

## TANKERS FOR TRANSPORT OF LPG

Semi-trailer tankers or truck-mounted tanks with the option of complete transfer equipment for LPG transport and supply.

Lapesa LPG tanks, with volume capacities starting at 15 m<sup>3</sup> for the rigid truck-mounted type and at 56 m<sup>3</sup> for semi-trailer tankers, adapt to the specific demands of individual projects and their requirements in terms of tank and/or vehicle characteristics.

### General/standard characteristics

- Tank for the transport of ADR class 2 liquefied gas under pressure.
- Design and construction according to ADR.
- Product to be contained: LPG (UN 1965), commercial propane and butane.
- With parasol aluminium plate covering 120° of cylinder.
- ADR design pressure: 25 bar.
- Maximum working pressure: 19.2 bar.
- Test pressure: 25 bar.
- Design temperature: -20 +50°C.

### Controls and tests

- Inspections as per design code.
- 100% weld x-raying.
- Hydraulic test at 25 bar.
- Testing of tightness of unit with transfer equipment.
- Tests according to ADR.

### Basic equipment

- Internal head valves with flow limiter and opening via automatic return lever, for connections to liquid phase and gas phase, with "fire-safe" type ball valve, sealable with blind cap.
- Valve with pressure gauge and high point indicator.
- Background drain valve.
- Rotating level.
- Thermowell temperature indicator.

- Safety valve (optional).
- DN500 manhole located on rear head.
- Electrical and pneumatic installation, according to ADR.

### Transfer equipment

- Side or rear metal cabinet with liquid LPG transfer equipment.
- Background valves.
- Liquid transfer pump. Hydraulically or mechanically operated from drive shaft.
- Liquid LPG meter, with degasifier and temperature compensation.
- Reel for winding flexible supply hose. Hydraulically operated.
- Hose end with shutoff valve and ACME coupling.
- Decompression valves on pipes.
- Earth wire reel.

### External finish

- Shot-blasting of unit SA 2 ½.
- Anti-corrosion protection of surface with coat of polyamide epoxy (60 microns).
- Top coat of white polyurethane (60 microns).

### Options

- Design pressure and temperatures.
- Thicknesses, paint and colour of external finish.
- Signs on tank body.



### SEMI-TRAILER TANKERS FOR TRANSPORT OF LPG

Semi-trailer tankers for transport of liquefied petroleum gases (LPG), with tank capacities of 42 or 48 m<sup>3</sup> on a 3-axle trailer.

**Products to be transported:** class-2 gases (propane, butane, butylene, isobutene, propylene) and mixtures (A, A0, A01, A1, B, B1, B2, C).

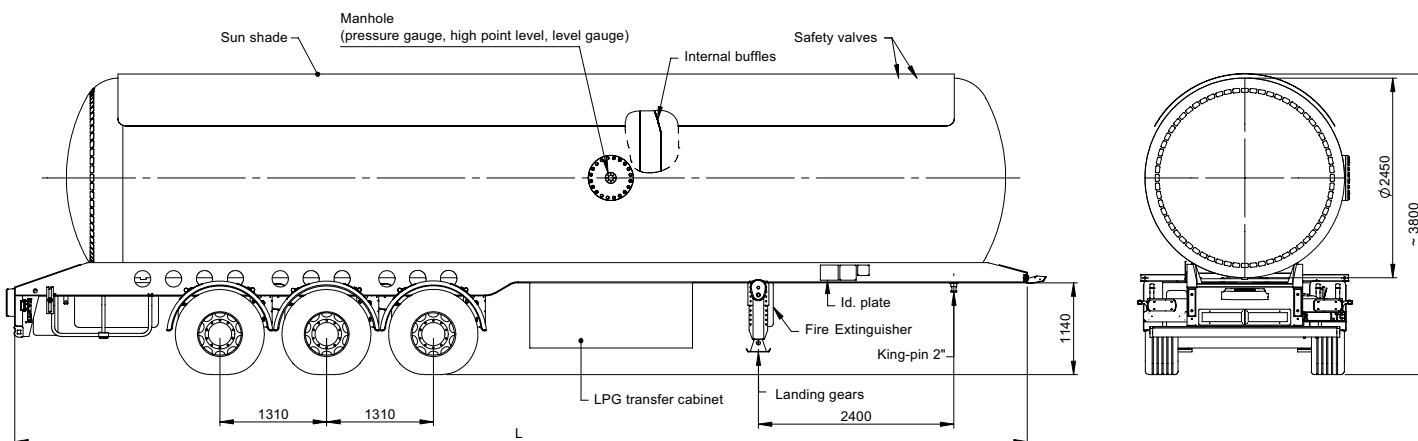
**One compartment LPG tanker,** with internal baffles for partial transport.

**With aluminum sunshade** comprising 120° of of the vessel, at upper side.

**Cabinet with service equipment.**

TANKER TYPE		LT42	LT48
Volumetric capacity	m <sup>3</sup>	42	48
Tare weight of semi-trailer	Tn	11,8	12,6
Product (LPG, 85%, 0,5 Kg/l) load	Tn	17,7	20,2
Tractor unit	Tn	7,0	7,0
Total weight of fully loaded vehicle	Tn	36,5	39,8
L: Set length	mm	10.270	11.500

\* Dimensions and estimated weights



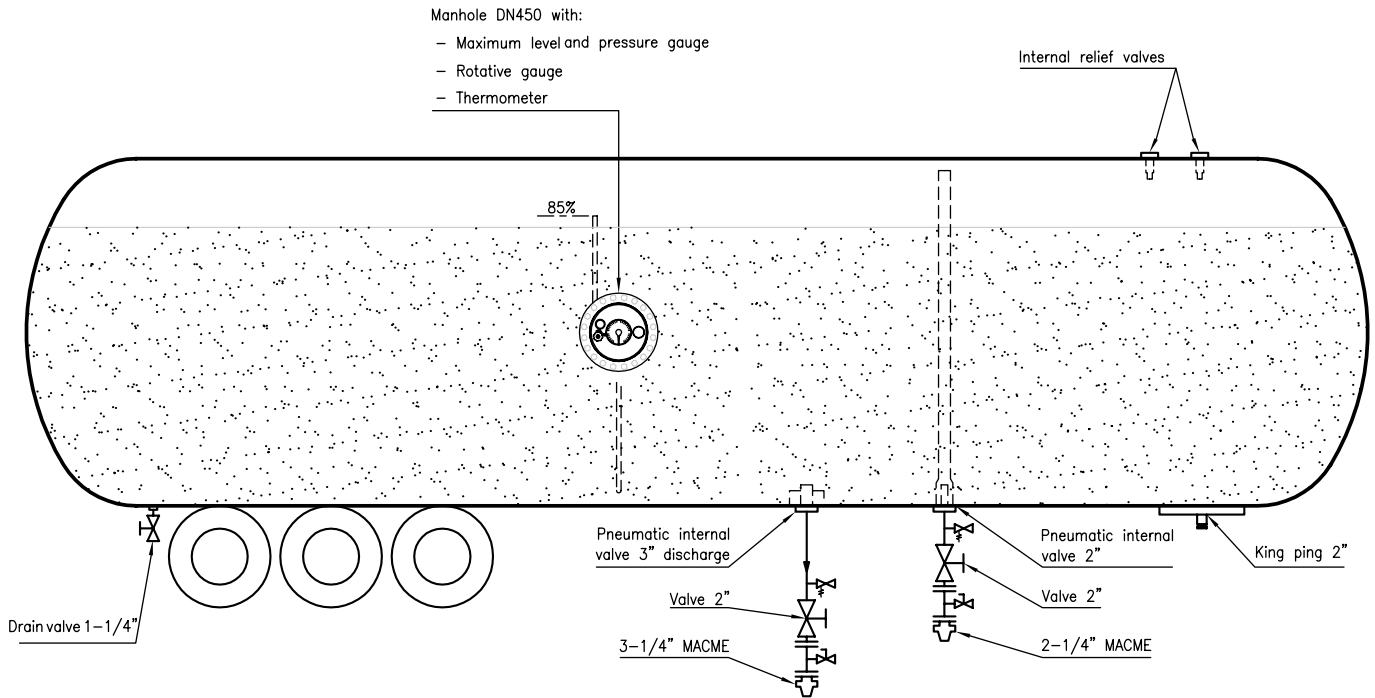
#### ROLLING UNIT FEATURES

- **AXLES/WHEELS:** Three axles BPW type with 20" bushing. Two wheels per axle. Disc brake: 430x45.
- **SUSPENSION:** Pneumatic.
- **TIRES:** Two wheels per axle. Tire size 385/65 R 22.5. Continental. Aluminum wheel rims, semi polished.
- **KING-PIN:** 2" king-pin with plate, removable from outside, as per standard ISO 337.
- **BRAKE SYSTEM:** According to 71/320/CE Directive. Twin-circuit EBS 2SM + RSS. Coupling heads as per standard ISO 1728, with filter. Air brake for parking with pneumatic actuators on 2 axles.
- **PARKING LEGS:** mechanically operated, telescopic. Static load: 50 ton. Max raised load: 24 ton.
- **ELECTRICAL INSTALLATION:** 24 Volt power rating, two 7-pole sockets as per ISO 1185 (24N) and 3731 (24S). Rear lights with 6 functions: reversing light, fog light, brake light, 2 position lights, flashers lights. Side lights. Hermetically sealed connection box.
- **OTHERS:** Rubber mudguards with rain flaps for each wheel. Aluminum rear fender, CE approved.
- **ACCESSORIES:** Set of wheel and hub spanners. Wheel gauges. Tool box. Two 9 kg dry powder extinguishers (box included). Product plates and ADR signage. Front and rear reflector devices. Chocks.

#### VESSEL

Vessel homologation	As transportable pressure vessel, according to 2010/35/UE (π marking), ADR, EN12493:2008
Vessel external diameter	2450 mm
Section	Cylindrical, one compartment
Material	Standardized carbon steel plate for pressure vessels, resilient to -20°C
Max. operating pressure	19,2 bar
Design pressure	25 bar
Hydraulic test pressure	25 bar
Design temperatures	From -20 to +50 °C
Inspections and controls	According to ADR requirements
Tank and chassis	Both finished in white color
Inside vessel	Clean
Outside vessel	Sandblasted SA 2 1/2 " Primer: 65 microns epoxy polyamide Topcoat: 55 microns white polyurethane
Documentation	Manufacturing dossier ADR documentation Instructions manual Vehicle homologation documents

**P&I FOR TANKERS LT42 & LT48**



**SERVICE EQUIPMENT:** Cabinet for liquid phase and gas phase connections (without transfer equipment).

**LIQUID PHASE CONNECTION (FILLING AND OUTLET):**

- Connection to tank: 3" flange.
- 3" flanged internal valve with excess flow and pneumatic actuator.
- Ball valve 3", fire safe.
- Set WECO 2".

**GAS PHASE CONNECTION (FILLING AND OUTLET):**

- Connection to tank: 2" threaded.
- 2" threaded internal valve with excess flow and pneumatic actuator.
- Ball valve 2", fire safe.
- Set WECO 2".

**PURGE:** Drain valve 1 1/4" with manual opening and safety valve.

**MANHOLE:** Size ND450. Equipment included::

- Manual rotary level 1".
- Multivalve for manometer and maximum level indicator.
- Pocket sensor for thermometer.

**SAFETY VALVE:**

- Safety: 2 threaded valves 3" NPT, Rego brand. In upper generatrix.

**PNEUMATIC INSTALLATION:** Pneumatic levers system for opening and closing the internal valves. Emergency stop button with auto-lock for closing internal valves and pump.

**HYDRAULIC INSTALLATION:**

- Quick connection for hydraulic connection to tractor head .
- Valve for actuating the hydraulic motor of LPG pump.
- Elements to be installed on tractor head (out of Lapesa scope):
  - Hydraulic pump for actuating the hydraulic motor of LPG pump.
  - Oil tank.
  - Refrigeration system for hydraulic circuit.
  - Rest of necessary valves for the correct operation of the hydraulic circuit.

**OTHER ELEMENTS**

- Tool box.
- Two 12 kg dry powder extinguishers (inside box).
- Product plates and ADR signage.
- Reel for grounding (earthing).

**OPTIONAL**

- Tank inertization with nitrogen.

### SEMI-TRAILER TANKERS FOR TRANSPORT AND DISTRIBUTION OF LPG

Semi-trailer tankers for transport and distribution of liquefied petroleum gases (LPG), with tank capacities of 42 or 48 m<sup>3</sup> on a 3-axle trailer.

**Products to be transported:** class-2 gases (propane, butane, butylene, isobutene, propylene) and mixtures (A, A0, A01, A1, B, B1, B2, C).

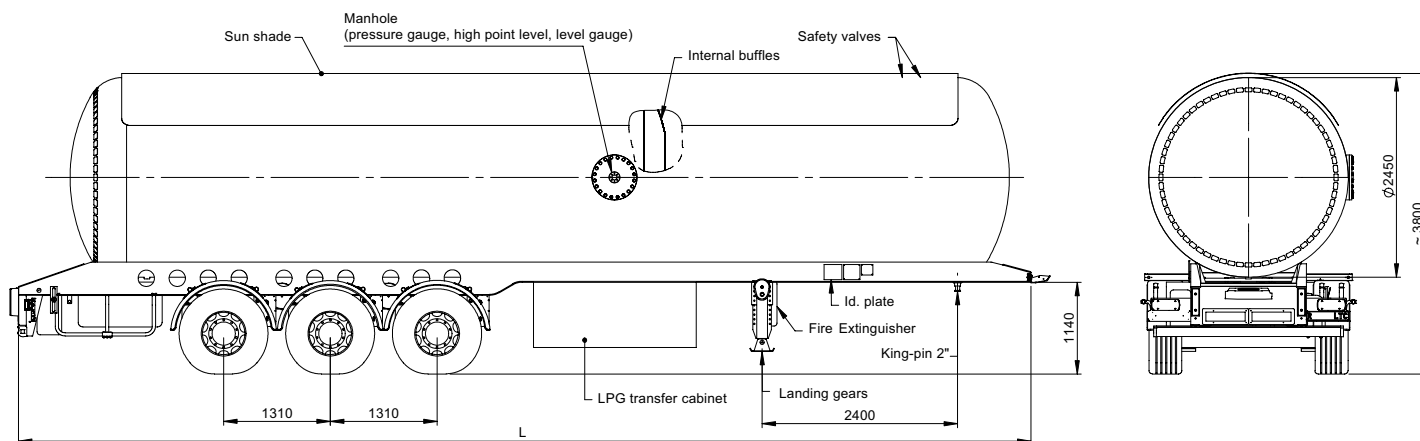
**One compartment LPG tanker**, and with internal baffles for partial transport.

**With aluminum sunshade** comprising 120° of cylinder, at upper side.

**Cabinet with transfer equipment.** The cabinet with transfer equipment is available with or without autofilling system.

TANKER TYPE		LTT42	LTT48
Volumetric capacity	m <sup>3</sup>	42	48
Tare weight of semi-trailer	Tn	12,0	12,8
Product (LPG, 85%, 0,5 Kg/l) load	Tn	17,7	20,2
Tractor unit	Tn	7,0	7,0
Total weight of fully loaded vehicle	Tn	36,7	40,0
L: Set length	mm	10.270	11.500

\* Dimensions and estimated weights



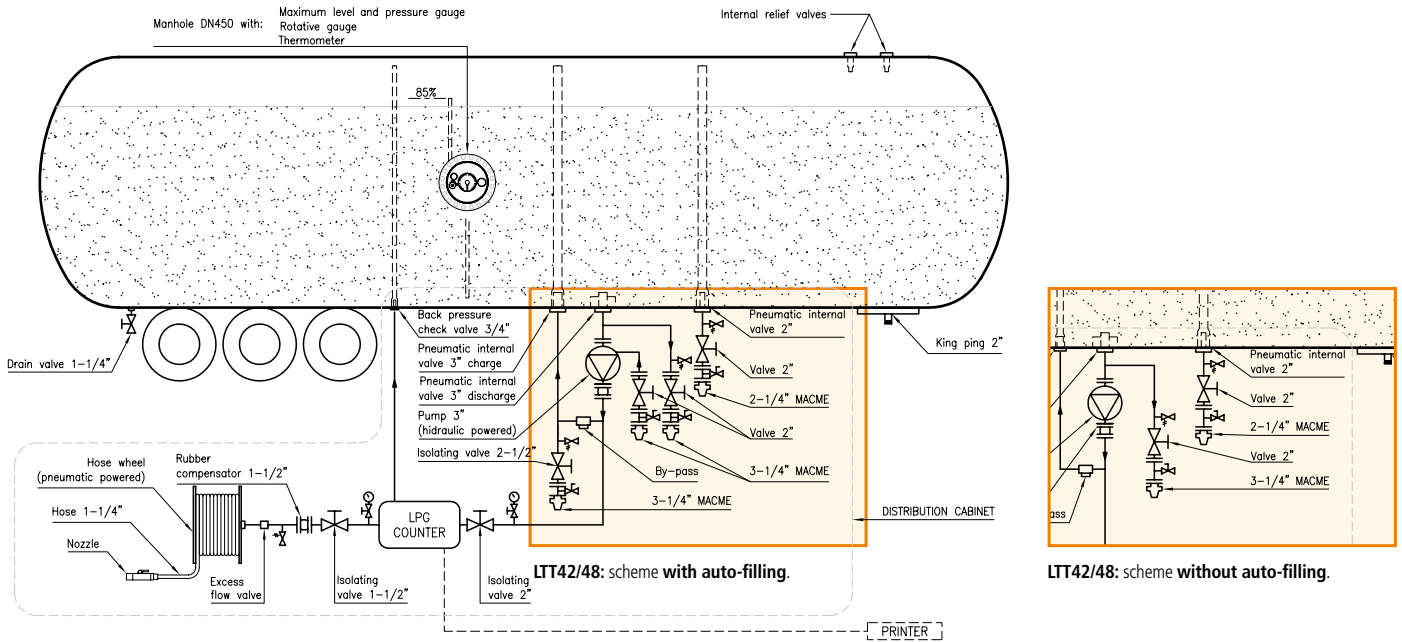
#### ROLLING UNIT FEATURES

- **AXLES/WHEELS:** Three axles BPW type with 20" bushing. Two wheels per axle. Disc brake: 430 x 45.
- **SUSPENSION:** Pneumatic.
- **TIRES:** Two wheels per axle. Tire size 385/65 R 22.5. Continental. Aluminum wheel rims, semi polished.
- **KING-PIN:** 2" king-pin with plate, removable from outside, as per standard ISO 337.
- **BRAKE SYSTEM:** According to 71/320/CE Directive. Twin-circuit EBS 2SM + RSS. Coupling heads as per standard ISO 1728, with filter. Air brake for parking with pneumatic actuators on 2 axles.
- **PARKING LEGS:** mechanically operated, telescopic. Static load: 50 ton. Max raised load: 24 ton.
- **ELECTRICAL INSTALLATION:** 24 Volt power rating, two 7-pole sockets as per ISO 1185 (24N) and 3731 (24S). Rear lights with 6 functions: reversing light, fog light, brake light, 2 position lights, flashers lights. Side lights. Hermetically sealed connection box.
- **OTHERS:** Rubber mudguards with rain flaps for each wheel. Aluminum rear fender, CE approved.
- **ACCESSORIES:** Set of wheel and hub spanners. Wheel gauges. Tool box. Two 9 kg dry powder extinguishers (box included). Product plates and ADR signage. Front and rear reflector devices. Chocks.

#### VESSEL

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Outside vessel	Sandblasted SA 2 1/2" Primer: 65 microns epoxy polyamide Topcoat: 55 microns white polyurethane
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### P&I FOR TANKERS LT42 & LT48



### TRANSFER EQUIPMENT WITHOUT "AUTO-FILLING"      TRANSFER EQUIPMENT WITH "AUTO-FILLING"

Pump aspiration line	3" flanged internal valve with excess flow and pneumatic actuator Pumping unit 3" with elastic couplings BLACKMER TLGLF3C
Pump autofilling line	----
Pump return line	1 1/2" bypass valve CORKEN type T166-1.5CAU 1 1/2" back pressure check valve
Pump impulsion line with meter	2 units of pressure gauge with insulating lock 2 units of ball valve 2", fire safe Volumetric flow meter Liquid Controls MA-7 GY10 (including temperature compensator) Ticket printer (for installation in truck tractor head) Elastic coupling // Excess flow valve
Meter return line	1" back pressure check valve
Dispensing hose	Winder with pneumatic actuator Flexible hose for LPG, size 1 1/4", length 32 meters Dispensing valve with ACME coupling 1 3/4"
Gas phase line	2" threaded internal valve with excess flow and pneumatic actuator Ball valve 2" 2 1/4" MACME connection
Empty	Ball valve 2" // 3 1/4" MACME connection

### SERVICE EQUIPMENT (outside the transfer cabinet):

**PNEUMATIC INSTALLATION:** Pneumatic levers system for opening and closing the internal valves. Emergency stop button with auto-lock for closing internal valves and pump.

#### SAFETY VALVE:

- Safety: 2 threaded valves 3" NPT.

#### HYDRAULIC INSTALLATION:

- Quick connection for hydraulic connection to tractor head .
  - Valve for actuating the hydraulic motor of LPG pump.
  - Elements to be installed on tractor head (out of Lapesa scope):
    - Hydraulic pump for actuating the hydraulic motor of LPG pump.
    - Oil tank.
    - Refrigeration system for hydraulic circuit.
- Rest of necessary valves for the correct operation of the hydraulic circuit.

**PURGE:** Drain valve 1 1/4" with manual opening and safety valve.

**MANHOLE:** Size ND450. Equipment included::

- Manual rotary level 1".
- Multivalve for manometer and maximum level indicator.
- Pocket sensor for thermometer

#### OTHER ELEMENTS

- Tool box
- Reel for grounding (earthing).
- Two 12 kg dry powder extinguishers (inside box)
- Product plates and ADR signage

#### OPTIONAL

- Tank inertization with nitrogen