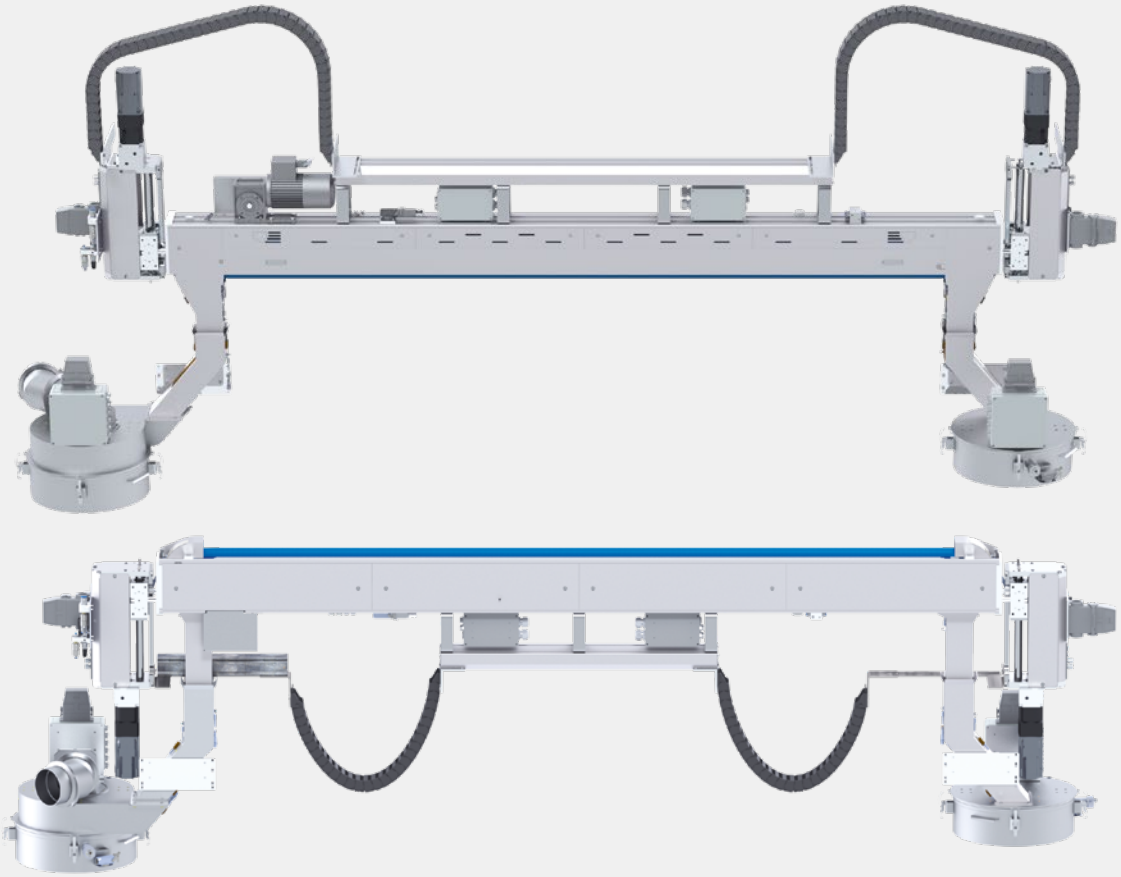
B-Line

Combi Sword Brush
Una HS-BO 111 / Una HS-BU 111



Steel and aluminium blank cleaning after cutting press

- Cleaning from above + below
- Parallel height adjustment
- Self-cleaning mechanism
- Pre-separation
- Pressure buffer

Optional:

- Crash recognition

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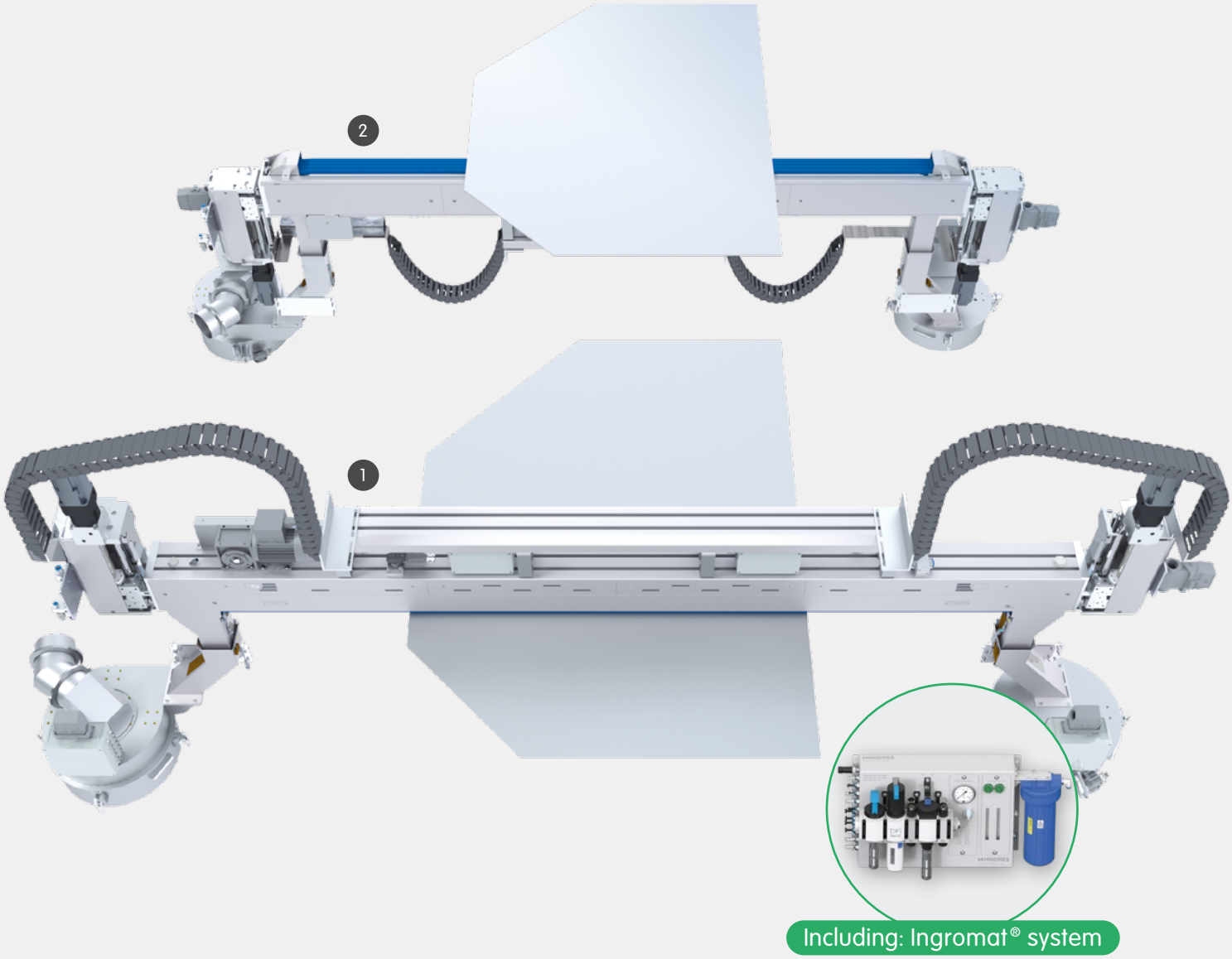
Surface Cleaning Technology

WANDRES micro-cleaning

Combi Sword Brushes: thorough blank cleaning from above and from below



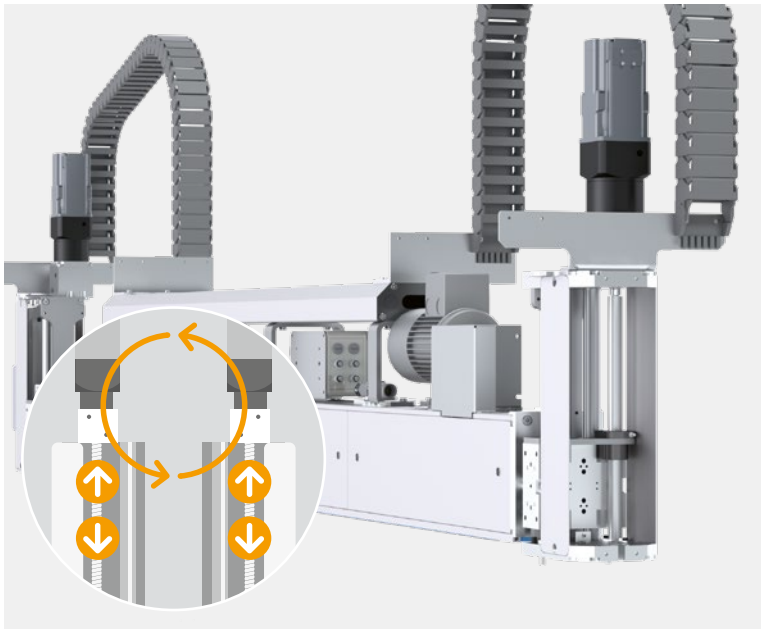
1 The **Combi Sword Brush Una HS-BO 111** cleans all sorts of blanks, tailored blanks and steel cuttings that are transported on a conveyor belt from above.
2 Afterwards, the **Combi Sword Brush Una HS-BU 111** cleans the blanks that cling to the conveyor from below.

Due to their small footprint, the cleaning machines may be integrated easily into the production line, e.g. after cutting, after laser blanking or before stacking. A thermal self-cleaning unit permits a stable, continuous operation. Switching back and forth between blanks with dry lube or oil is straightforward.

Easy integration

Parallel height adjustment

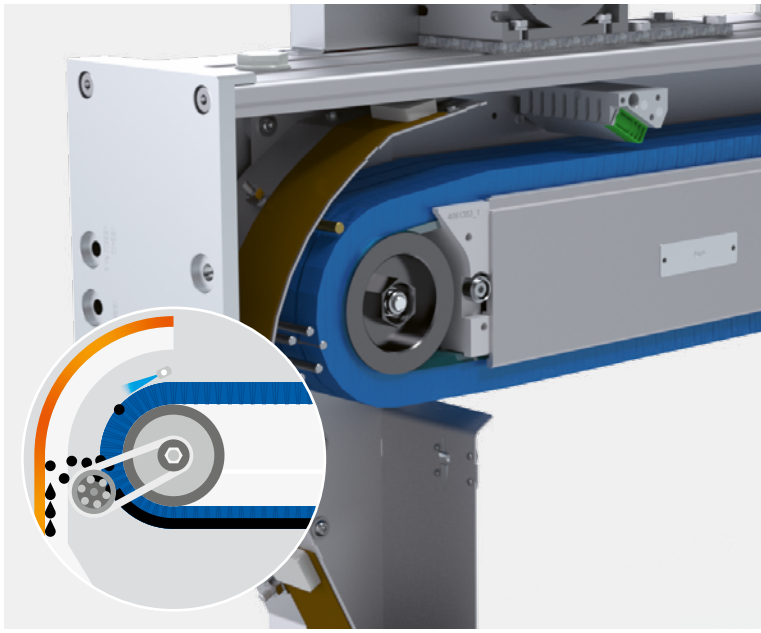
Two **synchronous servo drives** link the Sword Brush to an adjustment frame **VEG 500** to allow vertical adjustments. Due to this configuration, no crossbar is necessary between the columns of the adjustment unit. This simplifies the machine's integration into the production line. By linking the machine to the overall control, a precise and automatic thickness adjustment will be possible.



Stable continuous operation

Self-cleaning mechanism

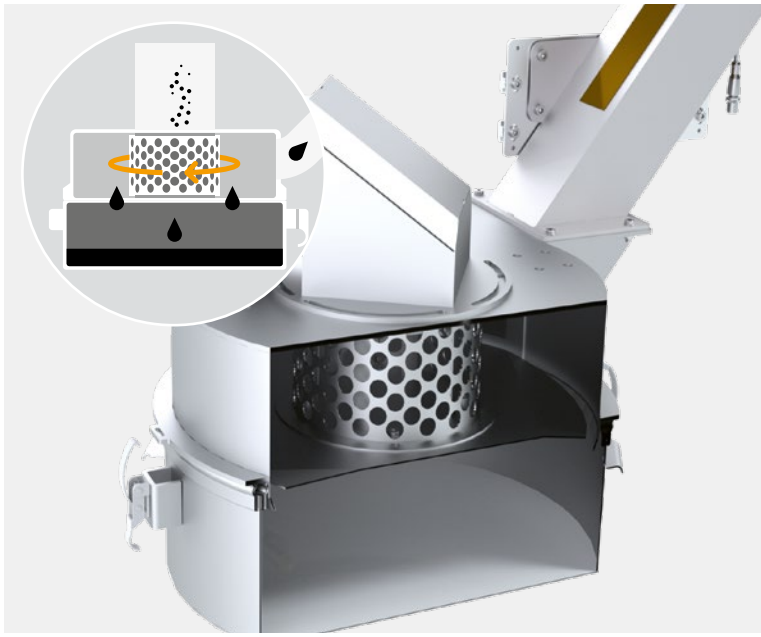
A **rotating rack** and **compressed air nozzles** continuously clean the brush filaments. A thin film of Ingromat® cleaning liquid is applied onto the filament tips of the brushes to minimise the adherence of oil and dry lubes. As an option, the suction area of the self-cleaning unit may be heated with thermal elements to make waxen dry lubes flowable.



Pre-separation

Cyclone filter

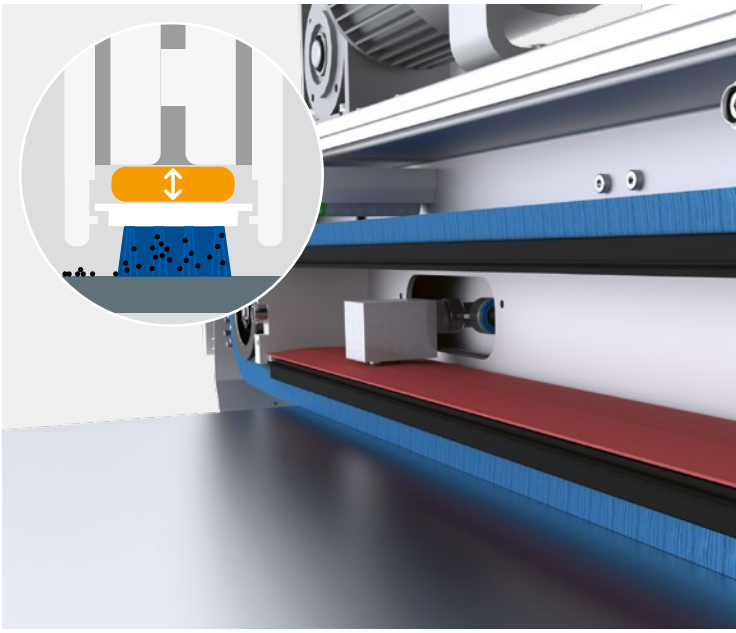
To protect the suction filter, greasy aerosols are separated from the air flow within the cyclone separator and are collected in a collecting container that is easily accessible.



Consistent wiping pressure

Pressure buffer

The contact area of the linear brush is mounted flexibly on a **pressure buffer.** This ensures that a constant force is exerted by the brush onto the surface. The wiping pressure of the brush filaments remains constant along the entire surface that is to be cleaned. Even minimal pressure achieves optimal cleaning results for the whole surface when cleaning tailored blanks that differ in thickness.

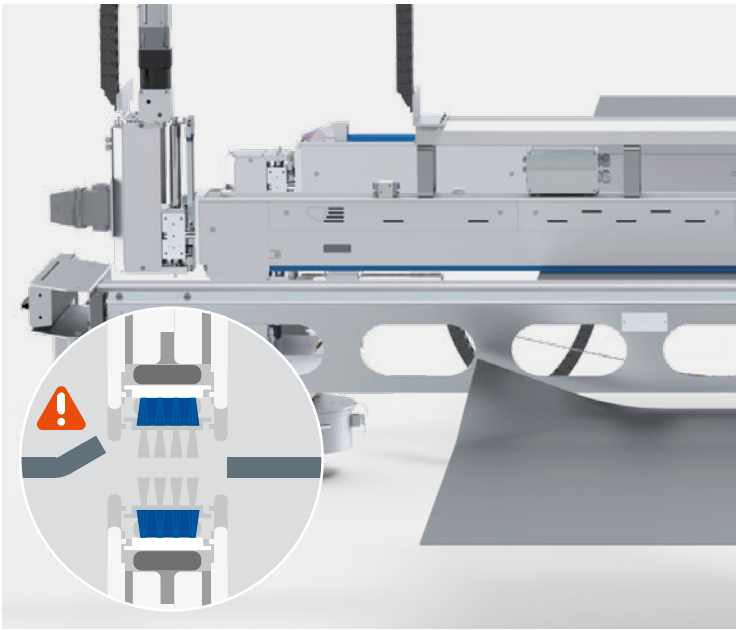


Optional

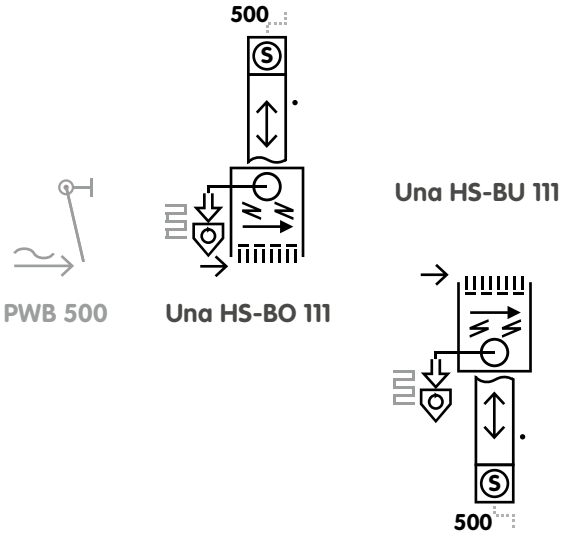
Crash recognition

Crash indicator

Servo motors position the cleaning modules in the correct vertical position. If damaged blanks or other items threaten to collide with the machine, the **crash indicator** will be triggered. The servo motors will receive a signal from the overall control. They will then lift the upper cleaning module rapidly into a safe position.



Technical details



1 x **Sword Brush BIP 155** with pressure buffer providing for a consistent wiping pressure with different blank thicknesses

Ingromat® system for the micro-moistening of brush filaments, incl. Ingromat® regulator and filter unit IR 100

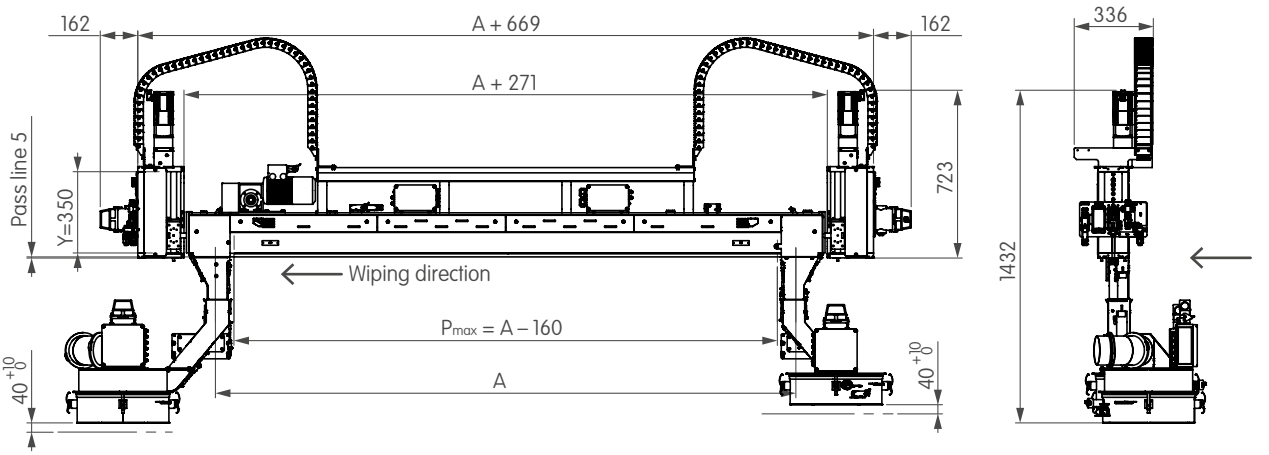
1 x **Adjustment frame VEG 500** with two synchronous servo drives allowing for a parallel height adjustment

Pre-separating consisting of: Cyclone filter, collecting container, heatable suction area (option)

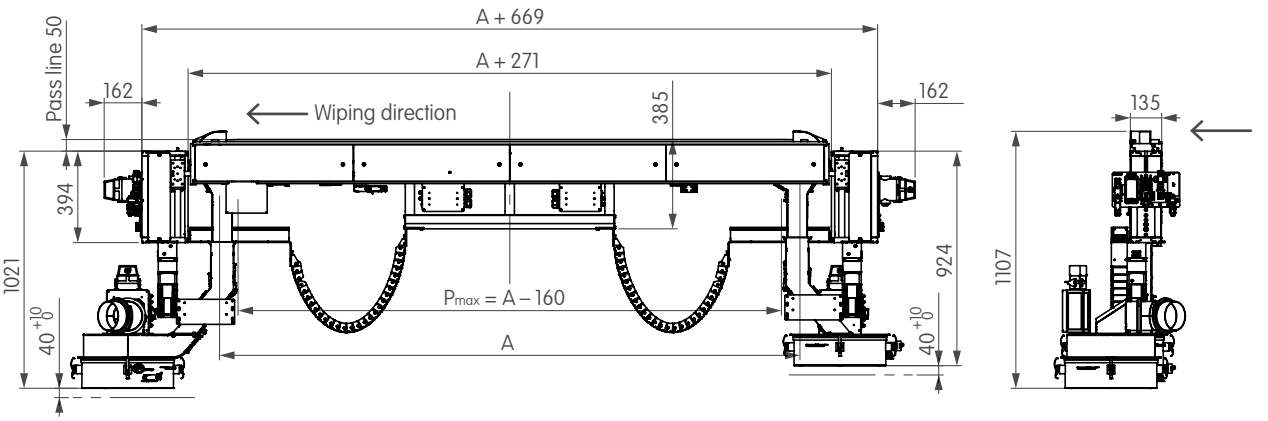
1 x **Crash indicator PWB 500** (option)

Technical dimensions

Una HS-BO 111



Una HS-BU 111



A Nominal width of Sword Brush = Distance between deviation roller shafts
P_{max} max. width of blank = A – 160 mm

A in mm	1300	1500	1650	1750	2000	2200	2500	2750
A in inches (rounded)	51	59	65	69	79	87	99	108

A in mm	3000	3200	3500	3750	4000	4300	4500
A in inches (rounded)	118	126	138	148	158	169	177

Technical data

Electrical details	
Sword Brush drive	1 x 0.55 kW SEW motor, IP 54, UL compatible, CSA compatible 50 Hz; 400 – 415 V; 3 PH + PE 60 Hz; 400 – 460 V; 3 PH + PE
Heating elements (option)	7 x 75 W; 24 V DC
Main valve (at IR unit)	2/2 way valve; 1 x 24 V DC each; 1.5 W
Electrical height adjustment servo	2 x 0.40 kW motor type SIMOTICS S-1FK2 with single cable line, IP 64 50/60 Hz; 380 – 480 V; 3 PH + PE via frequency converter
Pneumatic details	
Compressed air quality	filtered (particle size < 40 µm), oil free (residual oil < 1.5 mg/m³ at 24 °C)
Compressed air connection IR unit	1 x G ¾" female thread; 6 bar
Compressed air consumption Sword Brush	320 l/min per cleaning module (at 1.013 bar and 20 °C)
Fluidics	
Ingromat® hose connection	1 x Ø 8 mm
Ingromat® consumption	0.2 l/h – 0.4 l/h per cleaning module
Suction	
Suction connection	1 x Ø 125 mm
Suction volume	ca. 500 m³/h per cleaning module
Operating parameter	min. –500 Pa vacuum; min. 28 m/s (at suction connection)
Acoustic emission	
Max. sound pressure level LPA	85 dB(A) depending on surface features and dimensions of subject blank
Linear brush	
Type of linear brush	4 x Twin brush
Filament material	Polyamide 6.12
Filament length	19 mm
Filament diameter	0.127 mm; 0.15 mm; 0.2 mm
Transport speed	
Max. transport speed	200 m/min
Dimensions of subject blank	
Max. blank width	P_{max} = A – 160 mm

Technical data are subject to change

Wandres GmbH micro-cleaning
www.wandres.com