CO_2 VRV

The low GWP solution

Daikin, your partner

in decarbonising your building

Lead the way in decarbonisation

Let's act now to decarbonise buildings, creating a healthy environment for generations to come.

Every building requires a different solution to match its unique properties. That's why it is important to have an HVAC-R partner with expert knowledge and a product portfolio designed to achieve your objectives while staying within budget.

How will Daikin enable you to reduce your carbon footprint?

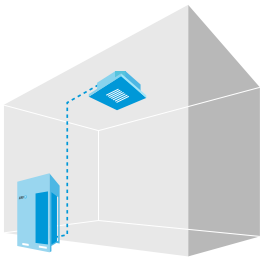
- We continuously develop products with lower CO_2 footprints by using **lower GWP refrigerants** such as R-32, CO_2 etc.
- We reuse materials where possible, even refrigerants through the **LOOP by Daikin programme** aimed at reusing available resources and fully supporting the EU circular economy
- We maximise **real life seasonal efficiencies**, delivered in a transparent and trustworthy way
- Our **team of experts goes beyond product support** to reach your green objectives by providing in-depth knowledge in the use of EPDs, EPDB legislation and green building schemes such as BREEAM, LEED, WELL, etc.
- Via our **Daikin Cloud Plus, we continuously monitor our systems**, ensuring the operate as inteneded, keeping running costs low and maximising uptime.
- We **help customers make the right choice** by offering easy to use tools to select the best solutions for their residential, commercial or industrial building

Contact us here: **https://www.daikin.co.uk/en_gb/commercial/sustainability/EPD.html**

Benefits of CO_2

- "Natural" refrigerant
- Low GWP value of 1, making it one of the most sustainable refrigerants
- Classified as non-flammable (A1), simplifying system design

Benefits of CO_2 VRV



- Enabling you to deliver projects requiring "natural" refrigerants
- Maximise your BREEAM / LEED refrigerant score, thanks to the low GWP of 1
  - BREEAM V7: 3 of 3 credits in Pollution 01
  - LEED V5: 2 of 2 points in Enhanced Refrigerant Management
- Incorporates all typical VRV benefits:
  - Quick and easy to design and install
  - Precise zone control with quick response to changing load
  - Connectable to Daikin's latest controllers such as Daikin Cloud Plus

CO_2 VRV installation example for supermarket

CO_2 VRV outdoor unit overview

Capacity class (HP)

	Model			10
	Cooling Capacity			28.0
	Heating Capacity			31.5
Air-cooled heat pump	NEW CO_2 VRV ▪ The low GWP solution - "Natural" refrigerant - Low GWP of 1 - Non-flammable (A1) refrigerant	RXYN-B		•

CO_2 VRV indoor unit overview

Capacity class

Type	Model		Product name		40	50	63	80
Ceiling mounted cassette	NEW Round flow cassette	**360° air discharge for optimum efficiency and comfort** ▪ Auto cleaning function ensures high efficiency ▪ Intelligent sensors save energy and maximise comfort ▪ Flexibility to suit every room layout ▪ Lowest installation height in the market! ▪ Widest choice ever in decoration panel designs and colors	ROUND FLOW	FXFN-B		•	•	•	•
Concealed ceiling	NEW Concealed ceiling unit with medium ESP	**Slimmest yet most powerfull medium static pressure unit on the market!** ▪ Slimmest unit in class, only 245mm ▪ Low operating sound level ▪ Medium external static pressure up to 150Pa facilitates using flexible ducts of varying lengths ▪ Automatic air flow adjustment function measures the air volume and static pressure and adjusts it towards the nominal air flow, guaranteeing comfort		FXSN-B		•	•	•	•
Cooling capacity (kW)[1]					4.5	5.6	7.1	9.0
Heating capacity (kW)[2]					5.0	6.3	8.0	10.0

UV Streamer kit

(1) Nominal cooling capacities are based on: indoor temperature: 27°CDB, 19°CWB, outdoor temperature: 35°CDB, equivalent refrigerant piping: 5m, level difference: 0m
(2) Nominal heating capacities are based on: indoor temperature: 20°CDB, outdoor temperature: 7°CDB, 6°CWB, equivalent refrigerant piping: 5m, level difference: 0m

CO_2 VRV

The low GWP solution

- Using the "natural" refrigerant CO_2 (R-744)
- With a low GWP of 1, CO_2 is one of the most sustainable refrigerants
- Non-flammable (A1) refrigerant, simplifying system design
- Incorporates all typical VRV benefits: quick and easy to design and install, precise zone control with quick response to changing load

RXYN10B

Outdoor Unit			10 hp
			RXYN10B
Capacity	Nominal Cooling	kW	28.0
	Nominal Heating	kW	28.0
Seasonal Efficiency	Cooling	$\eta_{s,c}$ %	189.2
	Heating	$\eta_{s,h}$ %	137.1
Dimensions	Height x Width x Depth	mm	1680 x 1930 x 765
Weight		kg	564
Electrical Details	Power Supply	Phase / Hz / V	3 / 50 / 380~415
	Max Fuse Amp (MFA)	amps	40
	Nominal Running Current - Cooling	amps	TBC
Refrigerant Circuit	Refrigerant Type		R-744
	Refrigerant Charge	kg	0.0
Sound Pressure	Cooling	dBA	61.0
	Heating	dBA	61.0
Sound Power	Cooling	dBA	83.5
	Heating	dBA	83.5
Piping Limits	Maximum Total Length	m	300
Piping Connections - Systems	Liquid	inch (mm)	3/8 (9.5)
	Gas	inch (mm)	5/8 (15.9)
Operation Range (Cooling)	Min / Max	°CDB	-5 / 43
Operation Range (Heating)	Min / Max	°CWB	-20 / 15.5

NEW FXFN-B

Round flow cassette

360° air discharge for optimum efficiency and comfort

- Optimised design for CO_2 refrigerant (R-744)
- Optional automatic filter cleaning panel results in higher efficiency & comfort and lower maintenance costs
- Two optional intelligent sensors improve energy efficiency and comfort
- Widest choice ever in decoration panels: designer panels in white (RAL9010) and black (RAL9005) and standard panels in white (RAL9010) with grey louvers or full white
- Bigger flaps and unique swing pattern improve equal air distribution
- Individual flap control: flexibility to suit every room layout without changing the location of the unit
- Lowest installation height in the market: 214mm for class 20-63
- UV streamer kit, purifies the air of pollutants such as viruses, bacteria, fine dust (PM1.0), odours, allergens, etc ensuring a healthy and hygenic indoor environment
- Optional fresh air intake
- Standard drain pump with 675mm lift increases flexibility and installation speed

FXFN-B

Auto cleaning filter

Floor and presence sensor

Whisper quiet

Individual flap control

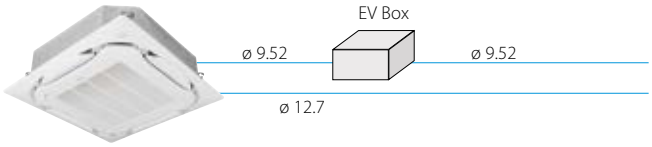
BRC1H52W7

White panel

White auto cleaning panel

Black panel

Black design panel



CO_2 Cassette

Indoor Units - Cassette				FXFN40B	FXFN50B	FXFN63B	FXFN80B
Capacity	Nominal Cooling		kW	4.5	5.6	7.1	9.0
	Nominal Heating		kW	5.0	6.3	8.0	10.0
Air Flow Rate Cooling	High		m^3/sec	0.258	0.350	0.447	0.592
	Nom		m^3/sec	0.225	0.300	0.367	0.492
	Low		m^3/sec	0.192	0.250	0.300	0.392
Dimensions	Height x Width x Depth		mm	246x840x840	246x840x840	246x840x840	288x840x840
Weight			kg	26	26	26	29
Decoration Panels	Model			Standard panels: BYCQ140E2W1 - white with grey louvers / BYCQ140E2W1W - full white / BYCQ140E2W1B - black			
				Auto cleaning panels: BYCQ140E2GFW1 - white / BYCQ140E2GFW1B - black			
				Designer panels: BYCQ140E2P - white / BYCQ140E2PB - black			
	Dimensions H x W x D		mm	Standard panels: 65x950x950 / Auto cleaning panels: 148x950x950 / Designer panels: 106x950x950			
	Weight		kg	Standard panels: 5.5 / Auto cleaning panels: 10.3 / Designer panels: 6.5			
Electrical Details	Running Current		amps	0.1	0.2	0.3	0.5
	Power Supply		Phase / Hz / V	1 / 50 / 230	1 / 50 / 230	1 / 50 / 230	1 / 50 / 230
	Max Fuse Amp		amps	6	6	6	6
Sound Level	Sound Pressure	High	dBA	35.0	39.0	44.0	48.0
		Nom	dBA	33.0	37.0	42.0	46.0
		Low	dBA	31.0	35.0	40.0	44.0
	Sound Power		dBA	53.0	57.0	62.0	66.0
Piping Connections	Liquid		inch (mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	Gas		inch (mm)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)

Expansion valve box (required with FXFN cassettes)			BEV2N112A7V1B
Power supply			1~, 50/60Hz, 220~240/220V
Dimension	Height	mm	207
	Wide	mm	388
	Depth	mm	326
Weight	Unit	kg	12
Refrigerant Type			R-744
Piping connections	Liquid	inch (mm)	3/8 (9.5)

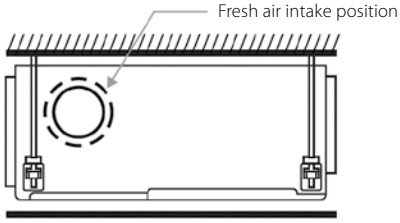
Concealed ceiling unit with medium ESP

Slimmest yet most powerful medium static pressure unit on the market

- Optimised design for CO_2 refrigerant (R-744)
- Slimmest unit in class, only 245mm (300mm built-in height) and therefore narrow ceiling voids are no longer a challenge

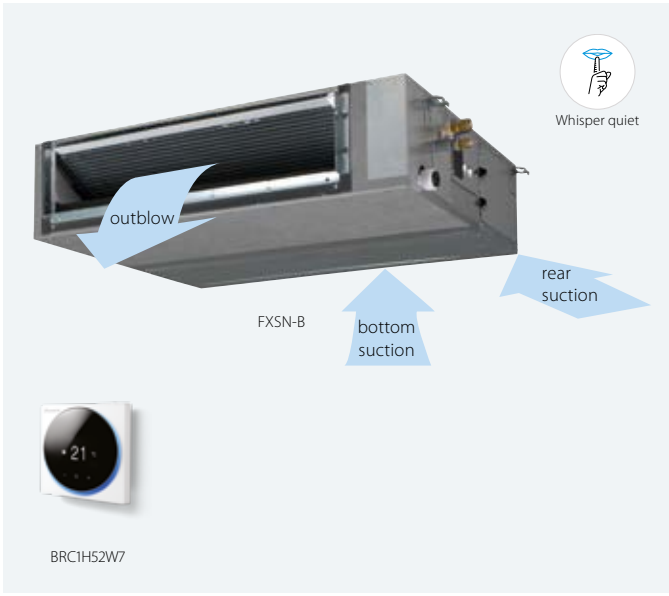
- Quiet operation: down to 25dBA sound pressure level
- Medium external static pressure up to 150Pa facilitates using flexible ducts of varying lengths
- Possibility to change ESP via wired remote control allows optimisation of the supply air volume
- Discretely concealed in the wall: only the suction and discharge grilles are visible
- 15 class unit especially developed for small or well-insulated rooms, such as hotel bedrooms, small offices, etc.
- Optional fresh air intake
- Fresh air intake integrated in the same system thus reducing installation cost as no additional ventilation device is required
- Standard built-in drain pump with 625mm lift increases flexibility and installation speed

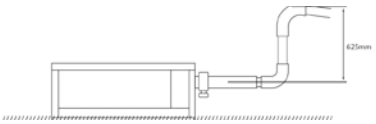
Fresh air intake opening in casing



* Brings in up to 10% of fresh air into the room

- Standard built-in drain pump with 625mm lift increases flexibility and installation speed



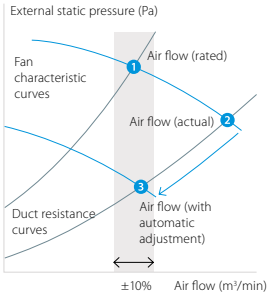


Automatic Airflow Adjustment function

Automatically selects the most appropriate fan curve to achieve the units' nominal air flow within ±10%

Why?

After installation the real ducting will frequently differ from the initially calculated air flow resistance ✳ the real air flow may be much lower or higher than nominal, leading to a lack of capacity or uncomfortable air temperature
Automatic Airflow Adjustment function will adapt the unit's fan speed to any ducting automatically (10 or more fan curves are available on every model), making installation much faster



Indoor Units - Ducted				FXSN40B	FXSN50B	FXSN63B	FXSN80B
Capacity	Nominal Cooling		kW	4.5	5.6	7.1	9.0
	Nominal Heating		kW	5.0	6.3	8.0	10.0
Air Flow Rate	High		m^3/sec	0.383	0.417	0.490	0.627
	Nom		m^3/sec	0.325	0.342	0.417	0.533
	Low		m^3/sec	0.267	0.283	0.352	0.448
External Static Pressure	High		Pa	120	120	120	120
	Low		Pa	30	30	30	40
Dimensions	Height x Width x Depth		mm	245x1000x800	245x1000x800	245x1400x800	245x1400x800
Weight			kg	40	40	50	50
Electrical Details	Running Current		amps	0.6	0.7	0.6	1.2
	Power Supply		Phase / Hz / V	1 / 50 / 230	1 / 50 / 230	1 / 50 / 230	1 / 50 / 230
	Max Fuse Amp		amps	16	16	16	16
Sound Level	Sound Pressure	High	dBA	39.0	41.0	39.0	44.0
		Nom	dBA	36.5	38.5	36.5	41.5
		Low	dBA	34.0	36.0	34.0	39.0
	Sound Power		dBA	61.0	63.0	61.0	66.0
Piping Connections	Liquid		inches (mm)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)	3/8 (9.5)
	Gas		inches (mm)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)

DAIKIN

VRV

Remain at the forefront of **the HVAC market** with Daikin VRV

Offering flexible, easy-to-install heat pumps, supporting decarbonisation

R-744

CO_2 VRV

Our CO_2 VRV
- Using HFC free refrigerant CO_2 (R-744)
- With a low GWP of 1, making it one of the most sustainable refrigerants
- Enabling you to deliver projects requiring "natural" refrigerants

R-32

VRV 5

Our leading VRV 5 portfolio
- Unparallelled range, offering an R-32 system for every VRV application
- Top sustainability over the entire lifecycle
- Enabling you to decarbonise any building, simply and effectively

R-410A

VRV IV+

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