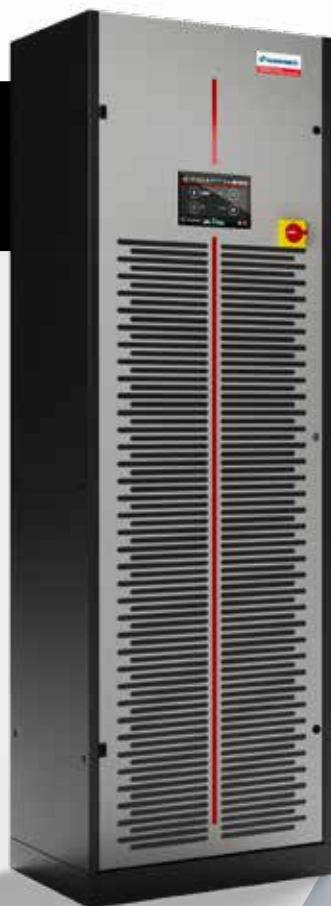


mitsubishi electric
HYDRONICS & IT COOLING SYSTEMS S.p.A.

IT COOLING

CLOSE CONTROL AIR CONDITIONERS

W-AV3



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

**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 UNDER/OVER

06/07

Chilled Water Close Control Air Conditioner with downflow air delivery

w-AV3 DL DISPLACEMENT VERSION

08/09

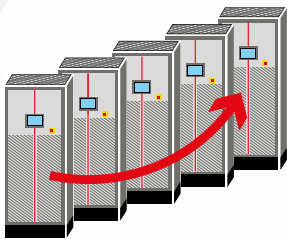
Chilled Water Close Control Air Conditioner with front air delivery

w-AV3 DF DUAL FLUID VERSION

10/11

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

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.



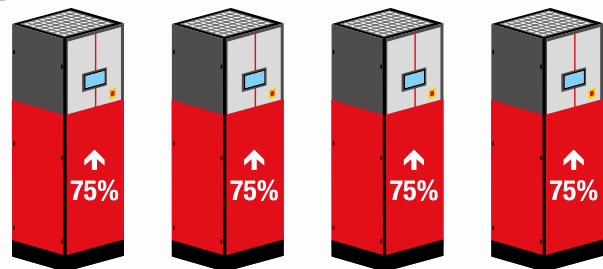
ADVANCED SOFTWARE WITH USER-FRIENDLY INTERFACE

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

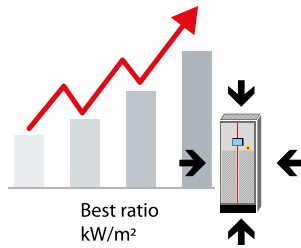
ACTIVE REDUNDANCY

Active
Redundancy

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

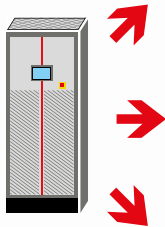


Higher efficiency, brilliantly embedded in a more compact layout.



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 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



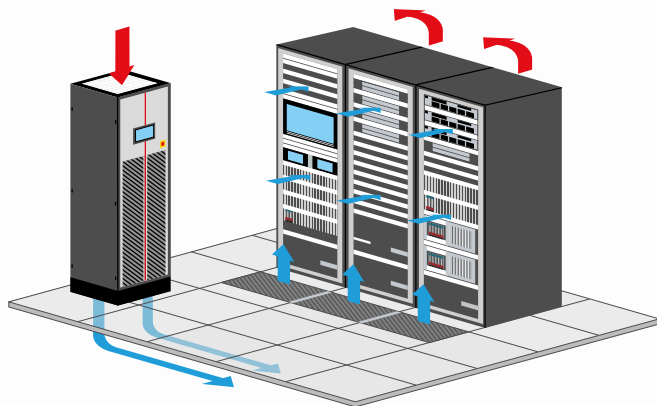
W-AV3 UNDER/OVER

**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.

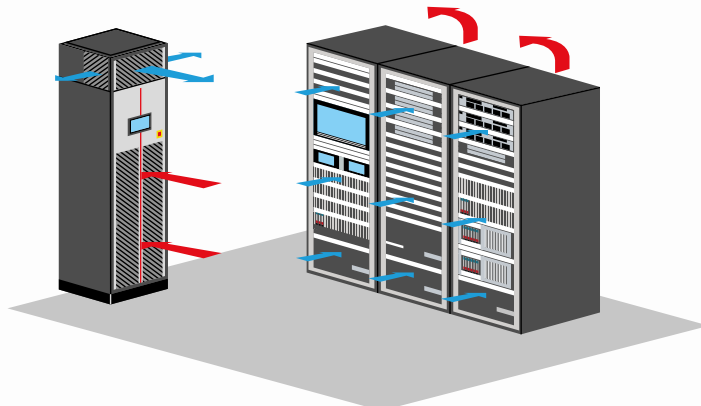
This solution is most favourable when the load is uniformly distributed in all areas of the room.



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	kW	(4)	0.07	0.21	0.32	0.45	0.40	0.68	0.95
COOLING COIL									
Water flow rate	m3/h	(2)	0.83	1.37	1.66	2.16	2.66	3.50	4.40
dP coil + valve	kPa	(2)	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	Ø mm	(6)	19	19	19	19	19	19	19
Power supply wiring cable	No. x mm2	(7)	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.

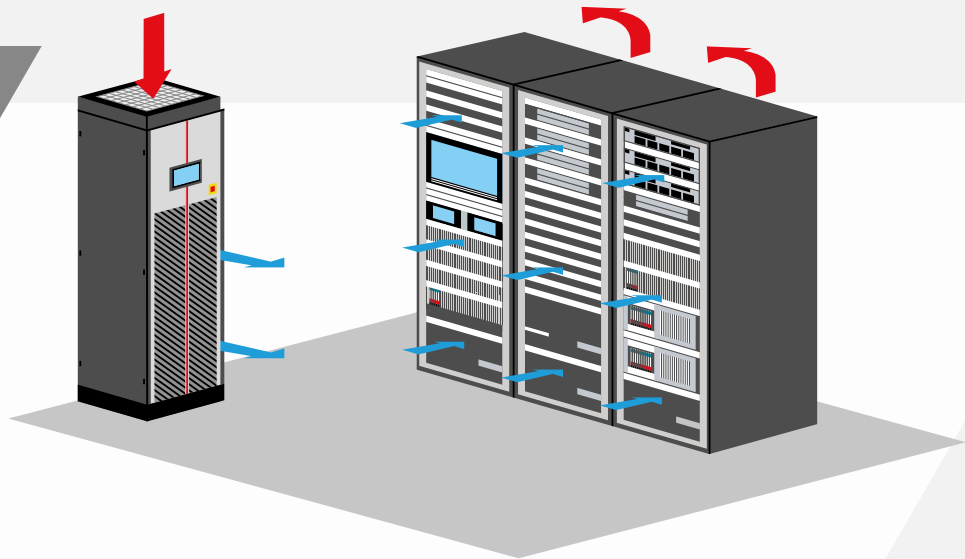


W-AV3 DL DISPLACEMENT VERSION

**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
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

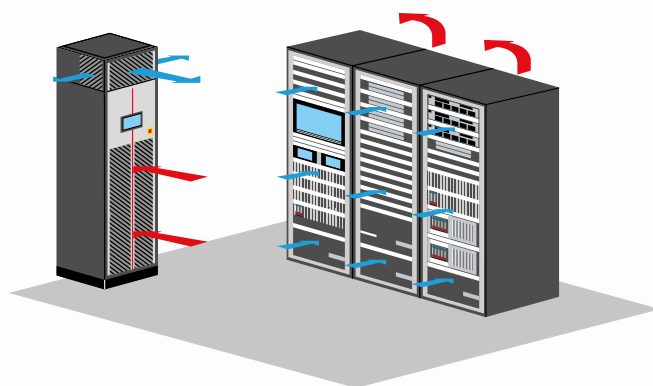
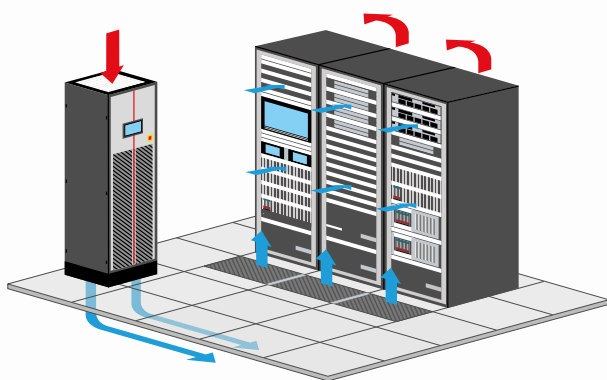
DUAL FLUID SYSTEM

**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

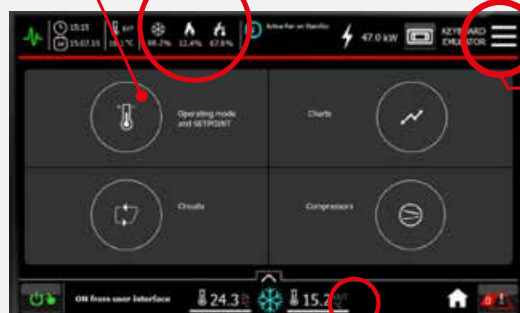
MULTILINGUAL

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

Keep in touch with your unit's control with KIPlink.



LOCAL WI-FI



LAN PORT

WI-FI KEYBOARD

Close to the unit with MEHITS APP access

MOBILE DEVICE

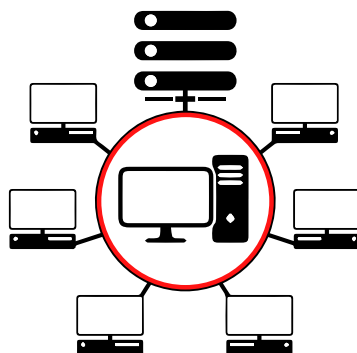


Direct access to the control is achieved by scanning the QR-code positioned on the front side of the unit.

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.



for a greener tomorrow

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.



mitsubishi electric hydronics & it cooling systems S.p.A.

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