

Hitachi commercial VRF SET FREE Σ

Heat Pump Type
FSNP series / FSNS series

Johnson Controls – Hitachi Air Conditioning
<http://www.jci-hitachi.com>

Manufactured by

Distributed by



ISO 9000 series The quality of our design and manufacturing systems has been approved.

We are a domestic business office designing and manufacturing air conditioners. We have obtained the international standard ISO 9001 certification regarding quality management systems.

Shimizu Air Conditioning Headquarters, Professional Use Air Conditioning Business Division, Johnson Controls Air Conditioning
JCI-1084 obtained in November 1995



ISO 14000 series Our environmental preservation activities have been approved.

We are a domestic business office designing and manufacturing air conditioners. We have obtained the international standard ISO 14001 certification regarding environmental management systems.

Shimizu Business Office, Johnson Controls – Hitachi Air Conditioning
EC97J1107 obtained in October 1997



Line-up Overview

FSNP SERIES

Weight (N/W): in case of cabinet for “400V/50Hz, 380-415V/50Hz, 380V/60Hz”

Single module



3HP class(110.0kW) : RAS-3RFSNP 190kg
4HP class(144.0kW) : RAS-4RFSNP 190kg



6HP class(220.0kW) : RAS-6RFSNP 255kg
10HP class(360.0kW) : RAS-10FSNP 259kg
12HP class(332.5kW) : RAS-12FSNP 260kg
14HP class(40.0kW) : RAS-14FSNP 270kg



14HP class(45.0kW) : RAS-14FSNP 345kg
18HP class(50.0kW) : RAS-18FSNP 340kg

Combination of single module



20HP class(56.0kW) : RAS-20FSNP 518kg
22HP class(61.0kW) : RAS-22FSNP 517kg
24HP class(67.0kW) : RAS-24FSNP 520kg



24HP class(73.0kW) : RAS-24FSNP 604kg
28HP class(77.5kW) : RAS-28FSNP 605kg
30HP class(85.0kW) : RAS-30FSNP 620kg
32HP class(90.0kW) : RAS-32FSNP 630kg



34HP class(95.0kW) : RAS-34FSNP 705kg
36HP class(100.0kW) : RAS-36FSNP 740kg



38HP class(106.0kW) : RAS-38FSNP 790kg
40HP class(112.0kW) : RAS-40FSNP 800kg
42HP class(118.0kW) : RAS-42FSNP 810kg



44HP class(122.0kW) : RAS-44FSNP 890kg
46HP class(128.0kW) : RAS-46FSNP 900kg



48HP class(136.0kW) : RAS-48FSNP 980kg
50HP class(140.0kW) : RAS-50FSNP 990kg



52HP class(145.0kW) : RAS-52FSNP 1005kg
54HP class(150.0kW) : RAS-54FSNP 1080kg



56HP class(157.0kW) : RAS-56FSNP 1150kg
58HP class(162.0kW) : RAS-58FSNP 1160kg



60HP class(167.0kW) : RAS-60FSNP 1230kg

Summary table

	Item	Unit	FSNP series	Current [FSXNH]
Capacity		HP class	5-72 ↑	5-36
Nominal Cooling Capacity		kW	14.0 - 201.0 ↑	14.0 - 100.0
Nominal Heating Capacity		kW	16.0 - 225.0 ↑	16.0 - 112.0
Maximum Connectable Indoor Unit Quantity			64	64
Combination Capacity Ratio Between ODU and IDU *		%	50-150 ↑	50-130
Total Piping Length		m (ft.)	1000 (3281)	1000 (3281)
Maximum Piping Length Between ODU and IDU		m (ft.)	165 (541)	165 (541)
Maximum Equivalent Piping Length Between ODU and IDU		m (ft.)	190 (623)	190 (623)
Maximum Piping Length Between 1st Branch and IDU		m (ft.)	90 (295)	90 (295)
Maximum Height Difference Between ODU and IDU ** [when ODU is higher than IDU]		m (ft.)	110 (361) ↑	90 (295)
Maximum Height Difference Between ODU and IDU [when IDU is higher than ODU]		m (ft.)	40 (131)	40 (131)
Maximum Height Difference Between IDU and IDU		m (ft.)	30 (98)	30 (98)
Cooling Operation Range ***		°C DB [°F]	-5 to 32 (23 to 125.6) ↑	-5 to 43 (23 to 109)
Cooling Operation Range with Low Ambient setting ***		°C DB [°F]	-10 to 52 *** (14 to 125.6)	-
Heating Operation Range ***		°C WB [°F]	-20 to 15 [-4 to 59]	-20 to 15 [-4 to 59]

* 50-150% (5-54HP class) / 50-130% (54-72HP class)
** Maximum height difference between indoor and outdoor units is 90m. The maximum piping length for 54 to 72HP class (FSNP) is 90m.
*** For more details, please consult your distributor or dealer, or, refer to technical manuals.
*** available only 554HP class range

Line-up Overview

FSNS SERIES

Weight (N/W): in case of cabinet for “400V/50Hz, 380-415V/50Hz, 380V/60Hz”

Single module



8HP class(122.0kW) : RAS-8F5NS 198kg
10HP class(128.0kW) : RAS-10F5NS 198kg
12HP class(133.5kW) : RAS-12F5NS 210kg



14HP class(140.0kW) : RAS-14F5NS 248kg
16HP class(145.0kW) : RAS-16F5NS 318kg
18HP class(150.0kW) : RAS-18F5NS 311kg



20HP class(156.0kW) : RAS-20F5NS 351kg
22HP class(161.5kW) : RAS-22F5NS 364kg
24HP class(167.0kW) : RAS-24F5NS 365kg



28HP class(122.0kW) : RAS-28F5NS 478kg
30HP class(128.0kW) : RAS-30F5NS 478kg
32HP class(133.5kW) : RAS-32F5NS 521kg



32HP class(140.0kW) : RAS-32F5NS 579kg
34HP class(145.0kW) : RAS-34F5NS 622kg
36HP class(150.0kW) : RAS-36F5NS 622kg



38HP class(160.0kW) : RAS-38F5NS 633kg
40HP class(165.0kW) : RAS-40F5NS 676kg
42HP class(170.0kW) : RAS-42F5NS 676kg



44HP class(122.0kW) : RAS-44F5NS 728kg
46HP class(128.0kW) : RAS-46F5NS 729kg
48HP class(134.0kW) : RAS-48F5NS 730kg



50HP class(140.0kW) : RAS-50F5NS 890kg
52HP class(145.0kW) : RAS-52F5NS 932kg
54HP class(150.0kW) : RAS-54F5NS 933kg



56HP class(157.0kW) : RAS-56F5NS 944kg
58HP class(162.0kW) : RAS-58F5NS 984kg
60HP class(167.0kW) : RAS-60F5NS 987kg



62HP class(170.0kW) : RAS-62F5NS 978kg
64HP class(176.0kW) : RAS-64F5NS 1011kg
66HP class(181.0kW) : RAS-66F5NS 1041kg



68HP class(190.0kW) : RAS-68F5NS 1092kg
70HP class(195.0kW) : RAS-70F5NS 1093kg
72HP class(201.0kW) : RAS-72F5NS 1093kg



74HP class(207.0kW) : RAS-74F5NS 1255kg
76HP class(212.0kW) : RAS-76F5NS 1298kg
78HP class(217.0kW) : RAS-78F5NS 1298kg

Summary table

Item	Unit	FSNS series	Current (FSN1)
Capacity	HP class	8-54 ↑	8-54
Nominal Cooling Capacity	kW	22.4 ~ 768.0 ↑	22.4 ~ 150.0
Nominal Heating Capacity	kW	25.0 ~ 305.0 ↑	25.0 ~ 165.0
Maximum Connectable Indoor Unit Quantity		64	64
Combination Capacity Ratio Between ODU and IDU	%	50-130	50-130
Total Piping Length	m (ft.)	1000 (3281)	1000 (3281)
Maximum Piping Length Between ODU and IDU	m (ft.)	145 (541)	145 (541)
Maximum Equivalent Piping Length Between ODU and IDU	m (ft.)	190 (623)	190 (623)
Maximum Piping Length Between 1st Branch and IDU	m (ft.)	90 (295)	90 (295)
Maximum Height Difference Between ODU and IDU * (When ODU is higher than IDU)	m (ft.)	110 (361) ↑	90 (295)
Maximum Height Difference Between ODU and IDU (When IDU is higher than ODU)	m (ft.)	40 (131)	40 (131)
Maximum Height Difference Between IDU and IDU	m (ft.)	30 (98)	30 (98)
Cooling Operation Range **	°C DB (°F)	-5 to 48 (23 to 109)	-5 to 43 (23 to 109)
Cooling Operation Range with Low Ambient setting **	°C DB (°F)	-10 to 48 *** (14 to 118)	-
Heating Operation Range **	°C WB (°F)	-20 to 15 (-4 to 59)	-20 to 15 (-4 to 59)

* Please consult your distributor or dealer if the height difference is over 50m. The maximum piping length for 54 to 94HP class (FSNS) is 90m.
** Cooling operation range is based on indoor air conditions: 27°C DB, 19°C WB, 50% RH. For detailed information, please refer to technical manual.
*** available only 8-54HP class range