



COCHIN SHIPYARD LIMITED

(A Government of India Enterprise)

CSL- Mumbai Ship Repair Unit (CMSRU),
Hughes Dry Dock Office Building, Blue Gate, P D
Mello Road, Fort, Mumbai, Maharashtra-400001
Web: www.cochinshipyard.com

CORRIGENDUM No.1 dated 21.12.2024

Tender Ref No. MP1/BREATHING AIR COMPRESSOR/CMSRU

Sub: Addition of notes in scope of work.

Dear Sirs,

Subsequent to the above tender enquiry **MP1/BREATHING AIR COMPRESSOR/CMSRU** dtd. 13.12.2024. Incorporate following points to mention as **notes** in the Scope provided for the Breathing Air compressor.

Air Purity Standards

- **Compliance with Standards:** Ensure the compressor meets air quality standards such as:
 - ISO 8573-1 Class 1 or Class 0 for oil-free air.
 - EN 12021 for breathable air quality.
 - OSHA and NFPA standards (e.g., NFPA 1989 for firefighting applications).
- **Filtration Systems:**
 - Include filters for particulate matter, oil aerosols, and hydrocarbons.
 - High-efficiency coalescing filters for removing oil and moisture.
- **Activated Carbon Adsorption:** For removing odour's, volatile organic compounds (VOCs), and hydrocarbons.

2. Monitoring and Alarms

- **Carbon Monoxide (CO) Monitor:** Continuously monitor CO levels with an audible/visual alarm for exceedances.
- **Dew Point Monitor:** Ensure proper moisture levels to avoid corrosion or microbial growth.
- **Oxygen Content Monitor:** Especially critical in confined spaces or specific industries like diving.



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LIJO S JACOB

प्रबंधक
Manager

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- **Pressure and Temperature Sensors:** Monitor pressure and temperature to avoid unsafe operating conditions.
- **Integrated Alarm System:** For high-pressure, low-pressure, CO, or dew point issues.

3. Overpressure and Temperature Protection

- **Pressure Relief Valves:** To prevent over pressurization in case of failure.
- **Over temperature Shutdown:** Prevent overheating of the compressor, which can damage components or degrade air quality.
- **Automatic Blowdown Valve:** To release pressure safely when shutting down.

4. Redundancy and Backup

- **Dual Compressor Systems:** For critical applications, include redundancy to ensure continuous operation.
- **Manual and Automatic Bypass:** For maintenance or in case of equipment failure.

5. Oil-Free or Oil-Lubricated Design

- **Oil-Free Compressors:** Recommended for critical breathing applications to prevent oil contamination.
- **Oil-Lubricated Compressors:** If used, ensure robust filtration and separation systems to remove oil.

6. Moisture Control

- **Desiccant Dryers:** Use desiccant or membrane dryers to control moisture levels.
- **Drainage Systems:** Include automatic condensate drains for moisture removal.

7. Material Compatibility

- **Corrosion-Resistant Materials:** Stainless steel or coated components for long-term durability.
- **Non-Toxic Components:** Ensure all materials in contact with the air stream are non-toxic and do not degrade air quality.

8. Electrical and Mechanical Safety

- **Explosion-Proof Motors:** For hazardous environments or where flammable gases are present.
- **Emergency Stop Button:** Easily accessible for rapid shutdown.
- **Safety Interlocks:** Prevent operation when access panels are open or safety parameters are violated.
- **Auto cut-off:** Pressure protection (Maximum pressure 300 Psi) , System shall restart only after reset after an auto cut-off

9. Maintenance and Serviceability

- **Service Alarms:** Include reminders for filter changes, oil replacement, and general maintenance.



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- **Accessible Components:** Design for easy inspection, cleaning, and part replacement.

10. Documentation and Certifications

Safety Certifications: Ensure compliance with CE, UL, or other relevant safety certifications.

User Manuals: Include detailed safety instructions for installation, operation, and maintenance.

Testing Certificates: Provide documentation verifying air quality and system performance during commissioning.

All other terms & conditions of the tender remain unchanged.



Lijo S Jacob
M (Materials)

For Cochin shipyard Ltd- Mumbai Ship Repair Unit.

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