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# Shot blasting Machine RHBD 9/22-T

The intended use, in accordance with Directive 94/9 / EC (ATEX 95) for the system described below is defined as follows:

## 1 Workpiece data

When a varying range of products, we recommend a production support. The process and the feasibility of the part geometries deviating from the agreement can thus be assessed.

- Reference: not yet defined
- Project data:
  - Part name: LPG - Gas cylinders
  - Part Material: Steel
- Details Dimensions: depending on bottle type
  - Height min .: 430 mm
  - Height max .: 1,280 mm
- Other parts parameters are possible on request.
  - Part weight min: 5 kg
  - Parts weight max .: 48 kg

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## 2 Initial state:

- Reference: undefined
- Project data:
  - Permissible workpiece temperature: room temperature
  - Max./Room temperature: + 5 ° to + 40 ° Celsius

## 3 processing method / system function (s):

- remove beams, welding residues: operation –
- Editing media: to be defined
- Parts per unit of time: 250 pcs. /h
- Test report No .: there is no tests were still carried out
- Process flow description: on request
- Cleaning system (for blasting agent): Dry Filter

## 4 final state: cleaned surface, welding near smoothed

## 5 layout specifications:

- Max installation height from the hall floor: still communicate
- Installation in ATEX Zone: no, no default

## 6 Power supply:

- Required voltage: 400/230 V - 3 Ph N / PE
- Frequency: 50 Hz
- Air supply: 6 - 7 bar, dry

## 7 Blasting machine:

Type: M250318H

Overhead rail conveyorized system RHBD 9/22 T

*Suitable for installation without any foundation * The system consists of the following components:

### 7.1 Antechamber

- Executed in solid steel construction antechamber, lined on the inside against wear with bonded rubber sheets
- Steel core reinforced rubber slats for the unimpeded insertion of the workpieces
- Separation of the pre-chamber and the blasting chamber by wear-resistant rubber fins that prevent the escape of the blasting medium from the blast cabinet

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- Blasting material recycling in the bottom part of the antechamber covered,
- Gap covers the canopy over multiple rubber seals and plastic brushes
- Length 2,000 mm

## 7.2 blasting chamber

- Executed in solid construction blasting cabinet manganese steel, rear panel of mild steel
- Inside with additional suspended manganese steel plates 10 mm thick
- Gap cover on roof over multiple rubber seals and plastic bruses
- Hanger guides in the bottom region of the jet chamber
- To avoid stop bar on the opposite side of the turbines rocking of the workpieces during the blasting process -

## 7.3 Exit chamber

- Executed in solid steel construction after-chamber, the inside against wear covered with glued rubber sheets
- Steel core reinforced rubber slats for the unimpeded insertion of the workpieces
- Separation of the exit chamber and the blasting chamber by wear-resistant rubber fins that prevent the escape of the blasting medium from the blast cabinet
- Blasting material recycling in the bottom part of the after-chamber covered,
- Gap covers the canopy over multiple rubber seals and plastic brushes
- Length 2,000 mm

## 7.4 Workpiece transport system

- The beam system can be integrated into the customer's transport system, adjustment after consultation
- Transport of the workpieces by the Monorail System
- Designed for:
    - Max. Grapes height: 2,200 mm
    - Max. Grapes diameter: 900 mm
    - However, at max. adjusted workpiece size

## 7.5 Blasting system

3 piece Rösler "Hurricane® H28" -Turbines

- With interchangeable throwing vanes
- Located on an ideal position on the side of the blasting chamber in a separate housing spacer
- For optimum spray pattern in angled position
- Engine power: 11 kW
- Throwing speed: up to 80 m / s
- Blasting medium throughput: 450 kg / min
- Designed for blasting material filling: 1500 kg

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- Throwing vane width: 69 mm

## 7.6 Media transport and treatment systems

- Conceived as a recovery hopper ray room floor
- Two transverse screw conveyors for transportation of the blasting agent for vibrating trough
  - With easily removable screw cover
  - Drive auger: each 0,55 kW
- Bucket for further transport of the abrasive in the Blasting agent sighting, complete with:
  - Fiber reinforced bucket elevator
  - Screwed, highly wear-resistant steel cups
  - Drive and tail pulley
  - Tension station
  - Drive power motor bucket: 3,0 kW
- Cascade windsifting
  - With adjustable air control valves
- Large-sized blasting medium reservoir
  - With manual shut-off valves
- Pneumatically actuated flow of blasting material-metering valves (shell slider)
- Flexible hose connections to the individual turbines
- Minimal abrasives level control
- Cabins extraction system arranged on the beam cabin wall side
  - With integrated labyrinth separators
  - Flange for dust collector
- Including internal machinery piping (merging of all exhaust points on a drip leg)

# 8 Equipment.:

Type: C2500015

## 8.1 Central control panel with control type PLC

for controlling the individual parts of the system, control unit, consisting of:

- Siemens programmable logic controller Simatic S7 - 1200 or technically comparable system after consultation
- Siemens HMI device type OP 177
- Switchable manual / automatic operation
- Clear plain text display of all functions of the program sequence and faults occurred
- Numeric entry keypad for changes in operating data
- Fault via optical signal detector
- Included software for an automatic program
- Including operation monitoring for:

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  - Workpiece transport system of the blast machine
  - Bucket Elevator
- Ampere display for each turbine
- IP 55
- Operating voltage: 400/230 V; 50 Hz, 3 Ph N / PE
- Voltage fluctuations of ± 10% are acceptable. If larger deviations corresponding additional devices are required.
- Control voltage 24 V (DC)
- Including potential compensation machine cabinet
- The filter fan included as standard is tailored to the cabinet size and equipment at an ambient temperature of +5 to + 40 ° C in a dry, clean air.
- Additional cooling devices or heat exchangers, eg. As a result of delivery instructions or as required, we offer on request on separately.

**Note:**
The relocation of the electrical control lines between the control cabinet and beam conditioning as well as between filter and beam system is based on a maximum distance of 2.5m units from one another, including. It is laid 2.5 m above head in a cable tray.

Deviations from this standard are available separately after detailed technical definition or calculated.

Depending on the installation site and the local conditions of the use of an additional mobile control panel is required. This can be offered on request.

Type: C2500017
**Vibrating conveyor trough**

- Automatic depositing and discharging coarse contaminants from the blasting agent and its transport to the bucket elevator
- Completely in a solid, vibration-resistant welded construction with inlet funnel
- Sieve with 5 mm mesh width
- Subfloor with the transition to the bucket elevator
- Mounted on coil springs
- With directly arranged on the conveyor trough vibration motors
  - Driving vibration motors: 2 x 0,9 kw
- Conveying and screening capacity are adapted to the flow of blasting material and the plant size

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Type: C2500074
**30 jet program**
Equipment of PLC control with 30 jet programs at the following setting parameters:

- Turbine speed
- Speed workpiece transport system
  the corresponding frequency converter continuously variable speeds can be set and allocated to the programs

other functions can be set as the program parameters, depending on the type of plant and equipment.

Type: C2500184
**Running monitoring bucket** for control low voltage technology

- Security unit for monitoring the operation of the bucket elevator
- installed electronic clock counter to the non-driven tail pulley -

Type: C2500001
**Infinitely variable speed control** by frequency of turbine drive (s)

- Extension of the standard switchgear
- Equipment with EMC module to CE standard (electromagnetic compatibility)
- Output choke to prevent disturbance to sensitive electronics in the immediate vicinity
- Control unit with display for:
  - Speed / frequency in Hz
  - Rated current in A
  - Disorders as plain text (not applicable for OP177)
- Designed for engine power: max. 11 kW

Type: C2500019
**Automatic Blasting agent replenishment 40 liters**

- Constant operating mixture quality through continuous, automatic replacement of the spent blast media in small portions
- Blasting medium reservoir
  - Filling volume approx 40 liters (depending on material about 250kg of blasting agent)
- Including minimum level probe
- Pneumatic valve and electrical control via level probe in the blasting agent reservoir of the blasting system
- Feed to bucket

# 9 Filters:

Type: M250230F

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Rösler filter system RF 75/9 P / w

- High pulse cartridge filter with solid welded with large-sized inspection doors
- Automatic cleaning of the filter cartridges by compressed air pulses and diaphragm valves
- Special filter cartridges with bracket
- Electronic control means for the pulses of compressed air including display
- Dust collection hopper with dust container
- Max. Volumetric flow: 7500 m³ / h
- Drive power fan: 11 kW
- Filter cartridges: 9
- Compressed air consumption at 6 - 7 bar: 10 - 12 m³ / h
- Static pressure: 2000 Pa
- Residual dust content: </ = 1 mg / Nm
- Sound pressure level: <80 dB (A) with sound

Danger:
Within the dedusting dust and concentrations can occur, depending on the material type, may cause smoldering fires to deflagration phenomena. We would like to point out that almost all the dusts are combustible, and according to the prevention of sparks and arcing, also part of the operating company (ATEX 137), must be taken in particular. Furthermore, to ensure the handling according to the intended use of the system.

We recommend in any case a dust sample to be analyzed by a specialized institute to flammability, health risks and explosiveness.

On request we offer a Pipe swirl separator an eraser or alternatively a wet filter.

**Note:**
When the dew point can occur inside the filter for condensate loss, resulting in dust control. Therefore, we recommend to let the filter run constantly in critical weather conditions.

**Please note:**
If the offered filter system in your plant already replaced or supplemented existing filter systems, we ask for all relevant process data.

**This includes:**

- Process description
- Material / type of dust / regard to any existing Scale and graphite portions
- Filter cartridge type, manufacturer, filter media, type of previous deposition

Upon receipt of this information we can possibly adjust our recommendation for your own application.

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## 9.1 Equipment.:

Type: C2500253

Sound enclosure for reducing the air vents regenerated noise

- Attached to the fan
- outflow noise <80 dB (A)

Type: C2500100
Differential Pressure Switch for controlling the filter cleaning intervals plotted against dust deposits on the filter cartridges

Type: C2500290
Pipeline joint galvanized between blasting and filter system equipped with:

- Electrostatically conductive gaskets
- Stable, semi-welded pipes and fittings in place of simple ducting
- Pipe bends up to 300 mm (diameter) in solid construction
    - Streamlined than in a straight segment design
    - Pipe parts hot (partially galvanized)
- Wall thickness 2 mm
- Explosion proof until 3 bar Length: max. 2.5 m