

Ventilation

Product catalogue 2023
for professionals



Fresh air for the commercial sector
Heat recovery ventilation and air handling applications



VRV IV+ in mix application with VRV indoor units and Modular R AHU

VRV - for larger capacities (from 8 to 54HP)

An advanced solution for both pair and multi application

- > Inverter controlled units
- > Heat pump
- > Heat recovery only for mix application with indoor units without hydrobox. For 100% recirculation AHUs only used as a VRV indoor unit.
- > R-410A
- > Control of room temperature via Daikin control
- > Large range of expansion valve kits available
- > BRC1H* is used to set the set point temperature (connected to the EKEQMCBA).
- > Connectable to all VRV heat recovery and heat pump systems (VRV H/R and VRV-i only connectable with Z control)

Pair application

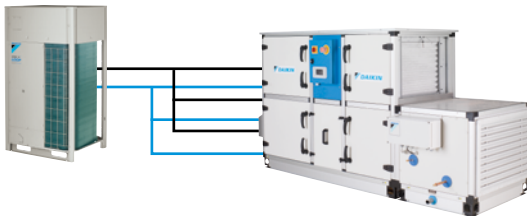
One ERQ or VRV IV heat pump (system) connected to one AHU through one refrigerant circuit

- > with W, X, Y and Z control
- > not allowed for VRV H/R



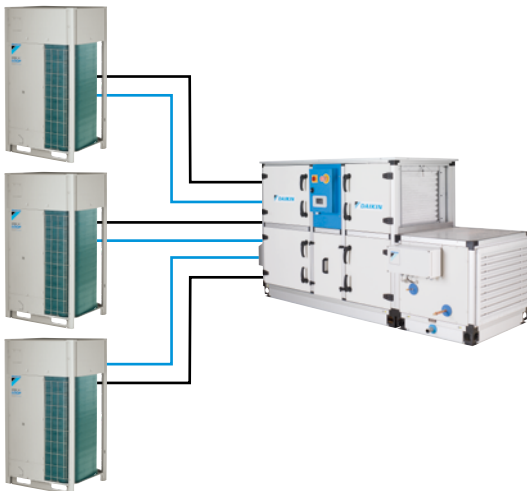
One VRV IV heat pump (system) connected to the interlaced coil of one AHU through several refrigerant circuits

- > with W, X and Y control
- > not allowed for VRV H/R and VRV-i



Several ERQ or VRV IV heat pumps connected to the interlaced coil of one AHU through several refrigerant circuits

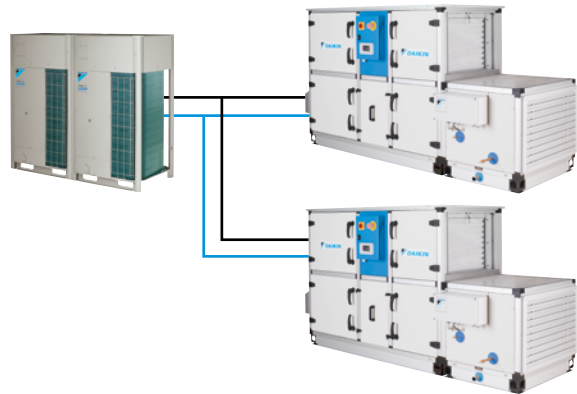
- > with W, X and Y control
- > not allowed for VRV H/R and VRV-i



Multi application

One VRV IV heat pump connected to several AHUs

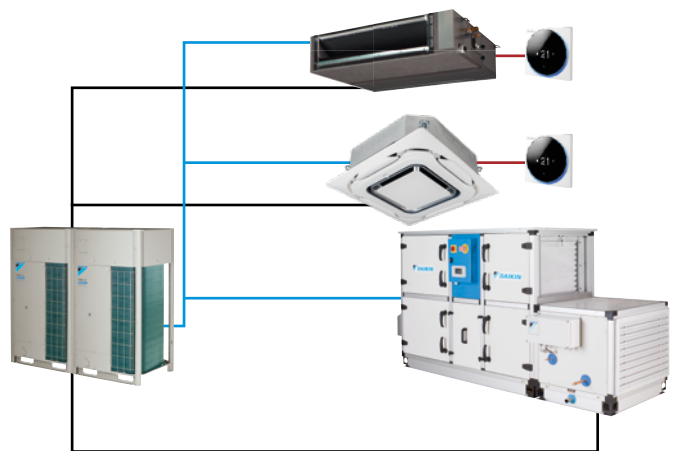
- > with Z control and field supplied controls on AHU side.
- > not allowed for VRV H/R
- > no interlaced coil possible



Mix application

VRV indoor units and AHU(s) mixed in the same VRV IV heat pump or heat recovery system

- > with Z control and field supplied controls on AHU side
- > no interlaced coil possible
- > hydrobox not possible



- Refrigerant piping
- F1-F2
- P1-P2



ERQ - for smaller capacities (from 100 to 250 class)

A basic fresh air solution for pair application

- › Inverter controlled units
- › Heat pump
- › R-410A
- › Wide range of expansion valve kits available
- › Perfect for the Daikin Modular air handling unit

The "Daikin Fresh Air Package" provides a complete Plug & Play Solution including AHU, ERQ or VRV Condensing Unit and all unit control (EKEQ, EKEX, DDC controller) factory mounted and configured. The easiest solution with only one point of contact.

More details and final information can be found by scanning or clicking the QR codes.



ERQ-AV1



ERQ-AW1



ERQ-AW1

Ventilation				ERQ	100AV1	125AV1	140AV1
Capacity range			HP		4	5	6
Cooling capacity	Nom.		kW		11.2	14.0	15.5
Heating capacity	Nom.		kW		12.5	16.0	18.0
Power input	Cooling	Nom.	kW		2.81	3.51	4.53
	Heating	Nom.	kW		2.74	3.86	4.57
EER						3.99	3.42
COP				4.56		4.15	3.94
Dimensions	Unit	HeightxWidthxDepth	mm			1,345x900x320	
Weight	Unit		kg			120	
Casing	Material					Painted galvanized steel plate	
Fan-Air flow rate	Cooling	Nom.	m ³ /min			106	
	Heating	Nom.	m ³ /min		102		105
Sound power level	Cooling	Nom.	dBA		66	67	69
Sound pressure level	Cooling	Nom.	dBA		50	51	53
	Heating	Nom.	dBA		52	53	55
Operation range	Cooling	Min./Max.	°CDB			-5/46	
	Heating	Min./Max.	°CWB			-20/15.5	
	On coil temperature	Heating/Min./Cooling/Max.	°CDB			10/35	
Refrigerant	Type					R-410A	
	Charge		kg			4.0	
			TCO ₂ eq			8.4	
	GWP					2,087.5	
Piping connections	Control					Expansion valve (electronic type)	
	Liquid	OD	mm			9.52	
	Gas	OD	mm		15.9		19.1
Drain	OD	mm			26x3		
Power supply	Phase/Frequency/Voltage		Hz/V			1N~/50/220-240	
Current	Maximum fuse amps (MFA)		A			32.0	

Ventilation				ERQ	125AW1	200AW1	250AW1
Capacity range			HP		5	8	10
Cooling capacity	Nom.		kW		14.0	22.4	28.0
Heating capacity	Nom.		kW		16.0	25.0	31.5
Power input	Cooling	Nom.	kW		3.52	5.22	7.42
	Heating	Nom.	kW		4.00	5.56	7.70
EER					3.98	4.29	3.77
COP				4.00		4.50	4.09
Dimensions	Unit	HeightxWidthxDepth	mm		1,680x635x765		1,680x930x765
Weight	Unit		kg		159	187	240
Casing	Material					Painted galvanized steel plate	
Fan-Air flow rate	Cooling	Nom.	m ³ /min		95	171	185
	Heating	Nom.	m ³ /min		95	171	185
Sound power level	Nom.		dBA		72		78
Sound pressure level	Nom.		dBA		54		58
Operation range	Cooling	Min./Max.	°CDB			-5/43	
	Heating	Min./Max.	°CWB			-20/15	
	On coil temperature	Heating/Min./Cooling/Max.	°CDB			10/35	
Refrigerant	Type					R-410A	
	Charge		kg		6.2	7.7	8.4
			TCO ₂ eq		12.9	16.1	17.5
	GWP					2,087.5	
Piping connections	Control					Electronic expansion valve	
	Liquid	OD	mm			9.52	
	Gas	OD	mm		15.9	19.1	22.2
Power supply	Phase/Frequency/Voltage		Hz/V			3N~/50/400	
Current	Maximum fuse amps (MFA)		A		16		25

Integration of ERQ and VRV in third party air handling units

a wide range of expansion valve kits and control boxes

Combination table

	Control box			Expansion valve kit										Mixed connection with VRV indoor units	
	EKEQDCB	EKEQFCBA	EKEQMCBA	EKEXV50	EKEXV63	EKEXV80	EKEXV100	EKEXV125	EKEXV140	EKEXV200	EKEXV250	EKEXV400	EKEXV500		
	Z control	W,X,Y control	Z control	-	-	-	-	-	-	-	-	-	-	-	
1-phase	ERQ100	P (1)	P	-	-	P	P	P	P	P	-	-	-	-	
	ERQ125	P (1)	P	-	-	P	P	P	P	P	-	-	-	-	
	ERQ140	P (1)	P	-	-	-	P	P	P	P	-	-	-	-	
3-phase	ERQ125	P (1)	P	-	-	P	P	P	P	P	-	-	-	-	
	ERQ200	P (1)	P	-	-	-	-	P	P	P	P	P	-	-	
	ERQ250	P (1)	P	-	-	-	-	-	P	P	P	P	-	-	
VRV IV H/P (RYYQ, RXYQ, RXYSQ, RXYTQ, RXYLQ, RWVEYQ)	-	P		P (1) / n2 (1)										Possible (not mandatory)	
VRV IV i-series	-	-													
VRV IV H/R	-	-		n1										Mandatory (no hydrobox)	

- P (pair application) - One or more outdoor units connected to an (interlaced) coil of one AHU. To determine exact configuration please refer to the engineering data book.
- n1 (only mix application) - Combination of (multiple) AHU(s) and VRV DX indoor(s) is mandatory. To determine the exact configuration please refer to the engineering data book.
- n2 (mix or multi application) - Combination of (multiple) AHU(s) with (mix application) or without (multi application) VRV DX indoor(s). To determine the exact configuration please refer to the engineering data book.
- Control box EKEQFA can be connected to some types of VRV IV outdoor units (with a maximum of 3 boxes per unit). Do not combine EKEQFA control boxes with VRV DX indoor units, RA indoor units or hydroboxes
- (1) No interlaced coil possible with Z control

Capacity table

Cooling

EKEXV Class	Allowed heat exchanger capacity (kW)			Allowed heat exchanger volume (dm ³)	
	Minimum	Standard	Maximum	Minimum	Maximum
50	5.0	5.6	6.2	1.33	1.65
63	6.3	7.1	7.8	1.66	2.08
80	7.9	9.0	9.9	2.09	2.64
100	10.0	11.2	12.3	2.65	3.30
125	12.4	14.0	15.4	3.31	4.12
140	15.5	16.0	17.6	4.13	4.62
200	17.7	22.4	24.6	4.63	6.60
250	24.7	28.0	30.8	6.61	8.25
400	35.4	45.0	49.5	9.26	13.2
500	49.6	56.0	61.6	13.2	16.5

Saturated evaporating temperature: 6°C
Air temperature: 27°C DB / 19°C WB

Heating

EKEXV Class	Allowed heat exchanger capacity (kW)			Allowed heat exchanger volume (dm ³)	
	Minimum	Standard	Maximum	Minimum	Maximum
50	5.6	6.3	7.0	1.33	1.65
63	7.1	8.0	8.8	1.66	2.08
80	8.9	10.0	11.1	2.09	2.64
100	11.2	12.5	13.8	2.65	3.30
125	13.9	16.0	17.3	3.31	4.12
140	17.4	18.0	19.8	4.13	4.62
200	19.9	25.0	27.7	4.63	6.60
250	27.8	31.5	34.7	6.61	8.25
400	39.8	50.0	55.0	9.26	13.2
500	55.1	63.0	69.3	13.2	16.5

Saturated condensing temperature: 46°C
Air temperature: 20°C DB

EKEXV - Expansion valve kit for air handling applications

Ventilation		EKEXV	50	63	80	100	125	140	200	250	400	500
Dimensions	Unit	mm	401x215x78									
Weight	Unit	kg	2.9									
Sound pressure level Nom.		dBA	45									
Operation range	On coil temperature	Heating Min. °CDB	10 (1)									
		Cooling Max. °CDB	35 (2)									
Refrigerant	Type / GWP		R-410A / 2,087.5									
Piping connections	Liquid OD	mm	6.35	9.52							12.7	15.9

(1) The temperature of the air entering the coil in heating mode can be reduced to -5°CDB. Contact your local dealer for more information. (2) 45% Relative humidity.

EKEQ - Control box for air handling applications

Ventilation		EKEQ	FCBA	DCB	MCBA
Application			Pair	Pair	Pair/Multi/Mix
Outdoor unit			ERQ / VRV	ERQ	VRV
Dimensions	Unit	mm	132x400x200		
Weight	Unit	kg	3.9	3.6	
Power supply	Phase/Frequency/Voltage	Hz/V	1~/50/230		

The combination of EKEQFCBA and ERQ is in pair application. The EKEQFCBA can be connected to some type of VRV IV outdoor units with a maximum of 3 control boxes. The combination with DX indoor units, hydroboxes, RA outdoor units, ... is not allowed. Refer to the combination table drawing of the outdoor unit for details.

For more information refer to the EKEXV or EKEQ databooks

