PALADERI
INNOVAZIONE COSTANTE



TECHNICAL DATA SHEET · PALASTORM

PALAFIREFIGHTING fire water and storage tanks

Tanks made from steel and polyethylene pipes, installed underground beneath trafficked surfaces or above ground, for storing and reusing drinking water, rainwater and firefighting reserves.

CONFIGURATION
Single-piece or modular

INSTALLATION
Underground beneath trafficked surfaces or above ground

Technical data

Material	**Spiral-wound pipes in galvanised steel and PE100 polyethylene to UNI 11434**
Configuration	**Single-piece or modular**
Installation	**Underground beneath trafficked surfaces or above ground**
Drinking water	**Regulation (EC) 1935/2004, Ministerial Decree 174/2004**
Firefighting	**UNI EN 12845, UNI 11292, UNI 10779, Presidential Decree 151/2011**
Accessories	**Overfill sensors, submersible pumps, control panels, network connections**

Drinking water



Polyethylene is non-toxic, does not promote algae growth and is not attacked by chemicals present in the soil: PALAFIREFIGHTING tanks are suitable for storing drinking water and other liquid foodstuffs. On request, a small pumping station with pump housings can be built into the tank volume.

Fire water reserves



Combined with a plant room and a pressurisation station, the PALAFIREFIGHTING tank forms a complete fire-fighting system that can also be installed under trafficked areas, with suction lift or flooded suction. The pressurisation unit can use vertical-shaft pumps with suction lift, horizontal-shaft pumps with flooded suction, or pumps in the plant room drawing with suction lift.

Irrigation and reuse

In irrigation systems, the tank stores and delivers the volumes required for cultivation, supplying automatic or manual systems. It is equipped with inlet pipes, flap valves, overflow, submersible electric pumps, delivery pipes and electronic pressure switches.

The internal housings accommodate accessories from partner companies or, if the client prefers, from other brands.

Dimension table

Standard single-block tanks. Volumes, lengths and number of inspection openings are adapted to the project.

Usable volume (m³)	Usable length (m)	Internal diameter (mm)	Inspection openings	Vents	Suction lines
20	11,50	1640	1 × DE800	1 × DE125	1 × DE140
30	17,00	1640	1 × DE800	1 × DE125	1 × DE140
40	11,30	2200	1 × DE800	1 × DE125	1 × DE140
50	15,00	2200	1 × DE800	1 × DE125	1 × DE140
60	18,00	2200	2 × DE800	2 × DE125	1 × DE140
65	19,00	2200	2 × DE800	2 × DE125	1 × DE140
70	21,00	2200	2 × DE800	2 × DE125	1 × DE140
80	24,00	2200	2 × DE800	2 × DE125	1 × DE140
90	27,00	2200	2 × DE800	2 × DE125	1 × DE140
100	30,00	2200	2 × DE800	2 × DE125	1 × DE140
125	37,50	2200	3 × DE800	3 × DE125	1 × DE140
150	45,00	2200	3 × DE800	4 × DE125	2 × DE140
200	60,00	2200	4 × DE800	5 × DE125	2 × DE140
300	88,50	2200	6 × DE800	4 × DE125	2 × DE160

Inspection openings are DN/OD 800 mm polyethylene stubs welded onto the tank, with a manhole opening wider than 60 cm; extensions are optional.

Fire-fighting systems

Connected to a plant room with the pressurisation station, the underground tank forms a complete fire-fighting system: **storage tank, pump room and control panel, distribution network**. It can be installed under trafficked areas and provides the water reserve that feeds hydrant networks and sprinkler systems.

Tanks and equipment comply with **UNI EN 12845:2015**, **UNI 11292** and **UNI 10779**, as required by Italian Presidential Decree 151/2011 on fire prevention. The pipes comply with UNI 11434.

Frequently asked questions

What volume can a PALAFIREFIGHTING fire-water tank have?

Standard single-block PALAFIREFIGHTING tanks range from 20 to 300 m³ of usable volume: 20 m³ with an internal diameter of 1640 mm and a length of 11.50 m, 300 m³ with an internal diameter of 2200 mm and a length of 88.50 m. For other volumes, the lengths and number of inspection openings are adapted or the modular configuration is used.

Which fire protection standards do PALAFIREFIGHTING tanks comply with?

PALAFIREFIGHTING tanks and their equipment comply with UNI EN 12845:2015, UNI 11292 and UNI 10779, as required by Italian Presidential Decree (D.P.R.) 151/2011 on fire prevention. The spiral-wound pipes that form the tank comply with UNI 11434.

Can a PALAFIREFIGHTING tank hold drinking water?

Yes. Polyethylene is non-toxic and does not promote algae growth; the regulatory references given are Regulation (EC) 1935/2004 and Italian Ministerial Decree 174/2004. For drinking water, the Paladeri catalogue specifies underground installation with at least 1 m of cover from ground level, to ensure thermal insulation of the water.

How are the inspection openings of a PALAFIREFIGHTING tank designed?

The inspection openings of PALAFIREFIGHTING tanks are DN/OD 800 mm polyethylene spigots welded onto the tank, with a manhole opening larger than 60 cm, normally spaced 3 m apart. The standard 100 m³ tank has 2 DE800 inspection openings, 2 DE125 vents and one DE140 suction connection; riser extensions are optional.

Can a PALAFIREFIGHTING tank be installed under a trafficked area?

Yes. The Paladeri installation manual distinguishes light traffic loading, EN 124 class B125 with a maximum load of 12.5 t, from heavy traffic loading, class D400 with 40 t. The PALAFIREFIGHTING tank is installed according to the structural design, with a manhole cover on a reinforced concrete slab that bears on the ground and not on the inspection opening.

How is a fire-fighting network fed by a PALAFIREFIGHTING tank pressurised?

The PALAFIREFIGHTING tank is connected to a plant room with a pressurisation station in three possible configurations: vertical-shaft pumps with suction lift, horizontal-shaft pumps with flooded suction, or pumps in the plant room with suction lift. Tank, pump room and distribution network supply hydrants and sprinkler systems.

Indicative data, subject to change without notice. The Paladeri technical department is available for sizing and selecting the right solution.

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