SKM WATER COOLED CENTRIFUGAL CHILLER

اجهـــزة تكـييـف هـــواء
AIR CONDITIONING EQUIPMENT

R-134a
REFRIGERANT

Ultra High-Efficiency Model-U Type
High-Efficiency Model-E Type
Range 200 TR to 2700 TR

COP 6.9

About Us...

INTRODUCTION

S.K.M Air Conditioning LLC is one of the leading manufacturers of HVAC (Heating, Ventilation and Air Conditioning) equipment in the Gulf. It was founded with a single-minded objective; to meet the growing needs of indoor environment quality in some of the world's harshest climates. Driven by its mission "Total Customer Satisfaction", SKM offers a broad portfolio of premium international quality products that have worked efficiently in various geographic locations. SKM has provided solutions for many blue chip projects for the companies, organisation and government agencies across the region, to view its major projects portfolios, please follow the link:

www.skmaircon.com/skm_projects

SKM is the proud winner of Sharjah Economic Excellence Award in the Gold category; it is also the recipient of ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007 certifications. Additionally SKM products are certified by internationally recognised testing, and certification bodies such as AHRI Certified Air Cooled Chilling package, AHRI Certified - Chilled Water / Hot Water Coils, TÜV certified Hygienic Air Handling Units and unitary Packaged Air Conditioners. To know more about the certifications it received, please follow the link:

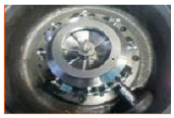
www.skmaircon.com/certificates

SKM
Centrifugal Water Chiller

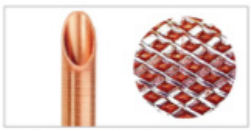
Key features:

- High efficiency Chiller with COP up to 6.9 at AHRI conditions.

- High Efficiency 2 stage Impeller, with dual expansion cycle. Ensures wide range of operation.
- Low Noise design with Shroud type impeller.



- Continuous operation from 10%~100%, through efficient control of Inlet Guide Vane & Movable Diffuser.
- Inter stage Economizer, to further improve efficiency.
- Electronically controlled High and Low Expansion valves for optimum refrigerant. level control.



- high-performance “THERMOEXCEL” heat transfer tubes for both cooler & condenser.

- Cooler & Condenser tubes are triple grooved to ensure reliability.
- Environment friendly R-134a refrigerant.
- Built in type oil pump & refrigerant cooled oil cooler.
- High-Performance Control Center with 7.5” Color Touch Screen
- Compatible with most of building management system (BMS) protocols.
- 24/7 Service call center.

Construction High-efficiency HFC-134a Centrifugal Water Chiller

SKM Centrifugal Water Chiller | Cooling Capacity (Refer to the standard specifcution) | .VersionNo

STR – U | 1000 | H | 1 – V

Use
U : Ultra High efficiency Model
E : High-efficiency model

Refrigerant : R-134a

No Marks : Solid State
V : VFD Starter

Feature & Benefits

Features of the High-efficiency R-134a Centrifugal Water Chiller

COP	kW/RT
6.9	0.509

SKM High-efficiency R-134a Centrifugal Water Chiller has realized energy saving through implementation of a High-efficiency 2-stage compressor and the most up-to-date heat transfer tube. Customer's satisfaction with the performance and reliability of the SKM High-efficiency Centrifugal Water Chiller has earned it its status as the best Chiller on the market.

Environmental-friendly Centrifugal Water Chiller

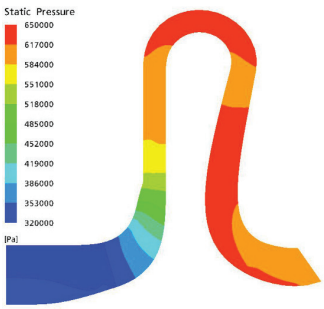
Eco friendly

SKM High-efficiency R-134a Centrifugal Water Chiller has the lowest total refrigerant emissions rate in the industry.

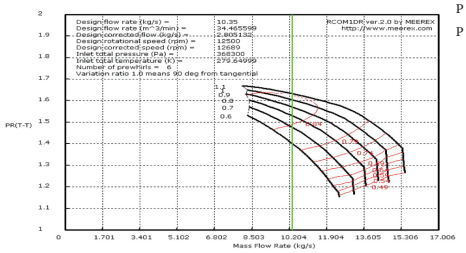
Design Optimization of Impeller Using Numerical Analysis of Flow Passage

We have greatly increased the efficiency of the compressor by improving the impeller's flow passage and by applying hydro-dynamically optimum revolutions per minute. In addition, we have utilized a super-precision aluminum alloy for our impeller, which possesses an ideal 3D shape that had been carefully reviewed through detailed analysis of its structure and flow.
We have also adopted an ideal flow passage structure through detailed numerical analysis of CFD fluid flow for each parts and combined flow passage that make up the paths of refrigerant such as the impeller, diffuser, de-swirler, and casing.

Meridional Static Pressure Contour (1st Stage)

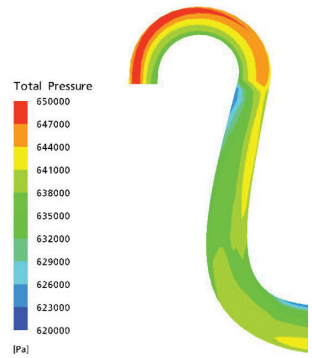


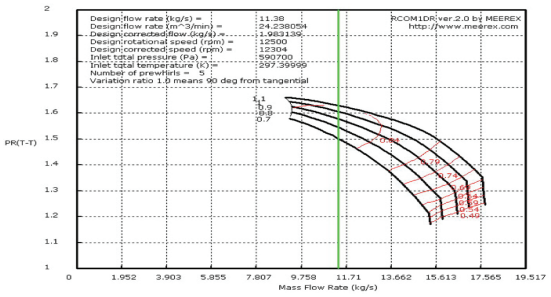
Compressor Performance Prediction



1st Stage

Total Pressure Contour at Return-bend and Channel

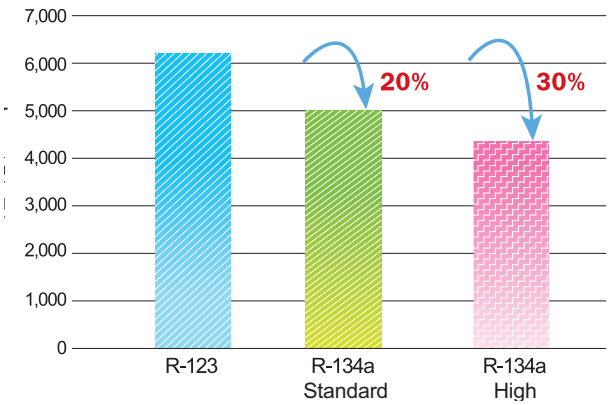




2nd Stage

High-efficiency

- SKM High-efficiency R-134a Centrifugal Water Chillers offer the highest efficiency in the industry,
- We have achieved energy saving of 6~8% over the previous 1-stage cycle model by adopting an economizer based 2-stage compression system.
- High-efficiency Closed Shroud Impeller
- Realized High-efficiency cycle and system through application of a sub-cooling system and a precise control of expansion valve which carefully considered the effect of part load.
- The newest and energy-saving high-performance heat transfer tube
- High-efficiency electric motor.



Control of Wide Range of Capacities

Continuous operation is possible from 10%~100% through efficient associated control of inlet guide vane, movable diffuser, and hot gas bypass.
Part load performance is further improved through use of moveable designed variable inlet guide vanes. Inlet guide vanes improve performance by throttling refrigerant gas flow to exactly meet part load requirements and by pre-rotating refrigerant gas for optimum entry into the impeller.

Safe Performance Guaranteed from Application of High-pressure Refrigerant

R-134a centrifugal water chiller is able to display continuous performance by extending the life of the chiller through implementation of a high pressure design which exceeds the atmospheric pressure.
No bleeding devices are necessary as the chiller is completely free from the influx of any non condensates, which has lowered the chiller's efficiency in the old low-pressure centrifugal water chillers (R -11, R -123).
R -134a guarantees the chiller's long life performance as it can prevent the insulation breakdown of the motor which may arise from pollution of anti condensing substances.

Energy saving High-performance Heat Transfer Tube

The heat transfer rates of the evaporator and condenser have been significantly improved through the use of a high-performance heat transfer tube, "THERMOEXCEL." As a result, condensation temperature becomes higher, evaporation temperature becomes lower. This leads to decrease in pressure ratio of the compressor and thus one can save the cost of power consumption through major decrease of load on the compressor.

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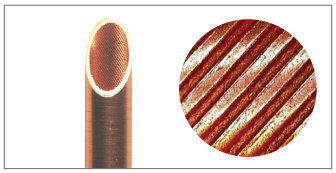
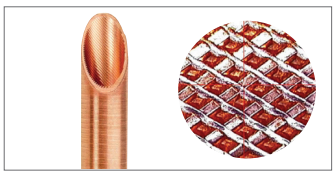
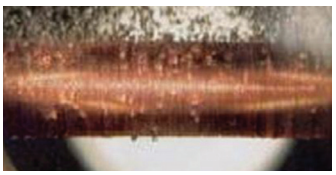
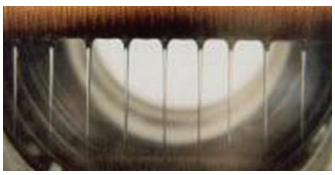
- Heat Transfer Tube for Evaporator "THERMOEXCEL-EKW" In order to accelerate the boiling process and increase bubble point, a tunnel shall be operated in the lower region of the surface towards the direction of the circumference. This allows the refrigerant to evaporate quickly and thus provides complete and continuous boiling process.
  Also, the Evaporator shall perform triple grooving and ridge in order to enhance the heat transfer efficiency of the chilled water. As a result, the heat transfer performance has been improved over the previous single grooving and ridge heat transfer tubes.
- Heat Transfer Tube for Condenser "THERMOEXCEL-CKW" to allow the refrigerant to condense and drip easily, the condenser shall be operated in the shape of a Micro-Fin which has a sharp tip. Also, the condenser shall perform triple grooving and ridge in order to enhance the heat transfer efficiency of the cooling water. As a result, the heat transfer rate has been improved over the previous groove and protrusion heat transfer tubes.


Internal Composition of an Old-model Heat Transfer Tube


Internal Composition of THERMOEXCEL-EKW, CKW


Boiling


Condensation, dripping

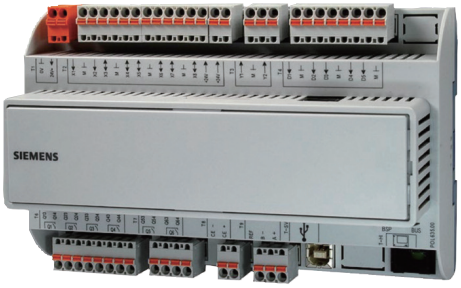
Realization of a Low Noise Production System

R -134a centrifugal water chiller has greatly decreased the production of noise during operation in comparison to the previous R -123 turbo chiller and other company's centrifugal water chillers through application of precision impeller, optimum number of rotations, and low-noise design. With only one moving component the rotor and impeller assembly the low speed, direct drive design operates exceptionally quietly.

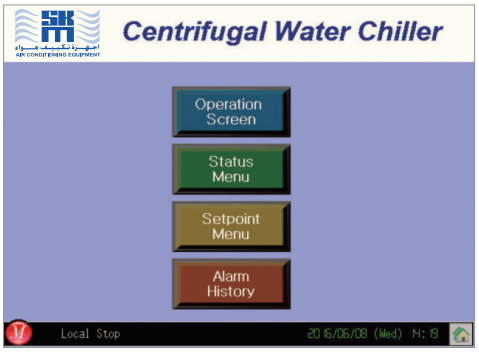

1st, 2nd Impeller IGV(Inlet Guide Vane) Return Channel (Deswirler)

High-tech Control Center

7.5" color LCD touch screen graphically displays the chiller's operation status, alarm history management, remote control, and scheduled operation, which allows for convenient control and operation. In addition, the Pre-Alarm feature makes it possible to eliminate errors and take appropriate measures at the same time.
Not only that, language setting can be changed with a single touch on the touch screen. The control center provides Korean, English, and Chinese as the basic options while other languages are available per order.



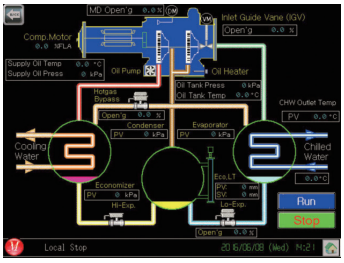
PLC Controller



Color LCD Touch Screen Display Window

Operation Status Display

Users may graphically check the chiller's operation status such as the pressure, temperature, and control motor's opening rate.

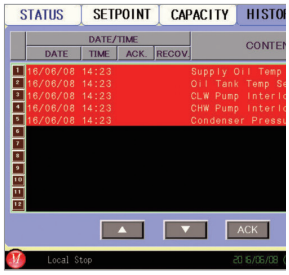


Convenient Capacity Control

Users may easily control the capacity control valve manually or automatically.

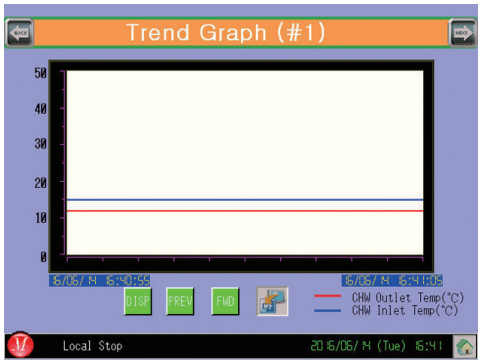
Alarm History

Store upto 128 malfunctioning histories and may interpret the cause alarm by storing up to 8 operation data for each alarm items when alarm is triggered



Trend

Display maximum of up to 7 operation data in real-time as graphs and allows users to save them to CF card when necessary. And then print the saved data through the printer.



Pre-Alarm

Allows to eliminate error and take appropriate measures by displaying pre-alarm signals before the chiller ceases to operate during normal operation due to alarm

- High Oil Temperature Alarm .
- Low Oil Temperature Alarm .
- Freezing Prevention Alarm .
- High Condenser Pressure Alarm .
- Low Evaporator Pressure Alarm.
- High Oil Supply Temperature Alarm .
- Low Oil Pressure Alarm .

Supports Modbus Protocol (Option)

Modbus protocol is provided in standard form to allow users to monitor and or control (modify configured values, remote operation) the chiller's operation and alarm status through RS-485 communication.

PC Monitoring (Option)

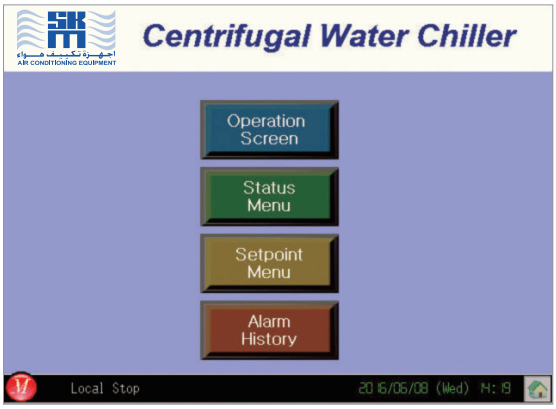
Operator may monitor and or control the chiller installed on the site by using an Ethernet-based PC from a remote location without having to travel to the site.

Support Variable communication Protocol

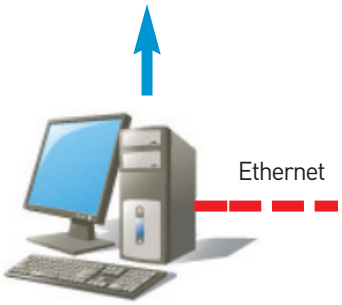
- Modbus RS485
- Modbus TCP/IP (Option)
- CANopen (Option)

System Configuration

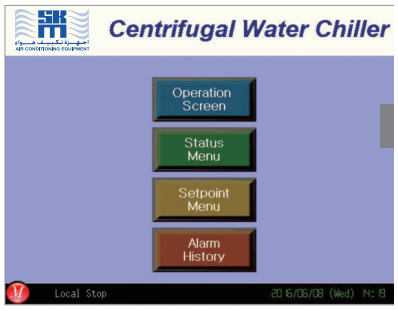
- TouchScreen(support model of Ethernet:(Option)
- Exclusive Software (Option)
- MonitoringComputer(User'sPC)
- EthernetCable+ IPAddress (User'sScope)



PC Monitoring System S/W



Monitoring Computer (User's PC)



Touch Screen

Centrifugal Chiller

Data For Ultra High-Efficiency Model

STR-U200H1 - U600H1

Item \Model			Ultra High-Efficiency Model (STR-U)									
			200H1		300H1		400H1		500H1		600H1	
Chilled-water Outlet Temperature		c	5	7	5	7	5	7	5	7	5	7
Cooling Capacity		USRT	185	200	275	300	370	400	460	500	550	600
Input		kW	113	116	161	167	218	222	266	272	315	323
Efficiency		kW/RT	0.611	0.58	0.585	0.557	0.589	0.555	0.578	0.544	0.573	0.538
Chilled Water	Flow Rate	m^3/h	112	121	167	182	224	242	279	303	333	363
	Pressure Drop	mAq	8.6	10.1	8.6	10.2	8.6	10.1	8.8	10.4	8.7	10.4
	Connection Size	A	125		150		200		200		250	
	No.of passes	-	3		3		3		3		3	
Cooling Water	Temperature	c	Inlet 32 / Outlet 37									
	Flow Rate	m^3/h	134	145	200	218	269	290	334	363	399	435
	Pressure Drop	mAq	9	10.5	8.9	10.6	9.2	10.8	8.9	10.5	9.2	10.9
	Connection Size	A	125		150		200		250		250	
	No.of passes	-	3		3		3		3		3	
Dimension	Length (L)	mm	4,110		4,110		4,250		4,250		4,250	
	Width (W)	mm	1,634		1,832		2,042		2,252		2,252	
	Height (H)	mm	2,048		2,169		2,334		2,492		2,492	
Weight	Shipping Weight	Ton	6.2		7		8.1		9.9		10.1	
	Operating Weight	Ton	7.1		8.1		9.6		11.8		12.2	

STR-U700H1 - U1350H1

Item \Model			Ultra High-Efficiency Model (STR-U)											
			700H1		800H1		900H1		1000H1		1200H1		1350H1	
Chilled-water Outlet Temperature			5	7	5	7	5	7	5	7	5	7	5	7
Cooling Capacity		USRT	640	700	735	800	820	900	920	1,000	1,100	1,200	1,240	1,350
Input		kW	366	374	420	428	461	477	517	530	618	636	702	720
Efficiency		kW/RT	0.572	0.535	0.572	0.535	0.562	0.53	0.562	0.53	0.562	0.53	0.566	0.533
Chilled Water	Flow Rate	m^3/h	388	424	445	484	496	545	557	605	666	726	750	817
	Pressure Drop	mAq	5.5	6.6	5.6	6.6	5.4	6.5	5.5	6.5	5.5	6.6	8.8	10.4
	Connection Size	A	250		300		300		300		300		350	
	No.of passes	-	2		2		2		2		2		2	
Cooling Water	Temperature		Inlet 32 / Outlet 37											
	Flow Rate	m^3/h	464	508	533	581	595	653	668	726	798	871	900	980
	Pressure Drop	mAq	6.4	7.6	6.5	7.7	6.3	7.6	6.5	7.7	6.6	7.9	9.9	11.6
	Connection Size	A	300		300		300		300		350		400	
	No.of passes	-	2		2		2		2		2		2	
Dimension	Length(L)	mm	5,030		5,030		5,070		5,070		5,070		6,160	
	Width (W)	mm	2,430		2,430		2,585		2,585		2,826		3,279	
	Height(H)	mm	2,644		2,644		2,867		2,867		3,015		3,410	
Weight	Shipping Weight	Ton	11.7		12.2		14.9		15.4		17		23.4	
	Operating Weight	Ton	13.9		14.6		17.7		18.3		20.3		27.4	

Note

1. Fouling Factor for chilled water and cooling water : 0.0001 m2h /kcal.
2. Maximum operational pressure is 10kg/cm2G for chilled water and cooling water. Higher pressure can also be used. Please contact our company when the operational pressure exceeds 10kg/cm2G.
3. The standard voltages for the main power are as fol lows. 3ø/60(50)Hz/380V, 440V, 3300V, 6600V
4. The standard starting method is Solid State .
5. Product standards and specifications are sub ject to change without notice due to product reform.

Data For Ultra High-Efficiency Model

R-134a,STR-U1500H1~U2700H1

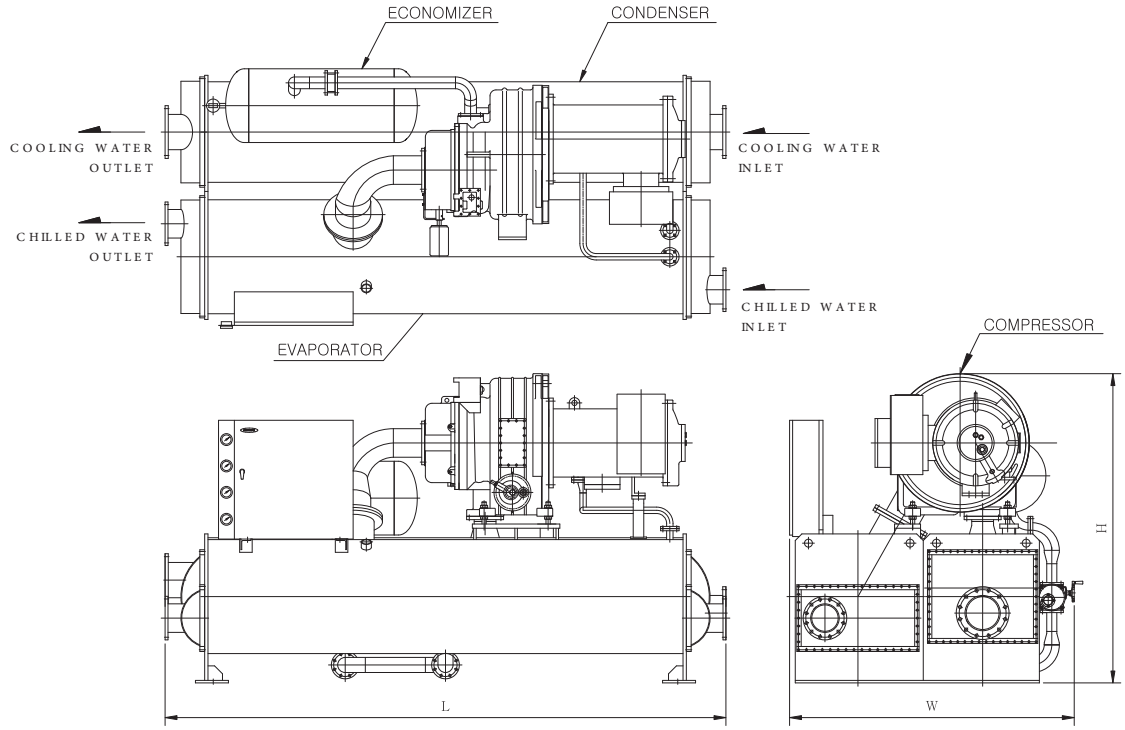
Item \Model			Ultra High-Efficiency Model (STR-U)											
			1500H1		1750H1		2000H1		2300H1		2500H1		2700H1	
Chilled-water Outlet Temperature			5	7	5	7	5	7	5	7	5	7	5	7
Cooling Capacity		USRT	1,380	1,500	1,610	1,750	1,850	2,000	2,110	2,300	2,300	2,500	2,480	2,700
Input		kW	781	800	908	929	1,043	1,062	1,186	1,219	1,293	1,325	1,389	1,426
Efficiency		kW/RT	0.566	0.533	0.564	0.531	0.564	0.531	0.562	0.53	0.562	0.53	0.56	0.528
Chilled Water	Flow Rate	m^3/h	835	908	974	1,059	1,119	1,210	1,277	1,392	1,391	1,512	1,500	1,633
	Pressure Drop	mAq	8.7	10.3	9.1	10.6	9	10.5	8.8	10.4	8.7	10.3	8.8	10.4
	Connection Size	A	350		400		400		450		450		500	
	No.of passes	-	2		2		2		2		2		2	
Cooling Water	Temperature		Inlet 32 / Outlet 37											
	Flow Rate	m^3/h	1,002	1,088	1,169	1,271	1,343	1,452	1,532	1,670	1,670	1,815	1,800	1,960
	Pressure Drop	mAq	9.8	11.5	10.2	11.9	10.1	11.8	10.1	11.9	10	11.8	10.1	11.9
	Connection Size	A	400		450		450		500		500		550	
	No.of passes	-	2		2		2		2		2		2	
Dimension	Length (L)	mm	6,160		6,250		6,250		6,250		6,250		6,250	
	Width W)	mm	3,279		3,709		3,709		4,014		4,014		4,184	
	Height (H)	mm	3,410		3,620		3,620		3,780		3,780		3,860	
Weight	Shipping Weight	Ton	24		26.5		27.5		30.3		31.2		32.8	
	Operating Weight	Ton	28.2		31.2		32.5		36		37.1		39.1	

Note

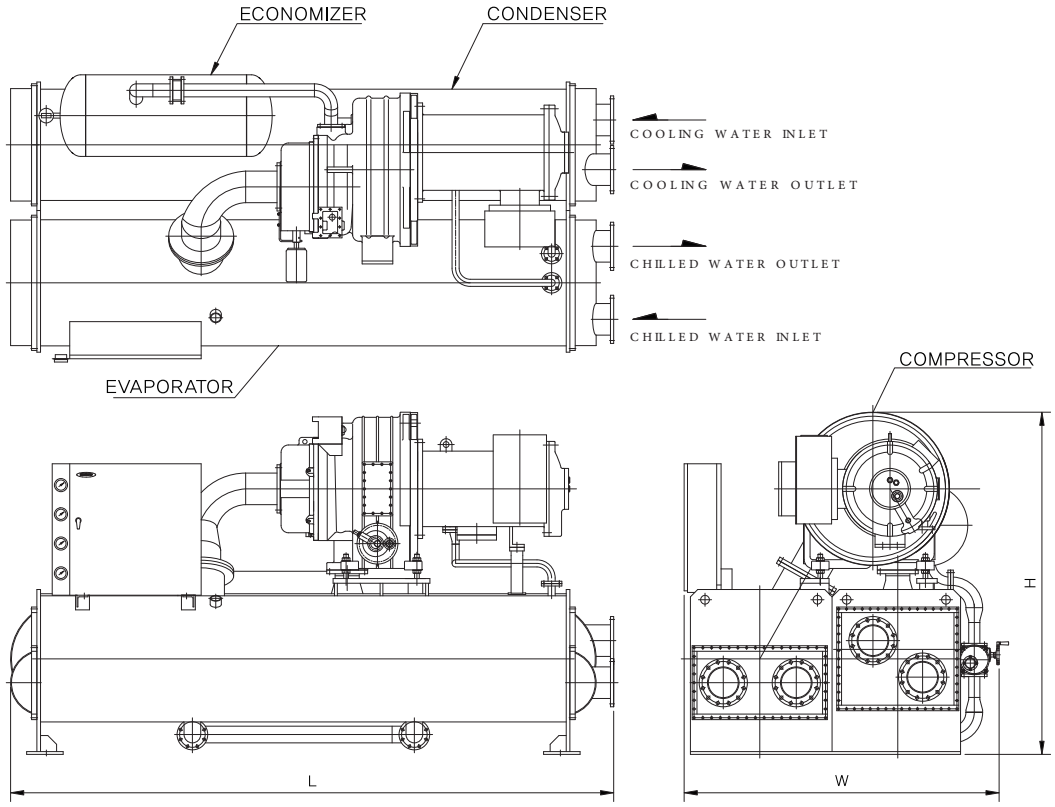
1. Fouling Factor for chilled water and cooling water : 0.0001 m2h /kcal.
2. Maximum operational pressure is 10kg/cm2G for chilled water and cooling water. Higher pressure can also be used. Please contact our company when the operational pressure exceeds 10kg/cm2G.
3. The standard voltages for the main power are as fol lows. 3ø/60(50)Hz/380V, 440V, 3300V, 6600V
4. The standard starting method is Solid State .
5. Product standards and specifications are sub ject to change without notice due to product reform.

Standard Outline Drawings (STR-U type)

STR-U200H1~U600H1



STR-U700H1~U2700H1



Electrical Data For Ultra High-Efficiency Model

STR-U200H1 - U800H1 (50Hz)

50Hz

Model	Devision	Units	380V (440V)	3,300V	6,600V
STR-U200H1	OUTPUT	kW	130	130	130
	F.L.C	A	235.2 (203.1]	26.8	13.5
	POWERFACTOR	%	90.3	91	90
	EFFICIENCY	%	93	93.2	93.5
	INPUT	kW	139.8	139.5	139
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U300H1	OUTPUT	kW	190	190	190
	F.L.C	A	346.8 (299.5]	39.3	19.6
	POWERFACTOR	%	90	91	91
	EFFICIENCY	%	92.5	93	93
	INPUT	kW	205.4	204.3	204.3
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U400H1	OUTPUT	kW	230	230	230
	F.L.C	A	410.7 (354.7]	47.8	23.9
	POWERFACTOR	%	91	90.5	90.5
	EFFICIENCY	%	93.5	93	93
	INPUT	kW	246	247.3	247.3
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U500H1	OUTPUT	kW	290	290	290
	F.L.C	A	517.8 (447.2]	60.3	30.1
	POWERFACTOR	%	91	90.5	90.5
	EFFICIENCY	%	93.5	93	93
	INPUT	kW	310.2	3118	311.8
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U600H1	OUTPUT	kW	350	350	350
	F.L.C	A	635.3 (548.7]	72.8	36.4
	POWERFACTOR	%	90	90	90
	EFFICIENCY	%	93	93.5	93.5
	INPUT	kW	376.3	374.3	374.3
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U700H1	OUTPUT	kW	410	410	410
	F.L.C	A	741.8 (640.7]	85.7	42.9
	POWERFACTOR	%	90	90	90
	EFFICIENCY	%	93.3	93	93
	INPUT	kW	439.4	440.9	440.9
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U800H1	OUTPUT	kW	460	460	460
	F.L.C	A	818.7 (707.1]	94.6	47.6
	POWERFACTOR	%	91.3	91	90.5
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	492	4920	492
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

Electrical Data For Ultra High-Efficiency Model

STR-U200H1 - U800H1 (60Hz)

60Hz

Model	Devision	Units	380V (440V)	3,300V	6,600V
STR-U200H1	OUTPUT	kW	130	130	130
	F.L.C	A	233.2 (201.4]	26.2	13.3
	POWERFACTOR	%	90.3	91.7	91.2
	EFFICIENCY	%	93.8	94.5	93.8
	INPUT	kW	138.6	137.6	138.6
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U300H1	OUTPUT	kW	190	190	190
	F.L.C	A	348.3 (300.8]	38.8	19.4
	POWER FACTOR	%	89.7	91.1	91.9
	EFFICIENCY	%	92.4	94	93.4
	INPUT	kW	205.6	202.1	203.4
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U400H1	OUTPUT	kW	230	230	230
	F.L.C	A	416.6 (359.8]	47.2	23.9
	POWERFACTOR	%	90	91	90.4
	EFFICIENCY	%	93.2	93.7	93
	INPUT	kW	246.8	245.5	247.3
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U500H1	OUTPUT	kW	290	290	290
	F.L.C	A	520.7 (449.7]	60.2	30
	POWERFACTOR	%	90.7	91.8	90.3
	EFFICIENCY	%	93.3	91.8	93.8
	INPUT	kW	310.8	315.9	309.2
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U600H1	OUTPUT	kW	350	350	350
	F.L.C	A	627.8 (542.2]	70.7	35.8
	POWERFACTOR	%	90.3	91.7	91.2
	EFFICIENCY	%	93.8	94.5	93.8
	INPUT	kW	373.1	3704	373.1
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U700H1	OUTPUT	kW	410	410	410
	F.L.C	A	729.9 (630.4]	83.5	41.1
	POWER FACTOR	%	90.7	91.4	92
	EFFICIENCY	%	94.1	94	94.8
	INPUT	kW	435.7	436.2	432.5
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U800H1	OUTPUT	kW	460	460	460
	F.L.C	A	820.5 (708.6]	93.9	46
	POWERFACTOR	%	91.1	90.7	92
	EFFICIENCY	%	93.5	94.5	95
	INPUT	kW	492	486.8	484.2
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

Electrical Data For Ultra High-Efficiency Model

STR-U900H 1 - U1200H1 (50Hz)

Model	Devision	Units	380V (440V)	3,300V	6,600V
STR-U900H1	OUTPUT	kW	510	510	510
	F.L.C	A	915.6 (790.7)	1053	52.4
	POWERFACTOR	%	91	90.6	91
	EFFICIENCY	%	93	93.5	93.5
	INPUT	kW	548.4	5455	545.5
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U1000H1	OUTPUT	kW	570	570	570
	F.L.C	A	1034.4 (893.4)	117.6	57
	POWERFACTOR	%	91	90.7	93.6
	EFFICIENCY	%	92	93.5	93.5
	INPUT	kW	619.6	609.6	609.6
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U1200H1	OUTPUT	kW	680	680	680
	F.L.C	A	1220.8 (1054.3)	139.4	70.3
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93	93.8	93
	INPUT	kW	731.2	724.9	731.2
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

STR-U1350H1 - U1 750H1 (50Hz)

Model	Devision	Units	3,300V	6,600V	11,000V
STR-U1350H1	OUTPUT	kW	760	760	760
	F.L.C	A	157.1	78.1	46.7
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93	93.5	93.8
	INPUT	kW	817.2	812.8	810.2
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U1500H1	OUTPUT	kW	850	850	850
	F.L.C	A	174.8	87.4	52.3
	POWER FACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.8
	INPUT	kW	909.1	909.1	906.2
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U1750H1	OUTPUT	kW	1,000	1,000	1,000
	F.L.C	A	205.6	102.8	61.7
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,069.50	1,069.50	1,069.50
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

Electrical Data For Ultra High-Efficiency Model

STR-U900H1~U1200H1 (50Hz)

Model	Devision	Units	380V (440V)	3,300V	6,600V
STR-U900H1	OUTPUT	kW	510	510	510
	F.L.C	A	922.5 (7967)	102.5	51.6
	POWERFACTOR	%	91.3	93.6	92.1
	EFFICIENCY	%	92	93	93.8
	INPUT	kW	554.3	548.4	543.7
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U1000H1	OUTPUT	kW	570	570	570
	F.L.C	A	1029.9 (889.5)	114.2	58.7
	POWER FACTOR	%	91.4	93.1	91.4
	EFFICIENCY	%	92	93.8	93
	INPUT	kW	619.6	607.7	612.9
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U1200H1	OUTPUT	kW	680	680	680
	F.L.C	A	1220.7 (1054.2)	139	68.4
	POWERFACTOR	%	91.5	92	93
	EFFICIENCY	%	92.5	93	93.5
	INPUT	kW	735.1	731.2	727.3
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

STR-U1350H1~U1750H1(60Hz)

Model	Devision	Units	3,300V	6,600V	11,000V
STR-U1350H1	OUTPUT	kW	760	760	760
	F.L.C	A	155.1	75.3	45.9
	POWERFACTOR	%	91.7	93.6	93
	EFFICIENCY	%	93.5	94.3	93.5
	INPUT	kW	812.8	805.9	812.8
	START METHOD	-	REACTOR STARTING	AUTO COMPENSATED	REACTOR STARTING
STR-U1500H1	OUTPUT	kW	850	850	850
	F.L.C	A	173.4	85	51.3
	POWERFACTOR	%	92.2	92.8	93
	EFFICIENCY	%	93	94.3	93.5
	INPUT	kW	914	901.4	909.1
	START METHOD	-	REACTOR STARTING	AUTO COMPENSATED	REACTOR STARTING
STR-U1750H1	OUTPUT	kW	1,000	1,000	1,000
	F.L.C	A	206.8	102.7	60.4
	POWERFACTOR	%	90	90.3	93
	EFFICIENCY	%	94	94.3	93.5
	INPUT	kW	1,063.80	1,060.40	1,069.50
	START METHOD	-	REACTOR STARTING	AUTO COMPENSATED	REACTOR STARTING

Electrical Data For Ultra High-Efficiency Model

STR-U2000H1 - U2700H1 (50Hz)

Model	Devision	Units	3,300V	6,600V	11,000V
STR-U2000H1	OUTPUT	kW	1,100	1,100	1,100
	F.L.C	A	226.2	113.1	67.9
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,176.50	1,176.50	1,176.50
	START METHOD		Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U2300H1	OUTPUT	kW	1,300	1,300	1,300
	F.L.C	A	267.3	133.7	80.2
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,390.40	1,390.40	1,390.40
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U2500H1	OUTPUT	kW	1,420	1,420	1,420
	F.L.C	A	292	146	87.6
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,518.70	1,518.70	1,518.70
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U2700H1	OUTPUT	kW	1,530	1,530	1,530
	F.L.C	A	314.6	157.3	94.4
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,636.40	1,636.40	1,636.40
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

STR-U2000H1 - U2700H1 (60Hz)

60Hz

Model	Devision	Units	3,300V	6,600V	11,000V
STR-U2000H1	OUTPUT	kW	1,100	1,100	1,100
	F.L.C	A	225	111	66.4
	POWERFACTOR	%	91	91.7	93
	EFFICIENCY	%	94	94.5	93.5
	INPUT	kW	1,170.20	11,640	1,176.50
	START METHOD		Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U2300H1	OUTPUT	kW	1,300	1,300	1,300
	F.L.C	A	263.3	130.4	78.5
	POWERFACTOR	%	91.4	91.8	93
	EFFICIENCY	%	94.5	95	93.5
	INPUT	kW	1,375.70	1,368.40	1,390.40
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
2500H1	OUTPUT	kW	1,420	1,420	1,420
	F.L.C	A	290.8	143.2	85.7
	POWERFACTOR	%	90.6	91.3	93
	EFFICIENCY	%	94.3	95	93.5
	INPUT	kW	1,505.80	1,494.70	1,518.70
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-U2700H1	OUTPUT	kW	1,530	1,530	1,530
	F.L.C	A	306.6	155.1	92.4
	POWERFACTOR	%	92.1	91.3	93
	EFFICIENCY	%	94.8	94.5	93.5
	INPUT	kW	1,613.90	16,190	1,636.40
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

Data for High-efficiency Model

STR-E200H1 ~E900H1

Item \ Model			High-efficiency Model (STR-E Type)															
			200H1		300H1		400H1		500H1		600H1		700H1		800H1		900H1	
Chilled -wate rOutletTemperature			5	7	5	7	5	7	5	7	5	7	5	7	5	7	5	7
Cooling Capacity		USRT	185	200	275	300	370	400	460	500	550	600	640	700	735	800	820	900
Input		kW	122	124	174	179	234	238	288	295	344	354	394	406	452	464	504	522
Efficiency		kW/RT	0.659	0.62	0.633	0.597	0.632	0.595	0.626	0.59	0.625	0.59	0.616	0.58	0.615	0.58	0.615	0.58
Chilled Water	Flow Rate	m^3/h	112	121	167	182	224	242	279	303	333	363	388	424	445	484	496	545
	Pressure Drop	mAq	9.1	10.6	9	10.7	9.1	10.6	9.3	10.9	9.2	10.9	5.8	6.9	5.9	6.9	5.7	6.8
	Connection Size	A	125		150		200		200		250		250		300		300	
	No. of passes	-	3		3		3		3		3		2		2		2	
Cooling Water	Temperature		Inlet 32 / Outlet 37															
	Flew Rate	m^3/h	137	148	203	221	273	295	339	369	406	443	472	516	542	590	605	664
	Pressure Drop	mAq	9.8	11.4	9.7	11.4	10.1	11.8	9.6	11.3	10	11.9	6.9	8.2	7	83	6.9	8.3
	Connection Size	A	125		150		200		250		250		300		300		300	
	No. of passes	-	3		3		3		3		3		2		2		2	
Dimension	Length (L)	mm	4,110		4,110		4,250		4,250		4,250		5,030		5,030		5,070	
	Width (W)	mm	1,497		1,627		1.753		2,000		2,000		2,094		2,094		2,310	
	Height (H)	mm	2,048		2,169		2,334		2,492		2,492		2,644		2,644		2,867	
Weight	ShippingWeight	Ton	5.6		6.5		7.5		9.2		9.4		10.8		11.3		14.3	
	OperatingWeight	Ton	6.4		7.5		9		11		11.4		12.9		13.6		17	

STR-E1000H1~E2700H1

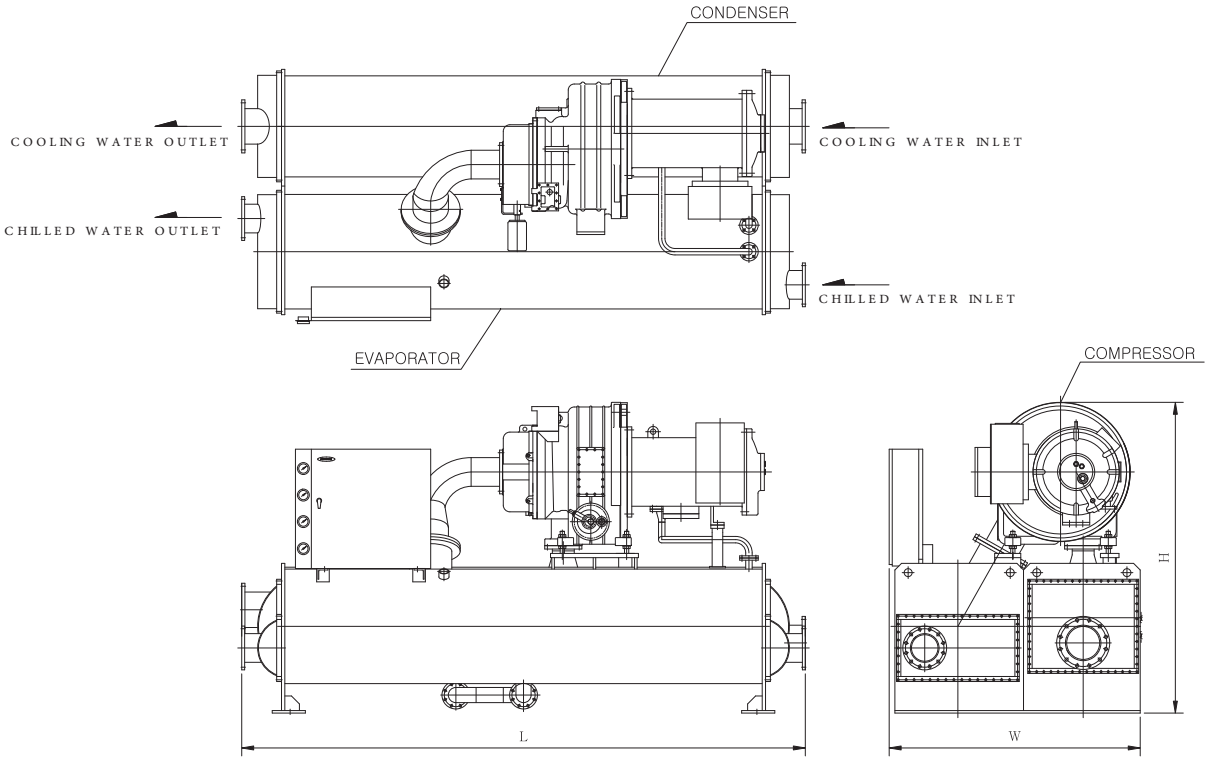
Item \ Model			High-efficiency Model (STR-E Type)																	
			1000H1		1200H1		1350H1		1500H1		1750H1		2000H1		2300H1		2500H1		2700H1	
Chilled-water Outlet Temperature			5	7	5	7	5	7	5	7	5	7	5	7	5	7	5	7	5	7
Cooling Capacity		USRT	920	1,000	1,100	1,200	1,240	1,350	1,380	1,500	1,610	1,750	1,850	2,000	2,110	2,300	2,300	2,500	2,480	2,700
Input		kW	566	580	676	696	752	772	838	858	978	1,001	1,123	1,144	1,280	1,316	1,396	1,430	1,506	1,544
Efficiency		kW/RT	0.615	0.58	0.615	0.58	0.606	0.572	0.607	0.572	0.607	0.572	0.607	0.572	0.607	0.572	0.607	0.572	0.607	0.572
Chilled Water	Flow Rate	m^3/h	557	605	666	726	750	817	835	908	974	1,059	1,119	1,210	1,277	1,392	1,391	1,512	1,500	1,633
	Pressure Drop	mAq	5.8	6.8	5.8	6.9	9.2	10.9	9.1	10.8	9.4	11.1	9.4	11	9.2	10.9	9.2	10.8	9.2	10.9
	Connection Size	A	300		300		350		350		400		400		450		450		500	
	No. of passes	-	2		2		2		2		2		2		2		2		2	
Cooling Water	Temperature		Inlet 32 / Outlet 37																	
	Flow Rate	m^3/h	679	738	812	885	915	997	1,018	1,106	1,188	1,292	1,365	1,476	1,558	1,698	1,697	1,845	1,830	1,992
	Pressure Drop	mAq	7.1	8.4	7.2	8.6	10.6	12.6	10.6	12.5	10.8	12.8	11	12.8	10.8	12.8	10.8	12.8	10.8	12.8
	Connection Size	A	300		350		400		400		450		450		500		500		550	
	No. of passes	-	2		2		2		2		2		2		2		2		2	
Dimension	Length (L)	mm	5,070		5,070		6,160		6,160		6,250		6,250		6,250		6,250		6,250	
	Width (W)	mm	2,310		2,525		2,940		2,940		3,310		3,310		3,660		3,660		3,874	
	Height (H)	mm	2,867		3,015		3,410		3,410		3,620		3,620		3,780		3,780		3,860	
Weight	Shipping Weight	Ton	14.8		16.4		22.3		22.9		25.2		26.2		28.9		29.7		31.3	
	Operating Weight	Ton	17.7		19.8		26		26.8		29.6		30.8		34.2		35.2		37.2	

Note

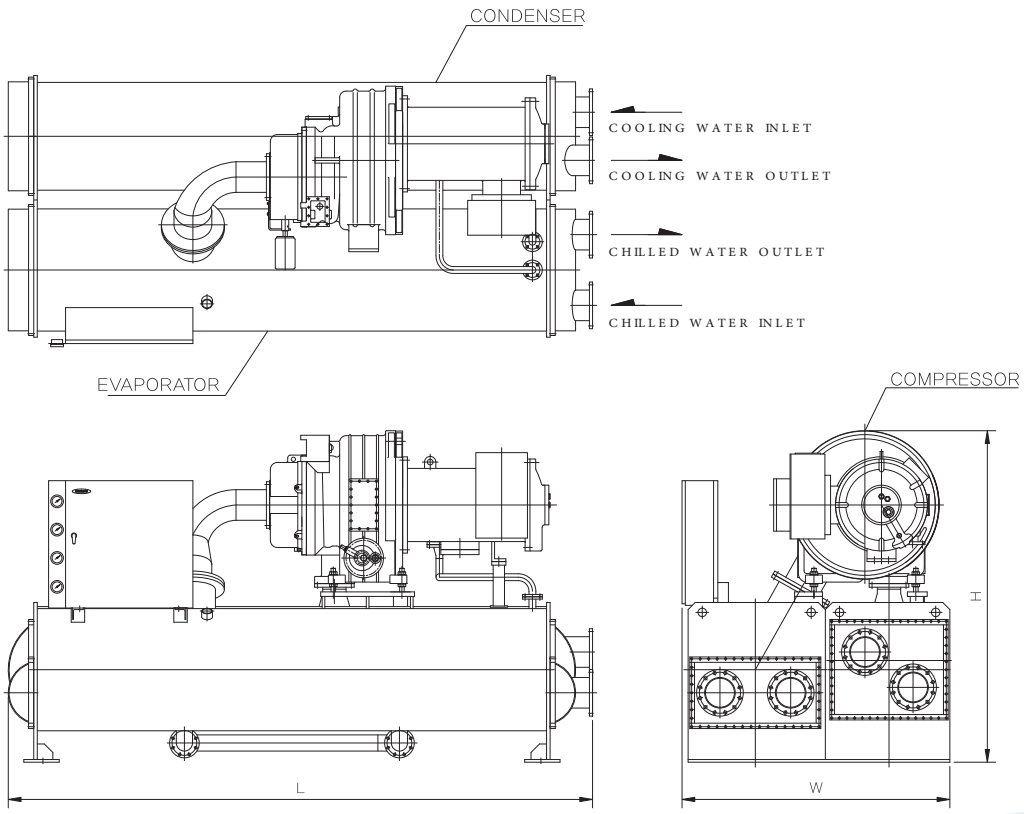
1. Fouling Factor for chilled water and cooling water : 0.0001 m2h /kcal.
2. Maximum operational pressure is 10kg/cm2G for chilled water and cooling water. Higher pressure can also be used. Please contact our company when the operational pressure exceeds 10kg/cm2G.
3. The standard voltages for the main power are as fol lows. 3ø/60(50)Hz/380V, 440V, 3300V, 6600V
4. The standard starting method is Solid State .
5. Product standards and specifications are sub ject to change without notice due to product reform.

Standard Outline Drawings (STR-E type)

STR-E200H1~E600H1



STR-E700H1~E2700H1



Electrical Data For High-Efficiency Model

STR-E200H1~E800H1 (50Hz)

Model	Devision	Units	380V (440V)	3,300V	6,600V
STR-E200H1	OUTPUT	kW	140	140	140
	FLC	A	253.3 [2187]	28.9	14.4
	POWERFACTOR	%	90.3	91	91
	EFFICIENCY	%	93	93.2	93.5
	INPUT	kW	150.5	150.2	149.7
	STARTMETHOD		Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E300H1	OUTPUT	kW	210	210	210
	FLC	A	381.2 [329.2]	43.4	21.7
	POWERFACTOR	%	90	91	91
	EFFICIENCY	%	93	93	93
	INPUT	kW	225.8	225.8	225.8
	STARTMETHOD		Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E400H1	OUTPUT	kW	260	260	260
	FLC	A	464.3 [401]	53.8	26.9
	POWERFACTOR	%	91	90.5	90.5
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	278.1	278.1	278.1
	STARTMETHOD		Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E500H1	OUTPUT	kW	330	330	330
	FLC	A	599 [517.3]	68.6	34.3
	POWERFACTOR	%	90	90	90
	EFFICIENCY	%	93	93.5	93.5
	INPUT	kW	354.8	352.9	352.9
	STARTMETHOD		Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E600H1	OUTPUT	kW	390	390	390
	FLC	A	690.3 [596.2]	80.7	40
	POWERFACTOR	%	92	91.4	91.8
	EFFICIENCY	%	93.3	92.5	93
	INPUT	kW	418	421.6	419.4
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E700H1	OUTPUT	kW	460	460	460
	FLC	A	818.7 [707.1]	94.6	47.6
	POWERFACTOR	%	91.3	91	90.5
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	492	4920	492
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E800H1	OUTPUT	kW	520	520	520
	FLC	A	935.5 [807.9]	108.6	53.4
	POWERFACTOR	%	91.5	90.7	92.6
	EFFICIENCY	%	92.3	92.4	92
	INPUT	kW	563.4	562.8	565.2
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

Electrical Data For High-Efficiency Model

STR-E 200H1~E 800H1 (60Hz)

Model	Devision	Units	380V (440V)	3,300V	6,600V
STR-E200H1	OUTPUT	kW	140	140	140
	FLC	A	251.9 (217.6]	28.6	14.7
	POWER FACTOR	%	90.3	91.7	88.7
	EFFICIENCY	%	93.5	93.5	93.7
	INPUT	kW	149.7	149.7	149.4
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E300H1	OUTPUT	kW	210	210	210
	F.L.C	A	382.9 (330.7]	43	21.9
	POWER FACTOR	%	89.3	91.4	90.2
	EFFICIENCY	%	93.3	93.5	93.2
	INPUT	kW	225.1	224.6	225.3
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E400H1	OUTPUT	kW	260	260	260
	FLC	A	462.8 (399.6]	54.3	26.9
	POWER FACTOR	%	91.3	90.2	90.5
	EFFICIENCY	%	93.5	92.8	93.5
	INPUT	kW	278.1	280.2	278.1
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E500H1	OUTPUT	kW	330	330	330
	FLC	A	599 (517.3]	66.7	33.8
	POWER FACTOR	%	90	91.6	91
	EFFICIENCY	%	93	94.5	93.8
	INPUT	kW	354.8	349.2	351.8
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E600H1	OUTPUT	kW	390	390	390
	FLC	A	695.8 (600.9]	79.1	39.2
	POWER FACTOR	%	90.6	91.3	92.1
	EFFICIENCY	%	94	94.5	94.5
	INPUT	kW	414.9	412.7	412.7
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E700H1	OUTPUT	kW	460	460	460
	FLC	A	820.5 (708.6]	93.9	46
	POWER FACTOR	%	91.1	90.7	92
	EFFICIENCY	%	93.5	94.5	95
	INPUT	kW	492	486.8	484.2
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E800H1	OUTPUT	kW	520	520	520
	FLC	A	938.5 (810.6]	104.5	53.5
	POWER FACTOR	%	91.5	93.1	91.5
	EFFICIENCY	%	92	93.5	93
	INPUT	kW	565.2	556.1	559.1
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

Electrical Data For High-Efficiency Model

STR-E 900H1~E1200H1 (50Hz)

Model	Devision	Units	380V (440V)	3,300V	6,600V
STR-E900H1	OUTPUT	kW	590	590	590
	F.L.C	A	10432 (900.9)	1240	59
	POWERFACTOR	%	92.2	90.5	93.6
	EFFICIENCY	%	93.2	92	93.5
	INPUT	kW	633	6413	631
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E1000H1	OUTPUT	kW	650	650	650
	F.L.C	A	1153 (995.8)	131.4	66.1
	POWER FACTOR	%	92.1	92.3	92
	EFFICIENCY	%	930	93.8	93.5
	INPUT	kW	698.9	6930	695.2
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E1200H1	OUTPUT	kW	-	780	780
	F.L.C	A	-	161.2	80.2
	POWERFACTOR	%	-	91	91
	EFFICIENCY	%	-	93	93.5
	INPUT	kW	-	838.7	834.2
	START METHOD	-	-	Soild-State Starter	Soild-State Starter

STR-U1350H1~U1750H1 Type (50Hz)

Model	Devision	Units	3,300V	6,600V	11,000V
STR-E1350H1	OUTPUT	kW	850	850	850
	FLC	A	174.8	87.4	52.3
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.8
	INPUT	kW	909.1	909.1	906.2
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E1500H1	OUTPUT	kW	930	930	930
	F.L.C	A	191.2	95.6	57.4
	POWER FACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	994.7	994.7	994.7
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E1750H1	OUTPUT	kW	1,100	1,100	1,100
	FLC	A	226.2	113.1	67.9
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,176.50	1,176.50	1,176.50
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

Electrical Data For High-Efficiency Model

STR-E 900H1~E 1200H1 (60Hz)

Model	Devision	Units	380V (440V)	3,300V	6,600V
STR-E900H1	OUTPUT	kW	590	590	590
	FLC	A	1044.4 (902)	119.4	59.2
	POWER FACTOR	%	91.8	92.2	93
	EFFICIENCY	%	93.5	93.8	93.8
	INPUT	kW	631	629	629
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E1000H1	OUTPUT	kW	650	650	650
	F.L.C	A	1154.2 (996.8)	132.3	65.3
	POWER FACTOR	%	92	92.2	92.9
	EFFICIENCY	%	93	93.2	93.8
	INPUT	kW	698.9	697.4	693
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E1200H1	OUTPUT	kW	-	780	780
	FLC	A	-	159	77.3
	POWER FACTOR	%	-	91.8	93.6
	EFFICIENCY	%	-	93.5	94.3
	INPUT	kW	-	834.2	827.1
	START METHOD	-	-	Soild-State Starter	Soild-State Starter

STR-E 1350H1~E1750H1 (60Hz)

Model	Devision	Units	3,300V	6,600V	11,000V
STR-E1350H1	OUTPUT	kW	850	850	850
	FLC	A	173.4	85	51.3
	POWERFACTOR	%	92.2	92.8	93
	EFFICIENCY	%	93	94.3	93.5
	INPUT	kW	914	901.4	909.1
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E1500H1	OUTPUT	kW	930	930	930
	F.LC	A	190.2	93.6	56.1
	POWER FACTOR	%	92	92.5	93
	EFFICIENCY	%	93	94	93.5
	INPUT	kW	1000	989.4	994.7
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E1750H1	OUTPUT	kW	1,100	1,100	1,100
	FLC	A	225	111	66.4
	POWERFACTOR	%	91	91.7	93
	EFFICIENCY	%	94	94.5	93.5
	INPUT	kW	1,170.20	1,164.00	1,176.50
	START METHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

Electrical Data For High-Efficiency Model

STR-E 2000H1~E 2700H1 (50Hz)

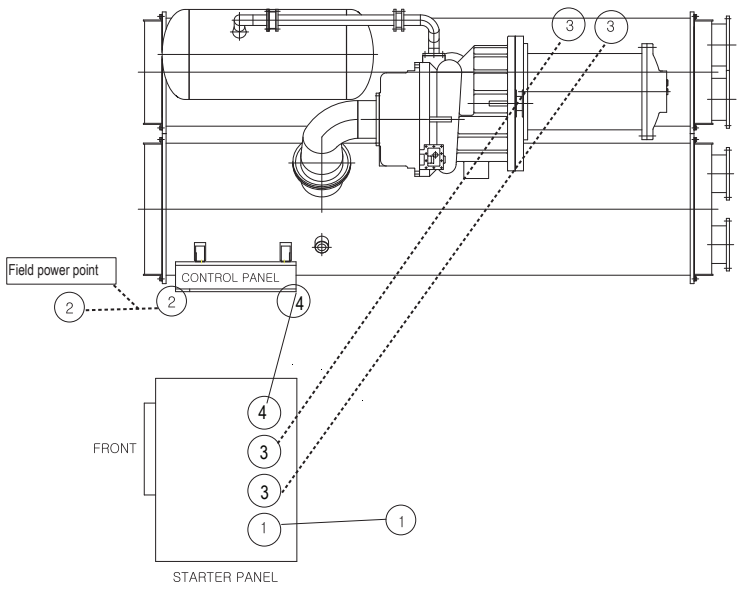
Model	Devision	Units	3,300V	6,600V	11,000V
STR-E2000H1	OUTPUT	kW	1,300	1,300	1,300
	F.L.C	A	267.3	133.7	80.2
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,390.40	1,390.40	1,390.40
	STARTMETHOD		Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E2300H1	OUTPUT	kW	1,420	1,420	1,420
	F.L.C	A	292	146	87.6
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,518.70	1,518.70	1,518.70
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E2500H1	OUTPUT	kW	1,550	1,550	1,550
	F.L.C	A	318.7	159.4	95.6
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,657.80	1,657.80	1,657.80
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E2700H1	OUTPUT	kW	1,670	1,670	1,670
	F.L.C	A	343.4	171.7	103
	POWERFACTOR	%	91	91	91
	EFFICIENCY	%	93.5	93.5	93.5
	INPUT	kW	1,786.10	1,786.10	1,786.10
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

Electrical Data For High-Efficiency Model

STR-E 2000H1~E 2700H1(60Hz)

Model	Devision	Units	3,300V	6,600V	11,000V
STR-E2000H1	OUTPUT	kW	1,300	1,300	1,300
	F.L.C	A	263.3	130.4	78.5
	POWERFACTOR	%	91.4	91.8	93
	EFFICIENCY	%	94.5	95	93.5
	INPUT	kW	1,375.70	1,368.40	1,390.40
	STARTMETHOD		Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E2300H1	OUTPUT	kW	1,420	1,420	1,420
	F.L.C	A	290.8	143.2	85.7
	POWERFACTOR	%	90.6	91.3	93
	EFFICIENCY	%	94.3	95	93.5
	INPUT	kW	1,505.80	1,494.70	1,518.70
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E2500H1	OUTPUT	kW	1,550	1,550	1,550
	F.L.C	A	311.2	156.5	93.6
	POWERFACTOR	%	92.2	91.7	93
	EFFICIENCY	%	94.5	94.5	93.5
	INPUT	kW	1,640.20	1,640.20	1,657.80
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter
STR-E2700H1	OUTPUT	kW	1,670	1,670	1,670
	F.L.C	A	334.6	169.3	100.8
	POWERFACTOR	%	92.1	91.3	93
	EFFICIENCY	%	94.8	94.5	93.5
	INPUT	kW	1,761.60	1,767.20	1,786.10
	STARTMETHOD	-	Soild-State Starter	Soild-State Starter	Soild-State Starter

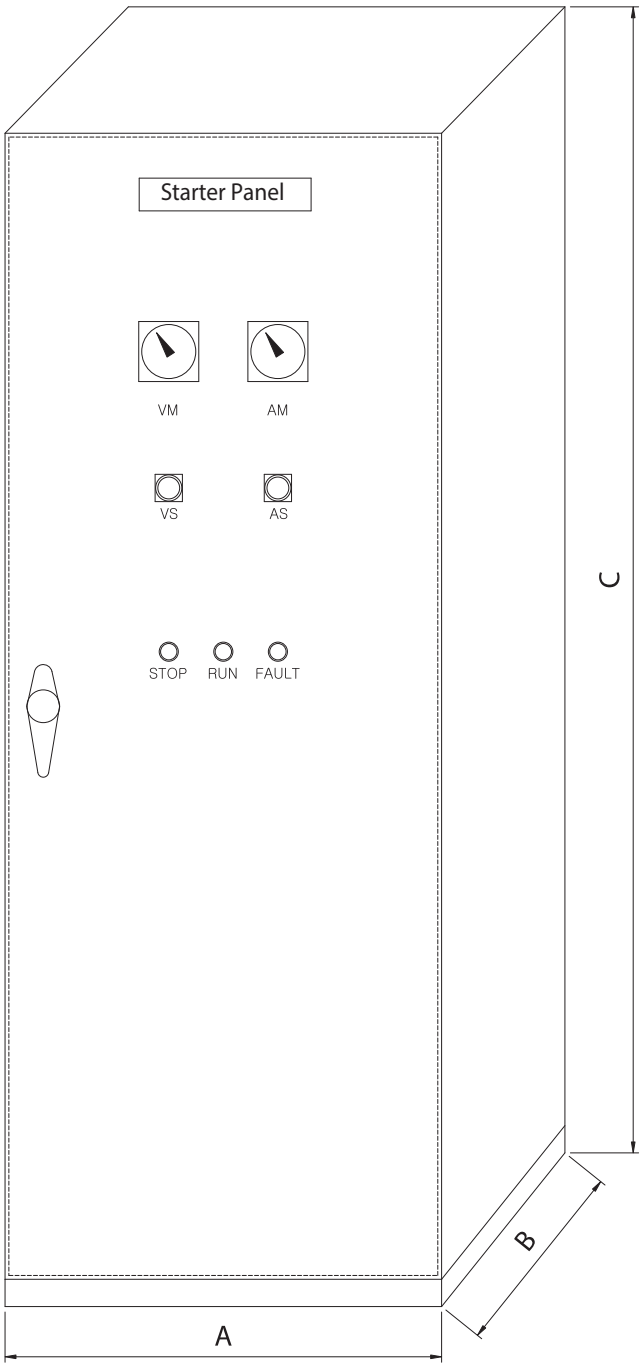
Electric Wire



FIELD WIRING CONNECTIONS IN ACCORDANCE WITH THE WIRING DIAGRAMS AND APPLICABLE ELECTRICAL CORDS. TABLE SHOWS THE ARRANGEMENT OF ELECTRICAL PIPING AND WIRING.

①	Electrical source for main power	3Ø 3W 380V, 440V, 3300V, 6600V
②	Electrical source for control power	3Ø 3W 220V, 380V, 440V (220V : 6SQ×3C, 380/440V : 4SQ×3C)
③	Power wiring for starter - motor	3Ø 3W 380V, 440V, 3300V, 6600V
④	Control wiring of stsrter - control panel	1) CVV-SB 1.5SQ × 8C 2) CVV-S 1.5SQ × 6C (3C : SPARE) 3) CONDUIT PIPE : 28 × 2

Lay-Out For Starter Panel Dimension



STARTER PANEL SIZE

MODEL	POWER SOURCE	A	B	C	REMARKS
TR-U, E,200H1~600H1	380V,440V Solid State Starter	800	1,000	2,350	STANDARD
TR-U, E,700H1~1200H1	3.3kV Solid State Starter	800	1,200	2,350	STANDARD
	6.6kV Solid State Starter	800	1,600	2,350	STANDARD

Standard Features:

- Compact water Box 150psi water pressure design evaporator*.
- Compact water Box 150psi water pressure design condenser*.
- 0.035" tube thickness of copper tubes evaporator.
- 0.035" tube thickness of copper tubes condenser.
- Flanged water connections*.
- 3/4" thermal insulation evaporator & cold surface.
- Pressure vessel relief valve.
- Refrigerant & Oil charge.
- One year complete chiller warranty.
- Export packing.
- Solid State Starter Panel*.

Below Options are available on request:

- ASME pressure vessel code.
- Victaulic water connections.
- Marine Water Boxes 150psi water pressure design evaporator.
- Marine Water Boxes 150psi water pressure design condenser.
- Hinges on Marine Water Boxes.
- Coating on condenser Marine Water boxes.
- Compact Water Box 300psi water pressure design evaporator.
- Compact Water Box 300psi water pressure design condenser.
- Marine Water boxes 300psi water pressure design evaporator.
- Marine Water boxes 300psi water pressure design condenser.
- 0.035" Cu-Ni 90-10 condenser tubes.
- 1.5" thermal insulation.
- Aluminum cladding on Evaporator.
- Modbus communication module.
- Rubber isolators (shipped loose and installed on site).
- Factory Witness Performance Test.
- VFD Starter Panel.

Scope of supply for standard centrifugal :chillers

Factory assembled, single piece, liquid chiller with compressor, motor, lubrication system, cooler, condenser, initial oil and refrigerant(R-134a) operating charge, micro-processor control system, and documentation required prior to start-up.

Features

Each water cooled chiller is made with single, 2-stage compressors, each with a gear set and a 2-pole, semi-hermetic induction motor. Compressor motor is liquid refrigerant cooled, squirrel cage, induction type. Compressors is with variable inlet guide vanes to provide capacity modulation.

Compressor is with factory-installed lubrication system to deliver oil under pressure to bearings and transmission.

Hermetic driven oil pump with factory-installed motor contactor with overload protection. Refrigerant-cooled oil cooler. Oil sump heater controlled from unit microprocessor. Oil reservoir temperature sensor with main control center digital readout.

Cooler & Condenser:

Shell and Tube flooded type evaporator with THERMOEXCEL enhanced copper tubes. Shell and Tube type condenser with THERMOEXCEL enhanced copper tube, tubes are double grooved to end sheet to ensure reliability and leak tightness.

Tube wall thickness is 0.889mm (0.035inch) on Evaporator & 0.889mm (0.035inch) on condenser as a standard.

Compact water boxes on evaporator & condenser with waterside working pressure of 150 PSI.

Cooler & cold surface is insulated with 19mm (0.75inch) insulation.

Refrigerant Flow Control:

Electronically controlled expansion valve for optimum refrigerant level control.

Economizer:

Ultra-high efficiency chiller (STR-U200H1 ~ 2,700H1) will be with inter-stage economizer to improve the efficiency.

High-Tech Control Center with Controller.

7.5” color LCD touch screen graphically displays the chiller’s operation status, alarm history management, remote control, and scheduled operation, which allows for convenient control and operation

Operation Status Display: Users may graphically check the chiller’s operation status. Alarm History: Store up to 128 malfunctioning histories

Trend: Display maximum of up to 7 operation data in real-time as graphs

Pre-Alarm: Allows to eliminate error and take appropriate measures by displaying pre-alarm signals before the chiller surge.

Starter Panel:

Free-standing Low voltage Solid State Starter available as a standard or optional VFD starter can be supplied by SKM. For Medium and High voltage an optional Across Line/ Solid State Starters are available.

NOTES

اجهـــزة تكـيـيـف هـــواء
AIR CONDITIONING EQUIPMENT

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