Close control units with chilled water coil

Power series
Capacity from 7 to 300 kW

- High capacities and compact dimensions
- Great reliability and high technology
- Wide range of options

only cooling units

EMICON
AIR CONDITIONING AND INDUSTRIAL APPLICATION

Close control units with chilled water coil

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The range of chilled water close control units, **Power UW series**, is particularly indicated for use in technological centres, data processing rooms, in telecom centres and in such applications where it is important to keep the thermo-hygrometric conditions constant all over the year, so to assure the correct operation of the equipments installed in these sites. Thanks to their technologically advanced design, these close control units are able to control the ambient temperature with remarkably high precision and, when the humidity level is required, to adapt their cooling capacity to the room requirements, all automatically managed by the microprocessor on board. The high technology employed during their design together with the use of the best components available on the markets, make these units extremely reliable and therefore able to work for long periods, without a break. These units are particularly easy to install also in small spaces and easily accessible on the front side for ordinary and extraordinary service operations. They are completely assembled and tested in the factory.

Available configurations, related to the air return and discharge:

- U front air return, upflow air discharge
- V bottom air return, upflow air discharge
- D top air return, downflow air discharge

The standard range has been improved with the SLIM configuration (mod. UWL D), available in two working modes:

HP - High performance: setting of the fans, maximizing the heat exchange through the hydrophilically treated coil, which increases the total and sensible cooling capacity and ensures, on the other hand, reduced electrical absorption values, if compared to the given cooling capacity, and a low sound pressure
level.

ES - Energy saving: setting of the fans, maximizing their energy saving, which ensures heat exchange ratio giving a particularly high total and sensible capacity, together with a reduction of the energy consumption and of the overall sound level.

In both cases, the increase of the fan speed rotation to get higher pressure values involves, as a consequence, an increase of the sound level of the unit, which needs to be considered in the acoustics evaluation of the installation site.

Main components

Structure realized with a framework and internal parts made of galvanized steel riveted profiles and supports, making the structure strong and suitable also for extreme transport and handling conditions. The external panels, fixed to frame with quick opening connections, are made of pre-painted steel sheet (RAL 9004), ensuring a long-term durability to the unit. They are internally insulated with self-extinguishing sound-proofing material (class HF1 – UL94) reducing the overall sound level of the unit. On request (option IS1), it is available the sound-proofing insulation with class 1 material in conformity to the main European regulations in force. All the front and side panels can be dismantled so to allow an easy access to the main components. Moreover, the front of the unit is provided with double panels and inspection window (not available for version U), suitably arranged to let the unit work also with open panels during technical interventions, to allow more accurate regulations and more quick timing for ordinary and extraordinary service operations.

Single-inlet and backward curved centrifugal fans made of high-performance composite material, directly coupled to a three-phase electrical motor with IP54 Class F protection and provided with a thermal protection inside the motor winding. The fans are fixed on suitable supports reducing the transmission of vibration to the frame and the impeller is statically and dynamically balanced with long-life bearings. It is possible to regulate the fan speed by means of an autotransformer and to adjust their air flow to the head pressure requested on site. It is clear that a higher fans speed rotation involves an increase in the sound level of the unit.
All the units are equipped with low airflow and clogged filter alarms which, by means of differential pressure switches, stop the unit operation in case of fans problems and give a signal on microprocessor for replacement respectively.
Only for SLIM configuration, the EC centrifugal fans (corresponding to option EC-LP&HP) are standard provided.

Chilled water coil, realized with copper tube and aluminium fins, it is suitably sized with a wide exchange surface and a low air crossing speed so to allow a remarkable heat exchange and reduce the pressure drops on the air side. Only for SLIM configuration, an hydrophilic treatment (option BIDR) is standard provided.

Condensing drain tray, made in corrosion proof peraluman, placed underneath the evaporating coil, it is provided with a flexible pipe for condensing water discharge.

Washable and self-extinguishing **air filters** Efficiency G4 – of pleated type, they are made of synthetic fibre and are contained in a suitable metal frame. Their pleated arrangement, with a wide surface area, ensures a higher filtering efficiency and low pressure drops.

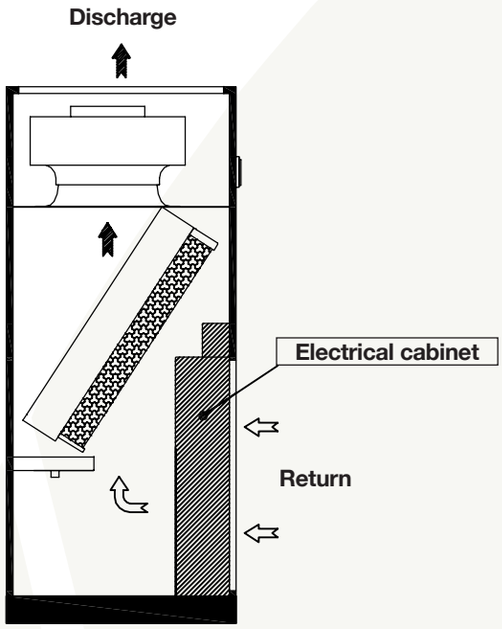
Water circuit realized with pipes entirely coated with insulated material and bronze fittings, complete temperature probe and with 3-way valve with 3-point control from frame 1, 2 and 3 and of 3-point modulating type for frame from 4 to 8. The max pressure of the circuit is 10 bar (PN 10).

Electric board in compliance with CE norms, protected by a panel is separated by the air flow and is provided with main switch, automatic switches, remote control switches, motor protection switches, low-tension auxiliary circuits and terminal board for free contacts and remote general alarm, magnetothermic switches for humidifier and electric heaters (when installed).

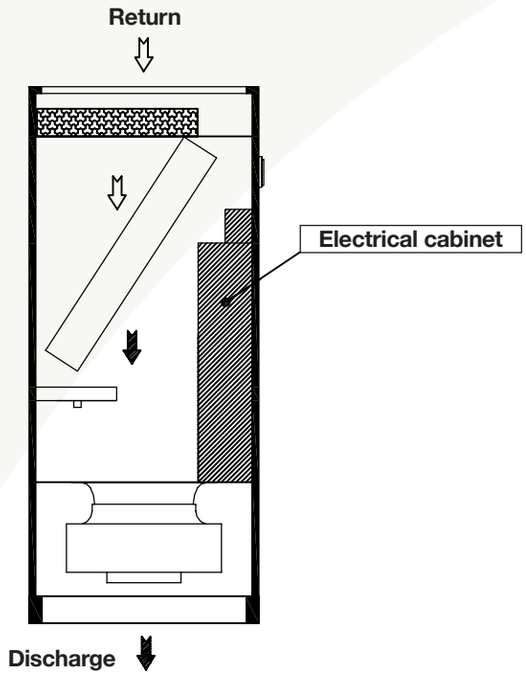
Unit management **microprocessor** installed inside the electrical board, complete with hour counter and electronic card to program the switch-over and rotation between to units, after a pre-set time. On this purpose, in case of order, the information necessary for programming must be clearly defined.

UW Versions

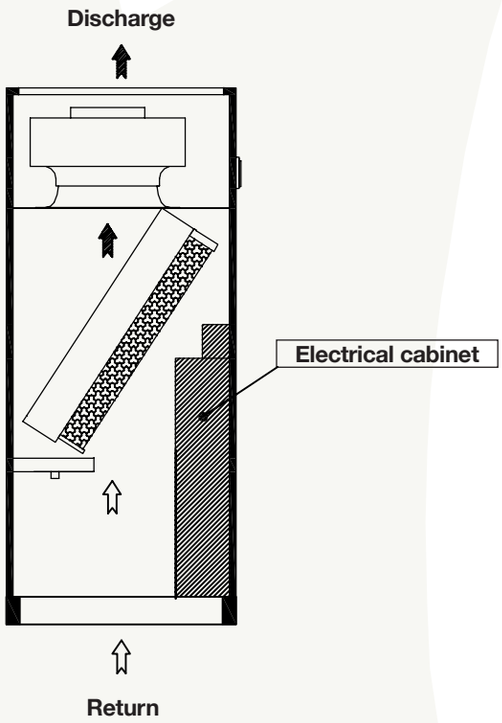
U front air return, upflow air discharge



D top air return, downflow air discharge



V bottom air return, upflow air discharge



UW U-V-D

Frame		1			2		3		4	
Model		**70**	**140**	**180**	**230**	**290**	**390**	**490**	**530**	**670**
WATER 7/12°C										
AMBIENT TEMP. 27 @ 50% R.H.										
Total Cooling Capacity	kW	7,7	13,3	16,6	21,3	26,9	37,3	47,5	59,0	65,7
Sensible Cooling Capacity	kW	7,7	9,9	11,3	15,7	18,3	27,3	32,0	41,9	45,0
SHR		100%	74%	68%	74%	68%	73%	67%	71%	68%
Water flow	m^3/h	1,3	2,3	2,8	3,7	4,6	6,4	8,2	10,1	11,3
Total pressure drops (coil+3-way valve)	kPa	73	65	59	81	64	87	80	97	112
AMBIENT TEMP. 24 @ 50% R.H.										
Total Cooling Capacity	kW	5,0	8,6	11,0	14,1	18,1	24,9	32,3	39,6	44,7
Sensible Cooling Capacity	kW	5,0	7,9	8,9	12,6	14,6	21,9	25,7	33,2	36,1
SHR		100%	92%	81%	89%	81%	88%	80%	84%	81%
Water flow	m^3/h	0,8	1,5	1,9	2,4	3,1	4,3	5,5	6,8	7,7
Total pressure drops (coil+3-way valve)	kPa	34	30	29	39	32	43	41	48	57
AMBIENT TEMP. 22 @ 50% R.H.										
Total Cooling Capacity	kW	4,1	6,7	8,1	10,7	13,2	18,7	23,3	29,6	32,6
Sensible Cooling Capacity	kW	4,1	6,4	7,1	10,1	11,5	17,4	20,0	26,4	28,3
SHR		100%	96%	88%	94%	87%	93%	86%	89%	87%
Water flow	m^3/h	0,7	1,1	1,4	1,8	2,3	3,2	4,0	5,1	5,6
Total pressure drops (coil+3-way valve)	kPa	24	19	17	24	18	26	23	29	33
U-V-B Versions - AC fans	n.	1	1	1	1	1	1	1	1	1
Air flow	m3/h	2.030	2.030	2.030	3.180	3.280	5.450	5.700	8.050	8.200
Available pressure (min-max)	Pa	20-178	20-124	20-83	20-153	20-92	20-183	20-104	20-196	20-152
Motor input power	kW	0,32	0,34	0,38	0,60	0,67	0,96	1,10	1,67	1,79
D version - AC fans	n.	1	1	1	1	1	1	1	1	1
Air flow	m^3/h	2.030	2.030	2.030	3.180	3.280	5.450	5.700	8.050	8.200
Available pressure (min-max)	Pa	20-138	20-84	20-43	20-109	20-46	20-138	20-56	20-96	20-49
Motor input power	kW	0,36	0,38	0,42	0,66	0,73	1,04	1,20	1,94	2,05
Sound pressure level @ 2m										
U Version	dB(A)	45	46	47	51	53	55	57	60	60
V Version	dB(A)	42	42	44	48	49	51	53	56	57
D version	dB(A)	45	46	47	51	52	54	57	60	60
Dimensions and weight										
Length	mm	550	550	550	750	750	980	980	1.160	1.160
Width	mm	550	550	550	550	550	750	750	850	850
Height	mm	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980
Weight	kg	134	139	143	177	183	227	238	312	318
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N								

UW U-V-D

Frame		5			6	7		8	
Model		**810**	**980**	**1240**	**1400**	**1610**	**1810**	**2000**	**2250**
WATER 7/12°C									
AMBIENT TEMP. 27 @ 50% R.H.									
Total Cooling Capacity	kW	77,8	97,2	122,3	139,3	159,4	178,1	201,3	224,3
Sensible Cooling Capacity	kW	64,0	71,5	83,6	93,9	112,7	121,6	143,2	153,6
SHR		82%	74%	68%	67%	71%	68%	71%	70%
Water flow	m^3/h	13,3	16,7	21,0	23,9	27,3	30,6	34,5	38,5
Total pressure drops (coil+3-way valve)	kPa	106	124	119	121	115	130	148	175
AMBIENT TEMP. 24 @ 50% R.H.									
Total Cooling Capacity	kW	52,9	65,3	83,7	95,7	108,5	122,4	136,8	154,2
Sensible Cooling Capacity	kW	49,5	58,4	67,4	76,0	92,5	98,3	117,2	124,2
SHR		94%	89%	81%	79%	85%	80%	86%	70%
Water flow	m^3/h	9,1	11,2	14,4	16,4	18,6	21,0	23,5	26,5
Total pressure drops (coil+3-way valve)	kPa	54	62	61	62	58	67	75	90
AMBIENT TEMP. 22 @ 50% R.H.									
Total Cooling Capacity	kW	40,9	49,4	60,7	69,8	79,9	88,4	101,2	111,6
Sensible Cooling Capacity	kW	40,9	46,4	52,6	63,1	79,7	76,4	91,7	96,6
SHR		100%	94%	87%	90%	100%	86%	91%	70%
Water flow	m^3/h	7,0	8,5	10,4	12,0	13,7	15,2	17,4	19,1
Total pressure drops (coil+3-way valve)	kPa	34	38	35	36	34	38	44	51
U-V-B Versions - AC fans	n.	2	2	2	2	3	3	4	4
Air flow	m^3/h	14.500	15.000	15.200	16.700	21.500	22.050	27.500	28.000
Available pressure (min-max)	Pa	20-297	20-236	20-173	20-161	20-240	20-190	20-236	20-192
Motor input power	kW	2,84	3,16	3,49	3,50	4,74	5,12	6,38	6,83
D version - AC fans	n.	2	2	2	2	3	3	4	4
Air flow	m^3/h	14.500	15.000	15.200	16.700	21.500	22.050	27.500	28.000
Available pressure (min-max)	Pa	20-60	20-62	20-63	20-64	20-63	20-65	20-64	20-66
Motor input power	kW	3,41	3,75	4,07	4,02	5,69	6,10	7,66	8,13
Sound pressure level @ 2m									
U Version	dB(A)	61	62	62	64	63	64	64	65
V Version	dB(A)	57	58	59	60	60	60	60	61
D version	dB(A)	60	62	63	64	63	65	64	66
Dimensions and weight									
Length	mm	1.860	1.860	1.860	2.210	2.565	2.565	3.100	3.100
Width	mm	850	850	850	850	850	850	850	850
Height	mm	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980
Weight	kg	410	422	446	504	590	607	729	750
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N							

Operation limits: ambient temperature from 18 to 35°C.
The fan motor input power is referred to the minimum pressure of 20 Pa.
Sound pressure level referred at 2 m distance in free field (ISO 3744) with ducted air inlet and outlet (except for air inlet in U version).
The above weight is referred to U version.

UW U-V-D

Frame		1			2		3		4	
Model		**70**	**140**	**180**	**230**	**290**	**390**	**490**	**530**	**670**
WATER 9/14°C										
AMBIENT TEMP. 27 @ 50% R.H.										
Total Cooling Capacity	kW	5,8	10,2	13,1	16,4	21,3	29,0	37,7	46,0	51,9
Sensible Cooling Capacity	kW	5,8	8,6	9,7	13,6	15,8	23,7	27,7	35,6	38,7
SHR		100%	84%	74%	83%	74%	82%	73%	77%	75%
Water flow	m^3/h	1,0	1,7	2,2	2,8	3,7	5,0	6,5	7,9	8,9
Total pressure drops (coil+3-way valve)	kPa	44	40	38	51	42	55	53	62	73
AMBIENT TEMP. 24 @ 50% R.H.										
Total Cooling Capacity	kW	4,2	6,8	8,2	10,8	13,4	18,9	23,5	29,8	32,8
Sensible Cooling Capacity	kW	4,2	6,4	7,1	10,1	11,5	17,4	20,1	26,4	28,4
SHR		100%	94%	87%	94%	86%	92%	86%	89%	87%
Water flow	m^3/h	0,7	1,2	1,4	1,9	2,3	3,2	4,0	5,1	5,6
Total pressure drops (coil+3-way valve)	kPa	25	20	17	24	18	26	23	29	33
AMBIENT TEMP. 22 @ 50% R.H.										
Total Cooling Capacity	kW	3,3	5,4	6,7	8,8	11,0	15,5	19,4	24,5	27,1
Sensible Cooling Capacity	kW	3,3	5,4	6,7	8,8	11,0	15,5	19,4	24,5	27,1
SHR		100%	100%	100%	100%	100%	100%	100%	100%	100%
Water flow	m^3/h	0,6	0,9	1,2	1,5	1,9	2,7	3,3	4,2	4,7
Total pressure drops (coil+3-way valve)	kPa	16	13	12	17	13	18	16	20	23
U-V-B Versions - AC fans	n.	1	1	1	1	1	1	1	1	1
Air flow	m3/h	2.030	2.030	2.030	3.180	3.280	5.450	5.700	8.050	8.200
Available pressure (min-max)	Pa	20-178	20-124	20-83	20-153	20-92	20-183	20-104	20-196	20-152
Motor input power	kW	0,32	0,34	0,38	0,60	0,67	0,96	1,10	1,67	1,79
D version - AC fans	n.	1	1	1	1	1	1	1	1	1
Air flow	m^3/h	2.030	2.030	2.030	3.180	3.280	5.450	5.700	8.050	8.200
Available pressure (min-max)	Pa	20-138	20-84	20-43	20-109	20-46	20-138	20-56	20-96	20-49
Motor input power	kW	0,36	0,38	0,42	0,66	0,73	1,04	1,20	1,94	2,05
Sound pressure level @ 2m										
U Version	dB(A)	45	46	47	51	52	54	57	60	60
V Version	dB(A)	42	42	44	48	49	51	53	56	57
D version	dB(A)	45	46	47	51	52	54	57	59	60
Dimensions and weight										
Length	mm	550	550	550	750	750	980	980	1.160	1.160
Width	mm	550	550	550	550	550	750	750	850	850
Height	mm	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980
Weight	kg	134	139	143	177	183	227	238	312	318
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N								

UW U-V-D

Frame		5			6	7		8	
Model		**810**	**980**	**1240**	**1400**	**1610**	**1810**	**2000**	**2250**
WATER 9/14°C									
AMBIENT TEMP. 27 @ 50% R.H.									
Total Cooling Capacity	kW	60,8	75,1	96,8	111,1	125,1	141,3	157,7	177,8
Sensible Cooling Capacity	kW	55,6	62,5	72,1	81,4	98,8	105,0	125,5	132,6
SHR		91%	83%	74%	73%	79%	74%	80%	75%
Water flow	m^3/h	10,5	12,9	16,6	19,1	21,5	24,3	27,1	30,5
Total pressure drops (coil+3-way valve)	kPa	68	78	78	80	74	86	95	114
AMBIENT TEMP. 24 @ 50% R.H.									
Total Cooling Capacity	kW	41,2	49,7	61,1	69,1	80,5	89,0	101,9	112,3
Sensible Cooling Capacity	kW	41,0	46,3	52,6	58,8	80,5	76,4	92,1	96,6
SHR		100%	93%	86%	85%	100%	86%	90%	86%
Water flow	m^3/h	7,1	8,5	10,5	11,9	13,8	15,3	17,5	19,3
Total pressure drops (coil+3-way valve)	kPa	34	38	35	35	34	38	44	51
AMBIENT TEMP. 22 @ 50% R.H.									
Total Cooling Capacity	kW	33,7	40,8	50,6	57,4	66,5	73,9	84,1	93,2
Sensible Cooling Capacity	kW	33,7	40,8	50,6	57,1	66,5	73,9	84,1	93,2
SHR		100%	100%	100%	99%	100%	100%	100%	100%
Water flow	m^3/h	5,8	7,0	8,7	9,9	11,4	12,7	14,5	16,0
Total pressure drops (coil+3-way valve)	kPa	24	27	25	25	24	27	31	37
U-V-B Versions - AC fans	n.	2	2	2	2	3	3	4	4
Air flow	m3/h	14.500	15.000	15.200	16.700	21.500	22.050	27.500	28.000
Available pressure (min-max)	Pa	20-297	20-236	20-173	20-161	20-240	20-190	20-236	20-192
Motor input power	kW	2,84	3,16	3,49	3,50	4,74	5,12	6,38	6,83
D version - AC fans	n.	2	2	2	2	3	3	4	4
Air flow	m^3/h	14.500	15.000	15.200	16.700	21.500	22.050	27.500	28.000
Available pressure (min-max)	Pa	20-60	20-62	20-63	20-64	20-63	20-65	20-64	20-66
Motor input power	kW	3,41	3,75	4,07	4,02	5,69	6,10	7,66	8,13
Sound pressure level @ 2m									
U Version	dB(A)	61	62	62	64	63	64	64	65
V Version	dB(A)	57	58	59	60	60	60	60	61
D version	dB(A)	60	62	63	64	63	65	64	66
Dimensions and weight									
Length	mm	1.860	1.860	1.860	2.210	2.565	2.565	3.100	3.100
Width	mm	850	850	850	850	850	850	850	850
Height	mm	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980
Weight	kg	410	422	446	504	590	607	729	750
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N							

Operation limits: ambient temperature from 18 to 35°C.
The fan motor input power is referred to the minimum pressure of 20 Pa.
Sound pressure level referred at 2 m distance in free field (ISO 3744) with ducted air inlet and outlet (except for air inlet in U version).
The above weight is referred to U version.

UW U-V-D - EC HP FANS - MAX AIR FLOW

Frame		1			2		3		4	
Model		**70**	**140**	**180**	**230**	**290**	**390**	**490**	**530**	**670**
WATER 7/12°C										
AMBIENT TEMP. 27 @ 50% R.H.										
Total Cooling Capacity	kW	8,8	15,7	20,0	25,5	32,2	45,4	56,7	65,1	72,0
Sensible Cooling Capacity	kW	7,9	11,4	13,7	18,5	22,0	32,9	38,7	45,5	49,3
SHR		90%	73%	69%	73%	68%	72%	68%	70%	68%
Water flow	m^3/h	1,5	2,7	3,4	4,4	5,5	7,8	9,7	11,2	12,4
Total pressure drops (coil+3-way valve)	kPa	93	87	82	111	88	123	109	115	132
AMBIENT TEMP. 24 @ 50% R.H.										
Total Cooling Capacity	kW	5,8	10,1	13,4	16,8	21,8	30,3	38,6	43,7	49,1
Sensible Cooling Capacity	kW	5,3	9,0	11,0	15,0	17,7	26,7	31,3	37,1	39,9
SHR		91%	89%	82%	89%	81%	88%	81%	85%	81%
Water flow	m^3/h	1,0	1,7	2,3	2,9	3,7	5,2	6,6	7,5	8,4
Total pressure drops (coil+3-way valve)	kPa	44	40	41	54	44	60	56	57	67
AMBIENT TEMP. 22 @ 50% R.H.										
Total Cooling Capacity	kW	4,8	8,0	9,9	13,0	16,0	23,2	28,2	32,8	35,8
Sensible Cooling Capacity	kW	4,8	7,6	8,7	12,2	14,0	21,5	24,5	29,6	31,3
SHR		100%	95%	88%	94%	88%	93%	87%	90%	87%
Water flow	m^3/h	0,8	1,4	1,7	2,2	2,7	4,0	4,8	5,6	6,2
Total pressure drops (coil+3-way valve)	kPa	32	27	24	34	26	37	32	34	39
U-V-B Versions - EC HP fans	n.	1	1	1	1	1	1	1	1	1
Air flow	m3/h	2.500	2.500	2.500	4.000	4.000	7.000	7.000	9.000	9.000
Available pressure (min-max)	Pa	20-659	20-595	20-526	20-367	20-305	20-429	20-372	20-414	20-386
Motor input power	kW	0,31	0,38	0,47	0,70	0,82	1,39	1,56	1,60	1,70
D Version - EC HP fans	n.	1	1	1	1	1	1	1	1	1
Air flow	m^3/h	2.500	2.500	2.500	4.000	4.000	7.000	7.000	9.000	9.000
Available pressure (min-max)	Pa	20-604	20-539	20-470	20-303	20-240	20-361	20-304	20-293	20-265
Motor input power	kW	0,37	0,46	0,55	0,83	0,96	1,59	1,76	2,05	2,16
Sound pressure level @ 2m										
U Version	dB(A)	46	46	47	51	53	56	58	58	58
V Version	dB(A)	43	42	44	47	49	52	54	54	55
D version	dB(A)	45	46	47	52	55	55	56	57	58
Dimensions and weight										
Length	mm	550	550	550	750	750	980	980	1.160	1.160
Width	mm	550	550	550	550	550	750	750	850	850
Height	mm	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980
Weight	kg	134	139	143	177	183	227	238	312	318
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N								

UW U-V-D - EC HP FANS - MAX AIR FLOW

Frame		5			6	7		8	
Model		**810**	**980**	**1240**	**1400**	**1610**	**1810**	**2000**	**2250**
WATER 7/12°C									
AMBIENT TEMP. 27 @ 50% R.H.									
Total Cooling Capacity	kW	84,2	104,5	131,5	163,0	174,1	191,9	214,2	236,5
Sensible Cooling Capacity	kW	67,6	75,8	89,8	110,9	123,6	130,9	152,4	161,5
SHR		80%	73%	68%	68%	71%	68%	71%	68%
Water flow	m^3/h	14,4	17,9	22,6	28,0	29,9	32,9	36,8	40,6
Total pressure drops (coil+3-way valve)	kPa	121	141	135	159	134	149	165	192
AMBIENT TEMP. 24 @ 50% R.H.									
Total Cooling Capacity	kW	57,8	70,4	90,3	112,2	118,5	132,1	145,5	162,7
Sensible Cooling Capacity	kW	51,9	62,0	73,0	90,3	99,3	106,6	122,3	131,5
SHR		90%	88%	81%	80%	84%	81%	84%	81%
Water flow	m^3/h	9,9	12,1	15,5	19,3	20,3	22,7	25,0	27,9
Total pressure drops (coil+3-way valve)	kPa	63	70	70	83	68	77	84	99
AMBIENT TEMP. 22 @ 50% R.H.									
Total Cooling Capacity	kW	45,0	53,4	65,4	81,0	87,7	95,5	108,0	117,7
Sensible Cooling Capacity	kW	44,0	49,6	56,9	70,1	78,2	82,7	96,4	102,1
SHR		98%	93%	87%	87%	89%	87%	89%	87%
Water flow	m^3/h	7,7	9,2	11,2	13,9	15,0	16,4	18,5	20,2
Total pressure drops (coil+3-way valve)	kPa	40	43	40	46	40	44	49	56
U-V-B Versions - EC HP fans	n.	2	2	2	2	3	3	4	4
Air flow	m3/h	16.300	16.300	16.300	20.000	23.700	23.700	29.300	29.300
Available pressure (min-max)	Pa	20-539	20-499	20-443	20-259	20-488	20-460	20-522	20-493
Motor input power	kW	2,42	2,68	3,07	4,17	4,16	4,45	5,16	5,54
D Version - EC HP fans	n.	2	2	2	2	3	3	4	4
Air flow	m^3/h	16.300	16.300	16.300	20.000	23.700	23.700	29.300	29.300
Available pressure (min-max)	Pa	20-411	20-371	20-315	20-126	20-343	20-315	20-381	20-353
Motor input power	kW	3,30	3,59	4,01	5,25	5,72	6,05	7,12	7,53
Sound pressure level @ 2m									
U Version	dB(A)	59	60	61	62	61	62	62	63
V Version	dB(A)	55	56	58	58	58	58	58	59
D version	dB(A)	58	59	60	61	61	62	62	63
Dimensions and weight									
Length	mm	1.860	1.860	1.860	2.210	2.565	2.565	3.100	3.100
Width	mm	850	850	850	850	850	850	850	850
Height	mm	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980
Weight	kg	410	422	446	504	590	607	729	750
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N							

Operation limits: ambient temperature from 18 to 35°C.
The fan motor input power is referred to the minimum pressure of 20 Pa.
Sound pressure level referred at 2 m distance in free field (ISO 3744) with ducted air inlet and outlet (except for air inlet in U version).
The above weight is referred to U version.

UW U-V-D - EC HP FANS - MAX AIR FLOW

Frame		1			2		3		4	
Model		**70**	**140**	**180**	**230**	**290**	**390**	**490**	**530**	**670**
WATER 9/14°C										
AMBIENT TEMP. 27 @ 50% R.H.										
Total Cooling Capacity	kW	6,7	11,9	15,7	19,6	25,4	35,0	44,8	50,7	56,8
Sensible Cooling Capacity	kW	6,6	9,9	11,9	16,1	19,1	28,6	33,6	39,8	42,8
SHR		99%	83%	76%	82%	75%	82%	75%	79%	75%
Water flow	m^3/h	1,1	2,0	2,7	3,4	4,4	6,0	7,7	8,7	9,8
Total pressure drops (coil+3-way valve)	kPa	56	53	53	69	57	77	72	73	86
AMBIENT TEMP. 24 @ 50% R.H.										
Total Cooling Capacity	kW	4,9	8,1	10,0	13,1	16,1	23,3	28,4	33,1	36,1
Sensible Cooling Capacity	kW	4,9	7,6	8,8	12,2	14,0	21,5	24,6	29,6	31,4
SHR		100%	94%	88%	93%	87%	92%	87%	89%	87%
Water flow	m^3/h	0,8	1,4	1,7	2,3	2,8	4,0	4,9	5,7	6,2
Total pressure drops (coil+3-way valve)	kPa	32	27	24	34	26	38	32	35	39
AMBIENT TEMP. 22 @ 50% R.H.										
Total Cooling Capacity	kW	3,9	6,5	8,2	10,7	13,3	19,1	23,5	27,2	29,9
Sensible Cooling Capacity	kW	3,9	6,5	8,2	10,7	13,3	19,1	23,5	27,2	29,9
SHR		100%	100%	100%	100%	100%	100%	100%	100%	100%
Water flow	m^3/h	0,7	1,1	1,4	1,8	2,3	3,3	4,0	4,7	5,1
Total pressure drops (coil+3-way valve)	kPa	21	18	17	24	18	26	23	25	28
U-V-B Versions - EC HP fans	n.	1	1	1	1	1	1	1	1	1
Air flow	m3/h	2.500	2.500	2.500	4.000	4.000	7.000	7.000	9.000	9.000
Available pressure (min-max)	Pa	20-659	20-595	20-526	20-367	20-305	20-429	20-372	20-414	20-386
Motor input power	kW	0,31	0,38	0,47	0,70	0,82	1,39	1,56	1,60	1,70
D Version - EC HP fans	n.	1	1	1	1	1	1	1	1	1
Air flow	m^3/h	2.500	2.500	2.500	4.000	4.000	7.000	7.000	9.000	9.000
Available pressure (min-max)	Pa	20-604	20-539	20-470	20-303	20-240	20-361	20-304	20-293	20-265
Motor input power	kW	0,37	0,46	0,55	0,83	0,96	1,59	1,76	2,05	2,16
Sound pressure level @ 2m										
U Version	dB(A)	46	46	47	51	53	56	58	58	58
V Version	dB(A)	42	42	44	48	50	53	54	55	55
D version	dB(A)	45	46	47	51	52	55	56	57	58
Dimensions and weight										
Length	mm	550	550	550	750	750	980	980	1.160	1.160
Width	mm	550	550	550	550	550	750	750	850	850
Height	mm	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980
Weight	kg	134	139	143	177	183	227	238	312	318
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N								

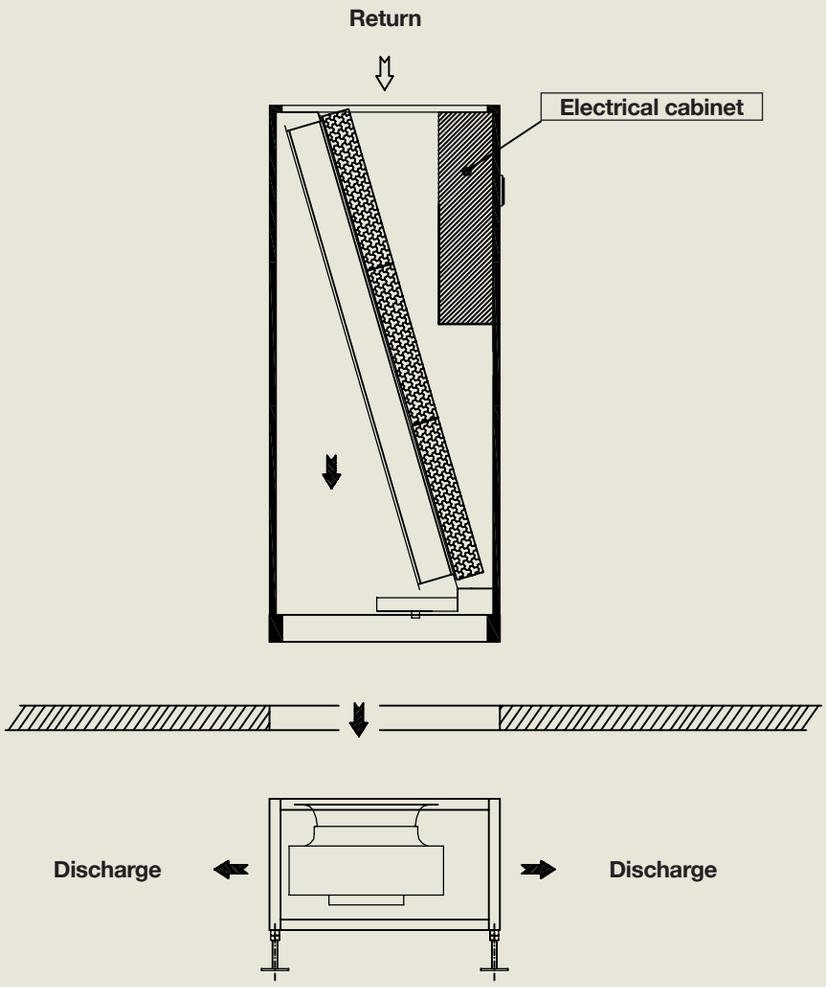
UW U-V-D - EC HP FANS - MAX AIR FLOW

Frame		5			6	7		8	
Model		**810**	**980**	**1240**	**1400**	**1610**	**1810**	**2000**	**2250**
WATER 9/14°C									
AMBIENT TEMP. 27 @ 50% R.H.									
Total Cooling Capacity	kW	66,2	80,8	104,2	129,4	136,4	152,2	167,7	187,5
Sensible Cooling Capacity	kW	58,2	66,1	78,1	96,5	106,1	113,8	130,7	140,4
SHR		88%	82%	75%	75%	78%	75%	78%	75%
Water flow	m^3/h	11,4	13,9	17,9	22,2	23,4	26,2	28,8	32,2
Total pressure drops (coil+3-way valve)	kPa	79	89	89	105	87	98	106	126
AMBIENT TEMP. 24 @ 50% R.H.									
Total Cooling Capacity	kW	45,3	53,8	65,9	81,5	88,3	96,1	108,7	118,4
Sensible Cooling Capacity	kW	43,8	49,4	57,0	70,2	78,3	82,9	96,6	102,3
SHR		97%	92%	86%	86%	89%	86%	89%	86%
Water flow	m^3/h	7,8	9,2	11,3	14,0	15,2	16,5	18,7	20,3
Total pressure drops (coil+3-way valve)	kPa	40	43	40	46	40	43	49	56
AMBIENT TEMP. 22 @ 50% R.H.									
Total Cooling Capacity	kW	37,1	44,2	54,6	67,8	73,0	79,9	89,8	98,4
Sensible Cooling Capacity	kW	37,1	44,2	54,6	67,8	73,0	79,9	89,8	98,4
SHR		100%	100%	100%	100%	100%	100%	100%	100%
Water flow	m^3/h	6,4	7,6	9,4	11,6	12,5	13,7	15,4	16,9
Total pressure drops (coil+3-way valve)	kPa	28	31	28	34	29	31	35	40
U-V-B Versions - EC HP fans	n.	2	2	2	2	3	3	4	4
Air flow	m3/h	16.300	16.300	16.300	20.000	23.700	23.700	29.300	29.300
Available pressure (min-max)	Pa	20-539	20-499	20-443	20-259	20-488	20-460	20-522	20-493
Motor input power	kW	2,42	2,68	3,07	4,17	4,16	4,45	5,16	5,54
D Version - EC HP fans	n.	2	2	2	2	3	3	4	4
Air flow	m^3/h	16.300	16.300	16.300	20.000	23.700	23.700	29.300	29.300
Available pressure (min-max)	Pa	20-411	20-371	20-315	20-126	20-343	20-315	20-381	20-353
Motor input power	kW	3,30	3,59	4,01	5,25	5,72	6,05	7,12	7,53
Sound pressure level @ 2m									
U Version	dB(A)	59	60	61	62	61	62	62	63
V Version	dB(A)	56	56	58	59	58	58	58	59
D version	dB(A)	58	59	60	61	61	62	62	63
Dimensions and weight									
Length	mm	1.860	1.860	1.860	2.210	2.565	2.565	3.100	3.100
Width	mm	850	850	850	850	850	850	850	850
Height	mm	1.980	1.980	1.980	1.980	1.980	1.980	1.980	1.980
Weight	kg	410	422	446	504	590	607	729	750
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N							

Operation limits: ambient temperature from 18 to 35°C
The fan motor input power is referred to the minimum pressure of 20 Pa
Sound pressure level referred at 2 m distance in free field (ISO 3744) with ducted air inlet and outlet (except for air inlet in U version).
The above weight is referred to U version.

UW L Versions

POWER SLIM - UWL
Top air return, downflow air discharge



UW L - Slim

		HP - High Performance					ES - Energy Saving				
Frame		4	5	6	7	8	4	5	6	7	8
Model		**860**	**1700**	**1900**	**2400**	**3000**	**860**	**1700**	**1900**	**2400**	**3000**
WATER 7/12°C											
AMBIENT TEMP. 27 @ 50% R.H.											
Total Cooling Capacity	kW	91,3	168,2	196,0	253,9	313,7	78,9	149,4	170,7	204,7	263,9
Sensible Cooling Capacity	kW	61,7	113,0	131,0	172,4	212,3	52,1	98,7	112,1	134,7	174,2
SHR		68%	67%	67%	68%	68%	66%	66%	66%	66%	66%
Water flow	m^3/h	15,7	28,9	33,6	43,6	53,8	13,5	25,6	29,3	35,1	45,3
Total pressure drops (coil+3-way valve)	kPa	124	125	120	113	159	94	100	92	75	115
AMBIENT TEMP. 24 @ 50% R.H.											
Total Cooling Capacity	kW	60,8	112,3	130,3	168,1	210,5	52,7	100,1	113,6	136,2	178,1
Sensible Cooling Capacity	kW	48,9	89,8	103,9	136,1	169,2	41,5	78,8	88,9	106,9	139,7
SHR		80%	80%	80%	81%	80%	79%	79%	78%	78%	78%
Water flow	m^3/h	10,4	19,3	22,4	28,8	36,1	9,0	17,2	19,5	23,4	30,6
Total pressure drops (coil+3-way valve)	kPa	60	62	59	55	79	46	50	45	37	58
AMBIENT TEMP. 22 @ 50% R.H.											
Total Cooling Capacity	kW	45,4	83,4	96,7	126,8	156,6	38,5	73,0	82,7	99,5	129,3
Sensible Cooling Capacity	kW	39,4	72,1	83,5	110,4	135,6	33,1	62,6	70,8	85,3	110,5
SHR		87%	86%	86%	87%	87%	86%	86%	86%	86%	85%
Water flow	m^3/h	7,8	14,3	16,6	21,7	26,9	6,6	12,5	14,2	17,1	22,2
Total pressure drops (coil+3-way valve)	kPa	36	36	35	33	47	27	28	26	21	33
D Version - EC HP fans	n.	1	2	2	3	4	1	2	2	3	4
Air flow	m^3/h	11.000	20.000	23.000	31.000	38.000	9.000	17.000	19.000	23.000	30.000
Available pressure (min-max)	Pa	20-207	20-347	20-163	20-266	20-364	20-512	20-557	20-480	20-637	20-633
Motor input power	kW	2,17	3,53	4,48	6,12	7,01	1,27	2,29	2,67	2,79	3,79
Sound pressure level @ 2m	dB(A)	62	63	66	66	65	62	63	66	66	65
Dimensions and weight											
Length	mm	1.160	1.860	2.210	2.565	3.100	1.160	1.860	2.210	2.565	3.100
Width	mm	850	850	850	850	850	850	850	850	850	850
Height (unit + fans base-frame)	mm	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570
Weight	kg	383	577	646	775	959	383	577	646	775	959
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N									

UW L - Slim

		HP - High Performance					ES - Energy Saving				
Frame		4	5	6	7	8	4	5	6	7	8
Model		**860**	**1700**	**1900**	**2400**	**3000**	**860**	**1700**	**1900**	**2400**	**3000**
WATER 9/14°C											
AMBIENT TEMP. 27 @ 50% R.H.											
Total Cooling Capacity	kW	71,6	132,4	154,3	198,5	246,6	62,5	118,5	135,6	162,3	209,7
Sensible Cooling Capacity	kW	52,9	97,2	112,8	147,6	182,4	45,1	85,5	96,9	116,5	151,0
SHR		74%	73%	73%	74%	74%	72%	72%	71%	72%	72%
Water flow	m^3/h	12,3	22,7	26,5	34,1	42,4	10,7	20,4	23,3	27,9	36,0
Total pressure drops (coil+3-way valve)	kPa	80	81	78	72	103	62	66	61	50	76
AMBIENT TEMP. 24 @ 50% R.H.											
Total Cooling Capacity	kW	45,8	84,2	97,7	128,1	158,1	38,9	73,8	83,7	100,6	130,5
Sensible Cooling Capacity	kW	39,5	72,2	83,6	110,7	135,9	33,1	62,6	70,7	85,3	110,4
SHR		86%	86%	86%	86%	86%	85%	85%	84%	85%	85%
Water flow	m^3/h	7,9	14,5	16,8	22,0	27,2	6,7	12,7	14,4	17,3	22,4
Total pressure drops (coil+3-way valve)	kPa	36	37	35	33	47	27	29	26	21	33
AMBIENT TEMP. 22 @ 50% R.H.											
Total Cooling Capacity	kW	37,5	69,0	79,8	104,7	130,0	31,8	60,4	68,3	82,1	107,3
Sensible Cooling Capacity	kW	37,5	69,0	79,8	104,7	130,0	31,8	60,4	68,1	82,1	106,7
SHR		100%	100%	100%	100%	100%	100%	100%	100%	100%	99%
Water flow	m^3/h	6,4	11,9	13,7	18,0	22,3	5,5	10,4	11,7	14,1	18,4
Total pressure drops (coil+3-way valve)	kPa	25	26	24	23	33	19	20	18	15	23
D Version - EC HP fans	n.	1	2	2	3	4	1	2	2	3	4
Air flow	m^3/h	11.000	20.000	23.000	31.000	38.000	9.000	17.000	19.000	23.000	30.000
Available pressure (min-max)	Pa	20-207	20-347	20-163	20-266	20-364	20-512	20-557	20-480	20-637	20-633
Motor input power	kW	2,17	3,53	4,48	6,12	7,01	1,27	2,29	2,67	2,79	3,79
Sound pressure level @ 2m	dB(A)	62	63	66	66	65	62	63	66	66	65
Dimensions and weight											
Length	mm	1.160	1.860	2.210	2.565	3.100	1.160	1.860	2.210	2.565	3.100
Width	mm	850	850	850	850	850	850	850	850	850	850
Height (unit + fans base-frame)	mm	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570	1.980+570
Weight	kg	383	577	646	775	959	383	577	646	775	959
Power supply	V / Ph/Hz	400 / 3 / 50 + T + N									

Operation limits: ambient temperature from 18 to 35°C.
The fan motor input power is referred to the minimum pressure of 20 Pa.
Sound pressure level referred at 2 m distance in free field (ISO 3744) with ducted air inlet and outlet (except for air inlet in U version).

Accessories

AA - Flooding detector: placed in the downflow units, it is already wired and detects water in the false floor.

AE - Electrical power supply different from standard: mainly, 230V three-phase, 460V three-phase. Frequency 50/60 Hz.

AL - Smoke alarm: it consists of a sensor detecting smoke inside the unit and activating an alarm signal which stops the fans.

B - Adjustable base-frame from 170 mm to max 600 mm for installation on raised floors. It is provided with adjustable feet.

BC - Hot water coil: one-row or 2-row water coil, placed after the cooling coil for the re- heating and/or the heating of treated air. Provided with three-way valve and modulating actuator, it is controlled by the microprocessor on board. This option is priority when requested with the electric heaters. (Not available with REM)

BIDR - Hydrophilic treatment of the coil to reduce the surface tension between water and metal surface, promoting film condensation and avoiding the risk of condensing drops outside the drain tray (standard for UWL configuration).

BN - Base-frame with conveyor: it is provided with a suitable conveyor facilitating the air flow and remarkably reducing the pressure drop in case of horizontal air flow. It is adjustable in height from min 400mm to max 800mm. (Only for D version and not available for UWL configurations).

BS - Base-frame with ON/OFF damper: it is equipped with an ON/OFF motorized damper. This device prevents the air return from the unit when it is not working or in the case some units are working near to it. Available only for D version and not available for UWL configurations; for other versions, being a special execution, please contact our Sales Dept.

BSN - Base-frame with conveyor and ON/OFF damper: a single base-frame with both options BS and BN so to optimize efficiency and overall dimensions

DP Internal double panels: for shutting off the compartments affected by the air flow, they are made from pre-painted and galvanized steel plate, ensuring reduction in the noise transmitted through the panels and a better air tightness even without the external panels so that the access is guaranteed with the doors open during service operation.

EC-LP&HP - Single-inlet EC (electronically commutated) centrifugal fans with backward curved blade (LP not available for D version), made of high- performance composite material, directly coupled to a three-phase electrical rotor with IP54 protection grade, they have the possibility of a continuous regulation of the speed by means of 10V signal, sent and integrated to the control. The fans are fixed on suitable supports reducing the transmission of vibration to the frame and the impeller is statically and dynamically balanced with long-life bearings. Thanks to their technology, the EC fans ensures a lower electrical absorption and sound level, if compared to the traditional centrifugal fans. It is possible to adjust their air flow to the head pressure requested on site. In case of IT electrical supplies, EMICON reserves, after prior verification, to release its approval for this electrical connection

F5-F6-F7-F9 - Higher efficiency air filters: pleated filters, supplied as an alternative to standard G4 filters.

FR - Spare filter kit as a replacement to the ones on board of the unit.

H - Humidifier of immersed-electrode type for the modulating production of steam. It is made by a steam cylinder, by a steam distributor, by water inlet and outlet valves and by a maximum level probe. The microprocessor on board indicates when the steam cylinder needs to be replaced. It is electrically protected by a magnetothermic switch.

IE - Fumigated wooden crate packing: available on request for critical transports, so to assure a suitable protection to the unit.

IH - RS 485 serial interface: electronic card to be connected to microprocessor, to allow communication between the units and a Carel supervision system. It is possible to fully control the unit from remote. For connection to other supervision systems, the protocol of the controlled parameters is available on request.

IM - Seawood packing: fumigated seawood case and protection bag with hygroscopic salts, suitable for long sea transports.

IP - Magnetothermic switches for auxiliary circuits: when required, they replace the fuses, as a protection of the auxiliary circuits.

IS1 - Class 1 insulating material in conformity to the main European regulations in force.

MF - Phase monitor: electronic device controlling the correct sequence and/or the eventual lack of one of the 3 phases, switching off the unit if necessary.

MN - Lack of neutral wire for 400/3/50 power supply: unit general power supply

without neutral wire.

PB - Condensing water pump: micro pump discharging the condensing water produced by the unit, it is factory installed.

PBH - Condensing water and humidifier discharge pump: pump discharging the condensing water produced by the unit and the humidifier discharge water, it is factory installed.

PL - Distribution plenum with front grid and a double raw of adjustable fins for a better air distribution (for versions U and V).

PQ - Remote microprocessor display: remote terminal, allowing to display the temperature and humidity values detected by probes, the alarm digital inputs, the outputs and the remote ON/OFF of the unit, to change and program of the parameters, the sound signal and the display of the present alarms.

PR - Fresh air inlet: external fresh air inlet with filter, placed on side (standard on the left side), with circular connection (Ø 100 mm).

RE - Electrical heaters: made in aluminium and installed after the cooling coil, for re-heating and/or heating of the treated air. The heating capacity is split max on 3 steps, so to reduce the energy absorption. They are controlled by the microprocessor on board and electrically protected by a magnetothermic switch.

RE M - Oversized Electrical heaters.

RV - Personalized frame painting in RAL colour.

SL - Main switch with external padlock.

SM - 0-10V control for chilled water coil, only available for frame 1, 2 and 3. For the other sizes, it is standard and the type of signal can be set from the microprocessor on board or directly on the control.

ST - Manual calibration damper, in galvanized steel plate with opposed-movement fins. Through the manual control, it is possible to accurately regulate the air flow. (Not available for UWL configurations).

STM - Motorized calibration damper, in galvanized steel plate with opposed-movement fins. Through the modulating control (0-10V), it is possible to accurately regulate the air flow. (Not available for UWL configurations).

SV - Gravity overpressure damper for ducted units, to prevent the air return when the units are not operating, where several units are installed in the same room. Available for U and versions; for D version, being a special execution, please contact our Sales Dept.

WG - Electronic card for interfacing to BMS with SNMP or TCP/IP protocols.

References

- France Telecom – Lille (France)
- University Campus – Jussieu – Paris (France)
- Groupama – Chauray (France)
- University of Wien - (Austria)
- Data Centre – Colonia (Germany)
- Mc Donald's – Milan (Germany)
- Stadium "Jean Bouw" – Paris (France)
- Cirad – Montpellier (France)
- Tour Ermes – Bruz (France)

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Emicon AC S.p.a.
Via A. Volta, 49 - 47014 Meldola (FC)
T. +39 0543 495611
F. +39 0543 495612
emicon@emiconac.it

www.**emiconac**.it