

VENTILATION SYSTEMS

PWD and PD roof fan units

Roof fan units are intended for assembly to 380 x 380 and 380 x 210 mm openings which are located in the top plates of **SZB IT**, **SZE2 PC** and **Z-SERVER** cabinets.

In the standard version, the units are equipped with 2 or 4 fans, an illuminated switch, fuse, power cord (without plug) and integrated thermostat (optional, depending on panel type).



PWD-4W



PWD-4W with integrated thermostat



PWD-2W



PWD-2W with integrated thermostat



PD-2W

TECHNICAL DATA

Parameter	Type of fan unit		
	PWD-4W	PWD-2W	PD-2W
Power supply voltage	220-240 V~ 50 Hz		
Rated current [A]	0.56	0.28	0.28
Number of fans	4	2	2
Power rating [W]	88	44	44
Capacity [m³/h]	660	330	330
Ambient temperature [°C]	from -10 to +70		
Relative humidity [%]	from 20 to 80		
Protection degree	IP 20 (refers to fan units mounted in the cabinet)		
Electric shock protection	neutralization		

Enclosure material

PWD-4W and PWD-2W fan units - plastic.
PD-2W fan unit - sheet steel.

Enclosure colour

Light grey (RAL 7035) or black (RAL 9005)

Scope of delivery

Fan unit with power cord (without plug) and fixing accessories.

Fans used in fan units:

PW, PWD and PD fan units are provided with high quality fans with ball bearings.

TECHNICAL DATA OF ONE FAN:

- voltage rating 220-230 V AC
- frequency 50 Hz
- power rating 22 W
- rated current 0.14 A
- rotation speed 2850 1/min
- noise level ca. 45 dB
- pressure 75 Pa
- air flow 165 m³/h
- durability min. 50 000 h
- dimensions 119 x 119 x 38 mm

Type of fan unit	Number of fans	For opening's dimensions [mm]	Catalogue number	
			RAL 7035	RAL 9005
PWD-4W	4	380 x 380	WN-0200-06-01-011	WN-0200-06-01-161
PWD-4W with integrated thermostat	4	380 x 380	WN-0200-06-04-011	WN-0200-06-04-161
PWD-2W	2	380 x 380	WN-0200-07-01-011	WN-0200-07-01-161
PWD-2W with integrated thermostat	2	380 x 380	WN-0200-07-04-011	WN-0200-07-04-161
PD-2W	2	380 x 210	WN-0200-03-00-011	WN-0200-03-00-161

Package: 1 pc.

VENTILATION SYSTEMS



PW-3U3 fan unit

Fan unit 3 U high, intended for assembly on 19" mounting profiles or in 19" swing frames.

In the standard version, the unit is equipped with 3 fans, operation mode switch, fuse, socket for connecting the thermostat and socket for connecting additional PW-3U3 fan units (the maximum number of panels connected to the common power supply are 3 pieces).

Rectangular openings to fasten thermostats are on front, back and top of the panel.



Operation mode switch:

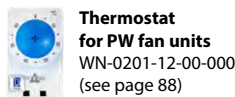
I - continuous work

0 - fans off

II - switching by thermostat

External thermostat in position II switches on the fans and power up additional C13 socket.

It is possible to connect with one thermostat up to 3 panels to common power supply or control next panels with additional thermostats.



Thermostat for PW fan units
WN-0201-12-00-000
(see page 88)



C7 socket for connecting the thermostat



C14 socket for connecting the power cord

C13 socket for connecting additional PW-3U3 fan units

TECHNICAL DATA

Parameter	PW-3U3 fan unit
Power supply voltage	220-240 V~ 50 Hz
Rated current	0.42 A
Fuse type	WTA-T 5x20 250 V
Fuse protection	1.6 A
Number of fans	3
Rated power	66 W
Air flow	490 m ³ /h
Noise level	55 dBA
Current and power consumption tolerance	+/-15%
Working temperature	from -10 to +70 °C
Relative humidity	20-80% (without condensing)
Protection degree	IP 20
Protection class	I
Net weight	2.45 kg

Enclosure material

Sheet steel powder painted.

Enclosure colour

Black (RAL 9005).

Scope of delivery

PW-3U3 fan unit with fixing accessories.

Thermostat, power cord and connecting cords are ordered separately.

Product name	Catalogue number
PW-3U3 fan unit	WN-3050-00-161
Power cord 1.8 m Unischuko-C13	M1T-02-1300
Power cord 2.5 m Unischuko-C13	M1T-02-1301
Cord connecting panels 0.5 m C14-C13	M1T-02-1302
Cord connecting panels 1 m C14-C13	M1T-02-1303
Thermostat for PW fan units	WN-0201-12-00-000

Package: 1 pc

Power cords Unischuko-C13



2.5 m
M1T-02-1300



1.8 m
M1T-02-1301

Cords connecting panels C14-C13



1 m
M1T-02-1303



0.5 m
M1T-02-1302

VENTILATION SYSTEMS

Thermostat

Thermostats are used for controlling fan units, heaters and heat exchangers; they can also be used as signal generators for monitoring the internal temperature of the enclosure.

TECHNICAL DATA

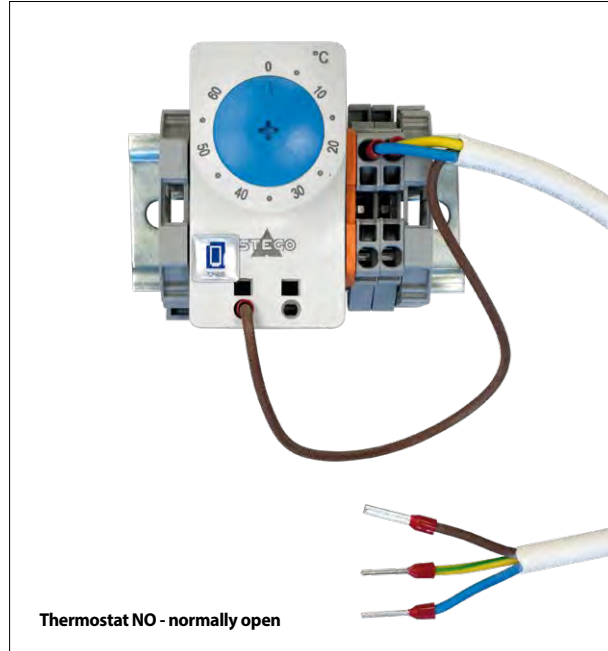
Parameter	Thermostat
Sensor element	thermal bimetal
Temperature range	0-60°C, hysteresis ca. 7 °C
Contact type	snap action contact
Power carrying capacity	6 A (1) 250 V AC
Radio frequency interference	N (according to VDE 0875)

Scope of delivery

Thermostat, DIN rail, cable without plug, 2 holders, 2 terminal blocks.

Product name	Knob colour	Catalogue number
Thermostat NO - normally open Switches on ventilation system (e. g. fans) at selected temperature limit.	●	WN-0201-01-00-000/A
Thermostat NC - normally closed Switches off devices (e. g. heaters) at selected temperature limit.	●	WN-0201-02-00-000/A

Package: 1 pc.



Hygrostat

Electric regulator of humidity controls air humidity, switches on fans, heaters or air conditioning units.

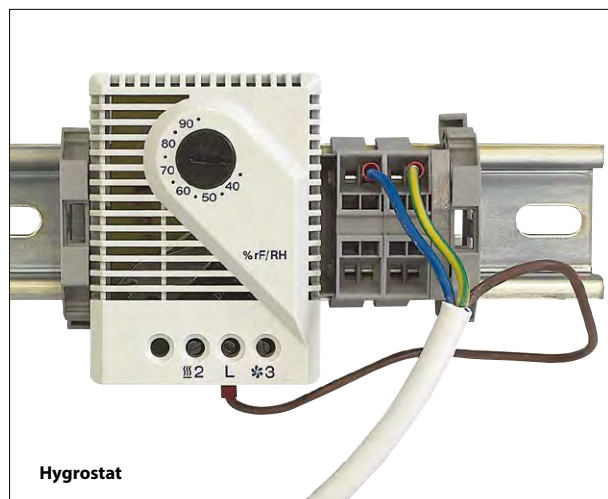
TECHNICAL DATA

Parameter	Hygrostat
Measuring range	35-95% of relative humidity
Hysteresis referred to 50 % RH	about 4% of relative humidity
Maximum voltage	250 V AC
Minimum load	100 mA, 20 V DC/AC
Maximum resistive load	5 A, 230 V
Maximum inductive load cos q = 0,8	0.2 A, 230 V AC
Maximum inductive load L/R = 3 ms	1 A to 50 V DC 0.5 A to 75 V DC

Scope of delivery

Hygrostat, DIN rail, cable without plug, 2 holders, 2 terminal blocks.

Package	Catalogue number
1 pc	WN-0201-03-00-000/A



AIR-CONDITIONING SYSTEMS



Closed circuit
- cooling with side heat exchanger



Open circuit
- cooling with row heat exchangers

In Data Center facilities the right temperature, humidity and quality of air delivered by precision cooling devices are the most important factors ensuring operational continuity of computational units. Precision air conditioning is essential for providing proper microclimate 24 hours a day throughout the year.

ZPAS air conditioning portfolio can be divided according to air flow concepts and cooling agent. Our offer encompasses both air conditioners for single cabinets, side and row heat exchangers, as well as precision air-conditioning cabinets for server rooms.

Side and row heat exchangers

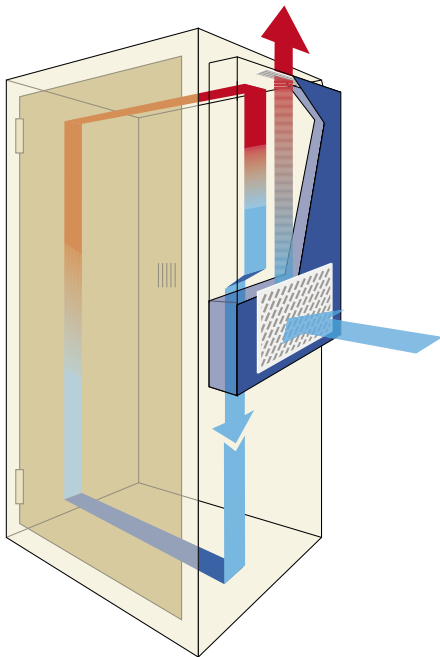
Nowadays, data centres are usually cooled by means of cool air inlets running under the access floor or through direct blow of cold air into the room, which can lead to mixing of cold and hot air, thus, compromising the air conditioning efficiency. Uneven distribution of equipment in terms of generated heat can also create hot spots. By using row or side heat exchangers, you can avoid these problems and provide an optimal environment for electronic equipment.

KEY FEATURES AND FUNCTIONAL PROPERTIES

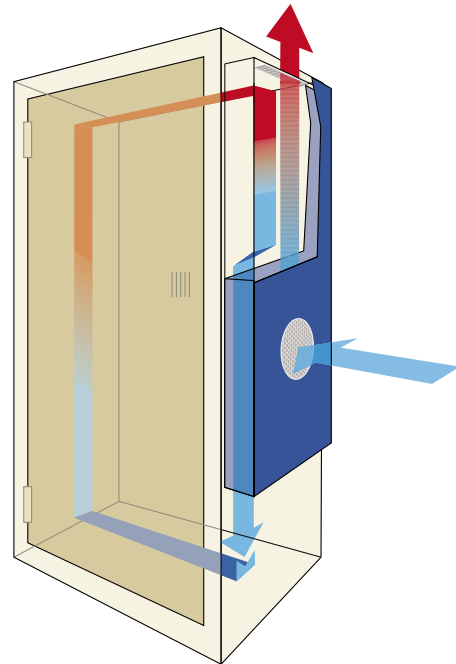
- Easy mounting without any interference inside the cabinet.
- Constant, even flow of air.
- Shortening the path that cold air travels to active devices.
- Direct removal of hot air from active devices.
- Exchanger redundancy N+1 easily achieved.
- Cooling agent supply from the top or from the bottom of the heat exchanger.
- Heat exchangers suitable for 42, 45 and 47 U cabinets as well as for cabinets of 1000 mm and 1200 mm in depth.
- Possibility to replace filters "on the fly".
- Allows for collecting condensate and removing it outside mechanically using a condensate extraction pump.
- Inputs for hydraulic connections making it possible to connect at the top or at the bottom of the heat exchanger.
- Temperature and humidity measurement.
- Advanced controller that controls various modes of exchanger operation.
- Communication via Ethernet.

Separate air-conditioning units

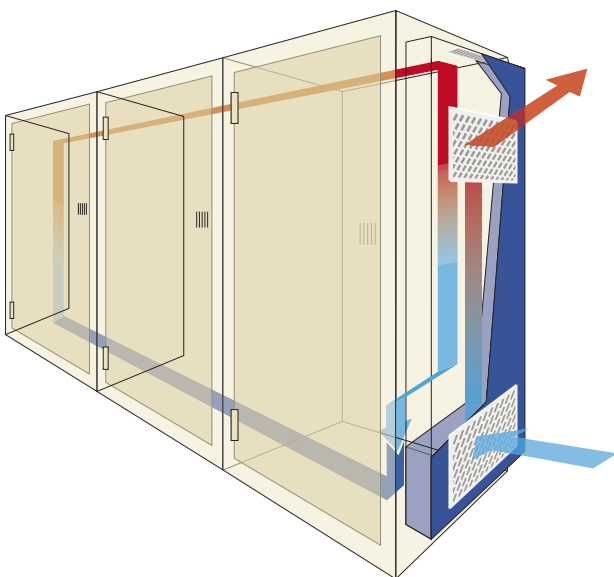
Separate air-conditioning units make up a group of air-conditioning equipment designed for RACK type cabinets. Separate air-conditioning units make additional devices delivering air into the cabinet unnecessary. Selection of the air conditioner should be consulted with ZPAS customer service.



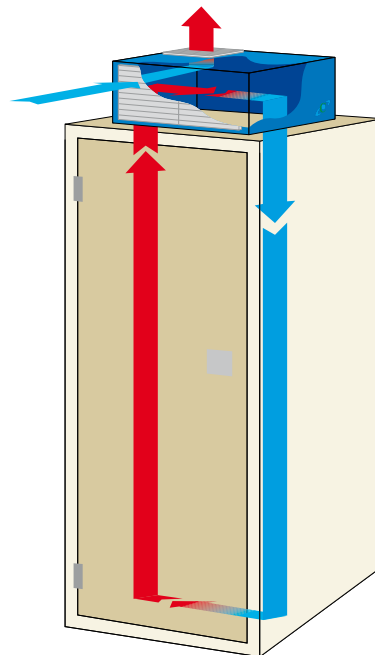
PROTHEM
Air-conditioning unit mounted on the cabinet's side panel. Cooling capacity ranging from 360 to 5600 W



SLIM
Air-conditioning unit mounted on the cabinet's door or side panel. Cooling capacity: from 500 to 3000 W



MODULE
Air-conditioning unit intended for cooling more than one cabinet. Mounted on the side of a system of combined cabinets. Cooling capacity ranging from 5800 to 10000 W



TOP
Rooftop air-conditioning unit. Cooling capacity ranging from 330 to 5200 W