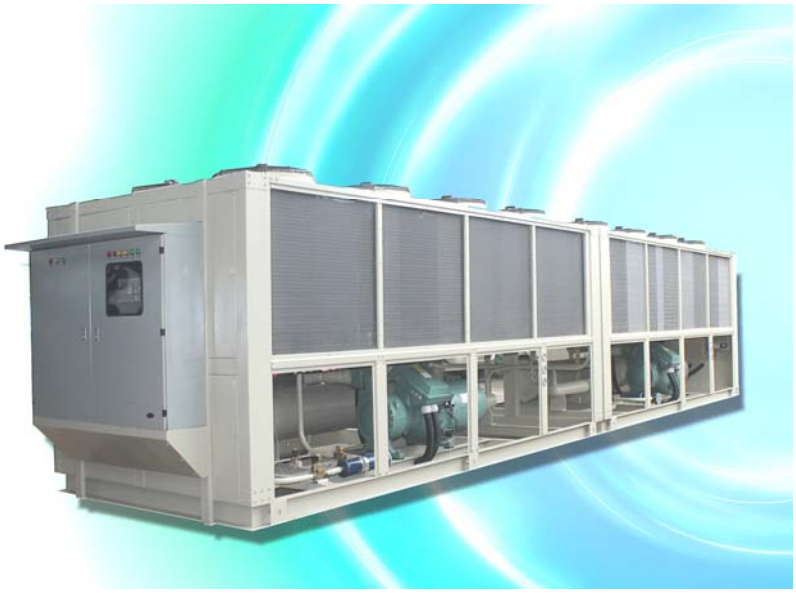
AIR COOLED SCREW CHILLER

For Heavy Duty use

100~1400KW



Unequaled Reliability

- **High cooling capacity,low power consumption**
- **Silent and low vibration**
- **High — efficiency profile Compressor, durable andeasymaintenance**
- **Long life bearing with pressure unloading and Optimized oil management**
- **Intelligent electrics protection**
- **Suitable for R 22 ; R 134a , R 407C , R 404A**

Energy efficient, Compact and Low noise*thermo Q*Air Cooled Packaged Chiller ScrewType Compressor has been developed for the requirements, featuring ***high efficiency , low noise less vibration easy installation and reliability .***

All units are compact completely factory Assemble and weather proof. its can reach on site easy to handling on transportation

The unit is pressure tested , evacuated and fully charges with Refrigerant - 22

Main Component

° Durable Screw Compressor

New 5 to 6 rotor profile with multi-nations' patents (Taiwan, US, UK, Japan, China...) that has not only with the high volume efficiency profile designed dedicatedly as refrigerants' characteristics, but also with high precise CNC machining centers, CNC rotor milling machines, ZEISS 3D coordinate measuring machinesetcthose high precision machining machines, inspection equipments and strict process control to render RC compressors with low vibration, low noise and high efficiency for all the customers of Hanbell worldwide

Multi-national Patens

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High Efficiency Motor

Premium-grade low-loss core steel with the special slot design for RC motors, and avail of an overall inner & outer guide design to pilot the suction gas flow with an equal distribution to pass the motor and gain the highest efficiency no matter what running capacity the compressor will be at.

Overall Range of Volume Ratio (Vi)

For different working conditions as water-cooled, air-cooled, refrigeration, cold room. Thermal storage... etc and different refrigerants like R22, R134a, R404A, R407C...etc, there are lots of various built-in volume ratio (Vi=2.2, 2.6, 3.0,3.5, 4.8) offered for customers' applications. It is very economical for the customers to save the running cost due to the avoidance of compressor' over-compression or less-compression.

Comprehensive Vi

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Vi tech with 4 step Capacity Control

- **Unique Floating Coil and Low Noise Condenser Fan**
- Floating coil concept prevents the refrigerant carrying tubes from coming in contact with the tube sheets. This concept allows for thermal expansion an contraction of the tubes without the risk of tube damage at the tube sheets, thereby reducing the chances of refrigerant leaks.
- The highly efficient and compact Cross finned coil type are designed with
- Outdoor fan with best quality fan made convenience with low noise level , s energy and high ambient resistance temperature use until 60 O C .

o High efficiency Evaporator

Dry expansion Shell and tube type Evaporator, compact and height efficiency heat transfer.

All evaporator equipped with Anti freeze to protect the cooling tube from being damage due to chilled water freeze up and chilled watertemperature sensor to reduce precision chilled water temperature.A drain plug is provided in the evaporator inlet pipe to extract chilledwater .

Manufacture standard TEMA , ASTM .

GENERAL DATA

AIR COOLED SCREW SEMI HERMETIC WATER CHILLER

TECHNICAL SPECIFICATION DATA

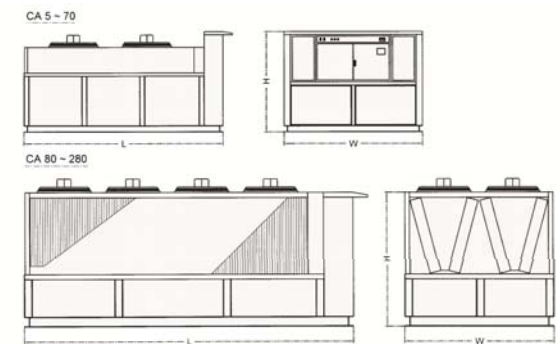
CA SERIES		50 ASC	60 ASC	70 ASC	80 ASC	90 ASC	110 ASC	125 ASC	140 ASC	160 ASC	180 ASC	220 ASC2	250 ASC2	280 ASC2	320 ASC2	360 ASC2	440 ASC2	480 ASC3	540 ASC3
COOLING CAPACITY	kW	105.6	133.8	150.9	199.8	235.5	256.3	290.3	321.2	366.1	428.0	501.9	580.6	642.4	732.2	856.0	1.003.8	1.098.3	1.284.0
	TR	30	38	43	57	67	73	83	91	104	122	143	166	182	208	244	286	312	366
COMPRESSOR Type		Semi Hermetic Screw Compressor																	
Motor Size	HP	50	60	70	80	90	110	125	140	160	180	220	250	280	320	380	440	480	560
RPM	1/min	2.900																	
Qty	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	Qty
Power Input	kW	36.1	45.5	50.2	67.2	75.7	81,7	94.6	104.7	122.2	135.5	155.3	189.2	209.4	233.4	271	310.6	366.6	406.5
Capacity Control	%	25 – 50 – 75 -- 100																	
Oil Charge	L	7	8	14	14	16	16	18	18	23	23	32	36	36	46	46	64	69	69
CONDENSER COIL																			
Material		Copper Tubes – Aluminum Fins																	
Tubes Diameter	Inch (mm)	3/8 (9,5)				3/8 (9,5)				3/8 (9,5)				3/8 (9,5)					
Face Area	m^2	327	525	525	525	554	780	1090	1090	1090	1108	1560	2180	2180	2220	3000	3300	4360	4360
Fin Spacing	mm	2,1				2,1				2,1					2,1				
CONDENSER FANS Type		Propeller, Direct Drive																	
Fans Speed	RPM	1340				850			1340	850					850				
Blade Diameter	mm	630				900			630	900					900				
No. of Fans	3	3	3	4	3	3	3	4	4	6	6	6	8	10	10	12	12	16	No. of Fans
Total Power	kW	5,7	5,7	5,7	7,6	9,9	9,9	9,9	13,2	7,6	19,8	19,8	19,8	26,4	33	33	39,6	39,6	52,8
Total Airflow	M^3/h	45000	43500	43500	52000	81000	81000	81000	100000	110000	162000	162000	162000	200000	266000	262000	300000	324000	400000
EVAPORATOR Type		Shell and Tubes, Direct Expansion, Removable Tube-Bundle																	
No. of RefrigerantCircuit		1	1	1	1	1	1	1	2	2	2	2	2	3	3	3	4	4	No. of
Water Volume	L	35	41	46	54	65	81	95	100	114	133	162	184	215	230	278	334	382	453
Chilled water Flow	L/s	4,77	6,07	6,89	8,10	9,43	11,36	13,19	15,44	16,20	18,87	22,71	26,39	30,89	34,07	39,58	46,33	52,77	61,77
Pressure Drop	kPa	19	27	18,8	22,8	26,1	30,6	34	46,6	47,7	52,1	31,7	38,1	41,2	45,3	54,8	65,6	67,6	71
Inlet / Outlet Temperature	^0C	12 1 7																	
Water Connection																			
Inlet / Outlet	DN	80	80	100	100	100	125	125	150	150	150	200	200	200	200	200	200	200	200
Drain	FPT	1 -																	

Cooling Capacity Based on ambient 35^{0}C, 55% RH, Refrigerant R-22, te 2^{0}C, tc 50^{0}C

CA Series			50 ASC	60 ASC	70 ASC	80 ASC	90 ASC	110 ASC	125 ASC	140 ASC	160 ASC
Dimension	Length	mm	3400	3400	3400	3400	3600	4000	4600	4600	4600
	Width	mm	1800	1800	1800	1800	1200	1200	1200	1200	1200
	Height	mm	1100	1100	1100	1100	2400	2400	2400	2400	2400
Weight		kg	830	900	1120	1160	1200	1700	1800	1900	2400

CA Series			180 ASC	220 ASC	250 ASC2	280 ASC2	320 ASC2	360 ASC2	440 ASC2	480 ASC3	540 ASC3
Dinnenston	Length	mm	3600	4000	4600	4600	6100	6700	6900	9000	9000
	Width	mm	2400	2400	2400	2400	2400	2400	2400	2400	2400
	Height	mm	2800	3700	4100	4300	2400	2400	2400	2400	2400
Weight		kg	2800	3700	4100	4300	5500	5900	6300	8000	8000

We improve our products continuously; therefore we reserve the right to change in specification without prior notice.



Optional features :

- **Ozone friendly refrigerant use**
- **Micro processor control base**
- **Heat recovery from refrigerant hot gas to reduce hot water**
- **Brine chiller type with brine temperature from 2 ° C to - 8 ° C**

❑ Programmable Electronic Controller

High technology

A high performance 16-bit microprocessor guarantees high program running speed and efficient management of the interfaces and the expansion boards, including control of faster transients.The parameters can be protected by various password levels (manufacturer, user).
All of components in this system can be connected to pLAN local networks without requiring additional cards , for the exchanger of data and information . Consequently, distributed control networks can be created simply and reliability for optimized management of the installation.

Programmability

The exclusive Easy Tools system development system allows rapid customization of the software, made even simpler by the use of flash RAM technology.

Communication

The pCO series controllers can interface to the more widely used communication standards, either directly or via gateways (Modbus®, BACnet™, Johnson METASYS®, DLL for Windows®, TCP/IP, SNMP, LonWorks®, TREND).

❑ Refrigerant Hot Gas Heat Recovery

The refrigeration cycle of an air conditioner or chiller provides an opportunity to recover heat for water heating. Compressors concentrate heat by compressing gaseous refrigerant. The resultant superheated gas is normally pumped to condenser for heat rejection. How ever, a hot gas to water heat exchanger my be placed into the refrigerant line between the compressor and condenser coil to capture a portion of the rejected heat .

Heat Recovery

You can get free Hot water every time when your Air Conditioning / Chilling Unit operation .

That saves you energy and money every month !

PLUS - Your Air Conditioner / Chiller cooling more efficiently every time your Heat recovery unit runs.

That save your energy and money too!

Heat recovery from refrigerant not gas to water Max. temperature of water can be reach = 70 ^{0}C

Manufacturing :

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