



Shinsung Engineering

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대한민국 냉동공조대표 브랜드, 제피로스

ZEPHYRUS

No.1 HVAC & R Provider to the World



Centrifugal Chiller

R-134a

HVAC&R Division

Industrial HVAC&R Division

Renewable Environmental Division

Marine HVAC&R Division



Feature_

High Energy-saving Effect

World highest level of efficiency (COP: 5.6~6.1)

Electricity consumption of the world is steadily increasing

It is expected that world's demand for primary energy will steadily increase with industrial growth and more importance has come to be given to energy saving in order to cut excessive consumption of electricity.

Shinsung introduces High-efficiency HFC134a centrifugal chiller TH series that shows a remarkable energy-saving effect and are friendly to the Global environment. HFC134a has no potential for ozone depletion.



High-efficiency compressor

(increased compressor efficiency)

3 dimensional blade impeller (2 stages) Vaned diffuser

Low specific speed compressor enables the use of low-loss bearing structure



High-performance heat exchanger

(increased efficiency resulted from improved performance of heat exchanger)

Employment of high-performance heat exchange tubes (optimal structural design of heat exchanger to match the behavior of refrigerant)

High-efficiency refrigerating cycle

(increased refrigerating cycle efficiency)

Economizer cycle(intercooler)

Subcooler

High Technology and Rich Experience Realized High-Efficiency Chillers

By employing a three-dimensional blade impeller (2 stages), economizer subcooling cycle and high-performance heat exchange tubes, Shinsung succeeded in greatly increasing efficiency.

High-Efficiency Refrigerating cycle

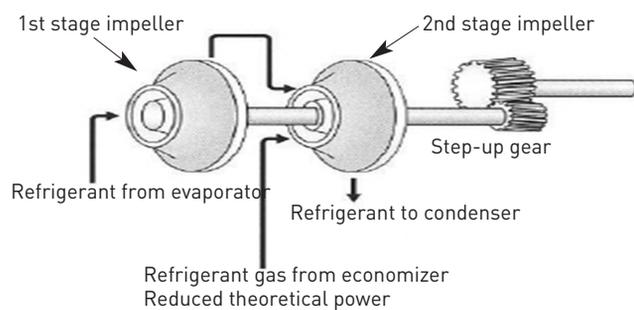
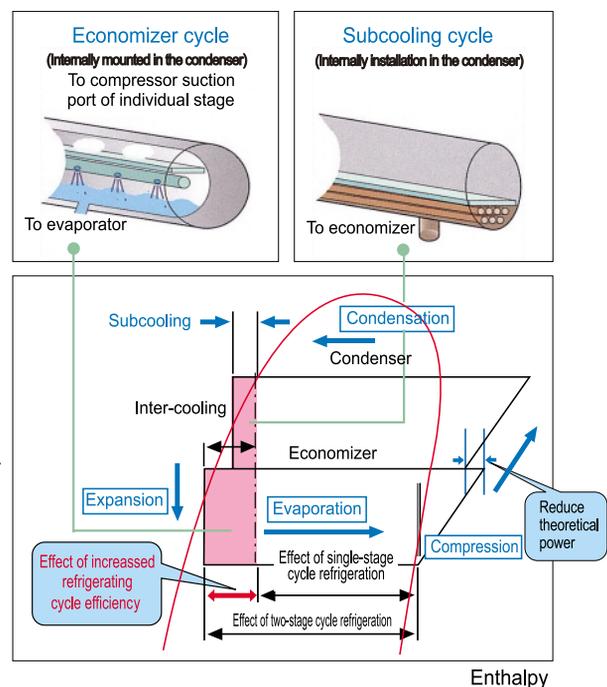
Employ the economizer cycle to increase the efficiency of the refrigerating cycle

2-stage compression, economizer and subcooling cycle

With a vapor compression type chiller, the heat of evaporation is generated when the state of the refrigerant changes from liquid to gas and that is used to cool chilled water in the evaporator.

By using HFC-134a that is capable of applying the low flow rate compared to CFC-11 or HCFC-123, the size of unit is very small and also the weight of machine become light. As a result, consumption of power is reduced and theoretical efficiency is increased.

The employment of the 2-stage compressor makes it possible to employ the economizer cycle and thus increase efficiency. By employing the subcooler (a compact cooler built into the lower part of the condenser) to cool the liquid refrigerant which is liquefied in the condenser by means of cooling water, theoretical cycle efficiency is increased further.



Feature_ Centrifugal Chiller

High-Efficiency Compressor

3-Dimensional airfoil 2 stage impeller by precision casting, vaned diffuser and low-loss bearing by driving at low rpm realize high efficiency.

1.3-Dimensional aerodynamic design

The impeller is manufactured by 3-dimensional aerodynamic design and flow simulation.

2.Precision casting

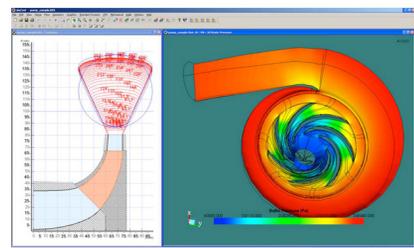
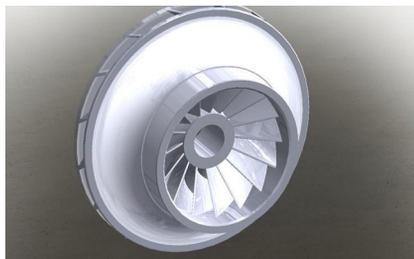
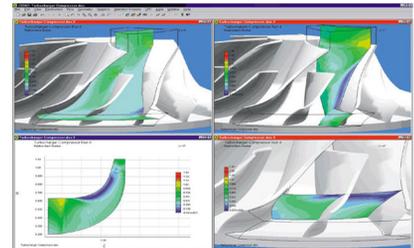
The impeller (manufactured by precision casting) minimize the internal flow loss in impeller and realize high efficiency.

3. Vaned diffuser

Vaned diffuser blade shape which is designed by CFD calculation and experiment restores static pressure and accomplish high efficiency.

4.Low-loss bearing

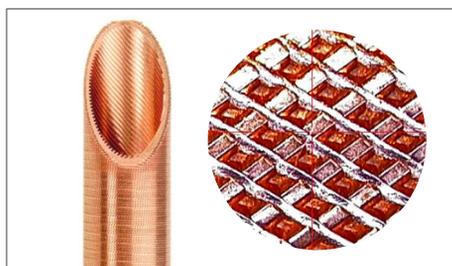
Low rotating speed by adopting the 2 stage compression system reduces the bearing loss.



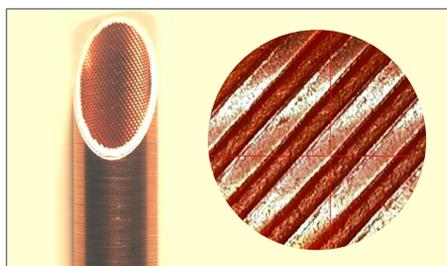
High-Performance Heat Exchanger

The THERMO EXCEL high-performance heat exchanger tube is used in the evaporator and condenser

The THERMO EXCEL high-performance heat exchanger tube developed by Shinsung is used in the evaporator and the condenser, and the arrangement of tube banks is optimized as well to improve the performance of the heat exchanger.



THERMO EXCEL-EKW,CKW



Conventional type

Annual Energy Saving Effect

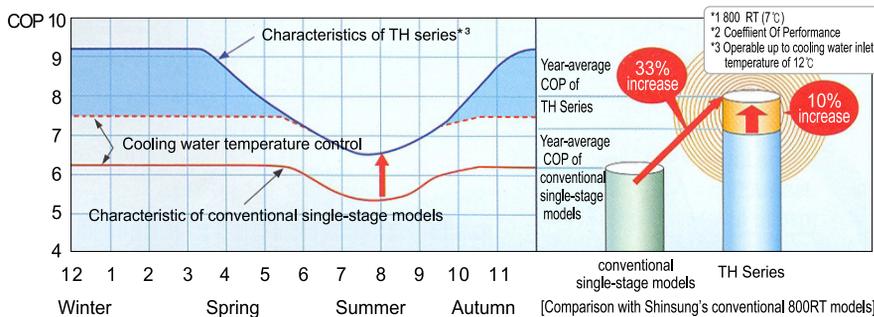
Great energy savings: Average seasonal COP 8.0

TH Series Utilizes Seasonal Temperature Change
(Operable even with low-temperature cooling water of approx. 12 °C)

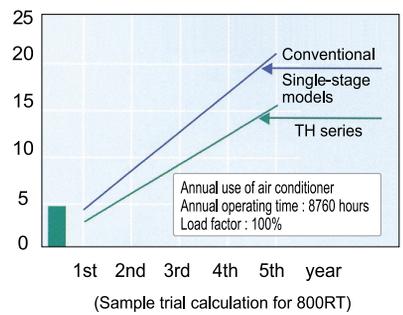
Great Saves Annual Operating Energy

Climates conditions were calculated based on the monthly average atmosphere temperature in Seoul from the Chronological Scientific Tables of the National Astronomical Observatory, Japan.

COP*² Great increases in winter and intermediate season

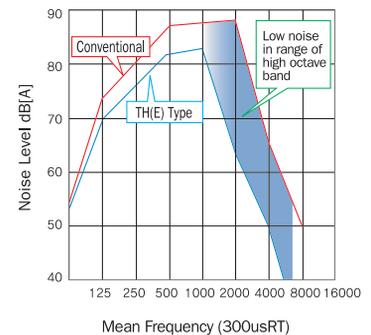


Greatly cut energy consumption of chiller



Low Noise

Low noise is achieved and also high-frequency noise that hurts the ears is cut. The fluid dynamic design of the compressor was optimized to achieve low noise. Because of 2-stage compression, speed is lower, especially high frequency noise, is cut remarkably.



Adopted Large Temperature Differential Water Chiller System

Pump power is reduced by adopting a large temperature differential chiller water system(chilled water inlet temp. 15 outlet temp. 7)

Because the power of chilled water pump can be decreased by the reduced flow rate, in general, equipment cost can be minimized by using the smaller size of piping, etc.

● Trial calculation of the effect with 800 USRT models

Item	Standard temperature differential system temperature difference (5°C)	Large temperature differential system temperature difference (8°C)	Effect
Chilled water temp	7°C		
Conventional pump power (head 25m)	55kW	37kW	Power saving effect of 18kW (33%)
Piping size	250A	200A	Reduced equipment cost by using smaller size pipes

Feature_ Centrifugal Chiller

Global Warming Prevention

Energy saving by higher-efficiency centrifugal chiller Average temperature of the earth is still going up.

Global warming refers to the phenomenon of global warming temperature in due to increase volume of CO₂ and methane as a result of burning fossil fuels such as petroleum and coal. The 2005 IPCC* Report predicted that if the emission of CO₂, etc. continued as it was, the atmospheric temperature would rise by as high as 2°C by the end of the 21st century and as a result, the sea level would rise by approximately 50 cm from the present level.

*IPCC: Intergovernmental Panel on Climate Change

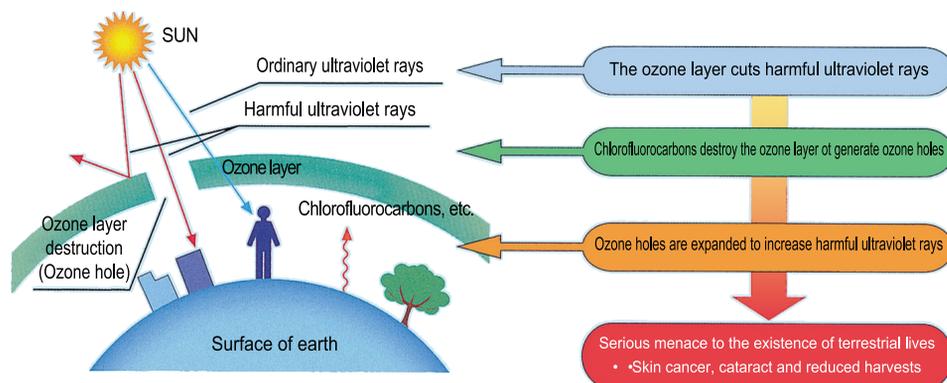


Ozone Layer Protection

Use of HFC134a refrigerant having a zero potential of ozone depletion

Depletion of the ozone layer in the stratosphere proves a serious menace to the existence of terrestrial lives.

Chlorofluorocarbons (CFCs) diffusing in the stratosphere are exposed to ultraviolet rays to be separating chlorine atoms. It is said that separated chlorine atoms combine with oxygen atoms in ozone to destroy the ozone. Because HFC134a has no chlorine atoms, it does not destroy the ozone in the atmosphere.

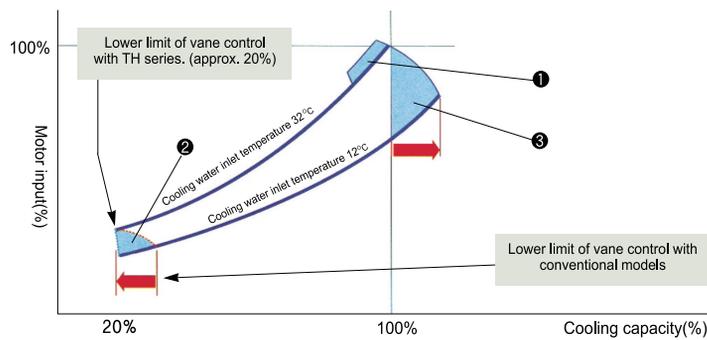


Wider Operating Range

Enlarging a range of operation by 4°C surge margine.

Wide applicable range at low part load condition through the precise vane control.

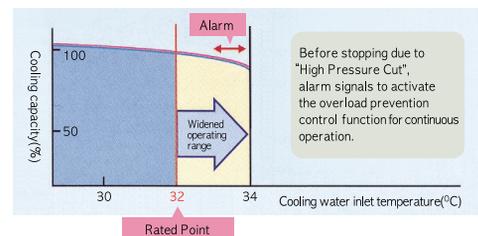
Enhanced maximum cooling capacity and enlargement of operation range at low cooling water temperature. (Min. 12°C)



Continuously operation without worry even if high temperature condition

Even if cooling water temperature rises on very hot days or condensing pressure increases due to a stained tubes, the system continues to stably operate. Through the enlarging range of operation by 4°C surge margine, you can operate the system without worry.

Example of cooling water temperature rise due to an increased external air temperature

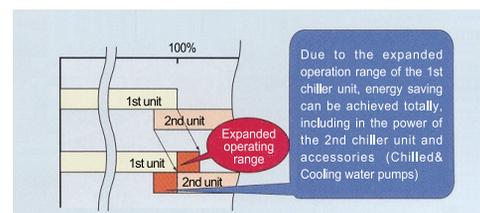


Low-load operation is available throughout the year without special devices

Our system has a wide applicable range at low part load condition through the precise vane control. With the TH series, operation is stable up to 20% even at low cooling water temperatures, without any special devices (hot gas bypass valve, etc), due to microcomputer control.

At the site where several units was installed, you don't need to operate all of machine, because our TH series has ability when is more enlarging cooling capacity depending on cooling water temperature. By this reason, you can save operating cost and energy.

TH series can operate up to cooling water inlet temperature of 12°C, expanding further the capacity range. While, conventional models require a controlling cooling water inlet temperature of 20°C or higher.



Feature_ Centrifugal Chiller

Microcomputer Touch Screen

Microcomputer Provides Exact Operational Status

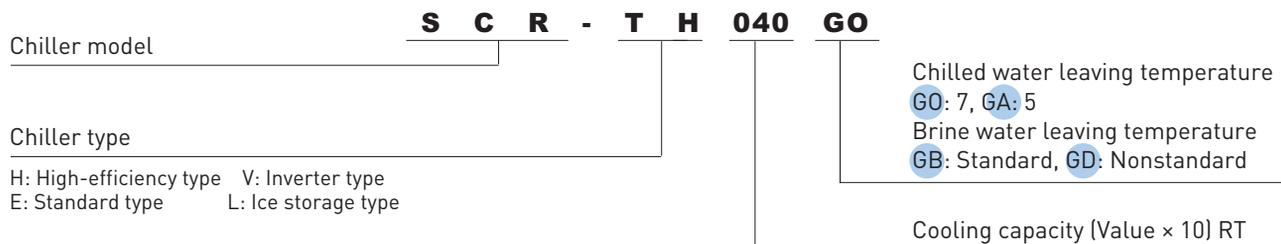
Microcomputer provides exact operational status, touch screen supports accurate operation/management enhanced display for operation status and failure details facilitates understanding machine status.

Communication capability for BMS (Building Management System) as an option as RS-232C, RS-485C communication port can be provided in the chiller control panel for the customers BMS.



Touch Screen Panel

Nomenclature



Scope of Supply

Item	Delivered Equipment/Service
Main equipment	Compressor, Main motor, Heat exchanger
Auxiliary equipment	Safety device, Control panel, Starter, Accessories
Test	Factory mechanical running test
Coating	Chiller main unit: Anti-corrosion, control panel/Starter: Up to finishing (coating color: Munsell No. 5Y6.5/G1)

Safety Precautions

Regarding use

Please read carefully the instruction manual before use and correctly operate the equipment.

Regarding installation

1. Avoid installing the unit in places where inflammable material(gasoline, Thinner, etc.) is handled or where corrosive gas (ammonia, chlorine, etc.) is generated. Otherwise, fire may result.
2. Carrying-in work, installation work, foundation work, electrical work, various piping work, various interlock work, and hot/cold insulation work are necessary. Improper work might cause overturn, electric shock, water leakage, refrigerant leakage, fuel leakage, oxygen deficiency accidents, burns or other problems.
3. Discharging Ref. outdoor piping work and suction and exhaust piping work are necessary. Improper work might cause oxygen deficiency accidents or problem.
4. Water proofing is necessary on the floor surface of the place where the chiller unit is installed, as well as drainage ditch around the installation place. Improper water proofing might cause water leakage, resulting in water damage to surrounding facilities in the worst case.
5. Sufficient space for maintenance work must be kept around the unit. Insufficient space might obstruct safe operation and cause injury.



Specification_ (High-Efficiency TH series)

Chilled water entering/leaving temperature 12/7°C, Cooling water entering/leaving temperature 32/37°C

ITEM		MODEL(SCR)	TH 020G0	TH 025G0	TH 030G0	TH 040G0	TH 050G0	TH 063G0	TH 080G0	TH 100G0
Cooling Capacity	usRT		200	250	300	400	500	630	800	1,000
	kW		704	880	1,055	1,407	1,758	2,215	2,813	3,516
Refrigeration Ton	TON		91.7	112.5	133.3	175.0	216.7	258.3	329.2	420.8
Installation Dimensions	Length(A)	mm	4,000	3,930		3,960	4,100	4,600		4,840
	Width(B)	mm	1,860	1,860		2,010	2,180	2,650		3,350
	Height(C)	mm	1,990	1,990		2,140	2,350	2,600		3,150
Rated motor output power	kW		110	135	160	210	260	310	395	505
Chilled Water	Flow rate	m ³ /h	121	151	181	242	302	381	484	605
	Pressure drop	kPa(mAq)	91(9.3)	49(5.0)	57(5.8)	49(5.0)	50(5.1)	50(5.1)	60(6.1)	49(5.0)
	Connection Size	A		150		200		250		300
	Number of passes	-	3					2		
Cooling Water	Flow rate	/h	146	183	219	293	366	457	581	726
	Pressure drop	kPa(mAq)	62(6.4)	57(5.8)	78(7.9)	49(5.0)	67(6.8)	67(6.9)	62(6.3)	52(5.3)
	Connection Size	A	150		200		250		300	
	Number of passes	-					2			
Weight	Operating	Ton	7.9		13.6		19.2		30.0	
	Carrying in	Ton	6.7		11.7		16.5		23.5	
Insulating area	m ²	27		33		45		52		

Chilled water entering/leaving temperature 12/7°C, Cooling water entering/leaving temperature 32/37°C

ITEM		MODEL(SCR)	TH 125G0	TH 140G0	TH 150G0	TH 160G0	TH 170G0	TH 180G0	TH 190G0	TH 200G0
Cooling Capacity	usRT		1,250	1,400	1,500	1,600	1,700	1,800	1,900	2,000
	kW		4,395	4,923	5,274	5,626	5,978	6,329	6,681	7,033
Refrigeration Ton	TON		525.0	583.3	633.3	695.8	737.5	779.2	820.8	862.5
Installation Dimensions	Length(A)	mm	5,010	6,010		6,800		6,800		
	Width(B)	mm	3,350	3,180		3,500		3,500		
	Height(C)	mm	3,150	3,150		3,500		3,500		
Rated motor output power	kW		630	700	760	835	885	935	985	1,035
Chilled Water	Flow rate	/h	756	847	907	968	1,028	1,089	1,149	1,210
	Pressure drop	kPa(mAq)	62(6.3)	92(9.4)	96(9.8)	127(13.0)	142(14.5)	158(16.1)	124(12.6)	136(13.9)
	Connection Size	A	300	350		400		450		
	Number of passes	-					2			
Cooling Water	Flow rate	/h	907	1,001	1,073	1,145	1,216	1,286	1,357	1,427
	Pressure drop	kPa(mAq)	76(7.8)	113(11.5)	121(12.4)	134(13.7)	115(11.7)	112(11.5)	129(13.2)	131(13.4)
	Connection Size	A	350	400		450		450		
	Number of passes	-					2			
Weight	Operating	Ton	30.0	34.0	41.3		45.1		50.6	
	Carrying in	Ton	23.5	28.0	31.9		33.9		38.2	
Insulating area		52	60	79		82		85		

Notes.

- This table is applicable to chiller manufactures for normal water, fouling factor is assumed 0.086m²/kW both chilled and cooling water. Other fouling factor may be met upon request.
- Capacity control range is 100 to approx . 20%.
- Main power source and Standard start method.

Main power source	50Hz	60Hz	Standard method
400V	400, 415V	380, 440V	Open Y-
3000V	3000, 3300V	3300V	Reactor
6000V	6000, 6600V	6600V	Reactor

- Control power source: 220V AC, 60Hz Single phase

Capacities : TH020-TH030 : 3.0kVA

TH040-TH150 : 4.5kVA

- Maximum working pressure is 0.7MPa for both chilled and cooling water. If higher maximum working pressure is required, please specify during inquiry.

6. For water piping connections, see the dimensional outline drawing.

- More bigger and other capacity model which is not mentioned on table can be manufactured. Please consult us.

Chilled water entering/leaving temperature 10/5°C, Cooling water entering/leaving temperature 32/37°C

ITEM		MODEL(SCR)	TH 020G0	TH 025G0	TH 030G0	TH 040G0	TH 050G0	TH 063G0	TH 080G0	TH 100G0
Cooling Capacity	usRT		180	225	270	360	450	567	720	900
	kW		633	791	949	1,266	1,582	1,994	2,532	3,165
Refrigeration Ton	TON		91.7	112.5	133.3	175.0	216.7	258.3	329.2	420.8
Installation Dimensions	Length(A)	mm	4,000	3,930		4,260	4,100	4,800	4,600	5,300
	Width(B)	mm		1,860		2,180		2,650		3,350
	Height(C)	mm		1,990		2,350		2,600		3,150
Rated motor output power	kW		110	135	160	210	260	310	395	505
Chilled Water	Flow rate	/h	109	136	163	218	272	343	436	544
	Pressure drop	kPa(mAq)	67(6.8)	49(5.0)	48(4.9)	80(8.2)	49(5.0)	96(9.8)	51(5.2)	99(10.1)
	Connection Size	A	125	150		200		250		300
	Number of passes	-	3	2		3	2	3	2	3
Cooling Water	Flow rate	/h	132	165	197	264	329	412	523	654
	Pressure drop	kPa(mAq)	52(5.3)	49(5.0)	65(6.6)	49(5.0)	56(5.7)	49(5.0)	61(6.3)	49(5.0)
	Connection Size	A	125		200	250		300		
	Number of passes	-		2						
Weight	Operating	Ton		7.9		13.6		19.2		30.0
	Carrying in	Ton		6.7		11.7		16.5		23.5
Insulating area			27		33		45		52	

Chilled water entering/leaving temperature 10/5°C, Cooling water entering/leaving temperature 32/37°C

ITEM		MODEL(SCR)	TH 125G0	TH 140G0	TH 150G0	TH 160G0	TH 170G0	TH 180G0	TH 190G0	TH 200G0
Cooling Capacity	usRT		1,125	1,260	1,350	1,440	1,530	1,620	1,710	1,800
	kW		3,956	4,431	4,747	5,063	5,380	5,696	6,013	6,329
Refrigeration Ton	TON		525.0	583.3	633.3	695.8	737.5	779.1	820.8	862.5
Installation Dimensions	Length(A)	mm	5,010		6,010		6,800			
	Width(B)	mm	3,350		3,180		3,500			
	Height(C)	mm	3,150		3,150		3,300			
Rated motor output power	kW		630	700	760	835	885	935	985	1,035
Chilled Water	Flow rate	/h	680	762	816	871	925	980	1,034	1,089
	Pressure drop	kPa(mAq)	52(5.3)	68(7.5)	82(8.5)	93(9.5)	117(12.0)	130(13.3)	102(10.4)	78(8.0)
	Connection Size	A	300	350			400			
	Number of passes	-		2						
Cooling Water	Flow rate	/h	816	914	980	1,046	1,111	1,175	1,239	1,303
	Pressure drop	kPa(mAq)	64(6.5)	87(8.9)	100(10.7)	119(12.1)	97(9.9)	108(11.0)	109(11.1)	120(12.2)
	Connection Size	A	350	400				450		
	Number of passes	-		2						
Weight	Operating	Ton	30.0	34.0	41.3		45.1		50.6	
	Carrying in	Ton	23.5	28.0	31.9		33.9		38.2	
Insulating area			52	60	79		82		85	

Specification__ (Inverter Type TV series)

Chilled water entering/leaving temperature 12/7°C, Cooling water entering/leaving temperature 32/37°C

ITEM		MODEL(SCR)	TV 020G0	TV 025G0	TV 030G0	TV 040G0	TV 050G0	TV 063G0	TV 080G0	TV 100G0	TV 125G0			
Cooling Capacity	usRT		200	250	300	400	500	630	800	1,000	1,250			
	kW		704	880	1,055	1,407	1,758	2,215	2,813	3,516	4,395			
Refrigeration Ton	TON		91.7	112.5	133.3	175.0	216.7	258.3	329.2	377.5	525.0			
Installation Dimensions	Length(A)	mm	4,000	3,930		4,260	4,100	4,600		5,010				
	Width(B)	mm		1,860		2,180		2,650		3,350				
	Height(C)	mm		1,990		2,350		2,600		3,150				
Rated motor output power	kW		110	135	160	210	260	310	395	505	630			
Chilled Water	Flow rate	/h	121	151	181	242	302	381	484	605	756			
	Pressure drop	kPa(mAq)	80(8.2)	49(5.0)	57(5.8)	96(9.8)	50(5.1)	49(5.0)	60(6.1)	49(5.0)	62(6.3)			
	Connection Size	A	125	150		200		250		300				
	Number of passes	-	3					2						
Cooling Water	Flow rate	/h	146	183	219	293	366	457	581	726	907			
	Pressure drop	kPa(mAq)	49(5.0)	57(5.8)	78(7.9)	49(5.0)	67(6.8)	50(5.1)	74(7.5)	52(5.3)	76(7.8)			
	Connection Size	A	125	150	200	250		300		350				
	Number of passes	-	2											
Weight	Operating	Ton	7.9		13.6		19.2		30.0					
	Carrying in	Ton	6.7		11.7		16.5		23.5					
Inverter	Low Voltage	Power	Hz/V 50Hz/400V, 60Hz/380, 440V											
		Length(E)	1.6					2.6		-				
		Width(D)	1.0								-			
		Height(F)	2.0								-			
	High Voltage	Power	Hz/V 60/60Hz, 3300/6600V											
		Length(E)	3.2					4.4						
		Width(D)	1.5						1.8					
		Height(F)	2.0						27					
Insulating area		27			33		45		52					

Notes.

- This table is applicable to chiller manufactures for normal water, fouling factor is assumed 0.086m²/kW both chilled and cooling water. Other fouling factor may be met upon request.
- Capacity control range is 100 to approx. 20%.
- Control power source: 220V AC, 60Hz Single phase
Capacities : TV020-TV030 : 3.0kVA
TV040-TV150 : 4.5kVA
- Maximum working pressure is 0.7MPa for both chilled and cooling water. If higher maximum working pressure is required, please specify during inquiry.
- For water piping connections, see the dimensional outline drawing.
- More bigger and other capacity model which is not mentioned on table can be manufactured. Please consult us.

Chilled water entering/leaving temperature 10/5°C, Cooling water entering/leaving temperature 32/37°C

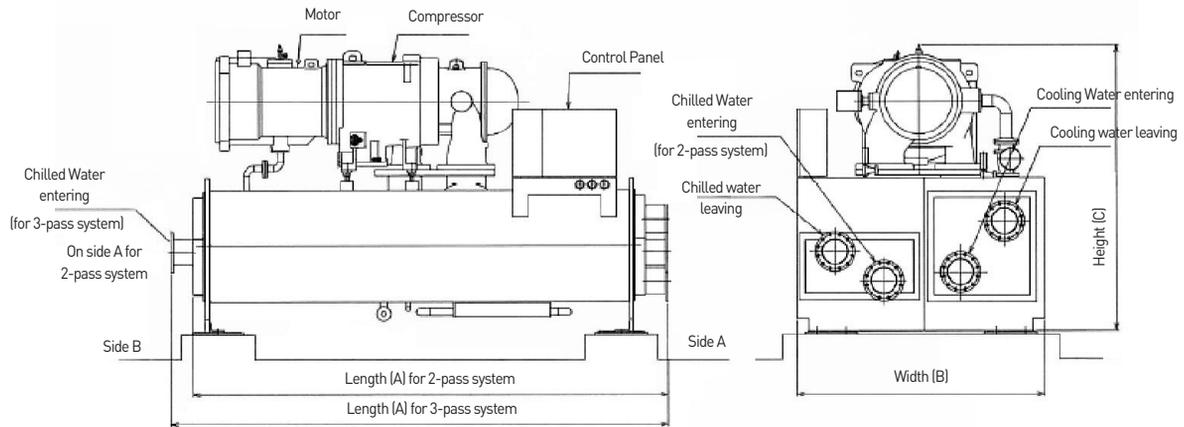
ITEM		MODEL(SCR)	TV 020GA	TV 025GA	TV 030GA	TV 040GA	TV 050GA	TV 063GA	TV 080GA	TV 100GA	TV 125GA	
Cooling Capacity	usRT		180	225	270	360	450	567	720	900	1,125	
	kW		633	791	949	1,266	1,582	1,994	2,532	3,165	3,956	
Refrigeration Ton	TON		91.7	112.5	133.3	175.0	216.7	258.3	329.2	420.8	525.0	
Installation Dimensions	Length(A)	mm	4,000	3,930		4,260	4,100	4,800	4,600	5,300	5,010	
	Width(B)	mm		1,860		2,180		2,450		3,350		
	Height(C)	mm		1,990		2,350		2,400		3,150		
Rated motor output power	kW		110	135	160	210	260	310	395	505	630	
Chilled Water	Flow rate	/h	109	136	163	218	272	343	436	544	680	
	Pressure drop	kPa(mAq)	67(6.8)	49(5.0)	48(4.9)	80(8.2)	49(5.0)	96(9.8)	51(5.2)	99(10.1)	52(5.3)	
	Connection Size	A	125	150		200		250		300		
	Number of passes	-	3	2		3	2	3	2	3	2	
Cooling Water	Flow rate	/h	132	165	197	264	329	412	523	654	816	
	Pressure drop	kPa(mAq)	49(5.0)	49(5.0)	65(6.6)	49(5.0)	56(5.7)	49(5.0)	61(6.3)	49(5.0)	64(6.5)	
	Connection Size	A	125	150	200		250		300		350	
	Number of passes	-		2								
Weight	Operating	Ton	7.9			13.6			19.2		30.0	
	Carrying in	Ton	6.7			11.7			16.5		23.5	
Inverter	Low Voltage	Power	50Hz/400V, 60Hz/380, 440V									
		Length(E)	1.6						2.6		-	
		Width(D)	1.0						-		-	
		Height(F)	2.0						-		-	
	High Voltage	Power	50Hz/3000, 3300, 6000, 6600V, 60Hz/3300, 6600V									
		Length(E)	3.2						4.4		-	
		Width(D)	1.5						1.8		-	
		Height(F)	2.0						-		-	
Insulating area		27			33			45		52		

Specification_ (Ice storage TL series)

Item	Model	SCR-TL030	SCR-TL050	SCR-TL060	SCR-TL080	SCR-TL100	
ICE Operation (Night)	Cooling capacity	usRT	162	310	340	600	590
		kW	570	1,090	1,196	2,110	2,075
	Brine entering/leaving temperature		-2.2/ -4.5	-2.0/ -4.5	-1.67/ -4.5	-1.3/ -4.5	-1.4/ -4.5
	Cooling water entering/leaving		30/33.4	30/33.6	30/33.9	30/34.2	30/33.5
Cooling Operations (Day)	Rated Motor Output	usRT	145	280	300	535	525
	Cooling capacity	kW	238	340	450	730	880
			837	1,196	1,582	2,567	3,094
	Brine entering/leaving temperature		6.3/3	5.7/3	6.7/3	6.9/3	11/6.3
	Cooling water entering/leaving	kW	31/36	32/37	32/37	32/37	32/37
Rated Motor Output		200	285	360	615	575	

Note. Other capacity model which is not mentioned on table can be manufactured. Please consult us.

Dimension_ Outline Drawing (TH)



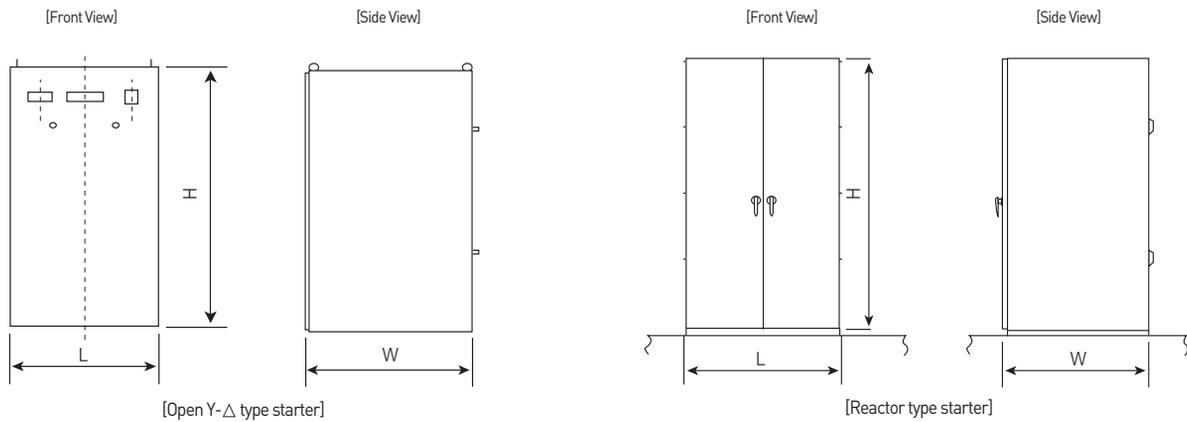
Note)
Tubes can be replaced from either left or right.

Unit:mm

Model(SCR)	Dimension			Maintenance space (Min.)				Connection pipe nominal size		Mass (ton)
	Length (A)	Width (B)	Height (H)	Right (A)	Left (B)	Front	Rear	Chilled water	Cooling water	
SCR - TH(V)020G0(A)	4,000	1,860	1,990	3,800	800	1,200	500	125	125	6.7
SCR - TH(V)025G0(A)	3,930	1,860	1,990	3,800	800	1,200	500	150	150	6.7
SCR - TH(V)030G0(A)	3,930	1,860	1,990	3,800	800	1,200	500	150	200	6.7
SCR - TH(V)040G0(A)	3,960	2,010	2,140	3,800	800	1,500	500	200	200	11.7
SCR - TH(V)050G0(A)	4,100	2,180	2,350	3,800	800	1,500	500	200	250	11.7
SCR - TH(V)063G0	4,600	2,650	2,600	4,300	800	1,600	500	250	250	16.5
SCR - TH(V)063GA	4,800	2,650	2,600	4,300	800	1,600	500	250	250	16.5
SCR - TH(V)080G0(A)	4,600	2,650	2,600	4,300	800	1,600	500	250	300	16.5
SCR - TH(V)100G0	4,840	3,350	3,150	4,300	1,400	1,600	700	300	300	23.5
SCR - TH(V)100GA	5,300	3,350	3,150	4,300	1,400	1,600	700	300	300	23.5
SCR - TH(V)125G0(A)	5,010	3,350	3,150	4,300	1,400	1,600	700	300	350	23.5
SCR - TH140G0(A)	6,010	3,180	3,150	5,300	1,400	1,600	700	350	400	28
SCR - TH150G0(A)	6,010	3,178	3,150	5,900	1,400	1,600	700	350	400	31.9
SCR - TH160G0(A)	6,010	3,178	3,150	5,900	1,400	1,600	700	350	400	31.9
SCR - TH170G0(A)	6,800	3,581	3,600	5,900	1,400	1,600	700	400	400	33.9
SCR - TH180G0(A)	6,800	3,581	3,600	5,900	1,400	1,600	700	400	400	33.9
SCR - TH190G0(A)	6,800	3,730	3,600	5,900	1,400	1,600	700	400	450	38.2
SCR - TH200G0(A)	6,800	3,730	3,600	5,900	1,400	1,600	700	400	450	38.2

Note)
1. Tubes can be replaced from left or right. Provide space on either A or B side for pulling tubes.
2. For the maintenance, provide the space more than minimum. The reference point is outline of foundation.
3. Contact our branch to get other references as water connection.

Dimension Starter Outline Drawing (TH/TE)

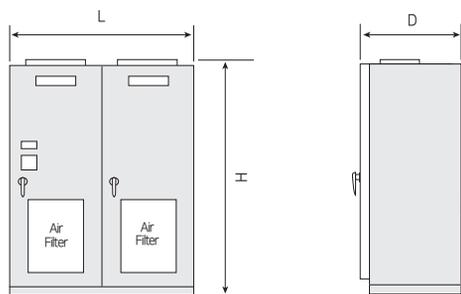


Unit:mm

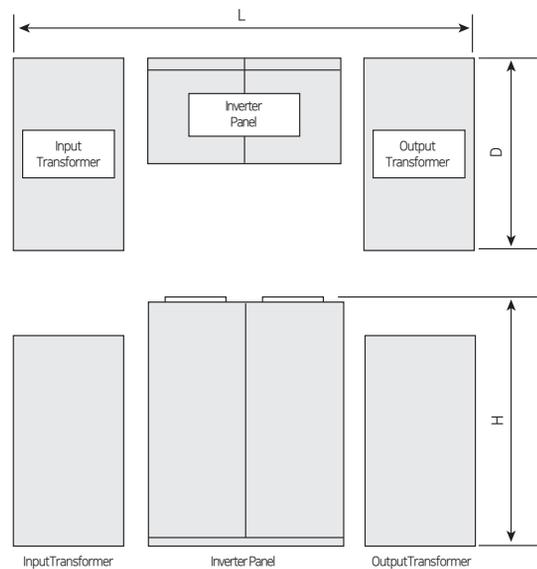
Model (SCR)	Cooling Capacity (usRT)	Motor Output (kW)	Open Y- type 380/440V-60Hz, 400/415V-50Hz			Reactor type 3,300/6,600V-60Hz, 3,000/6,000-50Hz		
			L	H	W	L	H	W
TH(E)020 ~ TH(E)050	200~500	110~280	600	1900	750	1200	2100	1100
TH(E)063 ~ TH(E)080	630~800	310~435	700	1950	1140	1400	2100	1300
TH(E)100 ~ TH(E)125	1000~1250	505~685	-	-	-	1400	2100	1300

Notes. Dimensions above are normal dimension for the product If you have any inquiry, please ask the branch office near-by

Dimension Inverter Outline Drawing (TV)



[For LV: 380V]



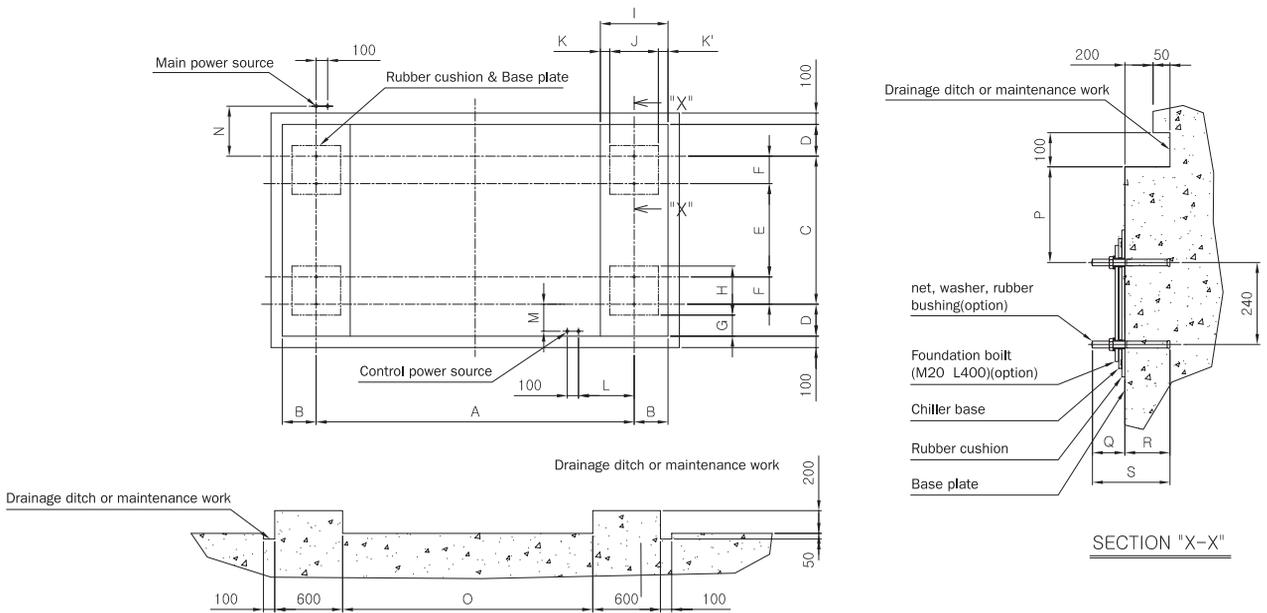
[For HV: 3kV, 6kV]

Notes. 1.For dimensions of inverter panel, please refer to the dimension of each model specified in standard.
2.Dimensions above are normal dimension for the product If you have any inquiry, please ask the branch office near-by

Foundation Drawing_ (TH/TE/TV)

Model[SCR]	A	B	C	D	E	F	G	H	I	J	K
SCR-TH(V)020-030	3636	300	1320	280	840	240	185	430	600	430	85
SCR-TH(V)040-050	3636	300	1710	280	1230	240	185	430	600	430	85
SCR-TH(V)063-080	4120	300	2110	280	1630	240	185	430	600	430	85
SCR-TH(V)100-125	4160	300	2630	450	2150	240	370	400	600	430	60
SCR-TH(V)140-150	5200	300	2630	450	2150	240	370	400	600	430	60
SCR-TH(V)160-200	5760	300	2589	450	2109	240	370	400	600	430	60

Model[SCR]	K'	L	M	N	O	P	Q	R	S	T	U
SCR-TH(V)020-030	85	590	190	440	2700	280	50	100	150	25	110
SCR-TH(V)040-050	85	493	207	455	2700	280	50	100	150	25	110
SCR-TH(V)063-080	85	493	237	440	3200	280	70	130	200	32	140
SCR-TH(V)100-125	110	1410	330	900	3160	450	70	130	200	32	140
SCR-TH(V)140-150	110	800	330	900	4160	300	70	130	200	32	140
SCR-TH(V)160-200	100	900	180	1050	4505	280	105	295	400	40	305



Memo



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Total Solution Provider SHINSUNG ENGINEERING

고효율 친환경 제품으로 냉동공조의 새시대를 열어갑니다.

Refrigeration Air Conditioning Division



Centrifugal Chiller
for Air Conditioning/Industrial
for Ice Thermal Storage



Absorption Chiller
Standing (Top, Front, Slope) Discharge Type
Standing Encased Top, Discharge Type
Low-Bay Standing Type, Encased Type
Ceiling Cassette Type, Standing Type (Vertical Type)



2중효율흡수식냉동기
120usRT ~ 1,250usRT



Hot Water Absorption Chiller
15usRT ~ 1,000usRT



**Single Stage Double Lift
Hot Water Absorption Chiller**
100usRT ~ 1,000usRT



Hybrid Absorption Chiller
120usRT ~ 1,000usRT



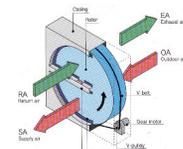
**Screw Chiller
(Water Cooling Type)**
for Air Conditioning
for Ice Thermal Storage
Air Cooled Type



**Screw Chiller
(Air-Cooling Type)**
40~240usRT



AHU (Air Handling Unit)
60~1,400 CMM



Energy Saving AHU
50CMM ~ 950CMM



Flexible Space System (FSS)



Ice Thermal Storage System
1098A (115TON-HRS), 1190A (190TON-HRS)
1290A (290TON-HRS), 1500A (570TON-HRS)



Water Thermal Storage System



Cooling Tower
Counterflow type 5~1,000usRT
Cross-flow type 100~1,000usRT



**System Air Conditioning
(EHP & GHP)**
EHP (Indoor 0.8HP~10HP-Outdoor 2HP~32HP)
GHP (Indoor 2.2kW~14kW-Outdoor 28kW~84kW)

Multi Air Conditioning System Division



Gmp System
Fan Filter Unit, Air Shower, Clean Bench, Clean Booth, Air Clean Unit, Hepa Filter Unit, Pass Box, Relief Damper, Clean Locker, Isolator



Dry Room System



Dehumidifier
• Dry Dehumidifier: 5,400~20,250kcal/h
• Shipping Dehumidifier:
USD-8,000/15,000/23,000/30,000 (Gas Volume :
8,000/15,000/23,000/30,000CMH.D/H) Single type
USPD-8,000/15,000-P/C + D/H Operation
USPD-8,000A/15,000A-P/C-D/H+A/C Operation



**Constant Temp &
Humid System**
for Precision Machinery Room
for Computer laboratory

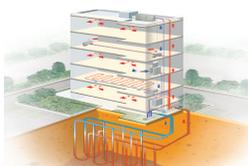


VOC Concentrator

Environment & New Renewable Energy



Geothermal Heatpump
Horizontal Air type: 0.8~11usRT, Vertical Air type :
0.8~24usRT
Chilled/Hot Water type : 5~50usRT
Bottom-fixed type : 0.6~1.6usRT, Rooftop type :
3.5~40usRT



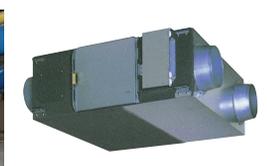
**Geothermal
Heating & Cooling System**



**Solar Power
Generation System**



Automatic Collection System



Ventilation System
80~3,000 l/h
Household Ventilation System, Kitchen Fan,
Living room Ventilation System,
Smoking room Air-cleaning System