

TANNER MDA

Water-supplied air heater
with axial fan

Water-supplied air heater with copper/aluminium
heat exchanger. Output from 14,5 to 117 kW.

For more information,
downloads and
videos, visit the Tanner
MDA on our website





The most versatile hot water air heater on the market



The TANNER MDA is a water-supplied suspended air heater which can expel air horizontally or vertically. The unit has a powerful axial fan which means it is suitable for many applications.

Mark offers a highly extensive range of accessories for the TANNER MDA allowing it to be aligned to all applications. For example, the unit can be made suitable for external air connection in combination with filtering and a mixing box for the destratification of fresh external air.

The unit is also available as an ATEX / EEX-model. (400V) - IP 44 (Ex II 2 G c Ex e IIB T3).

The TANNER MDA is designed for use in showrooms, changing rooms, industrial halls and garages.

Optional: speed controlled low noise EC-motor (230V/0-10V). Advantages:

- The highest efficiency in case of speed control
- Up to 50% energy saving in case of partial load
- Almost completely linearly adjustable
- Long lifetime
- Low noise level
- Integrated electronic thermal protection

Product features

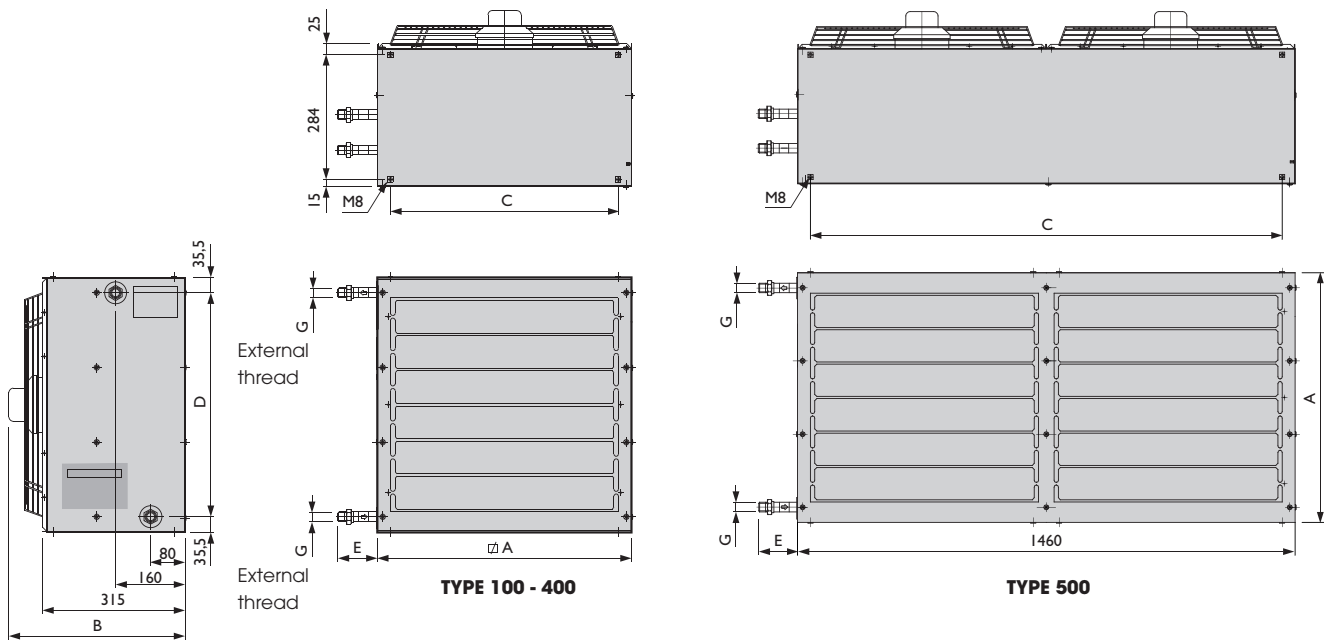
- Manufactured with a corrosion-resistant aluzinc housing as standard
- Copper/aluminium heat exchanger
- Highly versatile due to extensive configuration options
- Available as 230V or 400V
- IP class 54



Remote control possible with the PinTherm Connect IoT! Control the thermostat from anywhere in the world via a secure Cloud environment in the browser of your PC, tablet or smartphone. No need to open a firewall port for this. With the optional WiFi module, a LAN cable is also no longer needed for the thermostat.



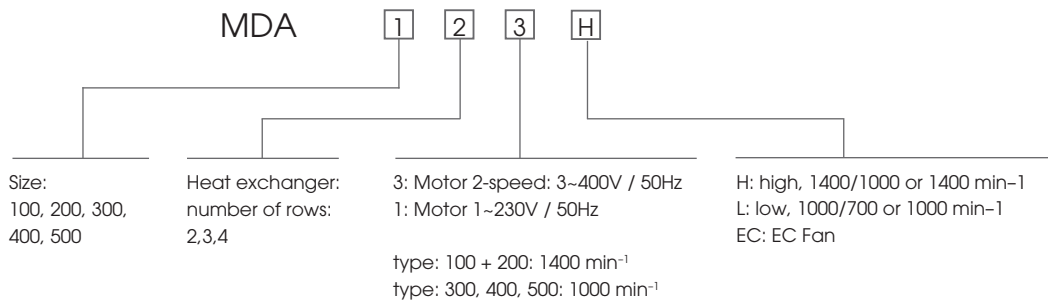
Dimensions



Type	A	B	C	D	E	2R	G 3R	4R
100	450	380	387	379	110	1"	1"	1"
200	580	385	517	509	113	1"	1"	1"
300	730	385	667	659	110	1"	1 1/4"	1 1/4"
400	860	405	797	789	115	1 1/4"	1 1/2"	1 1/2"
500	730	385	1392	659	80	-	2"	2"

Technical information

TYPE DESIGNATION





MDA low-speed - 1 phase 230V

Type		121L	131L	141L	221L	231L	241L	321L*	331L*	341L*	421L*	431L*	441L*	531L*	541L*
90/70 T 15	kW	14,5	17,0	19,0	25,1	30,8	33,3	52,7	65,9	72,1	80,0	101,0	110,0	142	168
Water resistance T15	kPa	4	8	12	7	4	8	8	4	12	8	6	18	25	50
Outlet temperature at the heat exchanger	°C	41,7	49,4	59,2	42,7	53,0	58,8	38,8	48,0	54,0	38,6	48,6	54,1	52,3	61,9
80/60 T 15	kW	11,9	14,1	15,9	20,6	25,4	27,8	43,3	54,1	60,2	65,7	83,1	91,6	118	141
Outlet temperature at the heat exchanger	°C	36,8	43,6	52,0	37,8	46,3	51,6	34,6	42,1	47,6	34,4	42,7	47,7	46	54,4
40/30 T 15	kW	3,77	4,42	4,94	6,53	8,0	8,66	13,7	17,1	18,8	20,8	26,3	28,6	36,9	43,7
Speed	rpm	900	900	900	830	830	830	845	845	845	925	925	925	845	845
Air displacement	m³/h	1595	1446	1265	2656	2381	2233	6495	5857	5423	9933	8816	8217	11300	10600
Noise at 5 m	dB(A)	49	49	49	49	48	48	52	53	53	61	59	58	56	56
Weight without accessories	kg	22	23	24	32	34	36	43	46	49	55	59	63	95	98,5
Horizontal throw	m	12	10	8	17	15	12	25	22	19	35	31	27	25	22
Vertical throw	m	4	4	3,5	4,8	4,5	4	8,1	6,8	5,9	7,4	6,2	5,5	6,8	5,9
Consumed current (AC fan)	A	0,35	0,35	0,35	0,49	0,49	0,49	1,5	1,5	1,5	1,8	1,8	1,8	3,0	3,0
Consumed current (EC fan)	A	-	-	-	-	-	-	1,65	1,65	1,65	2,7	2,7	2,7	3,3	3,3
Nominal electric power (AC fan)	kW	0,077	0,077	0,077	0,113	0,113	0,113	0,33	0,33	0,33	0,4	0,4	0,4	0,66	0,66
Nominal electric power (EC fan)	kW	-	-	-	-	-	-	0,24	0,24	0,24	0,62	0,62	0,62	0,48	0,48

MDA high-speed - 1 phase 230V

Type		121H*	131H*	141H*	221H*	231H*	241H*
90/70 T 15	kW	18,0	22,1	25,1	32,4	42,0	46,6
Water resistance T15	kPa	7	13	20	9	5	13
Outlet temperature at the heat exchanger	°C	37,4	43,9	53,4	37,6	46,4	51,6
80/60 T 15	kW	14,7	18,3	20,9	26,6	34,5	38,7
Outlet temperature at the heat exchanger	°C	33,3	38,9	47,1	33,6	40,8	45,5
40/30 T 15	kW	4,68	5,75	6,53	8,42	10,9	12,1
Speed	rpm	1400	1400	1400	1400	1400	1400
Air displacement	m³/h	2365	2244	1914	4202	3932	3734
Noise at 5 m	dB(A)	54	55	55	57	53	53
Weight without accessories	kg	22	23	24	32	34	34
Horizontal throw	m	15	13	11	20	19	17
Vertical throw	m	6,9	6,8	6,3	7,7	7,6	7,2
Consumed current (AC fan)	A	0,6	0,6	0,6	1,15	1,15	1,15
Consumed current (EC fan)	A	0,98	0,98	0,98	2,2	2,2	2,2
Nominal electric power (AC fan)	kW	0,13	0,13	0,13	0,23	0,23	0,23
Nominal electric power (EC fan)	kW	0,125	0,125	0,125	0,32	0,32	0,32

* Available with speed controlled EC-motor.



MDA low-speed - 3 phase 400V

Type		223L	233L	243L	323L	333L	343L	423L	433L	443L	533L	543L
90/70 T 15	kW	26,2	32,4	35,1	52,7	65,9	72,1	84,0	107,0	117,0	142	168
Water resistance T15	kPa	6	4	9	8	4	12	9	7	21	25	50
Outlet temperature at the heat exchanger	°C	41,9	52,0	57,7	38,8	48,0	54,0	37,7	47,3	52,7	52,3	61,9
80/60 T 15	kW	21,6	26,7	29,3	43,3	54,1	60,2	68,9	88,1	97,4	118	141
Outlet temperature at the heat exchanger	°C	37,1	45,4	50,6	34,6	42,1	47,6	33,6	41,6	46,5	46	54,4
40/30 T 15	kW	6,81	8,42	9,13	13,7	17,1	18,8	21,8	27,8	30,4	36,9	43,7
Speed	rpm	1000	1000	1000	910	910	910	870	870	870	910	910
Air displacement	m³/h	2865	2574	2414	6495	5857	5423	10868	9735	9064	11300	10600
Noise at 5 m	dB(A)	49	48	48	52	53	53	61	59	59	56	56
Weight without accessories	kg	32	34	36	43	46	46	52	61	64	95	98,5
Horizontal throw	m	17	15	13	25	22	19	35	31	28	25	22
Vertical throw	m	5,9	4,5	4	8,1	6,8	5,9	8,5	6,9	5,8	6,8	5,9
Consumed current	A	0,3	0,3	0,3	0,85	0,85	0,85	1,25	1,25	1,25	1,7/0,88	1,7/0,88
Nominal electric power	kW	0,12	0,12	0,12	0,38	0,38	0,38	0,6	0,6	0,6	1,2	1,2

MDA high-speed - 3 phase 400V

Type		123H	133H	143H	223H	233H	243H
90/70 T 15	kW	18,0	22,1	25,1	32,4	42,0	46,6
Water resistance T15	kPa	7	13	20	9	5	13
Outlet temperature at the heat exchanger	°C	37,4	43,9	53,4	37,6	46,4	51,6
80/60 T 15	kW	14,7	18,3	20,9	26,6	34,5	38,7
Outlet temperature at the heat exchanger	°C	33,3	38,9	47,1	33,6	40,8	45,5
40/30 T 15	kW	4,68	5,75	6,53	8,42	10,9	12,1
Speed	rpm	1330	1330	1330	1350	1350	1350
Air displacement	m³/h	2365	2244	1914	4202	3932	3734
Noise at 5 m	dB(A)	54	55	55	57	53	53
Weight without accessories	kg	22	23	24	32	34	36
Horizontal throw	m	15	13	11	20	19	17
Vertical throw	m	6,9	6,8	6,3	7,7	7,6	7,2
Consumed current	A	0,36	0,36	0,36	0,51	0,51	0,51
Nominal electric power	kW	0,16	0,16	0,16	0,216	0,216	0,216

Capacity calculation for other water temperatures

ΔT1	ΔT2															
	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
10	0.26	0.35	0.44	0.53	0.62	0.71	0.80	0.89	1.04	1.14	1.23	1.34	1.44	1.54	1.64	1.74
15	0.22	0.31	0.39	0.49	0.58	0.67	0.77	0.85	0.96	1.06	1.17	1.26	1.36	1.46	1.56	1.66
20	0.18	0.27	0.36	0.46	0.55	0.64	0.74	0.82	0.92	1.00	1.10	1.20	1.29	1.40	1.50	1.61
30	0.11	0.21	0.30	0.39	0.48	0.57	0.66	0.77	0.86	0.95	1.05	1.15	1.25	1.36	1.48	X
40	X	0.11	0.21	0.32	0.43	0.52	0.62	0.71	0.80	0.90	1.00	1.10	1.20	1.30	X	X
50	X	X	0.12	0.22	0.32	0.45	0.55	0.64	0.74	0.83	0.93	1.03	1.14	X	X	X
60	X	X	X	0.15	0.26	0.36	0.46	0.56	0.66	0.76	0.86	0.96	X	X	X	X

ΔT1= Temperature difference hot water inlet minus outlet

ΔT2= Average water temperature minus air inlet temperature

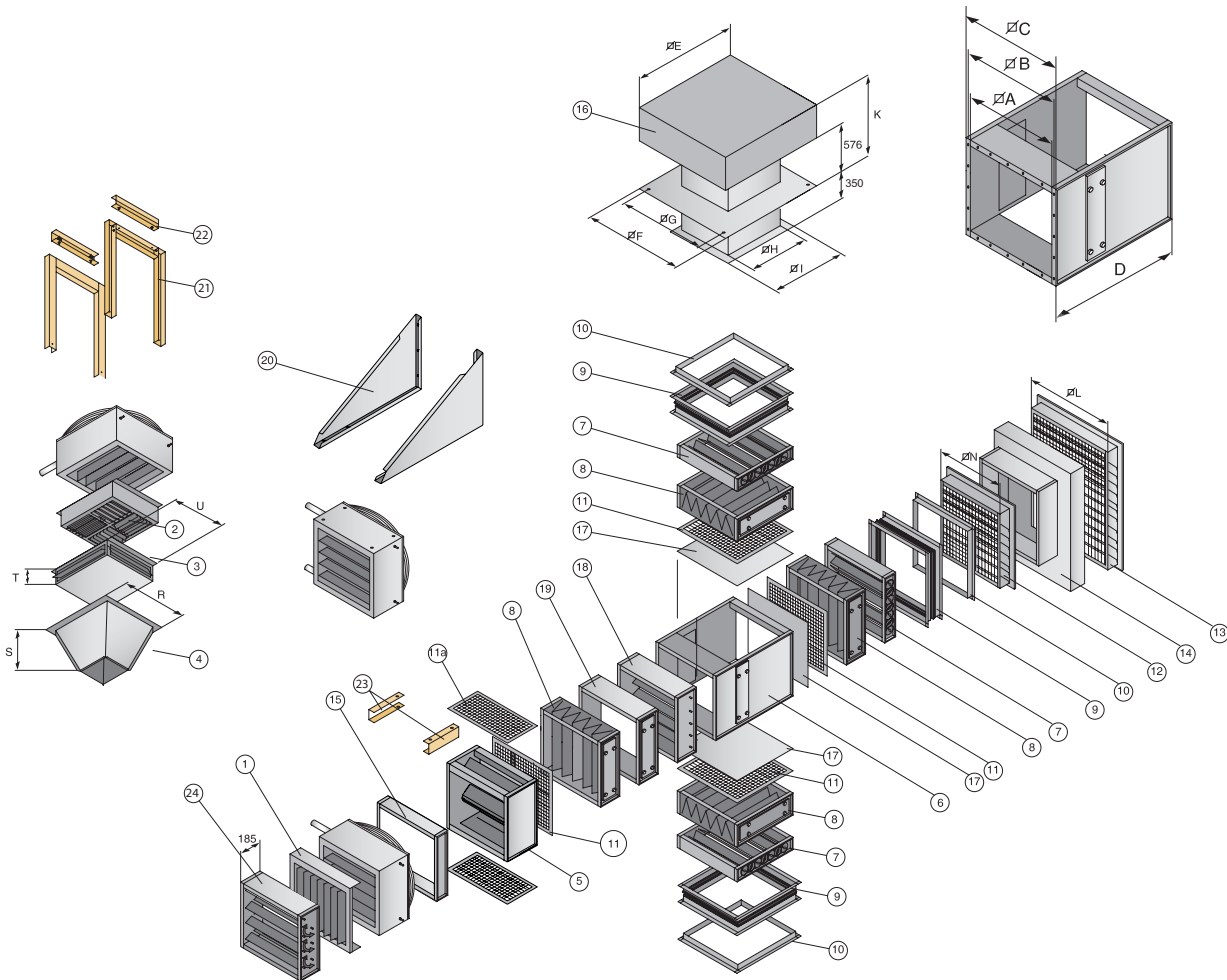
Calculation example: Water temperature = 40/30
 ΔT1 = 40 - 30 = 10K

T inlet = 15 °C
 ΔT2 = 35 - 15 °C = 20K

Tanner MDA 541L has a capacity of 168 kW at a water temperature of 90/70 T 15 °C
 168 kW x factor 0,26 = 43,68 kW



Accessories - additional sections



Position Description

- 1 Vertical louvres
- 2 Downflow hood 4-sided vertical
- 3 Downflow hood 4-sided horizontal
- 4 Destratification hood
- 5 Mixing box (short) incl. dampers
- 6 Mixing box for dampers
- 7 Damper
- 8 Filter box with filter (EU 3)
- 9 Flexible connection
- 10 Corner profile
- 11 Mesh
- 11a Mesh

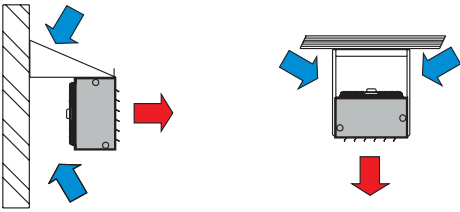
- 12 Weather grill $\leq 50\%$ fresh air intake
- 13 Weather grill $> 50\%$ -100% fresh air intake
- 14 Transition piece for 13
- 15 Empty section 120 mm
- 16 Rain cap incl. adhesive plate (aluminium)
- 17 Blanking plate
- 18 Motor protection damper
- 19 Empty section 240 mm
- 20 Wall bracket
- 21 Ceiling bracket, vertical
- 22 Shock absorber set for 21
- 23 Ceiling bracket, horizontal
- 24 Induction damper

Type	A	B	C	D	E	F	G	H
100	390	415	443	463	690	740	690	380
200	520	545	573	593	920	920	820	510
300	670	695	723	743	1180	1240	975	665
400	800	835	853	873	1420	1240	1110	800

Type	I	K	L	N	R	S	T	U
100	440	800	516	386	439	212	120	406
200	570	895	666	516	573	253	151	530
300	720	940	796	666	724	300	175	680
400	860	1075	1005	796	853	329	220	815

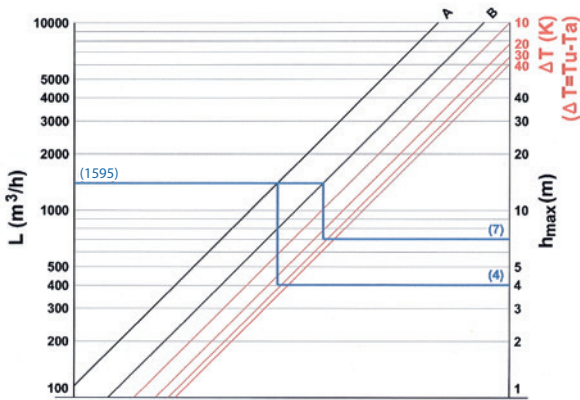


Assembly/location suggestions

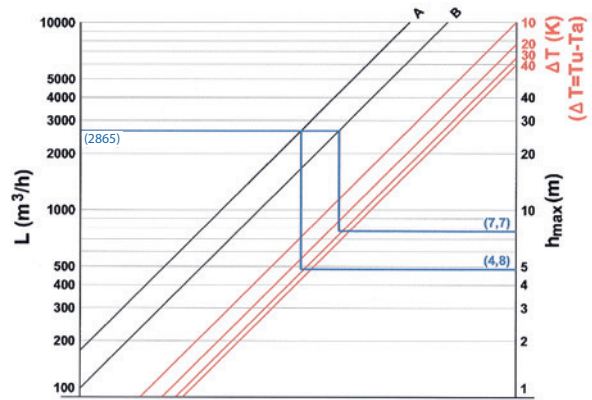


Tanner MDA maximum assembly height for

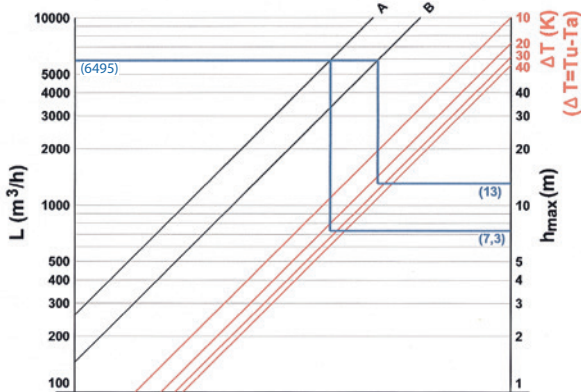
TYPE 100



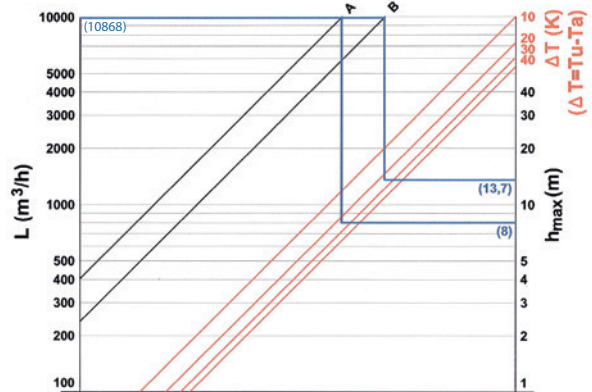
TYPE 200



TYPE 300



TYPE 400



Calculation example:

Tanner MDA 123L (Type 100)

- The table indicates that the air displacement with this unit is: $L = 1595 \text{ m}^3/\text{h}$
- If the intake temperature (T_a) is 15°C , the table shows that the outlet temperature (T_u) will be 41.7°C .

The temperature difference is:

$$D_t = T_u - T_a$$

$$D_t = 42.8 - 15$$

$$D_t = 26.7\text{K}$$

- The table (TYPE 100) indicates that:

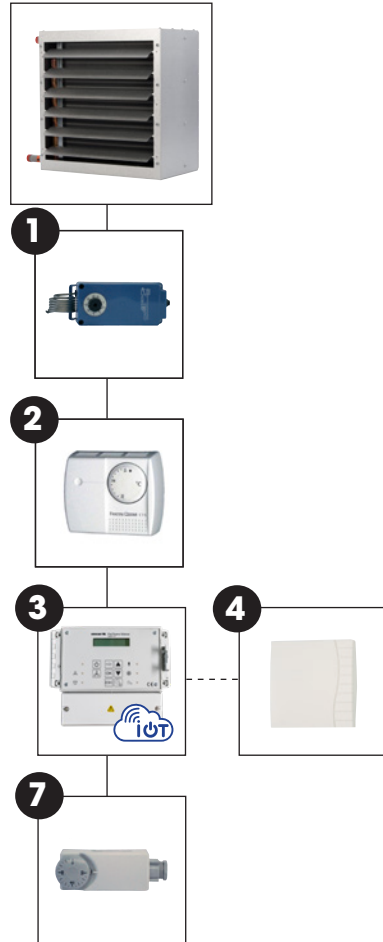
A or the basic model, without accessories, the max. suspension height is: = 4m

B or the combination with a destratification hood, the max. suspension height is: = 7m

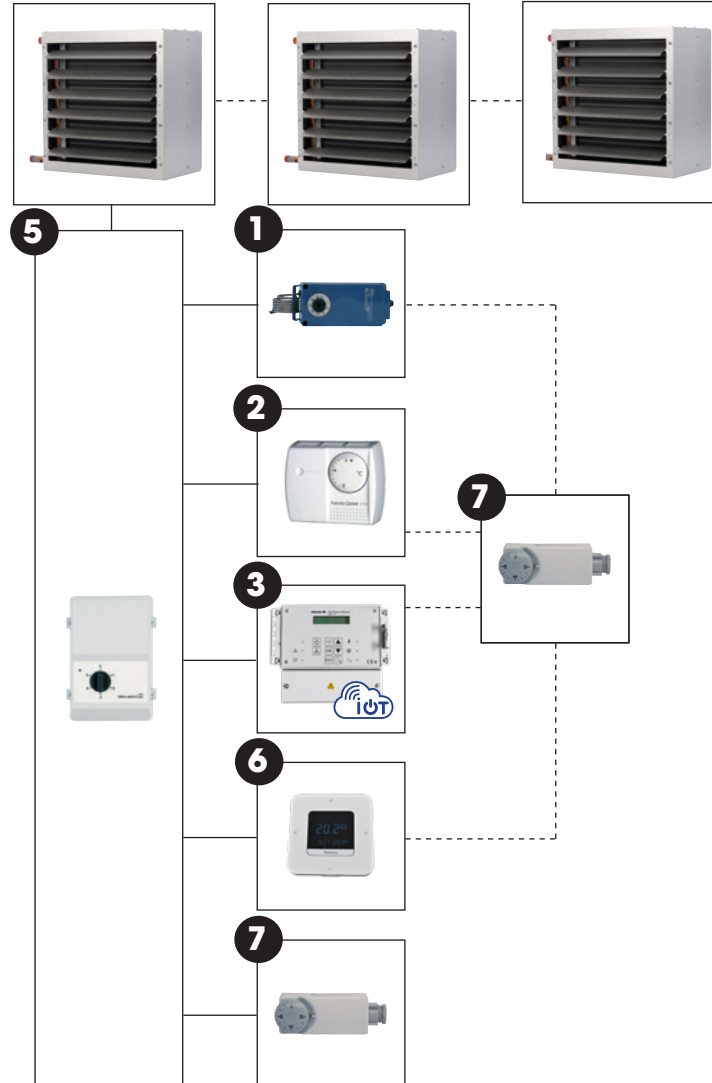
Controls (Not EEX)

AC-motor

230V - 1 unit



230V or 400V - multiple units



Maximum amount of units is depending on the selected 5-step regulator.

Control combination options AC Motor - 1 unit

- Tanner MDA + **1**
- Tanner MDA + **2**
- Tanner MDA + **3**
- Tanner MDA + **3** + **4**
- Tanner MDA + **7**

1 = Water resistant room thermostat 230V IP65 (0629004)
 2 = Room thermostat 230V, (4A) (0629013)
 3 = PinTherm Connect with Ethernet, Modbus and Cloud control (IoT: 0629108 / IoT+WiFi: 3003870)
 4 = Room sensor (0629086)
 7 = Surface contact thermostat (4A) (0629180)

Control combination options AC Motor - multiple units

- Tanner MDA + **5**
- Tanner MDA + **5** + **1**
- Tanner MDA + **5** + **2**
- Tanner MDA + **5** + **3**
- Tanner MDA + **5** + **6**
- Tanner MDA **5** + **7**
- Tanner MDA + **5** + **1** + **7**
- Tanner MDA + **5** + **2** + **7**
- Tanner MDA + **5** + **3** + **7**
- Tanner MDA + **5** + **6** + **7**

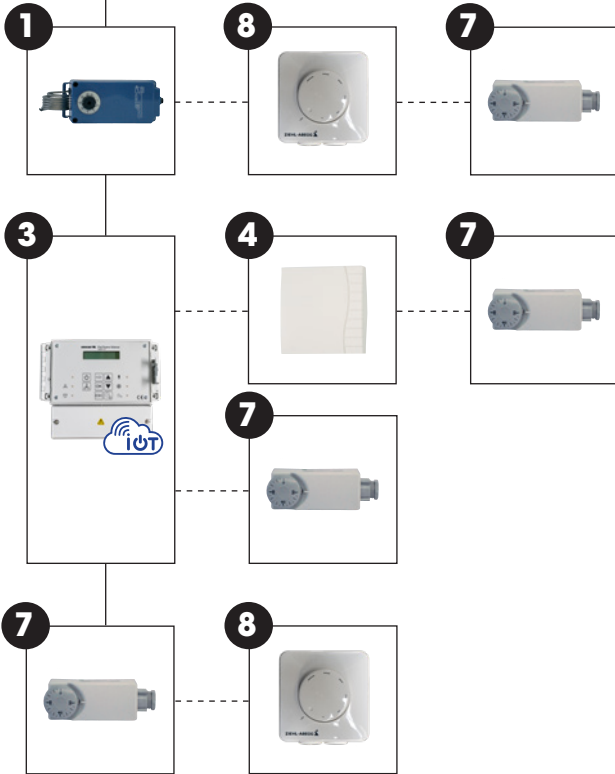
5 = 5-step regulator, 230V, 6.0A (0616186, 0616188, 0616189)
 5 = 5-step regulator, 400V (0616162, 0616164, 0616166)



EC-motor



Max. 8 units



Control combination options EC Motor - multiple units

Tanner MDA	+	1
Tanner MDA	+	1 + 8
Tanner MDA	+	1 + 8 + 7
Tanner MDA	+	3
Tanner MDA	+	3 + 4
Tanner MDA	+	3 + 4 + 7
Tanner MDA	+	3 + 7
Tanner MDA	+	7
Tanner MDA	+	7 + 8

- 1 = Water resistant room thermostat 230V IP65 (0629004)
- 3 = PinTherm Connect with Ethernet, Modbus and Cloud control (IoT: 0629108 / IoT+WIFI: 3003870)
- 4 = Room sensor (0629086)
- 7 = Surface contact thermostat (4A) (0629180)
- 8 = Potentiometer 10K with on/off contact IP54 (0631390)

Prices Tanner MDA

PRODUCT - HOT WATER AIR HEATER TANNER MDA, 230V, 90/70 - 15 °C

Code nr.	Description
5060056	MDA 121H, nominal power 18,0 kW
5060057	MDA 131H, nominal power 22,1 kW
5060058	MDA 141H, nominal power 25,1 kW
5060256	MDA 221H, nominal power 32,4 kW
5060257	MDA 231H, nominal power 42,0 kW
5060258	MDA 241H, nominal power 46,6 kW
5060051	MDA 121L, nominal power 14,5 kW
5060052	MDA 131L, nominal power 17,0 kW
5060053	MDA 141L, nominal power 19,0 kW
5060251	MDA 221L, nominal power 25,1 kW
5060252	MDA 231L, nominal power 30,8 kW
5060253	MDA 241L, nominal power 33,3 kW
5060451	MDA 321L, nominal power 52,7 kW
5060452	MDA 331L, nominal power 65,9 kW
5060453	MDA 341L, nominal power 72,1 kW
5060651	MDA 421L, nominal power 80,0 kW
5060652	MDA 431L, nominal power 101,0 kW
5060653	MDA 441L, nominal power 110,0 kW
5060472	MDA 531L, nominal power 142,0 kW
5060473	MDA 541L, nominal power 168,0 kW



PRODUCT - HOT WATER AIR HEATER TANNER MDA, 400V, 90/70 - 15 °C

Code nr.	Description
5060066	MDA 123H, nominal power 18,0 kW
5060067	MDA 133H, nominal power 22,1 kW
5060068	MDA 143H, nominal power 25,1 kW
5060266	MDA 223H, nominal power 32,4 kW
5060267	MDA 233H, nominal power 42,0 kW
5060268	MDA 243H, nominal power 46,6 kW
5060261	MDA 223L, nominal power 26,2 kW
5060262	MDA 233L, nominal power 32,4 kW
5060263	MDA 243L, nominal power 35,1 kW
5060461	MDA 323L, nominal power 52,7 kW
5060462	MDA 333L, nominal power 65,9 kW
5060463	MDA 343L, nominal power 72,1 kW
5060661	MDA 423L, nominal power 84,0 kW
5060662	MDA 433L, nominal power 107,0 kW
5060663	MDA 443L, nominal power 117,0 kW
5060482	MDA 533L, nominal power 142,0 kW
5060483	MDA 543L, nominal power 168,0 kW

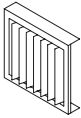


**PRODUCT - HOT WATER AIR HEATER TANNER MDA with ec-motor, 230V, 90/70 - 15 °C**

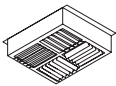
Code nr.	Description
5063056	MDA 121EC, nominal power 18,0 kW
5063057	MDA 131EC, nominal power 22,1 kW
5063058	MDA 141EC, nominal power 25,1 kW
5063256	MDA 221EC, nominal power 32,4 kW
5063257	MDA 231EC, nominal power 42,0 kW
5063258	MDA 241EC, nominal power 46,6 kW
5063451	MDA 321EC, nominal power 52,7 kW
5063452	MDA 331EC, nominal power 65,9 kW
5063453	MDA 341EC, nominal power 72,1 kW
5063651	MDA 421EC, nominal power 80,0 kW
5063652	MDA 431EC, nominal power 101,0 kW
5063653	MDA 441EC, nominal power 110,0 kW
5063472	MDA 531EC, nominal power 142,0 kW
5063473	MDA 541EC, nominal power 168,0 kW

**ACCESSORIES - ADDITIONAL SECTIONS - VERTICAL LOUVRES**

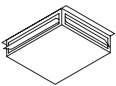
Code nr.	Description
5064011	for MDA type 100
5064012	for MDA type 200
5064013	for MDA type 300
5064014	for MDA type 400

**ACCESSORIES - ADDITIONAL SECTIONS - DOWNFLOW HOOD 4-SIDE VERTICAL**

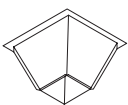
Code nr.	Description
5064021	for MDA type 100
5064022	for MDA type 200
5064023	for MDA type 300
5064024	for MDA type 400

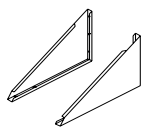
**ACCESSORIES - ADDITIONAL SECTIONS - DOWNFLOW HOOD 4-SIDE HORIZONTAL**

Code nr.	Description
5064001	for MDA type 100
5064002	for MDA type 200
5064003	for MDA type 300
5064004	for MDA type 400

**ACCESSORIES - ADDITIONAL SECTIONS - DESTRIFICATION HOOD**

Code nr.	Description
5064016	for MDA type 100
5064017	for MDA type 200
5064018	for MDA type 300
5064019	for MDA type 400

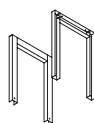



ACCESSORIES - ASSEMBLY - GENERAL

Code nr.	Description
5064047	Wall brackets horizontal, MDA type 100 - 500
5064055	Ceiling brackets horizontal, MDA type 100 - 500
5064116	Mounting bracket

ACCESSOIRES - ASSEMBLY - CEILING BRACKETS VERTICAL

Code nr.	Description
5064051	for MDA type 100
5064052	for MDA type 200
5064053	for MDA type 300
5064054	for MDA type 400


ACCESSORIES - ASSEMBLY - SHOCK ABSORBER SET FOR ABOVE MENTIONED BRACKETS

Code nr.	Description
5064056	for MDA type 100 only in combination with 5064051
5064057	for MDA type 200 only in combination with 5064052
5064058	for MDA type 300 only in combination with 5064053
5064059	for MDA type 400 only in combination with 5064054


ACCESSORIES - CONTROLS

	Code nr.	Description
5	0616186	Control box 5-steps, 230V, 6,0A*
5	0616188	Control box 5-steps, 230V, 12,0A*
5	0616189	Control box 5-steps, 230V, 14,0A*
5	0616162	Control box 5-steps, 400V, 2A*
5	0616164	Control box 5-steps, 400V, 4A*
5	0616166	Control box 5-steps, 400V, 7A*
5	0616170	High / low / off control, 400V, 10A*
8	0631390	Potentiometer 10K with on/off contact IP54**
	0631163	Isolator switch, separate delivery, 230V (4 poles)
	0631167	Isolator switch, separate delivery, 400V (8 poles)
2	0629013	Room thermostat 230V, (4A)
1	0629004	Water resistant room thermostat, 230V, IP65
7	0629180	Surface contact thermostat (4A)
6	0629039	Clock thermostat (1A)
3	0629108	PinTherm Connect IoT room thermostat with Ethernet, Modbus and Cloud control
3	3003870	PinTherm Connect IoT/WiFi room thermostat with Ethernet, Modbus and Cloud control
4	0629086	Room sensor only in combination with 0629108/3003870

* Not applicable for Tanner MDA with EC motor.

** Only applicable for Tanner MDA with EC motor.

For explanation see chapter control equipment

**ACCESSORIES - COLOURS *******Description**

MDA Type 100 Accessories provided with colour 1 to 3 pieces (by piece)

MDA Type 100 Accessories provided with colour 4 to 10 pieces (by piece)

MDA Type 100 Accessories provided with colour for more than 10 pieces (by piece)

TANNER MDA 100 provided with colour

MDA Type 200 Accessories provided with colour 1 to 3 pieces (by piece)

MDA Type 200 Accessories provided with colour 4 to 10 pieces (by piece)

MDA Type 200 Accessories provided with colour for more than 10 pieces (by piece)

TANNER MDA 200 provided with colour

MDA Type 300 Accessories provided with colour 1 to 3 pieces (by piece)

MDA Type 300 Accessories provided with colour 4 to 10 pieces (by piece)

MDA Type 300 Accessories provided with colour for more than 10 pieces (by piece)

TANNER MDA 300 provided with colour

MDA Type 400 Accessories provided with colour 1 to 3 pieces (by piece)

MDA Type 400 Accessories provided with colour 4 to 10 pieces (by piece)

MDA Type 400 Accessories provided with colour for more than 10 pieces (by piece)

TANNER MDA 400 provided with colour

MDA Type 500 Accessories provided with colour 1 to 3 pieces (by piece)

MDA Type 500 Accessories provided with colour 1 to 3 pieces (by piece)

MDA Type 500 Accessories provided with colour 1 to 3 pieces (by piece)

TANNER MDA 500 provided with colour

*** These prices are only for the Mark standard RAL-colours: 3002 red, 1028 yellow, 6010 green, 7016 gray, 8014 brown, 9001 beige white, 5009 blue, 2009 orange, 1019 beige