



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

**Water chiller**

WSH-XEE2: cooling only  
 WSHN-XEE2: reversible heat pump  
 Water cooled  
 Indoor installation  
**Capacity from 34,4 to 356 kW**

**ELFOEnergy Ground Medium<sup>2</sup>** are water cooled water chillers and heat pumps for indoor installation, ideal for multi-family and commercial buildings. The main features are:

■ **HIGH SEASONAL EFFICIENCY**

The combination of different size compressors allows to gain more control steps, to provide the energy actually required by the system, to reduce the consumption and to achieve the high seasonal efficiency.

■ **PREASSEMBLED UNIT**

All major components are provided on the unit, ensuring maximum reliability and ease of installation.

■ **MODULARITY AND MANAGEMENT OF MORE UNITS IN CASCADE**

The compact construction allows to combine up to 7 units in confined spaces, realizing a high power system.



Unit listed on  
[www.eurovent-certification.com](http://www.eurovent-certification.com)



ErP  
 compliant

### functions and features



Cooling only  
 (WSH-XEE2)



Heat pump  
 (WSHN-XEE2)



Water cooled



Indoor  
 installation



R-410A

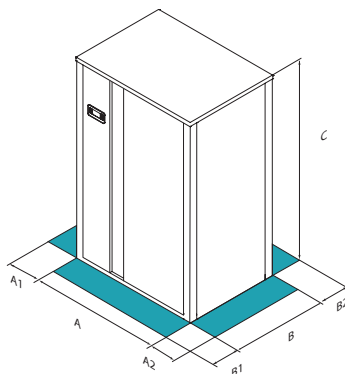


Hermetic  
 Scroll



Vary Flow

### dimensions and clearances



SIZE – WSH-XEE2		12.2	16.2	19.2	22.2	27.2	35.2	40.2	45.2	55.2	60.2	70.2	80.2	110.2	120.2
A - Length	mm	837	837	837	837	1110	1110	1110	1110	1110	1110	1110	1110	1110	1110
B - Width	mm	607	607	607	607	885	885	885	885	885	885	1035	1035	1038	1038
C - Height	mm	1483	1483	1483	1483	1910	1910	1910	1910	1910	1910	1910	1910	1910	1910
A1	mm	100	100	100	100	150	150	150	150	150	150	150	150	150	150
A2	mm	100	100	100	100	150	150	150	150	150	150	150	150	150	150
B1	mm	500	500	500	500	500	500	500	500	500	500	500	500	500	500
B2	mm	300	300	300	300	350	350	350	350	350	350	350	350	350	350
Operating weight	kg	212	276	295	308	421	510	557	572	700	733	771	809	1085	1205

SIZE – WSHN-XEE2		12.2	16.2	19.2	22.2	27.2	35.2	40.2	45.2	55.2	60.2	70.2	80.2	110.2	120.2
A - Length	mm	837	837	837	837	1110	1110	1110	1110	1110	1110	1110	1110	1110	1110
B - Width	mm	607	607	607	607	885	885	885	885	885	885	1035	1035	1038	1038
C - Height	mm	1483	1483	1483	1483	1910	1910	1910	1910	1910	1910	1910	1910	1910	1910
A1	mm	100	100	100	100	150	150	150	150	150	150	150	150	150	150
A2	mm	100	100	100	100	150	150	150	150	150	150	150	150	150	150
B1	mm	500	500	500	500	500	500	500	500	500	500	500	500	500	500
B2	mm	300	300	300	300	350	350	350	350	350	350	350	350	350	350
Operating weight	kg	223	290	309	322	441	519	580	581	728	743	808	820	1119	1265

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

### VERSION:

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

### ENERGY RECOVERY:

- Energy recovery: not required (Standard)  
**D** Partial energy recovery

### OPERATION (WSH-XEE2 ONLY):

- OCO** Cooling-only operation (Standard)  
**OHO** Heating-only operation  
**OHI** Operation with water circuit change-over

## technical data

SIZE – WSH-XEE2			12.2	16.2	19.2	22.2	27.2	35.2	40.2	45.2	55.2	60.2	70.2	80.2	100.2	120.2
▶ Cooling capacity (EN14511:2018)	(1)	kW	35,4	49,6	59,1	68,4	83,8	109	123	147	172	197	221	249	305	356
Total power input (EN14511:2018)	(1)	kW	7,63	10,8	12,5	15,6	17,5	23,5	26,6	31,5	37,7	42,7	48,2	54,7	68,4	82,4
EER (EN 14511:2018)	(1)	-	4,64	4,61	4,72	4,39	4,80	4,62	4,63	4,65	4,58	4,60	4,59	4,55	4,46	4,32
SEER	(4)	-	5,15	5,12	5,11	5,12	5,45	5,61	5,67	5,66	5,25	5,23	5,32	5,13	5,39	5,39
▶ Heating capacity (EN14511:2018)	(2)	kW	41,4	57,8	68,6	81,0	96,7	126	143	169	200	227	257	290	355	420
Total power input (EN14511:2018)	(2)	kW	9,79	13,5	15,7	19,2	21,8	28,9	32,8	38,7	46,5	52,4	59,2	66,7	83,4	101
COP (EN 14511:2018)	(2)	-	4,23	4,29	4,37	4,23	4,43	4,35	4,35	4,37	4,30	4,33	4,34	4,34	4,25	4,16
Refrigeration circuits		Nr	1													
No. of compressors		Nr	2													
Type of compressors		-	SCROLL													
Standard power supply		V	400/3/50													
Sound pressure level	(3)	dB(A)	44	49	49	49	49	58	58	58	60	61	63	63	64	65
SIZE – WSHN-XEE2			12.2	16.2	19.2	22.2	27.2	35.2	40.2	45.2	55.2	60.2	70.2	80.2	100.2	120.2
▶ Cooling capacity (EN14511:2018)	(1)	kW	34,4	48,4	57,7	67,6	82,0	102	120	138	168	187	217	240	292	347
Total power input (EN14511:2018)	(1)	kW	7,50	10,6	12,5	15,4	17,5	23,6	26,8	31,7	37,7	42,6	48,2	54,5	67,8	81,7
EER (EN 14511:2018)	(1)	-	4,58	4,56	4,62	4,38	4,68	4,32	4,47	4,37	4,46	4,38	4,50	4,40	4,31	4,25
SEER	(4)	-	5,22	4,59	4,79	4,71	5,14	5,07	5,15	5,25	5,02	4,89	5,08	4,78	4,96	4,84
▶ Heating capacity (EN14511:2018)	(2)	kW	40,4	56,8	67,0	79,5	93,8	119	139	163	195	218	252	280	343	408
Total power input (EN14511:2018)	(2)	kW	9,65	13,4	15,7	19,1	21,4	28,3	32,3	38,4	45,7	51,9	58,0	65,5	82,5	100
COP (EN 14511:2018)	(2)	-	4,19	4,25	4,27	4,15	4,38	4,21	4,30	4,24	4,27	4,20	4,34	4,27	4,16	4,07
Refrigeration circuits		Nr	1													
No. of compressors		Nr	2													
Type of compressors		-	SCROLL													
Standard power supply		V	400/3/50													
Sound pressure level	(3)	dB(A)	44	49	49	49	49	58	58	58	60	61	63	63	64	65
<b>DIRECTIVE ERP (ENERGY RELATED PRODUCTS)</b>																
ErP Energy Class - AVERAGE Climate - W35		-	A+++	A+++	-											
ErP Energy Class - AVERAGE Climate - W55		-	A+++	A+++	A+++											
SCOP - AVERAGE Climate - W35	(4)	-	5,69	5,45	5,47	4,85	5,97	5,67	5,84	5,68	5,68	5,55	5,63	5,45	5,76	5,61
SCOP - AVERAGE Climate - W55	(4)	-	4,51	4,35	4,36	4,40	4,83	4,60	4,69	4,67	4,64	4,61	4,69	4,65	4,67	4,52

- (1) Data calculated according to EN 14511:2018 referred to the following conditions: Internal exchanger water = 12/7 °C. External exchanger water = 30/35°C  
 (2) Data calculated according to EN 14511:2018 referred to the following conditions Water to internal exchanger = 40/45°C; Water temperature to external exchanger = 10/7 °C; Performance data calculated in accordance with EN14511:2018;  
 (3) Sound levels refer to full load units, in test nominal conditions. The sound pressure level refers to 1 m. from the standard unit outer surface operating in open field. Measurements are carried out according to the UNI EN ISO 9614-2 standard, in compliance with the EUROVENT 8/1 certification. Data referred to the following conditions: Internal exchanger water temperature = 12/7°C; Internal exchanger water = 30/35°C.

- (4) 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 (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) and the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.

## accessories

- SDV** Cutoff valve on compressor supply and return (sizes 12.2÷80.2)  
**MOBMAg** Larger units  
**MF2** Multi-function phase monitor  
**✓ RCTX** Remote control  
**CMSC10** Serial communication module for LonWorks supervisor  
**CMSC8** Serial communication module for BACnet supervisor  
**CMSC9** Serial communication module for Modbus supervisor  
**✓ CMMBX** Serial communication module to supervisor (Modbus)  
**✓ CMLWX** Serial communication module for LonWorks  
**✓ BACX** Serial communication module for BACnet 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 12.2÷80.2)  
**PFCP** Power factor correction capacitors (cosφ > 0.9)  
**✓ AVIBX** Anti-vibration mount support  
**WSH-XEE2 only:**  
**VS2MC** Cooling side 2-way modulating valve (sizes 12.2÷80.2)  
**✓ VS2MCX** Cooling side 2-way modulating valve  
**VS3MC** Cooling side 3-way modulating valve (sizes 12.2÷80.2)

- ✓ VS3MCX** Cooling side 3-way modulating valve  
**VARYC** VARYFLOW + (cooling side 2 inverter pumps)  
**VS2MH** Heating side 2-way modulating valve (sizes 12.2÷80.2)  
**✓ VS2MHX** Heating side 2-way modulating valve  
**VS3MH** Heating side 3-way modulating valve (sizes 12.2÷80.2)  
**✓ VS3MHX** Heating side 3-way modulating valve  
**VARYH** VARYFLOW + (heating side 2 inverter pumps)  
**✓ VACSHX** Heating side DHW switching valve  
**WSHN-XEE2 only:**  
**✓ VACSUX** User side DHW switching valve  
**VARYU** VARYFLOW + (user side 2 inverter pumps)  
**HYGU1** User side hydronic assembly with 1 ON/OFF pump  
**HYGU2** User side hydronic assembly with 2 ON/OFF pumps  
**VS2M** Source side 2-way modulating valve (sizes 12.2÷80.2)  
**✓ VS2MX** Source side 2-way modulating valve  
**VS3M** Source side 3-way modulating valve (sizes 12.2÷80.2)  
**✓ VS3MX** Source side 3-way modulating valve  
**VARYS** VARYFLOW + (source side 2 inverter pumps)

### Key to symbols:

- ✓ Accessories separately supplied