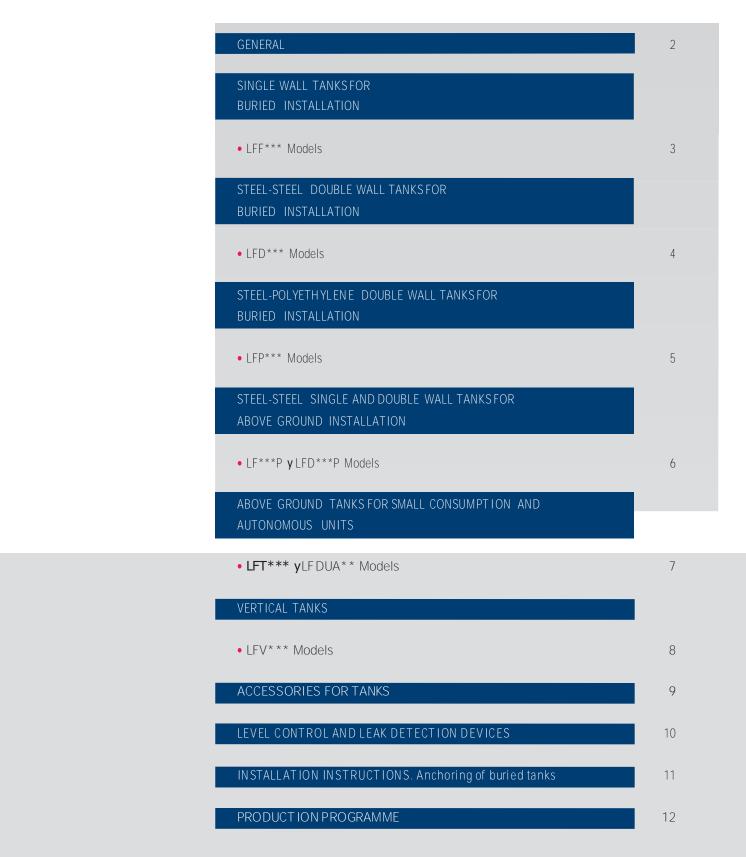


### Резервуары для жидкого топлива

# STORAGEOFLIQUID FUELS AND CHEMICAL PRODUCTS

(Fuel oil, diesel oil, aviation fuel, io-fuel, Ethanol, Methanol, E85, Ad-lue, Pentane, Sulphuric acid.)





#### По вопросам продаж и поддержки обращайтесь:

**А**рхангельск (8182)63-90-72 **А**стана +7(7172)727-132 **Б**елгород (4722)40-23-64 **Б**рянск (4832)59-03-52 **В**ладивосток (423)249-28-31 Волгоград (844) 278-03-48 Вологда (8172)26-41-59 Воронеж (473)204-51-73 **Е**катеринбург (343)384-55-89 Иваново (4932)77-34-06 **И**жевск (3412)26-03-58 **К**азань (843)206-01-48

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**Н**ижний Новгород (831)429-08-12 Новокузнецк (3843)20-46-81 Новосибирск (383)227-86-73 Орел (4862)44-53-42 Оренбург (3532)37-68-04 Пенза (8412)22-31-16 Пермь (342)205-81-47 Ростов-на-Дону (863)308-18-15 **Р**язань (4912)46-61-64 Самара (846)206-03-16 Санкт-Петербург (812)309-46-40

Смоленск (4812)29-41-54 Сочи (862)225-72-31 Ставрополь (8652)20-65-13 **Т**верь (4822)63-31-35 Томск (3822)98-41-53 **Т**ула (4872)74-02-29 **Т**юмень (3452)66-21-18 **У**льяновск (8422)24-23-59 **У**фа (347)229-48-12 **Ч**елябинск (351)202-03-61 **Ч**ереповец (8202)49-02-64 **Я**рославль (4852)69-52-93

#### General



#### Consult all requirements. We have inside finishes and/or steels that are compatible with different products: CONTENTS • Fuels: - Fuel oil, diesel oil, aviation fuel, io-fuel, ad- lue . • Water - Cold water (food quality or non food quality), hot water. · Chemical products: Sulphuric acid, methanol, ethanol, E85. The tanks are uilt according to the following standards: **COMM ON** Spanish Standards (UNE): CONSTRUCTION • Tanks with a capacity of more than 3,000 litres: **CHARACTERISTICS** - UNE 62350-1: Single wall tanks - UNE 62350-2: Horizontal dou le wall steel tanks - UNE 62350-3: Horizontal dou le wall steel-poly ethy lene tanks. · Tanks with a capacity of up to 3,000 litres: - UNE 62351-1: Single wall tanks - UNE 62351-2: Dou le wall steel tanks - UNE 62351-3: Dou le wall steel-poly ethy le ne tanks • Parallelepipedic a ove ground tanks with capacities of up to 2,000 litres: - UNF 62352 European Standard (EN) • Buried tanks: UNE-EN 12285-1 • A oveground tanks: UNE-EN 12285-2 (The characteristics of this catalogue correspond to tanks according to the Spanish UNE standard. Consult us for tanks according to European Standards, other standards, vertical tanks.) The tanks are uilt with rolled steel plate, according to EN 10025. The ends are in one single piece with diameters of up to 2,500 mm. They include reinforcement, under the inspection mouth, to protect from impacts with measuring rod. Compartmentation of tanks of any diameter. LAPESA supplies all of its tanks with inspection certificates according to UNE standards. At the customer's request **CERTIFICATION** a coating porosity test certificate, issued y LAPESA, can e provided. To order, we can **supply** our thick **polyurethane** finish for uried tanks in thicknesses of up to 2 mm. SURFACE Also to order we can supply inner finishes for aggressive contents. FINISHES TO Special treatment for storage of ad-lue. ORDER Our catalogue shows a wide range of models with capacities from 1,000 to 120,000 litres, with different options **OPTIONS** and accessories for each of them. If you have any other specific requirements please consult us. We have a series of accessories availa le, among which are access cham ers, covers, cathodic protection anodes, **ACCESS OR IES** leak detectors, level control equipment, prefa ricated access cham ers, dou le-locking foot valve (own design), anchorages, transfer equipment, etc. to facilitate and complete the installation. We have our own fleet of trucks, of various capacities, all of which are equipped with cranes for unloading and TRANSPORT are handled y highly specialised personnel to guarantee the est service for the transport and handling of the We can place the tank inside the pit if the surrounding terrain allows the truck to position correctly. To protect the tank coating, support wedges are included to prevent it ru ing on ground and the trucks do not have high sides. In no case does LAPESA install tanks. **INSTALLATION** Installation should ecarried out ya fitter, according to the following standards: - UNE 109500 IN: Installation of non- uried parallelepipedic steel tanks. - UNE 109501 IN: Installation of steel tanks a ove ground or in pit. - UNE 109502 IN: Installation of uried steel tanks. The location of the anchoring olts should e checked against the tank. The olts should never e em edded without checking previously against the tank. **TOLERANCES** According to applica le construction norms

### **SINGLE WALL tanks for buried installation**

### lapesa

### LF\*\*\* Models

#### Tanks built in steel plate

- Dimensions and features in accordance with EN 12285
   High mechanical strength steel according to EN 10025 Standard (carbon steel or stainless steel to order)
- Zinc-plated steel bolts at inspection manholes

#### Standard surface finishes

#### **Exterior:**

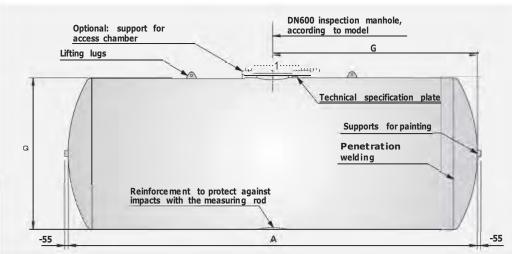
- Blasting to SA 2-1/2 grade.
   Thick polyurethane coating, minimum thickness 600 microns which guarantees electric test voltage >15 KV.
   Thick polyurethane coating, minimum thickness 600 microns which guarantees electric test voltage >15 KV.
- Coating is highly resistant to corrosion of any origin and to liquid fuel spillages.
   This type of finish gives the tank an unbeatable external appearance.
- External protection can be increased by the use of cathodic protection anodes (see accessories)

#### Interior:

• Clean

Other executions (to order):
• Storage tank in stainless steel.

Interior finishes for specific contents: ad-blue, methanol, ethanol, aviation fuel, sulphuric acid, food quality cold water...



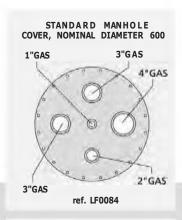
-55		A			-55
Characteristi	сѕ Таые				
Rated	Model	Approxi mat e		Dimensions (mm.)	
capacity (litres)	Ref.	emp <sub>7'</sub> Kg) ht	D	Α	G
1000	LF 1000 (*)	160	856	1900	630
1500	LF 1500 (*)	220	1200	1500	750
2000	LF 2000 (*)	280	1200	1900	950
3000	LF 3000	430	1500	1990	1000
5000	LF 5000	740	1750	2340	1170
7500	LF 7500	950	1750	3400	1170
10000	LF 10	1200	1750	4550	1170
15000	LF 15	1850	2200	4300	3370
20000	LF 20	2250	2500	4600	1940
25000	LF 25	2650	2500	5580	2790
30000	LF 30	3000	2500	6580	3290
40000	LF 40	3800	2500	8560	3930
50000	LF 50	4650	2500	10740	5370

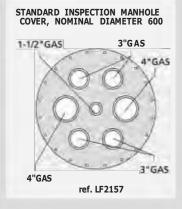
5500

8550

10550

12250





5900

6520

7420

9270

12720

12090

14840

17590

#### Other options:

60000

80000

100000

120000

- Covers with special connections.
- Additional inspection manhole. Tanks with several interior compartments.

LF 60

LF 80

LF 100

LF 120

Other coating thicknesses (up to 2 mm.)

To protect the coating of the tanks support wedges are used to prevent rubbing on ground and the trucks do not have high sides.

2500

3000

3000

3000

#### **DOUBLE WALL STEEL-STEEL tanks for buried installation**

## lapesa

#### LFD\*\*\* Models

#### Interior and exterior tank in carbon steel (tank with spill containment included)

Internal tankaccording to page 3.
 Dimensions and features in accordance with EN12285
 Zinc-plated steel bolts and screws at inspection manholes.

Vacuum chamber chamber between both walls to detect leaks (See detection devices).
 No civil works required for leak-proof containment. The double wall acts as a containment means.

- Tank built in EN 10025 standard steel (carbon steel or stainless steel to order) with high mechanical and deformations trength that enables it to absorb impacts, vibrations (transit of vehicles, etc.) or moderate earth movements. Adequate resistance to modern additives (alcohols, etc.)

#### Standard surface finishes

#### Exterior:

Blasting to SA 2-1/2 grade.
 Thick polyurethane coating, minimum thickness 600 microns which guarantees electric test voltage >15 KV.
 Coating is highlyresistant to corrosion of anyorigin and to liquid fuel spillages.

• This type of finish gives the tank an unbeatable external appearance.

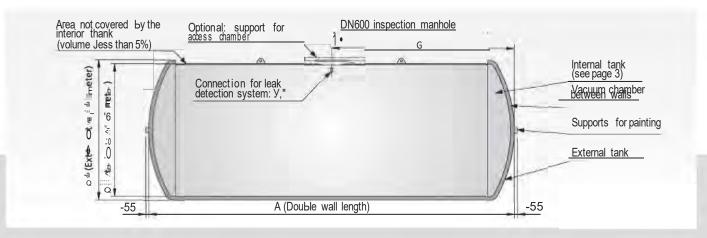
· External protection can be increased by the use of cathodic protection anodes (see accessories)

#### Interior:

Clean.

Other executions (to order):

- Storage tank in stainless steel.
- Interiorfinishes for specific contents: ad-blue, methanol, ethanol, aviation fuel, sulphuric acid, food quality cold water.



#### Characteristics table

Rated	Model	Approximate	D	imensions (mm.)	
capacity (litres)	Ref.	emp <sub>7t</sub> weight	D	Α	G
1500	LFD 1500	350	1200	1510	760
2000	LFD 2000	450	1200	1910	960
3000	LFD 3000	700	1500	2000	1000
5000	LFD 5000	1100	1750	2350	1170
7500	LFD 7500	1500	1750	3410	1170
10000	LFD 10	1900	1750	4560	1170
15000	LFD 15	3000	2200	4310	3380
20000	LFD 20	3700	2500	4610	1950
25000	LFD 25	4550	2500	5590	2790
30000	LFD 30	5000	2500	6590	3290
40000	LFD 40	6250	2500	8580	3930
50000	LFD 50	7800	2500	10750	5370
60000	LFD 60	9050	2500	12730	5910
80000	LFD 80	13300	3000	12110	6520
100000	LFD 100	15850	3000	14860	7430
120000	LFD 120	18150	3000	17610	9270

VACCUM LEAK DETECTION (Standard supply) Vertical axis of inspection manhol Cap Shutoff cock Chamber DOUBLE WALL TANK

Standard supply: see Single walltanks, page 3

Other options: see page 3 Leak detection:

- Standard supply: as shown indiagram, for vacuum detection of leaks

Vacuum carried out at facto.
 Accessories fitted (compound gauge and shutoff cock)

Option al supplies:

Chamber filled with gacol mix (for liquid leak detection) Vacuum, pressure or liquid leak detection equipment. (See page 10)

To protect the coating of the tanks support wedges are used to prevent rubblng on ground and the trucks do not have high sides.

### DOUBLE WALL STEEL-POLYETHYLENE tanks for buried installation

### lapesa

#### TFP\*\*\* Models

#### Interior tank in steel and exterior tank in Polyethylene (tank with spill containment included)

- Exterior tank uilt with **polyethylene** (PE) sheet. Interior tank in steel, according to page 3. Dimensions and features according to UNE 62350-3 Standard. Zinc-plated steel olts and screws at inspection mouths and at the pit access cham er support.

- Tank is coated with PEsheets.
   Between oth walls there is a tight charm or that allows the detection of leaks (see detection devices).
- No civil works required for leak-proof containment. The dou le wall acts as a containment means.

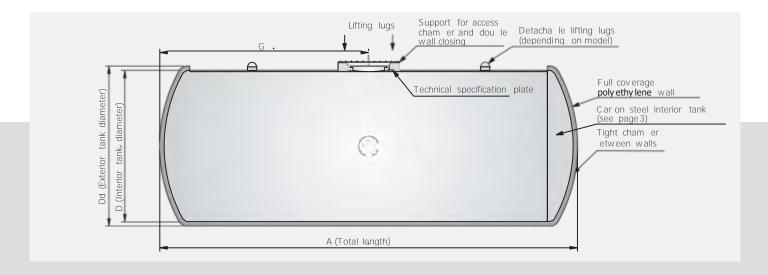
#### Steel interior tank:

- Tank uilt in EN 10025 standard steel (car on steel or stainless steel to order) with high mechanical and deformation strength that ena les it to a sor impacts, vi rations (transit of vehicles, etc.) or moderate earth movements. Adequate resistance to modern additives (alcohols, etc.)

#### Polyethylene (PE) jacket:

- The polyethylene material of the exterior tank:
  - acts as a safety containment means
- is a arrier to corrosion of any origin due to its high chemical sta ility.
  completely covers the interior tank (except for the access area) thus preventing corrosion of the steel.
  is resistant to liquid fuel spillages, to soils, water and many acids and ases.

- is a dielectric material.
  is a semi-rigid material allowing deformation without fracturing.
  is resistant to impacts and vi rations (road traffic)
- is made from laminated sheets and thus, is totally free of inner pores which may e present in other processes.



#### Characteristics Table

Rated capacity	Model Ref.	Approximate emptyweight	D	Dimensions (mm.)	G	Jacke	Thickness et	Inne	r tank
(litres)		(Kg)				Collar	End	Collar	End
15000	LFP 15	1900	2500	3520	1760	3	6	6	6
20000	LF P 20	2350	2500	4620	2310	3	6	6	6
25000	LF P 25	2750	2500	5600	2630	3	6	6	6
30000	LF P 30	3150	2500	6600	3310	3	6	6	6
40000	LF P 40	3950	2500	8590	4290	3	6	6	6
50000	LF P 50	4900	2500	10760	5390	3	6	6	6
60000	LF P 60	5800	2500	12740	5610	3	6	6	6

Standard cover: see Single Wall tanks, page 3 Access chamber support: square 1000x1000 (890x890 clearance). For the installation of a prefa ricated access cham er: see page 9

Other options: see page 3

Leak detection:
-Standard supply: as shown in diagram, for vacuum detection of leaks

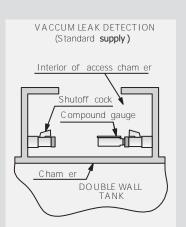
• Vacuum carried out at factory.

• Accessories fitted (compound gauge and shutoff cock)

-Optional supplies:

• Vacuum, pressure or liquid leak detection equipment. (See page 10)

To protect the coating of the tanks support wedges are used to prevent ruing on ground and the trucks do not have high sides...



### SIMPLE and DOUBLE WALLSTEEL-STEEL tanks for above ground installation

### lapesa

#### LF\*\*\*P and LFD\*\*\*P Models

#### Tanks built in steel plate

The tanks are of the same dimensions and construction characteristics as the models for buried installations and they have supports for their above ground installation.

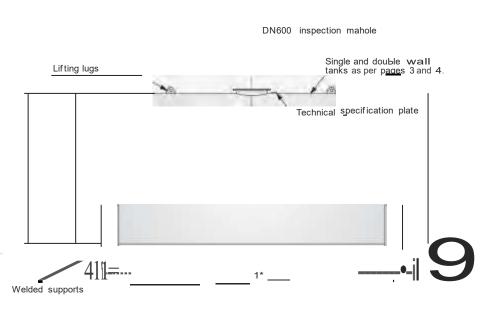
The supports are welded to the tank body and have the same surface finish.

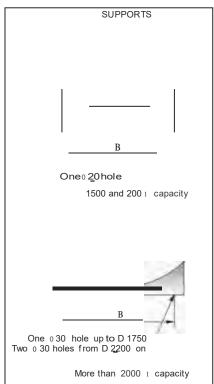
The figure below shows supports according to EN12285

#### Standard surface finishes

#### Exterior

- Blasting to SA 2-1/2 grade.
- Anti-corrosion primer paint.
- · White polyurethane finish.





#### IMPORTANT:

Place the tank anchoring bolts after the tanks has been installed on the baseplate.

<sup>\*</sup>L1 sizes to be confirmed by Lapesa before manufacturing

Single	wall	Double v	vall

		0						
Rated capacity (litres)	Nominal diameter D	Model Ref.	Dimensions (mm.) L1	Model Ref.	Dimensions (mm.) L1	Н	Dimensions (mm	r.)
1500	1200	LF 1500 P	1020	LFD 1500 P	1020	100	740	
2000	1200	LF 2000 P	1420	LFD 2000 P	1420	100	740	
3000	1500	LF 3000 P	1300	LFD 3000 P	1300	75	1000	
5000	1750	LF 5000 P	1400	LFD 5000 P	1400	100	1200	
7500	1750	LF 7500 P	2300	LFD 7500 P	2300	100	1200	
10000	1750	LF 10 P	3400	LFD 10 P	1700	100	1200	
15000	2200	LF 15 P	3000	LFD 15 P	3000	100	1800	150
20000	2500	LF 20 P	3200	LFD 20 P	3200	100	2000	150
25000	2500	LF 25 P	3700	LFD 25 P	3700	100	2000	150
30000	2500	LF 30 P	5150	LFD 30 P	2575	100	2000	150
40000	2500	LF 40 P	7100	LFD 40 P	3550	100	2000	150
50000	2500	LF 50 P	9300	LFD 50 P	3100	100	2000	150
60000	2500	LF 60 P	5450	LFD 60 P	3400	100	2000	150
80000	3000	LF 80 P	10300	LFD 80 P	4500	100	2500	200
100000	3000	LF 100 P	6425	LFD 100 P	4200	100	2500	200
120000	3000	LF 120 P	7800	LFD 120 P	3900	100	2500	200

Standard cover: see single wall tanks, page 3 Other options: see page 3

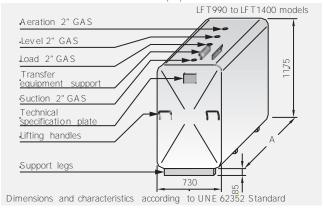
#### Above ground tanks for SMALL REQUIREMENTS and AUTONOMOUS UNITS lapesa

#### LFT\*\*\* and LFDUA\*\*\* Models

#### LFT Models; Tanks specially designed to connect transfer equipment in installations for own consumption.

- Tanks uilt in steel plate according to EN 10025 Standard.

#### LFT Models - Parallelepipedic



SURFACE FINISHES: -Exterior

- Primer coat
- White polyurethane finish.

#### Characteristics table

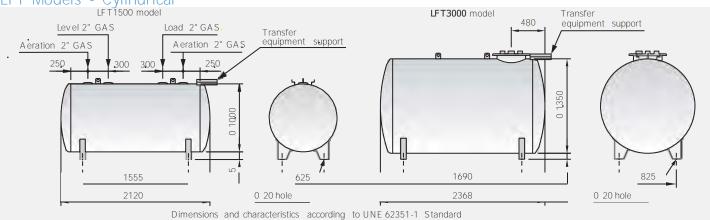
#### Parallelepipedic models

Rated capacity (litres)	Model Ref.	Approximate emptyweight (Kg)	Dimensions (mm.) A	Thicknes Collar	ss (mm.) End
990	LFT 990	120	1250	2	2
1200	LFT 1200	135	1500	2	2
1400	LFT 1400	150	1700	2	2

#### Cylindrical models

Rated capacity (litres)	Model Ref.	Approximate emptyweight (Kg)	Thickness Collar	(mm.) End
1500	LFT 1500	190	2,5	3
3000	LFT 3000	360	3	3,5

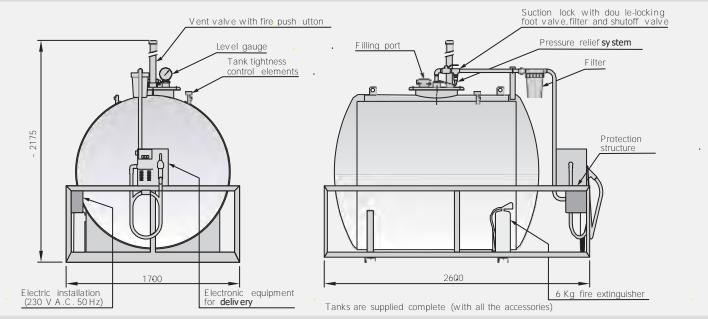
### LFT Models - Cylindrical



#### LFDUA Models; Double wall steel tanks with protection structure and service equipment for diesel oil

- Exterior steel tank according to page 3. Dimensions and characteristics according to UNE 62350-2 Standard (Larger than 3,000 I. And UNE 62351-2 (up to 3,000 I) Volumes: from 3,000 up to 15,000 I (model in the illustration: 3000 I)

- SURFACE FINISHES: -Exterior Primer coat.
- White polyurethane finish (protection structure in red)



### VERTICAL tanks

## lapesa

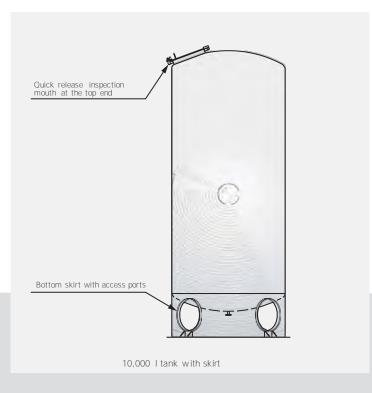
#### LF\*\*\*V Models

#### Single wall tanks for vertical installation.

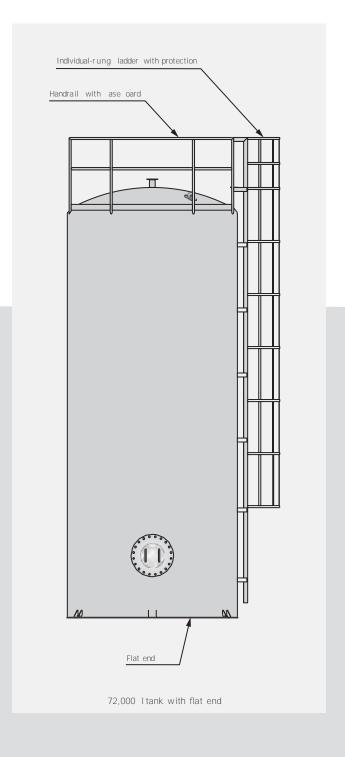
We can adapt to your needs, let us know your requirements:
- Car on steel or stainless steel.
- A range of interior and exterior finishes.
- Capacity up to 200 m<sup>3</sup>.
- Accessories (ladders, handrails, platforms..)

- Different constructive possi ilities (see examples)

SURFACE FINISHES: -Exterior Primer coat.Polyurethane finish.



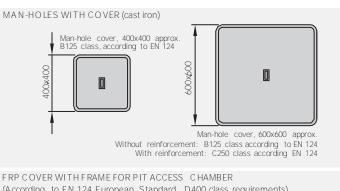




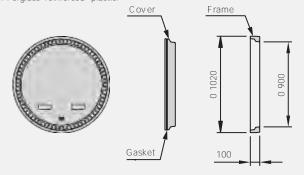
#### Tank accessories

## lapesa

For an easier and faster installation



## (According to EN 124 European Standard, D400 class requirements) FRP: Fi erglass reinforced plastic.



FILLING PORT A DAPTORS

Quick coupling for connection to discharge hose

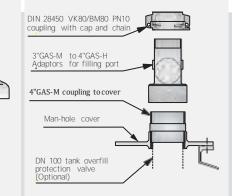
AERATION "TEE" Tank aeration "tee" with grids at the inlets

1-1/2"GAS-H

TSO 228/

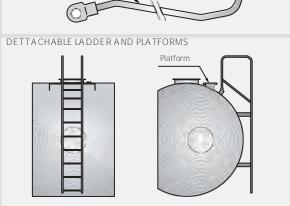
Magnesium anode. Ref.22.800

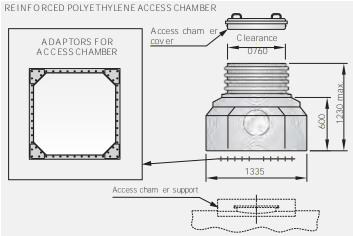
Sheathed calle, 0.75 KV

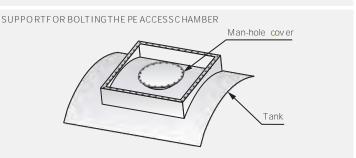


ANODES AND CONNECTION CABLES FOR CATHODIC PROTECTION

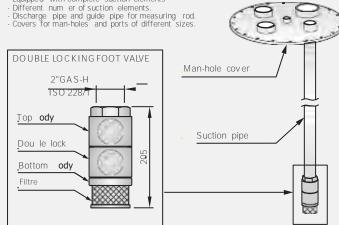
0 8 crimp terminal

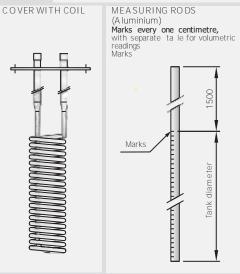


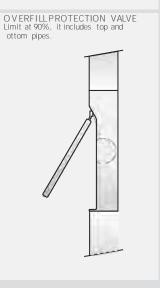












### LEVEL CONTROL and LEAK DETECTION unit

### lapesa

Regeneration unit (optional)

Pneumatic tu e

Liquid flow valve

Pressure gauge

Shutoff valve

#### FUGALARM leak detector



#### Models

- Fugalarm-V, Vacuum model Fugalarm-P, Pressure model

#### System features

- Complies with EN 13160 and has EC certification. **Bleepers and lights to indicate system** state.
- Large-format **display** screen showing degree of pressure or vacuum in the interstitial cham er, in a solute values.

Pneumatic pipe measure

Condensate

Shutoff valve

- Test and stop uttons for alarms as well as for accessing menu options
- Switched relays for remote alarm signalling.
- Zener arrier incorporated
- Size: 110 x 215 x 40

OPTION: pressure or vacuum maintenance unit can be supplied

#### Level control. Model NV2000

#### System features

Electro-pneumatic level control system that ena les 10 tanks to e

measured y just one unit.

Relative density of contained product must eless than 1.1.

Units for denser products can e supplied to order.

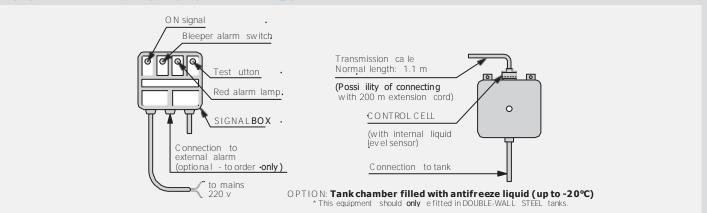
Electricity-free pro es, with 1" GAS connection, 2500 mm long and made of rass and copper. Optional in stainless steel or plastic and lengths of up to 3,000 mm.

- Equipped with a control panel and display screen, key oard for data input and relay to activate external alarms. It can e connected to LÁN networks y TCP/IP protocol.

<b>N° of</b> tank
1
2
3
4
5
6
7
8
9
10



#### BASIC LEAK DETECTION SYSTEM BY LIQUID LEVEL



### Installation instructions. Anchoring buried tanks.

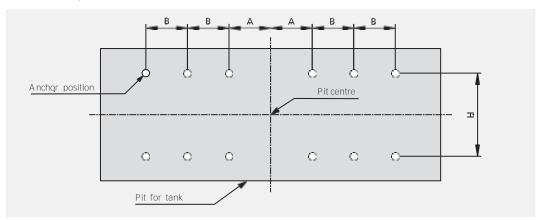


- The following indications are valid for:

   Single or dou le-wall steel tanks or dou le-wall polyethylene tanks.
- 10 ton-capacity polyester tie-downs.
- Lapesa standard tanks.

Number of tie-downs and position

The following shows the standard positions and num er of anchors to e used for LAPESA tanks.



The way to proceed to fit the anchors is as follows:

- Find the centre of the space in which the tank is to e installed.

- To the right of the centre, position an anchor at distance A (see ta le).
   Measuring from the last anchor, the following must e placed at distance B.
   If the tale indicates 3 x 1000 this means that 3 anchors must e fitted at a distance of 1000 mm from each other.
- 5. Repeat points 2 to 4 to the left of the centre.

Distance H will e calculated earing in mind the diameter of the tank and the chosen installation criterion (standards, regulations..). If distance H is greater than the tank diameter, the anchors must e placed at an angle so that the tie-downs pull in the anchoring direction.

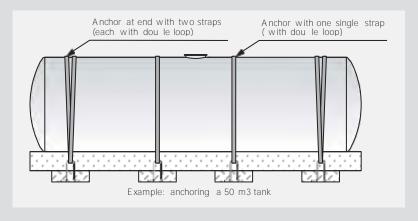
Layout of tie-downs

Rated capacity(litres)	Model Ref.	Diameter (mm)	N°. pairs of anchors	<b>N°.</b> tie- downs	Dimen A	sions (mm) B
3000	LF 3000	1500	2	2	675	
5000	LF 5000	1750	2	2	560	
7500	LF 7500	1750	2	2	920	
10000	LF 10	1750	2	2	1625	
15000	LF 15	2200	2	2	1450	
20000	LF 20	2500	2	2	1720	
25000	LF 25	2500	2	4	2210	
30000	LF 30	2500	2	4	2710	
40000	LF 40	2500	4	4	1250	2450
50000	LF 50	2500	4	6	1790	3000
60000	LF 60	2500	4	6	1880	3900
80000	LF 80	3000	6	8	1050	2x2150
100000	LF 100	3000	8	10	1075	3x1925

As can e seen in the tale, more tie-downs than anchors can e fitted, with two straps coinciding at the same anchor point. In this case, you must ear in mind that the tie-down straps have to e fitted as vertically as possile, without one mounting on top of another and without them tangling. Special care must e taken when tensing them.

The position of the tie-downs must e symmetrical in relation to the centre of the tank (there must not e more tie-downs on one side of the tank than the other)

Anchors with two tie-down straps must eat the end of the tank.





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сайт: www.lapesa.nt-rt.ru || эл. почта: pse@nt-rt.ru