

## H(R)CF/HR 5÷30

**Cooling capacity: 5.5÷30 kW**

**Heating capacity: 6.2÷34 kW**

**Heat recovery: 1.4÷7.6 kW**



Compared with traditional chillers, the air source heat pump with heat recovery can provide hot living water on the basis of heating/cooling, the desuperheaters make use of the hot refrigerant vapor leaving the compressor to heat the water through a relatively small liquid to refrigerant heat exchanger without increasing the power consumption of the compressor. The desuperheater can transfer 25 to 30 percent of the energy that would otherwise be dissipated by the condenser.

### FEATURES

#### STRUCTURE

Panels and base frame are made from galvanized steel protected with polyester powder painting to ensure total resistance to atmospheric agents.

#### HERMETIC COMPRESSORS

Single phase rotary type (mod. 5 only) and 3-phase scroll compressor (mod.8.5÷30), with thermal overload cut-out and crankcase heater mounted on rubber vibration isolators.

#### AXIAL FANS

External rotor type axial fans, equipped with single phase direct drive motors, low noise 6 poles, protection level IP54, provided with a protective outlet grille.

#### EVAPORATOR

High efficiency tube in tube type, factory insulated with flexible close cell material.

#### CONDENSER

Coils are consisting of seamless copper tubes mechanically expanded into blue hydrophilic aluminum fins, protected with flexible plastic grill.

#### DESUPERHEATER

High efficiency stainless steel brazed plate heat exchanger, factory insulated with flexible close cell material.

#### REFRIGERANT CIRCUIT

Copper tube connection with charge valve, filter, sight glass, gas-liquid separator, thermostatic expansion valve, low pressure switch with automatic reset, high pressure switch with manual reset.

The heat pump unit is completed also with 4-way valve, liquid receiver and one way valve.

#### HYDRONIC CIRCUIT

Built with air vent valve, water drain connection, and female-threaded hydraulic connectors.

#### ELECTRIC PANEL

consists of:

- Compressor contactor;
- Compressor protection breaker;
- Fan motor protection breaker;
- Control circuit protection breaker;
- Phase sequence relay (only for 3-phase power supplied units);
- Programmable microprocessor controller

#### OPTIONAL

- Additional electric heater embedded in the coils for defrosting in low temperature ambient. It must be factory installed.

### NOMENCLATURE

**H R C F / RH 5**  
**1 2 3 4 5 6**

**1** Mini chiller

**2** Unit type:

R : heat pump

-- : cooling only

**3** Refrigerant type

A: R410a

B: R290

C: R407c

**4** Air cooled

**5** With heat recovery

**6** Size

## TECHNICAL DATA

| Model                         | H(R)CF/HR         | 5        | 8.5    | 10            | 12.5   | 15     | 20     | 25     | 30     |  |
|-------------------------------|-------------------|----------|--------|---------------|--------|--------|--------|--------|--------|--|
| <b>Cooling *</b>              |                   |          |        |               |        |        |        |        |        |  |
| Cooling capacity              | kW                | 5.5      | 8.4    | 10            | 12.5   | 15.5   | 20     | 25     | 30     |  |
| Total power input             | kW                | 2.2      | 3.3    | 3.7           | 4.7    | 5.8    | 7.2    | 8.8    | 11     |  |
| <b>Heating **</b>             |                   |          |        |               |        |        |        |        |        |  |
| Heating capacity              | kW                | 6.2      | 9.6    | 11.4          | 14.5   | 17.6   | 23     | 28.6   | 34     |  |
| Total power input             | kW                | 2.1      | 3.2    | 3.6           | 4.5    | 5.6    | 7.4    | 8.7    | 10.8   |  |
| <b>Desuperheater</b>          |                   |          |        |               |        |        |        |        |        |  |
| Heating capacity              | kW                | 1.4      | 2.1    | 2.5           | 3.19   | 3.8    | 5.3    | 6.6    | 7.6    |  |
| Water flow                    | m <sup>3</sup> /h | 0.22     | 0.36   | 0.43          | 0.55   | 0.66   | 0.86   | 1.08   | 1.31   |  |
| <b>Compressor</b>             |                   |          |        |               |        |        |        |        |        |  |
| Type                          | /                 | Rotary   | Scroll | Scroll        | Scroll | Scroll | Scroll | Scroll | Scroll |  |
| Qty/refrigerant circuit       | Nr.               | 1/1      | 1/1    | 1/1           | 1/1    | 1/1    | 1/1    | 1/1    | 1/1    |  |
| <b>Axial fans</b>             |                   |          |        |               |        |        |        |        |        |  |
| Quantity                      | Nr.               | 2        | 2      | 2             | 2      | 2      | 2      | 2      | 2      |  |
| Airflow                       | m <sup>3</sup> /h | 2400     | 3700   | 4400          | 5500   | 6600   | 9000   | 11200  | 13000  |  |
| <b>Evaporator</b>             |                   |          |        |               |        |        |        |        |        |  |
| Water flow                    | m <sup>3</sup> /h | 1.07     | 1.65   | 1.96          | 2.52   | 3.03   | 4.20   | 5.20   | 6.0    |  |
| Water side pressure drop      | kPa               | 36       | 36     | 42            | 42     | 46     | 48     | 50     | 58     |  |
| <b>Add. defrosting heater</b> | Nr.kW             | 3x0.4    | 3x0.4  | 3x0.5         | 3x0.5  | 3x0.5  | 5x0.6  | 5x0.6  | 6x0.6  |  |
| <b>Power supply</b>           | V/Ph/Hz           | 220/1/50 | <- - - | 380V/3Ph/50Hz |        |        |        | - - -> |        |  |
| <b>Noise level***</b>         | dB(A)             | 53       | 55     | 60            | 60     | 62     | 65     | 65     | 67     |  |
| <b>Net weight</b>             | kg                | 201      | 246    | 272           | 295    | 322    | 350    | 376    | 416    |  |

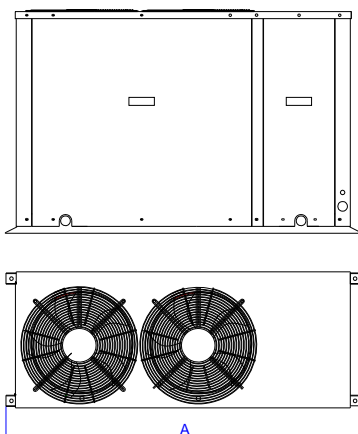
\* Ambient temperature 35°C; evaporator water in/out 12/7 °C;

\*\* Ambient temperature DB 7 °C, WB 6 °C; condenser water in/out temperature 40/45 °C;

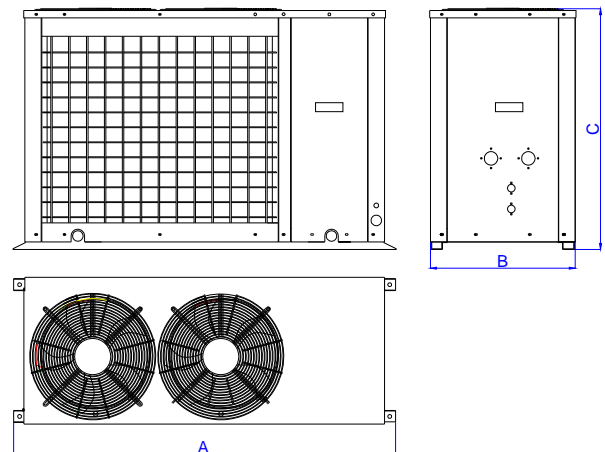
\*\*\* Sound pressure measured at a distance of 1 m and a height of 1.5 m above the ground in a dear field (fan side).

## OVERALL DIMENSIONS

Mod. H(R)CF/RH 5÷15



Mod. H(R)CF/RH 20÷30



| Mod.     | 5    | 8.5  | 10   | 12.5 | 15   | 20   | 25   | 30   |
|----------|------|------|------|------|------|------|------|------|
| <b>A</b> | 1280 | 1580 | 1620 | 1620 | 1820 | 1880 | 1880 | 1930 |
| <b>B</b> | 480  | 600  | 630  | 630  | 740  | 870  | 870  | 870  |
| <b>C</b> | 830  | 980  | 1010 | 1010 | 1010 | 910  | 910  | 1010 |

The technical data in this document are not binding.  
Bright A/C reserves the right to make whatever modifications it deems necessary to improve the product at any time.

**Bright Air Conditioning Co.,Ltd.**

E-mail: intl@sbright.com.cn brightdz@gmail.com  
www.brightaircon.com