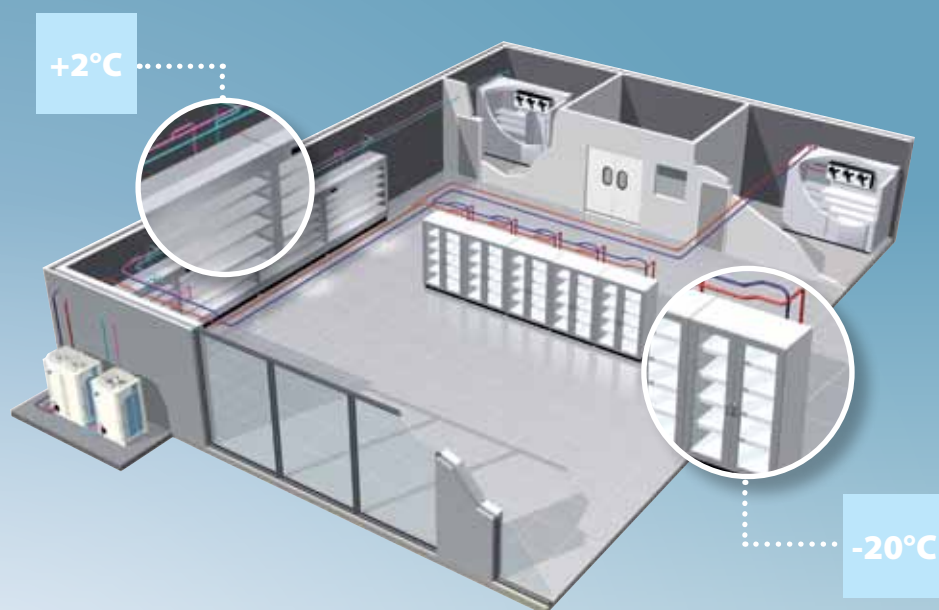


Refrigeration

ZEAS condensing units

- » Unified model for cooling and freezing applications
- » High energy efficiency
- » Low sound level
- » Small footprint
- » VRV technology for refrigeration



LREQ-BY1



With this new range of inverter driven condensing units Daikin expands its range of specified solutions with **unified models for medium and low temperature refrigeration applications.**

The ZEAS condensing units are the perfect solution for applications with fluctuating loads and **high energy efficiency needs**, including supermarkets, blast coolers and freezers, cold storage, butchers, bakeries, restaurants, petrol station retail outlets.

On top of that their small footprint and low sound emissions allow installation in virtually any available place.

Main benefits

- › **Small footprint**
- › Fully equipped, easy to install solution
- › **Low operating sound level**
- › DC inverter scroll compressor with economiser function for high energy efficiency and reliable performance
- › VRV (Variable Refrigerant Volume) technology for flexible application range

Installer benefits

- › For applications with variable load conditions
- › Factory tested and pre-programmed for quick and easy installation and commissioning
- › Increased installation flexibility thanks to overall **limited dimensions**
- › Parts and support available throughout the Daikin network

End-user benefits

- › **Low energy consumption**
- › **Low sound level** including 'night mode' operation
- › Strong anti-corrosion housing for long life, even in harsh environmental conditions
- › Fully packaged unit at a very competitive price

Inverter control for high energy efficiency...

Daikin's ZEAS range is based on the company's **proven VRV technology**, which is renowned for its energy efficiency, reliability and controllability, resulting in lower CO₂ emissions and reduced operating costs.

The units use **DC inverter scroll compressors**, which can meet cooling demand, while consuming less power than traditional units. High levels of energy efficiency are achieved, even in partial load conditions.

... and low noise levels

ZEAS condensing units are far quieter than traditional units too, because the inverter control allows fan speeds to be kept low while still meeting cooling demand. Sound levels can be adjusted to match environmental requirements or the time of day. At night, for example, maximum fan speeds can be lowered to reduce noise, with only a limited loss of refrigeration capacity. The fans have blades and grills designed specially to reduce turbulence and lower noise further.

Small footprint

- ✓ A very compact design: best surface/capacity ratio in the market
- ✓ Easy to install, even in small spaces
- ✓ Little space required between units



Modbus communication box and diagnostic tool



Specifications



OUTDOOR UNIT				LREQ5BY1	LREQ6BY1	LREQ8BY1	LREQ10BY1	LREQ12BY1	LREQ15BY1	LREQ20BY1	
Refrigerating capacity	Medium temperature ¹	Nom.	kW	12.5	15.2	19.8	23.8	26.5	33.9	37.9	
	Low temperature ²	Nom.	kW	5.51	6.51	8.33	10.0	10.7	13.9	15.4	
Dimensions	Unit	HeightxWidthxDepth	mm	1,680x635x765			1,680x930x765		1,680x1,240x765		
Weight	Unit		kg	166			242		331	337	
Compressor	Type	Hermetically sealed scroll compressor									
	Piston displacement		m ³ /h	11.18	13.85	19.68	23.36	25.27	32.24	35.8	
	Speed		rpm	5,280	6,540	4,320+2,900	6,060+2,900	6,960+2,900	5,280+2,900+2,900	6,960+2,900+2,900	
	Output		kW	2.6	3.2	2.1 + 3.6	3.0 + 3.6	3.4 + 3.6	2.6 + 3.6 + 3.6	3.4 + 3.6 + 3.6	
Fan	Starting method	Direct on line (inverter driven)									
	Type	Propeller fan									
	Quantity				1					2	
Fan motor	Air flow rate	Cooling	Nom.	m ³ /min	95	102	171	179	191	230	240
	Output				0.35			0.75		0.35 + 0.35	0.75+0.75
Operation range	Drive	Direct drive									
	Evaporator	Min.~Max.	°CDB	-45~10							
Sound pressure level ³	Ambient temperature				-20~43						
					55	56	57	59	61	62	63
Refrigerant	Type	R-410A									
	Charge				5.2			7.9		11.5	
	Control	Electronic expansion valve									
Refrigerant oil	Type	Daphne FVC68D									
	Charged volume				1.7 / 2.5	1.7 / 2.5	1.7 / 2.1 / 3.0	1.7 / 2.1 / 3.0	1.7 / 2.1 / 4.0	1.7 / 2.1 / 4.0	
Piping connections	Liquid	50m or less	ø 9.5 C1220T (Braze connection)						ø 12.7 C1220T (Braze connection)		
	Gas	50~130m	ø 9.5 C1220T (Braze connection)			ø 12.7 C1220T (Braze connection)					
					ø 22.2 C1220T (Braze connection)			ø 28.6 C1220T (Braze connection)		ø 34.9 C1220T (Braze connection)	
Power supply	Phase/Frequency/Voltage				3~/50/380-415						
Voltage range	Min.~Max.	-10~10									
Current	Nominal running current (RLA) - 50Hz	Compressor	Cooling	A	7.1	9.2	5.3 + 7.5	7.4 + 7.9	9.8 + 8.3	7.0 + 8.2 + 8.2	9.5 + 8.4 + 8.4
	Starting current (MSC)				-			74		75	
Current - 50Hz	Minimum Ssc value				-			655		899	
	Minimum circuit amps (MCA)				12.8	13.7	19.3	22.0	24.0	31.4	35.0
	Maximum fuse amps (MFA)				15			25		40	
	Total overcurrent amps (TOCA)				15.6			31.5		48.3	
	Full load amps (FLA)				0.4			0.9		0.4 + 0.4	
	Fan motor									0.7 + 0.7	

(1) Te=-10°C, Tamb=+32°C, 10K (Suction SH), (2) Te=-35°C, Tamb=+32°C, 10K (Suction SH), (3) Sound pressure data: measured at 1m in front of unit, at 1.5m height

OUTDOOR UNIT				*LREQ30BY1R	*LREQ40BY1R	
Refrigerating capacity	Medium temperature ¹	Nom.	kW	64	73.5	
	Low temperature ²	Nom.	kW	26	28.5	
Dimensions	Unit	HxWxD	mm	1,680x2,680x765		
Weight	Unit		kg	331 x 2	337 x 2	
Operation range	Evaporator	Min.~Max.	°CDB	-45~10		
	Ambient temperature				-20~43	
Compressor number	2 inv + 4 non-inv					
Fan motor	Output				(0.35x2)x2	(0.75x2)x2
Maximum piping length				m		
Piping connections	Liquid				ø 19.05	ø 19.05
	Gas				ø 41.28	ø 41.28
Power supply	Phase/Frequency	Voltage	Hz/V	3~/50/380~415		
Voltage range	Min~Max	%				
Sound pressure level ³				65	66	
Refrigerant	Charge				23	23
Receiver volume				27	27	

(1) Te=-10°C, Tamb=+32°C, 10K (Suction SH), (2) Te=-35°C, Tamb=+32°C, 10K (Suction SH), (3) Sound pressure data: measured at 1m in front of unit, at 1.5m height

*Note: grey cells contain preliminary data

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