

VERTICAL CRYOGENIC STORAGE TANK

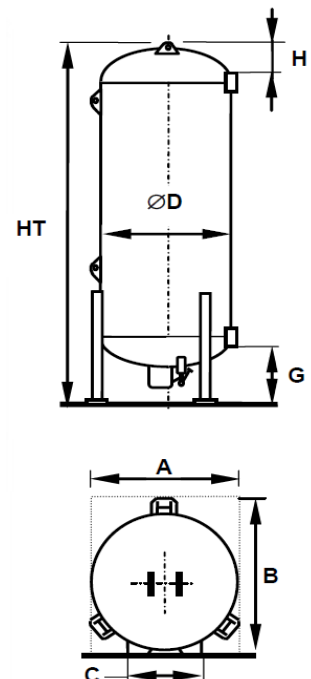
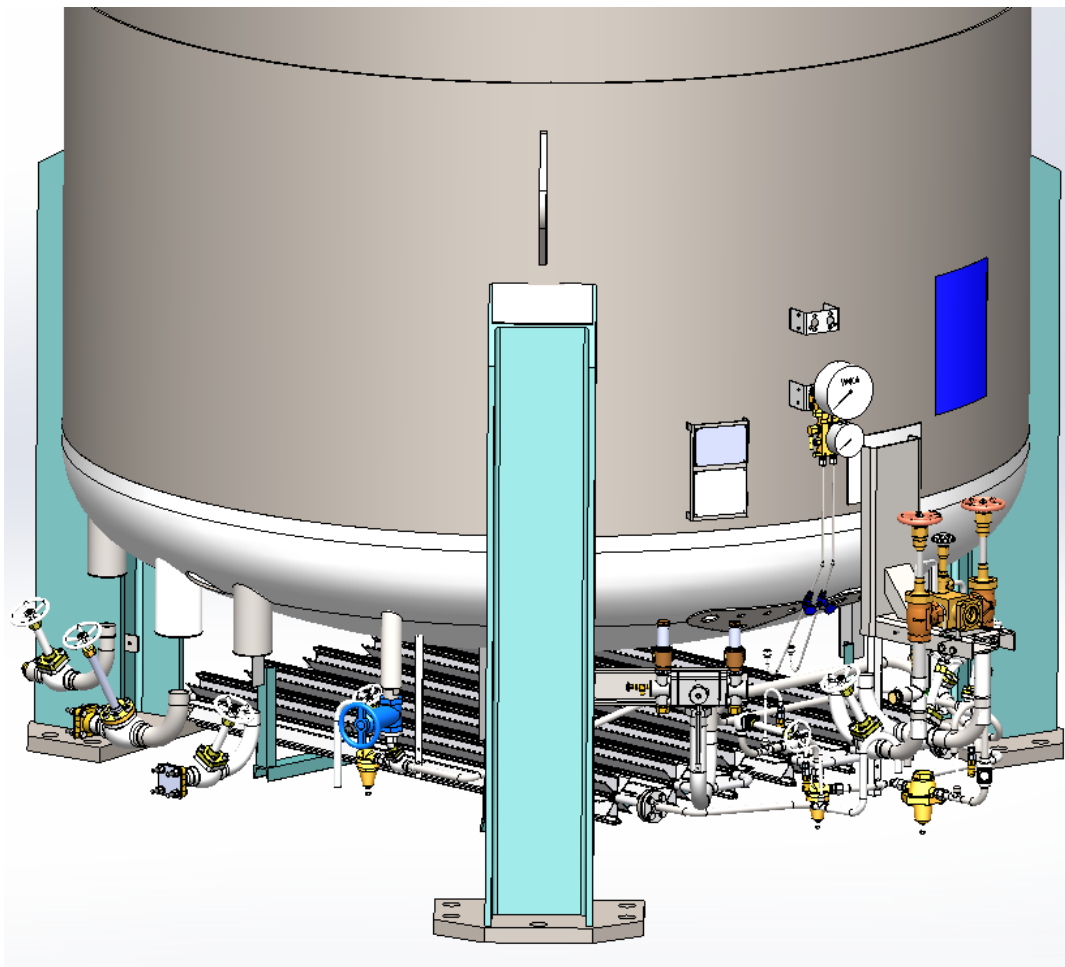
USA STOCK / AIRGAS



CRYOLOR ASIA PACIFIC introduces the latest generation vacuum insulated cryogenic tank, the Céline 3, for Liquid Nitrogen, Oxygen or Argon service. Available in a range of sizes with a Maximum Allowable Working Pressure of **250 psig** (≈ 17 bar), Céline 3 is designed in accordance with **ASME Section VIII Division 1 + Mandatory appendix-44 with ASME certification mark and 'U' designator**.

Moreover, the support legs used in the Céline 3 range are calculated **to resist high winds and earthquakes according to IBC code Zone 0 to Zone 4**.

- **A maximum use of Stainless steel:** Only Céline 3 uses as much stainless steel in its construction to guarantee the lowest life cycle costs.
- **Components selected for their operational reliability** - mono-bloc pressure building economizer - regulator, safety system with dual relief valves and bursting discs as standard, aluminium star fin pressure building unit.
- **Reduced overall operational costs** - optimized pipe work layout with fewer connections minimize potential leaks and facilitate operation & servicing, filling assembly isolation valves, proven painting techniques guarantee years of problem free operation.

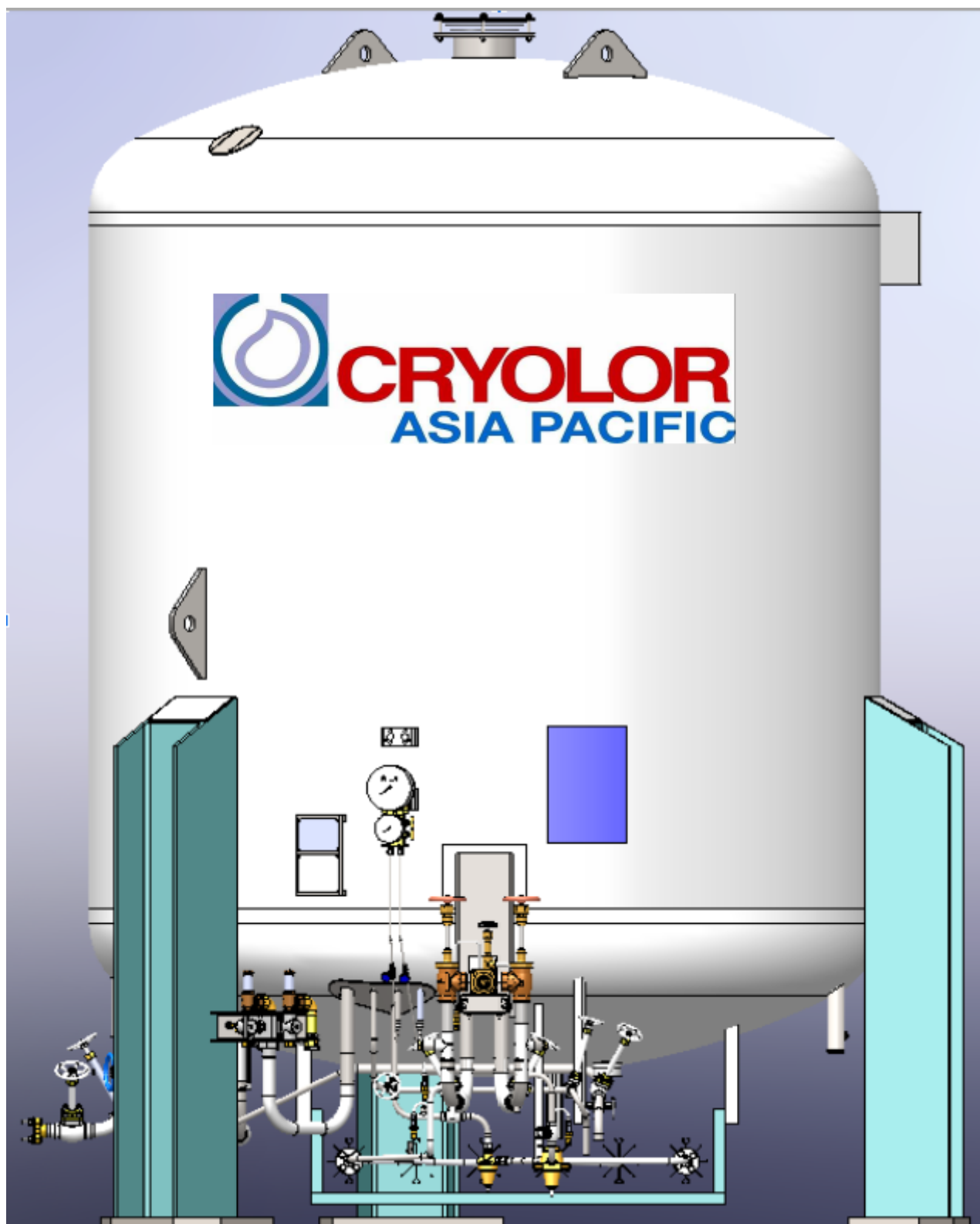


Disclaimer: The image shown above is just a representation of the tank, The actual product may vary on its appearance and size.

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TANK VIEW



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TYPE	CA 77 (21 KUSG)	
Gross capacity (liters / USG) *	78 710	20 793
Net capacity (liters / USG) *	74 775	19 753
Boil off Rate O2 (%)	0.19	
Empty weight (kg / lbs)	28 500	62 832
Weight full Nitrogen (kg / lbs) - LIN	88 918	196 030
Weight full Oxygen (kg / lbs) - LOX	113 818	250 925
Weight full Argon (kg / lbs) - LAR	132 661	292 467
Continuous flow rate For 8 Hours at 116 psi (SCFH) - LIN	37 400	
Ø Diameter (in / feet)	111.8 / 9.3	
HT height (in / feet)	730.3	60.9
H (in / feet)	28.1 / 2.35	
G (in / feet)	43.3 / 3.6	
A (in / feet)	118.1 / 9.8	
B (in / feet)	131.9 / 11	
C (in / feet)	60.2 / 5	

Note:

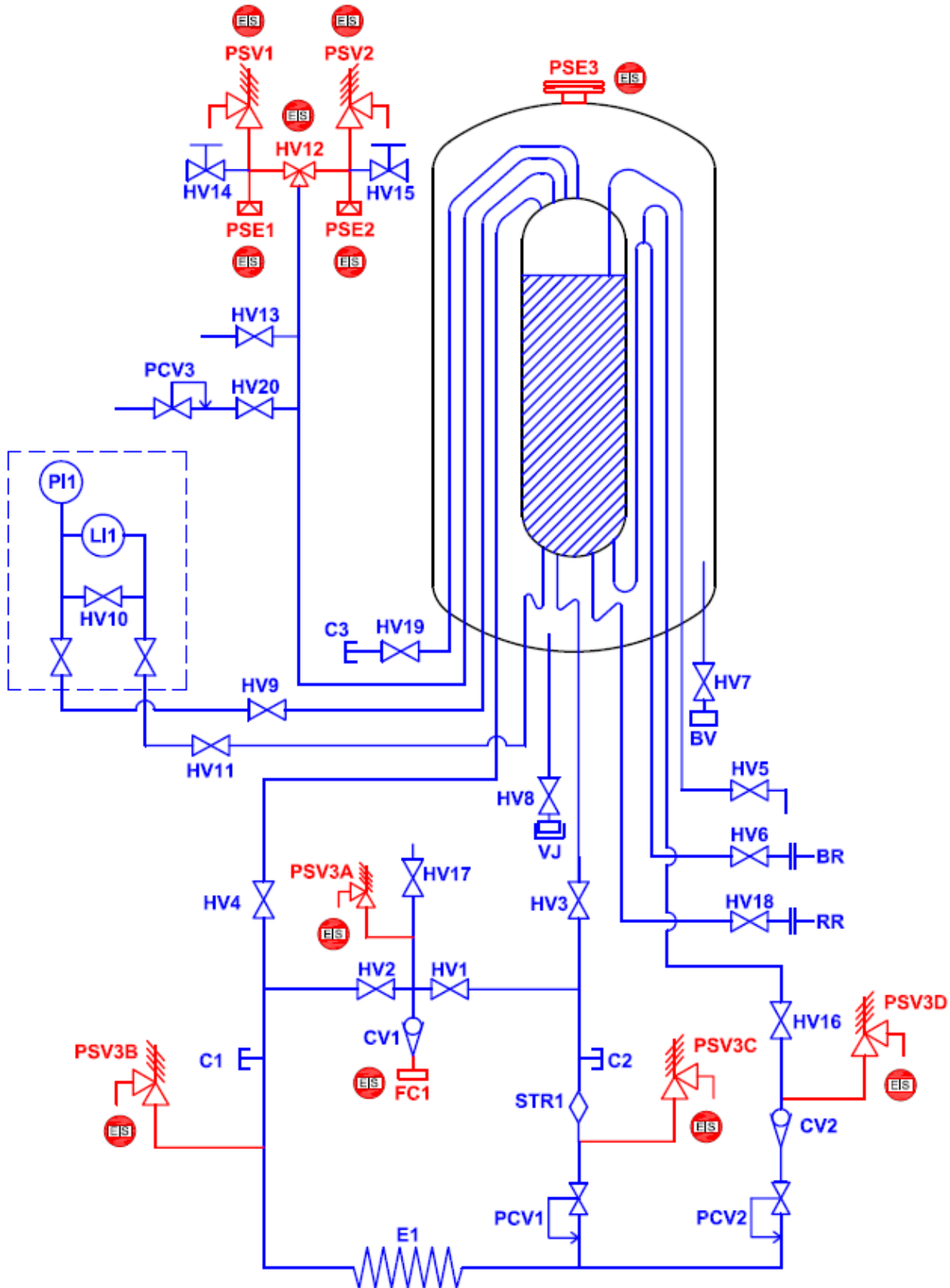
- * Manufacturing tolerance : $\pm 4\%$
Trycock level is 95%.

The density of LIN / LOX / LAR is 808 / 1141 / 1393 Kg/m³ respectively, and has been considered in the weight calculation.

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FLOW DIAGRAM



RED : EIS (Elements Important for Safety)

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NOMENCLATURE (HEROSE valves with REGO fill cluster)

REFERENCE	DESCRIPTION	SIZE	VALVE	
			MANUFACTURER	MODEL NUMBER
BV	Vacuum pump down connection	-	-	-
BR	Vaporizer connection	1 1/2"	-	Groove type Muller flange
C1, C2	Connections for additional PBU	1"	-	Threaded plug
C3	Connection of vapor return	1 1/2"	-	Threaded plug
FC1	Filling coupling	1 1/2"	REGO	CFM00004D
CV1	Filling check valve	1 1/2"		
HV1	Filling liquid	1 1/2"		
HV2	Filling gas	1 1/2"		
HV17	Purge valve	1/2"		
HV3	Doubling filling liquid	1 1/2"	HEROSE	01321.4048.0014
HV4	Doubling filling gas	1 1/2"	HEROSE	01321.4048.0014
HV5	Full trycock	1/2"	HEROSE	01321.1521.0014
HV6	Gas use	1 1/2"	HEROSE	01321.4048.0014
HV7	Vacuum isolation valve	1 1/2	SAUNDERS	1.5"- 2205-S-11R-E2
HV8	Vacuum probe isolation Valve	-	HOKE	4551-F2B-1/8"
HV9	Level gauge manifold, Gas	-	SWAGELOK / PARKER	SS-1RS4-SC11 / 4A-V4LR-SS-C3
HV11	Level gauge manifold, Liquid	-		
HV12	3 way diverter	1 1/4"	HEROSE	06510-3210-6227
HV13	Gas purge	1"	HEROSE	01321.2533.0014
HV14 & HV15	Vent valve for safety tree	1/4"	SWAGELOK / REGO	B-4JNA2-SC11 / CMM250A
HV16	Economizer isolation valve	1/2"	HEROSE	01321.1521.0014
HV18	Liquid use	2"	HEROSE	01321.5060.0014
HV19	Vapor Return line	1 1/2"	HEROSE	01321.4048.0014

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REFERENCE	DESCRIPTION	SIZE	VALVE	
			MANUFACTURER	MODEL NUMBER
HV20	Ext. Economizer isolation valve	1/2"	HEROSE	01321.1521.0014
PSE1, PSE2	Vessel bursting disk	1"	BS&B	Plug Type
PSE3	Annular space pressure relief	-	CRYOLOR	Lift plate
PSV1 & PSV2	Vessel safety valve	1"	HEROSE	06388-1510-5000
PSV3A-PSV3D	Thermal expansion valve	-	GENERANT	CRB-250B-K-580
PCV1	Pressure build regulator	1/2"	CASH ACME	Type B.
PCV2	Economiser regulator	1/2"	CASH ACME	Type FRM2.
PCV3	Back pressure regulator to atmosphere	1/2"	CASH ACME	Type FRM2.
STR1	Strainer	1/2"	HEROSE	08414.1521.0004
CV2	Economizer check valve	1/2"	HEROSE	05416.1521.0004
RR	Liquid use connection	2"	-	Groove type Muller flange
VJ	Vacuum gauge	-	TELEDYNE HASTINGS	DV-6R
E1	Pressure build-up vaporizer	-	ALUMINIUM FIN	37400 SCFH
LI1	Liquid level gauge	-	WIKA	MODEL: 712.15.160
PI1	Pressure gauge			
HV10	Level gauge manifold, Equalizer			
OPTIONAL				
HV18	Liquid use	* 3"	HEROSE	01321.8088.0014

Note:

- * 3" Liquid withdrawal is not a standard supply, it will be made to order.
- This technical specification is purely an indication, It can't be considered as a contractual document.
- This technical specification is subject to change without prior intimation.