

### ELFOEnergy Magnum MF

**Multi-purpose reversible heat pump**

Air cooled

Outdoor installation

**Capacity from 139 to 321 kW**



- ✓ Scroll compressors and phase-cutting fans type
- ✓ Polyvalent technology configurable for 4-pipe or 2-pipe systems
- ✓ Double independent circuits for high reliability
- ✓ Refrigerant R410A - GWP = 2088
- ✓ High full load and seasonal efficiency (Excellence version)
- ✓ Domestic hot water up to 60°C, low water temperature down to 5°C
- ✓ Modular operation management, up to 8 units in cascade
- ✓ Integrated hot side and cold side hydronic assemblies and system tank



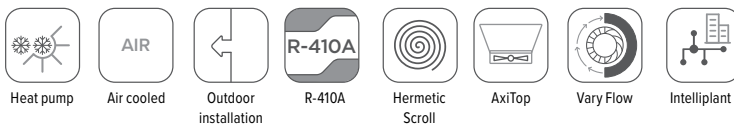
Clivet participates in the EUROVENT "Liquid Chilling Packages and Hydronic Heat Pumps". The products concerned feature on the website [www.eurovent-certification.com](http://www.eurovent-certification.com)



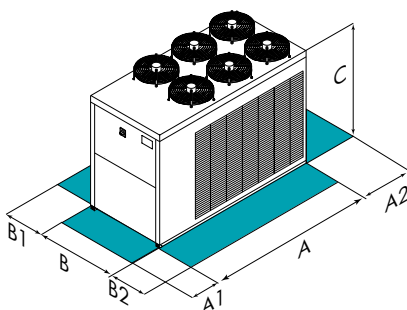
compliant  
ErP

HYDRONIC

### functions and features



### dimensions and clearances



Size	▶▶WSAN-XEM MF	50.4	55.4	60.4	65.4	70.4	80.4	90.4	100.4	110.4	120.4
A - Length	mm	4450	4450	4450	4450	4450	4450	4450	5250	5250	5250
B - Width	mm	1812	1812	1812	1812	2250	2250	2250	2250	2250	2250
C - Height	mm	1800	1800	1800	1800	2300	2300	2300	2300	2300	2300
A1	mm	1300	1300	1300	1300	1500	1500	1500	1500	1500	1500
A2	mm	750	750	750	750	750	750	750	750	750	750
B1	mm	1100	1100	1100	1100	1500	1500	1500	1500	1500	1500
B2	mm	1100	1100	1100	1100	1500	1500	1500	1500	1500	1500
Operating weight	kg	1803	1825	1908	2073	2630	2750	2908	3467	3553	3694

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

### ENERGY RECOVERY:

**R** Total energy recovery (Standard)

### CONFIGURATION:

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

**2T** Configuration for 2-pipe system

## technical data

Size		WSAN-XEM MF	50.4	55.4	60.4	65.4	70.4	80.4	90.4	100.4	110.4	120.4
<b>Cooling 100% - Heating 0%</b>												
Cooling capacity (EN 14511:2022)	(1)	kW	139	148	160	170	184	208	235	273	296	321
Total power input (EN 14511:2022)	(1)	kW	48,8	53,6	58,6	63,9	67,7	77,0	92,5	97,9	110	126
EER (EN 14511:2022)	(1)	-	2,85	2,76	2,73	2,66	2,72	2,70	2,54	2,79	2,69	2,55
SEER	(6)	-	3,99	4,00	4,04	4,07	3,96	4,11	4,10	3,95	3,91	3,85
$\eta_{sc}$	(6)	%	156,5	157,0	158,8	159,7	155,2	161,2	161,0	155,1	153,2	151,0
<b>Cooling 0% - Heating 100%</b>												
Heating capacity (EN 14511:2022)	(2)	kW	157	170	186	196	213	243	278	321	346	387
Total power input (EN 14511:2022)	(2)	kW	47,2	51,5	55,5	59,0	64,4	73,2	83,7	95,8	104	116
COP (EN 14511:2022)	(2)	-	3,33	3,30	3,35	3,32	3,31	3,32	3,32	3,35	3,33	3,34
<b>Cooling 100% - Heating 100%</b>												
Cooling capacity (EN 14511:2022)	(3)	kW	140	151	162	172	187	212	239	278	300	328
Heating capacity (EN 14511:2022)	(3)	kW	184	198	216	230	249	284	326	371	401	447
Total power input (EN 14511:2022)	(3)	kW	43,3	47,5	51,4	56,0	58,5	67,6	81,3	85,7	94,8	109
TER (EN 14511:2022)	(4)	-	7,48	7,35	7,35	7,18	7,45	7,33	6,94	7,56	7,39	7,11
Refrigeration circuits		Nr					2					
No. of compressors		Nr					4					
Type of compressors		-					SCROLL					
Refrigerant		-					R-410A					
Standard power supply		-		400/3N~/50					400/3~/50			
Sound power level	(5)	dB(A)	88	88	88	88	88	88	88	92	92	92
<b>Directive ErP (Energy Related Products)</b>												
SCOP - AVERAGE Climate - W35	(6)	-	3,70	3,66	3,72	3,72	3,64	3,64	3,76	3,25	3,70	3,80
$\eta_{sh}$	(6)	%	145,0	143,4	145,8	145,8	142,6	142,6	147,4	127,0	145,0	149,0

(1) Data compliant to Standard EN 14511:2022 referred to the following conditions: Cold side water temperature = 12/7°C; Entering external exchanger air temperature = 35°C

(2) Data compliant to Standard EN 14511:2022 referred to the following conditions: Hot side water temperature = 40/45°C; Entering external exchanger air temperature = 7°C D.B./6°C W.B.

(3) Data compliant to Standard EN 14511:2022 referred to the following conditions: Cold side water temperature = 7/7°C; Hot side water temperature = 45/45°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

(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

**HYG1** Hydronic assembly with 1 ON/OFF pump

**HYG2** Hydronic assembly with 2 ON/OFF pumps

**VARYP** VARYFLOW + (2 inverter pumps)

**HYGR1V** Recovery side hydronic unit with 1 inverter pump

**ACC** Storage tank

**CCCA** Copper / aluminium condenser coil with acrylic lining

**CCCA1** Condenser coil with Aluminium Energy Guard DCC treatment

**HEDIF** Diffuser for high efficiency axial fan (sizes 70.4÷120.4)

**CREFB** Device for fan consumption reduction of the external section, ECOBREEZE type (sizes 70.4÷120.4)

**SFSTR** Disposal for inrush current reduction

**MF2** Multi-function phase monitor

**CMSC10** Serial communication module for LonWorks supervisor

**CMSLWX** LonWorks serial communication module

**CMSC8** Serial communication module for BACnet supervisor

**BACX** BACnet serial communication module

**CMSC9** Serial communication module for Modbus supervisor

**CMMBX** Serial communication module to supervisor (Modbus)

**PFCP** Power factor correction capacitors (cosfi > 0.9)

**PGFC** Finned coil protection grill

**PGFCX** Finned coil protection grill

**MHP** High and low pressure gauges

**MHPX** High and low pressure gauges

**VACSRX** Total recovery side DHW switching valve

**IFWX** Steel mesh strainer on the water side

**RCTX** Remote control

**AVIBX** Anti-vibration mount support

**RE-20** Electrical panel antifreeze protection for min. outdoor temperature down to -20°C

**RE-25** Electrical panel antifreeze protection for min. outdoor temperature down to -25°C

Accessories whose code ends with "X" are supplied separately