



Cooler By Design.™



Packaged Gas

TECHNICAL SPECIFICATION

PERMA-CYL® 24 bar ZX M12 Standard



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1. General

Type of tank:	Stationary liquid cylinder
Gas service:	LIN, LOX, LAR, CO ₂ , N ₂ O
Volume tolerance:	± 4%
MIN./MAX. ambient temperature:	-30 °C / +50 °C
Max. allowable working pressure:	24 bar
Design regulation:	PED (EN 13458)
Notified body:	TÜV NORD

2. Pressure vessel

Design code:	PED (EN 13458)
Material:	Stainless steel 1.4301
MIN./MAX. allowable temperature:	-196 °C / +50 °C
Piping material:	Stainless steel

3. Outer jacket

Design code:	EN 13458
Material:	Stainless steel 1.4301
MIN./MAX. allowable temperature:	-196 °C / +50 °C

4. Insulation

Type of insulation:	Super insulation
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5. Plumbing

Piping material:	Stainless steel, copper
Pressure build-up vaporizer:	External aluminum flat fin
Product vaporizer:	External aluminium star fins
DP Gauge:	Digital DP gauge Cyl-Tel (4-20 mA included)

6. Connection

Bottom Liquid Withdrawal:	1/2" NPT Female
Vent/Trycock:	1/2" NPT Female
Gas Use:	1/2" NPT Female
Top Fill:	1/2" NPT Female (Check Valve as standard, ball valve can be added as an option)

7. Documentation

Data Dossier:	Tank dossier in English electronically
Operation Manual:	Operating manual electronically either in English or <u>on request</u> in language of final destination (may be subject of additional charges)
Paper Dossier & Operation Manual:	Optional

8. Miscellaneous

Final surface:	Stainless steel buffed surface
Pallet Frame:	Galvanized carbon steel



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Model		600/24 ZX M12	1000/24 ZX M12	2000/24 ZX M12
Capacity				
Liquid (gross)*	(liters)	601	997	2021
Liquid (net)	(liters)	571	947	1920
Gas**	(N ₂) (Nm ³)	369	612	1241
	(O ₂) (Nm ³)	456	756	1533
	(Ar) (Nm ³)	446	740	1500
Performance & general information				
NER***	(N ₂) (% day)	1	0,9	0,8
Gas Flow (N ₂ , O ₂ , Ar)	(Nm ³ /hr)	60 [#]	85 [#]	100 [#]
Gas Flow (CO ₂ & N ₂ O)	(Nm ³ /hr)	21	24	42
Max. Primary Relief Valve Setting	(bar)	24		
Design Regulation		PED (EN 13458)		
Dimensions & weight				
Tank Diameter	(mm)	900	1100	1400
Base Dimens. (LxW)	(mm)	1070 x 1370	1270 x 1560	1570 x 1860
Base type		pallet		
Height	(mm)	2120	2215	2550
Tare Weight (approx.)	(kg)	620	850	1300

* Volume tolerance is ±4%

** At 0 barg pressure for N₂, O₂, Ar and 10 bar for CO₂, N₂O

*** NER: Nominal Evaporation Rate

Values indicate the maximum short peak flow rate, continuous flowrates are roughly at 60% of published values

Note: All models and specifications are conditional and subject to change without prior notice.