

VT SERIES

FULL EN 13458

**Vertical Cryogenic
Storage Tanks
for Atmospheric Gases**

Chart Ferox, a.s. VT series of cryogenic tanks are designed in accordance with the requirements for safe, easy and economical operation. Many of the features have been incorporated in close collaboration with leading industrial gas companies.

VT series tanks are vertical, stationary, pressure vessels with perlite insulation for long term storage of cryogenic liquefied gases under pressure.

VT series are available in capacities from 3,000 to 60,000 liters with pressures of 18; 22 and 37 bar.

- in accordance with EN 13458 and conforming to directive 97/23/EC (PED)
- modular plumbing (e.g. fill cluster)
- 4 legs design
- easy lifting and low cost erection using a single crane
- stainless steel inner vessel and piping
- bolted bonnet globe valves with stainless steel bodies
- easily accessible relief valves with outlets directed away from the operating area
- with durable environmentally friendly coating for industrial standards



Innovation. Experience. Performance.

Chart Ferox, a.s., Chart Industries Company

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Specifications

Type		VT3	VT6	VT9	VT11	VT16	VT21	VT25	VT20	VT26	VT31	VT37	VT43	VT32	VT41	VT50	VT60	
Gross volume	Liters	3 420	6 150	8 870	10 810	15 530	20 250	24 970	20 130	26 110	32 080	38 060	44 030	32 290	41 630	50 960	60 300	
Net capacity (95% filling) ¹⁾	Liters	3 250	5 840	8 430	10 270	14 750	19 240	23 720	19 120	24 800	30 480	36 160	41 830	30 680	39 550	48 410	57 280	
	kg	2 630	4 730	6 810	8 300	11 930	15 550	19 170	15 460	20 050	24 630	29 220	33 800	24 790	31 960	39 120	46 290	
	kg	3 720	6 680	9 630	11 730	16 850	21 970	27 090	21 840	28 330	34 810	41 300	47 770	35 040	45 170	55 290	65 420	
	kg	4 570	8 220	11 850	14 440	20 740	27 040	33 350	26 880	34 870	42 840	50 820	58 790	43 120	55 590	68 050	80 520	
	kg	3 440	6 170	8 900	10 850	15 580	20 320	25 050	20 200	26 200	32 190	38 190	44 180	32 400	41 770	51 130	60 500	
	kg	3 600	6 460	9 320	11 360	16 310	21 270	26 230	21 140	27 420	33 690	39 970	46 240	33 910	43 720	53 520	63 330	
Daily evaporation rate LOX ²⁾	18 barg	%/d	0,37	0,26	0,23	0,21	0,19	0,17	0,17	0,15	0,14	0,13	0,13	0,13	0,12	0,11	0,1	
	22 barg	%/d	0,37	0,27	0,24	0,22	0,20	0,18	0,17	0,15	0,14	0,13	0,13	0,13	0,12	0,11	0,1	
	37 barg	%/d	0,39	0,29	0,26	0,23	0,21	0,19	0,18	0,16	0,15	0,14	0,14	0,14	0,13	0,12	0,11	
Max. withdrawal rate LOX ⁶⁾	Nm ³ /h	470			590				670				860					
Max. withdrawal rate LCO ₂ ⁶⁾	kg/h	115			140				160				205					
Weight, empty	18 barg	kg	2 980	4 320	5 750	6 440	8 310	10 160	12 150	11 580	14 010	16 460	18 840	21 290	15 490	18 580	21 740	24 900
	22 barg	kg	3 090	4 500	5 980	6 720	8 690	10 640	12 730	12 070	14 640	17 210	19 730	22 310	16 220	19 520	22 870	26 230
	37 barg	kg	3 520	5 160	6 880	7 830	10 190	12 530	15 010	14 290	17 440	20 580	23 680	26 820	19 940	24 120	28 380	32 610
Diameter (D)	mm	1 800			2 100				2 500				3 000					
Overall width (A)	mm	2 000			2 100				2 500				3 000					
Overall depth (B)	mm	2 150			2 350				2 800				3 280					
Height (H) ⁷⁾	mm	4 030	5 840	7 650	6 430	8 430	10 430	12 430	8 110	9 940	11 770	13 600	15 430	8 400	10 230	12 060	13 890	

Notes:

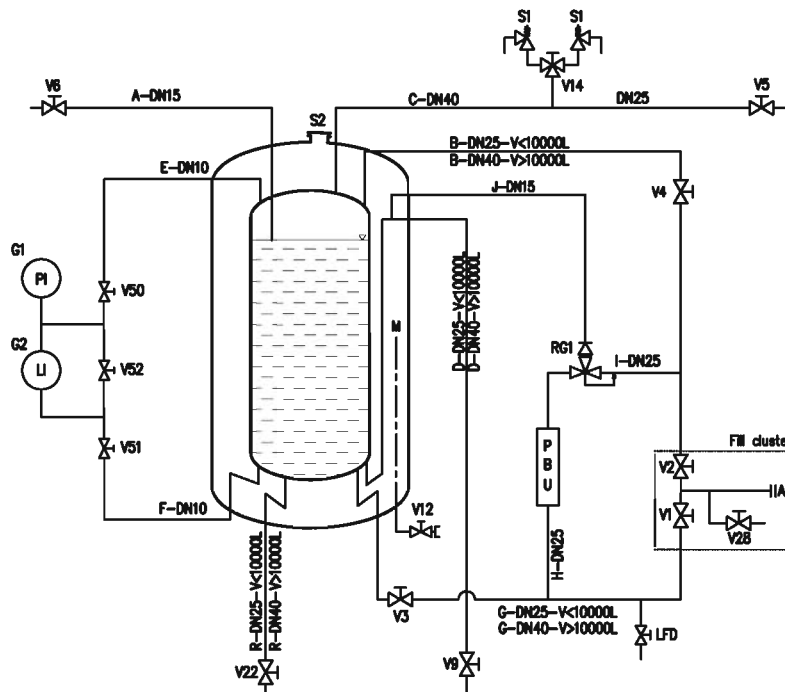
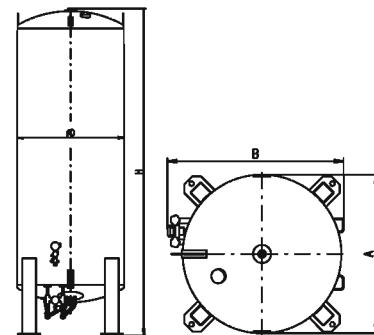
- 1) Filling 95 % (equilibrium state at 1,013 bar)
- 2) Filling 95 % (equilibrium state at 10 bar)
- 3) based on pressure EN12213 (100 kPa and 15 °C ambient temperature).
- 4) For N2 and Ar stated withdrawal rates to be multiplied by: N2=0,88 / Ar=1,01
- 5) Stated withdrawal rates are for short term withdrawal (up to 3 hrs) at tank pressure 10 barg.
- 6) Stated withdrawal rates are with the standard flat fin PBU vaporizer at tank pressure 15 barg and 10 °C optionally in case of higher withdrawals of CO₂, electric vaporizer needed to be ordered.
- 7) Tanks with thermosiphon are app. 790 mm higher.

BASIC DIMENSIONS

Nomenclature *

- A1** Fill connection
- V1** Bottom fill valve
- V2** Top fill valve
- V28** Valve, fill line drain
- LFD** Liquid outlet (VT3 - VT9)
- LI** Level indicator
- PBU** Pressure building vaporizer
- PI** Pressure indicator
- RG1** Pressure control valve / Economizer
- S1** Safety valves, inner vessel
- S2** Vacuum safety valve
- S5** Thermal relief valve
- V3** Isolation valve, bottom filling
- V4** Isolation valve, top filling
- V5** Valve, vapor vent, gas outlet
- V6** Valve, trycock
- V9** Valve, external vaporizer
- V12** Vacuum pump down
- V14** Valve, safety relief section
- V22.1** Valve, liquid outlet (VT11 - VT60)
- V50** Valve, LI vapor phase
- V51** Valve, LI liquid phase
- V52** Valve, LI equalization

* standard model - not all options shown



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