

Make-up unit, full fresh air

With return/exhaust and thermodynamic heat recovery

► Heat pump

Indoor and outdoor installation

**Air flow rate from 1250 to 4444 l/s
(from 4500 to 16000 m³/h)**

On Line Monitoring Service available



ZEPHIR²

ZEPHIR is the innovative all fresh air conditioning monobloc heat pump that executes the recovery of air with a high efficiency, thanks to the integrated energy recovery of the active thermodynamic type and the exclusive construction and functional features.

It is a high-performance cooling and heating energy generator that uses the expelled energy as a source and does not have the high load losses of a traditional static recoverer. It is able to compensate the fresh air load and even contribute to the air-conditioning of the served area during most part of its operation.

The reduced consumption at partial load of the refrigeration circuit, the electronic expansion valve, the electronic control plug-fans and the wide range of accessories allow to highlight the entire system in the different situations of use.

Zephir is available in two different configurations:

- **ZEPHIR ENERGY** characterized by a high ratio between performance and air flow, it works on fresh air lowering both its thermal load as well as, in summer mode, its absolute humidity level. In this way, you can substantially reduce both the initial sizing as well as the use of the air-conditioning system
- **ZEPHIR RECOVERY** characterized by a medium ratio between performance and air flow, it works on fresh air applying a much more intense pre-treatment than a static recoverer, with higher production efficiency than traditional generators.

functions and features



available configurations

CPAN-XHE	(1) E	(2) 45
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(1) CONSTRUCTIONAL CONFIGURATION:

- **ZE** "Zephir Energy" characterized by a high power/air flow ratio for efficient treatment of fresh air
- **ZR** "Zephir Recovery" characterized by a medium power/air flow ratio for efficient pre-treatment of fresh air

(2) NOMINAL AIR FLOW RATE /100

- Example: 45 indicates 4500 m³/h air flow rate

accessories

- ▶ Automatic control of constant air flow for in delivery and expulsion
- ▶ Extra section of class F7 rigid bag filters
- ▶ Air side dirty filters differential pressure switch
- ▶ Extra section of very high efficiency electronic filters H10
- ▶ Pre-heating electric heaters
- ▶ Pre-treatment coil supplied by external cold or hot water.
- ▶ Modulating three-way valve for pre-treating coil
- ▶ Summer humidity control by means of hot gas post-heating
- ▶ Immerse electrode steam humidifier
- ▶ Droplet-separator humidifier with once-through water
- ▶ Air quality control (CO₂ and CO₂+VOC) in relation to crowding
- ▶ High and low pressure gauges
- ▶ Batterie lato espulsione in esecuzione rame / rame
- ▶ Copper /copper treatment coil
- ▶ Electronic wall-mounting room thermostat
- ▶ Remote control with remote microprocessor control
- ▶ Phase monitor
- ▶ Shunt capacitors (power factor > 0,9)
- ▶ RS485 remote communication serial port, Modbus protocol
- ▶ Serial communication module LonWorks
- ▶ Rubber antivibration mounts

Key to symbols:

- ▶ Accessories supplied separately.

technical data

Sizes			45	52	60	70	90	110	130	160
ZEPHIR ENERGY										
▶ Cooling capacity	(1)	kW	32,0	36,4	44,1	51,5	61,5	73,9	89,7	106
Sensible cooling capacity	(1)	kW	21,0	24,4	29,0	34,4	41,8	44,7	60,8	72,3
▶ Compressor input	(1)	kW	8,90	10,5	12,6	14,0	16,9	18,6	22,3	23,8
Heating capacity	(2)	kW	35,4	40,6	50,4	58,2	70,5	82,5	98,8	113
Compressor input	(2)		6,70	7,80	9,20	10,9	12,2	14,3	16,5	18,2
Number and type of compressors	-		2 SCROLL							
Sound pressure level	(3)	dB(A)	59	61	64	66	68	70	77	81
ZEPHIR RECOVERY										
▶ Cooling capacity	(1)	kW	20,8	24,4	32,9	37,8	48,0	55,5	65,7	77,1
Sensible cooling capacity	(1)	kW	15,1	17,3	22,6	25,6	32,9	38,0	44,5	52,3
Compressor input	(1)	kW	4,30	5,40	8,50	9,80	11,3	13,1	14,9	17,6
▶ Heating capacity	(2)	kW	22,1	26,4	37,0	42,6	52,3	61,5	72,4	84,6
Compressor input	(2)		3,70	4,40	6,80	7,90	9,30	11,0	12,8	15,2
Number and type of compressors	-		1 SCROLL				2 SCROLL			
Sound pressure level	(3)	dB(A)	58	60	63	65	67	69	76	80
Power supply		V/Ph/Hz	400/3/50							
Supply										
Air flow rate		l/s	1250	1444	1667	1944	2500	3055	3611	4444
Max. working static pressure	(4)	Pa	400	290	650	610	580	480	670	490
Number and type of fans	-		1 RAD	1 RAD	1 RAD	1 RAD	1 RAD	1 RAD	2 RAD	2 RAD
Discharge										
Air flow rate		l/s	1189	1372	1583	1847	2375	2902	3430	4222
Max. working static pressure	(4)	Pa	380	300	610	600	580	390	350	490
Number and type of fans	-		1 RAD							2 RAD

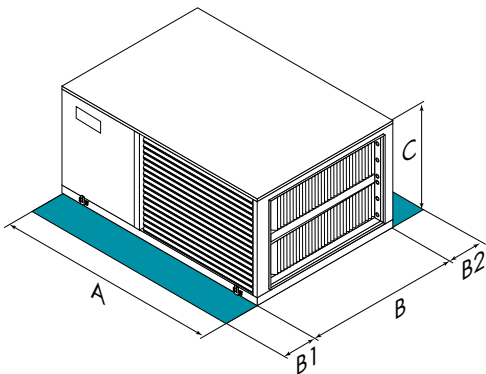
Data referred to the following conditions:

- (1) Coil inlet air temperature in discharge 27°C D.B. - 19°C W.B.; fresh air temperature 35°C D.B. - 24°C W.B.
- (2) Coil inlet air temperature in discharge 20°C D.B. - 13,7°C W.B.; fresh air temperature 7°C D.B. - 6,1°C W.B.
- (3) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m

- from the external surface of the unit in open field conditions.
- (4) For standard unit. Some accessories may reduce the actual useful static pressure. For example, added sections of pocket filters F7, hot water coil, post-heating coil, etc.

N.B. For all other constructional configurations, see the relevant Technical Bulletin.

dimensions and clearances



Sizes		45	52	60	70	90	110	130	160
Length (A)	mm	2917	2917	2917	2917	2917	2917	2917	2917
Width (B)	mm	1891	1891	1844	1844	2244	2244	2244	2244
Height (C)	mm	884	884	1234	1234	1234	1234	1634	1634
▶ (B1)	mm	1200	1200	1200	1200	1200	1200	1200	1200
(B2)	mm	1500	1500	1500	1500	1500	1500	1500	1500
Weight in oper.	Kg	735	750	885	900	929	1009	1229	1279

The above data refer to Zephir Energy units.

For all other constructional configurations, see the relevant Technical Bulletin.

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