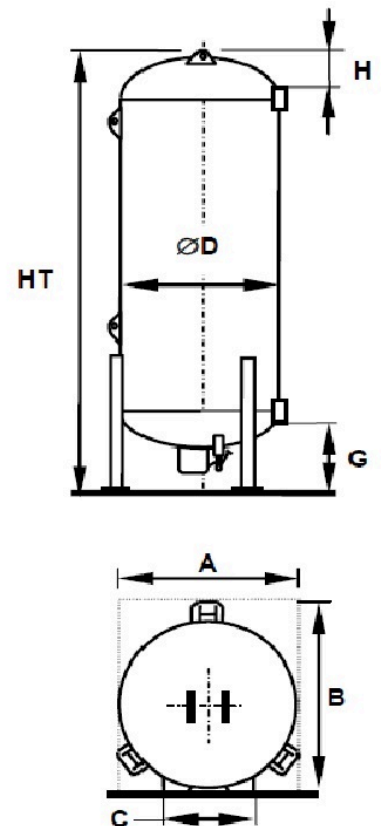
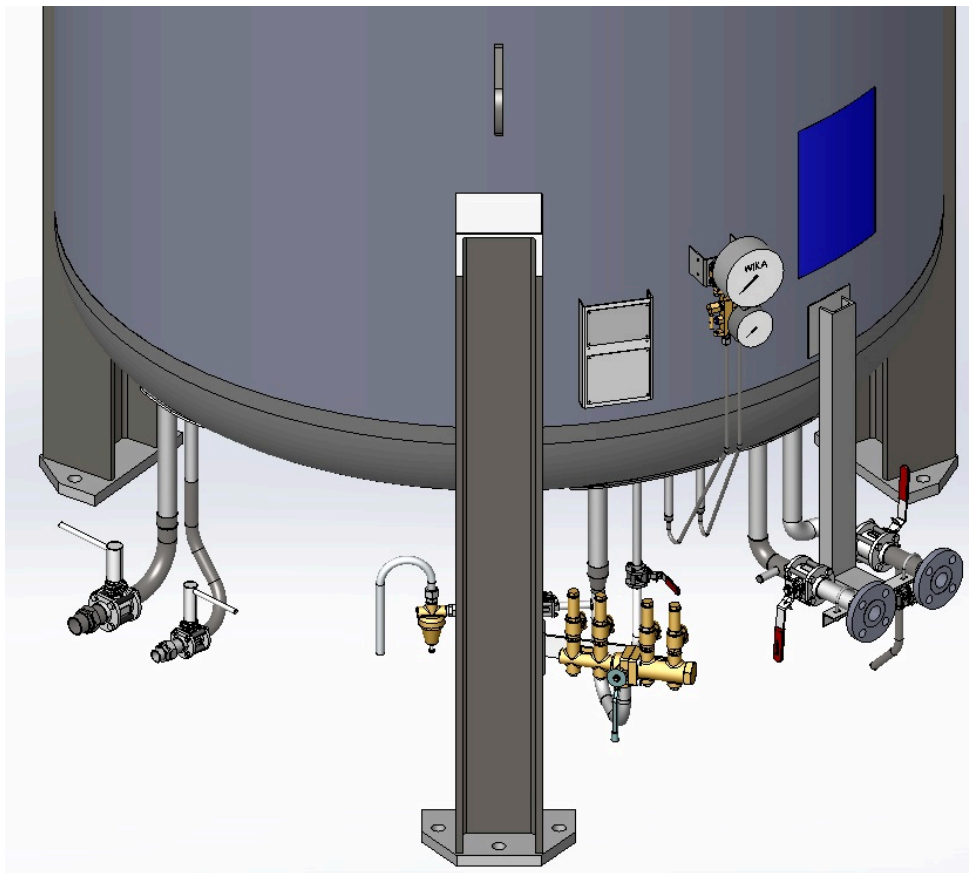


CRYOLOR ASIA PACIFIC introduces the latest generation vacuum insulated cryogenic tank, the **RCIA Céline 3**, for liquid carbon dioxide and Liquid Nitrous oxide service, with inner vessel in stainless steel. Available in a wide range of sizes with a Maximum Allowable Working Pressure of **24 bar** (≈350 psig), **RCIA Céline 3** is designed in accordance with **ASME Section VIII Division 1 + Mandatory Appendix-44 with ASME Certification mark with "U" designator**.

Moreover, the support legs used in the **RCIA tanks** are calculated to **resist high winds and earthquakes according to UBC & IBC**.

- **A maximum use of Stainless steel:** Only 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 pipe work 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.

Type	Unit	RCIA06	RCIA11	RCIA14	RCIA15	RCIA19	RCIA21	RCIA30
Gross capacity (Note-1)	Liters	6150	10540	12740	14910	19290	23660	28040
Net capacity (Note-1)	Liters	5658	9697	11721	13717	17747	21767	25797
Empty weight (Approx) (Note-2)	Kg	4600	6100	7100	8200	9800	11400	13000
Daily evaporation rate CO2	%	0.2	0.15	0.15	0.1	0.1	0.1	0.06
∅ Diameter	mm	2200						
HT height	mm	4200	5700	6300	7260	8680	10200	11750
H	mm	520						
G	mm	1055				980		
A	mm	2300						
B	mm	2500						
C	mm	1245						

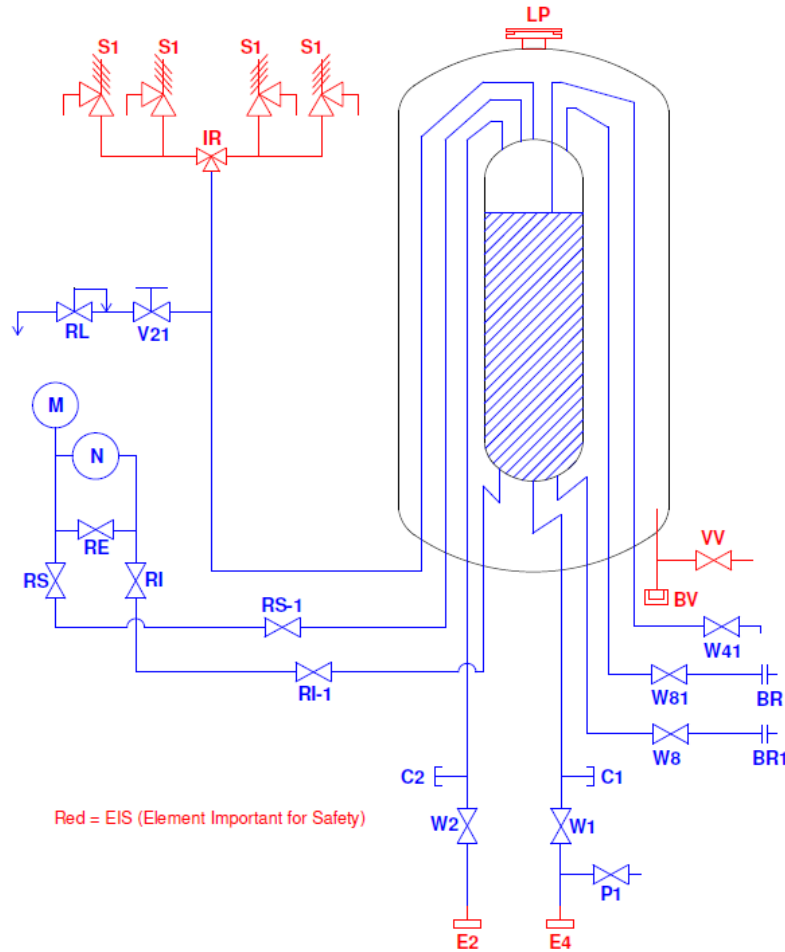
Type	Unit	RCIA33	RCIA41	RCIA50	RCIA53	RCIA63
Gross capacity (Note-1)	Liters	34340	41300	47580	56270	63750
Net capacity (Note-1)	Liters	31593	37996	43774	51768	58650
Empty weight (Approx) (Note-2)	Kg	16000	18500	21200	23800	26300
Daily evaporation rate CO2	%	0.06	0.06	0.05	0.05	0.04
∅ Diameter	mm	2840				
HT height	mm	9000	10500	11700	13500	14950
H	mm	650				3660
G	mm	1100				
A	mm	3000				
B	mm	3350				
C	mm	1530				

Notes:-

1. Manufacturing tolerance on Gross / Net capacity will be $\pm 4\%$,
Net capacity as per 92% of Trycock level.
2. Empty Weight mentioned as per maximum design condition & will be approximation / reference only.
3. This technical specification is purely an indication, It can't be considered as a contractual document.
4. This technical specification is subject to change without prior intimation.

Inner vessel
in stainless steel

FLOW DIAGRAM (Standard)

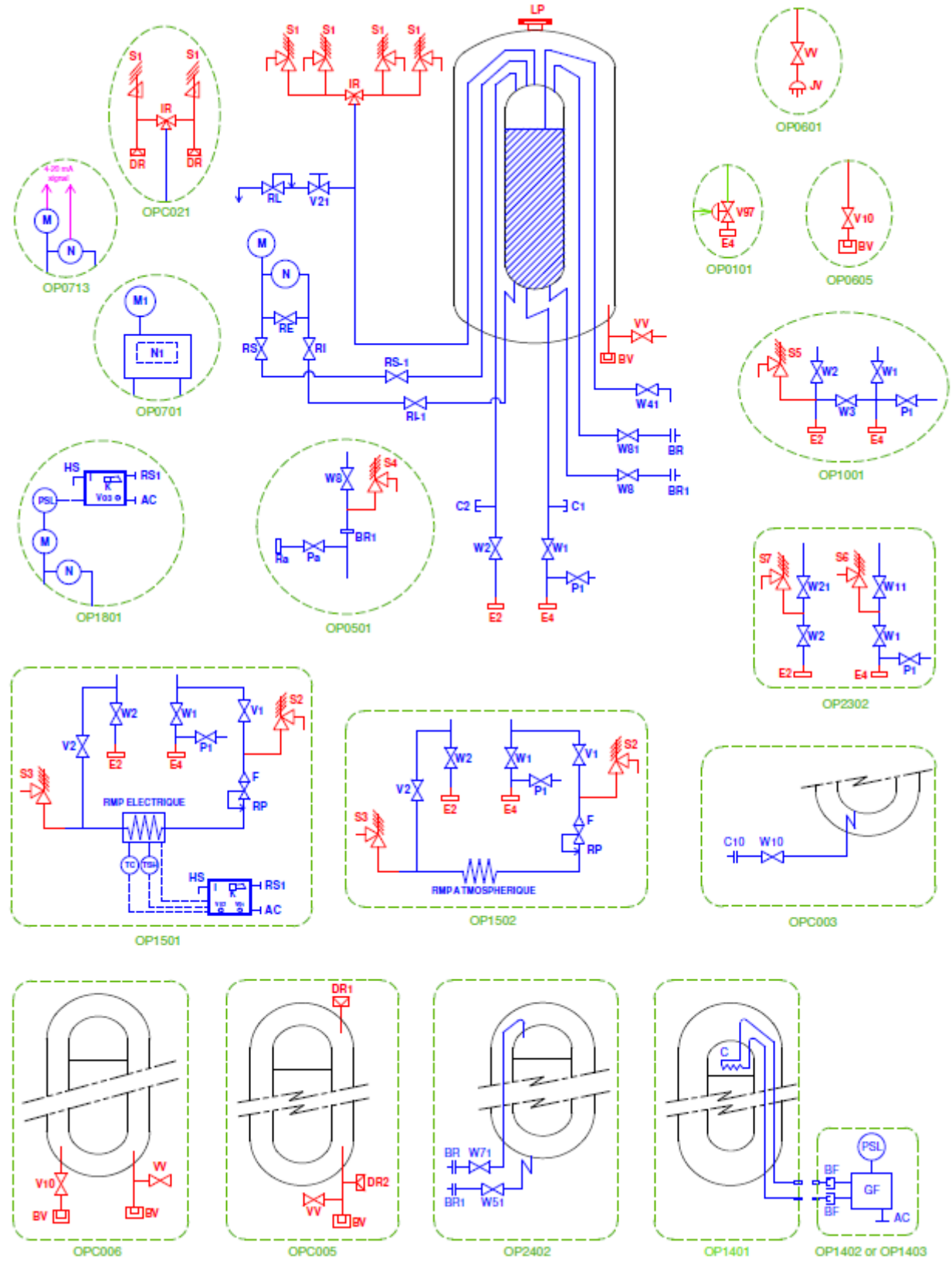


REF.	NOMENCLATURE	SIZE	Valve Make	Remarks
W1 / W2	Bottom Filling / Top Filling Valve	DN 40	Meca-Inox*	Ball valve*
E4 / E2	Filling Connection - Liquid / Gas	DN 40	-	ANSI Flange,#300
S1	Inner Vessel Safety Valve	1/2"	Rego	Safety valve
IR	3-Way valve	DN 20	Rego	Ball type diverter
M	Pressure Indicator	-	Wika	712.15.160
N	Level Indicator			
RI	Level Gauge Manifold, Liquid			
RE	Level Gauge Manifold, Equalizer			
RS	Level Gauge Manifold, Gas			
RI-1 & RS-1	Isolation valve	OD 10 mm	-	Needle Valves
RL	Back pressure regulator	1/2"	Samson / Cash / Rego	-
V21	Isolation valve	DN 15	Meca-Inox*	Ball valve*
W41	Full trycock Valve	DN 15	Meca-Inox*	Ball valve*
LP	Lift plate	-	Cryolor	-
BV	Vacuum Connection	-	-	-
W8 / BR1	Liquid withdrawal valve + Connection	RCIA06-19 : DN 25 RCIA21-63: DN 40	Meca-Inox*	Ball valve* + ANSI Flange connection
W81 / BR	Gas return valve + Connection	DN 25	Meca-Inox*	Ball valve* + ANSI Flange connection
P1	Purge valve	DN 15	Meca-Inox*	Ball valve*
VV	Vacuum probe isolation valve	-	Hoke	4551-F2B-1/8"

Inner vessel
in stainless steel

C1 & C2	Connection for PBU	DN15	-	Dummy plug welded
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FLOW DIAGRAM (with Options)



Red = EIS (Element Important for Safety)

REF.	NOMENCLATURE	SIZE	MAKE	REMARKS
OP0101 : OVER PRESSURIZATION PROTECTION				
V97	Over pressurization protection valve	DN40	Herose	-
C6	MG 97 valve connection	1/4"	-	-
OP0501 : LIQUID ANALYSIS CONNECTION				
Pa	Liquid analysis valve	DN15	Meca-Inox*	Ball valve*
Ra	Quick connection	DN15	-	F-NPT
OP0601 : ANNULAR SPACE VACUUM DETECTION / VACUUM SENSOR / VACUUM MEASURING PROBE				
JV	Vacuum Thermocouple Connection	1/8"	HASTINGS	DV-6-R
OP0605 : VACUUM ISOLATION VALVE-Edwards				
V10	Vacuum isolation valve	-	Edwards	SP10K & SP25K
OPC045 : VACUUM ISOLATION VALVE - Saunders				
V10	Vacuum isolation valve	-	Saunders	2205-S-11R-E2
OP0701 : TELEFLO DIVA				
-	Digital Level indicator & Analog Pressure indicator	-	-	-
OP0713 : WIKA WITH TELEMETRY (4-20 mA) OPTION				
-	4-20 mA Telemetry provision with wika gauge	-	-	-
OP1001 : EQUALISING / FILLING VALVE				
W3	Equalising valve between Top & Bottom filling valves	DN 40	Meca-Inox*	Ball valve*
S5	Thermal relief valve	1/4"	Rego	-
OP1401 : CONDENSING COIL				
C	Condensing coil placed inside tank to convert gas into liquid	DN 15	-	-
OP1402 : REFRIGERATION UNIT (Countries with ambient temperature < or = 30° C during a long time)				
OP1403 : REFRIGERATION UNIT (Countries with ambient temperature > 30° C during a long time)				
BF	Connection to coil	DN15	-	-
PSL	Pressure switch, increasing pressure shutdown indicator, setting 20 bar	-	-	-
GF	Refrigerating Unit: 250 W	-	-	-
AC	Power source required : 230 V	-	-	-
OP1501 : ELECTRIC PRESSURE RAISING COIL (Continuous flow rate at 16 BAR : 400 Kg/hr) (Not recommended for LN2O service)				
V1, V2	Isolating valves	DN15	Meca-Inox*	Ball valve*
S2, S3	Thermal relief valve	1/4"	Rego	-
F-RP	Filter & Pressure regulator	1/2"	Samson / Cash / Rego	-
RMP	Pressure raising coil : 2000 W - 400 V AC	DN15	-	-
I	Electrical control box with alarm light & manual general power stop	-	-	-
TC-TSH	Safe & regulation thermostatic units	-	-	-

REF.	NOMENCLATURE	SIZE	MAKE	REMARKS
OP1502 : ATMOSPHERIC PRESSURE RAISING COIL (Continuous flow rate at 16 BAR : 230 Kg/hr)				
V1, V2	Isolating valves	DN15	Meca-Inox*	Ball valve*
S2, S3	Thermal relief valve	1/4"	Rego	-
F-RP	Filter & Pressure regulator	1/2"	Samson / Cash / Rego	
RMP	Atmospheric Pressure raising coil	DN15	-	-
OP1801 : PRESSURE SWITCH + ALARM				
PSL	Pressure switch, decreasing pressure shutdown indicator, setting 8 bar	-	-	-
K	Sound & light alarm	-	-	-
AC	Power source required 230 AC	-	-	-
OP2302 : DOUBLING FILLING VALVES				
W11	Doubling filling valve - Liquid	DN 40	Meca-Inox*	Ball valve*
W21	Doubling filling valve - Gas	DN 40	Meca-Inox*	Ball valve*
S7, S8	Thermal relief valve	1/4"	Rego	-
OP2402 : ADDITIONAL PUMP WITHDRAWAL & RETURN OUTLET				
W71 + BR	Pump return valve	DN 25	Meca-Inox*	Ball valve* + Flange connection
W51 + BR1	Pump inlet valve	RCIA06-19 : DN 25 RCIA21-63: DN 40	Meca-Inox*	Ball valve* + Flange connection
OPC003 : ADDITIONAL LIQUID WITHDRAWAL LINE				
W10	Liquid withdrawal valve	RCIA06-19 : DN 25 RCIA21-63: DN 40	Meca-Inox*	Ball valve*
C10	Liquid withdrawal connection		-	Flange connection
OPC005 : RUPTURE DISC FOR OUTER VESSEL SAFETY RELIEF				
DR1 & DR2	Rupture disc for outer vessel safety relief (Instead of lift plate)			
OPC006 : ADDITIONAL VACUUM PUMPING LINE FOR VACUUM VALVE				
BV	Vacuum Connection	-	-	-
V10	Vacuum pump shut-off valve	-	-	-
OPC008 : METAL P&ID				
-	Metal plate P&ID (Instead of laminated sheet P&ID)			
OPC017 : CUSTOMER LOGO				
-	Customer requirement LOGO on tank			
OPC021 : 2 Nos. of Safety relief valve + 2 Nos. Bursting disc (Instead of standard 4 Nos. of safety relief valve)				
S1	Inner Vessel Safety Valve	1/2"	Rego	-
DR	Bursting disc	1/2"	BS&B	-
OPC022 : HEROSE VALVES (All Operating / Relief valves are HEROSE make)				
-	Operating valves are HEROSE make globe valves instead of Meca-Inox ball valves. Relief valves are HEROSE make.			
OPC056 : REGO GLOBE VALVE (INSTEAD OF MECA-INOX BALL VALVE)				
-	Operating valves are Regp make globe valves ,instead of Meca-Inox ball valves.			

Special Notes (*):

- For LCO₂ tanks : All operating valves are "Meca-Inox make Ball valves".
- For LN₂O tanks : All operating valves are "ROGO make Globe valves".