

## PRODUCT BROCHURE

10 KL Cryogenic Liquid oxygen Vertical Storage Tank

Model Number: CRYO-10KL-V-Oxygen

## Item Name

# 10 KL Cryogenic Liquid Oxygen Vertical Storage Tank



Model Number Details:  
**CRYO-10KL-V-Oxygen**

### **Neometrix Defence Limited**

Office/Factory: E-148, Sector-63, NOIDA, UP-201301 (Delhi NCR, INDIA)

[www.neometrixgroup.com](http://www.neometrixgroup.com), [contact@neometrixgroup.com](mailto:contact@neometrixgroup.com), Phone: 0120-4500800 (100 Lines), Fax: 0120-4500888

GSTN: 09AACCN2254N1Z6, CIN No.: U29120DL2005PTC141114

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### Major Parameters:

#### **Neometrix Product Specifications**

## **CRYO-10KL-V-Oxygen**

**CRYO-10KL-V-Oxygen**, Cryogenic vertical storage tank is used to store and use liquid Oxygen. Product Specifications:

- Product: Cryogenic Vertical Storage Tank
- **Capacity: 10KL (Tolerance: +/- 1KL)**
- Quantity: 1No.
- Application: Storage & use of Liquid Oxygen for semiconductor processing.
- Design and Manufacturing Code: EN13458-2:2002 / ASME Section VIII Division 1/EN13458-2+Annex "C".
- Material of Construction: Inner vessel: Stainless steel X5 CrNi 18-10/1.4301-EN10028-7/SA240 type 304 outer vessel: Carbon steel/S355J2.
- Maximum Allowable Working Pressure: 17bar, outer vessel operating Pressure: Vacuum.
- Design Temperature: Inner Vessel: -196 to + 40 Deg. C, outer vessel: -20 to + 55 Deg. C.

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- Cleaning & Degreasing: Inner pressure vessel, piping and valves shall be cleaned and degreased for Oxygen Service.
- Inspection: Third party inspection & certification.
- **NER % / Day for Liquid Oxygen application:  $\leq 0.45\%$  / Day**
- Thermal Insulation: Perlite+ Vacuum.
- Annulus Vacuum (Warm):  $\leq 100$  Microns.
- Tank shall have a dual safety valves and dual burst discs. Also, shall have a valve, safety relief selector.
- Tank shall have long stem globe valves suitable for cryogenic applications as per industry standard.
- Piping: All piping shall be of stainless steel suitable for cryogenic applications as per industry standard.
- Pressure building coil shall have isolation valves and line safety valve.
- Tank should have liquid analysis connection.
- Tank shall have tank annular space vacuum detection / vacuum sensor / vacuum measuring probe (Vacuum isolation valve and vacuum thermocouple connection) and etc as per industry standard. The tank shall have
  - o Valve, vacuum gauge tube to isolate vacuum gauge.

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- o Valve, evacuation –connection to evacuate annular space between inner and outer vessel.
- o Vacuum Readout, outer vessel- connection to read vacuum level in tank.
- o Pressure safety element, outer vessel –Annular space rupture disc to protect outer vessel from over-pressurization.
  - Tank shall have Economizer isolation valves.
  - Tank shall have filling assembly with check valve and purge valve as an industry standard.
  - Footprint template: Footprint drawing should be made available to SITAR immediately upon receipt of purchase order for making foundation work at site.
  - Tank should have P&ID.
  - Tank shall have PESO approval and certification.

Tank shall have minimum following basic features:

- Bottom filling valves
- Top filling valves
- Line safety valve
- Filling connection



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- Inner vessel safety valves
- Inner vessel protection device
- 3-way valve
- Pressure indicator
- Level indicator
- Level gauge manifold ,liquid
- Level gauge manifold, equalizer
- Level gauge manifold, gas
- Full try cock valve
- Lift plate
- Vacuum connection
- Withdrawal valve – Liquid + Connection
- Pressure Regulator / Economizer with filter
- Check valve

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- Pressure building coil
- Vent valve
- Vacuum probe isolation valve
- Thermal safety valve , Fill
- Thermal safety valve, Pressure Building Circuit

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## PRODUCT BROCHURE

**10 KL Cryogenic Liquid oxygen Vertical Storage Tank**

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**LIQUID OXYGEN Storage Vessel – 20000 L**

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### **10 KL Cryogenic Liquid oxygen Vertical Storage Tank Model Number: CRYO-10KL-V-Oxygen**

Standards followed:

#### **Liquid Oxygen Vessel:**

- Design Code:
  - EN-13458 Annexure "C" (Cold Stretching)
  - ASME Section VIII + Appendix 44 + SMPV (U) Rules 1981 with all amendments (up to date)
- Material of Construction:
  - Inner Vessel: Austenitic Stainless Steel (SS-304)/ X5 Cr Ni 18-10
  - Outer Vessel: carbon Steel
- Vacuum: Perlite with high Vacuum Annular Space
- Pipe Work: Stainless steel pipe work, detachable assembly through Flanged or Union Joints and Pressure Building Coil (star finned).
- Valves (Inlet/Outlet): Cryogenic Valve on Liquid Lines EXTENDED Spindle Type of Bestobell Valves UK/ Mack Cryo/ HEROSE Germany
- Pressurizing & Full Try Cock: 20 NB/ 15 NB (extended spindle type)
- Safety Relief Valve: 2 Nos.
  - Comes with Diverter Ball Valve Make: FAINGER LESER/ BRIGHTTECH
- Bursting Disc: 1 No. Safety Bursting Disc for inner vessel. Make: BS &B Safety System (FMC Sanmar Group).



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### 20 KL Cryogenic Liquid oxygen Vertical Storage Tank

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- Tank will be fitted with the followings:



- Tank Inlet, Outlet with Cryogenic Valves
- Connection to Vaporizer
- Pressurizing Coil with Pressure Build Up Valve
- Full Try Cock Valve
- Liquid Level Indicator (DP Type) from General instruments
- Pressure Gauge

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- Safety Relief valve – 2 Nos.
- Rupture Disc for Inner Vessel and Safety Disc for Jacket
- Vacuum Valve



- Inspection: CCOE Approved 3<sup>rd</sup> party Inspection Agency like M/s Baxcounsel Inspection Bureau (P) Ltd.

## PRODUCT BROCHURE

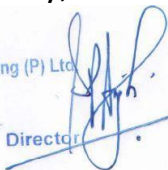
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Kindly feel free to contact us for any further details/ clarifications.

Yours Faithfully,

For Neometrix Engineering (P) Ltd  
Director



Shailendra Pratap Singh  
CEO & Director