MITSUBISHI ELECTRIC
HYDRONICS & IT COOLING SYSTEMS S.p.A.

IT COOLING

CLOSE CONTROL AIR CONDITIONERS

w-AV3

CHILLED WATER AIR CONDITIONERS FOR IT COOLING FROM 4 TO 25 kW

melcohit.com

CLIMAVENETA®

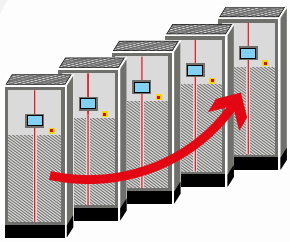
Climaveneta presents w-AV3: the new chilled water close control air conditioner designed for small and medium data centers.

w-AV3

The new chilled water unit is the result of the highest quality and reliability standards of Climaveneta applied to IT Cooling applications.

w-AV3 is a guarantee of precise, reliant and efficient air conditioning.

w-AV3



LAN FUNCTIONS: CONNECT UP TO 15 UNITS, WITH DYNAMIC MASTER

Advanced LAN logics manage up to 15 units and, in case of a master unit failure, another master will be elected automatically, for utmost dependability.

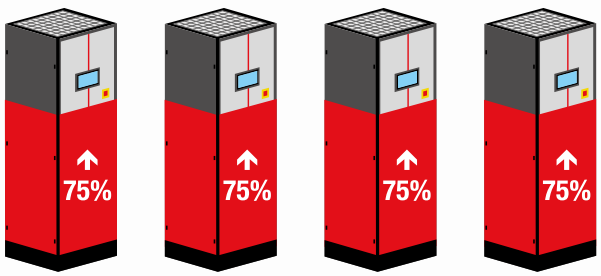
ADVANCED SOFTWARE WITH USER-FRIENDLY INTERFACE

New graphical user interface designed for a quick and intuitive navigation.

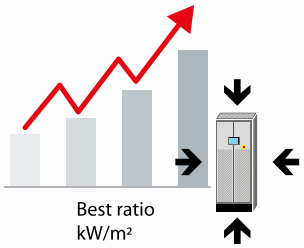
ACTIVE REDUNDANCY

Active Redundancy

Devoted group controls effectively share the load among all the connected units, leveraging on redundancy to reach higher efficiency.

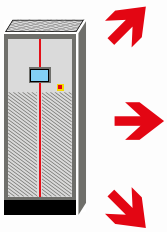


Higher efficiency, brilliantly embedded in a more compact layout.



HIGHER COOLING CAPACITY IN A COMPACT DESIGN

New compact design that reduces the overall footprint and ensures the best kW/m³ ratio on the market.



FLEXIBLE CHOICE OF AIR FLOW DIRECTION

Achieve any cooling requirement thanks to the possibility of choosing between 3 types of air delivery:
Front, top and bottom.

MAINTENANCE-FREE EC FANS

Plug fans with EC electric motor:
- Maintenance-free motor
- Impeller in aluminium which greatly reduces of power consumption.

QUICK INSTALLATION AND EASY MAINTENANCE

All components are integrated inside the unit for a plug and play installation.
Totally removable panelling on the front to facilitate maintenance.

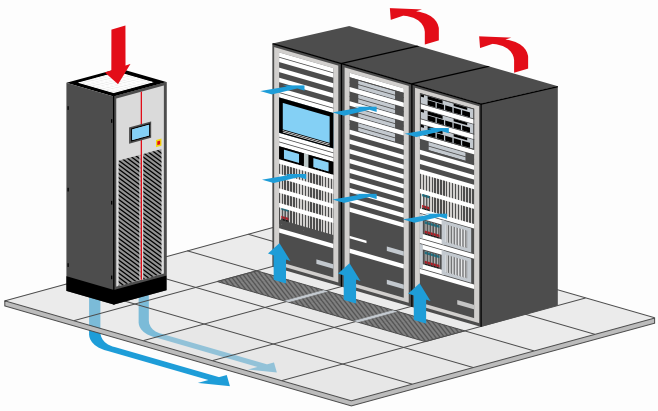
PLUG & PLAY SOLUTIONS

w-AV3 UNDER/OVER

Chilled Water Close Control Air Conditioner with upflow or downflow air delivery

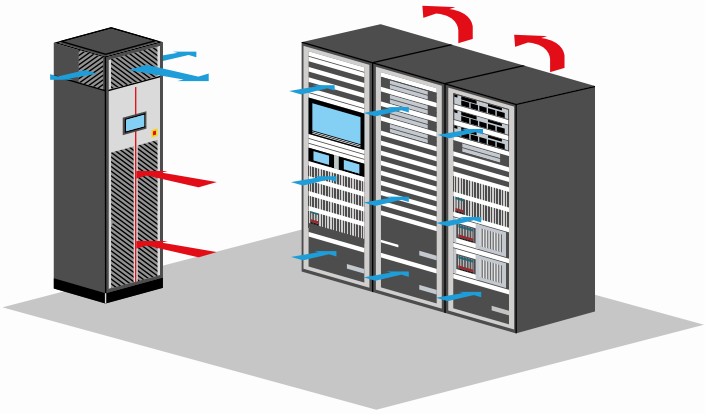
w-AV3 WITH DOWNFLOW AIR DELIVERY

The air distribution is from the bottom by means of the plenum between the building floor and the raised floor.
This solution is most favourable when the load is uniformly distributed in all areas of the room.



w-AV3 WITH UPFLOW AIR DELIVERY

The air distribution is from the top of the unit directly into the room by a plenum (or duct).
The supply air flow can be directed through the adjustable fins of the plenum grilles.



TYPICAL INSTALLATION: DATA CENTERS WITH OR WITHOUT RAISED FLOOR

w-AV3 UNDER/OVER

MODEL			6	9	11	13	16	22	26
SIZE			F1	F1	F1	F1	F2	F2	F2
VERSION	(1)		U/O	U/O	U/O	U/O	U/O	U/O	U/O
COOLING CAPACITY	(2)								
Total		kW	4.74	7.90	9.66	12.5	15.4	20.4	25.6
Sensible		kW	4.74	7.90	9.66	12.5	15.4	20.4	25.6
SHR	(3)		1.0	1.0	1.0	1.0	1.0	1.0	1.0
"EC" SUPPLY FAN		No.	1	1	1	1	2	2	2
Air flow		m3/h	1500	2200	2500	2700	4300	5000	5400
Nominal external static pressure		Pa	20	20	20	20	20	20	20
Maximum external static pressure		Pa	201	471	384	268	277	362	246
Power input	(4)	kW	0.07	0.21	0.32	0.45	0.40	0.68	0.95
COOLING COIL									
Water flow rate	(2)	m3/h	0.83	1.37	1.66	2.16	2.66	3.50	4.40
dP coil + valve	(2)	kPa	37.1	61.1	32.2	55.7	46.5	80.2	108
Water content		l	1.6	2.3	3.1	4.7	4.4	5.9	8.9
UNIT ELECTRIC DATA									
Electric panel power input		kW	0.015	0.015	0.015	0.015	0.015	0.015	0.015
SOUND LEVEL ISO 3744	(5)								
Pressure level		dB(A)	42	56	58	60	53	60	62
Power level		dB(A)	58	72	74	76	69	76	78
AIR FILTERS		No.	1	1	1	1	2	2	2
Extended filtering surface		m2	0.68	0.68	0.68	0.68	1.05	1.05	1.05
Efficiency (ISO EN 16890)		COARSE	60%	60%	60%	60%	60%	60%	60%
ENERGY EFFICIENCY INDEX	(2)								
EER Energy Efficiency Ratio		kW/kW	67.7	37.6	30.2	27.8	38.5	30.0	26.9
DIMENSIONS									
Length		mm	600	600	600	600	1000	1000	1000
Depth		mm	500	500	500	500	500	500	500
Height		mm	1980	1980	1980	1980	1980	1980	1980
NET WEIGHT OVER		kg	103	109	116	120	163	173	181
NET WEIGHT UNDER		kg	110	118	126	130	173	183	191
CONNECTIONS									
Cooling coil inlet/outlet – ISO 228/1-G		Ø	3/4"	3/4"	3/4"	1"	1+1/4"	1+1/4"	1+1/4"
Condensate	(6)	Ø mm	19	19	19	19	19	19	19
Power supply wiring cable	(7)	No. x mm2	3G1.5	3G1.5	3G1.5	3G1.5	3G1.5	3G1.5	3G1.5

The cooling capacity does not consider the supply fan motor thermal load

Notes:

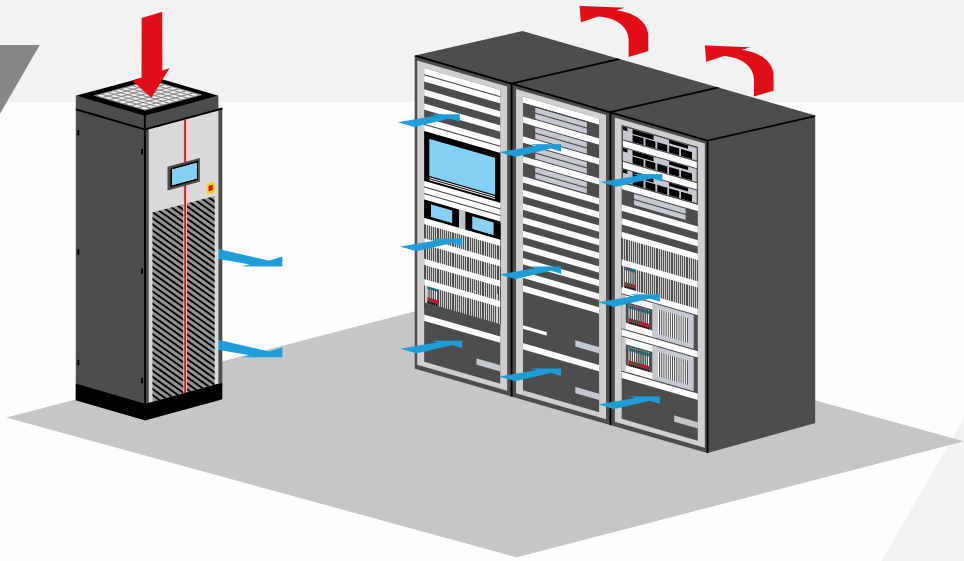
1 U = Under, downflow / O = Over, upflow.
2 Gross value. Characteristics referred to entering air at 26°C-40% RH; Chilled water temperature 10-15°C – glycol solution 0%; ESP=20Pa.
3 SHR = Sensible cooling capacity / Total cooling capacity.
4 Corresponding to the nominal ESP=20Pa.
5 Sound pressure level on air return at 1m.
6 Rubber pipe – referred to internal diameter.
7 Minimum section of the power cable for units without accessories.

w-AV3 DL DISPLACEMENT VERSION

Chilled Water Close Control Air Conditioner with front air delivery

w-AV3 WITH FRONT AIR DELIVERY

Suitable for server racks with vented front and rear doors.
Air suction is from the top of the unit and air delivery is horizontal into the cold aisle for cooling the racks
The hot air is expelled from the racks at the top or from the back.



TYPICAL INSTALLATION: DATA CENTER WITHOUT RAISED FLOOR

w-AV3 DL

MODEL			6	9	11	13	16	22	26
SIZE			F1	F1	F1	F1	F2	F2	F2
VERSION	(1)		DL	DL	DL	DL	DL	DL	DL
COOLING CAPACITY	(2)								
Total		kW	4.68	7.64	9.32	10.8	14.9	19.2	21.8
Sensible		kW	4.68	7.64	9.32	10.8	14.9	19.2	21.8
SHR	(3)		1.0	1.0	1.0	1.0	1.0	1.0	1.0
"EC" SUPPLY FAN		No.	1	1	1	1	2	2	2
Air flow		m3/h	1050	1540	1750	1750	3010	3500	3500
Nominal external static pressure		Pa	20	20	20	20	20	20	20
Maximum external static pressure		Pa	127	304	347	316	302	334	314
Power input	(4)	kW	0.06	0.18	0.26	0.28	0.33	0.53	0.56
COOLING COIL									
Water flow rate	(2)	m3/h	0.79	1.33	1.62	1.87	2.56	3.30	3.74
dP coil + valve	(2)	kPa	36.5	57.7	30.2	42.6	44.0	72.4	81.3
Water content		l	1.6	2.3	3.1	4.7	4.4	5.9	8.9
UNIT ELECTRIC DATA									
Electric panel power input		kW	0.015	0.015	0.015	0.015	0.015	0.015	0.015
SOUND LEVEL ISO 3744	(5)								
Pressure level		dB(A)	46	54	57	57	56	59	59
Power level		dB(A)	62	70	73	73	72	75	75
AIR FILTERS		No.	1	1	1	1	2	2	2
Extended filtering surface		m2	0.68	0.68	0.68	0.68	1.05	1.05	1.05
Efficiency (ISO EN 16890)		COARSE	60%	60%	60%	60%	60%	60%	60%
ENERGY EFFICIENCY INDEX	(2)								
EER Energy Efficiency Ratio		kW/kW	78.0	42.4	35.8	38.6	45.2	36.2	38.9
DIMENSIONS									
Length		mm	600	600	600	600	1000	1000	1000
Depth		mm	500	500	500	500	500	500	500
Height		mm	2120	2120	2120	2120	2120	2120	2120
NET WEIGHT		kg	116	121	130	134	182	187	195
CONNECTIONS									
Cooling coil inlet/outlet – ISO 228/1-G		Ø	3/4"	3/4"	3/4"	1"	1+1/4"	1+1/4"	1+1/4"
Condensate	(6)	Ø mm	19	19	19	19	19	19	19
Power supply wiring cable	(7)	No. x mm2	3G1.5	3G1.5	3G1.5	3G1.5	3G1.5	3G1.5	3G1.5

The cooling capacity does not consider the supply fan motor thermal load

Notes:

1 DL = Displacement air flow.
2 Gross value. Characteristics referred to entering air at 30°C-30% RH; Chilled water temperature 10-15°C – glycol solution 0%; ESP=20Pa.
3 SHR = Sensible cooling capacity / Total cooling capacity.
4 Corresponding to the nominal ESP=20Pa.
5 Sound pressure level on air return at 1m.
6 Rubber pipe – referred to internal diameter.
7 Minimum section of the power cable for units without accessories.

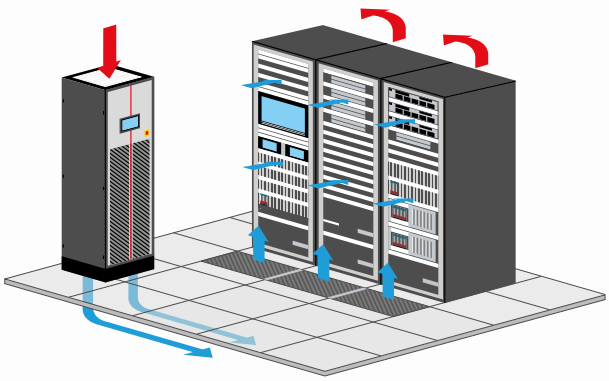
w-AV3 DF DUAL FLUID SYSTEM

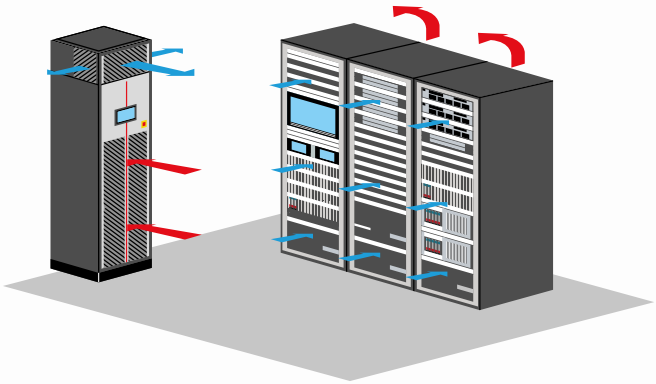
Chilled Water Close Control Air Conditioner with upflow or downflow air delivery

w-AV3 WITH UPFLOW OR DOWNFLOW AIR DELIVERY

The DUAL FLUID units allow the connection to two independent chilled water loops. The control automatically manages the use of the two cooling coils.

This solution represents the perfect choice to provide redundancy to the system or in case of heterogeneous cooling source availability (e.g. chillers and dry coolers).





TYPICAL INSTALLATION: DATA CENTERS WITH OR WITHOUT RAISED FLOOR

w-AV3 DF

MODEL			9	16
SIZE			F1	F2
VERSION	(1)		U / O	U / O
COOLING CAPACITY	(2)			
Total		kW	7,9	15,4
Sensible		kW	7,9	15,4
SHR	(3)		1.0	1.0
“EC” SUPPLY FAN		No.	1	2
Air flow		m3/h	2200	4300
Nominal external static pressure		Pa	20	20
Maximum external static pressure		Pa	445	241
Power input	(4)	kW	0.24	0.47
COOLING COIL				
Water flow rate	(2)	m3/h	1,36	2,65
dP coil + valve	(2)	kPa	61,1	46,5
Water content		l	2.3	4.4
UNIT ELECTRIC DATA				
Electric panel power input		kW	0.015	0.015
SOUND LEVEL ISO 3744	(5)			
Pressure level		dB(A)	56	53
Power level		dB(A)	72	69
AIR FILTERS		No.	1	2
Extended filtering surface		m2	0.68	1.05
Efficiency (ISO EN 16890)		COARSE	60%	60%
ENERGY EFFICIENCY INDEX	(2)			
EER Energy Efficiency Ratio		kW/kW	32,9	32,8
DIMENSIONS				
Length		mm	600	1000
Depth		mm	500	500
Height		mm	1980	1980
NET WEIGHT OVER		kg	116	177
NET WEIGHT UNDER		kg	125	187
CONNECTIONS				
Cooling coil inlet/outlet – ISO 228/1-G		Ø	3/4”	1+1/4”
Condensate	(6)	Ø mm	19	19
Power supply wiring cable	(7)	No. x mm2	3G1.5	3G1.5

The cooling capacity does not consider the supply fan motor thermal load

Notes:

1 U = Under, downflow / O = Over, upflow.
2 Gross value. Characteristics referred to entering air at 26°C-40% RH; Chilled water temperature 10-15°C – glycol solution 0%; ESP=20Pa.
3 SHR = Sensible cooling capacity / Total cooling capacity.
4 Corresponding to the nominal ESP=20Pa.
5 Sound pressure level on air return at 1m.
6 Rubber pipe – referred to internal diameter.
7 Minimum section of the power cable for units without accessories.

NEW TOUCH KEYBOARD

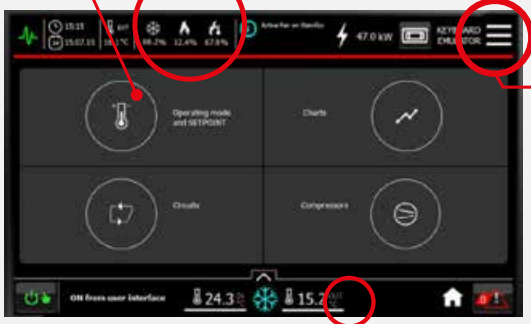
A completely redesigned interface improves the user experience.

The 7” touch screen display (opt.) with easy-to-read color graphics ensures the immediate visualization of the units’ status and provide simple alarms and event management.

Dedicated menus show the main operating parameters like temperature, humidity, and ventilation.

7” TOUCH DISPLAY

MULTILANGUAGE



INTUITIVE ICONS
for a better user experience

QUICK MENU ACCESS

REAL-TIME DISPLAY
of main operating variables

INNOVATIVE KIPLINK INTERFACE

Based on proprietary technology, KIPlink is an option that allows one to operate the unit directly from a mobile device smartphone, tablet, or notebook.

EASIER ON-SITE OPERATION

View and change all parameters thanks to an easy-to-understand interface and dedicated tooltips. Get devoted "help" messages for alarm reset and troubleshooting.

REAL-TIME GRAPHS AND TRENDS

Monitor the immediate labour status of main components. View the real-time graphs of the key operating variable trends.

DATA LOGGER FUNCTION

View history of events and use the filter for a simple search. Enhance diagnostics with data and graphs of 10 minutes before and after each alarm. Download all the data for detailed analysis.

KIPLINK CONNECTIVITY

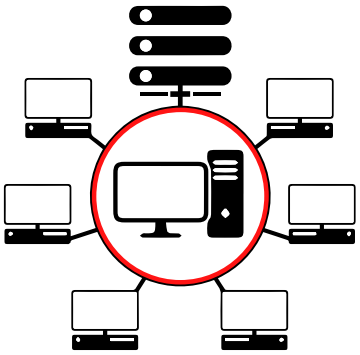
WI-FI KEYBOARD
Close to the unit with MEHITS APP access

MOBILE DEVICE

Direct access to the control is achieved by scanning the QR-code positioned on the front side of the unit.

REMOTE CONTROL
In local network (LAN) of building with internet browser

BROWSER



With a simple Ethernet connection, it is possible to connect KIPlink to the facility LAN and get full access to the unit's control with a browser.
All the menus and functions are available with total security.

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