

Hitachi commercial VRF SET FREE Σ

Heat Recovery Type
FSXNP series / FSXNS series



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
Hitachi Air Conditioning
JQA-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

FSXNP SERIES

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

Single module



5HP class(14.0kW) : RAS-5FSXNP 195kg
6HP class(16.0kW) : RAS-6FSXNP 195kg



8HP class(22.0kW) : RAS-8FSXNP 258kg
10HP class(32.0kW) : RAS-10FSXNP 242kg
12HP class(33.5kW) : RAS-12FSXNP 263kg
14HP class(40.0kW) : RAS-14FSXNP 273kg



14HP class(45.0kW) : RAS-14FSXNP 350kg
18HP class(55.0kW) : RAS-18FSXNP 365kg

Combination of single module



20HP class(54.0kW) : RAS-20FSXNP 524kg
22HP class(61.5kW) : RAS-22FSXNP 525kg
24HP class(67.0kW) : RAS-24FSXNP 526kg



24HP class(72.0kW) : RAS-24FSXNP 417kg
28HP class(77.5kW) : RAS-28FSXNP 413kg
30HP class(85.0kW) : RAS-30FSXNP 428kg
32HP class(90.0kW) : RAS-32FSXNP 438kg



34HP class(95.0kW) : RAS-34FSXNP 715kg
36HP class(100.0kW) : RAS-36FSXNP 730kg



38HP class(104.0kW) : RAS-38FSXNP 799kg
40HP class(112.0kW) : RAS-40FSXNP 809kg
42HP class(115.0kW) : RAS-42FSXNP 819kg



44HP class(122.0kW) : RAS-44FSXNP 901kg
46HP class(128.0kW) : RAS-46FSXNP 911kg



48HP class(134.0kW) : RAS-48FSXNP 993kg
50HP class(140.0kW) : RAS-50FSXNP 1003kg



52HP class(145.0kW) : RAS-52FSXNP 1080kg
54HP class(150.0kW) : RAS-54FSXNP 1075kg

Summary table

Item	Unit	New FSXNP series	Current (FSXNH)
Capacity	HP class	5~54 ↑	5~36
Nominal cooling capacity	kW	14.0 ~ 150.0 ↑	14.0 ~ 100.0
Nominal heating capacity	kW	16.0 ~ 165.0 ↑	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.)	15 (49)	15 (49)
Cooling Operation Range **	°C DB (°F)	-5 to 52 (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)
Simultaneous cooling and heating operation range ***	°C	-5 to 24°C DB -6 to 15°C WB	-5 to 24°C DB -6 to 15°C WB
Simultaneous cooling and heating operation range with Low Ambient setting ***	°C	-10 to 24°C DB -11 to 15°C WB	-

* Please consult your distributor or dealer if the height different is over 50m.
** Please consult your distributor or dealer if the height different is over 50m.
*** Upper: mainly cooling / Lower: mainly heating for more details, please consult your distributors or dealer, or, refer to technical manuals.

FSXNS SERIES

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

Single module



8HP class(22.4kW) : RAS-8FSXNS 193kg
10HP class(28.4kW) : RAS-10FSXNS 193kg
12HP class(33.2kW) : RAS-12FSXNS 215kg



14HP class(40.0kW) : RAS-14FSXNS 271kg
16HP class(45.0kW) : RAS-16FSXNS 314kg
18HP class(50.0kW) : RAS-18FSXNS 315kg



20HP class(56.0kW) : RAS-20FSXNS 355kg
22HP class(61.5kW) : RAS-22FSXNS 349kg
24HP class(67.0kW) : RAS-24FSXNS 370kg

Combination of single module



26HP class(73.0kW) : RAS-26FSXNS 486kg
28HP class(77.2kW) : RAS-28FSXNS 487kg
30HP class(83.0kW) : RAS-30FSXNS 530kg



32HP class(90.0kW) : RAS-32FSXNS 596kg
34HP class(95.0kW) : RAS-34FSXNS 627kg
36HP class(100.0kW) : RAS-36FSXNS 639kg



38HP class(106.0kW) : RAS-38FSXNS 641kg
40HP class(110.0kW) : RAS-40FSXNS 665kg
42HP class(116.0kW) : RAS-42FSXNS 685kg



44HP class(122.0kW) : RAS-44FSXNS 739kg
46HP class(128.0kW) : RAS-46FSXNS 739kg
48HP class(136.0kW) : RAS-48FSXNS 740kg



50HP class(140.0kW) : RAS-50FSXNS 801kg
52HP class(145.0kW) : RAS-52FSXNS 944kg
54HP class(150.0kW) : RAS-54FSXNS 945kg

Summary table

Item			Unit	New FSXNS series	Current (FSAN1)
Capacity			HP class	8-54	8-54
Nominal cooling capacity			kW	22.4 - 150.0	22.4 - 150.0
Nominal heating capacity			kW	25.0 - 165.0	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.)	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.)	15 (49)	15 (49)
Cooling Operation Range **			°C DB (°F)	-5 to 48 (23 to 118) ↑	-5 to 43 (23 to 109)
Cooling Operation Range with Low Ambient setting **			°C DB (°F)	-10 to 48 (14 to 118) ↑	-5 to 43 (23 to 109)
Heating Operation Range **			°C WB (°F)	-20 to 15 (-4 to 59)	-20 to 15 (-4 to 59)
Simultaneous cooling and heating operation range ***			°C	-5 to 24°C DB -4 to 15°C WB	-5 to 24°C DB -4 to 15°C WB
Simultaneous cooling and heating operation range with Low Ambient setting ***			°C	-10 to 24°C DB -11 to 15°C WB	-

* Please consult your distributor or dealer if the height difference is over 80m.
** Please consult your distributor or dealer if the height difference is over 80m.
*** Upper: mainly cooling / Lower: mainly heating for more details, please consult your distributors or dealer, or, refer to technical manuals.

NEW CH=BOX (CHANGE-OVER BOX)

Type	Single-Port		Multi-Port			
Model Name	CH-AP160SSX	CH-AP2780SSX	CH-AP04MSSX	CH-AP08MSSX	CH-AP12MSSX	CH-AP16MSSX
Images						
	New	New	New	New	New	New
Dimensions (H*W*D) [mm]	191 × 301 × 214	191 × 301 × 214	260 × 303 × 352	260 × 343 × 352	260 × 783 × 352	260 × 1023 × 352
NW (kg)	6 ↓	6 ↓	14	25	36	47
Power Supply	AC 1φ 230V/50Hz, 270-240V/50Hz, 220V/60-7z					
Power Input (W)	5	5	11.2	22.4	33.6	44.8
Current (A)	0.1	0.1	0.2	0.4	0.6	0.8
Maximum Total Capacity Index (kW)	16	28	44.8	85	85	85
Number of port (for IDU)	1	1	4	8	12	16
Maximum Connectable IDUs per Port	7	8	6	6	6	6
Maximum Piling length	between CH-Box and the IDU 40m ↑					
Maximum Height difference	between CH-Box 15m					
Maximum Height difference between IDUs connecting to same CH-Box	Between CH-Box and IDU 15m					
	between IDUs connecting to same CH-Box 4m					

The diagram illustrates two types of manifold configurations for a refrigeration system: Multi-Port and Single-Port.

Multi-Port Manifold: This configuration features a single manifold body with multiple ports for each coil. It allows for independent control of heating and cooling for each coil. The diagram shows the manifold connected to a compressor and condenser, with lines for High/Low Pressure Gas and Liquid Gas. Callouts show the internal brazing connections for the Multi-Port manifold.

Single-Port Manifold: This configuration features separate manifold bodies for each coil. It also allows for independent control of heating and cooling for each coil. The diagram shows the manifold connected to a compressor and condenser, with lines for High/Low Pressure Gas and Liquid Gas. Callouts show the flare connections for the Single-Port manifold.

Single-Port	Multi-Port
Single-Port	Multi-Port
58mm	135mm
6	0
92 points [Brazing: 57 / Flare: 32]	34 points [Brazing: 6 / Flare: 28]
14	4
14 pieces	8 pieces

	Single-Port	Item	Multi-Port
	60m	Total piping Length	63m
	6	Needed multi-kit sets	1
	92 points (Brazing: 57 / Flare: 32)	Connection Points	40 points (Brazing: 12 / Flare: 28)
	14	Hanging Rods for CH-Box	8
	14 locations	Total Ceiling Access Panel	9 locations

No drain connection needed

Easier Installation

Top-in-class compact body
Top-in-class light-weight unit

More Design Flexibility