

# lapesa



## **INSTALLATION AND MAINTENANCE INSTRUCTIONS**

### **PRESSURE VESSELS**

**INSTALLATION, USE AND HANDLING**

The following instructions are provided as guidelines. All installation, handling and user operations must abide by the standards and regulations currently in force at the site where the VESSEL is to be installed and shall be backed by technical projects and reports issued by duly certified professionals.

All operations shall be carried out by qualified skilled personnel.

**1. SCOPE OF APPLICATION**

Pressure vessels marketed by LAPESA GRUPO EMPRESARIAL.

**2. PURPOSE**

The purpose of these instructions is to provide guidelines regarding the handling, installation and use of this product in order to preserve human safety and the integrity of the equipment.

These are general guidelines to be adapted to each individual case in view of the accessories fitted to the equipment (valves, motors, electric parts, fire-fighting systems, etc.).

These instructions do not cover the training of personnel or adaptation to meet local legal requirements.

**3. IDENTIFICATION OF VESSEL**

The data that identify the vessel are located on the **name plate**, which shows its capacity, pressure ratings and operating temperature range. The data on the plate may include the following:

- Nominal design pressure PS: design pressure and maximum pressure (manometric units) to which the equipment may be subjected.
- Test pressure PT: this is the pressure rating (manometric) to which the equipment has been tested.
- Design temperature TS: temperature range over which the equipment is designed to operate and which should be maintained at all times.
- Degree of filling: applicable in certain cases, this indicates the vessel's maximum filling capacity in kg/l.

- Capacity: applicable in certain cases, this indicates the vessel's maximum filling capacity in terms of mass.
- Minimum shell thickness: the estimated minimum thickness of the vessel shell to withstand the PS.
- Minimum end thickness: the estimated minimum thickness of the end to withstand the PS.

**OTHER DATA**

Apart from the aforementioned data, the plate also specifies the following information:

- Product: This indicates the product which the vessel is planned to carry (and its product group as per EC Directive 97/23/EC when applicable).
- Tare: Weight of empty vessel
- Code: Design standard

The vessel name plate is permanently affixed to the vessel by LAPESA brand stud rivets.

For all its pressure vessels, LAPESA issues a manufacturer's certificate with suitable identification of the individual equipment.

**4. CONDITIONS OF USE**

The maximum conditions of use are determined by the data on the name plate: It is the user's responsibility to provide the necessary means to maintain the equipment within those conditions.

Thickness ratings are minimum design values. This data must be taken into account as they represent the equipment's service condition limits. Any use under different conditions or for contents other than those specified for the vessel in question may entail a hazard for persons or objects in the vicinity.

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It is the user's responsibility to keep the equipment within its design limits and to give it proper maintenance.

**5. HANDLING**

Operations with the vessel prior to installation:

- **Be careful not to damage the coating.** Damage to the anti-corrosion coating shortens the product's service life (see "repair process" below).
- Prevent any knocks or dents...
- In the event the vessel has fitted valves, take special care when handling the vessel not to damage **any fittings on the vessel**. Damage to valves can render them useless, lead to leakage, etc.

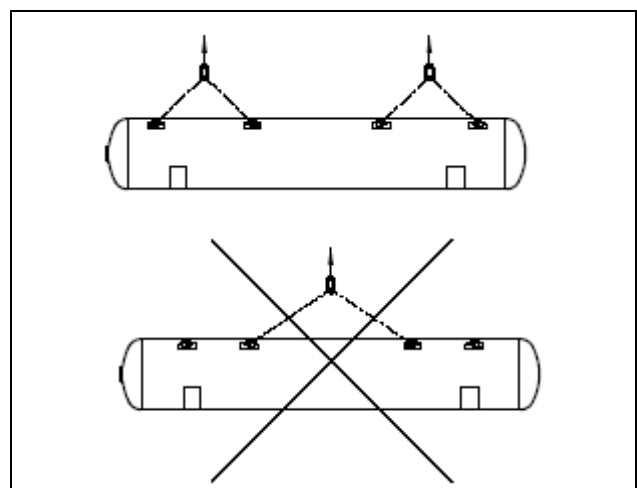
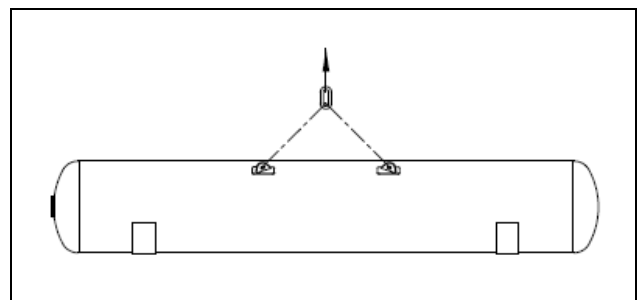
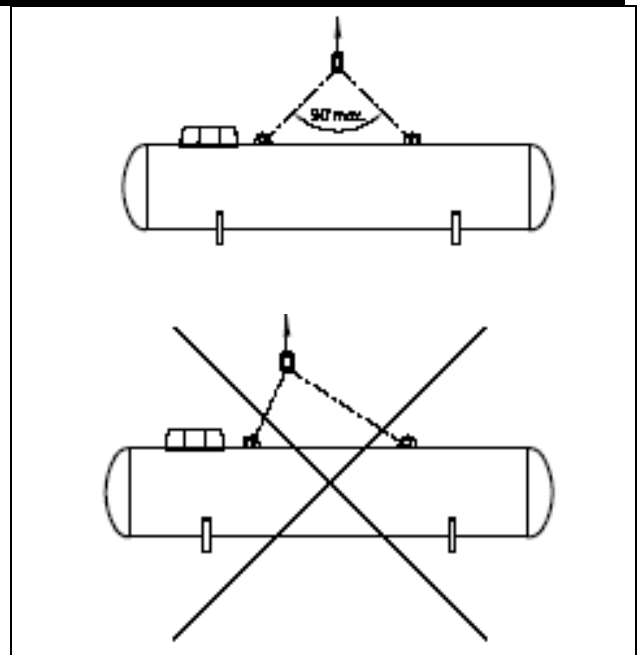
Failure to adhere to the above points may entail repair operations becoming necessary prior to the vessel being installed.

Vessels should only be transported, hoisted or moved when empty and free of loads. The weight of the empty vessel (tare) is shown on the vessel name plate. This is its nominal weight, so that in reality there will be certain variations (a valid way of calculating actual weight is to add 10% to the nominal tare).

The vessel is fitted with lifting **aids** (lugs, eye bolts,) to make moving it when empty easier. These lifting aids should be used whenever possible.

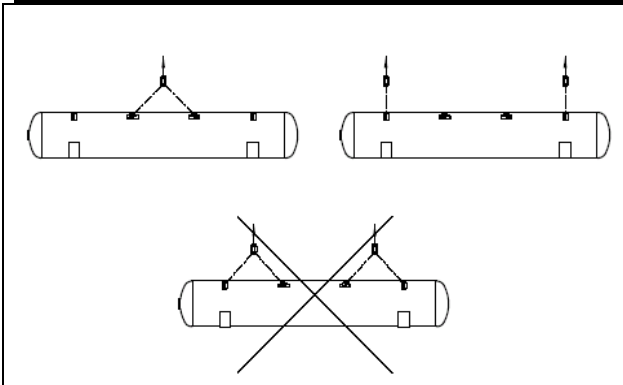
The vessel must be hoisted using all of the lugs.

- The slings/chains used must never form an angle of more than 90°.
- Lifting should be carried out in a way that distributes the weight of the vessel evenly over all the lugs.



- If the vessel has 8 lifting lugs under the apex (two at either end and four in the middle), it should be hoisted as shown in the illustrations.

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Other devices that do not make use of the lugs, such as forklift trucks or girth belts around the vessel, can be used to lift the vessel providing they adhere to the relevant safety regulations. In such cases, **special care must be taken to protect the vessel coating.**

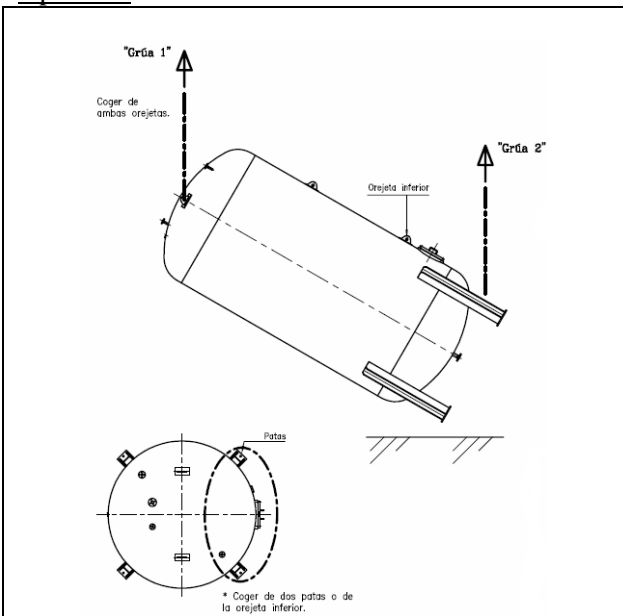
For vertical-standing vessels:

When vessels are lying horizontally, they should be handled and lifted in exactly the same way as described above for horizontal vessels.

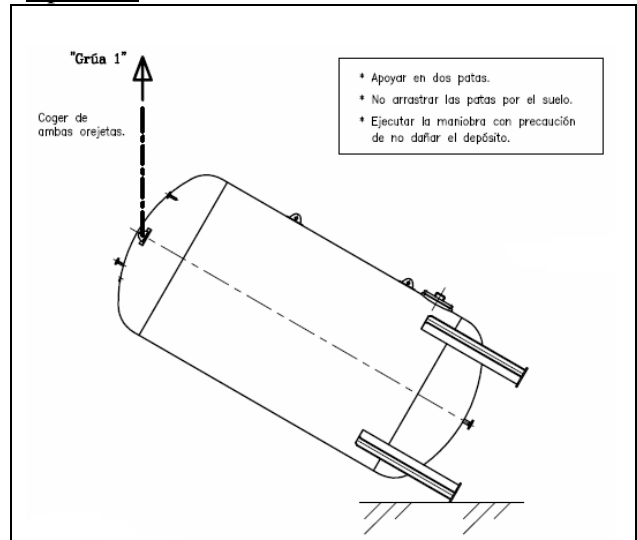
We recommend one of the following procedures is used to hoist this type of vessel:

*Vessels with feet:*

Option 1:

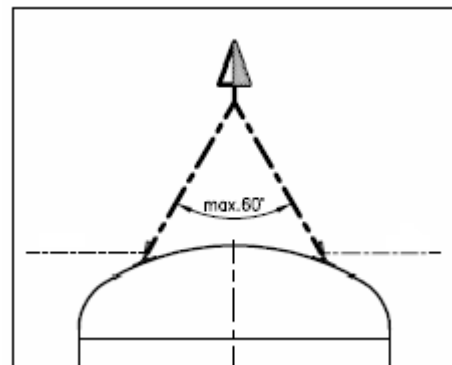


Option 2:

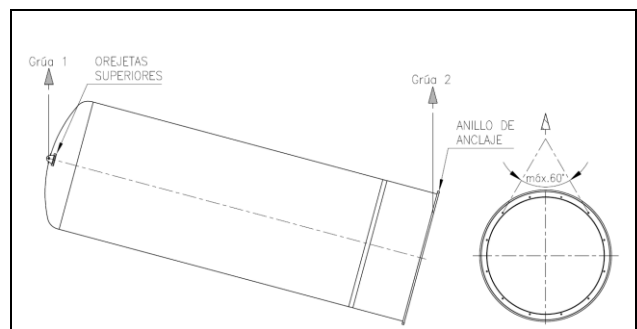


In both cases, the angle of the slings/chains on the bottom lugs must not exceed 60°.

**ENGANCHE OREJETAS SUPERIORES**



*Vessels with skirting:*



The same as for vessels on feet, the angle of the lifting slings/chains through the bottom lugs must not exceed 60° (see top illustration).

**INSTALLATION, USE AND HANDLING****6. INSTALLATION**

Installation at the site where the vessel is going to be used must be carried out:

- by specialised personnel
- following an installation project

**Installation project:** It is not the subject of this documentation nor does it form part of the supply of vessels. The installation project must:

- Include a correct sizing of the vessel, in accordance with the gas flow required. Inadequate sizing will cause subsequent installation malfunctions (freezing in case of liquefied gases, etc.).
- Take into account applicable regulations (safety distances...).
- If the vessel is not supplied with the valve set already mounted, the installation project must include all of the valve specifications. In particular, the project must indicate the pressure relief valve sizing, bearing in mind the vessel design data indicated on the vessel name plate.

**Other instructions:** Installation technicians must give all necessary instructions for the appropriate use and maintenance of each installation. These instructions are not the subject of this document.

**PRIOR CHECKS**

Before installing a vessel it is advisable to check the following points:

- The vessel should be fitted with its name plate that identifies it
- Check that the installation's working conditions are within those for which it has been designed, indicated on the name plate (design pressure, design temperature, degree of filling, minimum thickness...).

NOTE: no vessel should be filled with gas if the plate thickness is less than those indicated on the name plate.

- Check that the vessel has no water inside, by briefly opening the purge valve (located on the vessel's bottom apex).
- Check that the vessel has not been damaged during transport or installation (no dints, damaged valves...).
- Check that the vessel coating is in good condition. Especially in the case of vessels that are to be installed underground.

Furthermore, for vessels that have not been factory-blanketed:

- Locate the position of all of the vessel's openings. All of them should be closed via the appropriate valves or plugs. This is particularly important in the case of openings on the bottom apex of vessels to be installed underground. The plastic protections that are placed in the openings during painting and manufacturing. They should be replaced by the corresponding valves or plugs.
- Check the suitability of the pressure relief valves that are going to be installed (rated pressure and discharge capacity).
- To mount valves, consult the valve section in this document.
- Check valve tightness.

**GENERAL ADVICE FOR INSTALLATION**

LAPESA's LPG vessel catalogue gives some examples of vessel installation above and underground (size of supports, pits for underground vessels, etc.) These are a few of the available options for installing the vessel and do not rule out the use of other solutions. It is the building contractor's responsibility to

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ensure the civil works are of suitable size and strength for the vessel.

When choosing the vessel site:

- Take into account the site's accessibility for the tanker vehicle.
- The installation should allow quick access for rapid intervention teams in the event of an accident.
- Take into account safety distances, enclosures, steps and pit dimensions, indicated in the regulations.
- Underground vessels: Vehicles must not drive over the vessel.

Anchoring the vessel to the ground:

- The vessel should be anchored by means of bolts (with nuts and washers) that are suitable for the size of the orifices on the legs. Fit the bolts once the vessel is at the installation site, not before. There exist standard manufacturing tolerances in vessel-making that may lead to slightly different positions of the pre-installed anchor bolts and the holes in the feet.
- The vessel should be installed on a flat surface.
- The vessel should be anchored in such a way to allow for thermal expansion.

The rated dimensions of vessels are subject to small variations due to manufacturing tolerances.

Pipes or other elements required for installation should not be welded onto the vessel. If welds are necessary, they should be carried out on lugs, legs, etc. but never on pressurized elements or valves. The zone affected by the weld should be treated with a suitable anti-corrosion protection (see maintenance section).

It is advisable to form a bend (expansion loop) in the gas phase outlet pipe in readiness for any possible expansions.

In the case of factory-blanketed vessels, if the valves are not correctly handled the inert atmosphere may be lost, in which case the

vessel must be blanketed again before introducing the gas.

To mount the valves (on non-blanketed vessels), follow the instructions given in the next sections.

**ABOVE GROUND VESSELS**

- These vessels should be installed on a flat base with a slight slope (1%) towards the purging orifice if it is located at the end of the vessel (this is to facilitate the task of vessel purging and emptying).
- To size the supports for the vessel, always take into account the effects of the vessel full of water during hydraulic tests. The supports should allow the thermal contractions that may occur. The elevation of the vessel should meet the requirements of current regulations.
- **Earth connection:** Vessels should be connected to earth in accordance with local regulations at the site. Optionally, LAPESA has earth rods to provide an earth connection for the vessel. This rod should be connected to the vessel using the connections provided for this purpose (normally on lugs or legs), to guarantee the electrical continuity. The earth connection resistance should be less than 20 ohms.
- **Cover:** Mounting of valve protection cover in accordance with FLP0124 (if applicable).

**UNDERGROUND VESSELS**

**Cathodic protection**

Optionally LAPESA supplies cathodic protection kits comprising sacrificial anodes (without impressed current) and cables with the terminals mounted. . The mean life for these anodes is 12 years (depending on the soil and in appropriate installation

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conditions). Soils with a very high resistivity may require additional protection

The size of the cathodic protection kit depends on the conditions of the soil, so that it should be estimated and designed by the head of the installation.

The following aspects must be taken into account to install the cathodic protection equipment:

- The vessel must be electrically insulated from the rest of the installation to prevent the cathodic protection from “protecting” all of the pipes.
- Avoid proximity to high voltage posts, train tracks, motors, etc. In the event of stray currents, other more restrictive considerations must be taken into account for cathodic protection.
- If the vessel is buried with a bottom tray, the anodes can be installed inside it. If they are installed outside, more anodes may be needed (also take into account that the cables must pass through the tray wall, via a cable gland).
- Place the anodes symmetrically around the vessel, half way up. For more details see LAPESA’s catalogue.
- Cable connections:
  - Electrical continuity must be guaranteed at all connections.
  - Protect cable to anode connections using self-vulcanizing tape.
  - Connection to the vessel must be carried out in such a way that electrical contact with the vessel body is guaranteed (e.g. through the orifices on the lugs that are specifically for this purpose). It is not good practice, for example, to carry out connections to the vessel inspection chamber.

- Ensure good contact between the anodes and the ground (sometimes the anodes are inside plastic bags, in which case, these bags should be removed).
- Check that the vessel potential, in relation to the Cu/CuSO<sub>4</sub> reference electrode is less than –850 mV. If the vessel has a concrete slab over it, there must be an orifice to carry out measurements (for contact with the ground).
- During preventive maintenance, if the vessel potential checked is less than 850 mV, additional anodes must be installed, until the potential is higher than 850mV.

**Inspection chamber**

Stainless steel or carbon steel inspection chamber, depending on the model, supplied by LAPESA.

Additional holes in the inspection chamber can be made provided that no damage is caused to the vessel. Unused holes should be closed with plugs or by some other suitable means. The mounting of a circular inspection chest is according to FLP0206 drawing (when applicable).

**Burying**

The vessel must be buried in such a way to ensure that its coating is not damaged.

The material used to fill in must not damage the vessel coating. The vessel should rest on a layer of compacted and suitably levelled sand and must be anchored to the bottom in order to stop it floating in the event of pit flooding.

**7. USAGE**

The owner, user or personnel in charge of installation should be familiar with its functioning and trained to handle the safety equipment. It is advisable to provide a

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diagram of the installation and instructions on how to handle it.

Information must be provided at least on pressure relief valve operation (warning of the risk of flowing/discharging), how to read levels and manometers and how to turn off gas outlet valves.

The installation should have the necessary warning signs (no smoking, risk of explosion...) to prevent injuries.

**Filling the vessel**

The vessel must only be filled by specialized personal.

When applicable, the maximum filling level must not be exceeded. To ensure this, observe the level and maximum filling indicator (high point).

In filling operations a suitable connector for the filling connection must be used.

The filling process can be carried out via a pump or compressor (or with the tanker's own pressure) depending on each installation. The operations supervisor will give instructions on how to correctly fill the vessel, ensuring that there is electrical continuity between the vessel and the tanker prior to starting the operation and taking into account any other relevant points to ensure safety during filling.

After the vessel has been filled, check that there are no leaks in the vessel filling valve (and its connection to the vessel) using soapy water for this purpose.

Filling for the first time:

- Check, as far as possible, that control and measuring instruments (levels, manometers...) are in correct working order before starting the filling operation.
- Check that the vessel is blanketed (in case it is to be supplied in such condition). To do this, open the gas phase shut-off cock or the connection for the high filling point and check for

the presence of pressure inside the vessel.

- When a pressure of approximately 30% of the maximum pressure is reached, check the tightness of all of the valves and their connections to the vessel (with soapy water).
- If the vessel connections are not totally airtight, re-tighten them slightly (see valve section for tightening torques). Replace any faulty valves.
- In case of blanketed vessels, after filling for the first time, the gas mixture may not have the required composition until all of the inert gas inside the vessel has been consumed.

**8. MAINTENANCE**

All maintenance operations should be documented by the head of Maintenance and carried out in conditions of maximum safety (e.g. using explosion meters, etc.).

The periodic tests indicated in the regulations shall be carried out to check the general state of the vessel and equipment. A sight inspection of the vessel and the equipment shall be carried out when a new pressure test is required.

Underground vessels or vessels with cathodic protection shall undergo checks (the first one a year after installation of the vessel, and the others as required, depending on the outcome) to ensure that the vessel potential in relation to the Cu/CuSO<sub>4</sub> reference electrode, is less than -850 mV, and to replace the anodes when necessary.

**Periodic controls**

Apart from statutory tests (pressure testing...), it is also recommended the following tests are carried out periodically (frequency to be defined by the head of the installation, depending on the number of times vessel is to be filled):



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- Check that the valves are in a good state of repair, in particular:
  - Pressure relief valves are clean inside, with a cap to protect from dirt or rain....
  - The filling valve is clean inside, with a cap in good condition.
  - Manometers and levels are in good condition.
- Tightness of equipment (with a manometer at the appropriate scale, gas detectors or soapy water).
- Availability of shut-off valves.
- State of vessel surface, free of rust spots. In the case of underground vessels, measure the vessel potential in relation to the Cu/CuSO<sub>4</sub> reference electrode. If the result is not less than -850mV then the anodes should be replaced.
- Check that the earth connection is correct.

**Washing the vessel**

Vessel washing, if required, should be carried out using shampoo with low alkalinity and easy to rinse away.

Aggressive cleaning products or scrapers must not be used as they may damage the vessel coating.

**Surface state**

Vessels are subject to corrosive processes just like any other metal element subjected to weathering.

It is essential to carry out preventive maintenance on all defects that are detected.

Timely repairs of small defects ensure a long life for the product and reduce repair costs. A defect that is not treated in time may result in widespread corrosion of the whole surface and, this can render the equipment totally useless.

Repair process

In the event of damage to the vessel coating that protects it from weathering, it should be repaired as follows:

**Repair process for areas simply with superficial appearance problems.**

1. Mask off the area to be repaired
2. Make sure there is no explosive atmosphere. A gas (explosion) meter should be used.
3. Using sandpaper, a brush, etc... rub down the affected area and about 5 cm around it.
4. Clean the area until the surface is free of dust and oil.
5. Use sticky masking tape to cordon off the area (a square shape helps to obtain a better result).
6. Adhering to the paint manufacturer's indications on the product data and safety sheet, apply an initial coat of white or black (depending on model) coating supplied by LAPESA. This is a single component paint, does not require mixing and can be applied with a roller or paintbrush (it normally does not need thinner).
7. Wait until it is touch-dry.
8. Apply a second coat of the same paint.
9. Once dry (about 1 day after application), polish the repair area to make it look more pleasing.

**Repair process for areas denoting the presence of rust**

1. Mask off the area to be repaired
2. Make sure there is no explosive atmosphere. A gas (explosion) meter should be used.
3. Using sandpaper, a metal brush... remove the rust affecting the area and

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about 5 cm around it until you see clean metal.

4. Clean the area until the surface is free of dust and oil.
5. Use sticky masking tape to cordon off the area (a square shape helps to obtain a better result).
6. Apply a layer of anti-corrosive coating only onto the base metal. Use the two-component, polyamide-adduct cured epoxy paint supplied by LAPESA.
  - a. Mix the two components according to the product data sheet.
  - b. Apply a coat of the paint about 80 microns thick using a brush or roller.
7. Wait the necessary time interval for re-coating (see product data sheet).
8. Apply an initial coat of black or white coating (depending on model) supplied by LAPESA. This is a single component paint, does not require mixing and can be applied with a roller or paintbrush (it normally does not need thinner).
9. Wait until it is touch-dry (see product data sheet).
10. Apply a second coat of the same paint.
11. Once dry (about 1 day after application), polish the repair area to make it look more pleasing.

**NOTE:** Both the polyamide epoxy primer and the white coat should always be applied in strict adherence to the manufacturer's product data and safety sheets.

If considerable corrosion has occurred, with a reduction in plate thickness, check that this thickness is, in all areas, greater than that indicated on the name plate.

**9. VALVES**

LAPESA has two supply options for its vessels: without the valves mounted or factory-blanketed.

**FACTORY-BLANKETED VESSELS**

These vessels are dispatched from the factory with the following characteristics:

- The valves are mounted.
- The valve tightness has been checked (a certificate is issued).
- They contain inert nitrogen atmosphere inside (a certificate is issued).

Any manipulation, blows etc., during the handling of the vessel, may invalidate the above indicated conditions, so that it is important to check that there is still an inert atmosphere inside. A quick check can be to open the gas vent or filling valve at the top of the vessel for a moment to see whether there is any pressure inside.

In new vessels, built according to the stipulations of the 97/23/EC directive (they include an EC mark on the name plate), the EC mark covers the vessel and valves together.

**NON FACTORY-BLANKETED VESSELS**

These vessels are supplied without valves or with the valve set in separate packaging, not mounted on the vessel.

The vessels have all the necessary openings for their function, including connections for safety elements.

Given that in these cases there may be different set-ups during installation, the EC mark only applies to the vessel without valves. **Valving must be specified in the installation project.**

The installation is responsible for the blanketing process.

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There are different types of valves and units that can be connected to the vessel for it to function adequately. The general characteristics and requirements to be met by these elements in order to ensure vessel safety are indicated below as a guideline. The indications are provided as a guideline and in all cases these elements must be evaluated as part of the overall installation design, after the manufacture and supply of the vessel.

**General**

All valves and units connected to the vessel must be:

- Adaptable to the vessel's connections (same NPT thread, flange...).
- Suitable for the function they must perform.
- Made of materials that are compatible with the vessel (design characteristics) and the product to be contained.
- Apt for installing in zones in which there is the risk of explosions when required.

**Filling and emptying elements**

All vessel filling and emptying mechanisms must comply with current applicable regulations and be arranged to prevent incidents when filling or extracting fluid. For example, if required, the vessel shall be fitted with a mechanism that cuts off the filling process when a certain level is reached or it must have a mechanism that emits a warning when the filling process should stop.

Elements such as flow limiters or non-return valves must be fitted at all the connections through which the vessel contents can be extracted, in order to prevent the uncontrolled release of contents due (for example, to hoses breaking...).

All hose connections or connections of other elements to the vessel must be carried out in such a way that there are no risks involved.

**Safety elements and control elements**

All of the elements required to ensure that the design temperature is not exceeded must present during the installation of the vessel.

The vessel must also have all of the elements required to ensure that the design pressure is not exceeded, e.g. safety valves.

Pressure relief valves must ensure that there is never a (momentary) overpressure of more than 10% of design pressure PS.

The minimum valve discharge capacity depends on the model size and must comply with the applicable regulations.

**MOUNTING THE VALVES ON THE VESSEL****A.- NPT threaded valves**

To ensure thread tightness we recommend using Teflon suitable for use with gas.

The mounting process is carried out as follows:

1. Clean the valve and bushing threads. Ensure that there are no impurities on the material, in particular no oil or paint. To clean these elements use a solvent, a wire brush and wipe with a clean cloth and, if possible, blow clean with pressurised air (with no moisture or oil).
2. Apply the PTFE tape to the male thread, rolling it from the end upwards, in the direction of the screw thread.
3. When rolling the tape, do not overlap it more than twice on the same part of the thread: too much accumulated Teflon can be more damaging than beneficial.
4. Screw the valve into place and tighten with a normal spanner, without a lever and without forcing the torque.
5. Tighten the valve firstly by hand and then with a spanner, bearing in mind the mounting torques indicated below as a guideline.
6. The spanner for tightening should be a flat spanner. Variable pipes wrenches (Stillsons) must not be used under any circumstances. If possible, the tightening operation should be carried out with a special flat spanner that adapts to the shape of the valve ensuring contact with

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more than two of the faces of the tightening nut. Take special care here as otherwise there is a serious risk of deformations to the valve body and to the internal valve seats, with the consequent risk of malfunctions.

Guidance to tightening torques in Nm for different thread sizes			
½" NPT	105	2" NPT	220
¾" NPT	130	¾" NPT	240
1" NPT	160	M36 (*)	80
1-1/4 NPT	195	M45 (*)	80
1-1/2" NPT	205		

(\*) For 1-1/4" and 2" pressure relief valves that are adapted to valve-holders when they have a cylindrical thread.

**B.- Valves with flanges**

1. Clean and go over the female threads of the flange.
  - Check and clean the thread. It should be free of all shavings, welding splash, shot peen, paint and, in general, dirt.
  - If the vessel has been exposed to the open air for a long period of time and the threads are damaged, go over the female thread with the male thread.
  - This "going over" operation with the male thread is carried out applying oil and then screwing the male thread by hand, as far as possible. If this process is not carried out carefully it can cause two threads to be cut in the same place. Once you have "gone over" the male thread, remove any remaining oil.
  - The depth of the thread must be at least the depth to which the screw is going to be inserted.
2. Make sure gasket faces show no signs of damage.
3. Screwing
  - Ensure that the screws are the size (metric and length) and quality indicated for this application.

- Use sealing gaskets that are suitable for this application (check compatibility with the product, pressure...) and dimensions. Sealing gaskets that have already been used are not valid.
- Screws should first be tightened by hand and then using torque wrenches. Do not knock the torque wrenches to carry out the tightening operation.
- It is advisable to tighten a screw and then the one opposite it, rather than adjoining screws.
- Tighten screws in several steps, gradually increasing the torque in the torque wrench (do not tighten in one single step).
- The tightening torque depends on the diameter (metric) and quality of the screw. The following table provides a guideline for the tightening torque (for further information consult application norms).

Screw	8.8 Quality
M5	4.7 Nm
M6	8 Nm
M8	19 Nm
M10	39 Nm
M12	66 Nm
M14	105 Nm
M16	160 Nm
M18	230 Nm
M20	325 Nm
M22	440 Nm
M24	560 Nm

Ref. UNE 17-108-81

**10. ATTACHED DOCUMENTS**

- Mounting instructions for cover (above ground vessels)
- Mounting instructions for inspection chamber (underground vessels)

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**11. REFERENCE DOCUMENTS**

A number of regulations are listed hereunder for reference. This list is not exclusive, nor is compliance with each and every document on the list compulsory for all installations.

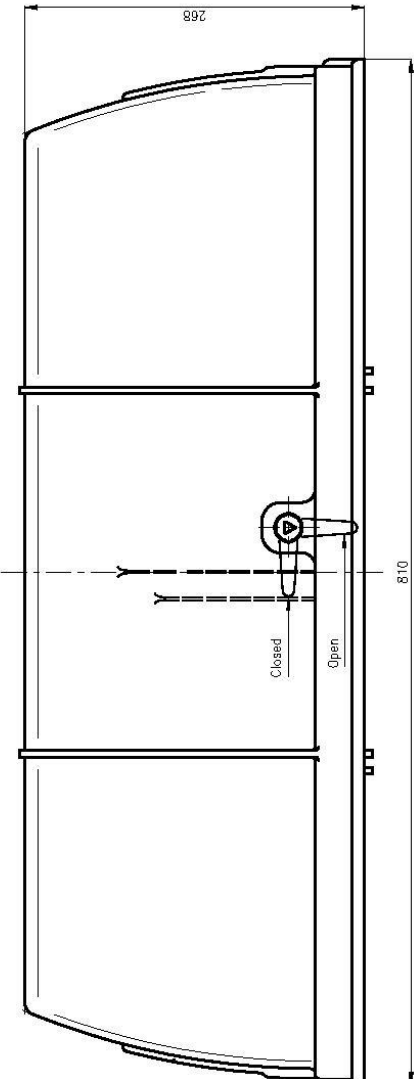
- [2014/68/UE \(R.D. 709/2015\)](#)  
Pressure Equipment Directive

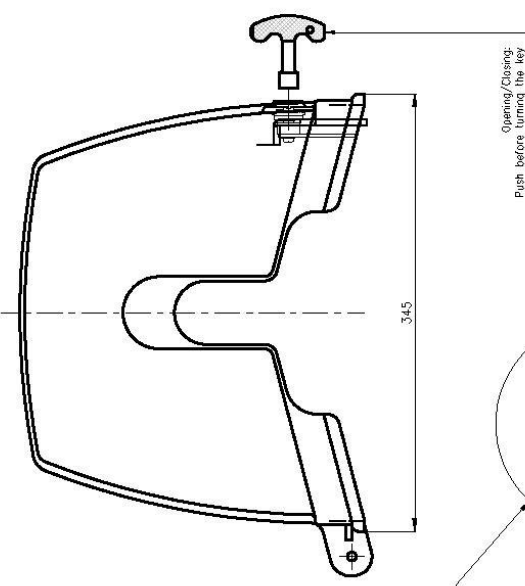
- [2014/34/UE](#) Directive on apparatus and protection systems for use in potentially explosive atmospheres.
- [99/92/EC](#) Directive on the minimum provisions to improve the health and safety protection of workers exposed to the risks deriving from explosive atmospheres.
- Codes for pressure vessels.

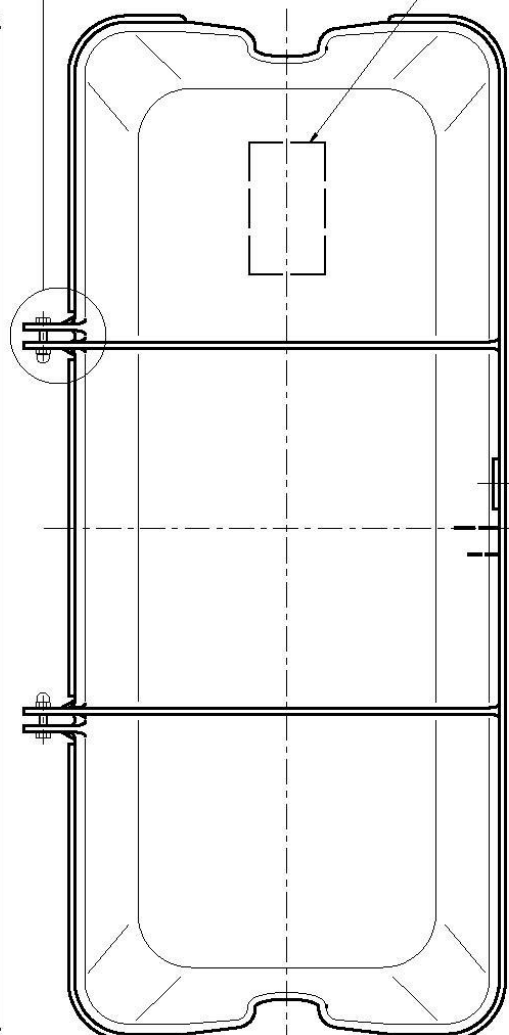
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	<b>ASSEMBLY INSTRUCTIONS FOR CAPOT</b>	Designed: A.P.O. Approved: R.G.I.	Scale 1:5	Record Ref.: <b>FLP01241-02</b> Date: 02-09-14 Acc./DRW: LP0033-13
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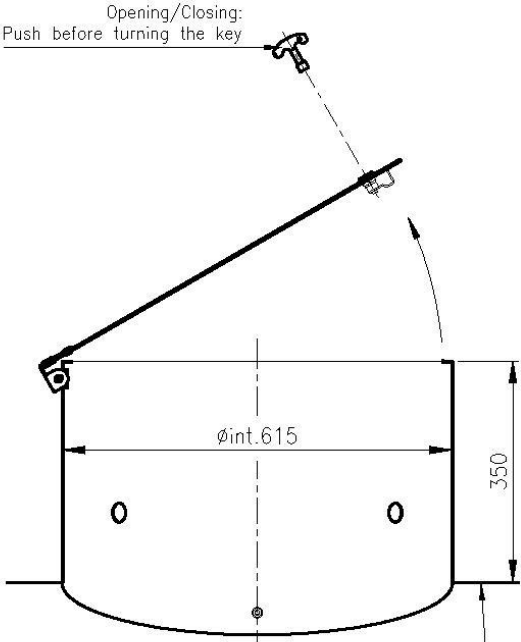
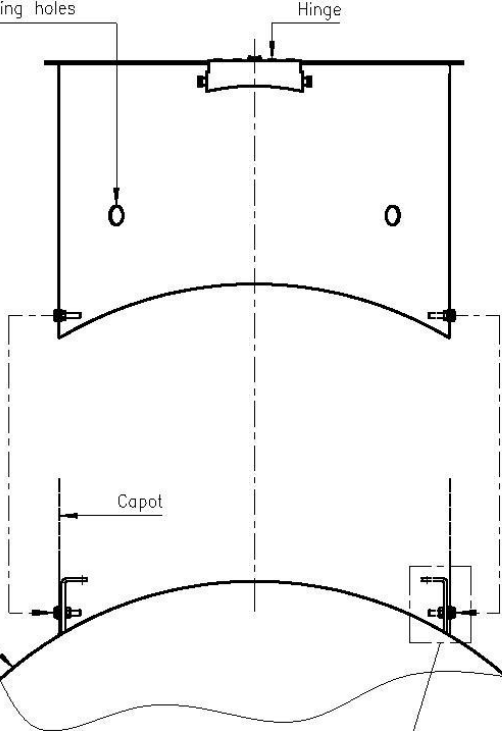
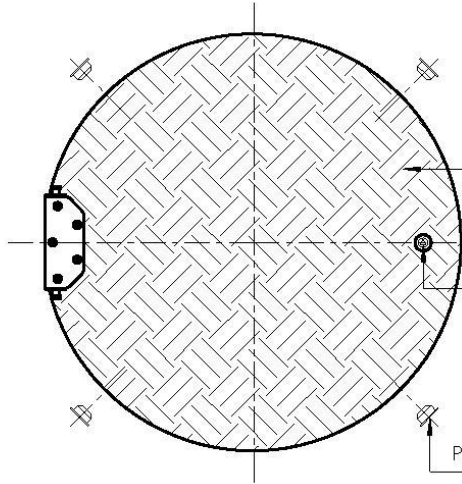
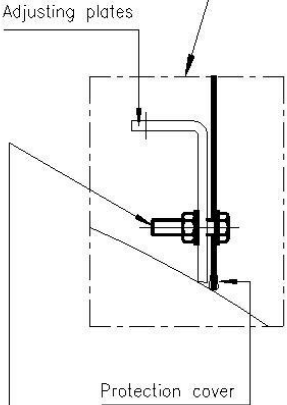


**Items:**

- Bolt M6x25 DIN935 INOX. (2)
- Cap nut M6 (2)
- Capot key

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**INSTALLATION, USE AND HANDLING**

	<b>ASSEMBLY INSTRUCTIONS FOR CIRCULAR STAINLESS UNDERGROUND CAPOT</b>	<b>Record</b> Ref.: FLP02061-00 Date: 02-09-14						
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Opening/Closing: Push before turning the key</p>  <p style="text-align: center;"><math>\varnothing_{int.615}</math></p> <p style="text-align: right;">350</p> <p style="text-align: center;">Vessel</p> </div> <div style="width: 45%;"> <p>Piping holes</p> <p>Hinge</p>  <p style="text-align: center;">Capot</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 45%;">  <p style="text-align: center;">Grooved cover</p> <p style="text-align: center;">Triangular lock</p> <p style="text-align: center;">Plastic plug for piping holes</p> </div> <div style="width: 45%;"> <p>Adjusting plates</p>  <p style="text-align: center;">Protection cover</p> </div> </div> <p style="text-align: center; margin-top: 20px;">Bolts, nuts and washers are sent assembled in the u/g capot. Remove and assemble them with the adjusting plates to the vessel.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Items:</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">- 2 Bolts M8 DIN933 INOX.</td> <td style="width: 50%;">- 4 flat washers <math>\varnothing 8</math>.</td> </tr> <tr> <td>- 2 Hexagonal nuts M8 DIN934 INOX.</td> <td>- 1 capot key.</td> </tr> <tr> <td></td> <td>- 1 Underground capot.</td> </tr> </table> </div>			- 2 Bolts M8 DIN933 INOX.	- 4 flat washers $\varnothing 8$ .	- 2 Hexagonal nuts M8 DIN934 INOX.	- 1 capot key.		- 1 Underground capot.
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	- 1 Underground capot.							
Designed: A.P.O.	Approved: R.G.I.	Scale 1:10  Acc/DRW: LPD936-05 y LP0968-03						
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