

### **TECHNICAL SPECS FOR BREATHING AIR SYSTEM**

The compressor intended for purchase should be stationary and weighing not less than 389kgs ( $\pm 5\%$ ). It should have FAD (Free Air Delivery) of 300 Litres Per Minute ( $\pm 5\%$ ). Operating pressure should be 300bar with final safety relief valve setting of 330bar. Final stage safety relief valve should be embossed with CE marking followed with notifying body identification number on the same. Compressor Block should be Air Cooled, V Belt Driven and reciprocating type with 3 Cylinder / 3-stage combination only. Compressor should be dynamically balanced. Cylinders should be plasma nitrated and plateau honed (double honing process) to increase the life by 300%. Prime Mover should be minimum 7.5 Kw Electric Motor (three phase, 400V, 50Hz). Compressor block's rpm should be not be less than 1800rpm ( $\pm 5\%$ ). Stainless steel intercoolers should be provided after each stage of compression. Aftercooler should be provided after the final stage of compression with mandatory fins and should be stainless steel ribbed for effective cooling enabling outlet temperature approx 10-15°C above cooling air temperature. One sealed safety relief valve should be provided per stage. Compressor should have oil and water separators for all stages except first. Oil & water separators provided should be separate vessels and not combined into one. All oil and water separators should be fitted at its bottom with auto condensation drain mechanism for automatic removal of condensate during the operation and also during activation and deactivation of the compressor. The auto condensations drain mechanism of each oil & water separator should be controlled by its individual solenoid valve and each fitted with its own condensate valves. The compressor should have a silent housing which should be fully noise-insulated with optimised cooling air intake reducing acoustic pressure to 72 dB(A)  $\pm$  2 dB(A) at 1m distance. Compressor should be provided with 1no. 3m thermoplastic filling hose for interconnection between . Filtration system should consist of Filter Set with Activated Carbon & Molecular sieve with filter processable capacity of not less than 1600m<sup>3</sup>. Final air quality after the filtration system should comply with EN-12021:2014 Breathing Air Quality stds/norms. Pressure Maintaining Valve (PMV) along with in-built Non Return (NRV) should be supplied at downstream of the purification system to increase the efficiency of the purification system by maintaining a positive back pressure. In built NRV should allow refilling/topping up of partially filled cylinders to desired pressure. Compressor system should be so designed that the complete oil change frequency should not be less than 2000 hours. Lubricating oil capacity for the compressor block should not be less than 2.9 lit. Compressor should also be supplied with a compressor control with 3.5" TFT colour display for the intelligent control and reliable monitoring of all basic functions. It should be having following features:

- Display current operating pressure, operating hours and operation type
- Display remaining filling time for breathing air cylinders
- Standard SI unit selection for pressure and temperature
- User-friendly navigation and display (user interface)
- Displays service and maintenance intervals and maintenance information
- Password protection for various menu levels
- Log stores incident history
- Simple software update uses SD card
- Cycle counter and operating hours counter
- Facility to allow users to remotely control and monitor compressor using smartphone
- Emergency stop button

### **PRE-QUALIFICATION CRITERIA**

**Prequalification criteria as mentioned below should be strictly adhered to, absence of which offer shall be liable for rejection:**

1. OEM whose product is being offered against this tender enquiry should have its own 100% subsidiary office in India.
2. Compressor offering company should have factory & aftersales service centre in close proximity of Mumbai (within 200km)
3. Breathing Air Compressor should be complying with following EC directives and should supply respective certificates along with the offer, absence of which offer shall be liable for rejection
  - a. EC Machinery Directive (2006/42/EC)
  - b. EC Pressure Equipment Directive (2014/68/EU)
  - c. EC Low Voltage Directive (2014/35/EU)
  - d. EC Electromagnetic Compatibility (EMC) 2014/30/EU
4. Third party certificate from internationally reputed agency certifying compliance to Pressure Equipment Directive (PED) 2014/68/EU Annex III, Module H/II for scope of design & manufacture of pressure vessels, pressure accessories, safety valve assemblies and welded piping for air upto 550bar. Third party agency four-digit no. to be printed on certificate. The certificate should also have certificate no., certificate issue date, validity date and complete address with phone nos. and email address for certifying agency.
5. Bidders should submit a certificate for compliance of breathing air supply to EN12021:2014 from an internationally reputed lab
6. Compliance matrix has to be signed and stamped by the OEM with complete address with phone nos. and email address.