



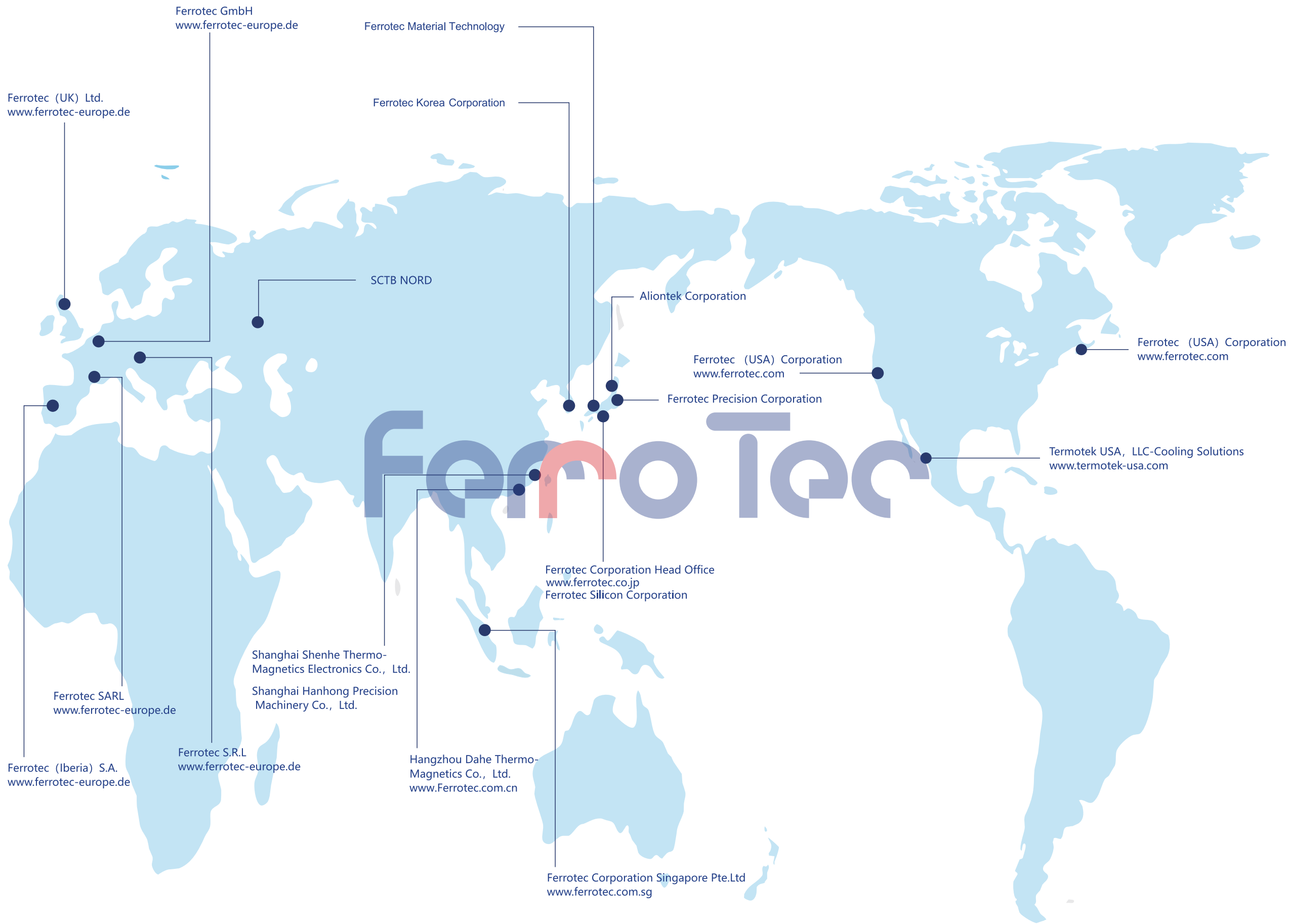
CHILLER

► PRODUCT SELECTION GUIDE

○○●

Provides one-stop service for product development/production/technical consulting for TEC type, compressor type, direct heat exchange type chiller, and airflow meter.





CONTENT

01

ABOUT US

PRODUCT DISPLAY 01

OUR ADVANTAGE 03

PRODUCT GUIDE 05

PRODUCT APPLICATION 07

02

TEC CHILLER

THE PRINCIPLE AND CHARACTERISTICS 08

MINI AIR COOLED CHILLER 09

AIR COOLED CHILLER 11

RACK MOUNT TYPE (AIR COOLED) 13

WATER COOLED CHILLER 15

RACK MOUNT TYPE (WATER COOLED) 19

CHEMICAL LIQUID CHILLER (WATER COOLED) 21

INTEGRATED CHILLER 23

03

OTHER PRODUCTS

HEATING PLATE 25

COLD PLATE 26

TEMPERATURE CONTROLLER 27

04

COMPRESSOR CHILLER(NORMAL TEMPERATURE)

THE PRINCIPLE AND CHARACTERISTICS 29

RACK MOUNT TYPE CHILLER..... 30

HIGH PRECISION CHILLER (WATER COOLED) 31

HIGH PRECISION SINGLE CHANNEL CHILLER (AIR COOLED) 33

HIGH PRECISION DUAL CHANNELS CHILLER (AIR COOLED) 37

LOW PRECISION CHILLER (AIR COOLED) 39

05

DIRECT HEAT EXCHANGE CHILLER 41

06

AIRFLOW METER 42

07

COMPRESSOR CHILLER(LOW TEMPERATURE)

SINGLE STAGE/CASCADE REFRIGERATION CHILLER 43

SINGLE/DUAL-CHANNEL CHILLER 45

08

PRODUCT MODEL DEFINITION 47

09

CUSTOMER REQUEST FORM 49

ABOUT US

Ferrotec Group, headquartered in Tokyo, Japan, is a multinational group dedicated to providing global customers with advanced materials, components, systems and product solutions for thermoelectric semiconductors, always adhering to the principle of quality first, and high-end technical support from Japan to ensure the realization of our business philosophy and guidelines. With more than 30 years of continuous accumulation, we can customize our products according to customers' different application scenarios and requirements, combined with professional technical analysis and technical means.

According to the different application scenarios and different requirements of customers, combined with professional technical analysis and technical means, we can design the most reasonable and most suitable products to provide customers with cost-effective products, and then realize a win-win situation.



PRODUCT DISPLAY

Stable cooling,efficient operation

**Specialist in temperature control solutions
for multi-thermal management**



OUR ADVANTAGE

Deep technical expertise

Hangzhou Dahe Thermo-Magnetics Co.,Ltd. was founded on January 31, 1992, with more than 30 years of technical accumulation and talent echelon reserves, and has a strong technical support and production management capabilities of the Japanese group of companies.



Strong product delivery capability

The company has advanced production technology, stable product output, excellent sales and technical team, and provides customers with stable product output and technical service on time with the strict lean production management policy of Japanese enterprises, insisting on the implementation of quality as the basis for the survival of the enterprise.

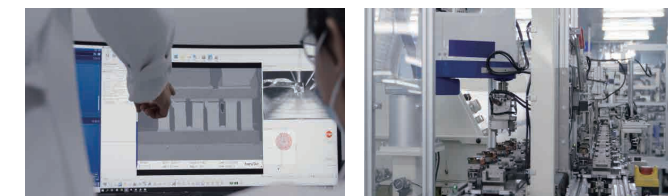
Stable Product Output



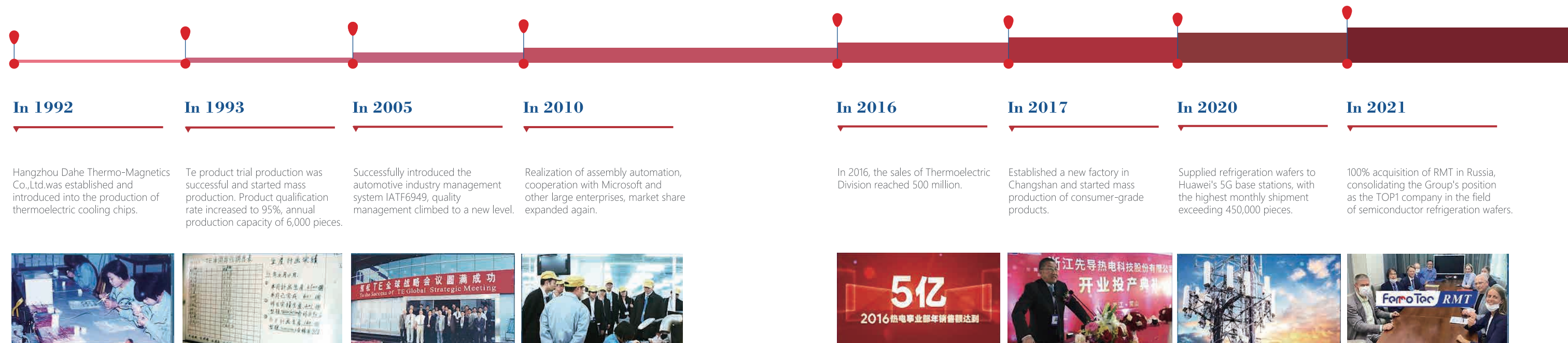
Through years of unremitting efforts, our company has formed a stable production line and continues to grow every year. The company's advanced production technology, greatly shorten the customer's delivery time, with "high efficiency, high performance" professional advantages. At present, the company has good market prospects, stable production efficiency, the production of semiconductor refrigeration chips, thermostats and other related thermoelectric products have been widely used in semiconductor, industrial laser, medical testing and other industry markets, the subsequent development of new products are also increasing the development of efforts, after the completion of the company will significantly increase the company's competitiveness in the industry and market share.

Fast after-sales service response

The company is located in China, Japan, the United States, Germany, France, Britain, Italy, Russia, Singapore, South Korea and more than a dozen countries and regions, a sound sales network and after-sales service, to provide customers with punctual and efficient worry-free after-sales service. Let customers enjoy the product at the same time, no worries.



THE DEVELOPMENT HISTORY OF TE DIVISION



PRODUCT GUIDE

PRODUCTS CATEGORY	HEAT DISSIPATING METHOD	CHANNEL NUMBER	TEMPERATURE PRECISION	COOLING CAPACITY																	TEMPERATURE RANGE		
				0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
 TEC TYPE CHILLER	AIR-COOLED	1	±0.05℃	0.16KW ~ 0.6KW																	10-60℃		
	AIR-COOLED (RACK MOUNT)	1	±0.03℃	1KW																	10-60℃		
	WATER-COOLED	1	±0.05℃	0.3KW ~ 2.0KW																	10-60℃		
	WATER-COOLED (CHEMICAL LIQUID)	1	±0.1℃	0.5KW/0.75KW																	10-60℃		
 COMPRESSOR TYPE CHILLER (NORMAL TEMPERATURE)	WATER-COOLED	1	±0.1℃	1.5KW ~ 10KW																	5-40℃		
	AIR-COOLED (HIGH PRECISION)	1	±0.1℃	1.5KW ~ 20KW																	5-40℃		
		2	±0.1℃	10KW ~ 20KW																	15-40℃		
	AIR-COOLED (LOW PRECISION)	1	±0.5℃	1.0KW ~ 5.2KW																	5-40℃		
		2	±0.5℃	2KW																	5-40℃		
	AIR-COOLED (RACK MOUNT)	1	±0.1℃	1.8KW																	5-40℃		
 COMPRESSOR TYPE CHILLER (LOW TEMPERATURE)		1	±0.1℃	0.33W (-10℃) ~ 7KW (-70℃)																	-70-90℃		
	WATER-COOLED	2	±0.1℃	2.2KW (-10℃)																	-20-90℃		
	AIR-COOLED	1	±0.5℃	0.8KW (-60℃) ~ 3.5KW (-40℃)																	-60-150℃		
 DIRECT HEAT EXCHANGE CHILLER	WATER-COOLED	1	±0.3℃	2KW ~ 15KW																	20-90℃		
 OTHER PRODUCTS				FOR OTHER PRODUCTS, PLEASE CONTACT US FOR CUSTOMIZATION																			

TEC TYPE CHILLER

DIRECT HEAT EXCHANGE

OTHER PRODUCTS


Mini Air Cooled


Air Cooled


Rack Mount Type (Air cooled)


Water Cooled


Rack Mount Type (Water cooled)


Chemical Liquid (Water Cooled)


Integrated


Direct Heat Exchange Chiller


Heating Plate


Cold Plate


Temperature Controller

COMPRESSOR CHILLER(NORMAL TEMPERATURE)

COMPRESSOR CHILLER(LOW TEMPERATURE)

AIRFLOW METER


High Precision (Water Cooled)


High Precision Single Channel (Air Cooled)


High Precision Dual Channels (Air Cooled)


Rack Mount Type (Air Cooled)


Single-Channel Low Precision (Air cooled)


Dual-Channel Low Precision (Air cooled)


Single-stage compression


Cascade compression

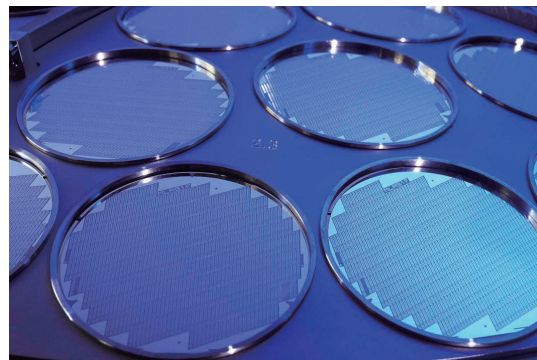

Single/Dual-Channel


Airflow Meter

PRODUCT APPLICATION

Today, chiller applications are extensive. Many different industries are in need of sustained cooling of some kind. Chillers are capable of lowering the high temperatures that are common within certain industrial processes. They are also capable of cooling down nearly any piece of equipment.

Chillers are incredibly versatile. In industrial production, chiller is commonly used in plastic injection molding, laser cutting, welding equipment, etc. to ensure stable operation of equipment in high temperature environment. In the food and pharmaceutical industries, chillers are used to cool production lines to ensure product quality and safety. In addition, data centers, laboratories and medical equipment rely on chillers for precise temperature management to prevent equipment from overheating. In air conditioning systems, chillers are used as core components to provide efficient cooling. In short, chillers play an important role in industrial, commercial and scientific research.



Semiconductor



Test



Laser



Medical



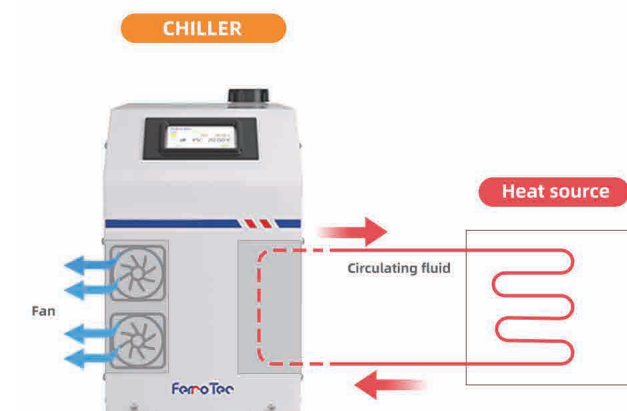
Liquid cooled data center



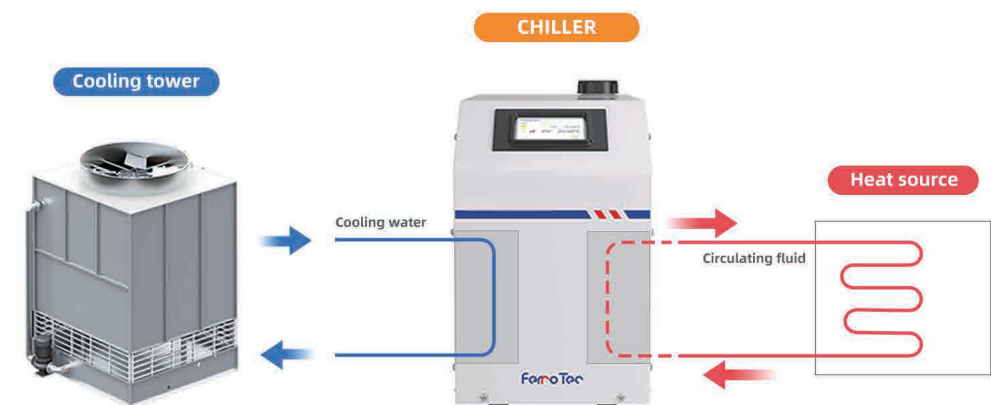
Energy Storage

TEC CHILLER SERIES THE PRINCIPLE AND CHARACTERISTICS

• Air cooled



• Water cooled



Thermoelectric Cooling Chip (TEC) is a semiconductor device consisting of a number of tiny but effective heat pumps. By applying a low-voltage direct current, heat will be transferred from one side of the TEC to the other, from the pair of semiconductor originals in series to form a cooler unit, to realize the heat absorption, which produces the phenomenon that one side of the TEC becomes cooler and the other becomes warmer, using the phenomenon of multiple temperature drops, to achieve high-precision temperature control with its fast response and conversion of hot and cold surfaces.

FCT series semiconductor thermostat set temperature range in 10°C ~ 60°C refrigeration power of 160W ~ 2000W the use of air-cooled or water-cooled cooling method, the use of independent research and development of the semiconductor components, stable performance, high precision temperature control, compact size, closed system, with multi-functional alarm system. Security system, data transmission system, RS485/RS232, ETH, Ethernet and other communication modes of remote control can be realized, and customized models can be selected according to the specific needs.

TEC CHILLER SERIES
MINI AIR COOLED CHILLER

- 

Small size
- 

Temperature control
- 

Silent air cooling
- 

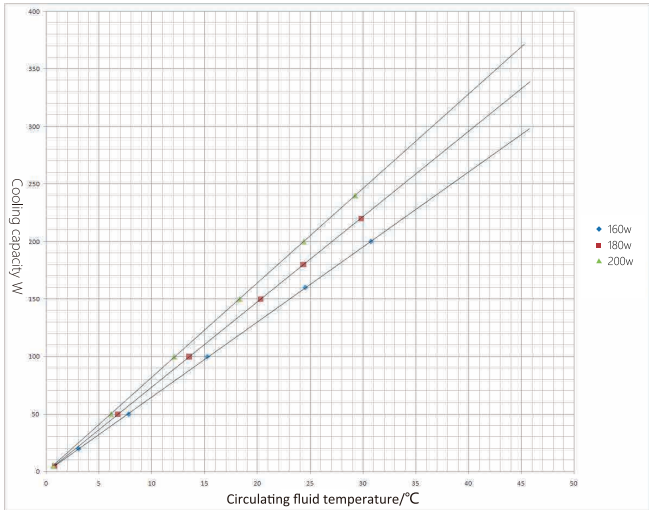
Closed-loop protection



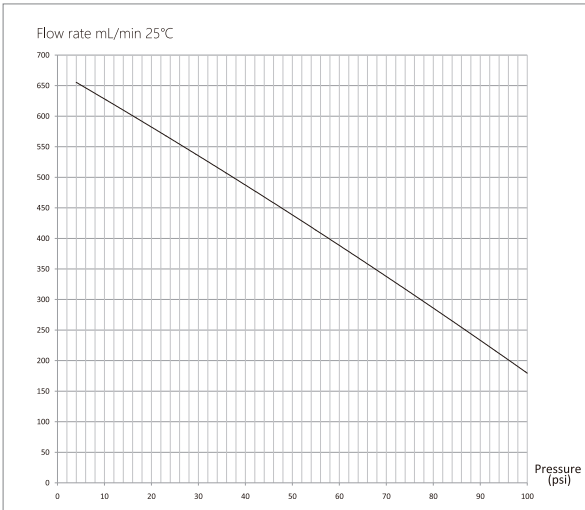
Item	FCTA16101-3101	FCTA16101-3102	FCTA16101-3103
Cooling Method	Thermoelectric device(Thermo-module)		
Heat Dissipation Method	Air-cooled		
Control Method	PID control		
Ambient Temperature/Humidity	10~40°C, No condensation		
Circulating Fluid	Koolance LIQ-702BU-B		
Operating Temperature Range	2.0 ~ 45.0°C		
Cooling Capacity	180W	200W	160W
Heating Capacity	Approx 400W		
Temperature Stability	±0.02°C		
Pump	500ml/min @40 psig magnetically coupled gear pump, > 20m lift		
Tank Capacity	Approx 95ml		
Port Size	1/8" female CPC quick connect with shut-off valve		
Wetted Parts Material	Aluminum+Stainless steel+Polymers	Cu+Polymers+Stainless steel	Cu+Polymers+Stainless steel
Overcurrent Protection	30A		
Current Consumption	15A(13.5 VDC)	15A(13.5 VDC)	14A(13.5 VDC)
Communications	Rs232/485		
Noise	63dB	63dB	55dB
Weight	Approx 4.9kg	Approx 5.4kg	Approx 5.3kg
Accessories	13.5V 15A DC adapter power supply+1/8" Male CPC quick connect with shut-off valve		
Product Size (W*D*H)	126*191*180mm		

PERFORMANCE CURVE

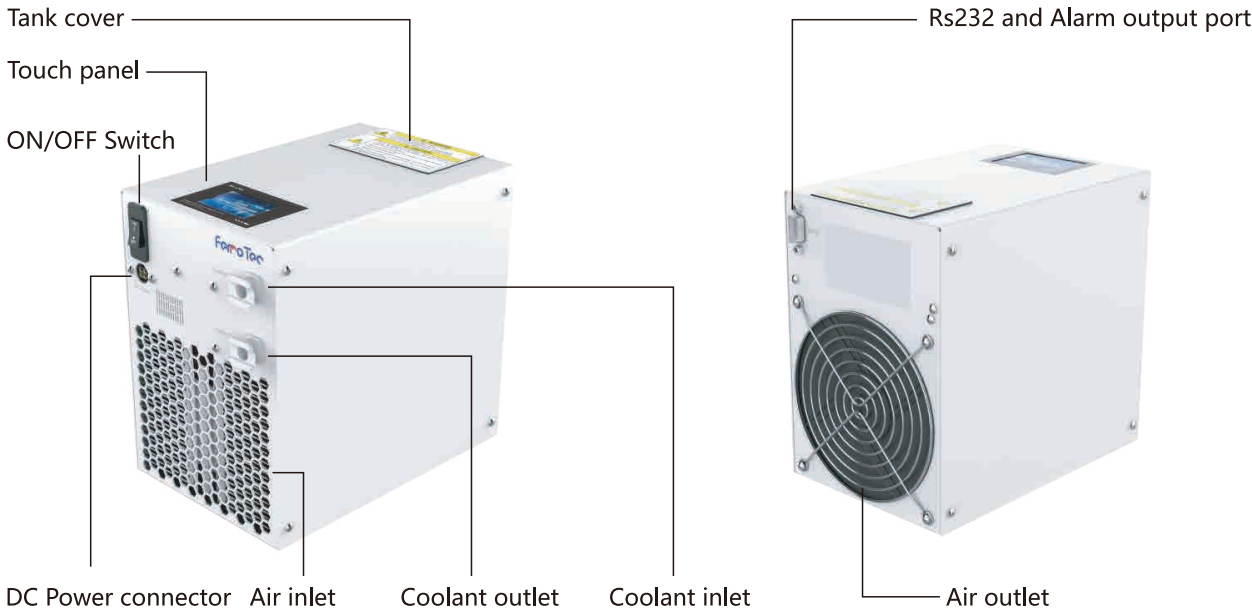
FCTA16101-3101 / 3102 / 3103



Cooling capacity



Pump capacity



TEC CHILLER SERIES
AIR COOLED CHILLER

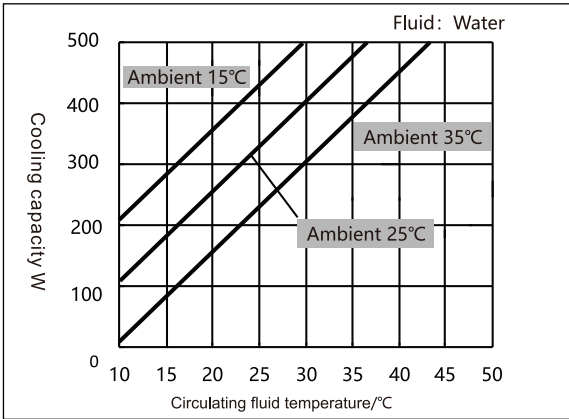
-  Efficient temperature control
-  High Stability
-  Multiple alarms



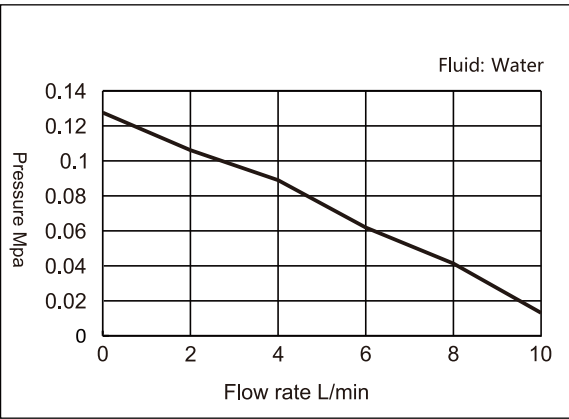
Item	FCTA30101	FCTA60101
Cooling Method	Thermoelectric device(Thermo-module)	
Heat Dissipation Method	Air-cooled	
Control Method	PID control	
Ambient Temperature/Humidity	10~35°C,35~80%RH	
Circulating Fluid	Pure Water	
Operating Temperature Range	10.0 ~ 60.0°C	
Cooling Capacity	320W (25°C)	600W (25°C)
Heating Capacity	780W (25°C)	900W (25°C)
Temperature Stability	±0.05°C	
Pump	Magnetic drive pump 22L/min, 11m lift	Magnetic drive pump 19L/min, 20m lift
Tank Capacity	Approx 3.0L	
Port Size	IN/OUT G3/8 Drain G3/8(with plug)	
Wetted Parts Material	SUS304,EPDM,PE,ABS	
Power Supply	Single-phase 100 to 240 VAC ±10%, 50/60Hz	
Overload Current	13.5A	
Current Input	6A(100V)~2.2A(240V)	9.5A(100V)~3.9A(240V)
Communications	I/O、ETH、RS232、RS485	
Noise	60dBA	75dBA
Weight	Approx 18kg	Approx 27.2kg
Safety Standards	EN60204-1 CE marking	
Product Size(W*D*H)	213.5*475.5*357.5mm	213.5*475.5*488.5mm

PARTS AND PERFORMANCE DESCRIPTION

FCTA30101

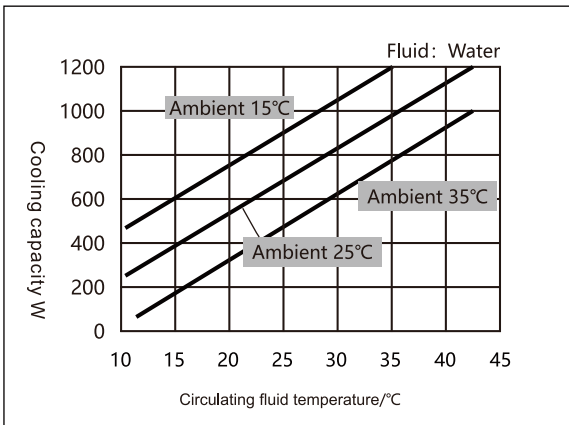


Cooling capacity

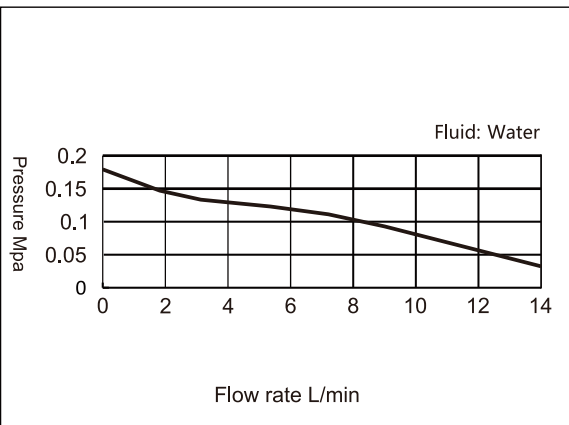


Pump capacity

FCTA60101

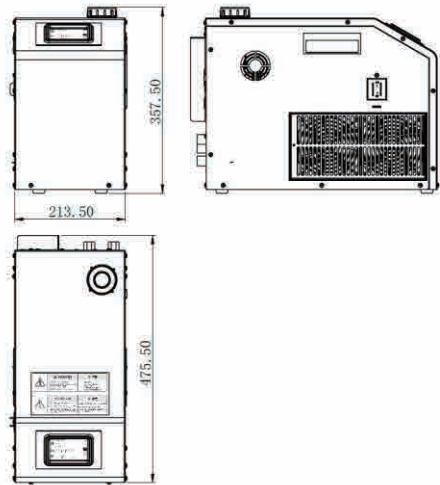


Cooling capacity

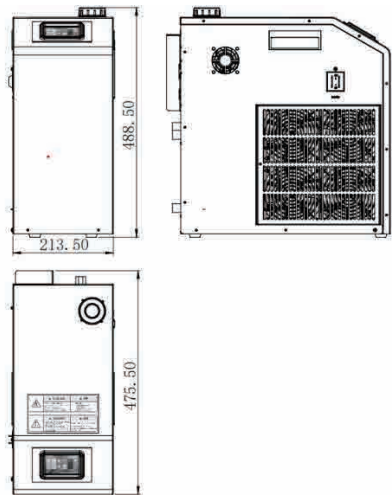


Pump capacity

FCTA30101



FCTA60101



TEC CHILLER SERIES
RACK MOUNT TYPE (AIR COOLED)

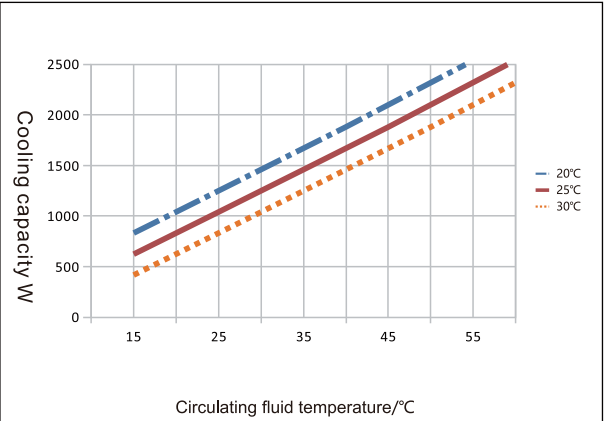
- High Stability
- Multiple alarms
- Efficient temperature control



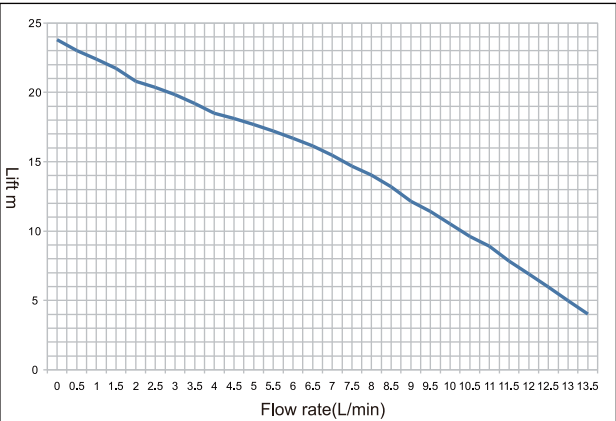
Item	FCTA10231
Cooling Method	Thermoelectric device(Thermo-module)
Heat Dissipation Method	Air-cooled
Control Method	PID control
Ambient Temperature/Humidity	10~35°C,35~80%RH
Circulating Fluid	Pure Water
Operating Temperature Range	10.0 ~ 60.0°C
Cooling Capacity	1000W (25°C)
Heating Capacity	2000W (25°C)
Temperature Stability	±0.05°C
Pump	Magnetic drive pump 27L/min, 25m lift
Pank Capacity	Approx 2.0L
Port Size	IN/OUT Rc3/8 Drain 1/4(Quick coupling)
Wetted Parts Material	SUS304,EPDM,PE,PA,GF,NBR,PP
Power Supply	Single-phase 200 to 240 VAC, 50/60Hz
Overload Current	13.5A
Current Input	8A(Single-phaseAC200V)
Communications	I/O、ETH、RS232、RS485
Noise	68dBA
Weight	Approx 34kg
Product Size (W*D*H)	453*484*267mm

PARTS AND PERFORMANCE DESCRIPTION

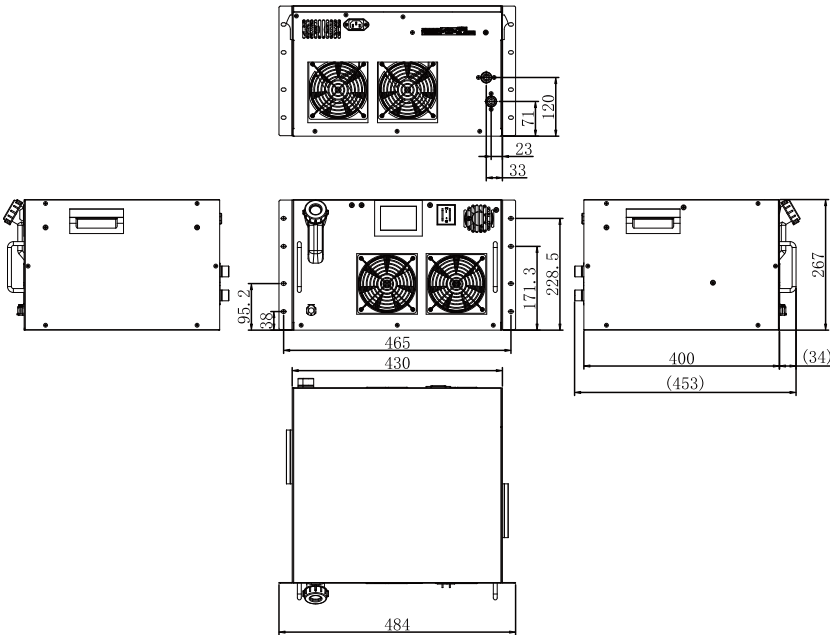
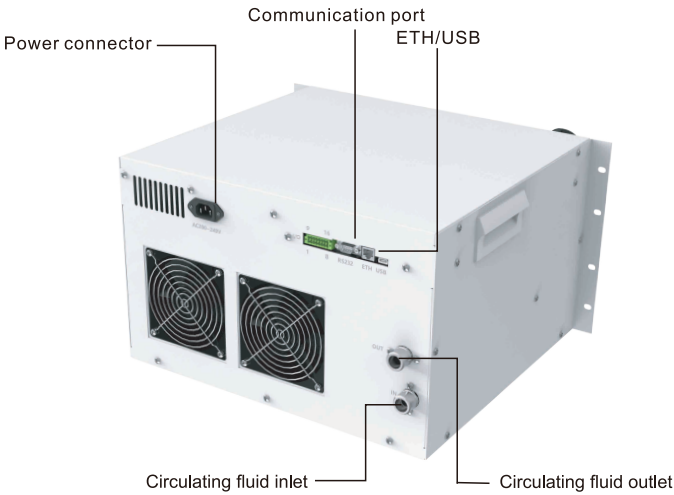
FCTA10231



Cooling capacity



Pump capacity



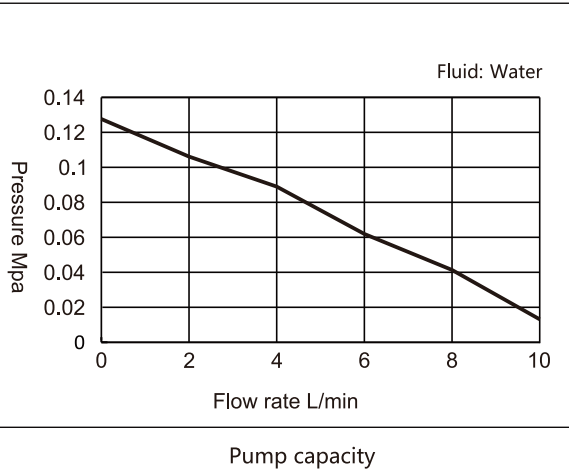
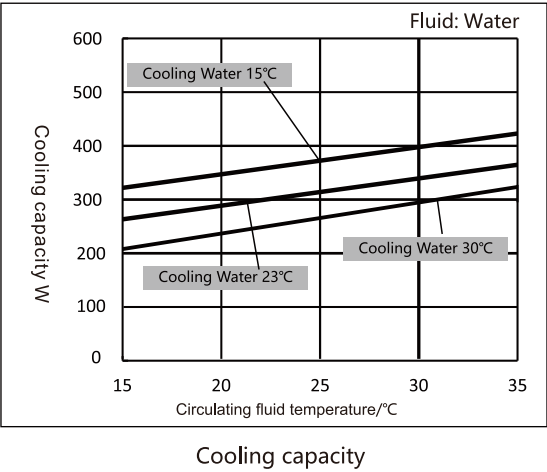
TEC CHILLER SERIES
WATER COOLED CHILLER



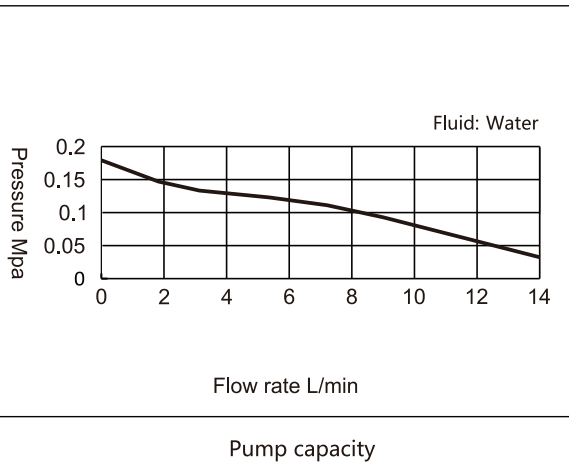
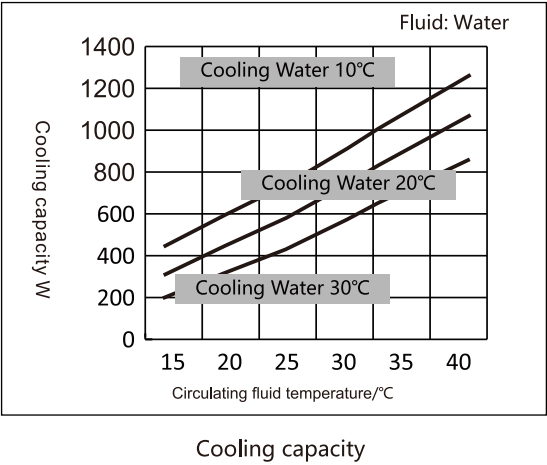
Item		FCTW30101	FCTW60101	FCTW90101
Cooling Method		Thermoelectric device(Thermo-module)		
Heat Dissipation Method		Water-cooled		
Control Method		PID control		
Ambient Temperature/Humidity		10~35℃,35~80%RH		
Circulating Fluid		Pure Water		
Operating Temperature Range		10.0 ~ 60.0℃		
Cooling Capacity		320W (25℃)	600W (25℃)	900W (25℃)
Heating Capacity		680W (25℃)	900W (25℃)	1200W (25℃)
Temperature Stability		±0.05℃		
Power Supply		Single-phase 100 to 240 VAC, 50/60Hz		
Overload Current		13.5A		20.25A
Current Consumption		4.8A(100V)~2.0A(240V)	7.5A(100V)~3.2A(240V)	5.5A(200V)~4.6A(240V)
Circulating Fluid	Pump	Magnetic drive pump 22L/min, 11m lift	Magnetic drive pump 19L/min, 20m lift	Magnetic drive pump 19L/min, 30m lift
	Tank Capacity	Approx 1.2L	Approx 3.0L	
	Port Size	IN/OUT G3/8 Drain G3/8(with plug)		
	Wetted Parts Material	SUS 304,EPDM,PE	SUS 304,EPDM,PE,ABS	SUS 304,EPDM,PE,ABS
	Temperature Range	10~35℃		
Cooling Water	Pressure Range	≤1MPa		
	Required Flow Rate	3~7L/min	7~15L/min	
	Port Size	G3/8		
	Wetted Parts Material	Aluminum,SUS 304,EPDM,PE		
Communications		I/O、ETH、RS232、RS485		
Product Size(W*D*H)		192*360*253mm	234.5*493.5*358mm	259.5*558.5*358mm
Weight		Approx 10.5kg	Approx 21.5kg	Approx 27kg
Safety Standards		EN60204-1 CE marking		

PERFORMANCE CURVE

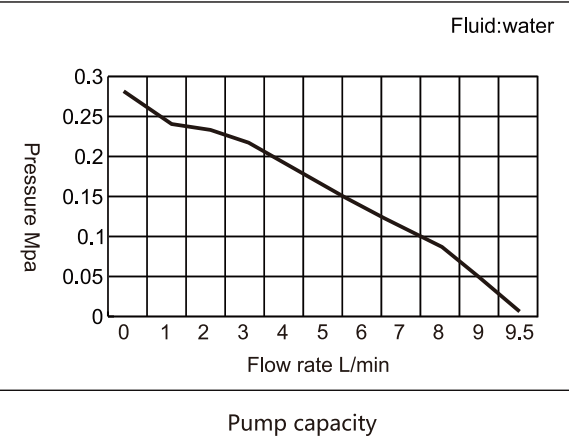
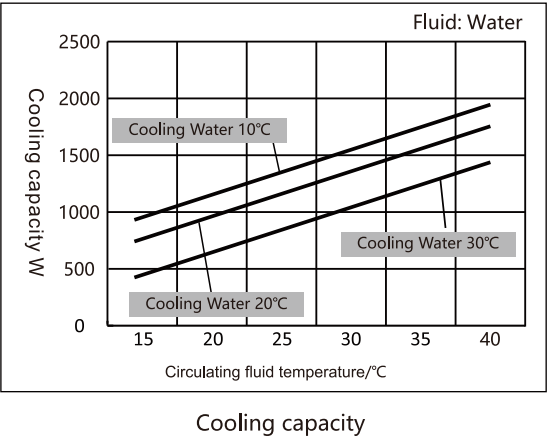
FCTW30101



FCTW60101



FCTW90101



TEC CHILLER SERIES
WATER COOLED CHILLER



Item		FCTW12201	FCTW20201	FCTW20231
Cooling Method		Thermoelectric device(Thermo-module)		
Heat Dissipation Method		Water-cooled		
Control Method		PID control		
Ambient Temperature/Humidity		10~35°C,35~80%RH		
Circulating Fluid		Pure Water		
Operating Temperature Range		10.0~60.0°C		
Cooling Capacity		1200W (25°C)	2000W (25°C)	
Heating Capacity		2400W (25°C)	3000W (25°C)	
Temperature Stability		±0.05°C	±0.02°C	
Power Supply		Single-phase 200 to 240 VAC, 50/60Hz	Three-phase 208VAC±10%, 50/60Hz	
Overload Current		20.25A	/	
Current Consumption		10A(200V)	11A(208V)	
Circulating Fluid	Pump	Magnetic drive pump 38L/min, 40m lift	Magnetic drive pump 33L/min, 32m lift	
	Tank Capacity	Approx 5L	Approx 3.5L	
	Port Size	IN/OUT Rc1/2 Drain G3/8		
	Wetted Parts Material	SUS 304,EPDM,PE	SUS 304,EPDM,PE,ABS	SUS 304,EPDM,PE,ABS
Cooling Water	Temperature Range	10~35°C	5~40°C	
	Pressure Range	≤1MPa		
	Required Flow Rate	10~15L/min	20~30L/min	
	Port Size	Rc3/8		
	Wetted Parts Material	SUS 304,EPDM,PE,NBR,PP		
Communications		I/O、ETH、RS232、RS485		
Product Size (W*D*H)		298*550*426mm	340*640*585.5mm	
Weight		Approx 35kg	Approx 53.5kg	Approx 34kg+22kg

PARTS AND PERFORMANCE DESCRIPTION



Flow alarm

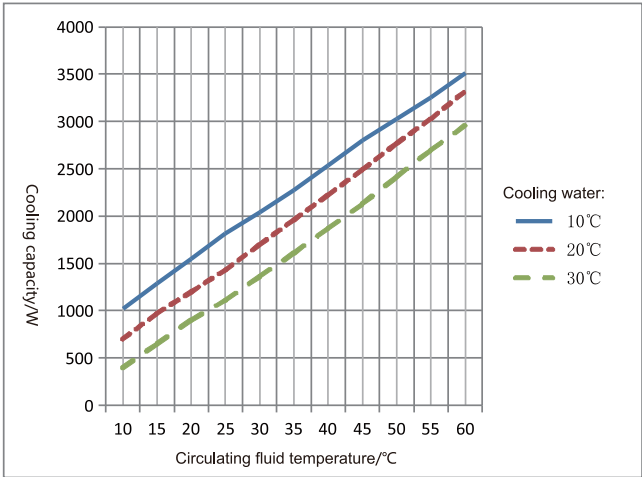


Over-temperature alarm

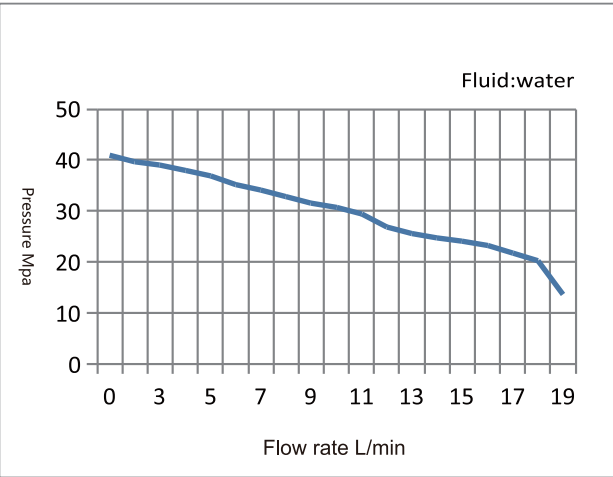


Rapid refrigeration

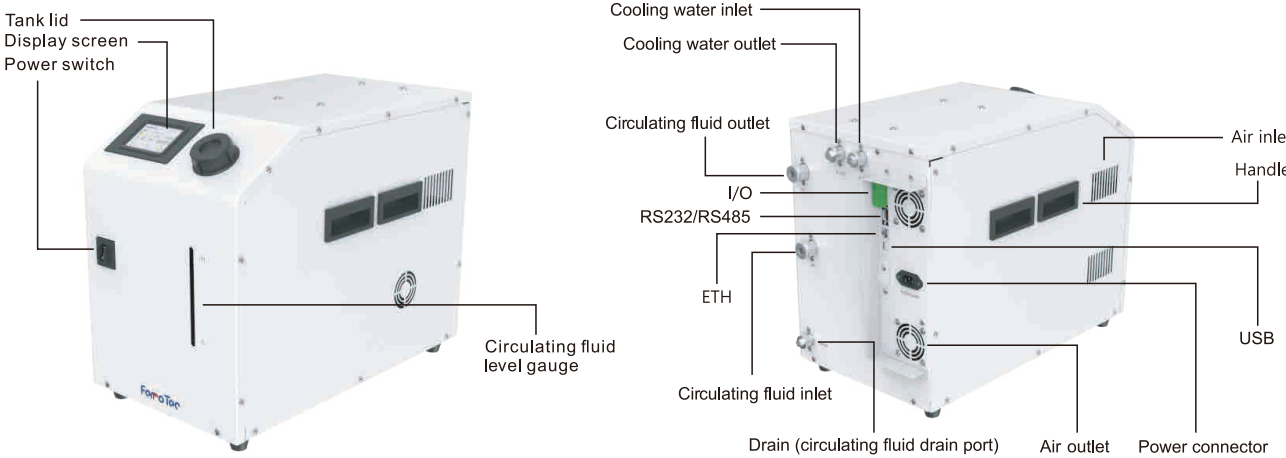
FCTW12201



Cooling capacity



Pump capacity



TEC CHILLER SERIES
RACK MOUNT TYPE (WATER COOLED)



Flow alarm



Over-temperature alarm



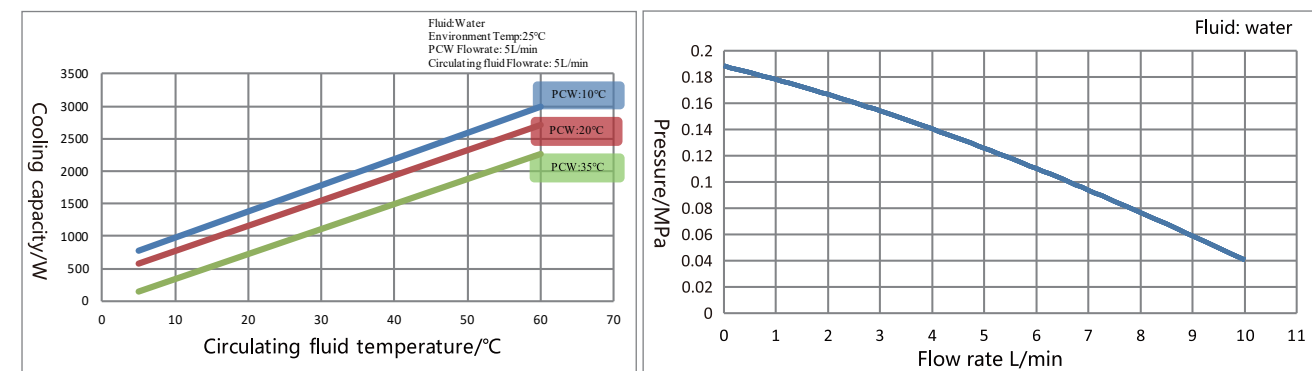
Rapid refrigeration



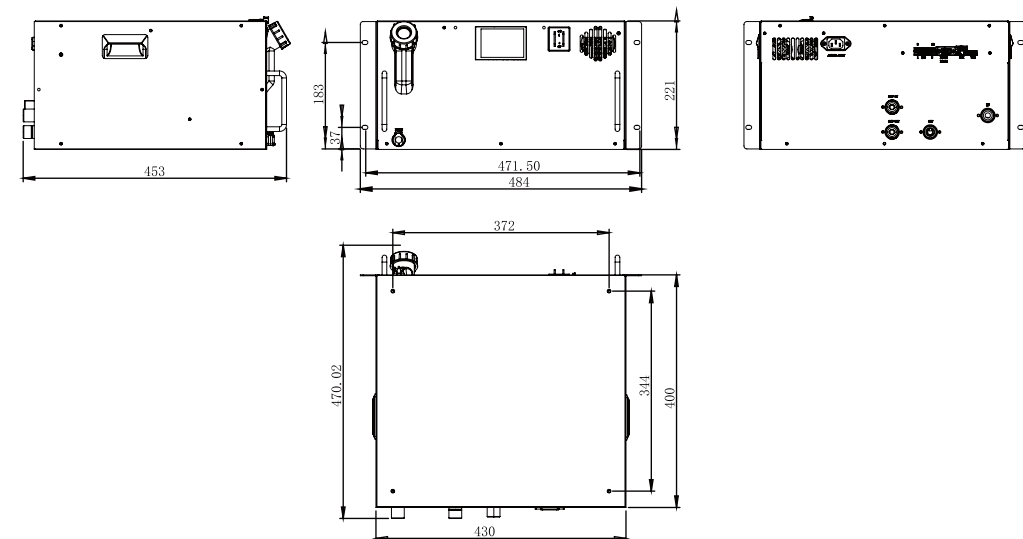
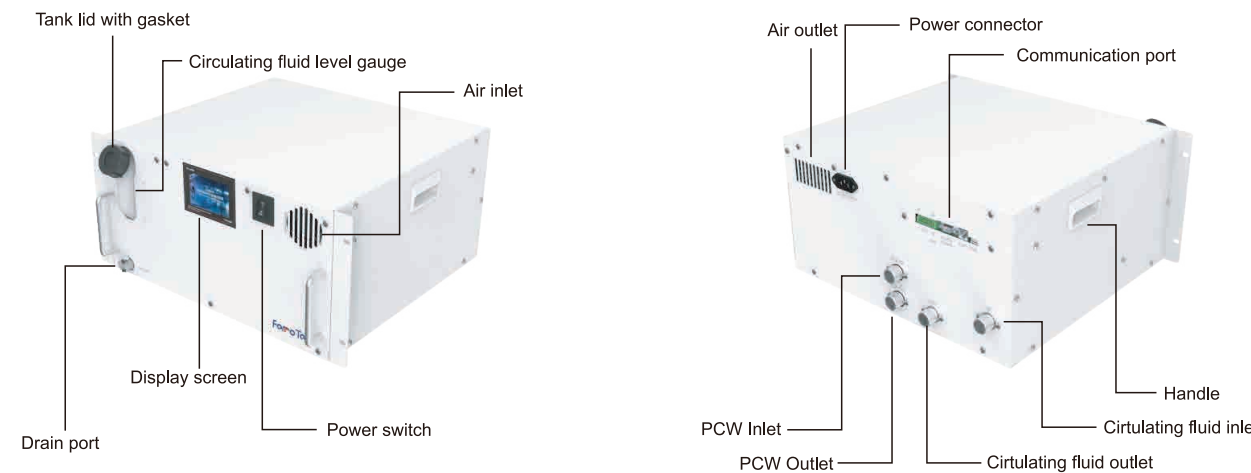
Item		FCTW10231
Cooling Method		Thermoelectric device(Thermo-module)
Heat Dissipation Method		Water-cooled
Control Method		PID control
Ambient Temperature/Humidity		10~35°C,35~80%RH
Circulating Fluid		DI Water 、 20% Ethylene glycol solution
Operating Temperature Range		10.0~60.0°C
Cooling Capacity		1000W (20°C)
Heating Capacity		1600W (20°C)
Temperature Stability		±0.03°C
Power Supply		Single-phase 200 to 240 VAC ±10%, 50/60 Hz
Overload Current		13.5A
Current Consumption		5A(200V)-3.8A(240V)
Circulating Fluid	Pump	Magnetic drive pump 28L/min,18m lift
	Tank Capacity	Approx 2.0L
	Port Size	IN/OUT Rc3/8 Drain 1/4(Quick coupling)
	Wetted Parts Material	SUS 304, EPDM, PA, PE, GF, NBP
Cooling Water	Temperature Range	10~35°C
	Pressure Range	≤1MPa
	Required Flow Rate	≥5L/min
	Port Size	Rc3/8
	Wetted Parts Material	SUS 304, PFA, AL6061
Communications		I/O、ETH、RS232、RS485
Noise		62dB
Weight		Approx 20.6kg

PARTS AND PERFORMANCE DESCRIPTION

FCTW10231



Cooling capacity Pump capacity



TEC CHILLER SERIES
CHEMICAL LIQUID CHILLER (WATER COOLED)



Fast heat exchange



Low impedance



Corrosion resistant



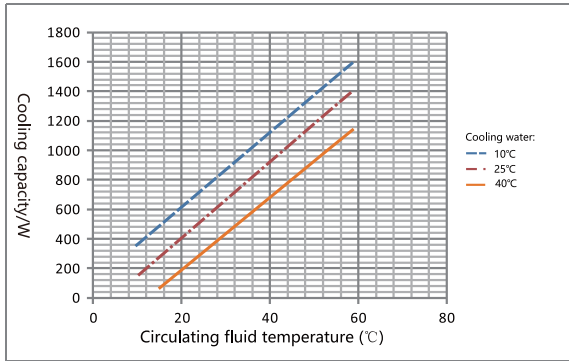
Item		FCTC30101	FCTC50101	FCTC75101	FCTC10201
Heat Dissipation Method		Water-cooled			
Control Method		Thermoelectric device(Thermo-module)			
Ambient Temperature/Humidity		10~35℃,35~80%RH			
Temperature Control Range		10~60℃			
Cooling Capacity		300W	500W	750W	1000W
Heating Capacity		800W	1100W	2000W	2200W
Temperature Stability		±0.1℃			
Minimum Resolution Of Temperature Display		0.01℃			
Chemical Circulation Pipe Diameter		OD3/4"			
Cooling Water Pipe Diameter		OD3/8"			
Wetted Parts Material		PFA, Perfluorelastomer			
Power Supply		Single-phase AC200V~240V, 50/60Hz			
Power Output Port		Aviation plug			
Signal Input Port		Aviation plug (temperature protection switch, leakage switch, 4-line pt100)			
Communication Port		RS232/RS485、EHT、Type C、I/O port			
Communication Protocol		ModBus-TCP			
I/O Port		16-bit screw terminal block			
Display Screen		3.5-inch touch screen			
Shell Material	electronic control unit	SUS304 sheet			
	heat exchange unit	pvc			
Weight	electronic control unit	5.1kg	5.4kg	5.8kg	6.9kg
	heat exchange unit	13.6kg			
Noise		≤50dB			
Size(W*D*H)	electronic control unit	138*328*187mm		162*357*182.5mm	
	heat exchange unit	150*300*222mm			

PERFORMANCE CURVE

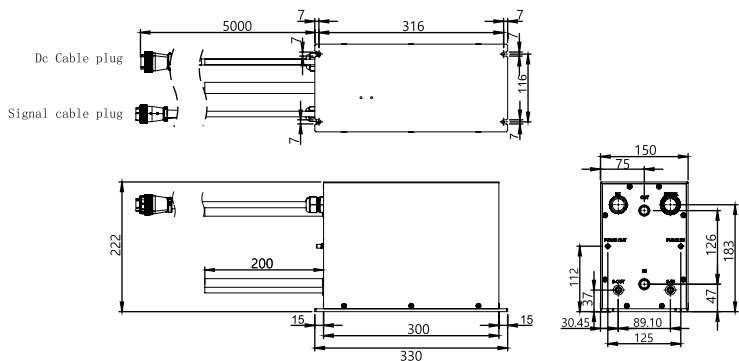
Product Name	Concentration	Operating Temperature	Applicability
Hydrofluoric Acid	HF: < 10%	10~40°C	*2
Buffer Hydrogen Fluoride	HF: < 10%	10~40°C	*2
Hydrofluoric Acid And Nitric Acid Mixture	HF: < 5% HNO ₃ : < 5%	/	*2
Nitric Acid	HNO ₃ : < 5%	/	*2
Hydrochloric Acid	HCl: < 5%	10~30°C	*2
Copper Sulphate Solution	H ₂ SO ₄ : < 96%	10~30°C	*2
Sulfuric Acid	H ₂ SO ₄ : < 96%	10~60°C	*2
Ammonium Hydroxide	NH ₃ : < 5%	10~60°C	*2
Ammonia Hydrogen Peroxide Solution	NH ₃ : < 5% H ₂ O ₂ : < 20%	10~60°C	*1*2
Sodium Hydroxide	NaOH: < 50%	10~60°C	*2
Deionized Water	/	10~60°C	*1
Ultrapure Water	/	10~60°C	*1

Note: For precautions *1、*2, please contact the supplier or consult the manual.

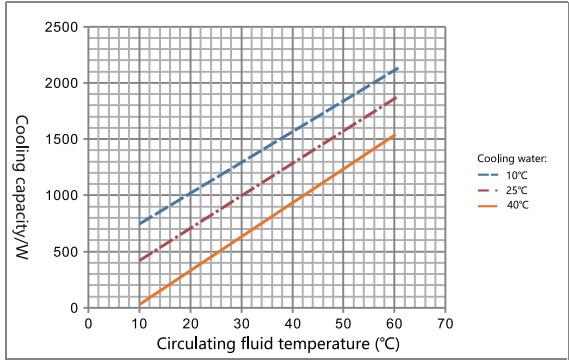
FCTC50101-2101



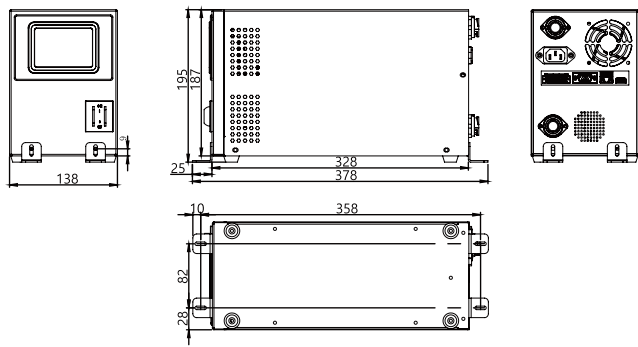
Cooling capacity



FCTC75101-2101



Cooling capacity



TEC CHILLER SERIES
INTEGRATED CHILLER



Automatic water refill device



Configurable for different demands

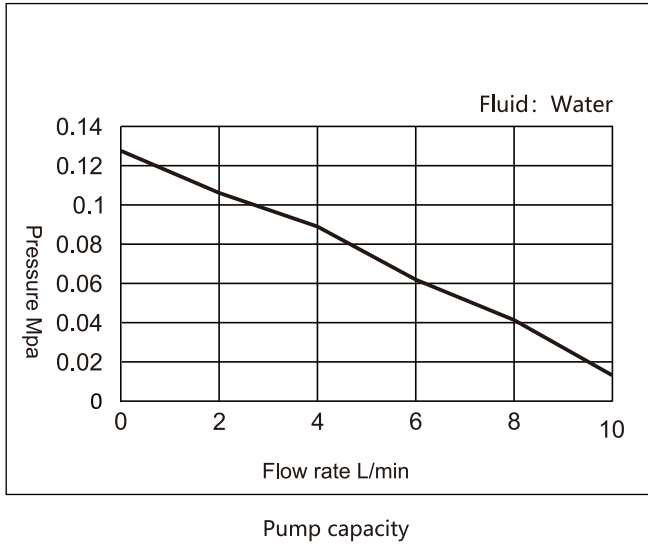
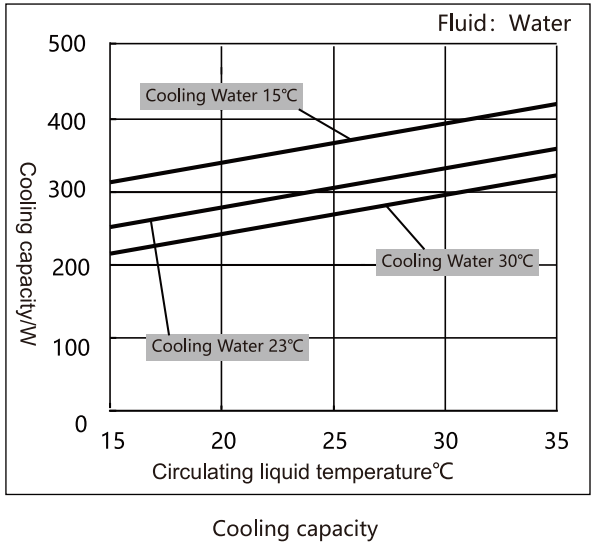


Maximum15 signal outputs and control



Item		FCSI06091			
Cooling Method		Thermoelectric device(Thermo-module)			
Control Method		PID control			
Ambient Temperature/Humidity		10~35℃,35~80%RH			
Cold water unit	Circulating Fluid	DI water	TEC Temperatura control unit	Temperature Control Range	-20.0~99.9℃
	Operating Temperature Range	10.0~60.0℃		Output Voltage	12~48V
	Cooling Capacity	300W (25℃)		Output Current	0~20A
	Heating Capacity	680W (25℃)		Temperature Contro Stability	±0.05℃
	Temperature Stability	±0.05℃		Protection Function	Overload, Short circuit, Overtemperature
	Pump	Magnetic drive pump 19L/min, 20m lift		Thermocouple Type	4-line PT100
	Tank Capacity	Approx 1.3L		Quantity	9 Unit
	Port Size	IN/OUT Rc3/8 Drain Rc3/8	Facility cooling water	Temperature Range	10~35℃
	Overload Current	13.5A		Pressure Range	0.5MPa
	Max Input Power	500W		Required flow rate	3~7L/min
	Quantity	6 Unit		Port Size	12×9mm Hose
	Wetted parts material	SUS 304,EPDM,PFA,ABS,HDPE,PA		Wetted parts material	SUS 304,PFA,AC6061
Communications		RS485(Modbus rtu)			
Input Voltage		Three-phase 208V 50Hz/Single-phase 220V 50Hz(optional)			
Product Size(W*D*H)		595*1095.5*1664mm			
Weight		Approx 210kg			
Customization		Multi-channel cold plate thermostat、 External flow meter(digital display)、 Check valve, etc.			

PARTS DESCRIPTION



Built-in Device Selection		
FCTW30101 No Screen,Breaker	FCTW60102 No Screen,Breaker	FCSW0022301-01

OTHER PRODUCTS
HEATING PLATE



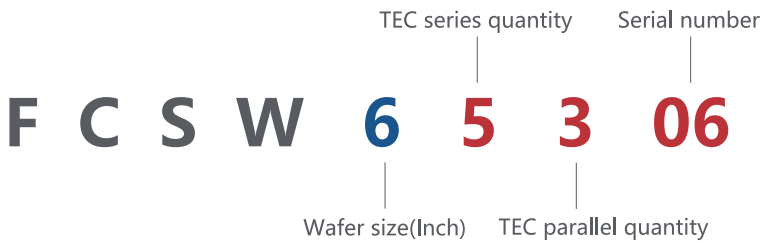
Item		FCSH82501-6A01	FCSH83001-1A01	FCSHC3001-1A01
Wafer Size		8 Inch		12 Inch
Plate Material		6061	6061-T6	
Heat-generating Component Material		Mica+Nickel alloy strip	Armored heating wire	
Input Voltage		AC200V	AC220V	
Heating Power		550W±5%W	1000W±5%W	1200W±5%W
Maximum Heating Temperature		250℃	350℃	
Temperature Range		50~200℃	50~300℃	
Heating Rate		Max 15℃/min	Max 20℃/min	Max 15℃/min
Temperature Uniformity		50 ~ 120℃, ±0.2℃; 120.1 ~ 150℃, ±0.4℃; 150.1 ~ 200℃, ±0.6℃;	0 ~ 150℃, ±0.4℃; 150.1 ~ 200℃, ±0.6℃; 200.1 ~ 250℃, ±0.8℃; 250.1 ~ 300℃, ±1.5℃;	
CE Safety regulation	AC Withstand Voltage	u: AC1500V,1min, leakage < = 10mA	u: AC500V,1min, leakage < = 10mA	
	Insulation Resistance	u: AC500V,1min, impedance > 1000MΩ		
	Grounding Resistance	I: 20A,1min, impedance < 0.1Ω	/	
	Leakage Current	u: AC250V,1min, I: < 3.5mA	/	
Temperature Control		Single zone temperature control		
Thermocouple Type		PT100, Level A precision		
Temperature Protection Switch Type		Operation temperature: 250±20℃; Reset temperature: 230±10℃	Fitted with two PT100 sensors for temperature control and temperature monitoring.	
Wafer-to-disc Contact		φ20×0.1mm Ceramic gasket		
Surface Treatment		Hard anodizing		
Anodizing		≥20μm		
Dimension		Φ252*65mm	Φ230*30mm	Φ330*30mm
Weight		4.9±0.6kg	3.3±0.6kg	6.6±0.6kg

COLD PLATE



Item		FCSW65306	FCSW85306	FCSWC6505
Wafer Size		6 Inch	8 Inch	12 Inch
Cooling Method		Thermoelectric		
Heat Dissipation Method		Water-cooled		
Control Method		PID control		
Ambient Temperature/Humidity		10~35°C,35~80%RH		
Hot Surface Circulating Fluid		Facility cooling water		
Operating Temperature Range		15.0~35.0°C		
Temperature Uniformity		Aluminum condition ±0.1°C(23°C)		
Temperature Controller Model		FCSE0004820		
Control Voltage		DC5~48V		
Facility Cooling Water	Temperature Required	20°C		
	Pressure Range	≤1MPa		
	Required Flow Rate	3~7L/min		
	Material	Aluminum、Stainless steel(Customized)		
Protection Function		Overload、Short circuit、Overtemperature		
Communications		RS485		
Customization	Product Materials	Aluminium alloy、Stainless steel		
	Wafer Size	4~12 Inch		

Cold plate product model definition rules



OTHER PRODUCTS

TEMPERATURE CONTROLLER



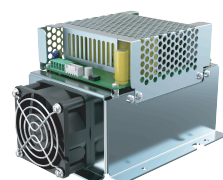
High precision



Low failure rate



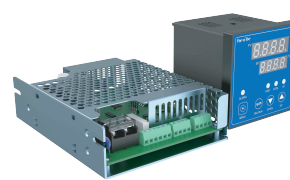
Good suitability



FCSE486E1



FCSE12131/FCSE48131

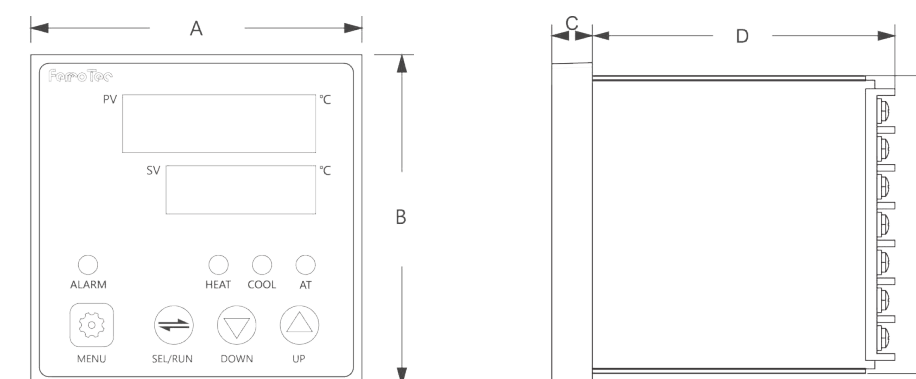


FCSE486E1

Item	FCSE12131- 1D01	FCSE48131- 4D01	FCSE48201-1A01/4D01
TEC Input Voltage	5~12V	12~48V	12~48V
TEC Output Voltage	5~12V	12~48V	12~48V
TEC Driving Current	0~10A		0~20A
Temperature Stability	±0.5℃		±0.02℃
Tempertature Sensor	NTC、TC、RTD		4-wire PT100
Control Module Size	72*72*75mm		132*104*34mm
Display Module Size	72*72*75mm		
Operational Function 1	PID Self-Tuning+Fuzzy control		
Operational Function 2	8-stage temperature programming		
Operational Function 3	Temperature compensation		
Operational Function 4	Max output power limitation		
Operational Function 5	10-point temperature calibration		
Output I/O	External alarm status output I/O		
Communication Protocol	ModBus-RTU		
Communication Port	RS485		
PCB Protection Function	Overload protection、Overtemperature protection、Malfunction alarm		
TEC Input/Output	Max 12V10A	Max 48V10A	Max 48V20A
Others	/		USB-TYPE-C(Firmware update)
Extension Module	0~20A	0~20A、0~40A、0~60A	
Input I/O	/	Temperature protection switch input	

PARTS DESCRIPTION

• Display module size

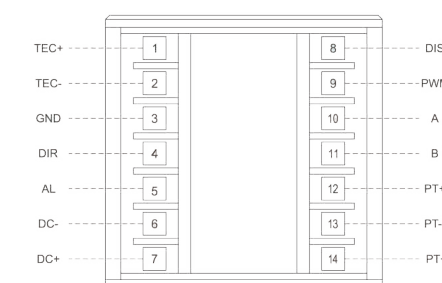


Sign	A	B	C	D	E
Size (mm)	72	72	8.8	65.2	68

Recommended size of installation holes:(68_{+0.5}) x (68_{+0.5}) mm

• Control module electrical schematic

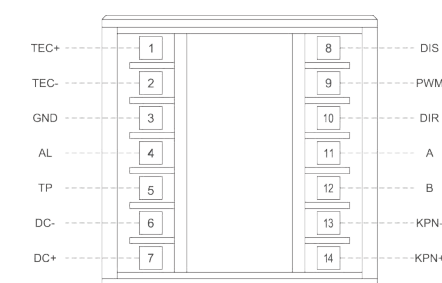
FCSE12131-1D01



Power line connection	6-7 pins connect DC5~12V input,pay attention to distinguish between positive and negative;
TEC line connection	1-2 pins connect TEC,pay attention to distinguish between positive and negative;
Alarm output connection	3、5 pin connect alarm output,connect from GND when alarm occurs;
Expand execution module connection	4、6、7、8、9 pin connect connect the expansion executive module,and need to be increased when the current exceeds 10A;
Communication line connection	10-11 pins connect the RS485 communication cable,pay attention to distinguish positive and negative;
Temperature sensor connection	12-14 pins connect 3 wire RTD temperature sensor,13-14 pins can be separately connected to 2-wire temperature sensor NTC/TC.

Wiring instructions

FCSE48131-4D01

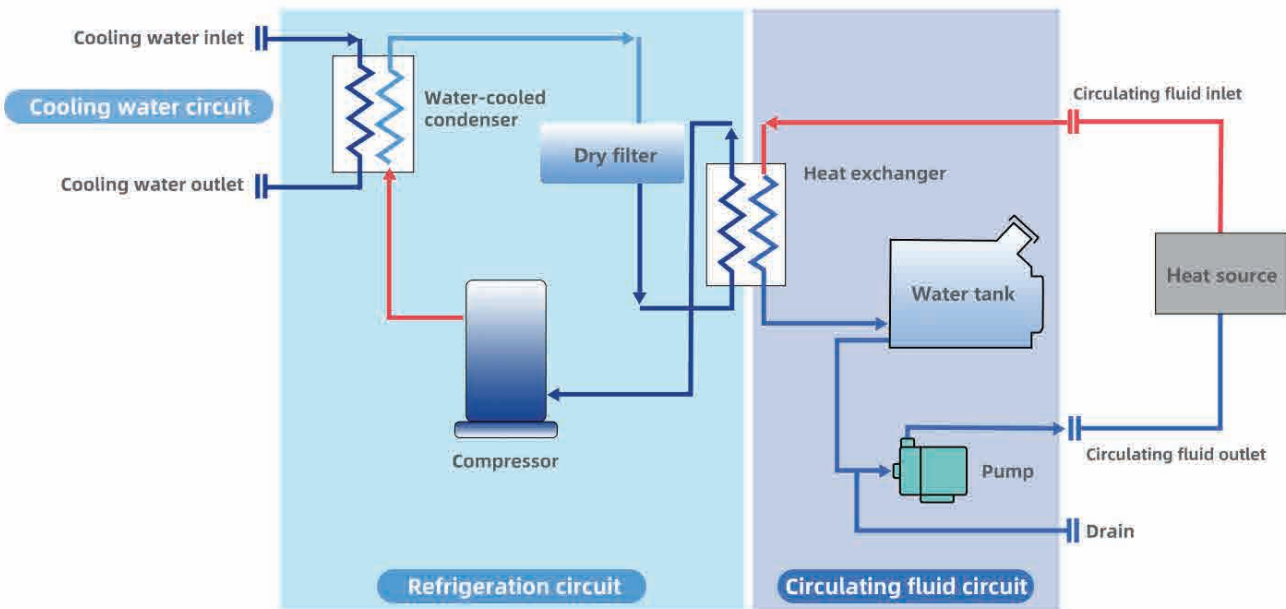


Power line connection	6-7 pins connect DC12~48V input,pay attention to distinguish between positive and negative;
TEC line connection	1-2 pins connect TEC,pay attention to distinguish between positive and negative;
Alarm output connection	3-4 pins connect alarm output,disconnect from GND when alarm occurs;
Temperature protection switch connection	3,5 pin connect temperature protection switch, when not in use,need to short connect with GND;
Expand execution module connection	6、7、8、9、10 pin connect the expansion executive module,and need to be increased when the current exceeds 10A;
Communication line connection	11-12 pins connect the RS485 communication cable,pay attention to distinguish positive and negative;
Temperature sensor connection	13-14 pins connect temperature sensor.

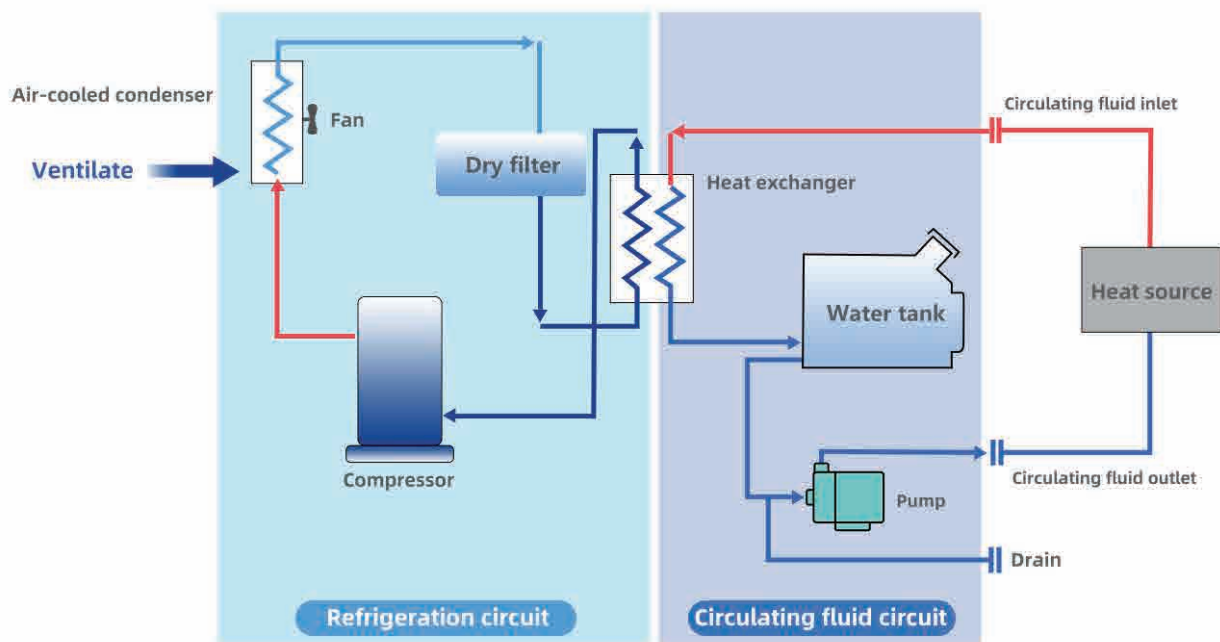
Wiring instructions

COMPRESSOR CHILLER SERIES
THE PRINCIPLE AND CHARACTERISTICS

• Air cooled



• Water cooled



COMPRESSOR CHILLER SERIES
RACK MOUNT TYPE (AIR COOLED)



- Easy installation
- Overtemperature alarm

Item	FCCA18241
Cooling Method	Vapor compression refrigeration
Heat Dissipation Method	Air-cooled
Control Method	PID
Ambient Temperature Humidity	5~40°C, 30~70°C
Refrigerant	R410A
Operating Temperature Range	5~40°C
Cooling Capacity	1800W
Heating Capacity	400W
Temperature Stability	±0.1°C
Pump	50L/min, 43m lift
Tank Capacity	4L
Port Size	G1/2
Wetted Parts Material	SUS304,EPDM,PP
Power Supply	Single-phase AC220V±10%, 50Hz
Power Consumption	1200W
Current Input	6A
Communications	RS485/232, I/O interface
Noise	64dB
Weight	50kg
Product Size (W*D*H)	440*550*310mm(Without protrusions)

COMPRESSOR CHILLER SERIES
HIGH PRECISION CHILLER (WATER COOLED)

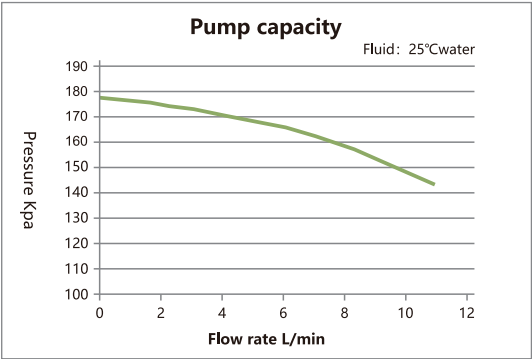
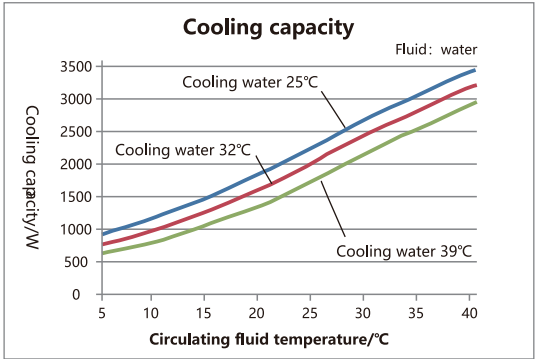
- Rapid refrigeration
- Water shortage alarm



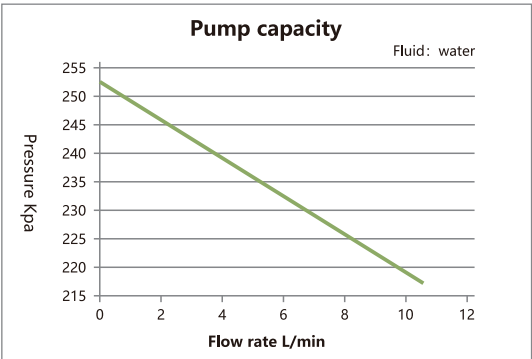
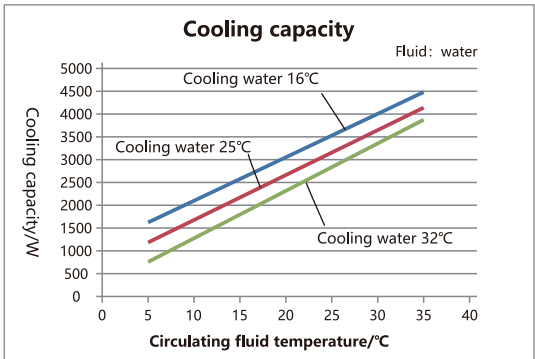
Item		FCCW15211	FCCW24211	FCCW50211	FCCW10311
Cooling Method		Water-cooled refrigeration			
Heat Dissipation Method		Water-cooled			
Control Method		PID control			
Ambient Temperature Humidity		5°C~40°C,30~70%RH			
Refrigerant		R410A			
Quantity of Refrigerant		0.4kg	0.42kg	0.6kg	1kg
Circulating Fluid System	Circulating Fluid	Pure Water/15% ethylene glycol in water			
	Operating Temperature Range	5.0°C~40.0°C			
	Cooling Capacity	≥1500W (20°C)	≥2400W (20°C)	≥5000W (20°C)	10kW (20°C)
	Heating Capacity	≈400W (20°C)	≈500W (20°C)	≈600W (20°C)	2.5kW (20°C)
	Temperature Stability	±0.1°C			
	Pump	Centrifugal pump 16.7L/min,15.5m lift			40L/min(0.40MPa)
	Tank Capacity	Approx 7.5L			Approx 20L
Facility Water System	Port Size	Rc1/2 Rc1			Rc1/2 Rc3/8
	Wetted Parts Material	SUS304,EPDM,PP,HDPE,VMQ			SUS304,EPDM,CU, PVC,PTFE,POM
	Temperature Range	5°C-40°C			
	Pressure Range	0.3MPa-0.5MPa			
Electrical System	Required Flow Rate	12L/min	14L/min	20L/min	33L/min
	S-in S-out Port Size	Rc3/8			Rc1/2
	Wetted Parts Material	SUS 304, Copper			
	Power Supply	Single-phase AC220V±10%,50Hz			3-phase AC208V, 60Hz
	Overload Protection	10A	15A	30A	30A
	Input Current	3.7A	5.6A	8A	25.4A(208V)
	Communications	I/O, RS232, RS485			
	Weight/Size(W*D*H)	44kg/380*580*504mm	44kg/380*580*504mm	72kg/380*835*596mm	150kg/650*850*1200mm
Accessories		Power cable			

PERFORMANCE CURVE

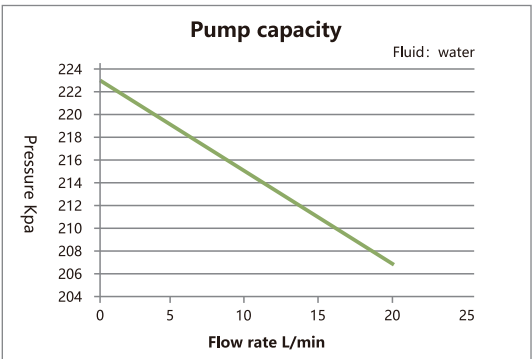
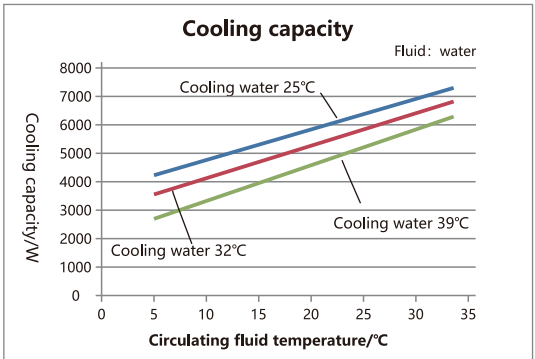
FCCW15211



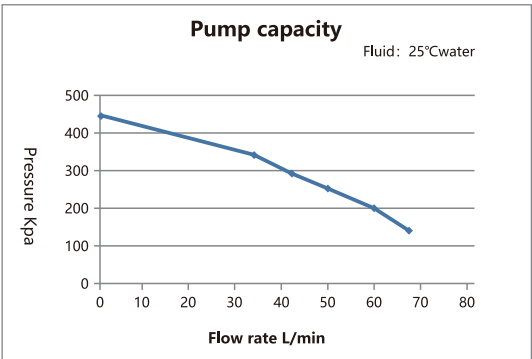
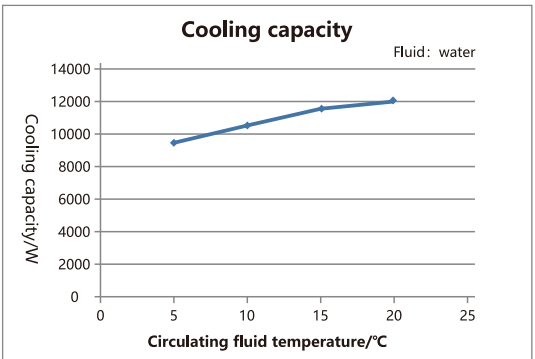
FCCW24211



FCCW50211



FCCW10311



COMPRESSOR CHILLER SERIES
HIGH PRECISION SINGLE CHANNEL CHILLER (AIR COOLED)

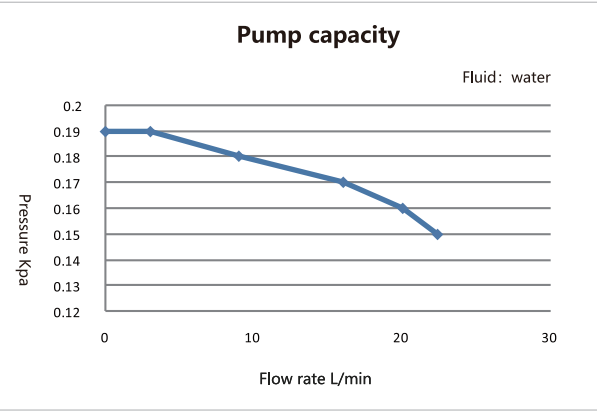
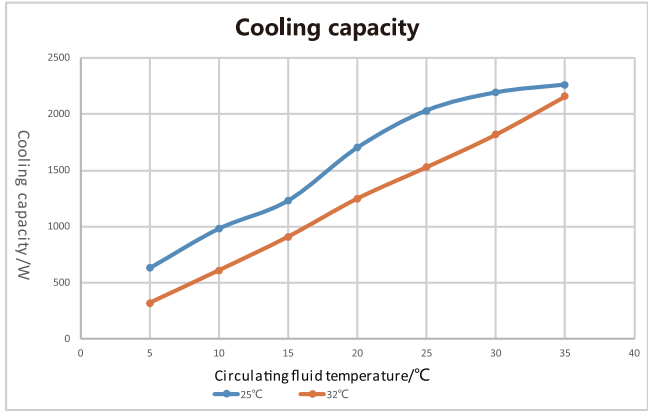


- Compact
- High precision

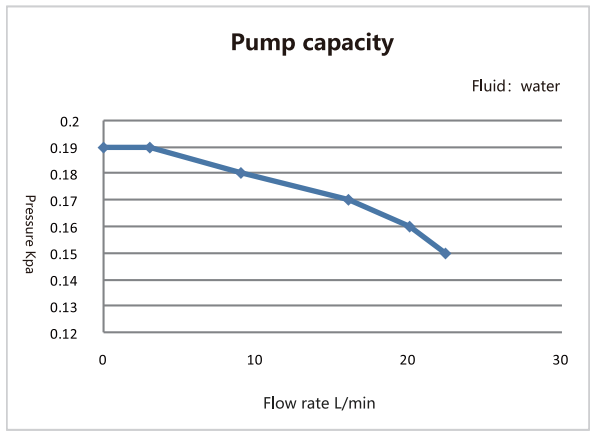
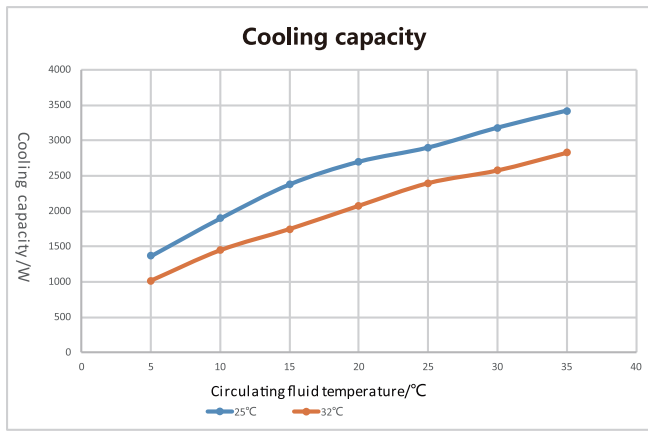
Item		FCCA15211	FCCA24211	FCCA50211
Cooling Method		Vapor compression refrigeration		
Heat Dissipation Method		Air-cooled		
Control Method		PID control		
Ambient Temperature Humidity		5°C~40°C,30~70%RH		
Refrigerant		R410A		
Quantity Of Refrigerant		0.55kg	0.47kg	0.72kg
Circulating Fluid System	Circulating Fluid	Pure Water/15% ethylene glycol in water		
	Operating Tempertature Range	5.0°C~40.0°C		
	Cooling Capacity	≥1450W (20°C)	≥2100W (20°C)	≥5000W (20°C)
	Heating Capacity	≈500W (20°C)	≈500W (20°C)	≈800W (20°C)
	Temperature Stability	±0.1°C		
	Pump	Centrifugal pump 16.7L/min,15.5m lift		Centrifugal pump 50L/min, 17m lift
	Tank Capacity	Approx. 7.5L		
	Port Size	Rc1/2 Rc1		
Electrical System	Wetted Parts Material	SUS304,EPDM,PP,HDPE,VMQ		
	Power Supply	Single-phase AC220V±10%,50Hz		
	Overload Protection	10A	15A	30A
	Input Current	4.4A	6.4A	11A
	Communications	I/O、RS232、RS485		
Weight		49kg	52kg	83kg
Accessories		Power cable		
Noise		67dBA		68dBA
Product Size (W*D*H)		380*580*654mm		380*835*755mm

PERFORMANCE CURVE

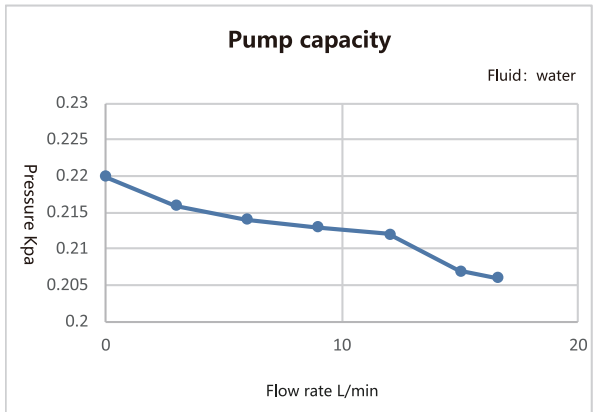
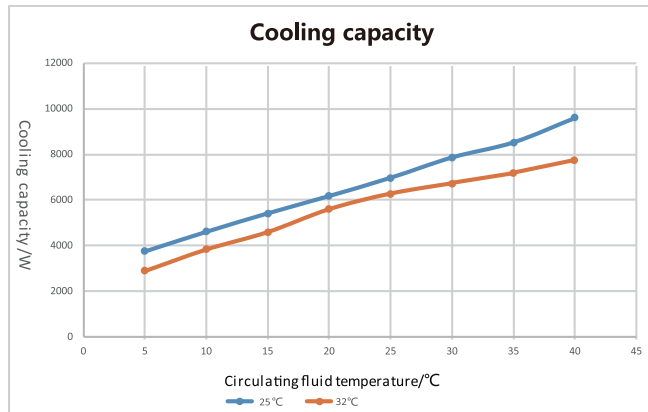
FCCA15211



FCCA24211



FCCA50211



COMPRESSOR CHILLER SERIES
HIGH PRECISION SINGLE CHANNEL CHILLER (AIR COOLED)

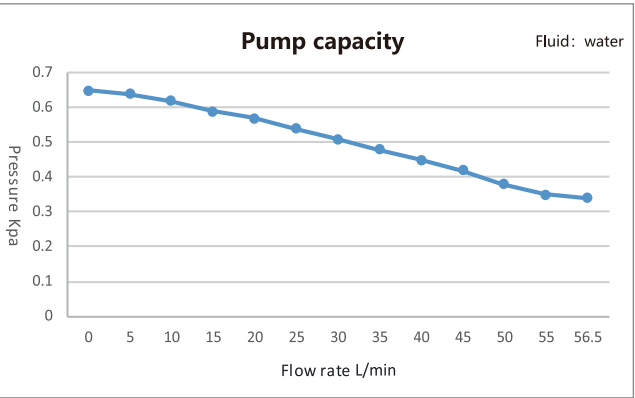
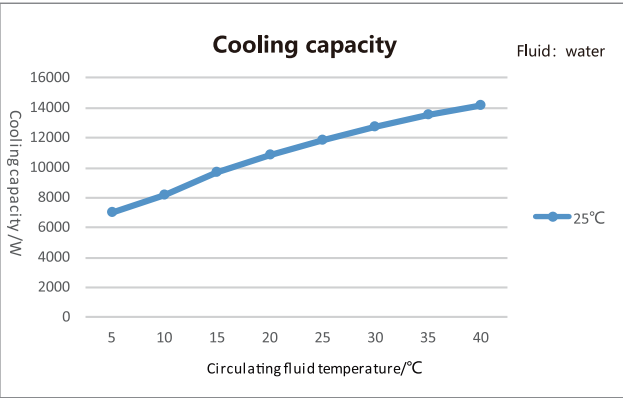
- Self-diagnosis function
- Communication function



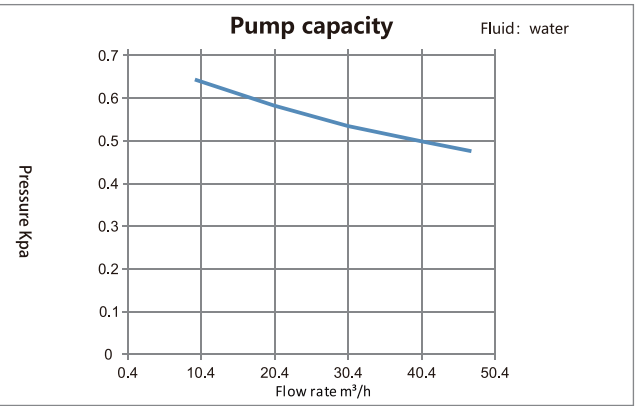
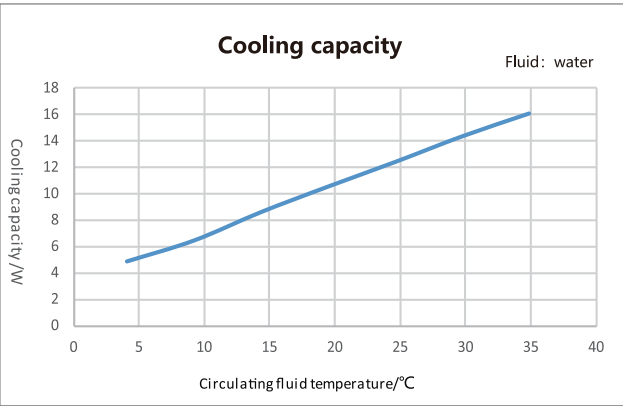
Item		FCCA90211	FCCA10311	FCCA20311
Cooling Method		Vapor compression refrigeration		
Heat Dissipation Method		Air-cooled		
Control Method		PID control		
Ambient Temperature Humidity		5°C~40°C,30~70%RH		
Refrigerant		R410A		
Quantity of Refrigerant		1kg	1.15kg	1.5kg
Circulating Fluid System	Circulating Fluid	Pure/15% ethylene glycol in water		
	Operating Tempertature Range	5.0°C~40.0°C		5.0°C~35.0°C
	Cooling Capacity	9000W	10KW	20KW
	Heating Capacity	2000W	1500W	3000W
	Temperature Stability	±0.1°C		
	Pump	Centrifugal pump 45L/min, 50m lift		
	Tank Capacity	Approx. 7.5L	Approx. 20L	
	Port Size	Rc1/2	Rc1/Rc1	
Electrical System	Wetted Parts Material	SUS304,EPDM,PP,HDPE,VMQ	SUS304,EPDM,CU,PVC,PTFE,POM	
	Power Supply	3-phase AC380V±10%,50Hz	3-phase AC380 to 415VAC,50/60Hz 3-phase AC460 to 480VAC,60Hz	
	Overload Protection	20A	30A	
	Current Consumption	7.0A (380V/50Hz)	10A (380V/60Hz)	14A (460V/60Hz)
	Communications	I/O, RS232, RS485		
Weight		Approx 124kg	Approx 180kg	Approx 190kg
Accessories		Power cable		
Noise		73dBA	75dBA	78dBA
Product Size(W*D*H)		380*970*1080mm	650*850*1295mm	

PERFORMANCE CURVE

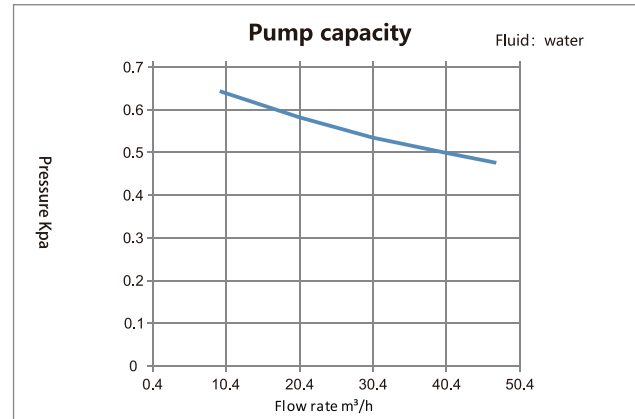
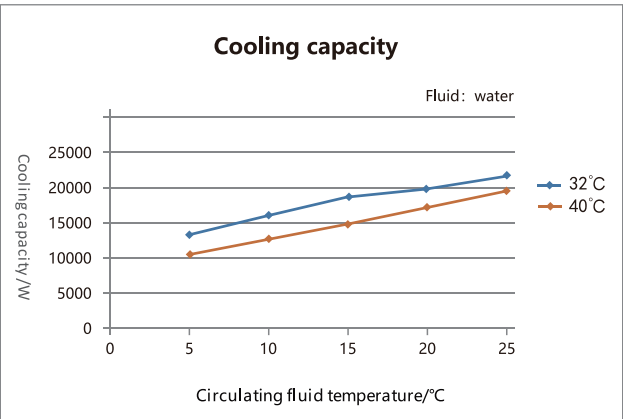
FCCA90211



FCCA10311



FCCA20311



COMPRESSOR CHILLER SERIES
HIGH PRECISION DUAL CHANNERS CHILLER (AIR COOLED)

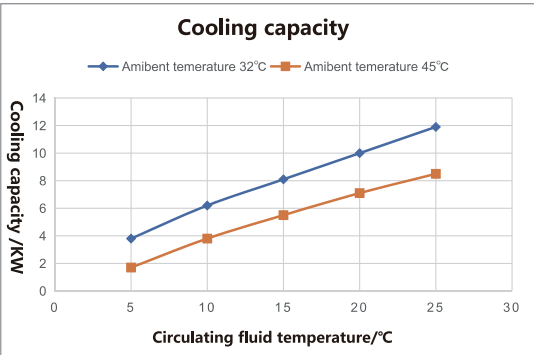
- Space saving
- Constant flow rate and pressure mode



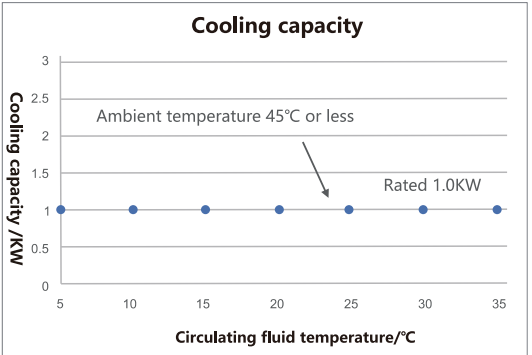
Item		FCCA10331		FCCA20331		
Model		CH1	CH2	CH1	CH2	
Cooling Method		Vapor compression refrigeration				
Heat Dissipation Mode		Air-cooled				
Control Method		PID control				
Ambient Temperature/Humidity		5~40°C,30~70%RH				
Refrigerant		R410A				
Quantity of Refrigerant		1.4kg		1.8kg		
Electrical system	Power Supply		3-phase 380 to 415VAC(50/60Hz), 3-phase 460 to 480VAC(60Hz)			
	Overload protection		40A			
	Input Current		10A(380V/50Hz)		15A(380V/50Hz)	
	Communications		LAN、RS232、RS485			
Circulating Fluid System	Circulating Fluid		Clean water/Pure water			
	Operating Temperature Range		5.0°C~35.0°C	10.0°C~40.0°C	5.0°C~35.0°C	10.0°C~40.0°C
	Cooling Capacity		≥9kW (20°C)	≥1kW (25°C)	≥19kW (20°C)	≥1kW (25°C)
	Heating Capacity		1kW (20°C)	≈1kW (25°C)	≈3kW (20°C)	≈1kW (25°C)
	Temperature Stability		±0.1°C	±0.5°C	±0.1°C	±0.5°C
	Pump		45L/min(0.43MPa)	10L/min(0.45MPa)	45L/min(0.43MPa)	10L/min(0.45MPa)
	Tank Capacity		Approx 42L	Approx 7L	Approx 42L	Approx 7L
	Port Size	In/Out	Rc1	Rc1/2	Rc1	Rc1/2
		Drain	Rc1	Rc1/2	Rc1	Rc1/2
Weight		Approx 250kg		Approx 280kg		
Product Size(W*D*H)		960*720*1540mm				

PARTS AND PERFORMANCE DESCRIPTION

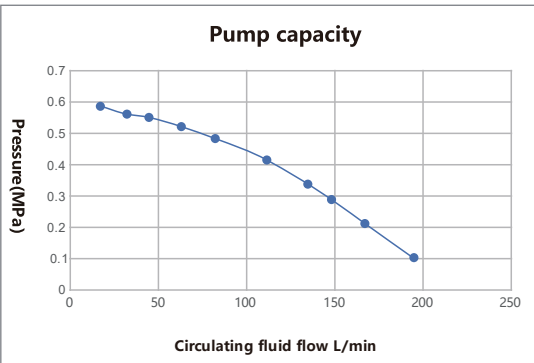
FCCA10331



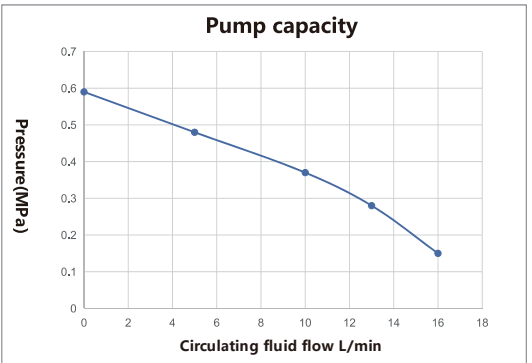
CH1 Refrigeration curves



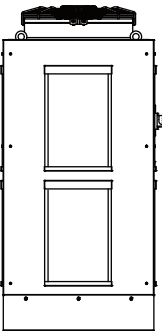
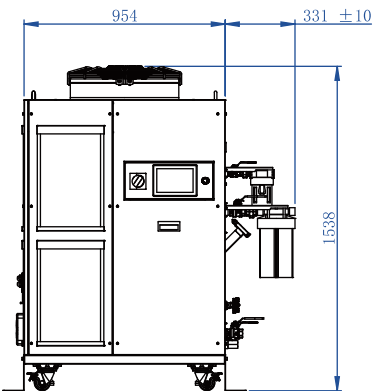
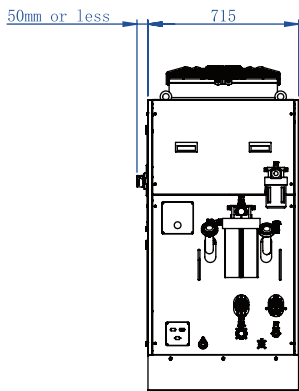
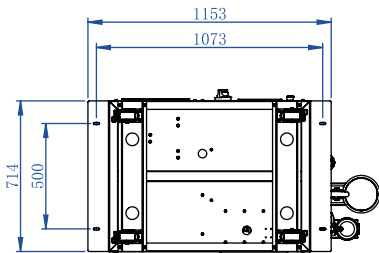
CH2 Refrigeration curves



CH1 pump curves



CH2 pump curves



COMPRESSOR CHILLER SERIES
LOW PRECISION CHILLER (AIR COOLED)

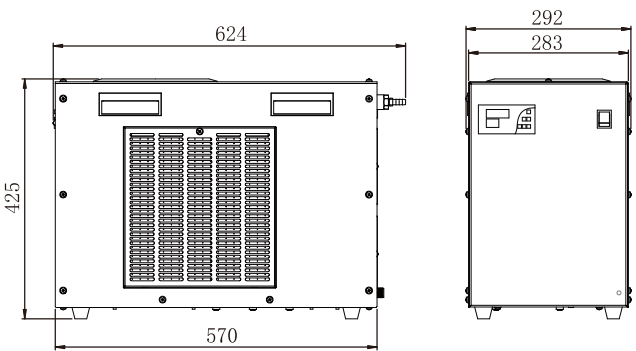
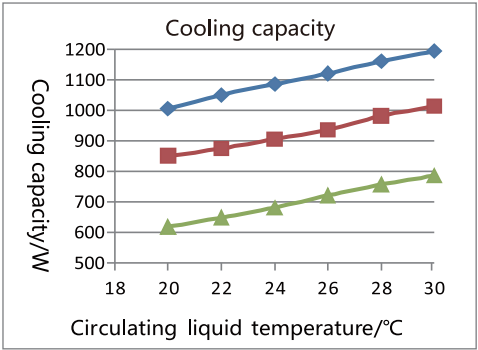
- User-friendly control
- Mainly used for laser



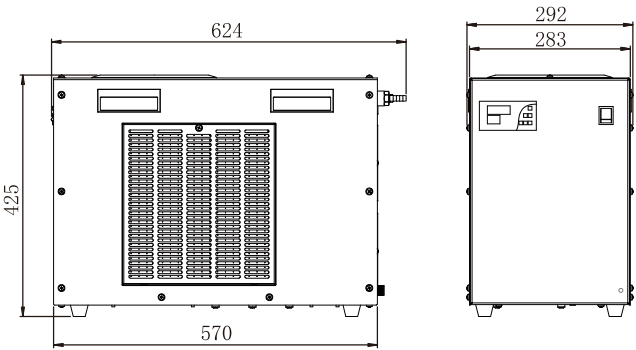
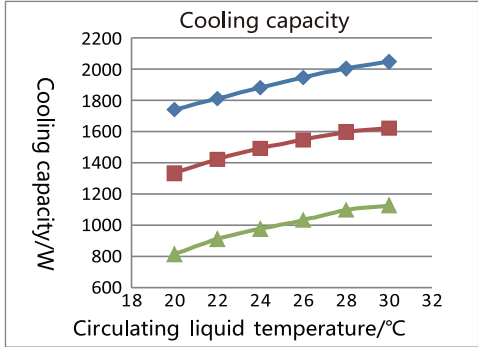
Item			FCCA10221	FCCA15221	FCCA30221	FCCA52221	FCCA20231
Cooling Method			Vapor compression refrigeration				
Heat Dissipation Method			Air-cooled				
Number of Channels			Single-channel				Dual-channel
Ambient Temperature/Humidity			5~40℃,30~70%RH				
Refrigerant			R410A				
Quantity Of Refrigerant			0.30kg	0.23kg	0.52kg	0.70kg	0.52kg
Electrical System	Power Supply		Single phase AC220V,50Hz				
	Overload protection		10A		32A		32A
	Current input		4.5A		5.0A	9.2A	11A
	Communications		Aviation plug				
	Circulating Fluid		DI Water		DI Water/15% ethylene glycol in water		
Circulating Fluid System	Operating Temperature Range		5.0℃~40.0℃				
	Cooling Capacity		950W ~ 1000W (20℃)	1450W ~ 1500W (20℃)	≥3000W (20℃)	≥5200W (20℃)	≥5200W (20℃)
	Heating Capacity		450W ~ 500W (20℃)		≈400W (20℃)		
	Temperature Stability		±0.3℃		±0.5℃		
	Pump		Centrifugal pump 16L/min,16m lift		Brushless pump 74L/min,43m lift		
	Tank Capacity		Approx 6.5L		Approx 14L		
	Port Size	In/Out	Φ10		Rc1/2		
		Drain	Φ10		Rc1/2		
	Weight			25kg	26kg	55kg	64kg
Noise			65dBA	68dBA	65dBA	68dBA	68dBA
Product Size (W*D*H)			283*420*570mm		470*670*900mm		470*765*900mm

PARTS AND PERFORMANCE DESCRIPTION

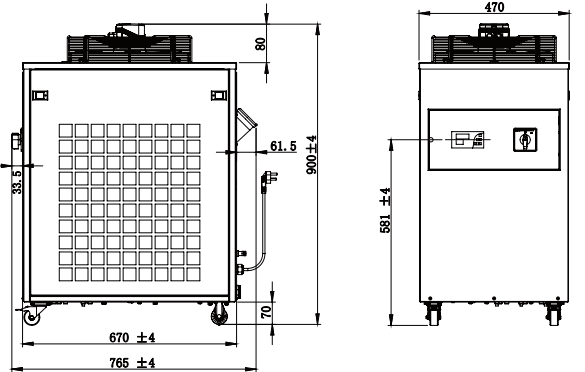
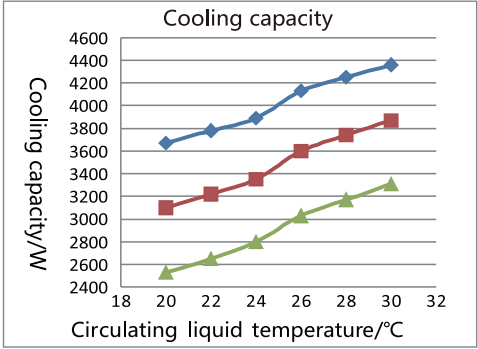
FCCA10221



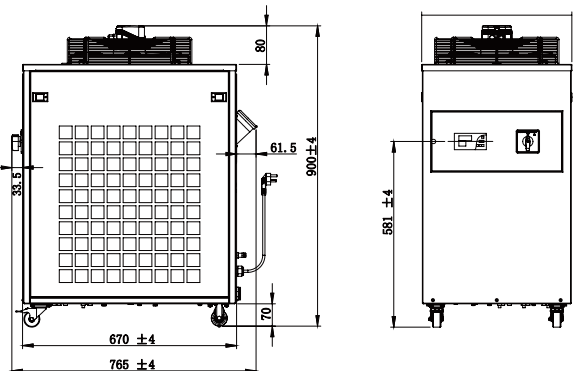
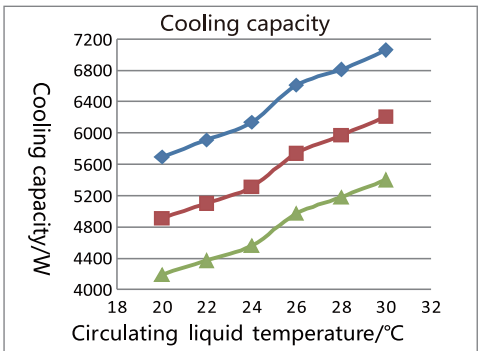
FCCA15221



FCCA30221



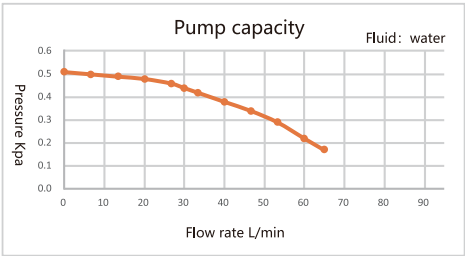
FCCA52221



—●— 20°C Cooling capacity —■— 30°C Cooling capacity —▲— 40°C Cooling capacity

DIRECT HEAT EXCHANGE CHILLER

- No refrigerant
- Low consumption energy saving



Item		FCEW15321
Cooling Method		Water-cooled
Control Method		PID control
Ambient Temperature/Humidity		10~35℃, 30~70%RH
Circulating Fluid System	Circulating Fluid	Water、60% ethylene glycol aqueous solution
	Operating Temperature Range	20 ~ 90℃
	Cooling Capacity	15KW
	Heating Capacity	6KW
	Temperature Stability	±0.3℃
	Pump Capacity	0.4Mpa(30L/min)
	Tank Capacity	Approx 15L
	Port Size	Rc3/4
Cooling Water	Wetted Parts Material	Copper brazing(Heat exchanger), SUS 304, PTFE, VMQ, Bronze
	Temperature Range	10 ~ 35℃
	Required Flow Rate	25L/min
	Inlet Pressure Range	0.3 ~ 0.7Mpa
	Port Size	Rc3/4
Electrical System	Wetted Parts Material	Copper brazing(Heat exchanger), SUS 304, PTFE, VMQ, Bronze
	Power Supply	Three phase 200/208VAC, 50 Hz
	Max.operating Current	19A
	Breaker Capacity	25A
	Communications	Serial RS-485(Dsub-9 Pin)
Weight		Approx 90kg
Product Size(W*D*H)		380*690*830mm

AIRFLOW METER

- Compact and mobile design
- Touch screen operation
- Rapid temperature change capability



Item	FAM6031	FAM1041
Cooling Method	Vapor compression refrigeration	
Heat Dissipation Mode	Air-cooled	
Temperature Control Mode	Internal AIR temperature control, External DUT temperature control	
Control Mode	Manual mode/Program mode	
Ambient Temperature/Humidity	5-25℃, 5-80%RH	
Refrigerant	R134a、R404a/R23/R14	
Operating temperature range	-70~225℃	-100~225℃
Display Accuracy	±0.1℃	
Temperature Control Accuracy	±1℃	
Temperature Conversion Rate	-55℃~+125℃ Approx 10S	
Cooling Rate	+125℃~-55℃ Approx 12S	
Air Outlet Flow	4~18 SCFM(1.9L/s~ 8.5L/s)	
Lift Control	Heating head pneumatic control, lifting rod motor control	
Arm Extension	X: 1230mm, Y: 300mm, Z: 360°	
Communication Interface(Optional)	RS232、RS485、LAN	
Product Size(W*D*H)	620*971*1060mm	
Product Weight	250kg	
Test Angle	360°	
Air Supply System	Optional clean air handling system	
Options	Multi-size test covers	
Power Supply	220VAC/50HZ, 30Amp, 1Phase	
Customizable accessories	Multi-size test cover / Multi-size test chamber / Multi-zone jet heads / Test unit module / Air compressors	

COMPRESSOR CHILLER SERIES

SINGLE STAGE/CASCADE REFRIGERATION CHILLER

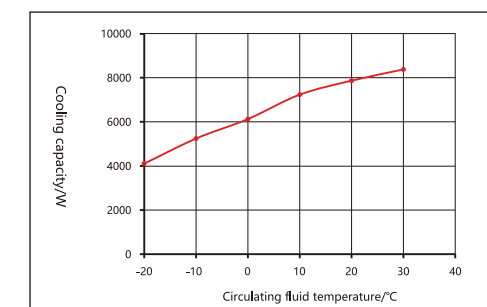
- Stable operation
- Safe and reliable



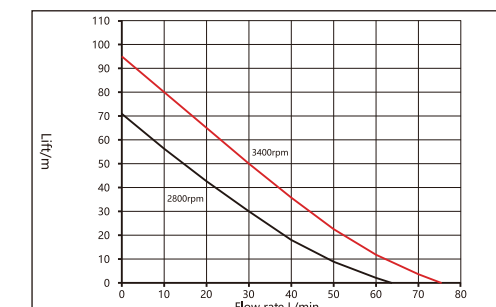
Item		FCCWS051	FCCAS062	FCCAS072	FCCWS081	
Heat Dissipation Method		Water-cooled	Air-cooled	Air-cooled	Water-cooled	
Cooling Type		Vapor compression refrigeration		Two-stage refrigeration system	Three-stage refrigeration system	
Refrigerant		R410A	R404A/R23	R404A/R508B	R134A/R23/R14	
Ambient Temperature/Humidity/Height		10 ~ 35°C;30 ~ 70%RH; < 1000m				
Circulating Fluid System	Circulating Fluid		Electronic fluorinated liquid	Heat transfer oil		Electronic fluorinated liquid
	Temperature Range		-20.0~80.0°C	-40.0~150.0°C	-60.0~180.0°C	-80.0~50.0°C
	Cooling Capacity		3600W(-20°C)	3500W(-40°C)	800W(-60°C)	7000W(-70°C)
	Heating Capacity		3000W	5500W		8000W
	Temperature Stability		±0.1°C	±0.1°C	±0.5°C	±0.1°C
	Pump	Maximum Flow	25L/min	60L/min	35L/min	70L/min
		Maximum Lift	30m	60m	30m	90m
	Tank Capacity		15L	12L	5L	40L
	Port Size	Inlet/Outlet Water	Rc3/4	G3/4 internal thread	G1/2 external thread	Rc1 internal thread
		Drain	Rc1/2	G3/4 internal thread	G1/2 external thread	Rc1/2 internal thread
Wetted Parts Material		SUS 304,PTFE				
Product Size(W*D*H)		390*650*1265mm	700*1000*1990mm	480 *678 *1615mm	700*1000*1990mm	
Current Overload Protetion		40A	100A	63A	100A	
Weight		200kg	500kg	300kg	750kg	
Power		3-phase 208V (50/60Hz)	3-phase 380V(50Hz)	Single phase AC220~240V(50Hz)	3-phase 208V (50/60Hz)	
Communication		USB、RS485	RS485/RS232	RS485		

PERFORMANCE CURVE

FCCWS051

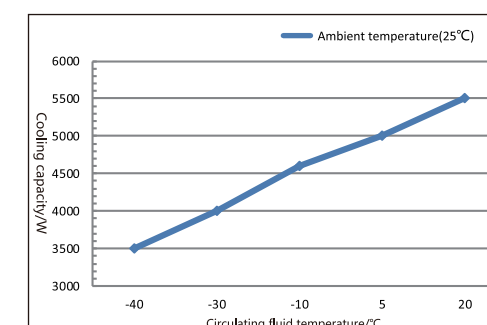


Cooling capacity

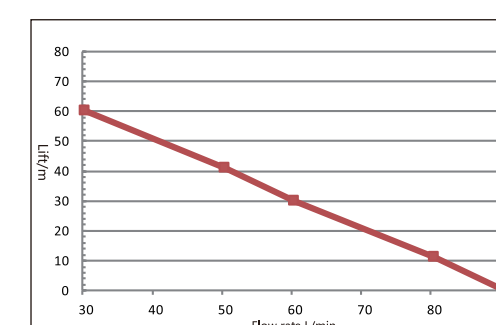


Pump capacity

FCCAS062

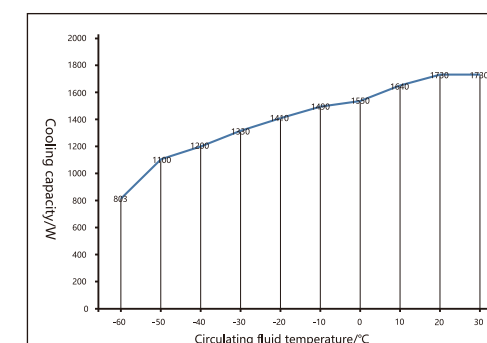


Cooling capacity

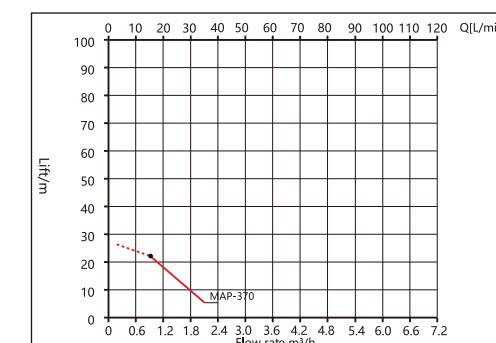


Pump capacity

FCCAS072

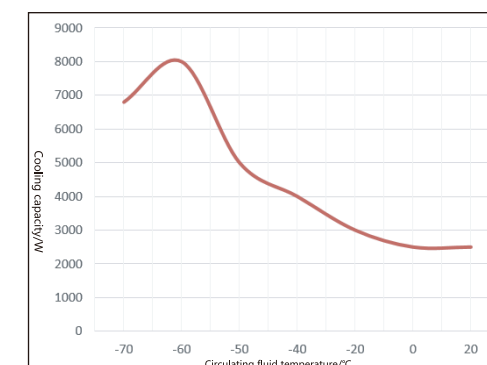


Cooling capacity

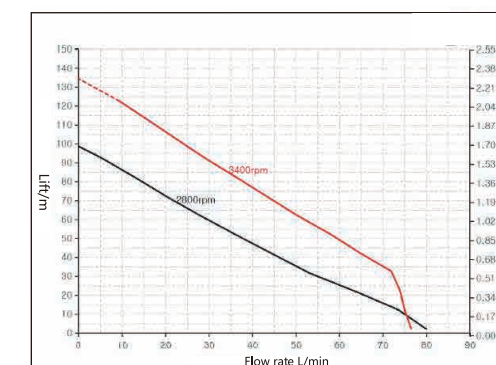


Pump capacity

FCCAS081



Cooling capacity



Pump capacity

COMPRESSOR CHILLER SERIES
SINGLE/DUAL-CHANNEL CHILLER

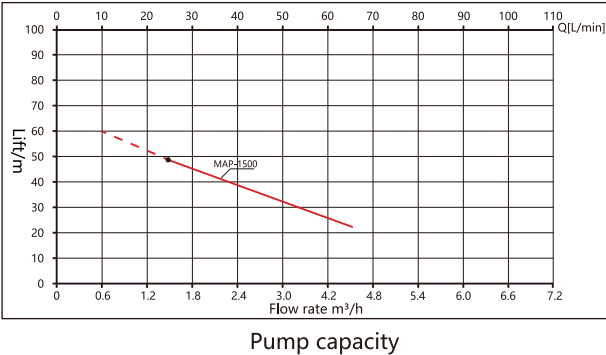
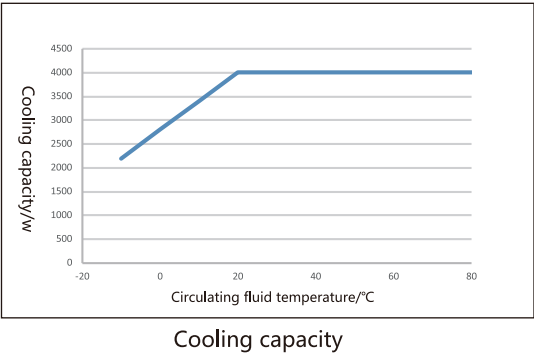
- High precision
- Different alarm functions



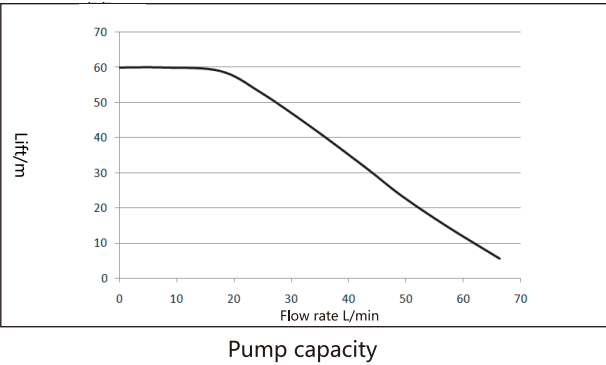
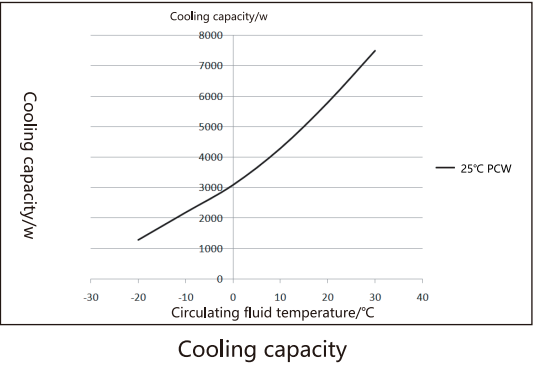
Item		FCCWS011	FCCWD011	FCCWS041	FCCWD041
Control temperature	Temp.Range		-20℃~80℃		
	Temp.Accuracy		±0.1℃(Under constant heat load)		
	Control Mode		PID Control		
	Heat Exchange Medium		Electronic fluorinated solution		
Refrigeration	Refrigerating Power		2.2KW(@-10℃)		4KW(@-10℃)
	Refrigerant		R410A		
	Heat Dissipation Method		Water-cooled		
	Heating Power		3KW		
	Pump	Pump Power	1.5KW		
		Pump Capacity	Max 25L/min, 0.5MPa		
	Pipe	Circulating Inlet/Outlet	1/2 or 3/4 Ferrule fitting		
		Cooling Water Inlet/Outlet	Rc3/4"Internal thread		
Safety device	High Temperature Protection		Thermostat		
	Pump Overload		Motor circuit breaker		
	Pump Pressure Protection		Pressure sensor		
	Compressor Overload		Motor circuit breaker		
	Refrigerant Pressure Protection		Pressure sensor		
	Emergency Stop		EMO Switch		
	Circuit Breaker		Overcurrent circuit breaker		
Water Tank+Heating Tank		12L			
Product Size(W*D*H)		460*600*1200mm	460*900*1500mm	390*650*1265mm	515*900*1650mm
Power		208VAC±10% 3-phase			

PERFORMANCE CURVE

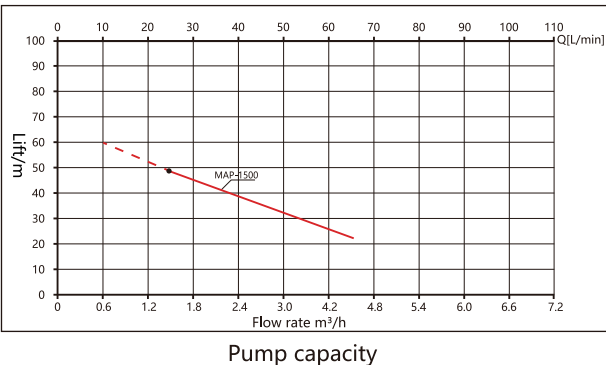
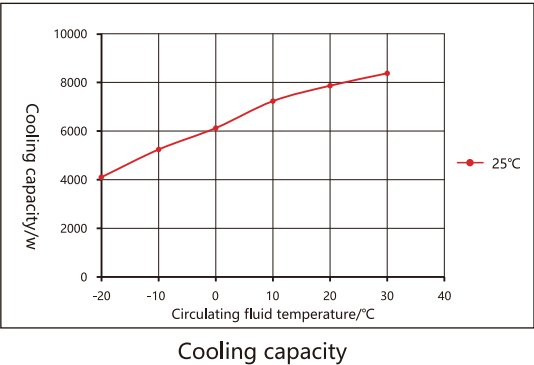
FCCWS011



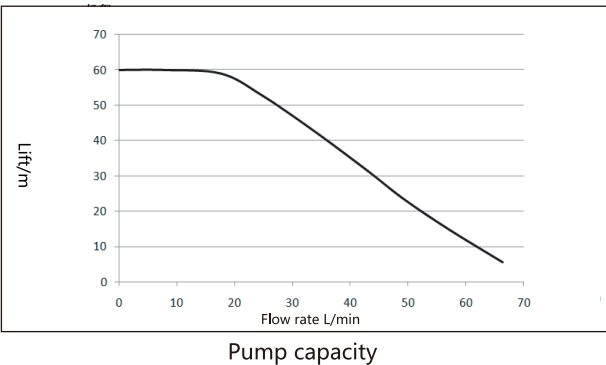
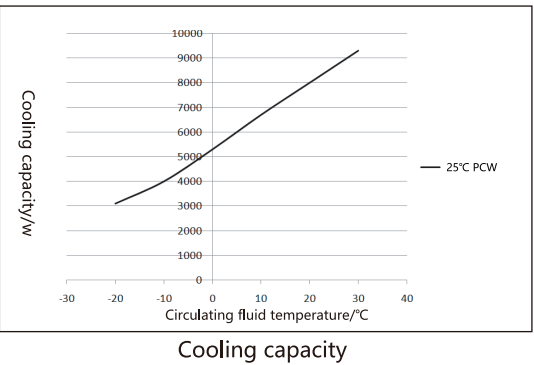
FCCWD011



FCCWS041



FCCWD041



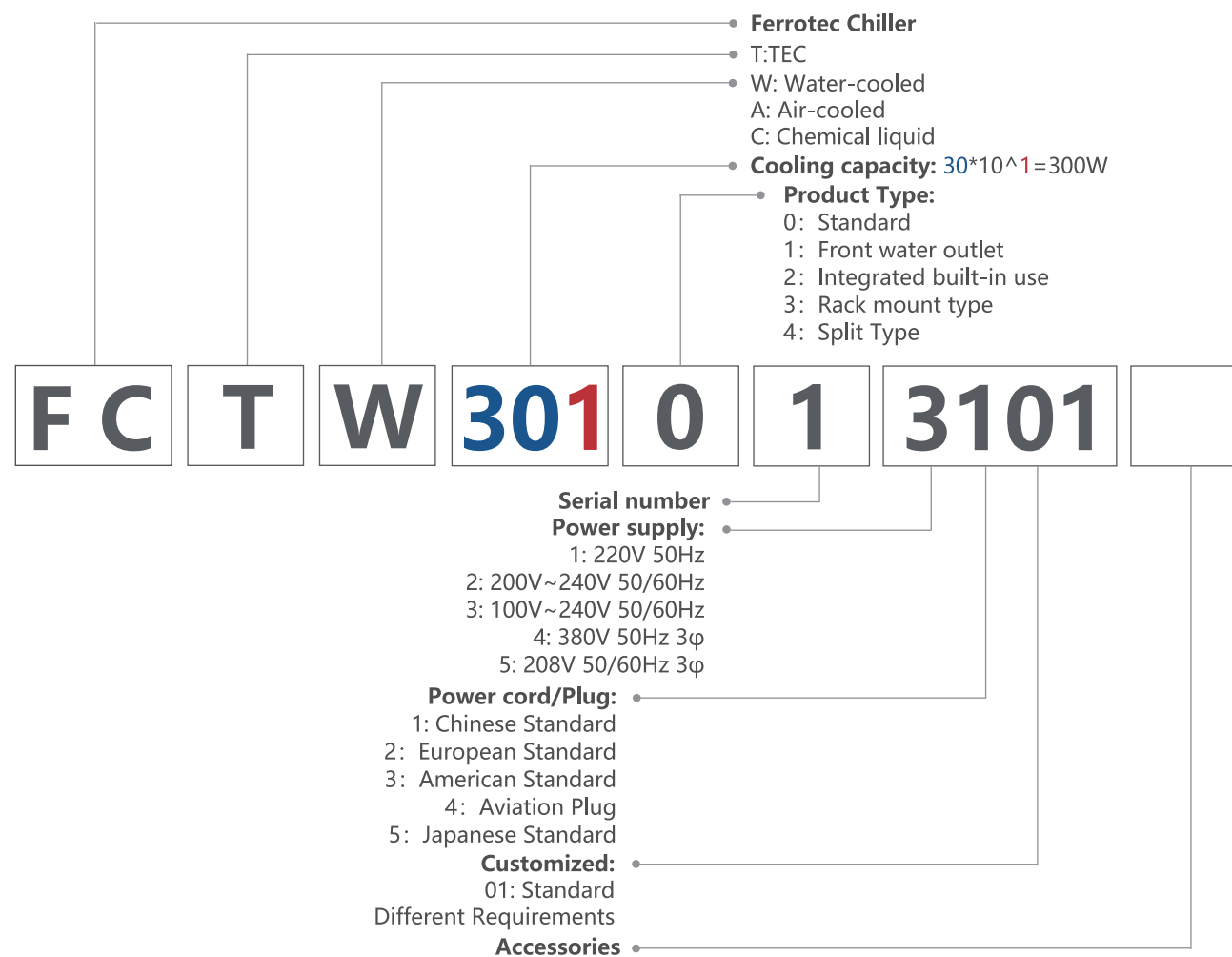
PRODUCT MODEL DEFINITION

TEC TYPE CHILLER



EX: FCTW30101-3101

Cooling Method: Thermoelectric device(Thermo-module)
Heat Dissipation Method: Water-cooled
Cooling capacity: 300W
Product Type: Standard
Power supply: 100V~240V 50/60Hz
Power cord: Chinese Standard

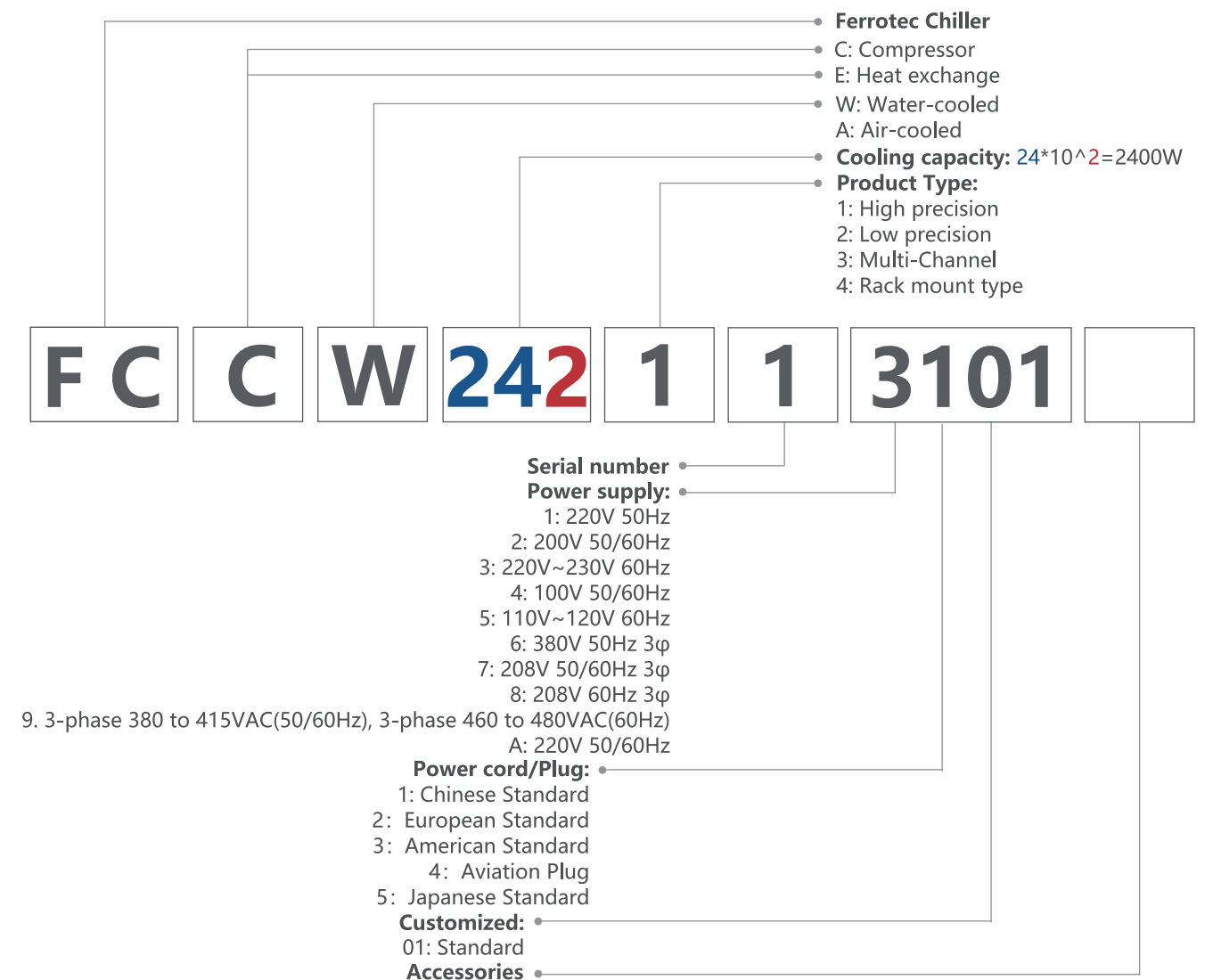


COMPRESSOR TYPE CHILLER



EX: FCCW24211-3101

Cooling Method: Vapor compression refrigeration
Heat Dissipation Method: Water-cooled
Cooling capacity: 2400W
Product Type: High precision
Power supply: 220V 50Hz
Power cord: Chinese Standard



CUSTOMER REQUEST FORM

Customer	
Application apparatus	
Expected lead time	
Potential demand	_____units/year
Customer contact	
Contact number	
Cooling mode	☐ TEC ☐ Compressor ☐ Heat exchange
Heat dissipation mode	☐ Water-cooled ☐ Air-cooled
Ambient condition	Temperature: _____°C; Humidity: _____%RH
Circulating fluid	☐ Water ☐ DI water ☐ Ethylene glycol ☐ Fluorinated liquid Other: _____
Temperature stability	☐ ±2.0°C ☐ ±1.0°C ☐ ±0.5°C ☐ ±1.0°C ☐ ±0.05°C
Channel number	☐ 1 channel ☐ 2 channels ☐ 3 channels
Temperature range	☐ CH1: _____°C ~ _____°C ☐ CH2: _____°C ~ _____°C ☐ CH3: _____°C ~ _____°C
Cooling capacity (Outlet fluid temperature)	☐ CH1: _____kW@_____°C ☐ CH2: _____kW@_____°C ☐ CH3: _____kW@_____°C
Heating capacity (Outlet fluid temperature)	☐ CH1: _____kW@_____°C ☐ CH2: _____kW@_____°C ☐ CH3: _____kW@_____°C
Flow rate/ pressure (Chiller outlet circulating fluid)	☐ CH1: _____L/min@_____Mpa ☐ CH2: _____L/min@_____Mpa ☐ CH3: _____L/min@_____Mpa
Power supply	Phase/Voltage/Frequency: _____ Φ _____VAC _____Hz
Communication mode	☐ Simulation parameter ☐ RS232 ☐ RS485 ☐ RS422 ☐ LonWorks ☐ Gateway ☐ Others: _____
Certification	☐ SEMI ☐ CE ☐ UL ☐ PSE ☐ MET