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Object: Technical data  
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We thank you for using our web site to chose the products of your interest. The technical information you requested have been enriched by some additional details to complete the description of our products. Do not hesitate to contact us for any further information you might need. Yours faithfully  
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**WSA-XSC2 432(R410A-400T-EO-PED-IOM2-)****COMPRESSOR**

HERMETIC ORBITING SCROLL COMPRESSOR COMPLETE WITH MOTOR OVER-TEMPERATURE AND OVER-CURRENT DEVICES AND PROTECTION AGAINST EXCESSIVE GAS DISCHARGE TEMPERATURE. FITTED ON RUBBER ANTIVIBRATION MOUNTS AND COMPLETE WITH OIL CHARGE. An oil heater, which starts automatically, keeps the oil from being diluted by the refrigerant when the compressor stops.

The compressors are connected in TANDEM on a single refrigeration circuit and have a biphasic oil equalisation.

**STRUCTURE**

Supporting structure realised in galvanised steel sheet able to supply excellent mechanical features and long-lasting resistance to corrosion.

The fan section is easily disassembled by removing the fixing screws and the electrical rapid connectors, thus reducing the height of the unit during transport operations.

**PANELLING**

External panelling with pre-painted panels covered with thermo-insulating soundproofing material.

The housing panels can be removed by unbolting them and using the handles.

**INTERNAL EXCHANGER**

DIRECT EXPANSION EXCHANGER WITH BRAZE-WELDED STAINLESS STEEL (AISI 316) PLATES WITH A LARGE EXCHANGE SURFACE AND COMPLETE WITH ANTI-CONDENSATION EXTERNAL THERMAL INSULATION.

the exchanger comes complete with:

- differential pressure switch, water side
- antifreeze heater to protect the water side exchanger, preventing the formation of frost if the water temperature falls below a set value.

**EXTERNAL EXCHANGER**

direct expansion finned exchanger, made from copper pipes in staggered rows and mechanically expanded to the fin collars. The fins are made from aluminium with a corrugated surface and adequately distanced to ensure the maximum heat exchange efficiency.

Correct power supply to the expansion valve is ensured by the under-cooling circuit.

Protective coverings available on request.

**FAN**

ECOBREEZE device (STD)

Plug fans without scroll with reverse blades driven by electronically-controlled "brushless" DC motors with direct coupling.

**REFRIGERANT CIRCUIT**

THE REFRIGERATION CIRCUIT IS COMPLETE WITH:

- replaceable anti-acid solid cartridge dehydrator filter
- sight glass with moisture and liquid indicator
- electronic expansion valve
- High pressure safety pressure switch
- Low pressure safety switch
- high pressure safety valve
- low pressure safety valve
- cutoff valve on liquid line
- cutoff valve on compressor supply

**ELECTRICAL PANEL**

THE CAPACITY SECTION INCLUDES:

- main door lock isolator switch
- circuit breaker to protect compressors and ventilators
- compressor control contactor
- isolating transformer for auxiliary circuit power supply

THE CONTROL SECTION INCLUDES:

- interface terminal with graphic display
- display of the set values, the error codes and the parameter index
- ON/OFF and alarm reset buttons
- Proportional-integral-derivative water temperature control
- daily, weekly programmer of the temperature set-point and local-remote unit

switch on management

- antifreeze protection water side
- compressor overload protection and timer
- prealarm function for water antifreeze and high refrigerant gas pressure
- self-diagnosis system with immediate display of the error code
- automatic compressor start rotation control
- compressor operating hour display
- remote ON/OFF control
- relay for remote cumulative fault signal
- inlet for demand limit (power input limitation according to a 0÷10V external signal)
- potential-free contacts for compressor status
- Digital input for double set-point enabling
- phase monitor

**TEST**

All the units are factory-tested in specific steps, before shipping them. After the approval, the moisture contents present in all circuits are analyzed, in order to ensure the respect of the limits set by the manufacturers of the different components.

UNIT CONFIGURATION		Q.TY
	Unit: WSA-XSC2 432	1
<b>R410A</b>	Refrigerant R-410A	1
<b>LIQW</b>	Handled fluid made of only water	1
<b>400T</b>	Supply voltage 400/3/50 without neutral	1
<b>EO</b>	Horizontal exhaust air	1
<b>PED</b>	Heat exchangers certified CE = PED - according to European PED Directive	1
<b>2PM</b>	Hydropack with 2 pumps	1
<b>PU2</b>	Type 2 pump	1
<b>IFWX</b>	Steel mesh strainer on the water side (Accessory separately supplied)	1
<b>CSVX</b>	Couple of manual shut-off valves (Accessory separately supplied)	1
<b>ABU</b>	Flush hydraulic connections	1
<b>IOM2</b>	English Installation and Operation Manual	1
<b>CCS</b>	Standard condenser coil	1
<b>AMMX</b>	spring antivibration mounts (Accessory separately supplied)	1
<b>MF2</b>	Multi-function phase monitor	1
<b>CFSC</b>	potential-free contacts for compressor status	1
<b>SFSTR</b>	Disposal for inrush current reduction	1
<b>DV</b>	cutoff valve on compressor supply	1
<b>EVE</b>	Electronic expansion valves	1
<b>AEG4</b>	Antifreeze protection with 40% ethylene glycol	1
<b>SVSM</b>	Removable fan section for shipping	1

**SELECTED OPERATION CONDITIONS**

COOLING			GENERAL		
external exchanger air intake	°C	35.0	internal exchanger thermal head	°C	5.00
internal exchanger water outlet	°C	7.00	glycole % internal exchanger	%	30.0

**PERFORMANCE DATA**

COOLING			Internal exchanger pressure drops		
Cooling capacity	kW	113		kPa	27.1
Compressor power input	kW	37.4	STANDARD UNIT WEIGHTS		
EER compressor	Nr	3.02	Shipping weight	kg	1468
Water flow-rate (User Side)	l/s	5.40	Operating weight	kg	1490

**THE TECHNICAL DATA ARE APPROXIMATE AND MAY BE MODIFIED BY THE MANUFACTURER WITH NO REQUIREMENT FOR ADVANCE NOTICE**

**TECHNICAL DATA REFER TO THE TECHNICAL BULLETIN**

<b>GENERAL</b>			
Cooling capacity (EN14511:2011)	(1.4)	kW	115
Total power input (EN14511:2011)	(1.4)	kW	41.9
EER (EN 14511:2011)	(1.4)		2.76
EER	(1.1)		2.79
ESEER	(1.4)		4.24
Refrigeration circuits		Nr	1.00
<b>WEIGHT AND DIMENSIONS</b>			
Shipping length		mm	3352
Shipping depth		mm	1325
Shipping height		mm	2312
Shipping weight		kg	1408
Operating weight		kg	1430
<b>COMPRESSOR</b>			
No. of compressors		Nr	2.00
Type of compressors			SCROL L
Std Capacity control steps		Nr	3.00
<b>EXTERNAL EXCHANGER</b>			
<b>OPERATING RANGE (COOLING)</b>			
Max entering air temperature	(4.1)	°C	46.0

Voltage unbalance: max 2 %

Power supply: 400/3/50 Hz +/- 10%

Electrical data refer to standard units; according to the installed accessories, the data can suffer light variations.

(1.4)Data calculated in compliance with Standard EN 14511:2011referred to the following conditions: - Internal exchanger water temperature = 12/7°C - entering external exchanger air temperature = 35°C

(1.1)Data refer to the following conditions: internal water exchanger = 12/7 °C; outdoor air temperature 35°C

(4.2)Unit at full load and outdoor air temperature at rest.

SOUND LEVELS									
Sound power level (dB)								Sound pressure level	Sound power level
Octave band (Hz)									
63	125	250	500	1000	2000	4000	8000	dB(A)	dB(A)
69	76	92	87	85	86	79	76	76	95

the sound levels refer to the unit at full load, in the rated test conditions.

The sound pressure level refers to a distance of 1m from the external surface of the units operating in an open field.

(standard UNI EN ISO 9614-2)

Data referred to the following conditions:

Internal exchanger water temperature = 12/7°C

outdoor air temperature 35°C

Static available pressure 120 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.

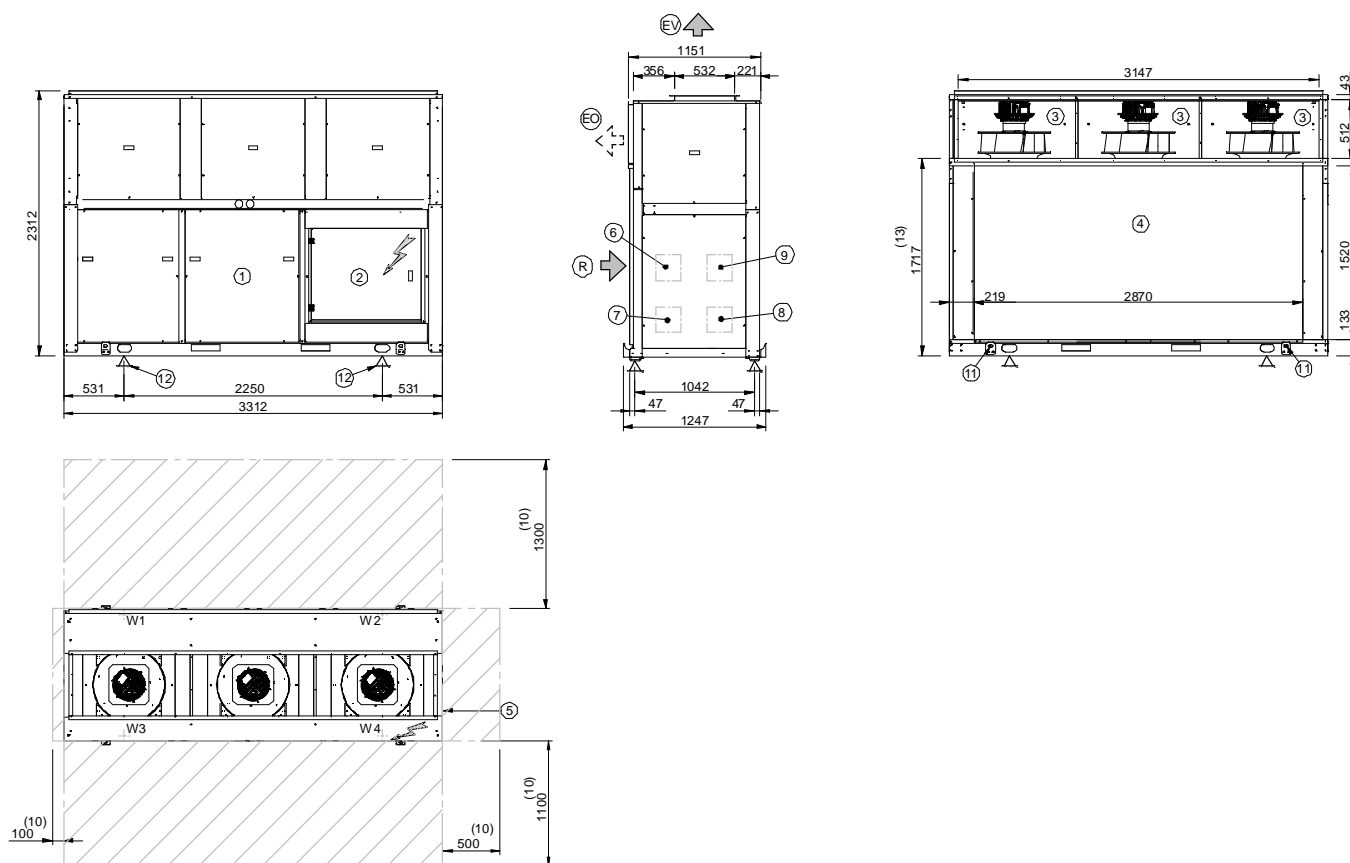
<b>&gt;&gt;&gt; EXTERNAL EXCHANGER</b>			
Min. entering air temperature	(4.2)	°C	-10.0
Min. entering air temperature	(4.3)	°C	-7.00
Min. entering air temperature	(4.4)	°C	-2.00
Min. entering air temperature	(4.5)	°C	11.0
<b>EXTERNAL SECTION FANS</b>			
Type of fans	(5.7)		RAD
Number of fans		Nr	3.00
Standard airflow		l/s	12333
<b>INTERNAL EXCHANGER</b>			
Water content		l	8.90
<b>OPERATING RANGE (COOLING)</b>			
Max inlet water temperature		°C	24.0
Min. leaving water temperature	(6.6)	°C	5.00
Min. leaving water temperature	(6.7)	°C	-7.00
<b>CONNECTIONS</b>			
Water fittings			2" 1/2
<b>ELECTRICAL DATA</b>			
<b>F.L.A. - FULL LOAD CURRENT AT MAX ADMISSIBLE CONDITIONS</b>			
F.L.A. - Total		A	104
<b>F.L.I. - FULL LOAD POWER INPUT AT MAX ADMISSIBLE CONDITIONS</b>			
F.L.I. - Total		kW	64.1
<b>M.I.C. MAXIMUM INRUSH CURRENT</b>			
M.I.C. - Value		A	331

(4.3)Part load unit and outdoor air temperature at rest.

(4.5)Part-load unit and air speed equal to 1 m/s.

(5.7)RAD = radial fan

(6.6)Standard unit and external exchanger entering air 35 °C (no 'Low water temperature (Brine)' configuration).



- (1) COMPRESSOR COMPARTMENT  
 (2) GENERAL ELECTRICAL PANEL  
 (3) EXHAUST RADIAL ELECTRIC FAN  
 (4) External exchanger  
 (5) Power input  
 (6) Internal exchanger water inlet

standard unit or with pump option  
 (7) internal exchanger water outlet

standard unit or with pump option  
 (8) recovery side exchanger water inlet (optional)  
 Position of the connections in relation with the recovery  
 (9) recovery side exchanger water outlet (optional)

- Position of the connections in relation with the recovery  
 (10) FUNCTIONAL CLEARANCES  
 (11) LIFTING BRACKETS (REMOVABLE)  
 (12) SUPPORTING POINTS  
 (13) Unit height without fan section  
 (R) outdoor air return  
 (EV) vertical air expulsion  
 (Standard)  
 (EO) Horizontal exhaust air  
 (OPTIONAL)

The presence of optional accessories may result in a substantial variation of the weights shown

DIMENSIONS (mm)							
M	N	O	P	OD	A - Length	B - Width	C - Height
1674	1638	517	633	0.000	3312	1151	2312

WEIGHT DISTRIBUTION (Kg)							
W1 Supporting Point	W2 Supporting Point	W3 Supporting Point	W4 Supporting Point	W5 Supporting Point	W6 Supporting Point	Shipping weight	Operating weight
332	304	374	420	-	-	1408	1430