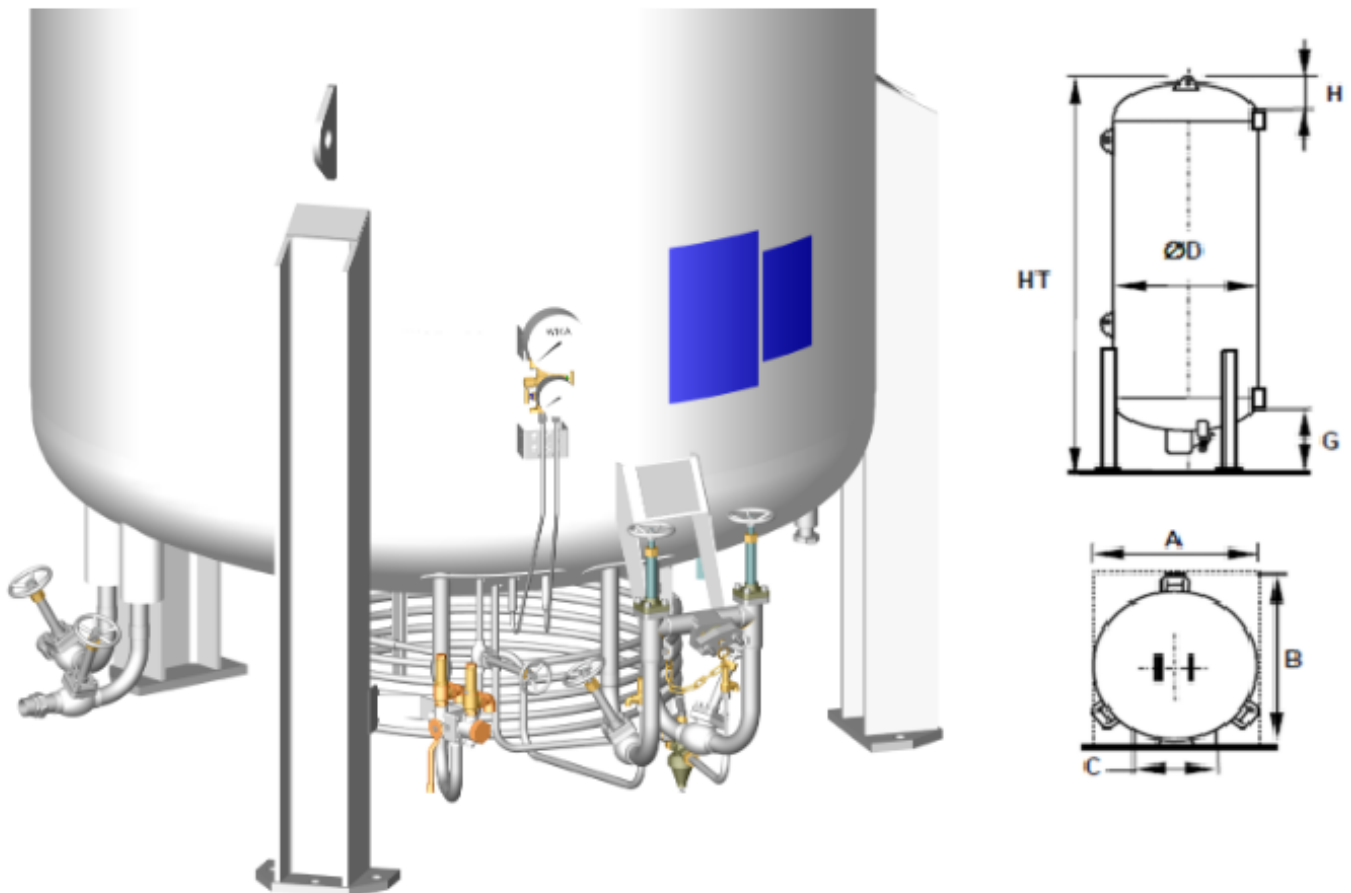


(High Pressure)

CRYOLOR ASIA PACIFIC introduces the latest generation vacuum insulated cryogenic tank, the **RHPA Céline 3**, for Liquid Nitrogen, Oxygen or Argon service. Available in a range of sizes with a Maximum Allowable Working Pressure of **390 psig** (≈ 27 bar) & **540 psig** (≈ 37 bar), **RHPA Céline 3** is designed in accordance with **ASME Section VIII Division 1 with 'U' stamp**.

Moreover, the support legs used in the Céline 3 range are calculated **to resist high winds and earthquakes (IBC code)**

- **The widest range of standard options:** Introduced by CRYOLOR, our innovative modular design using prefabricated piping modules, allows the basic model to be customized to satisfy virtually all possible technical requirements.
- **A maximum use of Stainless steel:** Only RHPA Céline 3 uses as much stainless in its construction to guarantee the lowest life cycle costs - valves, interconnecting piping, pressure raising coil and all welded connections are stainless steel.
- **Components selected for their operational reliability:** Mono-bloc pressure building economizer - regulator, safety system with dual relief valves and burst discs as standard, stainless steel valves.
- **Reduced overall operational costs:** Optimized pipework layout with fewer connections minimize potential leaks and facilitate operation & servicing, filling assembly isolation valves, proven painting techniques guarantee years of carefree operation.



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

(High Pressure)

27 bar (390 psi) version:

TYPE	RHPA06 (1.5 KUSG)		RHPA11 (3 KUSG)		RHPA14 (4 KUSG)		RHPA19 (5 KUSG)		RHPA21 (6 KUSG)	
Gross capacity (liters / USG) *	6150	1625	10540	2784	14910	3939	19290	5096	23660	6250
Net capacity (liters / USG) *	5535	1462	9486	2506	13419	3545	17361	4586	21294	5625
Boil off Rate O2 (%)	0.28		0.26		0.24		0.23		0.22	
Empty weight (kg / lbs)	4850	10692	6550	14440	8550	18850	10400	22928	12200	26896
Weight full Nitrogen (kg / lbs) - LIN	9322	20552	14215	31338	19393	42753	24428	53854	29406	64828
Weight full Oxygen (kg / lbs) - LOX	11165	24616	17374	38302	23861	52605	30209	66599	36496	80461
Weight full Argon (kg / lbs) - LAR	12560	27691	19764	43572	27243	60060	34584	76244	41863	92291
Continuous flow rate for 8 Hours at 16 bar (Nm3/h) - LIN	200		200		200		200		400	
∅ Diameter (mm / feet)	2200 / 7.2									
HT height (mm / feet)	4200	13.8	5200	17.1	7660	25.1	8600	28.2	10235	33.6
H (mm / feet)	520 / 1.7									
G (mm / feet)	1055 / 3.5									
A (mm / feet)	2300 / 7.5									
B (mm / feet)	2500 / 8.2									
C (mm / feet)	1245 / 4.1									

TYPE	RHPA27 (7.5 KUSG)		RHPA33 (9 KUSG)		RHPA41 (11 KUSG)		RHPA47 (13 KUSG)		RHPA53 (15 KUSG)	
Gross capacity (liters / USG) *	28040	7407	34340	9072	41300	10910	47530	12556	56270	14865
Net capacity (liters / USG) *	25236	6667	30906	8165	37170	9819	42777	11300	50643	13378
Boil off Rate O2 (%)	0.20		0.18		0.16		0.15		0.15	
Empty weight (kg / lbs)	13900	30644	17000	37479	19700	43431	22350	49273	25500	56218
Weight full Nitrogen (kg / lbs) - LIN	34291	75598	41972	92533	49733	109643	56914	125473	66420	146430
Weight full Oxygen (kg / lbs) - LOX	42694	94125	52264	115222	62111	136931	71159	156878	83284	183609
Weight full Argon (kg / lbs) - LAR	49054	108145	60052	132392	71478	157582	81938	180643	96046	211745
Continuous flow rate for 8 Hours at 16 bar (Nm3/h) - LIN	400		400		400		400		400	
∅ Diameter (mm / feet)	2200 / 7.2		2840 / 9.3							
HT height (mm / feet)	11740	38.52	8850	29.04	10510	34.48	11543	37.87	13510	44.32
H (mm / feet)	520 / 1.7		650 / 2.2							
G (mm / feet)	1055 / 3.5		1100 / 3.6							
A (mm / feet)	2300 / 7.5		3000 / 9.8							
B (mm / feet)	2500 / 8.2		3350 / 11							
C (mm / feet)	1245 / 4.1		1530 / 5							

* Manufacturing tolerance : ± 4%
Note: Trycock level is 90%.

(High Pressure)

37 bar (540 psi) version:

TYPE	RHPA06 (1.5 KUSG)		RHPA11 (3 KUSG)		RHPA14 (4 KUSG)		RHPA19 (5 KUSG)		RHPA21 (6 KUSG)	
Gross capacity (liters / USG) *	6150	1625	10540	2784	14910	3939	19290	5096	23660	6250
Net capacity (liters / USG) *	5535	1462	9486	2506	13419	3545	17361	4586	21294	5625
Boil off Rate O2 (%)	0.28		0.26		0.24		0.23		0.22	
Empty weight (kg / lbs)	5350	11795	7350	16204	9350	20613	11600	25574	13700	30203
Weight full Nitrogen (kg / lbs) - LIN	9822	21654	15015	33102	20193	44517	25628	56499	30906	68135
Weight full Oxygen (kg / lbs) - LOX	11665	25718	18174	40066	24661	54368	31409	69245	37996	83768
Weight full Argon (kg / lbs) - LAR	13060	28793	20564	45336	28043	61823	35784	78890	43363	95598
Continuous flow rate for 8 Hours at 30 bar (Nm ³ /h) - LIN	130		130		130		130		280	
∅ Diameter (mm / feet)	2200 / 7.2									
HT height (mm / feet)	4200	13.8	5200	17.1	7660	25.1	8600	28.2	10235	33.6
H (mm / feet)	520 / 1.7									
G (mm / feet)	1055 / 3.5									
A (mm / feet)	2300 / 7.5									
B (mm / feet)	2500 / 8.2									
C (mm / feet)	1245 / 4.1									

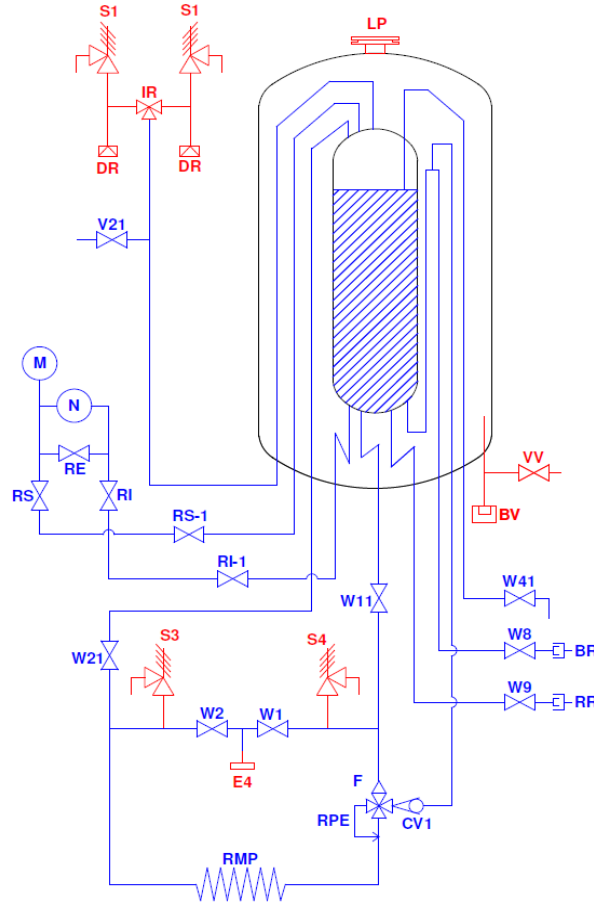
TYPE	RHPA27 (7.5 KUSG)		RHPA33 (9 KUSG)		RHPA41 (11 KUSG)		RHPA47 (13 KUSG)		RHPA53 (15 KUSG)	
Gross capacity (liters / USG) *	28040	7407	34340	9072	41300	10910	47530	12556	56270	14865
Net capacity (liters / USG) *	25236	6667	30906	8165	37170	9819	42777	11300	50643	13378
Boil off Rate O2 (%)	0.20		0.18		0.16		0.15		0.15	
Empty weight (kg / lbs)	15750	34723	18550	40896	21850	48171	24400	53793	28300	62391
Weight full Nitrogen (kg / lbs) - LIN	36141	79677	43522	95950	51883	114383	58964	129993	69220	152603
Weight full Oxygen (kg / lbs) - LOX	44544	98203	53814	118639	64261	141671	73209	161397	86084	189782
Weight full Argon (kg / lbs) - LAR	50904	112224	61602	135809	73628	162322	83988	185163	98846	217917
Continuous flow rate for 8 Hours at 30 bar (Nm ³ /h) - LIN	280		280		280		280		280	
∅ Diameter (mm / feet)	2200 / 7.2		2840 / 9.3							
HT height (mm / feet)	11740	38.52	8850	29.04	10510	34.48	11543	37.87	13510	44.32
H (mm / feet)	520 / 1.7		650 / 2.2							
G (mm / feet)	1055 / 3.5		1100 / 3.6							
A (mm / feet)	2300 / 7.5		3000 / 9.8							
B (mm / feet)	2500 / 8.2		3350 / 11							
C (mm / feet)	1245 / 4.1		1530 / 5							

* Manufacturing tolerance : ± 4%

Note: Trycock Level is 90%

(High Pressure)

FLOW DIAGRAM (Standard)

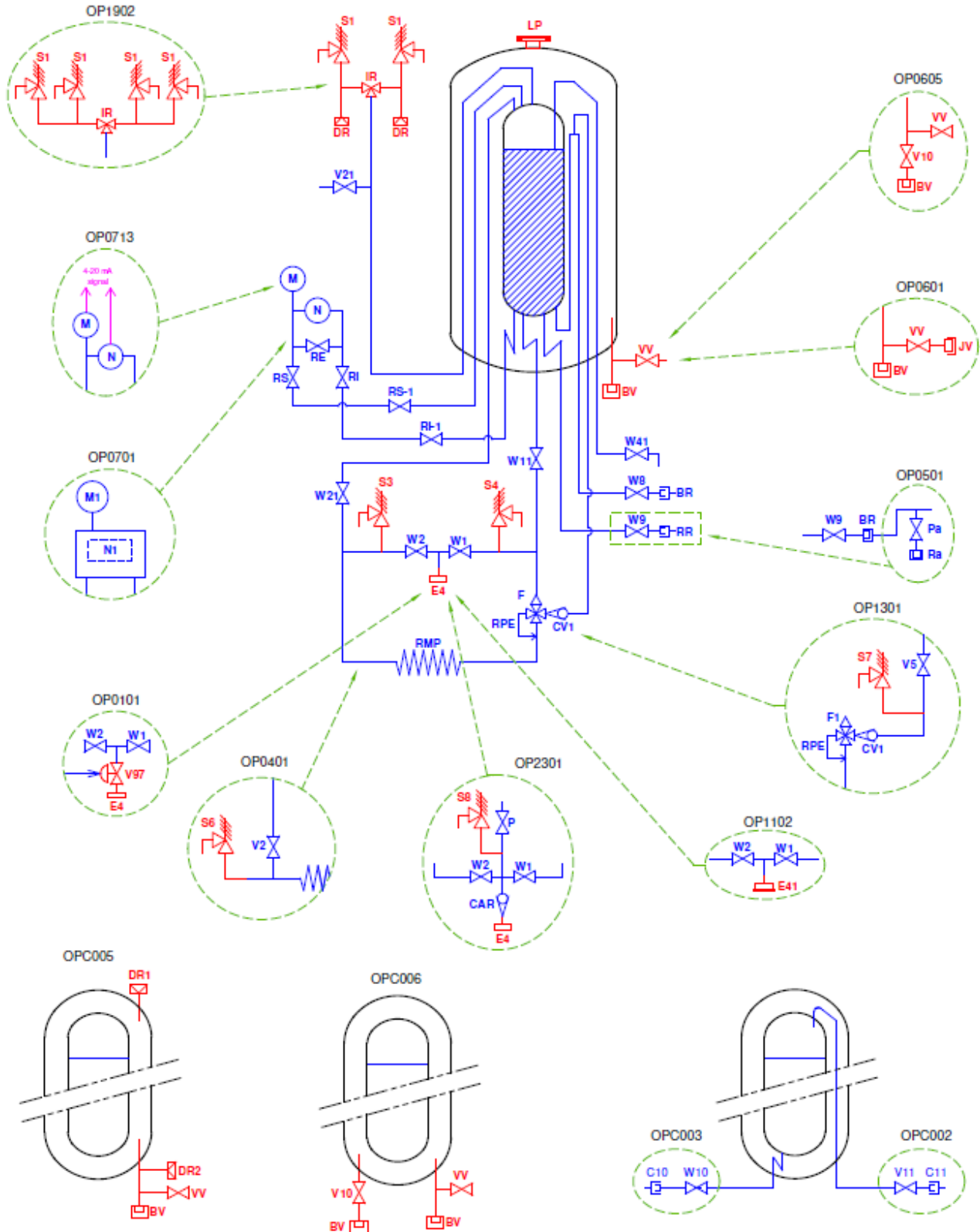


REFERENCE	NOMENCLATURE	SIZE
W1, W11	Bottom Filling Valves	DN 25 < 21 kl Tanks
W2, W21	Top Filling Valves	DN 40 ≥ 21 kl Tanks
S3-S4	Line Safety Valve	1/4"
E4	Filling Connection	DN 40
S1	Inner Vessel Safety Valve	1/2"
DR	Inner Vessel Protection Device	1/2"
IR	3-Way Valve	DN 20
M	Pressure Indicator	-
N	Level Indicator	
RI	Level Gauge Manifold, Liquid	
RE	Level Gauge Manifold, Equalizer	
RS	Level Gauge Manifold, Gas	
W41	Full trycock Valve	DN 15
LP	Lift Plate	As per Cryolor design
BV	Vacuum Connection	-
W8 + BR	Withdrawal Valve - Gas + Connection	DN 25 < 21 kl Tanks
W9 + RR	Withdrawal Valve - Liquid + Connection	DN 40 ≥ 21 kl Tanks
RPE & F	Pressure Regulator / Economizer with Filter	-
CV1	Check Valve	
RMP	Pressure Building Coil	
V21	Vent Valve	DN 25
VV	Vacuum probe isolation valve	-

Note : All operating valves are “Bestobell” make as per standard.

(High Pressure)

FLOW DIAGRAM (with Options)



Red = EIS (Element Important for Safety)

(High Pressure)

REFERENCE	NOMENCLATURE (OPTIONS)	SIZE
OP0101	Over pressurization protection (To avoid over pressure filling & Ensure vessel safety while filling)	
V97	Over pressurization protection valve	DN 40
C6	MG 97 valve connection	
OP0401	Pressure Building Coil Isolation valve	
S6	Line Safety Valve	1/4"
V2	Pressure Building Coil Isolating Valve	DN 15
OP0501	Liquid Analysis Connection	
Pa	Liquid Analysis Valve	DN 15
Ra	Quick Connection	
OP0601	Annular space vacuum detection / Vacuum sensor / Vacuum measuring probe	
VV	Vacuum Isolation Valve	1/8"
JV	Vacuum Thermocouple Connection	1/8"
OP0605	Vacuum Isolation valve	
V10	Vacuum isolation valve -Edwards Vacuum valve Type SP10K & SP25K	
OP0701	Teleflo Diva	
M & N	Digital Level indicator & Analog Pressure indicator	
OP0713	Wika with Telemetry (4-20mA) option	
	4-20 mA Telemetry provision with wika gauge	
OP1102	ISO filling connection / Optional adaptor 1 1/2" 300 lbs	
E41	ISO Flange connection for Filling	DN 40
OP1301	Economizer Isolation valve	
V5	Globe Valve With Check	DN 15
S7	Line Safety Valve	1/4"
OP1902	Additional safety relief valves	
	4 Number of safety relief valves without bursting disc	
OP2301	Filling assembly with Check valve, Check valve & Purge valve	
S8	Line Safety Valve	1/4"
P	Purge Valve	
CAR	Check Valve	
OP5301	Footprint template	
	Footprint drawing available before tank shipment (For foundation work at customer site)	
OPC001	10% Trycock	
	Net capacity of tank with 10% gas phase	
OPC002	Additional Top filling / Gas withdrawal line	
V11	Top filling / Gas withdrawal valve	DN 25 < 21 kl Tanks
C11	Top filling / Gas withdrawal connection	DN 40 ≥ 21 kl Tanks
OPC003	Additional Liquid withdrawal line	
W10	Liquid withdrawal valve	DN 25 < 21 kl Tanks
C10	Liquid withdrawal connection	DN 40 ≥ 21 kl Tanks
OPC005	Rupture disc for Outer vessel safety relief	
DR1 & DR2	Vacuum bursting disc (Instead of lift plate)	
OPC006	Additional vacuum pumping line for vacuum valve	
BV	Vacuum pump down connection	
V10	Vacuum isolation valve -Edwards Vacuum valve Type SP10K & SP25K	

(High Pressure)

REFERENCE	NOMENCLATURE (OPTIONS)	SIZE
OPC008	Metal P&ID	
	Metal P&ID instead of Laminated sheet P&ID	
OPC009	Upsizing liquid withdrawal valve (W9) to DN 50 / 2"	
	Liquid withdrawal valve size increased to DN50 / 2" (Valve size DN50, Pipe size DN25/DN40)	
OPC010	Liquid withdrawal line (W9) to DN 50 / 2"	
	Liquid withdrawal line size DN50 / 2" (Both Pipe & Valve)	
OPC012	LAR-CGA connection on Filling cluster	
	CGA-Filling connection for Liquid Argon	
OPC013	LOX-CGA connection on Filling cluster	
	CGA-Filling connection for Liquid Oxygen	
OPC014	LIN-CGA connection on Filling cluster	
	CGA-Filling connection for Liquid Nitrogen	
OPC015	MOM Certificate	
	MOM certificate available	
OPC016	Herose valves (Instead of Bestobell valves)	
	Operating valves are Herose make, instead of Bestobell make	
OPC017	Customer LOGO	
	Customer requirement LOGO fixed on tank.	

Note:

- 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