

# COVER SHEET - PL 223

**PETRONET SPECIFICATION: CHECK VALVE, FLANGED, REGULAR, SWING, FOR USE IN MANIFOLDS**

This cover sheet shall be completed by the purchaser/project manager and inserted in sequence into the specification.

### 3. VALVE REQUIREMENTS

ITEM	QTY	SIZE	ASME CLASS	INCLINATION (HORIZONTAL / INCLINED°)	FLOW RATE m <sup>3</sup> /hr		
					MIN	AVG	MAX
1							
2							
3							
4							
5							

**NOTES:**

- |    |             |   |
|----|-------------|---|
| 1. | ITEM        | Item Number   |
| 2. | QTY         | Quantity of valves required.  |
| 3. | SIZE        | Size of valve required in inches  |
| 4. | ASME CLASS  | Pressure rating of valve  |
| 5. | INCLINATION | HORIZONTAL = Valve will be installed in the Horizontal Position; INCLINED = Valve will be installed in the inclined position – purchaser shall provide supplier with angle of incline from horizontal position in degrees.                    |
| 6. | FLOW RATE   | MIN = Minimum expected flow rate through valve.; AVG. = Average expected flow rate (Flow Rate expected most of the time).; MAX = Maximum expect flow rate through the valve.<br>Calculations to be based on Petrol sg 0.725, Diesel sg 0.8735 |

# **PETRONET**

## **Specification**

### **Check Valve, Flanged, Regular, Swing, For use in Manifolds for Petroleum Product Service**

**Specification : PL 223A**

**November 2016**

## 1. SCOPE

- 1.1 This specification covers Petronet's requirements for flanged regular swing check valves for manifold use.
- 1.2 The valve is to be suitable for installation in the horizontal, inclined position.
- 1.3 Operating temperature will not exceed 45°C.
- 1.4 This specification must be read in conjunction with Petronet Specification PL2 - General Specification - steel valves for petroleum product service.

## 2.0 TECHNICAL INFORMATION REQUIRED

- 2.1 Tenderers shall complete the relevant questionnaire in full and shall indicate whether their offer complies with each item of the requirements.
  - 2.1.1 Should there be insufficient space for furnishing full details, the tenderer shall provide the additional details in a covering letter. The details shall be numbered in accordance with the applicable clause specified in section 4 of this specification.
- 2.2 Offers will not be considered unless full particulars and sufficient literature is provided at the tendering stage to enable Petronet to assess each offer properly.

## 3. VALVE REQUIREMENTS

*Table in cover sheet to be completed by Purchaser/Project Manager and inserted into the specification at this point.*

## 4.SPECIFICATION

PARAGRAPH	DESCRIPTION	DETAILS OF OFFER
<b>4.1</b>	<b>Valve</b>	
4.1.1	Shall be of top entry, full opening, one piece clapper design.	
4.1.2	Shall conform with API SPEC 6D – Latest.	
4.1.3	Shall be fire tested to API 6DF	
4.1.4	Material shall comply with NACE MR01-75.	
4.1.5	Shall be raised face flanged to ASME B16.5 – latest.	
4.1.5	Shall be designed to close without causing waterhammer or surge in the line. This shall be achieved by ensuring that the valve closes very rapidly and reaches its seat as quickly as possible, when forward motion of the fluid column ceases.	
<b>4.2</b>	<b>Body, Clapper &amp; Cover</b>	
4.2.1	The valve shall have a single piece clapper.	
4.2.2	The clapper shall be designed to close under its weight under no flow conditions.	
4.2.3	The use of springs or external counter balance mechanism is not desirable.	
4.2.4	Hinge arms shall either be cast integral with the clapper or secured to the clapper with a nut, in a manner that allows for the self seating of the clapper. If the latter method is used the design shall be such that there is no relative movement between assembled parts, causing wear, and the nut shall be secured.	
4.2.5	Where necessary, stop bars are to be provided to prevent the clapper from opening too far and sticking. Suitable elastomer stops are to be provided, bonded to either the clapper, valve body or stop bar, at points of contact in the open position, to prevent wear due to metal to metal contact.	
4.2.6	The stops are not to be affected by the products as mentioned in section 2 of General Specification PL 2. Details and particulars of the stops must be submitted with the tender.	
4.2.7	The valve shall have an elastomer o-ring type sealing face, set and secured in a recess in either the clapper or seat ring and shall seal fluid tight.	

PARAGRAPH	DESCRIPTION	DETAILS OF OFFER
4.2.8	Seat ring and clapper shall be replaceable (removable).	
4.2.8	Elastomer seal material shall be physically and chemically resistant to process media as listed in paragraph 2 of PL 2/ Latest.	
4.2.8.1	Tenderer to state:	
4.2.8.1.1	Elastomer material and grade:	
4.2.9	Elastomer seal shall be renewable.	
4.2.10	A removable, bolted, top entry bonnet shall be provided for easy access and for inspection and repairs to the valve clapper suspension and other working parts.	
<b>4.3</b>	<b>O-Rings &amp; Gaskets</b>	
4.3.1	O-rings and gasket material to be physically and chemically resistant to process media as listed in paragraph 2 of PL 2/ Latest.	
4.3.1.1	Tenderer to state:	
4.3.1.1	O-ring material and grade:	
4.3.1.1.2	Gasket material and grade:	

I confirm that all information furnished is correct and complies with Petronet Specification PL 223 for a flanged regular swing check valve.

Signature: \_\_\_\_\_ Designation: \_\_\_\_\_

Name: \_\_\_\_\_ Company: \_\_\_\_\_

Date: \_\_\_\_\_

Witness 1: \_\_\_\_\_

Witness 2: \_\_\_\_\_