

Technical Data Sheet - USLPore® Plant 1500

Vers. 03.2024

Product specification

1.1. **Trade name: USLPore® Plant 1500**

1.2. **Manufacturer / Supplier**

USLPore Europe GmbH

info@uslpore.com

The **USLPore® Plant 1500** is the essential key part of the whole USLPore® plant concept. It contains a three-step mixing system. The whole mixing and dosing tower contains the following components:

1.3. **Components**

1.3.1. **Slurry Mixer with weighing scales**

The slurry mixer is preparing as a high-suspension mixer with high shearing forces the pre-mix out of water, cement, filler and other chemical additives before pumping it into the USLPore® Aerated Concrete – Mixer 1500. Weighing scales are also integrated to enable a precise gravimetric dosing control. The mixer's size is variable and subject to the plant's overall capacity.

1.3.2. **USLPore® Aerated Concrete - Mixer 1500**

The USLPore® Aerated Concrete – Mixer 1500 is equipped with special mixing devices by USLPore Europe to avoid any shearing forces while mixing whereas ordinary planetary mixers for mortar can destroy the foam and are mostly resulting in inconsistent wet densities of the end product. The mixing speed and therefore the interferential speed of the mixing devices can be regulated through the PLC based software system.

1.3.3. Discharge Mixer

The discharge mixer is having a sufficient capacity for minimum 1.5-2 batches of the USLPore® Aerated Concrete – Mixer 1500. A spiral is keeping the USLPore® with its thixotropic characteristics under permanent movement and is therefore keeping its consistency. Through the third mixer a continuous dosing process into moulds or pouring tables can be arranged without being affected by the previous batch mixer.

1.3.4. General Control Panel

The USLPore® Plant 1500 is well suitable for high scale production in a fully automatic mode.

1.3.5. Foam Generator FG350

The Foam Generator FG350 is a ready to use foaming system with integrated air system. No additional requirements are necessary to run this system.

The machine is working fully automatic, therefore no manual dilution of water and foaming agent is necessary and the foam can be produced continuously. The whole system is running at a low air pressure (100-200 mbar) and is producing a very strong foam bubble membrane. The system is developed by USLPore Europe for the worldwide unique advanced foaming agent and additive brand USLPore®.

The Foam Generator FG350 is equipped with a PLC from Siemens. An automatic cleaning system is also part of the machine. Thus the cleaning of the system is avoiding troublesome manual cleaning. The foam density can be adjusted precisely in accurate steps.

1.3.6. Networkformer Dosing System

The networkformer USLPore® NWF is an essential component of the USLPore® technology, specifically for lower densities ($\leq 400 \text{ kg/m}^3$ dry density). It will be dosed through an automatic dosing system. The dosing system can be directly connected to the standard package of USLPore® NWF (1000 liter tote).

1.3.7. Stabilizer Dosing System

The stabilizer USLPore® MRF is an essential component of the USLPore® technology, specifically for lower densities ($\leq 400 \text{ kg/m}^3$ dry density). The product has to be diluted with water in a 1000 liter tank (IBC) with integrated agitator. The agitator is frequency controlled. A special high viscosity pump is dosing the stabilizer dilution into the water scale of the USLPore® Plant 1500 automatically in addition to the primary water.

1.3.8. Water Dosing System

The USLPore® Plant 1500 is equipped also with a water dosing system including a scale, weighing vessel, a pump and valves. The water will be discharged into the slurry mixer.

1.3.9. Cement Dosing System

The USLPore® Plant 1500 is equipped also with a cement dosing system including a scale, weighing vessel and discharge screw into slurry mixer.

1.3.10. Filler Dosing System

The USLPore® Plant 1500 is equipped also with a filler dosing system including a scale, weighing vessel and discharge screw into slurry mixer.

Technical Data

2.1. Overall Power demand

USLPore® Aerated Concrete – Mixer 1500	37.00 kW
Weighing System cement, filler, water	6.00 kW
Slurry Mixer	22.0 kW
Discharge Mixer	2.20 kW
Air compressor	3.30 kW
<u>Additional</u>	<u>5.00 kW</u>
Total	75.50 kW
Voltage of mixing motor:	400 V, 50 Hz
Current	189 A

2.2. Details of components

2.2.1. Slurry Mixer

Type:	High suspension mixer with integrated recycling mixing mode
Dry filling capacity:	Subject to intended mix designs
Storing / operating temperature:	+5°C to +60°C

2.2.2. USLPore® Aerated Concrete – Mixer 1500

Type:	Pan turbine mixer
USLPore® output per cycle (fresh):	1500 l
Electrical protection class:	IP 55
USLPore® Aerated Concrete – Capacity:	8 - 15 m ³ /h
Weight / empty mixer	3400 kg
USLPore® density:	175-800 kg/m ³
Storing / operating temperature:	+5°C to +60°C

Accessories

- 1 x Cover
- 1-2 x Maintenance / inspection flap
- USLPore® mixing devices for low shearing forces
- Framing system (subject to adaptation)

Transport dimensions USLPore® Aerated Concrete – Mixer 1500

Diameter:	2.4 m
Height:	2.3 m
Details:	to be transported vertically on a flat rack
Storing / operating temperature:	+5°C to +60°C

2.2.3. Discharge Mixer

Type:	Spiral mixer
Dry filling capacity:	Subject to intended mix designs
Storing / operating temperature:	+5°C to +60°C

2.2.4. General control panel

The whole mixing and dosing system is equipped with a computerized system majorly with Siemens components. The operating software is made in house by USLPore Europe.

2.2.5. Foaming System FG350

Sets:	1
Capacity:	300-500 liters / minute
Pressure:	100-200 mbar
Power:	1.2 kW
Foam density:	electronically/mechanically adjustable
Foam consistency:	electronically adjustable
Dimensions:	835 mm x 400 mm x 1500 mm
Storing / operating temperature:	+5°C to +60°C

Low pressure air system

Power:	1.85 kW
Voltage:	400 V
Weight:	24 kg

Water pump

Power:	1.5 kW
Voltage:	400 V
Weight:	13.2 kg
Speed:	2800 rpm

Foaming agent pump

Voltage:	24 V
Amperage:	5 A
Weight:	1.2 kg

Foam Pipe

External diameter/length:	90 mm / 450 mm
Nominal diameter, outlet:	40 mm
Hose:	50 mm

Connection: C-cupling

Automatic Cleaning System

Water Pump

Voltage: 24 V

Amperage: 5 A

Weight: 1.2 kg

Heating System

Power: 6.5 kW

Maximum temperature: $\leq 50\text{ }^{\circ}\text{C}$

Transport dimensions Foam Generator FG350

Length: 1.50 m

Width: 0.90 m

Height: 1.70 m

Weight: 160 kg

Pressure compensation for water dosing

The foam generator is equipped with a dosing vessel for water with integrated pressure compensation (or alternatively with a valve)

Tempered foaming agent dosing (optional)

For countries with lower temperatures it is recommended to acquire in addition from USLPore Europe a dosing vessel with integrated temperature control for the foaming agent as the optimum dosing temperature and foaming effect takes place at around 25 °C.

2.2.6. Networkformer Dosing System

Power 0.65 kW

Voltage: 230 V

Speed	2800 rpm
Weight:	6.1 kg

2.2.7. Stabilizer Dosing System

1 x agitator, frequency controlled

1 x high viscosity pump

each:

Power	1.5 kW
Voltage:	400 V
Speed	2800 rpm
Weight:	20 kg

Transport dimensions Stabilizer Dosing System

Length:	1.20 m
Width:	1.00 m
Height:	1.60 m
Weight:	125 kg

2.2.8. Water dosing system

Volume water scale:	400 liter
Power:	1.5 kW
Voltage:	400 V

2.2.9. Cement dosing system

Volume Cement dosing scale:	400 liter
-----------------------------	-----------

Screw conveyor for controlled discharge

Power:	1.5 kW
Voltage:	400 V

2.2.10. Filler dosing system

Volume Filler dosing scale: 400 liters

Screw conveyor for controlled discharge

Power: 1.5 kW

Voltage: 400 V

Total net weight: 4500-5500 kg (depending on optional components)

Application

USLPore® Plant 1500 is only suitable for intense wet mixtures of agents as cement, fine sand, fly ash, organic and inorganic fibres etc. for densities from 175 to 800 kg/m³ (ready mixed material) with a maximum grain size of the raw materials less than 2 mm.

The information contained in this product specification is based on our current state of knowledge and experience. It does not free the user from making his own tests and trial applications. A legally binding assurance of certain properties cannot be inferred from this information. Any existing patent rights as well as any pertinent legal regulations must be observed by the recipient of our products under his own responsibility.