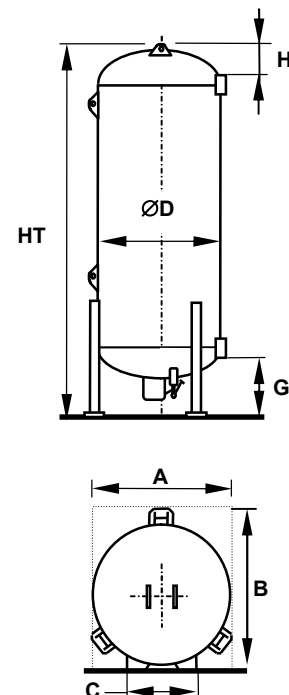
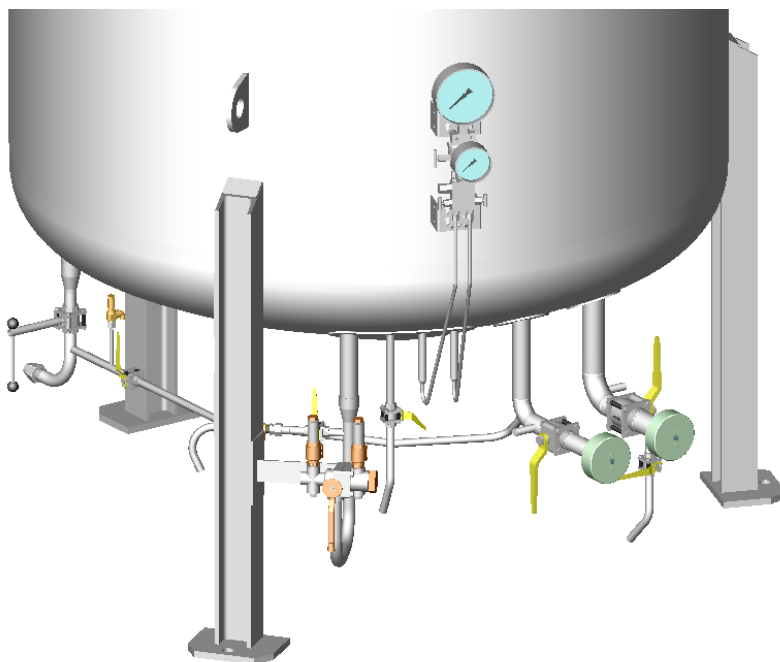


Inner vessel  
in stainless steel

CRYOLOR introduces the latest generation vacuum isolated cryogenic tank, the **RCIA Céline 3**, for liquid CO<sub>2</sub> and N<sub>2</sub>O service, with inner vessel in stainless steel. Available in a wide range of sizes with a Maximum Allowable Working Pressure of **22 bar** ( $\approx 320$  psig), **RCIA Céline 3** is designed in accordance with **ASME / U Stamp**. Moreover, the support legs used in the RCIA Céline 3 range are calculated **to resist high winds and earthquakes (Eurocode 1 and 8 and UBC zone 3 & IBC)**.

- **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 Céline 3 uses as much stainless in its construction to guarantee the lowest life cycle costs - valves, interconnecting piping and all welded connections are stainless.
- **Components selected for their operational reliability** - safety system with dual relief valves, stainless valves.
- **Reduced overall operational costs** - optimized pipework layout with fewer connections minimize potential leaks and facilitate operation & servicing, filling assembly isolation valves as standard, proven painting techniques guarantee years of care-free operation.



Inner vessel  
in stainless steel

Type	RCIA6		RCIA11		RCIA14		RCIA21		RCIA27	
	(6MT)		(11MT)		(15MT)		(23MT)		(27MT)	
Gross capacity (liters / USG) *	6 150	1 625	10 540	2 784	14 910	3 939	23 660	6 250	28 040	7 407
Net capacity (liters / USG) *	5 658	1 495	9 697	2 562	13 717	3 624	21 767	5 750	25 797	6 815
Empty weight (kg / lbs)	4 570	10 075	6 190	13 647	8 310	18 320	11 240	24 780	13 120	28 925
Weight full Carbon dioxide (kg / lbs) - CO <sub>2</sub>	10 528	22 511	16 401	36 158	22 754	50 164	34 161	75 311	40 284	88 811
∅ Diameter (mm / feet)	2 200	7.2	2 200	7.2	2 200	7.2	2 200	7.2	2 200	7.2
Daily evaporation rate CO <sub>2</sub> (%)	0,086	0,086	0,080	0,080	0,075	0,075	0,070	0,070	0,060	0,060
HT height (mm / feet)	4 200	13.8	5 200	17.1	7 660	25.1	10 235	33.6	11 740	38.5
H (mm / feet)	520	1.7	520	1.7	520	1.7	520	1.7	520	1.7
G (mm / feet)	1 055	3.5	1 055	3.5	1 055	3.5	980	3.2	980	3.2
A (mm / feet)	2 250	7.4	2 250	7.4	2 250	7.4	2 300	7.5	2 300	7.5
B (mm / feet)	2 450	8.0	2 450	8.0	2 450	8.0	2 500	8.2	2 500	8.2
C (mm / feet)	1 245	4.1	1 245	4.1	1 245	4.1	1 245	4.1	1 245	4.1

\* ± 4%

Type	RCIA33		RCIA41		RCIA53		RCIA63	
	(34MT)		(40MT)		(55MT)		(62MT)	
Gross capacity (liters / USG) *	34 340	9 071	41 300	10 910	56 270	14 865	63 750	16 841
Net capacity (liters / USG) *	31 593	8 346	37 996	10 037	51 768	13 676	58 650	15 494
Empty weight (kg / lbs)	15 546	34 273	18 275	40 289	23 470	51 742	25 990	57 298
Weight full Carbon dioxide (kg / lbs) - CO <sub>2</sub>	48 814	107 616	58 285	128 496	77 982	171 920	87 748	193 452
∅ Diameter (mm / feet)	2 840	9,3	2 840	9,3	2 840	9,3	2 840	9,3
Daily evaporation rate CO <sub>2</sub> (%)	0,054	0,054	0,053	0,053	0,040	0,040	0,030	0,030
HT height (mm / feet)	8 850	29.04	10 510	34,5	13 510	50,9	15 025	49,3
H (mm / feet)	650	2,2	650	2,2	650	2,2	3 660	12
G (mm / feet)	1 100	3,6	1 100	3,6	1 100	3,6	1 100	3,6
A (mm / feet)	2 950	9,7	2 950	9,7	2 999	9,8	2 999	9,8
B (mm / feet)	3 300	10,8	3 300	10,8	3 350	11	3 350	11
C (mm / feet)	1 530	5	1 530	5	1 530	5	1 530	5

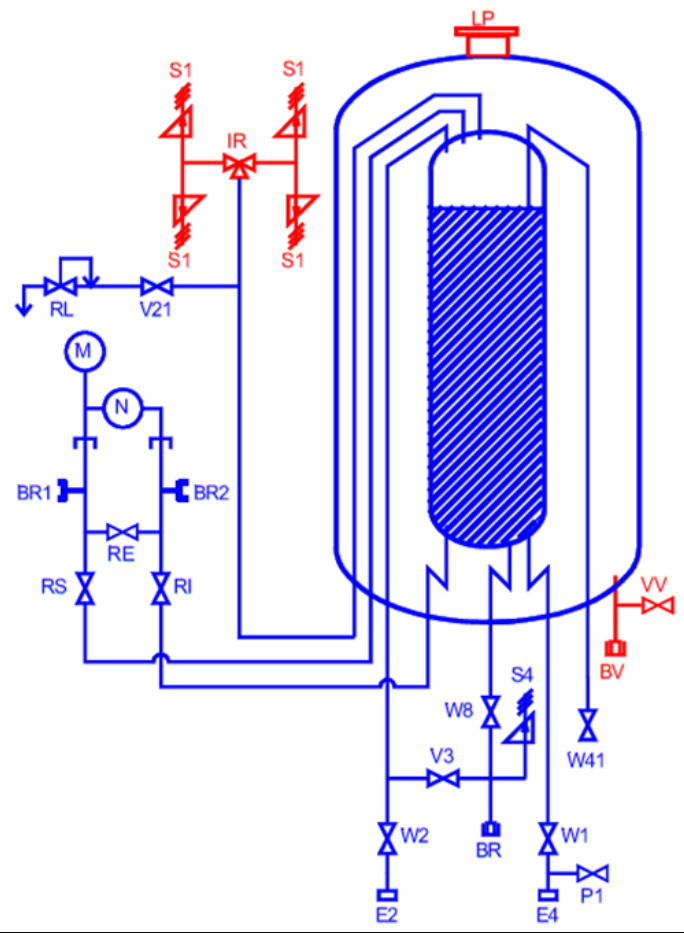
\* ± 4%

**Inner vessel  
in stainless steel**

REF	NOMENCLATURE	ND
<b>W1</b>	Bottom filling valve	ND40
<b>W2</b>	Top filling valve	ND40
<b>S4</b>	Line safety valve	1/4"
<b>E2</b>	Filling connection	ND40
<b>E4</b>	Filling connection	ND40
<b>S1</b>	Inner vessel safety valve	ND15
<b>IR</b>	3-way valve	ND15
<b>M</b>	Pressure indicator	
<b>N</b>	Level indicator	
<b>RI</b>	Low shut-off valve	
<b>RE</b>	Equalizer valve	
<b>RS</b>	High shut-off valve	
<b>W41</b>	Full trycock valve	ND15
<b>LP</b>	Outer vessel protection device	
<b>BV</b>	Vacuum connection	
<b>VV</b>	Vacuum probe connection	1/8 "
<b>W8</b>	Liquid withdrawal valve	ND25 / ND40
<b>BR</b>	Withdrawal connection	ND25
<b>P1</b>	Purge valve	ND15
<b>RL</b>	Pressure limiter	1/2"
<b>V21</b>	Vent valve	ND15
<b>V3</b>	Withdrawal pressure valve	ND15
<b>BR1-BR2</b>	Pressure coupling	

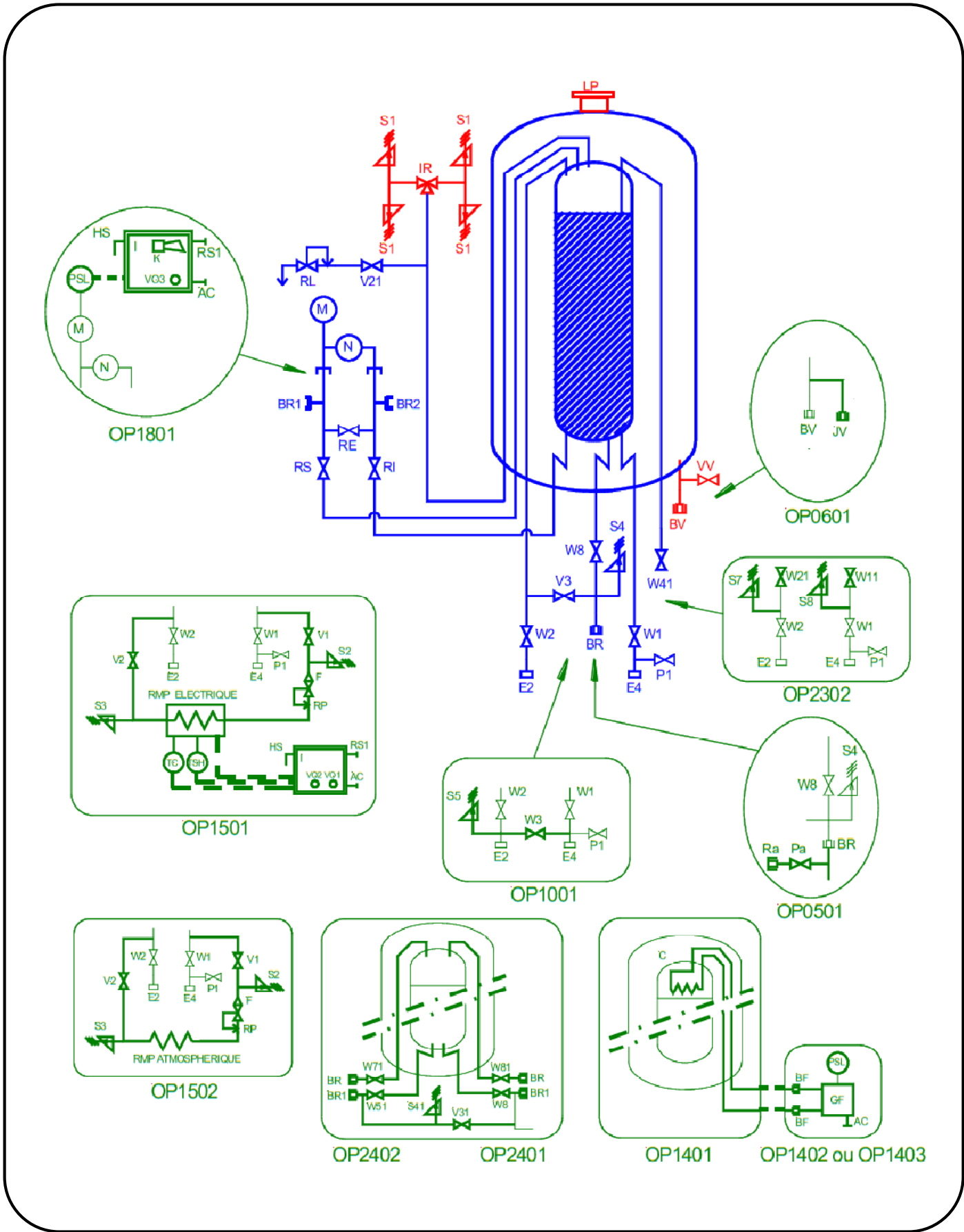
Inner vessel  
in stainless steel

**FLOW DIAGRAM**



# RCVA - RCIA OPTIONS CELINE 3

Vacuum insulated vertical cryogenic CO<sub>2</sub> and N<sub>2</sub>O tanks



REF	OPTION	ND
<b>OP1001 Equalising / Filling valve</b>		
W3	Equalising / Filling valve	ND40
S5	Line safety valve	1/4 "
<b>OP0601 Vacuum measuring device</b>		
JV	Vacuum thermocouple connection	1/8 "
<b>OP0501 Liquid analysis connection</b>		
Pa	Liquid analysis valve	ND15
Ra	Quick connection	
<b>OP1401 Condensing coil</b>		
C	Condenses the gas phase by passing refrigerant liquid through coil in gas phase of inner vessel	ND15
<b>OP1402 Refrigeration unit (Countries with ambient temperature &lt; or = 30 ° C during a long time)</b>		
<b>OP1403 Refrigeration unit (Countries with ambient temperature &gt; 30 ° C during a long time)</b>		
BF	Connection to coil	ND15
PSL	Pressure switch, increasing pressure shut down indicator, setting 20 bar	
GF	Refrigerating unit : 145W (RCV-RCI 3, 6, 10), 250W (RCV-RCI 21, 27, 33, 63)	
AC	Power source required. 230VAC	
<b>OP1501 Electric pressure raising coil : continuous flow rate at 16 bar : 400 Kg/h</b>		
V1-V2	Isolating valve	ND15
S2-S3	Line safety valve	1/4 "
F-RP	Filter and pressure regulator - 16 bar	1/2 "
RMP	Pressure raising coil : 2000W - 400V AC	ND15
I	Electrical control box with alarm light and manual general power stop	
TC - TSH	Safe and regulation thermostatic units	
<b>OP1502 Atmospheric pressure raising coil</b>		
Continuous flow rate at 16 bar during 8 hours : 120Kg/h (RCV-RCI 3, 6, 10) / 230 Kg/h (RCV-RCI 21, 27, 33, 63)		
V1-V2	Isolating valve	ND15
S2-S3	Line safety valve	1/4 "
F-RP	Filter and pressure regulator - 16 bar	1/2 "
RMP	Atmospheric pressure raising coil	ND15
<b>OP1801 Pressure switch + alarm</b>		
PSL	Pressure switch, decreasing pressure shut down indicator, setting 8 bar	
K	Sound and light alarm	
AC	Power source required. 230VAC	
<b>OP2302 Doubling of filling valves</b>		
W11-W21	Isolating valve	ND40
S7-S8	Line safety valve	1/4 "
<b>OP2401 Pump withdrawal and return outlet</b>		
W81	Pump return valve (RCV-RCI 3, 6, 10, 21, 27, 33, 63)	ND25
BR	Withdrawal connection (RCV-RCI 3, 6, 10, 21, 27, 33, 63)	ND25
W8	Pump inlet valve (RCV-RCI 3, 6, 10)	ND25
	Pump inlet valve (RCV-RCI 21, 27, 33, 63)	ND40
BR1	Withdrawal connection (RCV-RCI 3, 6, 10)	ND25
	Withdrawal connection (RCV-RCI 21, 27, 33, 63)	ND40
<b>OP2402 Additional pump withdrawal and return outlet</b>		
W71	Pump return valve (RCV-RCI 21, 27, 33, 63)	ND25
BR	Withdrawal connection (RCV-RCI 21, 27, 33, 63)	ND25
W51	Pump inlet valve (RCV-RCI 21, 27, 33, 63)	ND40
BR1	Withdrawal connection (RCV-RCI 21, 27, 33, 63)	ND40
S41	Line safety valve	1/4 "
V31	Withdrawal pressure valve	ND15