

DATA CENTER

INDUSTRIAL

SERVICES

# MPA

## MULTIPURPOSE CLASS A AIR CONDENSED HEAT PUMPS WITH SCROLL COMPRESSORS

59–325 kW



The MPA units are multipurpose 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 MPA range is designed to manage **the conditioning of industrial plants and thermal loads in technological applications where full 24/7 reliability in all working conditions is a requirement**. The MPA range uses latest-generation Scroll compressors, braze-welded plate exchangers optimised for use with high pressure refrigerants (R410A/R454B) and axial fans suitable for outdoor installation.

- 3 different soundproofing setups available: Standard, Low Noise and Super Low Noise
- Available versions: multi-purpose for 2-pipe system (M) and multi-purpose for 4-pipe system (P)
- 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



### Plate heat exchangers

The MPA range uses braze-welded plate exchangers with asymmetrical channels, suitable for the use of high and medium pressure refrigerant gases. The configuration with asymmetrical channels allows **high exchange efficiencies to be reached while maintaining pressure drops low** on the water side - **reducing pumping costs** at both full and partial load.



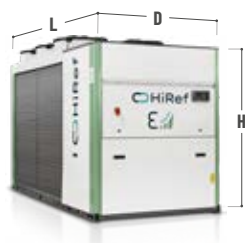
### Maximised energy efficiency

The units of the MPA 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**.



### 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 NPA 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**.



MPA		061PS	071PS	081PS	101PS	114PS	124PS	144PS	164PS	194PS	214PS	244PS	
Cooling: User water values 12/7°C, 35°C outside air, 40% U.R.													
Cooling capacity	kW	61.2	75.3	88.3	102.4	118.2	127	149.6	162.5	187.7	222.6	250.4	
Total absorbed power	kW	16.9	21.4	25.6	29.7	33.8	35.9	43.3	47.2	55.9	71	80	
EER		3.62	3.53	3.44	3.45	3.5	3.54	3.46	3.44	3.36	3.14	3.13	
SEER		4.7	4.55	4.52	4.66	5.14	5.06	5.05	5.15	5.15	5	4.96	
SEPR		5.99	5.93	5.99	5.83	6.03	6.07	6.01	6.1	6.18	5.92	6.09	
Cooling: Utility water temperature 12/7°C, Recovery water temperature 40/45°C													
Cooling capacity	kW	59.1	74.5	89.2	101.2	116.9	124.2	150	162.5	191	227.2	258	
Thermal power	kW	73.9	93	111	126.9	146.5	155.2	186.8	203.1	238.5	286.3	324.7	
Total absorbed power	kW	15.6	19.5	23.1	27.2	31.5	32.8	39	43	50.6	62.9	71.1	
TER		8.54	8.58	8.68	8.38	8.37	8.51	8.64	8.5	8.49	8.16	8.2	
Heating: User water values 40/45°C, 7°C outside air, 89% U.R.													
Thermal power	kW	61.5	75.5	87.2	102.5	123.9	130.4	149.9	163	186.9	227.6	265.1	
Total absorbed power	kW	17.5	21.1	24.8	29.2	33.8	36.7	42.1	46.3	53.2	64.8	75.3	
COP		3.51	3.57	3.51	3.51	3.67	3.55	3.56	3.52	3.51	3.51	3.52	
SCOP		4	4.27	4.19	4.33	4.26	4.16	4.19	4.22	4.37	4.41	4.51	
Sound power [Standard]	dB(A)	81	83	83	86	83	84	86	86	87	88	89	
Sound power [Low noise]	dB(A)	76	78	78	81	78	80	82	82	84	84	85	
Dimensions [LxHxD]	mm	2792x1735x1183			3540x1735x1183			3540x1846x1653			3540x2330x1653		4206x2330x1653

Also available with 60 Hz power supply