⚠ Precautions for safety

Cooling towers described in this catalog are of our standard specifications.

■ Before use

- Before use, read the "Instruction Manual" carefully and use the towers correctly.

■ Before installation

- Request installation from the distributor or professional agency.
  Otherwise, improper installation work may cause toppling, water leakage, electric shocks or fire which will endanger operations.
- Make sure to use extra-cost options such as an electric heater designated by us. Request installation from the distributor or professional agency.
- Otherwise,improper installation work might cause toppling, water leakage, electric shocks or fire whict will endanger operations.
  Space is required for maintenance work around the machine. Lack of space may obstruct safety work and cause injuries.

■ Locations for use

- Do not install in places where combustible gases leak or flammables exist.
  Fire may occur in places where flammable gases are generated, flow in or are retained, and carbon fibers are floated.

■ Maintenance and inspection

- Periodic maintenance and inspection is required other than inspections for daily operation.
  Improper maintenance and inspection may cause a fire,, electric shocks and burns.
  As maintenance and inspection requires special skills, consult manufacturer or distributor.

※ Notice for water quality control

If the circulating water is left as it is, slime deposits in the water bath and piping will develop.
The slime is formed from many kinds of algae and fungi, particularly, metabolic products from algae sometimes help fungi grow.
Disease-causing bacteria among bacteria may also exist, therefore, please be advised to clean or control the water quality at least once a month to prevent algae from forming.

●your contact

EBARA REFRIGERATION EQUIPMENT & SYSTEMS CO.,LTD.
SHINWA COOLING TOWER BUSINESS DIVISION

ED-201-1

02-04-F-Ⓛ

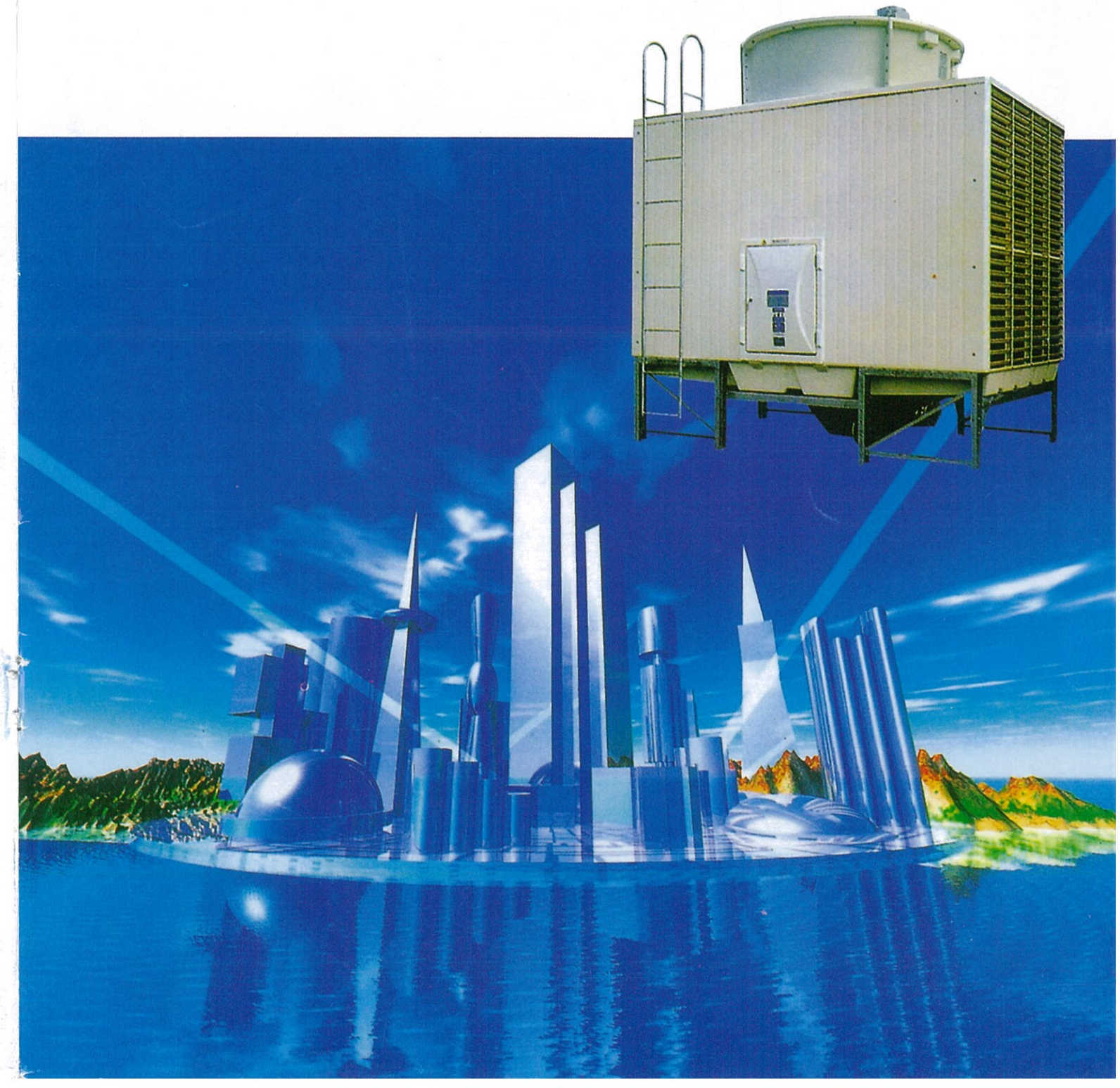
SHINWA
COOLING TOWER

SHINWA COOLING TOWER

CROSS FLOW SQUARE TYPE

U SERIES

SDC-U MODEL



Ebara Shinwa supports technology which is in harmonized with environment

The earth on which we live is the sole planet in the solar system for which life exists. In order to preserve this blue planet which is blessed with abundant water and limitless air, we have continued research and development into cooling towers over the years under a policy of "conserving water, air and the environments".

The history of cooling towers to preserve "water, air and the environments" is also indeed the history of "EBARA-SHINWA".

From here on in, we will seek to create technology in view of the future that includes each aspect of quality, performance and price as a leading maker of cooling towers.

COOLING

SHINWA gives answers to any of your request with our variety of selection

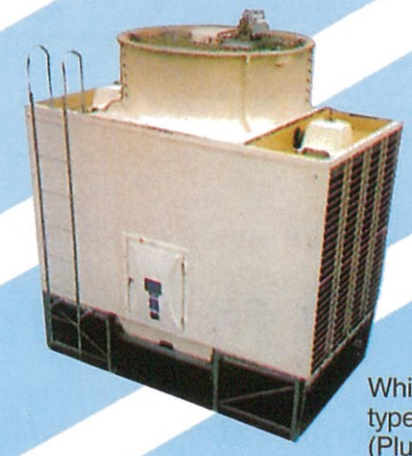
Clossflow type Cooling Tower for district cooling

Closed circuit type Cooling Tower

Clossflow type Cooling Tower for industrial process cooling

Counterflow type Coolinh Tower(SBC)

SBC with pump combined



White plume abatement type Cooling Tower (Plu-Sion)

EYU-100 Chemical feeder

ION Type Water Treatment(SUPRION)

JCI JAPAN COOLING TOWER INSTITUTE 日本冷却塔工業会

COOLING TECHNOLOGY CTI INSTITUTE EST. 1950 ©

Ebara Shinwa Ltd is joining JCI & CTI

INSTALLATION & OPERATION CAUTION

CAUTIONS FOR INSTALLATION WORKS

1. Scope of works (standard)

The following works at site shall be out of our scope

① Lift up, carry works.

② Eoundation works (Incl. installation of anchor bolts, mortar filled works, installation of steel channe)

③ Piping works

④ Electric (wiring) works

2. Selection of installation place

① a place with good ventilation where discharged air from cooling tower will not recirculate.

② Avoid places with much dust, dirt or smoke and places near heat soureces.

③ When there are walls etc. around the cooling tower, the distance between the wall and the cooling tower (louver side) should be at least the cooling tower louver height.

④ Select a place where the noise is not magnified by echoes.

⑤ Avoid the vicinity of windows of neighboring houses as much as possible.

3. Other cautions

① Foundation level should be horizontally.

② Foundation bolts should be furnished before cooling towers delivered to the site.

OPERATIONAL CAUTIONS

1. Operation

① The specified water flow must be maintained to obtain and hold the rated cooling capacity.

② As V-belt may stretch at the early stage of operation, make the first check the day after the operation commissioning to adjust, if any. Thereafter, the periodic checks and adjustment are necessary.

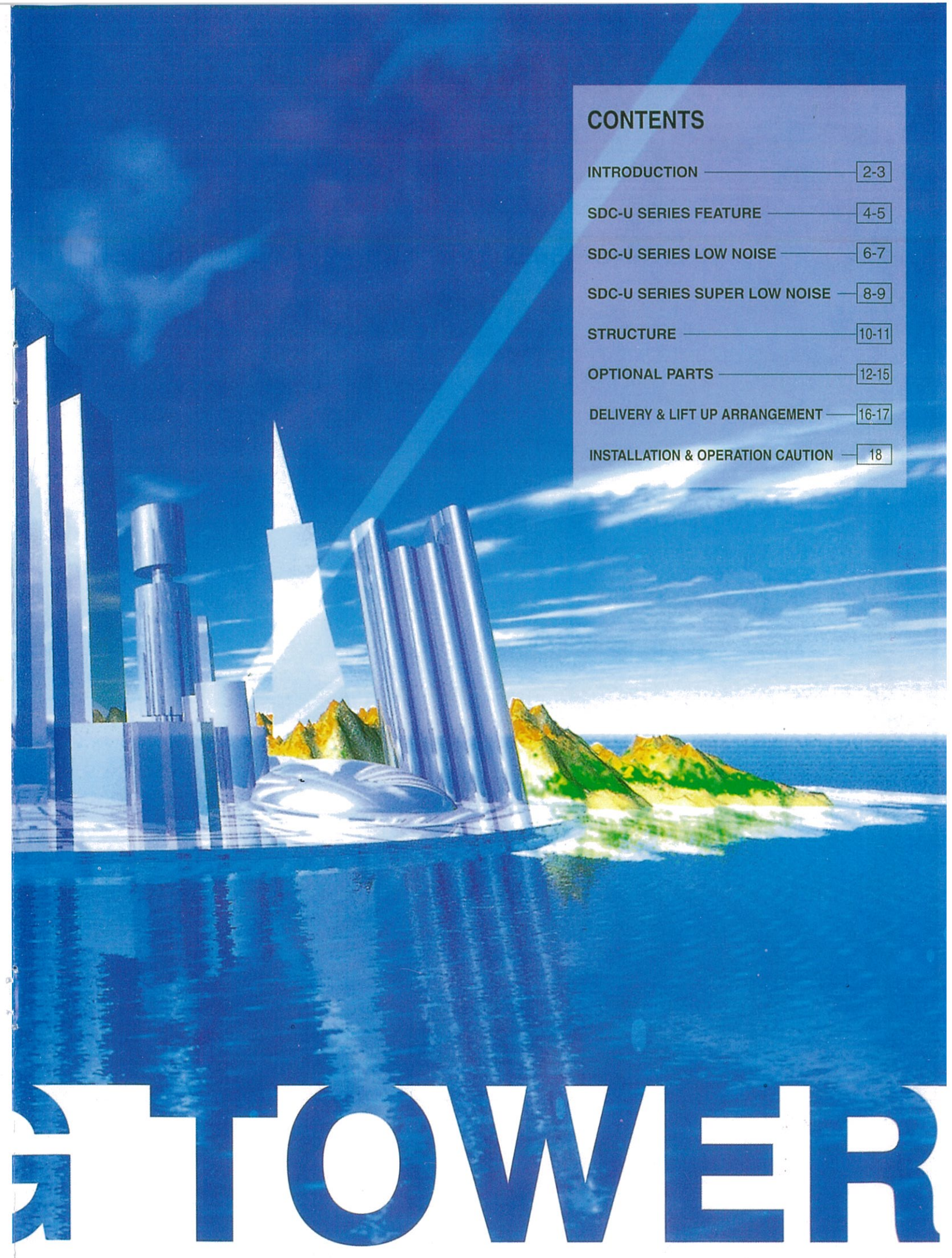
③ During the operation always watch for the vibration, noise, the electric current and the cooling water temperature. Vibration and noise primarily originates from the moving parts, such as belt speed reducer, motor and fan. Do not overlook even a slightest abnormalities.

2. Maintenance

① Regularly drain and clean the lower water basin and strainer etc. when they are dirty.

② To prevent poor water quality, scale and algae growth, the water quality control are recommended.

③ Consumption parts such as V-belts and bearings are required to change periodically. (The calculated life of V-belt is roughly 7～8000 hours.)

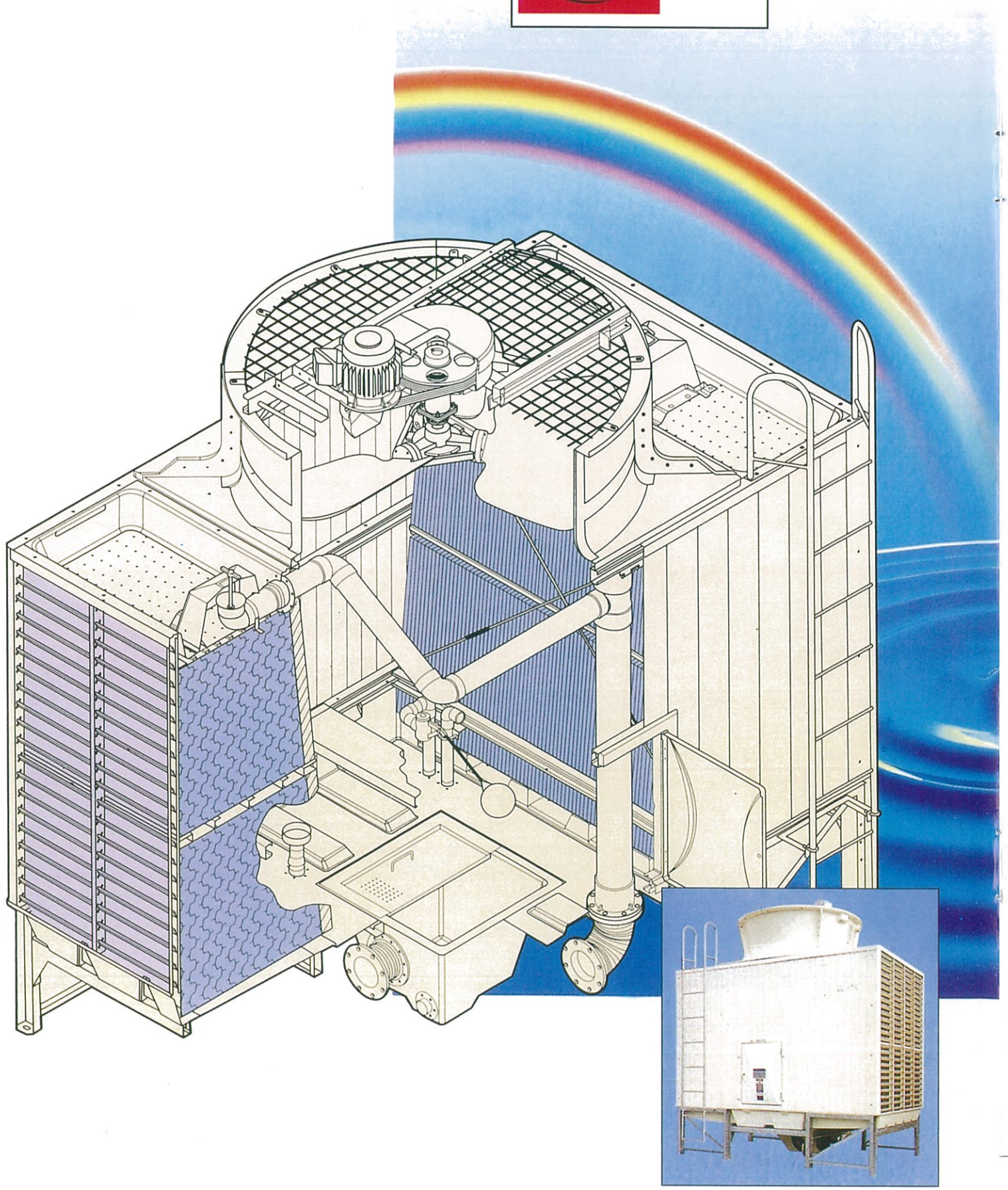


CONTENTS

SHINWA COOLING TOWER

CROSS FLOW SQUARE TYPE

U SERIES

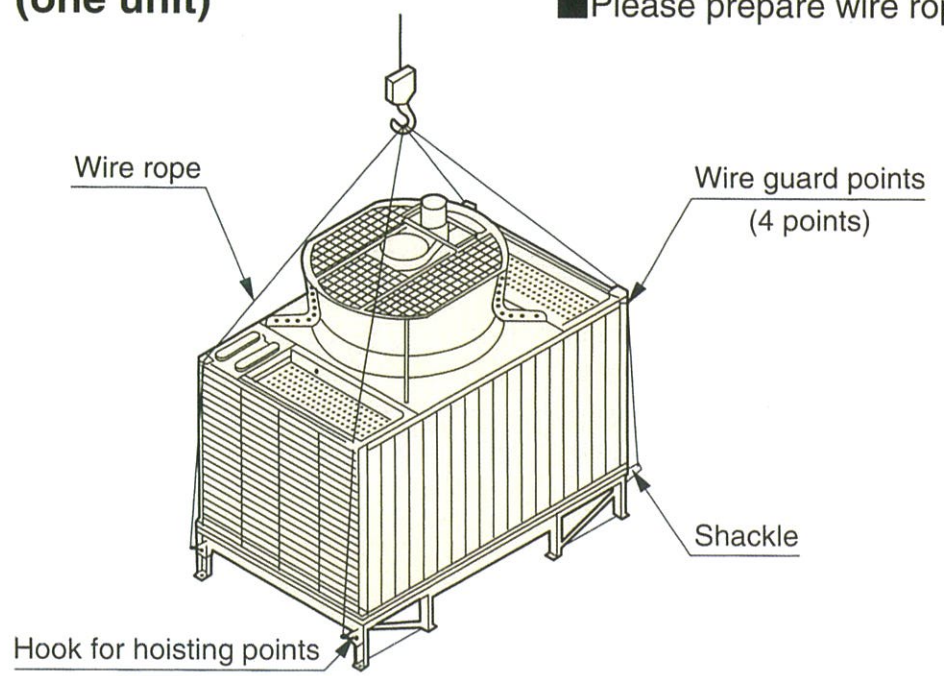


The installation time at site can be greatly reduced by the delivery method of unit form.

Assembled unit form (one unit)

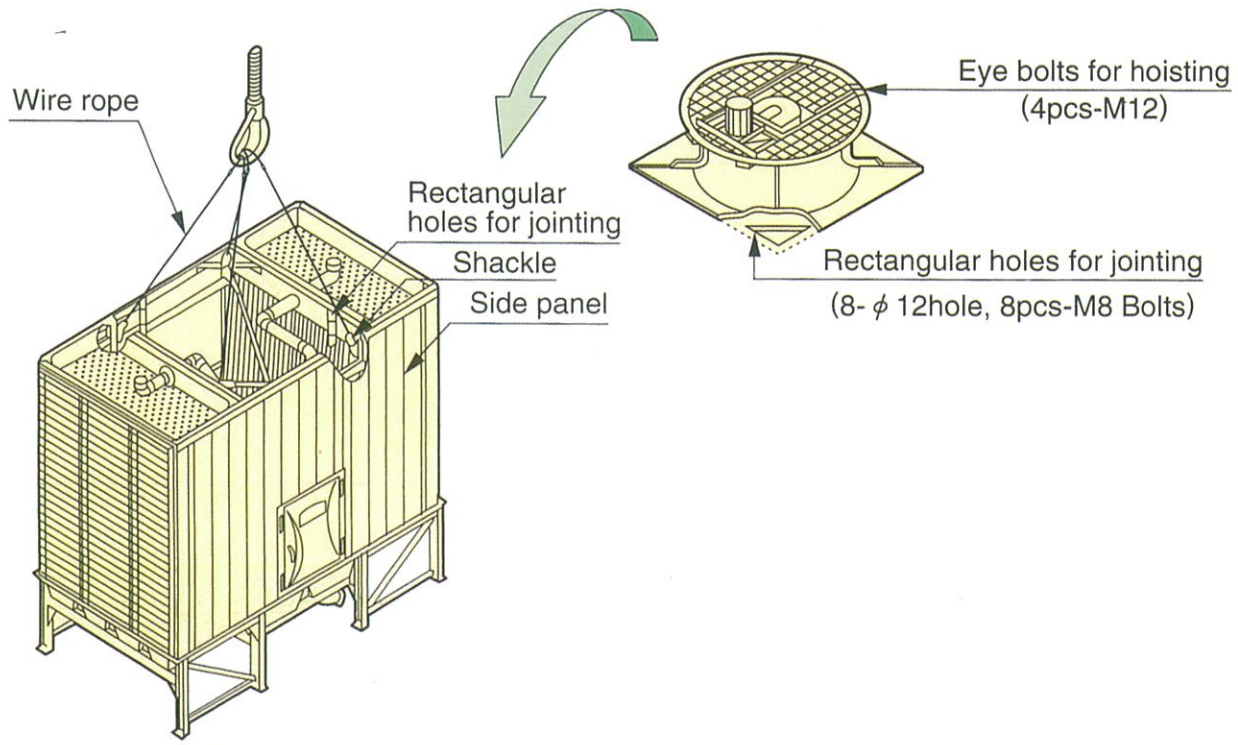
●Hoisting method

■Hoisting works shall be out of our scope.
■Please prepare wire ropes and shackles for lift up.



Semi Assembled unit form (Main body+Fan casing)

Main body and Fan casing are jointed at site.



Delivery and Lift up arrangement

SDC-U

●Assembled unit form (one unit)

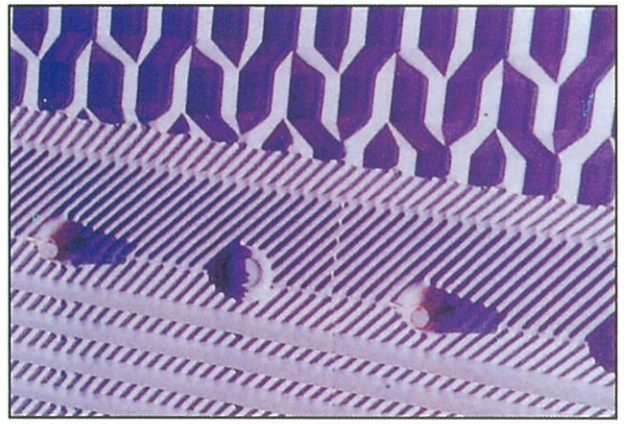
SDC-U	weight(kg)	Q'ty
50	450	1
75	500	1
85	510	1
100	590	1
125	600	1

●Semi Assembled unit form (Main body+Fan casing)

SDC-U	Main body		Fan casing	
	weight(kg)	Q'ty	weight(kg)	Q'ty
150	620	1	200	1
175	650	1	240	1
200	730	1	270	1
225	780	1	330	1
250	780	1	350	1
300	620	2	200	2
350	650	2	240	2
400	730	2	270	2
450	780	2	330	2
500	780	2	350	2
600	730	3	270	3
700	780	3	350	3
800	730	4	270	4
900	780	4	330	4
1000	780	4	350	4

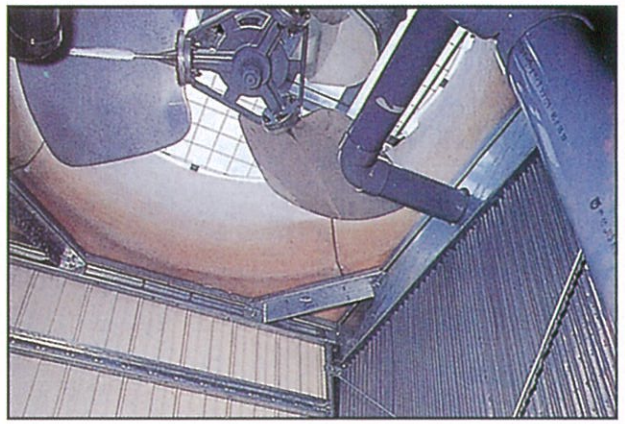
Feature

1 Space Saving, Compactness and Lightweight



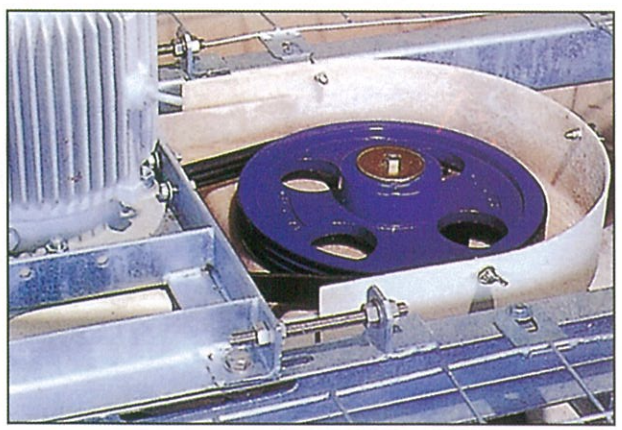
New development such sa high efficiency fill type eliminator combined and cone shaped fan casing are incorporated. Combination of low noise fan type AVS reduction in installation space and volume as well as dry & wet weight by 20% in average compared with our old models.

2 Built-in Piping Arrangements



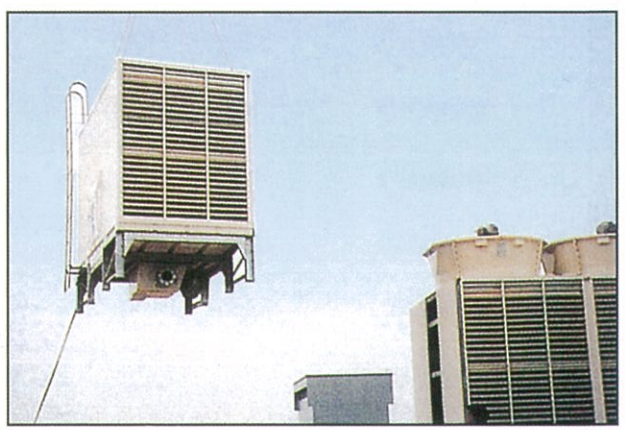
"U" series cooling towers are supplied with built-in piping arrangements as standard. The result is cost-and-space saving in the installation worke

3 Easier Maintenance



A new speed reducer SRS with wedge belt is compact and easy for maintenance. Also FRP lower water basin is sloped for easy cleaning.
(Photo shown is at the time of belt cover removed)

4 Reduced Installation Time



"U" series cooling towers cover the ranges from 50RT to 1000RT.
Delivery can be made in complete assembled or semi assembled unit form. The installation time at site can be greatly reduced by this method

SDC-U series Low Noise Type

For Centrifugal Chiller And Other Applications

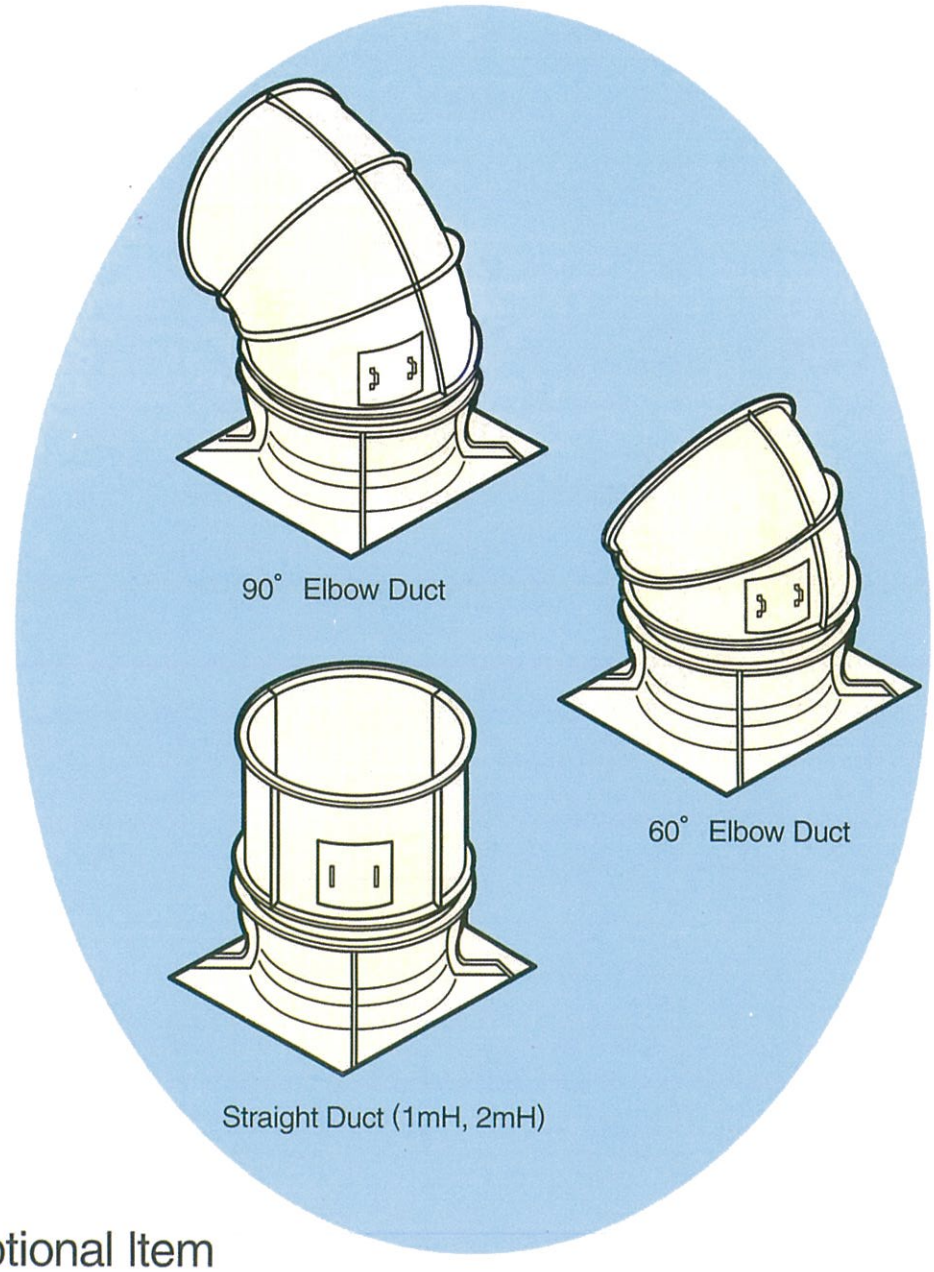
■ Selection·Standard Specifications·Noise Level

Model No. \ Specification	Waterflow [L/min]		HL	Dimensions [mm]					Weight [kg]		Cell(s)	
Inlet [℃]	37								Dry	Operation		
Outlet [℃]	32											
W.B. [℃]	27	28	[m]	L	W	H	h	h1				
SDC-U50ASD	650	559	3	2490	1350	2140	415	60	440	990		
75ASD	975	839	3	2690	1550	2140	460	90	490	1190		
85ASD	1105	950	3	2690	1550	2140	460	90	500	1200	1	
100ASD	1300	1118	3	2990	1850	2140	270	367	580	1500		
125ASD	1645	1415	3	2990	1850	2140	270	389	590	1510		
150ASD	1950	1703	4	3270	1750	2770	615	389	830	2280		
175ASD	2275	1987	4	3270	1950	2770	615	439	900	2490		
200ASD	2600	2271	4	3570	2150	2770	645	439	1010	2900	1	
225ASD	2925	2555	4	3870	2350	2770	715	449	1110	3200		
250ASD	3250	2839	4	3870	2350	2770	715	497	1130	3220		
300ASD	3900	3406	4	3270	3500	2770	615	389	1620	4520		
350ASD	4550	3974	4	3270	3900	2770	615	439	1760	4940		
400ASD	5200	4543	4	3570	4300	2770	645	439	1990	5770	2	
450ASD	5850	5110	4	3870	4700	2770	715	449	2180	6360		
500ASD	6500	5678	4	3870	4700	2770	715	497	2220	6400		
600ASD	7800	6814	4	3570	6450	2770	645	439	2970	8640		
700ASD	9750	8518	4	3870	7050	2770	715	497	3310	9580	3	
800ASD	10400	9086	4	3570	8600	2770	645	439	3950	11510		
900ASD	11700	10221	4	3870	9400	2770	715	449	4320	12680	4	
1000ASD	13000	11357	4	3870	9400	2770	715	497	4400	12760		

HL:Head loss, L:Lengnt, W:Width, H:Tower height, h:Fan casing height, h1:Motor height
External piping type also available on request (Model No. SDC-U50ASY～1000ASY)

■ FRP DUCT

— Avoid air short circuiting
— Reduce noise level



■ Other optional Item

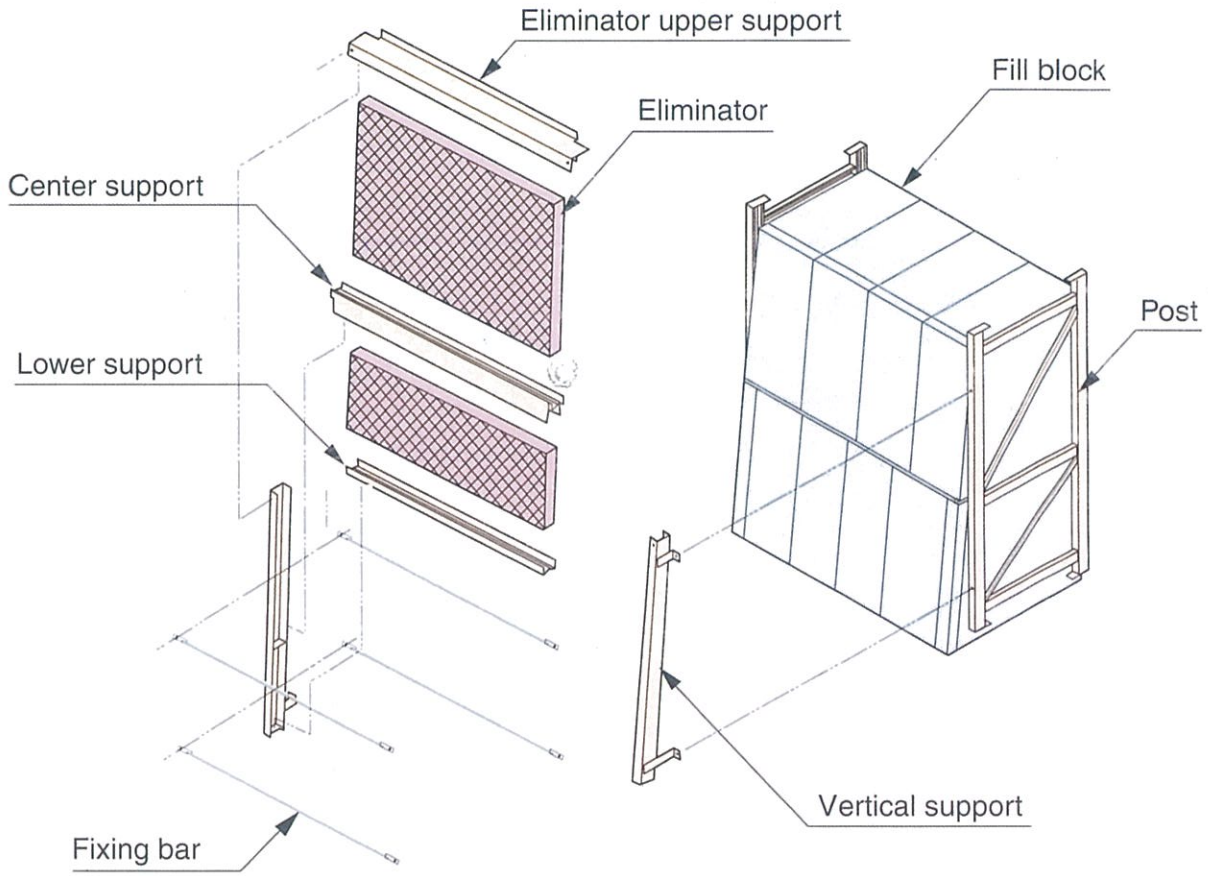
- Partition
- High temp fill
- Vibration absorption equipment
- Anti freeze electric heater
- Water treament equipment

Option

U series optional parts

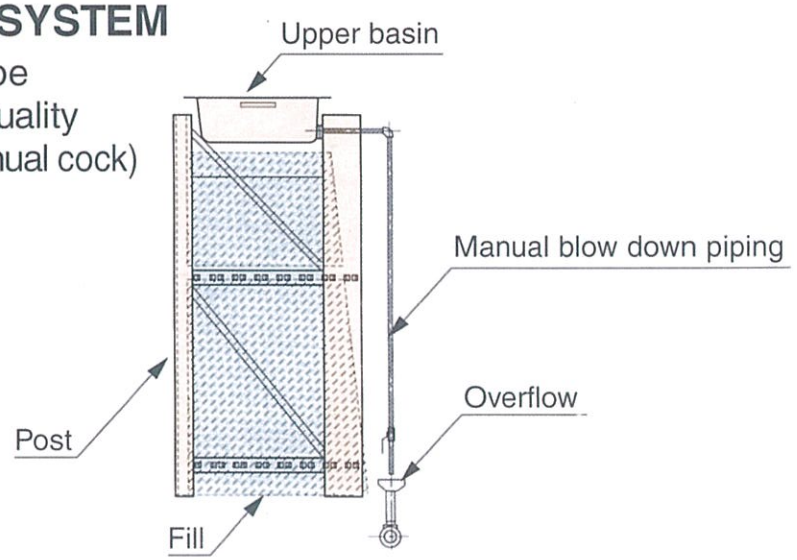
■ ADDITIONAL DRIFT ELIMINATOR (PVC)

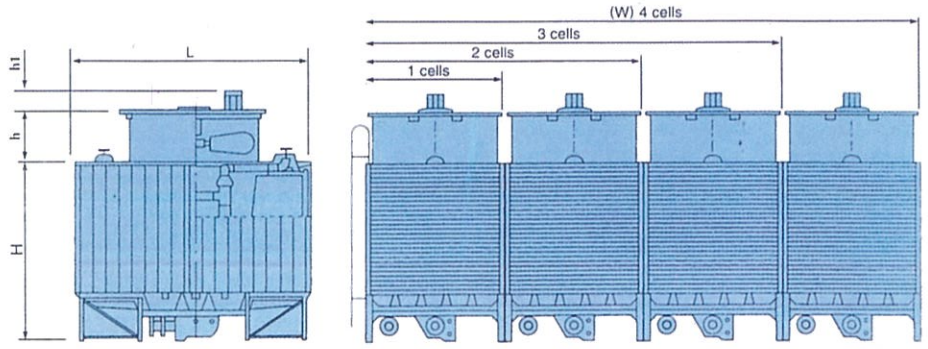
— Reducing Drift Loss further more



■ MANUAL BLOW DOWN SYSTEM

a part of circulating water can be blow down to maintain water quality (adjust blow down volume in manual cock)





● Based on standard condition for centrifugal chillers ;
Water Flowrate : 13 1/min/RT(1RT=3900Kcal/h)
Water Temp. : Inlet 37°C-Outlet 32°C-WB 27°C

※Other voltages such as 380·400·415V are also available on request

	※Fan & Motor 3Ph·200/220V 50/60Hz						Piping Size [A]							Noise Level dB (A)						
															Louver Side H=1.5m			Casing Panel Side H=1.5m		
	Dia ϕ [mm]	kW	P	Drv	Amp [A]	Q'ty	In	Out	Ov	Dr	Ba	Ma	Q'ty	Fan 45° Dm	2 m	10 m	16 m	2 m	10 m	16 m
	1000	1.0	10/12	DD	7.2/7.2	1	100	100	40	40	25	25	1	65.0	60.0	52.5	49.0	56.0	50.0	46.5
	1200	1.5	12/14	DD	11.6/12	1	100	100	40	40	25	25	1	66.5	61.5	54.0	50.5	57.5	50.5	47.0
	1200	2.2	10/12	DD	13/17.4	1	100	100	40	40	25	25	1	67.5	62.5	55.0	51.5	58.5	51.5	48.0
	1500	2.2	4	BD	10.6/9.4	1	125	125	40	40	25	25	1	68.0	63.0	55.5	52.0	59.0	52.0	48.5
	1500	3.7	4	BD	16/14.4	1	125	125	40	40	25	25	1	69.0	64.5	56.5	53.0	60.5	53.5	50.0
	1500	3.7	4	BD	16/14.4	1	125	125	50	50	32	32	1	68.5	63.0	55.5	52.0	59.0	52.0	48.5
	1500	5.5	4	BD	23/21	1	125	125	50	50	32	32	1	69.5	64.0	56.5	53.0	60.5	54.5	51.5
	1800	5.5	4	BD	23/21	1	150	150	50	50	32	32	1	68.5	63.5	55.5	53.5	59.0	53.5	51.5
	2100	5.5	4	BD	23/21	1	150	150	50	50	32	32	1	69.0	64.5	55.5	54.0	59.5	53.5	52.0
	2100	7.5	4	BD	30/26.4	1	150	150	50	50	32	32	1	70.0	65.5	59.0	56.0	62.5	57.0	55.0
	1500	3.7	4	BD	16/14.4	2	125	125	50	50	32	32	2	70.5	65.5	58.5	55.0	60.5	54.0	50.5
	1500	5.5	4	BD	23/21	2	125	125	50	50	32	32	2	71.5	66.5	59.5	56.0	62.0	56.5	53.5
	1800	5.5	4	BD	23/21	2	150	150	50	50	32	32	2	70.5	66.0	58.5	56.5	60.5	55.5	53.5
	2100	5.5	4	BD	23/21	2	150	150	50	50	32	32	2	71.0	67.0	58.5	57.0	61.0	55.5	54.0
	2100	7.5	4	BD	30/26.4	2	150	150	50	50	32	32	2	72.0	68.0	62.0	59.0	64.0	59.0	57.0
	1800	5.5	4	BD	23/21	3	150	150	50	50	32	32	3	71.5	67.5	60.0	58.5	61.5	56.5	55.0
	2100	7.5	4	BD	30/26.4	3	150	150	50	50	32	32	3	73.0	69.5	63.5	61.0	65.0	60.0	58.5
	1800	5.5	4	BD	23/21	4	150	150	50	50	32	32	4	72.0	68.0	61.0	59.5	62.0	57.0	55.5
	2100	5.5	4	BD	23/21	4	150	150	50	50	32	32	4	72.5	69.0	61.0	60.0	62.5	57.0	56.0
	2100	7.5	4	BD	30/26.4	4	150	150	50	50	32	32	4	73.5	70.0	64.5	62.0	65.5	60.5	59.0

In:Water inlet, Out:Water outlet, Ov:Over flow, Dr:Drain, Ba:Automatic make-up, Ma:Manual make-up, Drv:Driving method
DD:Direct drive, BD:Belt drive, Amp:Rated current, Dm:Fan 45° diameter point

SDC-U series Super Low Noise Type

For Centrifugal Chillers And Other Applications

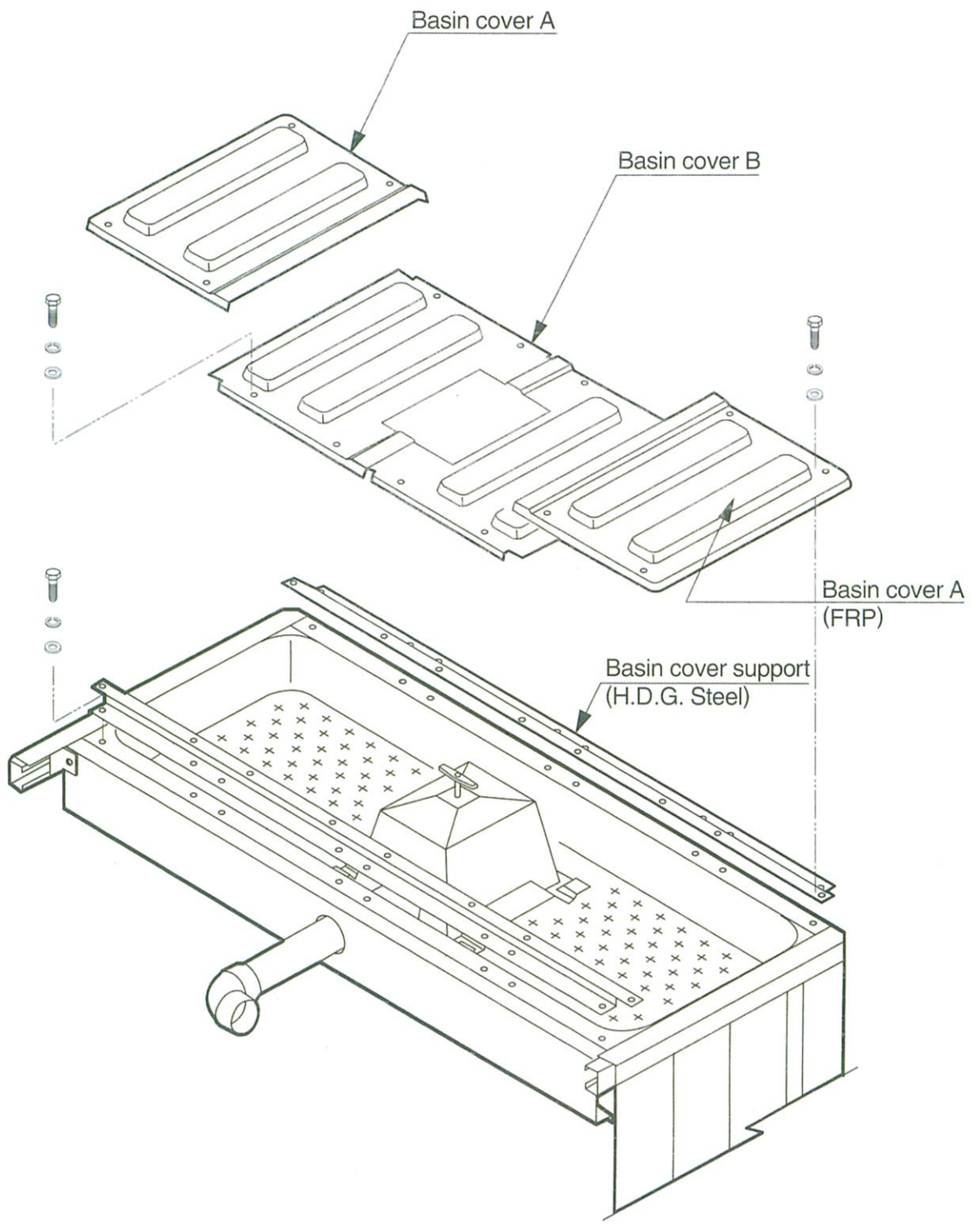
■ Selection·Standard Specifications·Noise Level

Model No.	Inlet[℃]	Outlet[℃]	W.B.[℃]	Waterflow[L/min]	HL	Dimensions [mm]					Weight[kg]		Cell(s)	
											Dry	Operation		
	37	32	27	28	[m]	L	W	H	h	h1				
SDC-U50ASSD				650	559	3	2490	1350	2140	415	60	450	1000		
75ASSD				975	839	3	2690	1550	2140	460	90	500	1200		
85ASSD				1105	950	3	2690	1550	2140	460	90	510	1210	1	
100ASSD				1300	1118	3	2990	1850	2140	270	367	590	1510		
125ASSD				1645	1415	3	2990	1850	2140	270	389	600	1520		
150ASSD				1950	1703	4	3270	1750	2770	615	389	840	2290		
175ASSD				2275	1987	4	3270	1950	2770	615	439	910	2500		
200ASSD				2600	2271	4	3570	2150	2770	645	439	1020	2910	1	
225ASSD				2925	2555	4	3870	2350	2770	715	449	1130	3220		
250ASSD				3250	2839	4	3870	2350	2770	715	497	1150	3240		
300ASSD				3900	3406	4	3270	3500	2770	615	389	1640	4540		
350ASSD				4550	3974	4	3270	3900	2770	615	439	1780	4960		
400ASSD				5200	4543	4	3570	4300	2770	645	439	2010	5790	2	
450ASSD				5850	5110	4	3870	4700	2770	715	449	2220	6400		
500ASSD				6500	5678	4	3870	4700	2770	715	497	2260	6440		
600ASSD				7800	6814	4	3570	6450	2770	645	439	3000	8670	3	
700ASSD				9750	8518	4	3870	7050	2770	715	497	3370	9640		
800ASSD				10400	9086	4	3570	8600	2770	645	439	3990	11550		
900ASSD				11700	10221	4	3870	9400	2770	715	449	4400	12760	4	
1000ASSD				13000	11357	4	3870	9400	2770	715	497	4480	12840		

HL:Head loss, L:Lengnt, W:Width, H:Tower height, h:Fan casing height, h1:Motor height
External piping type also available on request (Model No. SDC-U50ASSY～1000ASSY)

■ UPPER WATER BASIN COVER (FRP)

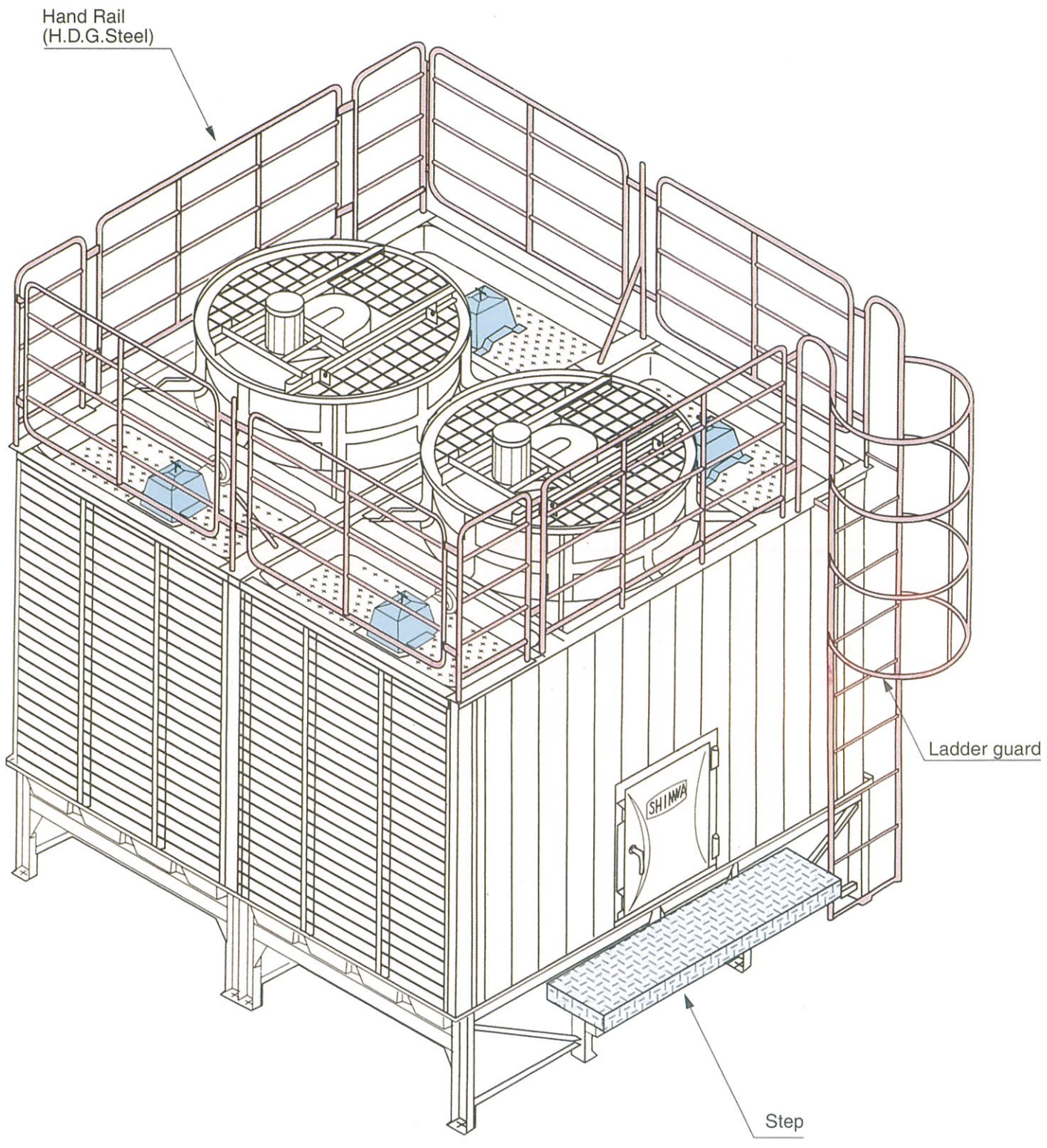
— Protect from invation of dust into the upper basin
— Interrupt sunlight which is causing algae glowth

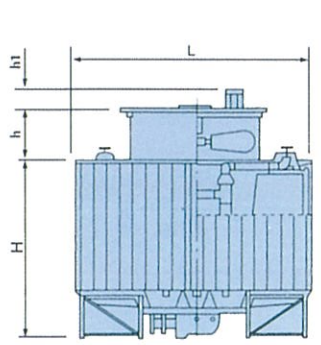


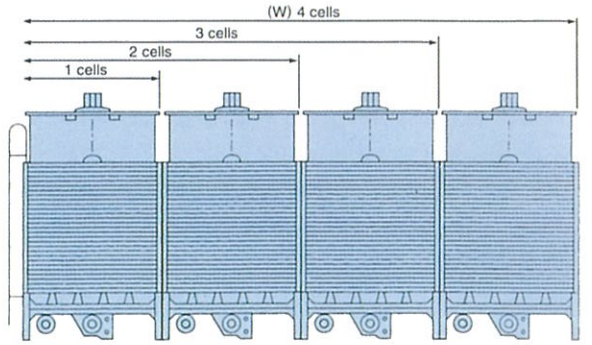
Option

U series optional parts

■ HAND RAIL, LADDER GUARD & STEP







●Based on standard condition for centrifugal chillers ;
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Water Temp. : Inlet 37°C-Outlet 32°C-WB 27°C

※Other voltages such as 380·400·415V are also available on request

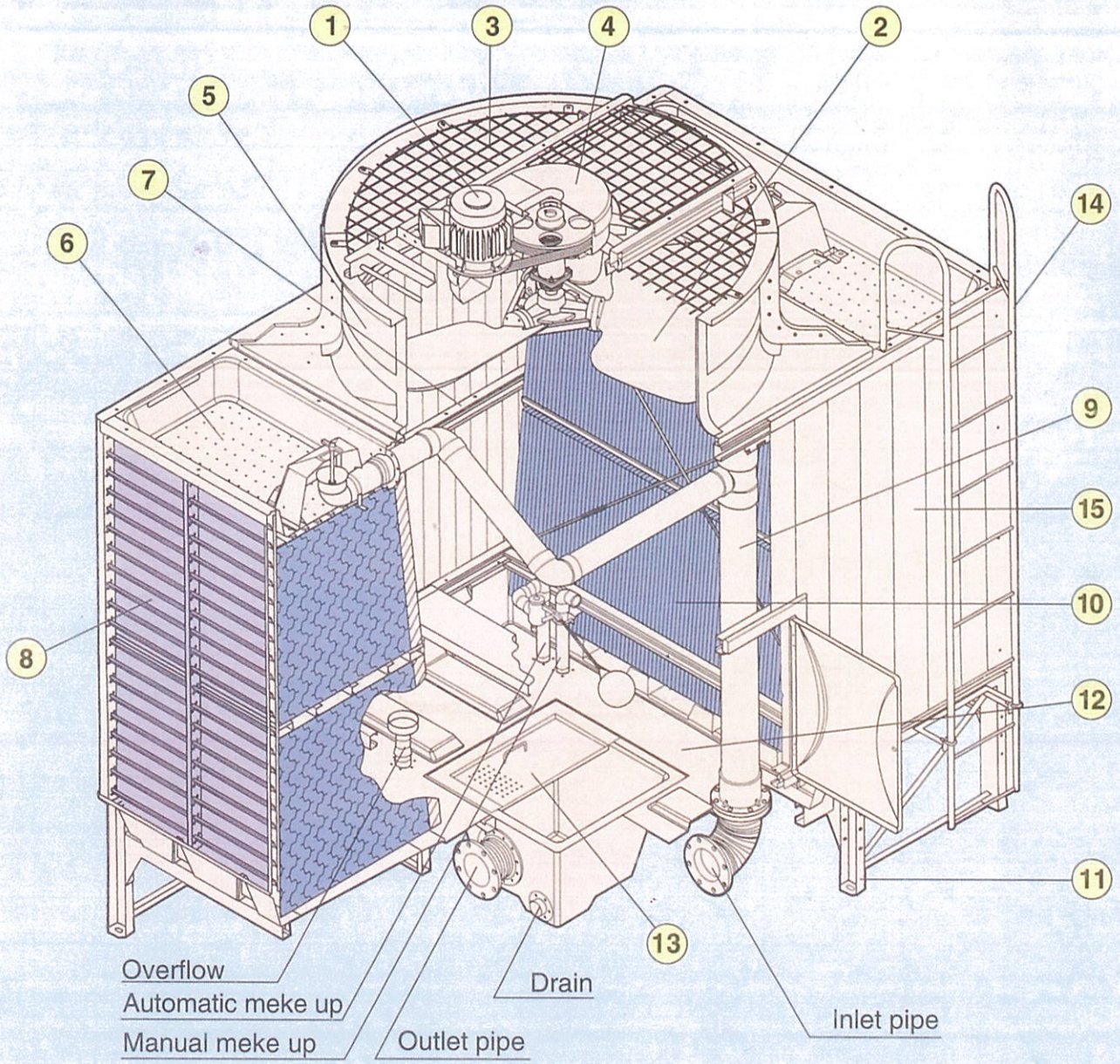
※Fan & Motor 3Ph·200/220V 50/60Hz						Piping Size [A]							Noise Level dB (A)						
														Louver Side H=1.5m			Casing Panel Side H=1.5m		
Dia ϕ [mm]	kW	P	Drv	Amp [A]	Q'ty	In	Out	Ov	Dr	Ba	Ma	Q'ty	Fan 45° Dm	2 m	10 m	16 m	2 m	10 m	16 m
1000	1.0	10/12	DD	7.2/7.2	1	100	100	40	40	25	25	1	62.0	55.5	48.0	44.5	52.0	45.0	41.5
1200	1.5	12/14	DD	11.6/12	1	100	100	40	40	25	25	1	63.5	57.0	49.5	46.0	53.5	46.5	43.0
1200	2.2	10/12	DD	13/17.4	1	100	100	40	40	25	25	1	64.5	57.5	50.0	46.5	54.5	47.5	44.0
1500	2.2	4	BD	10.6/9.4	1	125	125	40	40	25	25	1	65.0	58.0	50.5	47.0	55.0	48.0	44.5
1500	3.7	4	BD	16/14.4	1	125	125	40	40	25	25	1	66.0	59.0	51.5	48.0	56.5	49.5	46.0
1500	3.7	4	BD	16/14.4	1	125	125	50	50	32	32	1	66.5	60.0	52.5	49.0	56.0	49.0	45.5
1500	5.5	4	BD	23/21	1	125	125	50	50	32	32	1	66.5	61.0	53.5	50.0	57.5	51.5	48.5
1800	5.5	4	BD	23/21	1	150	150	50	50	32	32	1	66.0	61.0	53.0	51.0	56.5	51.0	49.0
2100	5.5	4	BD	23/21	1	150	150	50	50	32	32	1	66.5	62.0	53.0	51.5	57.0	51.0	49.5
2100	7.5	4	BD	30/26.4	1	150	150	50	50	32	32	1	67.5	63.0	56.5	53.5	60.0	54.5	52.5
1500	3.7	4	BD	16/14.4	2	125	125	50	50	32	32	2	67.5	62.5	55.5	52.0	57.5	51.0	47.5
1500	5.5	4	BD	23/21	2	125	125	50	50	32	32	2	68.5	63.5	56.5	53.0	59.0	53.5	50.5
1800	5.5	4	BD	23/21	2	150	150	50	50	32	32	2	68.0	63.5	56.0	54.0	58.0	53.0	51.0
2100	5.5	4	BD	23/21	2	150	150	50	50	32	32	2	68.5	64.5	56.0	54.5	58.5	53.0	51.5
2100	7.5	4	BD	30/26.4	2	150	150	50	50	32	32	2	69.5	65.5	59.5	56.5	61.5	56.5	54.5
1800	5.5	4	BD	23/21	3	150	150	50	50	32	32	3	69.0	65.0	57.5	56.0	59.0	54.0	52.5
2100	7.5	4	BD	30/26.4	3	150	150	50	50	32	32	3	70.5	67.0	61.0	58.5	62.5	57.5	56.0
1800	5.5	4	BD	23/21	4	150	150	50	50	32	32	4	69.5	65.5	58.5	57.0	59.5	54.5	53.0
2100	5.5	4	BD	23/21	4	150	150	50	50	32	32	4	70.0	66.5	58.5	57.5	60.0	54.5	53.5
2100	7.5	4	BD	30/26.4	4	150	150	50	50	32	32	4	71.0	67.5	62.0	59.5	63.0	58.0	56.5

In:Water inlet, Out:Water outlet, Ov:Over flow, Dr:Drain, Ba:Automatic make-up, Ma:Manual make-up, Drv:Driving method
DD:Direct drive, BD:Belt drive, Amp:Rated current, Dm:Fan 45° diameter point

Structure

PRE-EMINENT DURABILITY

All steel components are hot dip galvanized Water basin is made of rigid FRP



Cooling Tower model shown in this page is SDC-U250ASD

No.	Parts Name	Material	Q'ty	Remarks
1	Motor		1pc	Total enclosed outdoor
2	Fan	Alum Alloy Cast	1set	Low Noise
3	Fan Guard	H.D.G.Steel	1set	Hot Dip Galvanized
4	Belt Cover	F.R.P.	1set	
5	Fan Casing	F.R.P.	1set	
6	Upper Water Basin	F.R.P.	2pc	
7	Frame Works	H.D.G.Steel	1set	Hot Dip Galvanized
8	Louver	P.V.C	2side	
9	Internal Piping	P.V.C	1set	

No.	Parts Name	Material	Q'ty	Remarks
10	Fill	P.V.C	1set	
11	Lower Frame	H.D.G.Steel	1set	Hot dip Galvanized
12	Lower Water Basin	F.R.P.	1set	Inclined
13	Strainer	H.D.G.Steel	1pc	Hot dip Galvanized
14	Ladder	H.D.G.Steel	1set	Hot dip Galvanized
15	Casing Panel	P.V.C	2side	
	Quake Resistant : Horizontally 1.0G vertically 0.5G Standard colour:Pearl White(mancel 5Y9/1)			

Fan casing parts structure

— Compact desing
— Wedge type V-belt with FRP cover