

UELZENER

MASCHINEN GMBH



UELZENER T115

The pneumatically working
pressure-chamber gunite machine
for the processing of
fine grained, dry refractories,
i.e. EAF and converters



UELZENER T115

Description

The pressure chamber gunite machine UELZENER T115 is working automatically and is designed for the continuous conveying of dry, fine grained materials. Built-in in a rigid frame, reliable operation, simple handling and easy transport by crane or forklift to the place of operation make the UELZENER T115 most suitable for the fast repair in the refractory section (hot-repair) of electric furnace, converter as well as at runners.

The wear at the UELZENER T115 is very low, as the machine is working without rotating parts within the material. The steady feeding of the dry material into the hose line is effected only by a defined relation between the chamber pressure and conveying pressure. This is specifically adjustable to the requirements of the material used. Because of the steady feeding with material and optimal air supply the fly conveyance of the material is achieved and a swelling conveyance of material is avoided.

The operation of the UELZENER T115 is fully automatically. All important functions - like adjustable pre-blowing time, opening and closing of the material discharge flap, pressurising and de-aeration of the chamber and adjustable time for emptying the conveying line - are automatically controlled by the free-programmable SPS-control. Any wrong operation is herewith avoided. A further charging of the pressure chamber is only possible when chamber is fully relieved from pressure. A level probe in the chamber is preventing over-charge. On request an electric remote control can be installed.

The feeding of the unit is usually done by Big-Bag or silo. For Big-Bag feeding a rack is available as accessory to hang the Big-Bag in, which makes the operation to a great extent independent from the availability of a crane. The stock volume of chamber and Big-Bag is max. 2 m³.

Technical Data

| | |
|---|---|
| Capacity theor. vol. of pressure chamber: | approx. 1,1m ³ (standard, chamber volume = up to 2m ³) |
| Effective volume: | approx. 1,0m ³ (up to 1,9m ³) |
| Max. working pressure: | max. 6 bars |
| Air connection: | R 2" |

Performance data

| | |
|--|--|
| Required air consumption/conveying hose: | 3 - 8 m ³ /min *) (ID25 - ID50) |
| Required air pressure: | min. 1 - 6 bars (adjustable) |
| Conveying output: | 0,5 - 5 m ³ /h *) (ID25 - ID50) |
| Conveying distance, horizontally: | approx. 100 - 150 m *) |
| Conveying height: | approx. 40 m *) |
| max. aggregate size: | 6 mm |

*) depending on material, grain size, conveying line dia., conveying length and air consumption

Dimensions and weight (standard unit)

| | |
|------------------|----------------------------------|
| Lengths: | approx. 1400 mm |
| Widths: | approx. 1400 mm (without ladder) |
| Height: | approx. 2820 mm |
| Weight (empty) : | approx. 860 kg |

Part number..... 115.00.001 (standard machine)

Optional Equipment

- Conveying hoses of different length and nominal width
- Shot cast lances of different length (2 - 10m)
- Lance support caddy, manually or electrically, for lances of more than 5 m length
- Weighing device for controlling the consumption and content of the pressure chamber
- Feeding funnel with cutter for Big-Bag feeding and connection for dust absorbing
- Dust absorbing system for installation in the machine frame together with the feeding funnel
- Simple rack for Big-Bag
- High pressure water pump for optimum moistening of the material

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UELZENER T 115 WITH CADDY AND LANCE

Technical description of caddy and lance:

For the repair of the refractory lining of converters and electric furnaces, lances of different length (2 - 10m) and construction are available. The lances have a nominal inner diameter of ID 1 1/2" or 2". For big lengths the lances are designed with several tubes of different diameters for higher stability and decreasing of bending. The weight of the lances is approx. 3 kg/m. Lances of more than 5 m length usually cannot be controlled by hand without a lance caddy. At the end of the lance is a turnable and angled nozzle to coat the inner walls and the cover of the electric furnace or for example its throat.

The water supply is done with highest possible pressure by a water dispersion ring for optimum moistening of the material. The water armature consists of an adjustable needle- and relieve-valve on top of the lance, a pressure reducer and flow meter at the machine valve. If water pressure is too low (< 6 bars) a booster pump is required.

The caddy with heat shield is designed as car with two fixed and two swivelling rollers. The caddy is positioned by hand and fixed during the spray work by the brakes of the swivelling rollers.

At the front side of the caddy the lance is supported by cardan and thus in all directions freely movable. In addition the lance can be turned in its suspension by $\pm 180^\circ$ which allows optimum shot gun work within the converter. The suspension point of the lance is adjustable in its height. This guarantees an optimum handling of even very long lances. In order to protect the operator from the enormous heat of the converter, a heat shield is installed in front of the caddy with eye slits in head height.

Alternatively the caddy can be delivered as self running version. The drive is effected by a battery driven electric motor, steering by a shaft, where also the drive control switch is integrated. The speed can be precisely regulated by an impulse control. If motor is switched off, the caddy is stopped automatically by an electromagnetic disc brake.



< Caddy with base driven by electric motor and 10 m shot lance.

<< The caddy with eye-slits in the heat shield. The support for the lance is adjustable in height by a winch.



< Spraying at the slag mouth of an electric furnace

Technical Data: Technical alterations reserved!

Caddy (hand driven version)

Length: approx. 1,6 m
Width: approx. 1,2 m
Height: approx. 2 m
Weight: approx. 300 kg

Shot lance with water nozzle injection

Length: 2 – 10 m
Nominal width: ID40/ID50
Weight: approx. ca. 3 kg/m
Water connection: R 3/4", min. 6 bars

Caddy (electromotor. driven Version)

Length/Width/Height: approx. 2,0 / 1,2 / 2,0m
Weight: approx. 650 kg
Drive: 0,8 kW inverse-speed motor
Battery: 24V/160Ah
Battery charger: primarily 230 V/50 Hz, secondary 24 V/25 A

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Technical details UELZENER T115



< UELZENER T115, with optional weighing system of pressure vessel for exact metering of material consumption by electronic evaluation and 4-digits display.



< optional charging funnel with cutter for Big-Bag feeding free of dust.
For dust absorbing an efficient dust absorbing system is available, to be integrated into the machine frame. Alternatively a Big-Bag support rack can be delivered.

> Electro-pneumatic control for the automatic run with programmable SPS. The picture shows optimal manual control.



^View at discharge armature at the pressure vessel UELZENER T115 and hose connection.

>Use of the UELZENER T115 in a steel melting shop. Here shown with Big-Bag charging funnel and integrated dust absorbing.



<Hot repair spraying at an electric furnace, shot lance with turnable nozzle.



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