NPE

MULTIPURPOSE AIR CONDENSED HEAT PUMPS WITH SCROLL COMPRESSORS

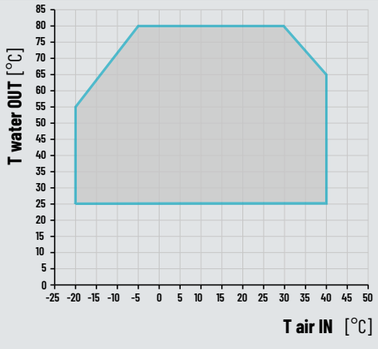
60-162 kW

MULTI-PROTOCOL COMMUNICATION INTERFACE
AXIAL FANS
CORROSION RESISTANT MATERIAL
SCROLL COMPRESSORS
PLATE HEAT EXCHANGER
NATURAL REFRIGERANT
INVERTER DRIVEN COMPRESSORS

Natural Refrigerant R290
Safety Class A2L R454C

The NPE units are multipurpose air/water units available for use with R290 refrigerant with low environmental impact. The NPE 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 NPE range uses latest-generation Scroll compressors, braze-welded plate exchangers optimised for use with medium pressure refrigerants (R290) and axial fans suitable for outdoor installation.

- Available in R290 or R454C
- 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
- Electronic expansion valve
- Easy accessibility thanks to the optimisation of the internal space
- EC Fans

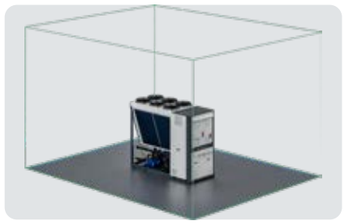


Production of hot water up to 80°C

The units of the range are capable of **producing water at 80°C** and operating at outside air temperatures as low as **-20°C.**

Plate heat exchangers

The NPE 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 heat exchange efficiencies to be reached while maintaining low pressure drops** on the water side - which results **in reduced pumping costs** at both full and partial load.



Safety first

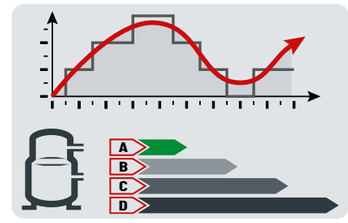
Units loaded with **A3 (highly flammable) gas** must be installed away from drains, manholes, drainage channels and any other element that could act as a potential escape route for any leakage of said gases, **which must always be considered FLAMMABLE and heavier than air.** The minimum distance to be maintained with respect to these requirements is 2.5 metres. Within this safety zone, it is strictly forbidden to smoke, use open flames or carry out any work that may generate flames, arc discharges or sparks.

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 **NPE 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.**

Redundancy and continuous operation in all weather conditions

The presence of two completely independent thermodynamic circuits ensures **continuous operation** even during the defrost phase, **eliminating any thermal discomfort for the user.**



Precise management of the delivered power

The integrated control software of the NPE range allows for the management of cooling and heating power output by adjusting the rotational speed of the **modulating BLDC compressors.**

NPE		061PS	081PS	111PS	131PS
Cooling: User water values 12/7°C, 35°C outside air, 40% U.R.					
Cooling capacity	kW	60.3	75	109.6	121.7
Total absorbed power	kW	20.2	24.8	38.7	44.1
EER		2.99	3.03	2.83	2.76
Cooling: Utility water temperature 12/7°C, Recovery water temperature 40/45°C					
Cooling capacity	kW	60.4	74.1	112.9	125.2
Thermal power	kW	77.5	96	144.6	162.3
Total absorbed power	kW	18.6	23.2	34.5	39.3
TER		7.43	7.35	7.46	7.31
COP Total		7.43	7.35	7.46	7.31
Heating: User water values 30/35°C, 7°C outside air, 89% U.R.					
Thermal power	kW	64.5	81	113.9	130.8
Total absorbed power	kW	16.3	20.6	29.7	34.2
COP		3.97	3.94	3.84	3,82
Sound power [Standard]	dB(A)	88	91	93	95
Sound power [Low noise]	dB(A)	81	85	86	89
Dimensions [LxHxD]	mm	2440x2425x1179		2763x2425x1179	

Also available with 60 Hz power supply | Data referring to R290 versions