



Cleaning of blanks with the Swordbrush technology

Wandres GmbH micro-cleaning
D-79256 Buchenbach-Wagensteig
www.wandres.com

WHERE WE ARE

HEADQUARTER
VIA MADRE TERESA DI
CALCUTTA 9-13
26866 S.A. LODIGIANO
ITALY

- **SALES**
- **SERVICE**

AMERICAS

Usa and Canada ● ●
Central America ● ●
South America ● ●

MIDDLE EAST

Turkey ● ●
Iran ●

ASIA

South Korea ●
China ●
India ●
Thailand ●

AFRICA

South Africa ●

EUROPE

Germany ●
France ● ●
Spain ● ●
Sweden ●
UK ●
Romania ●
Hungary ● ●
Poland ● ●
Czech Republic ●
Slovenia ● ●
Greece ●
Portugal ● ●
Norway ●
Estonia ●
Bulgaria ●



Technical centre in Wandres GmbH

- Realistic trial test with customer material
- Combination brush/aircleaning
- Robotbased cleaning for 3D-surfaces
- Cleanliness inspection with mikroskopic analyses and others
- Paint compatibility test
- Surfacetension measurement



Cleaning of all kind of sheet metal: coils and blanks

Steel production/ Service Center:

- Hot/cold rolled strip
- Stainless
- Hot dipped strip

Automotive:

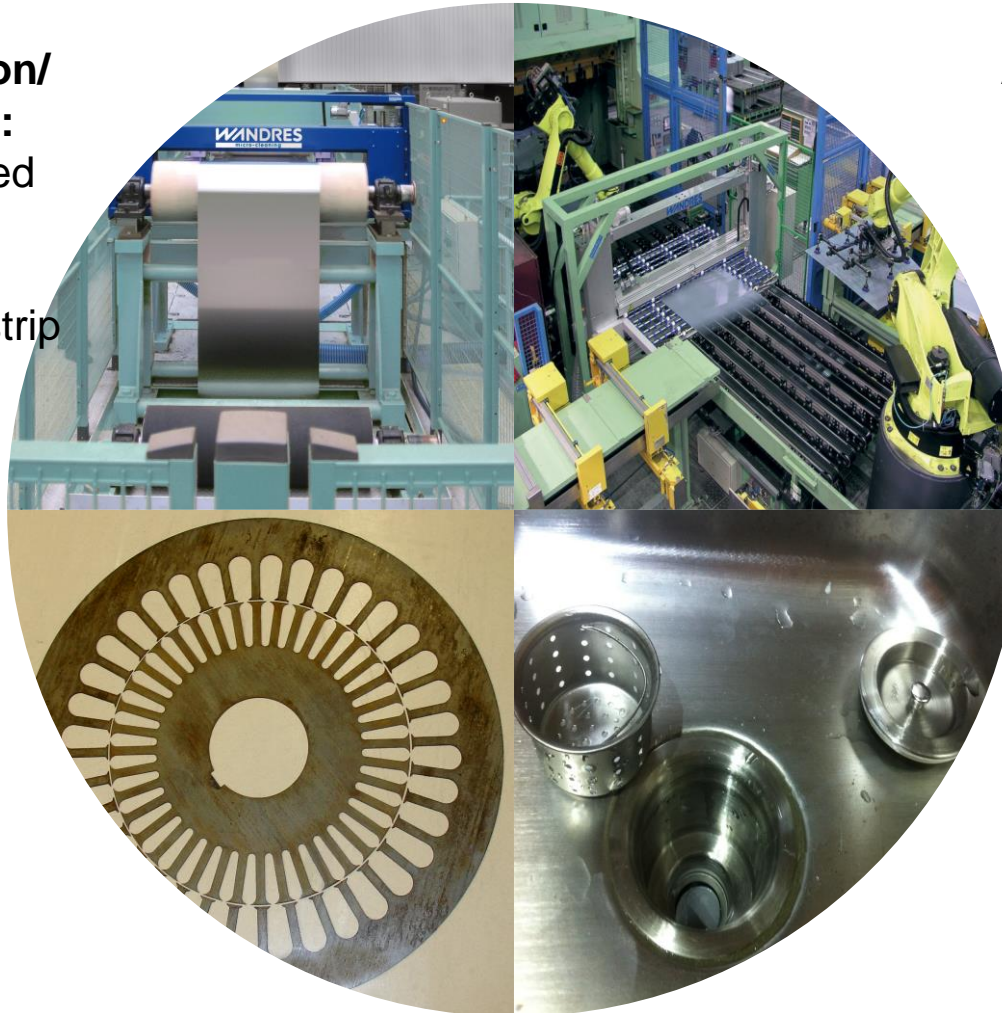
- Steel/Alu coil or blanks for skin parts
- Tailored Blanks
- Robotbased car body cleaning

Electronic- industry:

- Motor lamination
- Contacts

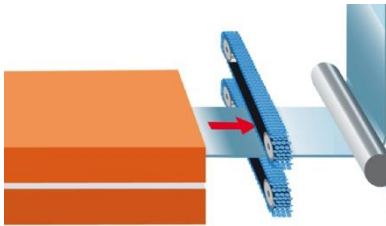
Household appliance

- Sinks
- Hoods
- Washing machine...

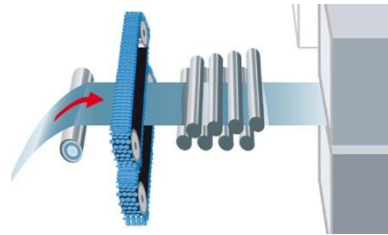


Metal cleaning

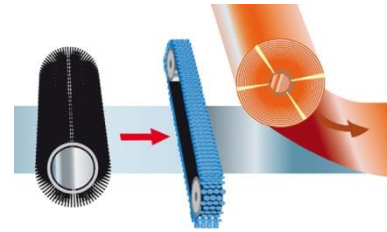
after oven



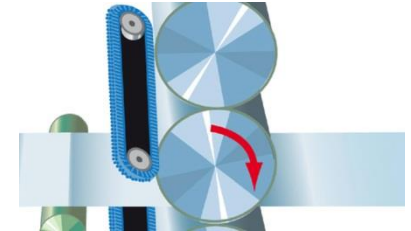
before leveller



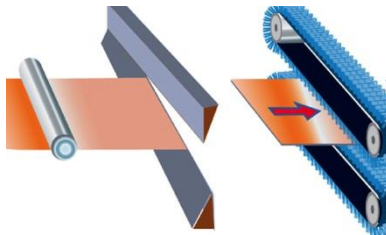
before protection foil



roller/belt cleaning



after blanking



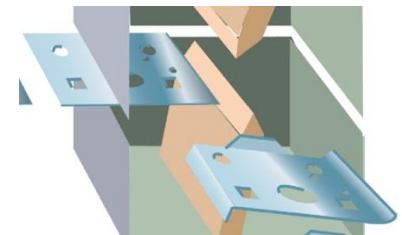
In skin part
pressline



before/after
stamping



after punching
before bending



Process requirement

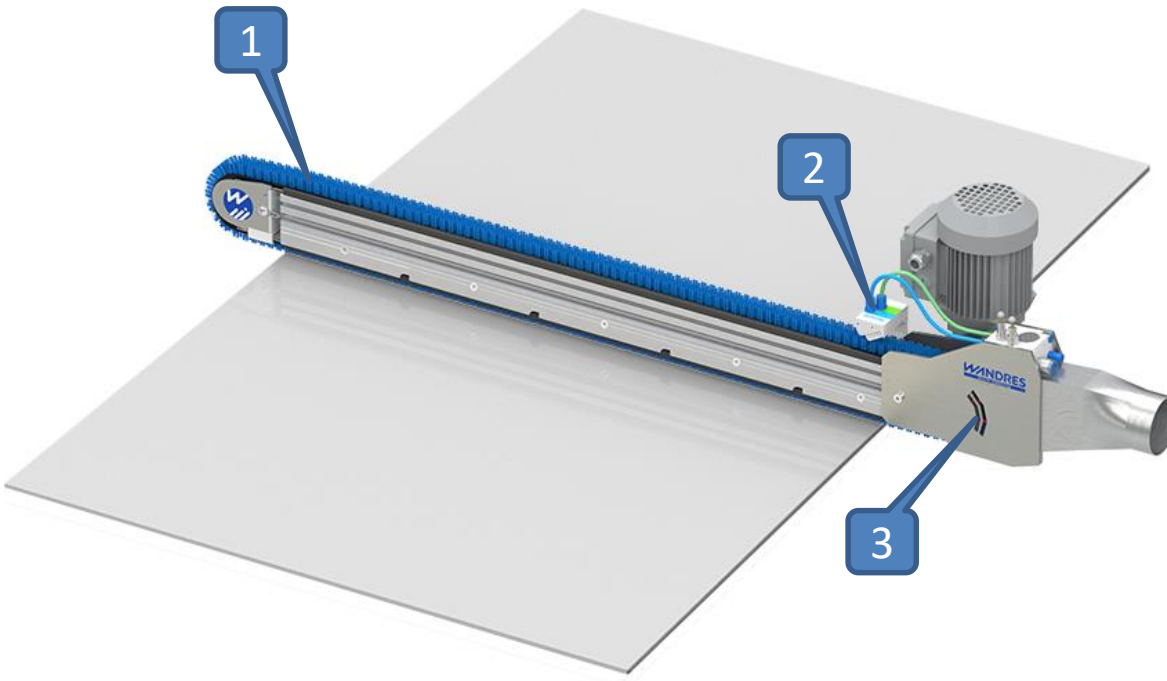
production

- 7day / 24h
- Automated lines
- Oiled/dry lube coating
- Harsh environment
- High speed (>500m/min)
- Sharp edges
- Cost pressure

cleaning

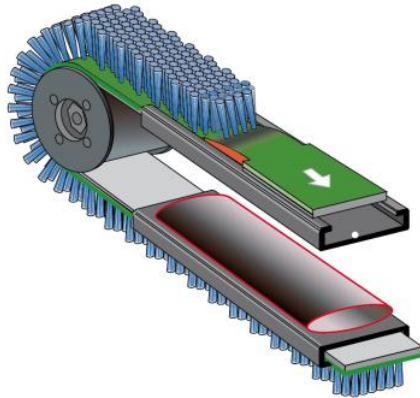
- Small particle (sometimes<25 µm) removal on a stable high level
- Easy Integration in existing and new lines
- Different metals:
steel, stainless, alu, copper, tin....
- Reduce static charge
- Different pre coating (oil/drylube) should be homogenized
- Ability to process dry lube
- Low operation cost

Sword brush



- 1 Linear brush
- 2 Ingromat®-method
- 3 Self cleaning

Sword brush



Linear brush:
different filaments according to
surface and requirement



Ingromat®:
Different liquids depending on
application

Ingromat®-method

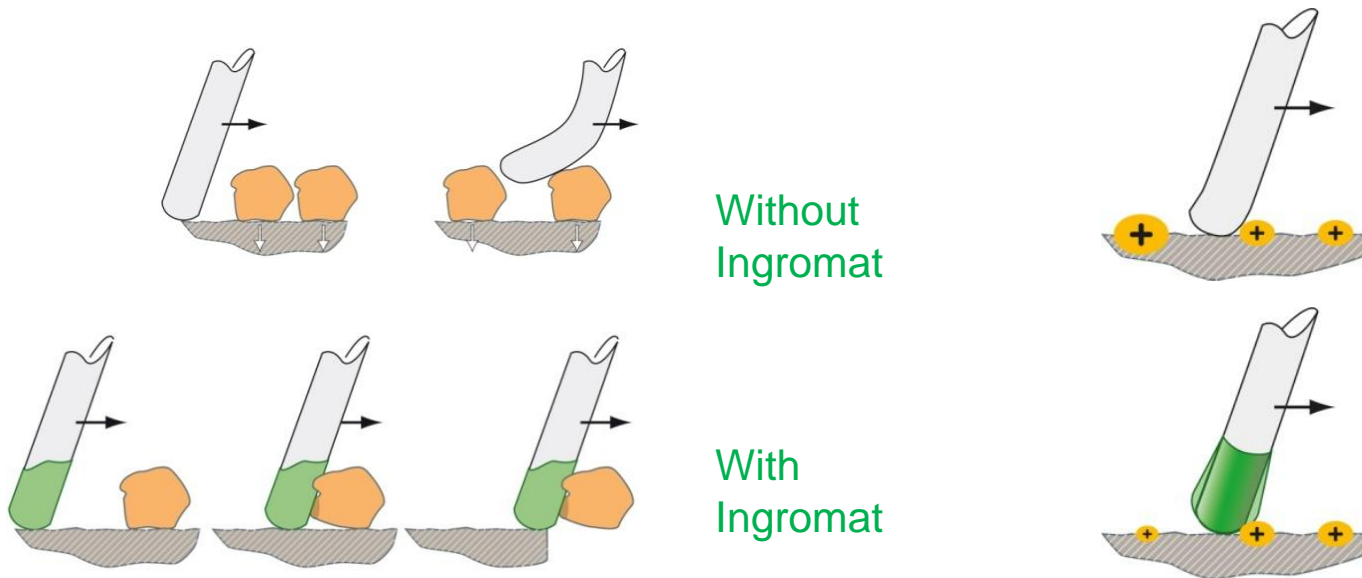
WANDRES
micro-cleaning



Ingromat®-method

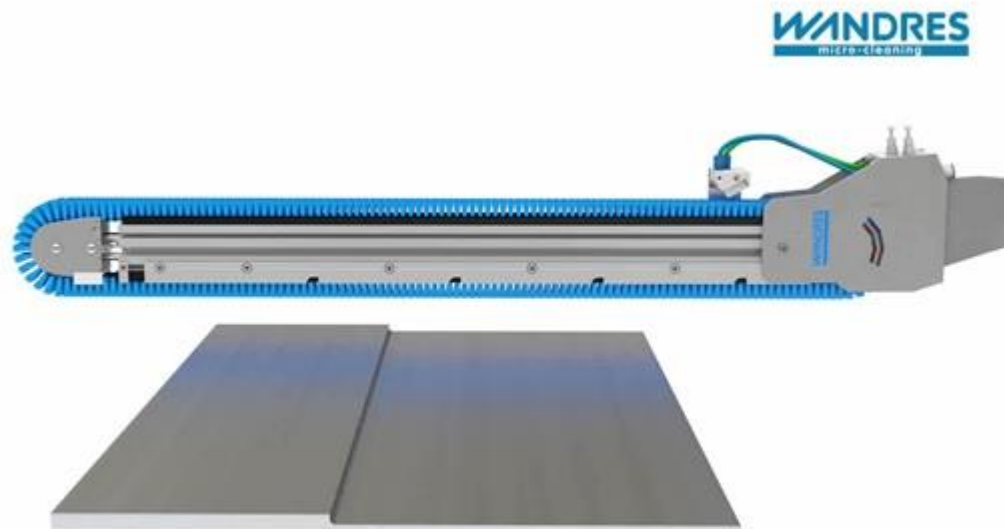
Benefit:

- Mechanical cleaning effect of filament
- Capillary force between moistened filament and particle
- Reduction of static charges



Pressure buffer: Flexible support of linear brush

- Provides for constant wiping force, even on slightly uneven surfaces
- Adopts automatically to „shaking“ blank caused by transport
- Filaments are not bent excessively => maximum cleaning effect
- Gentle cleaning for sensitive surfaces
- Automatic compensation of filament wearing



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Ingromat Tank

- 30 liters inox tank complete with minimum and maximum level switch
- Product filter, Ingromat dosing pump
- Brushes pressure regulators
- Fluid regulators of the upper and lower brushes.



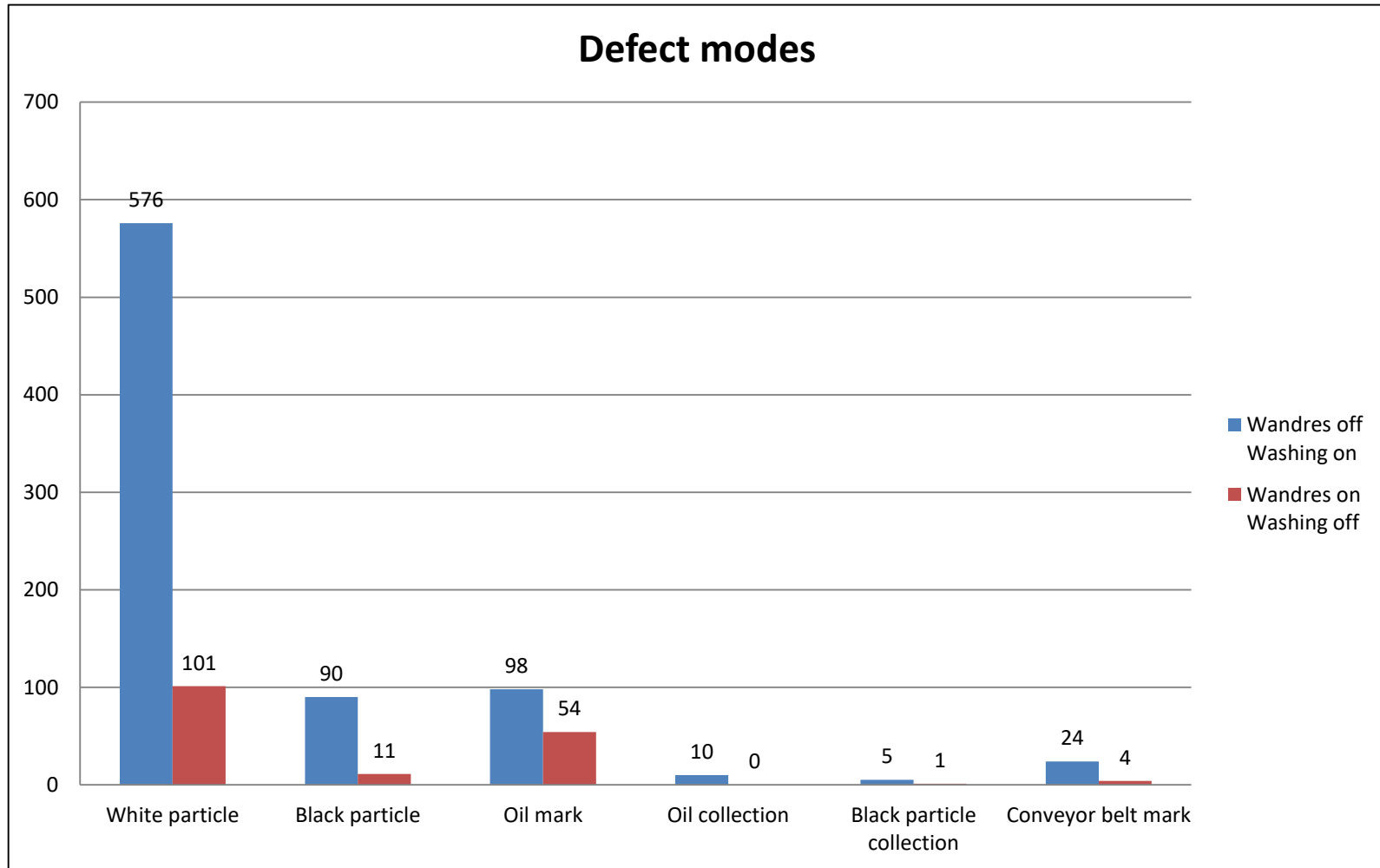
Control Unit

Control unit with PLC and touch panel 7 inches as operator interface. From the panel it is possible to activate the functions in automatic and manual mode.

- Opening of the brushes
- Activation of brush rotation
- Ingromat dosing
- Activation of dust suction system

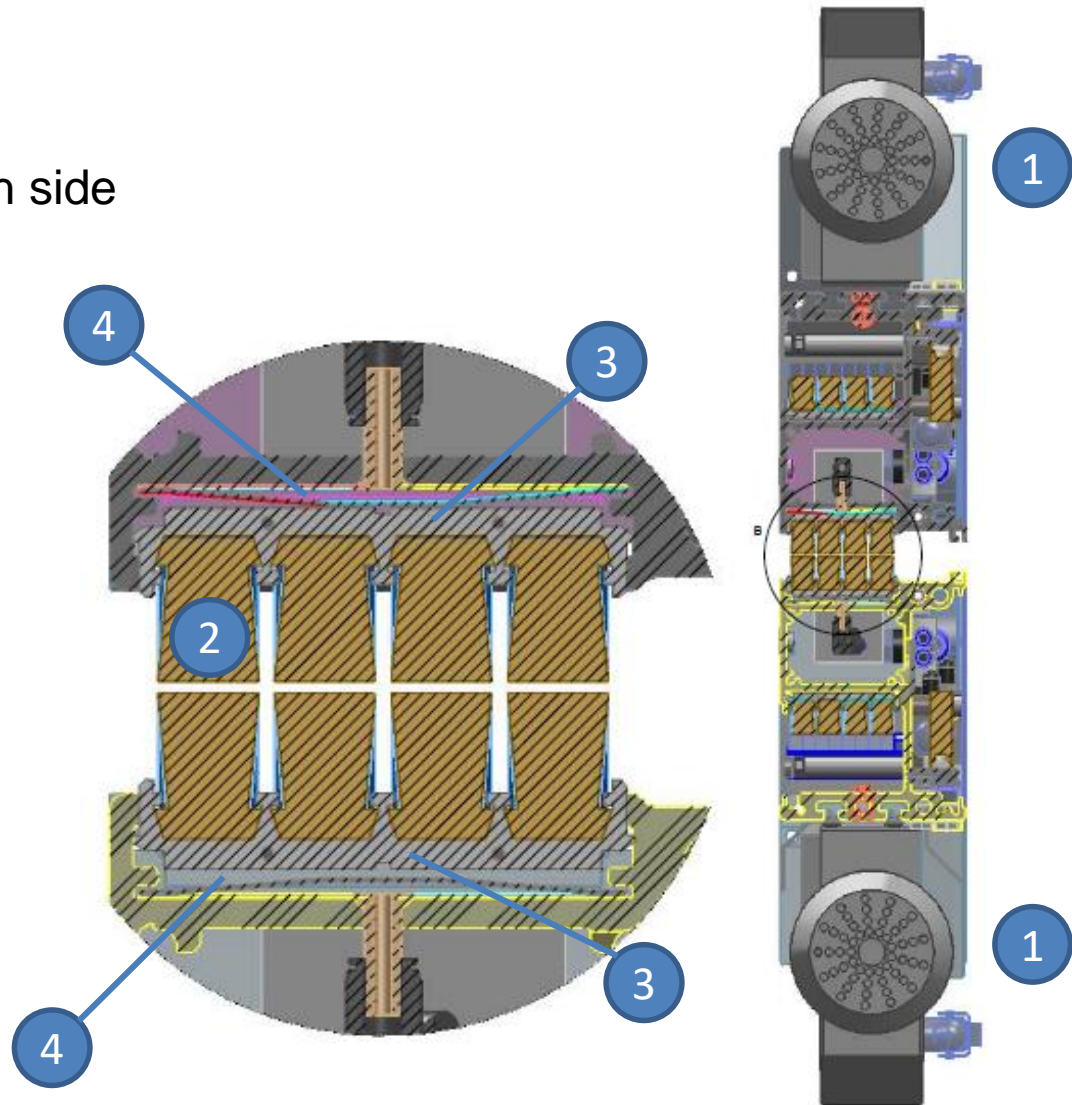


Comparison cleaning quality washing machine – Wandres sword brush

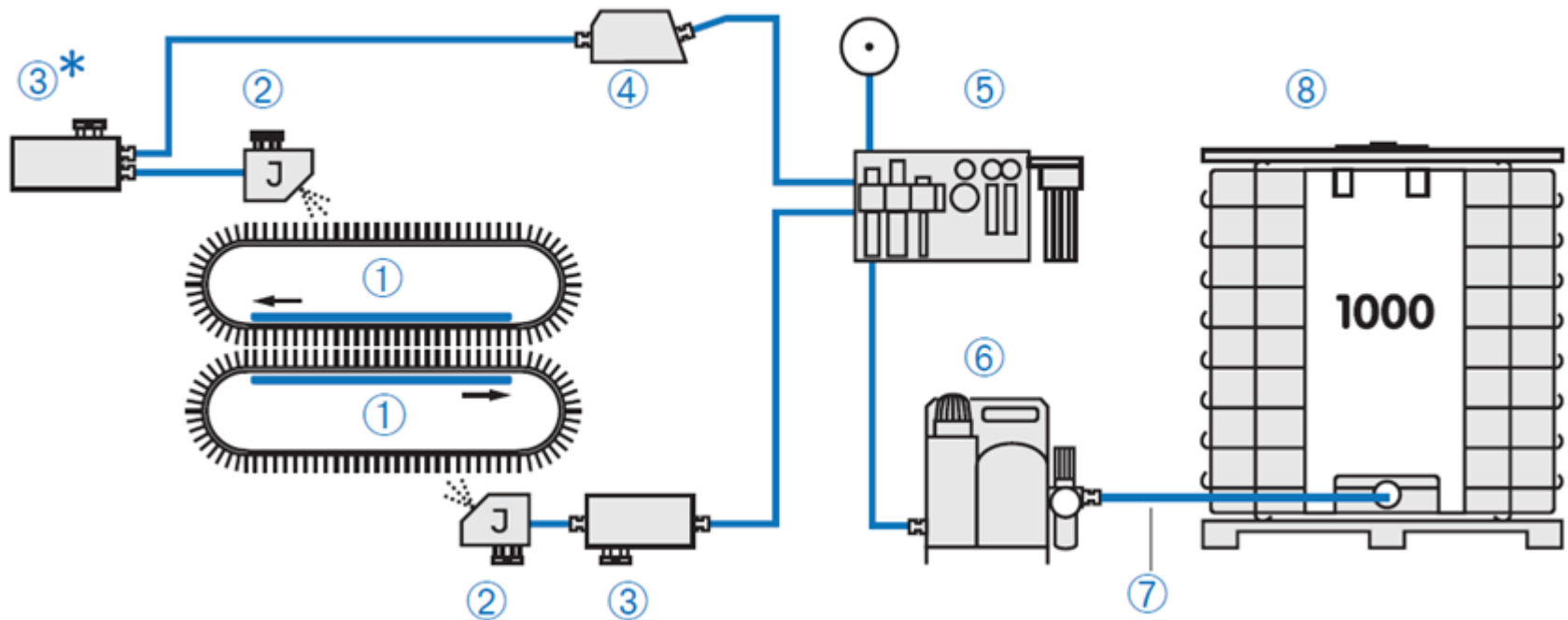


Brushes

- 1 Aluminium profile for both side cleaning
- 2 Linear brush Twin (4pcs. top/bottom)
- 3 Brush guide
- 4 Pressure buffer



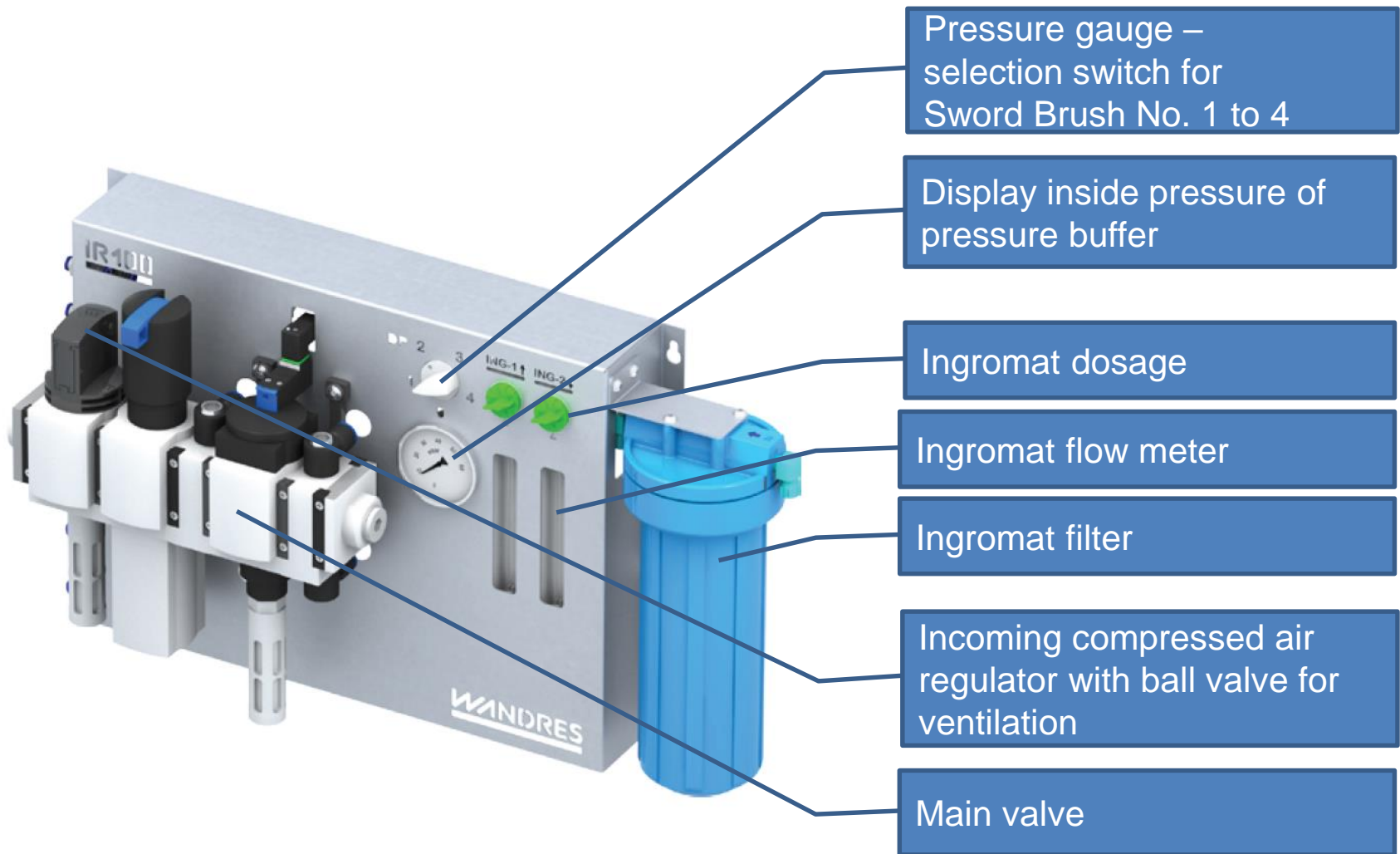
Ingromat supply – schematic diagram



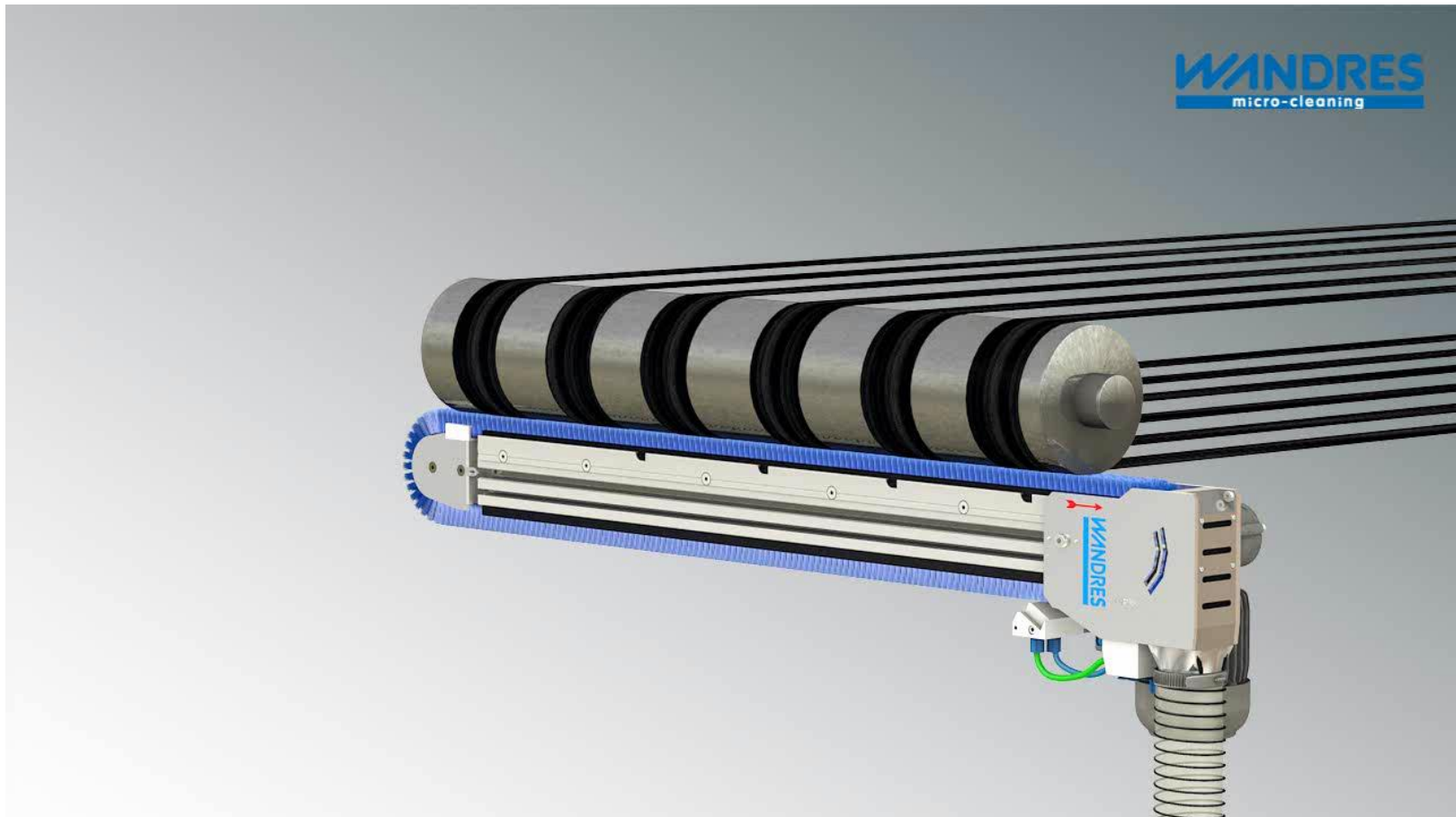
- 1) Sword Brush with pressure buffer
- 2) Ingromat sprayer
- 3) Distributor block, double-sided connection
- 3*) Distributor block, single-sided connection
- 4) Connection block for 3*

- 5) Ingromat regulator and filter unit
- 6) Central supply pump
- 7) Connection set
- 8) Ingromat container

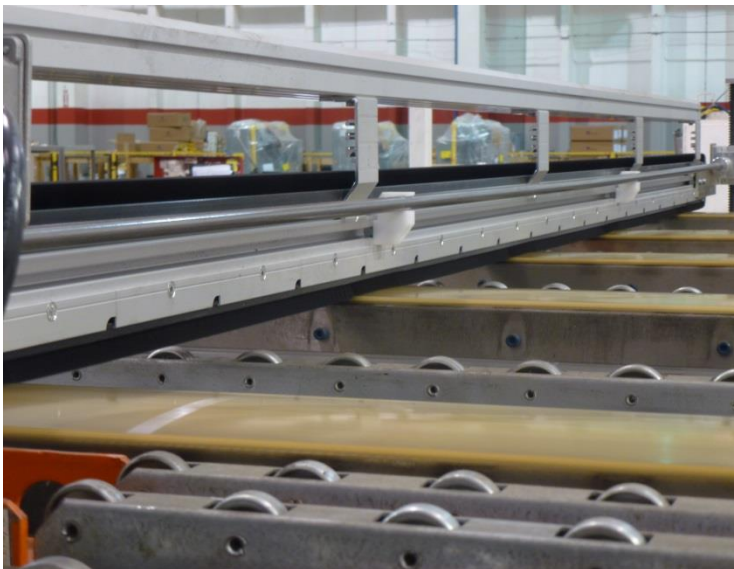
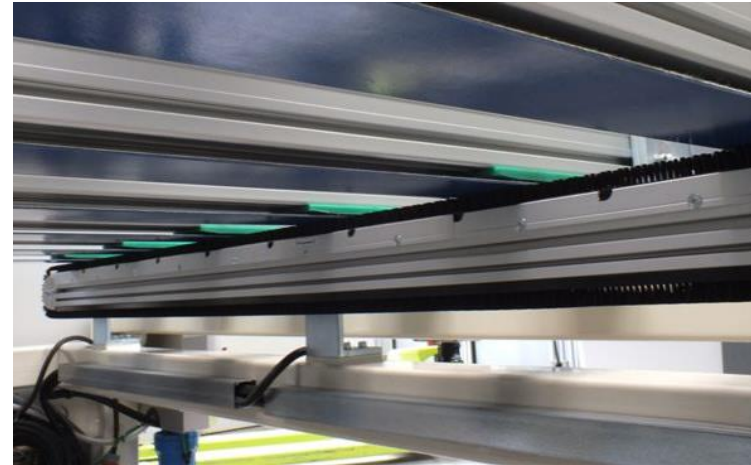
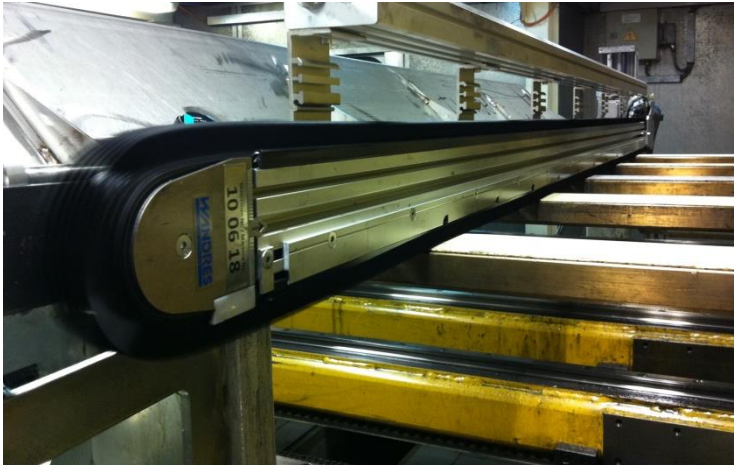
Ingromat regulator and filter unit IR 100



Belt cleaning



Belt cleaning

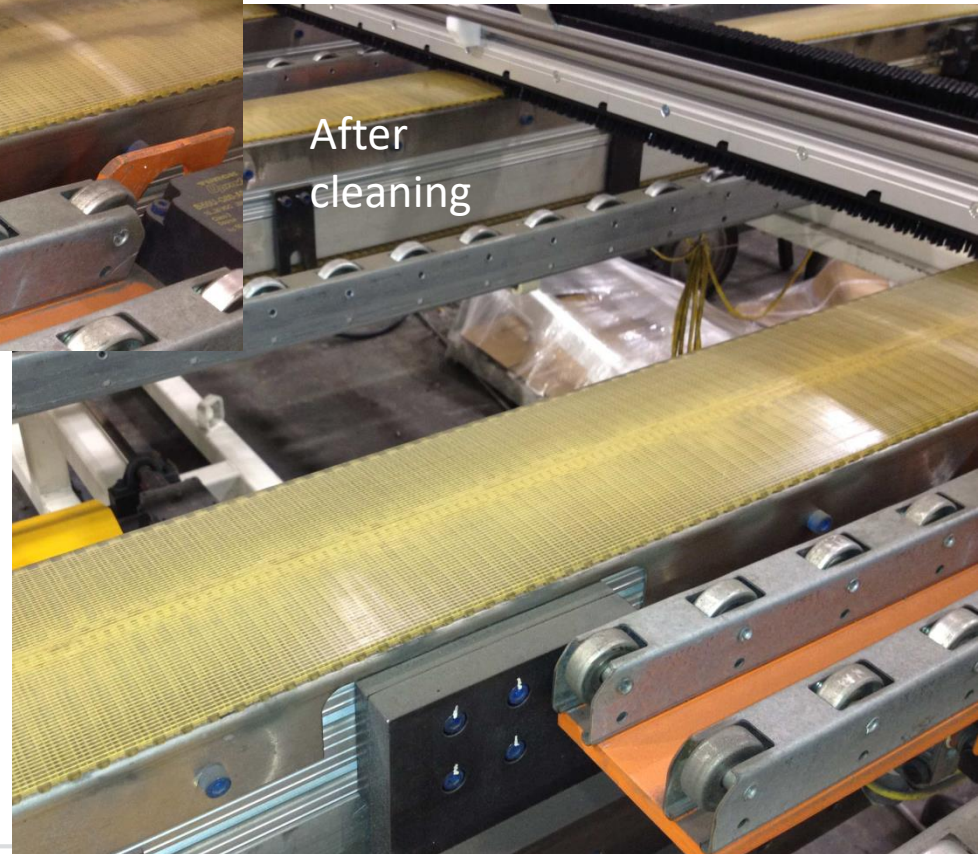


Belt cleaning

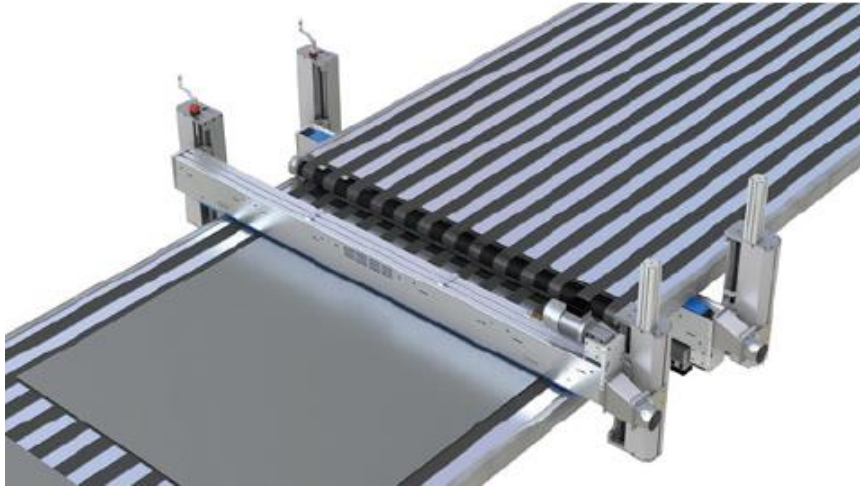
Before
cleaning



After
cleaning



blanking line: cleaning of belt and blank before stacking

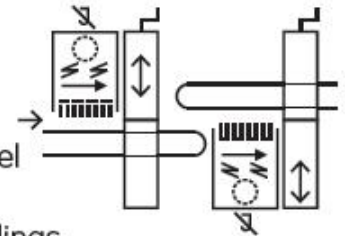


**Combi Sword Brush KSM 121/Y/A
with Sword Brush BRP 145/1/A
(without Ingromat)**

Cleaning of steel blanks while **using
existing transport systems**

First magnetic conveyor: Cleaning of steel
blanks from above

Second magnetic conveyor: The blank clings
to the lower side of the conveyor, the lower
surface of the blank may now be cleaned from below.



blanking line: cleaning of blank before stacking

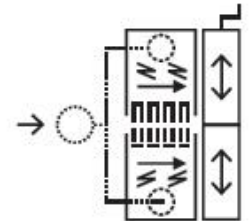


Combi Sword Brush KSA 121/Y/A With Sword Brush BIP 145/1/A

(with Ingromat system, double-sided cleaning of blanks)

If you clean **aluminium blanks**,
you can activate the Ingromat system as
an additional feature.

If you clean **steel blanks**,
you can activate the Ingromat
to clean the linear brushes.



References



- > 150 blank cleaner in the sheet metal market
- > 1000 sword brushed in the sheet metal market