



Tanques Criogénicos Verticales para Nitrógeno, Oxígeno y Argón

Cryogenic Storage Tanks for Nitrogen, Oxygen and Argon



| CAPACIDAD NOMINAL / NOMINAL CAPACITY | | | | | DIMENSIONES EXTERIORES / DIMENSIONAL INFORMATION | | | | | | |
|--------------------------------------|---------------------------------|--------------|------------------------------|--------------|--|---------|--------------------------------|---------|----------------------------|---------|--|
| Modelo Type | Volumen Total Gross Capacity | | Volumen Neto Net Capacity | | Diámetro Exterior Outside Diameter | | Altura Total Overall Height | | Peso Vacío Empty Weight | | % Evaporación % / día Daily Evaporation Rate |
| | Gal / Gall | Lts / Liters | Gal / Gall | Lts / Liters | Pulg / In | mm / mm | Pulg / In | mm / mm | Lbs / Pounds | Kg / Kg | |
| 1500 | 1,612 | 6,101 | 1,531 | 5,796 | 74.5 | 1,892 | 194 | 4,928 | 7,597 | 3,446 | 0.35 LOX |
| 3000 | 3,200 | 12,112 | 3,040 | 11,506 | 96 | 2,438 | 206 | 5,232 | 11,582 | 5,376 | 0.35 LOX |
| 6000 | 6,015 | 22,767 | 5,774 | 21,856 | 96 | 2,438 | 331 | 8,407 | 18,349 | 8,323 | 0.25 LOX |
| 9000 | 9,385 | 35,522 | 9,010 | 34,101 | 124 | 3,150 | 326 | 8,280 | 25,113 | 11,391 | 0.20 LOX |
| 11000 | 11,391 | 43,115 | 10,935 | 41,390 | 124 | 3,150 | 380 | 9,652 | 29,101 | 13,056 | 0.20 LOX |
| 13000 | 13,499 | 51,094 | 13,094 | 49,561 | 124 | 3,150 | 436 | 11,074 | 32,699 | 14,832 | 0.18 LOX |
| 15000 | 15,601 | 59,050 | 15,133 | 57,278 | 124 | 3,150 | 494 | 12,548 | 39,463 | 17,695 | 0.18 LOX |

MAWP = 250 PSI 17.58 Kg/cm²
MDMT = -320 °F -195.6 °C

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Especificaciones Generales

General Specifications

CODIGO DE DISEÑO

Tanque interno diseñado de acuerdo a Código ASME Sección VIII, Div.1, última edición, y al Apéndice 44 "Cold stretching", Estampa "U".

Tanque Exterior diseñado de acuerdo a CGA-341, última edición (tanque no estampado).

MATERIALES

Tanque Interior : Acero Inoxidable, SA-240-T304, radiografiado 100%.
 Tubería Interior : Acero inoxidable, SA-312-304.
 Tanque Exterior : Acero al carbón, SA-36 / SA-285 C.
 Soportes : Acero al carbón, SA-36.
 Orejas de Izaje : Acero al carbón, SA-36.
 Tubería Exterior : Tubería de acero inoxidable, SA-312-304.
 Válvulas : En bronce, acero inoxidable
 Regulador de presión : Bronce.
 Elevo de presión : Vaporizador de Aluminio.

SISTEMA DE AISLAMIENTO

Super Aislamiento y vacío en espacio anular.

DESIGN

Inner Vessel designed according to ASME Code Sección VIII, latest Edition, and Appendix 44 "Cold stretching", "U" Stamp

Outer jacket designed according to CGA-341 Pamphlet, latest edition (outer jacket non-stamped)

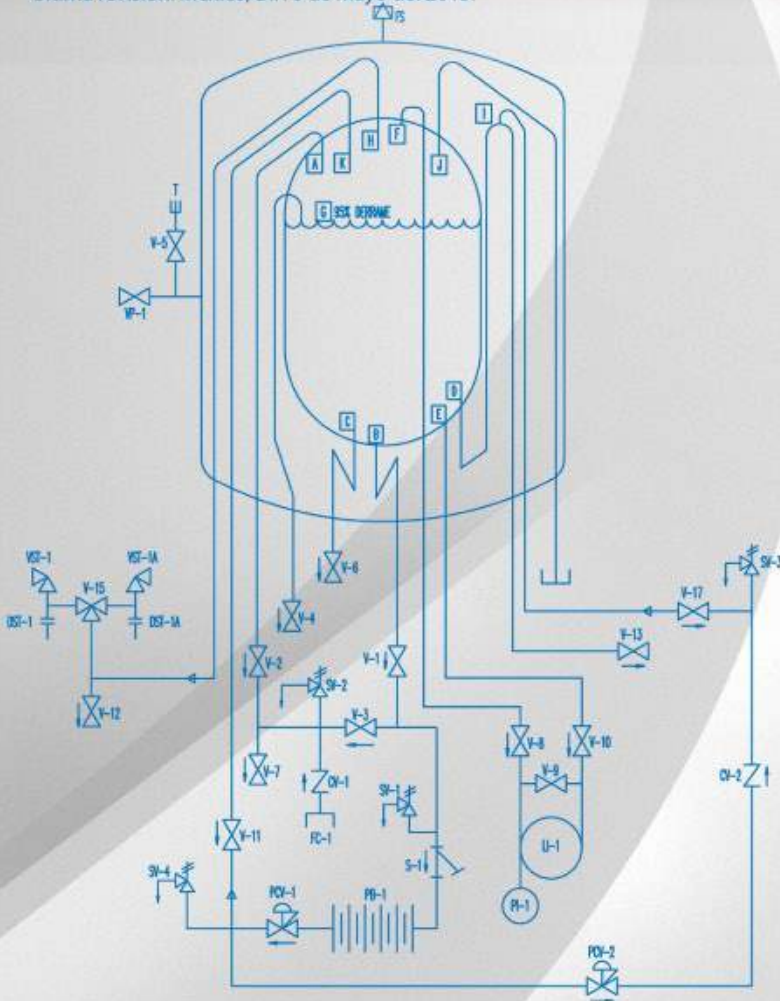
MATERIALS

Inner Vessel : Stainless steel, SA-240-T304, X-ray 100%.
 Inner Pipe : Stainless steel, SA-312-304.
 Outer Jacket : Carbon Steel, SA-36 / SA-285 C.
 Supports : Carbon Steel, SA-36.
 Lifting Lug : Carbon Steel, SA-36.
 External Piping : Stainless Steel, SA-312-304.
 Valves : Bronze, Stainless steel.
 Pressure Regulator : Bronze.
 Pressure Build-Up : Aluminium Vaporizer .

INSULATION SYSTEM

Multi-layer Insulation, and full vacuum.

Última revisión: México, D.F. 6 de Mayo del 2015.



Last Revision: Mexico, D.F. May 6th, 2015.

| ITEM | DESCRIPTION | QTY | SERVICE |
|----------|--|-----|---|
| FC-1 | BRASS, PER CGA PAMPHLET V-6 | 01 | FILL CONNECTION |
| X10 | GLOBE VALVE ANGLE TYPE, 1 1/2" NPS | 01 | TOP FILL VALVE |
| X10A | GLOBE VALVE, 1 1/2" NPS | 01 | TOP FILL VALVE |
| PSV10/11 | THERMAL EXPANSION RELIEF VALVE, 1/4"NPS | 02 | FILL THERMAL RELIEF VALVE |
| X11 | GLOBE VALVE ANGLE TYPE, 1 1/2" NPS | 01 | BOTTOM FILL VALVE |
| X11A | GLOBE VALVE, 1 1/2"NPS | 01 | BOTTOM FILL VALVE |
| PSV12 | THERMAL EXPANSION RELIEF VALVE, 1/4"NPS | 01 | FILL THERMAL RELIEF VALVE |
| V12 | GLOBE VALVE, 1/2" NPS | 01 | FILL LINE PURGE VALVE |
| X42 | GLOBE VALVE, 1 1/2" NPS ≤ 6000 GAL GLOBE VALVE, 2" NPS > 6000 GAL | 01 | AUXILIAR LIQUID VALVE |
| X14 | GLOBE VALVE, 1" NPS ≤ 6000 GAL GLOBE VALVE, 1 1/2" NPS > 6000 GAL | 01 | PRODUCT SUPPLY VALVE |
| H26 | NEEDLE VALVE, 1/4" NPS | 01 | CONTENT GAUGE ISOLATION VALVE |
| L-H | NEEDLE VALVE, 1/4" NPS | 01 | EQUALIZER VALVE |
| L25 | NEEDLE VALVE, 1/4" NPS | 01 | CONTENT GAUGE ISOLATION VALVE |
| LI-1 | DIFFERENTIAL PRESSURE LEVEL INDICATOR | 01 | LEVEL INDICATOR, 6" DIAM. FACE |
| PI-1 | PRESSURE INDICATOR, 2" FACE, 1/4" NPT | 01 | PRESSURE INDICATOR |
| V18 | GLOBE VALVE, 1" NPS | 01 | TANK BLOWDOWN VALVE |
| X22 | MULTIPOR DIVERTER VALVE, 1" NPS | 01 | DUAL SAFETY |
| PSV23 | PRESSURE RELIEF VALVE, 3/4" X 1" NPS | 01 | INNER VESSEL PRESSURE RELIEF |
| PSE23 | RUPTURE DISK, 3/4", SET 375 PSI AT 68F | 01 | INNER VESSEL RUPTURE DISK |
| V23 | NEEDLE VALVE, 1/4" NPS | 01 | RELIEF LINE PURGE VALVE |
| PSV24 | PRESSURE RELIEF VALVE, 3/4" X 1" NPS | 01 | INNER VESSEL PRESSURE RELIEF |
| PSE24 | RUPTURE DISK, 3/4", SET 375 PSI AT 68F | 01 | INNER VESSEL RUPTURE DISK |
| V24 | NEEDLE VALVE, 1/4" NPS | 01 | RELIEF LINE PURGE VALVE |
| X31 | GLOBE VALVE, 1/2" NPS | 01 | ECONOMIZER ISOLATION VALVE |
| V31 | PURGE VALVE, 1/4" NPS | 01 | LINE BLOCK PURGE ECONOMIZER VALVE |
| PSV31 | THERMAL EXPANSION RELIEF VALVE, 1/4"NPS | 01 | ECONOMIZER THERMAL RELIEF VALVE |
| Y17 | CHECK VALVE, 1/2" NPS | 01 | ECONOMIZER LINE CHECK VALVE |
| PCV17 | BACK PRESSURE REGULATOR, 1/2" NPS | 01 | ECONOMIZER LINE BACK PRESSURE REGULATOR |
| PCV13 | PRESSURE REGULATOR, 1/2" NPS | 01 | PB LINE, PRESSURE REGULATOR |
| X13 | GLOBE VALVE, 1/2" NPS | 01 | PRESSURE BUILDING ISOLATION VALVE |
| STR13 | STRAINER, 1/2" NPS, TYPE "Y" | 01 | PRESSURE BUILDING STRAINER |
| PSV13/A | THERMAL EXPANSION RELIEF VALVE, 1/4"NPS | 02 | PB THERMAL RELIEF VALVE |
| V13 | PURGE VALVE, 1/4" NPS | 01 | LINE BLOCK PURGE PB VALVE |
| PB-1 | PRESSURE BUILDING COIL, ALUMINIUM | 01 | PRUSSURE BUILD UP |
| X12 | GLOBE VALVE, 1/2" NPS | 01 | PRESSURE BUILDING ISOLATION VALVE |
| X43 | GLOBE VALVE, 1/2" NPS < 6000 GAL GLOBE VALVE, 1" NPS > 6000 GAL | 01 | PUMP VAPOR RETURN VALVE |
| X19 | DIAPHRAGM VALVE, 1 1/2" NPS | 01 | VACUUM PUMP OUT VALVE |
| X20 | BELLOWS GLOBE VALVE, 1/8" NPS | 01 | VACUUM PROBE ISOLATION VALVE |
| VR-1 | VACUUM PROBE | 01 | VACUUM PROBE |
| PSE19 | RELIEF DEVICE | 01 | VACUUM JACKET RELIEF DEVICE |
| Y10 | CHECK VALVE, 1 1/2" NPS | 01 | FILL CONNECTION |
| X21 | GLOBE VALVE, 1/2" NPS | 01 | FULL TRYCOCK |
| C-1 | AUXILIAR LIQUID CONNECTION | 01 | AUXILIAR LIQUID CONNECTION |
| C-2 | AUXILIAR GAS CONNECTION | 01 | AUXILIAR GAS CONNECTION |