WU

WATER COOLED CLOSE CONTROL UNIT

Ductable close control air-conditioners for vertical installation and cooling only, with optional heating by means of heating element, optional humidifier and dehumidifier for precise temperature and humidity control. Particularly suitable for precision air conditioning in servers and IT rooms and all technological applications in general.

Units fitted with EC INVERTER fans, upflow or downflow. These units are provided with 2 way modulating valve and servomotor. Unit has to be connected with an external chiller.

Features

Unit for installing inside or outside the room to be air-conditioned. Maximum resistance to rust thanks to galvanised sheet metal structures and panels with powder-coated paint finish. The panels are lined with sound-insulating material to limit noise levels. The reliability and functionality of the all parts are guaranteed by partners who are world leaders in their sector.
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Standard G4, M5 filtering section is to CEN-EN 779 with average degree of separation 90,1% ASHRAE. The filter is self-extinguishing. Switchboard to IEC 204-1 / EN60204-1.

Chilled water coil with copper tube and aluminium Blue-fins with hydrophilic coating treatment surface to reduce the pressure drops on the air side. Water circuit realized with pipes entirely coated with insulated material and bronze fittings, complete temperature probe and with 2 or 3-way modulating valve.

Control

Semi-graphic display 132x64 pixel, programmable software, record storage of 200 alarms, general alarm, automatic reset after blackout, integral LAN system, standby management, automatic rotation, serious alarms, operating contemporaneousness, clock function modality.

VERSIONS

D - Downflow air supply
U - Up flow air supply
E - Front supply (Displacement)
B - Up supply, (Rear return)
V - Up supply (Down suction)

ACCESSORIES

- Remote user terminal
- Electric Heating coil
- Humidifier
- Vibration isolation frame with rubber mountings
- Interface electronic board
- Air distribution plenum
- Condensing pump discharge
- Interface card for TCP/IP Protocol
- Longwork, motbus, bacnet
- Touch screen graphic terminal
- Power supply different from standard

TECHNICAL DATA

WU		80	150	190	250	310	440	550	640	700	840
Cooling capacity (Total) (1) ESP 20 Pa	kW	6,3	10,1	13	16,7	20,9	29,6	37	42,9	48	55,3
Cooling cpacity (Sensible) (1) ESP 20 Pa	kW	5,8	8,6	10,6	14,2	16,8	24,9	29,8	35,2	38,4	47,4
Tot. absorbed power (2) ESP 20 Pa	kW	0,3	0,3	0,4	0,6	0,7	0,9	1,1	1,2	1,2	1,7
SHR		0,92	0,85	0,81	0,84	0,8	0,84	0,80	0,81	0,79	0,85
Air flow	m^3/h	2550	2550	2550	4100	4100	7200	7200	9100	9100	13400
N° Fans	n°	1	1	1	1	1	1	1	1	1	1
ESP max.	Pa	563	517	480	445	405	570	522	349	337	338
Pressure drop coil + 2 way valve (standard)	kPa	32	20	28	41	31	31	31	34	40	34
Water flow	m^3/h	1,1	1,7	2,2	2,9	3,6	5,1	6,4	7,4	8,3	9,5
Power supply	V/ph/Hz					400/3/50+N+PE					
Humidifier											
Steam production (nominal)	kg/h	1,5	1,5	1,5	3,0	3,0	5,0	5,0	8,0	8,0	8,0
Steam production (max.)	kg/h	3	3	3	3	3	8	8	8	8	8
Max. absorbed power	kW	1,12	1,12	1,12	2,25	2,25	3,75	3,75	6,0	6,0	6,0
Max. absorbed current	A	5,0	5,0	5,0	10,0	10,0	5,5	5,5	8,7	8,7	8,7
Specific conducibility at 20°C (min/max)	µS/cm	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250
Total hardness (min/max)	mg/l $CaCO_3$	100/400	100/400	100/400	100/400	100/400	100/400	100/400	100/400	100/400	100/400
Electrical heaters											
Steps	n°	1	1	1	1	1	2	2	3	3	3
Power	kW	3,0	3,0	3,0	4,5	4,5	6,0	6,0	9,0	9,0	9,0
Absorbed current	A	4,3	4,3	4,3	6,5	6,5	8,7	8,7	13,0	13,0	13,0
Oversized electrical heaters											
Steps	n°	1	1	1	2	2	3	3	3	3	3
Power	kW	4,5	4,5	4,5	6,0	6,0	9,0	9,0	12,0	12,0	12,0
Absorbed current	A	6,5	6,5	6,5	8,7	8,7	13,0	13,0	17,3	17,3	17,3
Hot water coil											
Heating capacity (4)	kW	4,9	4,9	4,9	7,3	7,3	10,67	10,67	16,7	16,7	24,5
Water flow	m^3/h	0,85	0,85	0,85	1,3	1,3	1,86	1,86	2,91	2,91	4,3
Pressure drop (coil + 3 way valve)	kPa	36	36	36	31	31	48	48	56	56	46
Coil internal volume	dm^3	1,1	1,1	1,1	1,4	1,4	2,1	2,1	3,3	3,3	4,7
Condensing water pump											
Nominal flow	l/h	27,5	27,5	27,5	390,0	390,0	390,0	390,0	390,0	390,0	390,0
Max. flow (prevalence = 0 m)	l/h	34	34	34	500	500	500	500	500	500	500
Max. discharge height (flow=0 m^3/h)	m	15,0	15,0	15,0	5,4	5,4	5,4	5,4	5,4	5,4	5,4
Condensing water pump + humidifier											
Nominal flow	l/h	-	-	-	-	-	-	-	600	600	600
Max. flow (prevalence = 0 m)	l/h	-	-	-	-	-	-	-	900	900	900
Max. discharge height (flow=0 m^3/h)	m	-	-	-	-	-	-	-	6,0	6,0	6,0
Dimensions and weight											
Frame	n°	1	1	1	2	2	3	3	4	4	4,5
Width	mm	550	550	550	750	750	980	980	1160	1160	1505
Depth	mm	550	550	550	550	550	750	750	850	850	850
Height	mm	1980	1980	1980	1980	1980	1980	1980	1980	1980	1980
Weight	Kg	139	143	148	173	179	237	248	312	318	360

(1) Ambient temperature 24°C, Relative humidity 50%, Water 7/12°C.
(2) The fans electrical power has to be added to the ambient load.
(3) Water temperature 40/45°C, Ambient temperature 20°C, Relative humidity 50%.

WU		960	1050	1300	1450	1600	1710	1900	2100	2300
Cooling capacity (Total) (1) ESP 20 Pa	kW	63,2	68,9	88,2	95,2	106,9	115,4	126,2	140,1	157,5
Cooling cpacity (Sensible) (1) ESP 20 Pa	kW	51,6	55,4	70,4	77,6	85,2	93,9	100,7	114,3	125,6
Tot. absorbed power (2) ESP 20 Pa	kW	1,9	2	2,2	2,7	2,9	3,1	3,3	3,5	3,8
SHR		0,81	0,80	0,79	0,81	0,79	0,81	0,79	0,81	0,79
Air flow	m^3/h	13400	13400	16600	20100	20100	23800	23800	29500	29500
N° Fans	n°	1	1	2	2	2	2	2	3	3
ESP max.	Pa	308	291	369	277	293	371	366	398	413
Pressure drop coil + 2 way valve (standard)	kPa	41	42	35	40	43	47	50	37	40
Water flow	m^3/h	10,9	11,9	15,2	16,4	18,4	19,8	21,7	24,1	27,1
Power supply	V/ph/Hz	400/3/50+N+PE								
Humidifier										
Steam production (nominal)	kg/h	8,0	8,0	8,0	8,0	8,0	8,0	8,0	8,0	8,0
Steam production (max.)	kg/h	8	8	8	8	8	8	8	8	8
Max. absorbed power	kW	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0
Max. absorbed current	A	8,7	8,7	8,7	8,7	8,7	8,7	8,7	8,7	8,7
Specific conducibility at 20°C (min/max)	µS/cm	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250	300/1250
Total hardness (min/max)	mg/l $CaCO_3$	100/400	100/400	100/400	100/400	100/400	100/400	100/400	100/400	100/400
Electrical heaters										
Steps	n°	3	3	3	3	3	3	3	3	3
Power	kW	9,0	9,0	15,0	18,0	18,0	24,0	24,0	27,0	27,0
Absorbed current	A	13,0	13,0	21,7	26,0	26,0	34,6	34,6	39,0	39,0
Oversized electrical heaters										
Steps	n°	3	3	3	3	3	3	3	3	3
Power	kW	12,0	12,0	18,0	24,0	24,0	27,0	27,0	36,0	36,0
Absorbed current	A	17,3	17,3	26,0	34,6	34,6	39,0	39,0	52,0	52,0
Hot water coil										
Heating capacity (4)	kW	24,5	24,5	31,1	37,4	37,4	48,9	48,9	60,8	60,8
Water flow	m^3/h	4,3	4,3	5,43	6,5	6,5	8,5	8,5	10,6	10,6
Pressure drop (coil + 3 way valve)	kPa	46	46	53	34	34	48	48	42	42
Coil internal volume	dm^3	4,7	4,7	5,8	7,1	7,1	10,45	10,45	12,6	12,6
Condensing water pump										
Nominal flow	l/h	390,0	390,0	390,0	390,0	390,0	390,0	390,0	390,0	390,0
Max. flow (prevalence = 0 m)	l/h	500	500	500	500	500	500	500	500	500
Max. discharge height (flow=0 m^3/h)	m	5,4	5,4	5,4	5,4	5,4	5,4	5,4	5,4	5,4
Condensing water pump + humidifier										
Nominal flow	l/h	600	600	600	600	600	600	600	600	600
Max. flow (prevalence = 0 m)	l/h	900	900	900	900	900	900	900	900	900
Max. discharge height (flow=0 m^3/h)	m	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0
Dimensions and weight										
Frame	n°	4,5	4,5	5	6	6	7	7	8	8
Width	mm	1505	1505	1860	2210	2210	2565	2565	3100	3100
Depth	mm	850	850	850	850	850	850	850	850	850
Height	mm	1980	1980	1980	1980	1980	1980	1980	1980	1980
Weight	Kg	366	373	456	503	520	600	617	715	751

(1) Ambient temperature 24°C, Relative humidity 50%, Water 7/12°C.
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