

WORLD TANK Vertical Cryogenic Thermosiphon Tank

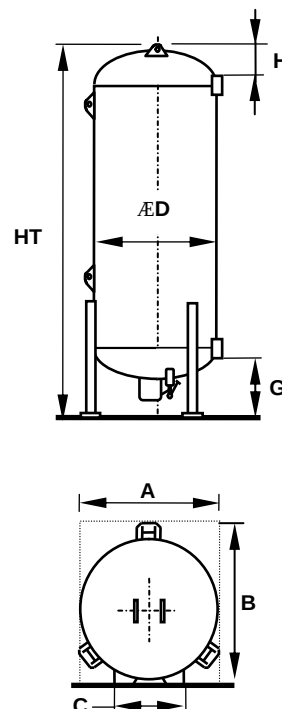
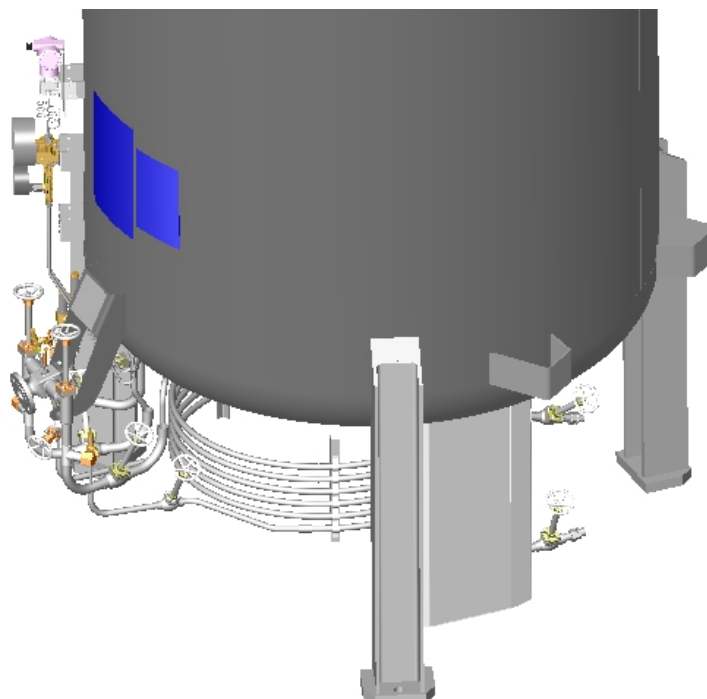


WorldTank, the new Air Liquide Group Standard

CRYOLOR introduces the WorldTank; the latest generation vacuum isolated cryogenic thermosiphon tank based on a single standard, designed to satisfy virtually all customer requirements with maximum versatility, while guaranteeing the standard operating procedures, transferability between affiliates and the lowest lifecycle costs.

Moreover, the support legs used in the WorldTank range are calculated to resist high winds and earthquakes (Eurocode 1 and 8 and UBC zone 3).

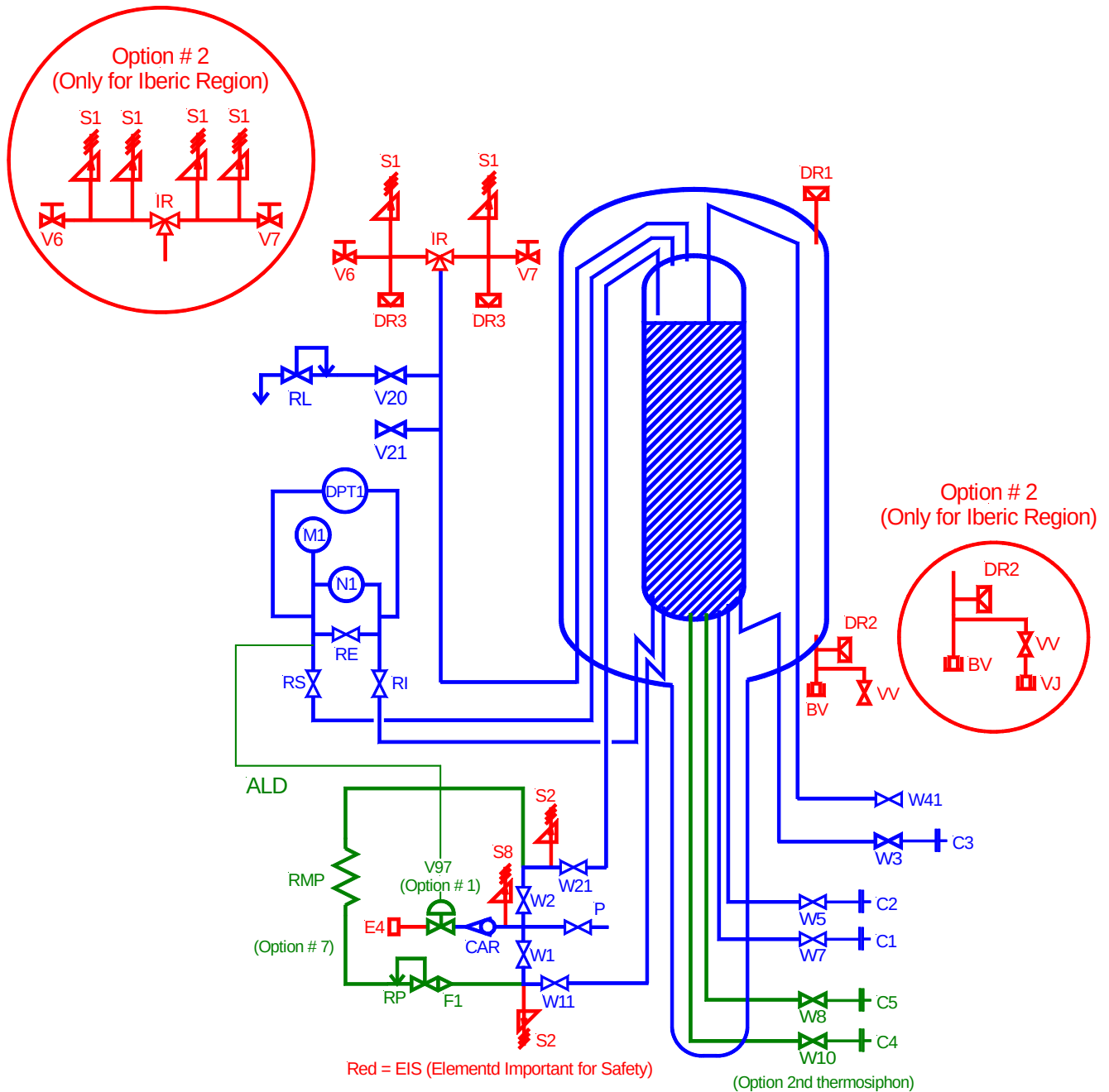
- For liquid nitrogen, oxygen or argon service, the 17 bar (≈250 psig) version is available in a wide range of sizes. Designed in accordance with the European Pressure Directive PED 97/23/CE and EN 13458.
- A maximum use of Stainless steel - Only WorldTank uses as much stainless in its construction to guarantee the lowest life cycle costs - valves, interconnecting piping, PR coil and all welded connections are stainless.
- Components selected for their operational reliability - mono-bloc pressure building 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 as standard, proven painting techniques guarantee years of care-free operation.



Type	RVT6	RVT10	RVT21	RVT27	RVT33	RVT53	RVT63
Gross capacity (liters)	5 490	9 990	21 770 *	28 450 *	33 160 *	52 280 *	61 990 *
Net capacity (liters)	5 216	9 491	20 682 *	27 028 *	31 502 *	49 666 *	58 891 *
Empty weight (kg)	3 800	5 800	9 400	11 500	13 800	19 300	22 100
Weight full Nitrogen (kg) - LIN	8 014	13 468	26 111	33 353	39 254	59 430	69 684
Weight full Oxygen (kg) - LOX	9 751	16 629	32 998	42 338	49 744	75 969	89 294
Weight full Argon (kg) - LAR	11 065	19 020	38 209	49 144	57 682	88 485	104 134
Ø Diameter (mm)	1 900	1 900	2 200	2 200	2 840	2 840	2 840
HT height (mm)	4 940	7 580	9 580	11 910	9 030	12 850	14 820
H (mm)	480	480	520	520	650	650	3 660
G (mm)	1 075	1 075	1 130	1 130	1 250	1 250	1 250
A (mm)	2 200	2 200	2 300	2 300	2 950	2 999	2 999
B (mm)	2 200	2 200	2 500	2 500	3 300	3 350	3 350
C (mm)	1 100	1 100	1 245	1 245	1 530	1 530	1 530

± 4%

FLOW DIAGRAM



Description of Flow diagram AL Airgas Thermosyphon Tank

BV	Vacuum pump down connection	
CAR	Check valve	ND25 (small vessels ≤ 10 000 litres) / ND40 (large vessels > 10 000 litres)
C1 - C2	Pump liquid and gas connection	ND20
C3	Dewar filling connection	ND25
DPT1	Liquid level transmitter	
DR1	Vacuum bursting disk	
DR2	Vacuum bursting disk	
DR3	Vessel bursting disk	
E4	Filling coupling	ND40 (ISO Flange)
IR	3 way divertor	ND20
M1	Pressure gauge	
N1	Liquid level gauge	
P	Purge valve	ND15
RE	Level gauge manifold, Equalizer	
RI	Level gauge manifold, Liquid	
RL	Pressure limiter	ND15
RS	Level gauge manifold, Gas	
S1	Vessel safety valve	ND15 (inlet)
S2 - S8	Thermal expansion valve	1/4" (inlet)
V20	Isolating valve	ND15
V21	Gas purge	ND25
V6 - V7	Vent valve for safety tree	ND6
W1	Filling liquid	ND25 (small vessels ≤ 10 000 litres) / ND40 (large vessels > 10 000 litres)
W11	Doubling filling liquid	ND25 (small vessels ≤ 10 000 litres) / ND40 (large vessels > 10 000 litres)
W2	Filling gas	ND25 (small vessels ≤ 10 000 litres) / ND40 (large vessels > 10 000 litres)
W21	Doubling filling gas	ND25 (small vessels ≤ 10 000 litres) / ND40 (large vessels > 10 000 litres)
W3	Dewar filling isolation	ND25
W41	Full trycock	ND15
W5	Pump gas return isolation	ND20
W7	Pump liquid supply isolation	ND20
VV	Vacuum valve	
V97 (Option # 1)	Automatic overfill protection	ND40
VJ (Option # 2)	Vacuum gauge	(Only AL Iberic)
F1 (Option # 7)	Strainer	ND15
RMP (Option # 7)	Pressure build-up vaporiser	ND15
RP (Option # 7)	Pressure regulator	ND15
W8 (Option 2nd thermosiphon)	Pump gas return isolation	ND20
W10 (Option 2nd thermosiphon)	Pump liquid supply isolation	ND20
C4 - C5 (Option 2nd thermosiphon)	Pump liquid and gas connection	ND20

Description of options AL Airgas Thermosiphon Tank

# AL	CRYOLOR OPTIONS	ITEM	DESCRIPTION	COMMENTS
WT1	OP0102	Over-pressurization during filling protection valve	ALD reference MG97P	Mandatory for ALD (Germany)
WT2	OP1902	Additional relief valves	2 relief valves per each side of diverter valve for a total of 4 relief valves	For Iberic region (Portugal and Spain), Russia and Ukraine
WT2	OP0601	Annual space vacuum detection	Vacuum sensor [VJ]: Full Protection cover box in stainless steel	Only for Iberic region (Portugal and Spain)
WT3	OP3411	Applicable Norms	GOST and Rostekhnadzor certification	For Russia, GOST and Rostekhnadzor certification are required
WT4	OP5901	Outer jacket design	Outer vessel design temperature of -40°C (-40°F)	Available to all locations needing design temperature below -20°C (-4°F)
WT5	OP1906	Safety valve with lever	Performance Test	For France, Belux, Russia, Spain or required by law
WT6	OP0701	Teleflo Diva	Teleflo Diva assembly instead of DP sensor, level gauge, pressure gauge and isolation valve manifold	Upon request by subsidiary
WT7	OP1505 or OP1507	Pressure building coil with pressure building regulator		By request. Specifically intended for customer installations with product withdrawals in addition to the pump