



Ref: NCB/L-201493/2020-2021 (N)

Date: 15/02/2021

## Specification for Gas lines

**1. SUPPLY AND INSTALLING OF ¼"SS316L TUBING SYSTEM FOR MAIN TO THE POINT OF USE** with orbital welded joints, Solid drawn, seamless, deoxidized, non- arsenical, half hard, tempered and degreased, rated for 250 Bar pressure, including all the required compression tube fittings / connectors, ferrule fittings, instrument pipe fittings etc, as required at site and as required for the application to complete the work. Each tube line shall be clamped with appropriate size clamps, mounted on GI Slotted rails, with all the required fasteners. The entire tubing system shall be mounted on the wall / from the ceiling with screw rods and GI rails with expansion bolts / grouting as per standard practice. Gas tubing lines shall not sag and supporting shall be provided in intervals of less than 1.5m distance. The GI rails should be capable to hold 6 no's of 1/2" tubing in parallel for future purpose. The formation and installation of the entire tubing system should be properly mounted and aesthetically finished. Each tubing line shall carry permanent labeling and directional flow marking and be suitably color coded for the application. Work shall be complete in all respects including thorough degreasing and clearing of all particulate matter. Make-- Parker/Swgelok/Valex/GCE /Wika/Delta All Joints should be Orbital welded.

Material: SS 316L

Working pressure:250 BAR

Testing pressure:350 BAR

### **2.SUPPLY AND INSTALLING OF ½"SS316L TUBING SYSTEM (ORBITAL WELDED LEAK PROOF JOINTS)**

with orbital welded joints, Solid drawn, seamless, deoxidized, non- arsenical, half hard, tempered and degreased, rated for 250 Bar pressure, including all the required compression tube fittings / connectors, ferrule fittings, instrument pipe fittings etc, as required at site and as required for the application to complete the work. Each tube line shall be clamped with appropriate size clamps, mounted on GI Slotted rails, with all the required fasteners. The entire tubing system shall be mounted on the wall / from the ceiling with screw rods and GI rails with expansion bolts / grouting as per standard practice. Gas tubing lines shall not sag and supporting shall be provided in intervals of less than 1.5m distance. The GI rails should be capable to hold 6 no's of 1/2" tubing in parallel for future purpose. The formation and installation of the entire tubing system should be properly mounted and aesthetically finished. Each tubing line shall carry permanent labeling and directional flow marking and be suitably color coded for the application. Work shall be complete in all respects including thorough degreasing and clearing of all particulate matter. Make-- Parker/Swgelok/Valex/GCE /Wika/Delta

All Joints should be Orbital welded

Material: SS 316L

Working pressure:250 Bar

Testing pressure:350 Bar

### **3.SUPPLY & INSTALLING OF SS 316L SECONDARY REGULATOR FOR CARBON DIOXIDE, NITROGEN AND COMPRESSED AIR INSIDE THE LAB AT EACH POINT OF USE**

diaphragm sensed & spring loaded, with preset flow rate. The regulator should operate at 0-20Bar Inlet and outlet pressure of 0 to 10 Bar preset flow rate of 100LPM fitted with Pressure gauges for inlet and outlet pressure readings, with 1/4" to 6mm PU tube press fit connectors, Stain Less Steel mounting brackets, complete set. Including safety valve, Mounting SS panel and end fittings & filter Make-- Parker/Swagelok/Valex/GCE

Material: SS 316L

Working pressure:25 Bar

Testing pressure:0-10 Bar

**4.ANALOG, 4" DIA. PRESSURE GAUGE OF MATCHING DUAL RANGE with isolater**, with ½" isolator valve with appropriate fittings and connectors. to indicate line pressure of all gases, vacuum & air lines at each lab /Wika/Delta/Tescom/ --Working pressure-0-17 BAR, VACUUM --750 MM HG



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**5.SUPPLY & INSTALLING ½”COMPRESSION END SS 316L BALL VALVE OF 250 BAR RATED** for isolating compressed Air & Vacuum line at each lab and at each junction point, with appropriate fittings and connectors Make--Parker/Swagelok/Tescom/GCE  
Material: SS316L  
Working pressure:250 Bar  
Testing pressure:350 Bar

**SUPPLY & INSTALLING ½” AND ¼” COMPRESSION END SS 316L BALL VALVE OF 250 BAR RATED** for isolating compressed Air & Vacuum line at each lab and at each junction point, with appropriate fittings and connectors Make--Parker/Swagelok/Tescom/GCE/VALEX  
Material: SS316L  
Working pressure:250 Bar  
Testing pressure:350 Bar