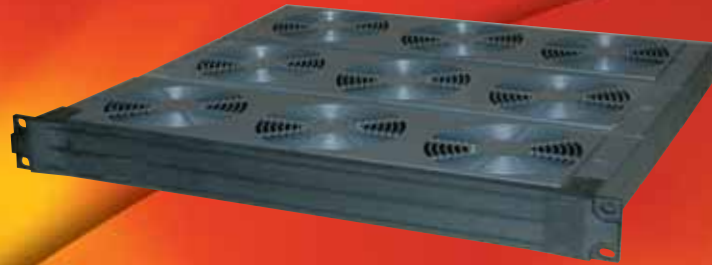




Air conditioning technology



Air conditioning units

from page 79

- standard applications and individual solutions for all our cabinets and wall-mounting enclosures with protection class IP 54
- low servicing costs thanks to filterless technology
- extremely compact unit sizes with high efficiency

Plastic fan module

from page 80

- for high-volume ventilation of enclosures or cabinets
- compact dimensions
- easy assembly
- sophisticated modularity protected by a utility patent
- also available as speed-controlled variants
- 19"-compatible



apra cooling system

from page 82

- air/water heat exchanger
- optimum cooling for server racks with a high packing density
- up to 56 KW
- precision air conditioning for data centres

Air conditioning units

- optimum temperature for maximum efficiency
- standard applications and individual solutions for virtually all our cabinets and wall-mounting enclosures with protection class IP 54
- subsequent installation of cooling devices: the units are supplied ready to use (drilling template and mounting material included in the scope of delivery).
- low servicing costs thanks to filterless technology
- extremely compact unit sizes with high efficiency
- heat build-up inside the cabinet is prevented by the continual circulation of cabinet air.
- all units use CFC-free refrigerant
- Cooling capacity acc. to EN814 Ta35Ti35
- integrated electronic control unit and thermostat

Finish: RAL 7035 light grey

Material:

enclosure: sheet metal
front panels: plastic

Scope of delivery:

- operating instructions
- mounting materials including drilling template
- connector plug

Cooling units with higher specifications and systems with a water recool unit are also available on request.



Cooling system order information

Cooling units for wall mounting/installation				
Cooling capacity W	Voltage / frequency V/Hz	Dimensions H x W x D mm	Noise level dB(A)*	Order no.
380	230 / 50-60	460 x 285 x 180	60	235-200-08
1050	230 / 50-60	950 x 400 x 233	65	235-200-07
2050	230 / 50-60	1265 x 400 x 236	65	235-200-05
2900	230 / 50-60	1270 x 500 x 336	70	235-200-18
3850	230 / 50-60	1270 x 500 x 336	70	235-200-19
Top mounted cooling units				
410	230 / 50-60	264 x 259 x 486	60	235-200-10
1550	230 / 50-60	415 x 401 x 567	65	235-200-12
2050	230 / 50-60	415 x 401 x 567	65	235-200-14
3850	230 / 50-60	496 x 492 x 797	75	235-200-22

The noise level of the cooling units is measured acc. to EN ISO 3744, but it does not take into account the installation conditions of the units on the rack. Therefore the noise level can be considerably higher due to the operating environment and installation conditions.

Heating system order information

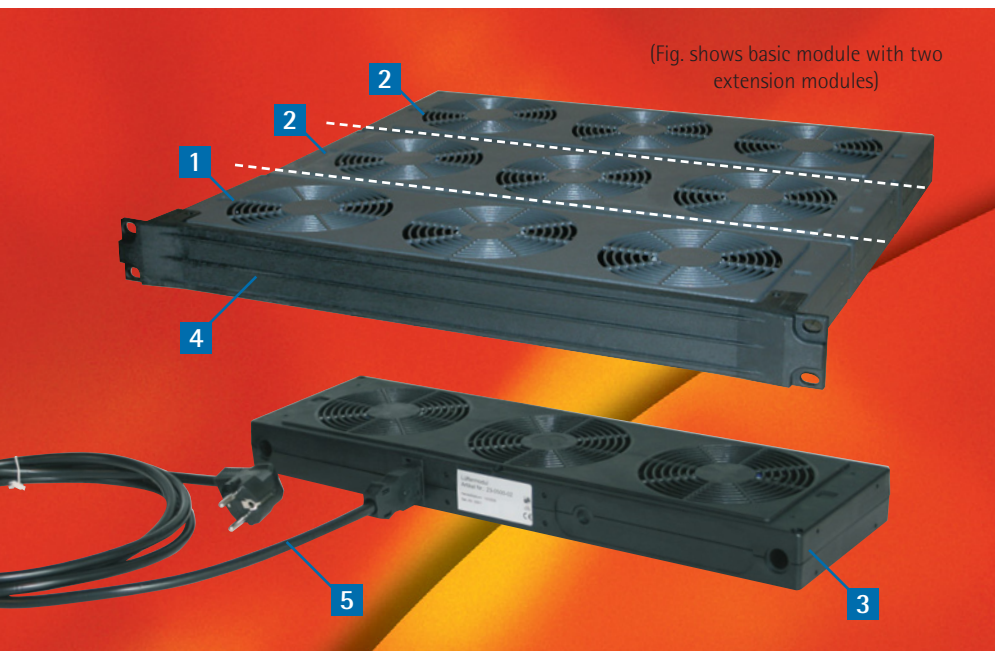
Cabinet heating systems (excl. thermostat)			
Heat capacity W	Voltage/frequency V / Hz	Dimensions (H x W x D) mm	Order no.
100	230 / 50 - 60	182 x 70 x 50	235-200-09
150	230 / 50 - 60	262 x 70 x 50	235-200-06
Heater fan (incl. thermostat)			
350	230 / 50 - 60	165 x 100 x 128	235-200-27

Thermostat for cabinet heating 0-60 °C

640-104-03



230 • Plastic fan module



(Fig. shows basic module with two extension modules)

Plastic fan module

- incomparably light
- low-cost
- easy assembly
- sophisticated modularity protected by a utility patent
- suitable for all applications relating to enclosure and cabinet technology
- can be installed in just a few steps in a 19" grid using the 19" mounting kit.
- long service life and high system reliability due to high-quality fans
- integrated fan cover
- by using state-of-the-art plastics of class UL94 V-0, the new system meets the highest fire safety requirements.

The **basic module 1** is available as a 1, 2 or 3-fan unit and has 8 fixing points, which enable installation for any application and location. Power is supplied via a plug contact at the back of the enclosure. This plug contact enables preconfigured cables and thermometers to be used (see accessories) and of course also provides you with an interface to your own cable configuration.

The **extension module 2** is also available as a 1, 2 or 3-way unit and is a pluggable multi-way extension for the basic fan module. The mechanical connection of the modules is realised via aluminium guide pins (included in the scope of delivery). The extension module has a plug connector on the front and a socket on the back. Series linking in this way enables the electrical connection between the modules to be established automatically.


Finish: black (similar to RAL 9005 jet black)

Material: plastic, fire class to UL 94 V-0

Fan module "standard"

Description	Dimensions (H x W x D) mm	Air flow rate, unimpeded	Order no.	
			Basic module 1	Extension module 2
1-way	44 x 450 x 140	115m ³ /h	230-500-01	230-500-11
2-way	44 x 450 x 140	230m ³ /h	230-500-02	230-500-12
3-way	44 x 450 x 140	345m ³ /h	230-500-03	230-500-13

Fan module „silent“ (cannot be combined with extension module!)

Description	Dimensions (H x W x D) mm	Air flow rate, unimpeded	Noise Level	Order no. 2
 low-noise	44 x 450 x 140	340 m ³ /h	45,5 dB(A)/20μPa	230-500-43

Accessories

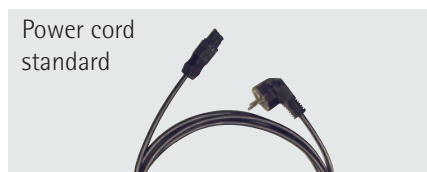
19" installation kit, 1 U 4



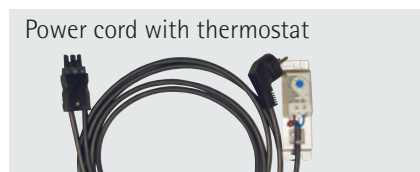
Material: plastic
Finish: RAL 9005 jet black
Dimens. (H x W x D): 44 x 450 x 146 mm

Order no.
230-500-70

Power cord cables 5



Power cord standard

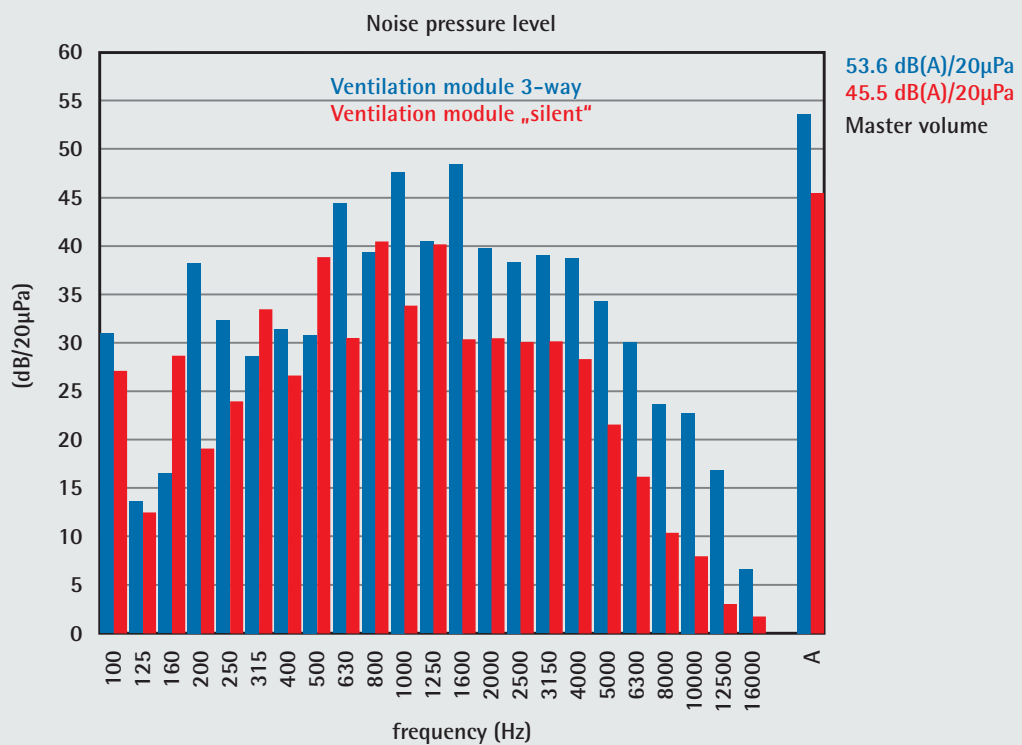
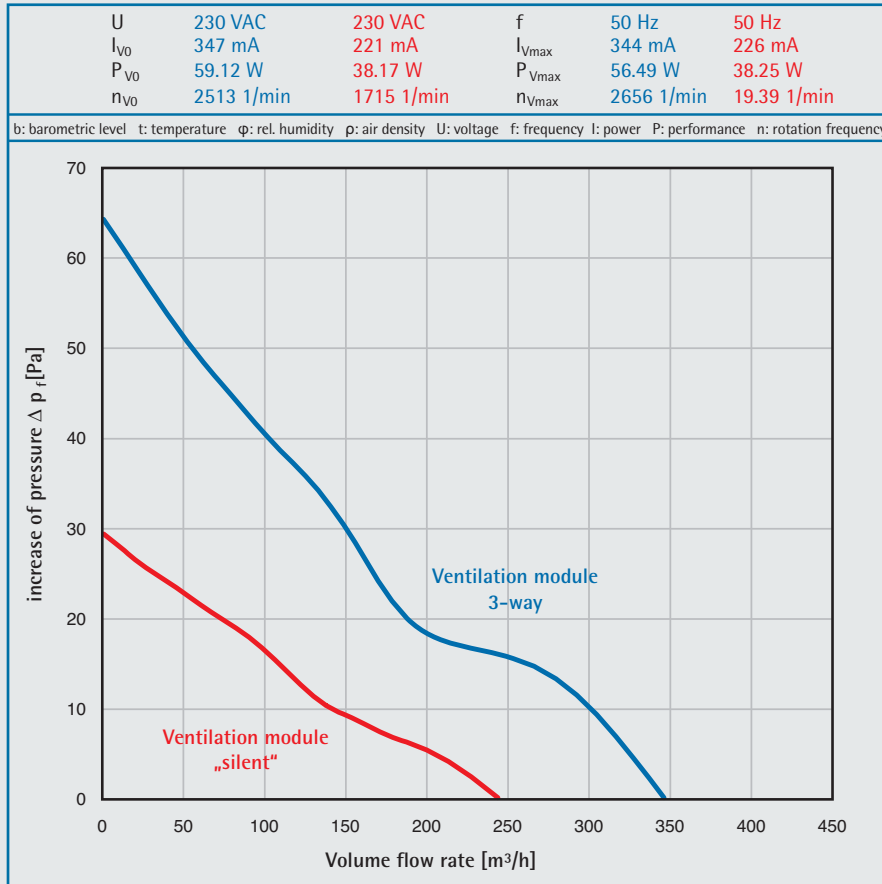


Power cord with thermostat

Type of connection	Length	Power cord, standard	Power cord with thermostat 0-60 °C
Earthing-pin plug	3 m	640-044-05	230-500-04
IEC connector	3 m	230-500-15	230-500-05
Without plug for fixed connection	3 m	230-500-16	230-500-06



Fan characteristics





apra cooling system "Cyber Row"

Optimum air conditioning of the server racks in conjunction with a cooling/heating corridor system

- horizontal air routing in front of the racks: cold air reaches the rack by the shortest route
- electronic control: controls and monitors all components inside and outside of the air conditioning device which are required for cooling generation
- three EC-fans independent from each other and with infinite numbers of settings ensure maximum possible efficiency
- targeted cooling of high-density racks
- optimum air conditioning of a cooling/heating corridor system
- for data centres with and without raised floors
- complete system separation between IT rack and air conditioning technology
- cooling capacities up to 56 kW
- cold water cooling: The device requires separate cold water generation. The indoor air transported by the fans flows through the direct cooler which emits the heat to the cool water. The heat is then removed from the cooling water by a cold water unit. The air conditioning device and the cold water unit are connected by a closed cooling water circuit.

Also available as compressor cooling!



Order information

Model	CRS210CW	CRS320CW	CRS560CW
Height mm	1950	1950	1950
Depth mm	1200	1175	1175
Width mm	300	400	600
Cooling capacity k/W	20,9	32,2	56,0
Air flow rate m ³ /h	4500	6000	10.800
Water volume flow m ³ /h	3,6	5,5	9,6
Order no.	235-200-73	235-200-60	235-200-65



www.apranet.de

apra cooling system "Sidecooler"

- the „Sidecooler“ was especially developed for cooling server racks with high packing densities and through the targeted air routing inside the cabinet ensures the reliable cooling of all servers
- high cooling capacity, even at high flow temperatures
- horizontal air routing throughout the entire height of the cabinet works to optimum effect and is extremely effective in conjunction with servers in a 19" design
- very space-saving due to compact design
- all water-carrying components are located outside the server cabinet.
- the system works with a closed air circuit in the rack and is therefore independent of its environment
- the air routing can be either via one or both sides, if there is mounting between two racks



Order information

Model	Sidecooler 1000	Sidecooler 1200
Height mm	2000	2000
Depth mm	800 (1000)	800 (1200)
Width mm	300	300
Cooling capacity k/W	19.3	19.3
Air flow rate m ³ /h	3600	3600
Water volume flow m ³ /h	3.3	3.3
Order no.	235-200-70	235-200-75



230 • Mounted fan



1 Mounted fan

- for high-volume ventilation of enclosures or cabinets
- compact dimensions
- setup height just 73 mm
- easy assembly
- connection via terminal strip
- protection class IP 44

Finish: RAL 7032 pebble grey
Material: plastic, fire class to UL 94 V-0

Order no.
230-855-00

2 Filter unit

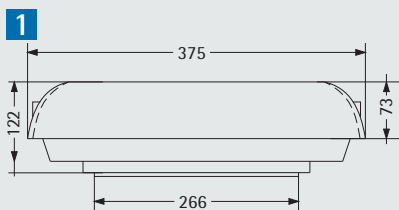
- as an add-on to the mounted fan
- used to clean the supply air

Finish: RAL 7032 pebble grey
Material: plastic, fire class to UL 94 V-0

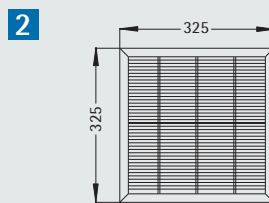
Order no.
230-855-10

Technical information

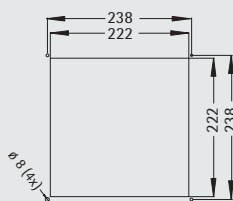
Parameters	Mounted fan
Air flow rate	1050 m ³ /h (at 50 Hz) / 1085 m ³ /h (at 60 Hz)
Operating voltage/frequency	230 V / 50 - 60 Hz
Dimensions (H x W x D)	106 x 375 x 375 mm
Rated output	120 W (at 50 Hz) / 155 W (at 60 Hz)
Rated consumption	0.52 A (at 50 Hz) / 0.65 A (at 60 Hz)
Winding protection	Inside the motor
Electrical connection	Terminal strip
On time	100 %
Area of application	-20 to +60 °C
Protection class to EN 60529	IP 44
Noise level	72 dB(A)
Air flow rate with below filter unit	700 m ³ /h (at 50 Hz) / 730 m ³ /h (at 60 Hz)
Direction of flow	From inside to outside



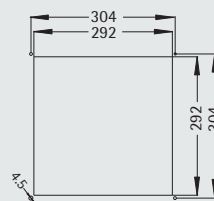
Mounted fan



Filter unit



Mounting hole pattern for mounted fan



Mounting hole pattern for filter unit

