

CW Series

## Semi-hermetic Screw Brine Units

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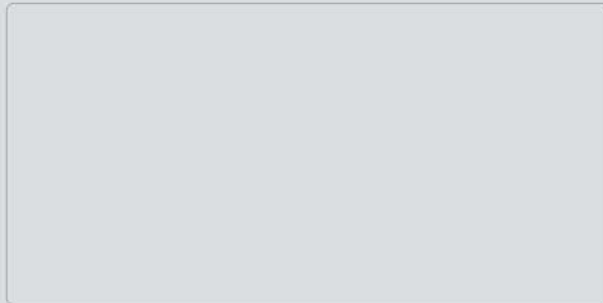
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Version 1, March 2016

### RefComp Italy

Subsidiary 100% owned by Snowman

The World Famous Brand for Screw Compressor and Piston Compressor

Secondary refrigerant system solution  
for multiple working conditions

Unified compressor and compressor  
unit guarantee and best choice  
of industrial refrigeration



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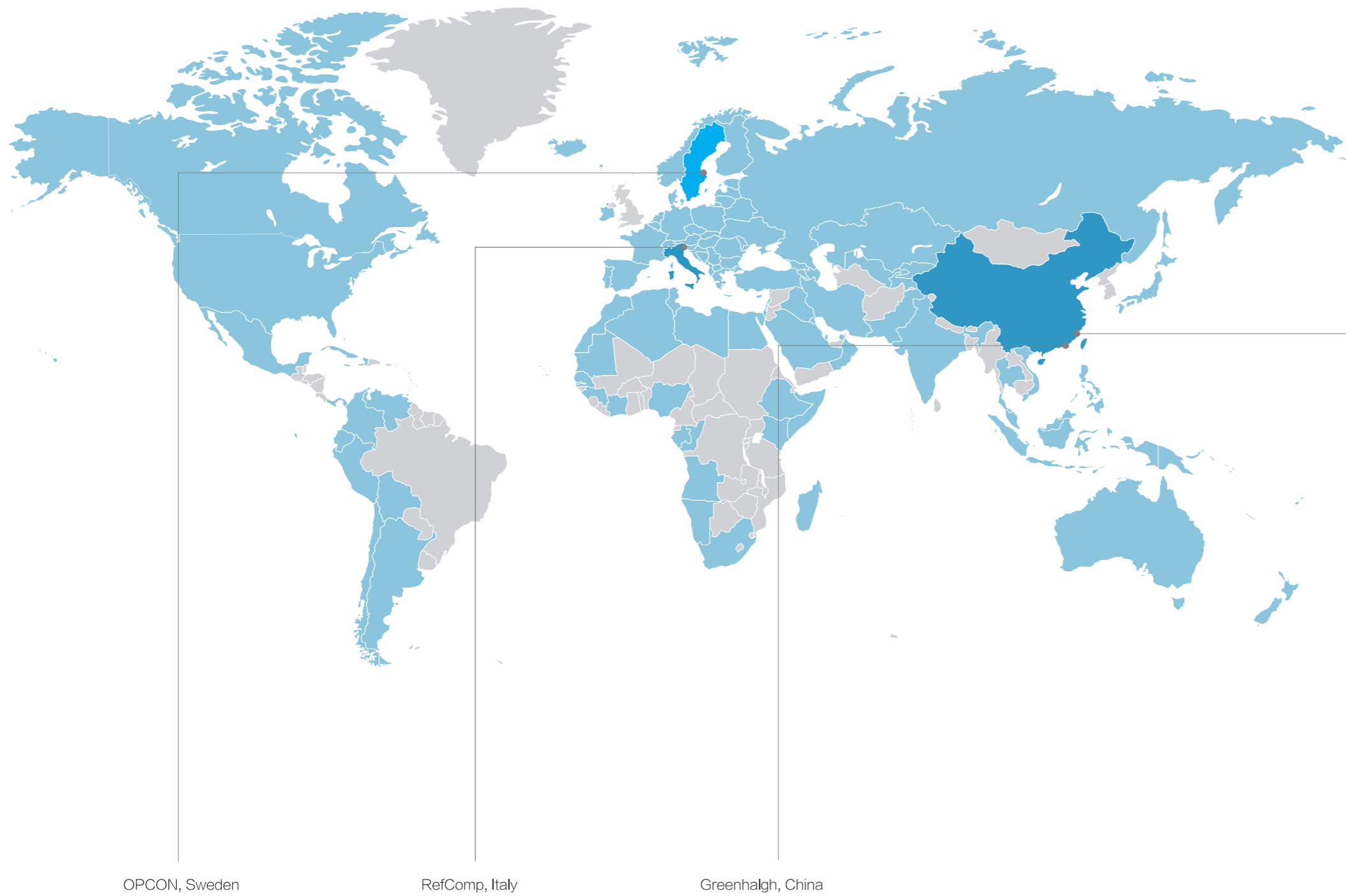
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Snowman Co., Ltd, China

Snowman Co., Ltd uses RefComp semi-hermetic screw compressor and launches full series of the standard semi-hermetic screw-type brine units through optimized design. Brine unit is a general name for the units that use secondary coolant. The common secondary coolants include: solutions of ethylene glycol, propylene glycol, calcium chloride, sodium chloride and other special secondary coolants. The selected secondary coolants can not freeze under the evaporating temperature of refrigeration units and should have relatively good fluidity. When you consult Snowman Co., Ltd. for units, please tell us the secondary coolants to be used. We will make an optimized design for your application to ensure that the system can run safely and stably under correct designed working conditions in the future.

Snowman's semi-hermetic screw-type brine units can produce refrigeration power in various conditions like high, medium or low temperature to provide economical, energy saving, high efficiency and safe solutions to clients. The units can run safely and reliably with easy control. They can be extensively used in such fields as petroleum, chemical industry, coal, textile, medicine, aquatic product, business, food, shipbuilding, national defense and scientific research and others that need artificial refrigeration.

### Package features

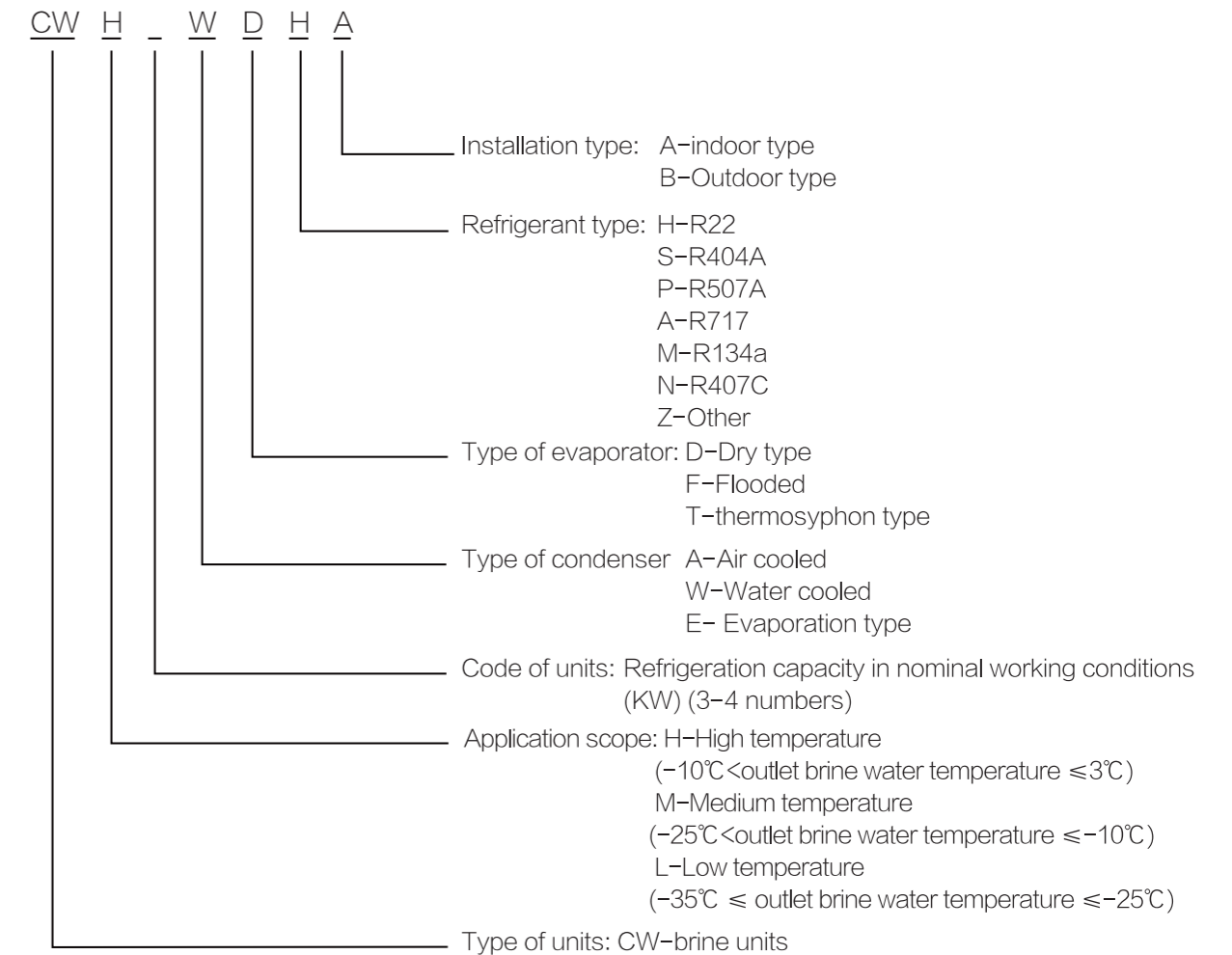
- Optimized structure design, modular design, high integration, simple but compact structure, nice appearance, small footprint and easy installation;
- Single-head and multi-head can meet different requirements for use;
- Semi-hermetic compressors suction gas used to cool motors; the motors can work normally to ensure safety and reliability;
- All the parts in the system are produced by well-known manufacturers and of high reliability and quality assurance;
- Suitable for R22, R507A, R404A, R134a etc.;
- Adjustment can be realized with stepped or stepless control and capacity control is flexible to adapt to the significant changes in working conditions;
- With exceptional partial load performance, the running cost is greatly reduced;
- The units can run with high efficiency through optimized heat transfer design and using high efficiency heat exchange tubes to achieve excellent heat transfer effect in heat exchangers;
- Suitable for many fields. The standard can realize refrigeration capacity under high, medium and low temperature. Customized design can also be made based on the clients' requirements;
- Electronic expansion valves are used with exact load adjustment;
- Tailored design to reduce the cost of operation for clients;
- RefComp semi-hermetic screw compressors have high efficiency, low noise, compact structure and easy installation;
- The compressors are featured with adjustable internal MI, which can reduce the power consumption under partial load;
- External oil separators and coolers can be configured based on the practical conditions to realize extensive use of compressors;
- Evaporative, water cooled or air cooled condensers can be selected based on the clients' requirements to meet the demand in different regions;
- The intelligent control center is equipped with international famous brand PLCs and 64 k true color touch screen, with easy operation and reliable running. The control center can make real-time recording for running parameters and faulty conditions, and are equipped with a preventive safety system and the function of remote communication.



### Preventive protection

- An discharge check valve is configured to prevent the backflow during shut-down so as to protect the compressor;
- Motor winding protection can prevent motors from overheating to protect the compressors;
- High-low pressure protection can protect the compressor and system in severe working conditions;
- Function of flow switch can prevent the units from running with water supply interrupted to ensure the system safety;
- Function of water temperature protection can prevent heat exchangers from being damaged by freezing;
- Function of oil level protection can prevent compressors from being damaged by lack of oil;
- Safety valves are configured to prevent the system pressure from rising too high.

### Unit model no. explanation



## Table of Technical Parameters

## High-temperature water cooled dry-type brine units (R22)

Model		CWH___WDHA									
		125	180	270	360	435	650	790	930	1300	
Refrigeration capacity	kW	125.5	184.9	273.8	364.4	437.8	650.9	794.6	934.8	1301.8	
	kCal/h	107930	159014	236488	313384	376508	559774	683356	803928	1119548	
Compressor	Qty platform	1	1	1	1	1	1	2	2	2	
	Input power kW	33.5	46.8	68	88.5	109.8	169.7	99.6x2	117.2x2	169.7x2	
Capacity control		100-75-50%, min									
Start method		Y/Δ									
Refrigerant		R22									
Type		Shell-and-tube dry-type evaporator									
Inlet and outlet water temperature °C		8/3									
Evaporator	Water flow m <sup>3</sup> /h	22.2	32.8	48.5	64.6	77.6	115.4	140.9	165.7	230.8	
	Water inlet and outlet pipes mm	DN80	DN100	DN100	DN125	DN125	DN150	DN200	DN200	DN200	
	Water pressure drop kPa	38	39	43	46	49	51	69	72	73	
	Type	Shell-and-tube condenser									
Inlet and outlet water temperature °C		32/37									
Condenser	Water flow m <sup>3</sup> /h	32.7	47.7	70.3	93.2	112.6	168.8	204.4	240.5	337.6	
	Water inlet and outlet pipes mm	DN100	DN125	DN125	DN150	DN200	DN200	DN250	DN250	DN300	
	Water pressure drop kPa	42	46	49	52	57	70	74	76	78	
	Length mm	2750	2850	2900	3400	4000	4600	5100	5150	5200	
Overall dimension	Width mm	1150	1250	1300	1300	1350	1400	1450	1500	1600	
	Height mm	1800	1950	2050	2150	2250	2350	2400	2550	2700	
Package weight	Net weight kg	1200	1780	2050	2550	3160	3630	5130	6310	7000	
	Operational weight kg	1280	1900	2230	2780	3470	4060	5700	7030	7900	

Note:1. Power system: 3P380V/50Hz, voltage fluctuation range: ± 10%;

2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;

3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;

4. The units mentioned above are the standard ones, but they can be specially designed based on the clients' requirement.

## High-temperature water cooled dry-type brine units (R507A)

Model		CWH___WDPA									
		120	165	230	275	350	440	635	805	950	
Refrigeration capacity	kW	121.7	166.3	232	276.7	352.1	444.4	635.6	806.4	950.2	
	kCal/h	104662	143018	199520	237962	302806	382184	546616	693504	817172	
Compressor	Qty platform	1	1	1	1	1	1	2	2	2	
	Input power kW	34.2	46.8	65.2	77.8	112	141.6	101.3x2	128.6x2	151.2x2	
Capacity control		100-75-50%, min									
Start method		Y/Δ									
Refrigerant		R507A									
Type		Shell-and-tube dry-type evaporator									
Inlet and outlet water temperature °C		8/3									
Evaporator	Water flow m <sup>3</sup> /h	21.6	29.5	41.1	49.1	62.4	78.8	112.7	142.9	168.4	
	Water inlet and outlet pipes mm	DN80	DN100	DN100	DN125	DN125	DN150	DN200	DN200	DN200	
	Water pressure drop kPa	38	39	43	46	49	51	69	72	73	
	Type	Shell-and-tube condenser									
Inlet and outlet water temperature °C		32/37									
Condenser	Water flow m <sup>3</sup> /h	32.1	43.8	61.1	72.9	95.5	120.5	172.4	218.8	257.7	
	Water inlet and outlet pipes mm	DN100	DN125	DN125	DN150	DN200	DN200	DN250	DN250	DN300	
	Water pressure drop kPa	42	46	49	52	57	70	74	76	78	
	Length mm	2750	2850	2900	3400	4000	4600	5100	5150	5200	
Overall dimension	Width mm	1150	1250	1300	1300	1350	1400	1450	1500	1600	
	Height mm	1800	1950	2050	2150	2250	2350	2400	2550	2700	
Package weight	Net weight kg	1200	1780	2050	2550	3160	3630	5130	6310	7000	
	Operational weight kg	1280	1900	2230	2780	3470	4060	5700	7030	7900	

Note:1. Power system: 3P380V/50Hz, voltage fluctuation range: ± 10%;

2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;

3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;

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Table of Technical Parameters

High-temperature water cooled flooded brine units (R22)

Model		CWH___WFHA									
Refrigeration capacity	kW	270	390	470	505	695	780	855	1010	1395	
	kCal/h	272.1	392	473.7	505.7	699.8	784	859.8	1011.4	1399.6	
Compressor	Qty platform	234006	337120	407382	434902	601828	674240	739428	869804	1203656	
	Input power kW	1	1	1	1	1	2	2	2	2	
Capacity control		63.6	89.8	110.9	118.4	171	89.8x2	100.7x2	118.4x2	171x2	
Start method		100-75-50%, min									
Refrigerant		Y/Δ									
Type		R22									
Inlet and outlet water temperature	°C	Shell-and-tube flooded evaporator									
Water flow	m³/h	8/3									
Water inlet and outlet pipes	mm	48.2	69.5	84.0	89.6	124.1	139.0	152.4	179.3	248.1	
Water pressure drop	kPa	DN100	DN125	DN125	DN125	DN150	DN150	DN150	DN200	DN250	
Type		43	47	48	49	55	65	68	72	73	
Inlet and outlet water temperature	°C	Shell-and-tube condenser									
Water flow	m³/h	32/37									
Water inlet and outlet pipes	mm	69.1	99.1	120.3	128.4	179.1	198.2	218.3	256.8	358.3	
Water pressure drop	kPa	DN125	DN150	DN200	DN200	DN200	DN200	DN250	DN250	DN300	
Length	mm	49	52	56	57	70	72	74	76	78	
Width	mm	2600	3100	3600	3700	4300	4850	4900	5000	5100	
Height	mm	1800	1850	1950	2050	2100	2200	2300	2400	2550	
Net weight	kg	1850	1950	2050	2150	2250	2300	2350	2400	2500	
Operational weight	kg	2400	3080	3800	4100	4570	6100	6670	8020	9100	
		2720	3400	4230	4550	5160	7000	7580	8960	10270	

- Note:1. Power system: 3P/380V/50Hz, voltage fluctuation range: ± 10%;  
 2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;  
 3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;  
 4. The units mentioned above are the standard ones, but they can be specially designed based on the clients' requirement.

High-temperature water cooled flooded brine units (R507A)

Model		CWH___WFPA									
Refrigeration capacity	kW	130	175	245	295	380	555	685	870	1030	
	kCal/h	130.9	178.9	249.6	297.6	381.7	555.2	689	874.2	1030	
Compressor	Qty platform	112574	153854	214656	255936	328262	477472	592540	751812	885800	
	Input power kW	1	1	1	1	1	2	2	2	2	
Capacity control		33.9	46.3	64.6	77.1	113.8	71.9x2	102.8x2	130.6x2	153.5x2	
Start method		100-75-50%, min									
Refrigerant		Y/Δ									
Type		R507A									
Inlet and outlet water temperature	°C	Shell-and-tube flooded evaporator									
Water flow	m³/h	8/3									
Water inlet and outlet pipes	mm	23.2	31.7	44.2	52.8	67.7	98.4	122.1	155.0	182.6	
Water pressure drop	kPa	DN100	DN125	DN125	DN125	DN150	DN150	DN150	DN200	DN250	
Type		43	47	48	49	55	65	68	72	73	
Inlet and outlet water temperature	°C	Shell-and-tube condenser									
Water flow	m³/h	32/37									
Water inlet and outlet pipes	mm	33.9	46.3	64.6	77.1	101.9	143.8	184.0	233.6	275.0	
Water pressure drop	kPa	DN125	DN150	DN200	DN200	DN200	DN200	DN250	DN250	DN300	
Length	mm	49	52	56	57	70	72	74	76	78	
Width	mm	2600	3100	3600	3700	4300	4850	4900	5000	5100	
Height	mm	1800	1850	1950	2050	2100	2200	2300	2400	2550	
Net weight	kg	1850	1950	2050	2150	2250	2300	2350	2400	2500	
Operational weight	kg	2400	3080	3800	4100	4570	6100	6670	8020	9100	
		2720	3400	4230	4550	5160	7000	7580	8960	10270	

- Note:1. Power system: 3P/380V/50Hz, voltage fluctuation range: ± 10%;  
 2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;  
 3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;  
 4. The units mentioned above are the standard ones, but they can be specially designed based on the clients' requirement.

## Table of Technical Parameters

## Medium-temperature water cooled dry-type brine units (R22)

Model		CWM___WDHA													
Refrigeration capacity	kW	55	70	90	130	155	190	225	265	390	455	535	680	780	
	kCal/h	55.9	71.1	93.2	132.5	159.6	190.1	228.6	268.9	391	457.2	537.8	683.8	782	
Compressor	Qty platform	48074	61146	80152	113950	137256	163486	196596	231354	336260	393192	462508	588068	672520	
	Input power kW	1	1	1	1	1	1	1	1	1	2	2	2	2	
Capacity control		24.8	30.9	37.5	51.8	62.4	73.4	94.8	111.5	160.1	94.8x2	111.5x2	129.8x2	160.1x2	
Start method		100-75-50%, min													
Refrigerant		Y/Δ													
Type		R22													
Inlet and outlet water temperature °C		Shell-and-tube dry-type evaporator													
Water flow m <sup>3</sup> /h		-5/-10													
Water inlet and outlet pipes mm		10.7	13.6	17.8	25.3	30.4	36.2	43.6	51.3	74.5	87.2	102.5	130.3	149.1	
Water pressure top kPa		DN50	DN65	DN80	DN80	DN80	DN100	DN100	DN100	DN125	DN150	DN150	DN150	DN200	
Type		42	42	43	47	47	50	50	53	56	66	73	77	78	
Inlet and outlet water temperature °C		Shell-and-tube condenser													
Water flow m <sup>3</sup> /h		32/37													
Water inlet and outlet pipes mm		16.6	27.9	34.3	49.3	57.9	68.6	83.6	98.6	143.6	167.1	197.1	244.3	285.0	
Water pressure top kPa		DN80	DN80	DN80	DN100	DN125	DN125	DN125	DN150	DN200	DN200	DN200	DN200	DN250	
Length mm		36	39	42	44	47	47	50	54	63	68	72	73	75	
Width mm		2000	2050	2650	3200	3200	3250	3800	3800	3800	4900	4900	5000	5100	
Height mm		1200	1200	1250	1250	1250	1300	1300	1300	1350	1400	1400	1500	1600	
Net weight kg		1800	1850	1900	1950	2000	2050	2100	2100	2150	2200	2200	2300	2500	
Operational weight kg		900	970	1370	1780	2110	2300	2480	3020	3270	4300	5050	5580	6000	
		940	1030	1450	1900	2250	2470	2680	3250	3600	4700	5500	6130	6650	

Note: 1. Power system: 3P/380V/50Hz, voltage fluctuation range: ± 10%;

2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;

3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;

4. The units mentioned above are the standard ones, but they can be specially designed based on the clients' requirement.

## Medium-temperature water cooled dry-type brine units(R507A)

Model		CWM___WDPA													
Refrigeration capacity	kW	55	70	90	130	160	190	235	275	440	470	555	725	885	
	kCal/h	57	72.5	94.3	133.9	161.3	192.3	236.7	278.5	444	473.4	557	727.4	888	
Compressor	Qty platform	49020	62350	81098	115154	138718	165378	203562	239510	361840	407124	479020	625564	763680	
	Input power kW	1	1	1	1	1	1	1	1	1	2	2	2	2	
Capacity control		28.2	35.5	45.5	62.9	75.7	89	105.9	124.6	196.8	105.9x2	124.6x2	152.2x2	196.8x2	
Start method		100-75-50%, min													
Refrigerant		Y/Δ													
Type		R507A													
Inlet and outlet water temperature °C		Shell-and-tube dry-type evaporator													
Water flow m <sup>3</sup> /h		-5/-10													
Water inlet and outlet pipes mm		10.9	13.8	18.0	25.5	30.7	36.7	45.1	53.1	84.6	90.2	106.2	138.7	169.3	
Water pressure top kPa		DN50	DN65	DN65	DN80	DN80	DN100	DN100	DN100	DN125	DN150	DN150	DN150	DN200	
Type		42	42	43	47	47	50	50	53	56	66	73	77	78	
Inlet and outlet water temperature °C		Shell-and-tube condenser													
Water flow m <sup>3</sup> /h		32/37													
Water inlet and outlet pipes mm		17.5	22.2	28.8	40.5	48.8	57.9	70.5	82.9	131.8	141.0	165.8	212.3	263.6	
Water pressure top kPa		DN80	DN80	DN80	DN100	DN125	DN125	DN125	DN150	DN200	DN200	DN200	DN200	DN250	
Length mm		36	39	42	44	47	47	50	54	63	68	72	73	75	
Width mm		2000	2050	2650	3200	3200	3250	3800	3800	3800	4900	4950	5000	5100	
Height mm		1200	1200	1250	1250	1250	1300	1300	1300	1350	1400	1400	1500	1600	
Net weight kg		1800	1850	1900	1950	2000	2050	2100	2100	2150	2200	2200	2300	2500	
Operational weight kg		900	970	1370	1780	2110	2300	2480	3020	3270	4300	5050	5580	6000	
		940	1030	1450	1900	2250	2470	2680	3250	3600	4700	5500	6130	6650	

Note: 1. Power system: 3P/380V/50Hz, voltage fluctuation range: ± 10%;

2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;

3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;

4. The units mentioned above are the standard ones, but they can be specially designed based on the clients' requirement.

## Table of Technical Parameters

## Medium-temperature water cooled flooded brine units (R22)

Model		CWM___WFHA									
Refrigeration capacity	kW	245	290	345	465	585	740	850	1295		
	kCal/h	249.7	293.7	349.6	465.4	587.4	743.4	853	1296.8		
Compressor	Qty platform	1	1	2	2	2	2	2	2		
	Input power kW	95.3	112.1	63.2x2	82.2x2	112.1x2	131.7x2	161.9x2	227.4x2		
Capacity control		100-75-50%, min									
Start method		Y/ $\Delta$									
Refrigerant		R22									
Type		Shell-and-tube flooded evaporator									
Inlet and outlet water temperature		-5/-10									
Evaporator	Water flow m <sup>3</sup> /h	47.6	56.0	66.6	88.7	112.0	141.7	162.6	247.2		
	Water inlet and outlet pipes	DN100	DN100	DN125	DN125	DN125	DN150	DN200	DN200		
	Water pressure drop	51	53	60	63	73	77	71	75		
	Type	Shell-and-tube condenser									
Condenser	Inlet and outlet water temperature	32/37									
	Water flow m <sup>3</sup> /h	71.0	83.5	97.9	129.6	167.0	207.1	242.1	360.3		
	Water inlet and outlet pipes	DN125	DN150	DN150	DN200	DN200	DN250	DN250	DN300		
	Water pressure drop	50	55	63	69	74	75	76	78		
Overall dimension	Length	2600	3150	4650	4750	4800	4900	5000	6100		
	Width	1900	1900	1950	2050	2150	2350	2500	2600		
	Height	1950	1950	1950	2100	2250	2400	2500	2700		
Package weight	Net weight	2700	3220	4200	4850	6100	6670	6950	9380		
	Operational weight	3080	3640	4770	5550	6920	7700	8170	11050		

Note:1. Power system: 3P/380V/50Hz, voltage fluctuation range:  $\pm 10\%$ ;

2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;

3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;

4. The units mentioned above are the standard ones, but they can be specially designed based on the clients' requirement.

## Medium-temperature water cooled flooded brine units (R507A)

Model		CWM___WFPA									
Refrigeration capacity	kW	260	305	350	470	610	790	960	1380		
	kCal/h	261.1	307.2	354.6	472.4	614.4	791.2	961.6	1380.6		
Compressor	Qty platform	1	1	2	2	2	2	2	2		
	Input power kW	106.9	125.7	76x2	99x2	125.7x2	154.1x2	199.4x2	266.1x2		
Capacity control		100-75-50%, min									
Start method		Y/ $\Delta$									
Refrigerant		R507A									
Type		Shell-and-tube flooded evaporator									
Inlet and outlet water temperature		-5/-10									
Evaporator	Water flow m <sup>3</sup> /h	49.8	58.6	67.6	90.0	117.1	150.8	183.3	263.2		
	Water inlet and outlet pipes	DN100	DN100	DN125	DN125	DN125	DN150	DN200	DN200		
	Water pressure drop	51	53	60	63	73	77	71	75		
	Type	Shell-and-tube condenser									
Condenser	Inlet and outlet water temperature	32/37									
	Water flow m <sup>3</sup> /h	75.7	89.1	104.2	137.9	178.1	226.2	279.9	393.5		
	Water inlet and outlet pipes	DN125	DN150	DN150	DN200	DN200	DN250	DN250	DN300		
	Water pressure drop	50	55	63	69	74	75	76	78		
Overall dimension	Length	2600	3150	4650	4750	4800	4900	5000	6100		
	Width	1900	1900	1950	2050	2150	2350	2500	2600		
	Height	1950	1950	1950	2100	2250	2400	2500	2700		
Package weight	Net weight	2700	3220	4200	4850	6100	6670	6950	9380		
	Operational weight	3080	3640	4770	5550	6920	7700	8170	11050		

Note:1. Power system: 3P/380V/50Hz, voltage fluctuation range:  $\pm 10\%$ ;

2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;

3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;

4. The units mentioned above are the standard ones, but they can be specially designed based on the clients' requirement.



Table of Technical Parameters

Low-temperature water cooled dry-type brine units (R22)

Model		CWL___WDHA															
Refrigeration capacity	kW	35	45	75	100	140	150	215	280	340	420						
	kCal/h	39.3	48.3	75.8	101.5	140	151.6	215.6	280	344	420.6						
Compressor	Qty platform	33798	41538	65188	87290	120400	130376	185416	240800	295840	361716						
	Input power kW	1	1	1	1	1	2	2	2	2	2						
Capacity control	Capacity control	23.4	29.2	42.9	56.6	79.5	42.9x2	59.8x2	79.5x2	97.5x2	116.2x2						
	Start method	100-75-50%, min															
Refrigerant	Refrigerant	Y/Δ															
	Type	R22															
Evaporator	Type	Shell-and-tube dry-type evaporator															
	Inlet and outlet water temperature	-20/-25															
	Water flow m³/h	8.1	9.9	15.6	20.9	28.8	31.2	44.4	57.7	70.9	86.6						
	Water inlet and outlet pipes	DN50	DN65	DN65	DN80	DN100	DN100	DN125	DN125	DN150	DN150						
	Water pressure drop kPa	42	42	47	48	51	59	60	66	73	78						
Condenser	Type	Shell-and-tube condenser															
	Inlet and outlet water temperature	32/37															
	Water flow m³/h	12.5	15.4	23.6	31.6	44.0	47.2	67.1	88.0	108.1	131.1						
	Water inlet and outlet pipes	DN65	DN65	DN80	DN100	DN125	DN125	DN150	DN150	DN200	DN200						
	Water pressure drop kPa	34	35	40	42	45	51	57	62	69	71						
Overall dimension	Length mm	1950	1950	2600	2600	2600	3900	5000	5100	5200	5300						
	Width mm	1200	1300	1350	1400	1450	1850	1850	1950	2050	2200						
	Height mm	1150	1150	1250	1400	1500	1700	1800	1900	2000	2100						
Package weight	Net weight kg	920	1100	1540	2000	2400	2890	3900	4480	5650	6150						
	Operational weight kg	950	1130	1600	2060	2500	3010	4070	4700	5920	6480						

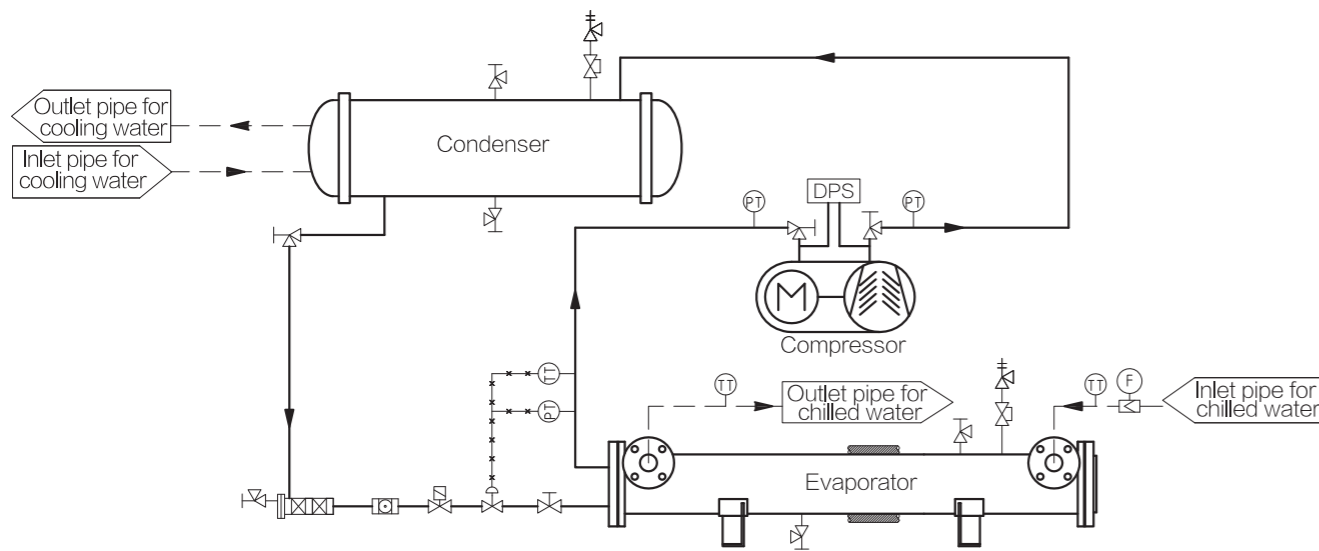
- Note: 1. Power system: 3P/380V/50Hz, voltage fluctuation range: ± 10%;  
 2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;  
 3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;  
 4. The units mentioned above are the standard ones, but they can be specially designed based on the clients' requirement.

Low-temperature water cooled dry-type brine units(R507A)

Model		CWL___WDPA															
Refrigeration capacity	kW	40	50	80	105	155	160	220	315	395	480						
	kCal/h	41.2	52.5	82.4	106.5	158	164.8	224.4	316	397.6	483.6						
Compressor	Qty platform	35432	45150	70864	91590	135880	141728	192984	271760	341936	415896						
	Input power kW	1	1	1	1	1	2	2	2	2	2						
Capacity control	Capacity control	28	33.4	51.8	66.4	96.8	51.8x2	70.3x2	96.8x2	116.4x2	139.9x2						
	Start method	100-75-50%, min															
Refrigerant	Refrigerant	Y/Δ															
	Type	R507A															
Evaporator	Type	Shell-and-tube dry-type evaporator															
	Inlet and outlet water temperature	-20/-25															
	Water flow m³/h	8.5	10.8	17.0	21.9	32.5	33.9	46.2	65.1	81.9	99.6						
	Water inlet and outlet pipes	DN50	DN65	DN65	DN80	DN100	DN100	DN125	DN125	DN150	DN150						
	Water pressure drop kPa	42	42	47	48	51	59	60	66	73	78						
Condenser	Type	Shell-and-tube condenser															
	Inlet and outlet water temperature	32/37															
	Water flow m³/h	12.6	15.7	24.4	31.6	46.9	48.9	67.0	93.8	116.7	141.7						
	Water inlet and outlet pipes	DN65	DN65	DN80	DN100	DN125	DN125	DN150	DN150	DN200	DN200						
	Water pressure drop kPa	34	35	40	42	45	51	57	62	69	71						
Overall dimension	Length mm	1950	1950	2600	2600	2600	3900	5000	5100	5200	5300						
	Width mm	1200	1300	1350	1400	1450	1850	1850	1950	2050	2200						
	Height mm	1150	1150	1250	1400	1500	1700	1800	1900	2000	2100						
Package weight	Net weight kg	920	1100	1540	2000	2400	2890	3900	4480	5650	6150						
	Operational weight kg	950	1130	1600	2060	2500	3010	4070	4700	5920	6480						

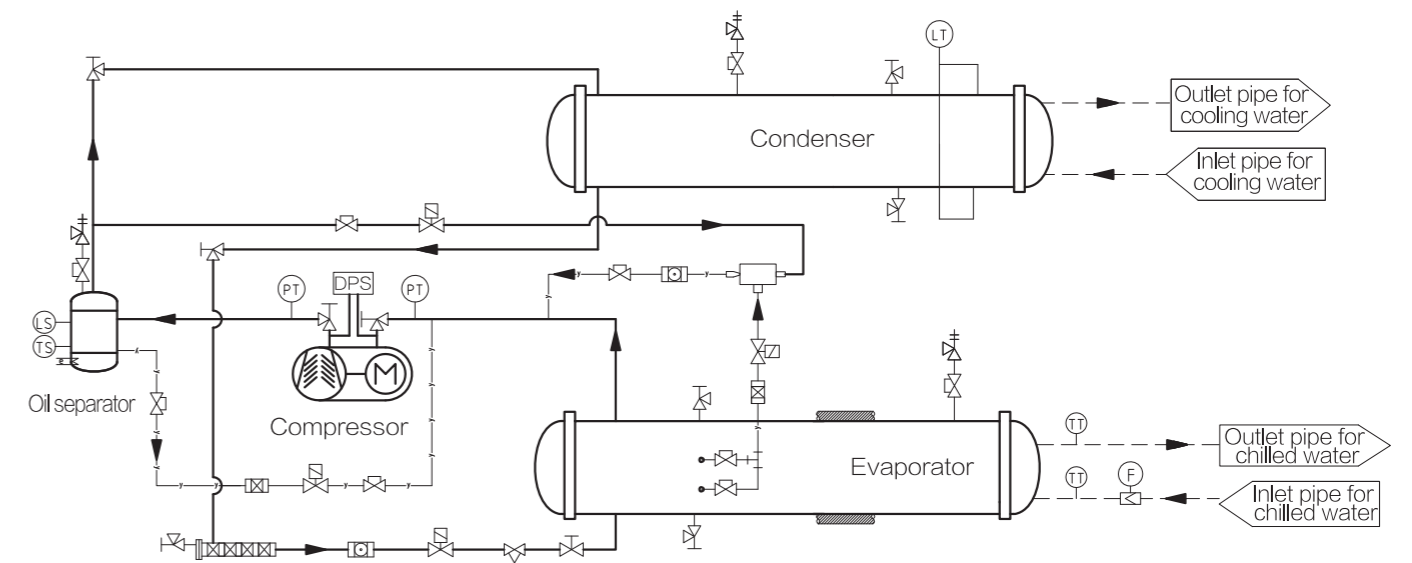
- Note: 1. Power system: 3P/380V/50Hz, voltage fluctuation range: ± 10%;  
 2. The inlet and outlet of units are connected by flanges. Details should be given in the order if other connections are required;  
 3. Due to technology improvement, the parameters, overall dimension and weight of the units may differs, and the actual design shall prevail;  
 4. The units mentioned above are the standard ones, but they can be specially designed based on the clients' requirement.

Drawing of system of medium-, high-temperature water cooled dry-type brine units (single head)



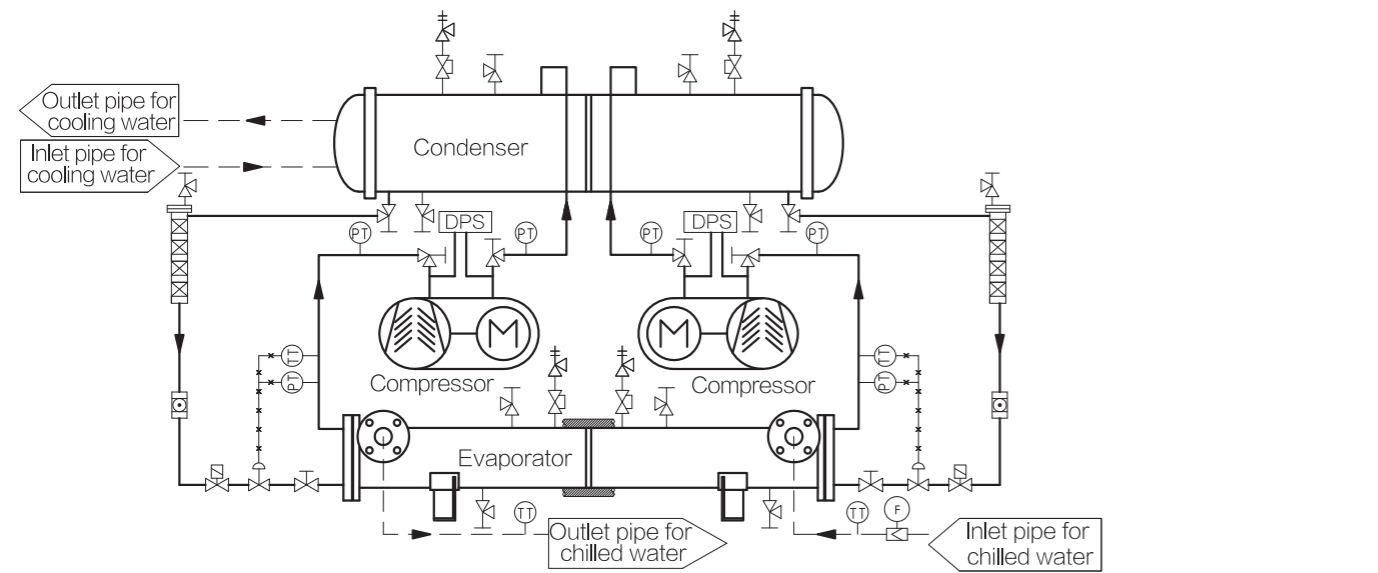
Symbol	Ball valve	Check valve	Pressure transmitter	Level switch	Water pipeline
	Solenoid valve	Sight glass	Temperature sensor	Liquid level sensor	Oil pipeline
	Filter	Safety valve	Dryer filter device	Thermostat	Refrigerant pipeline
	Expansion valve	Angled shut-off valve	Flow switch	Throttle valve	Sensor circuit
		Straight shut-off valve	Electrical heater	Insulation layer	

Drawing of system of medium-, high-temperature water cooled flooded brine units (single head)



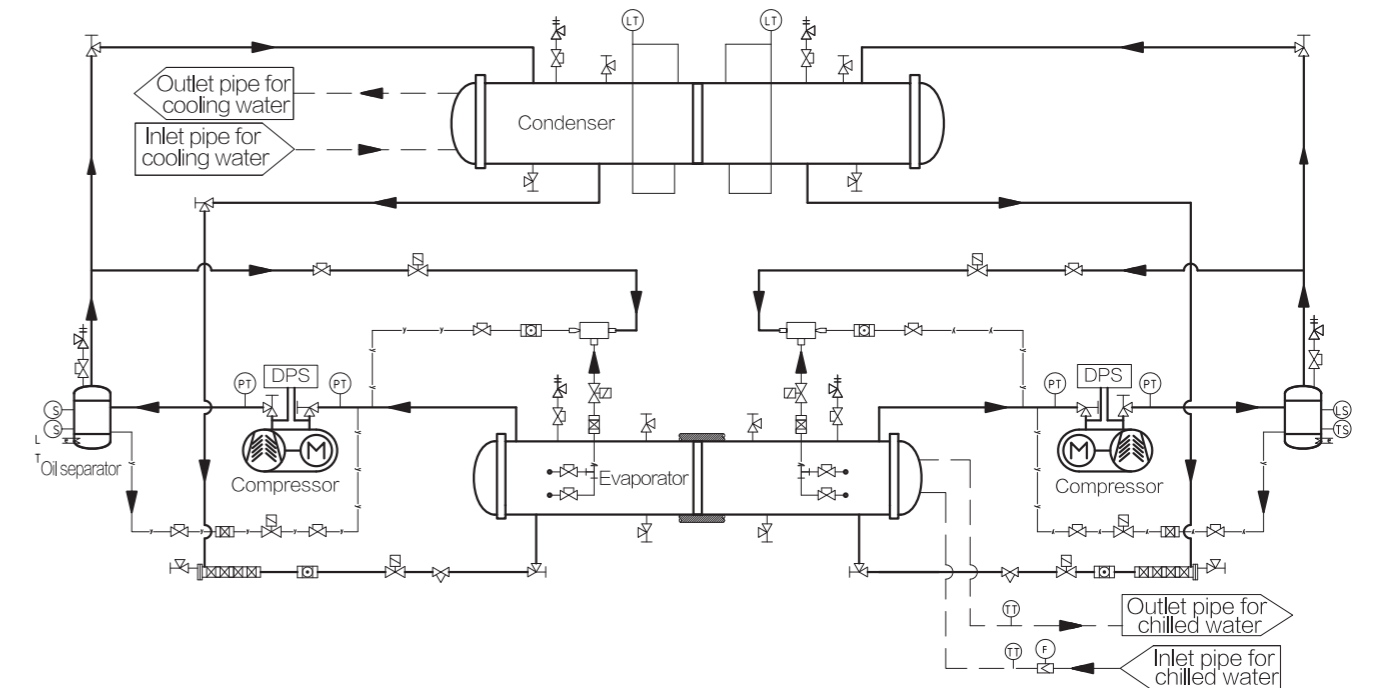
Symbol	Ball valve	Check valve	Pressure transmitter	Level switch	Water pipeline
	Solenoid valve	Sight glass	Temperature sensor	Liquid level sensor	Oil pipeline
	Filter	Safety valve	Dryer filter device	Thermostat	Refrigerant pipeline
	Expansion valve	Angled shut-off valve	Flow switch	Throttle valve	Sensor circuit
		Straight shut-off valve	Electrical heater	Insulation layer	

Drawing of system of medium-, high-temperature water cooled dry-type brine units (double heads)



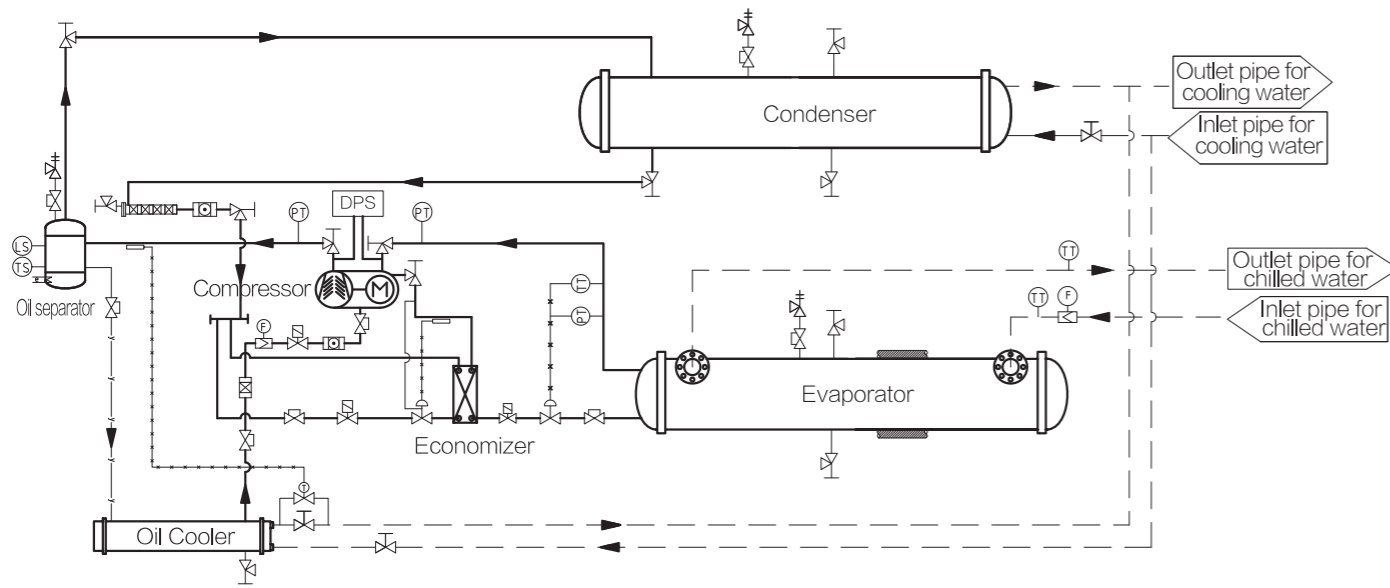
Symbol	Ball valve	Check valve	Pressure transmitter	Level switch	Water pipeline
	Solenoid valve	Sight glass	Temperature sensor	Liquid level sensor	Oil pipeline
	Filter	Safety valve	Dryer filter device	Thermostat	Refrigerant pipeline
	Expansion valve	Angled shut-off valve	Flow switch	Throttle valve	Sensor circuit
		Straight shut-off valve	Electrical heater	Insulation layer	

Drawing of system of medium-, high-temperature water cooled flooded brine units (double head)



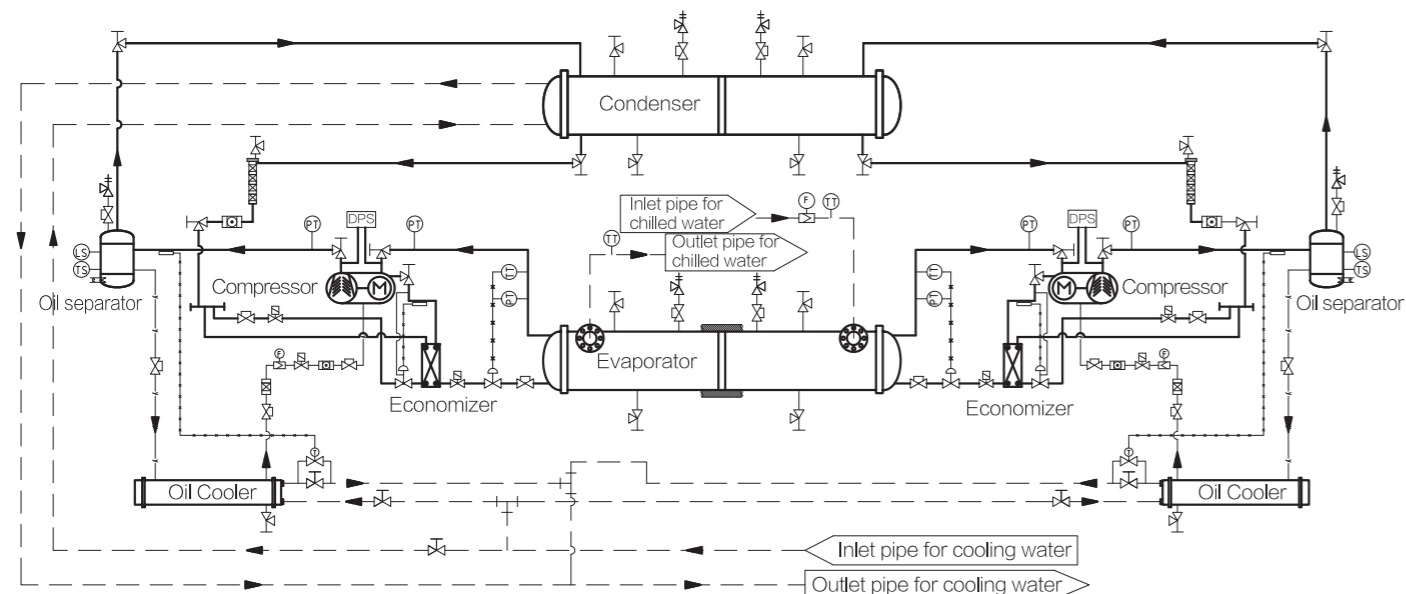
Symbol	Ball valve	Check valve	Pressure transmitter	Level switch	Water pipeline
	Solenoid valve	Sight glass	Temperature sensor	Liquid level sensor	Oil pipeline
	Filter	Safety valve	Dryer filter device	Thermostat	Refrigerant pipeline
	Expansion valve	Angled shut-off valve	Flow switch	Throttle valve	Sensor circuit
		Straight shut-off valve	Electrical heater	Insulation layer	

Drawing of system of low-temperature water cooled dry-type brine units (single head)



- Symbol
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Drawing of system of low-temperature water cooled dry-type brine units (double heads)

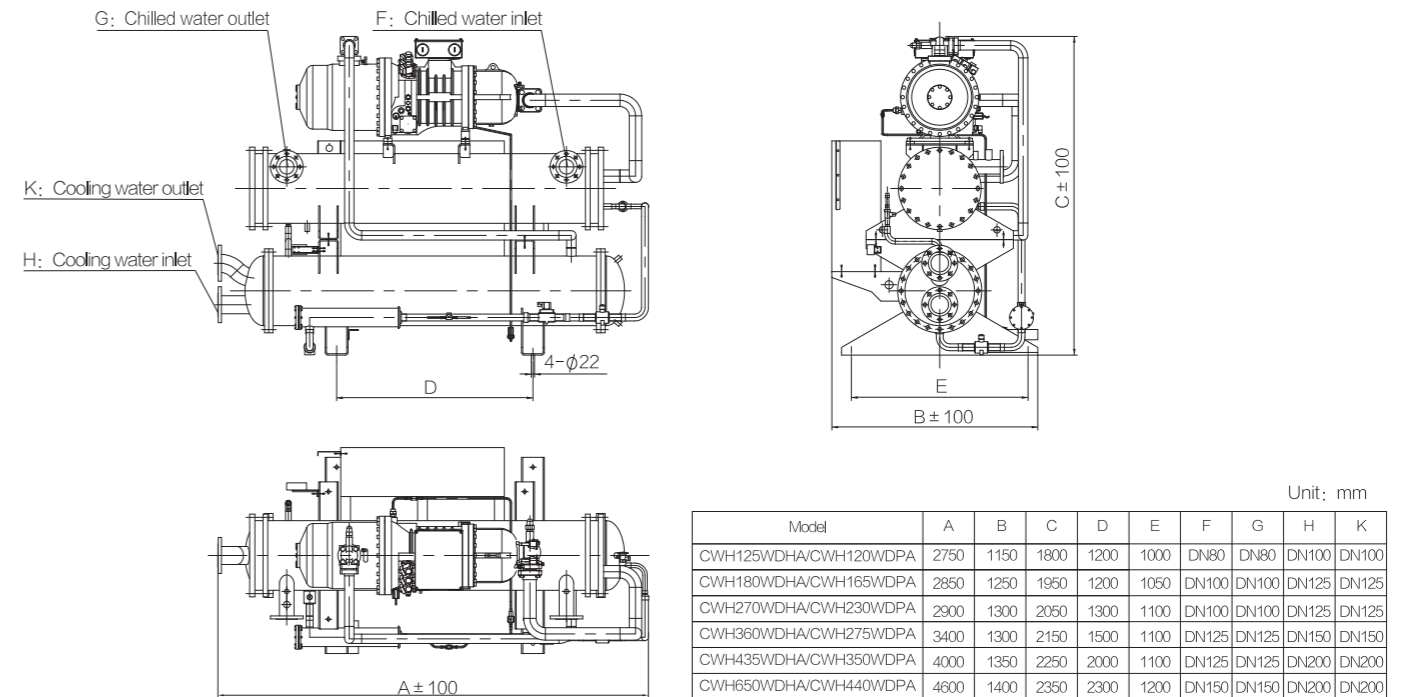


- Symbol
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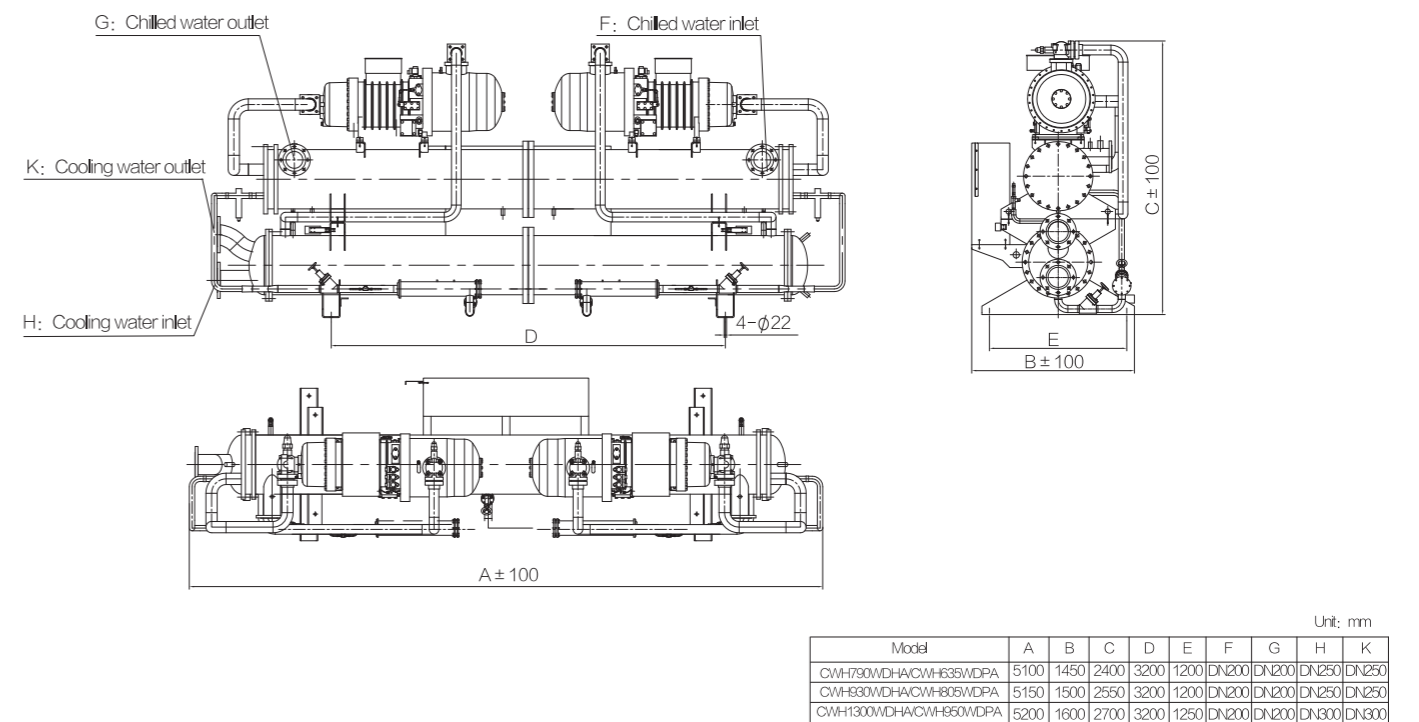
## Outline Drawing of Brine Units

### High-temperature water cooled dry-type brine units

CWH125 ~ 650WDHA/CWH120 ~ 440WDPA

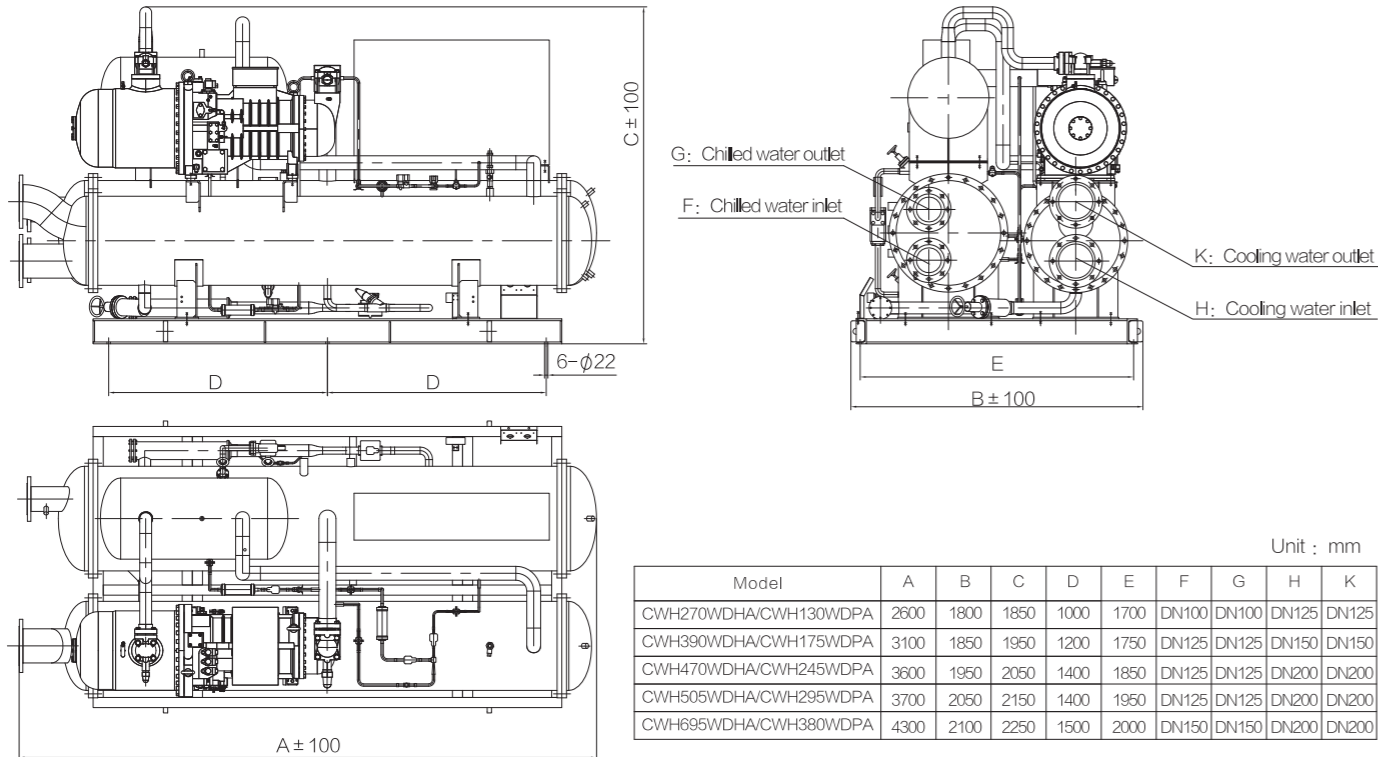


CWH790 ~ 1300WDHA/CWH635 ~ 950WDPA

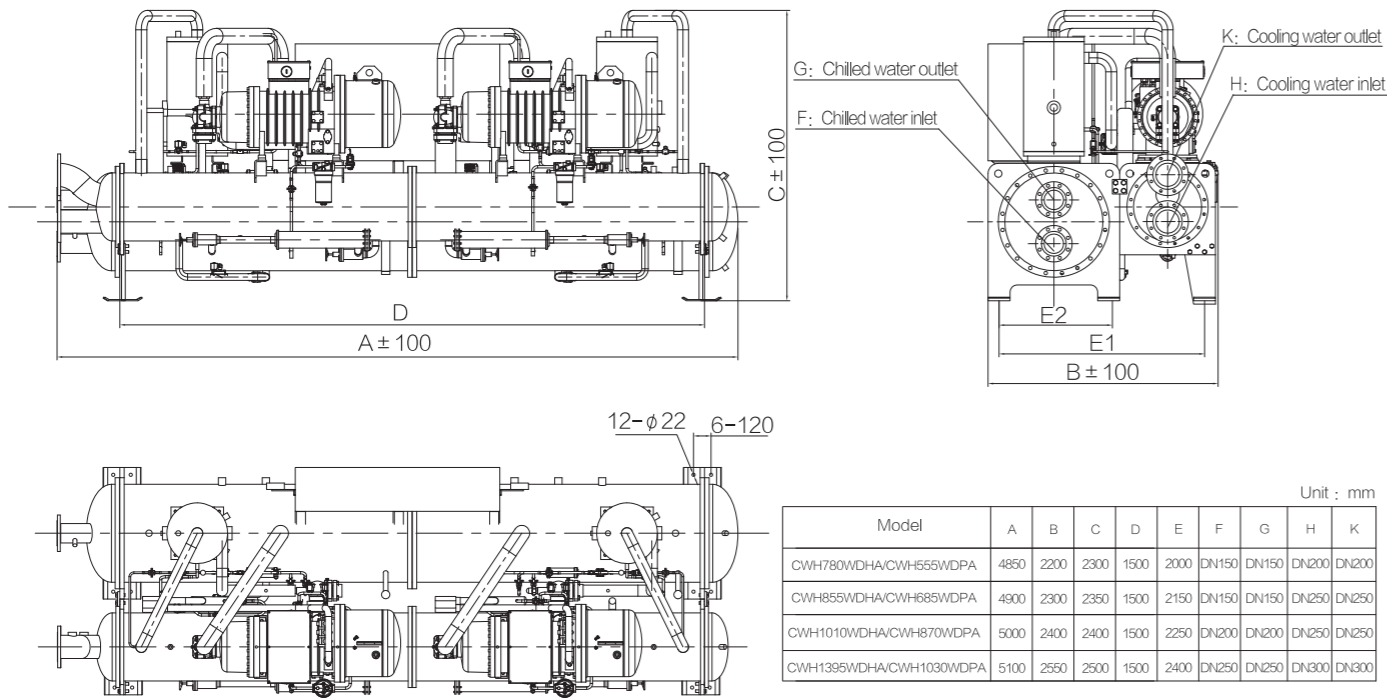


### High-temperature water cooled flooded brine units

CWH270 ~ 695WFHA/CWH130 ~ 380WFPA

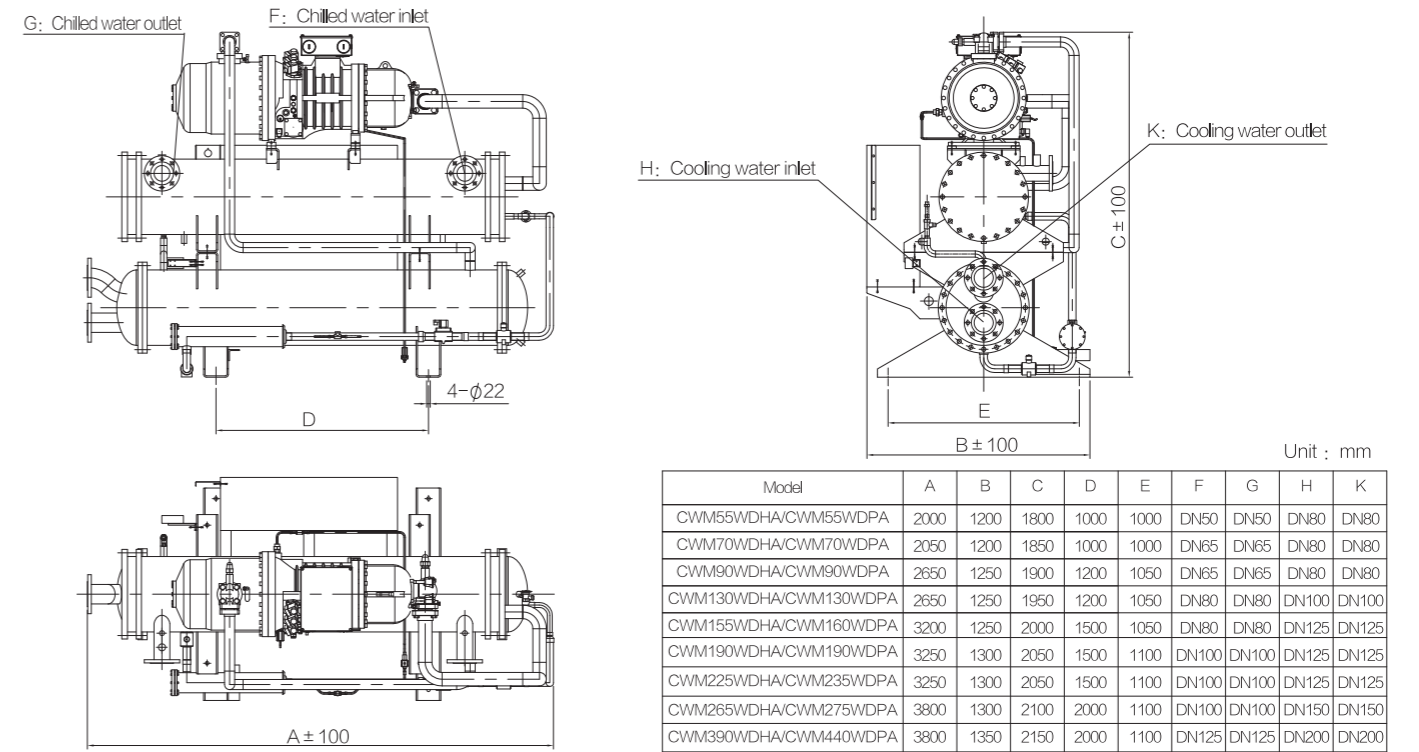


CWH780 ~ 1395WFHA/CWH555 ~ 1030WFPA

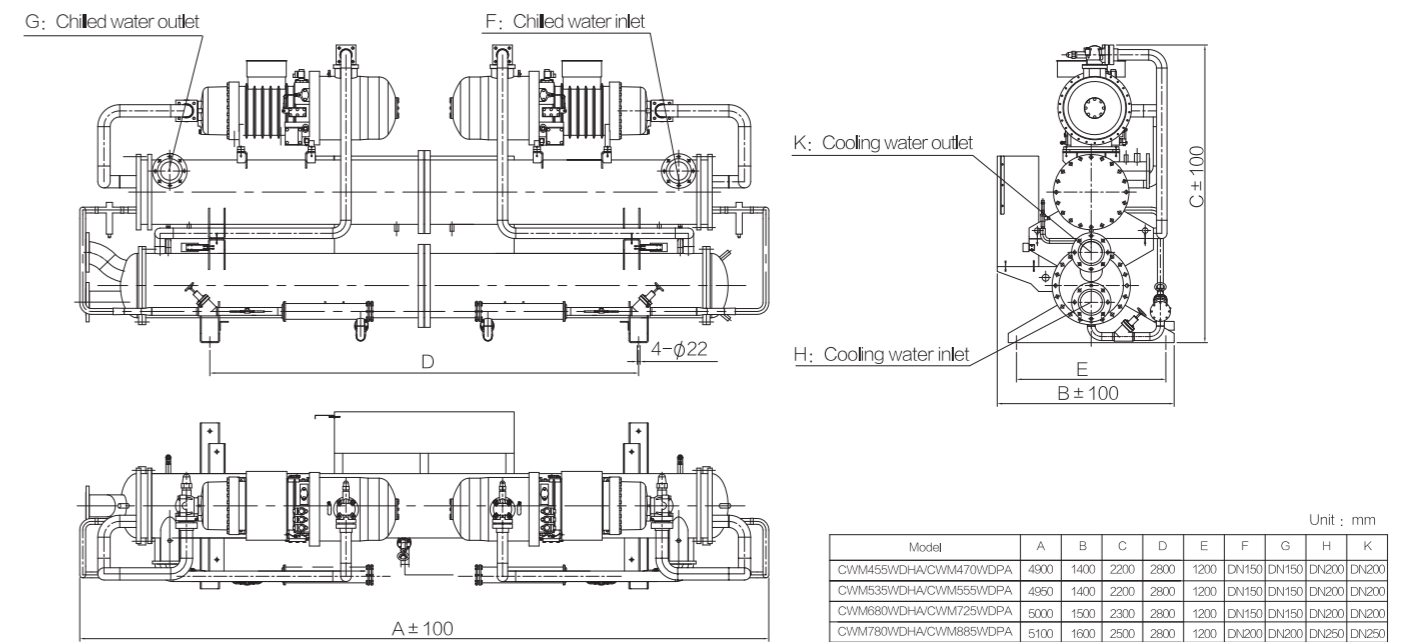


### Medium-temperature water cooled dry-type brine units

CWM55 ~ 390WDHA/CWM55 ~ 440WDPA

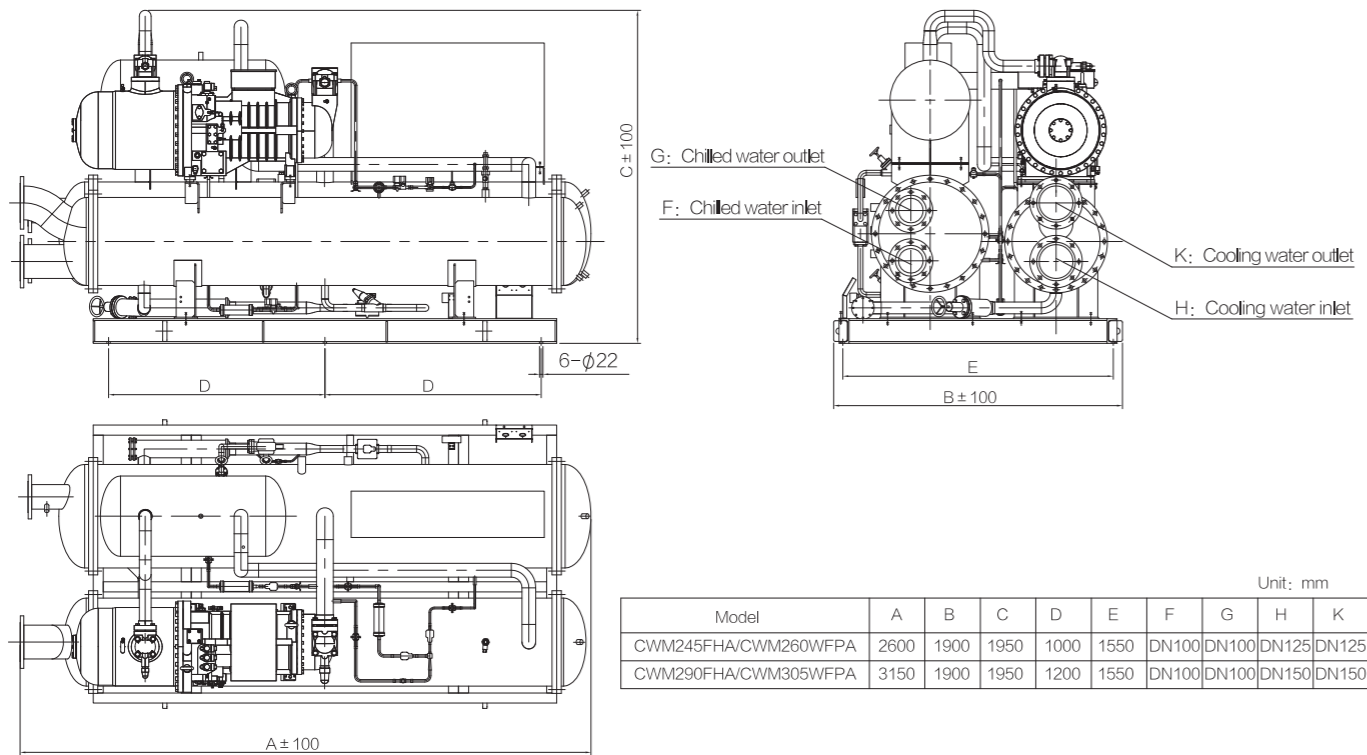


CWM455 ~ 780WDHA/CWM470 ~ 885WDPA



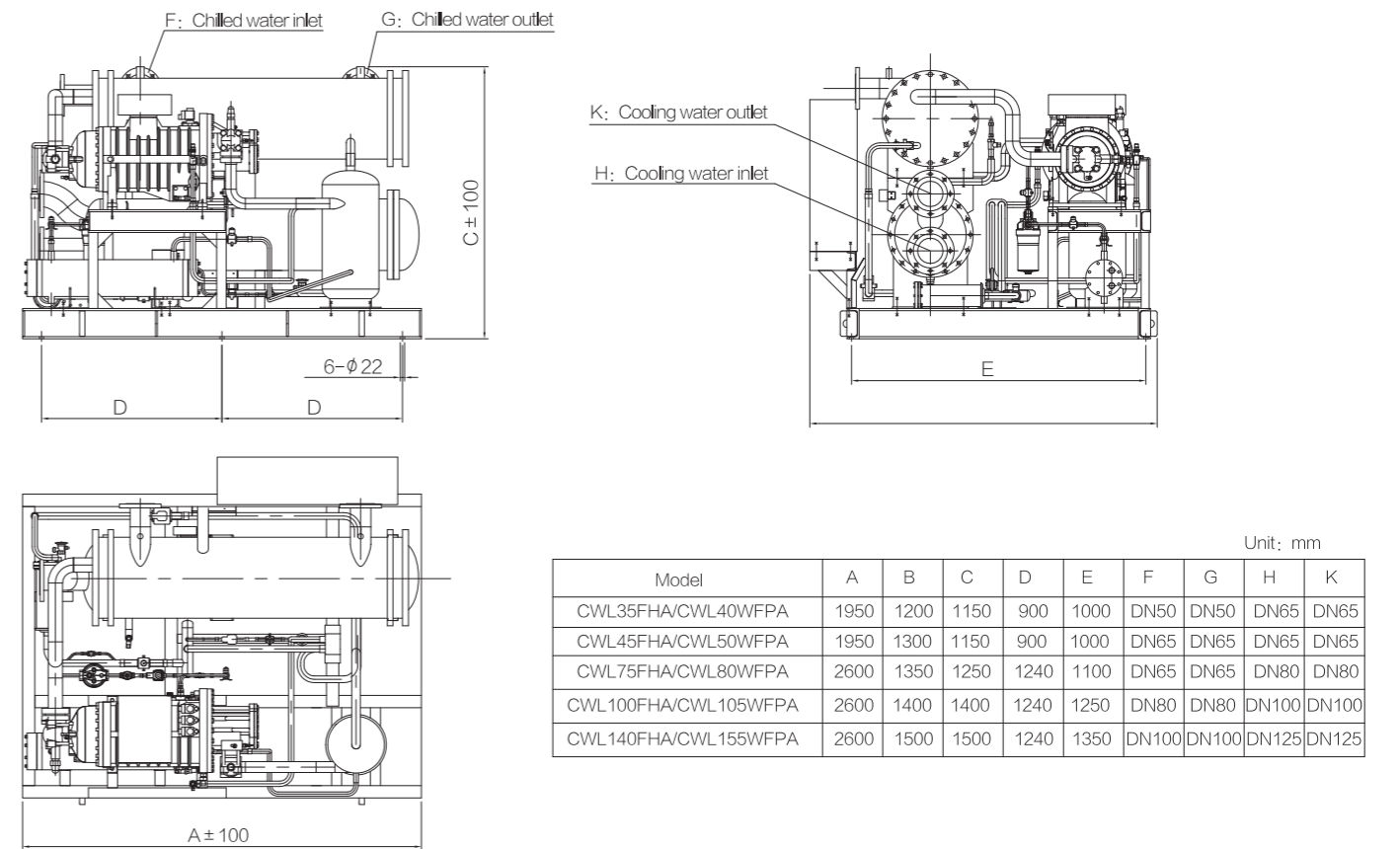
### Medium-temperature water cooled flooded brine units

CWM245 ~ 290WFHA/CWM260 ~ 305WFPA

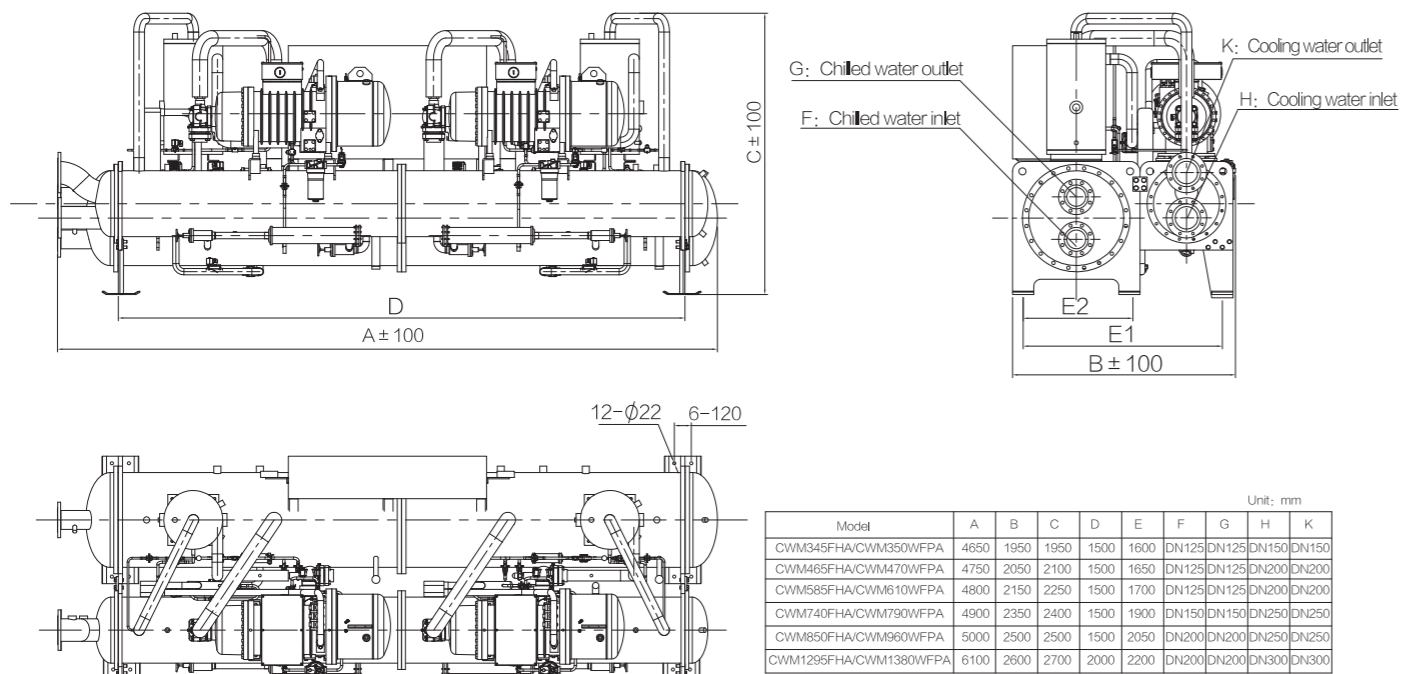


### Low-temperature water cooled dry-type brine units

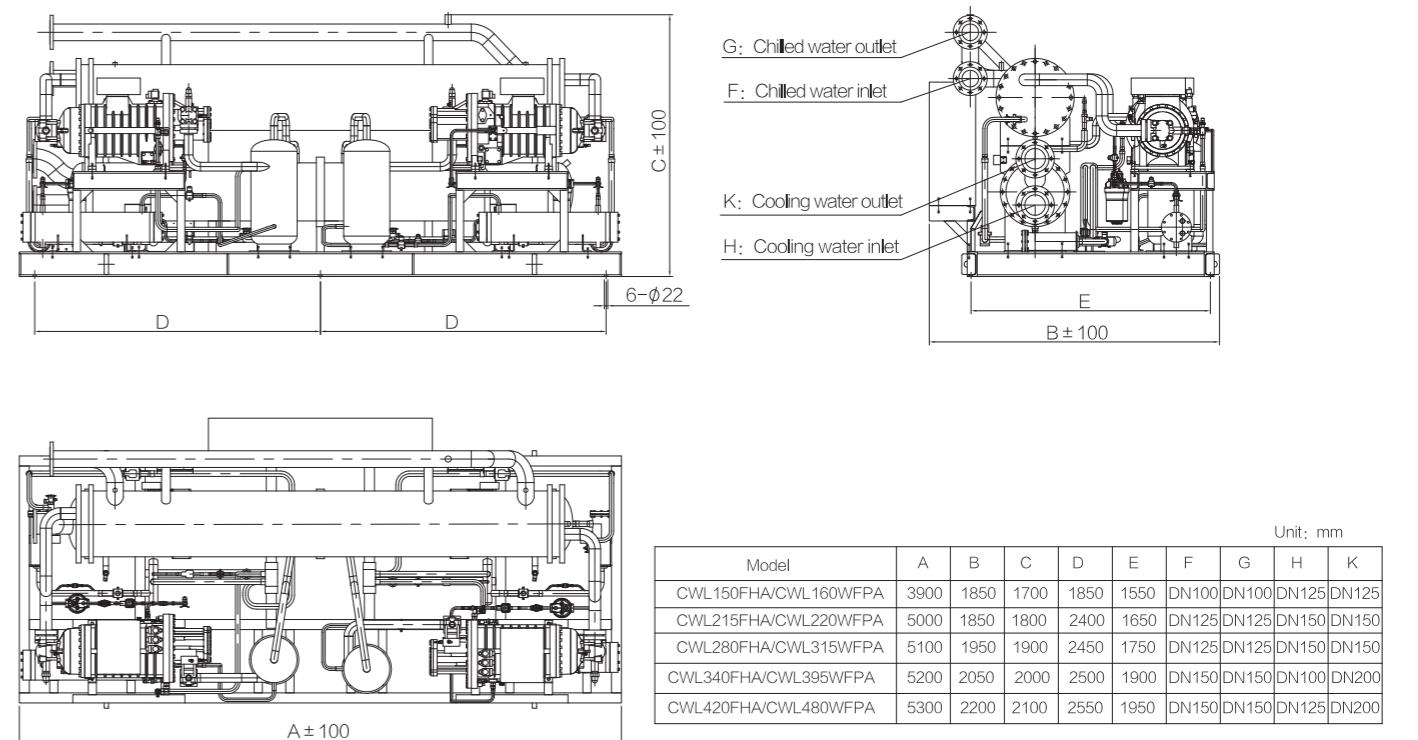
CWL35 ~ 140WDHA/CWL40 ~ 155WDPA



CWM345 ~ 1295WFHA/CWM350 ~ 1380WFPA



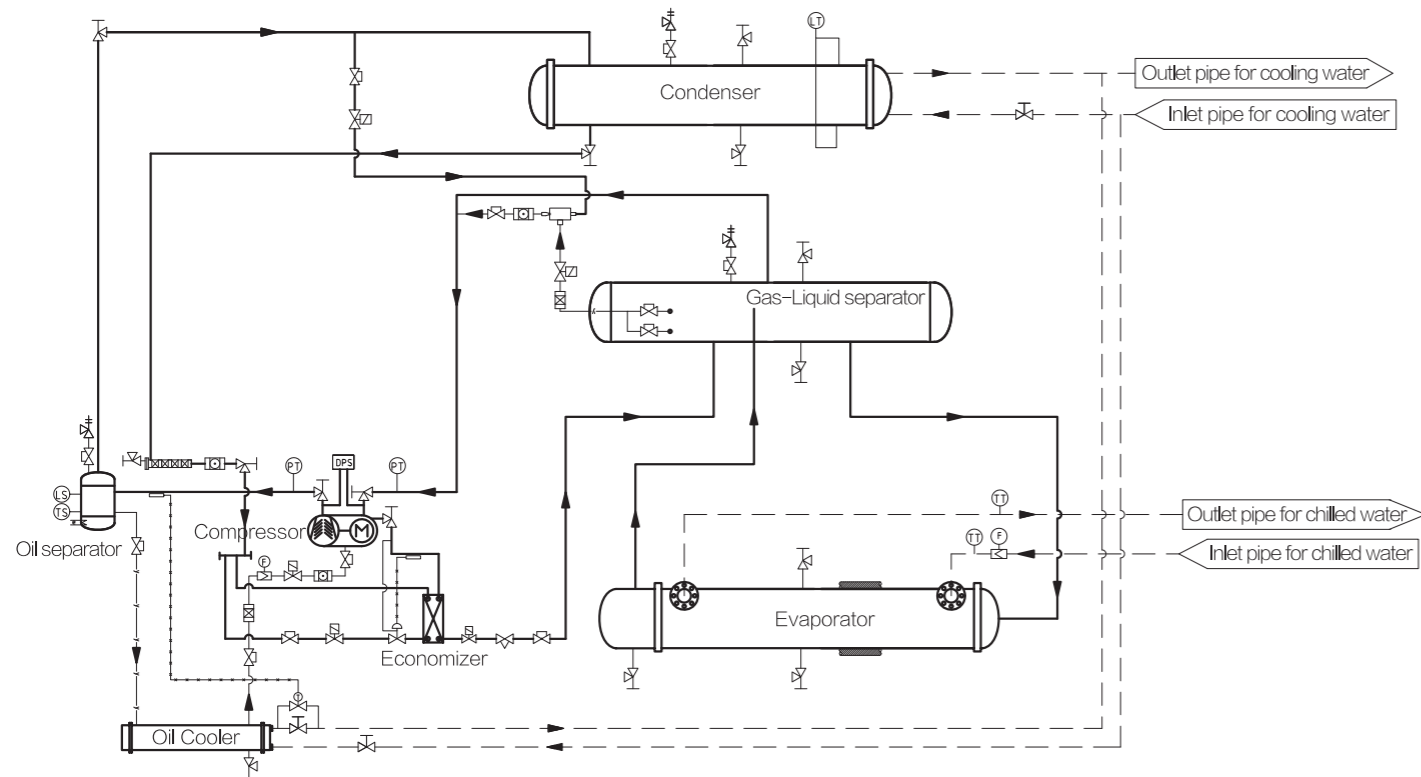
CWL150 ~ 420WDHA/CWL160 ~ 480WDPA



## Thermosyphon-type brine units

In the case of outlet water temperature of brine units under  $-25^{\circ}\text{C}$ , due to the viscosity of secondary coolants, either dry-type or thermosyphon-type evaporators can be used. The system diagram is as below. Clients can consult our company for specific parameters and unit dimensions if necessary.

### Thermosyphon-type brine unit system diagram



Symbol	Ball valve	Check valve	Pressure transmitter	Level switch	Water pipeline
	Solenoid valve	Sight glass	Temperature sensor	Liquid level sensor	Oil pipeline
	Filter	Safety valve	Dryer filter device	Thermostat	Refrigerant pipeline
	Expansion valve	Angled shut-off valve	Flow switch	Throttle valve	Sensor circuit
		Straight shut-off valve	Electrical heater	Insulation layer	

## Application area of units



Water conservancy  $5^{\circ}\text{C}$



Aquatic product  $40^{\circ}\text{C}$



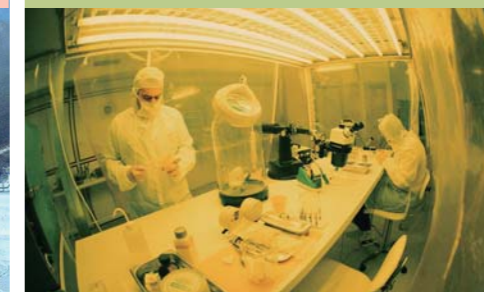
Spinning  $-7^{\circ}\text{C}$



Chemical engineering  $-40^{\circ}\text{C}$



Snowmaking  $-15^{\circ}\text{C}$



Scientific research  $-40^{\circ}\text{C}$



Pharmacy  $-25^{\circ}\text{C}$



National defense  $-45^{\circ}\text{C}$