

ELFOENERGY GROUND

Air-cooled reversible heat pump for indoor installation
Capacity from 6,13 to 30,9 kW



Clivet participates in the EUROVENT "Liquid Chilling Packages and Hydronic Heat Pumps".
 Check ongoing validity of certificate on www.eurovent-certification.com



Heat pump



Water cooled



Indoor installation



R-410A



Hermetic Scroll



CONTROL4
NRG
management



Vary Flow



ErP
compliant

- ✓ 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
- ✓ 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

Versions and configurations

LOW TEMPERATURE:

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

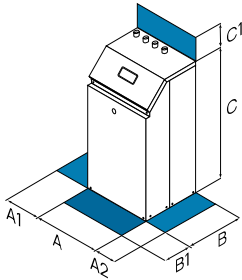
HYDRONIC ASSEMBLY SOURCE SIDE:

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

VOLTAGE:

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

Dimensions and connections



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 blue areas.

Technical data

Size	WSHN-EE	17	21	31	41	51	61	71	81	91	101	121
Unit for radiant panels												
W10/W35												
Heating capacity (EN 14511:2022)	(1) kW	7,26	7,82	9,69	12,4	16,5	20,4	25,7	27,3	31,9	37,8	42,7
Total power input (EN 14511:2022)	(1) kW	1,29	1,41	1,79	2,34	3,05	3,77	4,78	5,21	6,02	7,05	7,93
COP (EN 14511:2022)	(1) -	5,62	5,53	5,40	5,31	5,41	5,41	5,38	5,24	5,30	5,36	5,38
W35/W18												
Cooling capacity (EN 14511:2022)	(4) kW	9,07	9,35	11,7	15,6	18,4	22,9	28,9	30,6	35,3	39,6	43,0
Total power input (EN 14511:2022)	(4) kW	1,49	1,64	1,96	2,49	3,49	4,31	5,35	5,44	6,52	7,73	8,31
EER (EN 14511:2022)	(4) -	6,09	5,69	5,96	6,27	5,27	5,32	5,40	5,64	5,42	5,13	5,18
Terminal units												
W10/W45												
Heating capacity (EN 14511:2022)	(2) kW	6,97	7,57	9,17	11,9	16,0	19,5	24,4	26,0	30,3	35,7	40,6
Total power input (EN 14511:2022)	(2) kW	1,54	1,68	2,37	2,99	3,92	4,72	5,88	6,49	7,35	8,64	9,52
COP (EN 14511:2022)	(2) -	4,54	4,50	3,86	3,99	4,08	4,14	4,16	4,01	4,13	4,13	4,27
W35/W7												
Cooling capacity (EN 14511:2022)	(5) kW	6,13	6,47	7,93	10,7	13,1	16,0	20,5	22,1	25,5	29,0	30,9
Total power input (EN 14511:2022)	(5) kW	1,42	1,56	1,92	2,37	3,25	3,97	4,81	4,94	5,97	7,02	7,73
EER (EN 14511:2022)	(5) -	4,31	4,15	4,13	4,49	4,02	4,04	4,27	4,47	4,28	4,13	4,00
SEER	(6) -	2,35	2,41	2,69	3,01	3,16	3,17	3,55	3,70	3,69	3,66	3,50
n _{sc}	(6) %	85,9	88,3	99,6	112,4	118,3	118,9	134,0	140,1	139,8	138,5	132,0
Radiators												
W10/W55												
Heating capacity (EN 14511:2022)	(3) kW	6,60	7,32	8,83	11,3	13,8	18,0	23,1	24,4	28,9	33,2	38,1
Total power input (EN 14511:2022)	(3) kW	1,94	2,04	3,12	3,74	4,84	5,91	7,33	8,20	8,94	10,6	11,5
COP (EN 14511:2022)	(3) -	3,40	3,59	2,83	3,03	2,86	3,05	3,15	2,97	3,23	3,13	3,32
Refrigeration circuits	Nr	1										
No. of compressors	Nr	1										
Type of compressors		SCROLL										
Refrigerant		R-410A										
Water flow-rate (User side)	(5) l/s	0,291	0,307	0,377	0,507	0,622	0,762	0,975	1,05	1,21	1,38	1,47
Useful pump discharge head	(5) kPa	58	58	56	47	39	62	54	50	44	155	132
Water flow (Source side)	(5) l/s	0,36	0,39	0,47	0,63	0,78	0,96	1,21	1,30	1,51	1,72	1,85
Standard power supply	V	230/1~/50					400/3N~/50					
Sound power level	(7) dB(A)	57	57	57	58	58	60	63	64	65	66	67
Directive ErP (Energy Related Products)												
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	(6) -	5,66	5,77	6,01	6,04	5,93	5,92	5,86	5,80	5,45	6,28	6,09
n _{SH}	(6) %	223	228	237	239	234	234	231	229	215	248	241
SCOP - AVERAGE Climate - W55	(6) -	4,14	4,15	3,79	3,93	4,04	3,94	4,05	3,88	4,12	3,92	4,06
n _{SH}	(6) %	158	158	144	149	154	150	154	147	157	149	154

Data calculated in accordance with EN 14511:2022 under the following conditions:
 (1) W10/W35 water to the user side exchanger 30/35°C; water entering the source side exchanger 10/7°C
 (2) W10/W45 water to the user side exchanger 40/45°C; water entering the source side exchanger 10/7°C
 (3) W10/W55 water to the user side exchanger 45/55°C; water entering the source side exchanger 10/7°C
 (4) W35/W18 water to the user side exchanger 23/18°C; water entering the source side exchanger 30/35°C
 (5) W35/W7 water to the user side exchanger 12/7°C; water entering the source side exchanger 30/35°C

(6) Data calculated according to the EN 14825:2022 Regulation
 (7) 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.
 Sound power level are not Eurovent certified.

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

Accessories

3WV	Three-way valve	SFSTR1	Disposal for inrush current reduction, for unit 230/1/50 (sizes 17+51)
IVMSX	Source side 2-way modulating valve	KTFL1X	1" water side hose kit (sizes 17+71)
IVWX	Water side motorized valve	KTFL2X	1 1/4" water side hose kit
AMRX	Rubber antivibration mounts	CACSX	Domestic hot water kit control
CMMBX	Serial communication module for supervisor (Modbus)	ACS300X	300-litre domestic hot water storage tank (sizes 17+41)
PBLC1X	Service keypad (cable from 1,5 metres)	ACS500X	500-litre domestic hot water storage tank (sizes 17+81)
PMX	Phase monitor	SCS08X	0,8 m ² solar exchanger for flange installation
SCP3X	Set point compensation according to the outside enthalpy	SCS12X	Solar coil for DHW boilers
SPCX	Set-point compensation with outdoor air temperature probe	KVMSP1X	Kit for management of radiant panels with connections of 1" (sizes 17+51)
SFSTR4N	Disposal for inrush current reduction, for unit 400/3N~/50	KVMSP2X	Kit for management of radiant panels with connections of 1 1/4"
KDT3VX	Double temperature control kit, set point compensation with 4-20mA, 3	KSAX	100-litre circuit breaker
KDT3V	Double temperature control kit, set point compensation with 4-20mA, 3	KVICX	Boiler control kit (sizes 17+81)
3DHWX	Three-way valve for domestic hot water	KITERAX	Electronic wall-mounting room thermostat
		IOTX	IoT industrial module for cloud based interoperability & services

Accessories whose code ends with "X" are supplied separately