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.

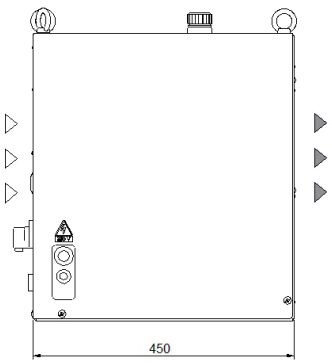
ELECTRICAL PANEL
With main breaker, fused motor protection with LED visual fault indicator, voltage presence light.

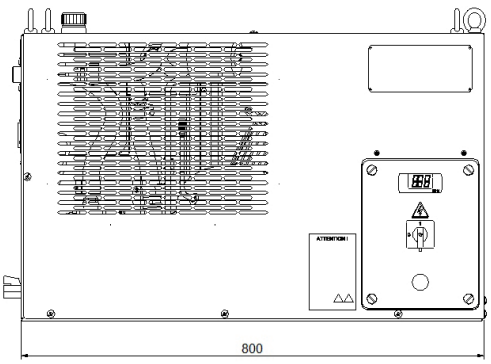
MANAGEMENT AND CONTROL
The TX110 control unit manages the chiller's operation, providing warnings including high/low temperature alarms and a general serious fault alarm, with the display indicating if this refers to the refrigeration or liquid circuit. An on-off contact allows the machine to be switched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

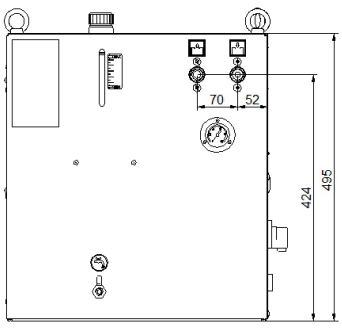
PAINT/COATING
Standard colour: RAL 7035 textured.

MAIN ACCESSORIES (ref. page 189)
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			
Power supply					
Supply voltage	V ph Hz	230V (+/-10%) 1ph 50/60Hz			
Secondary supply voltage	V	230			
Digital thermostat		TX110			
Compressor					
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
Axial Fan					
Compressor type		Axial			
Quantity	no.	1		1	
Air flow rate	m_3/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
Standard Pump					
Pump type		Peripheral			
Quantity	no.	1		1	
Nominal/max fluid flow rate	l/min	6.5 - 20		11 - 20	
Nominal available head	bar	3.7	5.1	2.8	4.0
Available power draw	kW	0.75	0.75	0.75	0.75
Max. current draw	A	2.8	3.7	2.8	3.7
High-Pressure Pump (optional)					
Pump type		Peripheral			
Quantity	no.	1		1	
Nominal available head	bar	4.6	7.2	4.9	6.6
Max. power draw	kW	1.29	1.29	1.29	1.29
Max. current draw	A	5	6	5	6
Storage tank capacity	l	10			
IN/OUT liquid connections	mm	1/2"			
Net weight (approximate)***	kg	74		75	
Width	mm	800			
Depth	mm	450			
Height	mm	495			
Sound pressure level**	dB(A)	57	60	57	60
IP rating	IP	44			

* 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.

** 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.

*** Weight includes pallets and packaging (where provided for), with refrigerant charge, storage tank empty, axial fans.

**** The electrical data refer to cos φ = 0.8.

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