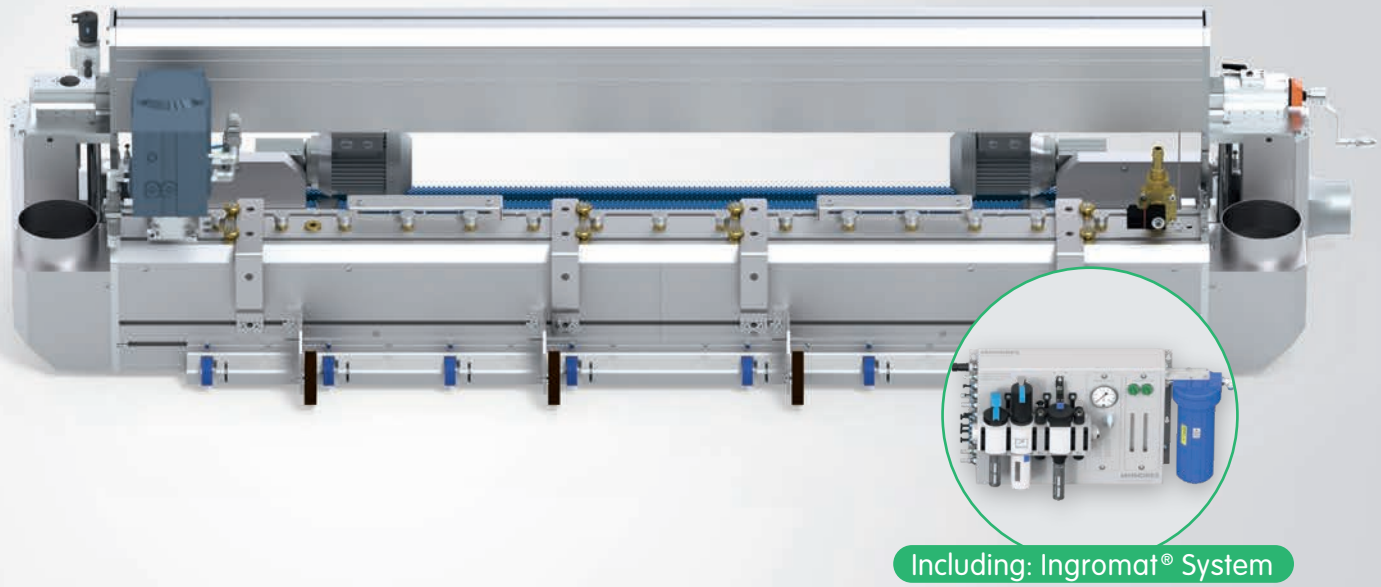
C-Line

Combi Sword Brush Una H-RL 316



Including: Ingromat® System

Cleaning of laminate panels prior to inspection

- Single-sided cleaning
- Micro-moistening
- Pressure buffer
- Air-assisted pre-cleaning
- Lifting of linear brushes at material edges

Option:

- Ionisation

The **Combi Sword Brush Una H-RL 316** cleans floor panels with structured decorative foils after edge processing. This avoids particle-related incorrect error messages during video inspection. In a first step, the Tornado Channel uses its rotating Tornado nozzles to remove adhesive dust and debris from recesses, grooves and tongues.

Afterwards, two linear brushes that move in opposite directions effectively remove the electrically charged laminate dust. The micro-moistening of their brush filaments enhances the cleaning performance. Brushes are lifted at the material's edges. This avoids that they come into contact with recently painted chamfers.

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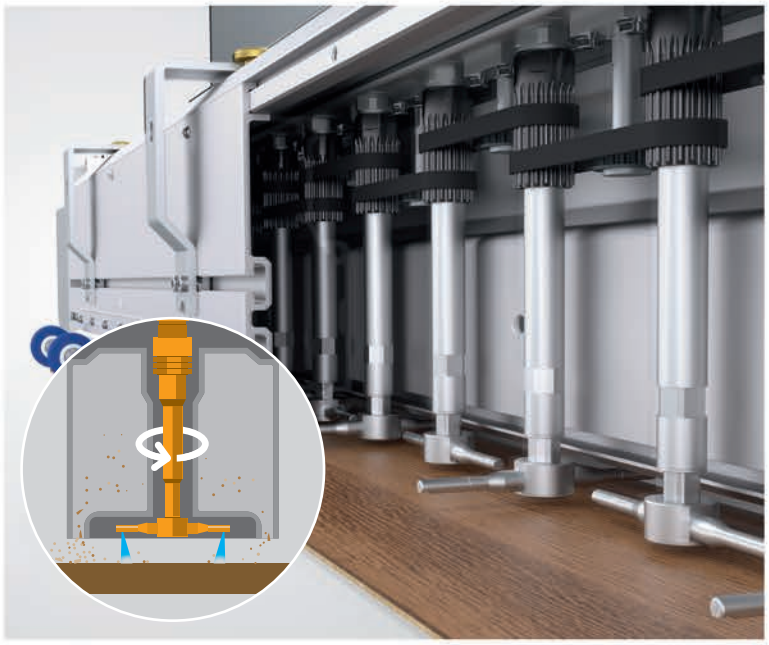
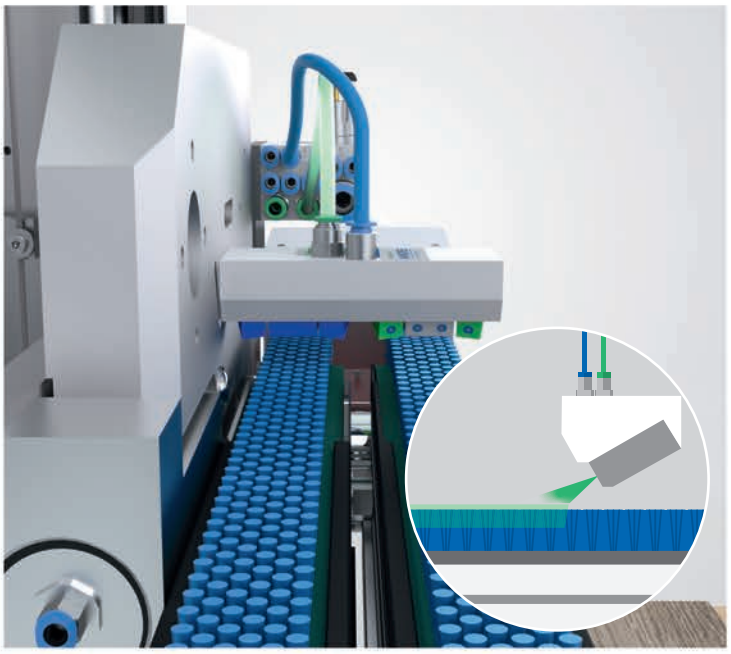
Thorough effect with
Tornado nozzles

The Tornado nozzles are driven electrically and synchronically and rotate with a constant high rotational speed. Their cleaning trajectories overlap so that all areas of the surface are cleaned effectively. Compressed air exits the Tornado nozzles at several times the speed of sound. Dust and particles on structured surfaces and within recesses are reliably detached and driven towards the suction system.



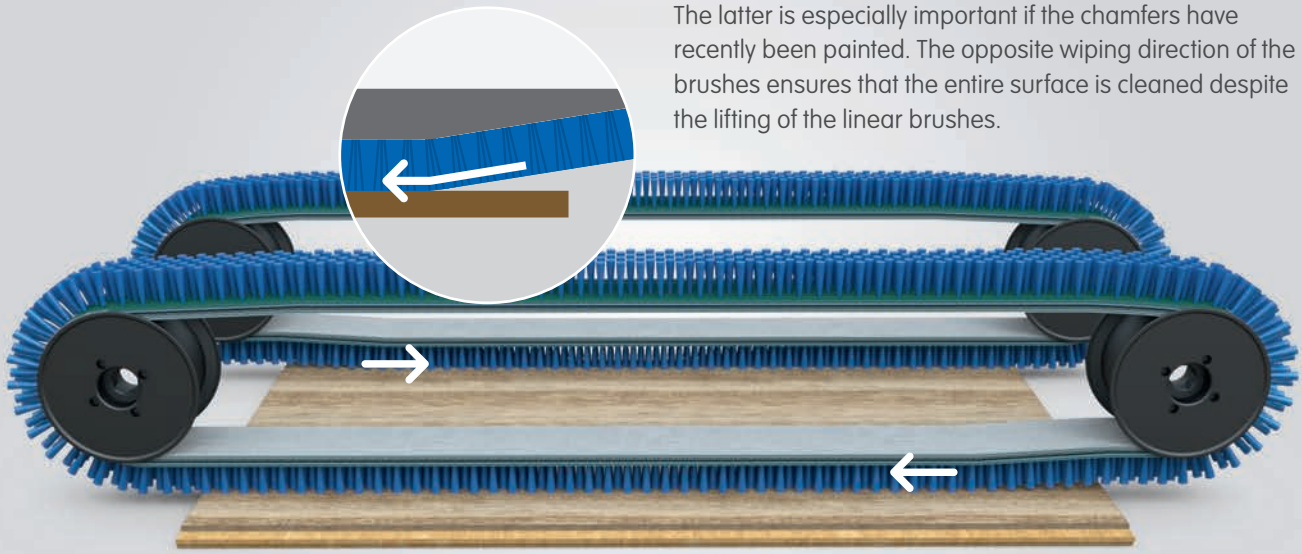


Micro moistening with
Ingromat® sprayer

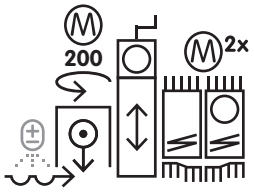
The sprayer applies a thin film of the antistatic cleaning agent Ingromat® in running direction onto the filament tips of the linear brush. Ingromat® is food-safe, in conformity with FDA regulations and reduces static charges on surfaces. The micro-moistening causes even very fine dust particles to cling to the brush filaments that transport them towards the suction system. The subject surface will remain dry during the cleaning process.

Gentle wiping of surfaces
Sword Brush BIZ 202

The two linear brushes are arranged next to each other and wipe in opposite direction. They touch the surface only after having passed the material's edges. This feature preserves both the linear brushes and the panel's edges. The latter is especially important if the chamfers have recently been painted. The opposite wiping direction of the brushes ensures that the entire surface is cleaned despite the lifting of the linear brushes.



Technical details and dimensions



Una H-RL 316

1 x **Tornado Channel TKR 200** for the air-assisted pre-cleaning with rotating Tornado nozzles

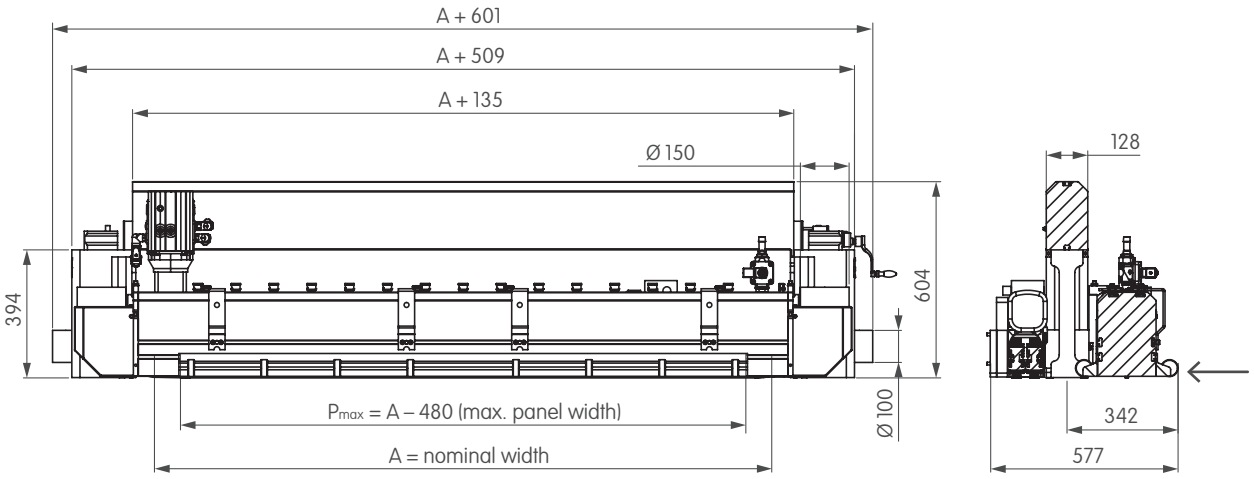
1 x **Sword Brush BIZ 202/1M/A** with pressure buffer and two linear brushes that move in opposite directions

Retaining clips to lift linear brush guide at the machine's edges

Ingromat® system for the micro-moistening of the brush filaments including a regulator and filter unit (IR 100)

1 x **adjustment frame VEG 130** with or without electrical height adjustment HVE or pneumatic quick adjustment HVP (options)

1 x **discharge bar** to neutralise static charges (option)



A Nominal width of Sword Brush = Distance between deviation roller shafts
P_{max} max. width of web or panel = A – 480 mm

A in mm	1500	1650	1700	1750	1900	2000	2100	2200	2300
A in inch (rounded)	59	65	67	69	75	79	83	87	91
Number Tornado nozzles	12	13	14	14	15	16	17	18	19
Number suction sockets	2	2	2	2	2	2	2	2	2
Number pressure rollers	8	8	8	8	8	8	8	10	10
Compressed air consumption in l/min *	600	650	700	700	750	800	850	900	950

A in mm	2500	2700	2750	2800	2900	3000	3200	3400
A in inches (rounded)	98	106	108	110	114	118	126	134
Number Tornado nozzles	21	22	23	23	24	25	27	28
Number suction sockets	2	2	2	2	2	2	2	2
Number pressure rollers	10	12	12	12	12	12	14	14
Compressed air consumption in l/min *	1050	1100	1150	1150	1200	1250	1350	1400

* with 6 bar compressed air supply if all Tornado nozzles are activated

Technical data

Electrical details	
Sword Brush drive	2 x 0.25 kW SEW motor, IP 54, UL compatible, CSA compatible 50 Hz; △ 220 – 242 V; 2,45 A; ⅄ 380 – 420 V; 1,42 A 60 Hz; △ 254 – 277 V; 2,35 A; ⅄ 440 – 480 V; 1,35 A
Drive of Tornado nozzles	1 x 0.75 kW SEW MOVIMOT motor, IP 54, compatible UL version available 50-60 Hz; 380 – 500 V; 1.9 A
Main valve (at IR unit)	2/2 way valve; 1 x 24 V DC each; 1.5 W
Main valve Tornado Channel	2/2 way valve; 1 x 24 V DC; 11 W
Magnetic valves Tornado nozzles	24 V DC; 0.5 A each
Electrical height adjustment HVE (option)	Motor PSE33; 24 V DC; 150 W; PROFINET intersection
Pneumatic quick adjustment HVP (option)	5/3 way valve: 2 x 24 V DC; 1.08 W
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 ½" female thread; 6 bar
Compressed air consumption Sword	470 l/min (with standard SR nozzles at 1.013 bar and 20°C) 570 l/min (with reinforced SR nozzles at 1.013 bar and 20°C)
Brush Compressed air consumption	50 l/min per Tornado nozzle, total see table page 3
Fluidics	
Ingromat® hose connection	1 x Ø 8 mm
Ingromat® consumption	0,6 l/h – 1,5 l/h
Suction	
Suction Sword Brush	2 x Ø 100 mm; 2 x 14 m³/min
Suction Tornado Channel	2 x Ø 150 mm; 2 x 30 m³/min
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 number of active nozzles, the geometry and the surface features of the subject panel
Linear brush	
Linear brush type	Quadro R6
Filament material	Polyamide 6.12
Filament length	17 mm
Filament Ø	0,127 mm
Transport speed	
Max. transport speed	100 m/min
Dimensions of subject panel	
Min. panel length	L_{min} = 300 mm
Min. panel width	P_{min} = 75 mm
Max. panel width	P_{max} = A – 480 mm
Distance Tornado Channel to surface	TCD = 4 mm

Technical data are subject to change

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