
Packaged Gas

STANDARD

TECHNICAL SPECIFICATION

Euro-Cyl 120 – 230l
Maximal Working Pressure (MAWP) 4 – 24 bar



1. General

Type of tank:	Transportable liquid cylinder
Gas service	
Up to MAWP 4 bar:	LIN, LAR, LOX
MAWP 22 – 24bar:	LIN, LAR, LOX, CO ₂ , N ₂ O
Gross capacity:	see appendix 1
Net capacity @ 95% filling:	see appendix 1
Empty weight:	see appendix 1
Dimensions (diameter x height):	see appendix 1
Max. allowable working pressure (MAWP):	see appendix 1
Design regulation:	TPED (EN 1251, ADR)
Notified body:	Apragaz

2. Pressure vessel

Design code:	ADR, EN 1251
Material:	Stainless steel 1.4301
MIN./MAX. Allowable temperature:	-196 °C / +50 °C
Piping material:	Stainless steel

3. Outer jacket

Design code:	EN 1251
Material:	Stainless steel 1.4301
MIN./MAX. Allowable temperature:	-196 °C / +50 °C
Outer diameter:	see appendix 1

4. Insulation

Type of insulation:	Super insulation
Net evaporation rate:	see appendix 1

5. Plumbing

Flow schematic:	see appendix 2
Components specification:	see appendix 2
Safety relief devices:	Rupture disk and relief valve, each of safety devices designed for 100 % capacity
Piping material:	Stainless steel
Pressure build-up vaporizer:	Copper piping soldered on the outer jacket
Product vaporizer:	
Up to MAWP 4 bar:	none
MAWP 15 – 32bar:	Copper piping soldered on the outer jacket

6. Connection

Bottom Fill/Liquid Withdrawal:	3/8" NPT Female
Vent/Trycock:	3/8" NPT Female
Gas use:	
Up to MAWP 4 bar:	none
MAWP 15 – 32bar:	3/8" NPT Female

7. Documentation

Data Dossier:	Two copy of tank dossier in English
Operation Manual:	Two copy of operating manual either in English or <u>on request</u> in language of final destination (may be subject of additional charges)

8. Miscellaneous

Final surface:	Stainless steel buffed surface
Type of base:	see appendix 1

9. Options

See appendix number 2

Appendix 1

Models overview

Type		120/4	180/4	230/4 RB● (SB □)
Capacity				
Liquid (gross)	(liters)	120	196	240
Liquid (net)	(liters)	114	186	228
Gas (N ₂)	(Nm ₃)	73	120	147
Gas (O ₂)	(Nm ₃)	157	225	269(282)
Gas (Ar)	(Nm ₃)	142	207	248(258)
Gas (CO ₂)	(Nm ₃)	N/A	N/A	N/A
Gas (N ₂ O)	(Nm ₃)	N/A	N/A	N/A
Performance				
NER ♪ (N ₂)	(%/day)	2	1,9	1,8
NER ♪ (O ₂ or Ar)	(%/day)	1,4	1,3	1,2
NER (CO ₂ or N ₂ O)	(%/day)	N/A	N/A	N/A
Gas Flow (N ₂ or O ₂)	(Nm ³ /hour)	N/A	N/A	N/A
Gas Flow (CO ₂ or N ₂ O)	(Nm ³ /hour)	N/A	N/A	N/A
Type of safety protection ♦		RV & RD	RV & RD	RV & RD
Safety Devices Setting	(bar)	1,5 RV/7 RD	1,5 RV/7 RD	1,5 RV/7 RD
Code ♥		TPED (EN1251)	TPED (EN1251)	TPED (EN1251)
Dimensions				
Tank Diameter	(mm)	508	508	660
Base Type		Square	Footring	Round (Square)
Base Size	(mm)	650x675	508	660 (715x715)
Height	(mm)	1290	1613	1391
Empty Weight	(kg)	94	109	125 (143)
Maximum Full Weight ♠	N ₂ (kg)	186	259	309(327)
	O ₂ (kg)	224	321	385(403)
	Ar (kg)	253	369	443(461)
	CO ₂ (kg)	N/A	N/A	N/A
	N ₂ O (kg)	N/A	N/A	N/A

Type		180/24 (MCR LFT)	230/22 SB □
Capacity			
Liquid (gross)	(liters)	196	240
Liquid (net)	(liters)	186	228
Gas (N ₂)	(Nm ₃)	98	120
Gas (O ₂)	(Nm ₃)	126	154
Gas (Ar)	(Nm ₃)	123	151
Gas (CO ₂)	(Nm ₃)	104	128
Gas (N ₂ O)	(Nm ₃)	96	118
Performance			
NER ♪(N ₂)	(%/day)	1,9 (2,9)	1,8
NER ♪ (O ₂ or Ar)	(%/day)	1,3 (1,8)	1,2
Gas (CO ₂ or N ₂ O)	(%/day)	0,5	0,5
Gas Flow (N ₂ or O ₂)	(Nm ₃ /hour)	9,2	10,5
Gas Flow (CO ₂ or N ₂ O)	(Nm ₃ /hour)	2,9	2,9
Type of safety protection ♦		RV & RD	RV & RD
Safety Devices Setting	(bar)	24/32	22/32
Code♥		TPED (EN1251)	TPED (EN1251)
Dimensions			
Tank Diameter	(mm)	508	660
Base Type		Footring	Square base without casters*
Base Size	(mm)	508	715x715
Height	(mm)	1622	1389
Empty Weight	(kg)	135	189
Maximum Full Weight ♠	N ₂ (kg)	285	373
	O ₂ (kg)	347	449
	Ar (kg)	394	507
	CO ₂ (kg)	354	458
	N ₂ O (kg)	331	429

- Round Base
- Square Base
- ♪ Nominal Evaporation Rate
- ♦ All tanks are equipped by two safety relief devices. RV means relief valves, RD rupture disk
- ♠ Tank plus product at saturated pressure 0 bar for O₂, N₂ and Ar.
- ♥ Pressure Equipment Code: Although basic pressure equipment codes may be common, local authorities may set additional standards for operating, testing, inspecting, etceteras in order to qualify a vessel for use in their locale, especially if the Euro-Cyl is to be used as stationary vessel and/or filled on-site. Please check with the local authorities to verify local criteria before ordering, installing or operating any Chart pressure vessel
- * Casters available as option including handle.

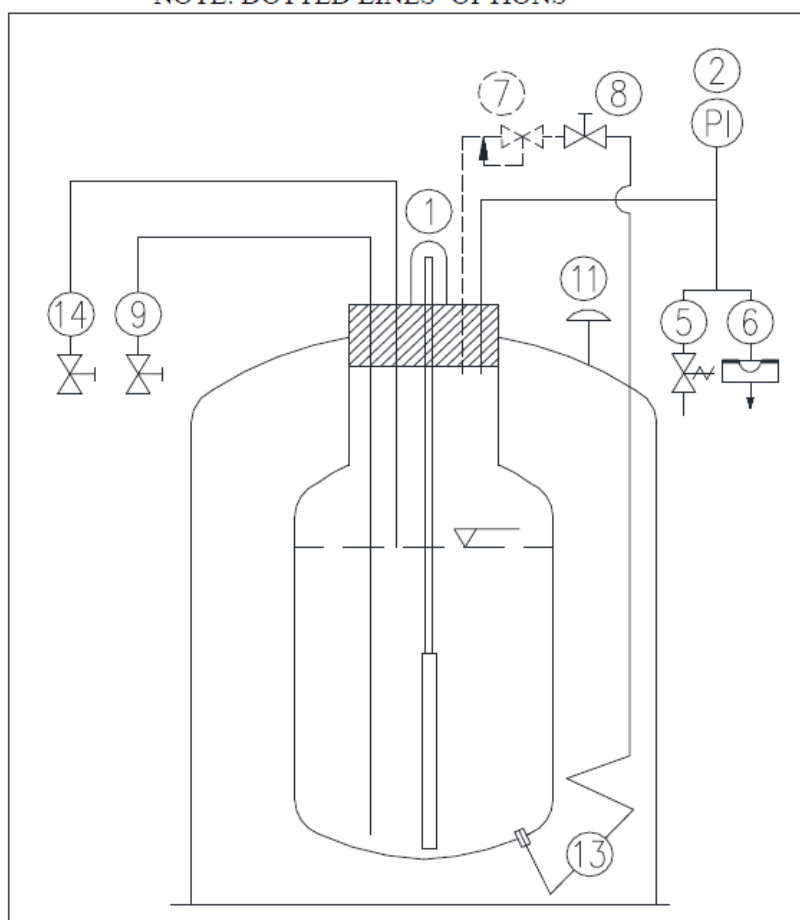
Appendix 2

Flow Diagrams

FLOW DIAGRAM EURO-CYL

EC120/4;EC180/4;EC230/4

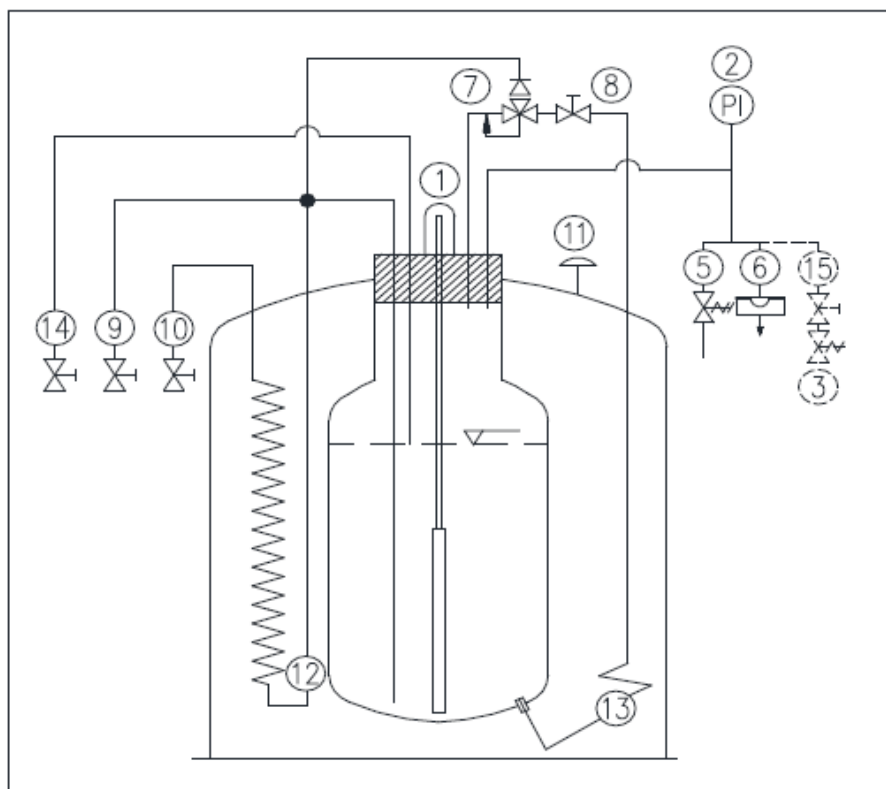
NOTE: DOTTED LINES=OPTIONS



No	NOMENCLATURE	DESCRIPTION	PRODUCER	COMMENT
1	Liquid Level Gauge	Roto-Tel with Protection Cap (yellow)	Chart	Standard
2	Pressure Gauge	0-100 PSI (0-6,9 bar)	Wika	Standard
5	Safety Relief Valve	set pressure 1,5 bar	Generant	Standard
6	Bursting Disc	RPD ASSY 1/4MPT 7BAR CE MARKED	BS&B	Standard
7	Regulator	PB Regulator 2-25 PSI or 15-65 PSI	Cash Acme	Option
8	Regulator Isol.Valve	VALVE T9464DA, 3/8"NPT	Rego	Standard
9	Bottom Fill/ Liquid Withdrawal	VALVE T9464DA, 3/8"NPT	Rego	Standard
11	Vacuum Valve/Safety Plug	Chart design	Chart	Standard
13	Pressure Bulding Coil	Chart design	Chart	Standard
14	Vent / Trycock Valve	VALVE T9464DA, 3/8"NPT	Rego	Standard

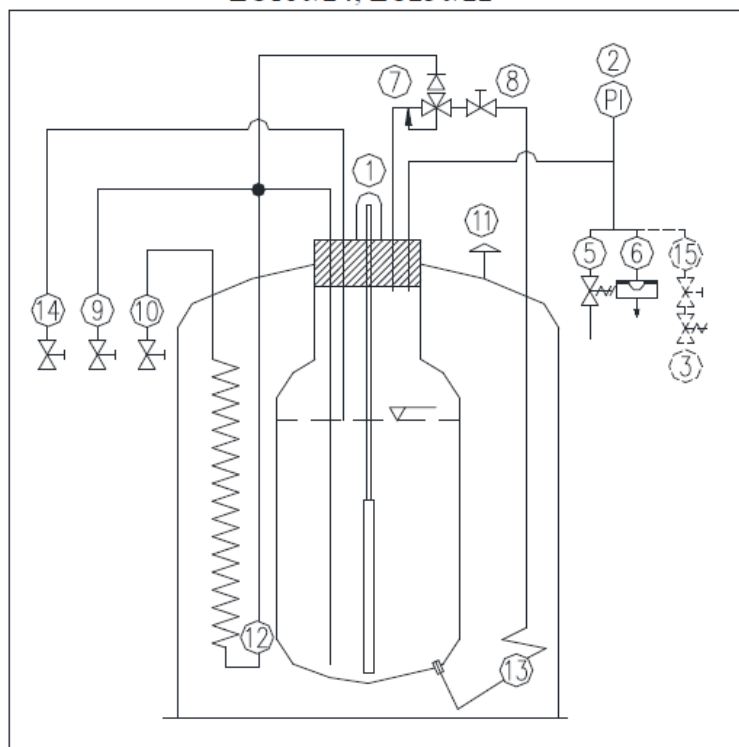
FLOW DIAGRAM EURO-CYL
EC 180/24 MCR LFT

NOTE: DOTTED
LINES=OPTIONS



No	NOMENCLATURE	DESCRIPTION	PRODUCER	COMMENT
1	Liquid Level Gauge	Roto-Tel with Protection Cap (orange)	Chart	Standard
2	Pressure Gauge	0-400 PSI (0-27,6 bar)	Wika	Standard
3	Low Pressure Relief Valve	set pressure 1,5 bar	Generant	Option
5	Safety Relief Valve	set pressure 24 bar	Generant	Standard
6	Bursting Disc	RPD ASSY 1/4MPT 32BAR CE MARKED	BS&B	Standard
7	Regulator	MCR Regulator,COMBO PBE3; 1/4"NPT 150-350 PSI (10,3-24 bar)	Cash Acme	Standard
8	Regulator Isol. Valve	VALVE T9464 DA, 3/8"NPT	Rego	Standard
9	Bottom Fill/ Liquid Withdrawal	VALVE T9464 DA, 3/8"NPT	Rego	Standard
10	Gas Withdrawal	VALVE T9464 DA, 3/8"NPT	Rego	Standard
11	Vacuum Valve/Safety Plug	Chart design	Chart	Standard
12	Vaporizer	Chart design	Chart	Standard
13	Pressure Bulding Coil	Chart design	Chart	Standard
14	Vent / Trycock Valve	VALVE T9464 DA, 3/8"NPT	Rego	Standard
15	Low Pressure Isol. Valve	Ball Valve 1/4"	Chart	Option

FLOW DIAGRAM EURO-CYL EC180/24; EC230/22



NOTE: DOTTED LINES=OPTIONS

No	NOMENCLATURE	DESCRIPTION	PRODUCER	COMMENT
1	Liquid Level Gauge	Roto-Tel with Protection Cap (orange)	Chart	Standard
2	Pressure Gauge	0-400 PSI (0-27,6 bar)	Wika	Standard
3	<i>Low Pressure Relief Valve</i>	<i>set pressure 1,5 bar</i>	<i>Generant</i>	<i>Option</i>
5	Safety Relief Valve	set pressure 24 bar (22 bar)	Generant	Standard
6	Bursting Disc	RPD ASSY 1/4MPT 32BAR CE MARKED	BS&B	Standard
7	Regulator	Liquid Cylinder Control Manifold (LCCM) 80 – 320 PSI (5,5 – 22 bar)	Chart	Standard
8	Regulator Isol.Valve	Included in LCCM	Chart	Standard
9	Bottom Fill/ Liquid Withdrawal	VALVE T9464 DA, 3/8"NPT	Rego	Standard
10	Gas Withdrawal	VALVE T9464 DA, 3/8"NPT	Rego	Standard
11	Vacuum Valve/Safety Plug	Chart design	Chart	Standard
12	Vaporizer	Chart design	Chart	Standard
13	Pressure Building Coil	Chart design	Chart	Standard
14	Vent / Trycock Valve	VALVE T9464 DA, 3/8"NPT	Rego	Standard
15	<i>Low Pressure Isol. Valve</i>	<i>Ball Valve 1/4"</i>	<i>Chart</i>	<i>Option</i>