

# UELZENER

MASCHINEN GMBH



## ESTROMAT 165 ST

Pressure Vessel Mixer and conveyor  
for the Repair of Furnaces  
and Chimney Relining  
Processing of Refractory Masses



## Mixer and conveyor for refractory materials ESTROMAT 165 ST

The **ESTROMAT 165 ST**, an extremely compact unit developed by UELZENER in close cooperation with producers and users of refractory products for casting ladles, blast furnace troughs etc. It is specially conceived for the preparation of refractory masses in small loads (up to 200 kg).

The efficiently designed technique for the mixing and conveying through, a pressurised vessel allows an effective preparation of almost any machine-workable refractory concrete existing on the market.

Refractory masses with high densities and very low water content of only 4-6% usually cannot be conveyed by conventional pump systems or at least this is performed with extreme difficulties.

The **ESTROMAT 165 ST** successfully conveys such masses thanks to the "air-pocket" principle by compressed air through flexible hoses directly to the point of application.

The heart of the unit is the pressure vessel especially designed and built with a combined mixing system (forced mixer). The conveniently low charging mouth of the vessel allows small loads by bags and an optimum control of the charging cycles. The position of the mixing arms and paddles inside the vessel obtains a homogeneous and ideal mixture in the shortest time.

Direct experience and usage performed by the refractory producers have proven that by mixing with the **ESTROMAT 165 ST** normally 10 % less water is required compared to other mixing systems. This is an excellent result and important peculiarity when working refractory materials.

The gear system of the mixer is made of a powerful 3-phase motor and a pair of bevel gears. The complete unit is mounted on a robust skid frame with fork lift eyes.

The measurements are convenient for **Euro Pallet Transport**.

### Special Features:

- Complete electric control, easy and practical handling
- Automatic digital water dosage system with a degree of accuracy of "1% permanent consistency
- Semi-automatic air control for an efficient conveyance
- Automatic blow-back-device at the outlet of the material reduces the formation of blockages during conveying through hoses
- Pre-set and adjustable automatic mixing time guarantee homogenous mixing quality
- Fully automatic lubrication system reduces the wear and tear of the mixers seals and prolongs the service intervals



The digital water dosage system allows a degree of accuracy of " 0,1/lt. The operator can reset the amount of water required and controls the start during the charging operation, at the instrumental panel.



Electrical control kit and potentiometer for mixing time setting

The water quantity required can be programmed up to 7 programmed preset dosages.



Water armature

Through the semi-automatic air control device the process cycle can be kept steady. So the unit is easy to operate and errors are reduced to a minimum. The air control system is integrated with the blow-back-device placed at the material outlet. The entire air armature is aesthetically covered.

The blow-back-device serves the mixture and prevents the formation of blockages at the material outlet.

Formation of scarcely mixed material which can be set at the bottom of the vessel during the charging operation is therefore eliminated and blown back into the vessel.

A squeeze valve seals the vessel off before the filling. Thus a totally homogenous mixture can be achieved.

Through a potentiometer located at the control panel the required mixing time can be easily set. The mixing process automatically starts as soon as the water dosage is activated.

The conveyance cycle begins only after the completion of the mixing cycle. Mixing can be interrupted if necessary.

The automatic control lubricating system is affected each time the unit is set in operation and every 3 hours during continuous operation.



Air armature with upper and lower air controls. Lid with safety valves

## The work process:

The dry material is loaded into the vessel through the hopper; before that the material outlet is automatically sealed by the blow-back-device.

Afterwards the required set water quantity flows into the vessel through the dosing system.

Finally the vessel lid must be closed after setting the automatic mixing time (as required by the type of material).

Now the conveyance of the material can be started by pushing the START button on the control panel. Air enters the vessel, mixing arms and paddles force the material towards the outlet point and the material is so conveyed through the hose to the point of application.

Upper air and lower air inputs can be set separately in order to allow a perfect conveyance.

Once the vessel is empty the entire charging cycle will be resumed.

Inside the vessel protective wear plates are placed in order to minimize the wear of the vessel wall. The same is to be said for the paddle which from time to time will need to be reset consequently to the continuous wear due to the abrasive material mixed.

Heavy duty paddles are used in order to avoid long formation of deposited material inside the vessel in the "dead areas". This reduces the cleaning of the inside of the vessel.

In the bottom area there is an opening included which makes the cleaning easier.

The loading and conveying time for a 200 kg refractory mass is about 2-3 minutes. Approximately 2 tons of material is so processed.

The conveying distance is depending on the material and available air pressure. The ESTROMAT 165 ST can easily reach 40m distance.

## Technical Data

Motor power	: 7,5 kW	req. air quantity/pressure	: at least. 3 m <sup>3</sup> /min
Operating power	: 400V/50Hz	req. air pressure	: min. 6 bars
	three phase	Air coupling	: 3/4"
Electric connection	: 532/6h	req. water pressure	: ca. 3 bars
Electric protection	: IP 54	Water line coupling	: 3/4"
Speed of mixer shaft	: 43 rev./min <sup>-1</sup>	License	: TUEH, German stand.
Vessel volume	: 165 l		VDE
Vessel load volume	: ca. 100 l,	Length	: 1250 mm
	max. 200 kg	Width	: 800 mm
Conveying capacity	: max. 3 m <sup>3</sup> /h *	Height/loading/mixer vessel	: 960 mm
Conveying distance	: ca. 30 m *	Transporting height	: 1250 mm
max. Vessel pressure	: 8 bars	Weight empty	: ca. 690 kg

\* depending on material specifications

Version with automatic functions as above mentioned: Item No. 165.00.010

Version without automatic functions: Item No. 165.00.005

Machines according to other standards or voltages available

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