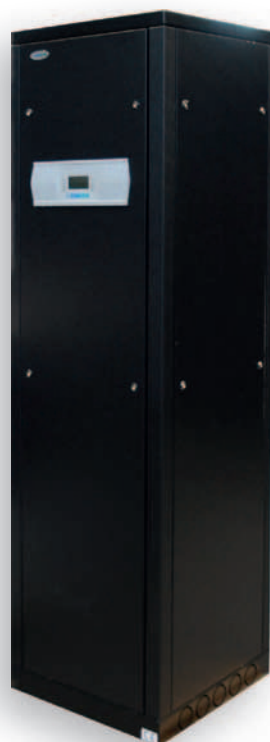


UW

CLOSE CONTROL UNITS WITH CHILLED WATER COIL

COOLING CAPACITY FROM 5 TO 154 kW

UW 230 D



The range of chilled water close control units, **series UW**, 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 thermohygrometric 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.

The units are available in different configurations, related to the air return and discharge:

- **UW U** front air return, upflow air discharge;
- **UW V** bottom air return, upflow air discharge;
- **UW 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.

Operation limits: ambient temperature from 18 to 35°C.

MAIN COMPONENTS

Structure realized with a framework and internal parts made of galvanized

CHILLED WATER

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. It allows 3 languages display reading, a detailed description of parameters, the

possibility to manage up to 8 units, to manage non standard communication protocols, a quickest access to the program, the control of the humidifier, the control of modulating valves.

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 170mm to max 600mm 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 RE option. (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. (not available for UWL configurations)

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, please contact our Sales Dept.**

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

FR Spare filter kit G4 as a replacement to the ones on board of the unit.

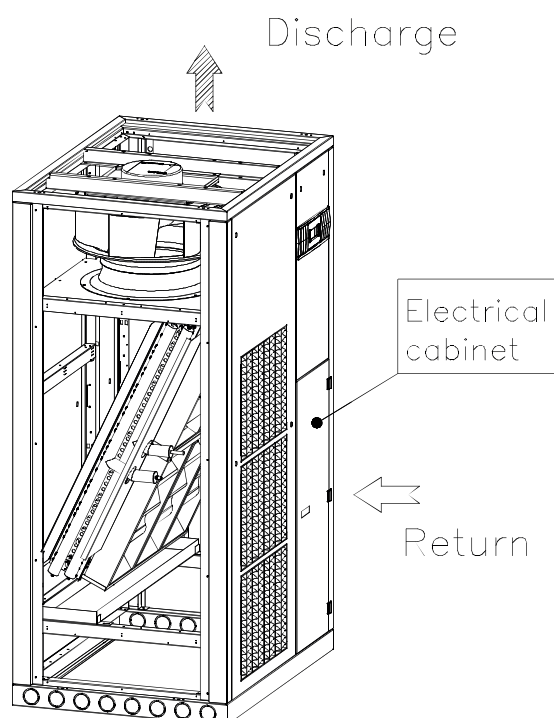
CHILLED WATER

- 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.
- MP Oversized microprocessor:** in addition to the standard microprocessor, it allows more languages display reading (maximum 5), it has an increased hardware so to allow the managing of more inputs and outputs for the control of on board installed components.
- 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 row of adjustable fins for a better air distribution. (for versions U and V and not available with options ST and STM)
- PQ Remote 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.
- REM 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. (Alternative to STM, not available with option PL and for UWL configurations).
- STM Motorized calibration damper,** in galvanized steel plate with opposed-movement fins. Through the modulating control (0-10V), it

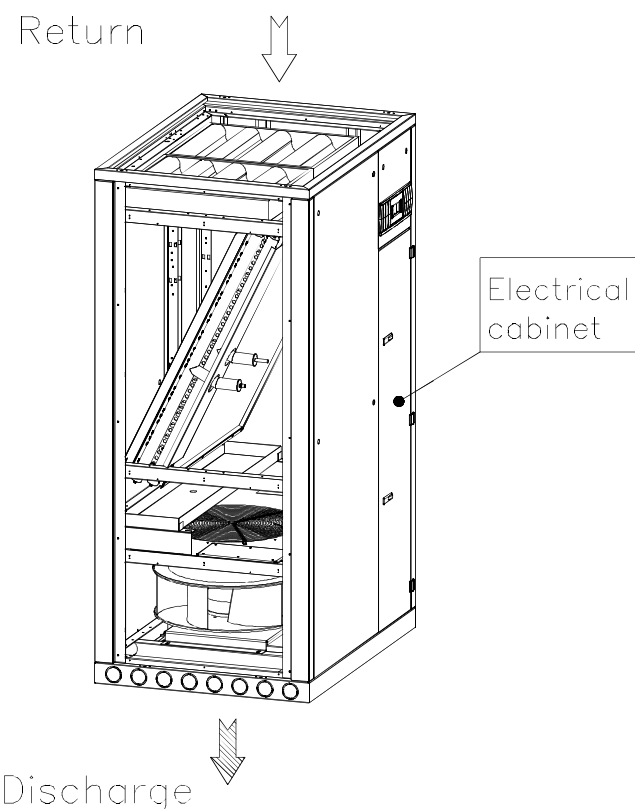
is possible to accurately regulate the air flow. (Alternative to ST, not available with option PL and for UWL configurations).

- 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.
- TS Touch screen graphic terminal** designed to simplify user interface with the unit controller. It allows the set-point fixing, the alarm reading, the graphic display of the main controlled parameters in real time (suitable for download on USB interface) and possibility of set-point scheduling. The 4.3", 65.000 colours and 480x422 resolution display, being a dedicated terminal for the end user, does not allow to change the basic configuration of the unit.
- WG WebGate device** for interfacing to BMS with SNMP or TCP/IP protocols. Only available with option IH.

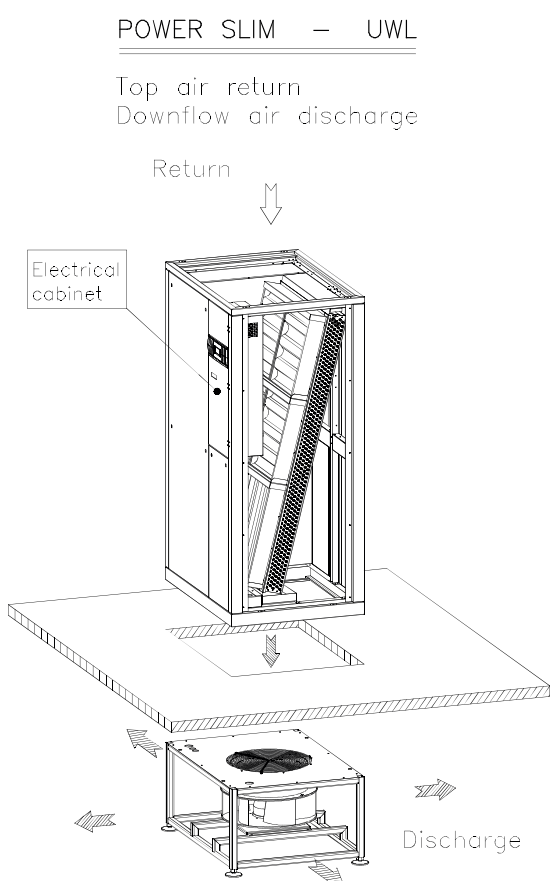
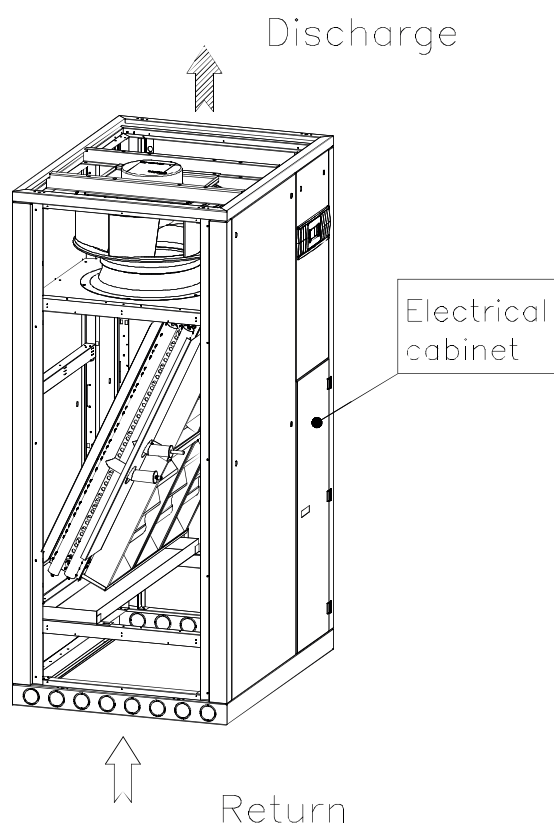
U Front air return
Upflow air discharge



D Top air return
Downflow air discharge



V Bottom air return
Upflow air discharge



POWER SLIM — UWL

Top air return
Downflow air discharge

CHILLED WATER

Technical data sheet - UW U-V Versions

UW U-V		70	140	180	230	290	390	490	530	670
Frame										
Frame			1		2		3		4	
Cooling capacity - Water 7/12°C										
Total cooling capacity (27°C - 50% R.H.)	kW	7,7	13,3	16,6	21,3	26,9	37,3	47,5	59	65,7
Sensible cooling capacity (27°C - 50% R.H.)	kW	7,7	9,9	11,3	15,7	18,3	27,3	32	41,9	45
SHR @ 27°C-50% U.R.	%	100	74	68	74	68	73	67	71	68
Water flow	m³/h	1,3	2,3	2,8	3,7	4,6	6,4	8,2	10,1	11,3
Pressure drop of chilled water coil	kPa	33	35	38	45	43	48	47	58	65
Pressure drop of 3-way valve	kPa	40	30	21	36	21	39	33	39	47
Total pressure drop (coil+3-way valve)	kPa	73	65	59	81	64	87	80	97	112
Total cooling capacity (24°C - 50% R.H.)	kW	5	8,6	11	14,1	18,1	24,9	32,3	39,6	44,7
Sensible cooling capacity (24°C - 50% R.H.)	kW	5	7,9	8,9	12,6	14,6	21,9	25,7	33,2	36,1
SHR @ 24°C-50% U.R.	%	100	92	81	89	81	88	80	84	81
Water flow	m³/h	0,8	1,5	1,9	2,4	3,1	4,3	5,5	6,8	7,7
Pressure drop of chilled water coil	kPa	16	16	19	23	22	24	25	30	34
Pressure drop of 3-way valve	kPa	18	14	10	16	10	19	16	18	23
Total pressure drop (coil+3-way valve)	kPa	34	30	29	39	32	43	41	48	57
Total cooling capacity (22°C - 50% R.H.)	kW	4,1	6,7	8,1	10,7	13,2	18,7	23,3	29,6	32,6
Sensible cooling capacity (22°C - 50% R.H.)	kW	4,1	6,4	7,1	10,1	11,5	17,4	20	26,4	28,3
SHR @ 22°C-50% U.R.	%	100	96	88	94	87	93	86	89	87
Water flow	m³/h	0,7	1,1	1,4	1,8	2,3	3,2	4	5,1	5,6
Pressure drop of chilled water coil	kPa	11	11	11	14	13	15	14	18	18
Pressure drop of 3-way valve	kPa	13	8	6	10	5	11	9	11	15
Total pressure drop (coil+3-way valve)	kPa	24	19	17	24	18	26	23	29	33
Internal volume of the coil	dm³	2,2	4,3	6,0	6,6	9,1	11,4	15,9	16,8	19,6
Cooling capacity - Water 9/14°C										
Total cooling capacity (27°C - 50% R.H.)	kW	5,8	10,2	13,1	16,4	21,3	29	37,7	46	51,9
Sensible cooling capacity (27°C - 50% R.H.)	kW	5,8	8,6	9,7	13,6	15,8	23,7	27,7	35,6	38,7
SHR @ 27°C-50% U.R.	%	100	84	74	83	74	82	73	77	75
Water flow	m³/h	1	1,7	2,2	2,8	3,7	5	6,5	7,9	8,9
Pressure drop of chilled water coil	kPa	20	21	25	29	28	31	32	38	42
Pressure drop of 3-way valve	kPa	24	19	13	22	14	24	21	24	31
Total pressure drop (coil+3-way valve)	kPa	44	40	38	51	42	55	53	62	73
Total cooling capacity (24°C - 50% R.H.)	kW	4,2	6,8	8,2	10,8	13,4	18,9	23,5	29,8	32,8
Sensible cooling capacity (24°C - 50% R.H.)	kW	4,2	6,4	7,1	10,1	11,5	17,4	20,1	26,4	28,4
SHR @ 24°C-50% U.R.	%	100	94	87	94	86	92	86	89	87
Water flow	m³/h	0,7	1,2	1,4	1,9	2,3	3,2	4	5,1	5,6
Pressure drop of chilled water coil	kPa	12	11	11	14	12	15	14	18	20
Pressure drop of 3-way valve	kPa	13	9	6	10	6	11	9	11	13
Total pressure drop (coil+3-way valve)	kPa	25	20	17	24	18	26	23	29	33
Total cooling capacity (22°C - 50% R.H.)	kW	3,3	5,4	6,7	8,8	11	15,5	19,4	24,5	27,1
Sensible cooling capacity (22°C - 50% R.H.)	kW	3,3	5,4	6,7	8,8	11	15,5	19,4	24,5	27,1
SHR @ 22°C-50% U.R.	%	100	100	100	100	100	100	100	100	100
Water flow	m³/h	0,6	0,9	1,2	1,5	1,9	2,7	3,3	4,2	4,7
Pressure drop of chilled water coil	kPa	7	7	8	11	9	10	10	13	14
Pressure drop of 3-way valve	kPa	9	6	4	6	4	8	6	7	9
Total pressure drop (coil+3-way valve)	kPa	16	13	12	17	13	18	16	20	23
Internal volume of the coil	dm³	2,2	4,3	6,0	6,6	9,1	11,4	15,9	16,8	19,6
AC fans with autotransformer										
Quantity	n.	1	1	1	1	1	1	1	1	1
Fan(s) supply voltage	V	230	250	290	250	310	260	320	280	300
Air flow	m³/h	2.030	2.030	2.030	3.180	3.280	5.450	5.700	8.050	8.200
Available pressure	Pa	20	20	20	20	20	20	20	20	20
Rotation speed	rpm	1.100	1.156	1.245	1.157	1.283	1.050	1.147	1.190	1.227
Input power	kW	0,30	0,32	0,36	0,57	0,66	0,93	1,09	1,62	1,72
Input current	A	0,96	0,96	0,96	1,57	1,48	2,64	2,62	4,11	4,09
Max available pressure (max ESP)	Pa	157	129	82	164	75	185	89	198	156
Sound pressure level @ 2 m - U Version	dB(A)	45	46	47	51	53	55	57	60	60
Sound press. level @ 2 m - U Version (max ESP)	dB(A)	49	49	49	54	54	59	60	62	62
Sound pressure level @ 2 m - V Version	dB(A)	42	42	44	48	49	51	53	56	57
Sound pressure level @ 2 m - V Version (max ESP)	dB(A)	46	46	46	51	51	56	56	59	59
EC Fans - LP (low pressure)										
Quantity	n.	-	-	-	-	-	1	1	1	1
Air flow	m³/h	-	-	-	-	-	5'450	5'700	8'050	8'200
Available pressure	Pa	-	-	-	-	-	20	20	20	20
Max available pressure (max ESP)	Pa	-	-	-	-	-	225	146	109	63
Rotation speed	rpm	-	-	-	-	-	1.086	1.179	1.090	1.132
Input power	kW	-	-	-	-	-	0,54	0,70	0,96	1,10
Sound pressure level @ 2 m - U Version	dB(A)	-	-	-	-	-	54	55	57	57
Sound press. level @ 2 m - U Version (max ESP)	dB(A)	-	-	-	-	-	56	56	57	58
Sound pressure level @ 2 m - V Version	dB(A)	-	-	-	-	-	51	52	53	54
Sound pressure level @ 2 m - V Version (max ESP)	dB(A)	-	-	-	-	-	53	53	54	54

Technical data sheet - UW U-V Versions

UW U-V		70	140	180	230	290	390	490	530	670
Frame										
Frame		1			2		3		4	
EC Fans - HP (High pressure)										
Quantity	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	Pa	20	20	20	20	20	20	20	20	20
Max available pressure (max ESP)	Pa	746	692	651	540	479	707	628	548	503
Rotation speed	rpm	1.112	1.160	1.136	1.066	1.167	1.103	1.195	1.100	1.142
Input power	kW	0,22	0,25	0,24	0,3	0,4	0,58	0,75	0,98	1,1
Sound pressure level @ 2 m - U Version	dB(A)	46	46	47	51	53	56	57	58	58
Sound press. level @ 2 m - U Version (max ESP)	dB(A)	65	65	65	63	63	64	64	62	62
Sound pressure level @ 2 m - V Version	dB(A)	42	43	43	48	49	53	54	54	55
Sound pressure level @ 2 m - V Version (max ESP)	dB(A)	61	61	61	60	59	61	61	59	59
Humidifier										
Steam production (nominal)	kg/h	1,5	1,5	1,5	3	3	5	5	8	8
Steam production (max)	kg/h	3	3	3	3	3	8	8	8	8
Maximum input power	kW	1,12	1,12	1,12	2,25	2,25	3,75	3,75	6	6
Maximum input current	A	5	5	5	10	10	5,5	5,5	8,7	8,7
Specific conductivity at 20°C (min/max)	µS/cm	300 / 1'250								
Total hardness (min/max)	mg/l CaCo3	100 / 400								
Electrical heaters										
Steps	n.	1	1	1	3	3	2	2	3	3
Power	kW	3	3	3	4,5	4,5	6	6	9	9
Input current	A	4,3	4,3	4,3	6,5	6,5	8,7	8,7	13,0	13,0
Oversized electrical heaters										
Steps	n.	3	3	3	2	2	3	3	3	3
Power	kW	4,5	4,5	4,5	6	6	9	9	12	12
Input current	A	6,5	6,5	6,5	8,7	8,7	13,0	13,0	17,3	17,3
Hot water coil										
Heating capacity	kW	3,9	3,9	3,9	6	6,2	8,5	8,7	17,8	18
Water flow rate	m³/h	0,7	0,7	0,7	1,1	1,1	1,5	1,5	3,1	3,1
Pressure drop (coil+3-way valve)	kPa	27	27	27	28	29	39	41	62	64
Internal volume of the coil	dm³	1,1	1,1	1,1	1,4	1,4	2,1	2,1	3,8	3,8
Condensing water pump										
Nominal water flow	l/h	27,5	27,5	27,5	390	390	390	390	390	390
Max water flow (pressure = 0 m)	l/h	34	34	34	500	500	500	500	500	500
Max height (water flow = 0 m³/h)	m	15	15	15	5,4	5,4	5,4	5,4	5,4	5,4
Condensing water pump + humidifier										
Nominal water flow	l/h	-	-	-	-	-	-	-	600	600
Max water flow (pressure = 0 m)	l/h	-	-	-	-	-	-	-	900	900
Max height (water flow = 0 m³/h)	m	-	-	-	-	-	-	-	6,0	6,0
Dimensions										
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 - U Version	kg	134	139	143	177	183	227	238	312	318
Weight - V Version	kg	134	139	143	177	183	232	243	307	313
Power supply										
Power supply	V / ph / Hz	400 / 3 / 50 + N + T								
REMARKS										
- Fluid: water (glycol 0%).										
- Filters calculated for 20% dirt.										
- Max pressure is referred to the nominal air flow and the max tension/regulation.										
- Hot water coil calculated for: water 40/45°C, ambient temperature 20°C and available pressure of 20 Pa.										
- The condensing / condensing + humidifier water pump is calculated for a 2 m vertical difference in height respect to the pump; total length of the discharge pipe of 5 m, internal diameter of the flexible pipe of 12 mm (6 mm for size 70-140-180 only for condensing water pump).										
- The sound pressure level is referred to the unit with ducted air inlet and discharge (except for version U air inlet).										

CHILLED WATER

Technical data sheet - UW U-V Versions

UW U-V		810	980	1240	1400	1610	1810	2000	2250
Frame									
Frame			5		6	7		8	
Cooling capacity - Water 7/12°C									
Total cooling capacity (27°C - 50% R.H.)	kW	77,8	97,2	122,3	139,3	159,4	178,1	201,3	224,3
Sensible cooling capacity (27°C - 50% R.H.)	kW	64	71,5	83,6	93,9	112,7	121,6	143,2	153,6
SHR @ 27°C-50% U.R.	%	82	74	68	67	71	68	71	68
Water flow	m³/h	13,3	14,7	21	23,9	27,3	30,6	34,5	38,5
Pressure drop of chilled water coil	kPa	71	70	73	60	71	74	77	87
Pressure drop of 3-way valve	kPa	35	54	46	61	44	56	71	88
Total pressure drop (coil+3-way valve)	kPa	106	124	119	121	115	130	148	175
Total cooling capacity (24°C - 50% R.H.)	kW	52,9	65,3	83,7	95,7	108,5	122,4	136,8	154,2
Sensible cooling capacity (24°C - 50% R.H.)	kW	49,5	58,4	67,4	76	92,5	98,3	117,2	124,2
SHR @ 24°C-50% U.R.	%	94	89	81	79	85	80	86	81
Water flow	m³/h	9,1	11,2	14,4	16,4	18,6	21	23,5	26,5
Pressure drop of chilled water coil	kPa	37	36	38	32	36	39	40	46
Pressure drop of 3-way valve	kPa	17	26	23	30	22	28	35	44
Total pressure drop (coil+3-way valve)	kPa	54	62	61	62	58	67	75	90
Total cooling capacity (22°C - 50% R.H.)	kW	40,9	49,4	60,7	69,8	79,9	88,4	101,2	111,6
Sensible cooling capacity (22°C - 50% R.H.)	kW	40,9	46,4	52,6	63,1	79,7	76,4	91,7	96,6
SHR @ 22°C-50% U.R.	%	100	94	87	90	100	86	91	87
Water flow	m³/h	7	8,5	10,4	12	13,7	15,2	17,4	19,1
Pressure drop of chilled water coil	kPa	24	23	22	19	24	23	25	27
Pressure drop of 3-way valve	kPa	10	15	13	15	14	15	19	24
Total pressure drop (coil+3-way valve)	kPa	34	38	35	36	34	38	44	51
Internal volume of the coil	dm³	19,8	24,8	34,8	43,1	42,6	49,7	50,9	59,8
Cooling capacity - Water 9/14°C									
Total cooling capacity (27°C - 50% R.H.)	kW	60,8	75,1	96,8	111,1	125,1	141,3	157,7	177,8
Sensible cooling capacity (27°C - 50% R.H.)	kW	55,6	62,5	72,1	81,4	98,8	105	125,5	132,6
SHR @ 27°C-50% U.R.	%	91	83	74	73	79	74	80	75
Water flow	m³/h	10,5	12,9	16,6	19,1	21,5	24,3	27,1	30,5
Pressure drop of chilled water coil	kPa	46	44	47	40	46	50	50	57
Pressure drop of 3-way valve	kPa	22	34	31	40	28	36	45	57
Total pressure drop (coil+3-way valve)	kPa	68	78	78	80	74	86	95	114
Total cooling capacity (24°C - 50% R.H.)	kW	41,2	49,7	61,1	69,1	80,5	89	101,9	112,3
Sensible cooling capacity (24°C - 50% R.H.)	kW	41	46,3	52,6	58,8	80,5	76,4	92,1	96,6
SHR @ 24°C-50% U.R.	%	100	93	86	85	100	86	90	86
Water flow	m³/h	7,1	8,5	10,5	11,9	13,8	15,3	17,5	19,3
Pressure drop of chilled water coil	kPa	24	22	22	19	22	22	24	27
Pressure drop of 3-way valve	kPa	10	16	13	16	12	15	20	24
Total pressure drop (coil+3-way valve)	kPa	34	38	35	35	34	38	44	51
Total cooling capacity (22°C - 50% R.H.)	kW	33,7	40,8	50,6	57,4	66,5	73,9	84,1	93,2
Sensible cooling capacity (22°C - 50% R.H.)	kW	33,7	40,8	50,6	57,1	66,5	73,9	84,1	93,2
SHR @ 22°C-50% U.R.	%	100	100	100	99	100	100	100	100
Water flow	m³/h	5,8	7	8,7	9,9	11,4	12,7	14,5	16
Pressure drop of chilled water coil	kPa	18	16	16	13	15	16	17	19
Pressure drop of 3-way valve	kPa	6	11	9	12	9	11	14	18
Total pressure drop (coil+3-way valve)	kPa	24	27	25	25	24	27	31	37
Internal volume of the coil	dm³	19,8	24,8	34,8	43,1	42,6	49,7	50,9	59,8
AC fans with autotransformer									
Quantity	n.	2	2	2	2	3	3	4	4
Fan(s) supply voltage	V	230	260	290	300	260	280	260	280
Air flow	m³/h	14.500	15.000	15.200	16.700	21.500	22.050	27.500	28.000
Available pressure	Pa	20	20	20	20	20	20	20	20
Rotation speed	rpm	1.078	1.147	1.205	1.228	1.145	1.186	1.144	1.185
Input power	kW	2,70	3,06	3,38	3,43	4,61	4,93	6,16	6,59
Input current	A	8,26	8,32	8,28	8,14	12,54	12,48	16,76	16,68
Max available pressure (max ESP)	Pa	314	242	175	156	246	195	239	194
Sound pressure level @ 2 m - U Version	dB(A)	61	62	62	64	63	64	64	65
Sound press. level @ 2 m - U Version (max ESP)	dB(A)	65	65	65	66	67	67	68	68
Sound pressure level @ 2 m - V Version	dB(A)	57	58	59	60	60	60	60	61
Sound pressure level @ 2 m - V Version (max ESP)	dB(A)	61	62	62	62	63	63	64	64
EC Fans - LP (low pressure)									
Quantity	n.	1	1	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	Pa	20	20	20	20	20	20	20	20
Max available pressure (max ESP)	Pa	213	151	87	71	156	105	153	108
Rotation speed	rpm	974	1.027	1.093	1.125	1.022	1.078	1.016	1.062
Input power	kW	1,36	1,62	2,01	2,12	2,44	2,91	3,25	3,76
Sound pressure level @ 2 m - U Version	dB(A)	58	59	60	61	60	61	61	62
Sound press. level @ 2 m - U Version (max ESP)	dB(A)	60	60	60	61	61	62	63	63
Sound pressure level @ 2 m - V Version	dB(A)	55	56	56	57	57	57	58	58
Sound pressure level @ 2 m - V Version (max ESP)	dB(A)	56	56	57	58	58	58	59	59

Technical data sheet - UW U-V Versions

UW U-V		810	980	1240	1400	1610	1810	2000	2250
Frame									
Frame		5			6		7		8
EC Fans - HP (High pressure)									
Quantity	n.	1	1	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	Pa	20	20	20	20	20	20	20	20
Max available pressure (max ESP)	Pa	647	586	524	513	589	540	585	541
Rotation speed	rpm	981	1.036	1.102	1.135	1.030	1.086	1.023	1.069
Input power	kW	1,39	1,65	2,04	2,13	2,5	2,95	3,32	3,81
Sound pressure level @ 2 m - U Version	dB(A)	59	60	61	62	61	62	63	63
Sound pressure level @ 2 m - U Version (max ESP)	dB(A)	65	65	65	66	67	67	69	69
Sound pressure level @ 2 m - V Version	dB(A)	56	57	57	58	58	59	59	59
Sound pressure level @ 2 m - V Version (max ESP)	dB(A)	62	62	62	62	64	64	65	65
Humidifier									
Steam production (nominal)	kg/h	8	8	8	8	8	8	8	8
Steam production (max)	kg/h	8	8	8	8	8	8	8	8
Maximum input power	kW	6	6	6	6	6	6	6	6
Maximum input current	A	8,7	8,7	8,7	8,7	8,7	8,7	8,7	8,7
Specific conductivity at 20°C (min/max)	µS/cm	300 / 1'250							
Total hardness (min/max)	mg/l CaCo3	100 / 400							
Electrical heaters									
Steps	n.	3	3	3	3	3	3	3	3
Power	kW	15	15	15	18	24	24	27	27
Input current	A	21,7	21,7	21,7	26,0	34,6	34,6	39,0	39,0
Oversized electrical heaters									
Steps	n.	3	3	3	3	3	3	3	3
Power	kW	18	18	18	24	27	27	36	36
Input current	A	26,0	26,0	26,0	34,6	39,0	39,0	52,0	52,0
Hot water coil									
Heating capacity	kW	32,4	33,1	33,5	38,9	48	48,8	65,2	65,9
Water flow rate	m³/h	5,7	5,7	5,8	6,8	8,4	8,5	11,4	11,5
Pressure drop (coil+3-way valve)	kPa	67	69	70	56	62	64	62	63
Internal volume of the coil	dm³	5,6	6,4	6,4	7,7	8,7	8,7	15,3	15,3
Condensing water pump									
Nominal water flow	l/h	390	390	390	390	390	390	390	390
Max water flow (pressure = 0 m)	l/h	500	500	500	500	500	500	500	500
Max height (water flow = 0 m³/h)	m	5,4	5,4	5,4	5,4	5,4	5,4	5,4	5,4
Condensing water pump + humidifier									
Nominal water flow	l/h	600	600	600	600	600	600	600	600
Max water flow (pressure = 0 m)	l/h	900	900	900	900	900	900	900	900
Max height (water flow = 0 m³/h)	m	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0
Dimensions									
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 - U Version	kg	410	422	446	504	590	607	729	750
Weight - V Version	kg	420	431	456	513	600	617	729	750
Power supply									
Power supply	V / ph / Hz	400 / 3 / 50 + N + T							

CHILLED WATER

Technical data sheet - UW D Version

UW D		70	140	180	230	290	390	490	530	670
Frame										
Frame			1		2		3		4	
Cooling capacity - Water 7/12°C										
Total cooling capacity (27°C - 50% R.H.)	kW	7,7	13,3	16,6	21,3	26,9	37,3	47,5	59	65,7
Sensible cooling capacity (27°C - 50% R.H.)	kW	7,7	9,9	11,3	15,7	18,3	27,3	32	41,9	45
SHR @ 27°C-50% U.R.	%	100	74	68	74	68	73	67	71	68
Water flow	m³/h	1,3	2,3	2,8	3,7	4,6	6,4	8,2	10,1	11,3
Pressure drop of chilled water coil	kPa	33	35	38	45	43	48	47	58	65
Pressure drop of 3-way valve	kPa	40	30	21	36	21	39	33	39	47
Total pressure drop (coil+3-way valve)	kPa	73	65	59	81	64	87	80	97	112
Total cooling capacity (24°C - 50% R.H.)	kW	5	8,6	11	14,1	18,1	24,9	32,3	39,6	44,7
Sensible cooling capacity (24°C - 50% R.H.)	kW	5	7,9	8,9	12,6	14,6	21,9	25,7	33,2	36,1
SHR @ 24°C-50% U.R.	%	100	92	81	89	81	88	80	84	81
Water flow	m³/h	0,8	1,5	1,9	2,4	3,1	4,3	5,5	6,8	7,7
Pressure drop of chilled water coil	kPa	16	16	19	23	22	24	25	30	34
Pressure drop of 3-way valve	kPa	18	14	10	16	10	19	16	18	23
Total pressure drop (coil+3-way valve)	kPa	34	30	29	39	32	43	41	48	57
Total cooling capacity (22°C - 50% R.H.)	kW	4,1	6,7	8,1	10,7	13,2	18,7	23,3	29,6	32,6
Sensible cooling capacity (22°C - 50% R.H.)	kW	4,1	6,4	7,1	10,1	11,5	17,4	20	26,4	28,3
SHR @ 22°C-50% U.R.	%	100	96	88	94	87	93	86	89	87
Water flow	m³/h	0,7	1,1	1,4	1,8	2,3	3,2	4	5,1	5,6
Pressure drop of chilled water coil	kPa	11	11	11	14	13	15	14	18	18
Pressure drop of 3-way valve	kPa	13	8	6	10	5	11	9	11	15
Total pressure drop (coil+3-way valve)	kPa	24	19	17	24	18	26	23	29	33
Internal volume of the coil	dm³	2,2	4,3	6,0	6,6	9,1	11,4	15,9	16,8	19,6
Cooling capacity - Water 9/14°C										
Total cooling capacity (27°C - 50% R.H.)	kW	5,8	10,2	13,1	16,4	21,3	29	37,7	46	51,9
Sensible cooling capacity (27°C - 50% R.H.)	kW	5,8	8,6	9,7	13,6	15,8	23,7	27,7	35,6	38,7
SHR @ 27°C-50% U.R.	%	100	84	74	83	74	82	73	77	75
Water flow	m³/h	1	1,7	2,2	2,8	3,7	5	6,5	7,9	8,9
Pressure drop of chilled water coil	kPa	20	21	25	29	28	31	32	38	42
Pressure drop of 3-way valve	kPa	24	19	13	22	14	24	21	24	31
Total pressure drop (coil+3-way valve)	kPa	44	40	38	51	42	55	53	62	73
Total cooling capacity (24°C - 50% R.H.)	kW	4,2	6,8	8,2	10,8	13,4	18,9	23,5	29,8	32,8
Sensible cooling capacity (24°C - 50% R.H.)	kW	4,2	6,4	7,1	10,1	11,5	17,4	20,1	26,4	28,4
SHR @ 24°C-50% U.R.	%	100	94	87	94	86	92	86	89	87
Water flow	m³/h	0,7	1,2	1,4	1,9	2,3	3,2	4	5,1	5,6
Pressure drop of chilled water coil	kPa	12	11	11	14	12	15	14	18	20
Pressure drop of 3-way valve	kPa	13	9	6	10	6	11	9	11	13
Total pressure drop (coil+3-way valve)	kPa	25	20	17	24	18	26	23	29	33
Total cooling capacity (22°C - 50% R.H.)	kW	3,3	5,4	6,7	8,8	11	15,5	19,4	24,5	27,1
Sensible cooling capacity (22°C - 50% R.H.)	kW	3,3	5,4	6,7	8,8	11	15,5	19,4	24,5	27,1
SHR @ 22°C-50% U.R.	%	100	100	100	100	100	100	100	100	100
Water flow	m³/h	0,6	0,9	1,2	1,5	1,9	2,7	3,3	4,2	4,7
Pressure drop of chilled water coil	kPa	7	7	8	11	9	10	10	13	14
Pressure drop of 3-way valve	kPa	9	6	4	6	4	8	6	7	9
Total pressure drop (coil+3-way valve)	kPa	16	13	12	17	13	18	16	20	23
Internal volume of the coil	dm³	2,2	4,3	6,0	6,6	9,1	11,4	15,9	16,8	19,6
AC fans with autotransformer										
Quantity	n.	1	1	1	1	1	1	1	1	1
Fan(s) supply voltage	V	270	290	360	290	360	290	360	340	380
Air flow	m³/h	2.030	2.030	2.030	3.180	3.280	5.450	5.700	8.050	8.200
Available pressure	Pa	20	20	20	20	20	20	20	20	20
Rotation speed	rpm	1.204	1.245	1.338	1.248	1.343	1.095	1.190	1.285	1.328
Input power	kW	0,34	0,36	0,41	0,63	0,71	1,02	1,18	1,90	2,03
Input current	A	0,96	0,96	0,97	1,51	1,44	2,64	2,65	4,06	4,07
Max available pressure (max ESP)	Pa	106	84	31	102	31	134	44	84	34
Sound pressure level @ 2 m - D Version	dB(A)	45	46	47	51	52	54	57	60	60
Sound press. level @ 2 m - D Version (max ESP)	dB(A)	48	48	48	53	53	58	58	61	61
EC Fans - HP (High pressure)										
Quantity	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	Pa	20	20	20	20	20	20	20	20	20
Max available pressure (max ESP)	Pa	706	652	611	496	433	662	580	447	400
Rotation speed	rpm	1.188	1.232	1.197	1.124	1.223	1.143	1.235	1.171	1.213
Input power	kW	0,26	0,29	0,27	0,36	0,45	0,66	0,84	1,22	1,36
Sound pressure level @ 2 m - D Version	dB(A)	45	46	47	51	52	54	57	57	60
Sound press. level @ 2 m - D Version (max ESP)	dB(A)	63	63	63	62	61	63	63	61	61

Technical data sheet - UW D Version

UW D		70	140	180	230	290	390	490	530	670
Frame										
Frame			1		2		3		4	
Humidifier										
Steam production (nominal)	kg/h	1,5	1,5	1,5	3	3	5	5	8	8
Steam production (max)	kg/h	3	3	3	3	3	8	8	8	8
Maximum input power	kW	1,12	1,12	1,12	2,25	2,25	3,75	3,75	6	6
Maximum input current	A	5	5	5	10	10	5,5	5,5	8,7	8,7
Specific conductivity at 20°C (min/max)	µS/cm					300 / 1' 250				
Total hardness (min/max)	mg/l CaCo3					100 / 400				
Electrical heaters										
Steps	n.	1	1	1	3	3	2	2	3	3
Power	kW	3	3	3	4,5	4,5	6	6	9	9
Input current	A	4,3	4,3	4,3	6,5	6,5	8,7	8,7	13,0	13,0
Oversized electrical heaters										
Steps	n.	3	3	3	2	2	3	3	3	3
Power	kW	4,5	4,5	4,5	6	6	9	9	12	12
Input current	A	6,5	6,5	6,5	8,7	8,7	13,0	13,0	17,3	17,3
Hot water coil										
Heating capacity	kW	3,9	3,9	3,9	6	6,2	8,5	8,7	17,8	18
Water flow rate	m³/h	0,7	0,7	0,7	1,1	1,1	1,5	1,5	3,1	3,1
Pressure drop (coil+3-way valve)	kPa	27	27	27	28	29	39	41	62	64
Internal volume of the coil	dm³	1,1	1,1	1,1	1,4	1,4	2,1	2,1	3,8	3,8
Condensing water pump										
Nominal water flow	l/h	27,5	27,5	27,5	390	390	390	390	390	390
Max water flow (pressure = 0 m)	l/h	34	34	34	500	500	500	500	500	500
Max height (water flow = 0 m³/h)	m	15	15	15	5,4	5,4	5,4	5,4	5,4	5,4
Condensing water pump + humidifier										
Nominal water flow	l/h	-	-	-	-	-	-	-	600	600
Max water flow (pressure = 0 m)	l/h	-	-	-	-	-	-	-	900	900
Max height (water flow = 0 m³/h)	m	-	-	-	-	-	-	-	6,0	6,0
Dimensions										
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 - D Version	kg	139	143	148	173	179	237	248	312	318
Power supply										
Power supply	V / ph / Hz					400 / 3 / 50 + N + T				
REMARKS										
- Fluid: water (glycol 0%). - Filters calculated for 20% dirt. - Max pressure is referred to the nominal air flow and the max tension/regulation. - Hot water coil calculated for: water 40/45°C, ambient temperature 20°C and available pressure of 20 Pa. - The condensing / condensing + humidifier water pump is calculated for a 2 m vertical difference in height respect to the pump; total length of the discharge pipe of 5 m, internal diameter of the flexible pipe of 12 mm (6 mm for size 70-140-180 only for condensing water pump). - The sound pressure level is referred to the unit with ducted air inlet and discharge.										

CHILLED WATER

Technical data sheet - UW D Version

UW D		810	980	1240	1400	1610	1810	2000	2250
Frame									
Frame			5		6	7		8	
Cooling capacity - Water 7/12°C									
Total cooling capacity (27°C - 50% R.H.)	kW	77,8	97,2	122,3	139,3	159,4	178,1	201,3	224,3
Sensible cooling capacity (27°C - 50% R.H.)	kW	64	71,5	83,6	93,9	112,7	121,6	143,2	153,6
SHR @ 27°C-50% U.R.	%	82	74	68	67	71	68	71	68
Water flow	m³/h	13,3	14,7	21	23,9	27,3	30,6	34,5	38,5
Pressure drop of chilled water coil	kPa	71	70	73	60	71	74	77	87
Pressure drop of 3-way valve	kPa	35	54	46	61	44	56	71	88
Total pressure drop (coil+3-way valve)	kPa	106	124	119	121	115	130	148	175
Total cooling capacity (24°C - 50% R.H.)	kW	52,9	65,3	83,7	95,7	108,5	122,4	136,8	154,2
Sensible cooling capacity (24°C - 50% R.H.)	kW	49,5	58,4	67,4	76	92,5	98,3	117,2	124,2
SHR @ 24°C-50% U.R.	%	94	89	81	79	85	80	86	81
Water flow	m³/h	9,1	11,2	14,4	16,4	18,6	21	23,5	26,5
Pressure drop of chilled water coil	kPa	37	36	38	32	36	39	40	46
Pressure drop of 3-way valve	kPa	17	26	23	30	22	28	35	44
Total pressure drop (coil+3-way valve)	kPa	54	62	61	62	58	67	75	90
Total cooling capacity (22°C - 50% R.H.)	kW	40,9	49,4	60,7	69,8	79,9	88,4	101,2	111,6
Sensible cooling capacity (22°C - 50% R.H.)	kW	40,9	46,4	52,6	63,1	79,7	76,4	91,7	96,6
SHR @ 22°C-50% U.R.	%	100	94	87	90	100	86	91	87
Water flow	m³/h	7	8,5	10,4	12	13,7	15,2	17,4	19,1
Pressure drop of chilled water coil	kPa	24	23	22	19	24	23	25	27
Pressure drop of 3-way valve	kPa	10	15	13	15	14	15	19	24
Total pressure drop (coil+3-way valve)	kPa	34	38	35	36	34	38	44	51
Internal volume of the coil	dm³	19,8	24,8	34,8	43,1	42,6	49,7	50,9	59,8
Cooling capacity - Water 9/14°C									
Total cooling capacity (27°C - 50% R.H.)	kW	60,8	75,1	96,8	111,1	125,1	141,3	157,7	177,8
Sensible cooling capacity (27°C - 50% R.H.)	kW	55,6	62,5	72,1	81,4	98,8	105	125,5	132,6
SHR @ 27°C-50% U.R.	%	91	83	74	73	79	74	80	75
Water flow	m³/h	10,5	12,9	16,6	19,1	21,5	24,3	27,1	30,5
Pressure drop of chilled water coil	kPa	46	44	47	40	46	50	50	57
Pressure drop of 3-way valve	kPa	22	34	31	40	28	36	45	57
Total pressure drop (coil+3-way valve)	kPa	68	78	78	80	74	86	95	114
Total cooling capacity (24°C - 50% R.H.)	kW	41,2	49,7	61,1	69,1	80,5	89	101,9	112,3
Sensible cooling capacity (24°C - 50% R.H.)	kW	41	46,3	52,6	58,8	80,5	76,4	92,1	96,6
SHR @ 24°C-50% U.R.	%	100	93	86	85	100	86	90	86
Water flow	m³/h	7,1	8,5	10,5	11,9	13,8	15,3	17,5	19,3
Pressure drop of chilled water coil	kPa	24	22	22	19	22	22	24	27
Pressure drop of 3-way valve	kPa	10	16	13	16	12	15	20	24
Total pressure drop (coil+3-way valve)	kPa	34	38	35	35	34	38	44	51
Total cooling capacity (22°C - 50% R.H.)	kW	33,7	40,8	50,6	57,4	66,5	73,9	84,1	93,2
Sensible cooling capacity (22°C - 50% R.H.)	kW	33,7	40,8	50,6	57,1	66,5	73,9	84,1	93,2
SHR @ 22°C-50% U.R.	%	100	100	100	99	100	100	100	100
Water flow	m³/h	5,8	7	8,7	9,9	11,4	12,7	14,5	16
Pressure drop of chilled water coil	kPa	18	16	16	13	15	16	17	19
Pressure drop of 3-way valve	kPa	6	11	9	12	9	11	14	18
Total pressure drop (coil+3-way valve)	kPa	24	27	25	25	24	27	31	37
Internal volume of the coil	dm³	19,8	24,8	34,8	43,1	42,6	49,7	50,9	59,8
AC fans with autotransformer									
Quantity	n.	2	2	2	2	3	3	4	4
Fan(s) supply voltage	V	280	320	360	360	320	360	320	360
Air flow	m³/h	14.500	15.000	15.200	16.700	21.500	22.050	27.500	28.000
Available pressure	Pa	20	20	20	20	20	20	20	20
Rotation speed	rpm	1.186	1.255	1.307	1.311	1.255	1.307	1.255	1.307
Input power	kW	3,29	3,66	3,95	3,93	5,50	5,93	7,32	7,89
Input current	A	8,34	8,20	8,12	8,08	12,33	12,21	16,44	16,28
Max available pressure (max ESP)	Pa	197	118	56	56	123	56	117	56
Sound pressure level @ 2 m - D Version	dB(A)	60	62	63	64	63	65	64	66
Sound press. level @ 2 m - D Version (max ESP)	dB(A)	63	64	64	64	65	65	66	66
EC Fans - HP (High pressure)									
Quantity	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	Pa	20	20	20	20	20	20	20	20
Max available pressure (max ESP)	Pa	542	475	410	415	467	412	459	411
Rotation speed	rpm	1.064	1.120	1.184	1.202	1.125	1.181	1.122	1.168
Input power	kW	1,85	2,16	2,59	2,62	3,35	3,89	4,47	5,05
Sound pressure level @ 2 m - D Version	dB(A)	60	62	63	64	63	65	64	66
Sound press. level @ 2 m - D Version (max ESP)	dB(A)	64	64	64	64	66	66	67	67

Technical data sheet - UW D Version

UW D		810	980	1240	1400	1610	1810	2000	2250
Frame									
Frame			5		6		7		8
Humidifier									
Steam production (nominal)	kg/h	8	8	8	8	8	8	8	8
Steam production (max)	kg/h	8	8	8	8	8	8	8	8
Maximum input power	kW	6	6	6	6	6	6	6	6
Maximum input current	A	8,7	8,7	8,7	8,7	8,7	8,7	8,7	8,7
Specific conductivity at 20°C (min/max)	µS/cm					300 / 1'250			
Total hardness (min/max)	mg/l CaCo3					100 / 400			
Electrical heaters									
Steps	n.	3	3	3	3	3	3	3	3
Power	kW	15	15	15	18	24	24	27	27
Input current	A	21,7	21,7	21,7	26,0	34,6	34,6	39,0	39,0
Oversized electrical heaters									
Steps	n.	3	3	3	3	3	3	3	3
Power	kW	18	18	18	24	27	27	36	36
Input current	A	26,0	26,0	26,0	34,6	39,0	39,0	52,0	52,0
Hot water coil									
Heating capacity	kW	32,4	33,1	33,5	38,9	48	48,8	65,2	65,9
Water flow rate	m³/h	5,7	5,7	5,8	6,8	8,4	8,5	11,4	11,5
Pressure drop (coil+3-way valve)	kPa	67	69	70	56	62	64	62	63
Internal volume of the coil	dm³	5,6	6,4	6,4	7,7	8,7	8,7	15,3	15,3
Condensing water pump									
Nominal water flow	l/h	390	390	390	390	390	390	390	390
Max water flow (pressure = 0 m)	l/h	500	500	500	500	500	500	500	500
Max height (water flow = 0 m³/h)	m	5,4	5,4	5,4	5,4	5,4	5,4	5,4	5,4
Condensing water pump + humidifier									
Nominal water flow	l/h	600	600	600	600	600	600	600	600
Max water flow (pressure = 0 m)	l/h	900	900	900	900	900	900	900	900
Max height (water flow = 0 m³/h)	m	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0
Dimensions									
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 - D Version	kg	439	451	475	528	605	622	758	779
Power supply									
Power supply	V / ph / Hz					400 / 3 / 50 + N + T			
REMARKS									
- Fluid: water (glycol 0%). - Filters calculated for 20% dirt. - Max pressure is referred to the nominal air flow and the max tension/regulation. - Hot water coil calculated for: water 40/45°C, ambient temperature 20°C and available pressure of 20 Pa. - The condensing / condensing + humidifier water pump is calculated for a 2 m vertical difference in height respect to the pump; total length of the discharge pipe of 5 m, internal diameter of the flexible pipe of 12 mm. - The sound pressure level is referred to the unit with ducted air inlet and discharge.									

CHILLED WATER

Technical data sheet - UWL D HP (High Performance) Version

UWL D HP		860	1700	1900	2400	3000
Frame						
Frame		4	5	6	7	8
Cooling capacity - Water 7/12°C						
Total cooling capacity (27°C - 50% R.H.)	kW	91,3	168,2	196,0	253,9	313,7
Sensible cooling capacity (27°C - 50% R.H.)	kW	61,7	113,0	131,0	172,4	212,3
SHR @ 27°C-50% U.R.	%	68	67	67	68	68
Water flow	m³/h	15,7	28,9	33,6	43,6	53,8
Pressure drop of chilled water coil	kPa	74	75	54	67	89
Pressure drop of 3-way valve	kPa	49	50	66	46	70
Total pressure drop (coil+3-way valve)	kPa	124	125	120	113	159
Total cooling capacity (24°C - 50% R.H.)	kW	60,8	112,3	130,3	168,1	210,5
Sensible cooling capacity (24°C - 50% R.H.)	kW	48,9	89,8	103,9	136,1	169,2
SHR @ 24°C-50% U.R.	%	80	80	80	81	80
Water flow	m³/h	10,4	19,3	22,4	28,8	36,1
Pressure drop of chilled water coil	kPa	38	27	27	34	46
Pressure drop of 3-way valve	kPa	22	23	32	21	33
Total pressure drop (coil+3-way valve)	kPa	60	62	59	55	79
Total cooling capacity (22°C - 50% R.H.)	kW	45	83	97	127	157
Sensible cooling capacity (22°C - 50% R.H.)	kW	39	72	84	110	136
SHR @ 22°C-50% U.R.	%	87	86	86	87	87
Water flow	m³/h	7,8	14,3	16,6	21,7	26,9
Pressure drop of chilled water coil	kPa	22	23	17	20	27
Pressure drop of 3-way valve	kPa	14	13	18	13	20
Total pressure drop (coil+3-way valve)	kPa	36	36	35	33	47
Internal volume of the coil	dm³	30,5	51,6	66,0	73,7	88,9
Cooling capacity - Water 9/14°C						
Total cooling capacity (27°C - 50% R.H.)	kW	71,6	132,4	154,3	198,5	246,6
Sensible cooling capacity (27°C - 50% R.H.)	kW	52,9	97,2	112,8	147,6	182,4
SHR @ 27°C-50% U.R.	%	74	73	73	74	74
Water flow	m³/h	12,3	22,7	26,5	34,1	42,4
Pressure drop of chilled water coil	kPa	49	50	36	43	58
Pressure drop of 3-way valve	kPa	31	31	42	29	45
Total pressure drop (coil+3-way valve)	kPa	80	81	78	72	103
Total cooling capacity (24°C - 50% R.H.)	kW	45,8	84,2	97,7	128,1	158,1
Sensible cooling capacity (24°C - 50% R.H.)	kW	39,5	72,2	83,6	110,7	135,9
SHR @ 24°C-50% U.R.	%	86	86	86	86	86
Water flow	m³/h	7,9	14,5	16,8	22,0	27,2
Pressure drop of chilled water coil	kPa	23	25	16	20	27
Pressure drop of 3-way valve	kPa	13	12	19	13	20
Total pressure drop (coil+3-way valve)	kPa	36	37	35	33	47
Total cooling capacity (22°C - 50% R.H.)	kW	37,5	69,0	79,8	104,7	130,0
Sensible cooling capacity (22°C - 50% R.H.)	kW	37,5	69,0	79,8	104,7	130,0
SHR @ 22°C-50% U.R.	%	100	100	100	100	100
Water flow	m³/h	6,4	11,9	13,7	18,0	22,3
Pressure drop of chilled water coil	kPa	16	16	12	15	20
Pressure drop of 3-way valve	kPa	9	10	12	8	13
Total pressure drop (coil+3-way valve)	kPa	25	26	24	23	33
Internal volume of the coil	dm³	30,5	51,6	66,0	73,7	88,9
EC Fans - HP (High pressure)						
Quantity	n.	1	2	2	3	4
Air flow	m³/h	11' 000	20' 000	23' 000	31' 000	38' 000
Available pressure	Pa	20	20	20	20	20
Max available pressure (max ESP)	Pa	207	347	163	266	364
Rotation speed	rpm	1.442	1.338	1.472	1.399	1.320
Input power	kW	2,11	3,43	4,39	5,93	6,77
Sound pressure level @ 2 m	dB(A)	62	63	66	66	65
Sound pressure level @ 2 m (max ESP)	dB(A)	63	65	67	67	67

Technical data sheet - UWL D HP (High Performance) Version

UWL D HP		860	1700	1900	2400	3000
Frame						
Frame		4	5	6	7	8
Humidifier						
Steam production (nominal)	kg/h	8	15	15	15	15
Steam production (max)	kg/h	8	15	15	15	15
Maximum input power	kW	6	11,2	11,2	11,2	11,2
Maximum input current	A	8,7	16,2	16,2	16,2	16,2
Specific conductivity at 20°C (min/max)	µS/cm	300 / 1'250				
Total hardness (min/max)	mg/l CaCo3	100 / 400				
Electrical heaters						
Steps	n.	2	2	2	3	3
Power	kW	7,4	14,8	14,8	22,2	29,6
Input current	A	10,7	21,4	21,4	32	42,7
Hot water coil						
Heating capacity	kW	29,7	57,4	68,9	88,3	111,3
Water flow rate	m³/h	5,2	10	12	15,4	19,4
Pressure drop (coil+3-way valve)	kPa	62	60	67	66	83
Internal volume of the coil	dm³	8,2	14,6	16,6	18,6	21,8
Condensing water pump						
Nominal water flow	l/h	390	390	390	390	390
Max water flow (pressure = 0 m)	l/h	500	500	500	500	500
Max height (water flow = 0 m³/h)	m	5,4	5,4	5,4	5,4	5,4
Condensing water pump + humidifier						
Nominal water flow	l/h	600	600	600	600	600
Max water flow (pressure = 0 m)	l/h	900	900	900	900	900
Max height (water flow = 0 m³/h)	m	6,0	6,0	6,0	6,0	6,0
Dimensions						
Length	mm	1'160	1'860	2'210	2'565	3'100
Width	mm	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
Weight	kg	383	577	646	775	959
Power supply						
Power supply	V/ph/Hz	400 / 3 / 50 + N + T				
REMARKS		- Fluid: water (glycol 0%). - Filters calculated for 20% dirt. - Max pressure is referred to the nominal air flow and the max tension/regulation. - Hot water coil calculated for: water 40/45°C, ambient temperature 20°C and available pressure of 20 Pa. - The condensing / condensing + humidifier water pump is calculated for a 2 m vertical difference in height respect to the pump; total length of the discharge pipe of 5 m, internal diameter of the flexible pipe of 12 mm. - The sound pressure level is referred to the unit with ducted air inlet and discharge. - Adjustable base-frame up to 950 mm max.				

CHILLED WATER

Technical data sheet - UWL D ES (Energy Saving) Version

UWL D ES		860	1700	1900	2400	3000
Frame						
Frame		4	5	6	7	8
Cooling capacity - Water 7/12°C						
Total cooling capacity (27°C - 50% R.H.)	kW	78,9	149,4	170,7	204,7	263,9
Sensible cooling capacity (27°C - 50% R.H.)	kW	52,1	98,7	112,1	134,7	174,2
SHR @ 27°C-50% U.R.	%	66	66	66	66	66
Water flow	m³/h	13,5	25,6	29,3	35,1	45,3
Pressure drop of chilled water coil	kPa	57	61	42	45	66
Pressure drop of 3-way valve	kPa	37	39	50	30	49
Total pressure drop (coil+3-way valve)	kPa	94	100	92	75	115
Total cooling capacity (24°C - 50% R.H.)	kW	52,7	100,1	113,6	136,2	178,1
Sensible cooling capacity (24°C - 50% R.H.)	kW	41,5	78,8	88,9	106,9	139,7
SHR @ 24°C-50% U.R.	%	79	79	78	78	78
Water flow	m³/h	9,0	17,2	19,5	23,4	30,6
Pressure drop of chilled water coil	kPa	29	32	21	23	34
Pressure drop of 3-way valve	kPa	17	18	24	14	24
Total pressure drop (coil+3-way valve)	kPa	46	50	45	37	58
Total cooling capacity (22°C - 50% R.H.)	kW	38,5	73,0	82,7	99,5	129,3
Sensible cooling capacity (22°C - 50% R.H.)	kW	33,1	62,6	70,8	85,3	110,5
SHR @ 22°C-50% U.R.	%	86	86	86	86	85
Water flow	m³/h	6,6	12,5	14,2	17,1	22,2
Pressure drop of chilled water coil	kPa	17	18	12	13	19
Pressure drop of 3-way valve	kPa	10	10	14	8	14
Total pressure drop (coil+3-way valve)	kPa	27	28	26	21	33
Internal volume of the coil	dm³	30,5	51,6	66,0	73,7	88,9
Cooling capacity - Water 9/14°C						
Total cooling capacity (27°C - 50% R.H.)	kW	62,5	118,5	135,6	162,3	209,7
Sensible cooling capacity (27°C - 50% R.H.)	kW	45,1	85,5	96,9	116,5	151,0
SHR @ 27°C-50% U.R.	%	72	72	71	72	72
Water flow	m³/h	10,7	20,4	23,3	27,9	36,0
Pressure drop of chilled water coil	kPa	38	40	30	30	43
Pressure drop of 3-way valve	kPa	24	26	31	20	31
Total pressure drop (coil+3-way valve)	kPa	62	66	61	50	74
Total cooling capacity (24°C - 50% R.H.)	kW	38,9	73,8	83,7	100,6	130,5
Sensible cooling capacity (24°C - 50% R.H.)	kW	33,1	62,6	70,7	85,3	110,4
SHR @ 24°C-50% U.R.	%	85	85	84	85	85
Water flow	m³/h	6,7	12,7	14,4	17,3	22,4
Pressure drop of chilled water coil	kPa	16	17	13	13	20
Pressure drop of 3-way valve	kPa	11	12	13	8	13
Total pressure drop (coil+3-way valve)	kPa	27	29	26	21	33
Total cooling capacity (22°C - 50% R.H.)	kW	31,8	60,4	68,3	82,1	107,3
Sensible cooling capacity (22°C - 50% R.H.)	kW	31,8	60,4	68,1	82,1	106,7
SHR @ 22°C-50% U.R.	%	100	100	100	100	99
Water flow	m³/h	5,5	10,4	11,7	14,1	18,4
Pressure drop of chilled water coil	kPa	12	13	9	10	14
Pressure drop of 3-way valve	kPa	7	7	9	5	9
Total pressure drop (coil+3-way valve)	kPa	19	20	18	15	23
Internal volume of the coil	dm³	30,5	51,6	66,0	73,7	88,9
EC Fans - HP (High pressure)						
Quantity	n.	1	2	2	3	4
Air flow	m³/h	9'000	17'000	19'000	23'000	30'000
Available pressure	Pa	20	20	20	20	20
Max available pressure (max ESP)	Pa	512	557	480	637	633
Rotation speed	rpm	1.200	1.155	1.235	1.069	1.069
Input power	kW	1,24	2,24	2,62	2,73	3,69
Sound pressure level @ 2 m	dB(A)	62	63	66	66	65
Sound pressure level @ 2 m (max ESP)	dB(A)	63	65	67	67	67

Technical data sheet - UWL D ES (Energy Saving) Version

UWL D ES		860	1700	1900	2400	3000
Frame						
Frame		4	5	6	7	8
Humidifier						
Steam production (nominal)	kg/h	8	8	8	15	15
Steam production (max)	kg/h	8	8	8	15	15
Maximum input power	kW	6	6	6	11,2	11,2
Maximum input current	A	8,7	8,7	8,7	16,2	16,2
Specific conductivity at 20°C (min/max)	µS/cm	300 / 1'250				
Total hardness (min/max)	mg/l CaCo3	100 / 400				
Electrical heaters						
Steps	n.	2	2	2	3	3
Power	kW	7,4	14,8	14,8	22,2	22,2
Input current	A	10,7	21,4	21,4	32	32
Hot water coil						
Heating capacity	kW	29,7	57,4	68,9	88,3	111,3
Water flow rate	m³/h	5,2	10,0	12,0	15,4	19,4
Pressure drop (coil+3-way valve)	kPa	62	60	67	66	83
Internal volume of the coil	dm³	8,2	14,6	16,6	18,6	18,6
Condensing water pump						
Nominal water flow	l/h	390	390	390	390	390
Max water flow (pressure = 0 m)	l/h	500	500	500	500	500
Max height (water flow = 0 m³/h)	m	5,4	5,4	5,4	5,4	5,4
Condensing water pump + humidifier						
Nominal water flow	l/h	600	600	600	600	600
Max water flow (pressure = 0 m)	l/h	900	900	900	900	900
Max height (water flow = 0 m³/h)	m	6,0	6,0	6,0	6,0	6,0
Dimensions						
Length	mm	1'160	1'860	2'210	2'565	3.100
Width	mm	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
Weight	kg	383	577	646	775	959
Power supply						
Power supply	V/ph/Hz	400 / 3 / 50 + N + T				
REMARKS		- Fluid: water (glycol 0%). - Filters calculated for 20% dirt. - Max pressure is referred to the nominal air flow and the max tension/regulation. - Hot water coil calculated for: water 40/45°C, ambient temperature 20°C and available pressure of 20 Pa. - The condensing / condensing + humidifier water pump is calculated for a 2 m vertical difference in height respect to the pump; total length of the discharge pipe of 5 m, internal diameter of the flexible pipe of 12 mm. - The sound pressure level is referred to the unit with ducted air inlet and discharge. - Adjustable base-frame up to 950 mm max.				