ELFOEnergy Horus

WSAR-MT-E

Heat pump suitable for systems with radiant panels and water terminal units, with a design that guarantees quiet operation.

CLIVET

WSAR-MT-E

21÷81

Water chiller
- Reversible heat pump

Air cooled
Outdoor/indoor installation
Capacity from 6,13 to 22,9 kW

Multi-function remote keypad

ELFOENERGY HORUS

*The **ELFOEnergy HORUS WSAR-MT-E**, heat pump, ideal for the residential sector and optimized for heating, grants maximum energetic efficiency in the many different conditions of use: water production for radiant panels, terminals and for domestic hot water.*

- *An appliance that is ideal for individual homes, o be installed in the garden, where its elegant design hides all the technical elements from view. A structure designed to protect the coil from wind and snow which allows to direct the flow of air to the ground and not towards the window of the next door neighbour.*
- *Production **domestic hot water up to 60°C***
- ***Operation with air up to –15°C***
- ***Reliability and easy maintenance**: feasily removable side panels*
- *Refrig. R407C: in order to combine reduced dimensions of the unit, high efficiency and wider operating limits*
- *Axial fan also available in high energetic efficiency version*
- ***Low noise**: soundproof headphones to bring down noise emission;*
- *Innovative multifunction remote keyboard with machine interface functions, ambient time thermostat and optional system supervisor*
- *Satin-finished AISI 304 stainless steel base with adjustable feet*
- *Axial fan also available in high energetic efficiency version*
- *Modular integral electric heater, available in 2-4-6 kW*
- *he ductable version is available, with high efficiency axial fan, for indoor installation.*

available configurations

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
WSAR-MT-E	21	400TN	S	-	-	-	-	HIDH1S	-	-	CCS	-	KCUX

(1) SUPPLY VOLTAGE:
- **400TN** 400/3/50+N
- **230M** 230/1/50 (only for sizes 21÷41)

(2) VERSION:
- **S** Basic (Standard)
- **SUP** Full Optional
  Hydronic kit including: circulator, 3bar water safety valve, heating element 2/4/6 kW, high-pressure valve (bypass differential) (only for sizes 21÷51), 18 litres plumbing circuit expansion tank (only for sizes 61-81)

(3) ENERGY EFFICIENCY:
- **-** Not required (Standard)
- **HEOH** High energy efficiency in heating mode only (only available with option SUP)

(4) HIGH EFFICIENCY FAN:
- **-** Not required (Standard)
- **VEC** High efficiency fan

(5) HIGH EFFICIENCY HYDRONIC GROUP:
- **-** Not required (Standard)
- **GCEC** High efficiency hydronic group available only with SUP option

(6) ADDITIONAL HEATING ELEMENT (already included in version SUP):
- **-** Not required (Standard)
- **EH246** Modular integration electric heater 2-4 and 6 kW

(7) MULTI-FUNCTION KEYPAD:
- **HIDH1S** Standard multifunction keypad (up to 50m) (Standard)
- **HIDH1M** System multifunction keypad (BMS, system accessories, up to 1km)

(8) SOFT STARTER:
- **-** Not required (Standard)
- **SFSTR4N** Device for inrush current reduction for 400/3/50+N
- **SFSTR1** Device for inrush current reduction for 230/1/50

(9) PHASE MONITOR:
- **-** Not required (Standard)
- **PM** Phase monitor (with option 400TN only)

(10) 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

(11) WATER CIRCUIT:
- **-** Not required (Standard)
- **3DHW** 3-way valve for sanitary hot water onboard

(12) UNIT INSTALLATION:
- **KCUX** Metallic caps for outdoor installation kit
- **CAN** Ductable with high efficiency fans

technical data

Sizes			21	25	31	41	51	61	81
Application with radiant panels									
A7/W35	(1)								
Heating capacity		kW	6,13	8,16	10,0	11,2	14,0	17,7	22,9
Total input	(2)	kW	1,57	2,05	2,51	2,87	3,55	4,42	5,87
COP EUROVENT	(3)	-	3,95	4,03	4,03	3,96	4,00	4,06	3,96
COP (EN 14511:2008)	(4)	-	3,91	3,98	3,98	3,90	3,94	4,01	3,90
COP (EN 14511:2008)	(4),(5)	-	4,10	4,12	4,10	4,16	4,11	4,14	4,10
A2/W35	(1)								
Heating capacity		kW	4,81	6,49	7,83	8,80	11,1	13,9	18,1
Total input	(2)	kW	1,49	1,92	2,35	2,72	3,33	4,11	5,48
COP (EN 14511:2008)	(4)	-	3,24	3,38	3,33	3,24	3,34	3,38	3,31
A-5/W35	(1)								
Heating capacity		kW	4,35	5,86	7,01	7,96	9,90	12,5	16,2
Total input	(2)	kW	1,46	1,86	2,27	2,63	3,21	3,96	5,25
COP EUROVENT	(3)	-	2,98	3,15	3,09	3,03	3,08	3,16	3,09
A35/W18	(1)								
Cooling capacity		kW	6,44	8,50	10,7	11,9	14,5	18,1	22,4
Total input	(2)	kW	2,26	2,99	3,81	4,46	5,61	6,26	8,07
EER EUROVENT	(6)	-	2,88	2,87	2,83	2,68	2,61	2,92	2,81
Application with terminal units									
A7/W45	(1)								
Heating capacity		kW	6,06	7,95	9,70	11,0	13,4	17,1	22,1
Total input	(2)	kW	1,86	2,43	2,98	3,54	4,29	5,23	6,65
COP EUROVENT	(3)	-	3,26	3,27	3,25	3,11	3,12	3,27	3,32
A2/W45	(1)								
Heating capacity		kW	5,20	6,90	8,35	6,93	11,6	14,7	19,1
Total input	(2)	kW	1,79	2,33	2,85	3,41	4,12	4,98	6,33
COP EUROVENT	(3)	-	2,91	2,96	2,93	2,03	2,82	2,95	3,02
A-5/W45	(1)								
Heating capacity		kW	4,32	5,73	6,95	8,13	9,76	12,2	15,7
Total input	(2)	kW	1,72	2,21	2,71	3,26	3,91	4,71	5,96
COP EUROVENT	(3)	-	2,51	2,59	2,56	2,49	2,50	2,59	2,63
A35/W7	(1)								
Cooling capacity		kW	4,68	6,25	8,07	9,03	10,7	13,4	16,4
Total input	(2)	kW	1,99	2,64	3,31	3,99	4,92	5,40	6,98
EER EUROVENT	(6)	-	2,35	2,37	2,44	2,26	2,17	2,48	2,35
ESEER	(7)	-	2,62	2,62	2,71	2,57	2,46	2,74	2,51
Minimum external air temperature		°C	-15	-15	-15	-15	-15	-15	-15
Maximum water temperature		°C	60	60	60	60	60	60	60
Water flow rate	(8)	l/s	0,29	0,39	0,48	0,54	0,67	0,85	1,09
Pump working head	(8)	kPa	56	47	59	56	28	114	101
Sound pressure level	(9)	dB(A)	31	33	35	36	37	43	44
Power supply		V/Ph/Hz	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) The values refer to the unit with option HEOH and SUP

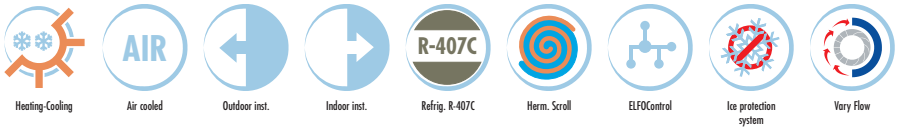
(6) EUROVENT EER calculated as the relationship between the cooling capacity and the total power input.

(7) ESEER coefficient of seasonal performance in cooling mode calculated according to Eurovent. Outlet water 7°C.

(8) 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.

(9) 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

- ‣ Set point compensation with according to outdoor enthalpy
- ‣ 3 ways-valve

SYSTEM ACCESSORIES

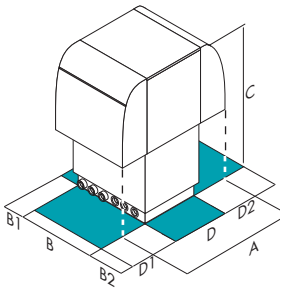
- ‣ 300 litres domestic hot water kit
- ‣ 500 litres domestic hot water kit
- ‣ Domestic hot water kit control
- ‣ 100 litres hydraulic breaker
- ‣ Mixing group control module
- ‣ Boiler control kit

Key to symbols:

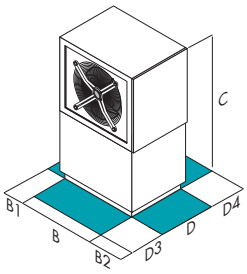
- Accessories supplied separately.

dimensions and clearances

Standard unit



Ductable unit



Sizes		21	25	31	41	51	61	81
Length (A)	mm	1420	1420	1420	1420	1420	1835	1835
Length (D)	mm	600	600	600	600	600	775	775
Width (B)	mm	800	800	800	800	800	1250	1250
Height (C)	mm	1485	1485	1485	1485	1485	1770	1770
‣ (D1)	mm	2000	2000	2000	2000	2000	2000	2000
(D2)	mm	2000	2000	2000	2000	2000	2000	2000
(D3)	mm	1000	1000	1000	1000	1000	1000	1000
(D4)	mm	1000	1000	1000	1000	1000	1000	1000
(B1)	mm	100	100	100	100	100	100	100
(B2)	mm	500	500	500	500	500	500	500
Weight in oper. (1)	kg	216	221	226	231	251	305	365
Weight in oper. (2)	kg	191	196	201	206	226	275	335

(1) Standard Unit
(2) Ductable Unit

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