

# Hitachi Air Conditioning

Engineered for tomorrow.

SYSTEM  
FREE

-20  
+15

-5  
+43

DC  
INVERTER

Set Free  
VRF Systems

## FSXNH modular 2-pipe or 3-pipe

Set Free VRF 2-pipe heat pump or 3-pipe heat recovery available from a single unit to adapt to customer requirements. Each outdoor unit is lightweight and modular which – combined with long piping runs and improved height difference – means Set Free VRF can meet any design brief.



### Features and Benefits

- ☑ Cooling capacities from 14kW to 100kW
- ☑ Heating capacities from 16kW to 112kW
- ☑ Market-leading energy efficiency
- ☑ Low noise – select from 3 settings with up to 8dB noise reduction
- ☑ 2-pipe heat pump or 3-pipe heat recovery (requires CH Box)
- ☑ Connectable to up to 59 system free indoor units (dependant on model)
- ☑ Total maximum pipe run of 1000 metres
- ☑ Japanese Energy Efficiency and Conservation Award 2013 winner.



## Awarded Enhanced Capital Allowance (ECA) scheme status

The ECA Scheme is part of the Government's programme of measures to manage climate change which gives businesses tax relief for investing in energy-efficient, accredited products - making it possible to claim a 100% first year capital allowance against the taxable profits in the period of investment (rather than claiming on a reducing balance).

SYSTEM  
FREE

## Flexibility built in

Hitachi's System Free indoor units can be combined with outdoor units from either our Utopia splits or Set Free VRF ranges for ultimate flexibility.

## Changeover Boxes

Hitachi Changeover (CH) Boxes are compatible with the Set Free heat recovery systems and enable a change from 2-pipe heat pump and 3-pipe heat recovery on our FSXN and FSXNH products as customer requirements change. Installations are quick and simple as the strainer is installed at the manufacturing stage and piping connections are reduced from 5 down to 3. The electrical box can be positioned at either side of the CH Box for easier servicing.

| CH Boxes   |      | CH-6.0N1                         | CH-10.0N1                        |
|--|------|----------------------------------|----------------------------------|
| Power supply   |      | 230V / 1Ph / 50Hz                | 230V / 1Ph / 50Hz                |
| Nominal capacity   | HP   | HP ≤ 6                           | 6 < HP ≤ 10                      |
| Maximum number of indoor units                               | -    | 7                                | 8                                |
| Electricity demand   | W    | 20                               | 20                               |
| Dimensions (H x W x D)                                       | mm   | 191x301x214                      | 191x301x214                      |
| Weight   | Kg   | 7                                | 7                                |
| Piping diameter - Outdoor Unit to CH Box (High/Low Pressure) | Inch | (1/2 - 5/8) / (5/8 - 3/4)        | (5/8 - 3/4) / (3/4 - 7/8)        |
|  | mm   | (12.7 - 15.88) / (15.88 - 19.05) | (15.88 - 19.05) / (19.05 - 22.2) |
| Piping diameter - From Indoor Unit                           | Inch | 1/2 - 5/8                        | 3/4 - 7/8                        |
|  | mm   | 12.7 - 15.88                     | 19.05 - 22.2                     |
| Recommended fuse size  | A    | 5                                | 5                                |

[www.hitachiaircon.com](http://www.hitachiaircon.com) | [www.hitachiheating.com](http://www.hitachiheating.com)

**HITACHI**  
Inspire the Next



RAS FSXNH

SYSTEM  
FREE



Set Free  
VRF Systems

## Hi Efficiency Modular 2 or 3-Pipe

| Outdoor Unit   |      | RAS 5FSXNH                     | RAS 6FSXNH             | RAS 8FSXNH        | RAS 10FSXNH            | RAS 12FSXNH | RAS 12FSXNH-P          | RAS 14FSXNH |
|--|------|--------------------------------|------------------------|-------------------|------------------------|-------------|------------------------|-------------|
| Outdoor Combination                                    |      |                                |                        | -                 | -                      | -           | 6 + 8                  | 6 + 8       |
| Power supply   |      | 400V / 3Ph / 50Hz              |                        |                   |                        |             |                        |             |
| Nominal Cooling Capacity                               | kW   | 14.0                           | 16.0                   | 22.4              | 28.0                   | 33.5        | 33.5                   | 40.0        |
| Nominal Heating Capacity                               | kW   | 16.0                           | 18.0                   | 25.0              | 31.5                   | 37.5        | 37.5                   | 45.0        |
| UK Cooling Capacity                                    | kW   | 12.0                           | 13.8                   | 19.3              | 24.1                   | 28.8        | 28.8                   | 34.4        |
| Maximum Indoor Units <sup>(1)</sup>                    |      | 8                              | 9                      | 13                | 16                     | 19          | 19                     | 23          |
| Minimum - Maximum connected capacity                   |      | 50% - 130%                     | 50% - 130%             | 50% - 130%        | 50% - 130%             | 50% - 130%  | 50% - 130%             | 50% - 130%  |
| Nominal Load Efficiency EER / COP <sup>(2)</sup>       |      | 4.49 / 4.80                    | 4.56 / 4.58            | 4.66 / 4.67       | 4.34 / 4.67            | 3.93 / 4.11 | 4.70 / 4.73            | 4.58 / 4.59 |
| Energy Class (Cool/Heat)                               |      | A / A                          | A / A                  | A / A             | A / A                  | A / A       | A / A                  | A / A       |
| Dimensions (H / W / D)                                 | mm   | 1720 / 950 / 765               |                        | 1720 / 1210 / 765 |                        |             | 1720 / 2160 / 765      |             |
| Weight   | Kg   | 215                            | 215                    | 260               | 260                    | 260         | 215 + 260              | 215 + 260   |
| Piping diameter (Liquid / Gas x 2)                     | Inch | 3/8 / (5/8 / 1/2)              | 3/8 / (3/4 / 5/8)      |                   | 3/8 / (7/8 / 3/4)      |             | 1/2 / (1 1/8 / 7/8)    |             |
|  | mm   | 9.52 / (15.88 / 12.70)         | 9.52 / (19.05 / 15.88) |                   | 9.53 / (22.20 / 19.05) |             | 12.70 / (28.60 / 22.2) |             |
| Total Piping Length / Height Difference <sup>(4)</sup> | m    | 1000 / 90                      | 1000 / 90              | 1000 / 90         | 1000 / 90              | 1000 / 90   | 1000 / 50              | 1000 / 50   |
| Max Piping Length (outdoor to indoor)                  | m    | 165                            | 165                    | 165               | 165                    | 165         | 165                    | 165         |
| Working Range (cooling / heating)                      | °C   | -5°C~43(db)°C / -20°C~15(wb)°C |                        |                   |                        |             |                        |             |

| Outdoor Unit   |      | RAS 16FSXNH                    | RAS 18FSXNH            | RAS 20FSXNH | RAS 22FSXNH | RAS 24FSXNH             | RAS 24FSXNH-P         |                         |
|--|------|--------------------------------|------------------------|-------------|-------------|-------------------------|-----------------------|-------------------------|
| Outdoor Combination                                    |      | 8 + 8                          | 8 + 10                 | 8 + 12      | 10 + 12     | 12 + 12                 | 8 + 8 + 10            |                         |
| Power supply   |      | 400V / 3Ph / 50Hz              |                        |             |             |                         |                       |                         |
| Nominal Cooling Capacity                               | kW   | 45.0                           | 50.0                   | 56.0        | 61.5        | 69.0                    | 69.0                  |                         |
| Nominal Heating Capacity                               | kW   | 50.0                           | 56.0                   | 63.0        | 69.0        | 77.5                    | 77.5                  |                         |
| UK Cooling Capacity                                    | kW   | 38.7                           | 43.0                   | 48.2        | 52.9        | 59.3                    | 59.3                  |                         |
| Maximum Indoor Units <sup>(1)</sup>                    |      | 26                             | 26                     | 33          | 36          | 40                      | 40                    |                         |
| Minimum - Maximum connected capacity                   |      | 50% - 130%                     | 50% - 130%             | 50% - 130%  | 50% - 130%  | 50% - 130%              | 50% - 130%            |                         |
| Nominal Load Efficiency EER / COP <sup>(2)</sup>       |      | 4.65 / 4.67                    | 4.48 / 4.68            | 4.19 / 4.31 | 4.11 / 4.35 | 3.91 / 4.09             | 4.64 / 4.64           |                         |
| Energy Class (Cool/Heat)                               |      | A / A                          | A / A                  | A / A       | A / A       | A / A                   | A / A                 |                         |
| Dimensions (H / W / D)                                 | mm   | 1720 / 2420 / 765              |                        |             |             |                         |                       |                         |
| Weight   | Kg   | 260 + 260                      | 260 + 260              | 260 + 260   | 260 + 260   | 260 + 260               | 260 + 260 + 260       |                         |
| Piping diameter (Liquid / Gas x 2)                     | Inch | 1/2 / (1 1/8 / 7/8)            | 5/8 / (1 1/8 / 7/8)    |             |             | 5/8 / (1 1/8 / 1 1/8)   | 5/8 / (1 1/8 / 1 1/8) | 3/4 / (1 1/4 / 1 1/8)   |
|  | mm   | 12.70 / (28.60 / 22.2)         | 15.88 / (28.60 / 22.2) |             |             | 15.88 / (28.60 / 28.60) |                       | 19.05 / (31.75 / 28.60) |
| Total Piping Length / Height Difference <sup>(4)</sup> | m    | 1000 / 50                      | 1000 / 50              | 1000 / 50   | 1000 / 50   | 1000 / 50               | 1000 / 50             |                         |
| Max Piping Length (outdoor to indoor)                  | m    | 165                            | 165                    | 165         | 165         | 165                     | 165                   |                         |
| Working Range (cooling / heating)                      | °C   | -5°C~43(db)°C / -20°C~15(wb)°C |                        |             |             |                         |                       |                         |

| Outdoor Unit   |      | RAS 26FSXNH                    | RAS 28FSXNH           | RAS 30FSXNH           | RAS 32FSXNH           | RAS 34FSXNH           | RAS 36FSXNH           |
|--|------|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Outdoor Combination                                    |      | 8 + 8 + 10                     | 8 + 8 + 12            | 8 + 10 + 12           | 8 + 12 + 12           | 10 + 12 + 12          | 12 + 12 + 12          |
| Power supply   |      | 400V / 3Ph / 50Hz              |                       |                       |                       |                       |                       |
| Nominal Cooling Capacity                               | kW   | 73.0                           | 80.0                  | 85.0                  | 90.0                  | 95.0                  | 100.0                 |
| Nominal Heating Capacity                               | kW   | 82.5                           | 90.0                  | 95.0                  | 100.0                 | 106.0                 | 112.0                 |
| UK Cooling Capacity                                    | kW   | 62.8                           | 68.8                  | 73.1                  | 77.4                  | 81.7                  | 86.0                  |
| Maximum Indoor Units <sup>(1)</sup>                    |      | 43                             | 47                    | 50                    | 53                    | 56                    | 59                    |
| Minimum - Maximum connected capacity                   |      | 50% - 130%                     | 50% - 130%            | 50% - 130%            | 50% - 130%            | 50% - 130%            | 50% - 130%            |
| Nominal Load Efficiency EER / COP <sup>(2)</sup>       |      | 4.53 / 4.66                    | 4.30 / 4.39           | 4.24 / 4.42           | 4.09 / 4.24           | 4.05 / 4.27           | 3.93 / 4.11           |
| Energy Class (Cool/Heat)                               |      | A / A                          | A / A                 | A / A                 | A / A                 | A / A                 | A / A                 |
| Dimensions (H / W / D) <sup>(5)</sup>                  | mm   | 1720 / 3630 / 765              |                       |                       |                       |                       |                       |
| Weight   | Kg   | 260 + 260 + 260                | 260 + 260 + 260       | 260 + 260 + 260       | 260 + 260 + 260       | 260 + 260 + 260       | 260 + 260 + 260       |
| Piping diameter (Liquid / Gas x 2)                     | Inch | 3/4 / (1 1/4 / 1 1/8)          | 3/4 / (1 1/4 / 1 1/8) | 3/4 / (1 1/4 / 1 1/8) | 3/4 / (1 1/4 / 1 1/8) | 3/4 / (1 1/4 / 1 1/8) | 3/4 / (1 1/2 / 1 1/8) |
|  | mm   | 19.05 / (31.75 / 28.60)        |                       |                       |                       |                       |                       |
| Total Piping Length / Height Difference <sup>(4)</sup> | m    | 1000 / 50                      | 1000 / 50             | 1000 / 50             | 1000 / 50             | 1000 / 50             | 1000 / 50             |
| Max Piping Length (outdoor to indoor)                  | m    | 165                            | 165                   | 165                   | 165                   | 165                   | 165                   |
| Working Range (cooling / heating)                      | °C   | -5°C~43(db)°C / -20°C~15(wb)°C |                       |                       |                       |                       |                       |

<sup>(1)</sup> Maximum Indoor Units - restrictions apply see Technical Catalogue

<sup>(2)</sup> Nominal load efficiency (Cooling 35°C/27°C, Heating 7°C/20°C) Outdoor input only

<sup>(3)</sup> Sound power level is the A-weighted sound power level [dB(A)] measured at standard rated conditions for the "cooling" mode operation in accordance to EN12102

<sup>(4)</sup> Restrictions apply, please consult the Technical Catalogue

<sup>(5)</sup> Includes 20mm between each outdoor unit