

VRF SET FREE Sigma High-Performance



Highly energy-efficient

Thanks to its seasonal energy efficiency performance (SEER 8.33 and SCOP 5.06), the High-Performance Sigma range exceeds the minimum requirements of ErP 2021.

The biggest range

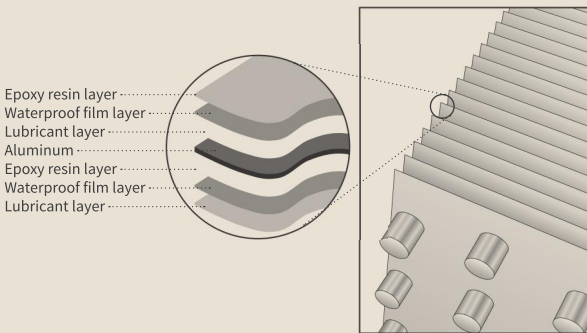
Exclusive to Hitachi with single modules from 5 Hp and a possible combination of up to 54 Hp for 3-pipe and 72 Hp for 2-pipe versions.

Exclusive solution

3T and 2T single unit to meet the needs of both energy recovery applications and reversible heat pump uses.

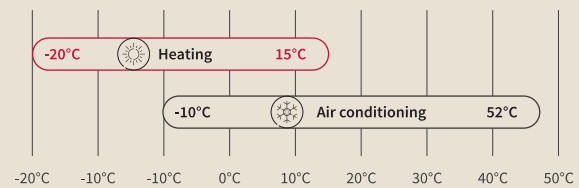
Advanced anti-corrosion treatment

Thanks to its triple treatment, SIGMA offers the best protection on the market for coastal locations.



Large operating ranges

Outside temperature operating range

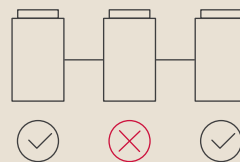


Variable evaporation temperature

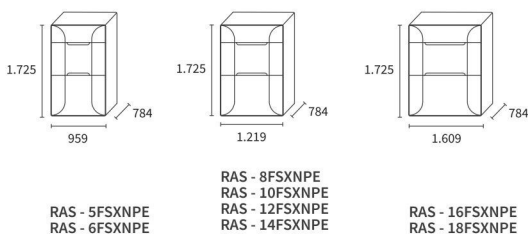
The control logic built into SIGMA units saves more energy and increases user comfort during the summer. Set a high evaporative target temperature to suit the building's heating needs and the SIGMA becomes ever more economical to use. Choose a low target temperature to suit heat requirements and the SIGMA provides comfort even faster in cooling mode. Complemented by the GENTLE COOL setting, which limits the minimum fan blower temperature to avoid cold drafts, the SIGMA is the most comfortable VRF on the market.

Backup function

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



Outdoor units



Performance, cooling	Unit	RAS-5FSXNPE	RAS-6FSXNPE	RAS-8FSXNPE	RAS-10FSXNPE	RAS-12FSXNPE	RAS-14FSXNPE	RAS-16FSXNPE	RAS-18FSXNPE
Rated power Cooling	kW	14	16	22.4	28	33.5	40	45	50
Rated power input Cooling	kW	2.90	3.37	5.05	6.20	8.4	12	12	13
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
Operating ranges Cooling	-	-10°C / 52°C DB							

Performance, heating									
Rated power Heating	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 ⁽¹⁾	kW	13.38	15.04	20.92	25.10	27.78	34.93	40.06	41.46
Power at -15°C (or -20°C) ⁽¹⁾	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
Operating ranges heating	-	-20°C / 15°C WB							


Technical features										
Airflow	m ³ /h	9000	10200	11100	13140		14580	19560	21720	
Adjustable static pressure	Pa	30 / 60 / 80								
Number of fans	-	1					2			
Sound pressure	dB(A)	75	78	77	82	83	85	85	86	
Sound pressure ⁽²⁾ (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 rate ⁽³⁾	-	50 - 150%								

Cooling properties										
Coolant	-	R410A								
Coolant load	kg	4.7	5	8.5	8.5	9.3	9.3	10	10.6	
Dimension of cooler connections	Liquid	inches	3/8				1/2			5/8
	Low pressure gas	inches	5/8	3/4		7/8	1		1-1/8	
	High pressure gas	inches	1/2	5/8		3/4	7/8			


Electrical features									
Power supply	-	3N - 400V 50Hz							
Max. current	A	11.5	12.0	15.0	19.0	23.0	28.0	33.0	34.5
Indoor/outdoor connection (protected) ⁽⁴⁾	mm	2 x 0.75							

⁽¹⁾ When set to 20°C with a connection rate of 100%. ⁽²⁾ Anchoil chamber readings taken 1.5 m from the front of the appliance. ⁽³⁾ Depending on the application; refer to the technical documentation. ⁽⁴⁾ Volume to regenerate every 300 m.

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



Condensation drainage kit
DBS-TP10A
Compatible with
FSXNSE and FSXNPE



Cooler connection kit
See page 306

		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									
Rated power Cooling	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	12.36	14.62	16.88	17.69	19.69	
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	
Operating ranges Cooling	-	-10°C / 52°C B									
Performance, heating											
Rated power Heating	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	13.29	14.66	16.56	19.81	21.53	
Power at -7°C ⁽¹⁾	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) ⁽¹⁾	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	
Operating ranges heating	-	-20°C / 15°C WB									
Technical features											
Airflow	m ³ /h	13140 + 13140			13140 + 19560		13141 + 21720	14580 + 21720	21720 + 21720		
Adjustable static pressure	Pa	30 / 60 / 80									
Number of fans	-	4									
Sound pressure	dB(A)	85	86	86	87		88	89			
Sound pressure ⁽²⁾ (Night mode)	dB(A)	62 (57)	62.5 5 (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 3238 x 784
Net weight	kg	278 + 278	278 + 282	282 + 282	278 + 369	282 + 369	282 + 384	292 + 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 rate ⁽³⁾	-	50 - 150%									
Cooling properties											
Coolant	-	R410A									
Coolant load	kg	17	17.8	18.6	18.5	19.3	19.9	19.9	20.6	21.2	
Dimension of cooler connections	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	
Indoor/outdoor connection (protected) ⁽⁴⁾	mm	2 x 0.75									

⁽¹⁾ When set to 20°C with a connection rate of 100%. ⁽²⁾ Anchoic chamber readings taken 1.5 m from the front of the appliance.

⁽³⁾ Depending on the application; refer to the technical documentation. ⁽⁴⁾ Volume to regenerate 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									
Rated power Cooling	kW	106	112	118	122	128	136	140	145	150
Rated power input Cooling	kW	21.61	24.32	24.30	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
Operating ranges Cooling	-	-10°C / 52°C DB								

Performance, heating	Unit									
Rated power Heating	kW	118	125	132	140	145	150	155	160	165
Rated power input Heating	kW	23.35	25.56	27.89	34.2	36.41	38.09	40.27	42.34	44.12
Power at -7°C ⁽¹⁾	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) ⁽¹⁾	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
Operating ranges heating	-	-20°C / 15°C WB								

Technical features	Unit									
Airflow	m ³ /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 pressure	dB(A)	89			90				91	
Sound pressure ⁽²⁾ (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 + 292	282 + 292 + 292	292 + 292 + 292	282 + 292 + 384	292 + 292 + 384	282 + 384 + 384	311 + 311 + 408	350 + 365 + 365	365 + 365 + 365
Type of compressor	-	DC Scroll Inverter								
Compressor number	-	3			4		5		6	
Max. number of indoor units that can be connected	-	64								
Connection rate ⁽³⁾	-	50 - 150%								

Cooling properties	Unit										
Coolant	-	R410A									
Coolant load	kg	27.9			29.2		30.5		31.2		31.8
Dimension of cooler connections	Liquid	inches 3/4									
	Low pressure gas	inches 1 - 1/2									
	High pressure gas	inches 1 - 1/4									

Electrical features	Unit									
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
Indoor/outdoor connection (protected) ⁽⁴⁾	mm	2 x 0.75								

⁽¹⁾ When set to 20°C with a connection rate of 100%. ⁽²⁾ Anchoic chamber readings taken 1.5 m from the front of the appliance.
⁽³⁾ Depending on the application; refer to the technical documentation. ⁽⁴⁾ Volume to regenerate every 300 m.
 To find out the features of 56 Hp to 96 Hp outdoor units, please refer to the technical documentation.

Cooling connections

VRF SET FREE SIGMA High-Performance

Composition of multi-module outdoor units

Outdoor unit	2-pipe combination	Multikit	Outdoor unit	3-pipe combinations.	Multikit
RAS-5FSXNPE	Single module	-	RAS-5FSXNPE-3T	Single module	-
RAS-6FSXNPE	Single module	-	RAS-6FSXNPE-3T	Single module	-
RAS-8FSXNPE	Single module	-	RAS-8FSXNPE-3T	Single module	-
RAS-10FSXNPE	Single module	-	RAS-10FSXNPE-3T	Single module	-
RAS-12FSXNPE	Single module	-	RAS-12FSXNPE-3T	Single module	-
RAS-14FSXNPE	Single module	-	RAS-14FSXNPE-3T	Single module	-
RAS-16FSXNPE	Single module	-	RAS-16FSXNPE-3T	Single module	-
RAS-18FSXNPE	Single module	-	RAS-18FSXNPE-3T	Single module	-
RAS-20FSXNPE	RAS-10FSXNPE - RAS-10FSXNPE	MC-20AN1	RAS-20FSXNPE-3T	RAS-10FSXNPE - RAS-10FSXNPE	MC-20XN1
RAS-22FSXNPE	RAS-10FSXNPE - RAS-12FSXNPE	MC-20AN1	RAS-22FSXNPE-3T	RAS-10FSXNPE - RAS-12FSXNPE	MC-20XN1
RAS-24FSXNPE	RAS-12FSXNPE - RAS-12FSXNPE	MC-20AN1	RAS-24FSXNPE-3T	RAS-12FSXNPE - RAS-12FSXNPE	MC-20XN1
RAS-26FSXNPE	RAS-16FSXNPE - RAS-10FSXNPE	MC-21AN1	RAS-26FSXNPE-3T	RAS-16FSXNPE - RAS-10FSXNPE	MC-21XN1
RAS-28FSXNPE	RAS-16FSXNPE - RAS-12FSXNPE	MC-21AN1	RAS-28FSXNPE-3T	RAS-16FSXNPE - RAS-12FSXNPE	MC-21XN1
RAS-30FSXNPE	RAS-18FSXNPE - RAS-12FSXNPE	MC-21AN1	RAS-30FSXNPE-3T	RAS-18FSXNPE - RAS-12FSXNPE	MC-21XN1
RAS-32FSXNPE	RAS-18FSXNPE - RAS-14FSXNPE	MC-21AN1	RAS-32FSXNPE-3T	RAS-18FSXNPE - RAS-14FSXNPE	MC-21XN1
RAS-34FSXNPE	RAS-18FSXNPE - RAS-16FSXNPE	MC-21AN1	RAS-34FSXNPE-3T	RAS-18FSXNPE - RAS-16FSXNPE	MC-21XN1
RAS-36FSXNPE	RAS-18FSXNPE - RAS-18FSXNPE	MC-21AN1	RAS-36FSXNPE-3T	RAS-18FSXNPE - RAS-18FSXNPE	MC-21XN1
RAS-38FSXNPE	RAS-14FSXNPE - RAS-12FSXNPE - RAS-12FSXNPE	MC-30AN1	RAS-38FSXNPE-3T	RAS-14FSXNPE - RAS-12FSXNPE - RAS-12FSXNPE	MC-30XN1
RAS-40FSXNPE	RAS-14FSXNPE - RAS-14FSXNPE - RAS-12FSXNPE	MC-30AN1	RAS-40FSXNPE-3T	RAS-14FSXNPE - RAS-14FSXNPE - RAS-12FSXNPE	MC-30XN1
RAS-42FSXNPE	RAS-14FSXNPE - RAS-14FSXNPE - RAS-14FSXNPE	MC-30AN1	RAS-42FSXNPE-3T	RAS-14FSXNPE - RAS-14FSXNPE - RAS-14FSXNPE	MC-30XN1
RAS-44FSXNPE	RAS-18FSXNPE - RAS-14FSXNPE - RAS-12FSXNPE	MC-30AN1	RAS-44FSXNPE-3T	RAS-18FSXNPE - RAS-14FSXNPE - RAS-12FSXNPE	MC-30XN1
RAS-46FSXNPE	RAS-18FSXNPE - RAS-14FSXNPE - RAS-14FSXNPE	MC-30AN1	RAS-46FSXNPE-3T	RAS-18FSXNPE - RAS-14FSXNPE - RAS-14FSXNPE	MC-30XN1
RAS-48FSXNPE	RAS-18FSXNPE - RAS-18FSXNPE - RAS-12FSXNPE	MC-30AN1	RAS-48FSXNPE-3T	RAS-18FSXNPE - RAS-18FSXNPE - RAS-12FSXNPE	MC-30XN1
RAS-50FSXNPE	RAS-18FSXNPE - RAS-18FSXNPE - RAS-14FSXNPE	MC-30AN1	RAS-50FSXNPE-3T	RAS-18FSXNPE - RAS-18FSXNPE - RAS-14FSXNPE	MC-30XN1
RAS-52FSXNPE	RAS-18FSXNPE - RAS-18FSXNPE - RAS-16FSXNPE	MC-30AN1	RAS-52FSXNPE-3T	RAS-18FSXNPE - RAS-18FSXNPE - RAS-16FSXNPE	MC-30XN1
RAS-54FSXNPE	RAS-18FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE	MC-30AN1	RAS-54FSXNPE-3T	RAS-18FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE	MC-30XN1

Part numbers of cooler accessories

Multikit



2 pipes

E-102SN4
E-162SN4
E-242SN3
E-302SN3
MW-NP2682A3

3 pipes

E-52XN3
E-102XN3
E-162XN3
E-202XN3
E-242XN3
E-322XN3

Collector



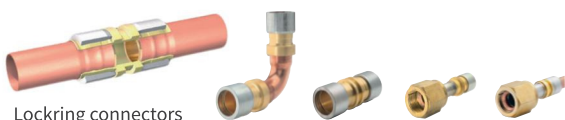
2 pipes

MH-84AN1
MH-108AN

3 pipes

MH-108XN

Compatible accessories



Lockring connectors