

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
LIQUID PROPULSION SYSTEMS CENTRE (LPSC)
BANGALORE**

Tender for SUPPLY OF SS TUBE FITTINGS

Bids to be submitted online

**Tender No.: LPSC/Liquid Propulsion Systems Centre,
Bengaluru/LB202100003101 dated 01-09-2021**

A. Tender Details

Tender No : **LPSC/Liquid Propulsion Systems Centre,
Bengaluru/LB202100003101**

Tender Date : **01-09-2021**

Tender Classification: **GOODS**

Purchase Entity : **Liquid Propulsion Systems Centre, Bengaluru**

Centre : **LIQUID PROPULSION SYSTEMS CENTRE (LPSC)**

Procurement OF SS TUBE FITTINGS

Procurement OF SS TUBE FITTINGS

A.1 Tender Schedule

Bid Submission Start Date : **03-09-2021 17:00**

Bid Clarification Due Date : **14-09-2021 14:00**

Bid Submission Due Date : **21-09-2021 14:00**

Bid Opening Date : **21-09-2021 14:05**

Price Bid Opening Date : **05-10-2021 14:00**

B. Tender Attachments

Technical Write-up/Drawings

Document : **TECHNICAL SPECIFICATIONS**

Document : **SCOPE OF SUPPLY**

Instructions To Vendors

1. GENERAL INSTRUCTION TO TENDERERS : SINGLE or TWO PART PUBLIC TENDER(PT)

1. Delivery Terms:

In case of Indigenous items : FOR LPSC, BANGALORE

In case of Foreign orders: EX-WORKS / FOB /FCA

2. The quoted price is fixed & firm. Once the offer is submitted in on line mode by the vendor and bid sealing is done by LPSC(B), vendor will not be able to provide revised offer.

3. Request for the extension of the due date will not be considered.

4. The exact date and time of opening of price bid of successful tenderers will be intimated later.

5. Tenders which are not prepared in terms of these instructions are liable to be rejected.

6. Based on the response to the e-Public tender Notice, LPSC(B) reserves the right to change any milestone date of the tendering activity.

7. LPSC(B) reserves the right to verify all claims made by the bidder.

8. Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs. Such MSEs shall produce documentary proof of registration as per provisions of the Policy ie: registration with District Industries Centre (DIC) or Khadi and Village Industries Commission (KVIC) or Khadi and Industries Board (KVIB) or Coir Board or National Small Industries Commission (NSIC) or Directorate of Handicrafts and Handlooms or Udyog Aadhar Memorandum or any other body specified by Ministry of MSME.

9. As far as implementation of public procurement policy (Preference to make in India) Order, 2017 is concerned, the Office Orders vide No. P-45021/2/2017-B.E-II dt. 15.06.2017, which is partially modified by Order No. P-45021/2/2017-PP(BE-II) dt. 28.05.2018, Order No.P-45021/2/2017-PP(BE-II)dt.

29.05.2019, Order No. P- 45021/2/2017-PP (BE-II) dt 04.06.2020 and Order No.P-45021/2/2017-PP (BE-II) dt 16.09.2020 and subsequent Amendments issued by the Department for Promotion of Industries and Internal Trade, Ministry of Commerce and Industry and Internal Trade, Ministry of Commerce and Industry regarding Class-I/Class-II local suppliers, Purchase preference, verification of local contents etc shall be applicable to this tender. Therefore, bidders may ensure compliance of the same while submitting tenders.

10. The vendors have to get themselves registered in above site to download the tender details. To register in above ISRO portal (<https://eprocure.isro.gov.in>) the vendors need to have Class - III Digital Certificate. The Digital Certificate can be obtained from any digital certifying authority. The following e-tokens with their current drivers are tested and working fine with our system. Aladdin, Vasco, Starkey, Moser baer, E-pass-2003, Safenet-2032, WD Proxkey Grey / SPC Token and Trustkey.

11. The parties are advised to download the tender and submit the bid on online at least two days prior to Tender Closing Date to avoid last minute network problem. The due date shall not be extended due to network or computer related problems.

12. TENDER FEE NOT APPLICABLE.

13. Tenderers can participate in the said tender opening for which, the representative of the firm shall be duly authorized by Competent Authority. Against proper e-authorization only such representatives shall be allowed to attend the tender opening.

14. Head, Purchase and Stores, LPSC, Bangalore, reserves the right to accept or reject any/or all the tenders in part or full without assigning any reasons thereof.

15. EARNEST MONEY DEPOSIT NOT APPLICABLE

16. Fax & Email offers are not accepted.

17. In case of any clarification to be sought to this tender you may please contact Purchase and Stores Officer (PSO) through Email: purchase@lpsc.gov.in and Ph No: 080 250 37 170/171/140

18. All the procurement is assumed to be SEA FREIGHT ONLY, in case any change in mode of delivery, this has to be clearly specified with justification

19. The quote should indicate quantity wise unit rate separately which have to be filled online in Price Part-II. The Prices are to be mentioned both in figures as well as in words. The GST, Duties, etc., are to be calculated and indicated in the column provided in online forms explicitly.

20. Bidders are expected to comply with the technical & commercial and other terms and conditions given in vendor specified terms of this tender. In case of any deviation, the reasons thereof should be clearly specified in the vendor specified terms column.
21. The vendors have to compulsorily submit the compliance statement online otherwise their offer will not be considered for further evaluation. Before entering the compliance statement, vendors are advised to refer the detailed specification provided in the Technical Writeup/ Drawings document. The specification offered by the vendors may also be indicated in the compliance statement wherever necessary.
22. Original Equipment Manufacturer (OEM) or their representative can submit bid to LPSC(B). Indian agents while quoting on behalf of their principals are requested to attach necessary authorization letter from their Principals in their bid.
23. Instructions to Indian Agent:- Bidders are required to provide the following information in respect of their authorization from their Principal, if any, along with technical bid as the same is mandatory as it is required for consideration of the bid. Name, Address, Telephone no. , Fax no., email of the Indian Agent including the contact person to be provided.
24. In a tender, either the Indian Agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same Item/Product in this tender.
25. If an agent submits bid on behalf of the Principal/OEM the same agent shall not submit a bid on behalf of another Principal/OEM in this tender for the same Item/Product.
26. The offer should be valid for a minimum period of 120 days from the due date of opening.
27. Bids will not be entertained after the due date and time.

2. Standard Terms and Conditions:

1. Purchase and Stores Officer, LPSC, Bangalore reserves the right to accept or reject any bid in part or full without assigning any reason thereof.
2. Ensure to submit your quotation online at least two days before the due date to ensure that Internet problem and network congestion does not cause problem. The due date will not be extended due to non-availability of server. Bids will not be entertained after the due date and time.
3. PLEASE QUOTE 'FIRM AND FIXED' PRICE FOR DELIVERY AT SITE / F.O.R DESTINATION BASIS (INCLUDING PACKING AND FORWARDING) I.E., PURCHASE AND STORES OFFICER

(STORES), LPSC, ISRO, BANGALORE - 560008.

4. Please specify the 'make' or 'brand name' of the item offered while quoting. Performance Bank Guarantee: The suppliers shall provide a Performance Bank Guarantee (PBG) for covering the period of Warranty after release of Purchase Order for the value of 3% of total order value (if applicable).

5. WARRANTY CLAUSE: The items supplied against this purchase order shall be warranted for a period of 1 / 2 / 3 years from the date of supply, installation & acceptance of system at LPSC, Bangalore.

6. All vendors should regularly see the e-mail being sent from e-procurement portal for initiating appropriate action.

7. Ensure to respond to our Tender Enquiry, In case of no response, we may not contact you for our future requirements.

8. Ours being Government of India organisation, our payment terms is only "Full payment within 30 days after receipt & acceptance at our site", please quote accordingly. Other terms of payment may be considered only if suitable cash discounts for against delivery and acceptance by LPSC, Bangalore Stores (not through bank) are offered.

9. Tenderer may login to <http://eproc.isro.gov.in> and submit offers. The documents solicited from vendor should be submitted online. Documents has to be uploaded in PDF format only.

10. Indian agents while quoting on behalf of their Principals are requested to attach necessary authorization letter from their Principals in their bid.

11. The offer should be valid for a minimum period of 90 days from the date of opening.

12. As far as implementation of public procurement policy (Preference to make in India) Order, 2017 is concerned, the Office Orders vide No. P-45021/2/2017-B.E-II dt.

15.06.2017, which is partially modified by Order No. P-45021/2/2017-PP(BE-II) dt.

28.05.2018, Order No.P-45021/2/2017-PP(BE-II)dt. 29.05.2019, Order No. P-

45021/2/2017-PP (BE-II) dt 04.06.2020 and Order No.P-45021/2/2017-PP (BE-II) dt

16.09.2020 and subsequent Amendments issued by the Department for Promotion of

Industries and Internal Trade, Ministry of Commerce and Industry and Internal Trade,

Ministry of Commerce and Industry regarding Class-I/Class-II local suppliers, Purchase

preference, verification of local contents etc shall be applicable to this tender.

Therefore, bidders may ensure compliance of the same while submitting tenders.

3. STANDARD TERMS AND CONDITIONS FOR PUBLIC TENDER(PT)

1. Instruction to Foreign Suppliers:-

a)Our normal payment term is SIGHT DRAFT, Please confirm acceptance in your offer, if you insist for L/C, and all bank charges shall be to your account. Confirm acceptance.

b)Confirm whether any Export clearance is required and for which End User Certificate is to be provided by us, in case of an Order on you. (Enclose format for EUC, if applicable)

c)Warranty/Guarantee applicable for the item shall be mentioned in your offer

d)Special Certification for packing Material: as per Plant Quarantine (Regulation of Import into India) Order 2003, Articles packed with packing material of plant origin viz., hay, straw, wood shavings, wood chips, saw dust, wood waste, wooden pallets, Dunn age Mats, wooden packages, coir pith, pear or sphagnum moss etc., will be allowed entry by Customs only with a Phytosanitary Certificate. In case if a Purchase Order, if you propose to us any of the above material for packing such a certificate issued by your local Plant Quarantine Authority shall be furnished.

e)The tenders received from Indian agents on behalf of their foreign Principals/OEMs (in cases where the Principals/OEMs also submit their tenders simultaneously for the same item/product in the same tender) the same will be not be considered.f) In case two or more tenders are received from an Indian agent on behalf of more than one foreign Principal/OEM, in the same tender for the same item/product will not be considered. (In either case an Indian agent cannot represent more than on principal against the same tender)

g)If an agent submits Bid on behalf of the Principal/OEM the same agent shall not submit a bid on behalf of another Principal/OEM in this tender for the same Item/Product. (In either case an Indian agent cannot represent more than on principal against the same tender)

h)In case the quote is on Indian Rupee (High Sea Sale), the price shall include GST and duties if any, Department will provide concessional certificates. If the item quote is of USA / France / Germany / Japan/Italy and etc. make, please quote for all-inclusive price since we prefer to get the item on FOR destination basis.

2. Liquidated Damages:

If you fail to deliver the ordered items satisfactorily within the time specified or any extension thereof, Liquidated Damage @ 0.5%(zero point five percent) of the order value or part thereof the un-delivered items for each calendar weeks of delay shall be recovered from your bill. However total Liquidated Damage shall not exceed 10% (ten percent) of the order value.

3. Offers received through fax or email or unsigned will not be considered.

4. JURISDICTION

The court of Bangalore only shall have jurisdiction to deal with and decide any legal matter or dispute whatsoever arising out of this in case PO/contract.

5. Bank Details

You shall provide your bank details such as IFSC code, IBAN No. , SWIFT etc along with your offer which shall be not be changed till completion of supply/service.

6. FORCE MAJEURE

Neither LPSC, Bangalore nor Supplier/ Contractor, shall be considered in default of the performance of their obligations under this Purchase Order if such performance is prevented or delayed for any causes beyond the reasonable control of the parties to the Order getting affected, such as Acts of God, war, riots, civil, commotion, illegal strikes, legal lock-outs, epidemics, fire accidents, floods, earthquakes, proclamation or regulation or ordinance of any Government thereof, provided notice in writing of any such cause with necessary proof that the obligation under the Purchase Order is hereby affected or prevented or delayed is given within 14 days from the happening of the event. As soon as the cause of force majeure has ceased to exist, the party of the actual delay that has occurred due to such force majeure condition.

7. APPLICABLE LAW

The Contract shall be governed by Indian Law for the time being in force and jurisdiction shall lie in the Courts of India.

8. Custom Duty Concession Certificate:

LPSC is providing concession certificate towards the of payment of Customs Duty vide As per the Customs Notification No. 50/2017, Sl. No. 539(b)-CUSTOMS Dated 30.06.2017 & Amendment No: 5/2018, Sl No.539(A) - CUSTOMS Dated: 25/01/2018.

9. Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs. Such MSEs shall produce documentary proof of registration as per provisions of the Policy ie: registration with District Industries Centre (DIC) or Khadi and Village Industries Commission (KVIC) or Khadi and Industries Board (KVIB) or Coir Board or National Small Industries Commission (NSIC) or Directorate of Handicrafts and Handlooms or Udyog Aadhar Memorandum or any other body specified by Ministry of MSME.

10. Purchase / Price preference to MSEs (Not applicable to foreign Suppliers/Vendors)

Purchase/Price preference will be applicable to the product reservation admissible to the Micro and Small Enterprises. Purchase/Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small and Medium Enterprises Development Act, 2006. The participating MSEs in a tender, quoting price within the band of L-1 + 15%

may also be allowed to supply a portion of the requirement by bringing down their price to the L-1 price, in a situation where L-1 price is from someone other than an MSE. Such MSEs may be allowed to supply upto 20% of the total tendered value. In case of more than one such eligible MSE, the supply will be shared equally.

11. Warranty:-

Warranty for the offered item shall be from the date of installation/acceptance of the item at our site for a minimum period of one year or as specified in the tender document.

12. Performance Bank Guarantee (PBG) :

You have to submit a PBG from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper for 3% of the order value towards the performance of the system at the time of supply valid till the completion of warranty period plus 60 days (as claim period) as per the format provided by the Department. OR 3% of the order value shall be with held till the completion of Warranty Period plus 60 days.

13. Security Deposit (SD) :

You have to furnish a Bank Guarantee from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper for 3% of the order value within 10 days of receipt of order towards the faithful execution of the order valid till the completion of the scope of work as per order plus sixty days(as claim period). (This will be returned to you immediately on execution of the order satisfactorily as per order terms. In case of non-performance / poor performance, the amount will be forfeited).

14. Security Deposit cum Performance Bank Guarantee (SD cum PBG):In case, if parties are unable to provide two separate BGs, i.e., one for SD and one for PBG, they can submit a combined BG for SD cum PBG from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper within 10 days of receipt of order for 3% of order value valid till the completion of total contractual obligation (i.e., supply period + warranty period + 60 days) as per the format provided by the Department.

15. Offer Validity

Your offer shall be valid for 120 days from the date due date of tender opening. In case you offer validity is less than 120 days, the said offer is liable for rejection which may please be noted.

16. Instruction to Indigenous Suppliers:

a)Our Normal payment terms are 100% within 30 days after receipt and acceptance of the item at our site. Please confirm acceptance in your quotation.

b)Please specify GST percentage, if any, in your offer.

- (i) Please refer SI No: 1 of Government Of India, Ministry Of Finance, Notification Number 47/2017 Integrated Tax (rate) dated: 14/11/2017, the applicable percentage of GST is 5% only for the supply of Goods (Procurement). Necessary Certificate will be issued later.
- (ii) Please refer Sl. No: 1 of Government Of Karnataka, Finance Secretariat, Notification Number 45/2017 FD 48 CSL 2017, BENGALURU, dated: 14/11/2017, the applicable percentage of GST is 5% only for the supply of Goods (Procurement). Necessary Certificate will be issued later.
- (iii) In case of service (i.e. Installation, commissioning & testing and AMC, etc. ,) GST @18% extra.
- (iv) GST is not applicable for imported items.

17. As far as implementation of public procurement policy (Preference to make in India) Order, 2017 is concerned, the Office Orders vide No. P-45021/2/2017-B.E-II dt. 15.06.2017, which is partially modified by Order No. P-45021/2/2017-PP(BE-II) dt. 28.05.2018, Order No.P-45021/2/2017-PP(BE-II)dt. 29.05.2019, Order No. P- 45021/2/2017-PP (BE-II) dt 04.06.2020 and Order No.P-45021/2/2017-PP (BE-II) dt 16.09.2020 and subsequent Amendments issued by the Department for Promotion of Industries and Internal Trade, Ministry of Commerce and Industry and Internal Trade, Ministry of Commerce and Industry regarding Class-I/Class-II local suppliers, Purchase preference, verification of local contents etc shall be applicable to this tender. Therefore, bidders may ensure compliance of the same while submitting tenders.

C. Bid Templates

C.1 Technical Bid - SUPPLY OF SS TUBE FITTINGS

1. TUBE FITTINGS Bulk Head Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1" Tube OD X 1" AN Tube flare (37° Flare angle)	Yes / No / Explain		
2	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
3	Thread specification-inlet	1 5/16-20 NS (1" OD ends),	Yes / No / Explain		
4	Thread specification-outlet	1 5/16-12 UNJ-3 (1" AN Flare ends)	Yes / No / Explain		
5	Operating temperature range	-5 deg C to 65 deg C	Yes / No / Explain		
6	Working pressure range	min 220 bar	Yes / No / Explain		
7	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

2. TUBE FITTINGS-Bulk Head Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" Tube OD X 3/8" AN Tube flare (37° Flare angle)	Yes / No / Explain		
2	Working pressure	min 220 bar	Yes / No / Explain		

3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	9/16-18 UNJF-3 (3/8" AN Flare ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

3. TUBE FITTINGS- Bulk Head Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" Tube OD X 1/2" AN Tube flare (37° Flare angle)	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	3/4-20 NEF (1/2" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	3/4 -16 UNJF-3 (1/2" AN Flare ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

4. TUBE FITTINGS -Bulk Head Union

Item specifications for TUBE FITTINGS

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	3/4-20 NEF (1/2" OD ends).	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

5. TUBE FITTINGS - Bulk Head Union

Item specifications for TUBE FITTINGS

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube OD X 1/4" AN tube flare	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	7/16-20 UNJF-3 (1/4" AN flare with 37° flare)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

6. TUBE FITTINGS - Bulk Head union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

7. TUBE FITTINGS Female Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	End connection	3/8"tube OD X 3/8" AN tube flare (37° Flare angle)	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	9/16-18 UNJF-3 (3/8" A flare ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

8. TUBE FITTINGS Male Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube OD X 3/8" AN tube flare	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	9/16-20 NS (3/8" OD Ends)	Yes / No / Explain		

6	Thread specification-outlet	9/16-18 UNJF-3 (3/8" AN Female Flare Ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

9. TUBE FITTINGS - Male Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" Tube OD X 1/4" AN tube flare (37° Flare angle)	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	3/8" OD Tube Stub ends (0.035" Wall thickness)	Yes / No / Explain		
6	Thread specification-outlet	7/16-20 UNJF-3 (1/4" flare ends) Tube OD ends	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

10. TUBE FITTINGS Female Tube adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube OD X 1/4" female NPT	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		

3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	1/4" FNPT	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

11. TUBE FITTINGS- Male Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube OD X 1/4" male NPT	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	1/4" MNPT	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

12. TUBE FITTINGS -Male Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube OD X 3/8" male NPT	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	3/8" MNPT	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

13. TUBE FITTINGS -Female Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" Tube OD X 1/2" AN Tube flare (37° Flare angle)	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	3/4-20 NEF (1/2" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	3/4-16 UNJF-3(1/2" Female AN Flare ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

14. TUBE FITTINGS- Female Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" tube OD X 1/2" female tube ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	1/2" FNPT ends	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

15. TUBE FITTINGS- Female Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	End connection	1/2" tube OD X 1/4" female NPT	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	1/4 female NPT ends.	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

16. TUBE FITTINGS - Male Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube OD ends x 1/4" male NPT	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	1/4" male NPT ends	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

17. TUBE FITTINGS- Female Tube Adapter

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube OD X 1/4" AN tube flare	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20 NF (1/4" OD ends),	Yes / No / Explain		
6	Thread specification-outlet	7/16-20 UNJF-3 (1/4" flare ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

18. TUBE FITTINGS Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1" Tube OD, width: 2.55"	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	1 5/16-20 NS (1"OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

19. TUBE FITTINGS Union Cross

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection		-		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	9/16-20 NS (3/8"OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

20. TUBE FITTINGS Union Elbow

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube OD ends	Yes / No / Explain		

2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

21. TUBE FITTINGS Union Tee

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

22. TUBE FITTINGS union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

23. TUBE FITTINGS Reducing union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" OD X 1/4' Tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		

5	Thread specification-inlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

24. TUBE FITTINGS - Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	3/4-20 NF (1/2" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

25. TUBE FITTINGS Reducing Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" tube OD X 1/4" AN tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		

3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	3/4-20 NEF (1/2' 'OD ends)	Yes / No / Explain		
6	Thread specification-outlet	:(1/4" AN flare with 37° flare)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

26. TUBE FITTINGS Union cross

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" Tube OD X 1/4" AN tube flare	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	: 7/16-20 UNJF -3 (1/4" flare ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

27. TUBE FITTINGS -Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" Tube OD X 1/4" AN tube flare	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	7/16-20 UNJF -3 (1/4" flare ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

28. TUBE FITTINGS Union tee

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20NF (1/4" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

29. TUBE FITTINGS Union elbow

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

30. TUBE FITTINGS - Reducing Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4"OD X 1/8" Tube OD	Yes / No / Explain		

2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification- inlet&outlet	7/16-20 NF (1/4"OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

31. TUBE FITTINGS-Reducing union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/16" OD X 1/4" Tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification	7/16-20 NF (1/4"OD end)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

32. TUBE FITTINGS - Union tee

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	6mm OD ends X 6 mm tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification- inlet & outlet	7/16-20 NF (6mm OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

33. TUBE FITTINGS- Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	6mm OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		

5	Thread specification-inlet&outlet	7/16-20 NF (6mm OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

34. TUBE FITTINGS- Union elbow

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	, 10 mm tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	5/8-20 NS (10 mm OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

35. TUBE FITTINGS- Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	10 mm tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		

3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	9/16-18 UNJF-3 (3/8" AN Flare ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

36. TUBE FITTINGS Cap

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" OD tubing	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

37. TUBE FITTINGS-Cap

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" OD tubing	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

38. TUBE FITTINGS Plug

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube fitting	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		

5	Thread specification-inlet&outlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

39. TUBE FITTINGS-Plug

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" tube fitting	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	3/4-20 NEF (1/2" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

40. TUBE FITTINGS - Plug

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		

3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20 UNJF-3 (1/4" flare ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

41. TUBE FITTINGS Insert

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" OD X 1/4" tube ID	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	3/8" OD	Yes / No / Explain		
6	Thread specification-outlet	1/4" tube ID	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

42. TUBE FITTINGS Insert

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" OD X 3/8" ID	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	1/2" OD	Yes / No / Explain		
6	Thread specification-outlet	3/8" ID	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

43. TUBE FITTINGS - Insert

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" OD X 3/8" ID	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	1/4" OD	Yes / No / Explain		
6	Thread specification-outlet	3/8" ID	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

44. TUBE FITTINGS-Insert

Item specifications for TUBE FITTINGS

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1" Tube OD X 3/4 tube ID, 0.069" ID of bore	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	1" Tube OD	Yes / No / Explain		
6	Thread specification-outlet	3/4 tube ID	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

45. TUBE FITTINGS Reducer

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube ID X 3/8 tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

46. TUBE FITTINGS -Reducer

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" OD ends X 1/4" tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		

6	Thread specification-outlet	1/4" tube OD	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

47. TUBE FITTINGS - Reducer

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2", (OD ends) X 1/2" Tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	3/4 -20 NEF (1/2" OD ends), Width:1.77'	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

48. TUBE FITTINGS Reducer

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" OD X 1/4" tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		

3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

49. TUBE FITTINGS - Reducing union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	10mm X 6mm tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	5/8-20 NS (10 mm OD ends)	Yes / No / Explain		
6	Thread specification-outlet	7/16-20 NF (6 mm OD ends), width:1.75"	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

50. TUBE FITTINGS-Reducer

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	10 mm OD ends X 6 mm tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	5/8-20 NS (10 mm OD ends)	Yes / No / Explain		
6	Thread specification-outlet	7/16-20 NF (6 mm OD ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

51. TUBE FITTINGS - Reducers

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	6 mm OD X 1/4" Tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20 NF (6 mm OD ends)	Yes / No / Explain		
6	Thread specification-outlet	7/16-20 NF (1/4" mm OD ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

52. TUBE FITTINGS Male Elbow

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube ends X 1/8" male NPT	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	Thread specification-inlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
5	Thread specification-outlet	1/8" MNPT ends 1/8" MNPT ends	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

53. TUBE FITTINGS Male elbow

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	End connection		-		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20 NF (1/4 " OD ends),	Yes / No / Explain		
6	Thread specification-outlet	1/4" tube MNPT	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

54. TUBE FITTINGS Male connector

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube OD ends X 1/4 " male NPT	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20 NF (1/4" OD ends),	Yes / No / Explain		

6	Thread specification-outlet	1/4" MNPT ends	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

55. TUBE FITTINGS - Male connector

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" Tube OD ends X 1/4" AN tube flare (37° flare angle)	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	7/16-20 UNJF-3 (1/4" flare ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

56. TUBE FITTINGS O-Ring face seal fitting -Tube connector

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" fitting X 3/8" tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		

3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	1/2" fitting	Yes / No / Explain		
6	Thread specification-outlet	9/16-20 NS (3/8' 'OD ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

57. TUBE FITTINGS Teflon O-rings for the tube connector, (for items.no.56)

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" fitting X 3/8" tube OD	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	Teflon O-rings for the tube connector	Yes / No / Explain		
5	Thread specification-inlet	1/2" fitting	Yes / No / Explain		
6	Thread specification-outlet	9/16-20 NS (3/8' 'OD ends)	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

58. TUBE FITTINGS PTFE Back Ferrule

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube fitting	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	PTFE-Teflon	Yes / No / Explain		
5	Thread specification-inlet&outlet	1/4" tube fitting	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

59. TUBE FITTINGS PTFE Front Ferrule

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" tube fitting	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	PTFE-Teflon	Yes / No / Explain		
5	Thread specification-inlet&outlet	1/4" tube fitting	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

60. TUBE FITTINGS - PTFE Front Ferrule

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	10 mm tube fitting	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	PTFE-Teflon	Yes / No / Explain		
5	Thread specification-inlet&outlet	10 mm tube fitting	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

61. TUBE FITTINGS- PTFE Back Ferrule

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	10 mm tube fitting	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	PTFE-Teflon	Yes / No / Explain		
5	Thread specification-inlet&outlet	10 mm tube fitting	Yes / No / Explain		

6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		
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62. TUBE FITTINGS - PTFE Front ferrule

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	6 mm tube fitting	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	PTFE-TEFLON	Yes / No / Explain		
5	Thread specification-inlet&outlet	6 mm tube fitting	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

63. TUBE FITTINGS PTFE Back ferrule

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	6 mm tube fitting	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	PTFE-Teflon	Yes / No / Explain		

5	Thread specification-inlet&outlet	6 mm tube fitting	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

64. TUBE FITTINGS Nut

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	10 mm fitting	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

65. TUBE FITTINGS - Nut

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	6 mm tube OD ends	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	7/16-20 NF (6 mm OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

66. TUBE FITTINGS High Pressure Fitting

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" fitting OD ends X 9/16-18 High pressure male	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
6	Thread specification-outlet	9/16-18 male thread 1/4" high pressure ends	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

67. SNOOP Solution

Item specifications for SNOOP Solution

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	Capacity	3.8L	Yes / No / Explain		
2	Physical & Chemical Properties	"Liquid leak detector, bottle on-toxic, Non corrosive, non-flammable formula does not contain chlorine, aliphatic amines or ammonium compounds	Yes / No / Explain		
3	working Temperature	Can be used over a temperature range 27 to 200° F (-3 to 95° C)	Yes / No / Explain		

68. TUBE FITTINGS Automatic Tube Butt Weld Cross

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" OD X 0.035" WT with integral filler ring (0.03")	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet	3/8" OD	Yes / No / Explain		
6	Thread specification-outlet	0.035" WT with integral filler ring (0.03")	Yes / No / Explain		
7	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

69. TUBE FITTINGS Automatic tube butt weld fittings - Tube fitting connector

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" tube fitting OD ends X 3/8" OD weld ends with (0.035" wall thickness) integral filler ring (0.03")	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	9/16-20 NS (3/8" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

70. TUBE FITTINGS Automatic tube butt weld - Union Tee

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/8" OD with 0.035" WT integral filler ring (0.03")	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		

5	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		
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71. TUBE FITTINGS Automatic tube butt weld - Reducing union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" OD (0.049" wall thickness) X 3/8" OD (0.035" wall thickness) ends with 0.03" integral filler ring	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

72. TUBE FITTINGS Automatic tube butt weld - Tee

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" OD X 0.049" with integral filler ring (0.04")	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

73. TUBE FITTINGS- Automatic tube butt weld, Reducing union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" OD 0.049" wall thickness with 0.074" integral weld ring	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

74. TUBE FITTINGS Tube fitting connector

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" tube fitting OD ends X 1/2" OD weld ends with (0.049" wall thickness) integral filler ring (0.04")	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		

3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-inlet&outlet	Thread specification: 3/4-20 NEF (1/2" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

75. TUBE FITTINGS Tube butt weld - Reducing union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/2" OD (0.049" wall thickness) X 1/4" OD (0.035" Wall thickness) with integral weld ring of 0.02" for 1/4" and 0.04" for 1/2"	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

76. TUBE FITTINGS Tube fitting to automatic tube butt weld

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" OD X (1/4" OD X 0.035") with 0.02" integral filler ring	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification- inlet&outlet	Thread specification: 7/16-20 NF (1/4" OD ends)	Yes / No / Explain		
6	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

77. TUBE FITTINGS Automatic tube butt weld - Union tee

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" OD X 0.035" wall thickness 316 with 0.02" integral weld ring	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		

5	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		
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78. TUBE FITTINGS Automatic tube butt weld - Union cross

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	1/4" OD (0.035" wall thickness) with 0.02" integral weld ring	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		
4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Working Temperature range	-5 deg C to 65 deg C	Yes / No / Explain		

79. TUBE FITTINGS Automatic tube butt weld - Reducing Union

Item specifications for TUBE FITTINGS

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	End connection	3/8" OD (0.035" wall thickness) X 1/4" OD (0.035" wall thickness) with 0.03" integral filler ring	Yes / No / Explain		
2	Working pressure range	min 220 bar	Yes / No / Explain		
3	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment.	Yes / No / Explain		

4	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
5	Thread specification-outlet	9/16-18 UNJF-3 (3/8" AN Flare ends)	Yes / No / Explain		

Common Specifications (Applicable for all items)

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	Operating temperature range for tube fittings	-5 deg C to 65 deg C	Yes / No / Explain		
2	Operating pressure range	min 220 bar	Yes / No / Explain		
3	MOC	SS 316 & 316L for tube fittings and weld fittings respectively, bar stock – ASME SA479, Forging – ASME SA182	Yes / No / Explain		
4	Chemical cleaning std	Passivation in accordance with ASTM A380 for weld fittings, Ultrasonic cleaning in a class 100 clean room environment	Yes / No / Explain		

Supporting Documents required from Vendor

1. Compliance of technical specifications

2. Previous Purchase orders

3. Authorized Dealership certificate

4. Material inspection certificate

5. Functional test certificate

6. Manufacturer's Certification, certificate of Conformance

7. Performance test charts

8. Warranty certificates

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	All intended tube fittings shall be certified by reputed third party inspection agencies with necessary certifications.	Yes / No / Explain	
2	This is a Two Part Tender. Do not mention price element in Techno Commercial Bid. If any Price element mentioned in technical bid, your offer will not be considered.	Yes / No / Explain	
3	Packing and Forwarding (P&F):P & F charges, if any, (If mentioned as EXTRA OR INCLUDED in your quote, please mention the percentage in Vendor Terms).	Yes / No / Explain	
4	<p>GST for Indigenous Supply:Please mention applicable GST percentage in the offer</p> <p>a) Please refer Sl. No: 1 of Government Of India, Ministry Of Finance, Notification Number 47/2017 integrated Tax (rate) dated: 14/11/2017, the applicable percentage of GST is 5% only for the supply of Goods. Necessary Certificate will be issued later.</p> <p>b) Please refer Sl. No: 1 of Government Of Karnataka, Finance Secretariat, Notification Number 45/2017 FD 48 CSL 2017, BENGALURU, dated: 14/11/2017, the applicable percentage of GST is 5% only for the supply of Goods. Necessary Certificate will be issued later.</p> <p>c) In case of services (i.e., Installation, commissioning & testing and AMC, etc.,) GST @18% extra.</p>	Yes / No / Explain	

5	<p>Duties & Levies for Foreign supply: a) LPSC is providing Customs Duty Concession Certificate towards the of payment of Customs Duty as per the Customs Notification No. 50/2017, Sl. No. 539(b)-CUSTOMS Dated 30.06.2017 & Amendment No: 5/2018, Sl. No. 539(a) CUSTOMS Dated: 25/01/2018. b) We will provide Customs Duty Concession Certificate for bought out items being imported for manufacturing the ordered items (List of items to be imported with quantities to be enclosed along with offer) OR for Orders placed on Foreign Vendors OR for High Sea Sale orders. c) GST is not applicable for imported items.</p>	Yes / No / Explain	
6	<p>Installation Charges:If any, mentioned as EXTRA OR INCLUDED in your quote, please mention the percentage in Vendor Terms.</p>	Yes / No / Explain	
7	<p>Delivery Terms : In case of Indigenous Supplier : LPSC, BANGALORE.</p>	Yes / No / Explain	
8	<p>Delivery Terms : In case of Foreign Suppliers: EX-WORKS / FOB /FCA</p>	Yes / No / Explain	
9	<p>Freight charges : If any, mentioned as EXTRA OR INCLUDED in your quote, please mention the percentage in Vendor Terms.</p>	Yes / No / Explain	
10	<p>Delivery Period: If any specific delivery period is mentioned in the tender, please comply the same. If not agreed, please mention your delivery period in remarks column</p>	Yes / No / Explain	
11	<p>Payment Terms for Indigenous Orders : 100% payment shall be made through RTGS within 30 days after receipt (including installation & commissioning) and acceptance of the item at our site.</p>	Yes / No / Explain	
12	<p>Payment Terms for Foreign Orders : a) Payment term shall be Sight Draft OR 90% by Irrevocable Letter of Credit and balance 10% by wire transfer after receipt (including installation & commissioning) and acceptance of the ordered item. b) In case of Payment Term being Letter of Credit, the same shall be opened for One quarter, after readiness of the material. Also, Bank Charges inside India to our Account & outside India to your Account.</p>	Yes / No / Explain	

13	In case two or more tenders are received from an Indian agent on behalf of more than one foreign Principal/OEM, in the same tender for the same item/product will not be considered.	Yes / No / Explain	
14	Liquidated Damages (LD): If the ordered items are not supplied within the delivery schedule, LD shall be levied from your bill @ 0.5% of the order value per week or 0.5% of the value of the stores for which the delivery is delayed for each week of delay subject to a maximum of 10% of the order value. (NOTE : This is a mandatory clause)	Yes / No / Explain	
15	Warranty : Warranty for the offered item shall be from the date of installation/acceptance of the item at our site for a minimum period of one year or as specified in the tender document	Yes / No / Explain	
16	Security Deposit (SD) : You have to furnish a Bank Guarantee from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper for 3% of the order value within 10 days of receipt of order towards the faithful execution of the order valid till the completion of the scope of work as per order plus sixty days(as claim period). (This will be returned to you immediately on execution of the order satisfactorily as per order terms. In case of non-performance / poor performance, the amount will be forfeited).	Yes / No / Explain	
17	Performance Bank Guarantee (PBG) : You have to submit a PBG from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper for 3% of the order value towards the performance of the system at the time of supply valid till the completion of warranty period plus 60 days (as claim period) as per the format provided by the Department. OR 3% of the order value shall be with held till the completion of Warranty Period plus 60 days.	Yes / No / Explain	

18	Security Deposit cum Performance Bank Guarantee (SD cum PBG):In case, if parties are unable to provide two separate BGs, i.e., one for SD and one for PBG, they can submit a combined BG for SD cum PBG from a Nationalised / Scheduled Bank in Rs.200/- Stamp Paper within 10 days of receipt of order for 3% of order value valid till the completion of total contractual obligation (i.e., supply period plus warranty period plus 60 days) as per the format provided by the Department.	Yes / No / Explain	
19	Insurance : Being a Government of India Department, Insurance is not required at our cost. Please ensure the safe delivery of the ordered item with proper AIR / SEA / ROAD worthy packing.	Yes / No / Explain	
20	Validity of Offer : (a) The validity of the offers should be 120 days from the date of opening of the tenders. NOTE : Tenders validity period shorter than offer validity mentioned above will not be considered for evaluation.	Yes / No / Explain	
21	In case of foreign orders:(a) Please specify whether any Export clearance is required. If it is required please provide End User Certificate format along with offer. (b) Please specify whether any Agency Commission is involved or not. If YES mention the percentage of Agency Commission. [Agency Commission shall be claimed by the Indian Agent through an Invoice. The Agency Commission shall be paid to the Indian Agent in Indian Rupees worked out on the basis of Telegraphic Transfer buying rate of exchange prevailing on the date of placement of the Purchase order/Contract and shall be paid within 30 days from the date of satisfactory acceptance of the item at our site. Distributers are not eligible for Agency Commission]	Yes / No / Explain	
22	ARBITRATION: In the event of dispute or difference arising out of or in connection with this purchase order/contract, which cannot be resolved through amicable settlement by mutual consultation, the same shall be settled under the Rules of Arbitration & Conciliation act 1996 under the Indian statue only, whose decision shall be final and binding on both the parties.	Yes / No / Explain	

23	JURISDICTION: The Courts in and around the City of Bangalore alone shall have jurisdiction to deal with and decide any matter or dispute whatsoever arising out of this agreement including those arising under the Arbitration Act.	Yes / No / Explain	
24	Details of Principal:Address, contact details like Telephone Number, Fax, e-mail etc., (if applicable)	Yes / No / Explain	
25	Details of Indian Agent: Address, contact details like Telephone Number, Fax, e-mail etc., (if applicable)	Yes / No / Explain	
26	Address, contact details like Telephone Number, Fax, e-mail etc., on which order to be placed.	Yes / No / Explain	
27	Offers received through fax or email or unsigned will not be considered.	Yes / No / Explain	
28	You shall provide suppliers bank details such as name of the bank, IFSC code, IBAN Number, SWIFT etc., along with your offer which shall be not be changed till completion of payment.	Yes / No / Explain	
29	FORCE MAJEURE: Neither LPSC, Bangalore nor party shall be considered in default of the performance of their obligations under this Purchase Order if such performance is prevented or delayed for any causes beyond the reasonable control of the parties to the order getting affected, such as Acts of God, war, riots, civil, commotion, illegal strikes, legal lock-outs, epidemics, fore accidents of any Government thereof, provided notice in writing of any such cause with necessary proof that the obligation under the Purchase Order is hereby affected or prevented or delayed is given within 14 days from the happening of the event. As soon as the cause of force majeure has ceased to exist, the party whose ability to perform his obligation has been affected shall notify the other party of the actual delay that has occurred due to such force majeure condition.	Yes / No / Explain	
30	Any other terms shall be mentioned in Vendor Terms column.	Yes / No / Explain	

31	<p>Special conditions against Indian Agents submitting quotations in Foreign Currency:</p> <p>(a) Foreign Principals proforma invoice indicating the commission payable to the Indian Agent and nature of after sales service to be rendered by the Indian Agent.</p> <p>(b) Copy of Agency agreement with the Foreign Principal and Indian agent, precise relationship between them and their mutual interest in the business.</p> <p>(c) Copy of registration and item empanelment of the Indian agent.</p>	Yes / No / Explain	
32	<p>The tenders received from Indian agents on behalf of their foreign Principals/OEMs (in cases where the Principals/OEMs also submit their tenders simultaneously for the same item/product in the same tender) the same will be not be considered.</p>	Yes / No / Explain	
33	<p>Purchase/Preference to MSEs: Purchase/Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small & Medium Enterprises Development Act 2006. Necessary authenticated documentary evidences shall be submitted along with your offer. NOTE: This is not applicable for foreign Suppliers.</p>	Yes / No / Explain	
34	<p>Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs. Such MSEs shall produce documentary proof of registration as per provisions of the Policy ie: registration with District Industries Centre (DIC) or Khadi and Village Industries Commission (KVIC) or Khadi and Industries Board (KVIB) or Coir Board or National Small Industries Commission (NSIC) or Directorate of Handicrafts and Handlooms or Udyog Aadhar Memorandum or any other body specified by Ministry of MSME.</p>	Yes / No / Explain	

35	<p>As far as implementation of public procurement policy (Preference to make in India) Order, 2017 is concerned, the Office Orders vide No. P-45021/2/2017-B.E-II dt. 15.06.2017, which is partially modified by Order No. P-45021/2/2017-PP(BE-II) dt. 28.05.2018, Order No.P-45021/2/2017-PP(BE-II)dt. 29.05.2019, Order No. P-45021/2/2017-PP (BE-II) dt 04.06.2020 and Order No.P-45021/2/2017-PP (BE-II) dt 16.09.2020 and subsequent Amendments issued by the Department for Promotion of Industries and Internal Trade, Ministry of Commerce and Industry and Internal Trade, Ministry of Commerce and Industry regarding Class-I/Class-II local suppliers, Purchase preference, verification of local contents etc shall be applicable to this tender. Therefore, bidders may ensure compliance of the same while submitting tenders.</p>	Yes / No / Explain	
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C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	TUBE FITTINGS Bulk Head Union	15.00 Nos.		-		
2	TUBE FITTINGS- Bulk Head Union	50.00 Nos.		-		
3	TUBE FITTINGS- Bulk Head Union	50.00 Nos.		-		
4	TUBE FITTINGS - Bulk Head Union	25.00 Nos.		-		
5	TUBE FITTINGS - Bulk Head Union	300.00 Nos.		-		
6	TUBE FITTINGS - Bulk Head union	350.00 Nos.		-		

7	TUBE FITTINGS Female Tube Adapter	300.00 Nos.		-		
8	TUBE FITTINGS Male Tube Adapter	60.00 Nos.		-		
9	TUBE FITTINGS - Male Tube Adapter	25.00 Nos.		-		
10	TUBE FITTINGS Female Tube adapter	50.00 Nos.		-		
11	TUBE FITTINGS- Male Tube Adapter	50.00 Nos.		-		
12	TUBE FITTINGS - Male Tube Adapter	50.00 Nos.		-		
13	TUBE FITTINGS - Female Tube Adapter	50.00 Nos.		-		
14	TUBE FITTINGS- Female Tube Adapter	50.00 Nos.		-		
15	TUBE FITTINGS- Female Tube Adapter	25.00 Nos.		-		
16	TUBE FITTINGS - Male Tube Adapter	200.00 Nos.		-		
17	TUBE FITTINGS- Female Tube Adapter	300.00 Nos.		-		
18	TUBE FITTINGS Union	15.00 Nos.		-		
19	TUBE FITTINGS Union Cross	50.00 Nos.		-		
20	TUBE FITTINGS Union Elbow	50.00 Nos.		-		
21	TUBE FITTINGS Union Tee	75.00 Nos.		-		

22	TUBE FITTINGS union	75.00 Nos.		-		
23	TUBE FITTINGS Reducing union	25.00 Nos.		-		
24	TUBE FITTINGS - Union	20.00 Nos.		-		
25	TUBE FITTINGS Reducing Union	50.00 Nos.		-		
26	TUBE FITTINGS Union cross	50.00 Nos.		-		
27	TUBE FITTINGS - Union	200.00 Nos.		-		
28	TUBE FITTINGS Union tee	225.00 Nos.		-		
29	TUBE FITTINGS Union elbow	225.00 Nos.		-		
30	TUBE FITTINGS - Reducing Union	50.00 Nos.		-		
31	TUBE FITTINGS- Reducing union	35.00 Nos.		-		
32	TUBE FITTINGS - Union tee	50.00 Nos.		-		
33	TUBE FITTINGS- Union	50.00 Nos.		-		
34	TUBE FITTINGS- Union elbow	50.00 Nos.		-		
35	TUBE FITTINGS- Union	50.00 Nos.		-		
36	TUBE FITTINGS Cap	50.00 Nos.		-		
37	TUBE FITTINGS- Cap	100.00 Nos.		-		
38	TUBE FITTINGS Plug	50.00 Nos.		-		

39	TUBE FITTINGS- Plug	50.00 Nos.		-		
40	TUBE FITTINGS - Plug	200.00 Nos.		-		
41	TUBE FITTINGS Insert	50.00 Nos.		-		
42	TUBE FITTINGS Insert	50.00 Nos.		-		
43	TUBE FITTINGS - Insert	50.00 Nos.		-		
44	TUBE FITTINGS- Insert	25.00 Nos.		-		
45	TUBE FITTINGS Reducer	50.00 Nos.		-		
46	TUBE FITTINGS - Reducer	50.00 Nos.		-		
47	TUBE FITTINGS - Reducer	25.00 Nos.		-		
48	TUBE FITTINGS Reducer	450.00 Nos.		-		
49	TUBE FITTINGS - Reducing union	25.00 Nos.		-		
50	TUBE FITTINGS- Reducer	50.00 Nos.		-		
51	TUBE FITTINGS - Reducers	50.00 Nos.		-		
52	TUBE FITTINGS Male Elbow	200.00 Nos.		-		
53	TUBE FITTINGS Male elbow	200.00 Nos.		-		
54	TUBE FITTINGS Male connector	250.00 Nos.		-		
55	TUBE FITTINGS - Male connector	150.00 Nos.		-		

56	TUBE FITTINGS O-Ring face seal fitting - Tube connector	50.00 Nos.		-		
57	TUBE FITTINGS Teflon O-rings for the tube connector, (for items.no.56)	150.00 Nos.		-		
58	TUBE FITTINGS PTFE Back Ferrule	200.00 Nos.		-		
59	TUBE FITTINGS PTFE Front Ferrule	200.00 Nos.		-		
60	TUBE FITTINGS - PTFE Front Ferrule	500.00 Nos.		-		
61	TUBE FITTINGS-PTFE Back Ferrule	500.00 Nos.		-		
62	TUBE FITTINGS - PTFE Front ferrule	1000.00 Nos.		-		
63	TUBE FITTINGS PTFE Back ferrule	1000.00 Nos.		-		
64	TUBE FITTINGS Nut	50.00 Nos.		-		
65	TUBE FITTINGS - Nut	225.00 Nos.		-		
66	TUBE FITTINGS High Pressure Fitting	50.00 Nos.		-		
67	SNOOP Solution	25.00 Nos.		-		
68	TUBE FITTINGS Automatic Tube Butt Weld Cross	200.00 Nos.		-		

69	TUBE FITTINGS Automatic tube butt weld fittings - Tube fitting connector	100.00 Nos.		-		
70	TUBE FITTINGS Automatic tube butt weld - Union Tee	125.00 Nos.		-		
71	TUBE FITTINGS Automatic tube butt weld - Reducing union	75.00 Nos.		-		
72	TUBE FITTINGS Automatic tube butt weld - Tee	50.00 Nos.		-		
73	TUBE FITTINGS- Automatic tube butt weld, Reducing union	140.00 Nos.		-		
74	TUBE FITTINGS Tube fitting connector	50.00 Nos.		-		
75	TUBE FITTINGS Tube butt weld - Reducing union	300.00 Nos.		-		
76	TUBE FITTINGS Tube fitting to automatic tube butt weld	125.00 Nos.		-		
77	TUBE FITTINGS Automatic tube butt weld - Union tee	600.00 Nos.		-		

78	TUBE FITTINGS Automatic tube butt weld - Union cross	140.00 Nos.		-		
79	TUBE FITTINGS Automatic tube butt weld - Reducing Union	150.00 Nos.		-		

Common charges (Applicable for all items)

Installation & Configuration	
Other Costs, if any (Value)	
Taxes, if any (Percentage)	