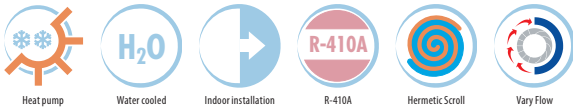


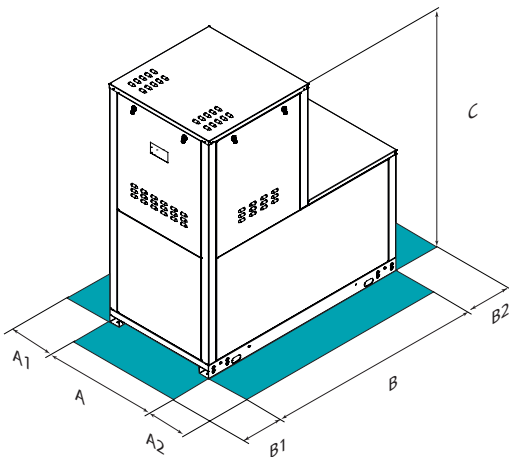
**Multifunction reversible heat pump**  
 Water cooled  
 Indoor installation  
**Capacity from 30 to 345 kW**



## functions and features



## dimensions and clearances



Size – WSHN-XEE2 MF		10.2	12.2	14.2	16.2	19.2	22.2	27.2	30.2
A - Length	mm	900	900	900	900	900	900	900	900
B - Width	mm	1700	1700	1700	1700	1700	1700	1700	1700
C - Height	mm	1870	1870	1870	1870	1870	1870	1870	1870
A1	mm	100	100	100	100	100	100	100	100
A2	mm	100	100	100	100	100	100	100	100
B1	mm	700	700	700	700	700	700	700	700
B2	mm	700	700	700	700	700	700	700	700
Operating weight	kg	403	403	400	471	491	497	550	555

Size – WSHN-XEE2 MF		35.2	40.2	43.2	45.2	50.2	55.2	60.2	70.2	80.2	90.2	100.2	120.2
A - Length	mm	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100
B - Width	mm	1700	1700	1700	1700	1700	1700	1700	1700	1700	2200	2200	2200
C - Height	mm	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
A1	mm	100	100	100	100	100	100	100	100	100	500	500	500
A2	mm	100	100	100	100	100	100	100	100	100	500	500	500
B1	mm	700	700	700	700	700	700	700	700	700	700	700	700
B2	mm	700	700	700	700	700	700	700	700	700	700	700	700
Operating weight	kg	656	721	816	754	901	924	941	1045	1056	1186	1412	1539

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.  
 For further information contact our Technical Department

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

## ELFOEnergy Ground Medium<sup>2</sup> MF

The **ELFOEnergy Ground Medium<sup>2</sup> Multifunction** heat pumps are water-condensed units for indoor installation ideal for multi-family and commercial buildings. **They can generate thermal and cooling energy simultaneously and independently.**

The main features are:

- ▶ **HIGH SEASONAL EFFICIENCY** guaranteed by the combination of several control steps, which adapt the capacity supplied to the actual energy demand required by the system, and energy recovery, which recovers up to 100% of the capacity supplied, further increasing efficiency.
- ▶ **GROUNDWATER OR GEOTHERMAL WATER VERSION** - Using specific exchangers with groundwater or closed-loop geothermics allows energy efficiency to be maximised.
- ▶ **PRE-ASSEMBLED SYSTEM** - All the main components of the system are supplied on the unit, ensuring maximum reliability and ease of installation.
- ▶ **MODULARITY AND MANAGEMENT OF MORE UNITS IN CASCADE** - The compact construction allows to combine multiple units in confined spaces, realizing a high power system. The control allows to coordinate up to 7 units managing automatically the operation with maximum efficiency.

## versions and configurations

### VERSION:

- ▶ **GW** Groundwater version (Standard)
- ▶ **GEO** Version for Geothermal application

### ENERGY RECOVERY:

- ▶ **R** Total energy recovery (Standard)

### CONFIGURATION:

- ▶ **4T** Configuration for 4-pipe system (Standard)
- ▶ **2T** Configuration for 2-pipe system

## technical data

Size – WSHN-XEE2 MF			10.2	12.2	14.2	16.2	19.2	22.2	27.2	30.2				
<b>COOLING 0% - HEATING 100%</b>														
Heating capacity	(1)	kW	34,3	40,3	48,0	56,6	66,8	79,2	93,7	106				
Total power input	(1)	kW	7,72	9,02	10,7	12,4	14,5	17,4	20,3	23,3				
COP at full load	(1)	-	4,44	4,47	4,49	4,56	4,61	4,55	4,62	4,57				
<b>COOLING 100% - HEATING 0%</b>														
Cooling capacity	(2)	kW	29,9	34,4	41,4	48,2	57,4	66,5	81,0	91,6				
Total power input	(2)	kW	6,25	7,34	8,84	10,3	12,0	14,8	17,2	19,7				
EER at full load	(2)	-	4,78	4,69	4,68	4,68	4,78	4,49	4,73	4,65				
SEER	(6)	-	5,29	5,22	4,55	4,59	4,79	4,71	5,14	4,95				
<b>COOLING 100% - HEATING 100%</b>														
Cooling capacity	(3)	kW	27,2	31,3	37,4	43,9	52,1	61,2	73,8	83,0				
Heating capacity	(3)	kW	35,0	40,4	48,3	56,4	66,7	78,8	94,4	107				
Total power input	(3)	kW	7,75	9,12	10,9	12,5	14,6	17,6	20,6	23,8				
Overall efficiency	(4)	-	8,03	7,86	7,86	8,02	8,14	7,95	8,16	7,98				
Refrigeration circuits	Nr		1											
No. of compressors	Nr		2											
Type of compressors	-		SCROLL											
Standard power supply	V		400/3/50											
Sound pressure level	(5)	dB(A)	44	44	45	49	49	49	49	49				
<b>Directive ErP (Energy Related Products)</b>														
ErP Energy Class - AVERAGE Climate - W35	-		A+++	A+++	A+++	A+++	-	-	-	-				
ErP Energy Class - AVERAGE Climate - W55	-		A+++	A+++	A+++	A+++	A+++	-	-	-				
SCOP - AVERAGE Climate - W35	(6)	-	5,80	5,69	5,44	5,45	5,47	4,85	5,97	5,82				
SCOP - AVERAGE Climate - W55	(6)	-	4,55	4,51	4,41	4,35	4,36	4,40	4,83	4,73				
<b>Size – WSHN-XEE2 MF</b>														
			<b>35.2</b>	<b>40.2</b>	<b>43.2</b>	<b>45.2</b>	<b>50.2</b>	<b>55.2</b>	<b>60.2</b>	<b>70.2</b>	<b>80.2</b>	<b>90.2</b>	<b>100.2</b>	<b>120.2</b>
<b>COOLING 0% - HEATING 100%</b>														
Heating capacity	(1)	kW	119	139	152	163	179	195	218	252	279	314	343	408
Total power input	(1)	kW	26,8	30,7	34,1	36,3	39,2	43,3	48,9	54,9	61,5	71,1	79,6	96,2
COP at full load	(1)	-	4,46	4,51	4,44	4,48	4,56	4,50	4,45	4,59	4,53	4,42	4,31	4,25
<b>COOLING 100% - HEATING 0%</b>														
Cooling capacity	(2)	kW	105	120	131	142	155	167	190	215	242	271	296	345
Total power input	(2)	kW	22,9	26,0	29,0	30,7	33,3	36,8	41,5	47,0	53,3	60,1	68,1	81,8
EER at full load	(2)	-	4,60	4,61	4,53	4,63	4,64	4,54	4,59	4,56	4,53	4,52	4,34	4,22
SEER	(6)	-	5,07	5,15	4,95	5,25	5,16	5,02	4,89	5,08	4,78	4,93	4,96	4,84
<b>COOLING 100% - HEATING 100%</b>														
Cooling capacity	(3)	kW	95,0	108	118	128	140	151	174	195	219	248	267	314
Heating capacity	(3)	kW	123	139	153	165	179	195	223	251	282	321	347	411
Total power input	(3)	kW	27,3	31,1	34,5	36,7	39,7	43,9	49,1	55,8	63,0	72,1	80,4	96,8
Overall efficiency	(4)	-	7,97	7,95	7,86	7,97	8,03	7,88	8,10	7,99	7,96	7,89	7,63	7,48
Refrigeration circuits	Nr		1											
No. of compressors	Nr		2											
Type of compressors	-		SCROLL											
Standard power supply	V		400/3/50											
Sound pressure level	(5)	dB(A)	58	58	60	58	60	60	61	63	63	64	64	65
<b>Directive ErP (Energy Related Products)</b>														
SCOP - AVERAGE Climate - W35	(6)	-	5,67	5,84	5,64	5,68	5,78	5,68	5,55	5,63	5,45	5,48	5,76	5,61
SCOP - AVERAGE Climate - W55	(6)	-	4,60	4,69	4,60	4,67	4,71	4,64	4,61	4,69	4,65	4,59	4,67	4,52

### Notes

- (1) Data referred to the following conditions: Heating water circuit = 45/40°C; Water temperature to external exchanger 10/7 °C
- (2) Data referred to the following conditions: Cooling water circuit = 7/12°C; External exchanger water = 30/35°C
- (3) Data referred to the following conditions: Heating water circuit = 45/40°C; Cooling water circuit = 7/12°C
- (4) Overall efficiency = (Cooling capacity + Heating capacity) / (Total power input)
- (5) Sound levels refer to units with full load under nominal test conditions. The sound pressure is measured at 1 m from the external surface of the unit in open field conditions.
- (6) Data calculated according to the EN 14825:2016 Regulation

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

- ▶ **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 (sizes 10.2÷80.2)
- ▶ **MF2** Multi-function phase monitor
- ▶ **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 (sizes 10.2÷80.2)
- ▶ **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

### Key to symbols:

- Accessories separately supplied