SET FREE VRF

set free
R410A

Models

FSVN
FSN
FXN
8.0 – 85.0 KW

Variable refrigerant flow
air conditioning systems

HFC R410A

HITACHI
Inspire the Next

Contents

Company profile

Air Conditioning from HITACHI can justifiably be described as the art of exploiting the latest ideas and developments in technology to create a range of innovative products which provide a more comfortable and more productive environment in which people can happily live and work. It is also an art executed with a responsible concern for protecting the environment. Ecological thinking begins at the very first stages of new product design and continues throughout production, installation procedures, equipment and operation.

Specifiers and users alike can always be assured that performance and costs are not the only parameters by which HITACHI products can be judged.

To achieve success with such objectives on a global scale requires not only enormous resources but also a commitment to the future. As one of the largest companies in the world, with over 321,517 employees, HITACHI is well positioned to undertake this commitment with confidence that comes from successfully responding to the changing needs of people for over 90 years.

HITACHI – in Japanese the name means sunrise – is at the forefront of research and development turning new ideas and innovations into new products. Of its $81.4 billion sales worldwide in 2003, close to 5.2% was invested in research and development programs. This vast amount of money has given HITACHI the opportunity to conceive many 'world firsts' – examples of which include the technologically advanced and acclaimed scroll and semi-hermetic Screw compressors. These have been incorporated in HITACHI's air conditioning systems and water chillers which have revolutionised air conditioning worldwide. In 1993 HITACHI invested in a new purpose built, state of the art factory (HAPE) in Barcelona, Spain. The site of the factory was carefully chosen to accommodate further building on its 40,000 square meter site. The creation of a European manufacturing facility and customer training centre helps reduce production costs, speed up delivery times and enables full support to be given to all customers.

HITACHI's advanced air conditioning products are specified all over the world, wherever there is a requirement for ultimate performance and cost effective, long term reliability. A wide range of units coupled with a choice of advanced control systems mean HITACHI can provide solutions to meet every possible air conditioning application or specification. Authorised Distributors all over the world contribute their own specialised technical support and practical assistance to provide individual system designs, commissioning and after sales service.

HITACHI Authorised Distributors are committed to providing an unrivalled support from a combination of experienced engineers, local product and spare parts stock, supported in turn by on-going technical support from HITACHI.

From the initial product concept at HITACHI's research and development facility in Japan, product development is dedicated to providing the products the customer requires. Product design and development is continuous with priority being given to the use of ecologically friendly refrigerants. To satisfy your cooling and heating requirements and to ensure the optimum indoor environment, consider HITACHI the first and last word in air conditioning.

Hitachi Air Conditioning Products Europe
HAPE works, Spain

Hitachi Air Conditioning Systems Co., Ltd.
Shimizu works, Japan

Hitachi Air Conditioning Products (M)
HAPM works, Malaysia

Hitachi Air Conditioning Products Europe (HAPE works, Spain) has acquired International Standard Quality Management System ISO9001 & ISO 14001 authorisation. HAPE performs thorough product quality control using various environmental tests. Hitachi Set Free Series Indoor units and panels are manufactured according to this ISO certification system.

Hitachi Air Conditioning Systems Co., Ltd. (Shimizu works, Japan) has acquired International Standard Quality Management System ISO9001 and ISO14001 authorisation. Shimizu works perform thorough product quality control using various environmental tests, severe heating testing for compressors, and many others. Hitachi Set Free Series Outdoor units are manufactured according to this ISO certification system.

Hitachi Air Conditioning Products (M) Sdn.Bhd (HAPM works, Malaysia) has acquired International Standard Quality Management System ISO9001 and ISO14001 authorisation. HAPM perform thorough product quality control using various environmental tests. Hitachi Set Free Series RPK Indoor units are manufactured according to this ISO certification system.

Quality control

Product range overview

Hitachi's range of Set Free Variable Refrigerant Flow systems has developed significantly in recent years following a great deal of investment in research and testing facilities at Hitachi's factories and laboratories.

Hitachi has continuously developed sophisticated energy-saving air conditioning systems that reduce CO2 emissions and protect the global environment.

The latest offering from Hitachi is the Set Free FSN series featuring high energy-saving, easy installation and compact size for next generation buildings.

- Newly developed, highly efficient 2 blade Fan
- High efficiency DC Inverter fan module
- High efficiency DC Inverter Compressor
- Vector Control DC Inverter
- High efficiency constant speed compressor
- Large capacity DC Fan Motor
- Newly developed, energy saving heat exchanger
- Supercooling circuit adopted

Indoor Units

Capacity Range [HP]

	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.5	3.0	3.5	4.0	5.0	6.0
In-the-Ceiling	●	●	◯	●	◯	●	◯	●	●	●	●	●	●
4-Way Cassette	◯	●	◯	●	◯	●	◯	●	●	●	●	●	●
2-Way Cassette	◯	●	◯	●	◯	●	◯	●	●		●	●	
Mini Wall	◯	●	◯	●									
Wall	●	●	◯	●	◯	●	◯	●	●	●	●		
Ceiling					◯	●	◯	●	●	●	●	●	●
Floor-Standing	◯	●	◯	●	◯	●	◯	●					
Floor-Concealed	◯	●	◯	●	◯	●	◯	●					

◯ Adjustable by dip switch setting

Outdoor Units

Capacity Range [HP]

	3.0	4.0	5.0	8.0	10.0	16.0	20.0	24.0	30.0
RAS-FSVN Series	●	●	●						
RAS-FSN Series			●	●	●	●	●	●	●
RAS-FXN Series				●	●	●	●	●	●

RAS-3FSVN(E)

RAS-4FSVN(E)
RAS-5FSVN(E)

RAS-5FSN/FXN

RAS-8FSN(E)/FXN(E)
RAS-10FSN(E)/FXN(E)

RAS-16FSN

RAS-16FXN
RAS-20FSN/FXN

RAS-24FSN/FXN
RAS-30FSN/FXN

System Equipment

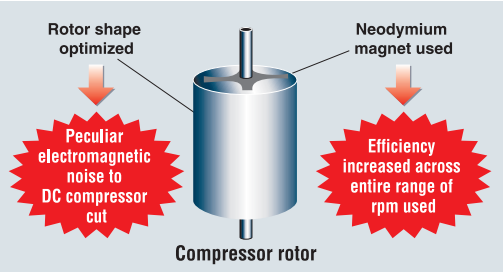
Capacity Range [m^3/h]

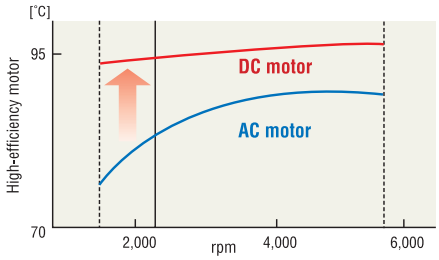
	250	500	800	1,000
Total Heat Exchanger	●	●	●	●

High COP

Performance is greatly improved by the high-efficiency, high pressure, inverter driven scroll compressor.

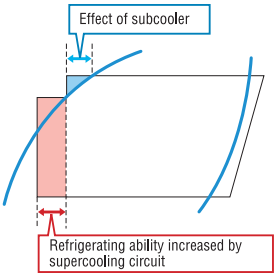
- Reliability greatly improved by optimised bearing
- Intake loss and leakage loss largely reduced by asymmetric scroll lap
- Heat loss largely reduced by oil return structure
- Accurate oiling to the compressor by improved oiling system





Supercooling circuit

- Performance improved by high-efficiency plate type of heat exchanger



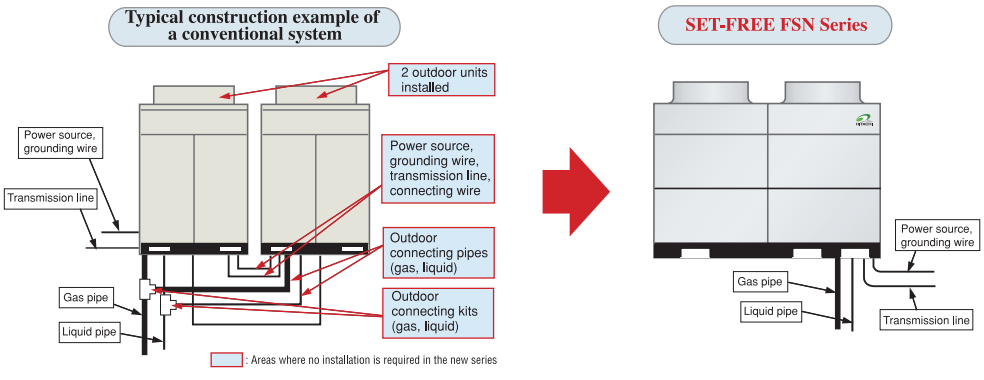
DC Compressor

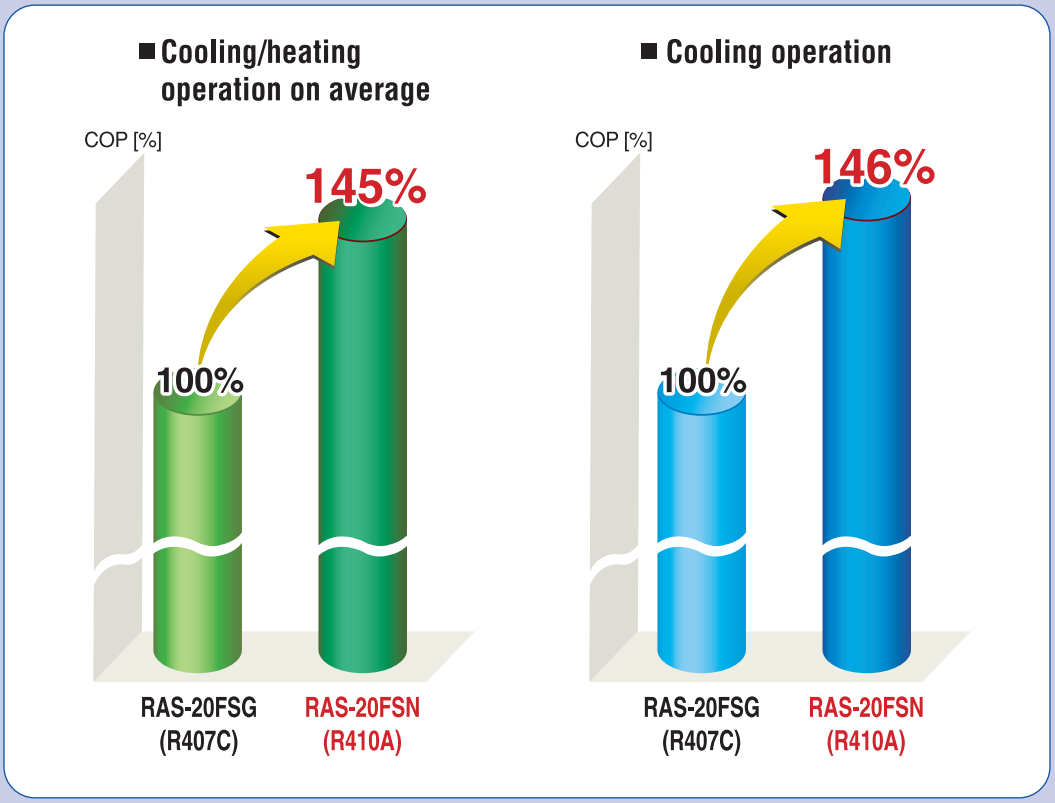
By using DC, the performance is improved at around 30 - 40Hz where the operation time of the inverter compressor is longest. Also, to suppress electromagnetic noise interference and achieve low noise, the rotor has been divided into two and the electric pole displaced.

Features and benefits

Integral type unit for all product series

- All units are assembled and tested at Hitachi factories therefore minimising problems at installation stage.





Flexible, more compact design

RAS-16FSN

RAS-16FSN

- Installation space : Reduced by **37%**
- Weight : Reduced by **24%**
- No. of condenser fans : 2 → **1**

* Comparison with RAS-16FSG

2-Blade Fan

- Hitachi unique patented design
- Noise is reduced by decreasing the number of blades to 2
- The length of each blade is longer, increasing air quantity by 25%
- Motor input decrease by 8%

Increased flexibility in project design

Outdoor unit capacity	Conventional model		SET-FREE FSN	
	Min. capacity of indoor units connectable	Max. number of indoor units connectable	Min. capacity of indoor units connectable	Max. number of indoor units connectable
5 HP	0.8 HP	8(8)	0.8 HP	8(8)
8 HP	0.8 HP	13(13)	0.8 HP	13(13)
10 HP	0.8 HP	16(16)	0.8 HP	16(16)
16 HP	1.0 HP	16(16)	0.8 HP	20(20)
20 HP	1.0 HP	16(16)	0.8 HP	20(20)
24 HP	1.0 HP	27(12)	0.8 HP	27(12)
30 HP	1.0 HP	32(12)	0.8 HP	32(12)

( ): Max. number of min. capacity indoor units connectable

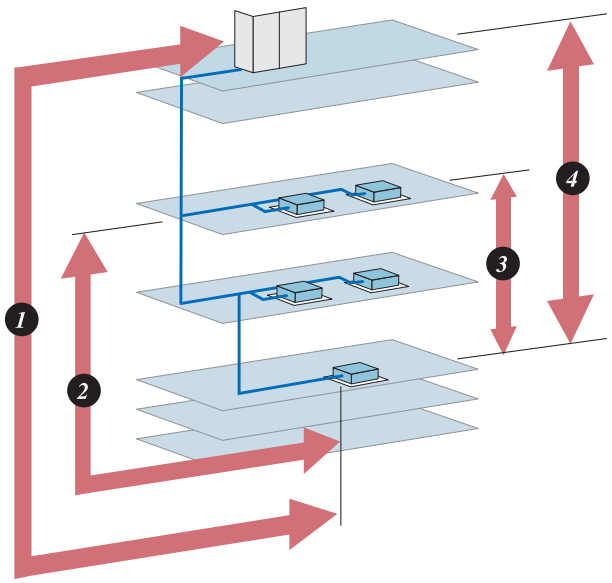
* Indoor unit connected capacity range: 50-130% of outdoor unit capacity
* Secure air permeability in the event of refrigerant leakage.

- Indoor unit selection is easier as the minimum capacity and the maximum number of indoor units to be connected are increased to match the indoor load.

More flexible refrigerant construction conditions

Improved flexibility of design by increasing the pipe length to 150 m max. (equivalent length of 175 m) in FSN series.

1. Max. pipe length: 150 m
2. Between first branch and indoor unit: 40m or less
3. Height difference between highest and lowest indoor units: 15m or less
4. Height difference between outdoor and indoor units: 50m*



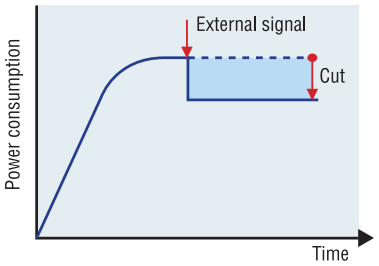
* In case the outdoor unit is installed at a higher level than indoor units.
If the outdoor unit is installed lower than indoor units, the maximum height difference is 40m.

Features and benefits

Improved Demand Control

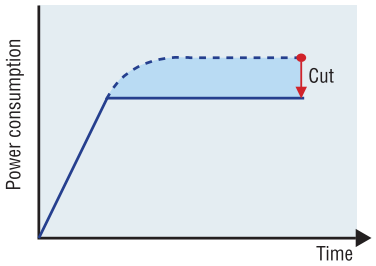
Control is optimised to suit each customers air conditioning environment.

Cut by external signal



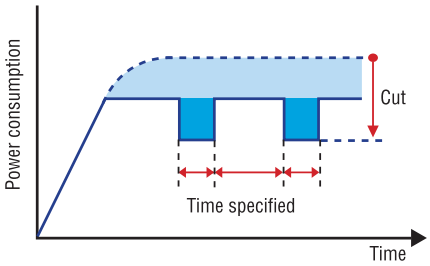
Construction needed in advance

NEW Cut by internal signal



Power Cut according to site conditions

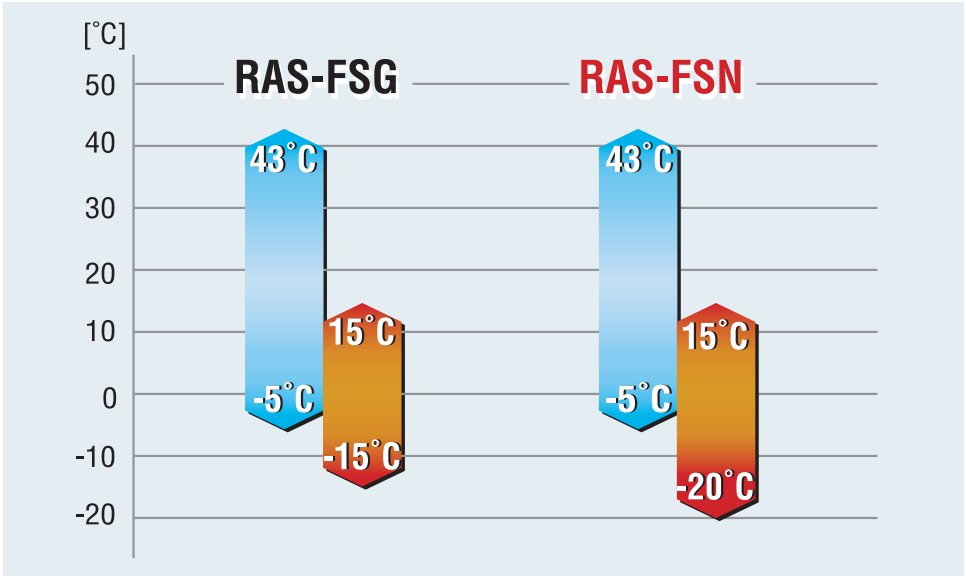
NEW Wave function



Cut by time control
Minimising capacity down

Expansion of Operation Range

Can be used with outdoor air temperatures down to -20°C



High Static Pressure, Long Duct Bell Mouth

- Fan motive energy is reduced by combining with a high-efficiency fan
- External static pressure of 60 Pa as standard

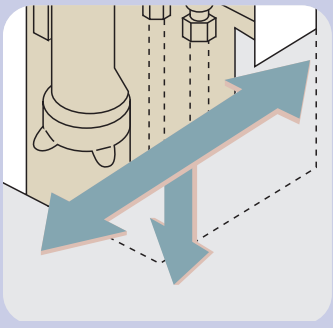
Pipe Downsizing

By downsizing the piping compared with the R407C unit, installation is easier and piping material costs are reduced.

Pipes can be downsized because refrigerant pressure loss is greatly reduced, and discharge volume is small for the same capacity compared with R407C.

(Pipe length ≦100m)

Capacity	Pipes	Conventional model	SET-FREE FSN
5HP	Liquid	ϕ 9.53	ϕ 9.53
	Gas	ϕ 19.05	ϕ 15.88
8HP	Liquid	ϕ 12.7	ϕ 9.53
	Gas	ϕ 22.2 or ϕ 25.4	ϕ 19.05
10HP	Liquid	ϕ 12.7	ϕ 9.53
	Gas	ϕ 28.6 or ϕ 25.4	ϕ 22.2
16HP	Liquid	ϕ 15.88	ϕ 12.7
	Gas	ϕ 31.75 or ϕ 28.6	ϕ 28.6
20HP	Liquid	ϕ 15.88	ϕ 15.88
	Gas	ϕ 38.1 or ϕ 34.92	ϕ 28.6
24HP	Liquid	ϕ 19.05	ϕ 15.88
	Gas	ϕ 38.1 or ϕ 34.92	ϕ 28.6
30HP	Liquid	ϕ 22.2	ϕ 19.05
	Gas	ϕ 44.45 or ϕ 41.3	ϕ 31.75 (34.92)



Refrigerant piping connections

In an outdoor unit piping connections are easily conducted from any three directions: “front, rear or downwards”

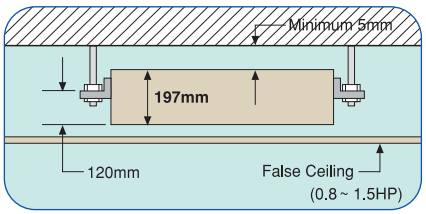
Set Free – RPI Technical Description

- Slim, space saving design
- Adjustable fan speed
- Adjustable static pressure
- Drain Pump as standard
- Air Filter as standard

In the ceiling

Slimmest design in the industry

Less than 197mm in height, this unit can be fitted practically any existing false ceiling or formerly ducted space, without substantial modification.



Broader range of external static pressure up to 150 Pa.

Flexibly supports a wide range of installation conditions at site, e.g. longer ducts.

Increased flexibility and extended ducting now available, provides full temperature control even to remote areas. Adjustable air flow and fan speed control.

Wide selection

Full line-up from model 0.8HP to 6.0HP.

Drain-up mechanism

Drain-up mechanism is built in the units as standard.

An electronic sensor monitors the water level and automatically activates the pump when draining becomes necessary.

Return Air

(2.0-6.0HP) Available as bottom or rear entry.

Suction filter equipped as standard

New RPI unit is equipped with a filter as standard.

Econofresh Kit

As part of the Set Free range the Econofresh can provide up to 100% fresh air and has the ability to provide ‘free cooling’ via dampers when the outdoor ambient temperature is below the temperature required indoors. Available for 5.0HP unit.

General Data

Model		RPI-0.8FSNE	RPI-1.0FSNE	RPI-1.5FSNE	RPI-2.0FSNE	RPI-2.5FSNE	RPI-3.0FSNE	RPI-3.5FSNE	RPI-4.0FSNE	RPI-5.0FSNE	RPI-6.0FSNE
Power Supply		220-240 V, 50 Hz									
Nominal Cooling											
Capacity	W	2,200	2,800	4,500	5,600	7,100	8,000	9000	11,200	14,000	16,000
Nominal Heating											
Capacity	W	2,500	3,200	5,000	6,300	8,500	9,000	10,000	12,500	16,000	18,000
Air Flow Rate (Hi//Med/Lo)											
HSP	m^3/min	–	–	–	16/15/11	19/17/14	22/20/16	22/20/16	30/28/25	35/31/28	36/34/29
STDSP	m^3/min	8/6/6	8/6/6	10/9/7	16/14/12	19/17/15	22/20/17	22/20/17	30/29/26	35/32/29	36/33/31
LSP	m^3/min	–	–	–	16/16/13	19/19/15	22/22/18	22/22/18	30/30/28	35/35/31	36/33
Fan Motor (Output)	W	55	55	55	80	225	225	225	350	350	350
Static Pressure (Hi//Med/Lo)											
HSP	mmAq	–	–	–	12/10/6	12/10/6	12/10/6	12/10/16	12/10/8	12/10/8	12/10/8
STDSP	mmAq	5/5/5	5/5/5	5/5/5	8/6/5	8/6/5	8/6/5	8/6/5	8/7/6	8/7/6	8/7/6
LSP	mmAq	–	–	–	3/3/2	3/3/2	3/3/2	3/3/2	3/3/2	3/3/2	3/3/2
Sound Pressure Level (Overall A Scale) (Hi//Med/Lo)											
HSP	dB (A)	–	–	–	40/38/35	41/39/36	42/40/37	42/40/37	44/42/38	47/46/44	48/47/47
STDSP	dB (A)	37/35/35	37/35/35	38/37/35	39/37/34	40/38/35	40/38/35	40/38/35	42/41/37	45/44/43	46/45/44
LSP	dB (A)	–	–	–	35/35/31	36/36/32	37/37/33	37/37/33	41/41/35	44/44/42	45/45/43
Outer Dimensions											
Height	mm	197	197	197	274	274	274	274	274	274	274
Width	mm	1020	1020	1020	1074	1074	1074	1074	1464	1464	1464
Depth	mm	574	574	574	643	643	643	643	643	643	643
Net Weight	kg	33,5	33,5	33,5	43	45	45	45	51	52	52
Refrigerant		R410A (Nitrogen Charged in Factory for Corrosion-Resistance)									
Connections		Flare Nut Connection (with Flare Nuts)									
Refrigerant Piping											
Liquid Line	mm(in.)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)
Gas Line	mm(in.)	Ø12.7(1/2)	Ø12.7(1/2)	Ø12.7(1/2)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)	Ø19.05(3/4)	Ø19.05(3/4)	Ø19.05(3/4)
									Ø15.88(5/8)*	Ø15.88(5/8)*	Ø15.88(5/8)*
Condensate Drain	mm	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø 32 OD
Packing											
Measurements	m^3	0.16	0.16	0.16	0.36	0.36	0.36	0.36	0.48	0.48	0.48

NOTES:

1. The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and are based on the JISB 8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27.0 ℃ DB, 19.0 ℃ WB
Outdoor Air Inlet Temperature: 35.0 ℃ DB

Heating Operation Conditions
Indoor Air Inlet Temperature: 20.0 ℃ DB
Outdoor Air Inlet Temperature: 7.0 ℃ DB, 6.0 ℃ WB

Piping Length: 7.5 meters
DB: Dry Bulb; **WB:** Wet Bulb

2. The Sound Pressure Level is based on the following conditions:
– 1.5 meters Beneath the Unit.
– Voltage of the power source for the indoor fan motor is 220V.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

3. Sound pressure level
HSP = High static pressure STDSP = Standard static pressure LSP = Low static pressure

OD: Outer Diameter
HSP: High Static Pressure Connection
LSP: Low Static Pressure Connection

*R410A (Std. Accessory pipe to be used)

Model		EF-5GE
Combined Indoor Unit Model		RPI-5FSN(E)
Outer Dimensions		
Height	mm	254
Width	mm	1350 + 59
Depth	mm	270
Net Weight	Kg	12.5
Damper Motor Quantity		1
Approximate Packaging		
Measurement	m^3	0.13
Standard Accessories		Fresh Outdoor Air Inlet Thermistor

- Silent Operation
- Slim Air Panel
- Drain Pump as standard

4-way cassette

New design air panel

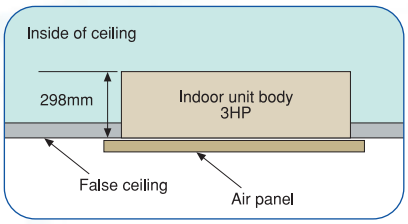
The air panel was revised to give a fresh and simple design. Prevention of smudging and short-circuiting is also taken into account.

Extremely Quite Operation

Uses a blade design resulting in an exceptionally quiet fan. HI-stream fan achieves the lowest level of noise, 28 dB (A) (RCI-1.0FSN1E).

Compact, low height units

The height of the units is just 298mm so they can easily be installed in a small space. The units require limited ceiling space which enables improved work efficiency in installation behind the ceiling.



High ceiling adaptability satisfies a wide variety of requirements

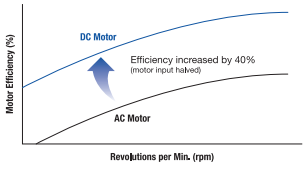
This model is adaptable to a high ceiling with a height of 4.2m by using speed-up taps. These features allow comfortable air conditioning in high street stores.

High Ceiling	(m)					
	1.0/1.5/2.0/2.5 HP			3.0/3.5/4.0/5.0/6.0 HP		
	4-way	3-way	2-way	4-way	3-way	2-way
Standard	2.7	3.0	3.3	3.2	3.6	4.0
Speed-up (1)	3.0	3.3	3.5	3.6	4.0	4.2
Speed-up (2)	3.5	3.6	-	4.2	4.3	-

NOTES
For setting 3 and 2 directions, the separately sold '3-way outlet parts set' is necessary.
Speed up (1) and Speed-up (2) can be selected through RCS by using C5 option.

Wireless controller (option)

See page 39.



Fresh air intake

Connection of fresh air intake can be taken in by connecting the duct beside indoor unit. The control duct fan will operate only when unit is operating giving good air recirculation and comfort.

Branch duct

Available across the range for added flexibility

DC Fan Motor with Outstanding Efficiency

The DC fan motor greatly improves efficiency compared with conventional products having an AC motor. Also, air blasts are reduced by controlling the rotation speed of the fan.

Drain-up mechanism is equipped as standard.
Anti-mould filter is equipped as standard.

General Data

Model		RCI-1.0FSN1E	RCI-1.5FSN1E	RCI-2.0FSN1E	RCI-2.5FSN1E	RCI-3.0FSN1E	RCI-3.5FSN1E	RCI-4.0FSN1E	RCI-5.0FSN1E	RCI-6.0FSN1E
Power Supply		220-240V, 5Ø Hz								
Nominal Cooling Capacity	W	2800	4500	5600	7100	8000	9000	11200	14000	16000
Nominal Heating Capacity	W	3200	5000	6300	8500	9000	10000	12500	16000	18000
Air Flow Rate (Hi/Med/Lo)	m^3/min	13/12/11	15/14/12	16/14/12	20/17/15	26/23/20	26/23/20	32/28/24	34/29/25	37/32/27
Fan Motor	W	56	56	56	56	56	56	108	108	108
Sound Pressure Level										
(Overall A Scale) (Hi/Med/Lo)	dB(A)	32/30/28	32/30/28	32/30/28	32/30/28	34/32/30	34/32/30	38/35/33	39/37/35	42/40/36
Outer Dimensions										
Height	mm	248	248	248	248	298	298	298	298	298
Width	mm	840	840	840	840	840	840	840	840	840
Depth	mm	840	840	840	840	840	840	840	840	840
Net Weight	kg	23	23	24	24	26	26	29	29	29
Refrigerant		R410A (Nitrogen Charged in Factory for Corrosion-Resistance)								
Connections		Flare Nut Connection (With Flare Nuts)								
Refrigerant Piping										
Liquid Line	mm(in.)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)
Gas Line	mm(in.)	Ø12.7(1/2)	Ø12.7(1/2)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)	Ø19.05(3/4)	Ø19.05(3/4)	Ø19.05(3/4)
								Ø15.88(5/8)*	Ø15.88(5/8)*	Ø15.88(5/8)*
Condensate Drain	mm	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD
Packing Measurements	m^3	0.22	0.22	0.22	0.22	0.26	0.26	0.26	0.26	0.26
Adaptable Air Panel Model		P-G23WA2								
Colour (Munsell Code)		Spring White (4.1Y8.5/0.7)								
Outer Dimensions										
Height	mm	37	37	37	37	37	37	37	37	37
Width	mm	950	950	950	950	950	950	950	950	950
Depth	mm	950	950	950	950	950	950	950	950	950
Net Weight	kg	6	6	6	6	6	6	6	6	6
Packing Measurements	m^3	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Standard Accessories		Suspension Brackets								

NOTES:

OD: Outer Diameter

1. The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and are based on the JISB 8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27.0 ℃ DB / 19.0 ℃ WB
Outdoor Air Inlet Temperature: 35.0 ℃ DB

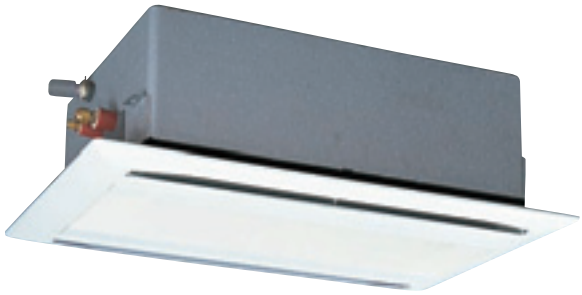
Heating Operation Conditions
Indoor Air Inlet Temperature: 20.0 ℃ DB
Outdoor Air Inlet Temperature: 7.0 ℃ DB / 6.0 ℃ WB

Piping Length: 7.5 meters
DB: Dry Bulb; **WB:** Wet Bulb

2. The Sound Pressure Level is based on the following conditions:
– 1.5 meters Beneath the Unit.
– Voltage of the power source for the indoor fan motor is 220V.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

- Quiet Operation
- Slim line design
- New Air panel, perfect fit for any ceiling

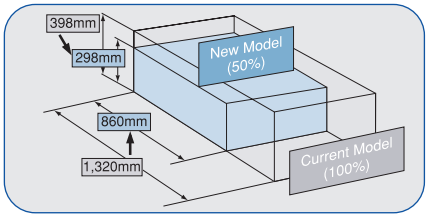
2-way cassette



Quiet operation and low height design for any ceiling.

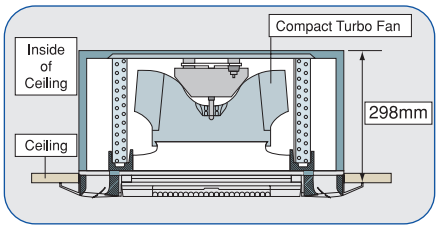
Reduced weight and size simplify handling for easier renewal.

The length of the 3HP type is reduced from 1,320mm to 860mm, the height is also reduced and the volume is decreased by about 50%. The reduced weight of 30kg also makes handling much easier.



Low-profile design allows installation in a small space inside of ceiling.

A compact turbo fan simplifies the structure and reduces the height to 298mm, for easy installation.



Top-class noise control due to compact turbo fan.

The three-dimensional twisted wings of the compact turbo fan greatly reduce noise and electromagnetic disturbance is minimised by PWM (Pulse Width Modulation) control.

Simple Maintenance

Auto-louvers are not flocked, therefore the unit does not accumulate dirt and is easy to clean.

Speed-up tap ensures comfortable air conditioning even when installed in high ceiling areas.

Even rooms with a high ceiling can be comfortably air-conditioned by setting the speed-up tap with the remote control switch.

General Data

Model		RCD-1.0FSN	RCD-1.5FSN	RCD-2.0FSN	RCD-2.5FSN	RCD-3.0FSN	RCD-4.0FSN	RCD-5.0FSN
Power Supply				220-240 V, 50 Hz				
Nominal Cooling Capacity	W	2,800	4,500	5,600	7,100	8,000	11,200	14,000
Nominal Heating Capacity	W	3,300	5,000	6,300	8,500	9,000	12,500	16,000
Indoor Fan								
Air Flow Rate (Hi/Med/Lo)	m³/min	8/7/6	12/10/8.5	15/13/11	19/16/14	22/19/16	29/24/21	34/29/25
Fan Motor	W	35	35	35	55	55	35 x 2	55 x 2
Sound Pressure Level								
(Overall A Scale)	dB(A)	34/32/30	35/32/30	35/32/30	38/34/31	40/36/33	40/36/33	43/40/36
Outer Dimensions								
Height	mm	298	298	298	298	298	298	298
Width	mm	860	860	860	860	860	1,420	1,420
Depth	mm	620	620	620	620	620	620	620
Net Weight	kg	27	27	27	30	30	48	48
Refrigerant				R410A (Nitrogen-Charged for Corrosion-Resistance)				
Connections				Flare Nut Connection				
Refrigerant Piping								
Liquid Line	mm (in.)	Ø6.35 (1/4)	Ø6.35 (1/4)	Ø6.35 (1/4)	Ø9.53 (3/8)	Ø9.53 (3/8)	Ø9.53 (3/8)	Ø9.53 (3/8)
Gas Line	mm (in.)	Ø12.7 (1/2)	Ø12.7 (1/2)	Ø15.88 (5/8)	Ø15.88 (5/8)	Ø15.88 (5/8)	Ø19.05 (3/4)	Ø19.05 (3/4)
							Ø15.88 (5/8)	Ø15.88 (5/8)
Condensate Drain	m³	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD	Ø32 OD
Approximate Packing								
Measurements		0.23	0.23	0.23	0.23	0.23	0.37	0.37
Adaptable Air Panel Model		P-G23DWA1	P-G23DWA1	P-G23DWA1	P-G23DWA1	P-G23DWA1	P-G46DWA1	P-G46DWA1
Colour				Silky White (2.5Y 8.9/1)				
Outer Dimensions								
Height	mm	30+10	30+10	30+10	30+10	30+10	30+10	30+10
Width	mm	1,100	1,100	1,100	1,100	1,100	1,660	1,660
Depth	mm	710	710	710	710	710	710	710
Net Weight	kg	6	6	6	6	6	8	8
Approximate Packing								
Measurements	m³	0.10	0.10	0.10	0.10	0.10	0.15	0.15
Standard Accessories				Suspension Brackets				

NOTES:

OD: Outer Diameter

1. The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and are based on the JISB 8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27.0 ℃ DB / 19.0 ℃ WB
Outdoor Air Inlet Temperature: 35.0 ℃ DB

Heating Operation Conditions
Indoor Air Inlet Temperature: 20.0 ℃ DB
Outdoor Air Inlet Temperature: 7.0 ℃ DB / 6.0 ℃ WB

Piping Length: 7.5 meters
DB: Dry Bulb; **WB:** Wet Bulb

2. The Sound Pressure Level is based on the following conditions:
– 1.5 meters Beneath the Unit.
– Voltage of the power source for the indoor fan motor is 220V.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

Set Free – RPK Technical Description

- New design
- Ideal for the home
- Compact and stylish

Compact and Stylish Design

This model has been designed with a flat panel and the width has been reduced by 250mm to 780mm. The weight has also been condensed by approximately 17%.

Ideal for the Home

This model creates a pleasant, quiet and comfortable environment, making it the ideal choice for the home.

Wireless or Wired Control

The indoor unit is equipped with a wireless receiver kit (PC-LH3A) inside as a standard accessory. The wired remote control switch, PC-P1HE is also applicable.

Easy Maintenance

Alarm indication when using PC-LH3A has been improved (LED of the unit shows alarm code).

Quiet Operation

Trapezoidal blades cut the air diagonally reducing air flow resistance. Conical blade fans with their slow rotation ensure a high air flow and low noise levels.

Mini Wall mounted

General Data

Model		RPK-1.0FSN1M	RPK-1.5FSN1M
Power Supply		AC 1 Ø,220-240V/50Hz	
Nominal Cooling Capacity	W	2800	4500
Nominal Heating Capacity	W	3200	5000
Indoor Fan			
Air Flow Rate (Hi/Me/Lo)	m^3/min	10/8/7	11/10/9
Fan Motor (Output)	W	20	20
Sound Pressure Level			
(Overall A Scale) (Hi-Me-Lo)	dB	38-36-34	40-38-36
Outer Dimensions			
Height	mm	280	280
Width	mm	780	780
Depth	mm	210	210
Net Weight	kg	10	10
Refrigerant		R410A (Nitrogen-Charged for Corrosion-Resistance)	
Connections		Flare Nut Connection (with Flare Nuts)	
Refrigerant Piping			
Liquid Line	mm(in.)	Ø6.35(1/4)	Ø6.35(1/4)
Gas Line	mm(in.)	Ø12.7(1/2)	Ø12.7(1/2)
Condensate Drain		Ø26 OD	Ø26 OD
Approximate Packing			
Measurement	m^3	0.07	0.07
Standard Accessories		Wall Mounting Bracket	
Cabinet Colour		Beige	

NOTES:

OD: Outer Diameter

1. The nominal cooling capacity is the combined capacity of the HITACHI standard split system, and is based on the JISB 8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB, 19°C WB
Outdoor Air Inlet Temperature: 35°C DB

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB, 7.0 °C WB
Outdoor Air Inlet Temperature: 6.0 °C DB

Pipe Length: 7.5 meters
DB: Dry Bulb; **WB:** Wet Bulb

2. The sound pressure level is based on the following conditions:
   – 1 meter beneath the unit and 1 meter from inlet grille
   – Voltage of the power source for the indoor fan motor is 230V
   In case of the power source of 240V, the sound pressure level increases by about 1dB.
   The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

- Extended Line-up NEW 0.8 – 4.0
- Quiet operation
- More compact than previous models

Wall mounted

Compact, allowing easy installation

Designed with ease of installation in mind this new space saving model uses a high proportion of light weight parts reducing the unit weight to 12kg.

Expanded product line up

2.5/3.0/4.0HP models available

Compact design

It's compact size allows easy installation and the weight has been reduced by 15%.

Quiet Operation

Trapezoidal blades cut the air diagonally to reduce air flow resistance. The conical blade fan ensures a high air flow and low noise with slow rotation. This model creates a pleasant, quiet and comfortable environment.

Swing Louver

The 'Swing Louver' with 3 flaps at both sides has been adopted, in order to provide comfortable air to the entire room.

Wireless or Wired Control

The indoor unit is equipped with a wireless receiver kit inside as an standard accessory. The wired remote control switch, PC-P1HE is also applicable.

General Data

Model		RPK-0.8FSNM	RPK-1.0FSNM	RPK-1.5FSNM	RPK-2.0FSNM	RPK-2.5FSNM	RPK-3.0FSNM	RPK3.5FSNM	RPK-4.0FSNM
Power Supply					220-240 V, 50 Hz				
Nominal Cooling Capacity	W	2,200	2,800	4,500	5,600	7,100	8,000	9,000	11,200
Nominal Heating Capacity	W	2,500	3,200	5,000	6,300	8,500	9,000	10,000	12,500
Indoor Fan									
Air Flow Rate (Hi/Me/Lo)	m^3/min	11/9/8	11/9/8	13/11/9	14/12/10	22/18/15	22/18/15	26/24/20	26/24/20
Fan Motor (Output)	W	20	20	20	20	40	40	41	41
Sound Pressure Level									
(Overall A Scale)	dB	36/34/31	36/34/31	39/37/34	39/37/34	43/40/37	43/40/37	49/46/43	49/46/43
Outer Dimensions									
Height	mm	295	295	295	295	360	360	360	360
Width	mm	1.030	1.030	1.030	1.030	1.390	1.390	1,390	1.390
Depth	mm	183	183	183	183	225	225	225	225
Net Weight	kg	12	12	12	12	21	21	22	22
Refrigerant					R410A (Nitrogen-Charged for Corrosion-Resistance)				
Connections					Flare Nut Connection (with Flare Nuts)				
Refrigerant Piping									
Liquid Line	mm(in.)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)
Gas Line	mm(in.)	Ø12.7(1/2)	Ø12.7(1/2)	Ø12.7(1/2)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)
Condensate Drain		ØD60	ØD60	ØD60	ØD60	ØD60	ØD60	ØD60	ØD60
Approximate Packing									
Measurement	m^3	0.11	0.11	0.11	0.11	0.20	0.20	0.20	0.20
Standard Accessories					Mounting Brackets				
Cabinet Colour					Pearl White				

NOTES:

OD: Outer Diameter

1. The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and are based on the JISB 8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27.0 ℃ DB / 19.0 ℃ WB
Outdoor Air Inlet Temperature: 35.0 ℃ DB

Heating Operation Conditions
Indoor Air Inlet Temperature: 20.0 ℃ DB
Outdoor Air Inlet Temperature: 7.0 ℃ DB / 6.0 ℃ WB

Piping Length: 7.5 meters
DB: Dry Bulb; **WB:** Wet Bulb

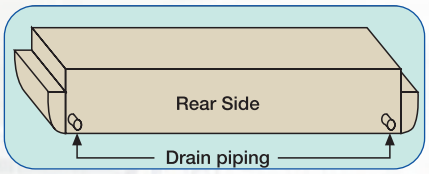
2. The Sound Pressure Level is based on the following conditions:
   – 1.0 meters beneath the Unit, 1.0 meters from discharge grill.
   – Voltage of the power source for the indoor fan motor is 220V.
   The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

- Stylish design
- Space saving design
- Easy installation
- Quiet Operation

Quiet operation, easy installation and space saving design

Versatile mounting

To expand installation and positioning options, HITACHI has added a second drain pipe connector, one more than conventional units. Refrigeration pipes have also been improved and can now be connected at the left, right or rear of the unit.



Space saving design – Hitachi's unique feature

An innovative fan and heat exchanger design led to the creation of today's ultra-slim ceiling unit. Fully adjustable mounting brackets permit close fitting to the ceiling to make installation possible in even the smallest area. Less than 163mm of vertical space are required for installation.

Quiet Operation

The ceiling unit is equipped with a highly efficient, multi-blade centrifugal fan that generates a powerful yet gentle airflow throughout the room. A redesigned aerodynamically tested air panel minimises operational sound even at high fan speeds.

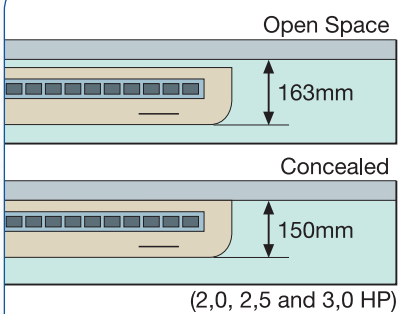
Ceiling suspended

Easier installation

By enabling refrigeration piping to be tucked-in close to each indoor unit, piping layout and installation have been made much easier.

Anti-mildew filter

Anti-mildew filter is equipped as a standard accessory.



General Data

Model		RPC-2.0FSNE	RPC-2.5FSNE	RPC-3.0FSNE	RPC-3.5FSNE	RPC-4.0FSNE	RPC-5.0FSNE	RPC-6.0FSNE
Power Supply				220-240 V, 50 Hz				
Nominal Cooling Capacity	W	5,600	7,100	8,000	9,000	11,200	14,000	16,000
Nominal Heating Capacity	W	6,300	8,500	9,000	10,000	12,500	16,000	18,000
Indoor Fan								
Air Flow Rate (Hi/Me/Lo)	m^3/min	15/13/10	18/16/12	21/17/15	21/17/15	30/24/19	35/28/21	37/32/27
Fan Motor (Output)	W	75	75	75	75	145	145	145
Sound Pressure Level								
(Overall A Scale) (Hi/Med/Lo)	dB(A)	44/42/38	46/43/41	48/45/42	48/45/42	49/45/39	49/46/41	50/48/44
Outer Dimsensions								
Height	mm	163	163	163	163	225	225	225
Width	mm	1,094	1,314	1,314	1314	1,314	1,574	1574
Depth	mm	625	625	625	625	625	625	625
Net Weight	kg	28	31	31	31	35	41	41
Refrigerant				R410A (Nitrogen-Charged in Factory for Corrosion-Resistance)				
Connections				Flare Nut Connection (With Flare Nuts)				
Refrigerant Piping								
Liquid Line	mm (in.)	Ø6.35(1/4)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)
Gas Line	mm (in.)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)	Ø19.05(3/4)	Ø19.05(3/4)	Ø19.05(3/4)
						Ø15.88(5/8)	Ø15.88(5/8)	Ø15.88(5/8)*
Condensate Drain	mm	Ø25 OD	Ø25 OD	Ø25 OD	Ø25 OD	Ø25 OD	Ø25 OD	Ø25 OD
Approximate Packing								
Measurements	m^3	0.24	0.29	0.29	0.29	0.36	0.43	0.43
Standard Accessories				Mounting Bracket				
Colour (MUNSELL Code)				Spring White (4.1Y 8.5/0.7)				

NOTES:

1. The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and are based on the JISB 8616.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27.0 ℃ DB / 19.0 ℃ WB
Outdoor Air Inlet Temperature: 35.0 ℃ DB

Heating Operation Conditions
Indoor Air Inlet Temperature: 20.0 ℃ DB
Outdoor Air Inlet Temperature: 7.0 ℃ DB / 6.0 ℃ WB

Piping Length: 7.5 meters
DB: Dry Bulb; **WB:** Wet Bulb

2. The Sound Pressure Level is based on the following conditions:
– 1.0 meters Beneath the Unit, 1.0 m from discharge grill.
– Voltage of the power source for the indoor fan motor is 220V.
The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

OD: Outer Diameter

*R410A (Std. Accessory pipe to be used).

Set Free – RPF/RPFI Technical Description

Floor mounted indoor units – RPF

- Floor Type
- Slim design, only 200mm deep
- Low height, only 630mm
- Light unit
- Low sound level

Floor concealed indoor units – RPFI

- Compact design
- 620mm in height
- 220mm in depth

Space-saving slim unit, only 220mm in depth

Slim line design only 220mm in depth allowing the unit to be installed without spoiling the style or beauty of the room.

Effective use of space by window

With a height of 630mm, may be installed by a window leaving plenty of window space. Best installed in a perimeter zone.

Low height

Only 630mm.

Concealed Floor Mounted

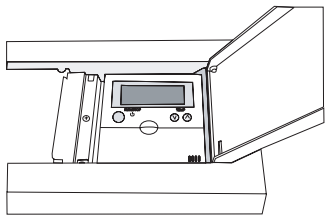
Compact design for limited space inside of perimeter wall.

So compact that it fits into even the smallest space.

Special emphasis placed on interior design compatibility as well as space saving design, allowing it to fit perfectly into the space below a bay window.

Optional location for remote control switch

Install the PC-P1HE under the plastic cover



Floor mounted

General Data

Model		RPF-1.0FSNE	RPF-1.5FSNE	RPF-2.0FSNE	RPF-2.5FSNE	RPFI-1.0FSNE	RPFI-1.5FSNE	RPFI-2.0FSNE	RPFI-2.5FSNE
Power Supply		220-240 V, 50 Hz				220-240 V, 50 Hz			
Nominal Cooling Capacity	W	2,800	4,500	5,600	7,100	2,800	4,500	5,600	7,100
Nominal Heating Capacity	W	3,200	5,000	6,300	8,500	3,200	5,000	6,300	8,500
Air Flow Rate (Hi/Me/Lo)	m^3/min	8.5/7/6	12/10/9	16/14/11	16/14/11	8.5/7/6	12/10/9	16/14/11	16/14/11
Fan Motor	W	20	28	45	45	20	28	45	45
Sound Pressure Level									
(Overall A Scale)	dB(A)	35/32/29	38/35/31	39/3632	42/38/34	35/32/29	38/35/31	39/36/32	42/38/24
Outer Dimensions									
Height	mm	630	630	630	630	620	620	620	620
Width	mm	1045	1170	1420	1420	863	988	1238	1238
Depth	mm	220	220	220	220	220	220	220	220
Net Weight	kg	19	23	33	34	19	23	27	28
Refrigerant		R410A (Nitrogen Charged in Factory for Corrosion-Resistance)				R410A (Nitrogen Charged in Factory for Corrosion-Resistance)			
Connections		Flare Nut Connection				Flare Nut Connection			
Refrigerant Piping									
Liquid Line	mm(in.)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø9.53(3/8)	Ø6.35(1/4)	Ø6.35(1/4)	Ø6.35(1/4)	Ø9.53 (3/8)
Gas Line	mm(in.)	Ø12.7(1/2)	Ø12.7(1/2)	Ø15.88(5/8)	Ø15.88(5/8)	Ø12.7(1/2)	Ø12.7(1/2)	Ø15.88(5/8)	Ø15.88 (5/8)
Condensate Drain	mm	Ø18.5 OD	Ø18.5 OD	Ø18.5 OD	Ø18.5 OD	Ø18.5 OD	Ø18.5 OD	Ø18.5 OD	Ø18.5 OD
Packing Measurements	m^3	0.22	0.24	0.29	0.29	0.22	0.23	0.25	0.25
Colour (Munsell Code)		Spring White (4.1Y 8.5/0.7)							

NOTES:

OD: Outer Diameter

1. The nominal cooling and heating capacity is the combined capacity of the HITACHI standard split system, and are based on the JISB 8616.

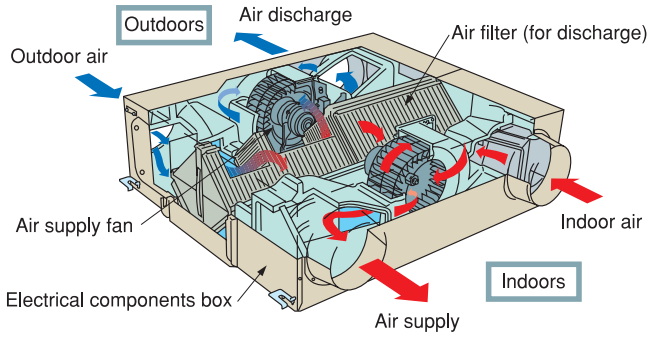
Cooling Operation Conditions
Indoor Air Inlet Temperature: 27.0 ℃ DB / 19.0 ℃ WB
Outdoor Air Inlet Temperature: 35.0 ℃ DB

Heating Operation Conditions
Indoor Air Inlet Temperature: 20.0 ℃ DB
Outdoor Air Inlet Temperature: 7.0 ℃ DB / 6.0 ℃ WB

Piping Length: 7.5 meters
DB: Dry Bulb; **WB:** Wet Bulb

2. The Sound Pressure Level is based on the following conditions:
   – 1.0 meters from the unit, 1.0 meters from floor level.
   – Voltage of the power source for the indoor fan motor is 220V.
   The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration when installing the unit.

Structure



Fixed Type Heat Exchanging Element

- The newly developed fixed type heat exchanging element with high temperature exchange efficiency equivalent to the rotor type element, has been adopted for the new total heat exchangers (Temp Exchange Efficiency: 77% <in case of 500m3/h type unit>). In addition, reliability is increased due to reduction of moving parts.
- Low weight with simple unit structure: 33kg (in case of 500m3/h type unit).

Provides a comfortable environment by control interlocking with air conditioning units.

Controllable using the remote control switch for the air conditioning unit.

Can be controlled in various ways using the remote control switch for the air conditioning unit (PC-P1H).

Functions

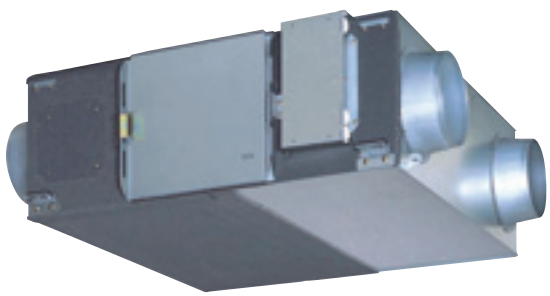
- Simultaneous RUN/STOP switch both for air conditioning units and heat exchanging unit
- Individual operation of heat exchanging unit
- Fan speed control (high/medium/low)
- Ventilation mode selection (automatic/heat exchange/bypass)*1
- Pre-cool/pre-heat control (interlocking start with delay in 30 or 60 minutes)*1
- ON/OFF timer (every half hour, maximum 24 hours)
- Increased air supply operation
- Specific alarm display

*1 Required option to be selected at remote control switch.

Automatic selection of most suitable ventilation mode

Depending on temperature conditions both outdoors and indoors, the most suitable ventilation mode is automatically selected, designed for energy efficiency.

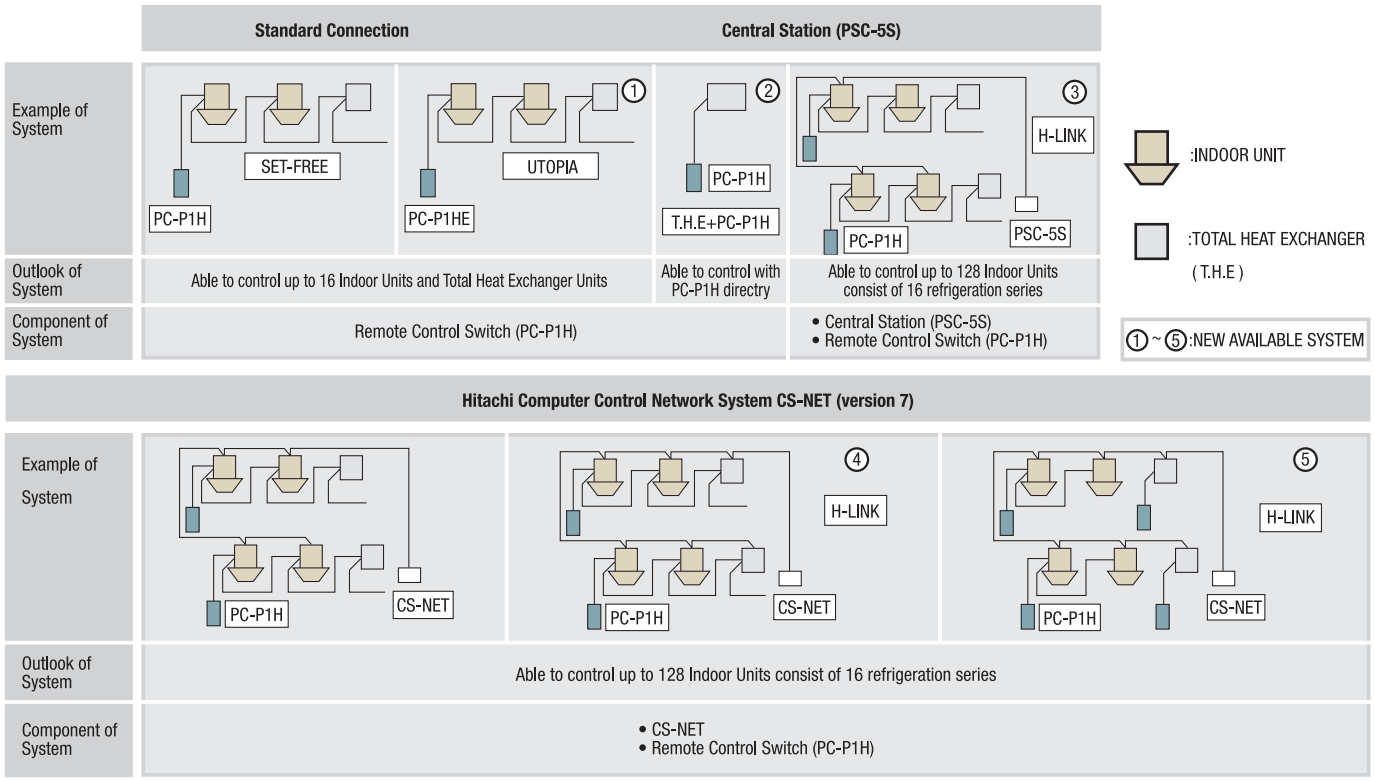
Total heat exchanger



Other Characteristics

- Quiet operation with low noise level of 32.5-33.5 dB (A) (at Hi Tap of KPI 5021 Type) has been realised by improving the flow path configuration.
- Operation not only with SET-FREE Series Indoor Unit, but also with UTOPIA Series Indoor Unit.
- Connectable to H-LINK System with Central Station or with CS-NET in Operation with Indoor Unit.
- Flexible Duct Installation: The connecting direction of duct at outdoor side (OA,EA) can be changed according to the condition of the installation site (2 directions).
- Reduced packing material for environment protection. The wood for the packing use has been reduced for environment protection.
- Can also be installed upside down.

Various Control Examples of Total Heat Exchanger



General Data

Model			KPI-2521	KPI-5021	KPI-8021	KPI-10021
Power Supply			AC 1 -,220-240V / 50Hz, 60Hz*1			
Air Flow Rate (m^3/h)		Hi	250/250	500/500	800/800	1,000/1,000
		Me	250/250	500/500	800/800	1,000/1,000
		Lo	165/150	350/300	670/660	870/720
Temperature Exchange Efficiency (%)			83	82	81	81
Enthalpy Exchange Efficiency Heating/Cooling			74/68	73/68	73/68	73/67
Sound Pressure Level		Hi	26.5-27.5/28.5	32.5-33.5/32.5	33.3-34.5/35	36-37/36
(Overall A Scale) at 1.5m		Me	25-26/25.5	30-31/28.5	32-33/31	34-35/34
from the unit (under)*3	*4	Lo	21-22/21	23.5-24.5/23	30-31/29	31.5-32.5/30
External Pressure (PA)		Hi	65/100	150/200	140/230	160/200
	*2	Me	40/50	60/60	100/120	100/110
		Lo	20/20	30/20	70/80	80/60
Outer Dimensions						
Height			275	317	398	398
Width			735	1016	1004	1231
Depth			780	888	1164	1164
Net Weight		Kg	21	33	61	72
Approx Packing Measurement		m^3	0.26	0.46	0.70	0.84

NOTES:

*1 KPI-10021 has different units according to the applied power supply, 220-240v, 50Hz and 200V/60Hz

*2 Use it under the following conditions. KPI-8021: 29Pa or more, KPI-10021: 49Pa or more

*3 The sound pressure level is based on the following conditions; 1.5 meter beneath the unit and this data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

*4 The sound pressure is based on the total heat exchange mode. In case of the bypass ventilation mode, the sound pressure level increased by approximately 1dB(A).

Set Free – FSVNE Technical Description – Mini

RAS-3FSVNE

RAS-4FSVNE / RAS-5FSVNE

General Data

Model		RAS-3FSVNE	RAS-4FSVNE	RAS-5FSVNE
Power Supply		220-240V / 50Hz		
Nominal Cooling Capacity	kW	8.0	11.2	14.0
Nominal Heating Capacity	kW	9.0	12.5	16.0
Cabinet Colour		Beige		
Sound Pressure Levels (Night Shift)	dB(A)	46(42)/47	47(43)/48	50(46)/51
Outer Dimensions				
Height	mm	800	1,240	1,240
Width	mm	850	850	850
Depth	mm	315	315	315
Net Weight	kg	68	90	97
Refrigerant		R410A		
Flow control		Micro-Computer Control Expansion Valve		
Compressor		Hermetic (Rotary)	Hermetic (Scroll)	Hermetic (Scroll)
Model		2YC63BXD	EK405AHD	EK405AHD
Quantity		1	1	1
Motor Output (Pole)	kW	1.7(4)	2.2(4)	3.0(4)
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Quantity		1	2	2
Air Flow Rate	m^3/min	52	88	99
Motor Output (Pole)	W	0.05(8)x1	0.05(8)x1+0.07(8)x1	0.05(8)x1+0.07(8)x1
Refrigerant Piping		Flare Nut Connection		
Liquid Line	mm(in.)	Ø9.53	Ø9.53	Ø9.53
Gas Line	mm(in.)	Ø15.88	Ø15.88	Ø15.88
Refrigerant Charge	kg	1.75	2.8	3.0
Wiring Holes				
Power Supply	mm	Ø26.5	Ø26.5	Ø26.5
Control Circuit	mm	Ø26.5	Ø26.5	Ø26.5
Connecting Wire between Indoor and Outdoor unit		2	2	2
Approximate Packing Measurement	m^3	0.34	0.5	0.5

NOTES:

1. The cooling and heating capacities show the capacities when the outdoor unit is operated with the 100% rating of indoor units, and are based on the standard JIS B8616-1984.

Cooling Operation Conditions

Indoor Air Inlet Temperature:	27°C DB (80°F DB) 19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature:	35°C DB (95°F DB)

Heating Operation Conditions

Indoor Air Inlet Temperature:	20°C DB (68°F DB)
Outdoor Air Inlet Temperature:	7°C DB (45°F DB) 6°C WB (43°F WB)
Piping Length:	7.5 Meters
Piping Lift:	0 Meter

2. The sound pressure level is based on following conditions. In case of cooling operation mode. In case of heating operation mode, the sound pressure level increases by approximately 1~2dB.
   1 Meter from the unit service cover surface, and 1.5 Meters from floor level. Voltage of the power source is 380V. In case of the power source of 415V. the sound pressure level increases by about 1 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

Set Free – FSN Technical Description – Outdoor units

General Data

Model		RAS-5FSN	RAS-8FSNE	RAS-10FSNE
Power Supply			380-415V / 50Hz	
Nominal Cooling Capacity	kW	14.0	22.4	28.0
Nominal Heating Capacity	kW	16.0	25.0	31.5
Cabinet Colour			Natural Gray	
Sound Pressure Levels (Night Shift)	dB(A)	52(47)	56(51)	58(53)
Outer Dimensions				
Height	mm	1,645	1,745	1,745
Width	mm	630	950	950
Depth	mm	750	750	750
Net Weight	kg	160	260	270
Refrigerant			R410A	
Flow Control			Micro-Computer Control Expansion Valve	
Compressor			Hermetic (Scroll)	
Model		E405AHD	E405AHD E505DH	E405AHD E605DH
Quantity		1	1+1	1+1
Motor Output (Pole)	kW	3.0(4)	1.8(4)+3.7(2)	2.3(4)+4.4(2)
Heat Exchanger			Multi-Pass Cross-Finned Tube	
Condenser Fan			Propeller Fan	
Quantity		1	1	1
Air Flow Rate	m^3/min	87	138	172
Motor Output (Pole)	W	160(8)	380(8)	380(8)
Refrigerant Piping			Flare Nut Connection	
Liquid Line	mm(in.)	Ø9.53(3/8)	Ø9.53(3/8)	Ø9.53(3/8)
Gas Line	mm(in.)	Ø15.88(5/8)	Ø19.05(3/4)	Ø22.2(7/8)
Refrigerant Charge	kg	5.4	8.5	9.5
Wiring Holes				
Power Supply	mm	Ø56	Ø56	Ø56
Control Circuit	mm	Ø26.5	Ø26.5	Ø26.5
Connecting Wire between				
Indoor and Outdoor Unit		2	2	2
Approximate Packing				
Measurement	m^3	0.87	1.44	1.44

RAS-5FSN

RAS-8/10FSNE

NOTES:

1. The cooling and heating capacities show the capacities when the outdoor unit is operated with the 100% rating of indoor units, and are based on the standard JIS B8616-1984.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length: 7.5 Meters
Piping Lift: 0 Meter

2. The sound pressure level is based on following conditions. In case of cooling operation mode. In case of heating operation mode, the sound pressure level increases by approximately 1~2dB.
1 Meter from the unit service cover surface, and 1.5 Meters from floor level. Voltage of the power source is 380V. In case of the power source of 415V. the sound pressure level increases by about 1 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

Set Free – FSN Technical Description – Outdoor units

RAS-16FSN

RAS-20FSN

General Data

Model		RAS-16FSN	RAS-20FSN
Power Supply		380-415V / 50Hz	
Nominal Cooling Capacity	W	45.0	56.0
Nominal Heating Capacity	W	50.0	63.0
Cabinet Colour		Natural Gray	
Sound Pressure Levels (Night Shift)	dB(A)	62(57)	62(57)
Outer Dimensions			
Height	mm	1,745	1,745
Width	mm	1,210	1,910
Depth	mm	750	750
Net Weight	kg	370	535
Refrigerant		R410A	
Flow Control		Micro-Computer Control Expansion Valve	
Compressor		Hermetic (Scroll)	
Model		E405AHD	E405AHD
		E605DHx2	E605DHx3
Quantity		1+1x2	1+1x3
Motor Output (Pole)	kW	3.0(4)+4.4(2)x2	1.8(4)+4.4(2)x3
Heat Exchanger		Multi-Pass Cross-Finned Tube	
Condenser Fan		Propeller Fan	
Quantity		1	2
Air Flow Rate	m^3/min	210	172+172
Motor Output (Pole)	W	380(8)	380(8)+275(6)
Refrigerant Piping		Flare Nut Connection	
Liquid Line	mm(in.)	Ø12.70(1/2)	Ø15.88(5/8)
Gas Line	mm(in.)	Ø28.6(1 1/8)	Ø28.6(1 1/8)
Refrigerant Charge	kg	13.0	19.0
Wiring Holes			
Power Supply	mm	Ø56	Ø56
Control Circuit	mm	Ø26.5	Ø26.5
Connecting Wire between			
Indoor and Outdoor Unit		2	2
Approximate Packing			
Measurement	m^3	1.81	2.82

NOTES:

1. The cooling and heating capacities show the capacities when the outdoor unit is operated with the 100% rating of indoor units, and are based on the standard JIS B8616-1984.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length: 7.5 Meters
Piping Lift: 0 Meter

2. The sound pressure level is based on following conditions. In case of cooling operation mode. In case of heating operation mode, the sound pressure level increases by approximately 1~2dB.
1 Meter from the unit service cover surface, and 1.5 Meters from floor level. Voltage of the power source is 380V. In case of the power source of 415V. the sound pressure level increases by about 1 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

Set Free – FSN Technical Description – Outdoor units

General Data

Model		RAS-24FSNE	RAS-30FSNE
Power Supply		380-415V / 50Hz	
Nominal Cooling Capacity	W	69.0	85.0
Nominal Heating Capacity	W	77.5	95.0
Cabinet Colour		Natural Gray	
Night Shift	dB(A)	62(57)	63(58)
Outer Dimensions			
Height	mm	1,745	1,745
Width	mm	2,430	2,430
Depth	mm	750	750
Net Weight	kg	675	720
Refrigerant		R410A	
Flow Control		Micro-Computer Control Expansion Valve	
Compressor		Hermetic (Scroll)	
Model		E405AHD	E405AHD
		E605DHx4	E655DHx5
Quantity		1+1x4	1+1x5
Motor Output (Pole)	kW	1.4(4)+4.4(2)x4	1.4(4)+4.4(2)x5
Heat Exchanger		Multi-Pass Cross-Finned Tube	
Condenser Fan		Propeller Fan	
Quantity		2	2
Air Flow Rate	m^3/min	210+172	210+172
Motor Output (Pole)	W	380(8)+275(6)	380(8)+275(6)
Refrigerant Piping			
Liquid Line	mm(in.)	Ø15.85(5/8)	Ø19.05(3/4)
Gas Line	mm(in.)	Ø28.6(1 1/8)	31.75(1 1/4)
Refrigerant Charge	kg	23.0	26.0
Wiring Holes			
Power Supply	mm	Ø70	Ø70
Control Circuit	mm	Ø26.5	
Connecting Wire between			
Indoor and Outdoor Unit		2	2
Approximate Packing Measurement	m^3	3.57	3.57

RAS-24/30FSNE

NOTES:

1. The cooling and heating capacities show the capacities when the outdoor unit is operated with the 100% rating of indoor units, and are based on the standard JIS B8616-1984.

Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length: 7.5 Meters
Piping Lift: 0 Meter

2. The sound pressure level is based on following conditions. In case of cooling operation mode. In case of heating operation mode, the sound pressure level increases by approximately 1~2dB.
1 Meter from the unit service cover surface, and 1.5 Meters from floor level. Voltage of the power source is 380V. In case of the power source of 415V. the sound pressure level increases by about 1 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

Set Free – FXN Technical Description – Outdoor units

RAS-8/10FXNE

RAS-16/20FXN

RAS-24/30FXN

General Data

Model		RAS-8FXNE	RAS-10FXNE	RAS-16FXN	RAS-20FXN	RAS-24FXN	RAS-30FXN
Power Supply				380-415V / 50Hz			
Nominal Cooling Capacity	W	22.4	28.0	45.0	56.0	69.0	85.0
Nominal Heating Capacity	W	25.0	31.5	50.0	63.0	77.5	95.0
Cabinet Colour				Natural Grey			
Sound Pressure Levels							
(Night Shift)	dB(A)	56(51)	58(53)	62(57)	62(57)	62(57)	63(58)
Outer Dimensions							
Height	mm	1,745	1,745	1,745	1,745	1,745	1,745
Width	mm	950	950	1,910	1,910	2,430	2,430
Depth	mm	750	750	750	750	750	750
Net Weight	kg	300	310	537	580	722	765
Refrigerant				R410A			
Flow control				Micro-Computer Control Expansion Valve			
Compressor				Hermetic (Scroll)			
Model		E405AHD	E405AHD	E405AHD	E405AHD	E405AHD	E405AHD
Quantity		E505DH	E605DH	E605DHX2	E655DHX3	E655DHX4	E655DHX5
Motor Output (Pole)	kW	1.8(4)+3.7(2)	2.3(4)+4.4(2)	3.0(4)+4.4(2)x2	1.8(4)+4.4(2)x3	1.4(4)+4.4(2)x4	1.4(4)+4.4(2)x5
Heat Exchanger				Multi-Pass Cross-Finned Tube			
Condenser Fan				Propeller Fan			
Quantity		1	1	1	2	2	2
Air Flow Rate	m^3/min	138	172	172+172	172+172	210+172	210+172
Motor Output (Pole)	W	380(8)	380(8)	380(8)	380(8)+275(6)	380(8)+275(6)	380(8)+275(6)
Refrigerant Piping				Flare Nut Connection			
Liquid Line	mm(in.)	Ø9.53(3/8)	Ø9.53(3/8)	Ø12.70(1/2)	Ø15.88(5/8)	Ø15.88(5/8)	Ø19.05(3/4)
Gas Line Low	mm(in.)	Ø19.05(3/4)	Ø22.2(7/8)	Ø28.6(1 1/8)	Ø28.6(1 1/8)	Ø28.6(1 1/8)	Ø31.75(1 1/4)
Gas Line High	mm(in.)	Ø15.88(5/8)	Ø19.05(3/4)	Ø22.2(7/8)	Ø22.2(7/8)	Ø25.4(1)	Ø28.6(1 3/8)
Refrigerant Charge	kg	8.5	9.5	19.0	19.0	26.0	26.0
Wiring Holes							
Power Supply	mm	Ø56	Ø56	Ø56	Ø56	Ø70	Ø70
Control Circuit	mm	Ø26.5	Ø26.5	Ø26.5	Ø26.5	Ø26.5	Ø26.5
Connecting Wire between Indoor and Outdoor unit		2	2	2	2	2	2
Approximate Packing Measurement	m^3	1.44	1.44	2.82	2.82	3.57	3.57

NOTES:

1. The cooling and heating capacities show the capacities when the outdoor unit is operated with the 100% rating of indoor units, and are based on the standard JIS B8616-1984.

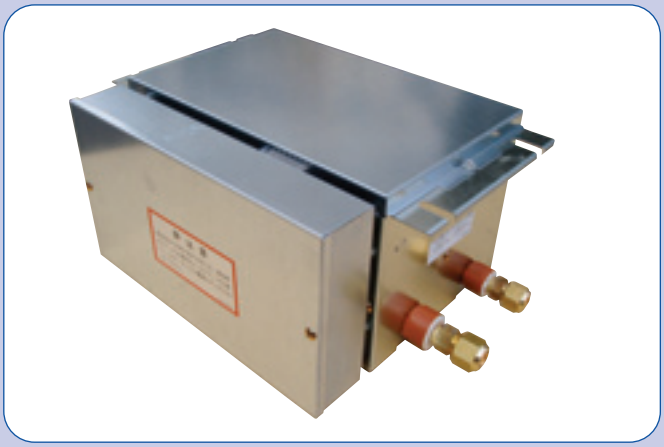
Cooling Operation Conditions
Indoor Air Inlet Temperature: 27°C DB (80°F DB)
19.0°C WB (66.2°F WB)
Outdoor Air Inlet Temperature: 35°C DB (95°F DB)

Heating Operation Conditions
Indoor Air Inlet Temperature: 20°C DB (68°F DB)
Outdoor Air Inlet Temperature: 7°C DB (45°F DB)
6°C WB (43°F WB)
Piping Length: 7.5 Meters
Piping Lift: 0 Meter

2. The sound pressure level is based on following conditions. In case of cooling operation mode. In case of heating operation mode, the sound pressure level increases by approximately 1~2dB.
1 Meter from the unit service cover surface, and 1.5 Meters from floor level. Voltage of the power source is 380V. In case of the power source of 415V. the sound pressure level increases by about 1 dB. The above data was measured in an anechoic chamber so that reflected sound should be taken into consideration in the field.

Changeover Box

The new Changeover boxes from Hitachi are compatible with FXN Set Free Heat Recovery systems. Piping connections are reduced from 5 (3 from outdoor unit and 2 into indoor unit) to 3 (2 from outdoor unit and 1 into indoor unit). The height of the Changeover boxes is as low as 197mm and the installation time is reduced due to the strainer being installed at manufacturing stage. The flexible location of the electrical box is another advantage of this new model as it enables easier access for servicing and it can be positioned at either side of the Changeover box.



Technical Description

General Data

Model		CH-4.0NE	CH-8.0NE	CH-12.0N
Power Supply			TBC	
Total Capacity		HP≤4X ※	4<HP≤8X ※	4<HP≤12
No of Max.I/D Unit		5	8	5
From Outdoor Unit				
High Pressure Gas Pipe	mm	Ø12.7	Ø15.88	Ø19.05
Low Pressure Gas Pipe	mm	Ø15.88	Ø19.05	Ø22.2
To Indoor Unit				
Indoor Gas Pipe	mm	Ø15.88	Ø19.05	Ø22.2
Power Consumption	W	32	32	32
Noise	dB(A)	43	43	44
Max. Length of Branch	M		40	
Difference of Level of CH Unit	M		15	
Dimensions of External Box				
Height	mm	197	197	197
Width	mm	550	570	345
Depth	mm	267	267	299
Weight	kg	7	7.5	11

Control systems

H-Link Transmission System

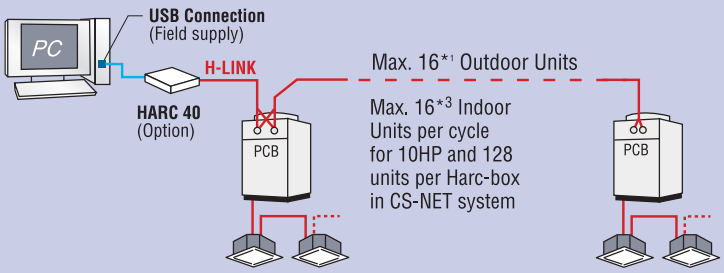
This system connects the control wires for the outdoor and indoor units across two or more refrigerant systems. Regardless of the order or number of units to be connected, all the units can be controlled once they have been connected. By this method, design flexibility is very high, installation is easy and total costs are reduced. Furthermore, central control is possible by connecting CS-NET to H-LINK wiring located in the room next to the room where CS-NET is installed.

Computer Controlled Network System

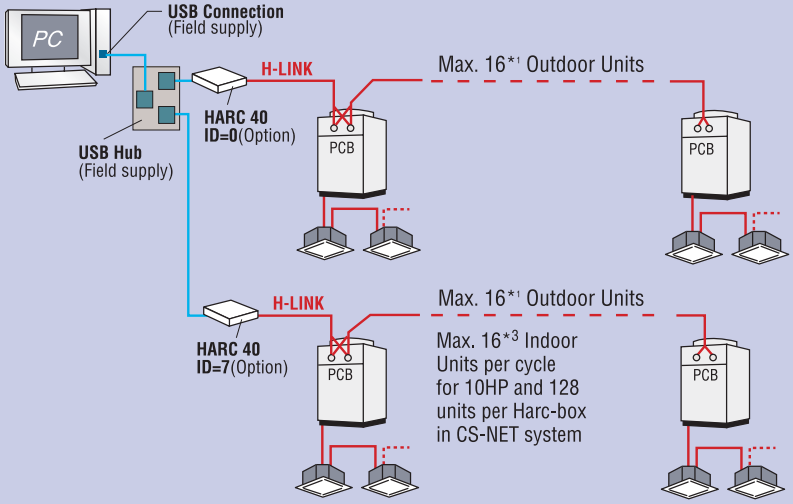
CS-NET

HARC-40

■ System Example 1 : Outdoor Units ≦16



■ System Example 2 : 16<Outdoor Units ≦128



*1: If the number of indoor units per a refrigerant cycle is 17 or greater, count one outdoor unit as two units.

*2: Max. total length of transmission wire is 1,000 meters.

*3: Max. 8 units for 5HP
Max. 13 units for 8HP
Max. 16 units for 16 and 20HP
Max. 27 units for 24HP
Max. 32 units for 30HP

CS-NET Features

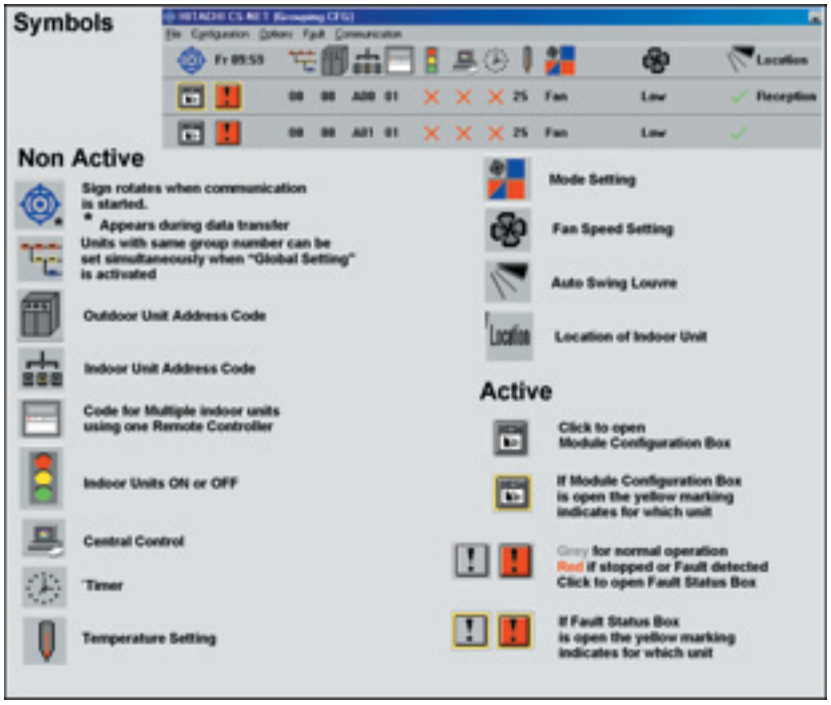
Control Function

- On/Off control
- Operation mode setting
- Temperature setting [setting range: Cooling 19°C – 30°C, Heating 19°C – 30°C]
- Air direction setting
- Remote control fully allowed/prohibited
- Remote control partially allowed/prohibited
- Fan speed setting
- Air direction setting (cannot be set by wireless remote control)
- Filter sign resetting
- Annual timer

Monitoring Function

- On/Off Control
- Operation mode
- Set fan speed
- Set air direction
- Set temperature
- Remote control prohibition setting
- Filter sign
- Alarm
- Alarm code
- Air inlet temperature
- Floor layout plan (BMS style)
- Web server functionality (internet/intranet connection)

Easy Set Up



CS-NET set up and operation

Module configuration box

Click on the Module Configuration Icon of the first Unit to open the Module Configuration Box. The Icon for the open Module will have a yellow surround to indicate the Module that is open.

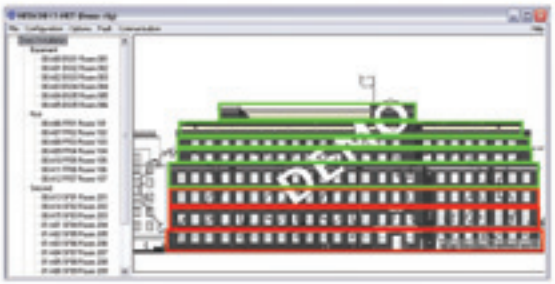
Operation

When the Set Up and Auto Configuration have been completed, the Unit information must be entered in each Individual Module. It is important for future service to enter the Serial Numbers and Models in their respective fields, as this will avoid time consuming searching in the event of warranty claims or spare parts identification.

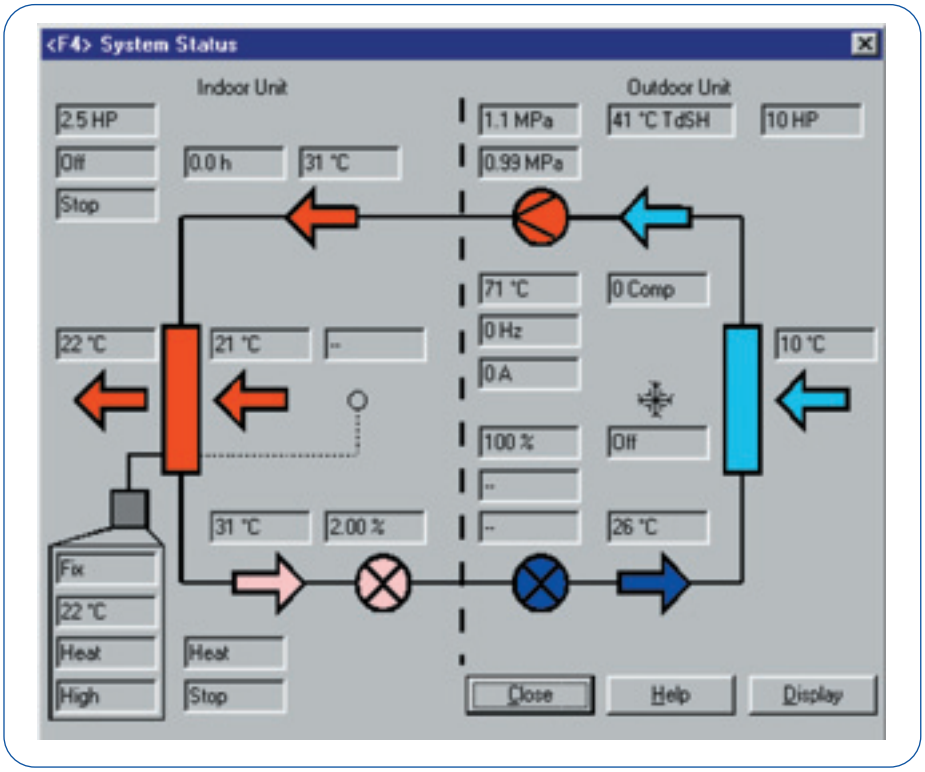
Graphic Representation

When the systems are running, the operating conditions for each unit are shown in a graphical layout which can be operated through FAULT and then SYSTEM STATUS. By clicking on DISPLAY the operating conditions will be shown in a tabular form. This graphical layout is not available for UTOPIA or UTOPIA BIG units.

Floor Layout Plan



Web Connection after Easy Set Up



Specifications of HARC-BX

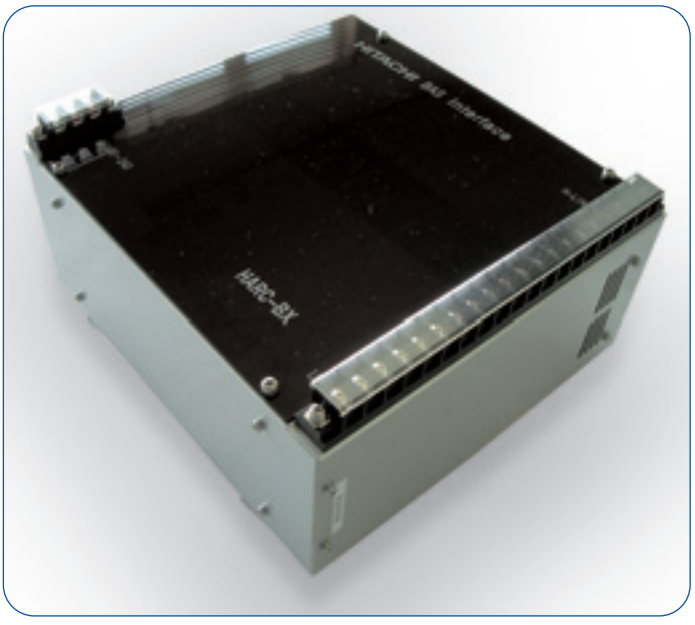
Type	Standard		Option A		Option B	
Connectable Q'ty	64		64		32	
	Control	Monitor	Control	Monitor	Control	Monitor
Run/Stop & Alarm*	•	•	•	•	•	•
Operation Mode	•	•	•		•	•
Set Temp	•	•	•		•	•
Fan Speed	–	–	•	–	•	•
Louver Position	–	–	–	–	•	•
RC. Sw.Permission/Prohibition	–	–	•	–	•	–
Alarm Code	–	–	–	–	–	•
IU Inlet Air Temp	–	–	–	•	–	•
IU Outlet Air Temp	–	–	–	–	–	•
Outdoor Air Temp	–	–	–	–	–	•
Thermo-ON/OFF	–	•	–	–	–	–
Remark	Use PC-P1H or PC-2H2					
Maximum Wiring Length	1000m (Bus Total length)					

*Alarm for monitor only

Lon Works® interface

Gateway Interface to LON WORKS® BMS Systems

Using HARC-BX allows control of up to 5 setting points and remote monitoring of up to 9 valves. By connecting HARC-BX to H-LINK, a group of up to 16 remote controls can be used and up to 64 indoor units can be controlled.



HARC-BX

Remote controllers

PC-P1HE

Remote Control Switch

Features a wide range of functions, including a large liquid crystal display screen, self-diagnostic capabilities, and a timer which can be set in 0.5 hour intervals. A convenient remote control which is supplied as standard with all units.

PC-LH3A

Wireless Remote Control Switch

No wiring work required. Two or more units can be operated simultaneously by remote control. The receiver kit is integral in wall mounted units. Receiver kit PC-RLH11 is required for all other models.

PC-P5H

Simplified remote control switch

The main function of this easy-to-use remote control is temperature setting. Suitable for a variety of applications such as hotels, restaurants and offices. '2 remote controls' or 'group control' (for 16 controls max) can be used, similar to the standard remote control. If a problem occurs, an alarm code immediately shows the details of the problem. *When the half-size remote control is used, cooling/heating is automatic.

PSC-5S

Centralised Remote Control Switch

This Central Station enables centralised control of up to 16 groups of indoor units (at maximum 256 indoor units). Features a wide range of functions, including a large liquid crystal display screen and alarm code. User friendly Central Station. Remote start/stop and common fault signal available.

PSC-5T

7-Day Timer

The 7-Day Timer allows long-term unattended control. By plugging this time to the optional remote control switch or Central Station, daily ON/OFF operation control throughout the week is available. ON/OFF setting is available three times a day by two different patterns.

Optional parts

Indoor Units

4-Way Cassette Type

Item	HP	RCI-1.0-6.0FSN1E
Receiver Kit for Wireless Control		PC-RLH8 (on the panel)

2-Way Cassette Type

Item	RCD-1.0-5.0FSN
Receiver Kit for Wireless Control	PC-RLH9 (on the panel)

Mini Wall Mounted Type

Item	RPK-0.8-4.0FSNM
Wireless Remote Controller	PC-LH3A
Wired Remote Controller	PC-P1HE

In-the-Ceiling, Wall, Floor and Ceiling Type

Item	RPI (0.8-5.0HP), RPK (0.8-4.0HP), RPC (2.0-5.0HP), RPF (1.0-2.5HP), RPFI (1.0-2.5HP)
Receiver Kit for Wireless Control (with 5m cable)	PC-RLH11 (wall mounted)

Control System Compatibility

Item		RPI-FSN	RCI-FSN	RCD-FSN	RPK-FSN	RPC-FSN	RPF(1)-FSN	KPI
Remote Control Switch*1	PC-P1H (without cable)	•	•	•	•	•	•	•
Wireless Remote Control Switch*2	PC-LH3A (new)	•	•	•	•	•	•	•
Half-size Remote Control Switch	PC-P5H	•	•	•	•	•	•	•
7-Day Timer	PSC-5T	•	•	•	•	•	•	•
Centralised Remote Control Switch*3	PSC-5S	•	•	•	•	•	•	•
Remote Control Cable	PRC-10E1, 15E1, 20E1, 30E1 for PC-P1H	•	•	•	•	•	•	•
3P Connector Cable	PCC-1A	•	•	•	•	•	•	•
Remote Sensor	THM-R2A	•	•	•	–	•	•	–
Computer Controlled Network System	CS-NET	•	•	•	•	•	•	•

*1 As the PC-P1H does not include a remote control cable, prepare one in the field, or use PRC-10E1, 15E1, 20E1, 30E1.
*2 PC-LH3 can be used instead of PC-LH3A.
*3 Supply 220V or 240V

Optional parts

Outdoor Unit – 1st Multi-Kit

FSN Series

In case that the equivalent piping length is **less** than 100m use the following pipe size:

Outdoor Unit	RAS-5FSN	RAS-8FSNE	RAS-10FSNE	RAS-16FSN	RAS-20FSN	RAS-24FSN	RAS-30FSN
Pipe Size (Ø mm)							
Gas	15.88	19.05	22.20	28.60	28.60	28.60	31.75(34.92)
Liquid	9.53	9.53	9.53	12.70	15.88	15.88	19.05
Multi-Kit	E-102SN	E-102SN	E-102SN	E-162SN	E-242SN	E-242SN	E-302SN

In case that the equivalent piping length is **more** than 100m use the following pipe size:

Outdoor Unit	RAS-5FSN	RAS-8FSNE	RAS-10FSNE	RAS-16FSN	RAS-20FSN	RAS-24FSN	RAS-30FSN
Pipe Size (Ø mm)							
Gas	19.05	22.20	25.40 (28.60)	31.75 (34.92)	31.75 (34.92)	31.75 (34.92)	38.10 (41.27)
Liquid	12.70	12.70	12.70	15.88	19.05	19.05	22.20
Multi-Kit	E-102SN	E-102SN	E-162SN	E-242SN	E-302SN	E-302SN	E-302SN

Reducer for outdoor unit is necessary (field supplied).

FXN Series

In case that the equivalent piping length is **less** than 100m use the following pipe size:

Outdoor Unit	RAS-8FXN	RAS-10FXN	RAS-16FXN	RAS-20FXN	RAS-24FXN	RAS-30FXN
Pipe Size (Ø mm)						
Gas Low	Ø19.05(3/4)	Ø22.20(7/8)	Ø28.60(1 1/8)	Ø28.60(1 1/8)	Ø28.60(1 1/8)	Ø31.75(1 1/4)
Gas High	Ø15.88(5/8)	Ø19.05(3/4)	Ø22.20(7/8)	Ø22.20(7/8)	Ø25.40(1)	Ø28.60(1 3/8)
Liquid	9.53	9.53	12.70	15.88	15.88	19.05
Multi-Kit	E-102XN	E-102XN	E-162XN	E-202XN	E-242XN	E-322XN

In case that the equivalent piping length is **more** than 100m use the following pipe size:

Outdoor Unit	RAS-8FXN	RAS-10FXN	RAS-16FXN	RAS-20FXN	RAS-24FXN	RAS-30FXN
Pipe Size (Ø mm)						
Gas Low	Ø19.05(3/4)	Ø22.20(7/8)	Ø28.6(1 1/8)	Ø28.6(1 1/8)	Ø28.6(1 1/8)	Ø31.75(1 1/4)
Gas High	Ø15.88(5/8)	Ø19.05(3/4)	Ø22.20(7/8)	Ø22.20(7/8)	Ø25.40(1)	Ø28.60(1 3/8)
Liquid	12.70	12.70	15.88	19.05	19.05	22.20
Multi-Kit	E-102XN	E-102XN	E-162XN	E-202XN	E-242XN	E-322XN

Outdoor Unit – 1st Multi-Kit

1st Multi-Kit – Last Branch

Outdoor Unit	RAS-3FSVN RAS-4FSVN RAS-5FSVN	RAS-5FSN RAS-8FSN RAS-10FSN	RAS-16FSN	RAS-20FSN RAS-24FSN	RAS-30FSN
First Branch	E-102SN	E-102SN	E-162SN	E-242SN	E-302SN
Line Branch	E-102SN	E-102SN	To be selected according to installation		
Header Branch					
4 distributions	–	E-84HSN (RAS-5, 8FSN)			
8 distributions	–	E-108HSN (RAS-5 to 10FSN)			

The multi-kit selected must be compatible with pipe selected in technical catalogue.

1st Multi-Kit – Last Branch

Outdoor Unit	RAS-8FXN RAS-10FXN	RAS-16FXN	RAS-20FXN	RAS-24FXN	RAS-30FXN
First Branch	E-102XN	E-102XN	E-242XN	E-242XN	E-322XN
Line Branch	E-102XN	To be selected according to installation			

The multi-kit selected must be compatible with pipe selected in technical catalogue.

Set Free Selection Software – Hi-toolKit

- Quick and reliable
- Simple and user friendly
- Free of charge

Hi-toolKit

Hitachi has developed a new programme to design Set Free systems which meet building consultants and technical advisors requirements. The software allows the user to proceed quickly and easily through the phases of selection of a system through to the complete project. Your project in just 6 clicks...

Product Selection

This software allows the user the flexibility to choose the required number of indoor and outdoor units and control systems either by model or capacity.

Refrigeration Schematic

Automatic calculation of pipe sizes and multikits. Option for automatic or manual drawings which can be exported into CAD software.

Electrical Drawing

Electrical drawing showing the power supply, communication cables, accessories and control systems.

Specification

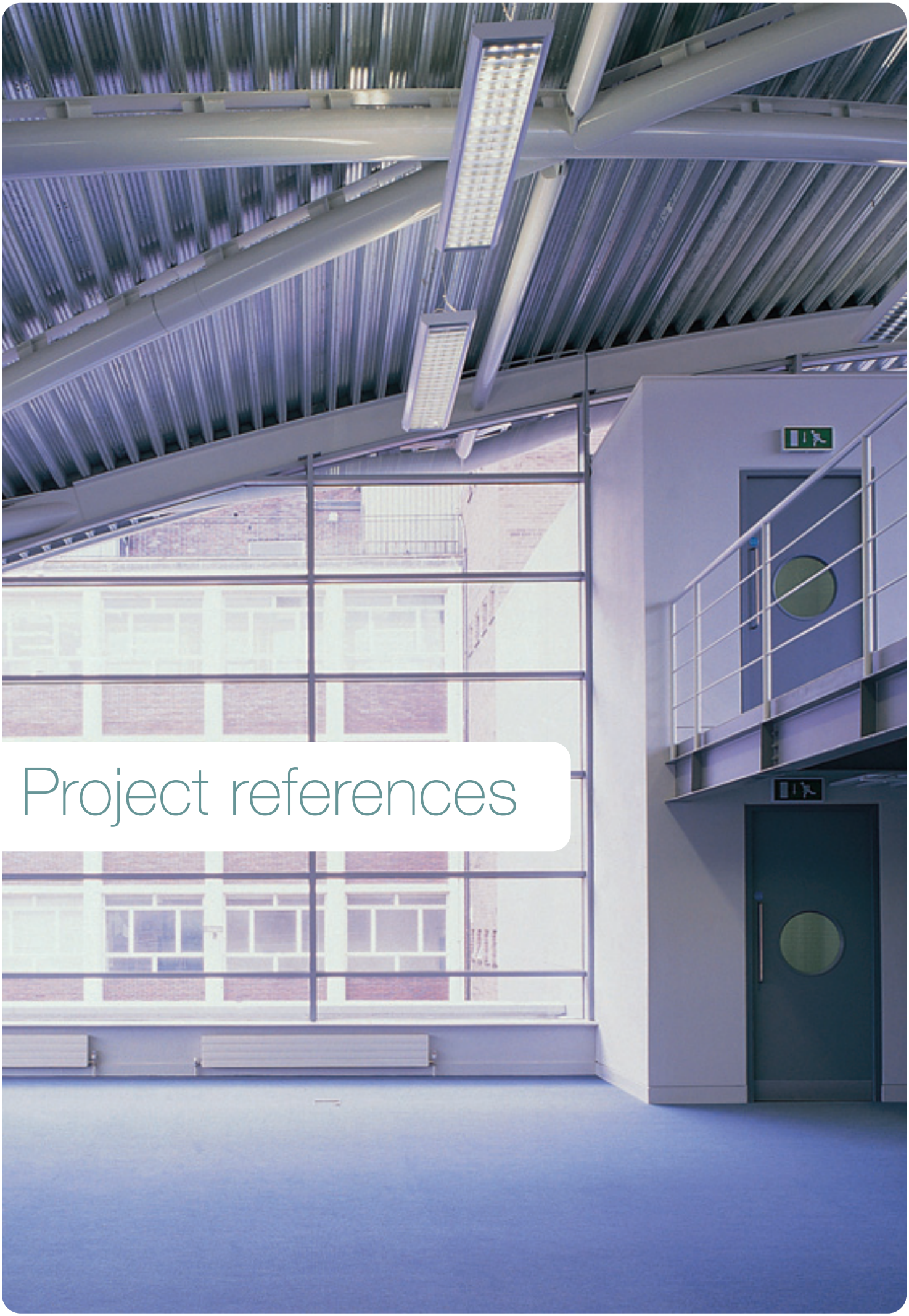
Using the selected information the software allows the user to produce a full product specification in word format.

Schedule of Equipment

This shows a list of the number of Hitachi systems chosen, pipework and wiring digrams and the refrigerant charge required.

Commissioning

Automatically produces dip switch settings, equipment list and commissioning checklist.



Project references

Aldi

Project Reference	
Category	Retail
Name of Building	Aldi shops
Size (M2)	Approx. 900 sqm per shop
Location	400 locations in the South of Germany
Age (New/Re-furb)	New
Occupancy	
Purpose/Use	To provide the shops with air conditioning which did not allow the temperature to go over 26°C
Interesting Facts	
Distributor	Polenz
Contractor/Installer	Subcontractor of Polenz
Consultant/Specifier	Sawitzki Ettlingen
Project Date	May – Nov. 2004
System	Set Free
Indoor Units	3-6 ID Units RCI-2-FSG
Outdoor Units	RAS-5 FSG or RAS-10 FSG
Control System	Standard
Capacity	
Additional Comments	
Project Description	Aldi has to provide 400 shops with air conditioning in the South of Germany and Polenz was integrated in the specifying work with the consultants. The purpose was to create a comfortable shopping ambient temperature and ensure the products they are selling, eg chocolate remain of the highest quality.

Styl Grand

Project Reference	
Category	Office
Name of Building	Styl Grand
Size (M2)	
Location	Falzè di Trevignano (TV)
Age (New/Re-Furb)	
Occupancy	Styl Grand Spa
Purpose/Use	Offices – Show Room / Commercial Spaces – production of fashion accessories
Interesting Facts	
Distributor	Green Air
Contractor/Installer	
Consultant/Specifier	
Project Date	2003
System	Set Free and Utopia
Indoor Units	15 x RPI – 25 x RPF – 20 x RCI
Outdoor Units	3 x RAS-16FSG – 1 x RAS-10FSG – 10 x RAS-10HG7E
Control System	53 x PC-2H2 – 4 x PSC-4ST
Capacity	
Additional Comments	
Project Description	Hitachi offered a different technical solution for this project. After a complete cost and performance evaluation with the consultant and the client, Hitachi Set Free VRF systems were selected for the offices. One of the main factors was the flexibility of use, easily allowing each unit to be controlled and programmed separately. This was particularly important as each office area has different working hours.

Specifications in this catalogue are subject to change without notice in order that HITACHI may bring the latest innovations to their customers. Omitting typing errors.

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