



High Performance Strip Brush / Finishing Machine Model type BM 400



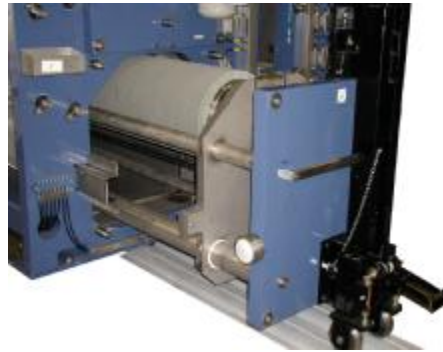
 System:

Brush against brush
(sample application: for Stainless Steel
for scale reduction)

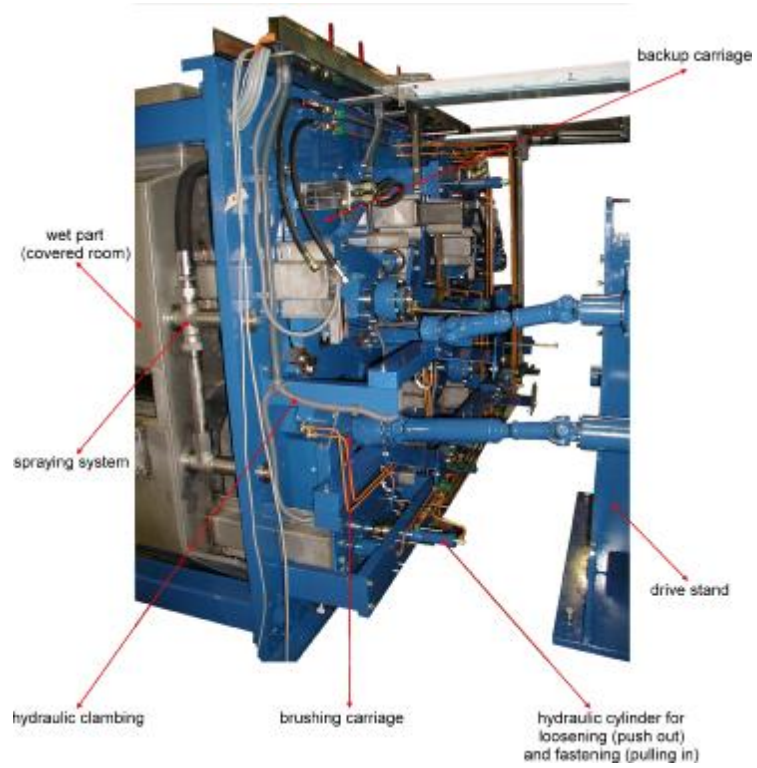


pic.7: operating side

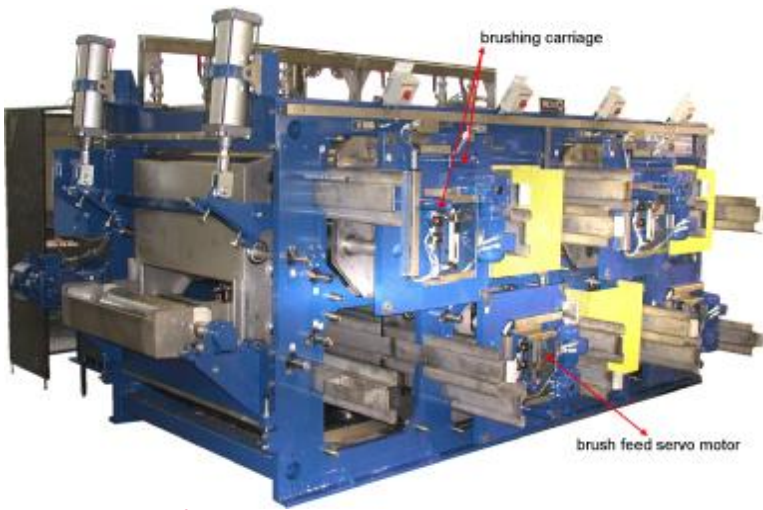
pic.8: easy brush change



pic.9: front side overview



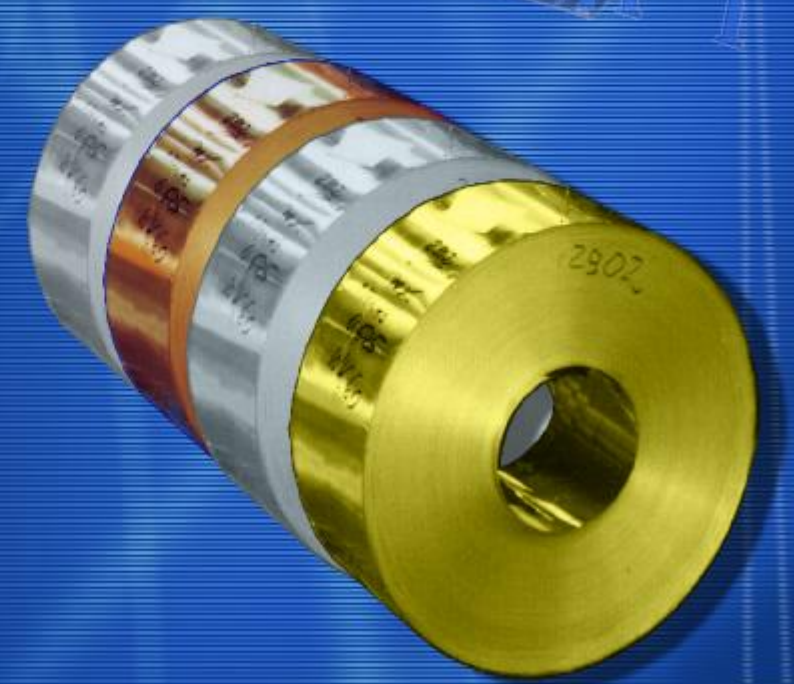
pic.11: drive side overview



pic.10: operating side overview

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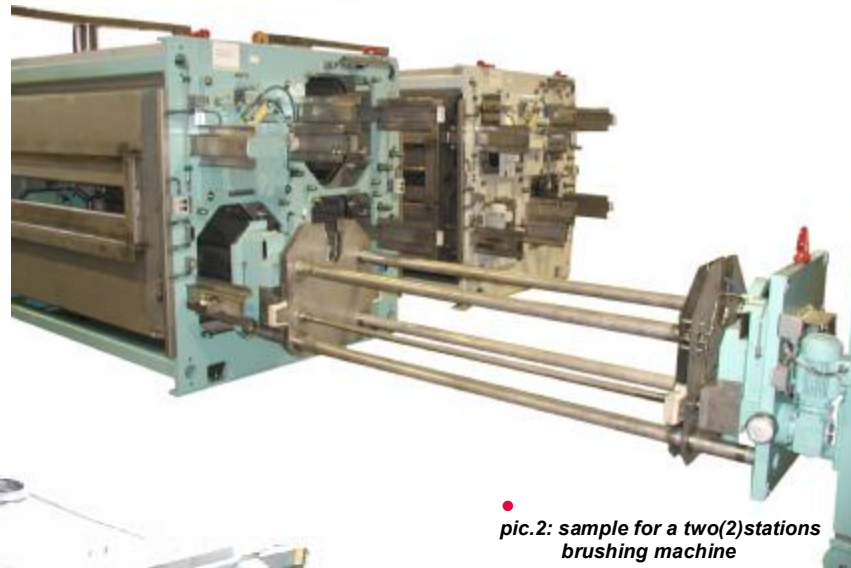
IT'S TIME TO RETHINKING

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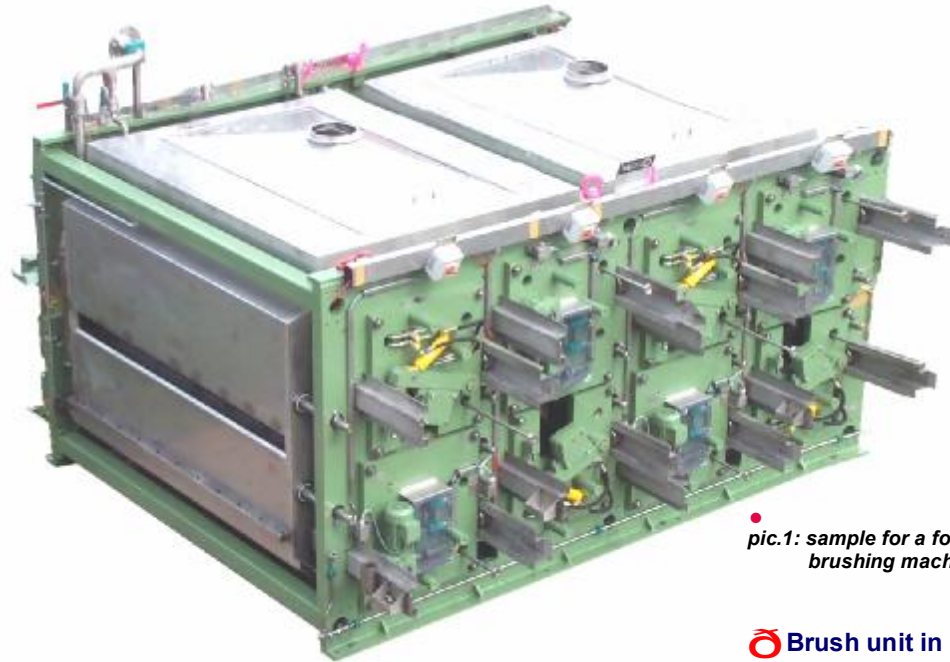
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This machine consists of two (2) or four (4) brush stations, more stations possible, depending on customers applications.

The brushes can be changed during line operation without stopping the strip. The machine consists of the following main components:



pic.2: sample for a two(2) stations brushing machine



pic.1: sample for a four(4) stations brushing machine

Machine frame

The machine frame consists of two steel side frames of 50 mm (80 mm for abrasive processing) thickness. Each face has been milled. The machine frame is formed by connecting the two sides through transverse cross members forming a rigid rectangular unit. Vibration free brush rotation is a function of the high mass provided by the heavy frame construction.

Stainless steel wet chamber

The strip is brushed in a wet environment. A stainless steel chamber is provided containing various permanent seals to prevent water from splashing outside.

Material : 1.4301 (1.4571)

Brush unit in quick exchange configuration

Each brush is configured as a push/pull cassette system to provide the flexibility of use of all available brush types. Driving the brushes are frequency controlled drive motors, each 37 > 200 kW each brush.

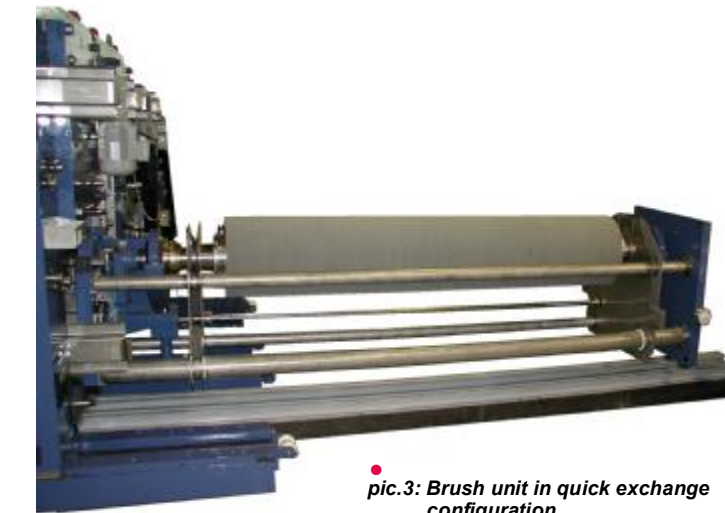
As a special feature it must be mentioned that the brushes can be changed during the strip process and this without stopping the strip. Brush change time requires about 5 minutes. The necessary special tools are provided. The brush rolls are pulled laterally out of the side of the machine and utilising an overhead crane and sling, and lifted out of their frame without loading the shaft journals (as in counter-weight removal methods).

A brush inner cooling for special application is also possible.

The brush and shaft assembly is completely removed similar to that of the reduction roll change.

Once located in the working position, the brush setting elements are hydraulically locked so that the adjustment spindles are not loaded, thus eliminating any plays.

The brushes are adjusted by means of a gear drive according to surface friction or torque.



pic.3: Brush unit in quick exchange configuration

Back up rolls

The back up rolls are located opposite the brushes. They can be changed in location - horizontally and vertically. The drive of the back up rolls is done through frequency controlled AC motors by means of a reduction drive. The drive coupling of the back up rolls is done by means of a quick disconnect coupling.

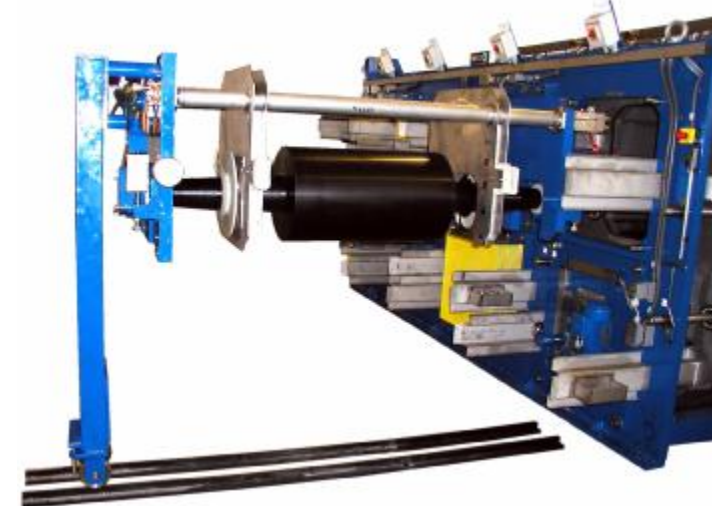
Drive capacity : each 5,5 - 22 kW

The back up rolls are coated with rubber.

Back up roller in quick exchange configuration

Similar to the brushes all billy rollers are mounted in quick exchangeable push/pull cassettes.

Change time : appr. < 20 min.



pic.4: Back up roller in quick exchange configuration

Motor drive unit

The motor drive unit for the brushes and back up rolls consists of a separate unit set next to the brush machine. This precludes any drive vibration transmission to the brush machine. To transmit the rotation, drive shafts with quick disconnect couplings are used. Constant velocity joints are used for the brush shafts to produce an absolute vibration free rotation. These joints are maintenance free.



pic.5: Drive shafts with quick disconnect couplings

pic.6: motor drive unit

Cooling and rinsing media supply (water)

The cooling and rinsing media supply is done centrally from a supplied tube via distribution to the individual brushes and back up rolls. The spray tubes are made out of stainless steel.

The flow rate is monitored centrally (through a flow volume measuring device). The spray tubes can be changed through a quick change system from the operator side of the machine (< 2 min.).

Hydraulic

The machine is fitted with a hydraulic valve stand controlling all solenoid valves and pressure gauges required.

Hydraulic system included.

Technical data:

Brush diameter	:	400 mm (new)
Brush drive	:	appr. 37 > 200 kW
Brush material	:	on part of customer
Brush width	:	600 > 2600 mm
Brush RPM	:	700 > 1650 U/min.
Brush adjustment	:	gear drive with load controller
Brush adj. lock	:	hydraulic
Back up diameter	:	400 mm coating of surface, rubber 99 shore hardness.