

# LPG ROAD TANKERS & ISO TANK CONTAINERS

FOR SAFE TRANSPORTATION AND DISTRIBUTION OF LPG





# COMPANY

Kadatec's storage tanks, trailers and containers are manufactured according to high industry standards, in a new spacious factory and on modern machinery. Our factory has a considerable production capacity of storage tanks, trailers and containers per year.

Our company is ISO 9001:2009 certified. By manufacturing and delivery we follow the rules of quality and respect of the customer. Our products comply with European quality requirements.

We started as a developing company and built on this base in our future orientation. Our team has a long experience in the branch of LPG, which helps us to better understand customer needs and new directions in the energy sector.

Our manufacturing program includes besides storage and transport sections, also measuring and dispensing technology. Further we cooperate with world leading manufacturers of LPG technologies in order to extend our offer to the complete technology solutions.

Our satisfied customers are located in Western Europe, Eastern Europe and former Soviet Union.



<p><b>CERTIFICATE</b></p> <p>Certification Body Management System No. 3053</p> <p><b>KADATEC</b></p> <p>KADATEC s.r.o.</p> <p>Věteřská 5</p> <p>CE 287 010000</p> <p>Nová Ves nad Metují</p> <p>ISO 9001:2009</p> <p>For the production and operation of manufacturing, storage and transport systems for LPG and LBG storage tanks, road trailers and filling stations, as well as measuring and dispensing technology, including the production of storage tanks, trailers and containers per year.</p> <p>As an authorized professional, Report No. 48.403.042</p> <p>Proof has been provided that the requirements are met.</p> <p>CSN EN ISO 9001:2009</p> <p>an EU Member. The certificate is valid until 03.03.2015</p> <p>Certificate Registration No. 86.403.108</p> <p>Page 1 of 2</p>	<p><b>CERTIFICATE</b></p> <p>Registration number 05.480.040</p> <p>Issued upon the recommendation of professional eligibility to:</p> <p><b>KADATEC s.r.o.</b></p> <p>Technische Reparatur</p> <p>2017 21 010000</p> <p>For the production and operation of manufacturing, storage and transport systems for LPG and LBG storage tanks, road trailers and filling stations, as well as measuring and dispensing technology, including the production of storage tanks, trailers and containers per year.</p> <p>As an authorized professional, Report No. 48.403.042</p> <p>Proof has been provided that the requirements are met.</p> <p>CSN EN ISO 9001:2009</p> <p>an EU Member. 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We manufacture ADR compliant LPG road tankers in tank sizes 13 - 60 m<sup>3</sup>, suitable for LPG mixtures A, B, C.

Our road tankers are certified according to the ADR standard 2013 and European Transportation Pressure Equipment Directive TPED (2010/35/EU; NV 208/2011).

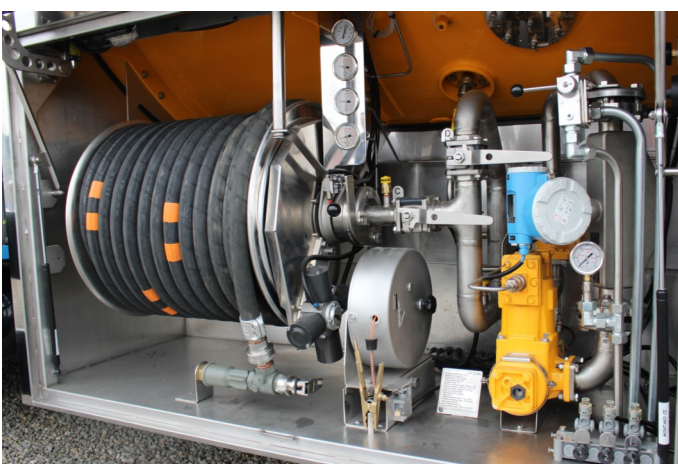
Road tankers are manufactured as bobtails and semi-trailers on 2 or 3 axes. The chassis can be provided by the customer or we can supply the entire solution.

Our road tankers are manufactured of highly resistant fine-grained steel and with accessories using modern materials (carbon, titanium, stainless steel). This makes us different from our competitors by achieving lower product weight for a given volume of tank. Surface treatment is made by nanotechnology, which increases self-cleaning ability and good abrasion resistance of the surface.

Measuring and dispensing devices are designed from components of world producers (Corken, Blackmer, Emerson, Endress+Hauser, Festo, REGO, Fisher, Cavagna, Elaflex etc.). Volume measurement is done on *Coriolis* mass principle and is the standard design solution on all our road tankers.



Standard equipment is also an evaluation unit with electronic 10,4" LCD display Kadatec Corio T, with GPS and on-line remote data transfer from point of sale and immediate billing.



## DISTRIBUTION VERSION:

- \* Manhole DN500 in the rear bottom of the tank;
- \* CORKEN hydraulic pump type ZH2000 / 3200 / 4200
- \* Measuring devices: dual-mass flow meters EMERSON or ENDRESS+HAUSER: density measurement, dispensing precision 0.2%!, differential valve and separator SAMPI (Liquid Controls);
- \* Hose reel HAAR HPSI 3A-F1 ¼ 600 600 405 R AIRSTAR Pm PSB with grounding cable D2,5mm Cu, with a grounding terminal;
- \* Liquid phase hose: hose length 40m, DN32, with pneumatic actuator and filling connection;
- \* Cabinet made of stainless steel with lights in 2x Ex-execution, with valves and connections;
- \* Bottom valves FISCHER/REGO/CAVAGNA;
- \* Connections, valves, ball valves;
- \* Temperature and pressure measurement in the pipes, tubular level gauge and filling control valves 8 pcs;
- \* Side level gauge in the tank;
- \* Pneumatic distribution for control of the bottom valves;
- \* Hydraulic distribution for the pump drive;
- \* Roof cover of polished stainless steel;
- \* LPG piping of stainless steel.

## TRANSPORT VERSION:

- \* Manhole DN500 in the rear bottom of the tank;
- \* Cabinet made of carbon and stainless steel with valves and connections;
- \* Bottom valves FISCHER/REGO/CAVAGNA;
- \* Connections, valves, ball valves;
- \* Temperature and pressure measurement in the pipes, tubular level gauge;
- \* Level gauge side installation;
- \* Hose reel HAAR with grounding cable;
- \* Pneumatic distribution for control of the bottom valves;
- \* Roof cover of polished stainless steel;
- \* LPG piping of stainless steel.



## LPG BOBTAILS AND TRAILERS JACK

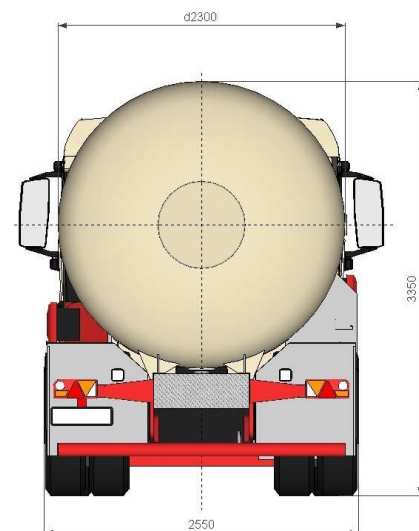
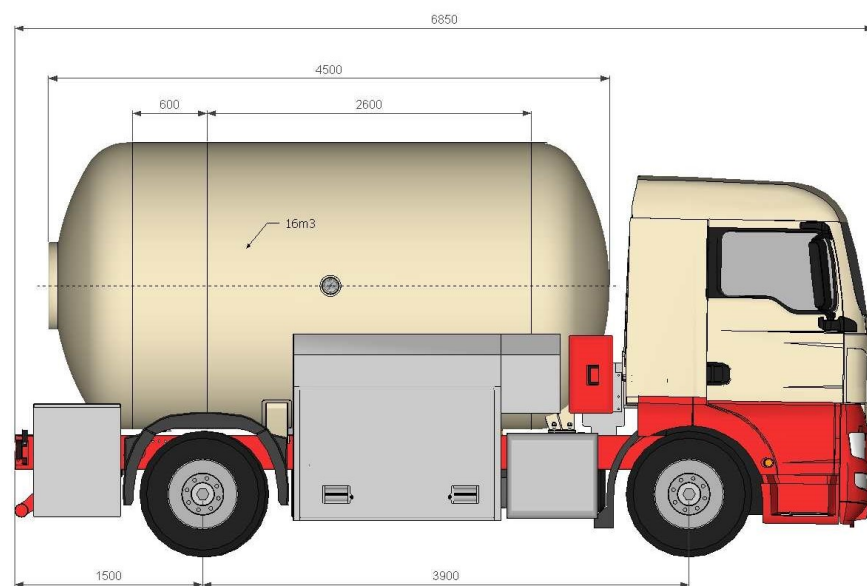
Bobtails are used for LPG distribution in terrain, where a high agility is needed.

Bobtails are assembled on chassis MAN, DAF, Volvo, Mercedes etc., on axles 4x2 (4x4) and 6x2 (6x4, 6x6). The transferring and metering systems are installed in lateral cabinet made of stainless steel.

### FIXED STRUCTURE 4X2 16-18 M<sup>3</sup>



Fixed structure for 4x2 (4x4) bobtails with a total weight of 18 tons. The advantage of a fixed structure is a low-lying stainless steel cabinet on a side of the vehicle. It is a very compact solution with compressor.



Tank capacity (l)	Outer diameter (mm)	Nominal length (mm)	Nominal width (mm)	Nominal height (mm)	Tare weight (kg)	Max. load (kg) (propane)	Max. gross weight (kg)
16 400	2 300	4 500	2 550	3 350	11 220	6 780	18 000



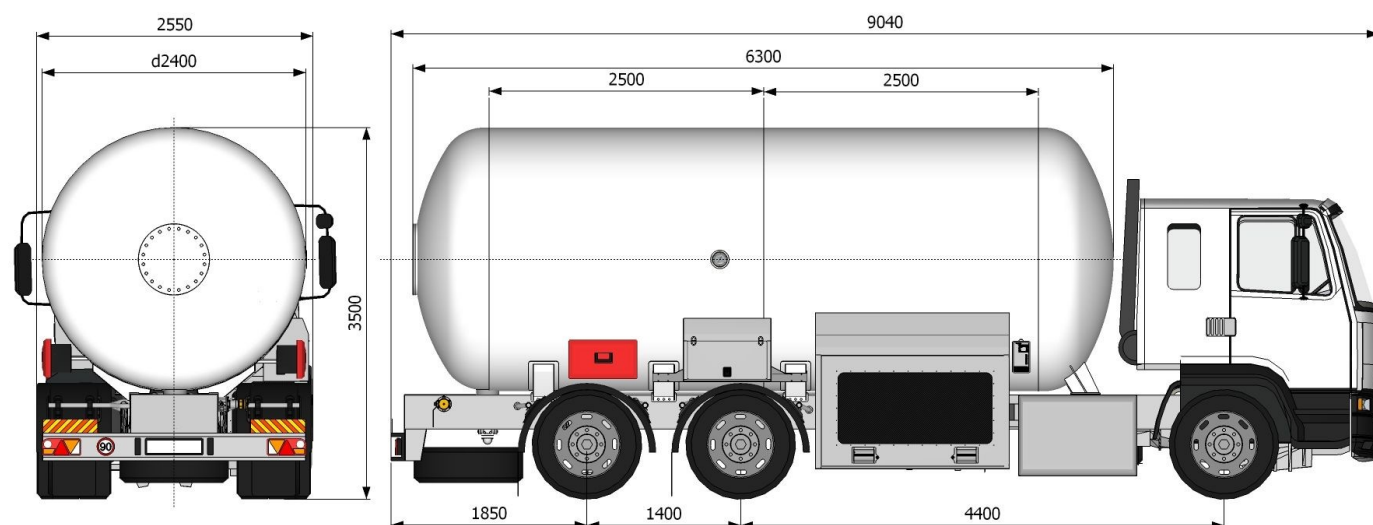


# LPG BOBTAILS 6x2 (6x4, 6x6) 25-29 M<sup>3</sup>



Fixed structure for 6x2 (6x4, 6x6) vehicles with a total weight of 26 tonnes. The tank volume 25-29m<sup>3</sup> depends on weight of the chassis, which is always specified by the customer. The advantage of a fixed structure is a low-lying stainless steel cabinet on a side of the vehicle.

## FIXED STRUCTURE 26 M<sup>3</sup>



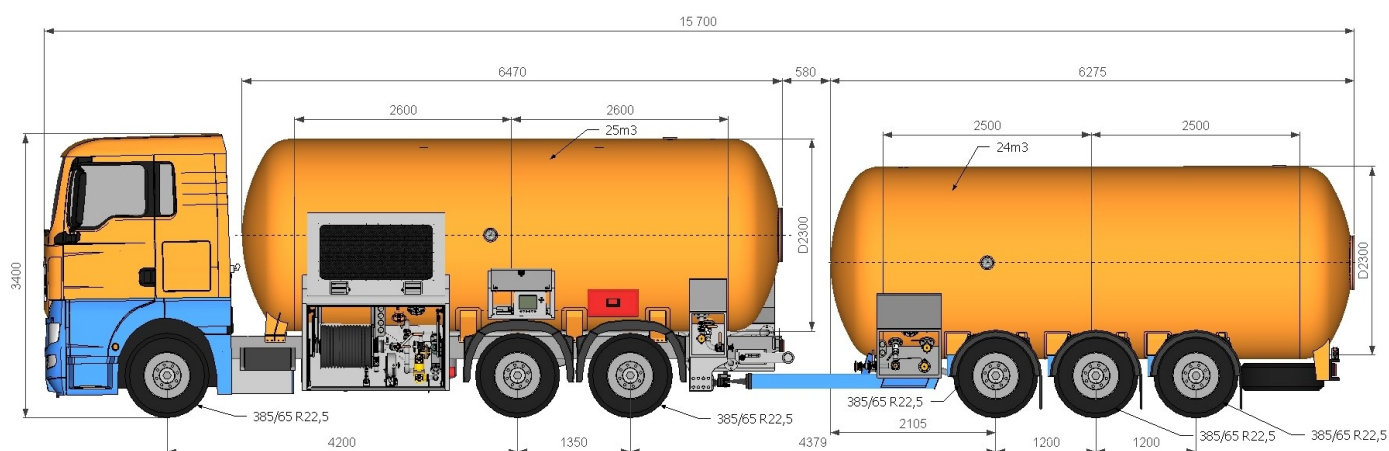
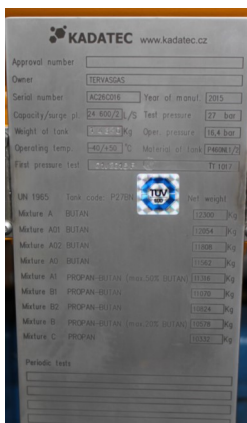
Tank capacity (l)	Outer diameter (mm)	Nominal length (mm)	Nominal width (mm)	Nominal height (mm)	Tare weight (kg)	Max. load (kg) (propane)	Max. gross weight (kg)
26 200	2 400	6 300	2 550	3 500	13 780	11 005	24 785





# LPG BOBTAIL 6x2 WITH TRAILER JACK

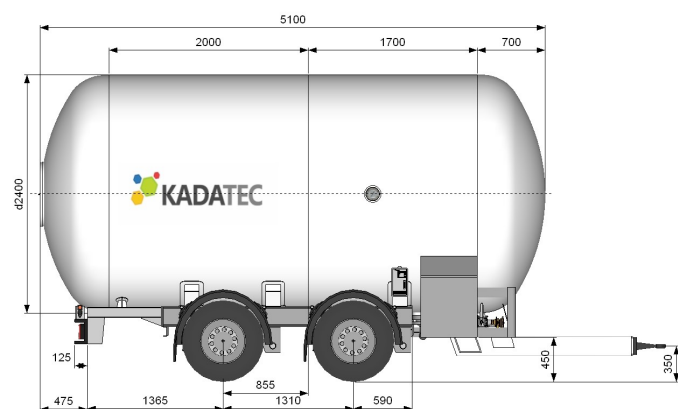
## FIXED STRUCTURE 25 M<sup>3</sup> WITH TRAILER JACK 24M<sup>3</sup>



Tank capacity (l)	Outer diameter (mm)	Nominal length (mm)	Nominal width (mm)	Nominal height (mm)	Tare weight (kg)	Max. load (kg) (propane)	Max. gross weight (kg)
24 600	2 300	6 470	2 530	3 335	14 320	10 332	24 634

## TANDEM TRAILER JACK 21 M<sup>3</sup>

The tandem trailer as supplement to the bobtail has a great advantage in a very short length and a high manoeuvrability. The train consisting of a tanker and a trailer is very short. The tandem trailer compared to the classical solution of the semitrailer allows lifting of the front axle and thus sparing the tires.



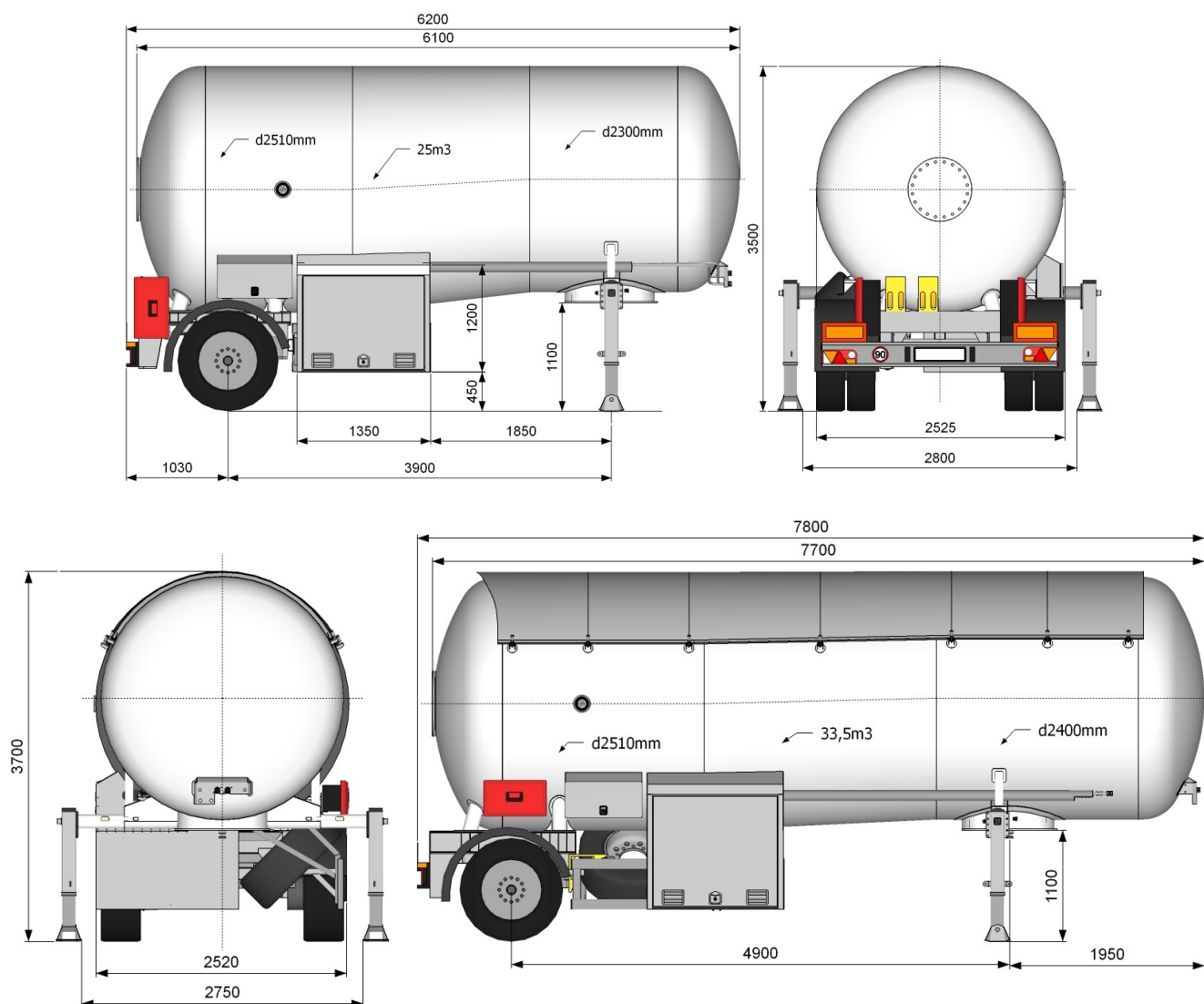
Tank capacity (l)	Outer diameter (mm)	Nominal length (mm)	Nominal width (mm)	Nominal height (mm)	Tare weight (kg)	Max. load (kg) (propane)	Max. gross weight (kg)
21 750	2 400	5 100	2 490	3 150	6 230	9 135	15 365





## 1-AXLE SEMI-TRAILERS 25-34 M<sup>3</sup> (DISTRIBUTION VERSION)

Our 1-axle semitrailers replace completely and excel in technical and economical view the swap containers (shorter length of 6m, conical tank embodiment, lower height of max. 3.5m, low centre of gravity). Another advantage of these semi-trailers is the possibility to share the same tractor with the large semi-trailers, so that the tractor has a versatile application. The 1-axle semitrailer also has a higher transport capacity compared to the swap container.



## 3-AXLES SEMI-TRAILER 45 M<sup>3</sup> (DISTRIBUTION VERSION)

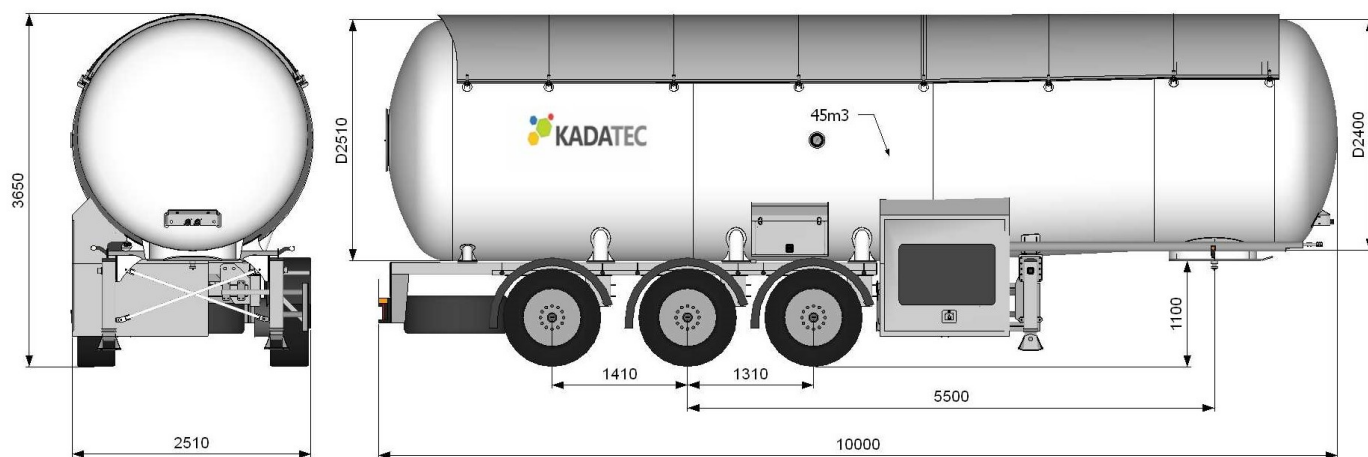




## LPG SEMI-TRAILERS ON 3 AXLES 45-52M<sup>3</sup>

### 3-AXLES SEMI-TRAILER 45 M<sup>3</sup> (DISTRIBUTION VERSION)

Here are applied the advantages of a conical tank design: low center of gravity, high stability in operation, high maneuverability, especially in the cities.



Tank capacity (l)	Outer diameter (mm)	Nominal length (mm)	Nominal width (mm)	Nominal height (mm)	Tare weight (kg)	Max. load (kg) (propane)	Max. gross weight (kg)
45 000	2 510/2 400	10 000	2 510	3 650	11 100	18 900	30 000

### 3-AXLES SEMI-TRAILER 49 M<sup>3</sup> (DISTRUBUTION VERSION)

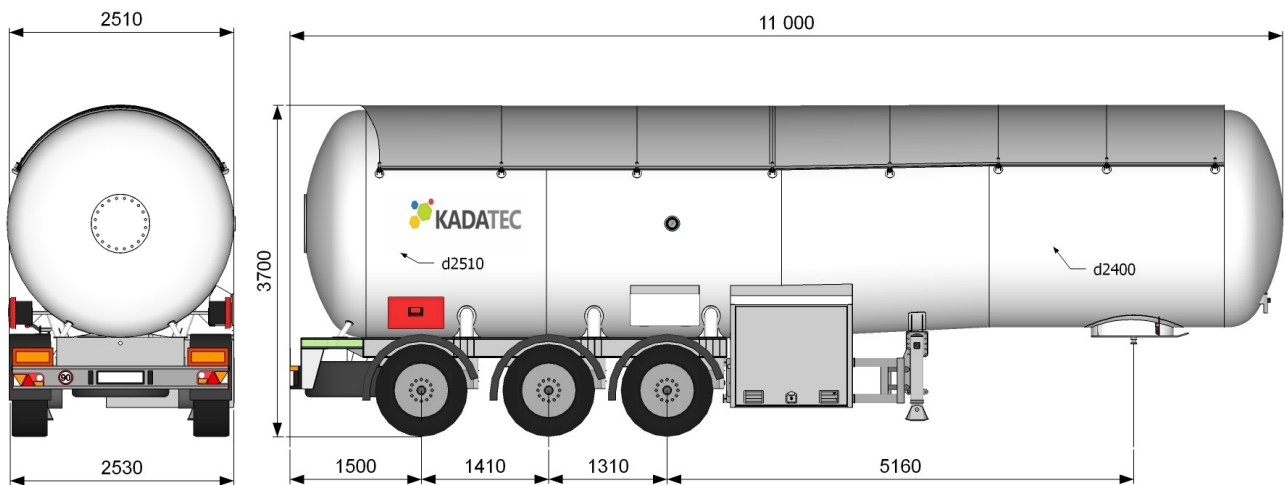




# LPG SEMI-TRAILERS ON 3 AXLES 45-52M<sup>3</sup>



## 3-AXLES SEMI-TRAILER 49 M<sup>3</sup> (DISTRIBUTION VERSION)



Tank capacity (l)	Outer diameter (mm)	Nominal length (mm)	Nominal width (mm)	Nominal height (mm)	Tare weight (kg)	Max. load (kg) (propane)	Max. gross weight (kg)
48 800	2 510/2 400	11 000	2 530	3 700	11 500	20 501	32 001

## 3-AXLES SEMI-TRAILER 52 M<sup>3</sup> (TRANSPORT VERSION)



Tank capacity (l)	Outer diameter (mm)	Nominal length (mm)	Nominal width (mm)	Nominal height (mm)	Tare weight (kg)	Max. load (kg) (propane)	Max. gross weight (kg)
52 200	2 510/2 400	11 700	2 530	3 650	11 600	21 942	33 524

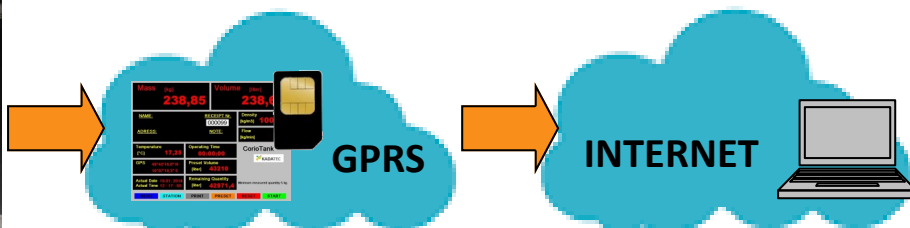
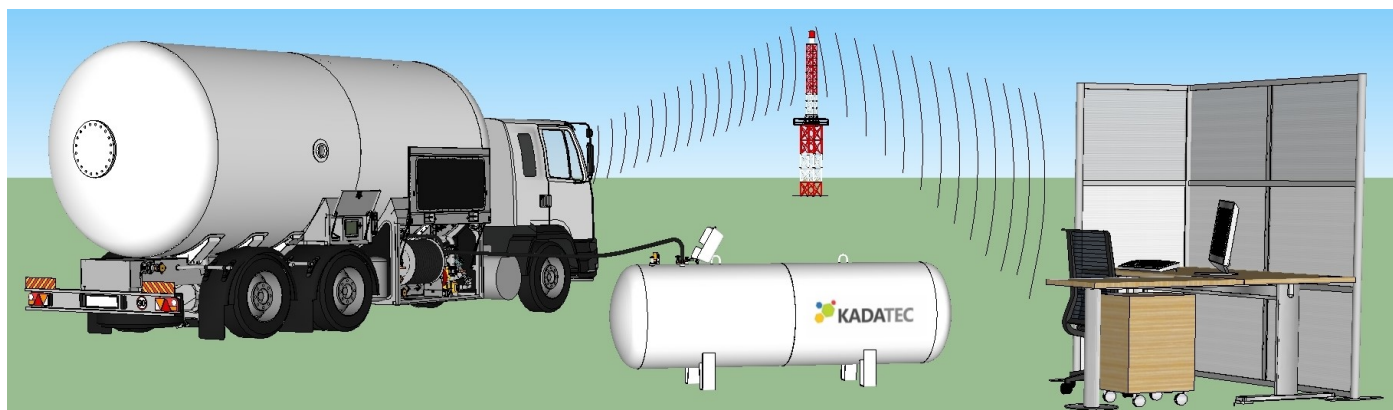


# ACCESSORY FOR ROAD TAKERS - MEASURING UNIT

## MEASURING UNIT CORIO T WITH EVALUATION UNIT KMV3150-CorioTank

Corio T measuring unit with 10,4" LCD display is used for measuring the delivered quantity of LPG. It is equipped with GPS technology and on-line remote data transfer from the point of sale and immediate billing. This metrologically certified electronic device with high measuring accuracy (0.2%) provides immediate information on the gas composition and quality by measuring the mass and density in real time and temperature. By printing those data on the receipt, customer receives true information about the product he buys, and its quality.

Measuring unit consists of hydraulic part, manufactured by Endress+Hauser or Emerson and electronic part, which is evaluation unit type KMV3150-CorioTank for the evaluation and control of the electronic outputs and inputs.



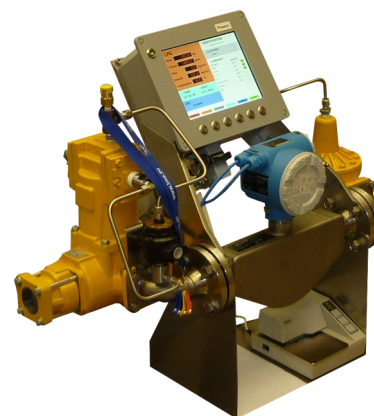
Customer receives following information displayed on the LCD multifunctional display and printed on the bill:

- \* Immediate dispensing in kilograms and litres simultaneously
- \* Immediate gas density and propane-butane mixture in %
- \* Current pump performance in kg/min
- \* Information on temperature compensation at 15°C

The evaluation unit is equipped with printer EPSON, the bill is printed on site after dispensing.

The system is optionally equipped with GPRS / GPS or GLONASS technology, which assures:

- \* Data transfer to the central customer server
- \* Online monitoring of vehicle route and information about dispensing from the road tanker
- \* Immediate invoicing for dispensed gas from the office of gas owner.



Measured liquid	Liquefied gas DIN 51622 / EN 589
Maximum liquid flow QLmax / QLmin (kg/min)	190 / 33
Accuracy of measurement	0,2% at 100 kg/min
Maximum operating pressure pmax / pmin (MPa)	1,8 / 0,7
Operating temperature (°C)	-40/ +50
Maximum noise level (dB)	<60
Rated supply voltage of the measuring unit	~ 200V 240V, 50/60 Hz
Rated input in operation without heating /with heating (W)	70 / 250
Electronic counter consumption	= 12V / max. 1500 mA

### Approvals

CMI certificate of conformity according to 2004/22/EC  
MID certificate







## 20FT ISO TANK CONTAINERS KC240/20 AND KC243/20

### Description:

ISO tank containers are designed for:

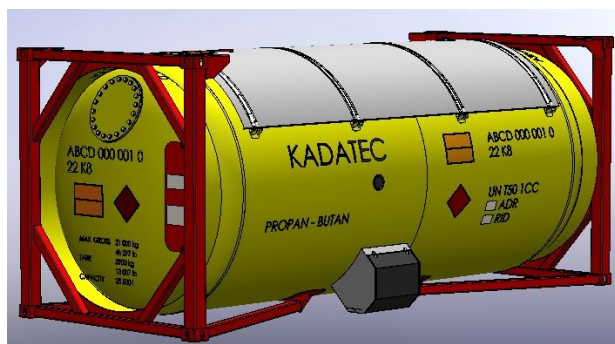
- \* safe transportation of liquefied petroleum gas by road, rail, river and sea. Suitable for both domestic and international transport;
- \* filling, draining and temporary storage or backup storage of LPG for different technologies.

Container provides full inviolability and integrity during delivery and temporary storage of cargo. It has a solid construction, ensuring its multiple use.

The container has a fixed structure, equipped with corner brackets, designed for loading, unloading, stacking and fastening.



### KC243/20 – 25,5m³ ISO Tank Container:



ISO tank container is equipped with:

- \* Waves breakers
- \* Manhole DN500
- \* Footbridges and protective roof
- \* Stainless steel cabinet containing:
  - \* Closing mechanism 2" drain/refill of liquid phase
  - \* Closing mechanism 2" drain/refill of gaseous phase designed to equalize the pressure in the tank during filling and discharge of vapour loads
  - \* Safety valves, level gauge with a drainage device with three shut-off valves, pressure gauge.
  - \* Tube leading to the tank bottom to ensure the complete drainage of liquid cargo.

### Specifications:

Max. specific gravity (kg / l)	0,7
Max. working pressure (bar)	16,4
Test pressure (bar)	25
Operating temperature (°C)	-40/+50
Medium	Liquefied gas DIN 51622 / EN 589
Authorized max. weight of upper tank containers during stacking (kg)	19 2000
Tank vessel	P460LN2 (EN 10028-3)
Materials:	S355J2H (EN 10025-2); S235JRH (EN 10025-2)
Frame	Stainless steel 1.4301 (EN 10088-2)
Roof	According to EN ISO 12944-5
Surface coating	YES
ESD protection	YES
Approvals	PED, ISO 1496-3, CSC, IMDG, RID, ADR

### Dimensions and parameters (type 1CC):

Tank capacity (l)	Outer diameter (mm)	Nominal length (mm)	Nominal width (mm)	Nominal height (mm)	Tare weight (kg)	Max. load (kg)	Max. gross weight (kg)
23 900	2 400	6 058 -6	2 438 -5	2 591 -5	6 700	14 300	21 000
25 500	2 430	6 058 -8	2 438 -5	2 591 -5	5 900	15 100	21 000

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