

03. SCOPE OF SUPPLY AND TECHNICAL SPECIFICATIONS

1 SCOPE OF SUPPLY AND SERVICES

Variations and/or deviations from specification, if any, shall be illustrated clearly in detail. Complete technical specification details shall also provide together with following.

- 3.1 Supply of 16" Dia pipeline end manifold valve (PLEM valve) as per specifications. Valve is in completely assembled form suitably protected for transportation and suitable for abnormal weather conditions.
- 3.2 All codes and standards for manufacture, testing, inspection etc .shall be of latest editions.
- 3.4 **Country of origin/manufacturer of the valve shall be of USA, Europe South Africa and Japan.**
- 3.4 Documentation
 - 3.4.1 Vendor shall possess a valid API accreditation/ license
 - 3.4.2 All documents shall be in English language and SI system of units
 - 3.4.3 Vendor shall submit with the bidding document followings,
 - 3.4.3.1 Copy of valid API accreditation/license
 - 3.4.3.2 Manufacture's complete descriptive and illustrative catalogue/ literature
 - 3.4.3.3 Detailed dimensions, cross section drawing with parts/material list, weight etc., for the valves and flanges to manufactures standard
 - 3.4.3.4 Drawings for valves with accessories like body, Ball, gear operator, trunnion and stems etc., giving major salient dimension
 - 3.4.4 Following supplementary documentation certified by third party inspection company approved by CPSTL is required to provide in line with API accreditation as below,
 - 3.4.4.1 NDE records
 - 3.4.4.2 Hardness test report on pressure containing parts
 - 3.4.4.3 Heat treatment certification records
 - 3.4.4.4 Pressure test /leak test and other test reports)including pressure, test duration, test medium and acceptance criteria
 - 3.4.4.5 Coating/Painting certification
 - 3.4.4.6 Material test certification
 - 3.4.4.7 Fire type test certification
- 3.5 Supplier shall give a manufacturer's warranty for all the equipment supplied by him for a minimum period of eighteen (18) months from the date of shipment or twelve) 12 months from the date of installation, whichever is later subject to not exceeding eighteen (18) months from the date of dispatch .

3.6 Inspection and testing of the valves shall be carried out as follows.

3.6.1 Inspection during production

The valve shall be tested as per API 6D by the manufacturer and witnessed by the reputed Independent Third Party Inspection Company approved by CPSTL. All test certificates shall be provided during pre-shipment inspection. Quality management as per EN10204 (3.1.B)

3.6.2 Pre-shipment Inspection

Third party inspection of material test certificates of valves and testing as per API 6D shall be carried out by the by reputed third party inspection.

3.7 Supply of as built detailed drawings, all test certificates, along with the valves.

3.8 Supplier shall supply any special tools required as in clause No. 1.6.18

3.9 Specifications of the ball valve

Description: 16”Dia bore-ANSI 300LB, BODY and R/F Flange, side entry, 3 piece double trunnion mounted ball valve (Full bore) with manual gear operator horizontal hand wheel shaft and hand wheel for subsea service.

Note: suitable lifting lugs to be provided for handling

Manufacturing Standards:

- General Design : API6D
- Flange dimension : ASME/ANSI B16.5
- Weld end Dimension : ASME B31.4 & ASME B31.8
- Face to face /end to end dimension : API 6D
- Testing : API 6D,
- Fire & Safety : API 607, API 6FA
- Material : ASTM Standards , NACE MR0175

Usage:The valve is used for subsea Pipe line end manifold (**PLEM**) valve of a SPM facility for unloading refined petroleum product(diesel, petrol ,kerosene etc.,). The valve is installed to the pipeline at 20m deep location over the sea bed.

Operating Conditions:

- Design Pressure : 15.5Barg(225Psig) @-20⁰ to 100⁰ F
- Hydro test pressure : 19.4Barg (280Psig)
- Maximum operating Pressure : 12Barg(175Psig)
- Design Temperature : 38⁰ C
- Operating Temperature : 20⁰ - 30⁰ C
- Flow rate : 1800M³/hr

Sea water properties at surrounding area of the valve:

- Temperature Maximum : 32⁰ C
- Temperature Minimum : 18⁰ C
- Pressure : 2barg
- Water density : 1025.0 kg/m³
- Salinity : 34.75%
- Current (max) : 0.52m/s

Material

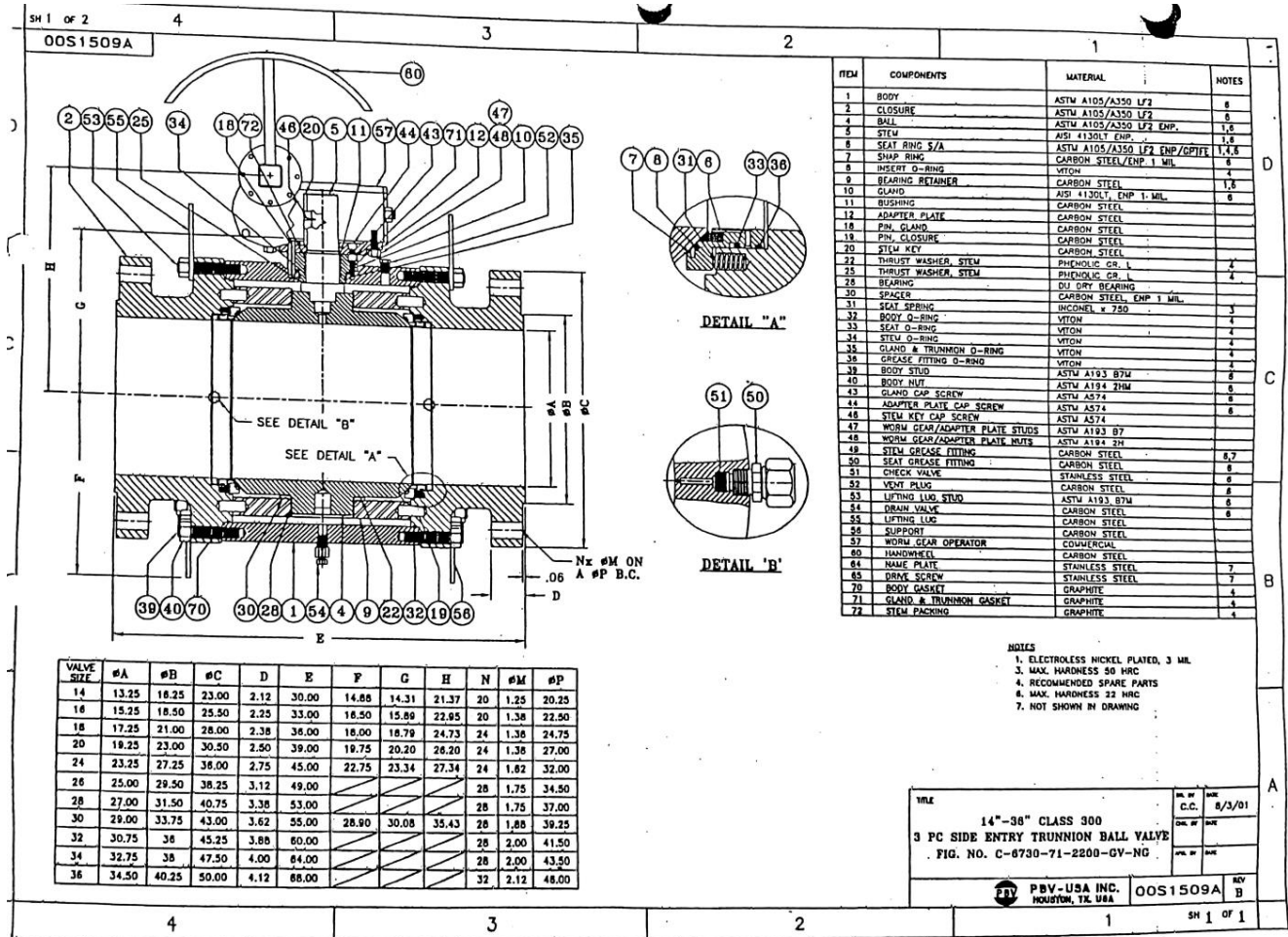
- a. Materials of component of the valve should conform to ASTM standards and NACE MR0175 requirements.
- b. The materials of all parts of the valve to be specified according to ASTM standard.
- c. Details of the existing valve materials are attached as annexure-1

Marking

- a. Valve marking, symbols, abbreviations etc., shall be in accordance with MSS-SP-25 or the standards referred in specification as applicable .Vendor name, valve rating, material designation, nominal size, direction of flow,)if any (etc., shall be integral on the body.
- b. The valve shall have a corrosion resistance tag giving size, valve tag/code no, security attached on the valve.
- c. Paint or ink for marking shall not contain any harmful metal or metal salts such as zinc, lead or copper which cause corrosive attack on heating
- d. Carbon steel valve shall be blast cleaned with grit to SSPC SA 2.5 coated with suitable paint for and paint scheme should be provided.

Other Conditions

- a. Method of packing should be indicated in the bid
- b. Valves should be shipped with flange closed with suitable material or end caps.
- c. Exterior surface) un machined (should be painted with suitable paint and machined or threaded surface should be coated with easy removable rust preventive coating.
- d. The method of testing should conform to API 6D and valid test certificate should be supplied with the items and the supplier should mention in the Bid whether this can be supplied.
- e. Period of guarantee and the conditions of guarantee should be mentioned in the Bid.
- f. The supplier should forward the copy of certificate of Authority to use official monogram of API and the originals of internationally published catalogues / literature relevant to the valve.
- g. The supplier should forward all details mentioned above for evaluation purposes .The offers of those who fail to submit requested details will not be considered for evaluation.



ITEM	COMPONENTS	MATERIAL	NOTES
1	BODY	ASTM A105/A350 LF2	6
2	CLOSURE	ASTM A105/A350 LF2	6
4	BALL	ASTM A105/A350 LF2 ENP.	1,6
5	STEM	ASTM A130LT ENP.	1,6
6	SEAT RING S/A	ASTM A105/A350 LF2 ENP/GP/TFE	1,4,6
7	SNAP RING	CARBON STEEL/ENP. 1 MIL	6
8	INSERT O-RING	VTION	4
9	BEARING RETAINER	CARBON STEEL	1,6
10	GLAND	ASTM A130LT, ENP 1. MIL.	6
11	BUSHING	CARBON STEEL	6
12	ADAPTER PLATE	CARBON STEEL	
16	PIN, GLAND	CARBON STEEL	
18	PIN, CLOSURE	CARBON STEEL	
19	PIN, CLOSURE	CARBON STEEL	
20	STEM KEY	CARBON STEEL	
22	THRUST WASHER, STEM	PHENOLIC GR. 1	4
25	THRUST WASHER, STEM	DU DIRT BEARING	4
28	BEARING	CARBON STEEL, ENP 1 MIL.	4
30	SPACER	CARBON STEEL, ENP 1 MIL.	4
31	SEAT SPRING	INCONEL # 750	3
32	BODY O-RING	VTION	4
33	SEAT O-RING	VTION	4
34	STEM O-RING	VTION	4
35	GLAND & TRUNNION O-RING	VTION	4
36	GREASE FITTING O-RING	VTION	4
39	BODY STUD	ASTM A193 B7M	6
40	BODY NUT	ASTM A194 2HM	6
43	GLAND CAP SCREW	ASTM A574	6
44	ADAPTER PLATE CAP SCREW	ASTM A574	6
46	STEM KEY CAP SCREW	ASTM A574	6
47	WORM GEAR/ADAPTER PLATE STUDS	ASTM A193 B7	6
48	WORM GEAR/ADAPTER PLATE NUTS	ASTM A194 2H	6
49	STEM GREASE FITTING	CARBON STEEL	6,7
50	SEAT GREASE FITTING	CARBON STEEL	6
51	CHECK VALVE	STAINLESS STEEL	6
52	VENT PLUG	CARBON STEEL	6
53	LIFTING LUG, STUD	ASTM A193 B7M	6
54	DRAIN VALVE	CARBON STEEL	6
55	LIFTING LUG	CARBON STEEL	6
56	SUPPORT	CARBON STEEL	6
57	WORM GEAR OPERATOR	COMMERCIAL	6
60	HANDWHEEL	CARBON STEEL	6
64	NAME PLATE	STAINLESS STEEL	7
65	DRIVE SCREW	STAINLESS STEEL	7
70	BODY GASKET	GRAPHITE	4
71	GLAND & TRUNNION GASKET	GRAPHITE	4
72	STEM PACKING	GRAPHITE	4

NOTES

1. ELECTROLESS NICKEL PLATED 3 MIL

