

Multifunction reversible heat pump
 Air cooled
 Outdoor installation
Capacity from 49,8 to 120 kW



ELFOEnergy Magnum MF

The **ELFOEnergy Magnum Multifunction** heat pumps are high efficiency packaged units for small and medium-sized applications in the services sector that **can generate thermal and cooling energy simultaneously and independently**.

Designed for outdoor installation, they ensure extremely high efficiency levels during the entire operating cycle thanks to the combination of **continuous capacity modulation**, which adapts 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.

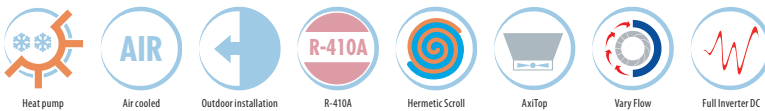
ELFOEnergy Magnum Multifunction is available in the EXCELLENCE version that offers the highest energy efficiency both during the seasonal cycle and under full load conditions.

Benefits of ELFOEnergy Magnum Multifunction:

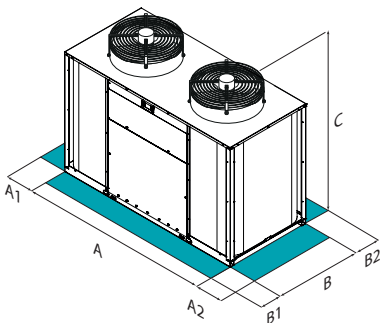
- ▶ **HIGH UNIT RELIABILITY**, thanks to the double refrigerant circuit, to the proven architecture and to the components produced at high volumes.
- ▶ **ADVANCED TECHNOLOGY**: The modulating pumping unit developed by Clivet, consisting of two parallel pumps controlled by an inverter, allows for lower consumption and at the same time ensures operation even under critical conditions. It automatically reduces the water flow rate according to the load required by the system, by controlling the pressure or temperature, and prevents blocks due to overloads in the event of critical conditions.
- ▶ **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.



functions and features



dimensions and clearances



Size – WSAN-XIN MF		18.2	20.2	25.2	30.2	35.2	40.2	45.2
A - Length	mm	2400	2400	2400	2400	3600	3600	3600
B - Width	mm	1100	1100	1100	1100	1100	1100	1100
C - Height	mm	1540	1540	1790	1790	1890	1890	1890
A1	mm	800	800	800	800	800	800	800
A2	mm	800	800	800	800	800	800	800
B1	mm	800	800	800	800	800	800	800
B2	mm	800	800	800	800	800	800	800
Operating weight	kg	650	660	720	755	934	977	1093

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

EXTERNAL SECTION FAN CONSUMPTION REDUCTION:

- **CREFB** Device for fan consumption reduction of the external section, ECOBREEZE type (Standard)

technical data

Size – WSAN-XIN MF			18.2	20.2	25.2	30.2	35.2	40.2	45.2
COOLING 0% - HEATING 100%									
Heating capacity	(1)	kW	56,8	69,4	79,4	94,5	108	125	142
Compressor power input	(1)		14,7	18,3	20,8	25,3	29,2	33,5	38,8
Total power input	(1)	kW	16,9	20,5	23,7	28,2	32,1	36,9	42,2
COP at full load	(1)	-	3,36	3,38	3,35	3,35	3,37	3,37	3,36
COOLING 100% - HEATING 0%									
Cooling capacity	(2)	kW	49,8	59,6	69,7	82,5	92,8	106	120
Compressor power input	(2)		14,5	18,1	20,5	25,6	30,4	35,0	42,2
Total power input	(2)	kW	16,7	20,3	23,4	28,5	33,3	38,4	45,6
EER at full load	(2)	-	2,98	2,94	2,98	2,90	2,79	2,76	2,63
SEER	(6)	-	3,34	3,43	3,47	3,63	3,72	3,70	3,79
COOLING 100% - HEATING 100%									
Cooling capacity	(3)	kW	49,9	59,8	69,7	82,9	95,9	109	128
Heating capacity	(3)	kW	64,7	77,7	90,4	107	125	141	167
Total power input	(3)	kW	14,8	17,9	20,7	24,5	28,7	32,7	38,3
Overall efficiency	(4)	-	7,73	7,69	7,72	7,76	7,69	7,66	7,71
Refrigeration circuits	Nr		2						
No. of compressors	Nr		2						
Type of compressors	-		INVERTER + ON/OFF SCROLL						
Standard power supply	V		400/3/50+N						
Sound pressure level	(5)	dB(A)	65	65	66	66	68	68	69
Directive ErP (Energy Related Products)									
ErP Energy Class - AVERAGE Climate - W35	-		A+	A+	A+	A+	-	-	-
SCOP - AVERAGE Climate - W35	(6)	-	3,69	3,74	3,59	3,75	3,83	3,80	3,96

Notes

- (1) Data refer to the following conditions: internal water exchanger = 40/45°C; outdoor air temperature 7°C D.B. / 6°C W.B.
- (2) Data refer to the following conditions: internal water exchanger = 12/7 °C; outdoor air temperature 35°C
- (3) Data referred to the following conditions: - internal exchanger water (evaporator) = 12/7°C - external exchanger water (condenser) = 40/45°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 level refers to a distance of 1 meter from the outer surface of the unit operating in open field. Noise levels are determined using the tensiometric method (UNI EN ISO 9614-2); Data refer to the following conditions: internal water exchanger = 12/7 °C; outdoor air temperature 35°C

- (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

- **CCCA** Copper / aluminium condenser coil with acrylic lining
- **CCCA1** Condenser coil with Aluminium Energy Guard DCC treatment
- **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 assembly with 1 inverter pump
- **HYGU1V** User side hydronic assembly with 1 inverter pump
- **ACC** Storage tank (sizes 35.2÷45.2)
- **VACSR** Total recovery side DHW switching valve
- **HEDIF** Diffuser for high efficiency axial fan
- **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)
- **CMSLWX** LonWorks serial communication module
- **BACX** BACnet serial communication module
- **MF2** Multi-function phase monitor
- **SFSTR4N** Disposal for inrush current reduction, for unit 400/3/50+N
- **RCTX** Remote control
- **MHP** High and low pressure gauges
- **MHPX** High and low pressure gauges
- **PGFC** Finned coil protection grilles
- **PGFCX** Finned coil protection grilles
- **AVIBX** Anti-vibration mount support
- **IFWX** Steel mesh strainer on the water side
- **PFCP** Power factor correction capacitors (cosfi > 0.9)

Key to symbols:

- Accessories separately supplied