Series
VENTS MPA...E

A16 control panel

Supply units with the air flow up to **3500 m³/h** in the compact sound- and heat-insulated casing with electric heater

Series
VENTS MPA...W

A13 control panel

Supply units with the air flow up to **6500 m³/h** in the compact sound- and heat-insulated casing with water heater

Description
Air supply MPA unit is a complete ventilation unit for air filtration, air heating and supply to premises.

Casing
Steel casing covered with aluzinc coating internally filled with 25 mm heat- and sound-insulating layer made of mineral wool.

Filter
Integrated panel G4 filter ensures sufficient supply air purification.

Heater
Both electric heater (MPA...E models) and water/glycol heaters (MPA...W models) are used for heating of supply air in cold season. The water heaters are designed for max. operating pressure 1.0 MPa (10 bar) and max. operating temperature 95 °C of the heat medium.

Fan
Centrifugal double-inlet fan with forward curved blades and built-in overheating protection with automatic restart. The ball bearings in the electric motor are maintenance free and designed for at least 40000 hours operation.

Control and automation
Possible option:
Integrated control and automation system for three-speed (air flow) control and setting supply air temperature. The unit may be controlled from the external control panel fixed on 10 m wire delivered as a standard.

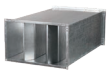
MPA...E control and protection functions
- Switching the unit on/off from the control panel.
- Setting the supply air temperature from the remote control panel and maintaining it by the triac heater control.
- Fan speed control from the control panel.
- Tracking the set operating control logic while turning the unit on and off.
- Unit operation according to daily and week schedule.

Overheating protection of the electric heating elements.

Designation key

Series	Rated air flow, m³/h	Heater type	Phase	Integrated control system
VENTS MPA	800; 1200; 1800; 2500; 3200; 3500; 5000	**E**: electric; **W**: water	**1**: single phase; **3**: three phase	**LCD**: integrated automation with A16 control panel (MPA...E) or A13 (MPA...W)

Accessories


Silencer


Water mixing unit


Air coolers


Air flow controller


Flexible connectors


Electric actuators


Replaceable filters

- Disabling electric heater operation when the fans are not running.
- Electric heater overheating protection by two overheating thermostats, one thermostat activated at 60 °C with automatic reset and another thermostat activated at 90 °C with automatic reset.
- Actuating the air damper.
- Input for alarm fire fighting signal.
- Input from external humidity sensor, CO_2 sensor, etc (normally opened dry contact). On sensor's output signal the unit switches to the maximum speed.

MPA...W control and protection functions

- Switching the unit motor on/off.
- Three-speed fan selection.
- Maintaining set supply air temperature by means of controlling the circulating pump and heat medium regulating valve.
- Water heater freezing protection by the temperature sensor at outlet from the heating coils and the return heat medium temperature sensor.
- Control and regulation of the external circulation pump installed at the heat medium supply line to the water heater (mixing unit pump).
- Control of the compressor and condensing unit of the water cooler by the room temperature sensor (for the models equipped with a duct air cooler).
- Supply fan control and regulation.
- Filter clogging control.
- Actuating the external air damper with a return spring.
- Unit shut down at signal from the fire alarm system.

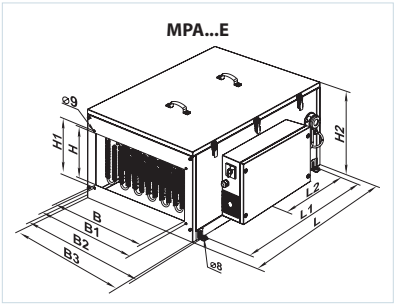
The mixing units USWK are recommended for smooth supply air temperature regulation in the units equipped with water heaters. The mixing unit USWK with three-way heat medium regulating valve and circulation pump provides smooth heating capacity regulation and minimizes the water heater freezing danger.

Mounting

The supply unit can be mounted on the floor, suspended to the ceiling by means of a seat angle with a flexible connector or fixed to the wall using brackets. The unit can be installed either in such service spaces as balcony, storeroom, basement, roof space or in main premises above the suspended ceiling, in the pocket or placed directly in the room. The unit can be mounted in any position but the vertical one with air downstream because the heating elements are not allowed under the fan. Access for the unit maintenance and filter cleaning shall be provided.

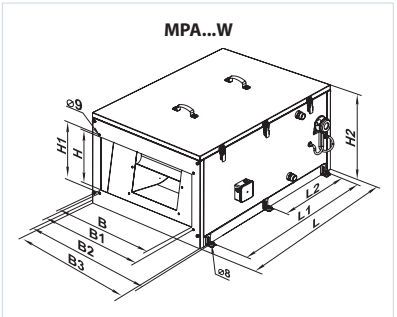
Unit overall dimensions

Type	Dimensions [mm]									
	B	B1	B2	B3	H	H1	H2	L	L1	L2
MPA 800 E1	400	420	549	500	200	220	352	650	530	–
MPA 1200 E3	400	420	549	500	200	220	352	650	530	–
MPA 1800 E3	500	520	649	600	250	270	480	800	680	–
MPA 2500 E3	500	520	649	600	300	320	480	800	680	–
MPA 3200 E3	600	620	759	710	300	320	530	1000	880	440
MPA 3500 E3	600	620	759	710	350	370	530	1000	880	440



Unit overall dimensions

Type	Dimensions [mm]									
	B	B1	B2	B3	H	H1	H2	L	L1	L2
MPA 800 W	400	420	549	500	200	220	352	650	530	–
MPA 1200 W	400	420	549	500	200	220	352	650	530	–
MPA 1800 W	500	520	649	600	250	270	480	800	680	–
MPA 2500 W	500	520	649	600	300	320	480	800	680	–
MPA 3200 W	600	620	759	710	300	320	530	1000	880	440
MPA 3500 W	600	620	759	710	350	370	530	1000	880	440
MPA 5000 W	800	820	971	925	500	520	670	1299	720	360



Technical data

	MPA 800 E1	MPA 800 W	MPA 1200 E3*	MPA 1200 W*
Voltage [V/50 Hz]	1~230		3~400	1~230
Maximum fan power [W]	245		410	
Fan current [A]	1.08		1.8	
Electric heater power [kW]	3.3	–	9.9	–
Electric heater current [A]	14.3	–	14.3	–
Number of water (glycol) coil rows	–	4	–	4
Total unit power [kW]	3.55	0.245	9.94	0.410
Total unit current [A]	15.38	1.08	16.1	1.8
Air flow [m^3/h]	800	750	1200	1200
RPM [min^{-1}]	1650		1850	
Noise level at 3m [dBA]	35		38	
Transported air temperature [°C]	-25...+40	-25...+40	-25...+40	-25...+40
Casing material	aluzinc		aluzinc	
Insulation	25 mm mineral wool		25 mm mineral wool	
Filter	G4		G4	
Connected air duct size [mm]	400x200		400x200	
Mass [kg]	36.2	41.3	38.9	42.8

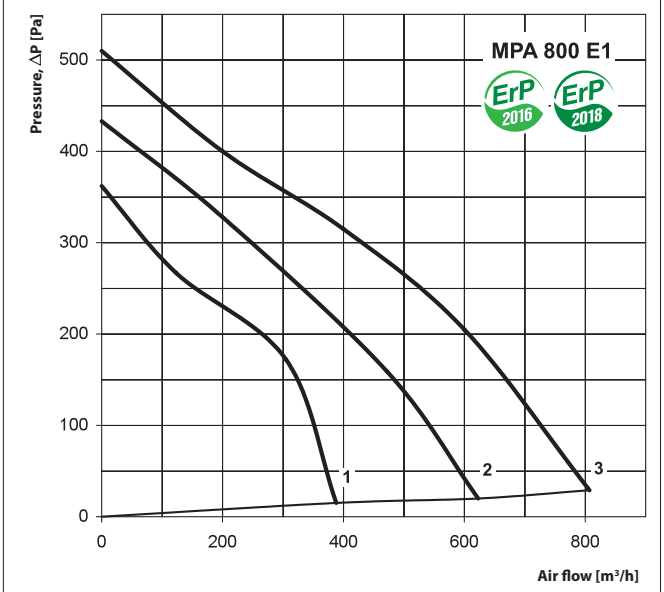
Technical data

	MPA 1800 E3*	MPA 1800 W*	MPA 2500 E3*	MPA 2500 W*
Voltage [V/50 Hz]	3~400	1~230	3~400	1~230
Maximum fan power [W]	490		650	
Fan current [A]	2.15		2.84	
Electric heater power [kW]	18.0	–	18.0	–
Electric heater current [A]	26.0	–	26.0	–
Number of water (glycol) coil rows	–	4	–	4
Total unit power [kW]	18.49	0.490	18.65	0.650
Total unit current [A]	28.15	2.15	28.84	2.84
Air flow [m^3/h]	2000	1870	2500	2150
RPM [min^{-1}]	1100		1000	
Noise level at 3m [dBA]	40		45	
Transported air temperature [°C]	-25...+40	-25...+40	-25...+40	-25...+40
Casing material	aluzinc		aluzinc	
Insulation	25 mm mineral wool		25 mm mineral wool	
Filter	G4		G4	
Connected air duct size [mm]	500x250		500x300	
Mass [kg]	61.5	62.5	62	63

Technical data

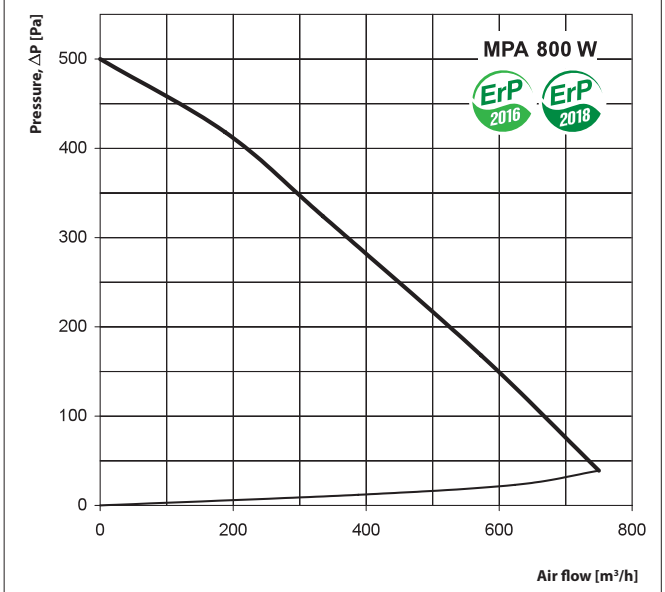
	MPA 3200 E3*	MPA 3200 W*	MPA 3500 E3*	MPA 3500 W*	MPA 5000 W*
Voltage [V/50 Hz]	3~400Y		3~400Y		3~400
Maximum fan power [W]	1270		1270		1800
Fan current [A]	2.3		2.3		4.5
Electric heater power [kW]	25.2	–	25.2	–	–
Electric heater current [A]	36.4	–	36.4	–	–
Number of water (glycol) coil rows	–	4	–	4	4
Total unit power [kW]	26.47	1.270	26.47	1.270	1.80
Total unit current [A]	38.7	2.3	38.7	2.3	4.5
Air flow [m³/h]	3200	3000	3500	3250	6500
RPM [min⁻¹]	1200		1200		1400
Noise level at 3m [dBA]	53		53		55
Transported air temperature [°C]	-25...+40		-25...+40		-25...+40
Casing material	aluzinc		aluzinc		aluzinc
Insulation	25 mm mineral wool		25 mm mineral wool		
Filter	G4		G4		G4
Connected air duct size [mm]	600x300		600x350		800x500
Mass [kg]	69,4	73,2	69.3	73,1	136

VENTS MPA...E



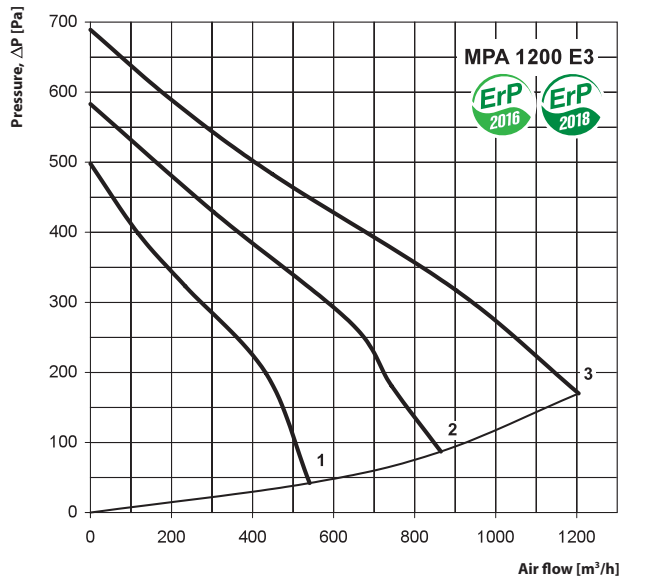
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	63	66	63	63	61	56	53	50	41
L_{wA} to outlet	dBA	64	67	65	64	56	61	56	51	46
L_{wA} to environment	dBA	39	42	56	43	36	34	28	24	22

VENTS MPA...W



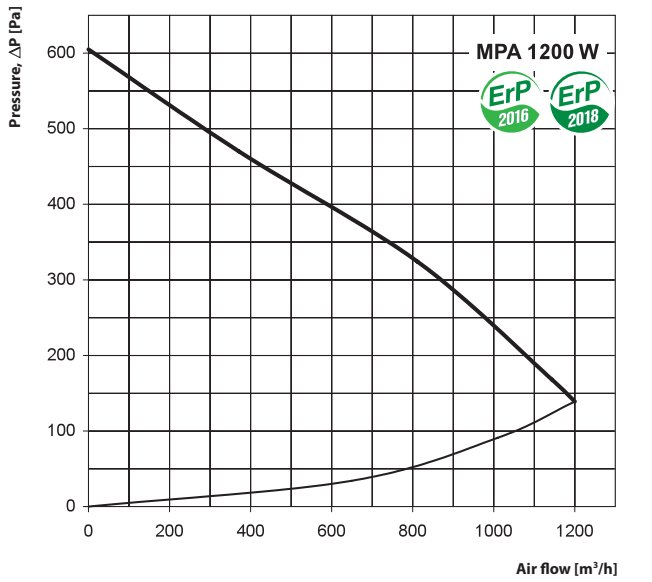
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	62	64	62	60	62	54	56	50	44
L_{wA} to outlet	dBA	61	67	65	63	59	59	55	52	45
L_{wA} to environment	dBA	38	45	55	42	36	34	26	24	21

VENTS MPA...E



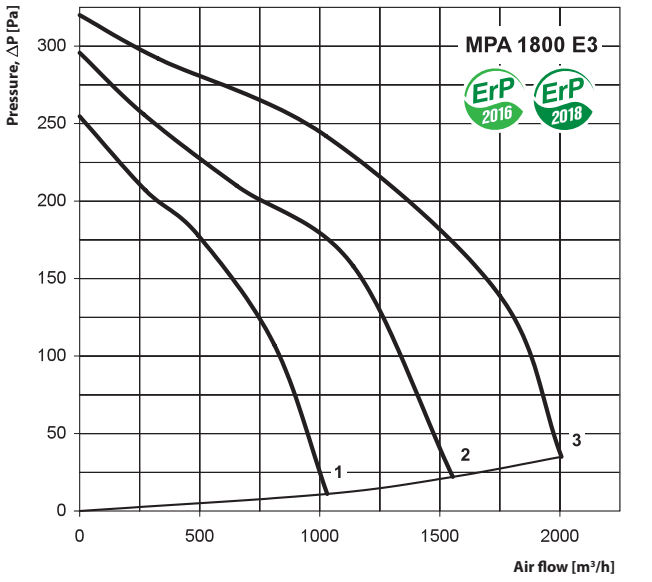
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	67	66	66	68	66	60	63	60	55
L_{WA} to outlet	dBA	72	71	70	68	68	65	60	60	57
L_{WA} to environment	dBA	45	55	54	48	52	40	37	34	35

VENTS MPA...W



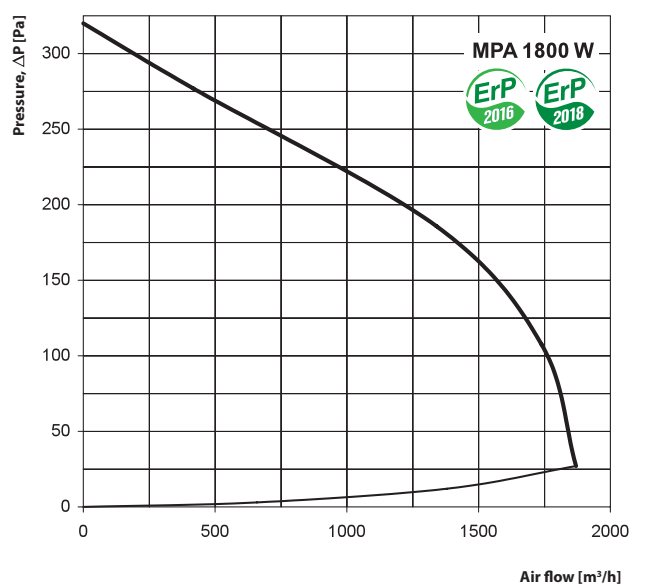
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	71	70	68	66	68	62	61	61	56
L_{WA} to outlet	dBA	71	68	69	67	64	67	62	61	57
L_{WA} to environment	dBA	48	56	54	48	53	40	39	35	33

VENTS MPA...E



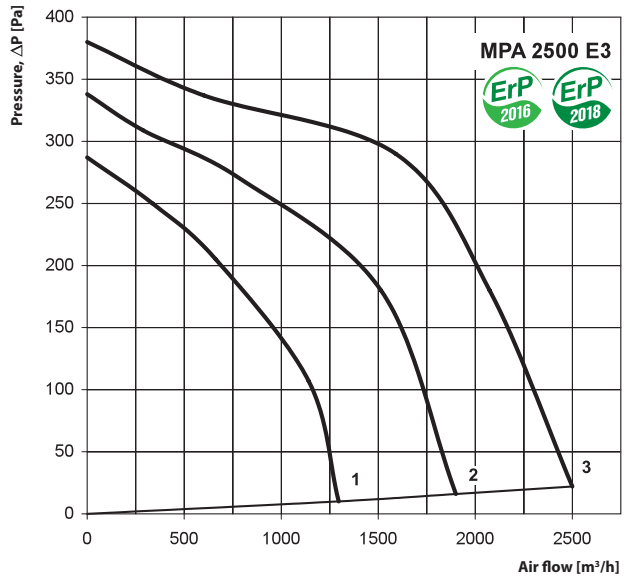
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	74	79	76	74	67	67	64	64	54
L_{WA} to outlet	dBA	75	82	78	74	68	73	66	70	67
L_{WA} to environment	dBA	52	64	62	54	48	44	40	36	34

VENTS MPA...W



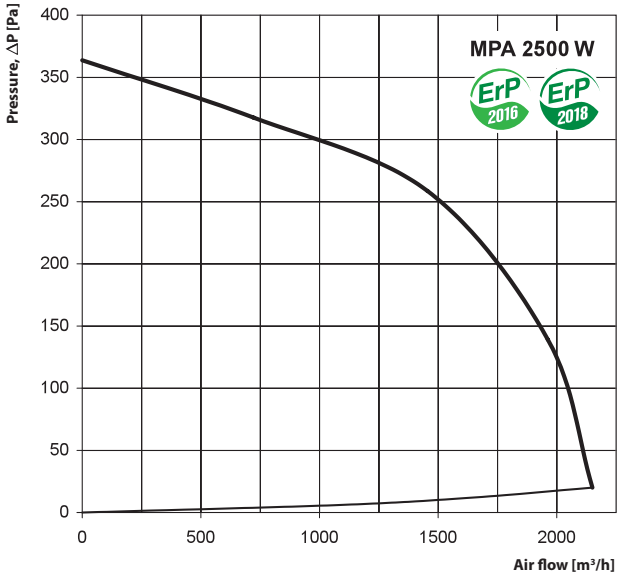
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{WA} to inlet	dBA	73	78	77	77	67	68	62	63	57
L_{WA} to outlet	dBA	75	79	78	74	68	73	66	69	66
L_{WA} to environment	dBA	51	63	61	54	47	44	40	37	33

VENTS MPA...E



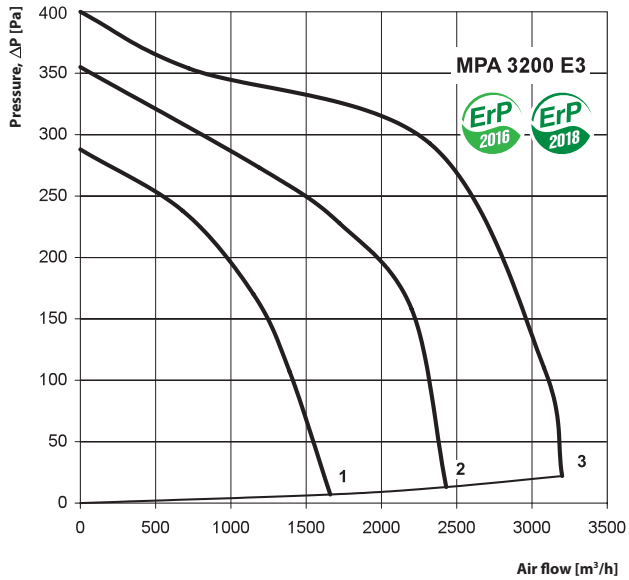
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	79	82	80	80	70	70	66	66	58
L_{wA} to outlet	dBA	82	82	84	79	75	79	74	71	68
L_{wA} to environment	dBA	55	67	68	61	54	48	45	40	37

VENTS MPA...W



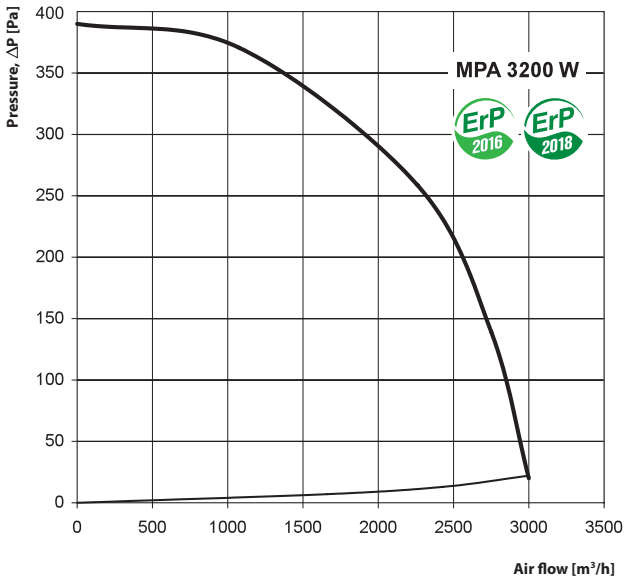
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	77	81	83	78	71	72	67	66	59
L_{wA} to outlet	dBA	80	86	81	79	75	77	71	75	68
L_{wA} to environment	dBA	54	68	65	59	51	50	45	41	40

VENTS MPA...E



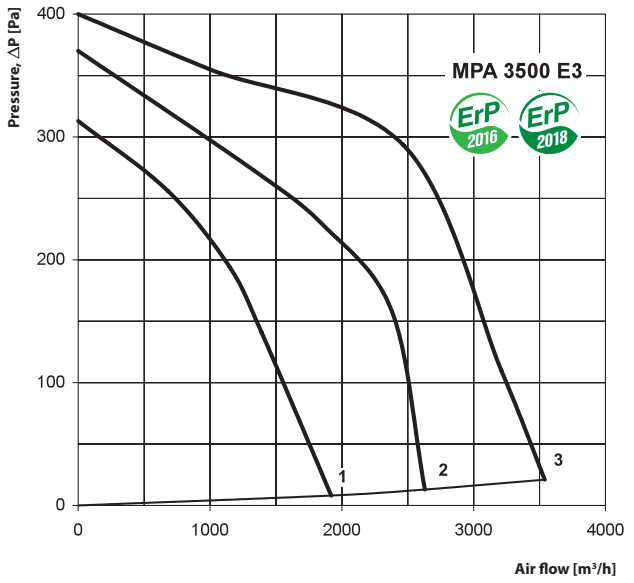
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	82	85	84	83	76	77	73	73	68
L_{wA} to outlet	dBA	86	83	83	83	82	80	72	73	70
L_{wA} to environment	dBA	63	68	64	67	55	55	52	45	45

VENTS MPA...W



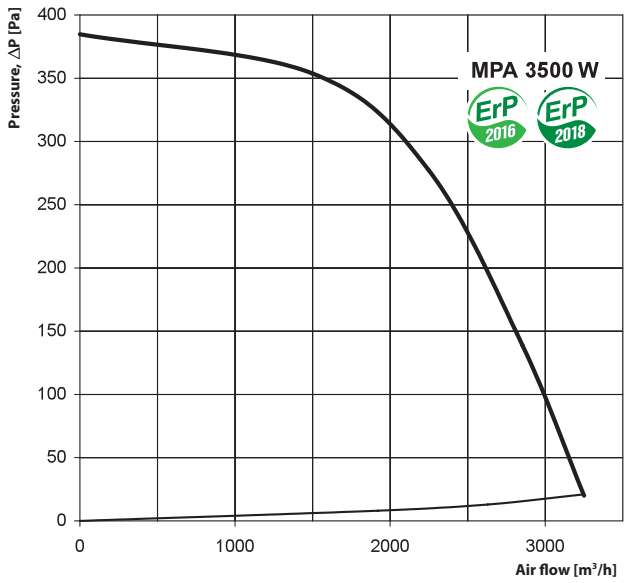
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	83	86	86	81	76	75	75	72	68
L_{wA} to outlet	dBA	86	86	83	85	81	77	74	75	72
L_{wA} to environment	dBA	63	66	68	71	58	51	50	45	44

VENTS MPA...E



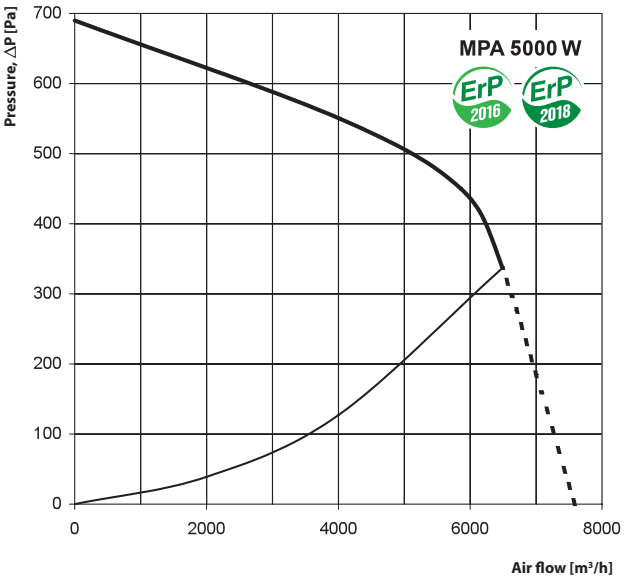
Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	82	85	88	85	77	77	75	72	70
L_{wA} to outlet	dBA	87	86	83	85	84	79	72	75	71
L_{wA} to environment	dBA	62	68	67	71	56	51	50	47	43

VENTS MPA...W



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	84	84	86	85	77	76	73	71	69
L_{wA} to outlet	dBA	84	83	84	83	82	80	72	75	73
L_{wA} to environment	dBA	60	67	66	71	54	55	50	45	45

VENTS MPA...W



Sound-power level		Octave-frequency band [Hz]								
	Hz	Gen	63	125	250	500	1000	2000	4000	8000
L_{wA} to inlet	dBA	79	89	86	85	77	74	66	61	54
L_{wA} to outlet	dBA	85	90	92	88	79	76	71	65	56
L_{wA} to environment	dBA	68	82	79	75	68	62	55	52	43

Accessories to supply units

Type	Replaceable filter	Filter type
MPA 800 E1 MPA 1200 E3	SF 442x275x47 G4	panel filter
MPA 1800 E3 MPA 2500 E3	SF 390x545x47 G4	panel filter
MPA 3200 E3 MPA 3500 E3	SF 653x440x47 G4	panel filter
MPA 800 W MPA 1200 W	SF 442x275x47 G4	panel filter
MPA 1800 W MPA 2500 W	SF 390x545x47 G4	panel filter
MPA 3200 W MPA 3500 W	SF 653x440x47 G4	panel filter
MPA 5000 W	SFK 868x573x27 G4	pocket filter

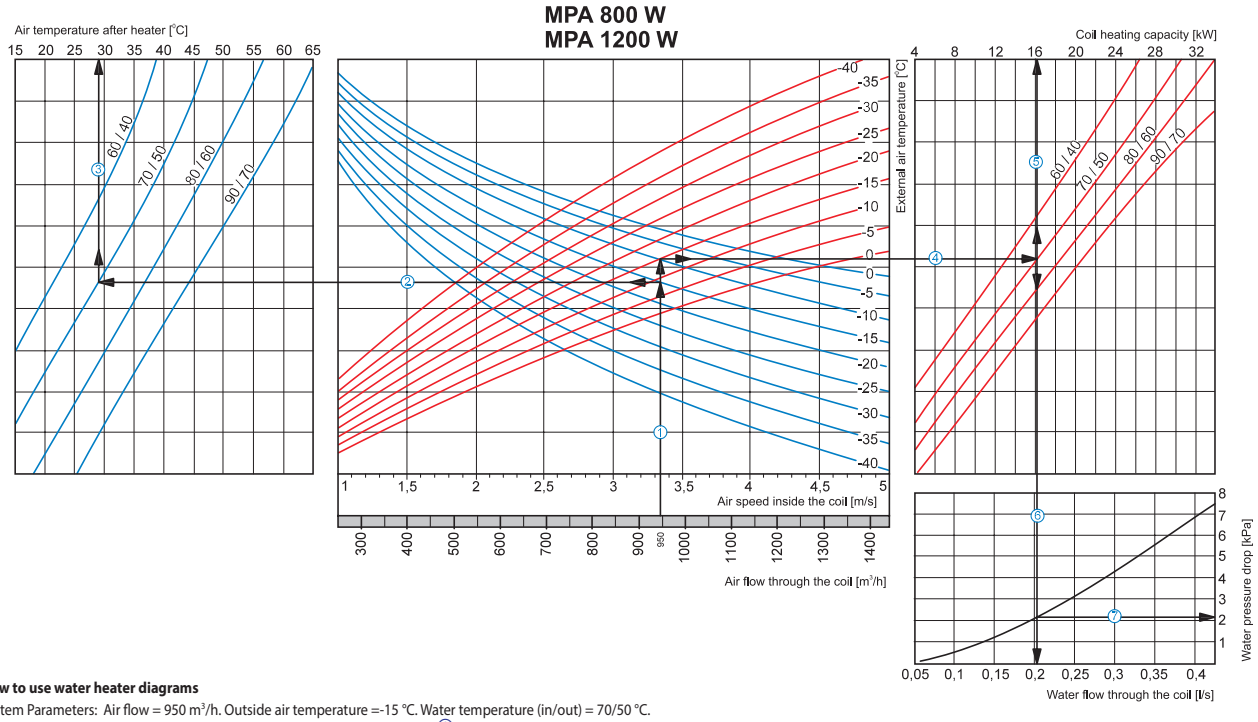
Office ventilation example

Air supply and exhaust ventilation in the modern office can be arranged as follows. Air handing MPA unit, exhaust fan complying with MPA unit characteristics, intake and exhaust main air ducts are mounted in the hall behind the suspended ceiling. The branchings are laid into the office premises and air distribution units. Intake air from outside flows through the external grille, is filtered in the air handling unit, heated to the required temperature and supplied to the office rooms through the branch duct system. Exhaust air is extracted outside through the external grille by means of the exhaust fan. Thus the office has the permanent fresh air supply, controllable air exchange, no draughts when opened windows, no dust and no noise.

MPA unit office air exchange example

Hot water coil parameters

VENTS MPA...W

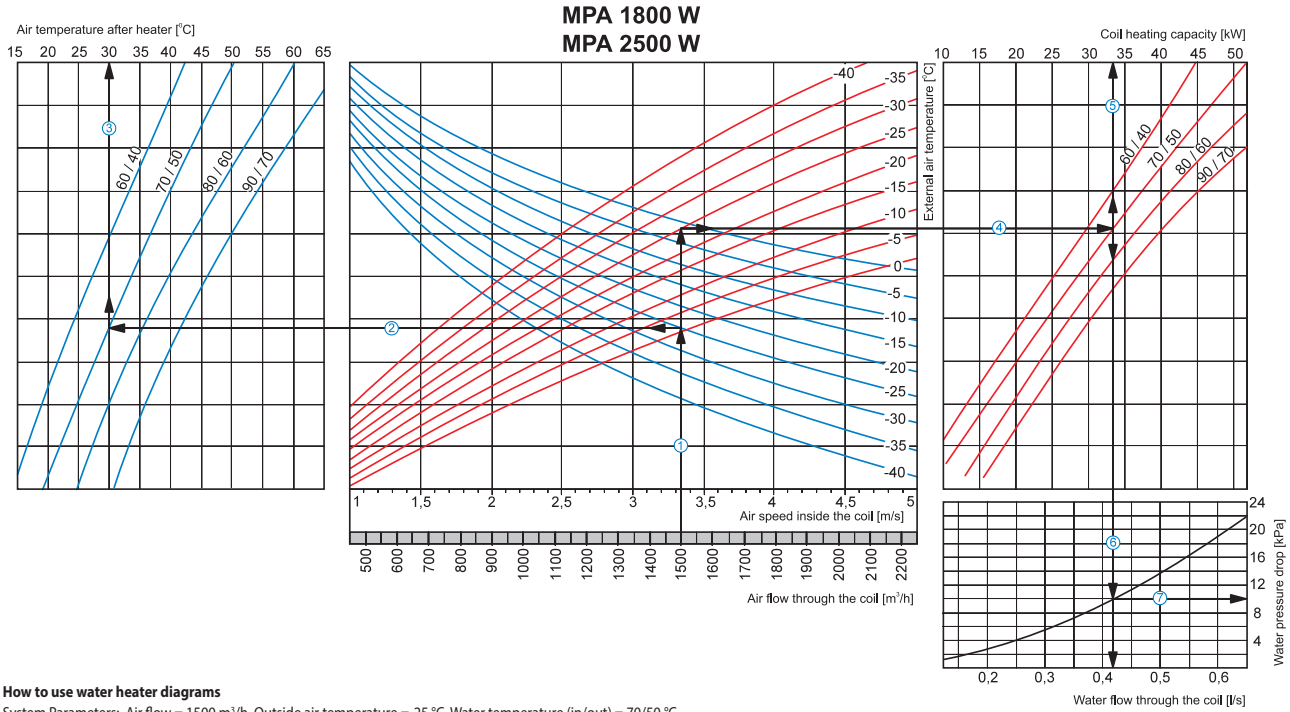


How to use water heater diagrams

System Parameters: Air flow = 950 m³/h. Outside air temperature =-15 °C. Water temperature (in/out) = 70/50 °C.

- Air Speed. Starting from 950 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.35 m/s.
- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -15 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+29 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature -15 °C (red curve) and draw a horizontal line ④ from this point to the right until it crosses water in/out temperature curve (70/50 °C), from here draw a vertical line ⑤ up to the scale representing the heating coil capacity (16 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.2 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (2.1 kPa).

VENTS MPA...W



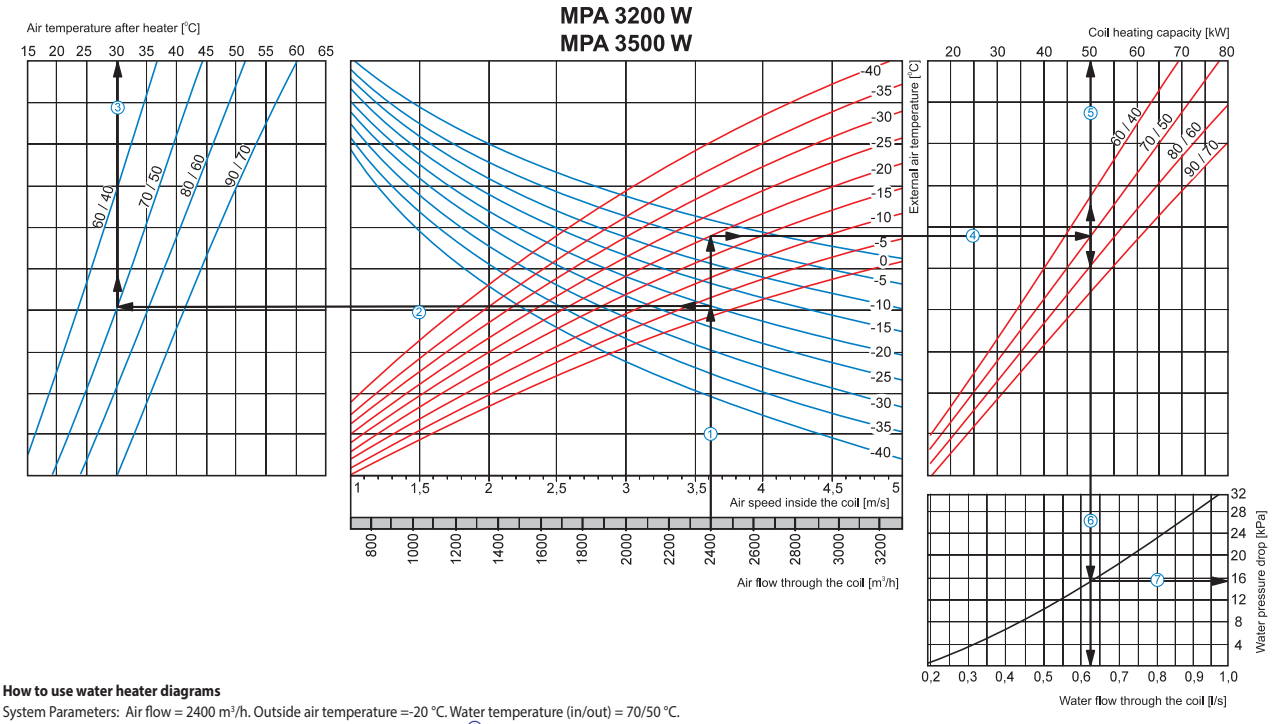
How to use water heater diagrams

System Parameters: Air flow = 1500 m³/h. Outside air temperature =-25 °C. Water temperature (in/out) = 70/50 °C.

- Air Speed. Starting from 1500 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about (3.3 m/s).
- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -25 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+30 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature -25 °C (red curve) and draw a horizontal line ④ from this point to the right until it crosses water in/out temperature curve (70/50 °C), from here draw a vertical line ⑤ up to the scale representing the heating coil capacity (33.0 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic ⑥ (0.42 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (10.0 kPa).

Hot water coil parameters

VENTS MPA...W



How to use water heater diagrams

System Parameters: Air flow = 2400 m³/h. Outside air temperature =-20 °C. Water temperature (in/out) = 70/50 °C.

- Air Speed. Starting from 2400 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 3.61 m/s.
- Supply air temperature. Prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -20 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+30 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature indicated as red curve (e.g., -20 °C) and draw a horizontal line ④ from this point to the right to the intersection of water in/out temperature curve (e.g., 70/50 °C). From this point draw a vertical line ⑤ up to the scale of heating coil capacity (50.0 kW).
- Water flow. Prolong the line ⑥ down to water flow axis at the bottom of the graphic (0.62 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (15.0 kPa).

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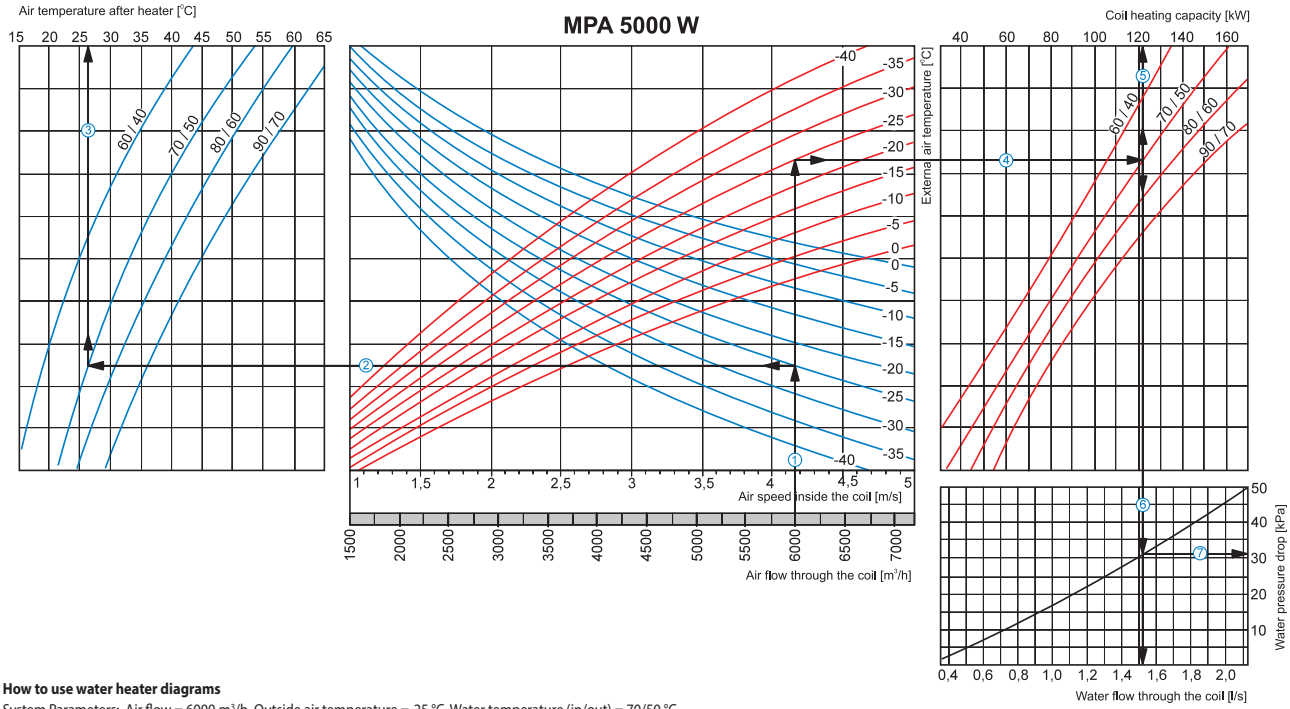

How to use water heater diagrams

System Parameters: Air flow = 6000 m³/h. Outside air temperature =-25 °C. Water temperature (in/out) = 70/50 °C.

- Air Speed. Starting from 6000 m³/h on the air flow scale draw a vertical line ① till the air speed axis which makes about 4.15 m/s.
- Supply air temperature. prolong the line ① up to the point where it crosses the outside air temperature (blue curve), e.g. -25 °C; then draw a horizontal line ② from this point to the left till crossing water in/out temperature curve (70/50 °C). From this point draw a vertical line ③ to the supply air temperature axis on top of the graphic (+27 °C).
- Heating coil capacity. Prolong the line ① up to the point where it crosses the outside air temperature -25 °C (red curve) and draw a horizontal line ④ from this point to the right until it crosses water in/out temperature curve (70/50 °C), from here draw a vertical line ⑤ up to the scale representing the heating coil capacity (121 kW).
- Water flow. Prolong the line ⑤ down to water flow axis at the bottom of the graphic (6) (1.52 l/s).
- Water pressure drop. Draw the line ⑦ from the point where line ⑥ crosses the black curve to the pressure drop axis. (31.0 kPa).