

Water Cooled Reciprocating Chiller



- ❑ **Cooling capacity from 60 ~ 610 KW**
- ❑ **High cooling capacity , low power consumption**
- ❑ **Intelligent electronics protection for motor compressor**
- ❑ **High efficiency condenser**
- ❑ **High efficiency dry expansion evaporator**
- ❑ **Wide range Temperature Operation from - 40 ° C to + 20 ° C**

thermo Q presents the complete line of Water cooled packaged type reciprocating Water Chiller . ranging from 8 to 175 Ton Capacity.

Economical , easy installation and operation in a complete packaged design. Ideal for modern cooling applications in hi rise building , commercial and office building , shopping mall , hotel , hospital , and industrial plant .

All units are compact , completely factory assembled , shape and modular system to be installed as outdoor and weather proof . its can reach on site easy to handling on transportation .

The unit is pressure tested , evacuated and fully charge with Refrigerant and includes an initial oil charge .

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.



Compressor

New generation reciprocating semi hermetic compressor from **Copeland** - the world's largest manufacture of semi hermetic compressor . Compact, low noise , high efficiency , durable and easy maintenance . Capable of operating with HCFC Refrigerant, R 404 , R 507 , R 407a , R 134a and R 407C .

Each Compressor complete with Intelligent electronic for protection Fully motor protection against by thermal motor temperature control , motor overload , phase failure, low / hi voltage and phase sequence control , low oil pressure protection



Condenser



Shell and tube type Condenser , compact and height efficiency heat transfer with low fin tube.

Copper tube material or Copper Nikel for marine use .

All condenser complete with slight glass indicator dan stop valve for service .

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 .



Protection and Control Device

Dual pressure switch , to protects hight discharge pressure caused by incorrect installation and low refrigerant suction pressure by refrigerant leak .

Freezing protection thermostat , protects against chilled water freezing due to no flow or other causes during chilled water pipe installation .

Oil pressure safety switch , protects compressor against loss of oil pressure .

Sight glass , a moisture indicating sight glass is installed in the liquid line. Easy to read color indicator shows moisture content directly on the spot . This provides mean for easy checking of the system refrigerant charge and condition .

Filter drier , Refrigerant circuits are kept free from harmful moisture , sludge , acids and oil contaminating particles . A filter – drier witch a large effective are allowing for very low pressure drop is provided on each mode.

Flow switch , protector for poor cooling water .

Thermostat control , Automatically maintains the leaving chilled water temperature at desired level.

WATER COOLED RECIPROCATING CHILLER

SPESIFICATION DATA

Model	CW Series	15 AS	20 AS	30 AS	40 AS	50 AS	60 AS	60 A2S2	80 A2S2	100 A2S2	120 A2S2	120 A3S3	150 A3S3	180 A3S3
Cooling Capacity	[KW]	37.86	44.19	62.37	97.52	116.99	139.79	124.73	195.03	233.98	279.58	292.55	350.97	419.36
	[TR]	10.76	12.56	17.72	27.71	33.24	39.72	35.44	55.42	66.49	79.45	83.13	99.73	119.17
	[KW]	11.93	12.01	17.97	28.13	33.30	40.53	35.94	56.26	66.6	81.06	84.39	99.90	121.59
Current Ampere	[Amp]	22.82	23.19	34.25	52.65	69.42	76.58	68.5	105.3	138.84	153.16	157.95	208.26	229.74
Power Source		380 V / 3 Ph / 50 Hz												
Refrigerant		R 407 C												
COMPRESSOR	Type	SEMI HERMATIC RECIPROCATING (Piston)												
	Model	3SSH 1500	4SAH 200E	4SJH 300E	6SJH 400E	6SKH 500E	SJ 6000	4SJH 300E	6SJH 400E	6SKH 500E	SJ 6000	6SJH 400E	6SKH 500E	SJ 6000
	Qty	1	1	1	1	1	1	2	2	2	2	3	3	3
	Capacity Control [%]	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	ON/OFF	50-100	50-100	50-100	50-100	33-66-100	33-66-100	33-66-100
CONDENSER	Type	SHELL AND TUBE												
	Model	CD 15	CD 20	CD 30	CD 40	CD 50	CD 60	CD 60.2	CD 80.2	CD 100.2	CD 120.2	CD 120.3	CD 150.3	CD 180.3
	Press Drop [Bar]	0.16	0.21	0.3	0.24	0.21	0.15	0.18	0.22	0.2	0.21	0.19	0.18	0.19
	Material	Cooper Tube ; Carbon Steel Shell												
Cond. Water Flow - min	[Ltr/min]	146	170	245	378	447	545	490	756	894	1,090	1,134	1,341	1,635
Condenser Water Connection		DN 50	DN 50	DN 65	DN 80	DN 80	DN 80	DN 80	DN 100	DN 100	DN 100	DN 100	DN 125	DN 125
EVAPORATOR	Type	SHELL AND TUBE												
	Model	DX 15	DX 20	DX 30	DX 40	DX 50	DX 60	DX 30 X 2	DX 40 X 2	DX 50 X 2	DX 60 X 2	DX 40 X 3	DX 50 X 3	DX 60 X 3
	Press. Drop. [Bar]	0.32	0.25	0.26	0.29	0.3	0.31	0.29	0.34	0.32	0.3	0.33	0.32	0.34
	Material	Cooper Tube ; Carbon Steel Shell												
Chilled Water Flow - min.	[Ltr/min]	120	140	200	300	365	437	390	610	730	875	915	1,100	1,300
Chilled Water Connection		DN 50	DN 50	DN 50	DN 65	DN 80	DN 80	DN 80	DN 80	DN 100	DN 100	DN 100	DN 100	DN 125
No of Circuit		1	1	1	1	1	1	2	2	2	2	3	3	3
Chilled Water Temp. - IN/OUT	[°C]	12.0 / 7.0												

Model	Dimension			Model	Dimension		
	L	W	H		L	W	H
15 AS	1350	700	1400	80 A2S2	2200	1100	1400
20 AS	1350	700	1400	100 A2S2	2200	1100	1400
30 AS	1800	800	1400	120 A2S2	2200	1200	1500
40 AS	1800	800	1400	120 A3S3	2300	1600	1600
50 AS	2200	900	1400	150 A3S3	2300	1600	1600
60 AS	2200	900	1400	180 A3S3	2300	1600	1600



Optional features :

- ◆ **Ozone friendly refrigerant use**
- ◆ **Epoxy coating fins or marine type copper fins**
- ◆ **Heat recovery from refrigerant hot gas to reduce hot water**
- ◆ **Brine chiller type with brine temperature from 2 ° C to - 40 ° C**

Refrigerant Waste Heat Recovery :

The Heat Recovery Unit captures waste heat discharged from the refrigerant cycle in an Water Chiller or Air Conditioning system, and transfers that heat into a Hot water tank, thereby creating low cost hot water for Hotel , Laundry , Feed water Boiler or Industrial use. Not only does the Heat Recovery Unit substantially reduce the amount of energy required to provide domestic hot water, but it also improves the cooling efficiency of the Chiller or Air Conditioner it is operating.

Heat recovery from refrigerant hotgas to water .
Temperature of water can be reach until 70 ° C



PT. Metalindo Prima Engineering
Heat Transfer Engineering

Office :

Jl. K.H Zainal Mustafa No. 17 - Jakarta (13350) - Indonesia

Phone : 62 21 856 1234 Fax : 62 21 851 3109 -

Website : www.metalindoengineering.com

Email : info@metalindoengineering.com