

STANDARD UNIT SPECIFICATIONS

WSAT-XEM 100.4(R410A-400T-IOM11X-CREFP)

COMPRESSOR

- First circuit: Hermetic scroll compressors in tandem, equipped with a motor protection device for overheating, overcurrents and excessive temperatures of the supply gas. They are installed on anti-vibration mounts and equipped with oil charge. An oil heater, which starts automatically, keeps the oil from being diluted by the refrigerant when the compressor stops.
- Second circuit: Hermetic scroll compressor in tandem equipped with a motor protection device for overheating, overcurrents and excessive temperatures of the supply gas. They are installed on anti-vibration mounts and equipped with oil charge. An oil heater, which starts automatically, keeps the oil from being diluted by the refrigerant when the compressor stops.

STRUCTURE

Supporting structure made with zinc-magnesium sheet metal that ensures excellent mechanical features and high long-term resistance against corrosion.

PANELLING

External pre-painted zinc-magnesium panelling that ensures superior resistance to corrosion for outdoor installation and eliminates the need for periodical painting. The panels can be easily removed to fully access internal components and are lined with sound-proof material on the inside to contain the unit's sound levels

INTERNAL EXCHANGER

brazed-plate external exchanger in AISI 316 stainless steel for increased surface exchange with external thermal/anticondensate 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.

FAN

Axial fans with sickle-shaped blades with "Winglets" at the end, coupled directly to a three phase electric external rotor motor with heat protection incorporated, with IP 54 operation. Housed in aerodynamically shaped nozzles to increase efficiency and minimize noise levels. They are fitted with protective safety guard grilles. Supplied with phase cutting speed modulation.

REFRIGERANT CIRCUIT

Double refrigeration circuit complete, for each circuit, with:

- replaceable anti-acid solid cartridge dehydrator filter
- liquid flow and moisture indicator
- High pressure safety pressure switch
- high pressure transducer
- low pressure transducer
- refrigerant temperature probe
- electronic thermostatic valve
- high pressure safety valve
- low pressure safety valve
- cutoff valve on compressor supply

ELECTRICAL PANEL

The Capacity Section includes:

- main door lock isolator switch
- isolating transformer for auxiliary circuit power supply
- on-off scroll compressor protection magnetothermic
- fan overload circuit breakers
- on-off scroll compressor control contactor

the control section includes:

- interface terminal with graphic display
- ON/OFF and alarm reset buttons
- heating and cooling operating mode buttons
- display of the set values, the error codes and the parameter index
- proportional-integral water temperature control
- daily, weekly programmer of temperature set-point and unit on/off
- set-point compensation with outdoor air temperature probe
- set-point compensation with 0-10 V signal
- Unit switching on management by local or remote (serial)
- antifreeze protection water side
- compressor overload protection and timer
- high refrigerant gas pressure pre-alarm function that in many cases prevents the unit from being shut-down
- self-diagnosis system with immediate display of the fault code
- automatic rotation control for compressor starts
- compressor operating hour display
- Input for remote ON/OFF control
- relay for remote cumulative fault signal
- inlet for demand limit (power input limitation according to a 0+10V external signal)
- Digital input for double set-point enabling
- potential-free contacts for compressor status
- phase monitor
- ECOSHARE function for the automatic management of a group of units

SELECTED UNIT SPECIFICATIONS

WSAT-XEM 100.4(R410A-400T-IOM11X-CREFP)REFRIGERANT R-410A

Units charged with refrigerant R-410A. Binary mixture HFC, of pink color, composed of two refrigerants: the R32 (50%) and R135 (50%). Compared to other refrigerants, it requires smaller components allowing a lower refrigerant charge and more compact units, having high energy efficiency. It does not contain chlorine which does not damage the environment, non-toxic and non-flammable and it can be easily handled.

EXCELLENCE

Units with high seasonal efficiency and extremely high energy efficiency ratio (EER) during full-load cooling. This is all possible thanks to high performance levels in compressor technology, high efficiency of heat exchangers and external section fans.

ACOUSTIC CONFIGURATION WITH COMPRESSOR SOUNDPROOFING

Unit fitted with insulated compressor compartment with sound-proof material on the inside to contain the unit's sound levels.

HYDRONIC ASSEMBLY WITH 1 ON/OFF PUMP

Pumping unit supplied on the unit consisting of n.1 electric pump. Centrifugal electric pump with impeller made with AISI 304 steel and AISI 304 stainless steel body or grey cast iron (depending on models). Mechanical seal using ceramic, carbon and EPDM elastomer components. Three-phase electric motor with IP55 protection and class F insulation. Complete with thermoformed insulated casing, Victaulic type quick connections with insulated casing, safety valve (6 bar), pressure gauges, system load safety pressure switch, probes of entering and leaving water temperature, stainless steel antifreeze immersion heaters located at the return and supply point.

DEVICE FOR FAN CONSUMPTION REDUCTION OF THE EXTERNAL SECTION AT VARIABLE SPEED (PHASE-CUTTING)

Automatic device for reducing of the outdoor section consumption with variable speed fans.?

The speed of the fan motors is continuously adjusted according to the condensing pressure to ensure the right working of the unit at low outside temperatures.

PHASE MONITOR

The phase monitor controls the electrical parameters of the power line to the unit. It works on the command circuit and orders the unit to be switched off when one of the following cases is present: when the phase connections do not respect the correct sequence, or when there is over voltage or under voltage for a certain amount of time: limit values of over and under voltage and the time interval are fixed setting. When the line conditions are re-established, the unit is re-armed automatically. Device installed and wired built-in the unit.

HIGH AND LOW PRESSURE GAUGES

It includes two liquid pressure gauges for the analog measurement of refrigerant pressures on suction and discharge lines of the compressors with pressure sockets installed in the unit in an easily accessible location.

CUTOFF VALVE ON COMPRESSOR SUPPLY

It includes a shut-off valve on the discharge of the compressor for emergency maintenance.

COOLING-ONLY OPERATION

Configuration that enables the water-water unit to operate with thermoregulation active on the user side for producing chilled water at controlled temperature.

ECONOMIC OFFER
WSAT-XEM 100.4(R410A-400T-IOM11X-CREFP)

UNIT CONFIGURATION		Q.TY
	Unit: WSAT-XEM 100.4	1
R410A	Refrigerant R-410A	1
LIQW	Handled fluid made of only water	1
EXC	Excellence	1
400T	Supply voltage 400/3/50 without neutral	1
SC	Acoustic configuration with compressor soundproofing	1
IOM11X	English Installation and Operation Manual (Accessory separately supplied)	1
HYG1	Hydronic assembly with 1 ON/OFF pump	1
CCS	Standard condenser coil	1
CREFP	Device for fan consumption reduction of the external section at variable speed (phase-cutting)	1
PM	phase monitor	1
MHP	high and low pressure gauges	1
RCTX	Remote control (Accessory separately supplied)	1
AVIBX	Anti-vibration mount support (Accessory separately supplied)	1
DV	cutoff valve on compressor supply	1

TECHNICAL DATA
WSAT-XEM 100.4(R410A-400T-IOM11X-CREFP)

SELECTED OPERATION CONDITIONS

COOLING		SELECTED
external exchanger air intake	°C	35.0
internal exchanger water outlet	°C	7.00
Internal exchanger thermal head	°C	5.00
GENERAL		SELECTED
glycole % internal exchanger	%	30.0
PART LOAD		SELECTED
Max. capacity required	kW	0.000
external exchanger air intake	°C	35.0

PERFORMANCE DATA

COOLING		
Cooling capacity	kW	281
Compressor power input	kW	81.2
EER		3.09
EER compressor	Nr	3.46
Water flow-rate (User Side)	l/s	14.9
STANDARD UNIT WEIGHTS		
Shipping weight	kg	2921
Operating weight	kg	2979
POWER SUPPLY		
F.L.I. - Total	kW	133
F.L.A. - Total	A	225

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

GENERAL			
Cooling capacity (EN14511:2013)		kW	287
Total power input (EN14511:2013)		kW	91.6
EER (EN 14511:2013)			3.13
ESEER			4.24
IPLV			4.75
Refrigeration circuits		Nr	2.00
WEIGHT AND DIMENSIONS			
Shipping length		mm	5240
Shipping depth		mm	2345
Shipping height		mm	2300
COMPRESSOR			
No. of compressors		Nr	4.00
Type of compressors			Scroll
Std Capacity control steps		Nr	6.00
F.L.A. - Compressor 1		A	36.5
F.L.A. - Compressor 2		A	59.3
F.L.A. - Compressor 3		A	36.5
F.L.A. - Compressor 4		A	59.3
L.R.A. - Compressor 1		A	225
L.R.A. - Compressor 2		A	310
L.R.A. - Compressor 3		A	225
L.R.A. - Compressor 4		A	310
F.L.I. - Compressor 1		kW	22.6
F.L.I. - Compressor 2		kW	36.1
F.L.I. - Compressor 3		kW	22.6
F.L.I. - Compressor 4		kW	36.1
EXTERNAL SECTION FANS			
Type of fans			AX
Number of fans		Nr	6.00
Standard airflow		l/s	33833
Installed unit power		kW	1.80

F.L.A. - Single External Fan		A	4.10
L.R.A. - Single External Fan		A	14.0
F.L.I. - Single External Fan		kW	1.90
INTERNAL EXCHANGER			
Water content		l	32.0
WATER CIRCUIT			
Safety valve calibration		kPa	600
CONNECTIONS			
Water fittings			4"
ELECTRICAL DATA			
M.I.C. MAXIMUM INRUSH CURRENT			
M.I.C. - Value		A	467
M.I.C. with soft start accessory		A	329

SOUND LEVELS								Sound pressure level	Sound power level
Sound power level (dB)									
Octave band (Hz)								dB(A)	dB(A)
63	125	250	500	1000	2000	4000	8000		
93	90	90	88	88	85	71	62	72	92

Data refer to the following conditions: internal water exchanger = 12/7 °C; outdoor air temperature 35°C
 Sound levels refer to full load units, in test nominal conditions. The sound pressure level refers to 1 m. from the standard unit outer surface operating in open field. Measurements are carried out according to the UNI EN ISO 9614-2 standard, in compliance with the EUROVENT 8/1 certification.

DIMENSIONAL DATA

