# WSAT-XEE WSAN-XEE

**82÷302**

**Water chiller**
- WSAT-XEE: cooling only
- WSAN-XEE: reversible heat pump

Air cooled
Outdoor installation
**Capacity from 24,3 to 72,2 kW**

## ELFOENERGY MEDIUM

Eurovent Energy Efficiency Class

*Liquid chillers and heat pumps of the ELFOEnergy **WSAT-XEE** and **WSAN-XEE** series are units **designed for outdoor installation and best energy efficiency** in relation to their reduced size.*
*The ELFOEnergy series has been the turning point in the evolution of chillers.*
*Every unit has been conceived and made by applying state-of-the-art technology, emphasising the qualities of **EFFICIENCY**, **SELF-ADAPTATION** and **EASY INSTALLATION** that distinguish this product*
*Thanks to its constructional and electronic peculiarities, ELFOEnergy permits:*

- *high energy efficiency, in particular during partial-load operation, thanks to the use of **two compressors with different capacities** that work on a single refrigerant circuit;*
- *Eurovent energy efficiency classification **class "A"** in heating operation, also in full load condition;*
- *adaptability of operating parameters to the load conditions of the connected system, thereby optimising consumption, efficiency and working life of the parts;*
- *easy, quick installation thanks to the **standard hydronic group** and the factory test carried out prior to dispatch;*
- *installation of hydronic group **with non-standard working head pumps** or **with double pump**.*

## functions and features

Cooling only (WSAT-XEE) · Heating-Cooling (WSAN-XEE) · Air cooled · Outdoor inst. · Refrig. R-410A · Herm. Scroll · ELFOControl · Ice protection system (WSAN-XEE only) · Free-Cooling (WSAT-XEE only)

## available configurations

| | (1) | | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WSAT-XEE | S | 82 | 400TN | 1PUS | - | OHP | - | - | - | - | - | - | - |

(1) LOW TEMPERATURE:
- **S** Standard
- **B** Low water temperature
  This version allows unit operation within the water and glycol mixing temperature range between +4°C and -8°C inclusive.
- **DSPB** Double set-point for water low temperature (Brine)

(2) SUPPLY VOLTAGE:
- **400TN** 400/3/50+N

(3) HYDRONIC GROUP USER SIDE:
- **1PUS** Standard pump
- **1PUR** Single pump with reduced discharge head
- **1PUM** Single pump with larger discharge head
- **2PUS** Standard double pump
- **2PUR** Double pump with reduced discharge head
- **2PUM** Double pump with larger discharge head
- **-** Not required

(4) ENERGY RECOVERY:
- **-** Not required (Standard)
- **D** Partial recovery
  Carried out using braze-welded plate-type exchangers suited for recovering the desuperheating heat up to a maximum of 25% of the total unit heat.

(5) OPERATION (WSAN-XEE only):
- **OHP** Operation in heat pump
  Cooling and heating unit (Standard)
- **OHO** Operation in heating-only
  Heating only unit

(6) CONDENSER COIL:
- **CCS** Standard condenser coil
- **CCCA** Condenser coil in copper/aluminium with acrylic coating
- **CCCA1** Condenser coil in copper/aluminium with Energy Guard DCC Aluminium treatment
- **CCCC** Condenser coil in copper/copper

(7) SOFT STARTER:
- **-** Not required (Standard)
- **SFSTR4N** Device for inrush current reduction, for 400/3/50+N units

(8) FREE CONTACTS HEATING EXTERNAL SIGNAL:
- **-** Not required (Standard)
- **CLSE** Free Contacts External Signal

(9) SHUNT CAPACITORS (POWER FACTOR > 0,9):
- **-** Not required (Standard)
- **PFCP** Shunt capacitors (power factor > 0,9)

(10) STORAGE TANK:
- **-** Not required (Standard)
- **ACC1** Teflon steel storage tank

(11) FREE-COOLING (WSAT-XEE only):
- **-** Not required (Standard)
- **FCD** Direct free-cooling
  For technological air conditioning, and when the air temperature permits, the free-cooling option makes it possible to recover cold energy from the outdoor environment

(12) REDUCED OUT. SECT. FAN CONSUMPTION (WSAT-XEE only):
- **-** Not required (Standard)
- **CREFB** Device for the reduction of ECOBREEZE type outdoor section fan consumption

## accessories

- ‣ Rubber antivibration mounts
- ‣ Serial communication module with supervisor (MODBUS)
- ‣ Steel mesh filter on water side (when unit is in "without hydronic group" configuration)
- ‣ High and low pressure gauges
- ‣ Daily and weekly programming clock
- ‣ Finned coil protection grilles
- ‣ Phase monitor to check the presence and correct sequence of the power supply phases
- ‣ Control keypad for remote installation that repeats all the functions already present on the onboard microprocessor control
- ‣ Humidity probe for summer set point compensation according to the outside enthalpy and defrosting optimization in winter operation

**WSAT-XEE only:**

- ‣ Setpoint compensation on the basis of outdoor enthalpy

**WSAN-XEE only:**

- ‣ Setpoint compensation with outdoor air probe

**Key to symbols:**

- Accessories supplied separately.



## technical data

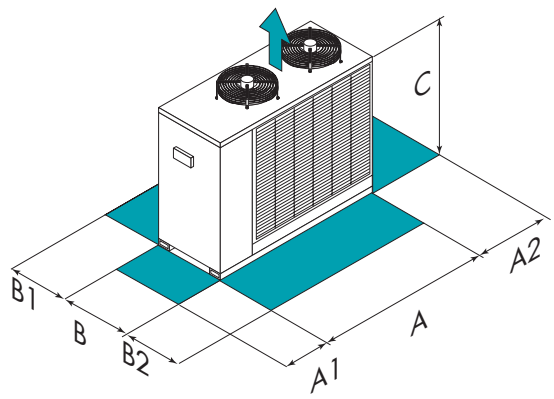
| Sizes | | | 82 | 102 | 122 | 162 | 182 | 222 | 262 | 302 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Application with terminal units** | | | | | | | | | | |
| **WSAT-XEE** | | | | | | | | | | |
| ▸ Cooling capacity | (1) | kW | 24.3 | 28.2 | 33.7 | 40.0 | 45.9 | 54.4 | 64,1 | 72.2 |
| Total input | (1)(2) | kW | 8,90 | 10,4 | 12,5 | 14,2 | 16,7 | 20,1 | 23,4 | 26,6 |
| EER EUROVENT | (1) | - | 2,73 | 2,72 | 2,71 | 2,81 | 2,74 | 2,71 | 2,74 | 2,71 |
| ESEER | | - | 4,32 | 4,48 | 4,18 | 4,20 | 4,34 | 4,47 | 4,19 | 4,06 |
| Pump working head | (1) | kPa | 132 | 126 | 120 | 104 | 88 | 148 | 139 | 131 |
| **WSAN-XEE** | | | | | | | | | | |
| ▸ Cooling capacity | (1) | kW | 23,6 | 27,5 | 32,7 | 39,4 | 45,6 | 52,9 | 63,0 | 71,9 |
| Total input | (1)(2) | kW | 9,36 | 10,9 | 13,0 | 15,3 | 17,8 | 21,0 | 25,0 | 28,4 |
| EER EUROVENT | (1) | - | 2,52 | 2,53 | 2,51 | 2,57 | 2,56 | 2,51 | 2,52 | 2,53 |
| ESEER | | - | 4,07 | 4,11 | 3,85 | 3,82 | 4,00 | 4,11 | 3,90 | 3,86 |
| ▸ Heating capacity | (3) | kW | 28,8 | 32,9 | 37,5 | 45,6 | 53,0 | 61,9 | 72,4 | 83,7 |
| Total input | (2)(3) | kW | 9,00 | 10,3 | 11,7 | 14,1 | 16,5 | 19,0 | 22,2 | 25,6 |
| COP EUROVENT | (3) | - | 3,20 | 3,18 | 3,21 | 3,23 | 3,21 | 3,26 | 3,27 | 3,27 |
| Pump working head | (1) | kPa | 136 | 129 | 125 | 107 | 89 | 150 | 141 | 131 |
| **Application with radiant panels** | | | | | | | | | | |
| **WSAN-XEE** | | | | | | | | | | |
| ▸ Cooling capacity | (4) | kW | 31.5 | 36.7 | 43,8 | 52,6 | 60,2 | 72,3 | 83,1 | 97,2 |
| Total input | (2)(4) | kW | 9.95 | 11.9 | 14,4 | 16,8 | 18,9 | 22,7 | 26,6 | 30,5 |
| EER EUROVENT | (4) | - | 3,16 | 3,09 | 3,05 | 3,13 | 3,18 | 3,18 | 3,13 | 3,19 |
| ▸ Heating capacity | (5) | kW | 29,2 | 33,6 | 38,0 | 46,9 | 54,1 | 63,3 | 74,0 | 85,4 |
| Total input | (2)(5) | kW | 7,07 | 8,00 | 9,10 | 11,2 | 13,3 | 15,6 | 18,2 | 21,1 |
| COP EUROVENT | (5) | - | 4,13 | 4,21 | 4,15 | 4,19 | 4,07 | 4,05 | 4,07 | 4,05 |
| Pump working head | (4) | kPa | 91,8 | 80,4 | 72,7 | 42,9 | 17,2 | 111,2 | 102,3 | 82,9 |
| Number of refrigerant circuits | | - | 1 | | | | | | | |
| Number and type of compressors | | - | 2 SCROLL | | | | | | | |
| Sound pressure level | (6) | dB(A) | 60 | 60 | 60 | 61 | 62 | 62 | 64 | 64 |
| Power supply | | V/Ph/Hz | 400/3/50+N | | | | | | | |

**Data referred to the following conditions:**

(1) Internal exchanger water = 12/7°C; air entering external exchanger = 35°C
(2) Total input is obtained from the compressor input + fan input + auxiliary circuit input.
(3) Ambient temperature = 7°C (R.H. = 85%); internal exchanger water outlet temperature 45°C
(4) Internal exchanger water = 23/18°C; air entering external exchanger = 35°C
(5) Fresh air temperature = 7°C D.B./ 6°C W.B.; internal exchanger water temperature 30/35°C
(6) 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.

## dimensions and clearances

leave free




CAUTION! For trouble-free operation of the unit it is essential to maintain the clearances in green.

| Sizes | | 82 | 102 | 122 | 162 | 182 | 222 | 262 | 302 |
|---|---|---|---|---|---|---|---|---|---|
| Length (A) | mm | 1703 | 1703 | 1703 | 1932 | 1932 | 1932 | 2332 | 2332 |
| Width (B) | mm | 675 | 675 | 675 | 1100 | 1100 | 1100 | 1100 | 1100 |
| Height (C) | mm | 1209 | 1209 | 1209 | 1417 | 1417 | 1417 | 1417 | 1417 |
| ▸ (A1) | mm | 700 | 700 | 700 | 700 | 700 | 700 | 700 | 700 |
| (A2) | mm | 700 | 700 | 700 | 700 | 700 | 700 | 700 | 700 |
| (B1) | mm | 700 | 700 | 700 | 700 | 700 | 700 | 700 | 700 |
| (B2) | mm | 700 | 700 | 700 | 700 | 700 | 700 | 700 | 700 |
| **WSAT-XEE** | | | | | | | | | |
| Weight in oper. | kg | 298 | 303 | 323 | 456 | 469 | 490 | 547 | 561 |
| **WSAN-XEE** | | | | | | | | | |
| Weight in oper. | kg | 315 | 320 | 370 | 530 | 550 | 580 | 675 | 690 |

The above data refer to standard units.