CW

Chilled Water unit

The air conditioners belonging to the DXW series direct expansion air condensation, have been speciically designed and manufactured for close control air conditioning where the handling of almost exclusively sensible heat loads is a fundamental requirement and where is not present a central chilled water plant.
The typical applications are high-performance computer rooms, internet data center, digital telephone exchanges, switch rooms, weather stations, medical laboratories, archives, museums as well as any other application both of small or large dimension, where the sensible heat load must be dissipated and is possible also regulate ambient humidity (optional).
The sizing of EC fans, Electonically Commutated the latest “Plug-In” and the exchange surfaces, allows the containment of emissions noise and electronic. The units are designed to present the smallest footprint possible, reducing the cost of the occupied loor space, and full frontal access for easy inspection and service.
Units without compressor on board, with a inned coil, fed by refrigerated water, that removes the heat from the technical room. The microprocessor control, with the temperature sensor, allows a precise control, acting on a 3-way modulating valve. Units used in presence of water chillers (also in free-cooling version).

VERSIONS

- **C00:** Only Cooling, base version, only cooling coil without humidiication and dehumidiication.
- **C0D:** Cooling and Dehumidiication with electrical heater post heating, no humidiication.
- **CH0:** Cooling and Humidiication by non-pressurised steam humidiier by means of electrodes immersed.
- **CHD:** Cooling/Humidiication/Dehumidiication with electrical heater post heating, and non-pressurised steam humidiier by means of electrodes immersed .

CW

Model		080	100	120	150	200	270	300	400	450	550
Total cooling capacity (1)	kW	8,6	10,5	13,2	16,5	20,7	27,1	33,6	46,5	49,4	56,8
Sensible cooling capacity (1)	kW	7,1	8,7	10,8	15,0	18,2	22,8	29,2	36,6	42,2	47,7
SHR		0,83	0,83	0,82	0,91	0,88	0,84	0,87	0,79	0,85	0,84
Nominal air low	m^3/h	1700	2500	2800	5000	5500	5400	8500	8600	11600	12000
Fans	n°xkW	1x0,13	1x0,26	1x0,35	1x0,51	1x0,58	1x0,86	1x1,52	1x1,69	2x0,63	2x0,78
Nominal pressure drop	Pa	150	100	60	250	250	250	250	250	250	250
Power supply		230V/1N/50Hz			400V/3/50Hz						
Water low	m^3/h	1,5	1,8	2,3	2,8	3,6	4,6	5,8	8,0	8,5	9,7
Cooling coil pressure drop	kPa	18,1	33,6	17,4	31,7	25,6	27,5	38,7	32,1	43,3	41,0
Humidiier nominal capacity (2)	kg/h	1,5	1,5	3	5	5	5	5	5	5	5
Heat.capacity of electrical heaters	kW	1,5	1,5	1,5	5,0	5,0	5,0	5,0	5,0	10,0	10,0
SPL indoor unit “Under” (3)	dB(A)	52	60	62	55	57	57	66	66	62	63
SPL indoor unit “Over” (3)	dB(A)	55	62	65	59	60	60	70	70	65	66

Model		600	800	900	1100	1250	1500	1700	2000
Total cooling capacity (1)	kW	61,5	82,1	91,4	117,2	122,6	157,1	173,5	208,1
Sensible cooling capacity (1)	kW	54,7	67,3	79,5	96,1	103,6	128,7	142,3	169,6
SHR		0,89	0,82	0,87	0,82	0,82	0,82	0,82	0,82
Nominal air low	m^3/h	15500	16000	23000	22000	27400	27400	37000	40000
Fans	n°xkW	2x1,29	2x1,53	3x1,40	3x1,31	3x1,23	3x1,28	4x1,29	4x1,58
Nominal pressure drop	Pa	250	250	250	250	250	250	200	200
Power supply		400V/3/50Hz							
Water low	m^3/h	10,6	14,1	15,7	20,1	21,0	27,0	29,8	35,7
Cooling coil pressure drop	kPa	37,8	40,3	59,3	49,1	26,1	34,6	51,9	50,0
Humidiier nominal capacity (2)	kg/h	5	5	5	5	8	8	8	8
Heat.capacity of electrical heaters	kW	10,0	10,0	15,0	15,0	15,0	15,0	20,0	20,0
SPL indoor unit “Under” (3)	dB(A)	67	69	72	71	75	76	78	80
SPL indoor unit “Over” (3)	dB(A)	70	72	75	74	79	80	93	85

Performance refer to the following conditions:

(1) 24°C db 17,1°C wb; 50% R.H. - water inlet 7°C, water outlet 12°C

(2) When water conducibility is between 350-750 uS/cm^3

(3) Sound pressure level at 1 mt in free ield

FRAME
Frame in galvanized steel sheet with vertical rods and external panels painted with epoxy powder black gray colour RAL 7021. Fixing screws in galvanized steel. Doors are mounted on hingers and equipped with easy to open lock with key. Insulation acoustically and thermally, in open-cell polyurethane, class 1 self-extinguishing anti dripping (UL94-HF1), density of 25 Kg/m3 and thermal conductivity of 0,035 W/Mk at 10°C, insulation thickness of 20mm.

FINNED PACK COOLING COIL
In copper-aluminium with large front surface to reduce air transit speed. The copper tubes mechanically expanded into aluminium ins to increase the heat exchange factor. All the units are equipped with a drip tray in stainless steel.

SUPPLY FAN
It is a high performance electrically commutated (EC) plug fan, backward aerofoil blades, directly coupled to the electric motor. The electric motor is a high eficiency DC brushless type with external rotor, to guarantee an ideal cooling of the windings and the absence of power lost due to pulleys and belt transmission. The fan is statically and dynamically balanced class 6.3 according to ISO1940. The electric motor has a separate electronic commuter (driver). Serial interface card with modbus protocol RTU.

FILtERS
Standard eficency class G4, Various options are available for ilters with higher eficiency levels.

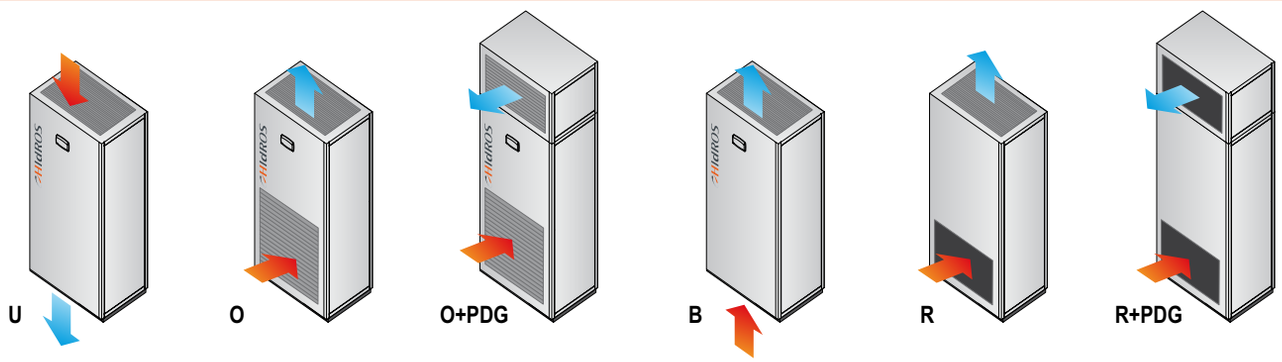
ELECtRICAL PANEL
With main interlocking switch and phase sequence relay. The secondary circuit is powered at low voltage of 24 Vac.

MICROPROCESSOR
Each unit of the DATA CENTER series is equipped with an advanced control, a microprocessor at 16 bit and a FLASH memory to guarantee high speed software performance and the possibility of managing multi-language coniguration masks and different serial communication protocols. All the electronic boards can be connected to a local network named pLAN (Local Area Network) that is able to manage 8 units at most. (For more information, see the control service manual). Also, the management of a electronic expansion valve (EEV) is available.

USER INtERFACE
Display the unit conditions, status and operating parameters, with the following characteristics: isplay of room temperature and temperature set-point for supply air, display of operating parameters, control keyboard with two levels of “menù” under “password”, alarm reset and unit set-up, on/off safety switch, watchdog function.

CONtROL AND PROtECtION DEVICES
All units are supplied with the following control and protection devices: high pressure switch with manual reset, low pressure switch with automatic reset, high pressure safety valve, compressor thermal overload protection, fans thermal overload protection, probe, air electrical temperature and humidity (option).

CONFIGURAtIONS

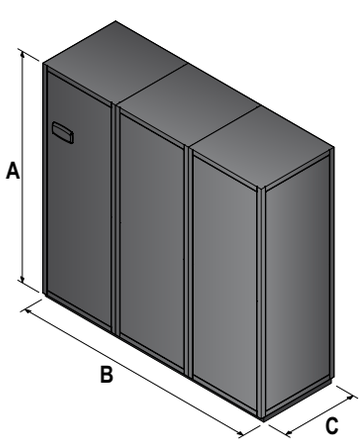


CW

Description	Code	
Dirty ilter alarm	DFA	o
Flooding alarm	FAA	o
Smoke/Fire alarm	SFA	o
Power failure alarm	PFA	o
Water coil + 3-way valve	WCV	o
Capacity step control (hot gas by-pass)	HBP	-
Continuous capacity control (hot gas by-pass + liquid injection)	HBI	-
Sound-insulation caps on compressors	SIC	-
High/low refrigerating pressure gauges	HLM	-
Electronic thermostatic valve	EEV	-
Plenum for air diffusion into environment, with grille (for O/B/R versions only)	PDG	o
Base frame, height adjustable H=300/500 ±25 mm (for U version only)	BFX	o
Base frame, with delector and height adjustable H=300/500 ±25 mm (for U version only)	BDX	o
Non return air gate, motor-driven (for U version only)	NRG	o
Overpressure type non return air gate (for O/B/R versions only)	ONG	o
RS485 type serial board	SB5	o
Remote control panel	RCP	o
Alarm log clock board	ACB	o
Air discharge temperature sensor	OTS	o
Filter section with F5 grade (according to EN 779)	FF5	o
Filter section with F7 grade (according to EN 779)	FF7	o
2-way pressure valve for tower water	2VT	o
3-way pressure valve for tower water	3VT	●

A for base model

● Standard, o Optional, – Not available



Mod.	A* (mm)	B (mm)	C (mm)	Kg
080	1750	670	500	95
100	1750	670	500	95
120	1750	670	500	95
150	1980	770	650	160
200	1980	770	650	160
270	1980	770	650	160
300	1980	960	890	295
400	1980	960	890	295
450	1980	1460	890	380
550	1980	1460	890	380
600	1980	1680	890	480
800	1980	1680	890	480
900	1980	2120	890	650
1100	1980	2120	890	650
1250	1980	2580	890	750
1500	1980	2580	890	750
1700	1980	3600	890	1035
2000	1980	3600	890	1035

* For versions Over (O, O+PDG, R, R+PDG) consider 100 mm in addition to quote