

## High efficiency air/water heat pumps with axial fans

7 ÷ 34 kW



### TAU

Heat pump

#### Unit frame

Galvanised sheet steel painted using RAL 7035 polyester powder at 180 °C.

#### Compressor

Hermetic scroll compressor, complete with circuit breaker protection included in the electric motor windings, sump heater and rubber anti-vibration supports.

#### Source side heat exchanger

Made up from a battery with copper pipes and aluminium gills with large exchange surface.

A subcooler is inserted to the base of the battery to ensure complete defrosting; an anti-freeze resistance ensures the runoff of condensate water towards the drain.

A metal grid is present to protect the gill pack.

#### Fans

Helicoidal fans directly coupled to the 6-pole external rotor electric motors, IP 54 protection level.

Each fan is housed in shaped nozzles and includes the accident-prevention grill in compliance with UNI EN 294.

#### User side heat exchanger

With braze-welded plate in AISI 316 stainless steel insulated by a cladding in closed cell expansive material.

The heat exchanger has a temperature probe for anti-freeze protection and a mechanical flow switch supplied as standard.

#### Refrigerant circuit

Includes: charge connection on liquid and suction line, sight glass, dryer filter, thermostatic expansion valves with external pressure equalisation, 4-way reversing valve, liquid receiver, suction line separator (sizes from 23 to 34), non-return valves, liquid line solenoid valve, pressure transducer, high and low pressure gauges and safety valve (excluding sizes 8, 10, 12).

#### Electric control board

With main isolating device, power and auxiliary circuits protection, compressors remote control. Microprocessor management of the unit with main function display.

Electric power supply 230V/1~/50Hz for sizes 8 and 10, 400V/3N~/50Hz for sizes from 12 to 32.

#### Inspection

The units are inspected in the factory and are supplied complete with oil and refrigerant.

### HYDRAULIC MODULE OPTIONS

#### TAU /ST 1P : UNIT WITH PUMP

The unit includes a circulator (sizes from 8 to 20) or a circulation pump (sizes from 23 to 34), expansion vessel, hydraulic circuit water discharge valve, safety valve calibrated at 6 bar, which corresponds to the maximum acceptable working pressure.

#### TAU /ST 1PS : UNIT WITH PUMP AND TANK

In addition to the components of the /ST 1P version, the unit includes an insulated storage tank.

#### MAIN ACCESSORIES

- Electronic thermostatic valve
- Filling unit with manometer (only ST version)
- Anti-freeze resistance
- Additional resistances
- Electronic modulation of the water flow
- RS485 serial interface
- Remote user terminal (in addition to that on the machine)
- Rubber anti-vibration devices

## TAU - R410A TECHNICAL DATA

Unit size	Notes		8	10	12	16	18	20	23	25	29	34
<b>RADIANT PANELS</b>												
<b>Nominal cooling capacity</b>	(1)	kW	8,0	9,9	12,8	16,9	19,3	22,3	25,8	28,0	32,1	38,0
Cooling power input	(1),(2)	kW	2,2	2,7	3,1	4,4	4,6	5,4	6,5	6,9	8,3	9,4
EER	(1)		3,65	3,71	4,08	3,89	4,21	4,13	4,00	4,06	3,89	4,06
<b>Nominal heating capacity</b>	(3)	kW	6,8	8,8	11,0	14,8	16,3	19,2	21,9	23,9	27,5	32,3
Heating power	(3),(2)	kW	1,7	2,2	2,5	3,5	3,9	4,3	5,0	5,5	6,6	7,5
COP	(3)		4,07	4,07	4,37	4,28	4,18	4,49	4,36	4,36	4,17	4,31
<b>TERMINAL UNITS</b>												
<b>Nominal cooling capacity</b>	(4)	kW	5,6	6,9	9,0	12,1	13,3	15,7	18,0	19,5	22,9	26,5
Cooling power input	(4),(2)	kW	2,3	2,8	3,2	4,4	4,9	5,4	6,4	6,9	8,2	9,4
EER	(4)		2,43	2,46	2,81	2,75	2,71	2,91	2,81	2,83	2,79	2,82
<b>Nominal heating capacity</b>	(5)	kW	6,9	8,6	10,8	14,6	15,9	18,7	21,4	23,3	27,0	31,5
Heating power	(5),(2)	kW	2,2	2,7	3,1	4,3	4,7	5,2	6,1	6,7	7,9	9,1
COP	(5)		3,08	3,17	3,52	3,43	3,40	3,61	3,51	3,50	3,44	3,48
<b>Compressor</b>												
Quantity/Refrigerant circuits		n°/n°	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1
Capacity steps		%	100	100	100	100	100	100	100	100	100	100
<b>Fans</b>												
Air flow		m³/s	1,08	1,08	1,00	2,17	2,17	2,00	3,89	3,89	5,00	5,00
No. x installed power		n°x kW	1 x 0,2	1 x 0,2	1 x 0,2	2 x 0,2	2 x 0,2	2 x 0,2	2 x 0,3	2 x 0,3	2 x 0,55	2 x 0,55
<b>User side heat exchanger</b>												
Water flow rate		l/s	0,325	0,420	0,526	0,707	0,779	0,917	1,046	1,142	1,314	1,543
Pressure drop		kPa	2,8	2,9	4,6	44,9	38,5	37,2	39,0	34,6	38,7	36,4
<b>Hydraulic module</b>												
Available pump pressure		kPa	52,0	49,0	43,0	41,0	42,0	40,0	138,0	136,0	133,0	86,0
Storage tank capacity		l	35	35	35	70	70	70	115	115	140	140
Expansion vessel		l	2	2	2	5	5	5	8	8	8	8
<b>Noise level</b>	(6)	dB(A)	55	57	58	60	62	62	64	65	66	67
<b>Power supply</b>		V/ph/Hz	230/1~/50	230/1~/50	400/3N~/50	400/3N~/50	400/3N~/50	400/3N~/50	400/3N~/50	400/3N~/50	400/3N~/50	400/3N~/50
<b>Dimensions and weight</b>												
Width		mm	925	925	925	925	925	925	1.105	1.105	1.305	1.305
Depth		mm	375	375	375	375	375	375	505	505	505	505
Height		mm	700	700	700	1.350	1.350	1.350	1.385	1.385	1.585	1.585
Operating weight		kg	88	93	102	135	151	166	212	233	358	367

(1) External air temperature 35°C, Inlet/outlet water 23/18°C .

(2) Total power input is sum of compressors and fans power input.

(3) External air temperature 7°C BS, 6°C BU, Inlet/outlet water 30/35 °C

(4) External air temperature 35°C, Inlet/outlet water 12/7°C .

(5) External air temperature 7°C BS, 6°C BU, Inlet/outlet water 40/45 °C.

(6) Sound pressure levels at 1 m from the unit in open field measured according to ISO 3744.

This datasheet gives the characteristic data of the basic and standard versions of the series; for details refer to the specific documentation.