



VT SERIES

INDIVIDUAL DESIGN
VERTICAL STORAGE TANKS





Innovation. Experience. Performance.®

Individual Design - Definition

A range of vacuum perlite insulated vertical cryogenic tanks offering fully customized storage solutions from 3 000 to 80 000 litres and pressures from 9.5 up to 37 bar.

Starting with a naked vessel of the desired capacity and pressure, customers select from an extensive list of options and features to configure a bespoke solution according to individual operational specifications.

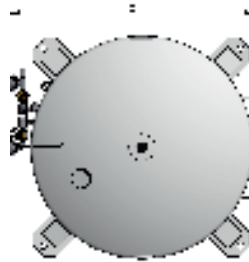
Suitable for liquid nitrogen, oxygen, argon, carbon dioxide and nitrous oxide.

Designed according to EN 13458 and in conformance with directive 2014/68/EU.

ASME or EAC certification is available on request.



Providing the industry's best insulation system and 5 year vacuum warranty.



Complete list of all options and features available on request.

Vertical Individual Design - VT

Type			VT 3	VT 6	VT 9	VT 11	VT 16	VT 21
Gross volume	Litres		3 420	6 150	8 870	10 810	15 530	20 250
Volume (95% filling)	Litres		3 250	5 840	8 430	10 270	14 750	19 240
Storage Capacity LIN ¹	Kg		2 630	4 730	6 810	8 300	11 930	15 550
Storage Capacity LOX ¹	Kg		3 720	6 680	9 630	11 730	16 850	21 970
Storage Capacity LAR ¹	Kg		4 570	8 220	11 850	14 440	20 740	27 040
Storage Capacity LN ₂ O ¹	Kg		3 440	6 170	8 900	10 850	15 580	20 320
Storage Capacity LCO ₂ ¹	Kg		3 600	6 460	9 320	11 360	16 310	21 270
Daily evap. rate LOX ² for tanks:								
18 bar	%/d		0,37	0,26	0,23	0,21	0,19	0,17
22 bar	%/d		0,37	0,27	0,24	0,22	0,2	0,18
37 bar	%/d		0,39	0,29	0,26	0,23	0,21	0,19
Max. withdrawal rate LOX-single flat fin ³	Nm ³ /h		470			590		
Max. withdrawal rate LOX-double flat fin ³	Nm ³ /h		940			1 180		
Max. withdrawal rate LCO ₂ ⁴	Kg/h		115			140		
Max. withdrawal rate LCO ₂ with el. Vaporiser ⁵	Kg/h		1 180			1 180		
Weight, empty								
10 bar ⁶	Kg		N / A	N / A	N / A	N / A	N / A	N / A
18 bar ⁷	Kg		2 980	4 320	5 750	6 440	8 310	10 160
22 bar	Kg		3 090	4 500	5 980	6 720	8 690	10 640
37 bar	Kg		3 520	5 160	6 880	7 830	10 190	12 530
Diameter (D)	mm		D1 =1 800			D2=2 100		
Overall width (A)	mm		2 000			2 100		
Overall depth (B)	mm		2 150			2 350		
Height (H) ⁸	mm		3 990	5 830	7 660	6 440	8 400	10 440

Notes:

1) Filling 95 % (equilibrium state at 1,013 bar) for 18 bar tanks

2) Based on EN12213 (pressure 1,013 bar and 15°C ambient temperature)

3) Stated withdrawal rates are for short term withdrawal (up to 3 hrs) at tank pressure 10 barg and 10 °C ambient temperature

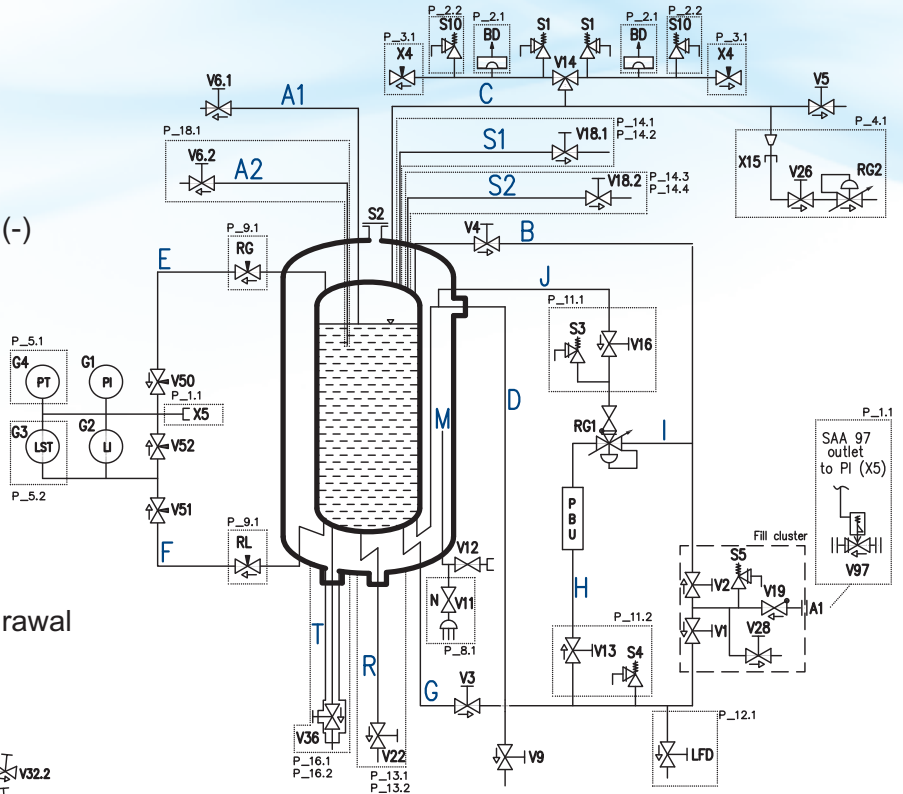
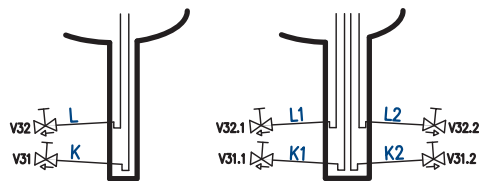
For N₂ and Ar stated withdrawal rates to be multiplied by:

N₂=0,88 / Ar=1,01

Individual Design - Flow Diagram

Line Description

- A1 - Trycock line-95%
- A2 - Trycock line-80%
- B - Top fill line
- C - Safety relief line
- D - Product vaporizer feed line
- E - Gas phase to PI & DP gauge (-)
- F - Liquid phase to DP (+)
- G - Bottom fill line
- H - PBU feed line
- I - PBU outlet line
- J - Economizer circle line
- K1,2 - Pump siphon feed line
- L1,2 - Pump siphon return line
- M - Evacuation port
- N - Vacuum gauge port
- R - Liquid withdrawal
- S1,2 - Gas return/Gas withdrawal
- T - Vacuum insulated liquid withdrawal



VT 25	VT 20	VT 26	VT 31	VT 37	VT 43	VT 32	VT 41	VT 50	VT 60	VT 70	VT 80
24 970	20 130	26 110	32 080	38 060	44 030	32 290	41 630	50 960	60 300	69 990	79 390
23 720	19 120	24 800	30 480	36 160	41 830	30 680	39 550	48 410	57 290	66 490	75 420
19 170	15 460	20 050	24 630	29 220	33 800	24 790	31 960	39 120	46 290	53 730	60 940
27 090	21 840	28 330	34 810	41 300	47 770	35 040	45 170	55 290	65 420	75 940	86 140
33 350	26 880	34 870	42 840	50 820	58 790	43 120	55 590	68 050	80 520	93 460	106 010
25 050	20 200	26 200	32 190	38 190	44 180	32 400	41 770	51 130	60 500	70 220	79 650
26 230	21 140	27 420	33 690	39 970	46 240	33 910	43 720	53 520	63 330	73 500	83 370
0,17	0,15	0,14	0,13	0,13	0,13	0,13	0,12	0,11	0,1	0,11	0,1
0,17	0,15	0,14	0,13	0,13	0,13	0,13	0,12	0,11	0,1	0,11	0,1
0,18	0,16	0,15	0,14	0,14	0,14	0,14	0,13	0,12	0,11	0,11	0,11
			670					860			
			1 340					1 720			
			160					205			
			1 180					1 180			
N / A	N / A	N / A	N / A	N / A	N / A	13 700	16 400	19 140	21 890	24 910	27 660
12 150	11 580	14 010	16 460	18 840	21 290	15 490	18 580	21 740	24 900	28 310	31 480
12 730	12 070	14 640	17 210	19 730	22 310	16 220	19 520	22 870	26 230	N / A	N / A
15 010	14 290	17 440	20 580	23 680	26 820	19 940	24 120	28 380	32 610	N / A	N / A
			D3=2 500					D4=3 000			
			2 500					3 000			
			2 800					3 280			
12 440	8 090	9 930	11 760	13 590	15 420	8 380	10 210	12 040	13 870	15 660	17 490

4) Stated withdrawal rates are for short term withdrawal (up to 3 hrs) at tank pressure 15 barg and 10 °C ambient temperature

5) Withdrawal rate with 4 kW el. vaporiser

Optional: electric vaporizer (up to 50 kW) for higher CO₂ withdrawal

6) Tanks VT70 and VT80 with MAWP 9,5 bar

7) Tanks VT70 and VT80 with MAWP 17 bar

8) Tanks with thermosiphon are app. 790 mm higher
(extended legs) and app. 600 kg heavier



Your cryogenic partner



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