

# ANK 030 - 050

## Reversible air/water heat pump

Cooling capacity 2.5 ÷ 4.0 ton  
Heating capacity 37,670 ÷ 57,598 BTU/W



- Production of hot water up to 140 °F
- Version with Integrated hydronic kit system side



### DESCRIPTION

Reversible air/water heat pump for air conditioning systems with chilled water production for cooling rooms and hot water for heating services, suitable for connection with small or medium users.

It's optimised for use in heating mode, and can be combined not only with low-temperature emission systems such as floor heating or fan coils, but also conventional radiators.

Equipped with scroll compressors, axial fans, external coil with aluminium louvers, plate heat exchanger on the side.

The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

### VERSIONS

° Standard

**A** With storage tank and pump

**P** With pump

### FEATURES

#### Operating field

Working at full load up to -4.0 °F outside air temperature in winter, and up to 114.8 °F in summer. Possibility production technical hot water production up to 140.0 °F (for more information see the technical documentation).

#### Technical hot water production

The technical water, thanks to an intermediate exchanger, can guarantee the production of domestic hot water (the use of a storage tank **not supplied** is recommended).

#### Version with Integrated hydronic kit

Integrated hydronic kit containing the main hydraulic components; available with various configurations to obtain a solution that allows you to facilitate installation.

#### MODUCONTROL CONTROL

The command panel of the unit allows the rapid setting of the working parameters of the machine, and their visualisation. The display consists of 4 figures and various LEDs for indicating the type of operational

mode, the visualisation of the parameters set and of any alarms triggered. The card stores all the default settings and any modifications.

### ACCESSORIES

**AERBAC-MODU:** Ethernet communication Interface for protocols BACnet/IP, Modbus TCP/IP, SNMP

**AERNET:** The device allows the control, the management and the remote monitoring of a Chiller with a PC, smartphone or tablet using Cloud connection. AERNET works as Master while every unit connected is configured as Slave (max. 6 unit); also, with a simple click is possible to save a log file with all the connected unit datas in the personal terminal for post analysis.

**AERSET:** It makes it possible to automatically compensate for the operation setting of the unit to which it is connected, based on a 0-10V MODBUS input signal. Mandatory accessory MODU-485BL.

**MODU-485BL:** RS-485 interface for supervision systems with MODBUS protocol.

**PR3:** Simplified remote panel. This makes it possible to carry out the unit's basic controls with the signalling of alarms. Can be made remote with shielded cable up to 150 m.

**DCPX:** Device for condensation temperature control, with continuous speed modulation of fans by using a pressure transducer.

**VT:** Antivibration supports

### FACTORY FITTED ACCESSORIES

**KRB:** -

## ACCESSORIES COMPATIBILITY

| Model       | Ver  | 030 | 045 | 050 |
|-------------|------|-----|-----|-----|
| AERBAC-MODU | °A,P | .   | .   | .   |
| AERNET      | °A,P | .   | .   | .   |
| AERSET      | °A,P | .   | .   | .   |
| MODU-485BL  | °A,P | .   | .   | .   |
| PR3         | °A,P | .   | .   | .   |

### Device for condensation temperature control

| Ver  | 030         | 045         | 050         |
|------|-------------|-------------|-------------|
| °A,P | DCPX_ANK_UL | DCPX_ANK_UL | DCPX_ANK_UL |

### Antivibration

| Ver | 030   | 045   | 050   |
|-----|-------|-------|-------|
| °P  | VT9   | VT9   | VT9   |
| A   | VT15A | VT15A | VT15A |

### KRB: Electric anti-freeze resistance kit for base

| Ver  | 030        | 045        | 050        |
|------|------------|------------|------------|
| °A,P | KRB2UL (1) | KRB2UL (1) | KRB2UL (1) |

(1) Incompatible with the condensate collection basin accessory with integrated resistance.  
A grey background indicates the accessory must be assembled in the factory

## CONFIGURATOR

| Field        | Description                                       |
|--------------|---|
| <b>1,2,3</b> | <b>ANK</b>  |
| <b>4,5,6</b> | <b>Size</b><br>030, 045, 050                      |
| <b>7</b>     | <b>Model</b>                                      |
| H            | Heat pump   |
| <b>8</b>     | <b>Version</b>                                    |
| °            | Standard  |
| A            | With storage tank and pump                        |
| P            | With pump   |
| <b>9</b>     | <b>Heat recovery</b>                              |
| °            | Without heat recovery                             |
| <b>10</b>    | <b>Coils</b>                                      |
| °            | Copper-aluminium                                  |
| R            | Copper pipes-copper fins                          |
| S            | Copper pipes-Tinned copper fins                   |
| V            | Copper pipes-Coated aluminium fins                |
| <b>11</b>    | <b>Operating field</b>                            |
| °            | Standard mechanic thermostatic valve (1)          |
| Y            | Low temperature mechanic thermostatic valve (2)   |
| Z            | Low temperature electronic thermostatic valve (3) |
| <b>12</b>    | <b>Evaporator</b>                                 |
| °            | Standard  |
| <b>13</b>    | <b>Power supply</b>                               |
| 5            | 220V ~ 60Hz                                       |

(1) Water produced up to +39.2 °F

(2) Water produced from 32 °F up to 17.6 °F

(3) Water produced from 39.2 °F up to 32 °F

## PERFORMANCE SPECIFICATIONS

| Size   |      |                    | 030    | 045    | 050    |
|--|------|--------------------|--------|--------|--------|
| <b>Cooling performance 54.0 °F / 44.1 °F (1)</b> |      |                    |        |        |        |
| Cooling capacity                                 | °A,P | ton                | 2.51   | 3.35   | 4.01   |
|  | °    | kW                 | 2.81   | 3.85   | 4.32   |
| Input power                                      | A,P  | kW                 | 3.04   | 4.10   | 4.57   |
|  | °    | A                  | 13.0   | 16.3   | 18.2   |
| Cooling total input current                      | A,P  | A                  | 13.9   | 17.2   | 19.1   |
|  | °A,P | W/W                | 3.14   | 3.06   | 3.27   |
| EER  | °    | BTU/(Wh)           | 14.88  | 14.50  | 15.46  |
|  | A,P  | BTU/(Wh)           | -      | -      | -      |
| Water flow rate system side                      | °A,P | gpm                | 6.00   | 8.01   | 9.60   |
| Pressure drop system side                        | °A,P | ftH <sub>2</sub> O | 2.68   | 3.01   | 4.68   |
| <b>Heating performance 104 °F / 113 °F (2)</b>   |      |                    |        |        |        |
| Heating capacity                                 | °A,P | BTU/h              | 37,670 | 51,967 | 57,597 |
|  | °    | kW                 | 3.05   | 4.00   | 4.33   |
| Input power                                      | A,P  | kW                 | 3.28   | 4.24   | 4.58   |
|  | °    | A                  | 14.2   | 16.9   | 18.3   |
| Heating total input current                      | A,P  | A                  | 15.1   | 17.8   | 19.2   |
|  | °    | kW/kW              | 3.620  | 3.810  | 3.890  |
| COP  | A,P  | kW/kW              | 3.370  | 3.590  | 3.690  |
|  | °A,P | gpm                | 7.59   | 10.48  | 11.61  |
| Water flow rate system side                      | °A,P | gpm                | 7.59   | 10.48  | 11.61  |
| Pressure drop system side                        | °A,P | ftH <sub>2</sub> O | 4.01   | 5.02   | 6.69   |
| Useful head system side                          | °A,P | ftH <sub>2</sub> O | 21.7   | 19.1   | 17.1   |

(1) Data: System side water heat exchanger 54.0 °F / 44.1 °F; External air 95 °F

(2) Data: System side water heat exchanger 104 °F / 113 °F; External air 44.6 °F

## ELECTRIC DATA

| Size   |      |   | 030  | 045   | 050   |
|--|------|---|------|-------|-------|
| <b>Electric data</b>   |      |   |      |       |       |
| Peak current (LRA)   | °    | A | 86.1 | 100.1 | 99.1  |
|  | A,P  | A | 87.1 | 101.1 | 100.1 |
| Minimum circuit amperage (MCA)                               | °A,P | A | 25.0 | 35.0  | 30.0  |
| Maximum overcurrent permitted by the protection device (MOP) | °A,P | A | 40.0 | 50.0  | 50.0  |

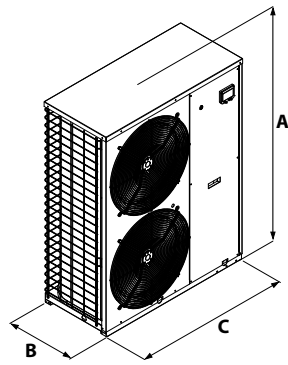
## GENERAL TECHNICAL DATA

| Size   |      |       | 030          | 045          | 050          |
|--|------|-------|--------------|--------------|--------------|
| <b>Compressor</b>                                |      |       |              |              |              |
| Type   | °A,P | type  | Scroll       | Scroll       | Scroll       |
| Compressor regulation                            | °A,P | Type  | On-Off       | On-Off       | On-Off       |
| Number   | °A,P | no.   | 1            | 1            | 2            |
| Circuits   | °A,P | no.   | 1            | 1            | 1            |
| Refrigerant                                      | °A,P | type  | R410A        | R410A        | R410A        |
| Refrigerant charge (1)                           | °A,P | lbs   | 9.0          | 11.9         | 13.0         |
| Oil  | °A,P | Type  | -            | -            | -            |
| Total oil charge                                 | °A,P | lbs   | -            | -            | -            |
| <b>System side heat exchanger</b>                |      |       |              |              |              |
| Type   | °A,P | type  | Brazed plate | Brazed plate | Brazed plate |
| Number   | °A,P | no.   | 1            | 1            | 1            |
| Minimum water flow rate                          | °A,P | gpm   | -            | -            | -            |
| Maximum water flow rate                          | °A,P | gpm   | -            | -            | -            |
| <b>Hydraulic connections</b>                     |      |       |              |              |              |
| Sizes (in/out)                                   | °A,P | Ø     | 1" 1/4       | 1" 1/4       | 1" 1/4       |
| Connections (in/out)                             | °A,P | Type  | Gas femmina  | Gas femmina  | Gas femmina  |
| <b>Fan</b>                                       |      |       |              |              |              |
| Type   | °A,P | type  | Axial        | Axial        | Axial        |
| Fan motor  | °A,P | type  | On-Off       | On-Off       | On-Off       |
| Number   | °A,P | no.   | 2            | 2            | 2            |
| Air flow rate                                    | °A,P | cfm   | 4,708.6      | 4,708.6      | 4,708.6      |
| <b>Sound data calculated in cooling mode (2)</b> |      |       |              |              |              |
| Sound power level                                | °A,P | dB(A) | 70.5         | 70.5         | 70.5         |
| Sound pressure level (10 m / 33 ft)              | °A,P | dB(A) | 39.5         | 39.5         | 39.5         |
| Sound pressure level (1 m / 3.3 ft)              | °A,P | dB(A) | 55.4         | 55.4         | 55.4         |
| <b>Sound data calculated in heating mode (2)</b> |      |       |              |              |              |
| Sound power level                                | °A,P | dB(A) | -            | -            | -            |
| Sound pressure level (10 m / 33 ft)              | °A,P | dB(A) | -            | -            | -            |
| Sound pressure level (1 m / 3.3 ft)              | °A,P | dB(A) | -            | -            | -            |

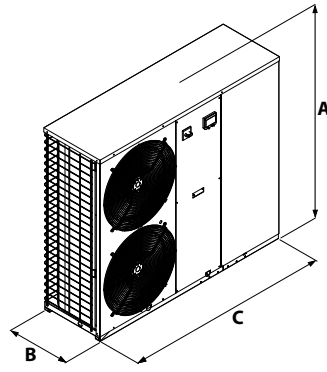
(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

(2) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2. Sound pressure (cold functioning) measured in free field, 10 m / 33 ft away from the unit external surface (in compliance with UNI EN ISO 3744).

## DIMENSIONS



ANK H-HP



ANK HA

| Size                          |      |     | 030  | 045  | 050  |
|-------------------------------|------|-----|------|------|------|
| <b>Dimensions and weights</b> |      |     |      |      |      |
| A                             | °A,P | in  | 50.4 | 50.4 | 50.4 |
| B                             | °P   | in  | 39.4 | 39.4 | 39.4 |
|                               | A    | in  | 57.1 | 57.1 | 57.1 |
| C                             | °A,P | in  | 15.7 | 17.7 | 17.7 |
| <b>Weights</b>                |      |     |      |      |      |
| Empty weight                  | °    | lbs | 328  | 364  | 379  |
|                               | A    | lbs | 465  | 511  | 525  |
|                               | P    | lbs | 340  | 386  | 401  |

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