

## ELFOEnergy Ground

**Reversible heat pump**

Water cooled

Indoor installation

**Capacity from 6,23 to 33,1 kW**



- ✓ Scroll compressor and plate heat exchangers
- ✓ First investment driven and refurbishment applications
- ✓ Refrigerant R410A - GWP = 2088
- ✓ Versatile applications with double set-point and boiler control kits
- ✓ Domestic hot water up to 60°C, low water temperature down to -8°C
- ✓ Energy saving with set-point compensation according to outside enthalpy or air temperature
- ✓ Integrated source and user side hydronic assemblies and three-way valve



Clivet participates in the EUROVENT "Liquid Chilling Packages and Hydronic Heat Pumps".

The products concerned feature on the website [www.eurovent-certification.com](http://www.eurovent-certification.com).



compliant ErP

### functions and features



Heat pump



Water cooled



Indoor installation



R-410A



Hermetic Scroll

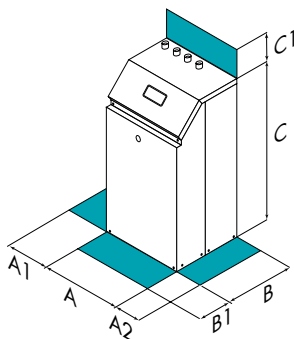


ELFOControl<sup>®</sup> EVO



Vary Flow

### dimensions and clearances



Size	▶▶ WSHN-EE	17	21	31	41	51	61	71	81	91	101	121
A - Length	mm	402	402	402	402	402	573	573	573	573	573	573
B - Width	mm	602	602	602	602	602	604	604	604	604	604	604
C - Height	mm	785	785	785	785	785	858	858	858	858	858	858
A1	mm	150	150	150	150	150	150	150	150	150	150	150
A2	mm	150	150	150	150	150	150	150	150	150	150	150
B1	mm	600	600	600	600	600	600	600	600	600	600	600
C1	mm	300	300	300	300	300	300	300	300	300	300	300
Operating weight	kg	81	83	86	90	98	115	129	147	163	164	170

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.

#### CAUTION!

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

## versions and configurations

### LOW TEMPERATURE:

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

### VOLTAGE:

- 400TN** Supply voltage 400/3N~/50
- 230M** Supply voltage 230/1/50 (sizes 17÷51)

### HYDRONIC ASSEMBLY SOURCE SIDE:

- Hydronic assembly source side: not required (Standard)
- HYGS** Hydronic assembly source side (sizes 17÷91)

## technical data

Size		▶ WSHN-EE	17	21	31	41	51	61	71	81	91	101	121
<b>Unit for radiant panels</b>													
<b>W10/W35</b>													
♦ Cooling capacity (EN 14511:2018)	kW		6,95	7,49	9,50	12,0	16,0	19,5	24,7	26,7	30,8	36,2	41,2
Total power input (EN 14511:2018)	kW		1,35	1,47	1,83	2,34	3,10	3,83	4,81	5,21	6,04	7,09	8,01
COP (EN 14511:2018)	-		5,15	5,10	5,19	5,11	5,16	5,10	5,13	5,12	5,10	5,11	5,14
<b>W35/W18</b>													
♦ Cooling capacity (EN 14511:2018)	kW		8,37	9,05	10,8	14,0	17,8	22,1	27,1	29,8	33,8	38,1	42,8
Total power input (EN 14511:2018)	kW		1,51	1,70	2,01	2,49	3,32	4,30	5,28	5,65	6,46	7,46	8,39
EER (EN 14511:2018)	-		5,52	5,32	5,37	5,64	5,35	5,14	5,13	5,27	5,22	5,11	5,10
<b>Terminal units</b>													
<b>W10/W45</b>													
♦ Heating capacity (EN 14511:2018)	kW		6,68	7,27	8,83	11,5	15,6	18,9	23,6	25,1	29,3	34,2	38,7
Total power input (EN 14511:2018)	kW		1,59	1,73	2,43	3,01	3,96	4,82	5,94	6,62	7,46	8,85	9,76
COP (EN 14511:2018)	-		4,19	4,19	3,63	3,81	3,94	3,92	3,97	3,79	3,93	3,87	3,97
<b>W35/W7</b>													
♦ Cooling capacity (EN 14511:2018)	kW		6,23	6,57	8,05	10,8	13,2	16,3	20,7	22,3	25,8	29,5	33,1
Cooling capacity (EN 14511:2018)	kW		1,54	1,67	2,04	2,47	3,37	4,21	5,09	5,23	6,25	7,39	8,15
EER (EN 14511:2018)	-		4,04	3,93	3,95	4,39	3,93	3,87	4,07	4,27	4,13	4,00	4,06
SEER	(2)		2,35	2,41	2,69	3,01	3,16	3,17	3,55	3,70	3,69	3,66	3,50
η <sub>sc</sub>	(2)	%	85,9	88,3	99,6	112,4	118,3	118,9	134,0	140,1	139,8	138,5	132,0
<b>Radiators</b>													
<b>W10/W55</b>													
♦ Heating capacity (EN 14511:2018)	kW		6,36	7,07	8,57	10,9	14,8	17,4	22,3	23,6	27,9	31,9	36,7
Total power input (EN 14511:2018)	kW		2,06	2,15	3,23	3,82	5,03	6,11	7,47	8,35	9,05	11,0	11,8
COP (EN 14511:2018)	-		3,09	3,29	2,66	2,85	2,94	2,85	2,99	2,83	3,08	2,91	3,11
Refrigeration circuits	Nr							1					
No. of compressors	Nr							1					
Type of compressors								SCROLL					
Refrigerant								R-410A					
Water flow-rate (User side)	(1) l/s		0,29	0,31	0,38	0,51	0,63	0,77	0,96	1,06	1,22	1,39	1,56
Useful pump discharge head	(1) kPa		58	58	56	47	39	62	54	50	44	155	132
Water flow (Source side)	(1) l/s		0,35	0,38	0,46	0,61	0,78	0,95	1,18	1,28	1,50	1,71	1,91
Standard power supply	V								400/3N~/50				
Sound power level (1 m)	dB(A)		57	57	57	58	58	60	63	64	65	66	67
<b>Directive ErP (Energy Related Products)</b>													
ErP Energy Class - AVERAGE Climate - W35	-		A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++	A+++
ErP Energy Class - AVERAGE Climate - W35	-		A+++	A+++	A++	A++	A+++	A+++	A+++	A++	A+++	A++	A+++
SCOP - AVERAGE Climate - W35	(2)		5,66	5,77	6,01	6,04	5,93	5,92	5,86	5,80	5,45	6,28	6,09
η <sub>SH</sub>	(2)	%	223,0	228,0	237,0	239,0	234,0	234,0	231,0	229,0	215,0	248,0	241,0
SCOP - AVERAGE Climate - W35	(2)		4,14	4,15	3,79	3,93	4,04	3,94	4,05	3,88	4,12	3,92	4,06
η <sub>SH</sub>	(2)	%	158,0	158,0	144,0	149,0	154,0	150,0	154,0	147,0	157,0	149,0	154,0

(1) Data referred to the following conditions: Internal exchanger water temperature = 12/7°C; External exchanger water temperature = 30/35°C

Performances according to EN 14511:2018

W10/W35 water at the user side heat exchanger 30/35°C; inlet water at the source side heat exchanger 10°C

W10/W45 water at the user side heat exchanger 40/45°C; inlet water at the source side heat exchanger 10°C

W10/W55 water at the user side heat exchanger 45/55°C; inlet water at the source side heat exchanger 10°C

W35/W18 water at the user side heat exchanger 23/18°C; inlet water at the source side heat exchanger 30/35°C

W35/W7 water at the user side heat exchanger 12/7°C; inlet water at the source side heat exchanger 30/35°C

(2) Data calculated according to the EN 14825:2018 Regulation

(3) The sound power values refer to a unit at full load, under nominal test conditions.

Measurements are carried out in compliance with UNI EN ISO 9614-1, under the nominal standard conditions set out in the relevant regulations: EU 2016/2281, EU 813/2013, EU 811/2013.

The sound power data is not certified by Eurovent.

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 811/2013 (rate heat output ≤70 kW at specified reference conditions) and the Commission delegated Regulation (EU) No 813/2013 (rated heat output ≤400 kW at specified reference conditions).

## accessories

- 3WV** Three-way valve
- IVMSX** Source side 2-way modulating valve
- IVWX** Water side motorized valve
- AMRX** Rubber antivibration mounts
- CMMBX** Serial communication module to supervisor (Modbus)
- PBLC1X** Service keypad (cable from 1,5 metres)
- PMX** Phase monitor
- SCP3X** Set point compensation according to the outside enthalpy
- SPCX** Set-point compensation with outdoor air temperature probe
- SFSTR4N** Disposal for inrush current reduction, for unit 400/3/50+N
- KDT3VX** Double temperature control kit, set point compensation with 4-20mA, 3
- KDT3V** Double temperature control kit, set point compensation with 4-20mA, 3
- 3DHWX** Three-way valve for domestic hot water
- SFSTR1** Disposal for inrush current reduction, for unit 230/1/50 (sizes 17÷51)
- KTFL1X** 1" water side hose kit (sizes 17÷71)

- KTFL2X** 1 1/4" water side hose kit
- CACSX** Domestic hot water kit control
- ACS300X** 300-litre domestic hot water storage tank (sizes 17÷41)
- ACS500X** 500-litre domestic hot water storage tank (sizes 17÷81)
- ACS55X** 500-litre domestic hot water storage tank with solar coil (sizes 17÷81)
- ACS35X** 300-litre domestic hot water storage tank with solar coil (sizes 17÷41)
- KVMSP1X** Kit for management of radiant panels with connections of 1" (sizes 17÷51)
- KVMSP2X** Kit for management of radiant panels with connections of 1 1/4"
- KSAX** 100-litre circuit breaker
- KVICX** Boiler control kit (sizes 17÷81)
- KITERAX** Electronic wall-mounting room thermostat

Accessories whose code ends with "X" are supplied separately

Data contained in this document are not binding and may be changed by the Manufacturer without notice