

CLIVET **WSAT-XEE 352-802**



ICS BALTIC
INDOOR CLIMATE SYSTEMS

WSAT-XEE WSAN-XEE

352÷802

new
generation

Water chiller

WSAT-XEE: cooling only
WSAN-XEE: reversible heat pump
Air cooled
Outdoor installation
Capacity from 90 to 216 kW



ELFOEnergy Large²

ELFOEnergy Large² water chillers and heat pumps provide the highest seasonal efficiency. They're designed to be installed outdoor and feature uneven scroll compressors mounted in the same circuit, electronic expansion valves and high efficiency plate type evaporators.

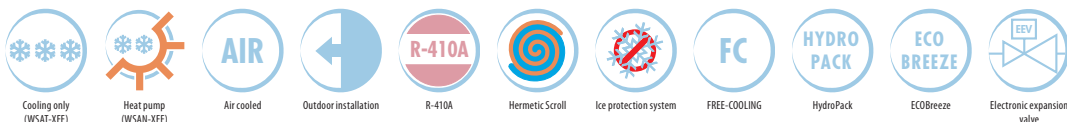
ELFOEnergy Large² shows an unmatched seasonal efficiency ESEER and is available in two versions: EXCELLENCE and PREMIUM. The standard version EXCELLENCE offers the highest efficiency both at full and at part load. Also the PREMIUM version offers high efficiency at part load but favour also the compact dimensions being therefore extremely competitive. Thanks to its features, ELFOEnergy Large² offers:

- **self-adaptability in different load conditions**, thanks to the availability of several capacity steps and the adjustment logic developed for maximum efficiency and minimum wear
- **very high overall reliability**, thanks to the consolidated construction choices and the use of industrially-made products
- **lower sound emissions**, achieved thanks to the optimal sizing of the exchange surfaces and the use of high efficiency fans with "winglets"
- **quick and easy installation** thanks to the quick connections with the main circuit, electrical wiring enablement and complete functional testing before delivery. The units can also be supplied with pump assemblies, partial heat recovery and inertial storage tank already installed on board, bringing together all the system's main components in a single solution.

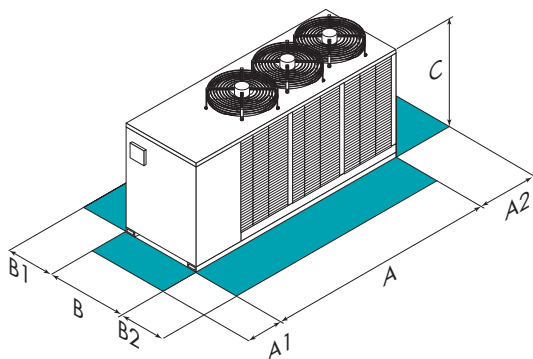


Unit listed on
www.eurovent-certification.com

functions and features



dimensions and clearances



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

Size – WSAT-XEE			352	402	432	452	502	552	602	702	802
SC-EXC	A - Length	mm	3075	3075	3075	4025	4025	4025	4025	5025	5025
SC-EXC	B - Width	mm	1097	1097	1097	1097	1097	1097	1097	1097	1097
SC-EXC	C - Height	mm	1805	1805	1805	1805	1805	1805	1805	1805	1805
SC-EXC	A1	mm	1000	1000	1000	1000	1000	1000	1000	1000	1000
SC-EXC	A2	mm	700	700	700	700	700	700	700	700	700
SC-EXC	B1	mm	1350	1350	1350	1350	1350	1350	1350	1350	1350
SC-EXC	B2	mm	1350	1350	1350	1350	1350	1350	1350	1350	1350
SC-EXC	Operating weight	kg	896	933	1024	1207	1234	1256	1302	1497	1544
SC-PRM	Operating weight	kg	778	802	892	924	963	984	1087	1295	1324

Size – WSAN-XEE			352	402	432	452	502	552	602	702	802
A - Length	mm		3075	3075	3075	3075	3075	4025	4025	5025	5025
B - Width	mm		1097	1097	1097	1097	1097	1097	1097	1097	1097
C - Height	mm		1805	1805	1805	1805	1805	1805	1805	1805	1805
A1	mm		1000	1000	1000	1000	1000	1000	1000	1000	1000
A2	mm		700	700	700	700	700	700	700	700	700
B1	mm		1350	1350	1350	1350	1350	1350	1350	1350	1350
B2	mm		1350	1350	1350	1350	1350	1350	1350	1350	1350
SC	Operating weight	kg	915	975	1059	1101	1126	1326	1341	1549	1564
EN	Operating weight	kg	915	975	1059	1101	1126	1326	1341	1549	1564

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.

SC-EXC Compressors soundproofing (SC)-Excellence
SC-PRM Compressors soundproofing (SC)-Premium
SC Compressors soundproofing (SC)
EN Extremely low noise (EN)

versions and configurations

LOW TEMPERATURE:

- - Low temperature: not required (Standard)
- **B** Water low temperature

ENERGY RECOVERY:

- - Energy recovery: not required (Standard)
- **D** Partial energy recovery
- **R** Total energy recovery

ACOUSTIC CONFIGURATION:

- **SC** Acoustic configuration with compressor soundproofing (Standard)
- **EN** Extremely low noise acoustic configuration

EXTERNAL SECTION FAN CONSUMPTION REDUCTION:

- **CREFB** Device for consumption reduction of the external section ECOBREEZE fans (Standard)
- **CREFP** Device for consumption reduction of the external section at variable speed (phase-cutting)

DOUBLE SET POINT:

- - Double set point: not required (Standard)
- **DSP** Double set point
- **DSPB** Double set point for water low temperature

VERSION (WSAT-XEE ONLY):

- **EXC** Excellence (Standard)
- **PRM** Premium

FREE-COOLING (WSAT-XEE ONLY):

- - FREE-COOLING: not required (Standard)
- **FCD** Direct FREE-COOLING

technical data

Size – WSAT-XEE				352	402	432	452	502	552	602	702	802
SC-EXC	▶ Cooling capacity (EN14511:2011)	(1)	kW	95,6	109	120	129	140	152	174	195	216
SC-EXC	Total power input (EN14511:2011)	(1)	kW	30,6	34,8	38,8	40,9	45,0	49,0	55,8	62,3	69,6
SC-EXC	EER (EN 14511:2011)	(1)	-	3,12	3,13	3,10	3,15	3,12	3,10	3,12	3,13	3,11
SC-EXC	ESEER	(1)	-	4,22	4,30	4,22	4,21	4,24	4,10	4,26	4,16	4,32
SC-PRM	Cooling capacity (EN14511:2011)	(1)	kW	89,7	101	111	119	130	143	159	185	203
SC-PRM	Total power input (EN14511:2011)	(1)	kW	32,6	37,7	42,0	44,2	48,0	53,2	61,0	66,9	75,9
SC-PRM	EER (EN 14511:2011)	(1)	-	2,75	2,67	2,64	2,70	2,71	2,69	2,61	2,76	2,67
SC-PRM	ESEER	(1)	-	3,91	3,95	3,90	4,03	4,02	3,99	3,90	3,99	3,79
SC-EXC	Sound pressure level	(2)	dB(A)	67	67	68	68	68	69	69	70	70
SC-PRM	Sound pressure level	(2)	dB(A)	67	67	67	67	68	68	68	69	69
Refrigerant circuits				Nr	1	1	1	1	1	1	1	1
No. of compressors				Nr	2	2	2	2	2	2	2	2
Type of compressors				-	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL
Standard power supply				V	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
Size – WSAN-XEE				352	402	432	452	502	552	602	702	802
SC	▶ Cooling capacity (EN14511:2011)	(1)	kW	84,4	96,7	105	114	122	140	156	183	202
SC	Total power input (EN14511:2011)	(1)	kW	32,7	36,5	41,3	43,6	48,5	51,3	60,8	66,9	76,5
SC	EER (EN 14511:2011)	(1)	-	2,58	2,65	2,55	2,61	2,52	2,73	2,56	2,73	2,64
SC	ESEER	(1)	-	3,43	3,56	3,54	3,54	3,56	3,49	3,40	3,35	3,31
SC	▶ Heating capacity (EN14511:2011)	(3)	kW	100	116	127	136	147	165	183	212	234
SC	Total power input (EN14511:2011)	(3)	kW	32,6	36,7	40,4	42,1	45,8	51,0	57,1	65,3	72,6
SC	COP (EN 14511:2011)	(3)	-	3,08	3,16	3,14	3,23	3,20	3,24	3,21	3,25	3,23
SC	Refrigerant circuits	Nr		1	1	1	1	1	1	1	1	1
SC	No. of compressors	Nr		2	2	2	2	2	2	2	2	2
SC	Type of compressors	-		SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL
SC	Standard power supply	V		400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
SC	Sound pressure level	(2)	dB(A)	67	67	67	67	67	68	68	71	71
EN	Sound pressure level	(2)	dB(A)	62	63	64	64	64	65	65	66	66

Notes

- (1) Data calculated in compliance with Standard EN 14511:2011 referred to the following conditions: Internal exchanger water temperature = 12/7°C; External exchanger air temperature = 35°C
- (2) 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. Measures according to UNI EN ISO 9614-2 regulations, with respect to the EUROVENT 8/1 certification. Data referred to the following conditions: Internal exchanger water = 12/7°C; Outdoor air temperature 35°C
- (3) Data calculated in compliance with Standard EN 14511:2011 referred to the following conditions: Internal exchanger water temperature = 40/45°C. External exchanger air temperature 7 D.B. /6 (°C) W.B.
SC-EXC Compressors soundproofing (SC)-Excellence
SC-PRM Compressors soundproofing (SC)-Premium
SC Compressors soundproofing (SC)
EN Extremely low noise (EN)

accessories

- ▶ **1PUS** Standard pump
- ▶ **1PU1SB** Standard pump with emergency pump
- ▶ **2PM** Hydropack with 2 pumps
- ▶ **IFWX** Water steel mesh strainer
- ▶ **A300** 300-litre storage tank (sizes 352÷602)
- ▶ **A300RPS** 300-litre storage tank with primary circuit onboard (sizes 352÷602)
- ▶ **A500** 500-litre storage tank (sizes 702÷802)
- ▶ **A500RPS** 500-litre storage tank with primary circuit onboard (sizes 702÷802)
- ▶ **ABU** Flush hydraulic connections
- ▶ **CCCA** Copper / aluminium condenser coil with acrylic lining
- ▶ **CCCA1** Copper / aluminium condenser coil with Energy Guard DCC Aluminum
- ▶ **AMMX** Spring antivibration mounts
- ▶ **PGCCH** Anti-hail protection grilles
- ▶ **PGFC** Finned coil protection grill
- ▶ **PSX** Mains power supply
- ▶ **CONTA2** Energy meter
- ▶ **RCMRX** Remote control via microprocessor control
- ▶ **CMSC8** Serial communication module to BACnet supervisor
- ▶ **CMSC10** Serial communication module to LonWorks supervisor
- ▶ **CMSC9** Serial communication module to MODBUS supervisor
- ▶ **SCP4** Compensation of set point with signal 0-10 V
- ▶ **SPC2** Set point compensation with outside temperature probe
- ▶ **ECS** ECOSHARE function for the automatic management of a group of units
- ▶ **PFCP** Power factor correction capacitors (cosfi > 0.9)

- ▶ **SFSTR** Disposal for inrush current reduction
- ▶ **MHP** High and low pressure gauges
- ▶ **AEG1** Antifreeze protection with 10% ethylene glycol
- ▶ **AEG2** Antifreeze protection with 20% ethylene glycol
- ▶ **AEG3** Antifreeze protection with 30% ethylene glycol
- ▶ **AEG4** Antifreeze protection with 40% ethylene glycol
- ▶ **AEG5** Antifreeze protection with 50% ethylene glycol

WSAT-XEE only:

- ▶ **CCCAG** Copper / aluminium condenser coil with gray acrylic lining (sizes 802)
- ▶ **MF2** Multi-function phase monitor
- ▶ **DML** Demand limit
- ▶ **RE-20** Electrical panel antifreeze protection for min. outdoor temperature down to -20°C
- ▶ **RE-25** Electrical panel antifreeze protection for min. outdoor temperature down to -25°C
- ▶ **RE-30** Electrical panel antifreeze protection for min. outdoor temperature down to -30°C
- ▶ **RE-35** Electrical panel antifreeze protection for min. outdoor temperature down to -35°C
- ▶ **RE-39** Electrical panel antifreeze protection for min. outdoor temperature down to -39°C
- ▶ **FANQE** Electrical panel ventilation
- ▶ **SDV** Compressor discharge and suction shut-off valve

WSAN-XEE only:

- ▶ **PM** Phase monitor
- ▶ **OHE** Limit extension kit in heating up to -10°C (W.B.)

Key to symbols and notes

- Accessories supplied separately.

For compatibility between the various accessories, please refer to the dedicated Technical Bulletin or our website in the Systems and Products section.

