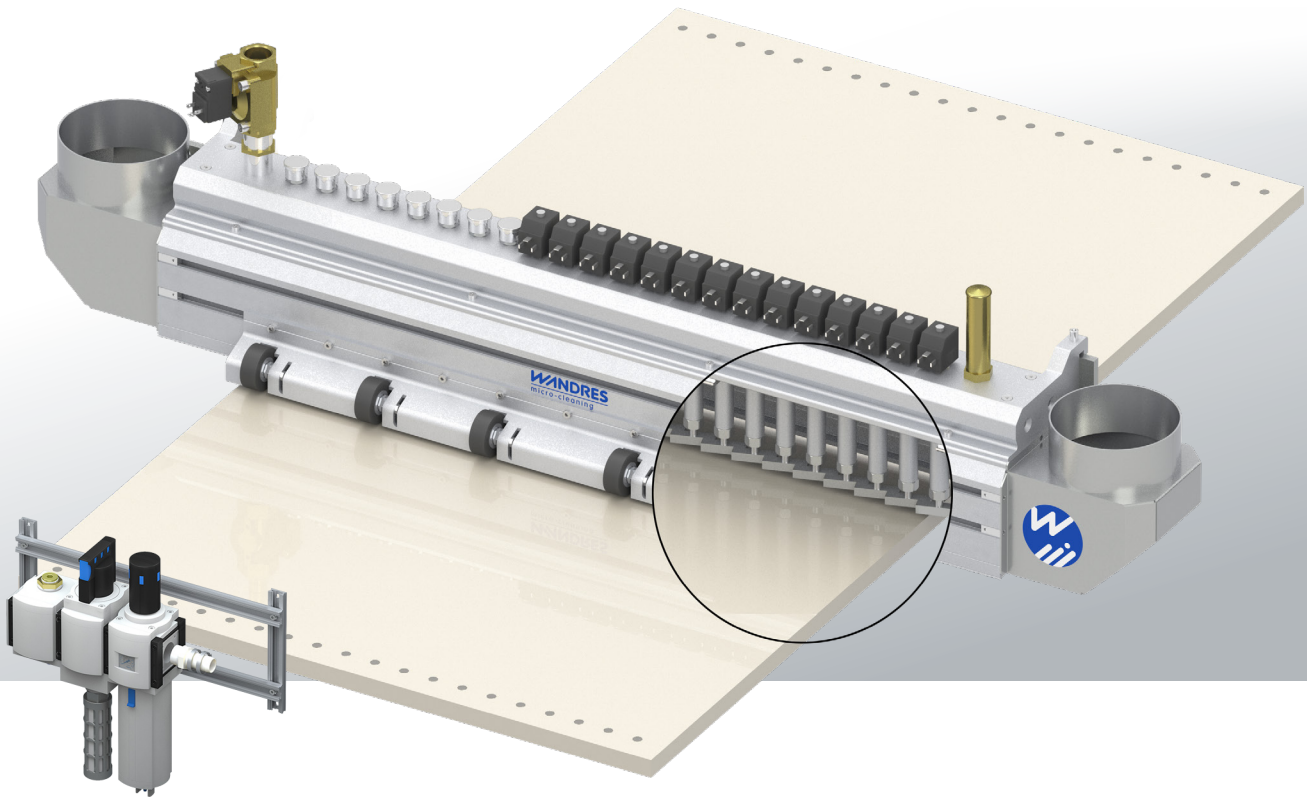


Tornado Channel TKFO 200.. and TKFU 200..

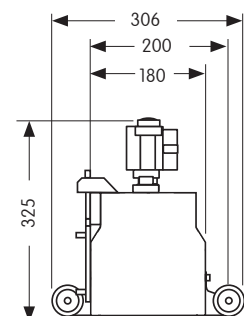
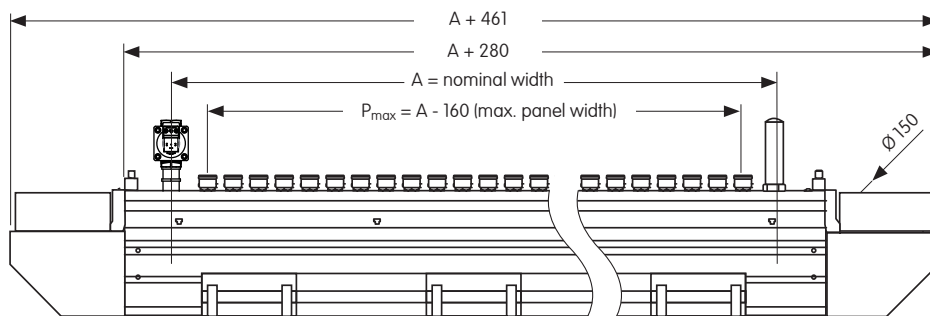


Brief description

The Tornado Channel TKR 200.. is ideal for the air-assisted contactless cleaning of panels with through holes, blind holes or saw cuttings. Compressed air driven Power nozzles blow onto the surface at a slight angle thus removing particles from the panel and its bore holes. A compressed air tank ensures that compressed air can be instantly supplied to all activated Power nozzles simultaneously right across the board. Wandres recommends to control the magnetic valves via a PLC so that only the Power nozzles near bore holes and saw cuttings are activated for a split second. This arrangement will reduce compressed air consumption dramatically.

Technical details

- U shaped channel with angles and spacer rollers at the infeed and the outfeed, integrated air tank with pressure relief valve
- Fixed Power nozzles with mechanical or electrical valves
- 1 or 2 suction connections \varnothing 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.
- Adjustment frame VEG 130 with mechanical height adjustment, optionally with electrical and/or pneumatic height adjustment with a short ($Y = 350$ mm) or a long column ($Y = 600$ mm)

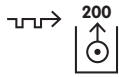
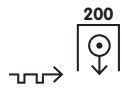


Measures in mm

TKFO 200..

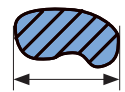
TKFU 200..

* with 6 bar compressed air supply if all Power nozzles are activated intervalic for 0.5 seconds per minute



Order code 2270 -	Order code 2424 -	Nominal width A mm	Nominal width A inch	Number of Power nozzles	Number of suction connections	Number of pressure rollers	Compressed air consumption m ³ /min*
- 003	- 003	400	15.75	7	1	-	0.02
- 004	- 004	520	20.47	10	1	-	0.03
- 005	- 005	650	25.59	13	1	6	0.04
- 058	- 058	700	27.55	15	1	6	0.04
- 006	- 006	850	33.46	18	1	8	0.05
- 045	- 045	900	35.43	20	1	6	0.05
- 007	- 007	1000	39.37	22	1	6	0.06
- 008	- 008	1100	43.31	25	1	6	0.07
- 031	- 031	1200	47.24	27	1	6	0.07
- 009	- 009	1300	51.18	30	1	6	0.08
- 030	- 030	1400	55.11	32	1	8	0.09
- 010	- 010	1500	59.05	35	2	8	0.09
- 011	- 011	1650	64.96	38	2	8	0.10
- 059	- 059	1700	66.92	40	2	8	0.11
- 012	- 012	1750	68.89	41	2	8	0.11
- 032	- 032	1900	74.80	45	2	8	0.12
- 013	- 013	2000	78.74	47	2	8	0.13
- 033	- 033	2100	82.67	50	2	8	0.13
- 014	- 014	2200	86.61	52	2	10	0.14
- 056	- 056	2300	90.55	55	2	10	0.15
- 015	- 015	2500	98.42	60	2	10	0.16
- 050	- 050	2700	106.29	65	2	12	0.17
- 016	- 016	2750	108.20	66	2	12	0.18
- 060	- 060	2800	110.23	67	2	12	0.19
- 036	- 036	2900	114.17	70	2	12	0.19
- 017	- 017	3000	118.11	72	2	12	0.19
- 018	- 018	3200	125.98	77	2	14	0.21
- 039	- 039	3400	133.85	82	2	14	0.22

Suitable for particles with max. feret diameter 7 mm



max. feret diameter

Ordering example

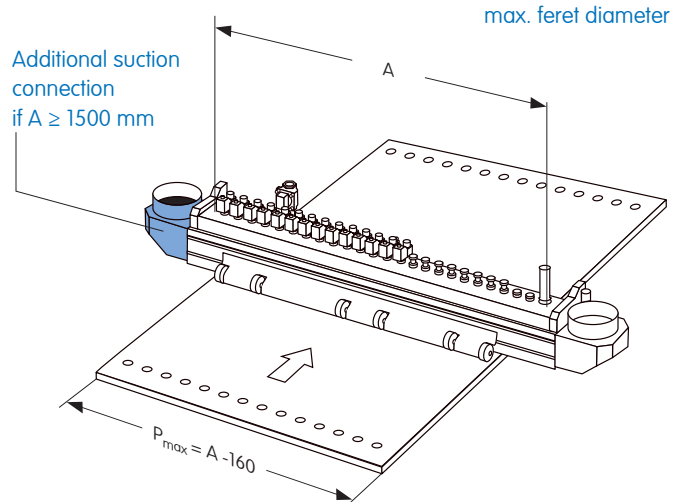
The panel that needs to be cleaned has a max. width of $P_{max} = 800$ mm.

Min. nominal width of the Tornado Channel is

$$A_{min} = P_{max} + 160 \text{ mm} = 960 \text{ mm}$$

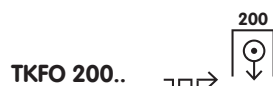
The most suitable Tornado Channel has a nominal width of $A = 1000$ mm

Order code 2270-007 describes TKF 200/VM/1000





Technical data



Electrical

Main valve Tornado Channel	2/2 directional valve; 1 x 24 V DC; 11 W
Magnetic valves Power nozzles	each with 24 V DC; 0.5 A

Pneumatics

Compressed air quality	filtered (max. particle size < 40µm), oil free (residual oil < 1.5 mg/m ³ at 24° C)
Compressed air connection	1 x 1" female thread; 6 bar
Compressed air consumption	320 l/min per Power nozzle, see table page 2 For a short period of time, all nozzles may be activated. For continuous operation, no more than 36 nozzles should be activated at the same time.

Suction

Suction connection	A < 1500 mm 1 x Ø 150 mm	A ≥ 1500 mm 2 x Ø 150 mm
Suction capacity	1 x 30 m ³ /min	2 x 30 m ³ /min
Vacuum	Min. -500 Pa	
Flow velocity	Min. 28 m/s	

Acoustic emission

Max. acoustic emission	86 dB (A) if all power nozzles are activated The acoustic emission depends on the number of activated nozzles, the surface characteristics and the geometry of the panel that needs to be cleaned.
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Transport speed

Max. transport speed	30 m/min If v > 30 m/min, some particles may remain in smaller bore holes
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Dimensions

Min. panel length	L _{min} = 300 mm
Panel width P _{max}	P _{max} = A - 160 mm; P _{min} = 75 mm (upon request)
Bore hole diameter	Min. 4 mm
Bore hole depth	Max. 12 mm
Distance Tornado Channel to surface	TCD = 5 mm

Technical information is subject to changes.

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