| | | | | | |
|---|---|---|---|---|---|
| | **CORRIGENDUM #2**<br><br>**TENDER FOR SUPPLY OF CS FITTINGS, FLANGES, VALVES, INSULATING JOINTS & OTHER MISC. ITEMS**<br><br>**Tender No : IGL/ET2/CP/CP17865, Dated 05.02.2024** | | | **VCS Ref. No. VCS/C&P/17028/PC/CS-F&F/15**<br>**Owner: Indraprastha Gas Ltd.**<br>**Consultant: VCS Quality Services Pvt. Ltd.**<br>**Date: 23.02.2024** | |
| **Sl. No.** | **Tender Page No.** | **Clause/ Para/ Section** | **Description** | **Amendment/ Addition/ Modification/ Deletion** | |
| **COMMERCIAL VOLUME** | | | | | |
| 1 | 9-10 of 113 | IFB Clause No. 3.0 | BRIEF SCOPE | Amendment | Clause No. 3.0 of IFB is being amended, **Refer Attached Annexure - 1** |
| 2 | 13-14-15 of 113 | IFB Clause No. 8.1 | Technical BEC | Amendment | Clause no. 8.1 of IFB is being amended, **Refer attached Annexure-2** |
| 3 | 15-16-17 of 113 | IFB Clause No. 8.2 | Financial BEC | Amendment | Clause no. 8.2 of IFB is being amended, **Refer attached Annexure-3** |
| 4 | 18-19 of 113 | IFB Clause No. 9.0 Sub Cl. 9.1 | BID SECURITY/EARNEST MONEY DEPOSIT (EMD) | Amendment | Clause no. 9.1 of IFB is being amended, **Refer attached Annexure-4** |
| 5 | UN-PRICED & PRICED SCHEDULE OF RATES (SOR) | | | Amendment | **Un-Priced & Priced Schedule of Rates (SOR), Revision - 1**<br><br>Bidders to quote in the amended **Un-Priced & Priced Schedule of Rates (SOR), Revision - 1** for unpriced and priced bid |
| **TECHNICAL VOLUME** | | | | | |
| 6 | 11-21 of 272 | MR | MR for Flanges & Fittings | Amendment | MR for Flanges & Fittings is being amended**, Refer attached Annexure-5** |
| 7 | 31, 32 & 261 of 272 | BV Datasheet & Specification No. 3C1 | Ball Valve Datasheet & Piping Specification | Amendment | Ball Valve Datasheet & Piping Specification is being amended**, Refer attached Annexure-6** |
| **Note:** All other Term & Conditions of the Tender shall remain unchanged | | | | | |

## Clause No. 3.0 of IFB has been amended

### 3.0 BRIEF SCOPE

3.1 The brief scope of work includes Manufacture, Testing, Inspection and supply of CS Fittings, Valves, Flanges, Insulating Joints & Other Miscellaneous Items to IGL's designated stores located in NCT of Delhi, U.P., Haryana and Rajasthan. The brief details of total quantity for supply are given as under:

| Sl. No. | Material Description | Unit | Quantity |
|---|---|---|---|
| 1 | INSULATING JOINTS 2" SCH80, BWE | Nos. | 18 |
| 2 | BLIND FLANGE, C.S. 4" X 300#, A105 | Nos. | 227 |
| 3 | BLIND FLANGE, C.S. - 2" X 300#, A105 | Nos. | 154 |
| 4 | UNEQUAL TEE,C.S. 12" 6.4MM X 4" 6.4MM | Nos. | 10 |
| 5 | UNEQUAL TEE, C.S. 8" 6.4 MM X 4" 6.4 MM | Nos. | 64 |
| 6 | UNEQUAL TEE, C.S. - 4" X 2" 6.4 MM, WPB | Nos. | 336 |
| 7 | EQUAL TEE,C.S -2"XSCH80, WPB | Nos. | 54 |
| 8 | EQUAL TEE, C.S. - 4" X 6.4 MM, WPB | Nos. | 446 |
| 9 | ELBOW CS 4" X 45 DEG, 6.4 MM, 1.5 D WPB | Nos. | 220 |
| 10 | ELBOW, C.S.- 4" X90 DEG, 6.4MM, 1.5D WPB | Nos. | 731 |
| 11 | ELBOW, C.S. 4" X 90 DEG, 6.4MM, 3D WPB | Nos. | 273 |
| 12 | ELBOW, C.S - 2"X90 DEG, SCH 80, 1.5D WPB | Nos. | 300 |
| 13 | WELDOLET, C.S. 12" X 4" # 300, A105 | Nos. | 20 |
| 14 | WELDOLET, C.S. 8" X 2" 300#, A105 | Nos. | 22 |
| 15 | WELDOLET, C.S. 2" X 1/2" # 300, A105 | Nos. | 110 |
| 16 | END CAP, C.S. 12", 6.4 MM GR 60 | Nos. | 10 |
| 17 | END CAP, C.S. 8", 6.4 MM GR 52 | Nos. | 15 |
| 18 | END CAP, C.S. 6", 6.4 MM GR B | Nos. | 15 |
| 19 | END CAP, C.S. 4", 6.4 MM GR-B | Nos. | 15 |
| 20 | REDUCER CONC, CS 8" 6.4MM X 6" 6.4MM GR 52 | Nos. | 10 |
| 21 | REDUCER CONC, CS 6" 6.4MM X 4" 6.4MM WPB | Nos. | 20 |
| 22 | REDUCER CONC, CS 4" 6.4MM X 2" SCH80 WPB | Nos. | 202 |
| 23 | WNRF FLANGE, C.S. 2" X 300#, ASTM A105 | Nos. | 220 |
| 24 | WNRF FLANGE, C.S. 4" X 300#, ASTM A105 | Nos. | 170 |

| Sl. No. | Material Description | Unit | Quantity |
|---|---|---|---|
| 25 | STUDS WITH NUTS M16X80 | Nos. | 2431 |
| 26 | BALL VALVE CS 2"x 300# FB FE MANUAL AG | Nos. | 788 |
| 27 | BALL VALVE, C.S. 4"X300# FB BW MANUAL AG | Nos. | 223 |
| 28 | BALL VALVE CS 4" x 300# FB BW MANUAL UG | Nos. | 17 |
| 29 | BALL VALVE, C.S. 4"X300# FB FE MANUAL AG | Nos. | 212 |
| 30 | BALL VALVE, C.S. 6"X300# FB BW MANUAL AG | Nos. | 10 |
| 31 | BALL VALVE, 8” C.S 300# FB BWE AG MANUAL | Nos. | 32 |
| 32 | BALL VALVE CS 12"X300# FB BW MANUAL AG | Nos. | 12 |
| 33 | GLOBE VALVE, C.S. 2"X300# FB FE MANUAL AG | Nos. | 352 |
| 34 | GLOBE VALVE, 4" FE 300# A/G | Nos. | 203 |

3.2 The bidder can quote any number of items but the respective item quoted must be for full quantities.

3.3 The above quantities are indicative and for evaluation purpose only. Purchase order/Release order will be released considering consumption rate and stock position.

3.4 For detailed Scope of work and specifications, refer Technical volume II of II.

## Clause No. 8.1 of IFB has been amended

8.1 **TECHNICAL**

8.1.1 The bidder should have experience in manufacturing, testing (except STUDS WITH NUTS M16X80) and supply of at least following specified quantities of items as per (B & C) in compliance with applicable codes and standards, to any City gas distribution company/ Hydrocarbon pipeline company/ Hydrocarbon piping plant across the globe in previous 7 years reckoned from the date of floating of tender.

| Sl. No. | Description of material required in tender (A) | Description of material required to fulfil technical BEC (B) | Minimum Qty. should have been Supplied in multiple orders (in Nos.) (C) |
|---|---|---|---|
| 1 | INSULATING JOINTS 2" SCH80, BWE | Insulating joint of 2” or above | 3 |
| 2 | BLIND FLANGE, C.S. 4" X 300#, A105 | CS flange/ Tee/ Reducer/ Elbow/ End cap of 2” or above | 29 |
| 3 | BLIND FLANGE, C.S. - 2" X 300#, A105 | CS flange / Tee/ Reducer/ Elbow/ End cap of 2” or above | 20 |
| 4 | UNEQUAL TEE,C.S. 12" 6.4MM X 4" 6.4MM | CS flange / Tee/ Reducer/ Elbow/ End cap of 8” or above | 2 |
| 5 | UNEQUAL TEE, C.S. 8" 6.4 MM X 4" 6.4 MM | CS flange / Tee/ Reducer/ Elbow/ End cap of 6” or above | 8 |
| 6 | UNEQUAL TEE, C.S. - 4" X 2" 6.4 MM, WPB | CS flange / Tee/ Reducer/ Elbow/ End cap of 2” or above | 42 |
| 7 | EQUAL TEE,C.S -2"XSCH80, WPB | CS flange / Tee/ Reducer/ Elbow/ End cap of 2” or above | 7 |
| 8 | EQUAL TEE, C.S. - 4" X 6.4 MM, WPB | CS flange / Tee/ Reducer/ Elbow/ End cap of 2” or above | 56 |
| 9 | ELBOW CS 4" X 45 DEG, 6.4 MM, 1.5 D WPB | CS flange / Tee/ Reducer/ Elbow/ End cap of 2” or above | 28 |
| 10 | ELBOW, C.S.- 4" X90 DEG, 6.4MM, 1.5D WPB | CS flange / Tee/ Reducer/ Elbow/ End cap of 2” or above | 92 |

| Sl. No. | Description of material required in tender (A) | Description of material required to fulfil technical BEC (B) | Minimum Qty. should have been Supplied in multiple orders (in Nos.) (C) |
|---|---|---|---|
| 11 | ELBOW, C.S. 4" X 90 DEG, 6.4MM, 3D WPB | CS flange / Tee/ Reducer/ Elbow/ End cap of 2" or above | 35 |
| 12 | ELBOW, C.S - 2"X90 DEG, SCH 80, 1.5D WPB | CS flange / Tee/ Reducer/ Elbow/ End cap of 2" or above | 38 |
| 13 | WELDOLET, C.S. 12" X 4" # 300, A105 | Weldolet CS of 8" or above | 3 |
| 14 | WELDOLET, C.S. 8" X 2" 300#, A105 | Weldolet CS of 6" or above | 3 |
| 15 | WELDOLET, C.S. 2" X 1/2" # 300, A105 | Weldolet CS of 2" or above | 14 |
| 16 | END CAP, C.S. 12", 6.4 MM GR 60 | CS flange / Tee/ Reducer/ Elbow/ End cap of 8" or above | 2 |
| 17 | END CAP, C.S. 8", 6.4 MM GR 52 | CS flange / Tee/ Reducer/ Elbow/ End cap of 6" or above | 2 |
| 18 | END CAP, C.S. 6", 6.4 MM GR B | CS flange / Tee/ Reducer/ Elbow/ End cap of 4" or above | 2 |
| 19 | END CAP, C.S. 4", 6.4 MM GR-B | CS flange / Tee/ Reducer/ Elbow/ End cap of 2" or above | 2 |
| 20 | REDUCER CONC, CS 8" 6.4MM X 6" 6.4MM GR 52 | CS flange / Tee/ Reducer/ Elbow/ End cap of 6" or above | 2 |
| 21 | REDUCER CONC, CS 6" 6.4MM X 4" 6.4MM WPB | CS flange / Tee/ Reducer/ Elbow/ End cap of 4" or above | 3 |
| 22 | REDUCER CONC, CS 4" 6.4MM X 2" SCH80 WPB | CS flange / Tee/ Reducer/ Elbow/ End cap of 2" or above | 26 |
| 23 | WNRF FLANGE, C.S. 2" X 300#, ASTM A105 | CS flange / Tee/ Reducer/ Elbow/ End cap of 2" or above | 28 |
| 24 | WNRF FLANGE, C.S. 4" X 300#, ASTM A105 | CS flange / Tee/ Reducer/ Elbow/ End cap of 2" or above | 22 |

| Sl. No. | Description of material required in tender (A) | Description of material required to fulfil technical BEC (B) | Minimum Qty. should have been Supplied in multiple orders (in Nos.) (C) |
|---|---|---|---|
| 25 | STUDS WITH NUTS M16X80 | Studs with Nuts | 304 |
| 26 | BALL VALVE CS 2"x 300# FB FE MANUAL AG | Ball Valve-300# of 2" or above | 99 |
| 27 | BALL VALVE, C.S. 4"X300# FB BW MANUAL AG | Ball Valve-300# of 2" or above | 28 |
| 28 | BALL VALVE CS 4" x 300# FB BW MANUAL UG | Ball Valve-300# of 2" or above | 3 |
| 29 | BALL VALVE, C.S. 4"X300# FB FE MANUAL AG | Ball Valve-300# of 2" or above | 27 |
| 30 | BALL VALVE, C.S. 6"X300# FB BW MANUAL AG | Ball Valve-300# of 4" or above | 2 |
| 31 | BALL VALVE, 8" C.S 300# FB BWE AG MANUAL | Ball Valve-300# of 6" or above | 4 |
| 32 | BALL VALVE CS 12"X300# FB BW MANUAL AG | Ball Valve-300# of 8" or above | 2 |
| 33 | GLOBE VALVE, C.S. 2"X300# FB FE MANUAL AG | Globe/Ball Valve-300# of 2" or above | 44 |
| 34 | GLOBE VALVE, 4" FE 300# A/G | Globe/Ball Valve-300# of 2" or above | 26 |

8.1.2 The valve manufacturing plant from which bidder is quoting must have valid license to use API 6D monogram for ball valve, at the time of bid submission (applicable for item No. 26 to 32).

8.1.3 If the manufacturer does not sell his products directly but through his dealer/ distributor/subsidiary, then the manufacturer can authorize agency(s) to submit the bid in which agency will be considered as a bidder. Therefore, in such a case the manufacturer shall have the prime responsibility of providing unconditional technical and after sales support to the purchaser. A latest confirmation by the manufacturer to this effect shall be submitted by the bidder along with the bid in the attached format as **Annexure-A.**

***Note:***

- *The technical BEC may be fulfilled by the bidder on its own or through its manufacturer. Further, the financial BEC must be fulfilled by the bidder on its own only.*
- *In case, bidder is not a manufacturer for STUDS WITH NUTS M16X80 then bidder can purchase the same from manufacturer meeting technical specification defined in tender document.*

**Clause No. 8.2 of IFB has been amended**

8.2 **FINANCIAL**

8.2.1 **Annual Turnover**

The minimum annual turnover (during any one of the three preceding financial year) achieved by the bidder as per their audited financial results shall meet the following:

| Sl. No. | Description | Min. Annual Turnover (INR) |
|---|---|---|
| 1 | INSULATING JOINTS 2" SCH80, BWE | 54,000 |
| 2 | BLIND FLANGE, C.S. 4" X 300#, A105 | 1,01,000 |
| 3 | BLIND FLANGE, C.S. - 2" X 300#, A105 | 21,000 |
| 4 | UNEQUAL TEE,C.S. 12" 6.4MM X 4" 6.4MM | 30,000 |
| 5 | UNEQUAL TEE, C.S. 8" 6.4 MM X 4" 6.4 MM | 62,000 |
| 6 | UNEQUAL TEE, C.S. - 4" X 2" 6.4 MM, WPB | 1,45,000 |
| 7 | EQUAL TEE,C.S -2"XSCH80, WPB | 8,000 |
| 8 | EQUAL TEE, C.S. - 4" X 6.4 MM, WPB | 1,75,000 |
| 9 | ELBOW CS 4" X 45 DEG, 6.4 MM, 1.5 D WPB | 33,000 |
| 10 | ELBOW, C.S.- 4" X90 DEG, 6.4MM, 1.5D WPB | 1,64,000 |
| 11 | ELBOW, C.S. 4" X 90 DEG, 6.4MM, 3D WPB | 1,11,000 |
| 12 | ELBOW, C.S - 2"X90 DEG, SCH 80, 1.5D WPB | 17,000 |
| 13 | WELDOLET, C.S. 12" X 4" # 300, A105 | 15,000 |
| 14 | WELDOLET, C.S. 8" X 2" 300#, A105 | 4,000 |
| 15 | WELDOLET, C.S. 2" X 1/2" # 300, A105 | 4,000 |
| 16 | END CAP, C.S. 12", 6.4 MM GR 60 | 8,000 |
| 17 | END CAP, C.S. 8", 6.4 MM GR 52 | 6,000 |
| 18 | END CAP, C.S. 6", 6.4 MM GR B | 3,000 |
| 19 | END CAP, C.S. 4", 6.4 MM GR-B | 2,000 |
| 20 | REDUCER CONC, CS 8" 6.4MM X 6" 6.4MM GR 52 | 3,000 |
| 21 | REDUCER CONC, CS 6" 6.4MM X 4" 6.4MM WPB | 4,000 |
| 22 | REDUCER CONC, CS 4" 6.4MM X 2" SCH80 WPB | 27,000 |
| 23 | WNRF FLANGE, C.S. 2" X 300#, ASTM A105 | 36,000 |
| 24 | WNRF FLANGE, C.S. 4" X 300#, ASTM A105 | 84,000 |

| Sl. No. | Description | Min. Annual Turnover (INR) |
|---|---|---|
| 25 | STUDS WITH NUTS M16X80 | 34,000 |
| 26 | BALL VALVE CS 2"x 300# FB FE MANUAL AG | 17,34,000 |
| 27 | BALL VALVE, C.S. 4"X300# FB BW MANUAL AG | 24,86,000 |
| 28 | BALL VALVE CS 4" x 300# FB BW MANUAL UG | 2,19,000 |
| 29 | BALL VALVE, C.S. 4"X300# FB FE MANUAL AG | 19,49,000 |
| 30 | BALL VALVE, C.S. 6"X300# FB BW MANUAL AG | 1,53,000 |
| 31 | BALL VALVE, 8” C.S 300# FB BWE AG MANUAL | 10,63,000 |
| 32 | BALL VALVE CS 12"X300# FB BW MANUAL AG | 9,44,000 |
| 33 | GLOBE VALVE, C.S. 2"X300# FB FE MANUAL AG | 10,77,000 |
| 34 | GLOBE VALVE, 4" FE 300# A/G | 15,68,000 |

8.2.2 **Net Worth**

The net worth of the bidder must be positive for the immediate preceding financial year.

8.2.3 **Working Capital**

The minimum working capital (for immediate preceding financial year) achieved by the bidder as per audited financial results shall meet the following:

| Sl. No. | Description | Min. Working Capital (INR) |
|---|---|---|
| 1 | INSULATING JOINTS 2" SCH80, BWE | 11,000 |
| 2 | BLIND FLANGE, C.S. 4" X 300#, A105 | 20,000 |
| 3 | BLIND FLANGE, C.S. - 2" X 300#, A105 | 4,000 |
| 4 | UNEQUAL TEE,C.S. 12" 6.4MM X 4" 6.4MM | 6,000 |
| 5 | UNEQUAL TEE, C.S. 8" 6.4 MM X 4" 6.4 MM | 12,000 |
| 6 | UNEQUAL TEE, C.S. - 4" X 2" 6.4 MM, WPB | 29,000 |
| 7 | EQUAL TEE,C.S -2"XSCH80, WPB | 2,000 |
| 8 | EQUAL TEE, C.S. - 4" X 6.4 MM, WPB | 35,000 |
| 9 | ELBOW CS 4" X 45 DEG, 6.4 MM, 1.5 D WPB | 7,000 |
| 10 | ELBOW, C.S.- 4" X90 DEG, 6.4MM, 1.5D WPB | 33,000 |
| 11 | ELBOW, C.S. 4" X 90 DEG, 6.4MM, 3D WPB | 22,000 |
| 12 | ELBOW, C.S - 2"X90 DEG, SCH 80, 1.5D WPB | 3,000 |
| 13 | WELDOLET, C.S. 12" X 4" # 300, A105 | 3,000 |
| 14 | WELDOLET, C.S. 8" X 2" 300#, A105 | 700 |
| 15 | WELDOLET, C.S. 2" X 1/2" # 300, A105 | 900 |

| | | |
|---|---|---|
| 16 | END CAP, C.S. 12", 6.4 MM GR 60 | 2,000 |
| 17 | END CAP, C.S. 8", 6.4 MM GR 52 | 1,000 |
| 18 | END CAP, C.S. 6", 6.4 MM GR B | 600 |
| 19 | END CAP, C.S. 4", 6.4 MM GR-B | 400 |
| 20 | REDUCER CONC, CS 8" 6.4MM X 6" 6.4MM GR 52 | 600 |
| 21 | REDUCER CONC, CS 6" 6.4MM X 4" 6.4MM WPB | 700 |
| 22 | REDUCER CONC, CS 4" 6.4MM X 2" SCH80 WPB | 5,000 |
| 23 | WNRF FLANGE, C.S. 2" X 300#, ASTM A105 | 7,000 |
| 24 | WNRF FLANGE, C.S. 4" X 300#, ASTM A105 | 17,000 |
| 25 | STUDS WITH NUTS M16X80 | 7,000 |
| 26 | BALL VALVE CS 2"x 300# FB FE MANUAL AG | 3,47,000 |
| 27 | BALL VALVE, C.S. 4"X300# FB BW MANUAL AG | 4,97,000 |
| 28 | BALL VALVE CS 4" x 300# FB BW MANUAL UG | 44,000 |
| 29 | BALL VALVE, C.S. 4"X300# FB FE MANUAL AG | 3,90,000 |
| 30 | BALL VALVE, C.S. 6"X300# FB BW MANUAL AG | 31,000 |
| 31 | BALL VALVE, 8" C.S 300# FB BWE AG MANUAL | 2,13,000 |
| 32 | BALL VALVE CS 12"X300# FB BW MANUAL AG | 1,89,000 |
| 33 | GLOBE VALVE, C.S. 2"X300# FB FE MANUAL AG | 2,15,000 |
| 34 | GLOBE VALVE, 4" FE 300# A/G | 3,14,000 |

***NOTE:***

a. *If the bidder's working capital is inadequate, the bidder should supplement this with a letter from the bidder's national bank, having net worth not less than Rs.100 Crore, confirming the availability of the line of credit to cover the inadequacy of working capital required as above. Line of credit must contain Tender No., Tender Description and Client Name. Letter for line of credit must be issued by a scheduled bank. Format of line of credit letter from bank has been enclosed at Annexure-2.*

b. *In case of tenders having bid submission date up to 30th September of the relevant financial year, and audited financial results of the immediately preceding financial year is not available, the bidder can submit the audited financial results of the three years immediately prior to that. Wherever the closing date of the bid is after 30th September of the relevant financial year, bidder has to compulsorily submit the audited financial results for the immediate 03 preceding financial years.*

c. *The bidder can quote any number of items but the respective item quoted must be for full quantities.*

**Clause No. 9.1 of IFB has been amended**

## 9.0 BID SECURITY/EARNEST MONEY DEPOSIT (EMD)

9.1 All bids must be accompanied by a bid security amount as below:

| Sl. No. | Description | Bid Security (INR) |
|---|---|---|
| 1 | INSULATING JOINTS 2" SCH80, BWE | **(*)** |
| 2 | BLIND FLANGE, C.S. 4" X 300#, A105 | **(*)** |
| 3 | BLIND FLANGE, C.S. - 2" X 300#, A105 | **(*)** |
| 4 | UNEQUAL TEE,C.S. 12" 6.4MM X 4" 6.4MM | **(*)** |
| 5 | UNEQUAL TEE, C.S. 8" 6.4 MM X 4" 6.4 MM | **(*)** |
| 6 | UNEQUAL TEE, C.S. - 4" X 2" 6.4 MM, WPB | **(*)** |
| 7 | EQUAL TEE,C.S -2"XSCH80, WPB | **(*)** |
| 8 | EQUAL TEE, C.S. - 4" X 6.4 MM, WPB | **(*)** |
| 9 | ELBOW CS 4" X 45 DEG, 6.4 MM, 1.5 D WPB | **(*)** |
| 10 | ELBOW, C.S.- 4" X90 DEG, 6.4MM, 1.5D WPB | **(*)** |
| 11 | ELBOW, C.S. 4" X 90 DEG, 6.4MM, 3D WPB | **(*)** |
| 12 | ELBOW, C.S - 2"X90 DEG, SCH 80, 1.5D WPB | **(*)** |
| 13 | WELDOLET, C.S. 12" X 4" # 300, A105 | **(*)** |
| 14 | WELDOLET, C.S. 8" X 2" 300#, A105 | **(*)** |
| 15 | WELDOLET, C.S. 2" X 1/2" # 300, A105 | **(*)** |
| 16 | END CAP, C.S. 12", 6.4 MM GR 60 | **(*)** |
| 17 | END CAP, C.S. 8", 6.4 MM GR 52 | **(*)** |
| 18 | END CAP, C.S. 6", 6.4 MM GR B | **(*)** |
| 19 | END CAP, C.S. 4", 6.4 MM GR-B | **(*)** |
| 20 | REDUCER CONC, CS 8" 6.4MM X 6" 6.4MM GR 52 | **(*)** |
| 21 | REDUCER CONC, CS 6" 6.4MM X 4" 6.4MM WPB | **(*)** |
| 22 | REDUCER CONC, CS 4" 6.4MM X 2" SCH80 WPB | **(*)** |
| 23 | WNRF FLANGE, C.S. 2" X 300#, ASTM A105 | **(*)** |
| 24 | WNRF FLANGE, C.S. 4" X 300#, ASTM A105 | **(*)** |
| 25 | STUDS WITH NUTS M16X80 | **(*)** |
| 26 | BALL VALVE CS 2"x 300# FB FE MANUAL AG | 1,00,000 |
| 27 | BALL VALVE, C.S. 4"X300# FB BW MANUAL AG | 1,00,000 |

| | | |
|---|---|---|
| 28 | BALL VALVE CS 4" x 300# FB BW MANUAL UG | **(*)** |
| 29 | BALL VALVE, C.S. 4"X300# FB FE MANUAL AG | 1,00,000 |
| 30 | BALL VALVE, C.S. 6"X300# FB BW MANUAL AG | **(*)** |
| 31 | BALL VALVE, 8" C.S 300# FB BWE AG MANUAL | 1,00,000 |
| 32 | BALL VALVE CS 12"X300# FB BW MANUAL AG | 1,00,000 |
| 33 | GLOBE VALVE, C.S. 2"X300# FB FE MANUAL AG | 1,00,000 |
| 34 | GLOBE VALVE, 4" FE 300# A/G | 1,00,000 |

**Note: (*) EMD is not applicable, however Declaration as per Annexure-1 to be mandatorily submitted by such bidders.**

**In case bidders quote for more than one item, then Bid security amount shall be on cumulative basis.**

| | | |
|---|---|---|
| Energising Quality | **CITY GAS DISTRIBUTION PROJECT IN NCT OF DELHI, UTTAR PRADESH, HARYANA & RAJASTHAN** | |

| | | | | | |
|---|---|---|---|---|---|
| **MATERIAL REQUISITION FOR FLANGES & FITTINGS** | | Client Job Number | | IGL/ND/C&P/CP17865 | |
| | | Total Sheets | | 11 | |
| **Document No** | 17865 | 000 | PP | MR | 2002 |

# INDRAPRASTHA GAS LIMITED

## CITY GAS DISTRIBUTION PROJECT IN NCT OF DELHI, UTTAR PRADESH, HARYANA & RAJASTHAN

## MATERIAL REQUISITION FOR FLANGES & FITTINGS

| REV | DATE | DESCRIPTION | PREP | CHKD | APPR |
|---|---|---|---|---|---|
| | | | | | |
| C2 | 22.02.2024 | ISSUED FOR BID | HT | DG | AK |

## ABBREVIATION

| | |
|---|---|
| MT | Metric Tonne |
| DFT | Dry Film Thickness |
| EN | European Norm |
| ASME | American Society of Mechanical Engineers |
| API | American Petroleum Institute |
| ASTM | American Society for Testing and Materials |
| MSS | Manufacturers Standardization Society |
| WPHY | High Yield strength of Wrought Pipe |
| WNRF | Weld Neck Raised Flange |
| PSV | Pressure Safety Valve |
| Pr. | Pressure |
| Conn. | Connection |
| SS | Stainless Steel |
| NPTF | National Pipe Thread Female |

# CONTENTS

## 1. INTRODUCTION

**INDRAPRASTHA GAS LTD. (IGL)** plans to augment the PNG Network. It supplies natural gas to domestic & commercial consumers in the city of Delhi, Uttar Pradesh, Haryana and Rajasthan.

VCS Quality Services is now inviting tenders on Domestic Competitive Bidding basis for procurement of Carbon Steel Fittings, Flanges, Insulating Joints & Other Misc. Items for this project.

The present document covers the technical specifications for the enquiry.

## 2. PURPOSE

This document is to define the scope of supply, which shall cover Design, engineering, manufacture, inspection, testing at manufacturer's works, packing, transportation/ shipping, Handling, delivery of Insulating Joints, as per this material requisition, including supply of documentation/ drawings as per the enclosed specifications and other codes and standards enclosed or referred for City Gas Distribution project in NCT of Delhi, NCR, Haryana, Uttar Pradesh and Rajasthan.

## 3. DOCUMENT PRECEDENCE

It shall be the responsibility of the MANUFACTURER/ VENDOR to inform the PURCHASER of any errors, ambiguities, inconsistencies, discrepancies or conflict of information that may be found to exist in any document, specification or drawing submitted by the PURCHASER.

In case of conflict, the order of precedence shall be as follows:

a. MR

b. Project Specifications

c. Basic Documents

d. Codes and Standards

As a general rule in the event of any discrepancy between technical matter and local laws/ regulations (and documents above listed) the most stringent shall be applied.

MANUFACTURER/ VENDOR shall notify PURCHASER of any apparent conflicts between MR, specifications, related datasheets, any code and standards and any other specifications noted herein. (Resolution and/ or interpretation precedence shall be obtained from PURCHASER in writing before proceeding with the design/ manufacturer or completion of services).

## 4. SCOPE OF SUPPLY

| Sl. No. | DESCRIPTION | QTY | REMARKS |
|---|---|---|---|
| 1.1 | Flanges & Fittings | As per Bill of Material Clause 6.0 of this document | |
| 1.2 | Painting and Coating | 1 LOT | As per specification |
| 1.3 | Inspection and Testing | 1 LOT | As per specification |
| 1.4 | Inspection and Test Plan | 1 LOT | To be submitted by vendor |
| 1.5 | Certification accordance with EN10204, 3.2 certificates. | 1 LOT | As per specification |
| 1.6 | Vendor Documentation | 1 LOT | As per specification |
| 1.7 | Marking, Packaging & Transportation | 1 LOT | As per specification |
| 1.8 | Preparation for Shipment | 1 LOT | As per specification |
| 1.9 | Delivery Point | Delivery location is at site/ Client designated store | |
| 1.10 | Delivery Schedule | Delivery Schedule as defined in the Tender | |

## 6. BILL OF MATERIAL

Design, engineering, manufacture, procurement of materials and bought out components, assembly at shop, inspection, testing at manufacturer's works, packing, transportation/ shipping, delivery of Fittings & Flanges as per this material requisition, including supply of documentation/ drawings as per the enclosed specifications and other codes and standards enclosed or referred.

### Group A: Flanges

| SUMMARY OF FLANGES | | | | | | | |
|---|---|---|---|---|---|---|---|
| SR. NO. | SIZE & SPEC | SCH/ THK | DIMENSION STD | MATERIAL | DESCRIPTION | QTY | REMARKS |
| WNRF FLANGE | | | | | | | |
| 1.01 | 2" (30HC) | - | ASME B16.5 | ASTM A 105 (Charpy) | 300#, RF/125AARH | 220 | - |

| SUMMARY OF FLANGES | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SR. NO.** | **SIZE & SPEC** | **SCH/ THK** | **DIMENSION STD** | **MATERIAL** | **DESCRIPTION** | **QTY** | **REMARKS** |
| 1.02 | 4" (30HC) | - | ASME B16.5 | ASTM A 105 (Charpy) | 300#, RF/125AARH | 170 | - |
| **BLIND FLANGE** | | | | | | | |
| 1.03 | 2" (30HC) | - | ASME B16.5 | ASTM A105 (Charpy) | 300#, RF/125AARH | 154 | - |
| 1.04 | 4" (30HC) | - | ASME B16.5 | ASTM A105 (Charpy) | 300#, RF/125AARH | 227 | - |
| **STUD WITH NUTS** | | | | | | | |
| 1.05 | M16X80 LONG | – | ASME-B 18.2 | A 193 GR. B7/ A194 GR. 2H | - | 2431 | - |

## Group B: Fittings

| SUMMARY OF FITTINGS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SR. NO.** | **SIZE & SPEC** | **SCH/ THK** | **DIMENSION STD** | **MATERIAL** | **DESCRIPTION** | **QTY** | **REMARKS** |
| **ELBOWS** | | | | | | | |
| 2.01 | 2" x 90° | SCH 80 | ASME B16.9 | ASTM A234 Gr. WPB (Charpy) | BW, 1.5D | 300 | - |
| 2.02 | 4" x 90° | 6.4 | ASME B16.9 | ASTM A234 Gr. WPB (Charpy) | BW, 1.5D | 731 | - |
| 2.03 | 4" x 90° | 6.4 | ASME B16.9 | ASTM A234 Gr. WPB (Charpy) | BW, 3D | 273 | - |
| 2.04 | 4" x 45° | 6.4 | ASME B16.9 | ASTM A234 Gr. WPB (Charpy) | BW, 1.5D | 220 | - |

| SUMMARY OF FITTINGS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SR. NO.** | **SIZE & SPEC** | **SCH/ THK** | **DIMENSION STD** | **MATERIAL** | **DESCRIPTION** | **QTY** | **REMARKS** |
| **UNEQUAL TEE** | | | | | | | |
| 2.05 | 4" X 2" | 6.4 x SCH 80 | ASME B16.9 | ASTM A234 Gr. WPB (Charpy) | 300#, BW | 336 | - |
| 2.06 | 8" X 4" | 6.4 x 6.4 | ASME B16.9 | API 5L, Gr. X52 or ASTM A860 WPHY 52 | 300#, BW | 64 | - |
| 2.07 | 12" X 4" | 6.4 x 6.4 | ASME B16.9 | API 5L, Gr. X60 or ASTM A860 WPHY 60 | 300#, BW | 10 | - |
| **EQUAL TEE** | | | | | | | |
| 2.08 | 2" | SCH 80 | ASME B16.9 | ASTM A234 Gr. WPB (Charpy) | BW | 54 | - |
| 2.09 | 4" | 6.4 | ASME B16.9 | ASTM A234 Gr. WPB (Charpy) | BW | 446 | - |
| **REDUCER** | | | | | | | |
| 2.10 | 4" X 2" | 6.4 X SCH 80 | ASME B 16.9 | ASTM A234, GR. WPB | Concentric, BW | 202 | - |
| 2.11 | 6" X 4" | 6.4 X 6.4 | ASME B 16.9 | ASTM A234, GR. WPB | Concentric, BW | 20 | - |
| 2.12 | 8" X 6" | 6.4 X 6.4 | ASME B 16.9 | API 5L, Gr. X52 or ASTM A860 WPHY 52 | Concentric, BW | 10 | - |
| **END CAPS** | | | | | | | |

| SUMMARY OF FITTINGS | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SR. NO.** | **SIZE & SPEC** | **SCH/ THK** | **DIMENSION STD** | **MATERIAL** | **DESCRIPTION** | **QTY** | **REMARKS** |
| 2.13 | 4″ | 6.4MM | ASME B 16.9 | ASTM A234, WPB | - | 15 | - |
| 2.14 | 6″ | 6.4MM | ASME B 16.9 | ASTM A234, WPB | - | 15 | - |
| 2.15 | 8″ | 6.4MM | ASME B 16.9 | API 5L, Gr. X52 or ASTM A860 WPHY 52 | - | 15 | - |
| 2.16 | 12″ | 6.4MM | ASME B 16.9 | API 5L, Gr. X60 or ASTM A860 WPHY | - | 10 | - |
| **WELDOLET** | | | | | | | |
| 2.17 | 2″ X ½″ | - | MSS SP-97 | ASTM A105 (Charpy) | 300#, BW | 110 | - |
| 2.18 | 8″ X 2″ | - | MSS SP-97 | ASTM A105 (Charpy) | 300#, BW | 22 | - |
| 2.19 | 12″ X 4″ | - | MSS SP-97 | ASTM A105 (Charpy) | 300#, BW | 20 | - |

- 30HC = 300#
- HC = Meant Carbon steel for High Temperature services.
- Manufacture to ensure that all welding end, thickness of Flanges, Fittings and Flow Tee shall meet the connecting pipe thickness. For connecting pipe thickness enclosed PMS shall be referred.

## 7. NOTES FOR FLANGES & FITTINGS:

1. All material is to be used in Natural gas Services.

2. Design Data for the Project:

- Pipeline Service : Natural Gas
- Max Design Temp (Above Ground) : 65°C
- Max Design Temp (Under Ground) : 60°C
- Min Design Temp : (-)29°C for CS/ (-)45°C for LTCS

3. Manufacturer shall ensure that the wall thickness (W.T.) of Flanges & Fittings shall be adequate to sustain design pressure and selected W.T. shall be suitable for welding with W.T. of connected pipeline/piping.

4. Manufactures must possess the record of successful proof test, in accordance with the provision of ASME B 16.9/ MSS SP-75/ MSS SP-97 as applicable. Also successful proof test records shall be submitted at the time of bidding for qualifying the entire range of fittings being offered.

5. Fittings such as tees, elbows and reducers shall be seamless type for sizes up to DN 300 mm (12") and shall be either welded or seamless type for sizes above DN 300 mm (12"). Fitting shall conform to ASME B16.9/ MSS SP 75 for sizes DN 50 mm (2") and above and ASME B16.11 for sizes DN 15mm (1½") &below.

6. All welded fittings shall be subjected to heat treatment. All fittings (except weldolets) shall comply with the requirements of MSS SP-75/ ASME B16.9. Welded pipes used for fittings shall be SAWL (Longitudinally Seam Submerged Arc Welded) type only.

7. Fittings such as Weldolets, Sockolets, Nippolets, etc. shall be manufactured in accordance with MSS SP-97.

8. Certification shall be EN 10204 type 3.2.

9. All welds shall be made by welders and welding procedures qualified in accordance with the provision of ASME Section IX. The procedure qualification shall include impact test, hardness test and guided bend test.

10. For all Flanges & Fittings Charpy V-notch test shall be conducted for each heat treatment lot and for each heat of steel used. Charpy V-notch test shall be conducted at -29°C for CS & -45°C for LTCS in accordance with the impact test provisions of ASTM A 370 for flanges and MSS SP-75 for all fittings. Results of Charpy V-notch test shall be recorded.

11. The average absorbed impact energy values of three full-sized specimens shall be 27 joules. The minimum impact energy value of any one specimen of the three specimens analyzed as above shall not be less than 22 Joules.

12. Bidder shall furnish quotation only in case he can supply material strictly as per this MR and specification/ data sheets forming part of MR.

13. Flanges & fittings shall be delivered at Client designated store. All transportation, handling, delivery shall be in bidder's scope.

14. If the offer contains any technical deviations or clarifications or stipulates any technical specifications (even if in line with MR requirements) and does not include complete scope & technical/ performance data required to be submitted with the offer, the offer shall be liable for rejection.

15. The submission of prices by the Bidder shall be construed to mean that he has confirmed compliance with all technical specifications of the corresponding item(s).

16. Bidder must submit all documents/drawings/calculations as specified in relevant specification along with his offer and after award of order.

17. Purchaser`s inspector reserves the right to perform stage wise inspection and witness tests, as indicated in specification at manufacture`s works prior to shipment. Manufacturer shall give reasonable notice of time and shall provide without charge reasonable access and facilities require for inspection to the purchaser`s inspector. Inspection and tests performed/witnessed by purchaser`s inspector shall in no way relieve the manufacturer`s obligation to perform the required inspection and test.

18. Quantity may vary by ± 25 %. The final quantity will be issued to successful bidder.

## 8. LIST OF ATTACHMENTS

1. Standard Specification for Seamless (SMLS) Line Pipe (Onshore), Doc. No. VCS-SS-PP-2036
2. Standard Specification for HFW Line Pipe, Doc. No. VCS-SS-PP-2008
3. Standard Specification for Seamless fittings & flanges (size up to DN 400 mm -16"), Doc. No. VCS-SS-PP-2024
4. Standard Specification for Painting, Doc. No. VCS-SS-PP-2502
5. ITP for Flanges and Spectacle Blinds, Doc. No. VCS-ITP-PP-2003
6. ITP for Forged, Seamless & Welded Fittings (16" NB & Below), Doc. No. VCS-ITP-PP-2005
7. Piping Material Specification
8. Compliance Statement, Doc. No. VCS-SD-CS-001
9. Deviation Sheet, Doc. No.VCS-SD-DS-001
10. Instruction to Bidder, Doc. No.VCS-SD-ITB-001
11. Check List, Doc. No. VCS-SD-CK-001

12. List of Spares, Doc. No.VCS-SD-LS-001
13. Reference List, Doc. No. VCS-SD-RL-001
14. Vendor Drawing Document Schedule, Doc. No. VCS-SD-VS-001
15. Drawings & Documents, Doc. No.VCS-SD-DD-001
16. Standard Specification for Quality Management System Requirement from Vendors, Doc. No.VCS-SS-PP-2044
17. Standard Specification for Documents Required from Suppliers, Doc. No.VCS-SS-PP-2043

| | | | | | |
|---|---|---|---|---|---|
| ENERGISING QUALITY | | CLIENT : INDRAPRASTHA GAS LIMITED | | CLIENT JOB NO : IGL/ND/C&P/CP17865 | |
| | | PROJECT : CITY GAS DISTRIBUTION PROJECT IN NCT OF DELHI, UTTAR PRADESH, HARYANA & RAJASTHAN | | DOC. NO.: 17865-000-PP-DS-2002A | |
| | | DATA SHEET OF FE/BW, ABOVEGROUND/UNDERGROUND, MANUAL BALL VALVE DN 50 TO DN 300 (NPS 2" to NPS 12"), RATING 300# , PIPING CLASS - 30HC, SPLIT /WELDED BODY DESIGN | | No. of Pages : 02 | Revision: C1 22.02.2024 |

| | | | | | |
|---|---|---|---|---|---|
| Location | | - | | MR No. | 17865-000-PP-MR-2003 |
| SR.NO | | # | | P.O No. | # |
| 1 | GENERAL | Valve Manufacturer | | | |
| 2 | | Tag Numbers / Material Requisition Item No. | | Refer Material Requistion (MR) Item No: 1.01, 1.02, 1.03, 1.04, 1.05, 1.06 & 1.07 | |
| 3 | | Company's Specification No. | | VCS-SS-PP-2004 | |
| 4 | | Category | | - | |
| 5 | | Pipeline Line No | | Not Required | |
| 6 | | Class | | 30 HC | |
| 7 | DESIGN AND TEST REQUIREMENTS | Size | | DN 50 (NPS 2") to DN 300 (NPS 12") | |
| 8 | | Type of Valve | | Trunion Mounted, Double Block and Bleed, Antistatic, Vent Drain/ Flush Connection with Anti Blowout Stem, Split Body Design/ Fully Welded Body Design as specified in MR, Tight Shut Off (As Applicable) | |
| 9 | | Type of Port (Full/ Reduced) | | Refer Material Requistion (Doc. No- 17865-000-PP-MR-2003) | |
| 10 | | Design Temperature (° C) | Maximum | 65 | |
| 11 | | | Minimum | -29 | |
| 12 | | Corrosion Allowance (mm) | | 1.5 | |
| 13 | | Installation (Aboveground/Underground) | | AboveGround/UnderGround | |
| 14 | | Service | | Natural Gas (NG) | |
| 15 | | End Connection | | Refer Material Requistion (Doc. No- 17865-000-PP-MR-2003) | |
| 16 | | Flange Face Finish | | RF/125AARH for Flanged Ends (As applicable) | |
| 17 | | Design Standards | | API 6D | |
| 18 | | End Connection Standard | | ANSI B16.5 for Flanged Ends (As applicable)/ ANSI 16.25 for Butt Welded Ends (As applicable) | |
| 19 | | ASME Class | | 300# | |
| 20 | | Stem Extension Requirement | | Applicable (For Underground) | |
| 21 | | Length of Stem Extension | | 2500 mm | |
| 22 | | Orientation of Stem | | Perpendicular to Valve axis | |
| 23 | | Type of Valve Operator | | DN ≤ 100 mm (4") - Wrench / Lever - Pull Force 350N max. DN ≥ 150 mm (6") - Gear Operated | |
| 24 | | Valve Actuator Operating Time | | Not Applicable | |
| 25 | | Requirement of Locking Mechanism (LO / LC) | | Refer Material Requistion (Doc. No- 17865-000-PP-MR-2003) | |
| 26 | | Length of Pup Piece / Nipple (mm), (If Required) (Note-16) (Integrally welded to the BW valve on each side) | | Required for Welded End Valves, as per Ball Valve Specification | |
| 27 | | Pup Piece Size / Material Grade / Schdeule/ Thickness (Note-16) | | As per Piping Material Specification | |
| 28 | | Operator Specification No. | | Not Applicable | |
| 29 | | Valve Design Pressure (kg/cm²) | | 49 kg/cm² | |
| 30 | | Hydrostatic Test Pressure (kg/cm²) & Time | | Body : 73.5 kg/cm² & Test Duration as per API 6D | Seat : 54 kg/cm² & Test Duration as per API 6D |
| 31 | | Pneumatic Test Pressure (kg/cm²) & Time | | 7.0 kg/cm² & Test Duration as per API 6D | |
| 32 | | Charpy Impact Test (° C) | | Yes (at -29 °C) | |
| 33 | | Fire Safe Design (Note-24 ) | | API 6FA / ISO10497 | |
| 34 | | Anti Static Testing Requirement | | As per API 6D Latest Edition | |
| 35 | | Hardness Test | | 248 HV10 max | |
| 36 | | Painting (Note-21) | | As per specification (Suitable for Highly Corrosive Environment) Note-21 | |
| 37 | | Operator Data Sheet No. | | Not Applicable | |
| 38 | PROCESS DATA (Applicable for Actuator) | Flow (Min/Nor/Max) ($m^3$/hr) | | Not Applicable | |
| 39 | | Pressure (Min/Nor/Max) (barg) | | Not Applicable | |
| 40 | | Temperature (Min/Nor/Max) (° C) | | Not Applicable | |
| 41 | | Max Shutoff DP (barg) | | Not Applicable | |
| 42 | | Viscosity (cP) | | Not Applicable | |
| 43 | | Density (Kg/$m^3$) | | Not Applicable | |
| 44 | | Mol . Wt | | Not Applicable | |
| 45 | | Sp Heat Ratio (Cp/Cv) | | Not Applicable | |
| 46 | | Compressibility (Z) | | Not Applicable | |
| 47 | | Ambient Temperature | | Not Applicable | |
| 48 | CONNECTING PIPE DETAIL | Outside Diameter (Inch) | | Size 2" to 12" | |
| 49 | | Thickness (mm) / Schedule | | As per Piping Material Specification | |
| 50 | | Pipe Material | | As per Piping Material Specification | |
| 51 | | Design Code | | ASME B31.8 | |
| 52 | | ASME Rating | | 300# | |
| 53 | | Piping Class | | 30HC | |
| 54 | | Orientation of Pipe | | Suitable for all orientation | |

| | | | |
|---|---|---|---|
| ENERGISING QUALITY | CLIENT : INDRAPRASTHA GAS LIMITED | | CLIENT JOB NO : IGL/ND/C&P/CP17865 |
| | PROJECT :<br>CITY GAS DISTRIBUTION PROJECT IN NCT OF DELHI, UTTAR PRADESH, HARYANA & RAJASTHAN | | DOC. NO.: 17865-000-PP-DS-2002A |
| | DATA SHEET OF FE/BW, ABOVEGROUND/UNDERGROUND, MANUAL BALL VALVE DN 50 TO DN 300 (NPS 2" to NPS 12"), RATING 300# , PIPING CLASS - 30HC, SPLIT /WELDED BODY DESIGN | No. of Pages : 02 | Revision: C1 / 22.02.2024 |

| | | | |
|---|---|---|---|
| Location | - | MR No. | 17865-000-PP-MR-2003 |
| SR.NO | # | P.O No. | # |

| | | Part Description | Material Specified | Material Offered (By Bidder) |
|---|---|---|---|---|
| 55 | VALVE MATERIAL | | | |
| 56 | | Body | ASTM A216 GR. WCC/ASTM 105 | |
| 57 | | Ball (Single Piece, Solid Construction) | SS-304 / SS-316 (Solid) OR (ASTM A105/ ASTM A216 Gr. WCC) + 75 micron ENP | |
| 58 | | Seat Rings (No Casting) | (AISI 4140 +75 micron ENP)/ AISI 410/ SS 304/ SS 316 | |
| 59 | | Seat Seal | Primary Devlon V/ PEEK/ Viton with Secondary Metal to Metal | |
| 60 | | Stem (No Casting) | (AISI 4140 +75 micron ENP)/ AISI 410 / SS 304 / SS 316 | |
| 61 | | Trunion | ASTM A216 GR. WCC/ASTM 105 | |
| 62 | | Stem Seal | VITON/ PTFE | |
| 63 | | Body Seal | VITON/ PTFE | |
| 64 | | Gland | 13% Cr. Steel/ SS 316 / SS 304 | |
| 65 | | Stud Bolts/Nut | ASTM A 193 Gr. B7/ ASTM A 194 Gr. 2H | |
| 66 | | Handle / Lever / Hand Wheel | Carbon Steel | |

| | | | | |
|---|---|---|---|---|
| 67 | DATA TO BE PROVIDE BY VENDOR (if Applicable) | Valve Model No. | | * |
| 68 | | Flow Coefficient, Kv (Cubic Meters per Hour) | | * |
| 69 | | Valve Cavity Volume(CC) | Open position | * |
| 70 | | | Closed position | * |
| 71 | | Operator Manufacturer / Model No. | | * |
| 72 | | Break-away Torque Under Max. Diff Pressure(Nm) | | * |
| 73 | | Running Torque (Open - Close/Close - Open) (Nm) | | * |

| | | |
|---|---|---|
| 74 | NOTES | **NOTES:** |
| 75 | | 1. Bidder to submit Soft Seal details and type, grade & class selected with manufacturer's recommendation like Pressure-Temperature Curve/Table for not to damage the soft seal during welding of valve ends at site. |
| 76 | | 2. This Data Sheet shall be read in conjunction with Piping Material Specification, valve Specification & other Tender Documents. |
| 77 | | 3. Dimension / Input Data as & where marked " * " shall be supplied by Vendor. |
| 78 | | 4. Manufacturer shall have valid API 6D license to use API monogram. |
| 79 | | 5. Valve design shall ensure repair of stem seals / packing under full line pressure. |
| 80 | | 6. 100.0 % Valve castings shall undergo Radiographic Examination. |
| 81 | | 7. Valves shall have support foot & lifting lugs as per valve Specification. |
| 82 | | 8. Valve design shall ensure repair of stem seals / packing under full line pressure. |
| 83 | | 9. Wrench operated valves shall be supplied with wrench. |
| 84 | | 10. The Charpy Impact temperature shall be -29°C as specified in data sheet and it shall superceded the Specification (VPC-SS-PP-2004) requirement at 0°C |
| 85 | | 11. A supplementary air seat test as per API 6D (Annex I, Para I.9 Type II) shall be carried out for all valves. A bubble tight seal is required without the use of any sealant. No leakage is allowed. Test pressure shall be held for at least 15 minutes. |
| 86 | | 12. Design of weld end valves shall be such that during field welding operations, the soft seals or plastic components of the valve (where ever used) is not liable to be damaged. The manufacture shall furnish necessary field welding instructions and post-weld test procedure to demonstrate integrity and leak-tightness of valves after field welding operations. |
| 87 | | 13. Gear operators, when provided, shall have a self-locking provision and shall be fully encased in water proof/ splash proof enclosure and shall be filled with suitable grease |
| 88 | | 14. For the manual operator of all valves, the diameter of the hand wheel or the length of operating wrench shall be such that under the maximum differential pressure, the total force required to operate the valve does not exceed 350N. |
| 89 | | 15. Manufacturer shall also indicate the number of turns of hand wheel in case of gear operators (along with their offer) required for Operating the valve from full open to full close position. The numbers of turn shall not exceed 250 for valves sizes up to 24" and 450 for valve size above 24". |
| 90 | | 16. Adequacy for Length of pup piece/ Nipple shall be confirmed by manufacturer so as to avoid damage to seats during field welding or post weld heat treatment.These nipples shall be welded to the valve body by the manufacturer before fitting the packings, seats & seals. |
| 91 | | 17. Name plate material shall be minimum stainless steel. Marking shall be as per MSS-SP-25 |
| 92 | | 18. Valve body & other pressure containing parts shall be designed as per ASME Sec-VIII Div-I. Minimum thickness shall not be less than ASME B16.34. |
| 93 | | 19. For tag No./ Fluid Data/ Operating Data refer Process Document , P&IDs |
| 94 | | 20. Stem extension length shall be finalized during drawing approval stage after award of order. |
| 95 | | 21.For the valves to be installed underground the external surfaces of buried portion of the valve shall be painted with 100% Solid high build epoxy(Powercrete R-95) with a minimum dry film thickness of 1000 microns or 1 mm thick polyurethane coating |
| 96 | | 22. Bidder shall clearly write all / any deviation against each part material of valve in the space provided for. Wherever bidder agrees with company's spec bidder shall indicate "agreed". Flanges of flanged end cast/ forged body shall be integrally cast/ forged with the body of valve. |
| 97 | | 23. All Elastomereric material used for pressure tight sealing or drip sealing shall be of anti Explosive Decompression type and must be certified according to testing Procedures. Manufacturer shall submit test certificate confirming conformance with Anti Explosive Decompression. Manufacturer shall confirm the suitability of soft sealing and seating material for the pressure and temperature & service mentioned above in this data sheet. |
| 98 | | 24.Fire Safe test certificate qualifying the valves as per API 6FA/ API 607/ ISO 10497 carried out in last 10 years shall be furnished. |
| 99 | | 25. Flanges of flanged end cast/ forged body shall be integrally cast/ forged with the body of valve.Vendor to guarantee the suitability of seat/ seal material for the given service condition |
| 100 | | 26. Minimum all pressure containing and controlling parts of the valve shall be provided with EN 10204-3.2 certificate. |

Energising Quality

# PIPING SPECIFICATIONS

**SPECIFICATION NO**

**3C1**

| ITEM | SHORT CODE | SIZE FRO | END CONNECTION | RATING AND/OR | DIMENSION STANDARD | MATERIAL | REMARKS |
|---|---|---|---|---|---|---|---|
| **BALL VALVES** | **VBA** | 1/2" – 1-1/2" | FLGD RF:ASME B16.5 | 300# | ASME B16.10 | BODY:<br>ASTM A 105<br>BALL:<br>SS 316 | FULL BORE<br>WRENCH OPERATED.<br>FIRE SAFE |
| | | 2"-4" | FLGD RF:ASME B16.5 or<br>BW :ASME B16.25 | 300# | ASME B16.10 | BODY: ASTM A<br>216 Gr. WCC<br>BALL:<br>ASTM A 216 Gr. WCC with ENP ( 75 microns ) | FULL BORE / REDUCED BORE AS IN INDICATED DATA SHEET<br>DOUBLE BLOCK & BLEED<br>WRENCH OPERATED.<br>FIRE SAFE |
| | | 6"-12" | FLGD RF:ASME B16.5 or<br>BW : ASME B16.25 | 300# | ASME B16.10 | BODY: ASTM A<br>216 WCC<br>BALL:<br>ASTM A 216 Gr. WCC with ENP ( 75 microns ) | FULL BORE / REDUCED BORE AS IN INDICATED DATA SHEET<br>DOUBLE BLOCK & BLEED<br>GEAR OPERATED.<br>FIRE SAFE |
| **GLOBE VALVES** | **VGL** | 1/2"- 1-1/2" | FLGD RF:ASME B16.5 | 300# | BS EN ISO 15761 | BODY:<br>ASTM A 105<br>TRIM:<br>ASTM A182 F6 | HANDWHEEL<br>FIRE SAFE |
| | | 2" - 12" | FLGD RF:ASME B16.5 | 300# | BS 1873 | BODY: ASTM A<br>216 WCC TRIM:<br>STELLITED | HANDWHEEL<br>FIRE SAFE |
| **SWING CHECK VALVES** | **VCH** | 1/2" – 1-1/2" | FLGD RF:ANSI B16-5 | 300# | ANSI B16-10 | BODY:<br>ASTM A 105<br>TRIM:<br>ASTM A182 F6 | HORIZONTAL INSTALLATION<br>VERTICAL INSTALLATION FLOW UPWARDS |
| | | 2"-12" | FLGD RF:ANSI B16-5 | 300# | ANSI B16-10 | BODY: ASTM A<br>216 WCC TRIM:<br>ASTM A 216 WCC | HORIZONTAL INSTALLATION<br>VERTICAL INSTALLATION FLOW UPWARDS |