CPAN-XHE3

Size 1÷Size 6

Make-up air unit, full fresh air
With return/exhaust and thermodynamic heat recovery
Reversible heat pump technology
Indoor or outdoor installation
Air flow rate from 278 to 3900 l/s
from 1000 to 14000 m³/h)

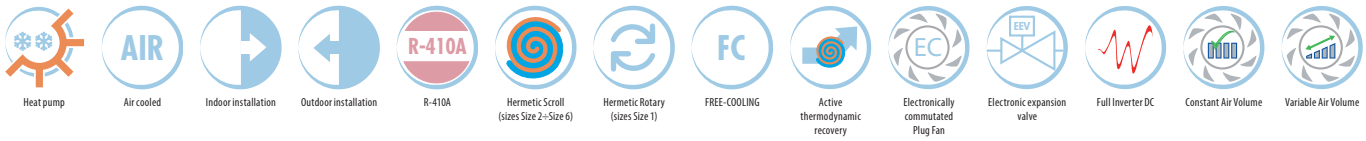
ZEPHIR³

ZEPHIR³ *encases the entire primary air system in a single packaged system.*

- *It extracts stale air and purifies outdoor air through the high efficiency* ***electronic filters****, effective against nanoparticles, PM10, bacteria and pollen.*
- *The* ***active thermodynamic recovery****, based on the reversible heat pump technology, exploits stale as thermal source. It features high energy efficiency, thanks to the* ***variable capacity compressor*** *and the electronically controlled fans with variable flow capability. This way, it also gets rid of the major consumption due to high pressure drops from passive recovery units. The capacity from the thermodynamic circuit replaces most of the power produced by heating and cooling stations, without fossil fuels and no need for fluid distribution pipework.*
- *ZEPHIR³ eliminates components with no useful effect, such as storage tanks, pipes and pumps, also thanks to the* ***free reheating*** *with hot gas recovery. Built-in controls allow operation with* ***constant supply temperature, at maximum available capacity, at high airflow****.*
- *As it can greatly reduce primary energy consumption, even up to 50%, ZEPHIR³ increases the property value and makes it easier to access financial support.*
- *It sets industrial standards as it eliminates 80% of the on site work, with amazing savings on the Total Life Cycle Cost. Being the core equipment in residential, commercial and industrial applications, it can be matched to fan coils, direct expansion and VRF systems, radiant systems and chilled beams, raising efficiency in existing buildings as well.*

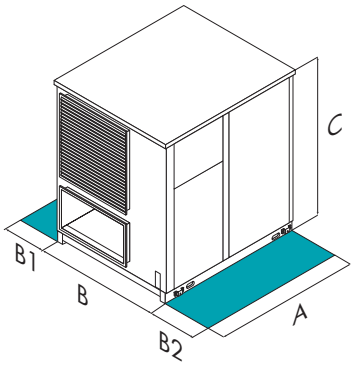
PRIMARY AIR

functions and features



Heat pump | Air cooled | Indoor installation | Outdoor installation | R-410A | Hermetic Scroll (sizes Size 2÷Size 6) | Hermetic Rotary (sizes Size 1) | FREE-COOLING | Active thermodynamic recovery | Electronically commutated Plug Fan | Electronic expansion valve | Full Inverter DC | Constant Air Volume | Variable Air Volume

dimensions and clearances



Size – CPAN-XHE3		Size 1	Size 2	Size 3	Size 4	Size 5	Size 6
A - Length	mm	1895	1895	2465	2465	2465	2465
B - Width	mm	950	950	1735	1735	2025	2330
C - Height	mm	1025	1625	1810	2260	2260	2260
B1	mm	700	700	700	700	700	700
B2	mm	1200	1200	1200	1200	1200	1200
Operating weight	kg	320	450	1070	1285	1450	1670

The above mentioned data are referred to standard units for the constructive configurations indicated. For all the other configurations, refer to the relative Technical Bulletin.

CAUTION!For trouble-free operation of the unit it is essential to maintain the safety distances indicated by the green areas.

technical data

Size – CPAN-XHE3			Size 1	Size 2	Size 3	Size 4	Size 5	Size 6
Operation with constant supply temperature								
Standard airflow								
Nominal air flow		l/s	361	611	1278	2000	2638	3333
Nominal air flow		m^3/h	1300	2200	4600	7200	9500	12000
Max external static pressure (supply)		Pa	630	630	630	600	420	630
Max external static pressure (extraction)		Pa	630	630	630	630	540	630
Cooling								
Total cooling capacity	(1)	kW	10,6	17,5	38,7	58,4	79,0	95,9
Re-heating capacity	(1)	kW	2,74	4,23	11,0	15,2	21,7	23,4
Compressor power input	(1)	kW	2,91	4,92	11,1	15,7	20,4	23,2
EER_C	(1)	-	4,59	4,43	4,48	4,67	4,94	5,13
Heating								
Heating capacity	(2)	kW	5,93	10,0	21,0	32,9	43,4	54,9
Compressor power input	(2)	kW	0,71	1,23	2,54	4,22	5,75	8,77
COPc	(2)	-	8,38	7,45	8,28	7,80	7,55	6,26
Operation at the maximum available capacity								
Standard airflow								
Nominal air flow		l/s	361	611	1278	2000	2638	3333
Nominal air flow		m^3/h	1300	2200	4600	7200	9500	12000
Max external static pressure (supply)		Pa	630	630	630	600	420	630
Max external static pressure (extraction)		Pa	630	630	630	630	540	630
Cooling								
Total cooling capacity	(3)	kW	10,6	17,5	38,7	58,4	79,0	95,9
Re-heating capacity	(3)	kW	3,26	5,52	12,5	17,7	22,9	26,1
Additional available capacity to space	(3)	kW	3,62	5,72	14,2	20,0	28,2	31,5
EER_C	(3)	-	3,25	3,18	3,10	3,31	3,45	3,68
Heating								
Heating capacity	(4)	kW	10,5	17,8	37,1	58,2	76,8	96,9
Compressor power input	(4)	kW	2,28	3,77	7,10	11,2	14,4	18,3
COPc	(4)	-	4,61	4,72	5,21	5,20	5,33	5,29
Operation with high airflow								
Maximum air flow								
Nominal air flow		l/s	528	972	1944	2556	3194	3889
Nominal air flow		m^3/h	1900	3500	7000	9200	11500	14000
Max external static pressure (supply)		Pa	630	470	630	450	345	630
Max external static pressure (extraction)		Pa	630	630	630	530	400	630
Cooling								
Total cooling capacity	(5)	kW	9,20	18,2	31,9	45,1	62,0	80,6
Compressor power input	(5)	kW	1,56	3,38	4,46	6,97	13,8	17,8
EER_C	(5)	-	5,89	5,38	7,15	6,48	4,50	4,51
Heating								
Heating capacity	(6)	kW	6,00	11,1	22,1	29,1	36,3	44,2
Compressor power input	(6)	kW	0,54	1,31	2,48	3,11	3,40	5,44
COPc	(6)	-	11,1	8,46	8,94	9,36	10,7	8,14
Refrigeration circuits		Nr	1	1	2	2	2	2
No. of compressors		Nr	1	1	2	2	3	3
Type of compressors	(7)	-	ROT	Scroll				
Type of supply fan	(8)	-	RAD					
Number of supply fans		Nr	1	1	1	1	1	2
Fan diameter		mm	310	355	500	630	630	500
Type of exhaust fan		-	RAD					
Number of exhaust fans		Nr	1	1	1	1	1	2
Standard power supply		V	400/3/50					
Sound pressure level	(9)	dB(A)	53	57	61	60	62	69
Minimum air flow		l/s	361	611	1278	2000	2638	3333
Minimum air flow		m^3/h	1000	1600	3300	5200	7500	9500
Maximum air flow	(10)	l/s	528	972	1944	2556	3194	3889
Maximum air flow	(10)	m^3/h	1900	3500	7000	9200	11500	14000

Notes

Erp (Energy Related Products) European Directive, that includes the Commission delegated Regulation (EU) No 2016/2281 also known as Ecodesign Lot21, does not report this Product category.

DB = dry bulb; WB = wet bulb; EERc = Thermodynamic efficiency of the system in cooling; COPc = Thermodynamic efficiency of the system in heating

(1) Outdoor air temperature: 35°C D.B./ 24°C W.B; Exhaust air temperature: 26°C D.B. Supply air humidity ratio: 11g/kg; Supply air temperature: 24°C D.B.
(2) Outdoor air temperature: 7°C D.B./6.0°C W.B. Exhaust air temperature: 20°C D.B./ 12°C W.B; Supply air temperature: 20°C D.B.
(3) Outdoor air temperature: 35°C D.B./ 24°C W.B; Exhaust air temperature: 26°C D.B. Supply air humidity ratio: 11g/kg
(4) Outdoor air temperature: 7°C D.B./6.0°C W.B. Exhaust air temperature: 20°C D.B./ 12°C W.B; Supply air temperature: 28°C D.B.
(5) Outdoor air temperature: 35°C D.B./ 24°C W.B; Exhaust air temperature: 26°C D.B. Supply air temperature: 22°C D.B.
(6) Outdoor air temperature: 7°C D.B./6.0°C W.B. Exhaust air temperature: 20°C D.B./ 12°C W.B; Supply air temperature: 16°C D.B.
(7) ROT = rotary compressor; SCROLL = scroll compressor
(8) RAD = radial fan
(9) The sound pressure level is referred at a distance of 1 m from the ducted unit surface operating in free field conditions. External static pressure 50 Pa. Please note that when the unit is installed in conditions different from nominal test conditions (e.g. near walls or obstacles in general), the sound levels may undergo substantial variations. Sound levels refer to unit with standard air flow rate
(10) In case of use with high air flow only the maximum flow rate value is possible

versions and configurations

ENERGY RECOVERY:
- **RTA** Active thermodynamic recovery (Standard)

VERSION:
- **RECH** Hydronic recovery device for extended operating range
- **EPWRC** EXTRAPOWER-C (with additional chilled water heat exchanger)
- **EPWRH** EXTRAPOWER-H (with additional hot water heat exchanger, without electronic filters)

OPERATION:
- **RCM** Refrigeration circuit with capacity modulation (Standard)

RE-HEATING COIL:
- **CPHGM** Hot gas re-heating coil with capacity modulation (Standard)

UNIT INSTALLATION:
- **IO** Outdoor installation (Standard)
- **II** Indoor installation

accessories

- **CCA** Copper/aluminium exchanger on exhaust air with acrylic lining
- **CEA** Copper/aluminium exchanger on outdoor air with acrylic lining
- **PVARC** Variable air flow on supply and exhaust with CO2 probe
- **PVARCV** Variable air flow on supply and exhaust with CO2+VOC probe
- **PVARP** Variable flow for supply and exhaust air with supply pressure probe
- ▪ **MHSEX** Immersed electrodes steam humidifying module
- ▪ **MCHSX** Steam-powered humidifying module
- **MOB** Serial port RS485 with Modbus protocol
- **LON** Serial port RS485 with LonWorks protocol
- **BACIP** BACnet-IP serial communication module
- **VSXSA** Modification of the supply humidity ratio setpoint "X_SA" by an external signal: enable/disable via external contact or setpoint changing via Modbus and BACnet-IP protocol
- **DESM** Smoke detector
- ▪ **AMRX** Rubber antivibration mounts
- ▪ **AMRUX** Rubber antivibration mounts for unit and humidification module
- ▪ **RSSX** Remote supply air sensor
- **PTCO** Set up for shipping via container

Key to symbols:

▪ Accessories separately supplied

REF-DG19A002GB-00

Data contained in this document are not binding and may be changed by the Manufacturer without notice.