

**Part 1 General****1.1 SUMMARY****.1 Section Includes:**

- .1 Materials and installation for piping, fittings, equipment used in compressed air systems.

**1.2 REFERENCES****.1 American Society of Mechanical Engineers (ASME)****.1 ASME Boiler and Pressure Vessel Code Section VIII Pressure Vessels.**

- .1 BPVC-VIII B, BPVC Section VIII - Rules for Construction of Pressure Vessels Division 1.

- .2 BPVC-VIII-2 B, BPVC Section VIII - Rules for Construction of Pressure Vessels Division 2 - Alternative Rules.

- .3 BPVC-VIII-3 B, BPVC Section VIII - Rules for Construction of Pressure Vessels Division 3 - Alternative Rules High Press Vessels.

- .2 ASME B16.5, Pipe Flanges and Flanged Fittings.

- .3 ASME B16.11, Forged Fittings, Socket-Welding and Threaded.

**.2 American Society for Testing and Materials International (ASTM)**

- .1 ASTM A53/A53M, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.

- .2 ASTM A181/A181M, Standard Specification for Carbon Steel Forgings for General Purpose Piping.

**.3 Canadian Standards Association (CSA International)**

- .1 CSA B51, Boiler, Pressure Vessel, and Pressure Piping Code.

**1.3 SUBMITTALS****.1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.****.2 Product Data:**

- .1 Submit manufacturer's printed product literature, specifications and datasheet for piping, fittings and equipment.

**.3 Shop Drawings:**

- .1 Submit shop drawings to indicate Project layout including layout, dimensions and extent of piping system.

- .1 Vertical and horizontal piping locations and elevations and connections details.

- .2 Test Reports: submit certified test reports from approved independent testing laboratories indicating compliance with

specifications for specified performance characteristics and physical properties.

- .3 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .4 Instructions: submit manufacturer's installation instructions.
- .5 Closeout Submittals: submit maintenance and engineering data for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

## **Part 2 Products**

### **2.1 AIR COMPRESSOR**

- .1 Refer to Drawing M-1.

### **2.2 COMBINATION FILTER-REGULATOR**

- .1 Factory assembled, heavy-duty with mounting bracket and low pressure side relief valve.
- .2 Maximum inlet pressure: 1000 kPa.
- .3 Operating temperature: -18°C to 52°C.
- .4 Filter element: 40 micron. Bowls: polycarbonate.
- .5 Pressure range in regulator: 34 kPa to 1000 kPa.
- .6 Gauge range: 0 kPa to 1100 kPa.

### **2.3 BALL VALVES**

- .1 One piece design, stainless steel body.
- .2 To withstand 1034 kPa maximum pressure.
- .3 Standard of Acceptance: Swagelok 40 Series.

## **Part 3 Execution**

### **3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

### **3.2 COMPRESSED AIR LINE FILTER**

- .1 Install on discharge line.

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**3.3 MAIN AIR PRESSURE REGULATORS**

- .1 Install as indicated.

**3.4 COMPRESSED AIR PIPING CONNECTIONS AND INSTALLATION**

- .1 Install flexible connection where required.
- .2 Install shut-off valves at outlets, major branch lines and in locations as indicated.
- .3 Install quick-coupler chucks and pressure gauges on drop pipes.
- .4 Install unions to permit removal or replacement of equipment.
- .5 Install tees in lieu of elbows at changes in direction of piping. Install plug in open ends of tees.
- .6 Make branch connections from top of main.

**3.5 FIELD QUALITY CONTROL**

- .1 Site Tests/Inspection:
  - .1 Testing: pressure test in accordance with requirements of Section 21 05 01 - Common Work Results - Mechanical, for four (4) hours minimum, to 1100 kPa, with outlets closed and with compressor isolated from system. Pressure drop not to exceed 10 kPa.

**3.6 CLEANING**

- .1 Cleaning: blow out piping to clean interior thoroughly of oil and foreign matter.

**END OF SECTION**