DXA

Direct expansion air condensation

The air conditioners belonging to the DXA 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.
The DXA units have compressor on board; the heat from the technical room is dissipated by an external inned coil condenser, connected during installation.

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 .

DXA

Model		061	071	091	111	141	161	191	211	261	321	401	501
Total cooling capacity (1)	kW	6,4	7,5	9,3	11,6	14,7	16,5	19,6	22,5	25,8	33,8	37,5	45,6
Sensible cooling capacity (1)	kW	5,6	7,2	8,1	9,6	11,7	14,2	16,6	19,0	21,3	28,1	30,8	37,7
SHR		0,87	0,96	0,87	0,83	0,79	0,86	0,85	0,84	0,83	0,83	0,82	0,83
Max power input compressor	kW	1,5	1,9	2,3	2,9	3,8	3,9	4,5	5,2	5,7	7,3	8,2	9,5
Max current input	A	10,4	13,4	16,2	7,9	9,7	10,1	15,0	15,0	16,0	22,0	25,0	31,0
Peak current	A	43,0	62,0	64,0	48,0	63,0	63,0	75,0	101,0	95,0	118,0	118,0	140,0
Nominal air low	m³/h	1800	2050	2600	2800	3300	4500	4700	5400	6100	8500	8300	11300
Fans	n°xkW	1x0,13	1x0,16	1x0,26	1x0,32	1x0,23	1x0,33	1x0,41	1x0,70	1x0,68	1x1,48	2x0,42	2x0,70
Nominal pressure drop	Pa	150	150	120	100	250	250	250	250	250	250	250	250
Type of compressor		Rotative			Hermetic								
N. compressors / N. Circuit		1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1/1	1/1	1/1
Power supply		230V/1N/50Hz			400/3N/50	400V/3/50Hz							
Humidiier nominal capacity (2)	kg/h	1,5	1,5	3	3	5	5	5	5	5	5	5	5
Heat.capacity of electrical heaters	kW	1,5	1,5	1,5	1,5	5,0	5,0	5,0	5,0	5,0	5,0	10,0	10,0
SPL indoor unit "Under"(3)	dB(A)	54	57	62	64	50	56	57	59	62	68	57	60
SPL indoor unit "Over" (3)	dB(A)	57	60	65	67	52	59	60	62	65	72	60	63
HRA (Standard)		S070	S070	S090	S110	S160	S160	S210	S210	L260	L320	L450	L450
SPL outdoor unit STD (4)	dB(A)	43	43	43	46	46	46	43	43	46	46	46	48
HRA/LS (Low noise)		S060	S070	S090	S110	S160	S160	S210	S210	L260	L400	L400	L450
SPL outdoor unit LS (4)	dB(A)	33	33	36	29	32	32	32	32	39	39	39	41

Model		262	322	402	452	482	582	652	752	902	1002
Total cooling capacity (1)	kW	30,5	33,1	39,3	46,0	50,0	57,7	67,0	75,0	89,6	99,4
Sensible cooling capacity (1)	kW	25,5	28,7	32,6	39,4	42,0	49,0	56,2	63,2	74,0	81,4
SHR		0,84	0,87	0,83	0,86	0,84	0,85	0,84	0,84	0,83	0,82
Max power input compressor	kW	6,6	7,7	9,1	10,3	11,3	12,7	14,6	16,5	18,9	22,2
Max current input	A	20,6	23,6	30,0	30,0	32,0	42,0	44,0	50,0	62,0	68,0
Peak current	A	103,0	128,0	150,0	202,0	190,0	222,0	236,0	236,0	280,0	348,0
Nominal air low	m³/h	7200	8200	8900	11500	11900	14500	16100	17300	21100	22000
Fans	n° xkW	1x0,91	1x1,32	2x0,31	2x0,74	2x0,86	2x1,01	2x1,41	2x1,23	3x1,06	3x1,22
Nominal pressure drop	Pa	250	250	250	250	250	250	250	250	250	250
Type of compressor		Hermetic									
N. compressors / N. Circuit		2 / 1	2 / 1	2 / 1	2 / 1	2 / 1	2 / 2	2 / 2	2 / 2	2 / 2	2 / 2
Power supply		400V/3/50Hz									
Humidiier nominal capacity (2)	kg/h	5	5	5	5	8	8	8	8	8	8
Heat.capacity of electrical heaters	kW	5,0	5,0	10,0	10,0	10,0	10,0	10,0	15,0	15,0	15,0
SPL indoor unit "Under"(3)	dB(A)	66	68	58	64	65	69	71	72	72	73
SPL indoor unit "Over" (3)	dB(A)	69	71	61	67	68	72	74	75	75	76
HRA (Standard)		L260	L320	L450	L480	L480	2xL260	2xL320	2xL450	2xL450	2xL480
SPL outdoor unit STD (4)	dB(A)	46	46	46	48	48	2x46	2x46	2x46	2x46	2x48
HRA/LS (Low noise)		L260	L400	L400	L450	L480	2xL260	2xL400	2xL400	2xL450	2xL480
SPL outdoor unit LS (4)	dB(A)	39	39	39	41	41	2x39	2x39	2x39	2x41	2x41

Performance refer to the following conditions:
(1) 24°C db 17,1°C wb; 50% R.H. - 45°C condensing
(2) When water conducibility is between 350-750 uS/cm³

(3) Sound pressure level at 1 mt in free ield
(4) Sound pressure level at 10 mt in free ield (EN13487)

HESTOR™

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.

COMPRESSORS

The compressors utilised are scroll type. All compressors are itted with a crankcase heater and each compressor has a klixon embedded in the motor winding for thermal overload protection. They are mounted in a separate compartment within the casing in order to isolate them from the condenser air stream. The crankcase heater is always energised when the compressor is in standby. Access to the compressor compartment is by removal of a front panel and, because they are isolated from the main airstream, maintenance of the compressors is possi ble whilst the unit is operating.
The compressors used are all in tandem coniguration. This results in much higher eficiencies at part loads compared to units with independent refrigerant circuits.

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 63 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.

REFRIGERAtING CIRCUIt

In conformity with the PED directive, complete with thermostatic expansion valve, ilter, liquid gauge, solenoid valve, liquid receiver, safety valve and high and low pressure switches.

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.

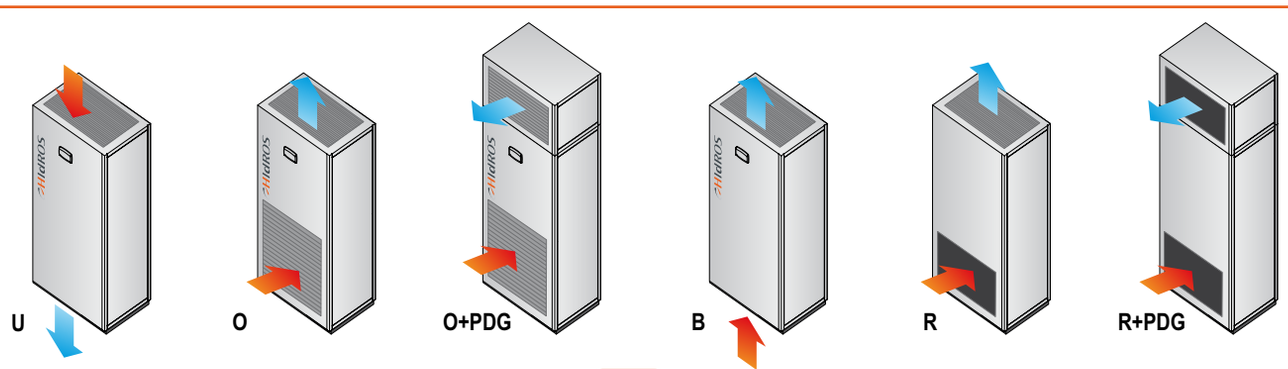
CONtROL AND PROtECtION DEVICES

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).

AIR COOLED CONDENSER WHIt FANS SPEED REGULAtOR

Frame Self-bearing, in embossed aluminium, that provides optimal mechanical characteristics and corrosion resistance. Heat exchangers inned coils, manufactured with copper tubes, arranged in staggered lines, with aluminium ins which provide a high heat exchanger surface. Helicoidal fans, low rotational speed, directly coupled, with IP 54 protection degree, thermal protection and accident prevention grate; standard version (STD). The shaped nozzle and the blade proile increase the eficiency and reduce the noise level. Low-noise version (LSR) available. Power supply electrical board 230/1N, with master circuit breaker and speed regulator, for packaged condensation control.

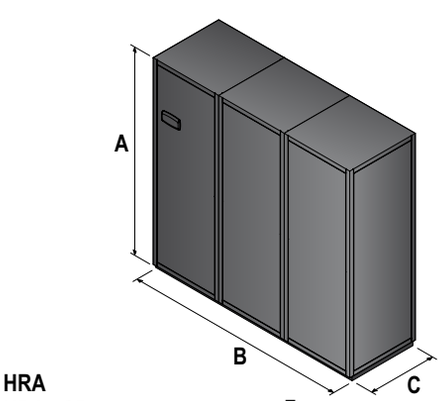
CONFIGURAtIONS



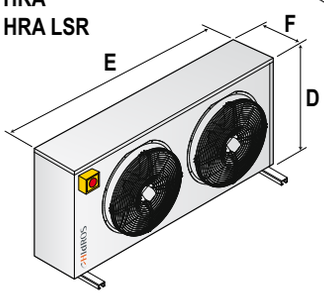
DXA

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	o
Continuous capacity control (hot gas by-pass + liquid injection)	HBI	o
Sound-insulation caps on compressors	SIC	o
High/low refrigerating pressure gauges	HLM	o
Electronic thermostatic valve	EEV	o
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	-
3-way pressure valve for tower water	3VT	-
Combination with HRA - Standard	HRA	o
Combination with HRA/LS - Low noise version	HRA/LS	o

● Standard, o Optional, – Not available



HRA
HRA LSR



* For versions Over (O, O+PDG, R, R+PDG) consider 100 mm in addition to quote A for base module.

Mod.	A*(mm)	B(mm)	C(mm)	Kg	HRA DxExF (mm)	Kg	HRA/LS DxExF (mm)	Kg
061	1750	670	500	140	555x780x362	19,4	555x780x362	19,4
071	1750	670	500	170	555x780x362	19,4	555x780x362	20,8
091	1750	670	500	180	555x780x362	20,8	555x1380x362	34,0
111	1750	670	500	210	555x1380x362	34,0	828x1115x470	46,4
141	1980	770	650	230	555x1380x362	39,0	828x2015x470	76,0
161	1980	770	650	270	555x1380x362	39,0	828x2015x470	76,0
191	1980	770	650	310	828x1105x428	46,6	828x2015x470	85,3
211	1980	770	650	340	828x1105x428	46,6	828x2015x470	85,3
261	1980	1280	890	380	828x2005x428	76,0	1034x2261x750	150,0
321	1980	1280	890	470	828x2005x428	85,3	1034x2261x750	162,0
401	1980	1680	890	570	828x2005x428	93,2	1034x2261x750	162,0
501	1980	1680	890	640	828x2005x428	93,2	1034x3261x750	221,0
262	1980	1280	890	400	828x2005x428	76,0	1034x2261x750	150,0
322	1980	1280	890	460	828x2005x428	85,3	1034x2261x750	162,0
402	1980	1680	890	540	828x2005x428	93,2	1034x2261x750	162,0
452	1980	1680	890	580	828x2905x428	123,4	1034x3261x750	221,0
482	1980	1680	890	620	828x2905x428	123,4	1034x3261x750	238,0
582	1980	2060	890	660	828x2005x428	76,0	1034x2261x750	150,0
652	1980	2060	890	790	828x2005x428	85,3	1034x2261x750	162,0
752	1980	2580	890	920	828x2005x428	93,2	1034x2261x750	162,0
902	1980	2580	890	970	828x2005x428	93,2	1034x3261x750	221,0
1002	1980	2580	890	1010	828x2905x428	123,4	1034x3261x750	238,0