

# TCWR2-Z0 Size 7

Industrial water chillers

## COOLING CAPACITY

166600 - 184400 - 226400 - 262400 - 300800 W



### EVAPORATOR

With brazed stainless-steel plates and temperature sensor for protection against freezing.

### AIR CONDENSER

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

### AXIAL FAN

Axial fan, complete with thermal cut-out and safety grille. Speed regulator.

### LIQUID CIRCUIT

Liquid circuit composed entirely of non-ferrous material in contact with the liquid to prevent contamination. Stainless-steel centrifugal pump with 3 bar available head. Storage tank, closed expansion vessel with pressure reducer and automatic filling system, complete with drain valve, 0-10 bar pressure gauge. Circuit protection consists of a flow switch, minimum pressure switch (normally disabled, operation to be assessed during the initial installation phase), maximum pressure switch, tank max. pressure safety valve, regulation sensor.

### ELECTRICAL PANEL

With main disconnect switch, relay motor protection, phase sequence relays. Glass electrical protection window and aluminium frame.

### MANAGEMENT AND CONTROL

The TX400 control unit manages the operation of the chiller and provides complete operator alarm diagnostics. An on-off contact allows the machine to be switched on remotely. Illuminated control selector. Dual remote ON-OFF. Ethernet and RS485 connection. Possibility of remote display for machine regulation.

### PAINT/COATING

Standard colour: RAL 7035 textured.

### MAIN ACCESSORIES (ref. page 189)

- BA - Mechanical bypass valve protecting the pump
- BM - Manual mechanical bypass valve protecting the pump
- HR - Fluid heating element
- AV - Vibration damper supports
- FP - Polyurethane air filters
- TD - Differential fluid temperature management (two sensors)
  - HIGH-pressure pump version "H" - 5 bar, version "R" - 7 bar.
  - Non-standard paint/coating
  - Satin AISI 304 stainless steel framework
  - Temperature Precision +/- 1 K

### STRUCTURE

In powder-coated steel sheet, RAL 7035 textured finish. Easily removed panels Chiller for outdoor installation.

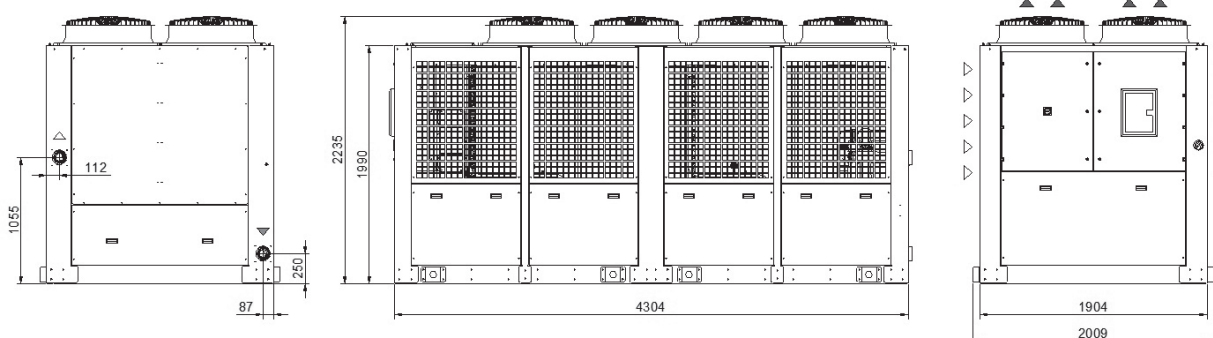
### COMPRESSOR

Hermetic scroll compressor, connected in tandem, cooled by the refrigerant, complete with thermal cut-out and casing heating element for heating the oil. Stepped cooling power regulation, 4 steps on model TCWR2, 8 steps on models TCW S4-T6-Q0-Z0.

### REFRIGERATION CIRCUIT

Complete with charging port, safety valve, liquid receiver, drier filter, liquid inspection port, solenoid valve, thermostatic valve, high- and low-pressure pressure switch, R410A refrigerant.

## Dimensions



Model		TCWR2	TCWS4	TCWT6	TCWV3	TCWZ0
<b>Rated Cooling Capacity*</b>	W	166600	184400	226400	262400	300800
Ambient temperature operating limits	°C	-10 - +45				
Settable fluid temperature range	°C	+8 - +25				
Fluid type		Water				
Temperature precision	K	+/-2.5				
Refrigerant gas	HFC	R410A				
<b>Power supply</b>						
Supply voltage	V ph Hz	400V (+/-10%) 3ph 50Hz				
Secondary supply voltage	V	24 V AC				
Digital thermostat		TX400				
<b>Compressor</b>						
Compressor type		Scroll				
Quantity - Number of circuits	no.	4 - 2	8 - 4			
Max. power draw	kW	59.2	66.8	80.4	92.8	106.4
Max. current draw	A	101.2	119.2	138.0	150.4	194.0
Capacity steps	NR x %	8x12.5%				
<b>Axial Fan</b>						
Fan type		Axial				
Quantity	no.	4	8	8	8	8
Air flow rate	m <sup>3</sup> /h	86000	86000	86000	86000	86000
Max. power draw	kW	8.3	8.3	8.3	8.3	8.3
Max. current draw	A	11.6	11.6	11.6	11.6	11.6
<b>Centrifugal Fan (optional)</b>						
Fan type		Centrifugal				
Quantity	no.	6	6	8	8	8
Air flow rate	m <sup>3</sup> /h	72000	72000	72000	72000	72000
Available head	Pa	260	260	260	260	260
Max. power draw	kW	16.0	16.0	16.0	16.0	16.0
Max. current draw	A	28.0	28.0	28.0	28.0	28.0
<b>Standard Pump</b>						
Pump type		Centrifugal				
Quantity	no.	1	1	1	1	1
Nominal/max fluid flow rate	l/min	460 - 800	520 - 800	640 - 1400	740 - 1400	860 - 1400
Nominal available head	bar	2.9	2.6	3.2	3.1	3.0
Max. power draw	kW	4.0	4.0	7.5	7.5	7.5
Max. current draw	A	8.1	8.1	14.6	14.6	14.6
<b>High-Pressure Pump (optional)</b>						
Pump type		Centrifugal				
Quantity	no.	1	1	1	1	1
Nominal available head	bar	5.6	5.2	6.1	5.9	5.4
Max. power draw	kW	11.0	11.0	15.0	15.0	15.0
Max. current draw	A	21.2	21.2	28.6	28.6	28.6
Storage tank capacity	l	500				
Expansion vessel capacity	l	18				
IN/OUT liquid connections	inch	4"	4"	4"	4"	4"
Net weight (approximate)***	kg	2000	2450	2500	2650	2700
Width	mm	1904				
Depth	mm	4304				
Height	mm	2235				
Sound pressure level**	dB(A)	79	79	79	79	79
IP rating	IP	54				

\* 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, 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  $\cos \phi = 0.8$ .

Correction factors for calculating the cooling power													
<b>Water outlet temperature</b>	<b>Fw</b>	°C					<b>8</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>		
		factor					0.86	0.92	1	1.05	1.12		
<b>Ambient Temperature</b>	<b>Fa</b>	°C					<b>15</b>	<b>20</b>	<b>25</b>	<b>32</b>	<b>35</b>	<b>40</b>	<b>45</b>
		factor					1.16	1.1	1.05	1	0.97	0.91	0.84
<b>Percentage glycol by weight</b>	<b>Fg</b>	%	<b>0</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>			
		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													