



Air to water heat pumps with axial fans for outdoor installations

Range:

Cooling capacity: 300 ÷ 400 kW

Heating capacity: 340 ÷ 450 kW

Available versions:

- basic
- ultra-low noise

Refrigerant R407C Scroll Compressors

STANDARD FEATURES

- Self-supporting frame in galvanised steel with panels finished in epoxy powders (colour RAL7037)
- Six hermetic Scroll compressors with internal thermal protection, oil heaters and anti-vibration supports (1206A ÷ 1506A models)
- Exchange of the cycle on the refrigerant side with 4-way reversing valve
- Shell & tube evaporator with two independent cooling side circuits and one hydraulic circuit: the heat exchanger is insulated with closed-cell expanded neoprene
- Heat exchanger coils with aluminium fins and internally grooved copper tubes
- Water flow pressure switch
- Sickle-blade axial fans, statically and dynamically balanced with safety protection grilles, protection grade IP54
- Modulating condensation control by fan speed regulation
- Electrical panel conforming to EC (Directive 2006/95/EC and Directive EMC 2004/108/EC, protection grade IP54) with anti-condensation heater, maximum internal temperature control, general cut-off switch for fans, auxiliaries, and compressors, cut-off switches
- Sequence phase monitor
- Microprocessor control system UPC1m including:
 - local user terminal mP20 II visible on unit with panel
 - outlet chilled / heated water temperature regulation
- advanced management of compressors through automatic set-point sensitivity regulation
- compressor rotation with FIFO system (run time, protection and function)
- rotation of pump group setting functioning and start of pump in stand-by (alarm display) in the event of pump breakdown
- advanced defrost function to minimise cycle inversions
- advanced anti-freeze protection on evaporator
- integrated LAN card for local network connection of a group of chillers (up to 10 units)
- integrated clock card
- Moreover microprocessor control system permits:
 - set-point adjustment from external signal 0-10V
 - management of double set-point and selection
 - rapid "Quick Start" procedure to reach total cooling capacity within 3 minutes
 - free-contact for general alarm and 2 addressable alarms
 - management
 - remote ON-OFF switch
 - ability to interface with Modbus protocol directly on RS485 serial card
 - ability to interface with main external communication protocols: Bacnet, Lonworks, Metasys, TCP/IP and SNMP

TECHNICAL DATA

BRAH MODEL		1206A	1306A	1506A
Power supply	V/ph/Hz		400 / 3 / 50	
Compressors / circuits	nr. x mod		6 x Scroll / 2	
Evaporator	nr. x mod		1 x Shell & Tube	
Fans / poles	nr.	4 / 6	6 / 6	6 / 6
Basic version				
Cooling capacity (1)	kW	298	338	371
Absorbed power (1)	kW	118	122	138
Heating capacity (2)	kW	340	405	439
Absorbed power (2)	kW	116	133	143
Noise pressure level (3)	dB(A)	61.5	61.5	63.0
Ultra low noise version				
Cooling capacity (1)	kW	274	315	350
Absorbed power (1)	kW	132	136	151
Heating capacity (2)	kW	317	380	411
Absorbed power (2)	kW	117	131	141
Noise pressure level (3)	dB(A)	55.0	55.0	56.0
Dimensions				
Height	mm	2527	2527	2527
Length	mm	3500	4930	4930
Width	mm	2200	2200	2200

(1) Data refer to nominal conditions: water temperature 12/7°C; external temperature 35°C; R407C refrigerant

(2) Data refer to nominal conditions: water temperature 40/45°C; external temperature 7° C d.b. 6°C w.b.; R407C refrigerant

(3) Measured in free field conditions, coil side, direction factor Q=2, at 10 mt. from the unit (at nominal conditions)

CONSTRUCTION OPTIONS

- Ultra-low noise version: with sound-proofing of compressors and low fan speed
- Partial heat recovery
- Integrated hydronic system with 1 or 2 pumps (1 + 1)
- Anti-freeze protection on evaporator, and pump group
- Evaporator / pumps protection grilles
- Heat exchange coils equipped with safety grilles and filter
- Suction shut-off valves on compressors
- RS485 serial adaptor used to communicate with Uniflair supervisory system or to interface with external BMS
- LON FTT10 serial adaptor used to communicate with external BMS managed with LON protocol
- Air-side heat exchangers cataphoresis treatment (*)

(*) on request

OPTIONS

Units can be supplied with the following construction options:

- Remote user terminal mP2011 (up to 200 metres) for:
 - entering of commands
 - display unit status and alarms.
- Spring anti-vibration kit