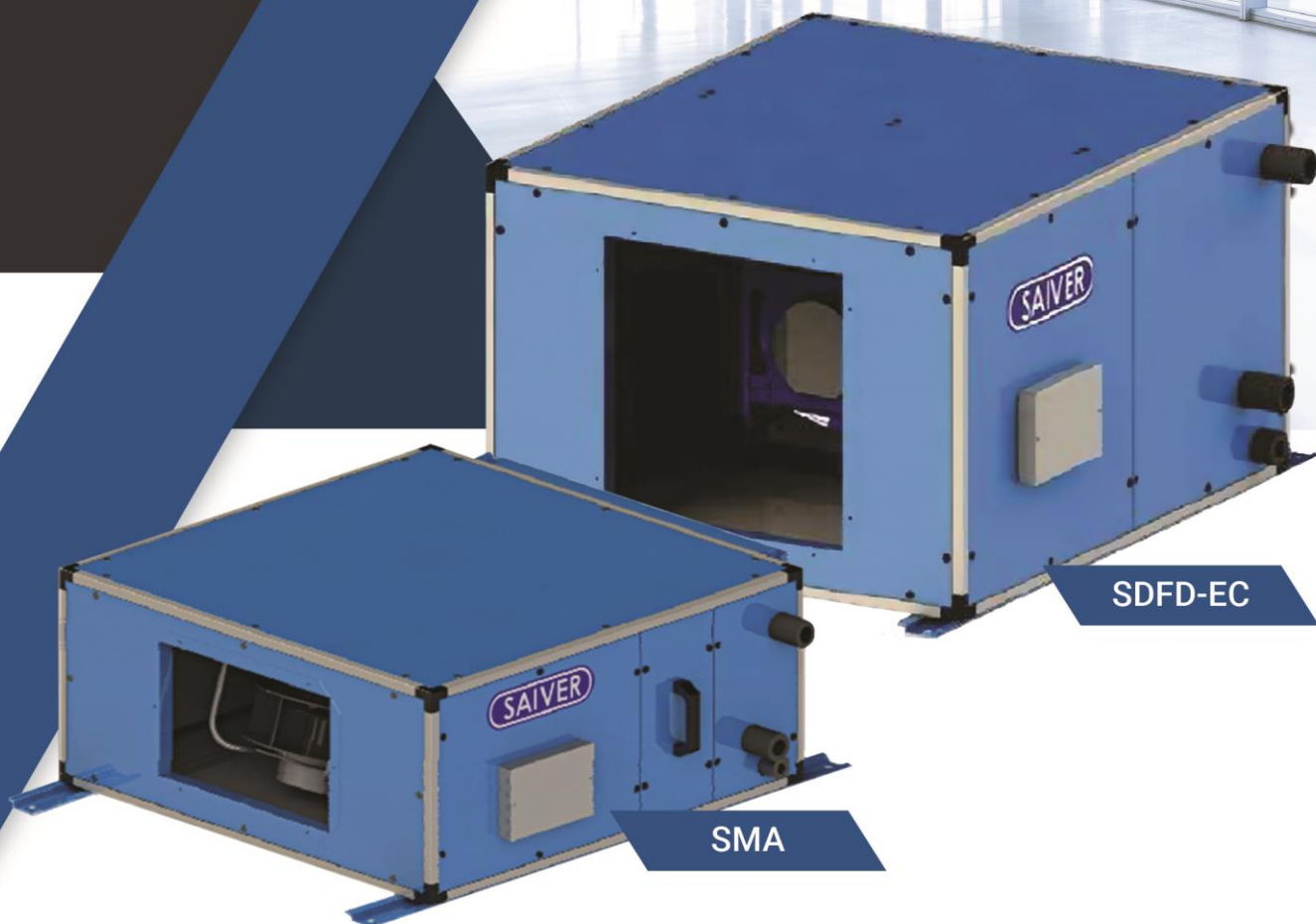


# SAIVER CHILLED WATER DUCTED FAN COIL

SDF-EC/SMA



SDFD-EC

SMA

# FEATURES



## GENERAL

- SDF-EC casing are fabricated with rigid double skin casing, 30mm-thick infill panels with pressure injected polyurethane foam insulation rated at 'K' value of 0.02 Watts/m.C and density of 40Kg/m<sup>3</sup>.
- Draw through configuration.
- Inclusive of 21mm-thick washable G3 filter media and G.I. filter frame.
- Thermostat for fan speed and temperature control is available upon request.

## FAN MOTOR ASSEMBLY

- Motor is Sinusoidal Sensorless Control, integrated with Active Power Factor Controller which power factor is always > 0.95 in any state of operation.
- Motor has integrated Modbus RTU interface and analogue interface 0-10V for selected models only.
- Motor has protection of missing phase, short circuit, overload, overheat and impeller blocking.
- Motor has its own safe operating area where combine the limitation of maximum speed, power and current, allowing motor operate without damage.

## COIL

- AHRI certified coils for cooling and heating applications.
- Coils are made of copper tubes mechanically bonded to corrugated aluminum fin collars.
- Copper fins, heresite coated, or hydrophilic blue aluminum fins options are also available.
- The number of coil rows range from 3 to 5 rows.
- Water inlet/outlet connection ranges from 1" to 2", male pipe thread (BSTP).
- Header assembly is of single-piece casting which allows direct connection to steel pipe - Coils are pressure tested up to 31.6 kg/cm<sup>2</sup> (350 psig) and maximum working pressure is 18kg/m<sup>2</sup> (250 psig) - Air vent is located at the top of the coil header.

## DRAIN PAN

- 45 ~ 50mm in depth drain pans constructed from 1.0mm-thick galvanized steel c/w internal epoxy resin coating.
- Drain pans sloped towards drain pipe at 2° gradient.
- Drain pipe connection ranges from 3/4", 1" and 1-1/4" male pipe thread.
- Standard insulation material is 10mm-thick, 25kg/m<sup>3</sup> high density PE foam.



## SDFD-EC

MODEL		SDFD013AW	SDFD016AW	SDFD020AW	SDFD024AW	SDFD032AW
Nominal Cooling Capacity	Btu/h	38,000	45,000	53,900	71,000	91,500
	W	11,200	13,200	15,800	20,800	26,800
Nominal Sensible Cooling Capacity	Btu/h	30,800	35,500	42,300	57,600	72,300
	W	9,100	10,400	12,400	16,900	21,200
Power Supply	V/Ph/Hz	220~240V / 1Phz / 50/60Hz				
Power Supply, High Static	V/Ph/Hz	220~240V / 1Phz / 50/60Hz				
Nominal Air Flow	L/s (CFM)	614 (1300)	689 (1460)	802 (1700)	1133 (2400)	1369 (2900)
External Static Pressure	Pa	150				
External Static Pressure, High Static (H)	Pa	250				
Rated Power Input	W	368	443	481	310x2	460x2
Rated Power Input, High Static	W	410	498	544	355x2	510x2
Rated Running Current	A	1.6	2.0	2.1	1.4x2	2.0x2
Rated Running Current, High Static	A	1.8	2.2	2.4	1.6x2	2.3x2
Max Unit Running Amp	A x Qty	2.6	2.8	2.8	2.6x2	2.8x2
Max Unit Running Amp, High Static	A x Qty	3.9	3.9	3.9	3.9x2	3.9x2
Fan speed, set value	(%nmax)	90	94	96	86	96
Fan speed, set value, High Static	(%nmax)	82	86	90	78	87
Unit weight	kg (lb)	93(205)	96(212)	110(243)	138(304)	144(317)
Sound Pressure Level	dBA	44	45	45	43	45

## Components Data

MODEL		SDFD013AW	SDFD016AW	SDFD020AW	SDFD024AW	SDFD032AW		
Casing	Outline Dimension	Length	mm	800	800	1020	1400	1400
		Depth	mm	1115	1115	1115	1115	1115
		Height	mm	560	560	560	560	560
	Material, External Finishing, Colour	GI, Polyester Powder coating ; Saiver Blue						
	Insulation / Thickness	PU/30mm						
Fan Assy	Qty	1	1	1	2	2		
	Size (Nominal)	mm	280	310	310	280	310	
	Motor Size	W	500	560	560	500	560	
	Motor Size, High Static	W	780	780	780	780	780	
Coil	Tube	Material/ Diameter	Cu, 9.52					
	Fin	Material	Al					
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )	0.27 (2.9)	0.27 (2.9)	0.37 (3.9)	0.54 (5.8)	0.54 (5.8)	
Filtration	Type	Washable GI Frame Filter / G3						
	Quanty	PC	2	2	2	3	3	
	Dimension ( L x W x 21)	mm	420x420 210x420	420x420 210x420	420x420	420x420	420x420	
Drain Pipe (Nominal)	mm (in)	19 (3/4')	19 (3/4')	19 (3/4')	25 (1")	25 (1")		

### Notes:

- All specifications are subjected to change by the manufacturer without prior notice.
- Nominal cooling capacity are based on the below conditions:
  - Entering air temperature 27 °C (80.6 °F) DB and 19 °C (66.2 °F) WB.
  - Entering water temperature 7 °C (44.6 °F).
  - Leaving water temperature 12 °C (53.6 °F).
- Sound pressure level is measured in an anechoic chamber, with unit operating at laminar airflow.
  - Normally, sound level is higher in actual operating environment due to external sound effect or unit installation condition.



## SDFD-EC

MODEL		SDFD040AW	SDFD048AW	SDFD064AW	SDFD080AW	SDFD096AW
Nominal Cooling Capacity	Btu/h	126,000	147,000	193,500	250,000	293,000
	W	36,900	43,100	56,700	73,300	85,800
Nominal Sensible Cooling Capacity	Btu/h	102,300	116,900	153,900	196,800	234,500
	W	30,000	34,300	45,100	57,700	68,700
Power Supply	V/Ph/Hz	220~240V / 1Phz / 50/60Hz		380~415V / 3Phz / 50/60Hz		
Power Supply, High Static	V/Ph/Hz	380~415V / 3Phz / 50/60Hz		-	-	-
Nominal Air Flow	L/s (CFM)	1889 (4000)	2266 (4800)	3022 (6400)	3776 (8000)	4533 (9600)
External Static Pressure	Pa	150			250	
External Static Pressure, High Static (H)	Pa	250		-	-	-
Rated Power Input	W	559x2	774x2	1275x2	2751	3969
Rated Power Input, High Static	W	694x2	930x2	-	-	-
Rated Running Current	A	2.5x2	3.4x2	2.0x2	4.33	6.11
Rated Running Current, High Static	A	1.2x2	1.5x2	-	-	-
Max Unit Running Amp	A x Qty	5x2	5x2	2.4x2	7.7	7.7
Max Unit Running Amp, High Static	A x Qty	2.4x2	2.4x2	-	-	-
Fan speed, set value	(%nmax)	83	92	95	69	84
Fan speed, set value, High Static	(%nmax)	79	86	-	-	-
Unit weight	kg (lb)	206(454)	209(461)	220(485)	375(826)	385(848)
Sound Pressure Level	dBA	45	48	53	50	55

## Components Data

MODEL		SDFD040AW	SDFD048AW	SDFD064AW	SDFD080AW	SDFD096AW		
Casing	Outline Dimension	Length	mm	1545	1545	1800	1757	1757
		Depth	mm	1115	1115	1115	1710	1710
		Height	mm	880	880	880	1315	1315
	Material, External Finishing, Colour	GI, Polyester Powder coating ; Saiver Blue						
	Insulation / Thickness	PU/30mm						
Fan Assy	Qty	2	2	2	1	1		
	Size (Nominal)	mm	350	350	350	550	550	
	Motor Size	W	980	980	1500	5000	5000	
	Motor Size, High Static	W	1500	1500	-	-	-	
Coil	Tube	Material/ Diameter	Cu, 9.52					
	Fin	Material	Al					
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )	1.01 (10.9)	1.01 (10.9)	1.20 (12.9)	1.65 (17.7)	1.65 (17.7)	
Filtration	Type	Washable GI Frame Filter / G3						
	Quanty	PC	3	3	4	4	4	
	Dimension ( L x W x 21)	mm	738x454	738x454	738x454 738x262	793x523	793x523	
Drain Pipe (Nominal)	mm (in)	25 (1")	25 (1")	32 (1 1/4")	32 (1 1/4")	32 (1 1/4")		

### Notes:

- All specifications are subjected to change by the manufacturer without prior notice.
- Nominal cooling capacity are based on the below conditions:
  - Entering air temperature 27 °C (80.6 °F) DB and 19 °C (66.2 °F) WB.
  - Entering water temperature 7 °C (44.6 °F).
  - Leaving water temperature 12 °C (53.6 °F).
- Sound pressure level is measured in an anechoic chamber, with unit operating at laminar airflow.
  - Normally, sound level is higher in actual operating environment due to external sound effect or unit installation condition.

## SDFHD-EC

MODEL		SDFHD013AW	SDFHD016AW	SDFHD020AW	SDFHD024AW	SDFHD032AW
Nominal Cooling Capacity	Btu/h	39,200	46,700	52,900	75,100	91,500
	W	11,500	13,700	15,500	22,000	26,800
Nominal Sensible Cooling Capacity	Btu/h	32,100	37,500	42,600	60,400	73,700
	W	9,400	11,000	12,500	17,700	21,600
Power Supply	V/Ph/Hz	220~240V / 1Phz / 50/60Hz				
Power Supply, High Static	V/Ph/Hz	220~240V / 1Phz / 50/60Hz				
Nominal Air Flow	L/s (CFM)	614 (1300)	689 (1460)	802 (1700)	1133 (2400)	1369 (2900)
External Static Pressure	Pa	150				
External Static Pressure, High Static (H)	Pa	250				
Rated Power Input	W	422	513	521	360x2	511x2
Rated Power Input, High Static	W	456	567	580	399x2	559x2
Rated Running Current	A	1.9	2.3	2.3	1.6x2	2.3x2
Rated Running Current, High Static	A	2.0	2.5	2.6	1.8x2	2.5x2
Max Unit Running Amp	A x Qty	2.6	2.8	2.8	2.6X2	2.8X2
Max Unit Running Amp, High Static	A x Qty	3.9	3.9	3.9	3.9	3.9
Fan speed, set value	(%nmax)	95	100	100	90	100
Fan speed, set value, High Static	(%nmax)	84	90	92	80	89
Unit weight	kg (lb)	95(209)	99(218)	113(249)	142(313)	148(326)
Sound Pressure Level	dBA	44	45	45	43	45

## Components Data

MODEL		SDFHD013AW	SDFHD016AW	SDFHD020AW	SDFHD024AW	SDFHD032AW		
Casing	Outline Dimension	Length	mm	800	800	1020	1400	1400
		Depth	mm	1115	1115	1115	1115	1115
		Height	mm	560	560	560	560	560
	Material, External Finishing, Colour	GI, Polyester Powder coating ; Saiver Blue						
	Insulation / Thickness	PU/30mm						
Fan Assy	Qty	1	1	1	2	2		
	Size (Nominal)	mm	280	310	310	280	310	
	Motor Size	W	500	560	560	500	560	
	Motor Size, High Static	W	780	780	780	780	780	
Coil	Tube	Material/ Diameter	Cu, 9.52					
	Fin	Material	Al					
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )	0.27 (2.9)	0.27 (2.9)	0.37 (3.9)	0.54 (5.8)	0.54 (5.8)	
Filtration	Type	Washable GI Frame Filter / G3						
	Quanty	PC	2	2	2	3	3	
	Dimension ( L x W x 21)	mm	420x420 210x420	420x420 210x420	420x420	420x420	420x420	
Drain Pipe (Nominal)	mm (in)	19 (3/4')	19 (3/4')	19 (3/4')	25 (1")	25 (1")		

### Notes:

- All specifications are subjected to change by the manufacturer without prior notice.
- Nominal cooling capacity are based on the below conditions:
  - Entering air temperature 27 °C (80.6 °F) DB and 19 °C (66.2 °F) WB.
  - Entering water temperature 6.7 °C (44.0 °F).
  - Leaving water temperature 14.44 °C (58.0 °F).
- Sound pressure level is measured in an anechoic chamber, with unit operating at laminar airflow.
  - Normally, sound level is higher in actual operating environment due to external sound effect or unit installation condition.

## SDFHD-EC

MODEL		SDFHD040AW	SDFHD048AW	SDFHD064AW	SDFHD080AW	SDFHD096AW
Nominal Cooling Capacity	Btu/h	120,500	151,600	186,400	231,000	300,000
	W	35,300	44,400	54,600	67,700	87,900
Nominal Sensible Cooling Capacity	Btu/h	96,900	121,500	151,900	196,000	249,000
	W	28,400	35,600	44,500	57,400	73,000
Power Supply	V/Ph/Hz	220~240V / 1Phz / 50/60Hz		380~415V / 3Phz / 50/60Hz		
Power Supply, High Static	V/Ph/Hz	380~415V / 3Phz / 50/60Hz		-	-	-
Nominal Air Flow	L/s (CFM)	1889 (4000)	2266 (4800)	3022 (6400)	3776 (8000)	4533 (9600)
External Static Pressure	Pa	150			250	
External Static Pressure, High Static (H)	Pa	250		-	-	-
Rated Power Input	W	575x2	853x2	1355x2	2868	4364
Rated Power Input, High Static	W	709x2	1016x2	-	-	-
Rated Running Current	A	2.6x2	3.8x2	2.1x2	4.5	6.7
Rated Running Current, High Static	A	1.2x2	1.6x2	-	-	-
Max Unit Running Amp	A x Qty	5x2	5x2	2.4x2	7.7	7.7
Max Unit Running Amp, High Static	A x Qty	2.4	2.4	-	-	-
Fan speed, set value	(%nmax)	84	96	97	70	93
Fan speed, set value, High Static	(%nmax)	79	89	-	-	-
Unit weight	kg (lb)	210(463)	217(478)	228(503)	375(826)	385(848)
Sound Pressure Level	dBA	45	48	53	50	55

## Components Data

MODEL		SDFHD040AW	SDFHD048AW	SDFHD064AW	SDFHD080AW	SDFHD096AW		
Casing	Outline Dimension	Length	mm	1545	1545	1800	1757	1757
		Depth	mm	1115	1115	1115	1720	1720
		Height	mm	880	880	880	1315	1315
	Material, External Finishing, Colour	GI, Polyester Powder coating ; Saiver Blue						
	Insulation / Thickness	PU/30mm						
Fan Assy	Qty			2	2	2	1	1
	Size (Nominal)	mm		350	350	350	560	560
	Motor Size	W		980	980	1500	5000	5000
	Motor Size, High Static	W		1500	1500	-	-	-
Coil	Tube	Material/ Diameter		Cu, 9.52				
	Fin	Material		Al				
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )		1.01 (10.9)	1.01 (10.9)	1.20 (12.9)	1.65 (17.7)	1.65 (17.7)
Filtration	Type	Washable GI Frame Filter / G3						
	Quanty	PC		3	3	4	4	4
	Dimension ( L x W x 21)	mm		738x454	738x454	738x454 738x262	793x23	793x23
Drain Pipe (Nominal)	mm (in)		25 (1")	25 (1")	32 (1 1/4")	32 (1 1/4")	32 (1 1/4")	

### Notes:

- All specifications are subjected to change by the manufacturer without prior notice.
- Nominal cooling capacity are based on the below conditions:
  - Entering air temperature 27 °C (80.6 °F) DB and 19 °C (66.2 °F) WB.
  - Entering water temperature 6.7 °C (44.0 °F).
  - Leaving water temperature 14.44 °C (58.0 °F).
- Sound pressure level is measured in an anechoic chamber, with unit operating at laminar airflow.
  - Normally, sound level is higher in actual operating environment due to external sound effect or unit installation condition.



MODEL		SMA006	SMA010	SMA020	SMA030	
Air Flow	L/s (CFM)	300 (630)	500 (1060)	1000 (2120)	1500 (3180)	
External Static Pressure	Pa	150	150	150	150	
Power Supply	V/Ph/Hz	220~240V / 1Phz / 50/60Hz				
Maximum Unit Current, Power Input	A (W)	2.6 (500)	2.6 (500)	5.2 (1000)	7.8 (1500)	
4 Row	Nominal Cooling Capacity (1)	W	5,880	9,660	19,950	30,010
		Btu/h	20,100	33,000	68,100	102,400
	Nominal Sensible Cooling Capacity (1)	W	4,590	7,620	15,610	23,460
		Btu/h	15,700	26,000	53,300	80,000
	Nominal Cooling Capacity (2)	W	4,480	7,400	16,220	24,100
		Btu/h	15,300	25,200	55,300	83,300
	Nominal Sensible Cooling Capacity (2)	W	3,900	6,490	13,810	20,760
		Btu/h	13,300	22,100	47,100	70,800
6 Row	Nominal Cooling Capacity (1)	W	7,310	11,170	25,690	38,360
		Btu/h	25,490	38,100	87,700	130,900
	Nominal Sensible Cooling Capacity (1)	W	5,450	8,810	18,850	28,200
		Btu/h	18,600	30,100	64,300	96,200
	Nominal Cooling Capacity (2)	W	6,040	9,660	21,760	32,420
		Btu/h	20,600	33,000	74,200	110,600
	Nominal Sensible Cooling Capacity (2)	W	4,860	7,860	17,080	25,200
		Btu/h	16,600	26,800	58,300	87,100
1 Row	Nominal Heating Capacity	W	4,150	6,640	11,590	18,220
		Btu/h	14,200	22,700	39,500	62,200
Connection (BSPT) - Male Connection CW	inch	1"	1"	1"	1"	
Connection (BSPT) - Male Connection HW	inch	1/2"	1/2"	1/2"	3/4"	
Condensate Drain Size (Nominal)	in(mm)	3/4" (19)	3/4" (19)	3/4" (19)	3/4" (19)	

## Components Data

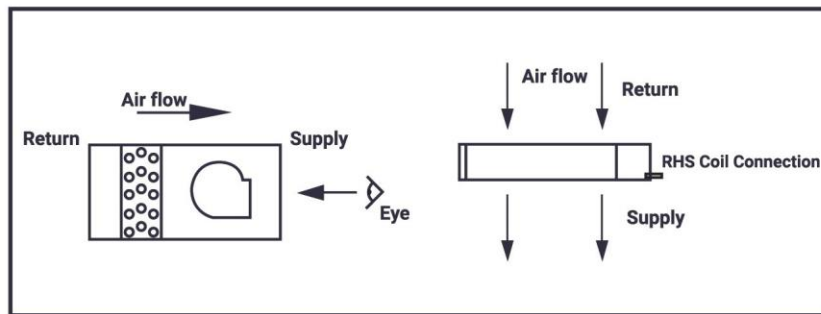
MODEL		SMA006	SMA010	SMA020	SMA030		
Unit Weight		kg (lb)	73 (161)	85 (187)	139 (306)	187 (412)	
Casing	Unit Dimension	Length	mm	760	940	1660	2360
		Depth	mm	1115	1115	1115	1115
		Height	mm	402	402	402	402
	Material	GI Double Skin					
	External Finishing / Colour	Polyester Powder Coating / Saiver Blue					
Insulation / Thickness		PU / 30mm					
Fan	Type		Backward Curved Centrifugal Single Inlet				
	Impellar Material		Fiberglass-Reinforced Plastic				
	Quantity		1	1	2	3	
	Diameter Size		mm				
Fan Motor	Type		Electronically Commutated (EC) DC Direct Drive				
	Quantity		1	1	2	3	
	Index of Protection (IP)/Insulation Grade		IP 54 / F				
	Rated Running Current	2 pipe, 4 row	A	0.8	1.4	2 x 1.4	3 x 1.4
		4 pipe, 4 row + 1 row	A	0.9	1.4	2 x 1.4	3 x 1.4
		2 pipe, 6 row	A	1.0	1.5	2 x 1.6	3 x 1.6
		4 pipe, 6 row + 1 row	A	1.0	1.6	2 x 1.7	3 x 1.7
	Motor Input	2 pipe, 4 row	W	183	306	2 x 303	3 x 302
		4 pipe, 4 row + 1 row	W	192	320	2 x 319	3 x 318
		2 pipe, 6 row	W	216	345	2 x 361	3 x 359
4 pipe, 6 row + 1 row		W	226	359	2 x 376	3 x 374	
Coil	Tube	Material/Diameter	Cu/9.52		Cu/12.7		
	Fin	Material	Aluminium				
	Face Area	m <sup>2</sup> (ft <sup>2</sup> )	0.16	0.21	0.39	0.59	
Filtration	Type		Washable GI Frame Filter / G3				
	Quantity (pc) x Dimension (W x H350 x T21)mm		1x305 + 1x180	1x305 + 1x180	3x465	4x522	

### Notes:

- All specifications are subjected to change by the manufacturer without prior notice.
- Nominal cooling capacity are based on the below conditions:-
  - Entering air temperature 27 °C DB and 19 °C WB.
  - Entering water temperature 7 °C, leaving water temperature 12 °C (1. standard del T).
  - Entering water temperature 6.67 °C, leaving water temperature 14.44 °C (2. High del T).
- Nominal heating capacity is based on the condition:-
  - Entering air temperature 12 °C DB.
  - Entering water temperature 60 °C, leaving water temperature 45 °C.
- Max. coil operating pressure is 250 psig.



## DETERMINING SDF HANDLING SIDE (R/L)



## NOMENCLATURE

SDFHD016AWW-AREC		
S	Brand	S : Saiver
DF	Model Name	DF : Ducted Fan Coil
H	Coil Option	Blank : Standard Delta T H : High Delta T
D	Casing	D : Double Skin
016	Nominal Air Flow	013 : 1,300 cfm
		016 : 1,600 cfm
		020 : 2,000 cfm
		024 : 2,400 cfm
		032 : 3,200 cfm
		038 : 3,800 cfm
		040 : 4,000 cfm
064 : 6,400 cfm		
A	Generation	A : A Series
W	Cooling Medium	W : Water
W	Variation 1	W : With Heating Coil
A	Electrical Supply	A : 1 Ph 220~250 50Hz
		F : 3 Ph 380~415V 50 Hz
R	Piping Position	L : Left
		R : Right
E	Motor Option	E : Standard EC Motor
		EH : High Static EC Motor (Option)
C	Header	C : Copper
		S : Steel

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