WSHN-XEE2 MF

12.2÷80.2

HYDRONIC

ELFOENERGY GROUND MEDIUM² MF

Polyvalent reversible heat pump
Water cooled
Indoor installation
Capacity from 34,3 to 241 kW

- ✓ Scroll compressors and plate heat exchangers
- ✓ Polyvalent technology configurable for 4-pipe or 2-pipe systems for maximum versatility
- ✓ Refrigerant R410A - GWP = 2088
- ✓ High efficiency thanks to total heat recovery
- ✓ Domestic hot water up to 60°C, low water temperature down to 4°C
- ✓ Modular operation management, up to 8 units in cascade
- ✓ Integrated source side, user side and recovery side hydronic assemblies

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

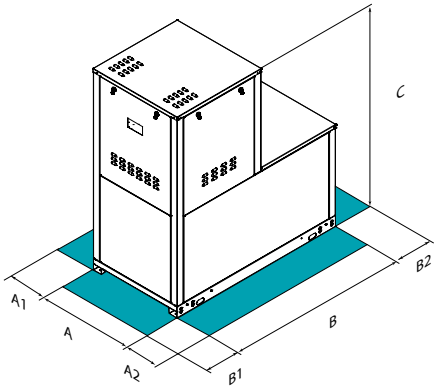
Clivet participates in the EUROVENT "Liquid Chilling Packages and Hydronic Heat Pumps". The products concerned feature on the website www.eurovent-certification.com

ErP compliant ErP

functions and features

Heat pump | Water cooled | Indoor installation | R-410A | Hermetic Scroll | Electronic expansion valve | Vary Flow | Intelliplant

dimensions and clearances



CAUTION!

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

Size ▸▸ WSHN-XEE2 MF		12.2	16.2	19.2	22.2	27.2
A - Length	mm	900	900	900	900	900
B - Width	mm	1700	1700	1700	1700	1700
C - Height	mm	1870	1870	1870	1870	1870
A1	mm	100	100	100	100	100
A2	mm	100	100	100	100	100
B1	mm	700	700	700	700	700
B2	mm	700	700	700	700	700
Operating weight	kg	403	471	491	497	550

Size ▸▸ WSHN-XEE2 MF		35.2	40.2	45.2	50.2	60.2	70.2	80.2
A - Length	mm	1100	1100	1100	1100	1100	1100	1100
B - Width	mm	1700	1700	1700	1700	1700	1700	1700
C - Height	mm	1870	1870	1870	1870	1870	1870	1870
A1	mm	100	100	100	100	100	100	100
A2	mm	100	100	100	100	100	100	100
B1	mm	700	700	700	700	700	700	700
B2	mm	700	700	700	700	700	700	700
Operating weight	kg	656	721	754	901	941	1045	1056

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.

versions and configurations

VERSION:

GW Groundwater version (Standard)
GEO Version for Geothermal application

CONFIGURATION:

4T Configuration for 4-pipe system (Standard)
2T Configuration for 2-pipe systemi

ENERGY RECOVERY:

R Total energy recovery (Standard)

technical data

Size ▸▸ WSHN-XEE2 MF			12.2	16.2	19.2	22.2	27.2
Cooling 100% - Heating 0%							
Cooling capacity (EN 14511:2022)	(1)	kW	34,3	48,0	57,2	66,2	81,0
Total power input (EN 14511:2022)	(1)	kW	7,69	10,9	12,7	15,8	17,8
EER (EN 14511:2022)	(1)	-	4,46	4,42	4,51	4,20	4,56
SEER	(6)	-	5,30	4,85	4,84	4,85	5,05
$\eta_{S,C}$	(6)	%	204,0	186,2	185,7	186,0	194,1
Cooling 0% - Heating 100%							
Heating capacity (EN 14511:2022)	(2)	kW	40,4	56,8	67,2	79,8	94,0
Total power input (EN 14511:2022)	(2)	kW	9,42	13,2	15,6	19,0	21,1
COP (EN 14511:2022)	(2)	-	4,29	4,32	4,31	4,20	4,46
Cooling 100% - Heating 100%							
Cooling capacity (EN 14511:2022)	(3)	kW	31,2	43,7	52,0	60,9	73,6
Heating capacity (EN 14511:2022)	(3)	kW	40,5	56,6	67,1	79,4	94,7
Total power input (EN 14511:2022)	(3)	kW	9,37	12,9	15,1	18,4	21,1
TER (EN 14511:2022)	(4)		7,65	7,77	7,87	7,61	7,96
Refrigeration circuits		Nr			1		
No. of compressors		Nr			2		
Type of compressors		-			SCROLL		
Refrigerant		-			R-410A		
Standard power supply		V			400/3~/50		
Sound power level	(5)	dB(A)	60	64	65	64	64
Directive ErP (Energy Related Products)							
ErP Energy Class - AVERAGE Climate - W35		-	A+++	A+++	-	-	-
ErP Energy Class - AVERAGE Climate - W55		-	A+++	A+++	A+++	-	-
SCOP - AVERAGE Climate - W35	(6)	-	5,69	5,45	5,47	4,85	5,97
$\eta_{S,H}$	(6)	%	225,0	215,0	216,0	191,0	231,0
SCOP - AVERAGE Climate - W55	(6)		4,56	4,42	4,42	4,46	4,89
$\eta_{S,H}$	(6)	%	174,0	169,0	169,0	170,0	188,0

Size ▸▸ WSHN-XEE2 MF			35.2	40.2	45.2	50.2	60.2	70.2	80.2
Cooling 100% - Heating 0%									
Cooling capacity (EN 14511:2022)	(1)	kW	105	119	142	154	190	214	241
Total power input (EN 14511:2022)	(1)	kW	23,8	26,9	31,9	34,5	43,2	48,9	55,4
EER (EN 14511:2022)	(1)	-	4,42	4,43	4,45	4,47	4,40	4,38	4,35
SEER	(6)	-	5,17	5,31	5,29	5,06	4,92	5,00	4,82
$\eta_{S,C}$	(6)	%	203,7	209,2	208,4	199,5	193,7	197,2	189,7
Cooling 0% - Heating 100%									
Heating capacity (EN 14511:2022)	(2)	kW	120	139	163	179	219	253	280
Total power input (EN 14511:2022)	(2)	kW	28,2	32,0	38,1	40,8	51,5	57,6	65,0
COP (EN 14511:2022)	(2)	-	4,25	4,34	4,28	4,39	4,25	4,39	4,31
Cooling 100% - Heating 100%									
Cooling capacity (EN 14511:2022)	(3)	kW	95,0	108	128	139	174	194	219
Heating capacity (EN 14511:2022)	(3)	kW	123	140	165	180	225	252	284
Total power input (EN 14511:2022)	(3)	kW	28,2	32,1	37,9	40,8	50,8	57,5	65,2
TER (EN 14511:2022)	(4)	-	7,73	7,73	7,74	7,82	7,85	7,76	7,71
Refrigeration circuits		Nr				1			
No. of compressors		Nr				2			
Type of compressors		-				SCROLL			
Refrigerant		-				R-410A			
Standard power supply		V				400/3~/50			
Sound power level	(5)	dB(A)	74	74	74	77	77	79	80
Directive ErP (Energy Related Products)									
SCOP - AVERAGE Climate - W35	(6)	-	5,67	5,84	5,68	5,78	5,55	5,63	5,45
$\eta_{S,H}$	(6)	%	219,0	226,0	219,0	223,0	214,0	217,0	210,0
SCOP - AVERAGE Climate - W55	(6)	-	4,60	4,69	4,67	4,71	4,61	4,69	4,65
$\eta_{S,H}$	(6)	%	176,0	180,0	179,0	180,0	176,0	180,0	178,0

(1) Data calculated in compliance with Standard EN 14511:2022 referred to the following conditions: Cold side water temperature = 12/7°C; Source side water temperature = 30/35°C
(2) Data calculated in compliance with Standard EN 14511:2022 referred to the following conditions: Hot side water temperature = 40/45°C, Source side water temperature = 10/7°C
(3) Data compliant to Standard EN 14511:2022 referred to the following conditions: Cold side water temperature = */7°C; Hot side water temperature = */45°C
(4) TER = (Cooling capacity + Heating capacity) / (Total power input)
(5) Sound pressure levels are referred to units operating at nominal load in nominal conditions. Measurements are carried out accordingly to UNI EN ISO 9614-1 at nominal standard conditions defined in respective regulations: EU 2016/2281, UE 813/2013, UE 811/2013.
Sound power level are not Eurovent certified.
(6) Data calculated according to the EN 14825:2018 Regulation

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

VARYU	VARYFLOW + (user side 2 inverter pumps)
VS2M	Source side 2-way modulating valve
VS2MX	Source side 2-way modulating valve
VS3M	Source side 3-way modulating valve
VS3MX	Source side 3-way modulating valve
VARYS	VARYFLOW + (source side 2 inverter pumps)
VARYR	VARYFLOW + (recovery side 2 inverter pumps)
VACSRX	Total recovery side DHW switching valve
SDV	Cutoff valve on compressor supply and return
CMSC10	Serial communication module for LonWorks supervisor
CMSC8	Serial communication module for BACnet supervisor
CMSC9	Serial communication module for Modbus supervisor
SPCX	Set-point compensation with outdoor air temperature probe
IFWX	Steel mesh strainer on the water side
SFSTR	Disposal for inrush current reduction
PFCP	Power factor correction capacitors (cosfi > 0.9)
AVIBX	Anti-vibration mount support
RCTX	Remote control
BACX	BACnet serial communication module
CMMBX	Serial communication module to supervisor (Modbus)
CMSLWX	LonWorks serial communication module
IOTX	IoT industrial module for cloud based interoperability & services

Accessories whose code ends with "X" are supplied separately

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