

MPL

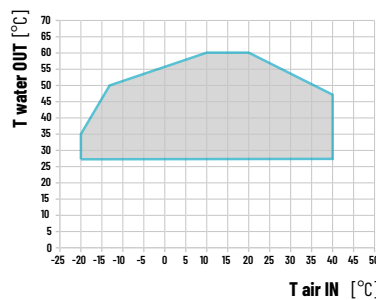
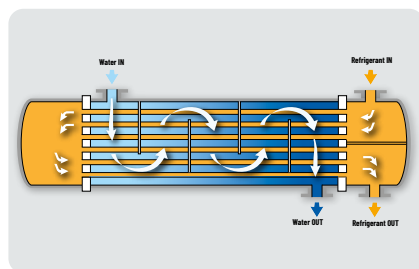
MULTIPURPOSE CLASS A HEAT PUMPS AIR CONDENSED WITH SCROLL COMPRESSORS

248.6-1069.3 kW

 MULTI-PROTOCOL COMMUNICATION INTERFACE	 AXIAL FANS	 CORROSION RESISTANT MATERIAL
 A2L READY	 LOW GWP REFRIGERANT	 SHELL AND TUBE HEAT EXCHANGER
 CLASS A	 FAST RESTART	 EVI SCROLL COMPRESSORS



The new MPL range multipurpose units are air/water units in energy class A for both cooling and heating, available for use with R410A refrigerant or, in the "A2L" version, with low environmental impact R454B refrigerant. The MPL range is designed to manage **the conditioning of industrial plants and thermal loads in technological applications, where 24/7 reliability in all working conditions, one of the assets of these units, is a critically important requirement.** The MPL range uses latest generation Scroll compressors, shell and tube water heat exchangers optimised for use with **high pressure refrigerants (R410A/R454B)** and axial fans suitable for outdoor installation.



Reliability: shell and tube

The use of shell and tube heat exchangers with exchange water flow on the shell side implies **a lower risk of blocking the flow due to exchanger clogging compared to units with plate heat exchangers.** This is thanks to the larger throughsections, the exchanged power being the same. Additionally, the dual-pass heat exchanger **ensures high heat exchange efficiency** both in "chiller" and in "heat pump" modes, with **lower consumption figures for the user and easier transport and installation.**

- 3 different soundproofing setups available: Standard, Low Noise and Super Low Noise
- Electric control panel with IP55 protection rating
- High power density units in both chiller and heat pump modes
- Radial EC motor fans (optional)
- Electronic expansion valve
- Easy accessibility thanks to the optimisation of the internal space
- Programmable microprocessor control with proprietary software
- Compliance with ERP regulations



Easy maintenance

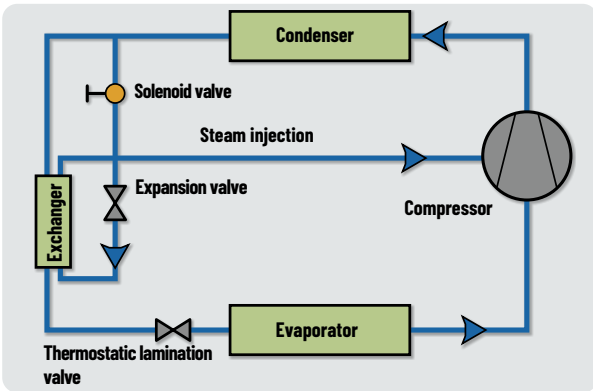
To carry out maintenance of the condensing coil manifolds and refrigeration circuit components, which are located behind the electrical panel, the MPL range is supplied as standard with the Hi-Rail sliding guide. This allows **the control panel to be easily removed**, resulting in **extra space for unscheduled maintenance, without impacting the footprint** required for normal operation of the unit.

Smart defrosting

A factor that heavily weighs on the costs of managing the entire plant is finned coil defrosting during wintertime operation. The special management of the defrosting cycle of MPL units **minimises the time to completion and ensures that defrosting is only performed when strictly necessary, guaranteeing greater heating efficiency.** The presence of two completely independent thermodynamic circuits ensures **uninterrupted operation** also during the defrosting phase, **with practically no thermal discomfort for the user.**

Maximised energy efficiency

The units of the MPL range fall within the **energy efficiency class A**, both in cooling and in heating mode. This is thanks to a **careful selection of internal components**, which also includes the adoption of innovative high efficiency Scroll compressors with direct start, permanent magnet motor technology. The high modulation range guaranteed by the multi-Scroll technology allows cooling/ heating requirements to be met at any time, **minimising energy waste and increasing seasonal efficiency.** The high degree of partial load operation (**up to 11%** of the rated power), combined with water flow rate modulation (**up to 20%** of the nominal flow) **allows operating costs and system maintenance costs to be reduced.**



Configurability of hydraulic connections

To facilitate installation, especially when replacing existing units, the MPL range is available **with different configurations of hydraulic connections.** They can be both on the right or left side, two on the right and two on the left side, or all on the back of the unit.

Units optimised for climates with T down to -20°C

The Scroll compressors of the MPL range use **steam injection technology**: a light flow of refrigerant in a medium-pressure vapour state is "injected" into the coils in the compression chamber. This system allows for both **an increase in the cooling** (and therefore, also the heating) **capacity and efficiency and, above all, an extension of the operating range of the heat pump**; this makes of the MPL range the ideal solution in case of extremely low outdoor temperatures.



MPL	294PS	374PS	404PS	454PS	494PS	556PS	596PS	636PS	676PS	748PS	808PS	868PS	294PQ	374PQ	404PQ	454PQ	494PQ	556PQ	596PQ	636PQ	676PQ	748PQ	808PQ	868PQ	
Cooling: User water values 12/7°C, 35°C outside air, 40% U.R.																									
Cooling capacity	kW	251.8	319.8	408	429.4	492.4	472.2	533	619.8	636.1	731	816.1	837.5	249.8	358.7	410.3	435.9	488	474.8	597.5	612.7	627.9	724.2	807.7	829
Total absorbed power	kW	72.5	92.4	127.1	138.2	150.5	140.6	168.6	194.3	202.1	219.3	254.1	265.2	72.7	111.1	122.1	131	153.1	136.9	191.2	199.7	208.3	222	258.6	270.2
EER		3.47	3.46	3.21	3.11	3.27	3.36	3.16	3.19	3.15	3.33	3.21	3.16	3.44	3.23	3.36	3.33	3.19	3.47	3.12	3.07	3.02	3.26	3.12	3.07
Cooling: Utility water temperature 12/7°C, Recovery water temperature 40/45°C																									
Cooling capacity	kW	248.6	315.6	409	432.8	487.6	468.4	533.1	614.5	631.2	728.6	818.1	842	248.6	359.5	409	432.8	487.6	468.4	597.7	614.5	631.2	728.6	818.1	842
Thermal power	kW	313.2	398.4	518.7	550.9	623.3	594	680.2	789.8	813.2	919.4	1037.1	1069.3	313.2	456.6	518.7	550.9	623.3	594	766.4	789.8	813.2	919.4	1037.1	1069.3
Total absorbed power	kW	68.6	88.1	117.3	126.4	145.9	134.5	158.3	189.7	197.1	203.4	234.1	243.1	68.6	103.8	117.3	126.4	145.9	134.5	182.3	189.7	197.1	203.4	234.1	243.1
Heating: User water values 40/45°C, 7°C outside air, 89% U.R.																									
Thermal power	kW	254.5	345.2	444.9	471.2	524.1	494.2	565.6	669.9	688.4	775.9	870.4	895.3	248.9	389	434.5	460	522.3	501.8	648	666.3	684.6	777.5	873.4	898.9
Total absorbed power	kW	73.9	97.8	126.4	135.7	157.1	146.7	169.8	202.8	210	223.2	253.1	262.3	72.1	110.9	124.4	136.2	154.6	146.3	193	200.1	207.3	219	249	258
COP		3.45	3.53	3.52	3.47	3.34	3.37	3.33	3.3	3.28	3.48	3.44	3.41	3.45	3.51	3.49	3.38	3.38	3.43	3.36	3.33	3.3	3.55	3.51	3.48
Sound power	dB(A)	84	89	85	90	85	90	87	92	85	91	86	92	85	91	87	93	87	93	88	93	87	93	88	94
Dimensions [LxHxD]	mm	3520 x2680 x2256		4520x2680x2256								5520x2680x2256				6520x2680x2256				9085x2680x2256					

Hot user Out water temperature 45°C | Cold user In water temperature 12°C | Cold user Out water temperature 7°C | Hot user In water temperature 40°C