

# TCW31-41 Minichiller HP

## Industrial water chillers

### COOLING CAPACITY

3000-3450 - 3900-4450 W



### STRUCTURE

In powder-coated steel sheet, RAL 7035 textured finish. Easily removed panel

### COMPRESSOR

Hermetic reciprocating compressor, cooled by the refrigerant, complete with thermal cut-out.

### REFRIGERATION CIRCUIT

Complete with charging port, drier filter, expansion valve, high- and low-pressure safety pressure switch, thermostatic valve.  
R134a refrigerant.

### EVAPORATOR

Brazed stainless-steel plate model.

### AIR CONDENSER

Finned high-efficiency copper tube condensing coil, complete with safety grille.

### AXIAL FAN

Axial fan, complete with electrical thermal protection and safety grille.

### LIQUID CIRCUIT

Liquid circuit composed entirely of non-ferrous material in contact with the liquid to prevent contamination. Standard liquid circuit with open reservoir and pump, protective flow switch, pressure gauge, regulation sensor. Peripheral electric pump with 4.5 bar available head. Plastic storage tank complete with drain valve and visual level indicator.

### ELECTRICAL PANEL

With main breaker, fused motor protection with LED visual fault indicator, voltage presence light.

### MANAGEMENT AND CONTROL

The TX110 control unit manages the chiller's operation, providing warnings including high/low temperature alarms and a general serious fault alarm, with the display indicating if this refers to the refrigeration or liquid circuit. An on-off contact allows the machine to be switched on remotely. Control disconnect switch for switching on the machine.

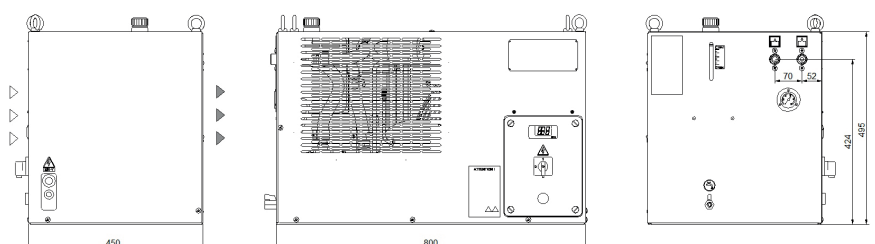
### PAINT/COATING

Standard colour: RAL 7035 textured.

### MAIN OPTIONS

- BA - Mechanical bypass valve protecting the pump
- BM - Manual bypass valve protecting the pump
- LE - Electrical level indicator
- LTA - Operation at low ambient temperatures
- FP - Polyurethane air filter
- RU - Castors
- TD - Differential fluid temperature management (two sensors)
- BGC - Hot gas bypass for +/- 1 K temperature precision
- HIGH-pressure pump
- Non-standard paint/coating
- Satin AISI 304 stainless steel framework

### DIMENSIONS



| Model   |                   | TCW31                     |      | TCW41   |      |
|---|-------------------|---------------------------|------|---------|------|
|   |                   | 50Hz                      | 60Hz | 50Hz    | 60Hz |
| Rated Cooling Capacity*   | W                 | 3000                      | 3450 | 3900    | 4450 |
| Ambient temperature operating limits  | °C                | +15 - +45                 |      |         |      |
| Settable fluid temperature range  | °C                | +8 - +25                  |      |         |      |
| Fluid type  |                   | Water                     |      |         |      |
| Temperature precision   | K                 | +/-2                      |      |         |      |
| Refrigerant gas   | HFC               | R134a                     |      |         |      |
| <b>Power supply</b>   |                   |                           |      |         |      |
| Supply voltage  | V ph Hz           | 230V (+/-10%) 1ph 50/60Hz |      |         |      |
| Secondary supply voltage  | V                 | 230                       |      |         |      |
| Digital thermostat  |                   | TX110                     |      |         |      |
| <b>Compressor</b>   |                   |                           |      |         |      |
| Compressor type   |                   | Reciprocating             |      |         |      |
| Quantity - Number of circuits   | no.               | 1 - 1                     |      |         |      |
| Max. power draw   | kW                | 1.15                      | 1.5  | 1.6     | 1.92 |
| Max. current draw   | A                 | 6.1                       | 8.1  | 7.2     | 8.4  |
| <b>Axial Fan</b>  |                   |                           |      |         |      |
| Compressor type   |                   | Axial                     |      |         |      |
| Quantity  | no.               | 1                         |      | 1       |      |
| Air flow rate   | m <sup>3</sup> /h | 2300                      | 2650 | 2300    | 2650 |
| Max. power draw   | W                 | 180                       | 250  | 180     | 250  |
| Max. current draw   | A                 | 0.81                      | 1.1  | 0.81    | 1.1  |
| <b>Standard Pump</b>  |                   |                           |      |         |      |
| Pump type   |                   | Peripheral                |      |         |      |
| Quantity  | no.               | 1                         |      | 1       |      |
| Nominal/max fluid flow rate   | l/min             | 6.5 - 20                  |      | 11 - 20 |      |
| Nominal available head  | bar               | 4                         | 6    | 2.8     | 4    |
| Available power draw  | kW                | 0.75                      | 0.75 | 0.75    | 0.75 |
| Max. current draw   | A                 | 2.8                       | 3.7  | 2.8     | 3.7  |
| <b>High-Pressure Pump (optional)</b>  |                   |                           |      |         |      |
| Pump type   |                   | Peripheral                |      |         |      |
| Quantity  | no.               | 1                         |      | 1       |      |
| Nominal available head  | bar               | 5.8                       | 7.6  | 4.9     | 6.6  |
| Max. power draw   | kW                | 1.29                      | 1.29 | 1.29    | 1.29 |
| Max. current draw   | A                 | 5                         | 6    | 5       | 6    |
| <b>Storage tank capacity</b>  |                   |                           |      |         |      |
| Storage tank capacity   | l                 | 10                        |      |         |      |
| IN/OUT liquid connections   | mm                | 1/2"                      |      |         |      |
| Net weight (approximate)***   | kg                | 74                        |      | 75      |      |
| Width - Depth - Height  | mm                | 800 - 450 - 495           |      |         |      |
| Sound pressure level**  | dB(A)             | 57                        | 60   | 57      | 60   |
| IP rating   | IP                | 44                        |      |         |      |
| <p>* Data relating to operation under the following conditions: intake/outlet temperature 20/15°C, water without glycol, ambient temperature 32°C. Cooling power refers to the evaporator unit.</p> <p>** Sound pressure level at 50Hz, measured in a free hemispherical field at a distance of 1 m from the machine and 1.5 metres from the ground, per ISO 3746.</p> <p>*** Weight includes pallets and packaging (where provided for), with refrigerant charge, storage tank empty, axial fans.</p> <p>The electrical data refer to cos φ = 0.8.</p> |                   |                           |      |         |      |

| Correction factors for calculating the cooling power |    |        |   |      |      |      |      |      |      |      |      |      |      |
|--|----|--------|---|------|------|------|------|------|------|------|------|------|------|
| Water outlet temperature                             | Fw | °C     |   |      |      |      | 8    | 10   | 15   | 20   | 25   |      |      |
|  |    | factor |   |      |      |      | 0.86 | 0.92 | 1    | 1.05 | 1.12 |      |      |
| Ambient Temperature                                  | Fa | °C     |   |      |      |      | 15   | 20   | 25   | 32   | 35   | 40   | 45   |
|  |    | factor |   |      |      |      | 1.16 | 1.1  | 1.05 | 1    | 0.97 | 0.91 | 0.84 |
| Percentage glycol by weight                          | Fg | %      | 0 | 10   | 15   | 20   | 25   | 30   | 35   | 40   |      |      |      |
|  |    | factor | 1 | 0.99 | 0.98 | 0.97 | 0.96 | 0.94 | 0.92 | 0.89 |      |      |      |
| Cooling power = Nominal cooling power x Fw x Fa x Fg |    |        |   |      |      |      |      |      |      |      |      |      |      |