

# VRF SET FREE Sigma Standard



## The widest single-module range on the market

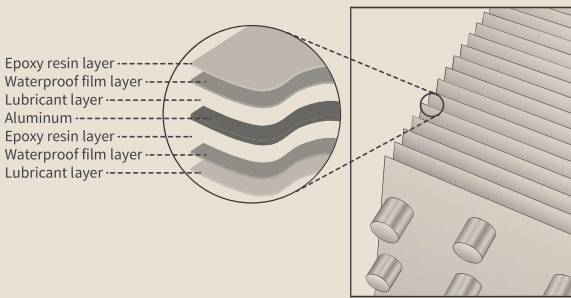
Compact and lightweight the SET FREE SIGMA Standard Hitachi range is exclusively available in single modules from 8 Hp to 24 Hp models.

## Exclusive solution

3-pipe / 2-pipe universal outdoor unit meets the needs of both energy recovery applications and reversible heat pump ones from the same outdoor, allowing for sites to be retrofitted from heat pump to heat recovery or vice versa without having to change the outdoor.

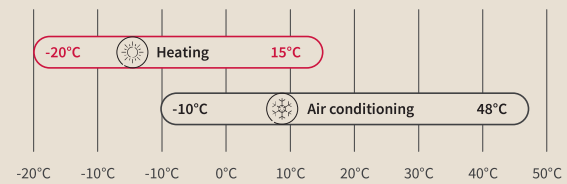
## Advanced anti-corrosion treatment

With its triple coating, SIGMA VRF offers the best protection on the market for use in tough environments.



## Large operating ranges

Outside temperature operating range

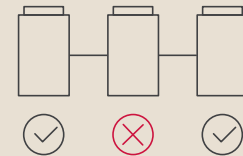


## Variable evaporation temperature

The control logic built into SIGMA VRF units saves more energy and increases user comfort the whole year round. If the thermal requirements of the internal rooms are low then the system will automatically select a high evaporating temperature which will increase seasonal efficiency and reduce cold drafts. If the thermal needs of indoor rooms change, like a meeting room is needed with a high occupancy level, the system will automatically detect this and decrease the evaporating temperature. This will ensure the cooling load of the room can be met quickly and occupants remain comfortable. This smart refrigerant control is complemented by the GENTLE COOL setting, in which users set the minimum air off temperature per fan coil to avoid cold drafts at all times, SIGMA is now the most comfortable VRF on the market.

## Backup function

An outdoor unit can be isolated for maintenance while other units continue to operate.



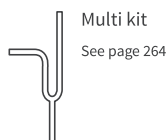
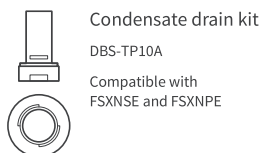
### Outdoor units

 1,725 784 959	 1,725 784 1,219	 1,725 784 1,609
RAS-8FSXNSE RAS-10FSXNSE RAS-12FSXNSE	RAS-14FSXNSE RAS-16FSXNSE RAS-18FSXNSE	RAS-20FSXNSE RAS-22FSXNSE RAS-24FSXNSE

Performance, cooling		Unit	RAS-8FSXNSE	RAS-10FSXNSE	RAS-12FSXNSE	RAS-14FSXNSE	RAS-16FSXNSE	RAS-18FSXNSE	RAS-20FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE	
Nominal Cooling capacity	kW	22.4	28	33.5	40	45	50	56	61.5	67		
Rated power input Cooling	kW	5.40	7.27	8.89	12.12	13.85	14.9	18.6	20.4	22.4		
EER	-	4.15	3.85	3.77	3.30	3.25	3.35	3.01	3.01	2.99		
SEER	-	7.50	7.17	6.97	7.47	7.30	6.96	6.29	6.76	6.20		
Working range in Cooling	-	-10°C / 48°C DB										
Performance, heating												
Nominal Heating capacity	kW	25	31.5	37.5	45	50	56	63	69	77.5		
Rated power input Heating	kW	5.26	6.89	9.15	12.03	15	17	19	22	23		
Power at -7°C <sup>(1)</sup>	kW	19.92	25.1	26.46	33.08	35.57	39.73	44.70	48.95	51.7		
Power at -15°C (or -20°C) <sup>(1)</sup>	kW	15.8	19.8	20.3	25.5	27	30.20	34	37.30	39.5		
COP	-	4.75	4.57	4.10	3.74	3.37	3.29	3.35	3.19	3.4		
SCOP	-	4.17	4.11	4.29	4.48	4.42	4.18	4.14	4.43	4.43		
Working range in Heating	-	-20°C / 15°C WB										
Technical features												
Airflow	m³/h	9900	10200	11400	14340	15360	15360	19740	19740	20880		
Adjustable static pressure	Pa	30 / 60 / 80										
Number of fans	-	1					2					
Sound power	dB(A)	80	82	82	85	85	86	86	84	86		
Sound pressure <sup>(2)</sup> (Night mode)	dB(A)	58 (53)	60 (53)	59 (54)	63 (57)	63 (57)	65 (57)	65 (59)	64 (59)	66 (59)		
Dimensions (H x L x D)	mm	1725 x 959 x 784				1725 x 1219 x 784			1725 x 1609 x 784			
Net weight	kg	210	233	287	329	330	382	398	399			
Type of compressor	-	DC Scroll Inverter										
Compressor number	-	1					2					
Max. number of indoor units that can be connected	-	26	32	39	45	52	58	64				
Connection ratio (min - max) <sup>(3)</sup>	-	50 - 130%										
Refrigeration characteristics												
Refrigerant	-	R410A										
Refrigerant charge	kg	5	7.20	8.90	9.90	10.70	11.30	11.30	11.6			
Diameter of pipes	Liquid	inches	3/8	1/2	1/2	5/8						
	Low pressure gas	inches	3/4	7/8	1	1 - 1/8						
	High pressure gas	inches	5/8	3/4	7/8	1						
Electrical features												
Power supply	-	3N - 400V 50Hz										
Max. current	A	15.50	21.50	24	29.50	33	37.50	44.50	45	53		
Recommended fuse size	A	20.0	25.0	32.0	40.0	50	63					
Indoor/outdoor connection (shielded) <sup>(4)</sup>	mm	2 x 0.75										

<sup>(1)</sup> When set to 20°C with a connection rate of 100%. <sup>(2)</sup> Anechoic chamber readings taken 1 m from the front of the appliance. <sup>(3)</sup> Depending on the application; refer to the technical documentation. <sup>(4)</sup> Shielding must be renewed every 300 m.

## controls and compatible accessories (see the tab VRF TWIN controls)



## VRF SET FREE Sigma Standard

		RAS-26FSXNSE	RAS-28FSXNSE	RAS-30FSXNSE	RAS-32FSXNSE	RAS-34FSXNSE	RAS-36FSXNSE	RAS-38FSXNSE	RAS-40FSXNSE
Unit 1 name		RAS-12FSXNSE	RAS-12FSXNSE	RAS-12FSXNSE	RAS-14FSXNSE	RAS-16FSXNSE	RAS-18FSXNSE	RAS-14FSXNSE	RAS-18FSXNSE
Unit 2 name		RAS-14FSXNSE	RAS-16FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-24FSXNSE	RAS-22FSXNSE

Performance, cooling	Unit								
Nominal Cooling capacity	kW	73	77.5	85	90	95	100	106	112
Rated power input Cooling	kW	23.38	22.44	24.24	29.58	28.77	29.85	36.71	35.52
EER	-	3.12	3.45	3.51	3.04	3.30	3.35	2.89	3.15
SEER	-	7.30	7.10	7.11	7.36	7.18	7.20	6.63	6.93
Working range in Cooling	-	-10°C / 48°C DB							

## Performance, heating

Nominal Heating capacity	kW	82.5	90	95	100	106	112	118	125
Rated power input Heating	kW	21.18	24.67	26.59	28.77	31.86	34.04	33.55	38.65
Power at -7°C <sup>(1)</sup>	kW	59.54	63.70	67.25	72.09	76.41	79.46	81.66	88.68
Power at -15°C (or -20°C) <sup>(1)</sup>	kW	45.8	48.65	51.31	55.15	58.46	60.40	62.61	67.50
COP	-	3.90	3.65	3.57	3.48	3.33	3.29	3.52	3.23
SCOP	-	4.39	4.35	4.22	4.30	4.28	4.18	4.45	4.30
Working range in Heating	-	-20°C / 15°C WB							

## Technical features

Airflow	m <sup>3</sup> /h	11140 + 14340	11140 + 15360		14340 + 15360	15360 + 15360		14340 + 20280	15360 + 19740
Adjustable static pressure	Pa	30 / 60 / 80							
Number of fans	-	3			4				
Sound power	dB(A)	87			89				88
Sound pressure <sup>(2)</sup> (Night mode)	dB(A)	64.50 (58)	64.50 (58.50)	66 (58)	67 (60)	67 (62)	68 (60)	68 (61)	67.50 (61.50)
Dimensions (H x L x D)	mm	1725 x 2198 x 784			1725 x 2458 x 784			1725 x 2848 x 784	
Net weight	kg	233 + 287	233 + 329	233 + 330	287 + 330	329 + 330	330 + 330	287 + 399	330 + 398
Type of compressor	-	DC Scroll Inverter							
Compressor number	-	2	3			4			
Max. number of indoor units that can be connected	-	64							
Connection ratio (min - max) <sup>(3)</sup>	-	50 - 130%							

## Refrigeration characteristics

Refrigerant	-	R410A								
Refrigerant charge	kg	16.1	17.1	17.9	19.6	20.6	21.4	20.5	22	
Diameter of pipes	Liquid	inches	3/4							
	Low pressure gas	inches	1 - 1/4				1 - 1/2			
	High pressure gas	inches	1 - 1/8					1 - 1/4		

## Electrical features

Power supply	-	3N - 400V 50Hz							
Max. current	A	53	56.5	61	66.5	70.5	75	82.5	82
Recommended fuse size	A	63			80			100	
Indoor/outdoor connection (shielded) <sup>(4)</sup>	mm	2 x 0.75							

<sup>(1)</sup> When set to 20°C with a connection rate of 100%. <sup>(2)</sup> Anechoic chamber readings taken 1 m from the front of the appliance.

<sup>(3)</sup> Depending on the application; refer to the technical documentation. <sup>(4)</sup> Shielding must be renewed every 300 m.

	RAS-42FSXNSE	RAS-44FSXNSE	RAS-46FSXNSE	RAS-48FSXNSE	RAS-50FSXNSE	RAS-52FSXNSE	RAS-54FSXNSE
<b>Unit 1 name</b>	RAS-18FSXNSE	RAS-22FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE	RAS-14FSXNSE	RAS-16FSXNSE	RAS-18FSXNSE
<b>Unit 2 name</b>	RAS-24FSXNSE	RAS-22FSXNSE	RAS-24FSXNSE	RAS-24FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE
<b>Unit 3 name</b>	-	-	-	-	RAS-18FSXNSE	RAS-18FSXNSE	RAS-18FSXNSE

Performance, cooling	Unit							
Nominal Cooling capacity	kW	118	122	128	136	140	145	150
Rated power input Cooling	kW	37.65	40.53	42.67	45.48	44.5	43.7	44.78
EER	-	3.13	3.01	3	2.99	3.15	3.32	3.35
SEER	-	6.57	6.75	6.45	6.19	7.30	7.18	7.20
Working range in Cooling	-	-10°C / 48°C DB						

Performance, heating	Unit							
Nominal Heating capacity	kW	132	140	145	150	155	160	165
Rated power input Heating	kW	39.37	43.89	43.97	44.12	45.49	48.28	50.15
Power at -7°C <sup>(1)</sup>	kW	90.38	99.32	99.62	100.06	111.10	113.51	117.06
Power at -15°C (or -20°C) <sup>(1)</sup>	kW	68.9	75.58	76.01	76.45	84.81	86.32	88.98
COP	-	3.35	3.19	3.30	3.40	3.41	3.31	3.29
SCOP	-	4.31	4.42	4.43	4.43	4.26	4.25	4.18
Working range in Heating	-	-20°C / 15°C WB						

Technical features								
Airflow	m <sup>3</sup> /h	15360 + 20880	19740 + 19740	19740 + 20880	20880 + 20880	14340 + 15360 + 15360		
Adjustable static pressure	Pa	30 / 60 / 80						
Number of fans	-	4				6		
Sound power	dB(A)	89	87	88	89	90	90	91
Sound pressure <sup>(2)</sup> (Night mode)	dB(A)	68.50 (61)	67 (62)	68 (62)	69 (62)	69 (62)	69 (62)	70 (62)
Dimensions (H x L x D)	mm	1725 x 2848 x 784	1725 x 3238 x 784	1725 x 3238 x 784	1725 x 3238 x 784	1725 x 3697 x 784	1725 x 3697 x 784	1725 x 3697 x 784
Net weight	kg	330 + 399	398 + 398	398 + 399	399 + 399	287 + 330 + 330	329 + 330 + 330	330 + 330 + 330
Type of compressor	-	DC Scroll Inverter						
Compressor number	-	4				5	6	
Max. number of indoor units that can be connected	-	64						
Connection ratio (min - max) <sup>(3)</sup>	-	50 - 130%						

Refrigeration characteristics								
Refrigerant	-	R410A						
Refrigerant charge	kg	22.30	22.60	22.90	23.20	30.30	31.30	32.10
Diameter of pipes	Liquid	inches			3/4			
	Low pressure gas	inches			1 - 1/2			
	High pressure gas	inches			1 - 1/4			

Electrical features								
Power supply	-	3N - 400V 50Hz						
Max. current	A	90.50	89.50	98	106	104	108	112
Recommended fuse size	A	100			125			
Indoor/outdoor connection (shielded) <sup>(4)</sup>	mm	2 x 0.75						

<sup>(1)</sup> When set to 20°C with a connection rate of 100%. <sup>(2)</sup> Anechoic chamber readings taken 1 m from the front of the appliance. <sup>(3)</sup> Depending on the application; refer to the technical documentation. <sup>(4)</sup> Shielding must be renewed every 300 m. To find out the features of **56 Hp** to **96 Hp** outdoor units, please refer to the technical documentation.

# Pipe kits

## VRF SET FREE Sigma Standard

Composition of multi-module outdoor units

Outdoor unit	2-pipe combination	Multikit	Outdoor unit	3-pipe combinations.	Multikit
RAS-8FSXNSE	Single module	-	RAS-8FSXNSE-3P	Single module	-
RAS-10FSXNSE	Single module	-	RAS-10FSXNSE-3P	Single module	-
RAS-12FSXNSE	Single module	-	RAS-12FSXNSE-3P	Single module	-
RAS-14FSXNSE	Single module	-	RAS-14FSXNSE-3P	Single module	-
RAS-16FSXNSE	Single module	-	RAS-16FSXNSE-3P	Single module	-
RAS-18FSXNSE	Single module	-	RAS-18FSXNSE-3P	Single module	-
RAS-20FSXNSE	Single module	-	RAS-20FSXNSE-3P	Single module	-
RAS-22FSXNSE	Single module	-	RAS-22FSXNSE-3P	Single module	-
RAS-24FSXNSE	Single module	-	RAS-24FSXNSE-3P	Single module	-
RAS-26FSXNSE	RAS-14FSXNSE - RAS-12FSXNSE	MC-21AN1	RAS-26FSXNSE-3P	RAS-14FSXNSE - RAS-12FSXNSE	MC-21XN1
RAS-28FSXNSE	RAS-16FSXNSE - RAS-12FSXNSE	MC-21AN1	RAS-28FSXNSE-3P	RAS-16FSXNSE - RAS-12FSXNSE	MC-21XN1
RAS-30FSXNSE	RAS-18FSXNSE - RAS-12FSXNSE	MC-21AN1	RAS-30FSXNSE-3P	RAS-18FSXNSE - RAS-12FSXNSE	MC-21XN1
RAS-32FSXNSE	RAS-18FSXNSE - RAS-14FSXNSE	MC-21AN1	RAS-32FSXNSE-3P	RAS-18FSXNSE - RAS-14FSXNSE	MC-21XN1
RAS-34FSXNSE	RAS-18FSXNSE - RAS-16FSXNSE	MC-21AN1	RAS-34FSXNSE-3P	RAS-18FSXNSE - RAS-16FSXNSE	MC-21XN1
RAS-36FSXNSE	RAS-18FSXNSE - RAS-18FSXNSE	MC-21AN1	RAS-36FSXNSE-3P	RAS-18FSXNSE - RAS-18FSXNSE	MC-21XN1
RAS-38FSXNSE	RAS-24FSXNSE - RAS-14FSXNSE	MC-21AN1	RAS-38FSXNSE-3P	RAS-24FSXNSE - RAS-14FSXNSE	MC-21XN1
RAS-40FSXNSE	RAS-22FSXNSE - RAS-18FSXNSE	MC-21AN1	RAS-40FSXNSE-3P	RAS-22FSXNSE - RAS-18FSXNSE	MC-21XN1
RAS-42FSXNSE	RAS-24FSXNSE - RAS-18FSXNSE	MC-21AN1	RAS-42FSXNSE-3P	RAS-24FSXNSE - RAS-18FSXNSE	MC-21XN1
RAS-44FSXNSE	RAS-22FSXNSE - RAS-22FSXNSE	MC-21AN1	RAS-44FSXNSE-3P	RAS-22FSXNSE - RAS-22FSXNSE	MC-21XN1
RAS-46FSXNSE	RAS-24FSXNSE - RAS-22FSXNSE	MC-21AN1	RAS-46FSXNSE-3P	RAS-24FSXNSE - RAS-22FSXNSE	MC-21XN1
RAS-48FSXNSE	RAS-24FSXNSE - RAS-24FSXNSE	MC-21AN1	RAS-48FSXNSE-3P	RAS-24FSXNSE - RAS-24FSXNSE	MC-21XN1
RAS-50FSXNSE	RAS-18FSXNSE - RAS-18FSXNSE - RAS-14FSXNSE	MC-30AN1	RAS-50FSXNSE-3P	RAS-18FSXNSE - RAS-18FSXNSE - RAS-14FSXNSE	MC-30XN1
RAS-52FSXNSE	RAS-18FSXNSE - RAS-18FSXNSE - RAS-16FSXNSE	MC-30AN1	RAS-52FSXNSE-3P	RAS-18FSXNSE - RAS-18FSXNSE - RAS-16FSXNSE	MC-30XN1
RAS-54FSXNSE	RAS-18FSXNSE - RAS-18FSXNSE - RAS-18FSXNSE	MC-30AN1	RAS-54FSXNSE-3P	RAS-18FSXNSE - RAS-18FSXNSE - RAS-18FSXNSE	MC-30XN1

### Part numbers of pipe kit accessories

Multikit



2 pipes

3 pipes

E-102SN4	E-52XN3
E-162SN4	E-102XN3
E-242SN3	E-162XN3
E-302SN3	E-202XN3
MW-NP2682A3	E-242XN3
	E-322XN3

Header

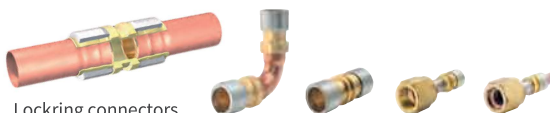


2 pipes

3 pipes

MH-84AN1	MH-108XN
MH-108AN	

### Compatible accessories



Lockring connectors





# VRF SET FREE Sigma High-Efficiency



## Highly energy-efficient

Thanks to its seasonal energy efficiency performance (SEER 8.33 and SCOP 5.06), the High-Efficiency Sigma range will guarantee running cost savings over standard ranges.

## The biggest range

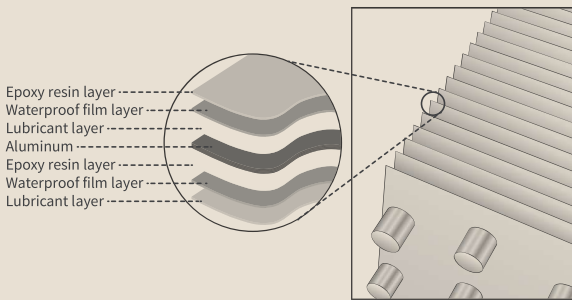
Exclusive to Hitachi with single modules from 5 Hp and a possible combination of up to 54 Hp for 3-pipe and 72 Hp for 2-pipe versions.

## Exclusive solution

3-pipe / 2-pipe universal outdoor unit meets the needs of both energy recovery applications and reversible heat pump ones from the same outdoor, allowing for sites to be retrofitted from heat pump to heat recovery or vice versa without having to change the outdoor.

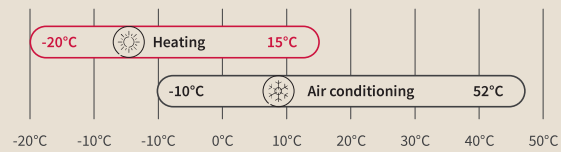
## Advanced anti-corrosion treatment

With its triple coating, SIGMA VRF offers the best protection on the market for coastal locations.



## Large operating ranges

Outside temperature operating range

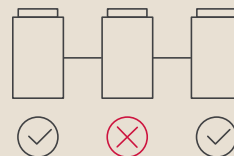


## Variable evaporation temperature

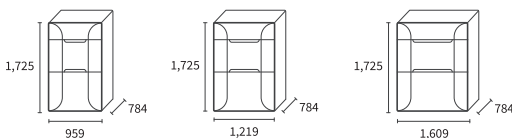
The control logic built into SIGMA VRF units saves more energy and increases user comfort the whole year round. If the thermal requirements of the internal rooms are low then the system will automatically select a high evaporating temperature which will increase seasonal efficiency and reduce cold drafts. If the thermal needs of indoor rooms change, like a meeting room is needed with a high occupancy level, the system will automatically detect this and decrease the evaporating temperature. This will ensure the cooling load of the room can be met quickly and occupants remain comfortable. This smart refrigerant control is complemented by the GENTLE COOL setting, in which users set the minimum air off temperature per fan coil to avoid cold drafts at all times, SIGMA is now the most comfortable VRF on the market.

## Backup function

Isolates an outdoor unit for maintenance while other units continue to operate.



### Outdoor units



RAS - 5FSXNPE  
RAS - 6FSXNPE

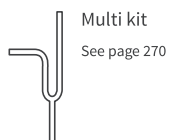
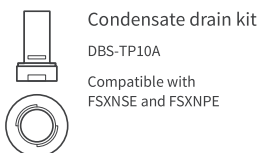
RAS - 8FSXNPE  
RAS - 10FSXNPE  
RAS - 12FSXNPE  
RAS - 14FSXNPE

RAS - 16FSXNPE  
RAS - 18FSXNPE

Performance, cooling	Unit	RAS-5FSXNPE	RAS-6FSXNPE	RAS-8FSXNPE	RAS-10FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE	
Nominal Cooling capacity	kW	14	16	22.4	28	33.5	40	45	50	
Rated power input Cooling	kW	2.90	3.37	5.05	6.18	8.44	11.53	11.51	12.79	
EER	-	4.82	4.75	4.44	4.53	3.97	3.47	3.91	3.91	
SEER	-	8.33	8.00	7.97	8.06	7.91	7.69	7.76	7.60	
Working range in Cooling	-	-10°C / 52°C DB								
<b>Performance, heating</b>										
Nominal Heating capacity	kW	16.00	18.00	25.00	31.50	37.5	45	50	56	
Rated power input Heating	kW	2.80	3.52	5.08	6.65	8.01	10.84	12.92	14.97	
Power at -7°C <sup>(1)</sup>	kW	13.38	15.04	20.92	25.10	27.78	34.93	40.06	41.46	
Power at -15°C (or -20°C) <sup>(1)</sup>	kW	10.70	12.10	16.80	19.80	21.40	30.20	31.50	31.90	
COP	-	5.72	5.12	4.92	4.74	4.68	4.15	3.87	3.74	
SCOP	-	5.06	4.58	4.55	4.73	4.81	4.63	4.84	4.81	
Working range in Heating	-	-20°C / 15°C WB								
<b>Technical features</b>										
Airflow	m³/h	9000	10200	11100	13140		14580	19560	21720	
Adjustable static pressure	Pa	30 / 60 / 80								
Number of fans	-	1			2					
Sound power	dB(A)	75	78	77	82	83	85	85	86	
Sound pressure <sup>(2)</sup> (Night mode)	dB(A)	54 (49)	56 (51)	55 (50)	59 (54)	60 (55)	62 (57)	65 (60)	65 (60)	
Dimensions (H x L x D)	mm	1725 x 959 x 784			1725 x 1219 x 784			1725 x 1609 x 784		
Net weight	kg	210		274	278	282	292	369	384	
Type of compressor	-	DC Scroll Inverter								
Compressor number	-	1						2		
Max. number of indoor units that can be connected	-	16	19	26	32	39	45	52	58	
Connection ratio (min - max) <sup>(3)</sup>	-	50 - 150%								
<b>Refrigeration characteristics</b>										
Refrigerant	-	R410A								
Refrigerant charge	kg	4.7	5	8.5	8.5	9.3	9.3	10	10.6	
Diameter of pipes	Liquid	inches	3/8			1/2			5/8	
	Low pressure gas	inches	5/8	3/4		7/8	1-1/8			
	High pressure gas	inches	1/2	5/8		3/4	7/8			
<b>Electrical features</b>										
Power supply	-	3N - 400V 50Hz								
Max. current	A	11.5	12.0	15.0	19.0	23.0	28.0	33.0	34.5	
Recommended fuse size	A	16			20	25	32	40		
Indoor/outdoor connection (shielded) <sup>(4)</sup>	mm	2 x 0.75								

<sup>(1)</sup> When set to 20°C with a connection rate of 100%. <sup>(2)</sup> Anechoic chamber readings taken 1 m from the front of the appliance. <sup>(3)</sup> Depending on the application; refer to the technical documentation. <sup>(4)</sup> Shielding must be renewed every 300 m.

## Controls and compatible accessories (see the tab VRF TWIN controls)





# VRF SET FREE Sigma High-Performance

RAS-20FSXNPE RAS-22FSXNPE RAS-24FSXNPE RAS-26FSXNPE RAS-28FSXNPE RAS-30FSXNPE RAS-32FSXNPE RAS-34FSXNPE RAS-36FSXNPE

Unit 1 name	RAS-10FSXNPE	RAS-10FSXNPE	RAS-12FSXNPE	RAS-10FSXNPE	RAS-12FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE
Unit 2 name	RAS-10FSXNPE	RAS-12FSXNPE	RAS-12FSXNPE	RAS-16FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE

Performance, cooling	Unit									
Nominal Cooling capacity	kW	56	61.5	67	73	77.5	85	90	95	100
Rated power input Cooling	kW	12.36	14.62	16.88	17.69	19.69	21.61	24.32	24.30	25.58
EER	-	4.53	4.21	3.97	4.13	3.94	3.93	3.70	3.91	3.91
SEER	-	8.06	7.97	7.91	7.92	7.71	7.49	7.62	7.83	7.60
Working range in Cooling	-	-10°C / 52°C B								

### Performance, heating

Nominal Heating capacity	kW	63	69	77.5	82.5	90	95	100	106	112
Rated power input Heating	kW	13.29	14.66	16.56	19.81	21.53	23.35	25.56	27.89	29.95
Power at -7°C <sup>(1)</sup>	kW	50.2	52.88	57.41	65.96	69.76	70.35	75.64	81.52	82.92
Power at -15°C (or -20°C) <sup>(1)</sup>	kW	39.6	41.2	44.23	51.93	54.39	54.16	61.49	63.40	63.80
COP	-	4.74	4.71	4.68	4.17	4.18	4.07	3.91	3.80	3.74
SCOP	-	4.76	4.76	4.81	4.78	4.82	4.71	4.63	4.72	4.64
Working range in Heating	-	-20°C / 15°C WB								

### Technical features

Airflow	m <sup>3</sup> /h	13140 + 13140			13140 + 19560		13141 + 21720	14580 + 21720	19560 + 21720	21720 + 21720	
Adjustable static pressure	Pa	30 / 60 / 80									
Number of fans	-	4									
Sound power	dB(A)	85	86	86	87	88	89				
Sound pressure <sup>(2)</sup> (Night mode)	dB(A)	62 (57)	62.55 (57.5)	63 (58)	66 (61)		66 (61)	67 (62)	68 (63)		
Dimensions (H x L x D)	mm	1725 x 2458 x 784				1725 x 2848 x 784			1725 x 3238 x 784		
Net weight	kg	278 + 278	278 + 282	282 + 282	278 + 369	282 + 369	282 + 384	297 + 384	369 + 384	384 + 384	
Type of compressor	-	DC Scroll Inverter									
Compressor number	-	2			3			4			
Max. number of indoor units that can be connected	-	64									
Connection ratio (min - max) <sup>(3)</sup>	-	50 - 150%									

### Refrigeration characteristics

Refrigerant	-	R410A								
Refrigerant charge	kg	17	17.8	18.6	18.5	19.3	19.9	19.9	20.6	21.2
Diameter of pipes	Liquid	inches	5/8			3/4				
	Low pressure gas	inches	1-1/8			1-1/4				1-1/2
	High pressure gas	inches	7/8	1			1-1/8			

### Electrical features

Power supply	-	3N - 400V 50Hz								
Max. current	A	38.0	42.0	46.0	51.5	55.5	57.0	62.0	67.0	68.5
Recommended fuse size	A	40	50		63			80		
Indoor/outdoor connection (shielded) <sup>(4)</sup>	mm	2 x 0.75								

<sup>(1)</sup> When set to 20°C with a connection rate of 100%. <sup>(2)</sup> Anechoic chamber readings taken 1 m from the front of the appliance.

<sup>(3)</sup> Depending on the application; refer to the technical documentation. <sup>(4)</sup> Shielding must be renewed every 300 m.

	RAS-38FSXNPE	RAS-40FSXNPE	RAS-42FSXNPE	RAS-44FSXNPE	RAS-46FSXNPE	RAS-48FSXNPE	RAS-50FSXNPE	RAS-52FSXNPE	RAS-54FSXNPE
Unit 1 name	RAS-12FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE
Unit 2 name	RAS-12FSXNPE	RAS-14FSXNPE	RAS-14FSXNPE	RAS-14FSXNPE	RAS-14FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE
Unit 3 name	RAS-14FSXNPE	RAS-14FSXNPE	RAS-14FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE	RAS-18FSXNPE

Performance, cooling	Unit									
Nominal Cooling capacity	kW	106	112	118	122	128	136	140	145	150
Rated power input Cooling	kW	28.12	31.11	34.01	32.36	35.29	34.65	37.10	37.08	38.36
EER	-	3.77	3.60	3.47	3.77	3.63	3.92	3.77	3.91	
SEER	-	7.67			7.64		7.61		7.75	7.60
Working range in Cooling	-	-10°C / 52°C DB								

Performance, heating	Unit									
Nominal Heating capacity	kW	118	125	132	140	145	150	155	160	165
Rated power input Heating	kW	26.40	29.14	31.80	34.2	36.41	38.09	40.27	42.34	44.12
Power at -7°C <sup>(1)</sup>	kW	88.98	95.73	102.47	105.30	110.57	114.09	116.36	121.47	122.17
Power at -15°C (or -20°C) <sup>(1)</sup>	kW	71.78	80.19	88.59	84.41	91.67	85.48	92.80	94.12	93.99
COP	-	4.47	4.29	4.15	4.09	3.98	3.94	3.85	3.78	3.74
SCOP	-	4.17	4.68	4.63	4.68	4.63	4.68	4.64	4.70	4.64
Working range in Heating	-	-20°C / 15°C WB								

Technical features											
Airflow	m <sup>3</sup> /h	13140 + 13140 + 14580	13140 + 14580 + 14580	14580 + 14580 + 14580	13140 + 14580 + 21720	14580 + 14580 + 21720	13140 + 21720 + 21720	14580 + 21720 + 21720	19560 + 21720 + 21720	21720 + 21720 + 21720	
Adjustable static pressure	Pa	30 / 60 / 80									
Number of fans	-	6									
Sound power	dB(A)	89			90					91	
Sound pressure <sup>(2)</sup> (Night mode)	dB(A)	65.5 (60.5)	66 (61)	67 (62)	67.5 (62.5)	68 (63)	68.5 (63.5)	69 (64)	70 (65)	70 (65)	
Dimensions (H x L x D)	mm	1725 x 3697 x 784			1725 x 4087 x 784		1725 x 4477 x 784		1725 x 4867 x 784		
Net weight	kg	282 + 282 + 297	282 + 297 + 297	297 + 297 + 297	282 + 297 + 384	297 + 297 + 384	282 + 384 + 384	297 + 384 + 384	369 + 384 + 384	384 + 384 + 384	
Type of compressor	-	DC Scroll Inverter									
Compressor number	-	3			4		5		6		
Max. number of indoor units that can be connected	-	64									
Connection ratio (min - max) <sup>(3)</sup>	-	50 - 150%									

Refrigeration characteristics										
Refrigerant	-	R410A								
Refrigerant charge	kg	27.9			29.2	29.2	30.5		31.2	31.8
Diameter of pipes	Liquid	inches				3/4				
	Low pressure gas	inches				1 - 1/2				
	High pressure gas	inches				1 - 1/4				

Electrical features											
Power supply	-	3N - 400V 50Hz									
Max. current	A	73.5	78.5	83.0	85.0	89.5	91.0	96.0	101.0	103.0	
Recommended fuse size	A	80			100				125		
Indoor/outdoor connection (shielded) <sup>(4)</sup>	mm	2 x 0.75									

<sup>(1)</sup> When set to 20°C with a connection rate of 100%. <sup>(2)</sup> Anechoic chamber readings taken 1 m from the front of the appliance. <sup>(3)</sup> Depending on the application; refer to the technical documentation. <sup>(4)</sup> Shielding must be renewed every 300 m. To find out the features of 56 Hp to 72 Hp outdoor units, please refer to the technical documentation.