I 1.1 This practice covers the design of heat / weather shields for the protection of flangeless valve installations and flanged joints, with or without spacers, in dangerous material services. Flange leak bands, with or without the use of external insulation are also covered by this design.
- I 1.2 **An asterisk (*)** indicates that additional information is required. If a job is contracted, this additional information is furnished in the Job Specification.

DEFINITIONS

- I 2.1 **Heat / weather shields** are devices to protect pipe flanges and bolting from the effects of flame or firewater impingement and the cooling effects of rain, where such exposure could result in flange leakage.
- I 2.2 **Services categories** are defined as follows for the purpose of heat / weather shield selection:
- Category I Services:** Flammable, combustible, toxic, or highly corrosive materials, at a design temperature > 600°F (315°C).
 - Category II Services:** Flammable, combustible, toxic, or highly corrosive materials, at a design temperature ≤ 600°F (315°C).
 - Category III Services:** Any material not listed in **Subpar. a. (or b.) above** at a design temperature > 600°F (315°C).
- I 2.3 **Equipment with a high potential for fire** is defined for purposes of heat / weather shield selection as:
- Pumps handling flammable liquids.
 - Gas compressors handling flammable materials.
 - Fired heaters handling flammable liquids in the tubes.
 - Vessels, heat exchangers, and other equipment containing flammable liquids at a temperature over 600°F (315°C).
- I 2.4 **"Long body" flangeless control valves** are types having the vane or plug fully contained within the valve body when in the open position.
- I 2.5 **Leak bands** are devices to contain leakage from flanged connections.

APPLICATION

- S *3.1 The selection and use of heat / weather shields shall be per the following:

* EXPOSURE CONDITION		FLANGED ASSEMBLY	SHIELD TO BE PER:	* SPECIFIC REQUIREMENTS FOR VENT AND SNUFFING STEAM CONNECTIONS, OR DRAINS
SERVICE CATEGORY	LOCATION			
I	Any	1. "Long body" control valves 2. Flanged joints when specified	Fig. 1	1. Provide snuffing steam connection and vent, or a drain, as specified. 2. Vents and drains shall be piped to designated safe locations.
II	≤ 25 ft from equipment with a high potential for fire	1. "Long body" control valves 2. Flanges with spacers and exposed bolting > 3 in. length	Par. 3.2	Discharge from shield drain hole shall not be into walkways or other areas frequented by operating personnel. In addition, flammable material and combustible liquid discharge shall not impinge on hot equipment, i.e., above 600°F.
III	Any	1. "Long body" control valves 2. Flanges with spacers and exposed bolting > 3 in. length 3. Flanged joints when specified	Par. 3.2	—

ACCEPTABLE METRIC EQUIVALENTS

in.	3	25 ft	600°F
mm	75	7.5 m	315°C

IP 3-16-3		Heat / Weather Shields for Flanges and Flangeless Valves	
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- R 3.2 **The design and installation of heat / weather shields for Category II and III services** shall conform to the following:
- a. Shields shall be fabricated from Type 304 stainless steel, 0.06 in. (1.5 mm) thick.
 - b. Shields shall: enclose the flanged assembly, end to end, be lapped to shed water, and be secured with bands.
 - c. A 1/2 in. (13 mm) diameter drilled hole shall be provided at the lowest point of the shield, after installation.
- S * 3.3 **Leak bands**, when specified, shall be in accordance with **Par. 3.2** except that a 1/2 in. (13 mm) diameter drain tube, flush with the band I.D., shall be furnished extending through the flange insulation.
- S 3.4 **Heat / weather shields** shall be **installed after initial boltup**, with the flanges at ambient conditions.

Revision Memo

6/82	Original Issue of Basic Practice
1/86	Revision 1
12/93	Revision 2
3/98	Revision 0 - Original Issue of International Practice
6/00	Revision 1
	Reaffirmation of previous Revision 0, March 1998, with minor editorial changes only.

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