



## Maximum results obtained on valve body heat tracing

### Vanessa Series 30,000 Body Jacket Configuration

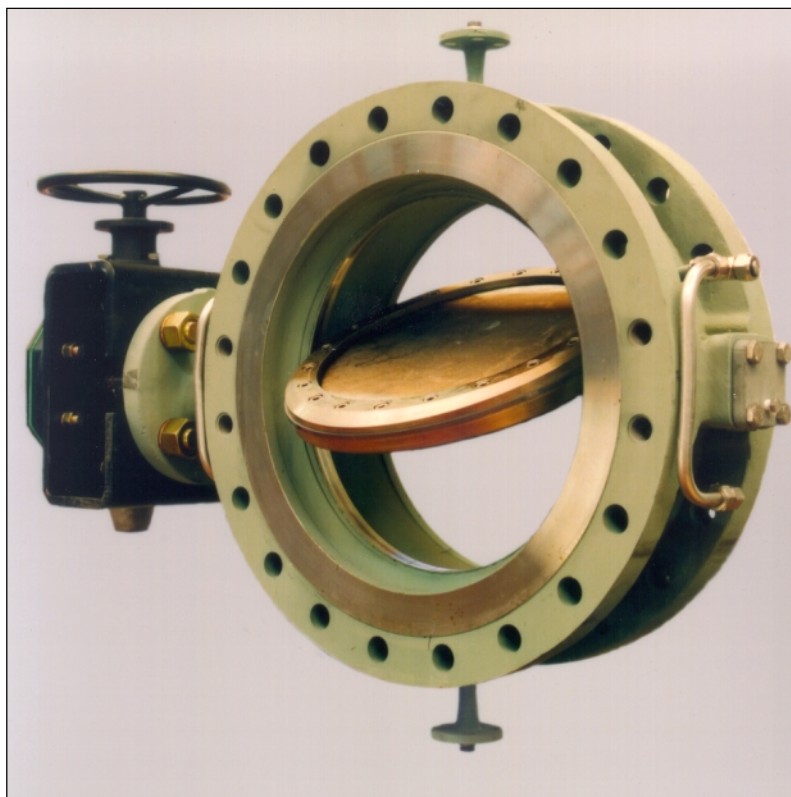
#### General

In presence of specific applications such as sulphur recovery, or in presence of particular media characteristic (i.e. fluid crystallization), Vanessa strongly recommends the provision of valve body heating.

Hence, the Series 30,000 valves have been designed to be able to incorporate the body jacket to heat the critical areas, especially the valve seat and the bearing areas, in order to prevent fluid crystallization in the sealing and bearing areas.

To realize the heating system, Vanessa has provided plates welded on the valve bodies in order to create heating chambers all around the body wall, and to cover the body hubs as much as possible. Additionally, jacket chambers are designed to be communicating to maintain the maximum heating efficiency in the critical areas.

The jacketed design is applicable only to the double flanged body style, and not to the lugged and wafer body styles (see figure no. 1 and no. 2).



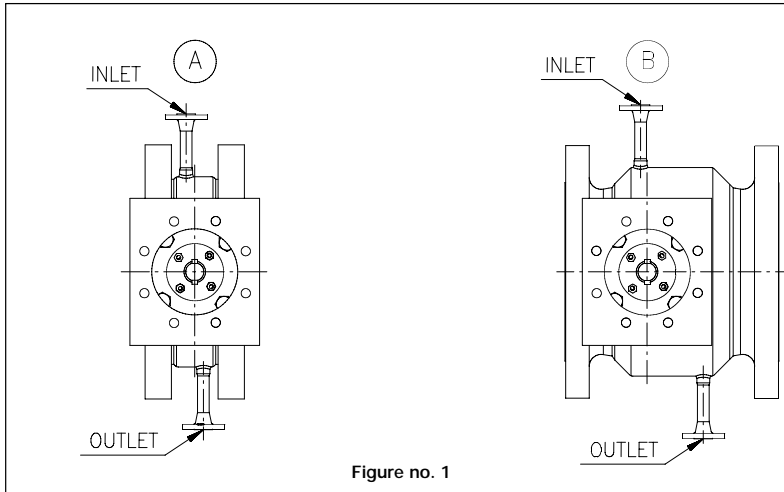
Vanessa recommends the installation of the jacketed valves with the shaft horizontal (see figure 1 and figure 2) in order to prevent any possible fluid deposit into the lower bearing areas, and to avoid the increasing of the operational torque.

It is also recommended to connect the heating inlet on the upper connections and the outlet on the lower ones, in order to allow the condensate to drain. If the installation of the jacketed valves is with shaft vertical, the system is provided with an auxiliary plug (P) in the bottom area to permit condensate drainage (see figure 1 and figure 2).

Vanessa strongly recommends to insulate the jacketed valves to minimize any loss of heat that could provoke a reduction of the heating device efficiency.

**Body Configuration and Installation**

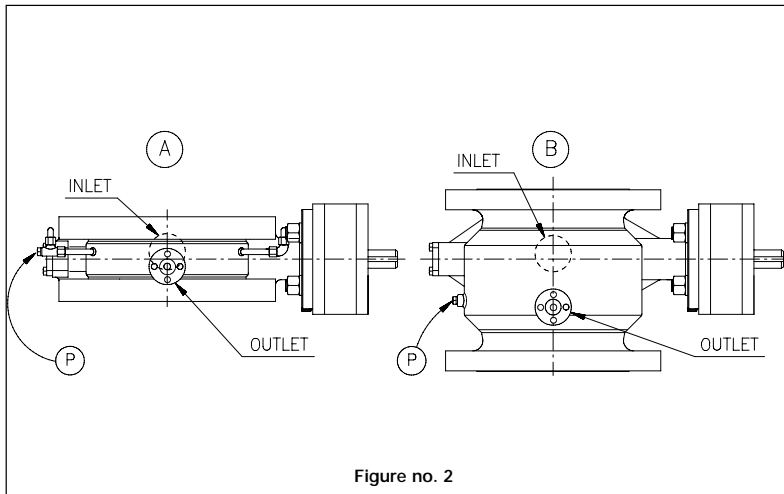
**Horizontal Line Installation**



**Notes**

- Applicable face-to-face standards:  
 "A" ISO 5752 Table 1 Col. 13  
 ISO 5752 Table 1 Col. 14  
 "B" ANSI B16.10 Table 1 Col. 9  
 (ISO 5752 Table 1 Col. 3)  
 ANSI B16.10 Table 1 Col. 11  
 (ISO 5752 Table 1 Col. 4)
- For ND up to 12", the auxiliary condense drainage "P" is 3/8" NPT.  
 For ND from 14" and larger, the auxiliary condense drainage (P) is 1/2" NPT.

**Vertical Line Installation**



**Product Characteristics**

**Design Conditions**

The standard Vanessa body jacket configuration has been designed to suit the following conditions:

Pressure= 10 bar  
 Temperature= 200°C

**Heating Fluid**

Generally, the Vanessa body jacket is used with Clean Saturated Steam at 10 Bar

pressure and 183°C temperature. For different heating fluids please consult supplier.

**Flanged Inlet Connections**

The body jacket valves are supplied completed with flanged inlet connections (see figure no. 3).

The valves are delivered with the inlet connections tapped, in order to avoid any dirt being introduced into the jacket

chambers during shipping and storage. This ensures the correct functioning of the heating system when operated.

Body Jacket Connections

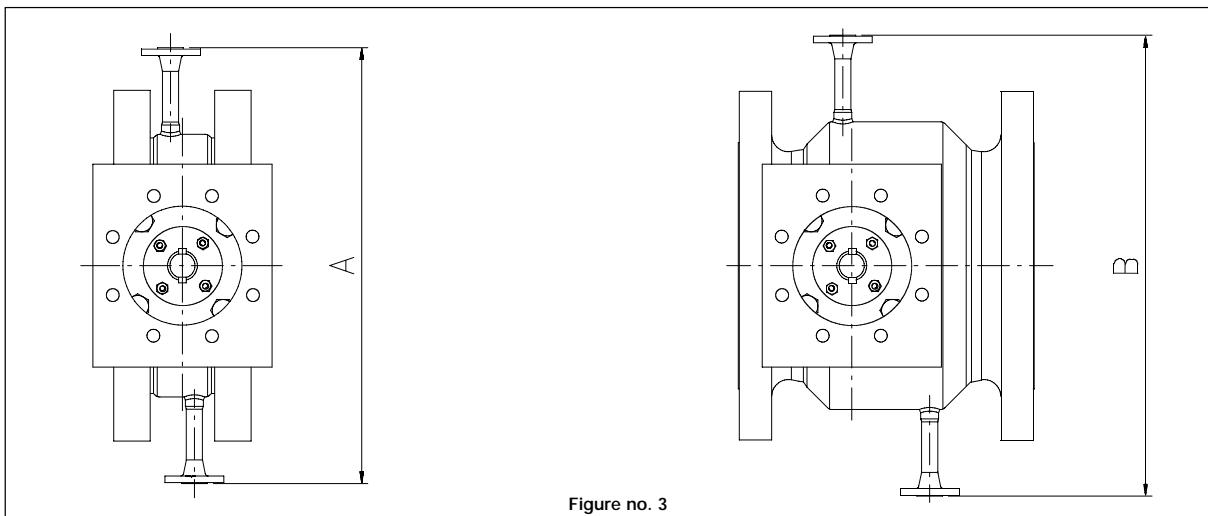


Figure no. 3

Body Jacket Connections Dimensions

Valve Size		Trim B		Trim C	
mm	in.	A	B	A	B
80	3	338	356	338	358
100	4	372	382	372	386
150	6	426	432	424	458
200	8	546	583	555	594
250	10	601	635	608	665
300	12	650	702	665	717
350	14	721	761	730	792
400	16	765	830	792	865
450	18	817	882	835	917
500	20	877	930	893	-
600	24	976	1050	993	-

Notes

- Trim B: Dp max 25 bar.  
Trim C: Dp max 50 bar.
- HEATING CONNECTION FLANGES**  
**Valve body with ANSI drilling**  
For ND up to 12", the heating connection flange dim. is 1/2" Cl. 300 ANSI B16.5, RF 125±250 µinch.  
For ND from 14" and larger, the heating connection flange dim. is 3/4" Cl. 300 ANSI B16.5, RF 125±250 µinch.  
**Valve body with DIN & ISO 7005 drilling**  
For ND up to 300 mm, the heating connection flange dim. is DN 15 PN 40, RF 12,5±25 µm.  
For ND from 350 mm and larger, the heating connection flange dim. is DN 20 PN 40, RF 12,5±25 µm.
- Dimension "A" is applicable for the following valve body face-to-face standards: ISO 5752 Table 1 Col. 13  
ISO 5752 Table 1 Col. 14  
Dimension "B" is applicable for the following valve body face-to-face standards: ANSI B16.10 Table 1 Col. 9 (ISO 5752 Table 1 Col. 3)  
ANSI B16.10 Table 1 Col. 11 (ISO 5752 Table 1 Col. 4)

Design and Manufacturing - Additional Information

Design Reference

The jacket is dimensioned according to ASME Boiler and Pressure Vessel Code, Section VIII, Division 1, Subsection A, Paragraph UG-27.

The jacket material is ASTM A516 for valve with WCB body material, and ASTM A240 tp.316 for valve with CF8M body material.

Manufacturing

The plates are welded to the body by qualified welders, following qualified welding procedures. NDE examination is performed to ensure absence of defects after welding process. All jackets are hydraulically tested to 1,5 times the design pressure of the jacket, then dried by means of air.

### Bearing Flushing Device

Some accidental discontinuities in the heating supply may occur and may cause the solidification of the line medium in the bearing areas, preventing any future operation.

To avoid this situation, Vanessa recommends the use of bearing flushing with bearing protectors installed. This solution allows for the pressurizing of the bearing with a higher pressure in respect to the pressure of the line, with a very low con-

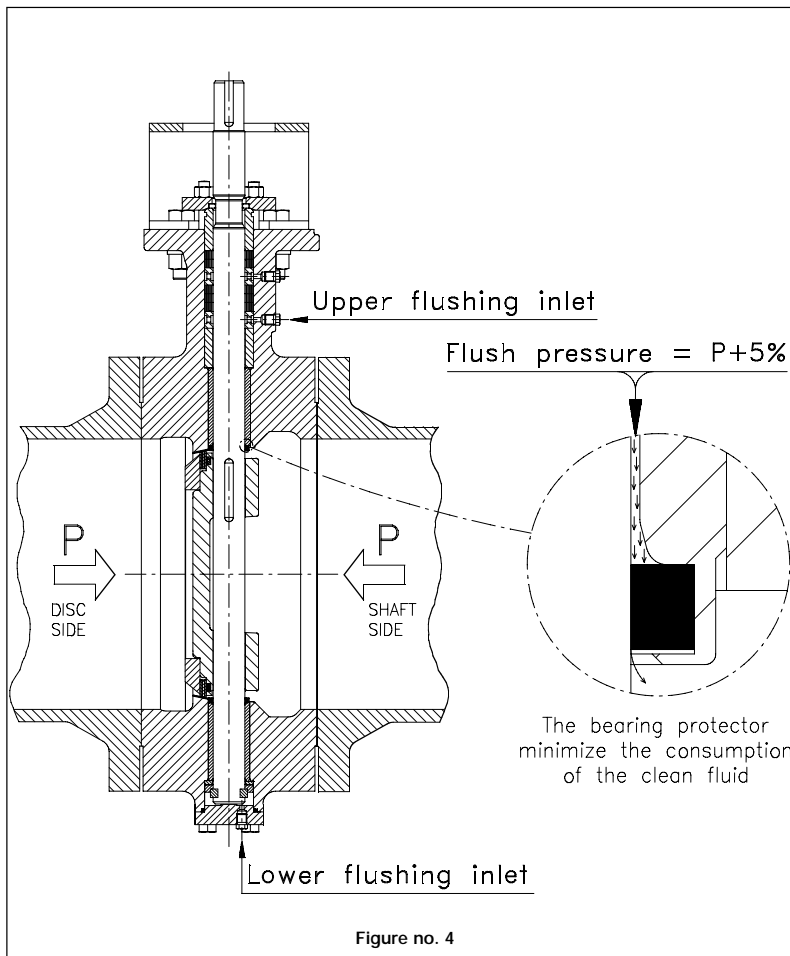
sumption of the clean fluid into the line.

The flushing media usually adopted is nitrogen or steam. Any other clean fluid which is acceptable by the process can be used.

The flushing prevents any line medium from entering into the bearing areas, maintaining in this way an acceptable operability also in case of discontinued heated conditions.

The clean fluid must be continuously flushed into the bearings to guarantee the correct functioning of the system (see figure no. 4).

### Bearing Flushing Device - Sectional Drawing



### Notes

1. The flushing connection size is always 1/8" NPT.