

SINKO

LARGE AIR VOLUME FAN COIL UNIT

SINKO

SINKO INDUSTRIES LTD.

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TSCD/TSFD SERIES

*High Quality
High Reliable Units*



ISO 9001



TSCD/TSFD 2013-A

SINKO History

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 Conditioning Equipment for varied commercial and industrial applications.

SINKO has manufacturing plants in Japan and outside Japan both equipped with the latest hi-tech manufacturing facilities and testing facilities to satisfy the diversified needs of the customers.

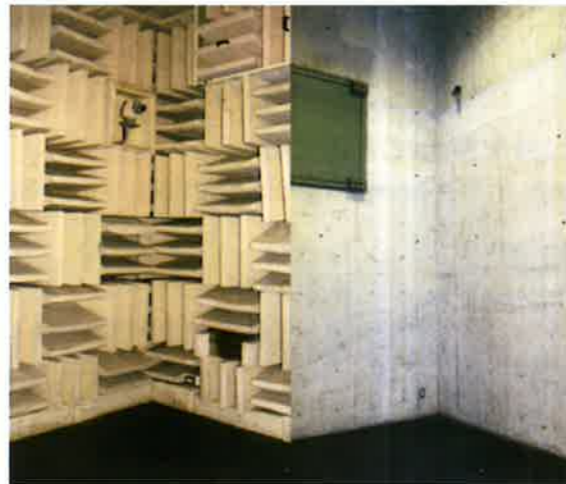
Research & Development

SINKO has multi-function HVAC R&D Center in Japan.

SINKO R&D Center is recognized as one of the foremost industrial research center in Japan's HVAC industry.

SINKO R&D Center features the most modern facilities comprising overall HVAC testing functions: air movement test room, temperature and humidity measurement room, sound measurement room, calorie measurement room.

SINKO research, improvement and development will continue on existing air-conditioning systems and manufacturing technologies to satisfy the diversified needs of the customers.



Insulated Acoustic Room (Semi-Anechoic Wall) Reverberation Chamber



Visualized Airflow Test Room

TSCD/TSFD for indoor air recirculation is designed to reduce the unit cost per heat capacity and features easy maintenance. As with the other types, a double-skin panel is used to reduce radiation of sound and heat transfer.

Features

General

- Air volume range: 3000CMH to 9000CMH
- Ceiling or Floor installation

Construction

- Extrude aluminium frame post
- Double skin casing: 30mm thick
50mm thick (option)
- Pre-coated external and galvanised iron internal casing panels with polyurethane foamed insulation
- Removable access door for easy maintenance

Fan & Motor

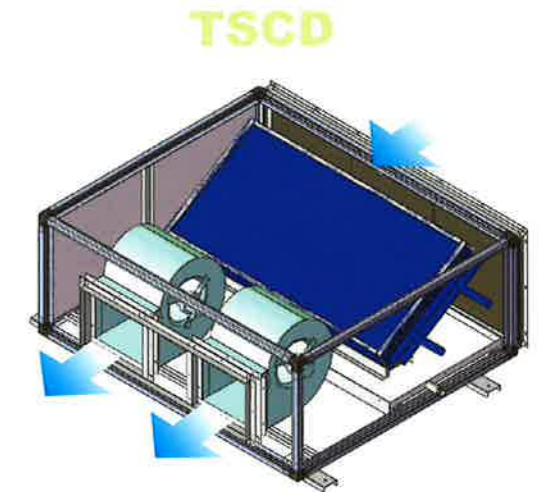
- DIDW forward curved centrifugal fan
- Direct-driven type 3-speed motor

Coil & Drain Pan

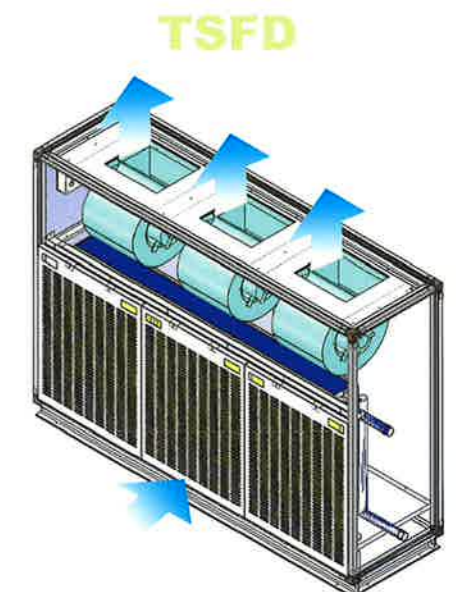
- Rows: 4 or 6
- Drain pan: stainless steel 304

Filter

- Ceiling type: side withdrawal
- Floor type: front withdrawal
- 20mm thick: EN 779 : 2002 Grade G1,G2 or G3



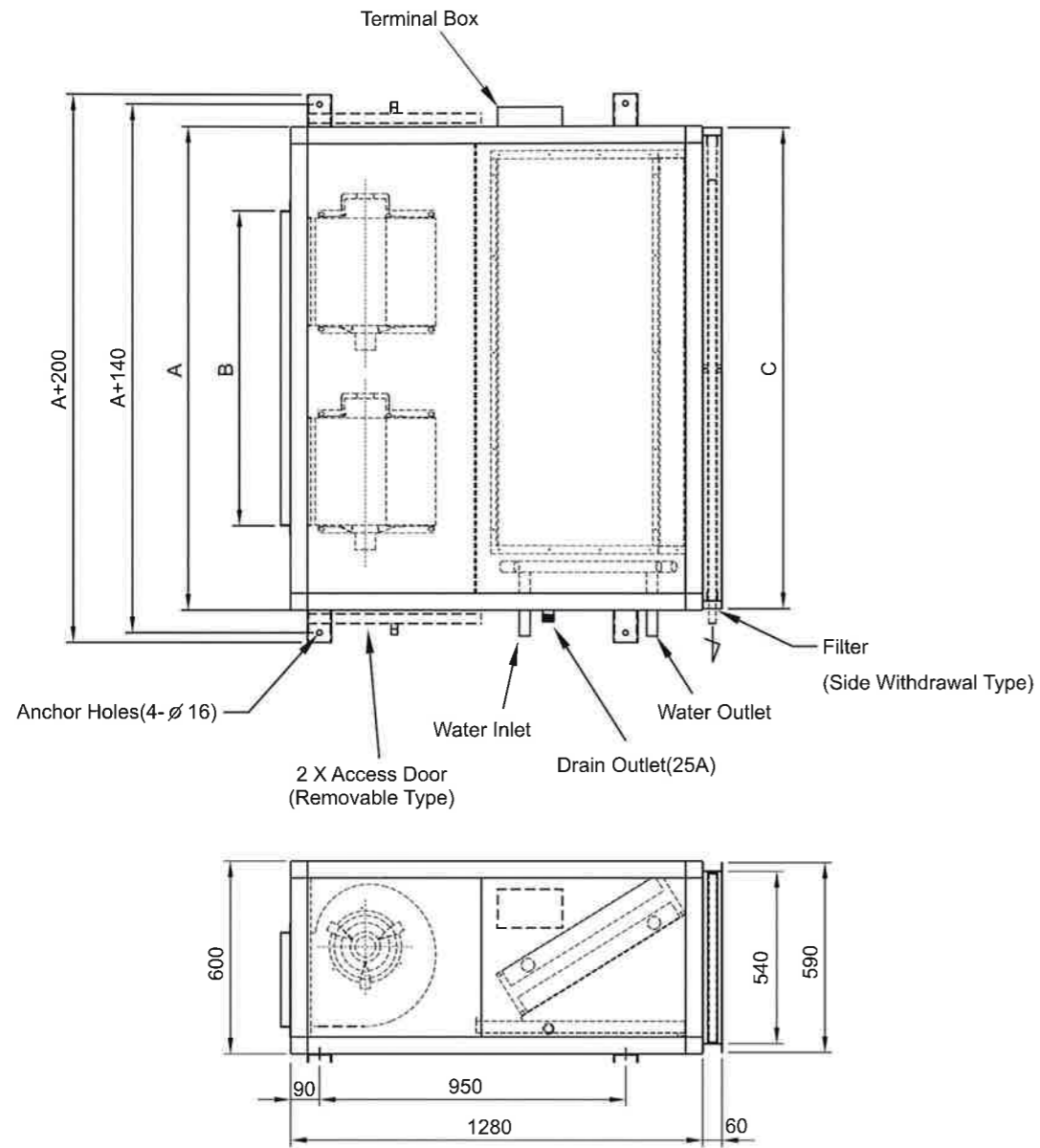
Ceiling Mount Type



Floor Mount Type

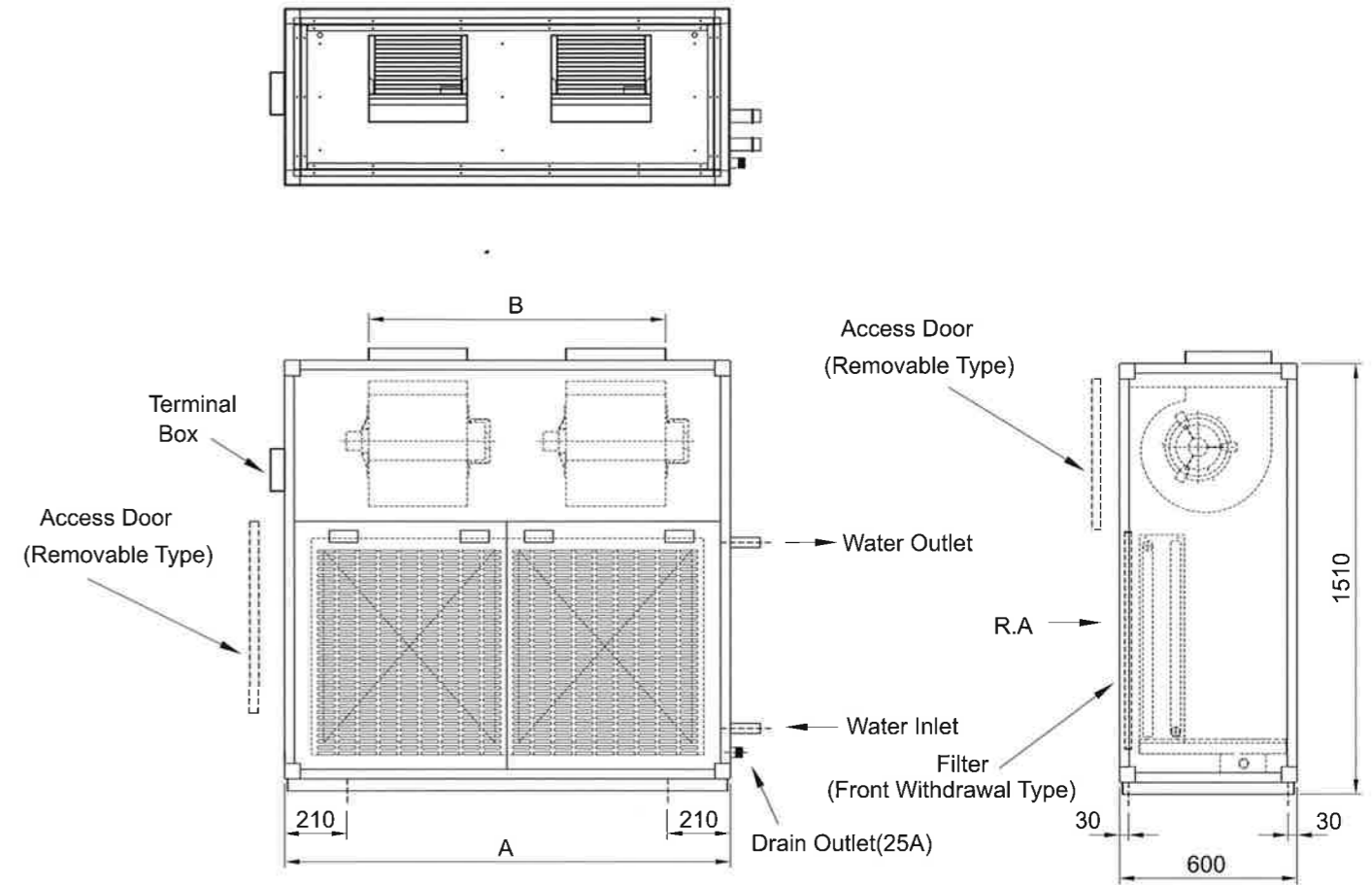
Main Component		TSCD-50	TSCD-100	TSCD-150
Air Volume	(l/s)	835	1670	2500
	(m ³ /h)	3000	6000	9000
	(CFM)	1770	3530	5300
Motor	Type	Permanent split capacitor 3-speed type with ball bearing		
	Power Source	AC 220-240V / 1ph/ 50Hz or 60 Hz		
Fan	Type	Centrifugal forward curved DIDW direct-driven type		
Coil	Rows	4 or 6 Rows		
	Fin Spacing	12FPI		
	Header Size	25A	32A	32A
	Water Coil	Max. working pressure: 0.98 (MPa)		
		Higher working pressure available on request		
	Main Tube	3/8" dia copper tube		
	Fin	Aluminum, 0.11mm thickness		
Header	Copper			
Drain Pan	Drain Pan	Stainless steel 304		
Casing	Panel	Double skinned casing :30mm or 50mm (option) thick Internal panel : Galvanised iron sheet , 0.5mm thick External panel : Pre-coated steel sheet , 0.5mm thick Insulation : Foamed polyurethane		
	Main Frame	Extruded Aluminum		
Filter	Filter	20mm panel filter , Non-woven type		

Main Component		TSFD-50	TSFD-100	TSFD-150
Air Volume	(l/s)	835	1670	2500
	(m ³ /h)	3000	6000	9000
	(CFM)	1770	3530	5300
Motor	Type	Permanent split capacitor 3-speed type with ball bearing		
	Power Source	AC 220-240V / 1ph/ 50Hz or 60 Hz		
Fan	Type	Centrifugal forward curved DIDW direct-driven type		
Coil	Rows	4 or 6 Rows		
	Fin Spacing	12FPI		
	Header Size	25A	32A	32A
	Water Coil	Max. working pressure: 0.98 (MPa)		
		Higher working pressure available on request		
	Main Tube	3/8" dia copper tube		
	Fin	Aluminum, 0.11mm thickness		
Header	Copper			
Drain Pan	Drain Pan	Stainless steel 304		
Casing	Panel	Double skinned casing :30mm or 50mm (option) thick Internal panel : Galvanised iron sheet , 0.5mm thick External panel : Pre-coated steel sheet , 0.5mm thick Insulation : Foamed polyurethane		
	Main Frame	Extruded Aluminum		
Filter	Filter	20mm panel filter , Non-woven type		



Unit Size	Dimensions (mm)			Fan Motor
	A	B	C	Qty
TSCD-50	1000	336	990	1
TSCD-100	1500	956	1540	2
TSCD-150	2100	1576	2090	3

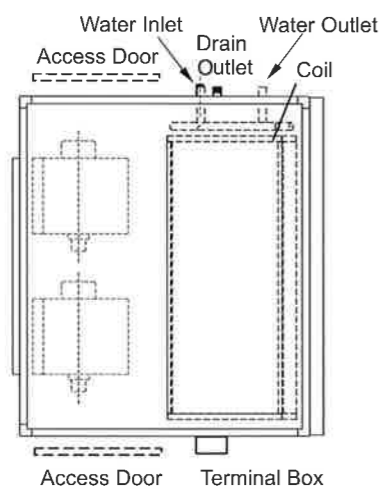
Note: 30mm thick casing



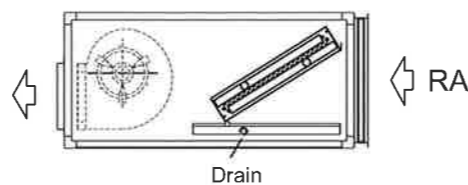
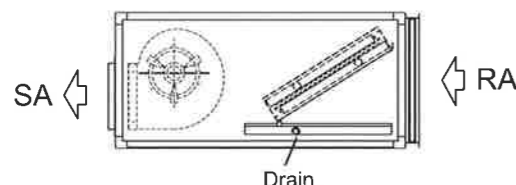
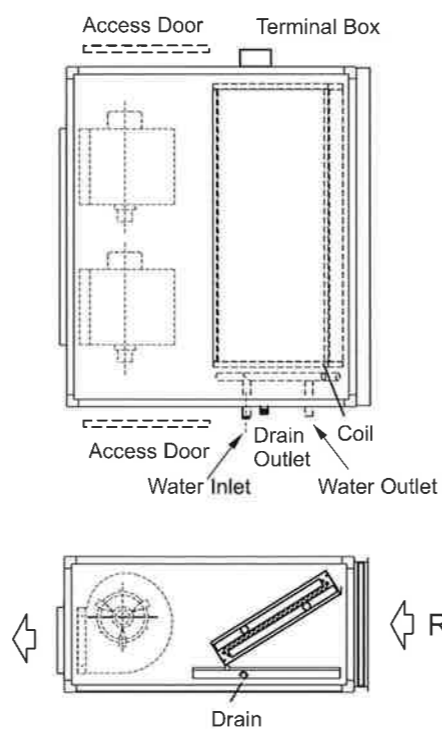
Unit Size	Dimensions (mm)		Fan Motor
	A	B	Qty
TSFD-50	1000	336	1
TSFD-100	1500	956	2
TSFD-150	2100	1576	3

Note: 30mm thick casing

TSCD-L

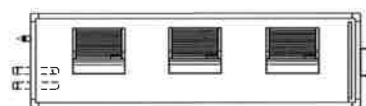


TSCD-R

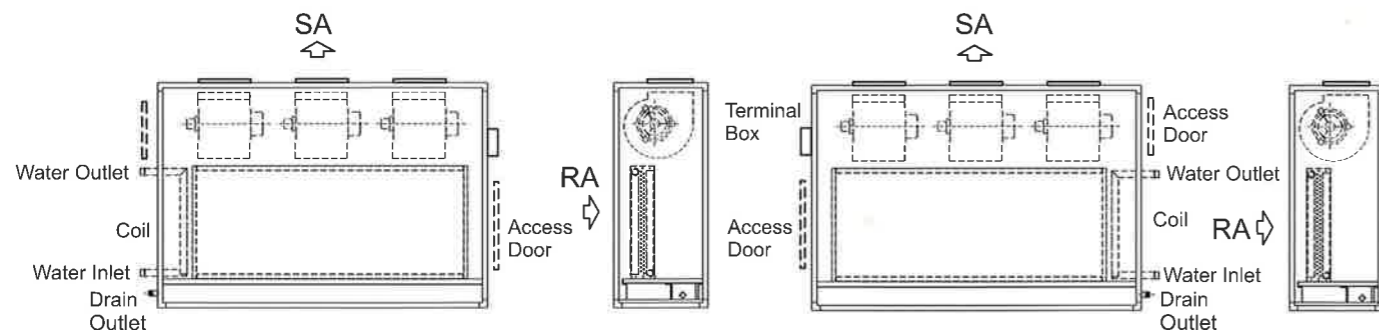


Note: R, L is decided facing air discharged from the unit.

TSFD-L



TSFD-R



Note: R, L is decided facing return air inlet of the unit.

Cooling Capacity : 4 Rows

On-Coil Air Temperature: DB 26°C/ WB 18.7°C

Model	Air Volume		On-Coil Water Temperature 5.5 (°C)					On-Coil Water Temperature 7 (°C)						
	(l/s)	(m³/h)	Water Temperature Difference (K)	Water Flow		Capacity		Water Side Pressure Drop (kPa)	Water Temperature Difference (K)	Water Flow		Capacity		Water Side Pressure Drop (kPa)
				(l/s)	(l/min)	Sensible (kW)	Total (kW)			(l/s)	(l/min)	Sensible (kW)	Total (kW)	
TSCD-50	500	1800	7	0.38	23	8.3	11.3	32.4	5	0.52	31	8.1	10.8	53.9
			8	0.33	20	8.1	10.7	35.5	7	0.33	20	7.6	9.6	25.5
			9	0.27	16	7.9	10.1	17.7	9	0.23	14	7.2	8.5	13.7
	667	2400	7	0.47	28	10.4	13.3	45.1	5	0.57	34	9.8	11.8	9.8
			8	0.38	23	10.1	12.6	32.4	7	0.40	24	9.6	11.4	34.3
			9	0.32	19	9.8	11.8	23.5	9	0.27	16	9.1	10.0	17.7
833	3000	7	0.53	32	12.4	15.3	56.9	5	0.65	39	11.9	13.5	12.7	
		8	0.43	26	11.9	14.2	39.2	7	0.45	27	11.6	13.0	42.2	
		9	0.37	22	11.7	13.4	29.4	9	0.32	19	11.0	11.5	23.5	
TSCD-100	1000	3600	7	0.75	45	16.3	21.8	21.6	5	1.02	61	16.0	21.0	36.3
			8	0.62	37	15.7	20.5	15.7	7	0.63	38	15.0	18.5	15.7
			9	0.52	31	15.2	19.2	11.8	9	0.43	26	14.0	16.1	8.8
	1333	4800	7	0.88	53	20.3	25.7	28.4	5	1.20	72	20.1	24.8	48.1
			8	0.73	44	19.9	24.2	20.6	7	0.75	45	19.1	22.0	21.6
			9	0.60	36	19.2	22.3	14.7	9	0.52	31	17.9	19.2	11.8
1667	6000	7	1.00	60	24.4	29.0	35.3	5	1.35	81	23.9	28.1	58.8	
		8	0.82	49	23.5	27.4	24.5	7	0.87	52	22.8	25.0	27.5	
		9	0.68	41	23.1	25.4	18.6	9	0.58	35	21.5	22.0	13.7	
TSCD-150	1833	6600	7	1.20	72	27.9	34.9	10.8	5	1.65	99	27.9	34.4	18.6
			8	1.08	65	28.3	36.3	57.9	7	1.13	68	27.0	32.9	62.8
			9	0.92	55	27.7	34.2	44.1	9	0.77	46	25.4	28.8	32.4
	2167	7800	7	1.33	80	31.9	38.9	12.7	5	1.80	108	31.6	37.6	21.6
			8	1.18	71	32.1	39.7	67.7	7	1.13	68	29.5	32.8	9.8
			9	1.00	60	31.6	37.6	51.0	9	0.85	51	29.4	31.9	38.2
2500	9000	7	1.43	86	35.5	41.8	14.7	5	1.97	118	35.3	41.1	25.5	
		8	1.17	70	34.9	38.8	10.8	7	1.23	74	33.4	36.0	11.8	
		9	1.08	65	35.5	40.3	57.9	9	0.93	56	33.1	34.9	45.1	

Note: Based on High Speed

Cooling Capacity : 6 Rows

On-Coil Air Temperature: DB 26°C/ WB 18.7°C

Model	Air Volume		On-Coil Water Temperature 5.5 (°C)					On-Coil Water Temperature 7 (°C)						
	(l/s)	(m³/h)	Water Temperature Difference (K)	Water Flow		Capacity		Water Side Pressure Drop (kPa)	Water Temperature Difference (K)	Water Flow		Capacity		Water Side Pressure Drop (kPa)
				(l/s)	(l/min)	Sensible (kW)	Total (kW)			(l/s)	(l/min)	Sensible (kW)	Total (kW)	
TSCD-50	500	1800	7	0.50	30	9.6	14.4	11.8	5	0.67	40	9.3	13.7	18.6
			8	0.45	27	9.8	14.7	62.8	7	0.47	28	9.2	13.3	66.7
			9	0.38	23	9.6	14.1	48.1	9	0.33	20	8.6	12.1	37.3
	667	2400	7	0.60	36	12.1	17.5	15.7	5	0.82	49	11.8	16.9	26.5
			8	0.50	30	11.7	16.8	11.8	7	0.52	31	11.2	15.2	12.7
			9	0.47	28	12.0	17.2	66.7	9	0.40	24	11.0	14.7	51.0
833	3000	7	0.70	42	14.5	20.5	20.6	5	0.95	57	14.2	19.8	35.3	
		8	0.58	35	14.2	19.5	15.7	7	0.60	36	13.3	17.5	15.7	
		9	0.48	29	13.6	18.1	10.8	9	0.47	28	13.1	17.0	66.7	
TSCD-100	1000	3600	7	1.02	61	19.7	29.4	53.9	5	1.28	77	18.3	26.6	12.7
			8	0.86	51	19.1	28.5	39.2	7	0.90	54	18.2	26.0	43.2
			9	0.73	44	18.6	27.4	30.4	9	0.63	38	17.1	23.4	23.5
	1333	4800	7	1.17	70	23.7	33.9	10.8	5	1.57	94	23.1	32.6	17.7
			8	1.05	63	24.4	34.9	56.9	7	1.08	65	22.8	31.6	59.8
			9	0.90	54	23.8	33.5	43.2	9	0.77	46	21.6	28.4	33.3
1667	6000	7	1.35	81	28.3	39.3	13.7	5	1.82	109	27.8	38.1	22.6	
		8	1.10	66	27.6	36.8	9.8	7	1.15	69	26.2	33.6	10.8	
		9	1.03	62	28.1	38.6	54.9	9	0.87	52	25.7	32.6	41.2	
TSCD-150	1833	6600	7	1.72	103	34.5	50.0	29.4	5	2.28	137	33.4	47.7	48.1
			8	1.43	86	33.5	47.8	21.6	7	1.48	89	31.3	43.5	22.6
			9	1.22	73	32.4	45.6	16.7	9	1.03	62	29.3	38.6	12.7
	2167	7800	7	1.93	116	39.5	56.4	36.3	5	2.48	149	37.4	52.0	18.6
			8	1.62	97	38.2	53.8	26.5	7	1.67	100	36.1	48.8	28.4
			9	1.35	81	37.1	50.8	19.6	9	1.15	69	33.5	42.9	14.7
2500	9000	7	2.13	128	44.1	62.2	43.2	5	2.73	164	41.7	57.1	21.6	
		8	1.77	106	43.1	59.0	31.4	7	1.83	110	40.0	53.4	33.3	
		9	1.48	89	41.2	55.6	22.6	9	1.25	75	37.6	47.1	17.7	

Note: Based on High Speed

Cooling Capacity : 4 Rows On-Coil Air Temperature: DB 26°C/ WB 18.7°C

Model	Air Volume		On-Coil Water Temperature 5.5 (°C)						On-Coil Water Temperature 7 (°C)					
			Water Temperature Difference (K)	Water Flow		Capacity		Water Side Pressure Drop (kPa)	Water Temperature Difference (K)	Water Flow		Capacity		Water Side Pressure Drop (kPa)
				(l/s)	(l/min)	Sensible (kW)	Total (kW)			(l/s)	(l/min)	Sensible (kW)	Total (kW)	
TSFD-50	500	1800	7	0.39	24	8.5	11.6	33.4	5	0.54	32	8.3	11.1	55.5
			8	0.34	21	8.3	11.0	36.6	7	0.34	21	7.8	9.9	26.3
			9	0.28	16	8.1	10.4	18.2	9	0.24	14	7.4	8.8	14.1
	667	2400	7	0.48	29	10.7	13.7	46.5	5	0.59	35	10.1	12.2	10.1
			8	0.39	24	10.4	13.0	33.4	7	0.41	25	9.9	11.7	35.3
			9	0.33	20	10.1	12.2	24.2	9	0.28	16	9.4	10.3	18.2
TSFD-100	833	3000	7	0.55	33	12.8	15.8	58.6	5	0.67	40	12.3	13.9	13.1
			8	0.44	27	12.3	14.6	40.4	7	0.46	28	11.9	13.4	43.5
			9	0.38	23	12.1	13.8	30.3	9	0.33	20	11.3	11.8	24.2
	1000	3600	7	0.77	46	16.8	22.5	22.2	5	1.05	63	16.5	21.6	37.4
			8	0.64	38	16.2	21.1	16.2	7	0.65	39	15.5	19.1	16.2
			9	0.54	32	15.7	19.8	12.2	9	0.44	27	14.4	16.6	9.1
TSFD-150	1333	4800	7	0.91	55	20.9	26.5	29.3	5	1.24	74	20.7	25.5	49.5
			8	0.75	45	20.5	24.9	21.2	7	0.77	46	19.7	22.7	22.2
			9	0.62	37	19.8	23.0	15.1	9	0.54	32	18.4	19.8	12.2
	1667	6000	7	1.03	62	25.1	29.9	36.4	5	1.39	83	24.6	28.9	60.6
			8	0.84	50	24.2	28.2	25.2	7	0.90	54	23.5	25.8	28.3
			9	0.70	42	23.8	26.2	19.2	9	0.60	36	22.1	22.7	14.1
TSFD-200	1833	6600	7	1.24	74	28.7	35.9	11.1	5	1.70	102	28.7	35.4	19.2
			8	1.11	67	29.1	37.4	59.6	7	1.16	70	27.8	33.9	64.7
			9	0.95	57	28.5	35.2	45.4	9	0.79	47	26.2	29.7	33.4
	2167	7800	7	1.37	82	32.9	40.1	13.1	5	1.85	111	32.5	38.7	22.2
			8	1.22	73	33.1	40.9	69.7	7	1.16	70	30.4	33.8	10.1
			9	1.03	62	32.5	38.7	52.5	9	0.88	53	30.3	32.9	39.3
2500	9000	7	1.47	89	36.6	43.1	15.1	5	2.03	122	36.4	42.3	26.3	
		8	1.21	72	35.9	40.0	11.1	7	1.27	76	34.4	37.1	12.2	
		9	1.11	67	36.6	41.5	59.6	9	0.96	58	34.1	35.9	46.5	

Note: Based on High Speed

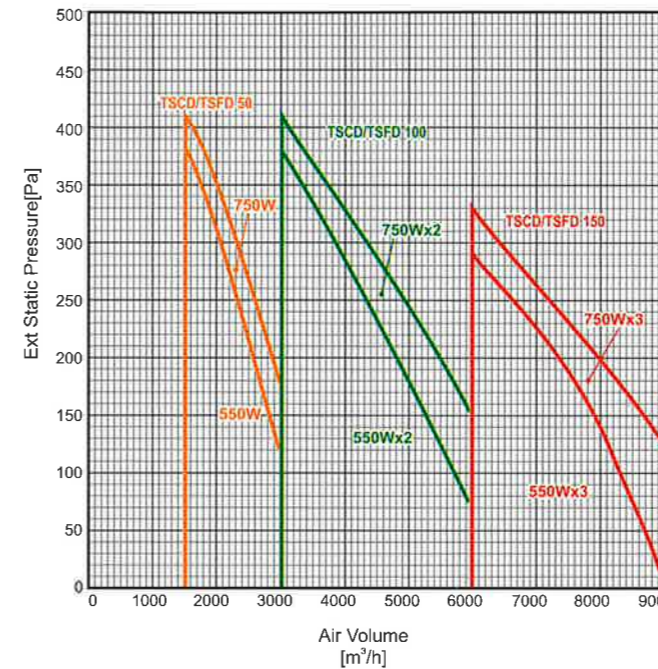
Cooling Capacity : 6 Rows On-Coil Air Temperature: DB 26°C/ WB 18.7°C

Model	Air Volume		On-Coil Water Temperature 5.5 (°C)						On-Coil Water Temperature 7 (°C)					
			Water Temperature Difference (K)	Water Flow		Capacity		Water Side Pressure Drop (kPa)	Water Temperature Difference (K)	Water Flow		Capacity		Water Side Pressure Drop (kPa)
				(l/s)	(l/min)	Sensible (kW)	Total (kW)			(l/s)	(l/min)	Sensible (kW)	Total (kW)	
TSFD-50	500	1800	7	0.52	31	9.9	14.8	12.2	5	0.69	41	9.6	14.1	19.2
			8	0.46	28	10.1	15.1	64.7	7	0.48	29	9.5	13.7	68.7
			9	0.39	24	9.9	14.5	49.5	9	0.34	21	8.9	12.5	38.4
	667	2400	7	0.62	37	12.5	18.0	16.2	5	0.84	50	12.2	17.4	27.3
			8	0.52	31	12.1	17.3	12.2	7	0.54	32	11.5	15.7	13.1
			9	0.48	29	12.4	17.7	68.7	9	0.41	25	11.3	15.1	52.5
TSFD-100	833	3000	7	0.72	43	14.9	21.1	21.2	5	0.98	59	14.6	20.4	36.4
			8	0.60	36	14.6	20.1	16.2	7	0.62	37	13.7	18.0	16.2
			9	0.49	30	14.0	18.6	11.1	9	0.48	29	13.5	17.5	68.7
	1000	3600	7	1.05	63	20.3	30.3	55.5	5	1.32	79	18.8	27.4	13.1
			8	0.88	53	19.7	29.4	40.4	7	0.93	56	18.7	26.8	44.5
			9	0.75	45	19.2	28.2	31.3	9	0.65	39	17.6	24.1	24.2
TSFD-150	1333	4800	7	1.21	72	24.4	34.9	11.1	5	1.62	97	23.8	33.6	18.2
			8	1.08	65	25.1	35.9	58.6	7	1.11	67	23.5	32.5	61.6
			9	0.93	56	24.5	34.5	44.5	9	0.79	47	22.2	29.3	34.3
	1667	6000	7	1.39	83	29.1	40.5	14.1	5	1.87	112	28.6	39.2	23.3
			8	1.13	68	28.4	37.9	10.1	7	1.18	71	27.0	34.6	11.1
			9	1.06	64	28.9	39.8	56.5	9	0.90	54	26.5	33.6	42.4
TSFD-200	1833	6600	7	1.77	106	35.5	51.5	30.3	5	2.35	141	34.4	49.1	49.5
			8	1.47	89	34.5	49.2	22.2	7	1.52	92	32.2	44.8	23.3
			9	1.26	75	33.4	47.0	17.2	9	1.06	64	30.2	39.8	13.1
	2167	7800	7	1.99	119	40.7	58.1	37.4	5	2.55	153	38.5	53.6	19.2
			8	1.67	100	39.3	55.4	27.3	7	1.72	103	37.2	50.3	29.3
			9	1.39	83	38.2	52.3	20.2	9	1.18	71	34.5	44.2	15.1
2500	9000	7	2.19	132	45.4	64.1	44.5	5	2.81	169	43.0	58.8	22.2	
		8	1.82	109	44.4	60.8	32.3	7	1.88	113	41.2	55.0	34.3	
		9	1.52	92	42.4	57.3	23.3	9	1.29	77	38.7	48.5	18.2	

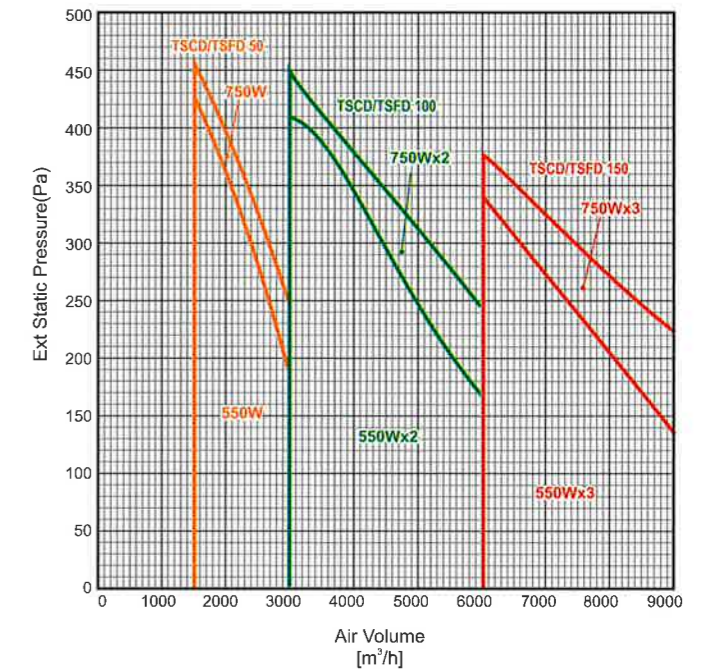
Note: Based on High Speed

Unit Selection Chart : 4Rows Coil

Motor Speed "MED" (Coil: 4 Rows)

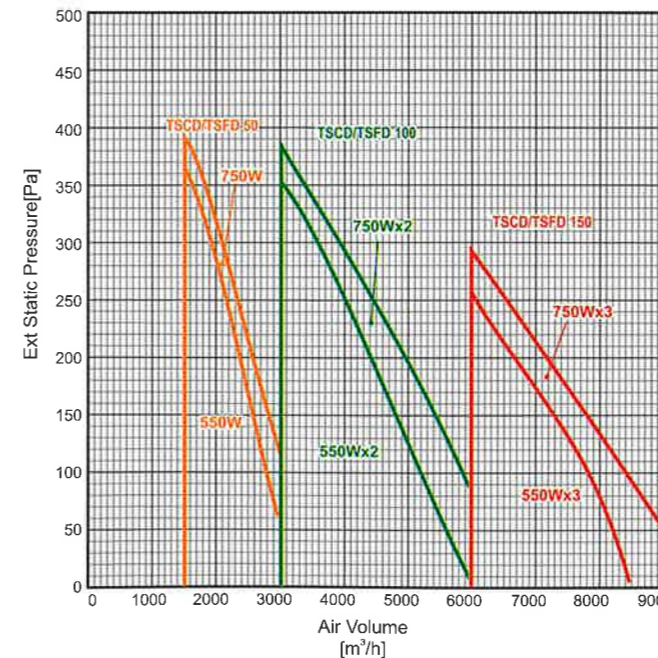


Motor Speed "HIGH" (Coil: 4 Rows)

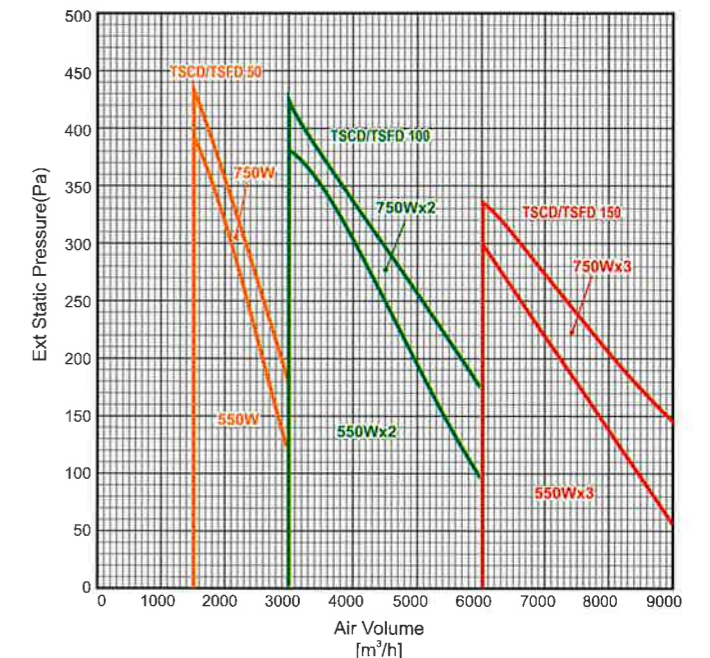


Unit Selection Chart : 6Rows Coil

Motor Speed "MED" (Coil: 6 Rows)



Motor Speed "HIGH" (Coil: 6 Rows)



Note: Pressure drop of standard 20mm thick filter is included in unit internal static pressure.