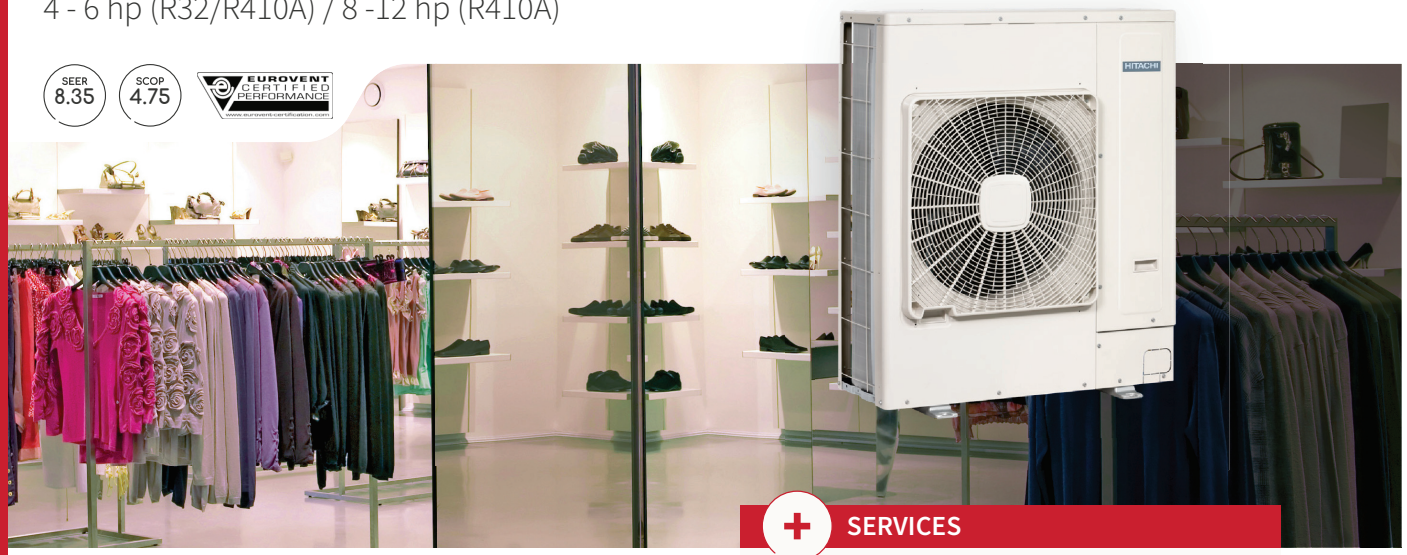
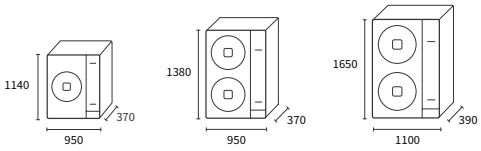
Micro VRF (IVX Prime & IVX Comfort)

Reversible system
4 - 6 hp (R32/R410A) / 8 -12 hp (R410A)

SEER 8.35 | SCOP 4.75 | EUROVENT CERTIFIED PERFORMANCE



Outdoor units



RAS-4H(V)(N/R)P2E
RAS-5H(V)(N/R)P2E
RAS-6H(V)(N/R)P2E

RAS-8HNCE
RAS-10HNCE

RAS-12HNC

Compatible controls and accessories

Individual checks

Fully wired
Ref : **PC-ARFG2-E(B)**

Simple wired system
Model: **PC-ARC-E**

Infrared
Model: **PC-AWR**

Other accessories

OU condensate evacuation kit
Model: **DBS-26**
(4/5/6/8/10/12 HP)

Refrigerant connection kit

CSNET Manager

CSNET Lite (web)

CSNET Manager 2 SL (web)

CSNET Manager 2T10 (web and touch)
CSNET Manager 2T15 (web and touch)

Remote access

airCloud Pro
Model: **HC-IOTGW**

SERVICES

Flexible installation

- 30 Pa of pressure available on IVX Prime 4 to 6 hp.
- Up to 4 connected indoor units.
- OU IVX Comfort 8-10 HP compatible ducted units 8 - 20 hp.
- Corrosion-resistant heat exchanger.

APPRAISAL

Energy savings and eligible for Energy Efficiency Certificates (EEC)

- SCOP up to 4.75 / SEER up to 8.35.
- Up to -20°C in Heating mode.
- From -15°C to 46°C in Cooling mode (IVX Comfort).
- From -5°C to 46°C in Cooling mode (IVX Prime).

FUNCTIONAL & ENVIRONMENTAL

Customized comfort

- Independent temperature adjustment on each indoor unit.
- The "GENTLE COOL" function is accessible with wired remote controls. In summer, cold drafts are avoided by setting a minimum airflow temperature.

1st heat pump Hitachi with R32 (GWP: 675)

- 75% reduction in environmental impact.
- Lower TeqCO2 equivalence compared to R410A (GWP: 2088).
- Easy to recover and reuse.
- Installation and maintenance very similar to R410A.

Micro VRF IVX PRIME

		Version R32 (4 ~ 6Hp)			Version R410A (4 ~ 6Hp)		
Model	**Unit**	**RAS-4H(V)RP2E**	**RAS-5H(V)RP2E**	**RAS-6H(V)RP2E (*)**	**RAS-4H(V)NP2E**	**RAS-5H(V)NP2E**	**RAS-6H(V)NP2E (*)**
Performance, cooling							
Capacity, cooling (min-max)	kW	10.00(4.50- 11.20)	12.50(5.70- 14.00)	14.00(6.00- 16.00)	10.00(4.50- 11.20)	12.50(5.70- 14.00)	14.00(6.00- 16.00)
Absorbed capacity cooling	kW	2.51	3.42	4.38	2.81	3.83	4.91
EER[1]	-	3.98	3.66	3.24	3.70	3.37	3.26
SEER (single-phase - three-phase)	-	7.31(V) - 6.96	8.35(V) - 8.20	7.35(V) - 7.25	6.57(V) - 6.41	6.10(V) - 6.06	5.88(V) - 5.85
Seasonal energy efficiency rating cooling Π|s, c	%	-	**331.0(V) - 325.0**	**291.0(V) - 287.0**	-	**309.0(V) - 304.0**	**277.4(V) - 273.8**
Operating ranges Cooling	-	-5°C/46°C (DB)			-5°C/46°C (DB)		
Performance, heating							
Capacity Heating (min-max)	kW	10.00 (5.00 - 14.00)	12.50 (5.00 - 18.00)	14.00 (5.00 - 20.00)	11.20 (5.00 - 14.00)	12.50 (5.00 - 18.00)	14.60 (5.00 - 20.00)
Absorbed capacity heating	kW	2.60	3.39	3.64	2.56	3.39	3.64
COP[1]	-	4.31	4.13	4.40	4.57	3.89	4.23
SCOP (average climate)	-	4.60	4.75	4.73	4.47	4.00	4.05
Seasonal energy efficiency rating heating Π|s, h	%	-	**184**	**185**	-	**184**	**185**
Operating ranges heating	-	-20°C/18°C (WB)			-20°C/18°C (WB)		
Technical characteristics							
Airflow (cooling)	m^3/h	4800			4800		
Noise level in Cooling mode (night-time pressure)	dB(A)	52 (50)	53 (50)	55 (53)	52 (50)	54 (53)	55 (53)
Sound power	dB(A)	68	69	71	68	69	71
Net weight	kg	86 (84)			86 (84)		
Dimensions (HxLxD)	mm	1140 x 950 x 370			1140 x 950 x 370		
Min. power of indoor unit	hp (horsepower)	0.8			0.8		
Number of connectible units (min - max)	-	1 - 4			1 - 4		
Available pressure for the fan	Pa	30			30		
Connectible power (min.-max.)	%	90% - 115%			90% - 115%		
Compressor	-	Inverter DC rotary unit			Inverter DC rotary unit		
Cooling properties							
Maximum length/Added refrigerant	m/(g/m)	75 / 45			75 / 60		
Initial refrigerant fill	kg	3.0			3.2		
Preloaded for	m	20			20		
Minimum length	m	5			5		
Max. drop (OU above/below)	m	30 / 20			30 / 20		
Diameter of pipes (Liq/Gas)	mm inches	9.52 (3/8) - 15.88 (5/8)			9.52 (3/8) - 15.88 (5/8)		
Refrigerant	-	R32			R410A		
Electrical features, outdoor unit							
Power supply	-	3N~ 400V 50 Hz (1~ 230V 50 Hz) + Neutral + Ground			3N~ 400V 50 Hz (1~ 230V 50 Hz) + Neutral + Ground		
Maximum current	A	15.0 (22.5)			15.0 (22.5)		
Cable section (EN 60 335-1)[2]	mm^2	5 x 4.00 (3 x 6.00)			5 x 4.00 (3 x 6.00)		
Indoor/outdoor connection (protected)	mm^2	2 x 0.75[2]			2 x 0.75[2]		

[1] Performance values are stated for RCI-FSR cassettes in accordance with Eurovent benchmarks.
[2] Data shown is for indication purposes only. It is the installer's responsibility to ensure that these Cable sections meet the needs of the facility and current standards.
(V) Single-phase version.
* A maximum of 2 800x800 RCI type cassettes can be connected.

Micro VRF IVX Comfort

Model	Unit	RAS-8HNCE	RAS-10HNCE	RAS-12HNC
Performance, cooling				
Nominal power (min - max) (1*)	kW	20.00(8.00- 22.40)	25.00(10.00- 28.00)	30.00(11.20- 33.50)
Nominal absorbed capacity (5*)	kW	5.95	8.28	11.67
EER	-	3.36	3.02	2.57
SEER (average climate) (5*)	-	6.79	6.61	5.30
Seasonal energy efficiency rating cooling ∏s, c	%	**268.6**	**261.4**	**209.0**
Operating ranges*	-	(OPT -15°C)-5°C/+46°C (DB)		
Performance, heating				
Nominal power (min - max) (1*)	kW	20.00(6.30- 28.00)	25.00(8.00- 35.00)	30.00(9.00- 37.50)
Nominal absorbed capacity	kW	5.25	6.89	8.47
COP (5*)	-	3.81	3.63	3.54
SCOP (average climate) (5*)	-	4.19	3.79	3.66
Seasonal energy efficiency rating heating ∏s, h	%	**164.6**	**148.6**	**143.4**
Operating ranges	-	-20°C/18°C (WB)		
Technical characteristics				
Airflow (cooling)	m^3/h	7620	8040	9780
Noise level in Cooling mode (night-time pressure)	dB(A)	57 (55)	58 (56)	59 (56)
Sound power	dB(A)	76		77
Net weight	kg	133	138	168
Dimensions (HxLxD)	mm	1380 x 950 x 370		1650 x 1100 x 390
Min. power of indoor unit	hp (horse-power)	1.8		
Number of connectible units (min - max)	-	1 - 4 (3*)		
Connectible power (min.-max.)	-	90% - 115%		
Compressor	-	Scroll Inverter		
Cooling properties				
Maximum length/Added refrigerant	m/(g/m)	100/to be calculated according to technical documentation		
Initial refrigerant fill	kg	5.3	6	6.7
Preloaded for	m	Load to be calculated in acc. with technical documentation		
Max. drop (outdoor unit above/below)	m	30 / 20		
Diameter of pipes (Liq/Gas)	inches	3/8 - 1	1/2 - 1	
Refrigerant	-	R410A		
Electrical features, outdoor unit				
Power supply	-	3N ~ 400V 50 Hz + Neutral + Ground		
Maximum current	A	24		
Cable section (4*)	mm^2	5 x 6.00		
Indoor/outdoor connection (protected) (2*)	mm^2	2 x 0.75(2*)		

* To ensure cooling mode at -15°C, use the "cooling only" and "master/slave" switch settings.
(1*) If longer than 70 m, halve the diameter of the liquid pipe.
(2*) Shielding must be renewed every 300 m.
(3*) With 100% connection.
(4) Data shown is for indication purposes only. It is the installer's responsibility to ensure that these Cable sections meet the needs of the facility and current standards.
(5*) Performance values are stated for RCI-FSR1 cassettes in accordance with Eurovent benchmarks.
(6*) Only with a connection rate of 50% to 100%; beyond that, max. 1 or 2 units respectively.
(V) Single-phase version.

Compatible controls and accessories

Condensation drainage kit

DBS-26 (models IVX Comfort 4 / 5 / 6 / 8 / 10 / 12 hp)

Refrigerant connection kit

Installation rules
Micro VRF (IVX Prime and IVX Comfort)

Quantity of indoor units

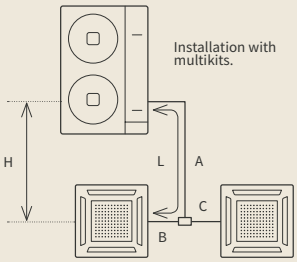
Outdoor unit (hp)	4	5	6	8	10	12
Max. number of indoor units	4		4*	4		
Min. power of indoor unit	0.8			1.8		

Permitted connection rate

Outdoor unit	hp (horse-power)	4	5	6	8	10	12
Max. number of indoor units	1	90~115%			90~115%		
	2	3.6 to 4.6 hp	4.5 to 5.75 hp	5.4 to 6.9 hp	7.2 to 9.2 hp	9 to 11.5 hp	10.8 to 13.8 hp
	3 or 4	90~100%					
		3.6 to 4 hp	4.5 to 5 hp	5.4 to 6 hp			

8-12 hp units:

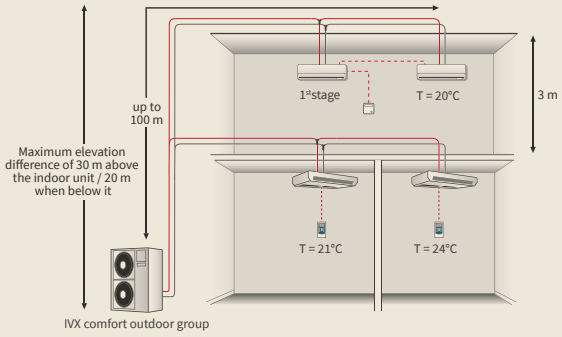
- 8 sizes & 10 hp-compatible ducted 8-20 hp
- Up to 4 connected units (wall-mounted, cassette, ducted, ceiling-mounted, console, etc.)



On systems where all units are RCI-FSR models, the maximum connection rate of connected indoor units is 100%, and the maximum number of connected indoor units is 4.

Units of 4 to 12 hp:

Authorized installation (1 to 4 indoor units)



Outdoor unit		hp (horsepower)	4	5	6	8	10	12
Max. length between outdoor unit and the furthest indoor unit	Actual length	m	75	75		100		
	Equivalent length	m	95	95		125		
Max. drop outdoor unit to indoor unit (H) (outdoor unit above/below)		m	30 / 20					
Max. drop from indoor unit to indoor unit		m	3					
Max. drop from Multikit to indoor unit/Multikit to Multikit		m	3					
Total length of the pipe		m	85 (with 2, 3, or 4 indoor units)	85 (with 2, 3, or 4 indoor units)		100	145	
Max. length of indoor unit to Multikit		m	10			15		
Max. length of first Multikit to indoor unit		m	15			25		
Length of main branch A		m	A > B, C, D, E, F, G					
Max. imbalance between branches	B-C	m	< 10m			< 8m		

Multikit part numbers		hp (horsepower)	E-102SN4		E-162SN4	
Diameter of the main line			-	Constant diameter		
Diameter of outdoor unit - first multikit	Liq/Gas	-	3/8 - 5/8		3/8** - 1	1/2 - 1

Power of indoor unit	hp (horsepower)	< 1.5	1.8 to 2.0	2.3 to 6.0
Diameter of the indoor unit multikit	-	1/4 - 1/2	1/4 - 5/8	3/8 - 5/8

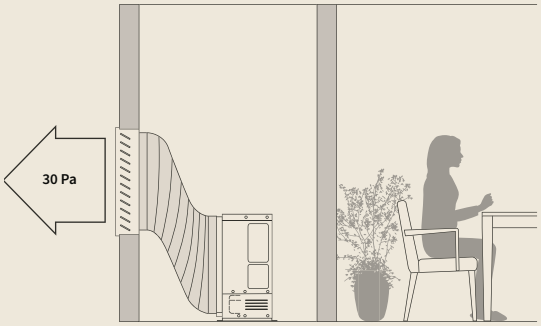
* Caution: When connecting RCI cassettes, the max. number is limited to two.
**If tube length exceeds 70m, use a 1/2" instead of 3/8" liquid line.

Benefits
Micro VRF (IVX Prime and IVX Comfort)

1 The smallest VRF on the market, from the widest range of its class.

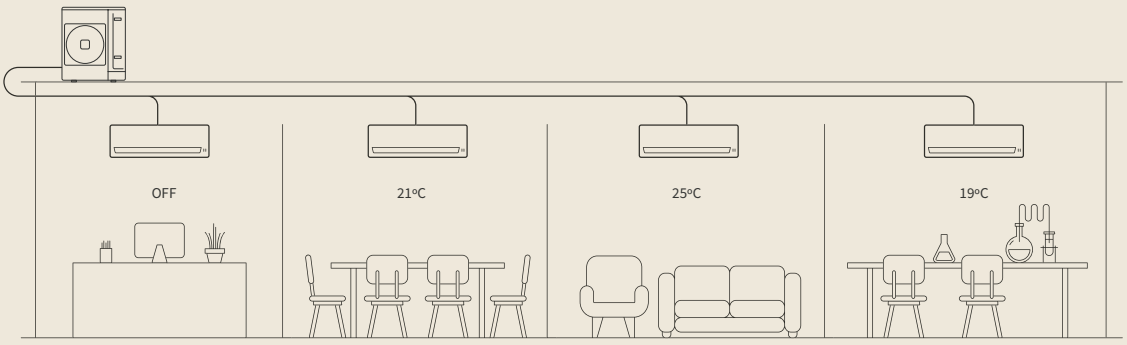
Small businesses and offices also have a variety of air-conditioning requirements and demand the best level of comfort. Available from 5 kW to 30 kW, the Micro VRF range meets the needs of any projects, no matter how much space is available.

2 Pressure available 30 Pa on IVX Prime and flexible installation options



The new 4 to 6 hp single fan range comes with 30 Pa of pressure. A 14 kW (6 hp) unit takes up only 0.35 m^2 of floor space. No pressure available on the IVX Comfort units (8 to 12 hp).

3 Independently control indoor units IVX Prime and IVX Comfort



Depending on the direction they are facing, many buildings may have a different thermal load in each zone. In this case:
- Individual adjustment of the set temperature is useful.
- Individual control is an ideal solution for small and medium-sized service businesses.

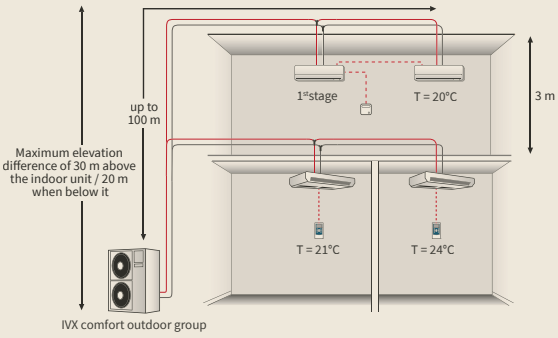
4 A wide choice of indoor units

In the same building, the requirements in terms of aesthetics, space, and temperature are different in each room. So it fits into any space, the Micro VRF range is compatible with all SYSTEM FREE indoor units: Wall, Ducted, Cassette, Console and Ceiling.

5 Less piping, more savings

- An interesting alternative to multi-split systems,
- Ease of installation,
- Unique pipework allows the outdoor unit to be connected to each of the indoor units using a multikit.
- Reduction in the number of refrigeration connections.

6 Even greater flexibility



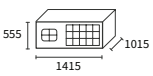
- Heat pump technology,
- Up to 100 m of total refrigerated length,
- 30 m difference in elevation between indoor unit and OU (OU above), 20 m if OU below,
- Installation of indoor units on different floors connected to the same refrigeration line.

Micro VRF IVX Centrifugal

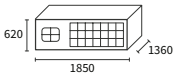
Reversible system
4 - 10 hp (R410A)

SEER 5.60 | SCOP 3.98 | EUROVENT CERTIFIED PERFORMANCE

Outdoor units



RASC-4HNPE
RASC-5HNPE
RASC-6HNPE



RASC-8HNPE
RASC-10HNPE

Compatible controls and accessories

Individual checks

Fully wired
Ref : **PC-ARFG2-E(B)**

Simple wired system
Model: **PC-ARC-E**

Infrared
Model: **PC-AWR**

Indoor unit control accessories

Fan blower intake at a right angle
Model: **FD-RASC46**
Model: **FD-RASC810**

Refrigerant connection kit

CSNET Manager

CSNET Lite (web)

CSNET Manager 2 SL (web)

CSNET Manager 2T10 (web and touch)
CSNET Manager 2T15 (web and touch)

Remote access

airCloud Pro
Model: **HC-IOTGW**

SERVICES

Easy to implement

- Suspended monobloc system: Intake and fan blower can be adjusted to suit the situation (same side or at right angle).
- Available pressure up to 120 Pa.
- In addition, the air inlet and outlet grilles are interchangeable.

APPRAISAL

High seasonal performance

- SCOP up to 3.98 / SEER up to 5.6.
- Up to -15°C in Heating mode.
- From -5°C to 46°C in Cooling mode.

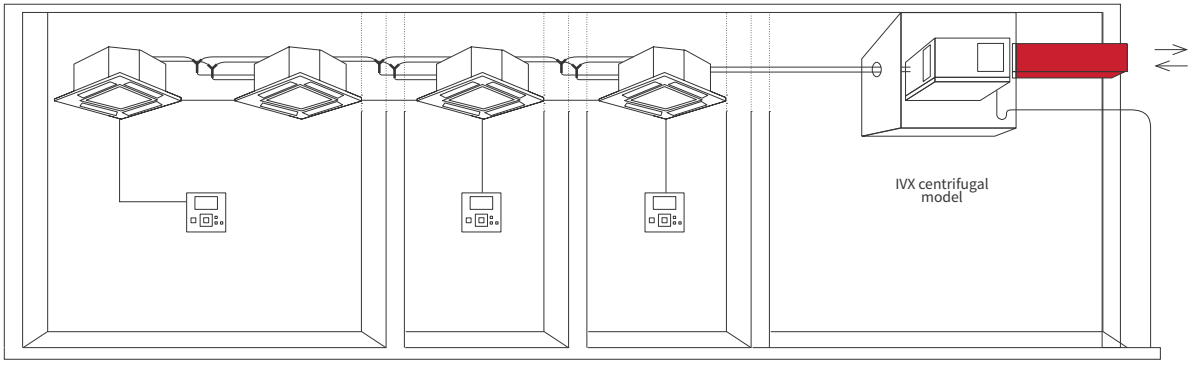
COMFORT

Customizable personal comfort

- The VRF IVX Centrifuge can cool up to 6 different zones and offers greater comfort.
- Independent control of each indoor unit.
- Smart defrosting. This lengthens the warming period and brings more comfort.

Ideal solution for downtown applications

Groups invisible from the outside thanks to installation in false ceilings or technical rooms.



Micro VRF IVX Centrifugal

Model	Unit	RASC-4HNPE	RASC-5HNPE	RASC-6HNPE	RASC-8HNPE	RASC-10HNPE
Performance, cooling						
Nominal power (min - max)	kW	10.00 (7.5-12)	12.50 (9.4-15)	14.00 (10.5-16.8)	20.00 (15-24)	24.00 (18-28.8)
Nominal absorbed capacity	kW	2.99	3.98	5.09	7.41	9.02
EER	-	3.35	3.14	2.75	2.70	2.66
SEER (average climate)	-	5.60	5.43	5.22	5.39	5.48
Seasonal energy efficiency rating cooling Πs, c	%	**221** (*)	**214** (*)	**206** (*)	**212** (*)	**216** (*)
Operating range	°C	-5°C/+46°C (DB)				
Performance, heating						
Nominal power (min - max)	kW	10.00 (8.4-13.4)	12.50 (10.5-16.8)	14.00 (12-19.2)	20.00 (16.8-26.9)	24.00 (19.5-31.2)
Nominal absorbed capacity	kW	2.64	3.68	5.19	6.25	7.87
COP	-	3.80	3.40	2.70	3.20	3.05
SCOP (average climate)	-	3.98	3.74	3.66	3.51	3.71
Seasonal energy efficiency heating Πs, h	%	**156**	**146**	**143** (*)	**137** (*)	**145**
Operating range	°C	-15°C/+15.5°C (WB)				
Technical characteristics						
Airflow (cooling)	m^3/h	3300	3600		6900	
Available pressure (rated/max.)	Pa	56 / 90	72 / 100	100 / 100	84 / 120	102 / 120
Sound power	dB(A)	70	71	72	74	75
Sound pressure in Cooling (night pressure)	dB(A)	52 (48)		53 (49)	55 (51)	56 (52)
Net weight	kg	192			300	303
Dimensions (HxLxD)	mm	555 x 1515 x 1175			620 x 1850 x 1360	
Diameter of pipes (Liq/Gas)	inches	3/8 - 5/8			3/8 - 1	1/2 - 1
Compressor	-	Scroll Inverter				
Grille dimension (fresh air intake)	-	444 x 642			509 x 925	
Grille dimension (expel)	-	288 x 334			337 x 398	
Min. power of indoor unit	hp (horse-power)	0.8				
Number of connectible units (min - max)	-	1 - 5			1 - 6	
Cooling properties						
Refrigerant	-	R410A				
Initial refrigerant fill	kg	4.1	4.2		5.7	6.2
Maximum length / Refrigerant top-up	m/g/m	75/see technical documentation			100/see technical documentation	
Preloaded for	m	30				
Max. drop (outdoor unit above)	m	30 / 20				
Electrical features						
Power supply	-	400V / 3 Ph + N / 50 Hz + Neutral + Ground				
Maximum current	A	14.1		16.0	24.7	
Cable section (1)	mm^2	5 x 4.00			5 x 6.00	
Indoor/outdoor connection (shielded)	mm^2	2 x 0.75				

(1) The information provided is for information purposes only. It is the installer's responsibility to ensure that these Cable sections meet the needs of the facility and current standards.

Cooling connections
Micro VRF IVX Centrifugal

Quantity of indoor units

Outdoor unit	hp (horse-power)	4	5	6	8	10
Max. number of indoor units			5		6	
Min. power of indoor unit				0.8		

Permitted connection rate

Outdoor unit	hp (horse-power)	4	5	6	8	10
Max. number of indoor units	1 to 4		75~120% (≤ 4 units) 75~100% (≤ 5 units)		75~120% (≤ 4 units) 75~100% (≤ 5 or 6 units)	
		3 to 4.8 hp	3.8 to 6 hp	4.5 to 7.2	6 to 9.6 hp	7.5 to 12 hp
	5			75~100%		
		3 to 4 hp	3.8 to 5 hp	4.5 to 6 hp	6 to 8 hp	7.5 to 10 hp
	6		-		75~100%	
			-		6 to 8 hp	7.5 to 10 hp

* If more than 4 indoor units are connected, the power of the indoor units must be balanced out according to the table below.

Authorized combinations of indoor units for all outdoor units

The most powerful unit in the combination	0.80	1.00	1.30	1.50	1.80	2.00	2.30	2.50	3.00	4.00	5.00	6.00
The least powerful unit in the combination	0.80				1.00			1.30		1.50	1.80	2.00

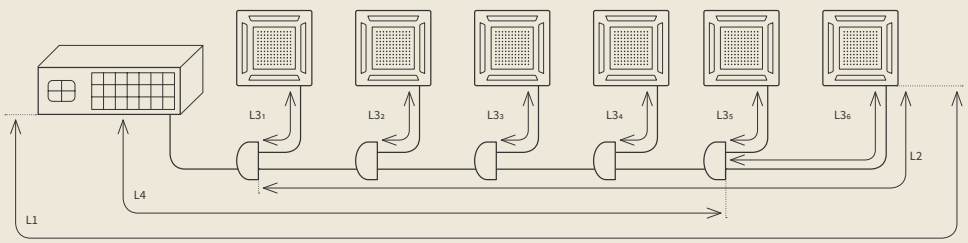
RASC-10HNPE: Special combinations allowed for the outdoor unit

	Power combinations of authorized indoor units (hp)					
Max. number of indoor units	2	8 + 3	8 + 2	10 + 3	10 + 2	-
	3	8 + 2 + 2	8 + 1.5 + 1.5	8 + 1 + 1	10 + 1.5 + 1.5	10 + 1 + 1

Units of 4 to 10 hp:
Permitted installation (1 to 6 indoor units)

- Installation of the system with bypasses.
- 1 or 2 lines of constant diameter.
- Installation with more than 4 indoor units: refrigerant connections with one main line permitted (no two branches allowed).


Multi-Kit



Installing DX kits with heat pump Centrifuge units allows for regulation on the return air only (therefore, single-flow AHU configuration is permitted): 100% recirculated air (with the option of adding 10% fresh air). 1x1 connection permitted (one group for one CTA kit).

Permitted connection rate

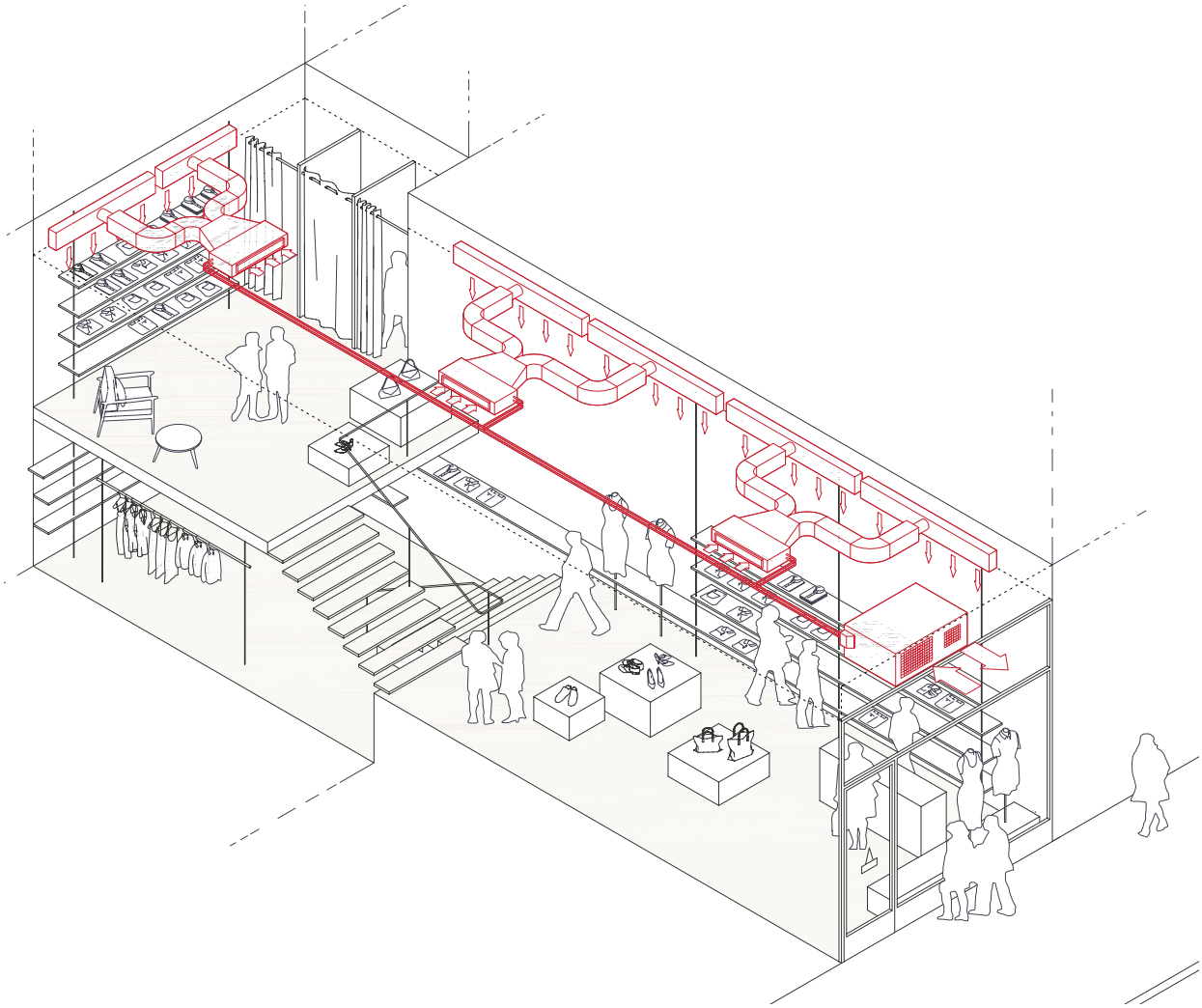
Outdoor unit		hp (horse-power)	4	5	6	8	10
Max. length between outdoor unit and the furthest indoor unit	Actual length	m	75			100	
	Equivalent length	m	95			125	
Max. drop from outdoor unit to indoor unit (H) (outdoor unit above/below)		m	30/20				
Max. drop from indoor unit to indoor unit		m	10				
Max. drop from Multikit to indoor unit/Multikit to Multikit		m	3				
Total length of the pipe		m	95			100	145
Max. length of indoor unit to Multikit		m	10			15	
Max. length of first Multikit to indoor unit		m	30			40	

Multikit part numbers		hp (horse-power)	E-102SN4	E-162SN4	
Diameter of the main line			-	Constant diameter	
Diameter of outdoor unit - first multikit	Liq/Gas	"	3/8 - 5/8	3/8* - 1	1/2 - 1

**If the pipe is longer than 70m, use a 1/2" liquid line instead of 3/8".

Power of indoor unit		hp (horse-power)	< 1.5	1.8 to 2	2.3 to 6	8	10
Diameter of the indoor unit multikit	Liq/Gas	"	1/4 - 1/2	1/4 - 5/8	3/8 - 5/8	3/8 - 3/4	3/8 - 7/8

Example of an implementation:



*Non-contractual contract.