

VERTICAL CRYOGENIC STORAGE TANK USA STOCK

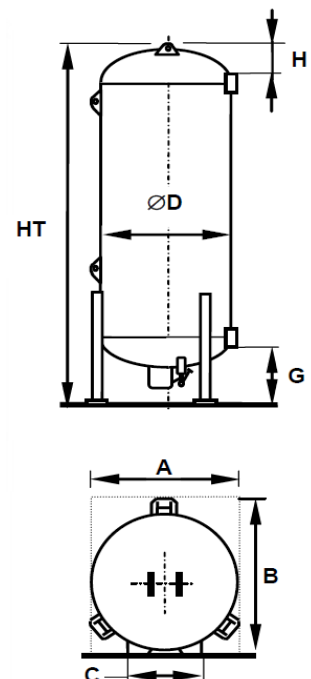
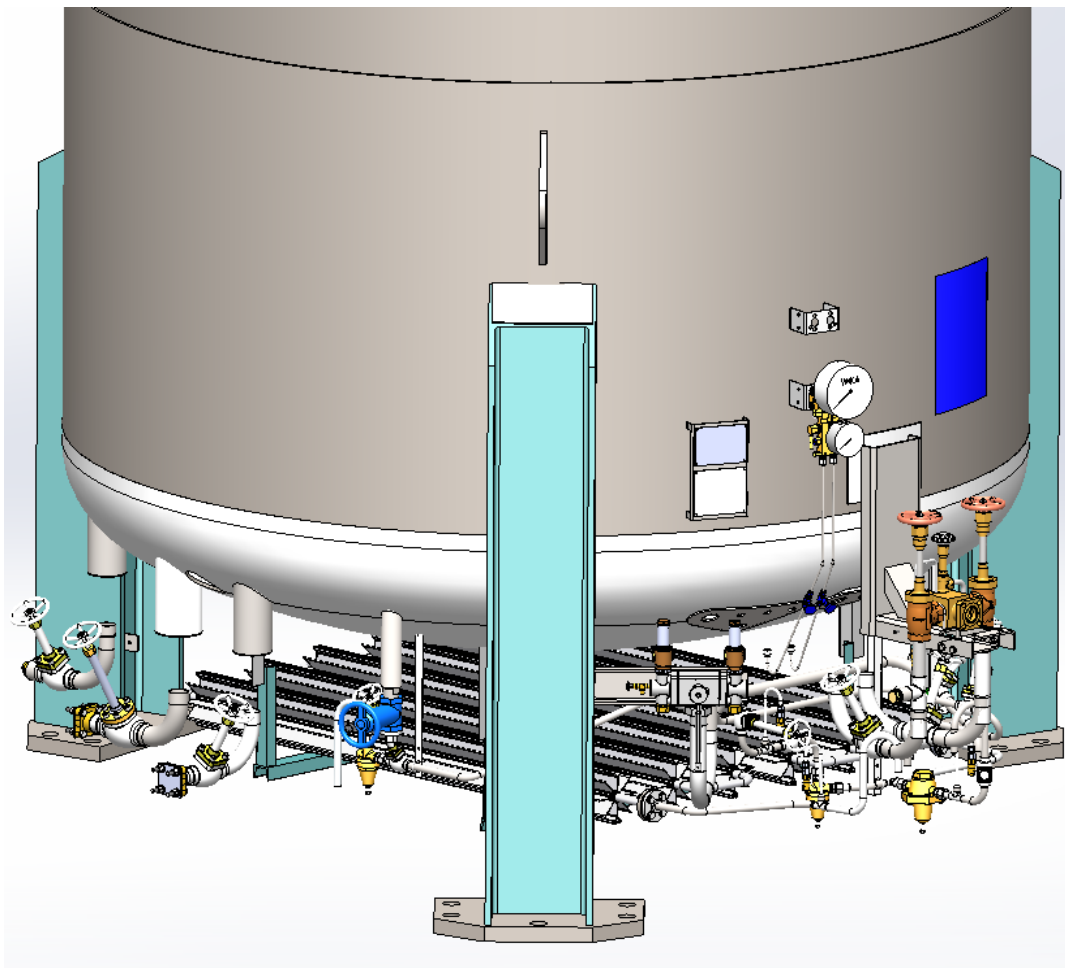


CRYOLOR ASIA PACIFIC introduces the latest generation vacuum insulated cryogenic tank, the Céline 3, for Liquid Nitrogen, Oxygen or Argon service. Available in a range of sizes with a Maximum Allowable Working Pressure of **250 psig** (≈ 17 bar), Céline 3 is designed in accordance with **ASME Section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

Moreover, the support legs used in the Céline 3 range are calculated to resist high winds and earthquakes according to IBC code with Ss 2.0 and wind speed 190 mph.

- **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.

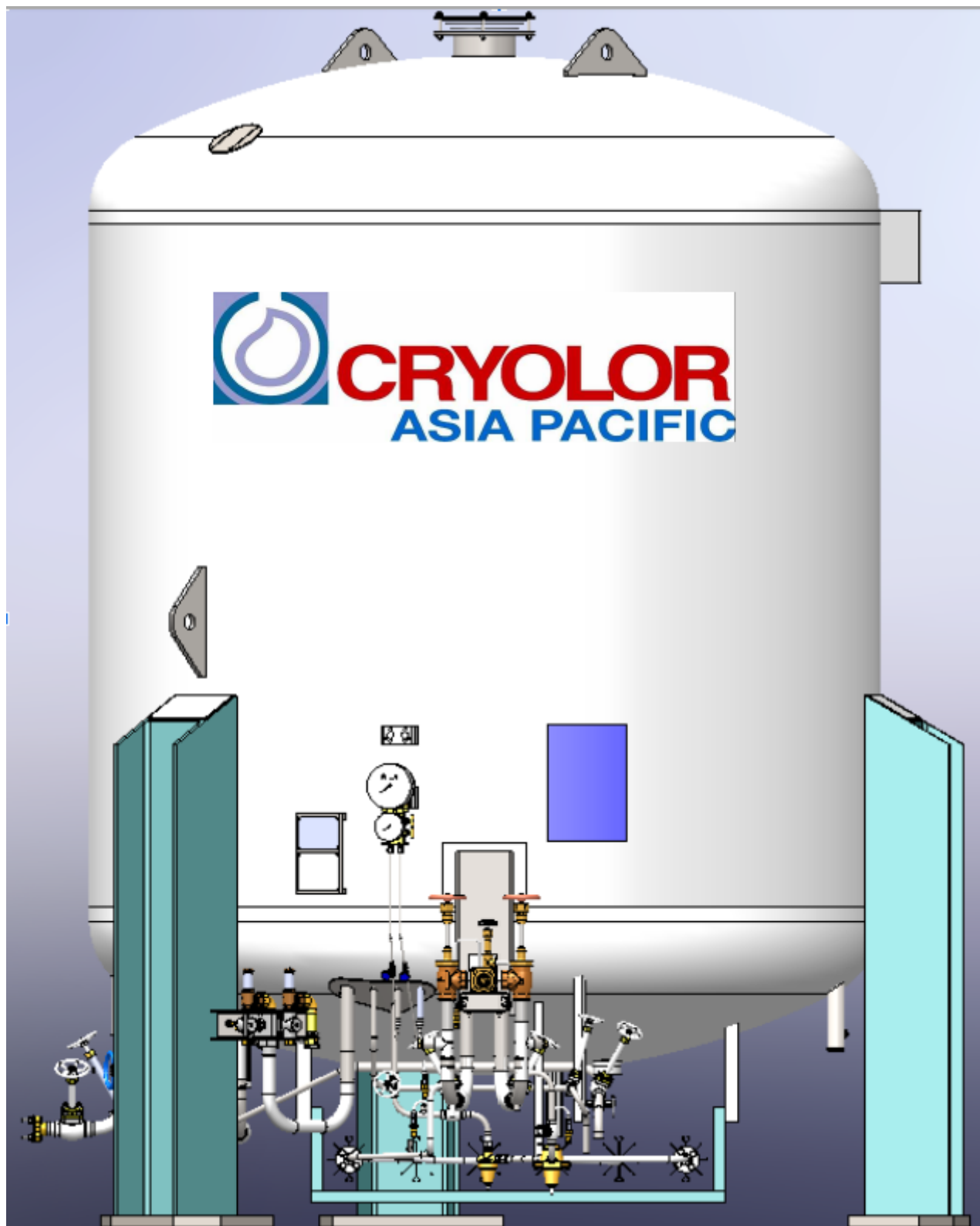


Disclaimer: The image shown above is just a representation of the tank, The actual product may vary on its appearance and size.

VERTICAL CRYOGENIC STORAGE TANK USA STOCK



TANK VIEW



VERTICAL CRYOGENIC STORAGE TANK

USA STOCK



TYPE	CA06 (1.5 KUSG)		CA11 (3 KUSG)		CA21 (6 KUSG)		CA33 (5 KUSG)	
Gross capacity (liters / USG) *	6150	1625	10540	2784	23660	6250	34340	9072
Net capacity (liters / USG) *	5843	1544	10013	2645	22477	5938	32623	8618
Boil off Rate O2 (%)	0.28		0.26		0.22		0.18	
Empty weight (kg / lbs)	4200	9259	5600	12346	10200	22487	14400	31747
Weight full Nitrogen (kg / lbs) - LIN	8921	19668	13691	30182	28361	62526	40759	89859
Weight full Oxygen (kg / lbs) - LOX	10867	23957	17025	37533	35846	79027	51623	113809
Weight full Argon (kg / lbs) - LAR	12198	26892	19306	42562	40967	90316	59054	130193
Continuous flow rate For 8 Hours at 116 psi (SCFH) - LIN	17650		17650		17650		35300	
∅ Diameter (in / feet)	86.6 / 7.2						111.8 / 9.3	
HT height (in / feet)	169.29	14.10	222.44	18.53	394.09	32.83	350.39	29.19
H (in / feet)	20.4 / 1.7						25.6 / 2.2	
G (in / feet)	41.5 / 3.5						43.3 / 3.6	
A (in / feet)	90.5 / 7.5						120.08 / 10	
B (in / feet)	98.4 / 8.2						131.9 / 11	
C (in / feet)	49.0 / 4.1						60.2 / 5	

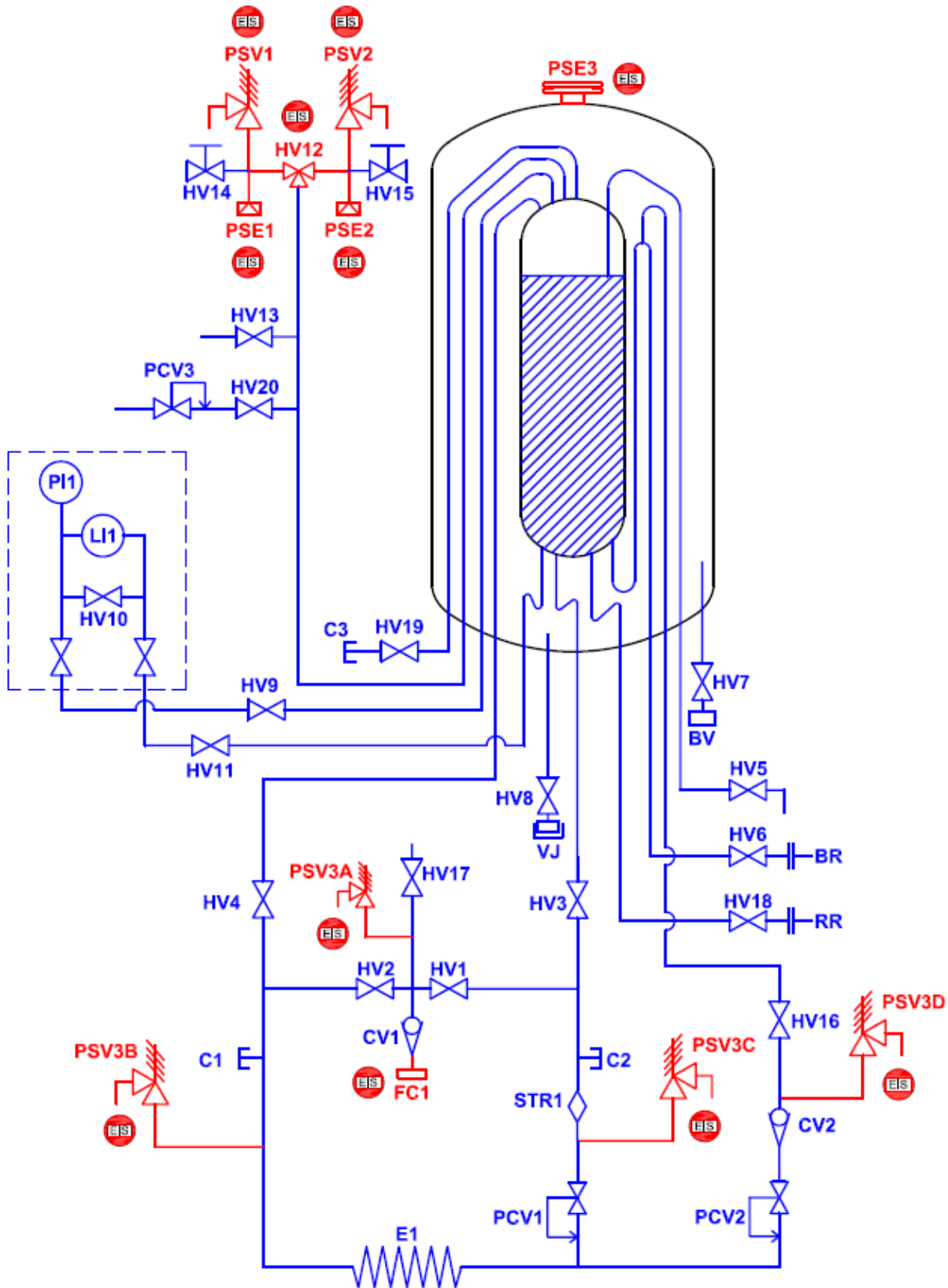
TYPE	CA41 (11 KUSG)		CA47 (13 KUSG)		CA53 (15 KUSG)		CA63 (17 KUSG)	
Gross capacity (liters / USG) *	41300	10910	47580	12570	56270	14865	63750	16841
Net capacity (liters / USG) *	39235	10365	45201	11941	53457	14122	60563	15999
Boil off Rate O2 (%)	0.16		0.15		0.15		0.13	
Empty weight (kg / lbs)	16700	36817	19100	42108	21500	47399	23700	52250
Weight full Nitrogen (kg / lbs) - LIN	48402	106708	55622	122626	64693	142624	72635	160133
Weight full Oxygen (kg / lbs) - LOX	61467	135512	70674	155810	82494	181869	92802	204594
Weight full Argon (kg / lbs) - LAR	70405	155216	80971	178511	94672	208716	106599	235010
Continuous flow rate For 8 Hours at 116 psi (SCFH) - LIN	35300							
∅ Diameter (in / feet)	111.8 / 9.3							
HT height (in / feet)	409.45	34.11	456.69	38.04	525.59	43.78	584.65	48.70
H (in / feet)	25.6 / 2.2						144.1 / 12	
G (in / feet)	43.3 / 3.6							
A (in / feet)	120.08 / 10							
B (in / feet)	131.9 / 11							
C (in / feet)	60.2 / 5							

* Manufacturing tolerance : ± 4%
Note : 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.

VERTICAL CRYOGENIC STORAGE TANK USA STOCK

FLOW DIAGRAM



RED : EIS (Elements Important for Safety)

VERTICAL CRYOGENIC STORAGE TANK

USA STOCK



NOMENCLATURE (HEROSE valves with REGO fill cluster)

REFERENCE	DESCRIPTION	SIZE		VALVE	
		CA06 - CA11	CA21 - CA63	MANUFACTURER	MODEL NUMBER
BV	Vacuum pump down connection	-		-	-
BR	Vaporizer connection	1"	1 1/2"	-	Groove type Muller flange
C1, C2	Connections for additional PBU	1"		-	Threaded plug
C3	Connection of vapor return	1"	1 1/2"	-	Threaded plug
FC1	Filling coupling	1"	1 1/2"	REGO	1" : CFM00002D 1 1/2" : CFM00004D
CV1	Filling check valve	1"	1 1/2"		
HV1	Filling liquid	1"	1 1/2"		
HV2	Filling gas	1"	1 1/2"		
HV17	Purge valve	1/2"			
HV3	Doubling filling liquid	1"	1 1/2"	HEROSE	1" : 01321.2533.0014 1 1/2" : 01321.4048.0014
HV4	Doubling filling gas	1"	1 1/2"	HEROSE	1" : 01321.2533.0014 1 1/2" : 01321.4048.0014
HV5	Full trycock	1/2"		HEROSE	01321.1521.0014
HV6	Gas use	1"	1 1/2"	HEROSE	1": 01321.2533.0014 1 1/2": 01321.4048.0014
HV7	Vacuum isolation valve	1 1/2"		SAUNDERS	1.5"- 2205-S-11R-CV
HV8	Vacuum probe isolation Valve	-		HOKE	4551-F2B-1/8"
HV9	Level gauge manifold, Gas	-		SWAGELOK	SS-1RS4-SC11
HV11	Level gauge manifold, Liquid	-		SWAGELOK	SS-1RS4-SC11
HV12	3 way diverter	3/4"	1 1/4"	HEROSE	3/4": 06510-2040-6426 1 1/4": 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	1 1/2"	2"	HEROSE	1 1/2" : 01321.4048.0014 2" : 01321.5060.0024
HV19	Vapor Return line	1"	1 1/2"	HEROSE	1" : 01321.2533.0014 1 1/2" : 01321.4048.0014

VERTICAL CRYOGENIC STORAGE TANK

USA STOCK



NOMENCLATURE (HEROSE valves with REGO fill cluster)

REFERENCE	DESCRIPTION	SIZE		VALVE	
		CA06 - CA11	CA21 - CA63	MANUFACTURER	MODEL NUMBER
HV20	Ext. Economizer isolation valve	1/2"		HEROSE	01321.1521.0014
PSE1, PSE2	Vessel bursting disk	1/2"	1"	BS&B	Plug Type
PSE3	Annular space pressure relief	-		CRYOLOR	Lift plate
PSV1 & PSV2	Vessel safety valve	1/2"	1"	HEROSE	1/2" : 06388-1004-5000 1" : 06388-1510-5000
PSV3A-PSV3D	Thermal expansion valve	-		GENERANT	CRB-250B-K-580
PCV1	Pressure build regulator	1/2"		CASH ACME	Type B; Set at 116 psi
PCV2	Economiser regulator	1/2"		CASH ACME	Type FRM2; Set at 123 psi
PCV3	Back pressure regulator to atmosphere	1/2"		CASH ACME	Type FRM2; Set at 232 psi
STR1	Strainer	1/2"		HEROSE	08414.1521.0004
CV2	Economizer check valve	1/2"		HEROSE	05416.1521.0004
RR	Liquid use connection	1 1/2"	2"	-	Groove type Muller flange
VJ	Vacuum gauge	-		TELEDYNE HASTINGS	DV-6R
E1	Pressure build-up vaporizer	-	-	ALUMINIUM FIN	CA06-CA21 KL : 17650SCFH CA33-CA63 KL : 35300SCFH
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.