

LPG

Tanks up to 1250 m³ & LPG-Flex[®] Pipes



- Underground LPG tanks
- Aboveground LPG tanks
- Vertical LPG tanks
- LPG Modules
- LPG-Flex[®] Pipes
- LPG Accessories





TUVNORD EN ISO 9001:2015

LPG Tanks & Pipes

CGH Group offers a wide range of LPG tanks, ranging from 9 m³ to 1250 m³ in various configurations, including aboveground, underground and vertical options. In addition, we offer modules, sumps and LPG-Flex[®] pipes, providing an innovative solution for LPG transport.



LPG Tanks from 9 m³ to 1250 m³

- Underground and mounded horizontal LPG tanks
- Aboveground horizontal LPG tanks
- Aboveground vertical LPG tanks

LPG storage tanks in underground, mounded and aboveground variants are available in volumes from 9 m³ to 1250 m³. LPG tanks are manufactured from carbon steel. They meet safety requirements regarding the storage of propane, butane and a mixture of these gases, as well as (r)DME. They hold valid permissions issued by a notified body for pressure devices subject to directive 2014/68/EU based on EN 13445 or AD 2000.

LPG tanks are intended to store products:

- For heating in domestic and industrial systems
- On petrol stations for LPG refuelling points
- On LPG depots and customs warehouses



Technical data

- LPG tanks are made of carbon steel and are equipped with access manholes and covers with fittings
- Production according to EN 13445 or AD 2000 and PED 2014/68/EU compliant.
- Surface preparation by abrasive blasting to Sa 2.5 in accordance with the EN-ISO 8501-1 standard.
- For underground tanks anticorrosive protection – PUR coating with 10 kV dielectric resistance
- For aboveground tanks corrosion protection with coating in C3 M class, optional C4 and C5 class
- Pressure: 15,6 bar – standard, 17,6 bar on request
- Working temperature: -20 °C / +40 °C
- Other configurations on request



Safety

LPG tanks from CGH fulfill safety requirements of propane and butane storage. We hold all necessary certificates to manufacture such tanks issued by Notified Body.

Aboveground Vertical LPG Storage Tanks



Technical data

- Design according to EN 13445 or AD 2000 and compliant to PED 2014/68/EU.
- Pressure 15,6 bar - standard, optional 17,6 bar
- Corrosion protection with coating in C3 M class, optional C4 and C5 class
- Operating temperature: -20 °C / +40 °C
- Tank supported on pipe legs or skirt
- Optional ladders and platforms with railings
- Other conditions on request



Tank Capacity	Tank Diameter	Tank Height*	Tank Weight
[m ³]	[mm]	[mm]	[kg]
10	1 600	6 600	3 700
15		9 100	4 500
20	2 000	7 750	5 400
25		9 250	6 200
29,9		10 750	7 000
50	2 500	11 900	12 000
40	2 900	7 300	9 600
50		8 800	11 100
61,1		10 500	12 700
84		14 000	16 000

* Height with tank skirt and nozzles on upper dished-end

LPG Tanks



Underground and mounded LPG Storage Tanks



Technical data

- Design according to EN 13445 or AD 2000 and compliant to PED 2014/68/EU
- Anticorrosive protection – PUR coating resistant to puncture 10 kV
- Pressure: 15,6 bar – standard, 17,6 bar on request
- Working temperature: -20 °C / +40 °C
- Other conditions on request

Tank Capacity	Tank Diameter	Tank Length	Tank Height	Tank Weight		
[m³]	[mm]	[mm]	[mm]	[kg]		
9	1 250	7 830	2 020	1 666		
9,9	1 600	5 510	2 370	2 231		
15		8 010		3 015		
9,9		2 000		3 720	2 770	2 221
14,5	5 220		2 917			
20,5	7 220		3 845			
25	8 720		4 541			
29,8	10 220		5 365			
36,1	12 220		6 293			
40,7	13 720		6 989			
45,4	15 220		7 705			
50,0	16 720		8 401			
54,7	18 220		9 097			
57,8	19 220		9 561			
42,5	2 500		9 470	3 270		7 328
52			11 470			8 731
62			13 470			10 298
71			15 470			11 702
81		17 470	13 125			
86		18 470	13 990			
91		19 470	14 692			
61,5	2 900	10 180	3 670	10 308		
71,5		11 680		11 730		
84,5		13 680		13 744		
97,5		15 680		15 640		
110		17 500		17 535		
120		19 000		18 957		
125		19 500		19 431		
138		21 500		21 446		
150	23 500	23 341				
150	3 200	19 740	3 970	25 504		
200		26 240		33 475		
150	3 400	17 840	4 170	26 315		
200		23 840		34 866		
250		28 840		42 076		
300		34 840		50 627		
150	3 600	15 960	4 370	27 987		
200		20 960		36 004		
250		25 960		44 531		
300		30 960		53 059		
200	3 800	19 055	4 670	37 897		
250		23 355		45 253		
300		27 855		52 951		
350		32 355		60 661		
400		36 855		68 387		
200	4 000	17 157	4 870	47 131		
250		21 157		48 932		
300		25 257		56 677		
350		29 357		63 702		
400		33 357		65 548		
600		49 654		110 000		
400	4 200	30 259	5 070	69 000		
800		59 759		125 000		
1 000		74 759		155 000		



LPG Tanks



Aboveground Horizontal LPG Storage Tanks



Technical data

- Design according to EN 13445 or AD 2000 and compliant to PED 2014/68/EU
- Corrosion protection with coating in C3 M class, optional C4 and C5 class
- Pressure: 15,6 bar – standard, 17,6 bar on request
- Working temperature: -20 °C / +40 °C
- Optional sun shields
- Optional ladders and platforms with railings
- Other conditions on request



Tank Capacity	Tank Diameter	Tank Length	Tank Height	Tank Weight	Distance between cradles**
[m³]	[mm]	[mm]	[mm]	[kg]	[mm]
9	1 250	7 650	2 120	1 750	6 375
9,9	1 600	5 330	2 470	2 343	3 700
15		7 830		3 113	6 200
9,9	2 000	3 540	2 870	2 354	1 500
14,5		5 040		3 039	3 000
20,5		7 040		3 953	5 000
25		8 540		4 638	6 500
29,8		10 040		5 450	8 000
36,1		12 040		6 364	10 000
40,7		13 540		7 049	11 500
45,4		15 040		7 754	13 000
50,0		16 540		8 439	14 500
54,7		18 040		9 124	16 000
57,8	19 040	9 581	17 000		
42,5	2 500	9 290	3 370	7 418	6 750
52		11 290		8 804	8 750
62		13 290		10 352	10 750
71		15 290		11 737	12 750
77		16 290		12 450	13 750
81		17 290		13 143	14 750
86		18 290		13 999	15 750
91		19 290		14 691	16 750
61,5	2 900	10 000	3 770	10 894	7 050
71,5		11 500		12 300	8 550
84,5		13 500		14 293	10 550
97,5		15 500		16 168	12 550
110		17 500		18 042	14 550
120		19 000		19 448	16 050
125		19 500		19 917	16 550
138	21 500	21 910	18 550		
150	23 500	23 784	20 550		
150	3 200	19 740	4 070	25 738	16 400
200		26 240		33 561	22 900
150	3 400	17 840	4 270	26 667	14 300
200		23 840		35 073	20 300
250		28 840		42 162	25 300
300		34 840		50 568	31 300
150	3 600	15 960	4 470	28 462	12 200
200		20 960		36 352	17 200
250		25 960		44 751	22 200
300		30 960		53 150	27 200
200	3 800	19 055	4 770	38 397	16 050
250		23 355		45 753	20 300
300		27 855		53 451	21 700
350		32 355		61 161	3 cradles 12 500
400		36 855		68 887	3 cradles 15 500
200	4 000	17 157	4 970	47 681	14 300
250		21 157		49 482	18 550
300		25 257		57 227	22 200
350		29 357		64 252	3 cradles 11 500
400		33 357		66 098	3 cradles 13 500
600***		49 654		110 000	3 cradles 21 500
400	4 200	30 259	5 170	69 600	3 cradles 12 000
800***		59 759		125 000	4 cradles 18 000
1 000***		74 759		155 000	4 cradles 22 500

LPG Modules



Underground LPG Modules

LPG module - LPG dispenser supply system integrated with tank, made in accordance with the PED 2014/68/UE directive and ATEX certification.

A Corken pump and a set of valves are installed in a steel sump, placed on top of a **9 do 20 m³** LPG tank. The complete as-built documentation of the LPG module with the **CE mark** includes the tank, pump and valves - it enables easy acceptance of the module by local Notified Body.

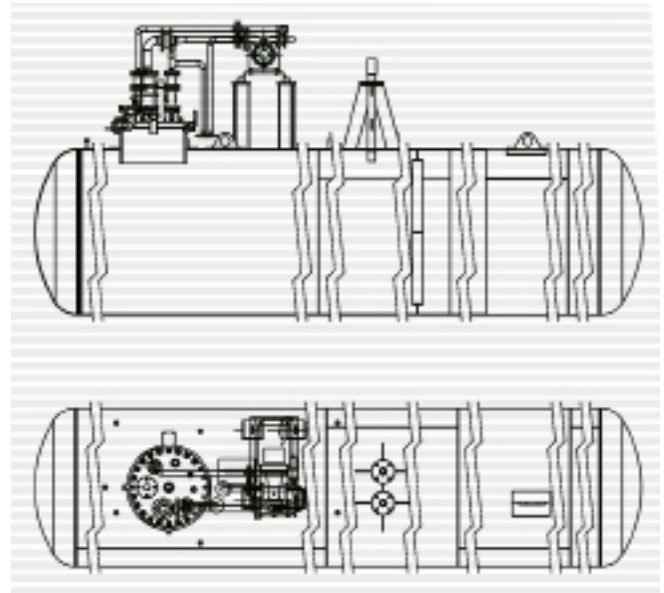
Standard equipment of LPG module

- LPG tank with a manhole
- LPG pump Corken FD/DLD 150 and fittings in the tank-pump system:
 - pump type: DLD 150
 - electric motor power: 5,5 kW

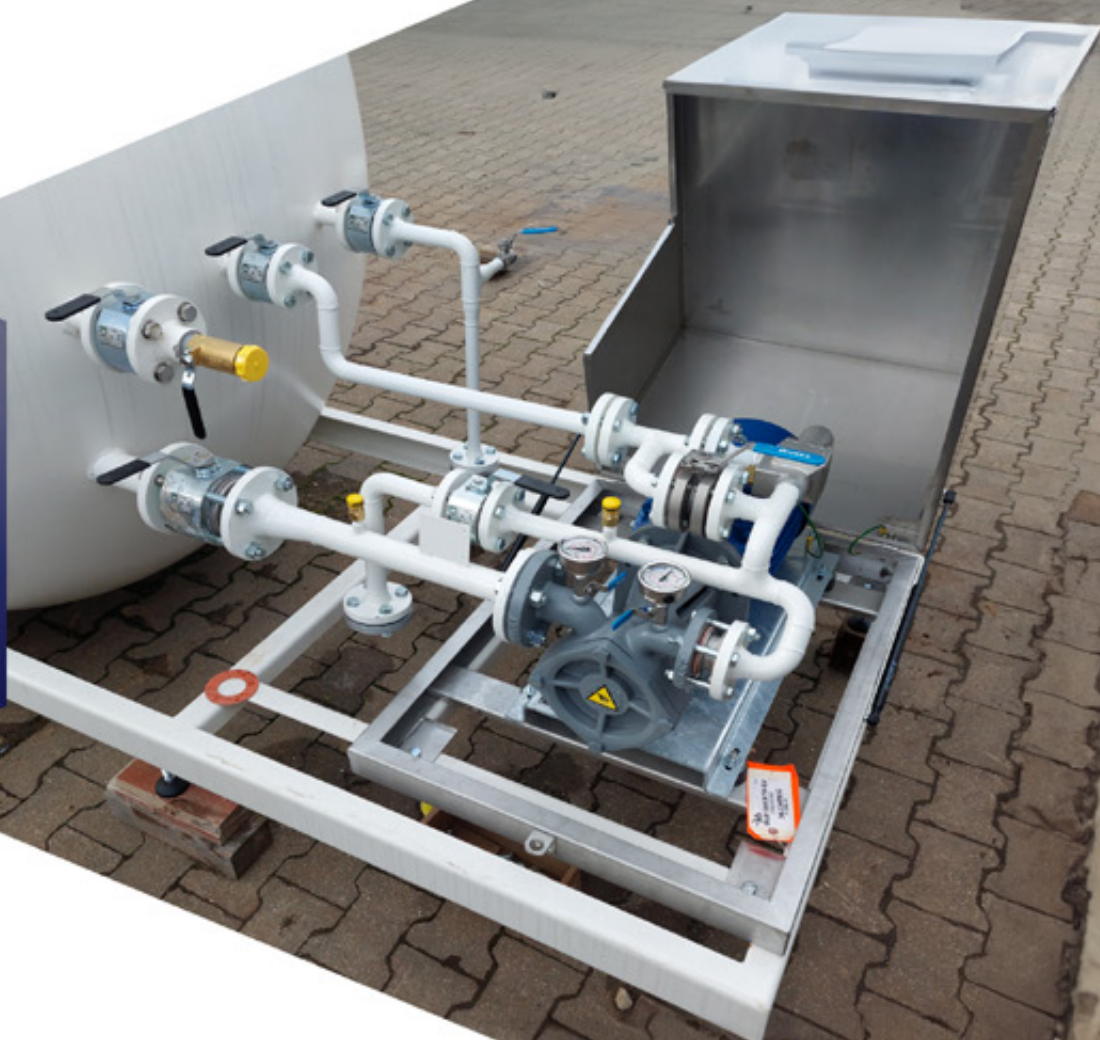
Installation and commissioning

- Piping installation DN 40/50 (with CE) from tank to pump suction side
- Installation of bypass Valve line – return of the liquid phase
- Assembly of the pumping unit on a tank
- Tightness test*
- Commissioning of the installation
- Training in the basic operation
- Installation marking according to technical diagram

***NOTE:** the above range of action does not include LPG dispenser and piping installation from pump to the dispenser each will be a subject to individual valuation



LPG Modules



Aboveground LPG Modules

LPG module - LPG dispenser supply system integrated with tank, made in accordance with the PED 2014/68/UE directive and ATEX certification.

A pump skid containing Corken pump and a set of valves is attached to a **9 to 20 m³** LPG tank. The complete as-built documentation of the LPG module with the **CE mark** includes the tank, pump and valves - it enables easy acceptance of the module by local Notified Body.

Standard equipment of LPG module

- LPG tank with a manhole
- LPG pump Corken FD/DLD 150 and fittings in the tank-pump system:
 - pump type: DLD 150
 - electric motor power: 5,5 kW

Installation and commissioning

- Piping installation DN 40/50 (with CE) from tank to pump suction side
- Installation of bypass Valve line – return of the liquid phase
- Assembly of the pumping unit on a tank
- Tightness test*
- Commissioning of the installation
- Training in the basic operation
- Installation marking according to technical diagram

***NOTE:** the above range of action does not include LPG dispenser and piping installation from pump to the dispenser each will be a subject to individual valuation





LPG-Flex[®] Pipes



Advanced pipes for LPG transport

Based on more than 25 years of experience in non-metallic pipework design and project engineering in both upstream and downstream segments of the Oil & Gas Industry, CGH Belgium offers technology for safe underground LPG transport with an advanced pipe.

The flexible and continuously spooled pipes provide for an extremely rapid installation at a lower cost. The use of advanced polymers and aramid fibre braid ensures corrosion resistance, high strength and a longer lifetime. The LPG-Flex® pipes are installed in continuous runs between tank and dispenser, which eliminates all buried and inaccessible joints. The plastic inner wall is 100 times smoother than steel and smaller pipe diameters will give identical flow results as the typically larger steel pipes and flexible corrugated steel pipes.

LPG-Flex® pipes eliminate the disadvantages of traditional steel pipework, the welding with the required X-ray testing as well as the internal and external corrosion, a major concern of the safety authorities.

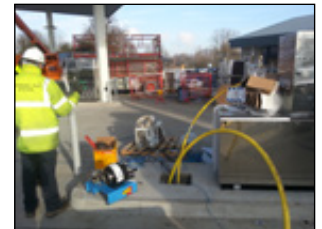


Applications

The LPG-Flex® pipes are used for the transport of Liquefied Petroleum Gas (LPG), propane, butane, pentane and dimethyl-ether (DME) in liquid phase as well as in gaseous phase.

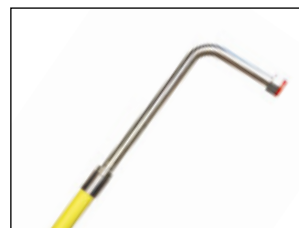
Thousands of installations are in use worldwide since 2009 in many applications:

- Autogas installations in service stations of several major oils companies
- Agriculture: poultry + livestock, wheat and corn drying, frost protection
- LPG distribution centres and filling installations for gas cylinders
- Industrial applications: heating, production processes, asphalt mills...
- Heating and cooking applications in hotels in remote areas
- Firefighting training centres
- And many more...



Installation of the fittings

The NPT male thread or flanged fittings are crimped on site or in a workshop by means of a (hand operated) hydraulic radial crimping machine. The crimping action locks the pipe wall and the pipe's braid between the insert and the ferrule, ensuring tightness and mechanical strength.

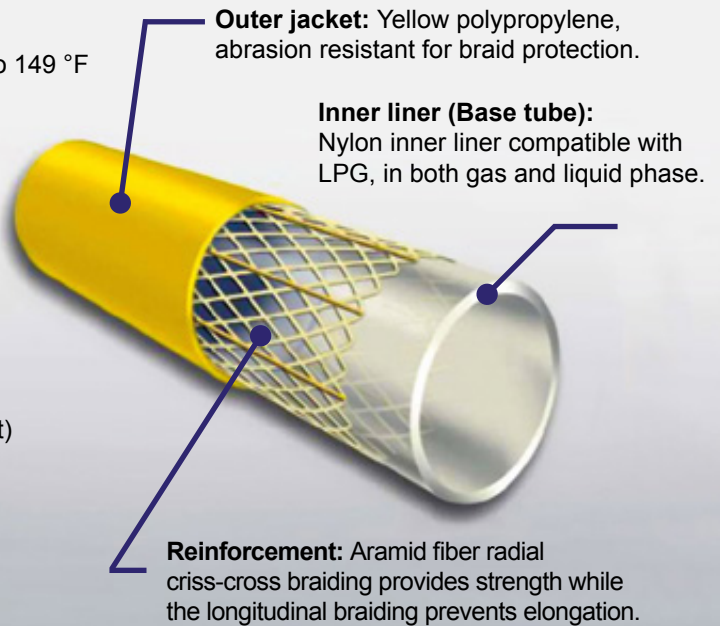




The strength of the pipe is entirely determined by the braid and NOT by the wall thickness, making the LPG-Flex® pipe extremely flexible and easy and fast to install!

Features & composition

- Max. operating temperature: -40 °C to +65 °C / -40 °F to 149 °F
- Pipe braid design strength: 2,2 times the max. operating pressure
- Max operating pressure: 35 bar - 500 psi
- Maximum testing pressure: 52 bar - 760 psi
- Min. installation temperature: 0 °C.
Pipe must be heated before uncoiling below 0 °C
- Crush resistance: 25 to 30 kg/cm²/ 284 to 427 psi, depending on the pipe diameter
- Max. pulling force: 5.000 kg - 11,000 lbs
- Standard pipe diameters: DN20, DN25 and DN32, larger diameters on demand
- Disposable reels with a standard length of 200 m (659 ft) or 400 m (1318 ft)
- Pipes have length marks in meter or foot
- Only for buried applications, directly in a trench or in a secondary duct



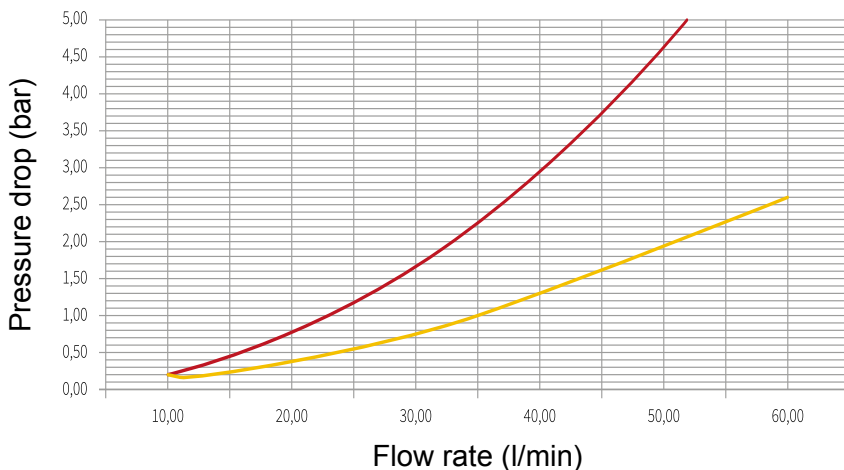
Fittings

- Insert: carbon steel ending on male NPT thread, stub flange including slip-on flange and O-ring or 500 mm seamless carbon steel pipe. BSPT threads are available on demand
- Ferrule: 304 stainless steel

Product codes and dimensions

Pipe	DN	O.D. mm - inch	I.D. mm - inch	Bending radius m - ft	NPT fitting	Fitting thread	Flange fitting	Tube fitting 500 mm	Tube type
LP1025	20	31,75 - 1 1/4"	22,35 - 0.88"	0,60 - 2	MC20075-NPT	3/4"	MC20075-FLA	MC20075-500	22L
LP1050	25	38,10 - 1 1/2"	27,00 - 1.08"	0,60 - 2	MC25100-NPT	1"	MC25100-FLA	MC25100-500	28L
LP1075	32	44,45 - 1 3/4"	33,80 - 1.33"	0,70 - 2.3	MC32125-NPT	1 1/4"	MC32125-FLA	MC32125-500	35L

Note: Coupling sleeves are AISI304, inserts are carbon steel. NPT inserts are available in AISI304. Add -SS to the reference for stainless steel NPT inserts, e.g. MC20075-NPT-SS.



Plastics are about 100 times smoother than steel. The smaller LPG-Flex® pipes will give identical flow results than the typically larger steel pipes. This pressure drop chart is based on a typical 80 m DN20 pipe run at different flow rates.

LPG-Flex® pipe: Steel tubing:

LPG Accesories

LPG sumps

Modular LPG sump

Sump type and code	Version
LPG2-PA 741-000-0112	Modular LPG sump 1200 x 1770 mm, h: 950 mm, S235 painted with primer



Sump bolted to the brackets on the tank

Studnia modułowa LPG INOX

Sump type and code	Version
LPG4 231-190-0002	Modular LPG INOX sump 1200 x 1770 mm, h: 530 mm, steel 1.4307
LPG5 231-210-0001	Modular LPG INOX sump 1200 x 2270 mm, h: 530 mm, steel 1.4307



INOX Sump bolted to the base for modular sump

Base for modular sump INOX

Sump type and code	Version
LPG3-E 743-000-0012	Base for modular sump of LPG4 1200 x 1770 mm, h: 470 mm, painted with PUR
LPG6-E 799-900-0837	Base for modular sump of LPG5 1200 x 2270 mm, h: 470 mm, painted with PUR



Sump Extension bolted to the brackets on the tank

LPG sump with cover

Sump type and code	Version
LPG1-ZZ 742-002-0010	LPG sump Ø1200 mm, h: 700 mm with cover, hot dip galvanized



Sump bolted to the brackets on the tank

LPG Accesories

LPG Gauges

The Rochester Junior and Senior

Junior and Senior gas gauges suit LPG gas applications, with variations for tank types. Junior gauges include Buna-N gaskets, while Senior gauges have stainless steel heads and stronger magnets for large tanks. Tank drawings are essential for vertical tanks to recommend gauge adapter placement.

The Rochester Magnetel®

Rough Rider® gauges are designed for installation on the side or end of mobile tanks at the centerline. These gauges feature an exclusive spring-controlled shock absorber on the float arm, significantly reducing the stress that can rapidly deteriorate conventional gauges.



Speed Chassis

- Saving on the foundation costs
- Time saving
- Safety when unloading and clamping



Speed chassis application video

Anchor Bands

- Steel clamps utilized to prevent tank from buoyancy from groundwater
- Quick and effective fixing of a tank to foundations
- Galvanized

Reinforced concrete beams

- Anchoring the tank to prefabricated ballast beams
- Delivery of the anchoring system with the tank
- Time saving





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