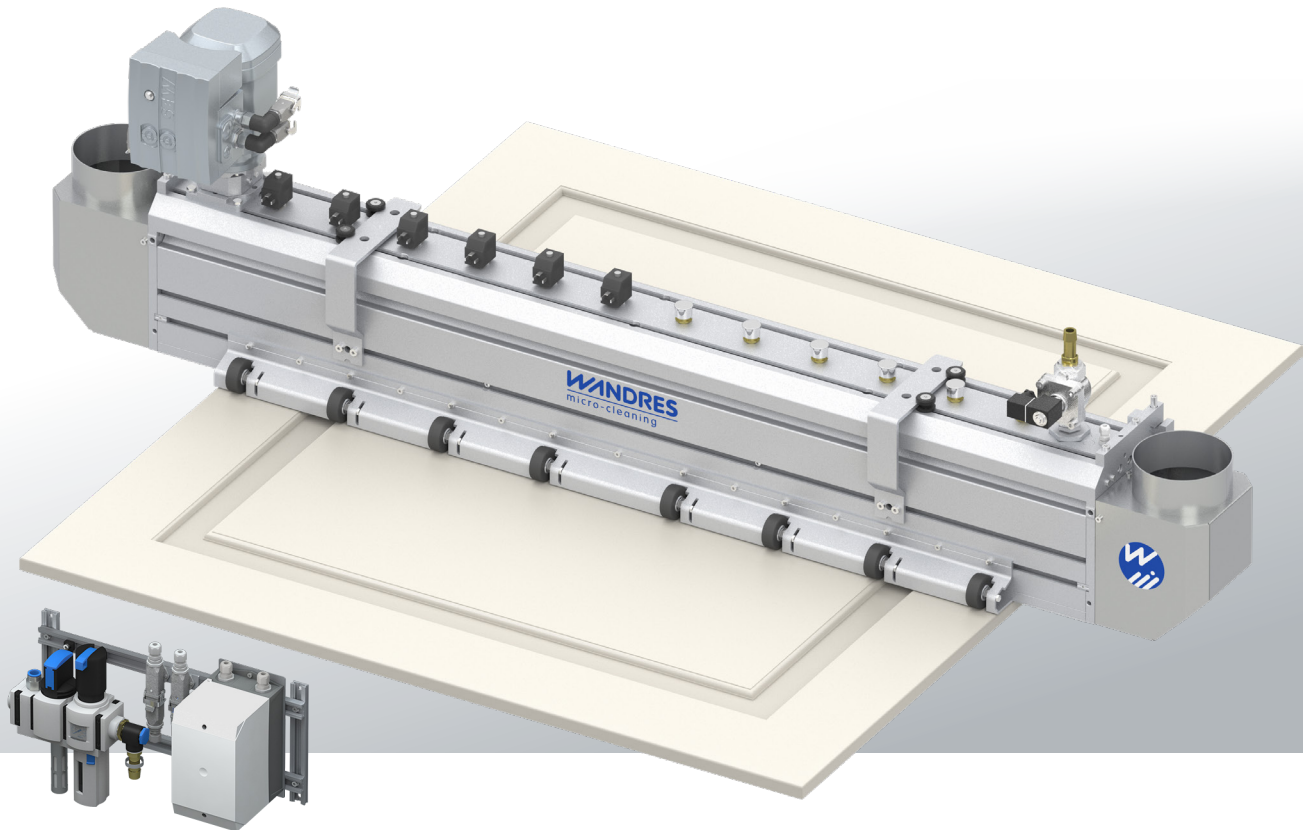


Tornado-Channel TKRO 200..

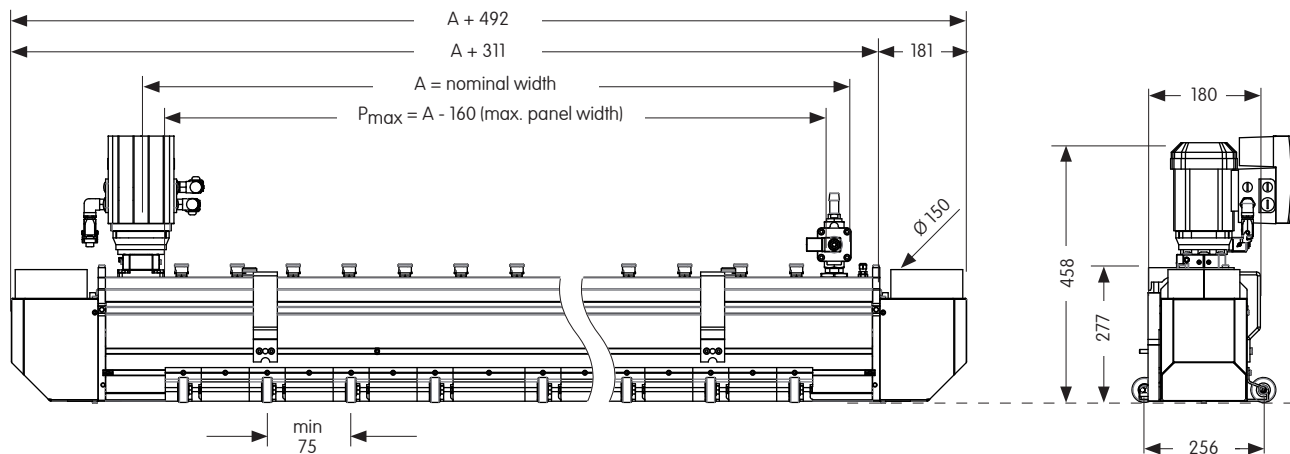


Brief description

The Tornado Channel TKRO 200.. is ideal to clean structured or sanded surfaces e.g. before the final lacquering process or before coating. The rotating Tornado nozzles are synchronised electrically and driven via timing belts. The cleaning circles of the Tornado nozzles overlap thus providing for a highly efficient cleaning with compressed air.

Technical details

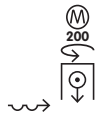
- U-shaped channel with angles at the infeed and at the outfeed to guide the air.
- Electrically driven, rotating compressed air nozzles with mechanical or electrical individual valve
- 1 or 2 suction connections Ø 150 mm facing upwards
- Incoming compressed air regulator with filter, pressure regulator and on-off valve for the compressed air supply (standard). Electrical/pneumatic cabinets are available as an option.



Values in mm

Order no.

TKRO 200/V/A



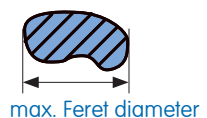
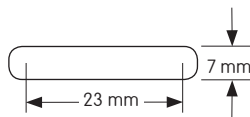
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* if compressed air supply
is 6 bar and if all Tornado
nozzles are activated

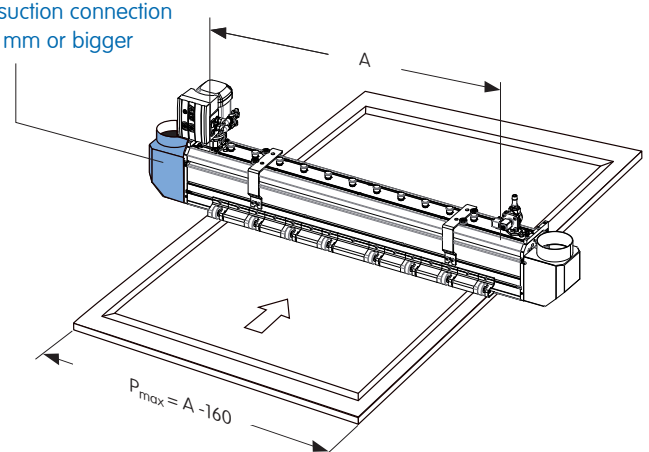
	Nominal width A in mm	Nominal width A in inch	Number of Tornado nozzles	Number of Suction connections	Number of Pressure rollers	Compressed air consumption m³/min*	
- 003	400	15,75	3	1	-	0.15	
- 004	520	20,47	4	1	-	0.20	
- 005	650	25,59	5	1	6	0.25	
- 058	700	27,55	5	1	6	0.25	
- 006	850	33,46	6	1	8	0.30	
- 045	900	35,43	7	1	6	0.35	
- 007	1000	39,37	8	1	6	0.40	
- 008	1100	43,31	9	1	6	0.45	
- 031	1200	47,24	9	1	6	0.45	
- 009	1300	51,18	10	1	6	0.50	
- 030	1400	55,11	11	1	8	0.55	
- 010	1500	59,05	12	2	8	0.60	
- 011	1650	64,96	13	2	8	0.65	
- 059	1700	66,92	14	2	8	0.70	
- 012	1750	68,89	14	2	8	0.70	
- 032	1900	74,80	15	2	8	0.75	
- 013	2000	78,74	16	2	8	0.80	
- 033	2100	82,67	17	2	8	0.85	
- 014	2200	86,61	18	2	10	0.90	
- 056	2300	90,55	19	2	10	0.95	
- 015	2500	98,42	21	2	10	1.05	
- 050	2700	106,30	22	2	12	1.10	
- 016	2750	108,20	23	2	12	1.15	
- 060	2800	110,23	23	2	12	1.15	
- 036	2900	114,17	24	2	12	1.20	
- 017	3000	118,11	25	2	12	1.25	
- 018	3200	125,98	27	2	14	1.35	
- 039	3400	133,85	28	2	14	1.40	

with profile reinforcement

Oblong slots at the bottom, suitable for particles with a max. Feret diameter of 7 mm

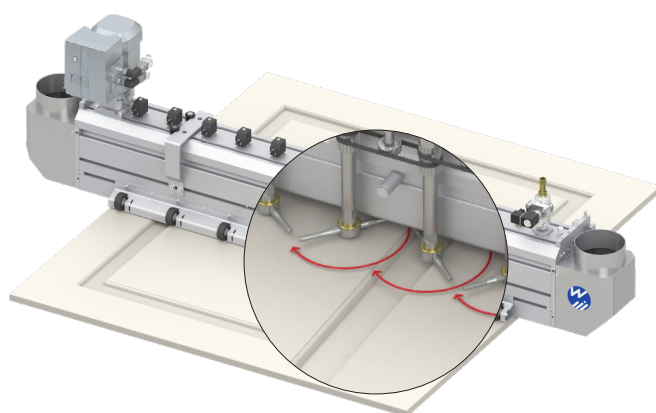


additional suction connection
if A = 1500 mm or bigger



Ordering example

The subject panel has a max. width of $P_{\max} = 800$ mm
Minimum Tornado Channel width is
 $A_{\min} = P_{\max} + 160 \text{ mm} = 960$ mm
The most suitable Tornado Channel has
a nominal width $A = 1000$ mm
Order no. 2271-007 describes TKRO 200/V/1000



Functional description

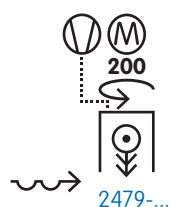
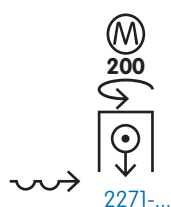
The Tornado nozzles are driven electrically and synchronically via timing belts. They rotate with a constant high rotational speed. Compressed air is expelled from the nozzles with several times the speed of sound. This jet of air detaches particles and dust from smooth and structured surfaces propelling the debris towards the suction connections. The nozzles' circular cleaning ranges overlap thus providing for an efficient cleaning process that leaves no gaps.

Versions

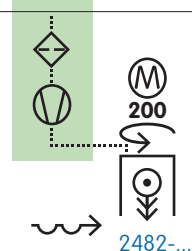
TKRO 200..

Cleaning from above

Order no.



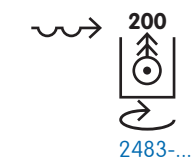
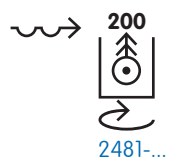
Option: Side channel blower



TKRU 200..

Cleaning from below

Order no.



Fan options	without fan	internal fan (made by EBM Papst)	Connection to external fan Ø 80 mm
A ≤ 1100 mm	–	1 x	1 x
A ≥ 1200 mm	–	2 x	2 x
A ≥ 2800 mm	–	3 x	2 x
Protecting flow	No	Yes	Yes
Labyrinth plate	Yes	No	No
Ionisation	No	Option	Option
Override coupling	Yes	Yes	Yes
Ø bore hole for compressed air	2 x 0.7 mm	2 x 0.7 mm	2 x 0.7 mm
Angle for bore hole	70°	70°	70°

Technical data

TKRO 200..



Electrical details

Drive Tornado nozzles	1 x 0.75 kW SEW MOVIMOT motor, IP 54, UL-compatible 50 - 60 Hz; 380 – 500 V; 1.9 A
Rotation sensor	Break contact DC-PNP on Harting plug, 2 impulses/rotation
Sensor connection	24 V DC; 200 mA, via PLC with high-speed counter
Main valve Tornado Channel	2/2 directional valve; 1 x 24 V DC; 11 W
Magnetic valves Tornado nozzles	24 V DC / 0.5 A each

Pneumatic details

Compressed air quality	filtered (particle size < 40 µm), oil free (residual oil < 1.5 mg/m³ at 24° C)
Compressed air connection	1 x G 3/4 female thread; 6 bar
Compressed air consumption	50 m³/l per Tornado nozzle, total consumption see table on page 2

Suction requirements

Suction connection; suction output	2 x Ø 150 mm; 2 x 30 m³/min (only 1 suction connection if A < 1500 mm)
Operating parameters	min. -500 Pa vacuum; min. 28 m/s (measured at suction connection)

Acoustic emission

Max. sound pressure level	85 dB(A) if all Tornado nozzles are activated The sound pressure level depends on the number of activated nozzles, the surface features and the geometry of the subject panel.
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Transport speed

Max. transport speed	30 m/min, if speed exceeds 30 m/min, some particles may remain in recesses
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Dimensions

Minimum panel length	$L_{min} = 300 \text{ mm}$
Panel width	$P_{max} = \text{Nominal width A} - 160 \text{ mm}; ; P_{min} = 75 \text{ mm (upon request)}$
Distance Tornado Channel to surface	TCD = 2.5 mm (max. 6 mm)

Technical data are subject to changes

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