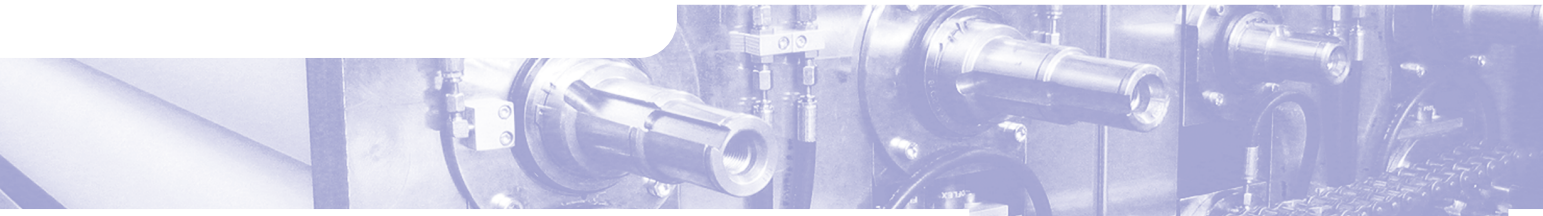
smt | schleifstein



Blank Washing Machines
Coil Washing Machines

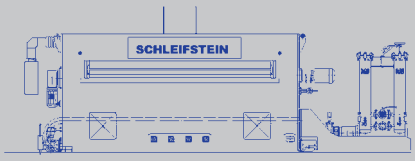
smt - washing machines

for blanks and strips made of metal:
- clean surfaces
- defined medium film on surfaces
- degreased surfaces
- dry surfaces

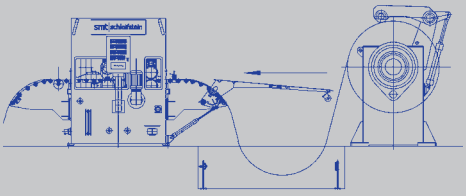
in press lines and coil lines:
- minimize scrap and retouching work
- reduce downtimes
- extend life times of dies
- enable process control

smt - blank and coil washers are used, where not only loose but also relatively strongly sticking dirt must be properly removed from the blank or strip surfaces made of metal:

- proper cleaning and homogeneous medium film in rapid passing process



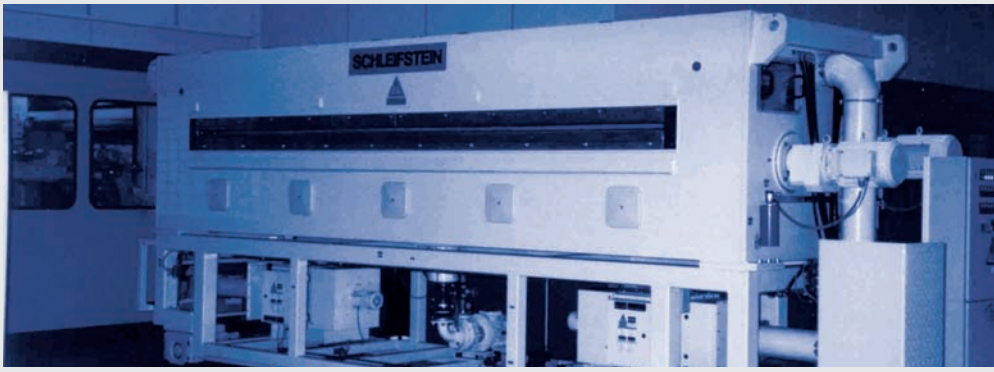
blank washing machine WEB



coil washing machine BWEB

The blank washing machine is usually positioned within a blank loading system in front of a press or a press line.

The coil washing machine is placed within a coil line, in many cases in front of the leveller.



The feed materials from various batches or from different suppliers have various dirt accumulations on the surfaces and are pro-vided with different, not evenly spread basic oilings. Dirty strips or blanks result in damages on the material surfaces and the dies during levelling, stacking or deep-drawing. Moreover, inhomogeneous surfaces result in non-constant processes. This affects not only immediate deforming but also subsequent processes such as welding, glueing or lacquering.

The experience resulting from more than 260 machines supplied worldwide so far has shown that our blank washer and coil washers substantially contribute to the quality when manufacturing outer shell parts for car bodies or any comparable products. In many cases the required surface quality and process safety is guaranteed only by using the washing machine.

The investment already amortizes in a very short time as the quality costs caused by the wear of dies, downtimes, scrap and retouching work, etc. clearly, sometimes drastically go down.

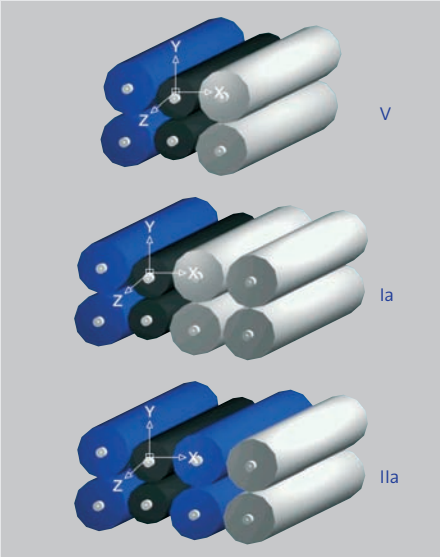
Working Principle
The feed material, blanks or strips, is pulled into the machine with the help of a pair of pinch rolls. Then the surfaces are profusely flushed with washing medium. Dirt particles on the blank surface are mechanically loosened and flushed off by the high-volume flow. Sticking dirt and basic oilings are loosened.

Brushing rolls with a garnishing of relatively soft perlon bristles rotating to the opposite direction of the material transport mechanically complete the cleaning effect and also allow a turbulent swirling of the washing medium on the material surfaces.

After brushing the blank or strip is flushed again with washing medium on both sides. Then, depending on the machine type, one or two pairs of squeezing rolls squeeze off the washing medium from the surfaces.

The blank or the strip leaves the machine best cleaned with a significant fine, homogeneous medium film on the upper and lower side.

• Blank Washing Machine WEB
• Coil Washing Machine BWEB



The different standard versions / roll arrangements:

V: **pinch rolls: PU / brushing rolls: perlon bristles / squeezing rolls: non-textile coating**
- The standard 3-roll machine: shortest design in passing direction: best cleaning; for slow up to medium transport speeds.
- Compared to the 4-roll machine a higher residual medium film.
- Function as washing & oiling machine.

Ia: **pinch rolls: PU / brushing rolls: perlon bristles / squeezing rolls I: non-textile coating / squeezing rolls II: non-textile coating**
- The 4-roll machine: best solution where very high cleaning results and squeezing results are required.
- Residual medium film < 1.0 g/m² can be obtained also at high transport speeds.
- Very good choice if a spray lubrication system should follow the washer.

IIa: **pinch rolls: PU / brushing rolls: perlon bristles / squeezing rolls I: PU / squeezing rolls II: non-textile coating**
- The 4-roll machine that is more reasonable compared to Version Ia: the bigger the machine, the higher is the cost advantage; recommendable if the squeezing results are not required to be as high as covered by Version Ia.
- Modification to Version Ia is easily possible.

Options and Versions,
according to your requirements and applica-tion, e.g.

roll drives
- central drive
- individual drive

washing medium
- washing agents based on mineral-oil
- water-based emulsions

washing medium tank
- integrated in the machine
- as pull-out type in base frame
- separate, e.g. in press basement
- double tank with automatic medium change
- tank volumes as per application / machine size
- tank heating as per application / type of washing medium

filtration of washing medium
- various main-flow filtrations
- various bypass-flow filtrations

installation
- stationary
- displacable on rails
- passing height as required

control
- wired to terminal box
- with control and operation
- controls as specified

oil mist separation
- electrostatic
- mechanical

Technical Data

for standard machines, depending on size and type:

blank / strip thickness	0.2 - 3.0 mm
blank width	500 - 5000 mm, as required
strip width	max. 2500 mm, as required
blank length in passing direction	min. 450 - 650 mm, depending on max. passing width
blank shape / type	rectangular and formed blanks, also with cutouts; double and multiple blanks next to each other; welded blanks with reservations
blank / strip material	steel, non-galvanized and galvanized, aluminium, other nonferrous metals
transport speed	max. about 3.0 m/s, frequency-controlled
washing medium flow	350 - 1000 l/min, depending on machine size
residual medium film	0.5 - 2.5 g/m², depending on application

Customized Design

- adaption of standard machines to existing mounting conditions on site and specifications – also later installation in already existing production lines.
- additional conveyor and handling technology in front of and behind the washing machine, e.g. complete blank loaders.

We are also producing:
- dry-brushing machines
- degreasing machines for aluminium strip and other nonferrous metals
- ultrasonic passing-through washing machines for wire-type and strip-type material with specific, powerful ultrasonic sources in compact design

Schleifstein Maschinentechnik GmbH
Siegstrasse 92 | 57076 Siegen | Germany
phone +49 (0)2 71-77 51-0 | telefax +49 (0)2 71-77 51-150
e-mail: info@schleifstein.de | www.schleifstein.de