

# ELFOEnergy Compact

WSAN-EE WSAT-EE



Heat pump, optimised for cooling, suitable for systems with radiant panels and water terminal units.

**Water chiller**

▶ WSAN-EE: reversible heat pump

▶ WSAT-EE: cooling only

Air cooled

Outdoor installation

**Capacity from 5,07 to 37,4 kW**

**ELFO**ENERGY COMPACT

**ELFOEnergy COMPACT** water cooling units use R-410A refrigerant. Because they are so compact, they are **ideal for residential applications**. And they **keep on working** under all conditions thanks to a variable speed fan and water pump.

The series guarantees:

- ▶ **silent operation** thanks to a fan unit that operates at only 70% of its maximum speed under normal conditions;
- ▶ **storage-free operation** and **temperature modulation** for a perfect balance between output power and energy consumption.

**available configurations**

WSAN-EE	17	(1) S	(2) 230M	(3) CCS	(4) HYGU	(5) -	(6) -
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**(1) LOW TEMPERATURE:**

- ▶ - Not required (Standard)
- ▶ **B** Low water temperature (sizes 61÷151)  
This version allows unit operation within the water and glycol mixing temperature range between +5°C and -8°C inclusive.

**(2) SUPPLY VOLTAGE:**

- ▶ **230M** 230/1/50 (Standard for sizes 17÷31)
- ▶ **400TN** 400/3/50+N (Standard and only for sizes 41÷151)

**(3) 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

**(4) HYDRONIC GROUP:**

- ▶ **HYGU** Hydronic group user side (Standard)
- ▶ - Not required

**(5) SOFT STARTER:**

- ▶ - Not required (Standard)
- ▶ **SFSTR1** Device for inrush current reduction for 230/1/50 units (sizes 17÷51)
- ▶ **SFSTR4N** Device for inrush current reduction for 400/3/50+N units (sizes 61÷151)

**(6) ADDITIONAL CARDS:**

- ▶ - Not required (Standard)
- ▶ **KDT3V** Double temperature control kit, set point compensation 4-20 mA, 3-way valve control

technical data

Sizes		17	21	25	31	41	51	61	71	81	91	101	121	131	151	
<b>WSAN-EE</b>																
<b>Application with radiant panels</b>																
<b>A7/W35</b>	(1)															
▶ Heating capacity		kW	5.07	6.28	6.51	8.81	10.4	12.4	14.7	17.2	19.6	21.8	25.6	28.8	33.8	37.4
Total input	(2)	kW	1,51	1,74	2,01	2,59	2,61	3,27	3,97	4,67	5,19	5,79	6,64	7,82	8,57	9,88
COP EUROVENT	(3)	-	3,36	3,61	3,24	3,40	3,98	3,79	3,70	3,68	3,78	3,77	3,86	3,68	3,94	3,79
COP (EN 14511:2008)	(4)	-	3,13	3,36	3,05	3,12	3,65	3,53	3,46	3,48	3,58	3,59	3,82	3,68	3,96	3,78
<b>A2/W35</b>	(1)															
▶ Heating capacity		kW	4,57	5,63	5,90	7,76	9,20	11,1	13,0	15,3	17,4	19,4	22,8	25,8	30,0	33,5
Total input	(2)	kW	1,49	1,70	1,97	2,53	2,59	3,25	3,93	4,60	5,16	5,74	6,60	7,78	8,42	9,80
COP EUROVENT	(3)	-	3,07	3,31	2,99	3,07	3,55	3,42	3,31	3,33	3,37	3,38	3,45	3,32	3,56	3,42
<b>A-5/W35</b>	(1)															
▶ Heating capacity		kW	3,58	4,41	4,69	5,93	6,89	8,54	9,88	11,7	13,2	14,7	17,2	19,8	22,7	26,0
Total input	(2)	kW	1,43	1,62	1,88	2,44	2,55	3,26	3,90	4,54	5,16	5,71	6,59	7,78	8,25	9,78
COP EUROVENT	(3)	-	2,50	2,72	2,49	2,43	2,70	2,62	2,53	2,57	2,55	2,57	2,61	2,54	2,75	2,66
<b>A35/W18</b>	(1)															
▶ Cooling capacity		kW	5,59	6,90	7,60	10,1	11,8	14,0	17,2	20,5	22,8	24,9	29,9	33,1	38,0	43,7
Total input	(2)	kW	1,90	2,50	2,84	3,66	3,51	4,70	5,78	7,27	7,69	8,87	11,0	11,8	12,8	15,8
EER EUROVENT	(5)	-	2,94	2,76	2,68	2,76	3,36	2,98	2,98	2,82	2,96	2,81	2,73	3,22	2,59	2,77
<b>Application with terminal units</b>																
<b>A7/W45</b>	(1)															
▶ Heating capacity		kW	4,91	6,08	6,39	8,59	10,1	12,4	14,5	17,1	19,3	21,6	25,2	28,5	33,4	38,0
Total input	(2)	kW	1,76	2,11	2,36	3,08	3,32	4,31	4,94	5,88	6,54	7,23	8,44	9,77	10,5	12,3
COP EUROVENT	(3)	-	2,79	2,89	2,71	2,83	3,04	2,88	2,94	2,90	2,95	2,99	2,99	2,91	3,18	3,09
<b>A2/W45</b>	(1)															
▶ Heating capacity		kW	4,41	5,49	5,81	7,63	9,00	11,2	12,9	15,3	17,2	19,3	22,6	25,6	29,8	34,0
Total input	(2)	kW	1,71	2,04	2,28	2,97	3,27	4,34	4,89	5,82	6,51	7,23	8,37	9,70	10,4	12,1
COP EUROVENT	(3)	-	2,58	2,69	2,55	2,57	2,75	2,58	2,64	2,63	2,64	2,67	2,70	2,64	2,87	2,81
<b>A-5/W45</b>	(1)															
▶ Heating capacity		kW	3,41	4,32	4,65	5,87	6,90	8,78	9,79	11,8	13,2	14,9	17,4	19,7	22,6	25,9
Total input	(2)	kW	1,62	1,91	2,14	2,80	3,24	4,40	4,84	5,82	6,51	7,23	8,37	9,69	10,2	11,9
COP EUROVENT	(3)	-	2,10	2,26	2,18	2,09	2,13	2,00	2,02	2,03	2,02	2,06	2,07	2,03	2,21	2,18
<b>A35/W7</b>	(1)															
▶ Cooling capacity		kW	4,00	4,99	5,58	7,33	8,49	10,4	13,1	15,7	17,3	18,6	22,9	25,7	29,1	33,5
Total input	(2)	kW	1,76	2,25	2,56	3,34	3,30	4,43	5,45	6,57	7,21	8,04	10,0	11,2	11,9	14,7
EER EUROVENT	(5)	-	2,28	2,22	2,17	2,19	2,57	2,35	2,40	2,38	2,40	2,31	2,28	2,29	2,44	2,28
ESEER	(6)	-	2,56	2,49	2,42	2,47	3,04	2,81	2,80	2,77	2,83	2,66	2,66	2,67	2,80	2,63
<b>WSAT-EE</b>																
<b>A35/W7</b>	(1)															
▶ Cooling capacity		kW	4,32	5,27	5,79	7,62	8,86	11,2	14,0	16,7	18,6	21,3	24,4	27,4	32,3	37,5
Total input	(2)	kW	1,89	2,28	2,53	3,23	3,12	4,34	5,27	6,84	7,03	8,11	9,56	11,0	11,5	14,1
EER EUROVENT	(5)	-	2,29	2,32	2,29	2,36	2,84	2,58	2,66	2,44	2,65	2,62	2,55	2,49	2,81	2,65
ESEER	(6)	-	2,56	2,62	2,54	2,65	3,34	3,03	3,07	2,82	3,08	2,97	2,96	2,85	3,19	3,00
Minimum external air temperature		°C	-15	-15	-15	-15	-15	-15	-14	-14	-15	-15	-13	-15	-15	-15
Maximum water temperature		°C	48	49	51	51	51	51	50	51	51	51	50	51	52	52
Water flow rate	(7)	l/s	0,19	0,24	0,27	0,35	0,41	0,50	0,62	0,75	0,83	0,89	1,09	1,23	1,39	1,60
Pump working head	(7)	kPa	44	39	38	55	52	41	155	146	146	141	134	162	149	136
Sound pressure level	(8)	dB(A)	32	32	34	35	35	37	46	46	47	47	47	48	49	50
Power supply		V/Ph/Hz	230/1/50+N						400/3/50+N							

Data referred to the following conditions:

- (1) A7/W35 internal exchanger water 30/35°C; external air temperature 7°C D.B./ 6°C W.B.  
A2/W35 internal exchanger water 30/35°C; external air temperature 2°C D.B./ 1,1°C W.B.  
A-5/W35 internal exchanger water 30/35°C; external air temperature -5°C D.B./ -5,4°C W.B.  
A7/W45 internal exchanger water 40/45°C; external air temperature 7°C D.B./ 6°C W.B.  
A2/W45 internal exchanger water 40/45°C; external air temperature 2°C D.B./ 1,1°C W.B.  
A-5/W45 internal exchanger water 40/45°C; external air temperature -5°C D.B./ -5,4°C W.B.  
A35/W18 internal exchanger water 23/18°C; external air temperature 35°C  
A35/W7 internal exchanger water 12/7°C; external air temperature 35°C
- (2) The total power input is the total power absorbed by the compressors + fans - the power absorbed by the fan to supply the remaining available static pressure to the system + the power absorbed by the auxiliary circuit
- (3) EUROVENT COP: coefficient of performance in heating mode. Relationship between heating capacity output and power input according to EUROVENT. The power input is the total power absorbed by the compressor + fan + auxiliary circuit + defrost cycles.
- (4) COP (EN 14511:2008) coefficient of performance in heating mode. Relationship between heating capacity output and power input according to standard EN 14511:2008. The power input is the total power absorbed by the compressor + fan + auxiliary circuit + defrost cycles + part of the pump to overcome internal pressure drops.
- (5) EUROVENT EER calculated as the relationship between the cooling capacity and the total power input.
- (6) ESEER coefficient of seasonal performance in cooling mode calculated according to Eurovent. Outlet water 7°C.
- (7) Water flow and available static pressure in winter operating conditions A7/W35: water at the internal heat exchanger 30/35°C; outdoor air temperature 7°C D.B. / 6°C W.B.
- (8) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 10 m from the external surface of the unit in open field conditions.

functions and features



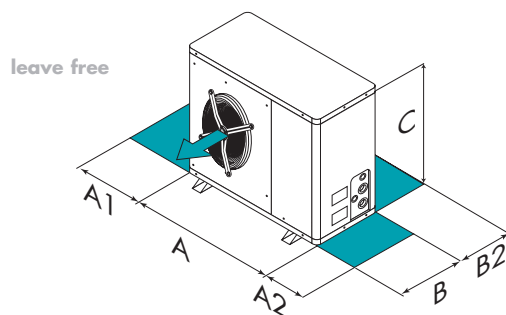
## accessories

- ▶ Rubber antivibration mounts
- ▶ Serial communication module to supervisor (MODBUS)
- ▶ Phase monitor
- ▶ Double temperature control kit, set point compensation 4-20 mA, 3-way valve
- ▶ Set point compensation with according to outdoor enthalpy
- ▶ Service keypad (cable from 1,5 metres)

### Key to symbols:

- Accessories supplied separately.

## dimensions and clearances



**CAUTION!** For troublefree operation of the unit it is essential to maintain the clearances in green.

Sizes		17	21	25	31	41	51	61	71	81	91	101	121	131	151
<b>WSAN-EE</b>															
Length (A)	mm	800	800	800	800	800	800	1087	1087	1373	1373	1373	1373	1715	1715
Width (B)	mm	300	300	300	300	300	300	411	411	555	555	555	555	820	820
Height (C)	mm	930	930	930	930	1244	1244	1175	1175	1225	1225	1225	1225	1480	1480
▶ (A1)	mm	100	100	100	100	100	100	100	100	100	100	100	100	100	100
(A2)	mm	500	500	500	500	500	500	500	500	500	500	500	500	500	500
(B2)	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Weight in oper.	kg	68	76	77	91	111	120	126	135	180	184	203	206	268	273
<b>WSAT-EE</b>															
Length (A)	mm	800	800	800	800	800	800	1087	1087	1373	1373	1373	1373	1715	1715
Width (B)	mm	300	300	300	300	300	300	411	411	555	555	555	555	820	820
Height (C)	mm	643	643	643	930	1244	1244	1175	1175	1225	1225	1225	1225	1480	1480
▶ (A1)	mm	100	100	100	100	100	100	100	100	100	100	100	100	100	100
(A2)	mm	500	500	500	500	500	500	500	500	500	500	500	500	500	500
(B2)	mm	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Weight in oper.	kg	58	66	66	80	102	110	126	135	180	184	203	206	268	273

The above data refer to standard units.