thermo Q

Water Cooled Screw Chiller

- Cooling capacity from 112 ~1.100 KW
- High cooling capacity , low power consumption
- Intelligent electronics protection for motor compressor
- Silent and Low Vibration
- Semi Hermatic Screw Compressor with step control capacity
- Durable and Easy maintenace

thermo Q presents the complete line of Water cooled packaged type reciprocating Water Chiller . ranging from 32 to 310 Ton Capacity
Economical , easy installation and operation in a complete packaged design. Ideal for modern cooling applications in high rise building , commercial building , shopping mall , hotel , hospital , and industrial plant.

All units are compact , completely factory assembled , shape and modular system to be installed. its can reach on site easy to handling on transportation .
The unit is pressure tested , evacuated and fully oil charge .
Charge with Refrigerant 134a ; R 404A or other Ozone Friendly refrigerant Type .

Man 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 machines etc those 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

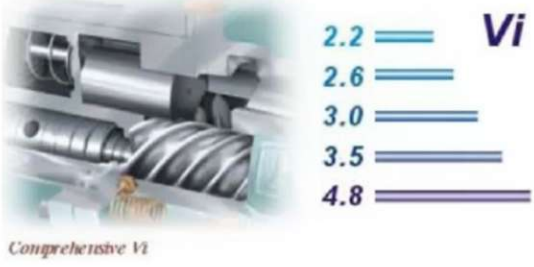
Multi-national Patens

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 compressorwill 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.

Unloading hydraulic scheme



Vi tech with 4 step Capacity Control

Condenser

Shell and tube type Condenser , compact and height efficiency heat transfer with low fin tube.
Copper tube material or Copper Nickel for marine use .
All condenser complete with slight glass indicator and stop valve for

Evaporator

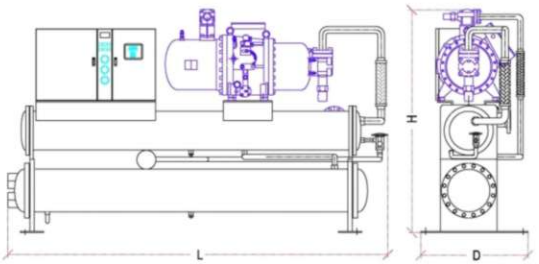
Shell and tube type Evaporator, compact and height efficiency heat transfer.
All evaporator complete with anti freeze protection and chilled water temperature sensor to reduce precision chilled water temperature .
Manufacture standard TEMA , ASTM .

WATER COOLED SCREW CHILLER
SPECIFICATION DATA

MODEL CW SERIES		40 ASC	50 ASC	55 ASC	70 ASC	80A2SC2	85 ASC	100A2SC2	110ASC	120 A2SC2	135 ASC	140 A2SC2	170 A2SC2	220 A2SC2	280 A2SC2	340 A2SC2	360 A2SC2
COOLING CAPACITY * [KW]		111.10	143.5	161.1	196	222.2	253.5	287	320	322.2	408.9	392	507	640	817.8	955.4	1064.6
TR		31.57	40.78	45.78	55.70	63.14	72.04	81.56	90.93	91.56	116.20	111.39	144.07	181.87	232.39	271.49	302.52
POWER CONSUME [KW]		31.1	38.5	43.5	52.6	62.2	64.3	77	82.1	87	104.2	105.2	128.6	164.2	208.4	244.6	273.4
COP/EER		3.57	3.73	3.70	3.73	3.57	3.94	3.73	3.90	3.70	3.92	3.73	3.94	3.90	3.92	3.91	3.89
COMPRESSOR	TYPE	Semi Hermetic Screw															
	HP	40	50	55	70	80	85	100	110	120	135	140	170	220	280	340	360
	No of system	1				2	1	2	1	2	1	2					
	V / P/ HZ	380 / 3 / 50															
REFRIGERANT	Type	R 22 , R 407 C , R 134a, R 410A															
CONDENSER	Type	Thermo "Q" – SHELL AND TUBE															
No. of Circuit		1								2					3		
Condenser Water Flow Rate (m³/h)		24.28	30.55	36.02	41.20	47.50	58.58	67.10	77.54	82.40	95.01	117.16	134.20	155.08	175.74	201.3	232.52
Condenser Water Connection (Inch)		DN 40	DN 50		DN 80		DN 100		DN 125			DN 150		DN 200			DN 250
Condenser Water Temp. In/Out (⁰C)		30 / 35															
EVAPORATOR	Type	Thermo "Q" – SHELL AND TUBE															
No. of circuit		1								2					3		4
Chilled Water Flow Rate (m³/h)		18.94	24.47	27.47	33.42	37.88	43.22	48.94	54.56	54.94	69.72	66.84	86.44	109.1	139.43	162.9	181.52
Chilled Water Pressure Drop (bar)		0.42	0.32	0.44	0.4	0.41	0.44	0.36	0.4	0.45	0.53	0.57	0.71	0.89	0.47	0.5	0.52
Water connection (inch)		DN 40		DN 50		DN 80		DN 100		DN 125			DN 150		DN 200		
Chilled Water Temp. In/Out (⁰C)		12 /7 (standard)															

- Cooling Capacity Based Condenser water In / Out – 30 ⁰C / 35 ⁰C . Refrigerant R-407C, CW. In 12 ⁰C , Out 7 ⁰C – Condensing Temp. 42.5 ⁰C

Dimension :



TYPE	L	D	H
CW 40 ASC	3.200	1.000	1.400
CW 50 ASC	3.200	1.000	1.400
CW 55 ASC	3.200	1.000	1.400
CW 70 ASC	3.200	1.000	1.800
CW 80 A2SC2	3.200	1.000	1.800
CW 85 ASC	3.200	1.000	1.800
CW 100 A2SC2	3.200	1.000	1.800
CW 110 ASC	3.200	1.000	1.800

TYPE	L	D	H
CW 120 A2SC2	3.200	2.250	1.800
CW 135 ASC	3.200	2.250	1.800
CW 140 A2SC2	3.200	2.500	1.800
CW 170 A2SC2	3.200	2.500	1.800
CW 220 A2SC2	3.200	2.500	1.800
CW 280 A2SC2	3.200	2.750	1.800
CW 340 A2SC2	3.200	2.750	1.800
CW 360 A2SC2	3.200	2.750	1.800

Programable Electronic Controller

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.

Optional features :

- **Ozone friendly refrigerant use**
- **Copper Nikcle tube for marine type**
- **Heat recovery from refrigerant hot gas to reduce hot water**
- **Brine chiller type with brine temperature from 2 OC to - 40 O C**

Refrigerant Hot Gas Heat Recovery (Optional)

~ 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 beplacedinto the refrigerant line between the compressor and condenser coil to capture a portion of the rejected heat.

Heat recovery from refrigerant hot gas to water .

Max. temperature of water can be reach = 70 ₀C

Manufacturing :

PT. Metalindo Prima Engineering
Heat Transfer Equipment Engineering

Office :
Jl. KH.Zaenal Mustafa No. 17
Jakarta Timur 13350 - INDONESIA
Phone : 081212070575 (Hunting)
Fax : 021 8513109
Website : www.metalindoengineering.com
Email : julfikar@metalindoengineering.com