SHINKO

AIR HANDLING UNIT

RS/RG

COOL JOY series

High-efficiency, energy saving, and

highly reliable air handling units

built on Japanese technology

CJ-08-B

SINKO

SINKO's history is air handling units for Japanese business use

SINKO, leading the forefront of business-use air handling unit technology

SINKO Industries LTD., incorporated in 1950, has constantly maintained its leadership position in the central air conditioning system industry as Japan's top manufacturer of Air Handling Units for varied commercial and industrial applications.
SINKO has two major manufacturing plants in Japan, both equipped with the latest hi-tech manufacturing facilities, machinery, and testing technologies to satisfy the diversified needs of the customers, both in Japan and abroad.
More recently, in order to meet with the overseas customer demand for the low-cost yet reliable and quality-assured AHU series, SINKO now offers COOL JOY Series AHUs from its manufacturing facility in Thailand, based on the full technical and engineering backup support extended from SINKO Japan.

SINKO advances the technology in the severe environments of Japan

Japan is located in a temperate region roughly 2000 km long from north to south, and it varies in height more than 3000 m from the mountain country to the plains, with the widest point from east to west being no more than 200 km. Because of this fact, the temperature and humidity change greatly from season to season. Japan's severely changing weather demands high performance Air Handling Units to maintain comfort year-round. SINKO has been at the forefront of business-use Air Handling Unit Technology as the top Japanese manufacturer for over 50 years. In various environments, SINKO proudly provides the world the reliability and comfort of our high-level, quality products.

Worldwide Installations

MEDINAT JUMEIRAH
(Dubai UAE)

THE VENETIAN MACAU
(Macau)

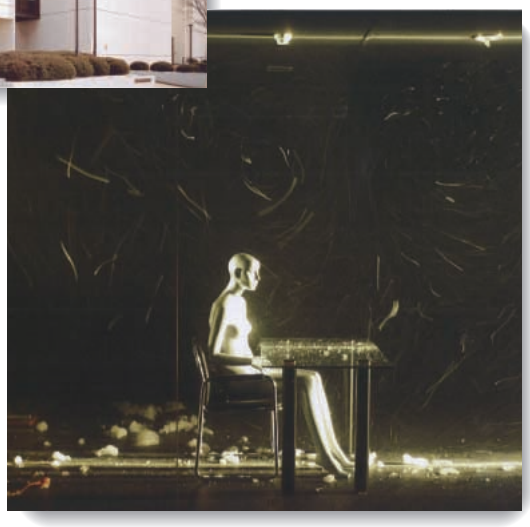
CENTRAL JAPAN
INTERNATIONAL AIRPORT
(Nagoya Japan)

HOTEL WINDSOR
(Australia)

SINKO Research & Development

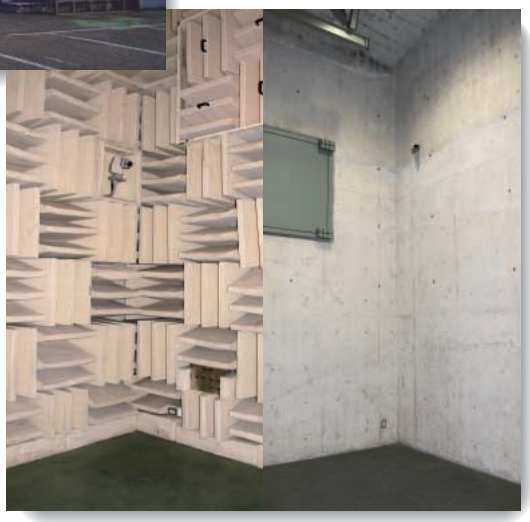
SINKO Laboratory is located in Neyagawa, Osaka, and it is recognized as one of the foremost industrial research centers in Japan's HVAC industry for developing and testing new systems.
Our laboratory features the most modern facilities comprising overall HVAC testing functions: an air movement test room, air purity test room, transparent air flow & velocity measurement room, calorimetry measurement room, temperature and humidity measurement room, sound-proof acoustic room, and reverberation room. Attached to SINKO's AHU factory in Hadano City, Kanagawa, is a branch Laboratory for product and system improvements. Here our research continues on air-conditioning systems and manufacturing technologies, including research for ways to expand improvements on existing product lines. Also included is a showroom that allows visitors to see, touch, and experience our products, so that we can foster greater understanding among customers visiting our facilities.

R & D Center
Located in Neyagawa, Osaka



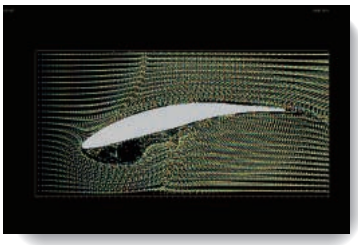
Visualized Airflow Test Room

R & D Center
Located in Hadano, Kanagawa

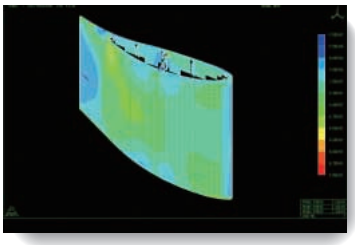


Insulated Acoustic Room
(Semi-Anechoic Wall)

Reverberation Chamber



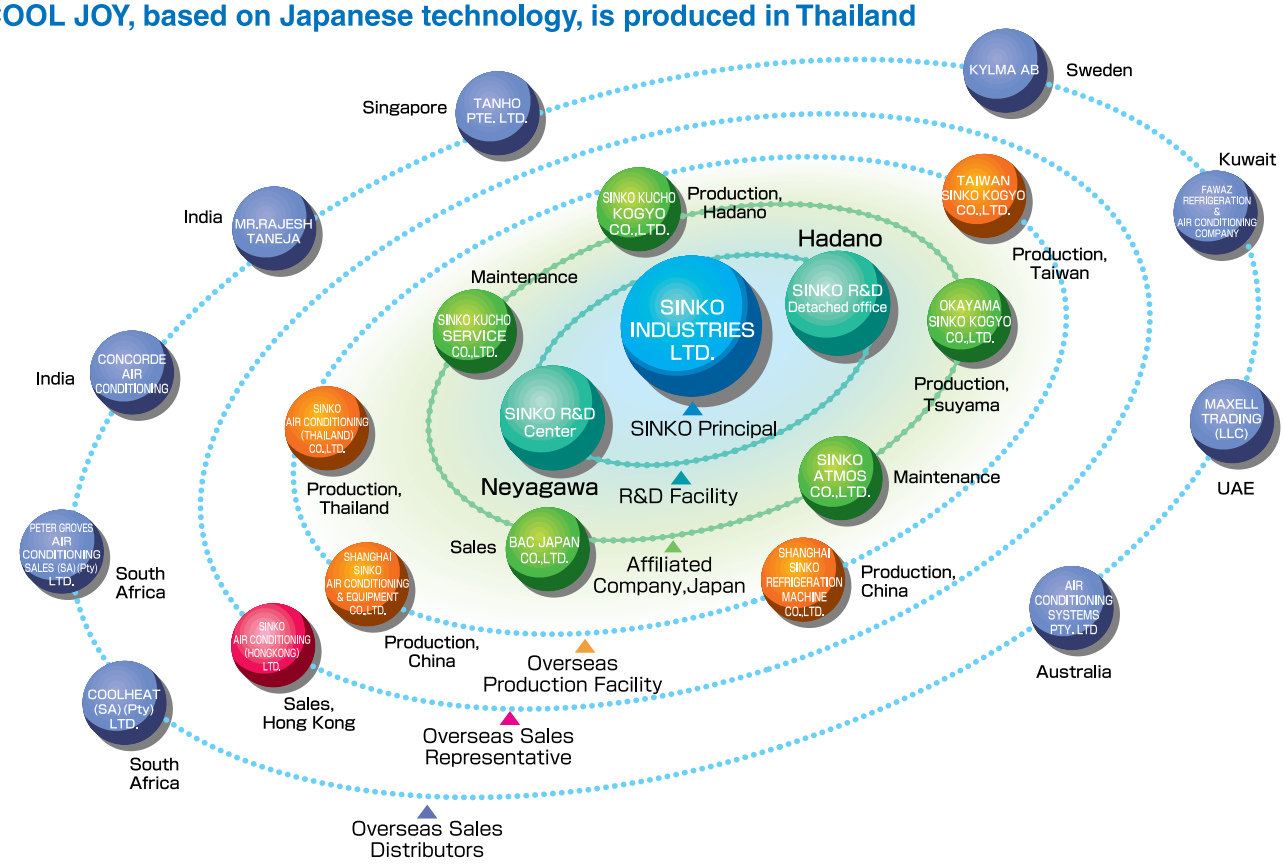
Fluid Analysis



Struture Analysis

SINKO Group Companies

COOL JOY, based on Japanese technology, is produced in Thailand



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Osaka Headquarter
Tokyo, Osaka, Nagoya, Sapporo, Sendai, Fukuoka

R&D Center : Osaka, Kanagawa
Manufacturing Plants: Kanagawa, Okayama

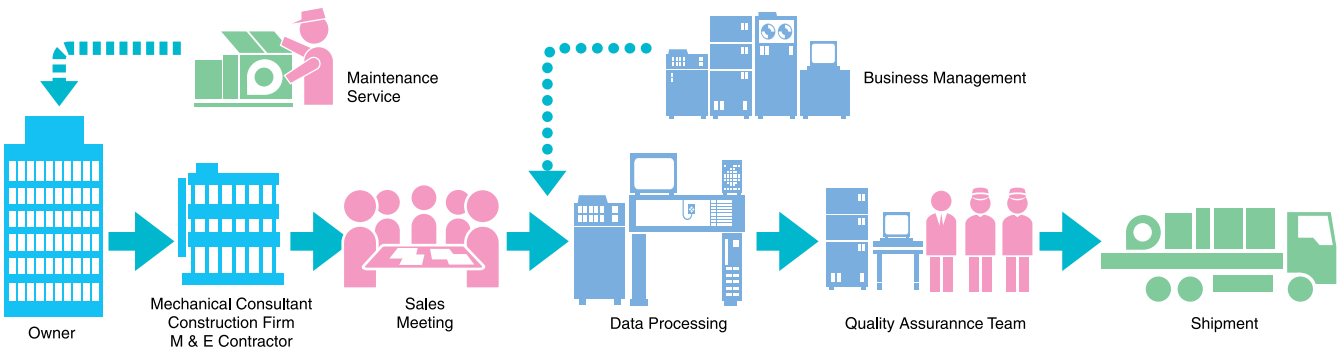
Overseas Group Companies

SINKO Air Conditioning (Thailand) Co., Ltd.
134/1 Moo 1, Hi-Tech Industrial Estate, Ban Po, Bangpa-In,
Phra Nakorn Sri Ayutthaya, Thailand
Tel : (66) 3-531-4009
Fax : (66) 3-531-4013
Mail : marketing@sinko-thai.co.th
http://www.sinko.co.jp/sti/

SINKO Air Conditioning (HK)Ltd.(China)
Shanghai SINKO Air Conditioning Equipment Co., Ltd.(China)
Shanghai SINKO Refrigeration Machine Co., Ltd.(China)
Taiwan SINKO Kogyo Co., Ltd.(Taiwan)

Sales, Production, After Sales Service

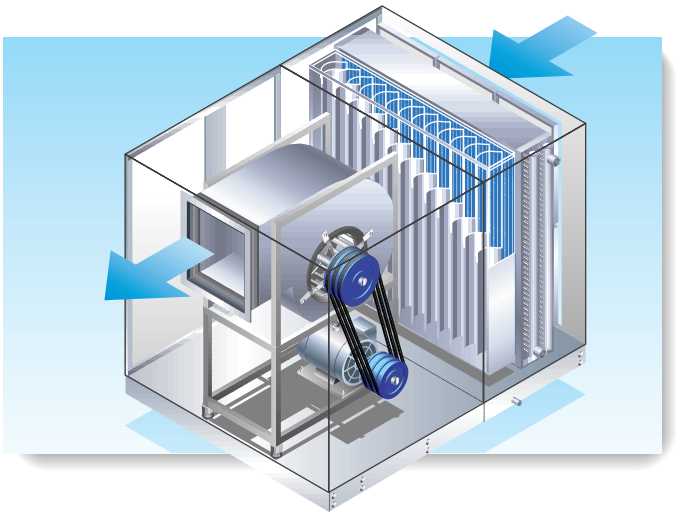
SINKO quickly responds to your various needs in the planning, production, and maintenance phases.



Indoor Air Recirculation Type

RS

Basic model for indoor air recirculation



Standard Specifications (Indoor Use)

Main Component	Main Part Name	Standard Specifications
Casing	Panel	25mm thick double skinned casing panel with foamed Urethane insulation ·Internal/external panel : 0.5mm thick pre-coated steel sheet ·Density of polyurethane foam : 40[kg/m³]
	Main Frame	Aluminum
	Access Door	25mm thick double skinned casing panel with foamed Urethane insulation ·Internal/external panel : 0.5mm thick pre-coated steel sheet ·Density of polyurethane foam : 40[kg/m³]
	Base	Steel , Epoxy paint finished
Drain Pan	Drain Pan	Stainless steel 304
Fan & Motor	Fan	Forward wheel
	Motor	TEFC type , IP55 , Class F
	Vibration Isolator	Spring Vibration Isolator
Coil	Water Coil	Max. working pressure : 0.98 [MPa]　Maximum face velocity : 3.5 [m/s]
	Main Tube	AHU Size RS-50～585 : 3/8"dia copper tube
		AHU Size RS-665 : 5/8"dia copper tube
	Fin	AHU Size RS-50～585 ·Aluminum , 0.115mm thickness , Bare surface ·Fin Spacing : 11FPI
		AHU Size RS-665 ·Aluminum , 0.15mm thickness , Bare surface ·Fin Spacing : 8 , 9 , 11FPI
	Header	Steel , Epoxy paint finished "Air vent with plug" and "Drain plug" is attached.
	Take-off Pipe	20A～80A : Steel , MPT , Epoxy paint finished
		100A , 125A : Steel , Steel pipe flanges , Epoxy paint finished
	Casing	Steel , Epoxy paint finished
Eliminator	Eliminator	Aluminum (When face velocity exceeds 2.5m/s)
	Casing	Steel , Epoxy paint finished
Filter	Main-filter	20mm panel type , Non-woven type EN779 Classification : G3

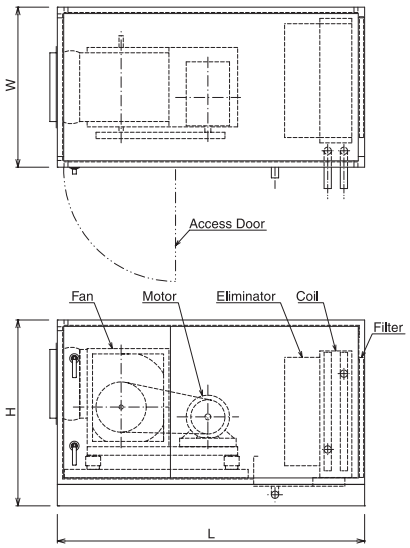
Optional Specifications

Main Component	Main Part Name	Optional Specifications
—	—	Use : Outdoor
Casing	Panel	Thicker pre-coated steel sheet available on request
	Access Door	Thicker pre-coated steel sheet available on request
Fan	Fan	Backward wheel
Coil	Water Coil	Coil for higher working pressure available on request
	Fin	Pre-coated Aluminum fin
	Header	Copper tube
Filter	Main-filter	"50mm zig-zag type , Non-woven type EN779 Classification : G3"

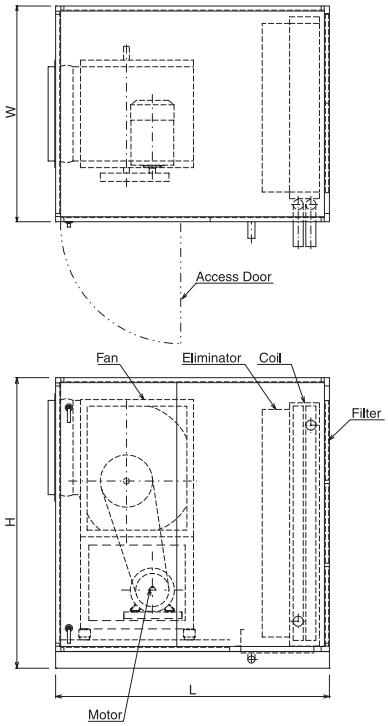
Note : Selection of optional components is subject to change in dimension from the standard.

Dimensions

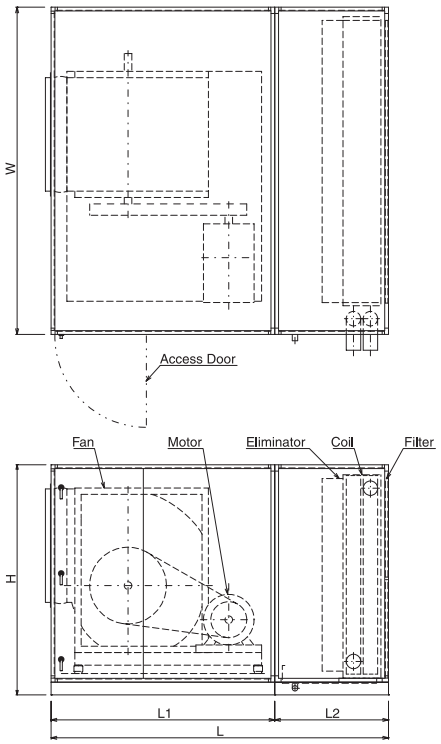
RS-50~85 (Type1)



RS-100~250 (Type2)



RS-285~665 (Type3)



Note : Eliminator is added when coil face velocity exceed 2.5m/s

Model	Dimensions [mm]						Maximum Fan Model	Maximum Motor Size
	W	H	L	L1	L2	Type		
RS- 50	750	850	1450	-	-	1	FDA 250	3 kW
RS- 65	900	850	1500	-	-	1	FDA 250	4 kW
RS- 85	1000	900	1500	-	-	1	FDA 280	4 kW
RS-100	850	1400	1300	-	-	2	FDA 280	5.5 kW
RS-120	950	1450	1300	-	-	2	FDA 315	5.5 kW
RS-135	1050	1550	1400	-	-	2	FDA 355	7.5 kW
RS-150	1050	1550	1400	-	-	2	FDA 355	7.5 kW
RS-165	1050	1550	1400	-	-	2	FDA 355	7.5 kW
RS-185	1150	1600	1500	-	-	2	FDA 400	7.5 kW
RS-200	1150	1750	1500	-	-	2	FDA 400	11 kW
RS-215	1300	1850	1600	-	-	2	FDA 450	11 kW
RS-235	1300	1850	1600	-	-	2	FDA 450	11 kW
RS-250	1300	1850	1600	-	-	2	FDA 450	11 kW
RS-285	1950	1350	1900	-	-	3	FDA 500	15 kW
RS-335	2100	1500	1950	-	-	3	FDA 560	15 kW
RS-365	2100	1500	1950	-	-	3	FDA 560	15 kW
RS-415	2300	1650	2100	-	-	3	FDA 630	18.5 kW
RS-450	2350	1650	2150	-	-	3	FDA 630	18.5 kW
RS-500	2350	1650	2350	-	-	3	FDA 630	22 kW
RS-535	2500	1800	2250	-	-	3	FDA 710	22 kW
RS-585	2550	1800	2250	-	-	3	FDA 710	22 kW
RS-665	2850	1800	2550	1600	950	3	FDA 710	30 kW

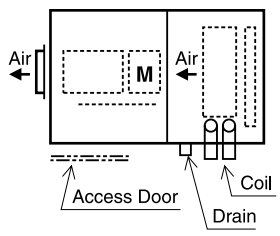
Cooling Capacity

On coil air temperature : DB26.0 [°C] / WB18.7 [°C] On coil water temperature : 7 [°C] Water temperature difference : 5 [K]

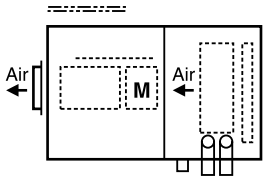
Model	Coil Face Area	Air Volume			4 Rows			6 Rows			8 Rows		
					Capacity		Water Side Pressure Drop	Capacity		Water Side Pressure Drop	Capacity		Water Side Pressure Drop
	[m²]	[l/s]	[m³/h]	[CFM]	Sensible [kW]	Total [kW]	[kPa]	Sensible [kW]	Total [kW]	[kPa]	Sensible [kW]	Total [kW]	[kPa]
RS- 50	0.284	711	2560	1510	9.58	10.53	5.9	11.71	15.82	15.7	13.25	19.49	29.4
		853	3070	1811	11.21	11.80	6.9	13.45	17.70	18.6	15.65	22.35	36.3
		972	3500	2065	12.56	12.82	7.8	15.05	19.29	21.6	17.12	24.46	44.1
RS- 65	0.369	925	3330	1965	12.89	14.48	11.8	15.69	21.20	31.4	16.77	24.31	8.8
		1108	3990	2354	14.88	16.00	13.7	18.01	24.01	39.2	19.57	27.56	9.8
		1306	4700	2773	17.26	17.79	15.7	20.64	26.46	46.1	22.30	30.97	12.7
RS- 85	0.465	1164	4190	2472	16.24	18.46	16.7	19.83	27.17	47.1	21.34	30.93	11.8
		1394	5020	2962	18.80	20.66	20.6	21.59	27.68	7.8	24.78	35.40	15.7
		1625	5850	3452	21.52	22.65	23.5	24.47	30.59	8.8	28.03	39.48	18.6
RS- 100	0.568	1419	5110	3015	20.30	23.60	40.2	23.38	31.59	15.7	26.47	38.92	29.4
		1706	6140	3623	23.63	26.26	49.0	27.17	35.75	18.6	30.90	44.78	37.3
		1944	7000	4130	25.14	25.65	7.8	30.10	38.59	21.6	34.24	48.92	43.2
RS-120	0.650	1628	5860	3457	22.62	25.70	13.7	27.49	37.66	38.2	29.69	43.03	9.8
		1953	7030	4148	26.32	28.61	16.7	31.99	42.65	48.1	34.39	49.13	12.7
		2278	8200	4838	29.94	31.52	19.6	33.79	41.71	7.8	39.36	54.66	14.7
RS-135	0.743	1858	6690	3947	26.06	29.95	19.6	30.20	40.26	7.8	34.76	50.38	14.7
		2231	8030	4738	30.49	33.14	23.5	35.08	44.97	8.8	39.70	56.72	17.7
		2583	9300	5487	34.38	36.57	27.5	39.65	48.95	10.8	45.35	62.99	21.6
RS-150	0.826	2067	7440	4390	28.90	33.22	19.6	33.59	44.78	7.8	38.61	55.96	14.7
		2478	8920	5263	33.89	36.84	23.5	38.96	49.95	9.8	44.11	63.01	17.7
		2917	10500	6195	38.91	40.96	28.4	44.16	55.20	10.8	50.31	70.86	21.6
RS-165	0.903	2258	8130	4797	31.38	35.66	13.7	38.15	52.26	38.2	41.24	59.77	9.8
		2711	9760	5758	36.56	39.74	16.7	44.39	59.18	48.1	47.75	68.21	12.7
		3250	11700	6903	42.83	44.61	19.6	48.62	59.29	7.8	56.31	77.14	15.7
RS-185	1.006	2517	9060	5345	35.19	39.99	16.7	42.92	58.79	47.1	46.15	66.88	11.8
		3019	10870	6413	40.72	44.75	19.6	46.75	59.93	7.8	53.73	76.76	15.7
		3569	12850	7582	47.43	49.41	23.5	54.06	66.74	8.8	62.06	86.19	18.6
RS-200	1.123	2808	10110	5965	39.24	44.59	16.7	47.44	64.98	46.1	51.49	74.63	11.8
		3369	12130	7157	45.44	49.93	19.6	52.17	66.88	7.8	59.85	85.50	15.7
		3889	14000	8260	51.78	54.51	23.5	58.80	73.50	8.8	67.08	94.48	17.7
RS-215	1.187	2969	10690	6307	42.41	49.31	37.3	48.91	66.09	14.7	55.37	81.42	26.5
		3564	12830	7570	49.35	54.23	44.1	56.71	74.62	17.7	64.49	93.47	33.3
		4222	15200	8968	53.98	53.98	6.9	65.25	82.60	20.6	74.55	105.00	41.2
RS-235	1.290	3228	11620	6856	46.11	53.62	37.3	53.16	71.84	13.7	60.19	88.51	26.5
		3872	13940	8225	53.61	58.91	43.2	61.66	81.13	17.7	70.13	101.64	34.3
		4542	16350	9647	58.58	59.17	6.9	70.68	89.47	20.6	80.19	112.94	40.2
RS-250	1.355	3389	12200	7198	47.86	55.65	25.5	55.79	74.38	9.8	62.53	91.95	18.6
		4067	14640	8638	55.82	61.34	30.4	64.04	83.17	11.8	74.07	105.81	23.5
		4861	17500	10325	64.57	68.69	37.3	73.86	92.32	13.7	85.33	118.51	28.4
RS-285	1.572	3931	14150	8349	54.61	62.06	13.7	66.39	90.95	40.2	72.08	104.46	10.8
		4717	16980	10018	64.10	69.67	16.7	77.63	103.50	50.0	84.44	118.93	12.7
		5514	19850	11712	72.50	76.32	19.6	85.26	107.93	17.7	95.64	132.84	15.7
RS-335	1.827	4569	16450	9706	64.45	72.42	14.7	77.74	106.49	42.2	83.79	121.44	10.8
		5483	19740	11647	73.89	81.20	17.7	88.21	114.56	15.7	98.52	138.76	13.7
		6486	23350	13777	85.28	89.77	21.6	100.22	126.86	19.6	112.08	155.66	16.7
RS-365	2.013	5033	18120	10691	71.29	81.94	19.6	83.99	113.50	17.7	92.87	136.58	14.7
		6039	21740	12827	82.77	89.97	23.5	96.61	127.12	20.6	108.67	155.24	17.7
		7139	25700	15163	95.10	100.10	27.5	110.53	141.71	25.5	123.15	173.45	21.6
RS-415	2.299	5750	20700	12213	81.61	93.81	20.6	96.17	129.96	17.7	106.09	156.02	14.7
		6900	24840	14656	93.82	103.10	24.5	111.88	145.30	21.6	123.18	175.97	18.6
		8111	29200	17228	107.50	114.36	29.4	125.58	161.00	26.5	142.00	197.22	22.6
RS-450	2.474	6186	22270	13139	87.38	101.60	25.5	103.13	141.28	22.6	115.88	167.94	18.6
		7422	26720	15765	100.94	112.15	30.4	118.89	158.52	27.5	135.18	193.12	23.5
		8750	31500	18585	116.61	124.05	35.3	137.60	176.41	32.4	154.45	217.54	28.4
RS-500	2.752	6883	24780	14620	98.26	114.25	34.3	116.27	159.28	30.4	128.35	188.75	24.5
		8258	29730	17541	114.23	125.53	40.2	134.21	178.95	37.3	151.45	216.36	31.4
		9722	35000	20650	131.11	139.48	48.1	154.03	197.47	43.2	172.63	243.14	38.2
RS-535	2.942	7356	26480	15623	105.52	121.29	30.4	122.63	167.99	26.5	137.16	201.70	22.6
		8828	31780	18750	120.38	133.76	36.3	143.47	191.29	33.3	160.85	229.79	27.5
		10375	37350	22037	139.21	148.10	43.2	163.38	209.46	39.2	183.19	258.02	34.3
RS-585	3.174	7936	28570	16856	113.85	132.38	38.2	134.06	183.65	33.3	149.39	219.69	27.5
		9525	34290	20231	130.95	147.14	45.1	155.41	207.21	41.2	172.76	250.37	34.3
		11347	40850	24102	145.97	147.44	6.9	179.66	230.33	49.0	201.38	283.63	43.2
RS-665	3.677	9194	33100	19529	136.38	168.37	14.7	166.68	241.56	42.2	178.98	267.14	10.8
		11033	39720	23435	155.84	181.21	17.7	187.79	257.25	15.7	207.69	305.43	12.7
		12972	46700	27553	174.96	192.26	18.6	212.54	283.39	18.6	235.28	340.99	15.7

Piping / Access Door Arrangement

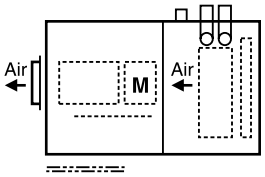
HF-R-R



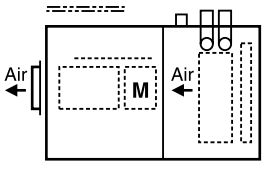
HF-R-L

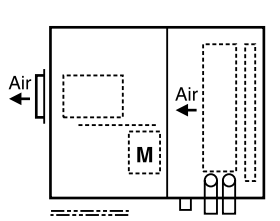


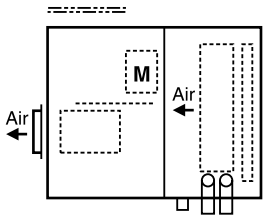
HF-L-R

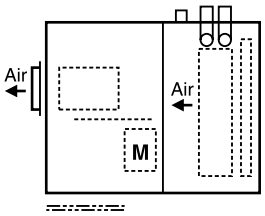


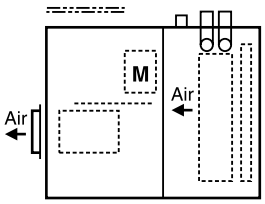
HF-L-L











HF-R-R
Horizontal Front Discharge — Access Door Location
Pipe Hand

Note : R , L is decided facing air discharged from the unit.

RS

Sound Power Level

On coil air temperature : DB26.0 [°C] / WB18.7 [°C] Off coil air temperature : DB13.0 [°C] / WB12.5 [°C] Ext Static pressure : 350[Pa]

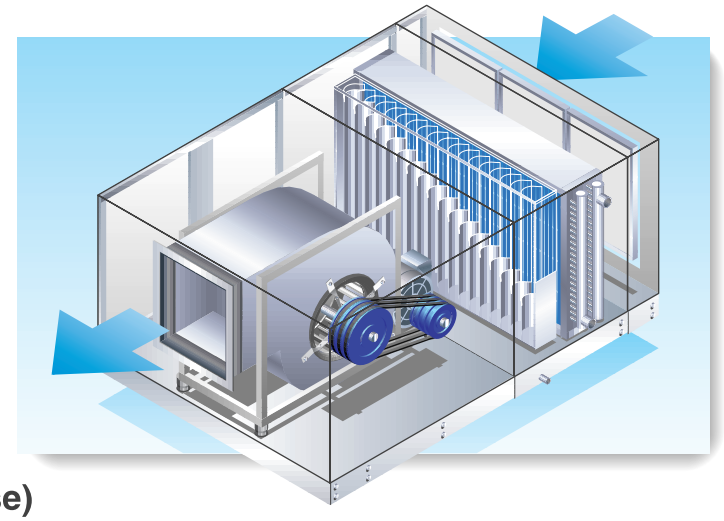
Model	Air Volume			Fan Model	Motor Size	Estimated PWL*							
						Octave Band Center Frequency [Hz]							
	[l/s]	[m³/h]	[CFM]			63	125	250	500	1000	2000	4000	8000
RS- 50	833	3000	1770	FDA 225	2.2kW	92	89	88	85	83	82	80	78
RS- 65	1111	4000	2360	FDA 250	2.2kW	91	90	85	79	75	73	70	64
RS- 85	1389	5000	2950	FDA 280	3 kW	88	89	87	83	84	84	84	81
RS- 100	1667	6000	3540	FDA 280	3 kW	84	88	84	77	79	77	76	72
RS- 120	1944	7000	4130	FDA 315	4 kW	94	92	89	86	88	85	84	80
RS- 135	2222	8000	4720	FDA 355	5.5kW	97	94	91	86	87	82	79	74
RS- 150	2500	9000	5310	FDA 355	5.5kW	97	95	90	86	86	80	77	72
RS- 165	2778	10000	5900	FDA 355	5.5kW	98	95	89	84	84	78	75	69
RS- 185	3056	11000	6490	FDA 400	5.5kW	93	92	89	88	88	83	82	78
RS- 200	3333	12000	7080	FDA 400	7.5kW	92	91	88	87	86	82	81	76
RS- 215	3611	13000	7670	FDA 450	7.5kW	94	92	91	87	89	84	83	80
RS- 235	3889	14000	8260	FDA 450	7.5kW	94	91	91	87	88	83	82	79
RS- 250	4167	15000	8850	FDA 450	7.5kW	94	91	91	87	89	83	82	79
RS- 285	4722	17000	10030	FDA 500	7.5kW	97	93	89	86	85	81	79	74
RS- 335	5556	20000	11800	FDA 560	11 kW	98	94	90	88	87	82	79	74
RS- 365	6111	22000	12980	FDA 560	11 kW	98	95	91	88	88	83	80	75
RS- 415	6944	25000	14750	FDA 630	15 kW	99	96	90	90	83	79	75	69
RS- 450	7500	27000	15930	FDA 630	15 kW	98	95	89	90	83	79	75	69
RS- 500	8333	30000	17700	FDA 630	15 kW	99	96	90	90	83	79	75	69
RS- 535	8889	32000	18880	FDA 710	15 kW	102	96	86	82	77	76	69	61
RS- 585	9722	35000	20650	FDA 710	15 kW	102	96	86	81	76	75	69	60
RS- 665	11111	40000	23600	FDA 710	18.5kW	101	93	84	79	75	73	67	58

*Sound data is discharge sound PWL of independent fan assembly.

Indoor Recirculation with upgraded casing Type

RG

Uses 50mm thick double skinned panels



Standard Specifications (Indoor Use)

Main Component	Main Part Name	Standard Specifications
Casing	Panel	50mm thick double skinned casing panel with foamed Urethane insulation ·Internal/external panel : 0.5mm thick pre-coated steel sheet ·Density of polyurethane foam : 40[kg/m³]
	Main Frame	Steel
	Access Door	50mm thick double skinned casing panel with foamed Urethane insulation ·Internal/external panel : 0.5mm thick pre-coated steel sheet ·Density of polyurethane foam : 40[kg/m³]
	Base	Steel , Epoxy paint finished
Drain Pan	Drain Pan	Stainless steel 304
Fan & Motor	Fan	Forward wheel
	Motor	TEFC type , IP55 , Class F
	Vibration Isolator	Spring Vibration Isolator
Coil	Water Coil	Max. working pressure : 0.98 [MPa]　Maximum face velocity : 3.5 [m/s]
	Main Tube	AHU Size RG-50~585 : 3/8"dia copper tube
		AHU Size RG-665 : 5/8"dia copper tube
	Fin	AHU Size RG-50~585 ·Aluminum , 0.115mm thickness , Bare surface ·Fin Spacing : 11FPI
		AHU Size RG-665 ·Aluminum , 0.15mm thickness , Bare surface ·Fin Spacing : 8 , 9 , 11FPI
	Header	Steel , Epoxy paint finished "Air vent with plug" and "Drain plug" is attached.
	Take-off Pipe	20A~80A : Steel , MPT , Epoxy paint finished
		100A , 125A : Steel , Steel pipe flanges , Epoxy paint finished
	Casing	Steel , Epoxy paint finished
Eliminator	Eliminator	Aluminum (When face velocity exceeds 2.5m/s)
	Casing	Steel , Epoxy paint finished
Filter	Main-filter	20mm panel type , Non-woven type EN779 Classification : G3

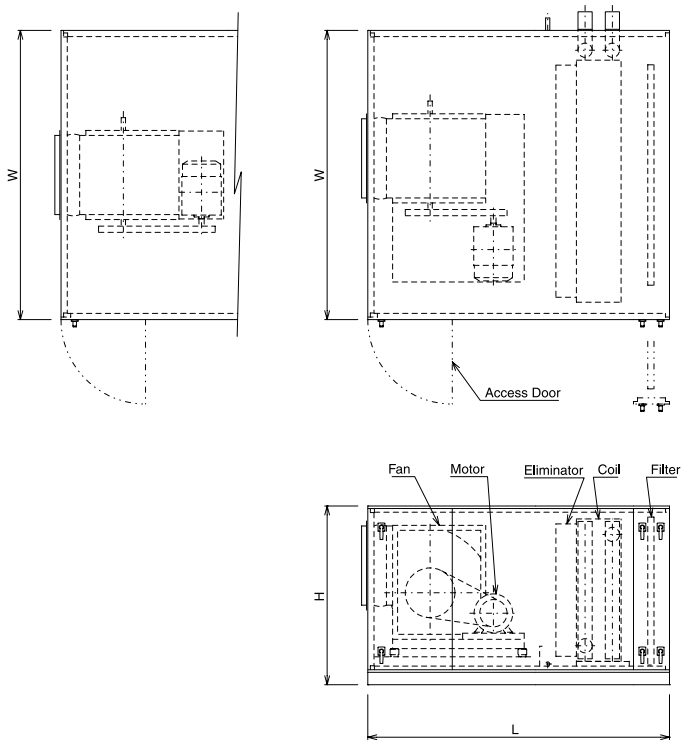
Optional Specifications

Main Component	Main Part Name	Optional Specifications
—	—	Use : Outdoor
Casing	Panel	Thicker pre-coated steel sheet available on request
	Access Door	Thicker pre-coated steel sheet available on request
Fan	Fan	Backward wheel
Coil	Water Coil	Coil for higher working pressure available on request
	Fin	Pre-coated Aluminum fin
	Header	Copper tube
Filter	Main-filter	"50mm zig-zag type , Non-woven type EN779 Classification : G3"

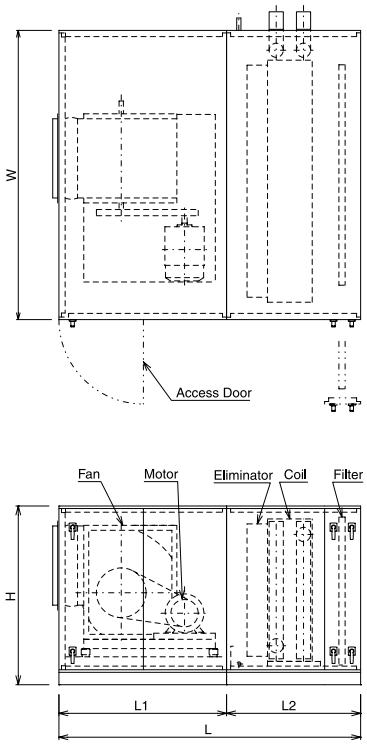
Note : Selection of optional components is subject to change in dimension from the standard.

Dimensions

RG-50~200 (Type1)



RG-215~665 (Type2)



Note : Eliminator is added when coil face velocity exceed 2.5m/s

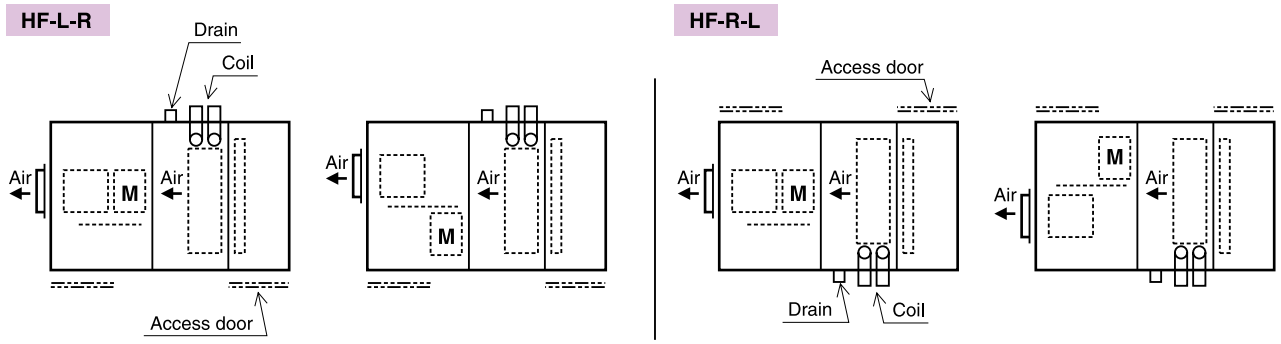
Model	Dimensions [mm]						Maximum Fan Model	Maximum Motor Size
	W	H	L	L1	L2	Type		
RG- 50	1100	1000	1950	-	-	1	FDA 250	3 kW
RG- 65	1100	1000	1950	-	-	1	FDA 250	4 kW
RG- 85	1100	1050	2000	-	-	1	FDA 280	4 kW
RG-100	1700	1050	2100	-	-	1	FDA 280	5.5 kW
RG-120	1700	1100	2100	-	-	1	FDA 315	5.5 kW
RG-135	1700	1250	2100	-	-	1	FDA 355	7.5 kW
RG-150	1700	1250	2100	-	-	1	FDA 355	7.5 kW
RG-165	1700	1250	2100	-	-	1	FDA 355	7.5 kW
RG-185	1700	1300	2150	-	-	1	FDA 400	7.5 kW
RG-200	1800	1300	2350	-	-	1	FDA 400	11 kW
RG-215	2300	1350	2350	1400	950	2	FDA 450	11 kW
RG-235	2300	1350	2350	1400	950	2	FDA 450	11 kW
RG-250	2300	1350	2350	1400	950	2	FDA 450	11 kW
RG-285	2100	1550	2450	1450	1000	2	FDA 500	15 kW
RG-335	2300	1600	2500	1500	1000	2	FDA 560	15 kW
RG-365	2300	1600	2550	1500	1050	2	FDA 560	15 kW
RG-415	2400	1850	2700	1650	1050	2	FDA 630	18.5 kW
RG-450	2550	1850	2750	1700	1050	2	FDA 630	18.5 kW
RG-500	2900	1850	2750	1700	1050	2	FDA 630	22 kW
RG-535	2900	1900	2800	1750	1050	2	FDA 710	22 kW
RG-585	2900	1900	2800	1750	1050	2	FDA 710	22 kW
RG-665	3550	1900	3000	1750	1250	2	FDA 710	30 kW

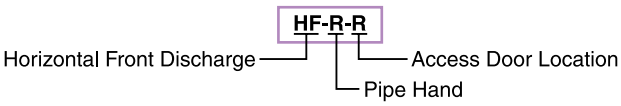
Cooling Capacity

On coil air temperature : DB26.0 [°C] / WB18.7 [°C] On coil water temperature : 7 [°C] Water temperature difference : 5 [K]

Model	Coil Face Area	Air Volume			4 Rows			6 Rows			8 Rows		
					Capacity		Water Side Pressure Drop	Capacity		Water Side Pressure Drop	Capacity		Water Side Pressure Drop
	[m²]	[l/s]	[m³/h]	[CFM]	Sensible [kW]	Total [kW]	[kPa]	Sensible [kW]	Total [kW]	[kPa]	Sensible [kW]	Total [kW]	[kPa]
RG- 50	0.279	697	2510	1481	9.85	11.45	30.4	11.48	15.30	11.8	13.10	18.99	22.6
		839	3020	1782	11.43	12.70	37.3	13.27	17.23	14.7	15.27	21.82	28.4
		972	3500	2065	13.01	13.84	42.2	14.77	18.70	16.7	17.16	24.17	33.3
RG- 65	0.372	931	3350	1977	12.88	14.15	8.8	15.51	21.25	25.5	17.52	25.76	47.1
		1117	4020	2372	14.94	15.89	10.8	18.13	23.86	31.4	19.72	27.77	8.8
		1306	4700	2773	17.07	17.60	12.7	20.53	26.32	37.3	22.41	30.70	9.8
RG- 85	0.470	1175	4230	2496	16.32	18.55	13.7	19.85	27.19	38.2	21.43	31.06	9.8
		1411	5080	2997	19.03	20.69	16.7	23.04	30.72	47.1	24.85	35.50	12.7
		1625	5850	3452	21.60	22.50	18.6	24.48	30.22	7.8	28.22	39.19	14.7
RG- 100	0.554	1386	4990	2944	19.68	22.62	21.6	22.58	30.10	8.8	25.57	37.61	15.7
		1661	5980	3528	22.61	24.85	26.5	26.18	33.57	9.8	29.67	42.38	19.6
		1944	7000	4130	25.86	27.51	30.4	29.51	36.89	11.8	34.19	47.49	23.5
RG-120	0.650	1628	5860	3457	22.99	26.73	27.5	26.80	35.73	10.8	30.54	44.26	19.6
		1953	7030	4148	26.59	29.54	33.3	30.88	40.11	12.7	35.57	50.81	25.5
		2278	8200	4838	30.43	32.37	38.2	34.63	43.83	14.7	40.21	56.64	30.4
RG-135	0.743	1858	6690	3947	26.25	30.52	27.5	30.59	40.79	10.8	34.88	50.55	19.6
		2231	8030	4738	30.38	33.75	33.3	35.20	46.31	12.7	40.62	58.03	25.5
		2583	9300	5487	34.59	36.80	38.2	39.26	49.70	14.7	45.61	64.24	30.4
RS-150	0.846	2117	7620	4496	30.38	35.32	40.2	34.86	47.11	14.7	39.47	58.04	28.4
		2542	9150	5399	34.94	39.26	48.1	40.65	53.49	18.6	46.10	66.81	36.3
		2917	10500	6195	37.71	38.48	7.8	45.15	57.89	21.6	51.37	73.38	42.2
RG-165	0.929	2325	8370	4938	31.64	35.15	6.9	39.02	52.73	19.6	43.76	64.36	37.3
		2789	10040	5924	37.08	39.45	7.8	44.79	58.93	23.5	51.39	73.42	46.1
		3250	11700	6903	42.31	43.17	9.8	51.10	65.51	28.4	54.90	75.20	7.8
RG-185	1.022	2556	9200	5428	36.38	42.80	48.1	42.79	57.83	18.6	48.10	70.74	34.3
		3067	11040	6514	40.64	43.23	7.8	49.73	64.59	22.6	55.62	80.61	43.2
		3569	12850	7582	46.75	47.22	8.8	56.06	70.96	26.5	60.30	82.60	6.9
RG-200	1.115	2789	10040	5924	38.55	42.36	7.8	46.49	63.69	23.5	52.92	77.82	44.1
		3347	12050	7110	44.73	47.59	9.8	53.61	71.48	28.4	59.06	83.19	7.8
		3889	14000	8260	50.97	52.55	11.8	61.15	78.40	33.3	66.96	91.73	8.8
RG-215	1.226	3067	11040	6514	42.82	47.58	9.8	51.13	70.04	26.5	58.32	85.77	49.0
		3678	13240	7812	49.11	52.81	10.8	59.77	79.69	33.3	64.94	91.46	8.8
		4222	15200	8968	55.56	57.88	12.7	66.36	86.18	37.3	72.12	100.16	9.8
RG-235	1.299	3250	11700	6903	45.35	50.96	10.8	54.90	75.20	31.4	58.95	85.43	7.8
		3900	14040	8284	52.67	56.63	12.7	63.38	84.50	38.2	69.51	97.90	9.8
		4542	16350	9647	60.07	62.57	15.7	71.46	92.80	45.1	77.78	108.03	11.8
RG-250	1.397	3494	12580	7422	48.56	55.18	13.7	59.03	80.86	38.2	64.08	92.87	9.8
		4194	15100	8909	56.77	61.71	15.7	68.91	91.88	47.1	73.87	105.53	12.7
		4861	17500	10325	64.60	67.29	18.6	75.24	95.24	16.7	84.48	117.33	14.7
RG-285	1.572	3931	14150	8349	54.61	62.06	13.7	66.39	90.95	40.2	72.08	104.46	10.8
		4717	16980	10018	64.10	69.67	16.7	77.63	103.50	50.0	84.44	118.93	12.7
		5514	19850	11712	72.50	76.32	19.6	85.26	107.93	17.7	95.64	132.84	15.7
RG-335	1.858	4647	16730	9871	64.94	73.80	15.7	79.21	108.50	44.1	85.22	123.51	11.8
		5575	20070	11841	75.18	82.62	18.6	88.81	116.85	16.7	99.18	141.68	14.7
		6486	23350	13777	86.06	90.59	21.6	100.02	128.23	19.6	111.89	157.59	17.7
RG-365	2.044	5111	18400	10856	72.56	82.46	20.6	85.46	115.48	17.7	94.31	138.69	14.7
		6133	22080	13027	83.37	91.62	24.5	99.42	129.12	21.6	110.46	157.80	18.6
		7139	25700	15163	95.14	101.21	28.4	110.53	141.71	25.5	125.58	174.41	22.6
RG-415	2.315	5789	20840	12296	81.76	95.07	23.5	96.31	131.93	20.6	106.81	157.08	16.7
		6947	25010	14756	95.17	104.58	27.5	112.02	147.40	24.5	126.34	180.49	21.6
		8111	29200	17228	108.10	115.00	32.4	127.55	163.53	29.4	143.22	201.72	26.5
RG-450	2.516	6292	22650	13364	90.18	103.66	29.4	104.90	143.70	25.5	117.31	172.52	21.6
		7550	27180	16036	102.96	114.40	35.3	122.70	163.60	32.4	137.52	196.45	26.5
		8750	31500	18585	118.01	125.54	41.2	138.48	177.54	37.3	155.18	218.57	32.4
RG-500	2.785	6964	25070	14791	99.84	118.86	42.2	119.91	164.26	36.3	132.34	194.62	30.4
		8356	30080	17747	111.35	118.46	6.9	137.72	183.63	44.1	153.23	222.07	37.3
		9722	35000	20650	127.29	129.89	7.8	147.06	183.82	6.9	173.08	247.25	45.1
RG-535	2.981	7453	26830	15830	105.94	123.19	31.4	125.83	172.37	28.4	138.96	204.36	23.5
		8944	32200	18998	121.98	135.53	37.3	145.36	193.81	34.3	163.36	233.37	28.4
		10375	37350	22037	138.94	149.40	44.1	162.85	211.49	40.2	183.19	258.02	34.3
RG-585	3.252	8131	29270	17269	115.63	136.04	41.2	137.35	188.15	35.3	152.19	223.81	29.4
		9756	35120	20721	136.05	151.17	49.0	159.83	213.11	44.1	176.94	256.43	37.3
		11347	40850	24102	146.71	149.70	7.8	168.32	207.80	6.9	199.85	285.50	44.1
RG-665	3.716	9292	33450	19736	137.82	170.15	15.7	168.53	244.24	43.2	180.87	269.96	10.8
		11150	40140	23683	157.48	183.12	17.7	190.12	260.44	15.7	209.89	308.66	13.7
		12972	46700	27553	174.96	192.26	19.6	213.56	284.74	18.6	235.28	340.99	15.7

Piping / Access Door Arrangement





Note : R , L is decided facing air discharged from the unit.

Sound Power Level

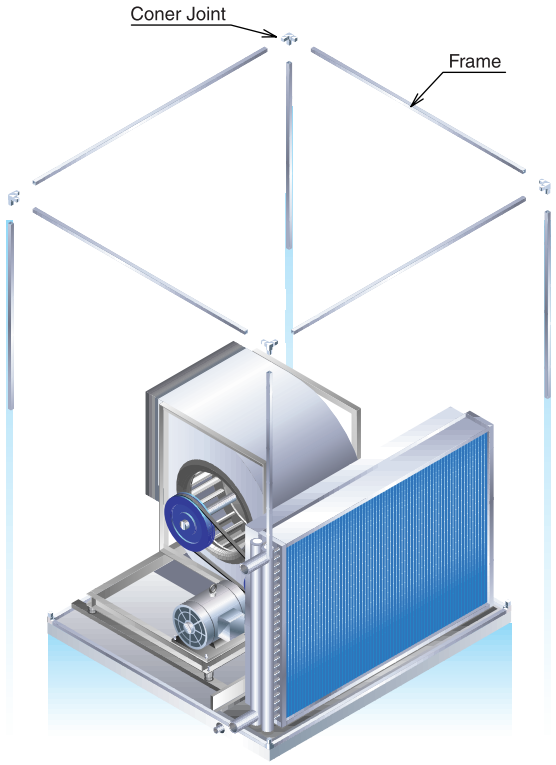
On coil air temperature : DB26.0 [°C] / WB18.7 [°C] Off coil air temperature : DB13.0 [°C] / WB12.5 [°C] Ext Static pressure : 350[Pa]

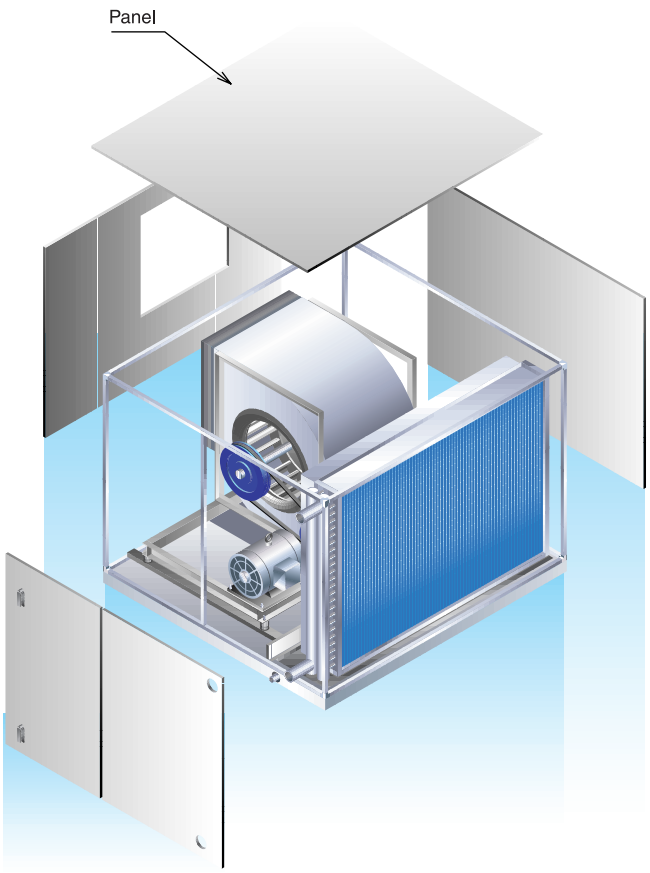
Model	Air Volume			Fan Model	Motor Size	Estimated PWL*							
						Octave Band Center Frequency [Hz]							
	[l/s]	[m³/h]	[CFM]			63	125	250	500	1000	2000	4000	8000
RG- 50	833	3000	1770	FDA 225	2.2kW	93	90	89	85	83	83	81	79
RG- 65	1111	4000	2360	FDA 250	2.2kW	91	90	85	79	75	73	69	63
RG- 85	1389	5000	2950	FDA 280	3 kW	87	88	86	81	82	82	82	78
RG- 100	1667	6000	3540	FDA 280	3 kW	85	88	86	78	80	78	78	74
RG- 120	1944	7000	4130	FDA 315	4 kW	95	92	91	87	90	86	85	82
RG- 135	2222	8000	4720	FDA 355	5.5kW	97	94	91	86	87	82	79	74
RG- 150	2500	9000	5310	FDA 355	5.5kW	97	94	89	84	84	79	76	70
RG- 165	2778	10000	5900	FDA 355	5.5kW	98	95	89	84	84	78	75	69
RG- 185	3056	11000	6490	FDA 400	5.5kW	91	90	87	87	85	81	80	75
RG- 200	3333	12000	7080	FDA 400	5.5kW	91	90	86	86	84	81	79	74
RG- 215	3611	13000	7670	FDA 450	5.5kW	93	90	89	86	86	82	81	77
RG- 235	3889	14000	8260	FDA 450	7.5kW	92	90	89	86	86	82	81	77
RG- 250	4167	15000	8850	FDA 450	7.5kW	92	90	89	86	86	82	81	77
RG- 285	4722	17000	10030	FDA 500	7.5kW	97	93	89	86	85	81	79	74
RG- 335	5556	20000	11800	FDA 560	11 kW	98	95	91	88	88	83	80	75
RG- 365	6111	22000	12980	FDA 560	11 kW	98	94	91	88	87	82	80	74
RG- 415	6944	25000	14750	FDA 630	11 kW	98	95	89	89	82	78	74	68
RG- 450	7500	27000	15930	FDA 630	15 kW	98	95	89	89	82	78	74	68
RG- 500	8333	30000	17700	FDA 630	15 kW	98	95	89	89	82	78	74	68
RG- 535	8889	32000	18880	FDA 710	15 kW	102	95	86	81	76	75	69	60
RG- 585	9722	35000	20650	FDA 710	15 kW	102	95	85	80	76	74	68	59
RG- 665	11111	40000	23600	FDA 710	15 kW	101	93	84	79	75	73	67	57

*Sound data is discharge sound PWL of independent fan assembly.

Rigid and easy-to-assemble frame

Main Frame

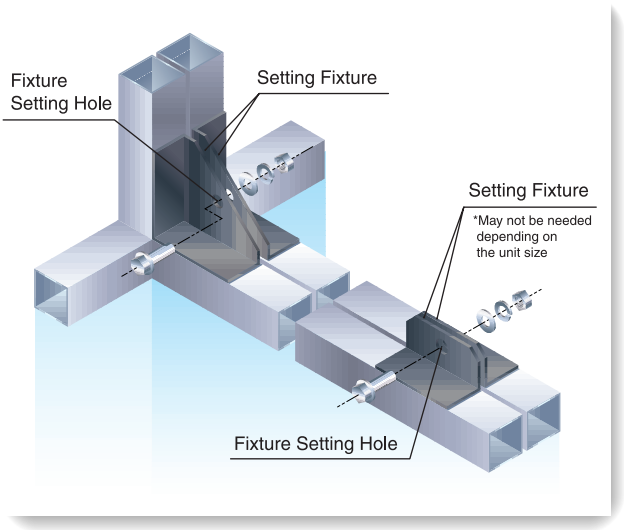




Features of COOL JOY Frame

- **The frame is constructed from the main frame and corner joint**
- **Easy to assemble at job site via knock-down transportation**
- **The main frame materials vary depending on the thickness of the casing panel**
  For 25mm thick panel : Aluminum frame
  For 50mm thick panel : Steel frame
- **Using triangular metal fittings for corner joints, the units can be assembled easily with nuts and bolts**

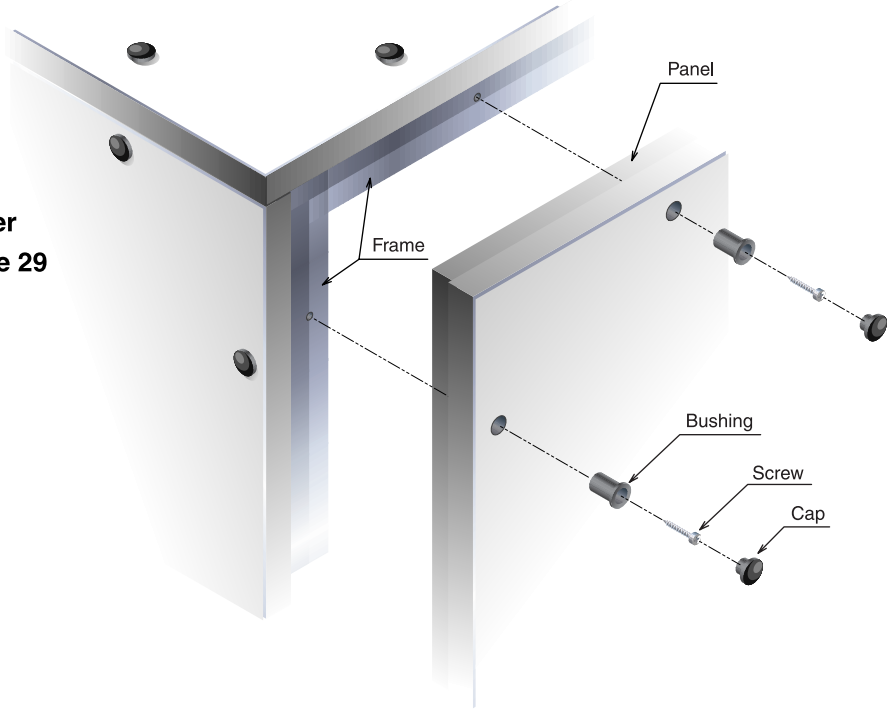
Setting Fixture



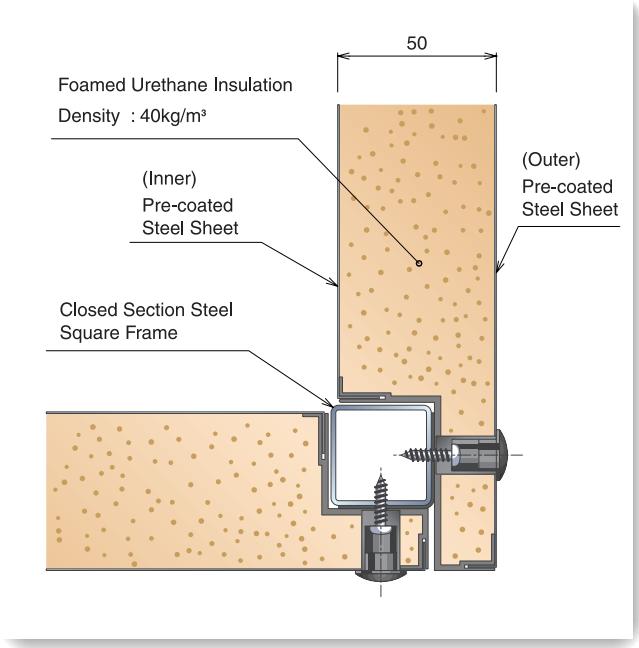
The panel uses an external screw structure that shows great resistant-to-condensation performance in severe environments

Features of COOL JOY Panel

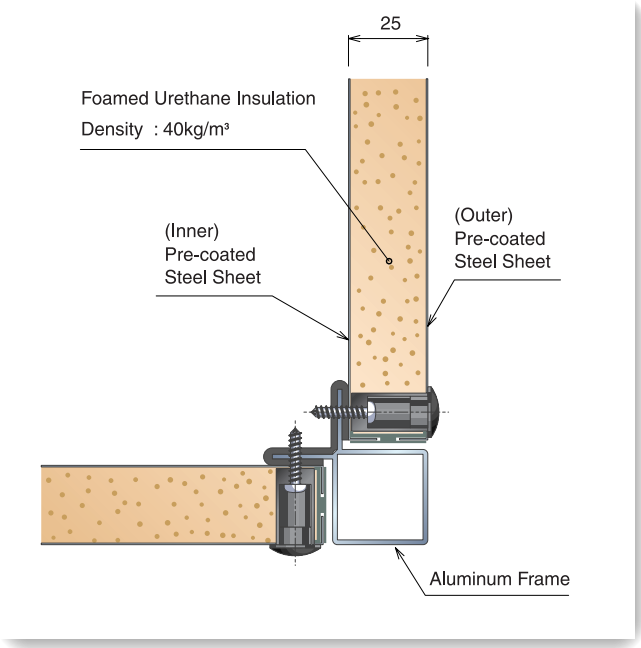
- **The panel can be disassembled easily from the outside using the external screws**
- **Since the top of the screws are not exposed, it is effective against dew condensation as per Insulation limit Diagram on Page 29**



●PANEL : 50mm thick double skinned



●PANEL : 25mm thick double skinned



Each unit is manufactured with carefully selected parts and strict quality control

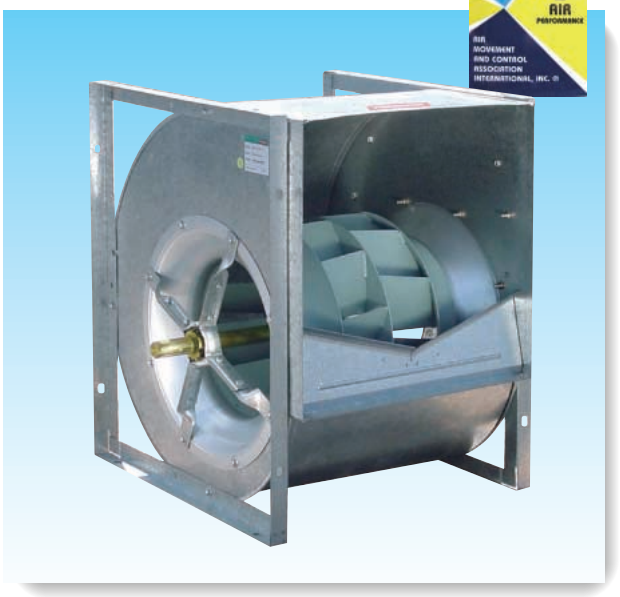
Fan Wheel

Forward Fan

Special forward impeller, and AMCA-certified fan.

Backward Fan

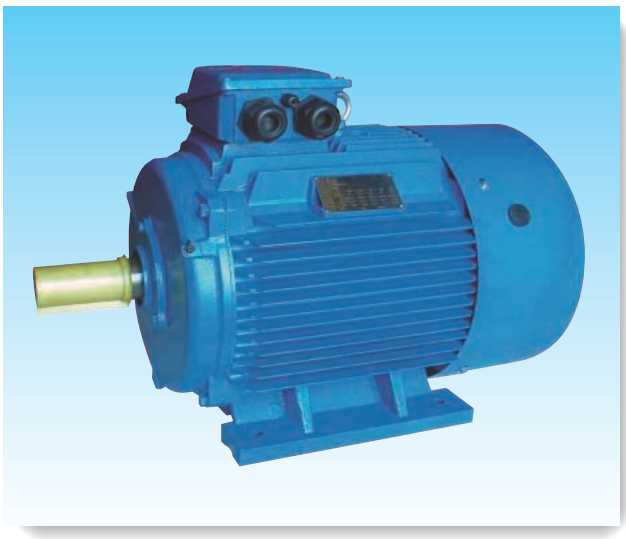
High efficiency, Low power consumption. With the special limit load characteristics, there is no concern of overloading. AMCA certified fan wheel.



Motor

Standard Motor

TEFC motor with waterproofing performance of IP55 ClassF.



Coil

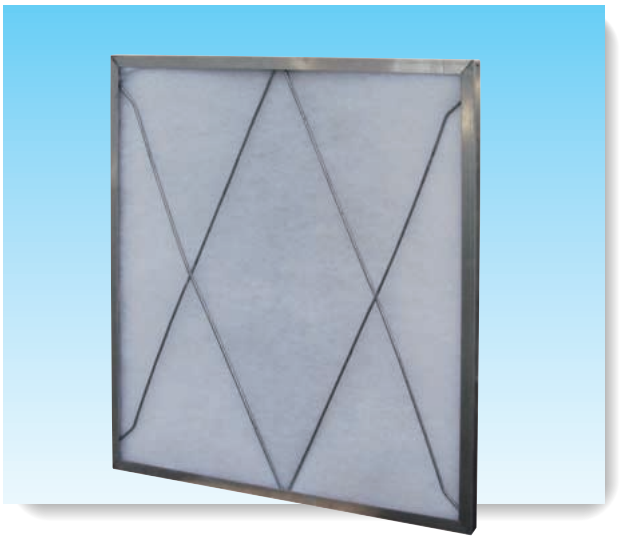
Cooling Coil

Copper tube and aluminum fin construction. Achieves a higher heat transfer coefficient and lower air resistance.

Filter

Panel Type

Synthetic non-woven fiber or glass fiber is used as filter media. Both reusable and disposable types are available.



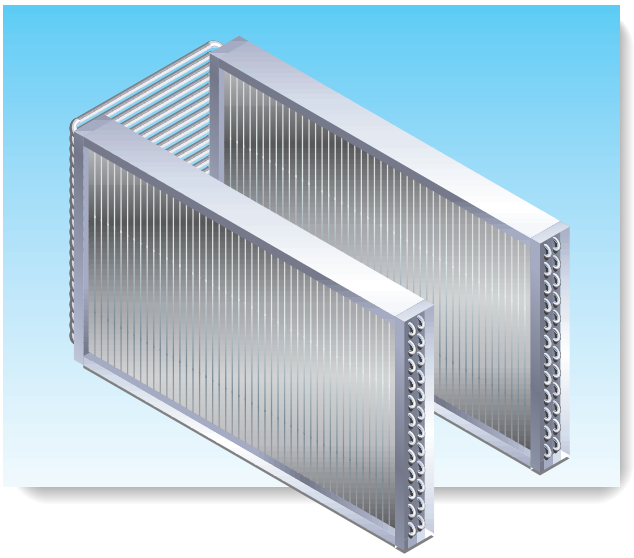
Bag Type

As the dust holding capacity is large, it requires less maintenance.

Heat Pipe

Heat Pipe

No running cost. Heat circulation pump or motor are not required for Heat Pipe.



Heat Exchanger

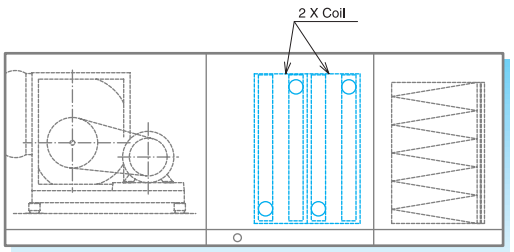
Heat Recovery Wheel

The rotor type heat wheel recovers heat from the exhaust air to the supply air. This system can be used in any air condition, and it decreases power consumption.

Optional arrangement of COOL JOY(RS,RG,FH,FE Series)

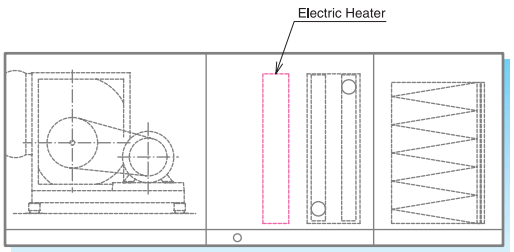
Two Coil Type

Unit is complete with several coils. Additional cooling coil can be installed when there is a requirement for larger cooling load.



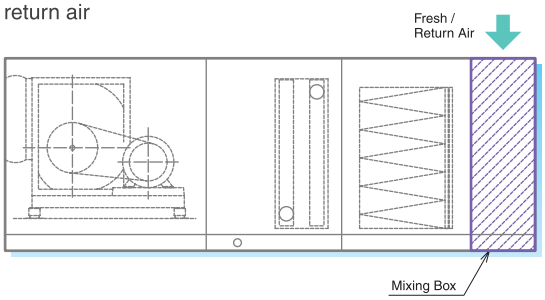
Electric Heater

Unit is complete with electric heater for heating or reheating



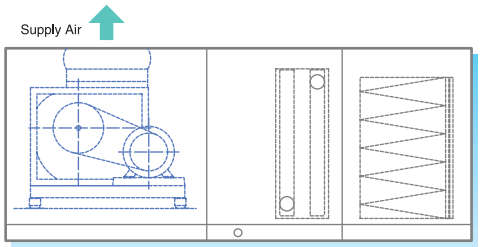
Mixing Box

Unit is complete with mixing box for taking in the fresh air and return air



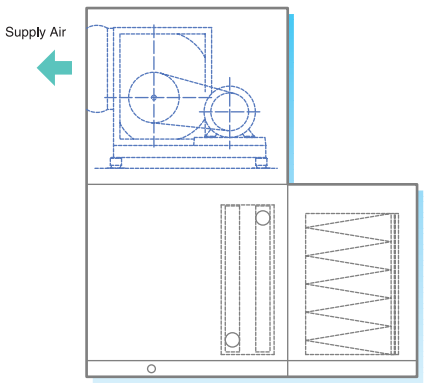
Upper Discharge

Designed to connect to SA duct from the upper side.



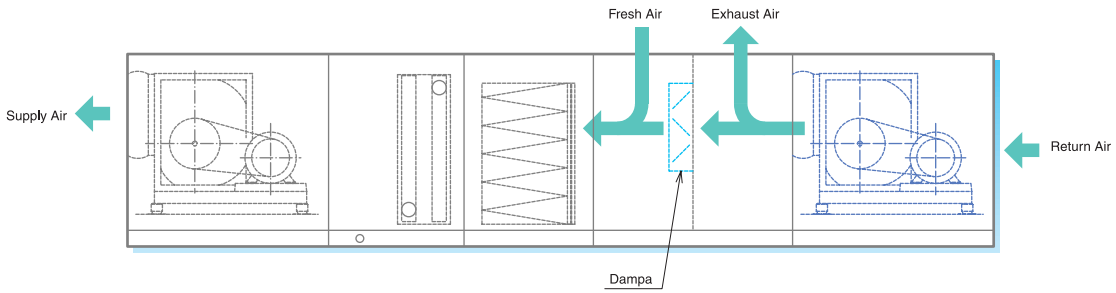
Vertical Mount

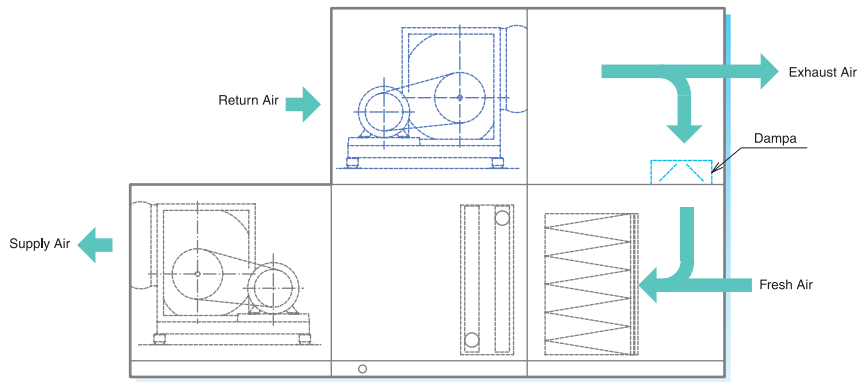
Saves space by setting the fan section on top of the coil section.



RA Fan Type

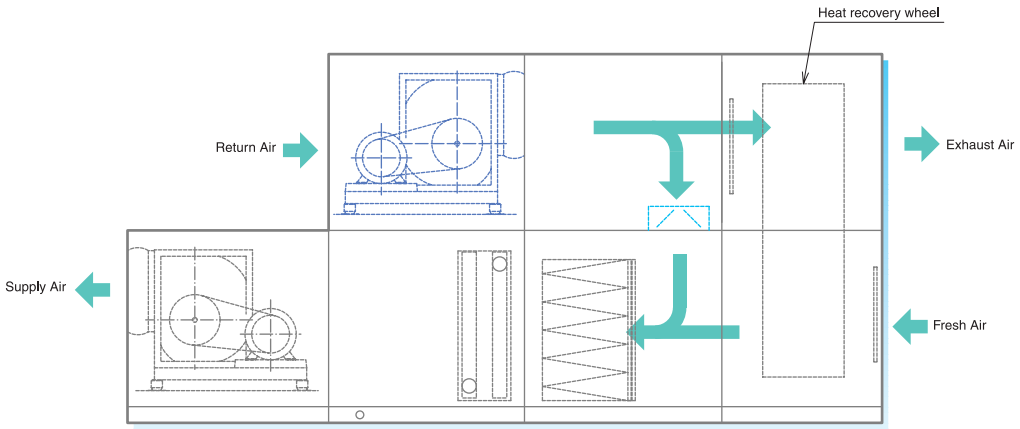
Unit is complete with RA fan OA and EA dampers can be added to balance the return and fresh air volume.





RA Fan and Heat Recovery Wheel

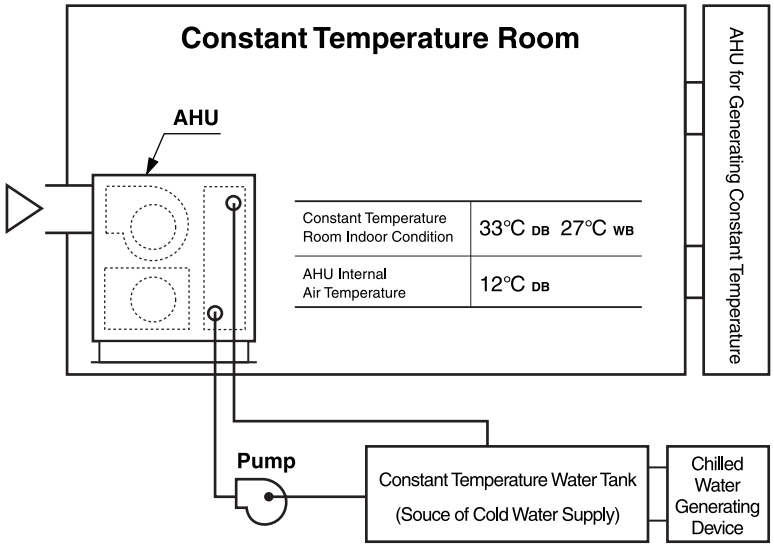
In addition to the RA fan, heat recovery wheel is added to recover heat energy of the fresh air and exhaust air effectively.



Insulation Limit vs AHU Components

AHUs will be installed at various locations such as plant rooms, ceiling space, or outdoors.
AHUs lined with certain insulation can have dew formation (while in cooling operation) on the outer surface of the unit, depending on the condition of the ambient air (such as temperature or humidity level).
Through laboratory testing, SINKO's AHUs have been verified to have high insulation performance.
Such performance is reported as "Insulation Limit vs AHU Components".

Insulation Limit Test Setup For AHU



$$R' = \frac{DB1 - t_1}{DB1 - t_2}$$

DB1 Constant temperature room indoor dry-bulb temperature(°C)

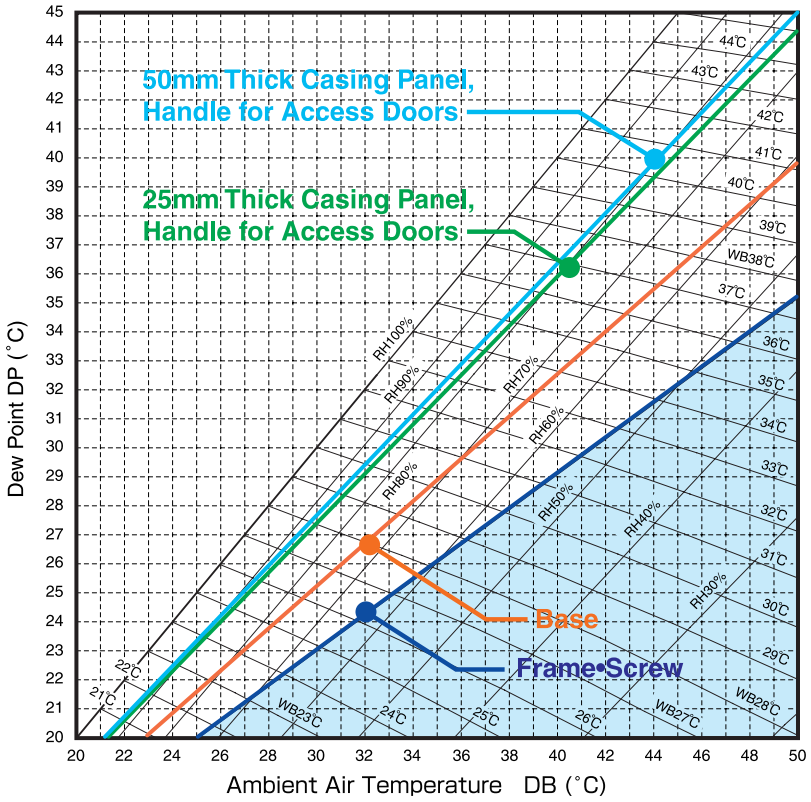
t_1 External surface temperature of component(°C)

t_2 AHU internal air temperature(°C)

Test Result

Component Name	Insulation Coefficient R'
External Panel (25mm)	0.15
External Panel (50mm)	0.13
Base	0.27
Frame	0.39
Screws	0.39
Handle For Access Doors	0.15

Insulation Limit AHU Components at 12°C AHU Internal Air Temperature



Note:
Condensation will not be generated if AHU is installed where the ambient air condition is within the range of ▭.

AHU Specification Check Sheet

Please write a check mark in ☐ and fill in ( ) with specification. Date:

Project Name

Item No. **Quantity( )Units**

AHU Specifications

AHU Mdel	☐CJ-RS ☐CJ-MD ☐CJ-FH ☐CJ-FE	AHU Size	( )
Discharge/ Pipehand	☐H-R ☐V-R ☐H-L ☐V-L	Location of Installation	☐Indoor ☐Outdoor
Power Source	( )v	Frequency	☐50Hz ☐60Hz

Air Supply Side Fan Specifications (Design conditions)

Air Volume ( )	☐m³/h ☐l/s ☐ft³/min	Static Pressure	☐Static Pressure ☐External Static Pressure ( ) ☐Pa ☐inWg
Fan Type	☐Forward Wheel ☐Backward Wheel	Discharge Air Velocity	☐Yes ☐No ( ) ☐m/s ☐ft/min

Coil (Design conditions)

Entering Air Conditions	☐Total Supply Air Volume	☐Outside Air, Return Air Volume Specified	
	Total Supply Air Volume ( ) ☐m³/h ☐l/s ☐ft³/min	Outside Air Volume ( ) ☐m³/h ☐l/s ☐ft³/min	Return Air Volume ( ) ☐m³/h ☐l/s ☐ft³/min
	DB ( ) ☐°C ☐°F	DB ( ) ☐°C ☐°F	DB ( ) ☐°C ☐°F
	☐ WB ( ) ☐°C ☐°F ☐ RH ( ) %	☐ WB ( ) ☐°C ☐°F ☐ RH ( ) %	☐ WB ( ) ☐°C ☐°F ☐ RH ( ) %

Capacity	☐ Capacity ( ) ☐kW ☐Btu•h	☐ Leaving Air Temperature ☐ WB ( ) ☐°C ☐°F
Chilled Water	Entering Temperature ( ) ☐°C ☐°F	☐ Chilled Water Fiow Rate ( ) l/m
	☐ Leaving Temperature ( ) ☐°C ☐°F	☐ Temperature Rise ( ) ☐°C ☐°F
Face Air Velocity	Requirement ☐Yes ☐No ( ) ☐m/s ☐ft/min	

Heat Recovery Wheel

☐Yes ☐No	Heat Exchange Efficiency Total Heat ( )%	Outside Air Volume ( ) ☐m³/h ☐l/s ☐ft³/min	Return Air Volume ( ) ☐m³/h ☐l/s ☐ft³/min

Heat Pipe (Precool/Reheat)

☐Yes ☐No	☐Pre-Cool Capacity ☐Reheat Capacity ( ) ☐kW ☐Btu•h	Pre-Cool/Reheat Temperature Difference ( ) ☐°C ☐°F

Return Air Fan

☐Yes ☐No	Return Air Volume ( ) ☐m³/h ☐l/s ☐ft³/min	Static Pressure ☐ Static Pressure ☐ External Static Pressure ( ) ☐Pa ☐inWg

Filter

Bag Type	☐Yes ☐No	Efficiency	☐60% ☐80% ☐90%	Panel Type	☐Yes ☐No

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