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Official Accounts

Video number

YouTube

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FOCUS ON SOPHISTICATED INDUSTRIAL TEMPERATURE CONTROL

VERSION 202410



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TEMPERATURE CONTROL

20 YEARS

20 YEARS+
ACCUMULATION

50000m²+
PRODUCTION AREA

11000+
CUSTOMER CASES

10000+
PRODUCTION CAPACITY

306+
PATENTS

AODE 奥德



ABOUT AODE

Founded in Shenzhen in 2004 and established its headquarters in Suzhou in 2007, AODE has been focusing on the industrial temperature control field and is a temperature control equipment manufacturer integrating R&D, production and sales. After 20 years of innovative development and precipitation, AODE products from a single heating series development to heating, cooling, cooling and heating in one and centralised cooling, centralised heating of a full range of product matrix, with different industries to provide diversified, customised temperature control product solutions. At present, there are 5 production bases in East China and South China, and sales and service centres in Tianjin, Chongqing and Qingdao. So far, AODE has successfully provided more than 11,000 enterprises with efficient and stable temperature control product services, and set up a benchmark in the industry.



-120°C
+400°C

FULL RANGE OF PRODUCTS TO MEET THE NEEDS OF DIFFERENT APPLICATION SCENARIOS

MOULD TEMPERATURE MACHINE SERIES

Main products: oil temperature machine, water temperature machine, 320 °C die-casting mould temperature machine, 200 °C high-temperature water temperature machine, 400 °C ultra-high-temperature oil temperature machine, rapid cooling and rapid heating of high-gloss mould temperature machine, electrically heated organic heat carrier furnace.



CHILLER SERIES

Main products: air-cooled/water-cooled chiller, air-cooled chiller/oil chiller, air-cooled/water-cooled screw chiller, water-cooled screw low-temperature chiller, evaporative cooled screw chiller, -120°C compound stacked ultra-low-temperature machine and so on.



HIGH AND LOW TEMPERATURE SERIES

Main products: High and low temperature integrated intelligent control machine, applications: semiconductor, automotive parts testing, chemical and pharmaceutical.



POINT COLD SERIES

Main products: high-pressure point cooler, multi-channel high-temperature water heater, mould cooling station, mould cooler, mould temperature control monitoring system, die-casting workshop whole plant water supply temperature control system, integrated control system, etc.



BOILER SERIES

Main products: fuel oil (gas) organic heat carrier boiler, fuel oil (gas) steam boiler, fuel oil (gas) hot water boiler, electrically heated organic heat carrier boiler and so on.



PUMP SERIES

Main products: high and low temperature magnetic drive centrifugal pumps, high and low temperature magnetic drive vortex pumps, high-pressure vane pumps, precision vortex pumps, non-leakage vertical pumps, high-flow centrifugal pumps, stainless steel centrifugal pumps, chemical pumps and so on.



HIGH PRECISION OF TEMPERATURE CONTROL

The temperature control precision of the product can reach $\pm 0.1^\circ\text{C}$, which is at the leading level of the same industry in China, breaking the temperature control technology blockade of Europe and the United States in the field of optical lens.

WIDE RANGE OF TEMPERATURE CONTROL

The temperature control range of industrial temperature control equipment is between -120°C and $+400^\circ\text{C}$, and the temperature resistance range of high and low temperature pump is between -196°C and $+400^\circ\text{C}$.

FAST RATE OF TEMPERATURE CONTROL

AODE's self-developed "water/oil hot and cold rapid switching technology" can achieve rapid cooling and heating automatic switching temperature control, providing efficient and accurate temperature control for various industrial applications.

SAFE AND STABLE

AODE products are designed to take multiple protection measures (power supply phase sequence detection, motor overload protection, flow detection, pressure detection, temperature detection, etc.) to ensure the safe and stable operation of the equipment.

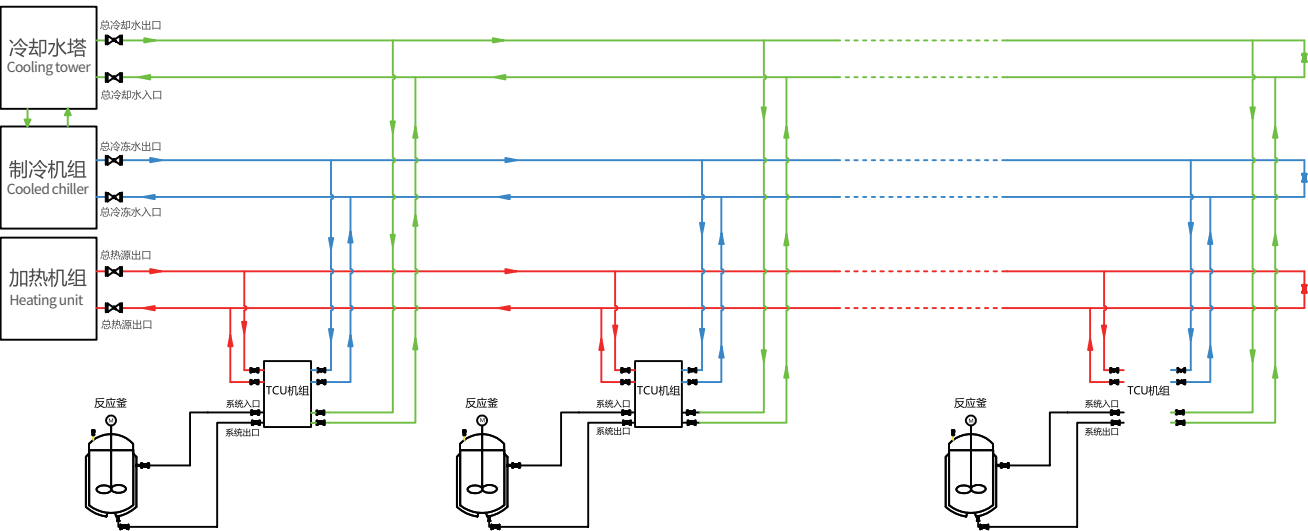
ENERGY EFFICIENT AND ENVIRONMENTALLY FRIENDLY

Through multiple innovations such as "High-efficiency Low-NOx Gas Condensing Boiler Technology" and "VOCs Condensing Recovery Refrigeration Technology", AODE is able to effectively improve the heating/cooling efficiency and reduce NOx and carbon emissions.

INTELLIGENT CONTROL

The products produced by AODE can achieve energy consumption detection, online monitoring, data analysis, remote control, alarm linkage and so on.

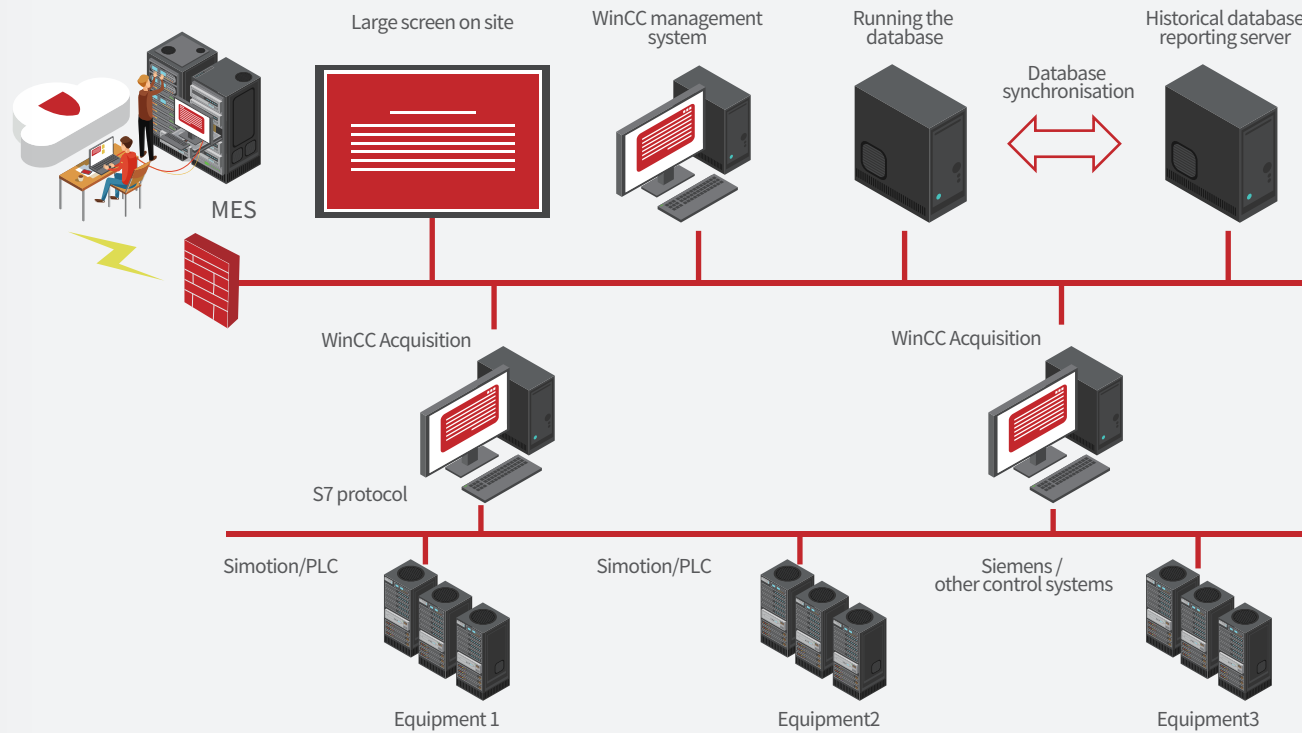
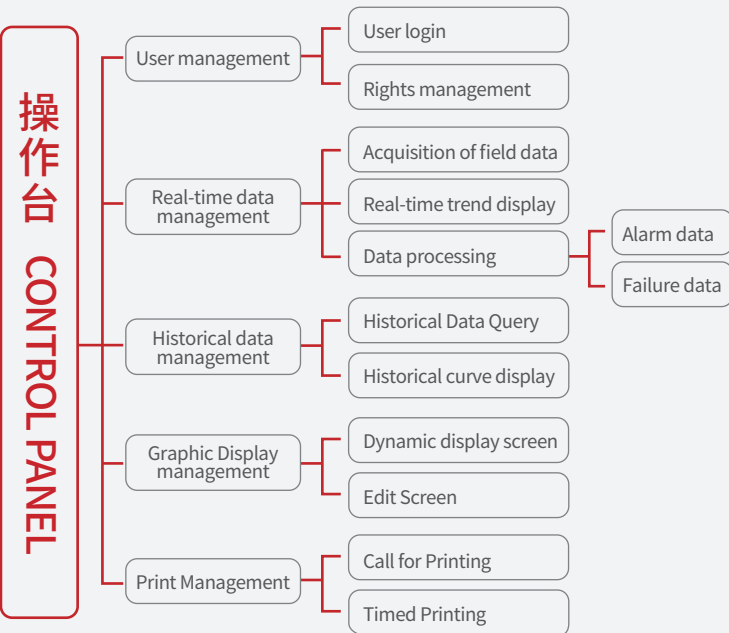
INDUSTRIAL TEMPERATURE
CONTROL SYSTEM INTEGRATION
工业温控装备系统集成



DCS INTELLIGENT CONTROL SYSTEM
DCS智能控制系统

DCS是分布式控制系统，主要特点是分散控制，集中管理，DCS采用若干个控制器（过程站）对一个生产过程中的众多控制点进行控制，各控制器间通过网络连接并可进行数据交换。生产控制操作采用计算机操作站，通过网络与控制器连接，收集生产数据，传达操作指令。

DCS is a distributed control system; main features are to decentralized control and centralized manage. DCS is to control multiple control points in a production process by several controllers (process stations). Each controller is connected through network and can exchange data. Computer work stations are applied in production control process, communicate with controllers and collect production data and convey operation instruction by networks.



DIE CASTING TEMPERATURE CONTROL EQUIPMENTSS

点冷系列

AODE products are mainly used in die casting temperature control of magnesium alloy, aluminum alloy, zinc alloy and copper alloy, which are applied in automobile parts, communication parts, electronic components, household appliances parts, furniture parts, power tools, aerospace, high-speed rail, military industry and so on.

Key technology of mold temperature control

- Mould preheating technology
- Precise and controllable die cooling technology
- Cooling technology for hot joint of casting
- Mould temperature on-line monitoring technology
- Intelligent control technology of mold temperature
- IIOT control technology
- Closed loop control technique
- Centralized heating and cooling temperature control scheme

OIL TEMPERATURE CONTROL UNIT FOR DIE CASTING

320℃压铸专用油温机 +45℃☀️ +320℃

FEATURES

- Single or dual loop is optional to realize partition control
- Preheat/cool, mold heat balance
- Improve product appearance
- Defective product reduction
- Prolong die life
- To achieve uniform spraying and micro spraying
- Improve productivity



ITEM	UNIT	Normal form	Lot type	Normal form	Lot type	Normal form	Lot type	Normal form	Lot type
		ADDC-36	OT320D-24	ADDC-48	OT320D-30	ADDM-36	OT320D-24/2	ADDM-48	OT320D-30/2
Temp control range	℃	Inlet water temperature +45℃~320℃							
Temp control accuracy	℃	PID ± 1							
Power supply	/	AC 3N-380V/400V-50HZ							
Heat transfer medium	/	Thermo conductive oil							
Cooling method	/	Indirect Cooling							
Cooling capacity	m²	3/8	3/8	1/2	1/2	0.36+0.36	0.48+0.48	0.48+0.48	0.48+0.48
Expansion tank	L	40	40	67	67	62	62	62	62
Heating capacity	KW	15*2	12*2	20*2	15*2	30+30	24+24	40+40	30+30
Motor power	KW	1.1	1.1	3	3	1.1+1.1	3+3	3+3	3+3
Pump flow	L/min	30	30	75	75	30+30	75+75	75+75	75+75
Max. power consumption	KW	31	25	43	33	62	54	86	66
Alarm function	/	Pump reversal/Oil shortage/Overheating/Overload/Abnormal heating							
Cooling water pipe	inch	1/2		1/2		3/4*2		3/4*2	
Circulating oil pipe	inch	3/4		1		3/4*2		1*2	
Size(L×W×H)	mm	1400*500*1150		1650*550*1250		1380*600*1400		1380*600*1400	

OIL TEMPERATURE CONTROL
UNIT FOR DIE CASTING

160°C/180°C/200°C压铸专用水温机
 +25°C
 +200°C

FEATURES

- Circulating pump: Magnetic drive, long time operation of continuous shaft/ prevent leak
- High heat conduction efficiency: About 6 times heat conduction oil
- Heater: Unique dry burning and scale resistant design
- IIOT:Flow rate, pressure and temperature can be monitored
- Safe and reliable: Boiler standard manufacture
- Energy conservation and environmental protection: Heat conduction medium is water, low cost



ITEM	UNIT	WT180D-24T/2	WT200D-24T/2
Temp control range	°C	Inlet water temperature +25°C~180°C	Inlet water temperature +25°C~200°C
Temp control accuracy	°C	PID ±1	
Power supply	/	AC 3N-380V/400V-50HZ	
Heat transfer medium	/	Water	
Cooling method	/	Indirect Cooling	
Cooling power	KW	350KW @180°C	400KW @200°C
Heating capacity	KW	24*2	24*2
Motor power	KW	2.5*2	2.5*2
Pump flow	L/min	90	90
Pump head	m	90	90
Max. power consumption	KW	54.5	57.4
Alarm function	/	Pump reversal/Water shortage/Overheating/Overloading/High pressure/pressure divergence/flow divergence	
Circulating water pipe	inch	1" * 2	
Cooling water pipe	inch	1"+1"	
Size(L×W×H)	mm	1350*600*1300	

DIE-CASTING SPECIAL MULTI-CHANNEL
HIGH TEMPERATURE WATER TCU

压铸专用多通道高温水温机
 +25°C
 +180°C

FEATURES

- Single, double circuit design, each machine can simultaneously docking 10-40 mold channels
- Each branch can choose intermittent water control, and the temperature control interval is effectively extended.
- Optional independent display of each branch flow, temperature, pressure and other monitoring parameters.
- Effectively reduce the number of die-casting water temperature machine configuration.
- Reduce the installed power of the die-casting island and the requirements for public works.
- Save space, reduce equipment investment and pipeline installation costs.



ITEM	UNIT	WT95D-150T-72	WT180D-30T/2-12
Temp control range	°C	Inlet water temperature +25°C~95°C	Inlet water temperature +25°C~180°C
Temp control accuracy	°C	PID ±1	
Power supply	/	AC 3N-380V/400V50HZ	
Heat transfer medium	/	Water	
Cooling method	/	Indirect Cooling	
Number of mould runners available	/	40 路	12 路（双回路设计）
Cooling power	KW	580kW@95 °C/380kW@80 °C	350KW+350KW @180 °C
Heating capacity	KW	72	30+30
Motor power	KW	11	4+4
Pump flow	L/min	450	最大流量 200L/min
Pump head	m	85	最大扬程 90m
Max. power consumption	KW	85	71
Alarm function	/	Pump reversal/Water shortage/Overheating/Overloading/High pressure/pressure divergence/flow divergence	
System function	/	Each channel independently controls and displays flow, pressure, temperature and other parameters	
Circulating water pipe	inch	2"	内螺纹 G1.5"* 2
Cooling water pipe	inch	2"	内螺纹 G1.5"
Size(L×W×H)	mm	主机：1300*900*1000 分配箱：600*500*1200	主机：1500mm*620mm*1550mm 分配箱：500mm*530mm*630mm

COLD AND HEAT CONSTANT TEMPERATURE STATION

冷热恒温站 +10℃
 +30℃

FEATURES

- Free temperature control
- Automatic water refill for water tank
- Single unit circulating cooling
- Synchronizes with the die casting beat
- Constant water supply temperature
- Free switching of hot and cold water supply



ITEM	UNIT	TCU-50WD-30WD
Controllable temperature zone	个	24
Temp control range	℃	Inlet water temperature +10℃~90℃
Heat transfer medium	/	Water
Cooling power	K W	266
Heating capacity	K W	45
Pump flow	L /min	480
Pump head	m	120
Max. power consumption	K W	71.6
Size(L×W×H)	mm	4350*2500*5300

MOULD COOLING STATION

模具冷却站 +10℃
 +30℃

PURPOSE

- Achieve accurate temperature control and mold heat balance by supplying cooling water to different zone of the mold.
- Improved cooling efficiency
- Reduced cooling time
- One machine to solve the whole mold cooling control
- Prolong die life

FEATURES

- No negative pressure , constant pressure water supply system
- Mold zone cooling control
- Single cycle
- Constant temperature control of water supply
- High pressure (point cooling), medium pressure (mold cooling) water supply system independent control



ITEM	UNIT	MCS- J12 - M12	MCS- J24 - M16	MCS- J36 - M20	MCS- J48 - M24
Controllable Emperature	个	12	24	36	48
Total water supply	L/Min	33	67	133	133
Max system Pressure	MPa	1- 1.5(tunable)			
Control of mould cooling temperature zones	个	12	16	20	24
Total water supply	L/Min	133	200	267	333
Max system Pressure	MPa	0.6- 0.8(tunable)			
Cooling capacity of chiller	Kcal/h	55900	55900	111800	111800
Power	KW	22	24	46	46
Water Tank Capacity	L	680	680	1500	1500
Size(L×W×H)	mm	1718x1080x1678	2068x1180x1998	2148x1380x1985	2148x1380x2085

JET COOLER

高压点冷机 +10℃☀️+30℃

PURPOSE

- Controlled solidification + shrinkage
- Control cooling time
- Reduce spraying time
- Reduce product shrinkage
- Prevent core pin burning
- Improve production efficiency

FEATURES

- High-pressure jet cooling
- Single point/channel control
- blocking alarm
- High efficiency cooling/single machine circulation
- To cool the jetting tube with inner diameter ≤φ2.5



ITEM	UNIT	JC型 (Single point control)					FC型 (Single circulation control)			
		JC12F	JC24F	JC36F	JC48F	JC120F	FC4-24F	FC6-36F	FC8-48F	FC20-120F
Controllable hot spots area	个	1	2	4	4	10	4	6	8	20
Controllable hot spots	个	12	24	36	48	120	24	36	48	120
Power	KW	2.2	3	5.5	5.5	15	3	5.5	5.5	15
Total system flow	L/Min	33	67	133	133	250	67	133	133	250
Max system Pressure	MPa	1.5(adjust)					1.5(adjust)			
Control mode	/	Single point control					Single circulation control			
Size(L×W×H)	mm	1130x600x1510	1330x650x1585	1350x700x1775	1350x700x1775	1550x1100x1975	1330x650x1585	1350x700x1775	1350x700x1775	1550x1100x1975

HIGH PRESSURE DIE COOLER

高压模冷机 +10℃☀️+30℃

PURPOSE

- Mold cooling, Improve the qualified rate of products
- Improved cooling efficiency, Reduced cooling time
- Ensure continuous production
- Prolong service life

FEATURES

- No negative pressure ,constant pressure water supply system
- Zone cooling control
- Inner pipe diameter ≥ φ 3MM point cooling tube and cooling water channel cooling



ITEM	UNIT	MC12F	MC16F	MC20F	MC24F
Main water supply channel	路	2			
Main air supply path	路	2			
Controlled temperature zones	个	12	16	20	24
Flow rate	m3/h	12	16	20	24
System pressure	MPa	0.6 - 0.8	0.6 - 0.8	0.6 - 0.8	0.6 - 0.8
Total power	KW	3	5.5	7.5	7.5
Control mode	/	Single circulation control			
Size(L×W×H)	mm	1350x680x1748	1450x680x1748	1640x780x1748	1640x780x1748

应用领域

**TO ACHIEVE INDUSTRY-WIDE COVERAGE IN THE INDUSTRIAL SECTOR
AND IMPORT SUBSTITUTION OF HIGH-END PRODUCTS.**

5G materials, 3C communications, energy storage, integrated die-casting, circuit boards, semiconductors, military, new energy, aerospace, scientific research, rail transportation, automotive parts, chemicals, pharmaceuticals, precision injection moulding, rubber, sheet/sheet/film, food, printing and dyeing, packaging, drying, composite materials, carbon fibre products and so on.



选用配件

Germany BITZER, Germany BOCK, Taiwan HANZHONG, the United States of America Copeland, Denmark Danfoss, Japan Panasonic compressor; Denmark Grundfos pump, Germany specK pump; Alfa Laval heat exchanger



High-efficiency condenser, evaporator; Danish Danfoss, Italy Carle throttle device; Danish Danfoss pressure transmitter; Japan ARK air filter; Italy OR solenoid valve; Germany RTK proportional valve and so on.



Germany Siemens controller, human-machine interface, contactor, thermal relay,
Japan Omron phase sequence protection and other well-known brands of electronic components

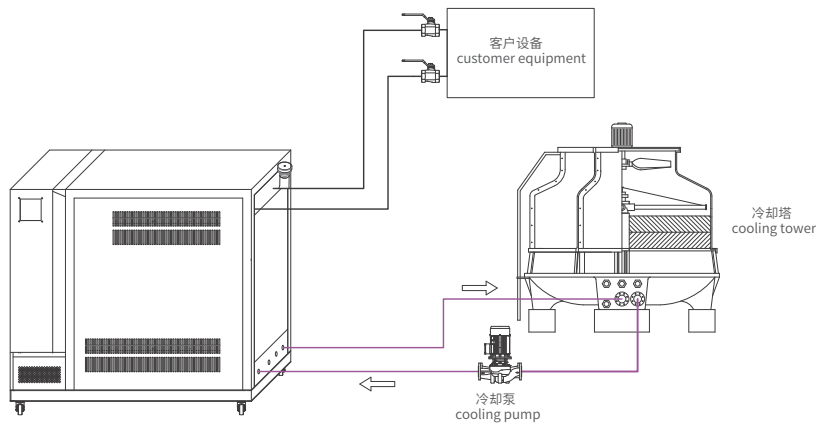


合作品牌



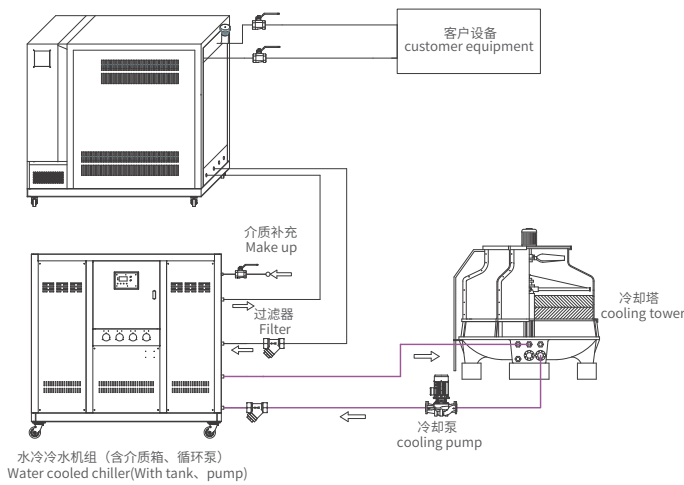
模温机安装管路流程图

MOLD TEMPERATURE CONTROL UNIT PIPELINE INSTALLATION DRAWING



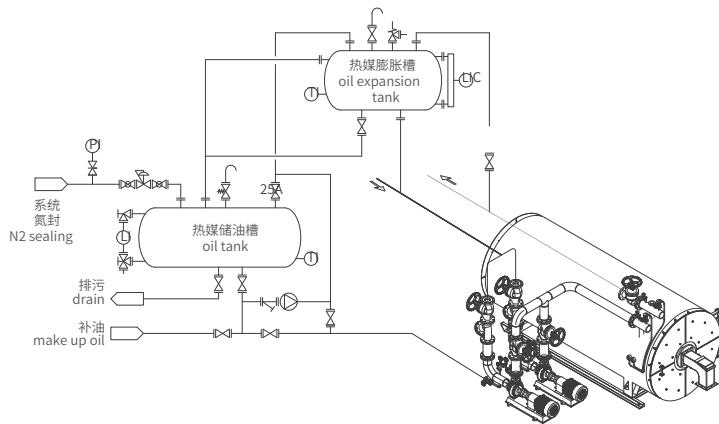
模温机、冷水机组外部管路连接图

MOLD TEMPERATURE CONTROL UNIT AND CHILLER'S PIPELINE CONNECTION DIAGRAM



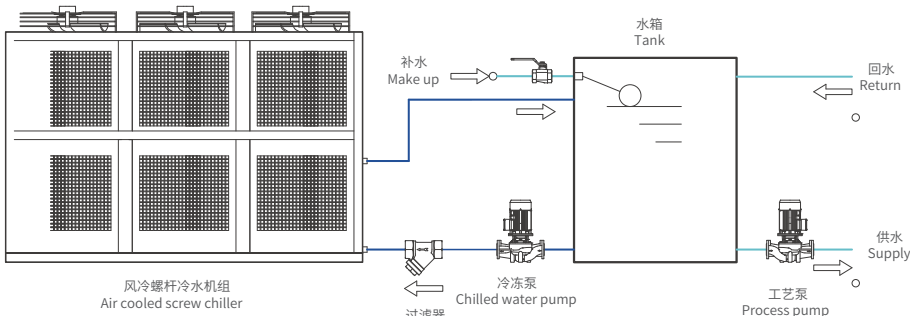
燃气(油)有机热载体炉外部连接管路

GAS /FUEL FIRED ORGANIC HEAT TRANSFER MATERIAL HEATER PIPELINE DRAWING



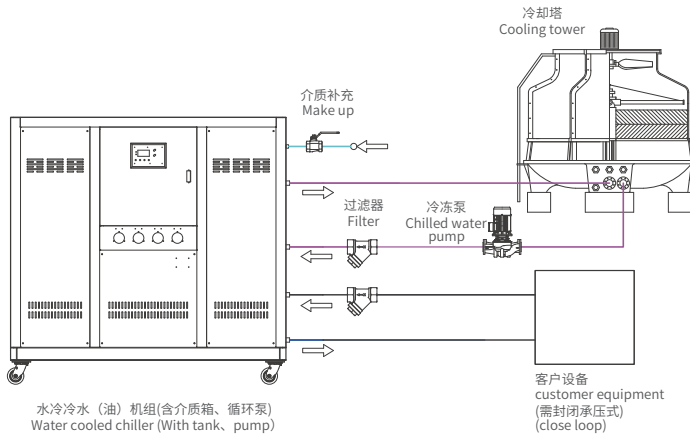
风冷螺杆冷水机组外部管路连接参考图

AIR COOLED SCREW CHILLER PIPE CONNECTION DIAGRAM



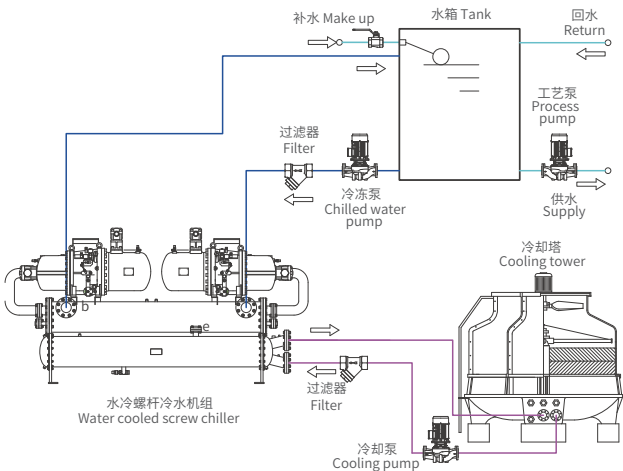
水冷冷水(油)机组外部管路连接参考图

WATER COOLED CHILLER PIPE CONNECTION DIAGRAM



水冷螺杆冷水机组外部管路连接参考图

WATER COOLED SCREW CHILLER PIPE CONNECTION DIAGRAM



SUCCESSFUL CASES
 成功案例

CHOOSE AODE

In China, Aode's professionalism makes the national brand replace the imported brand.
 Overseas, Aode's quality makes us the pride of Made in China. Temperature control we guarantee for you.
 For more cases, please visit the website : www.aodetcu.com

- | | | | |
|-------------------------------------|---|--|--------------------------------|
| 1 Automotive integrated die-casting | 2 Die-casting industry | 3 Wind power industry | 4 chemical medicine |
| 5 Testing Industry | 6 Organic heat carrier furnace (chemical fibre) | 7 petrochemicals | 8 5G circuit boards |
| 9 Rubber industry | 10 Moulding temperature control | 11 Temperature control for calendering lines | 12 Injection moulding industry |



已有超过80000台/套奥德设备在全球范围内连续稳定运转

There are more than 80,000 units of AODE equipment in continuous and stable operation around the world.

