

## Throughfeed Cleaning Machines ZD

The **ZD Series** is our innovative response to increasing quantities and diverse conveyor systems. Zippel throughfeed cleaning machines can be custom-fitted onto any production line. Depending on the machine length, the cycle time can thus be adjusted to the machines placed before and after the Zippel machine. In this way, the existing manufacturing process is neither interrupted nor delayed..



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#### Technical Process

- Multiple wash and rinse stations along the production line
- Largely free of extracted air
- Automatic loading
- Noise insulation enclosure for low emission levels
- Process duration individually programmable
- Reverse chain motion inside the cleaning tunnel
- Variable conveyor speeds
- Product carrier conveyor system adapted to equipment

#### Optional Components

- In-line, hanging or O-shape conveyor
- Vacuum, infrared or hot air drying process
- Water treatment system
- Cyclic operation
- Automation/conveyor technology
- Loading and unloading solutions

#### Advantages

- Easily accessible for maintenance
- Energy-saving due to double wall insulation
- Low servicing costs due to anti-twist snap closure on the nozzle line

#### Suppliers

- Pumps: KSB, Grundfos
- Motors: Planetroll, SEW
- Electronics: Siemens, Pilz, Murr
- PLC: Siemens, Bosch
- Control cabinet systems: Rittal
- Sensors: Omron, IFM
- Pneumatics: SMC, Festo

This is only a selection of our suppliers. We will gladly cater for customised requirements from clients providing they are technically feasible within the overall design.

Detailed information regarding possible technical specifications can only be given after consultation with the client as each of our systems is customised and designed according to the client's requirements.

You will find two reference examples of our machines on the following pages.

## Throughfeed Cleaning Machines - Example 1

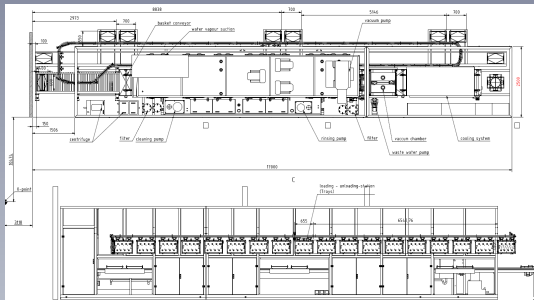
### Technical data:

Design: O-Type with chain and hanging conveyor system

Length: 15,700 mm

Width: 2,600 mm without conveyor extension

Height: 3,700 mm



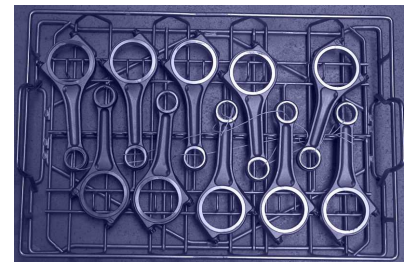
This example of a throughfeed cleaning machine with integrated conveyor technology consists of the following stations: cleaning, blowing, rinsing, vacuum drying and cooling. There are 2 cleaning agent containers under the conveyor belt which have a holding capacity of 2,000 litres each.

Cleaning and rinsing of wash items is carried out using rotary pumps. The wash items are covered with cleaning liquid from spray pipes mounted above, at the sides and below.



During the cleaning process, dirt particles are caught in the filters and fed into suitable containers. Cleaning mediums can thus continue to be used.

Further groups of components consist of three side duct compressors (blowers) and a vacuum pump in the machine area. Both sets of components are situated above the tunnel. An air-cooled vapour condenser is located at the machine intake in order to reduce steam emission as far as possible. This machine cleans piston rods and intermediate pallets. The piston rods are placed in the client's own wire baskets.



The wash items are conveyed in the following way:

Within the cleaning and drying areas the wire baskets are conveyed by a dual-track roller chain. Outside the processing areas the wire baskets are conveyed by a roller conveyor. Pallets are conveyed non-stop by a hanging conveyor. The machine is completely encased to minimise noise.

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## Throughfeed Cleaning Machines - Example 2

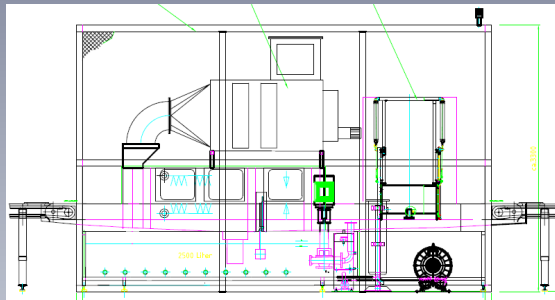
### Technical data:

Design: Chain conveyor system based on through-feed concept

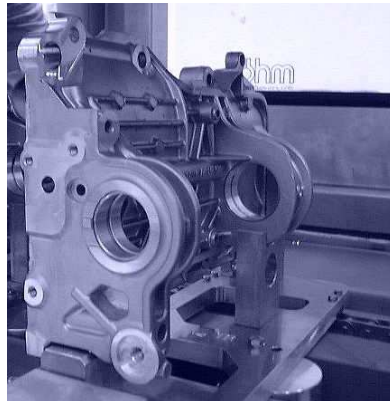
Length: 5,000 mm

Width: 2,500 mm

Height: 3,100 mm



This throughfeed cleaning machine was developed as a component for an existing production line for supporting frames and was incorporated into an existing conveyor system. The whole system consists of 3 sections: Cleaning and blowing together in a row the tunnel and vacuum drying in the third part of the system. The support frame is placed onto a workpiece holder and taken away. The conveyor system passes the machine by on the outside.



Devices required for operation (such as pumps and fine filters) are found at the side of the machine. Double fine filters are fitted to the cleaning tank on the machine, thus enabling the fine filter to be replaced while the machine is in operation.



A vapour drier is fitted to the inlet to prevent excessive steam emission at the inlet and outlet. There are servicing hatches on the side of the machine which enable optimum access to the nozzles or the blowers.

The whole machine stands in a base trough and enclosure which catches any fluid leaking from the container.



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