

# BLHV MINI

## VRF SYSTEM



12.5/14/16/18kW



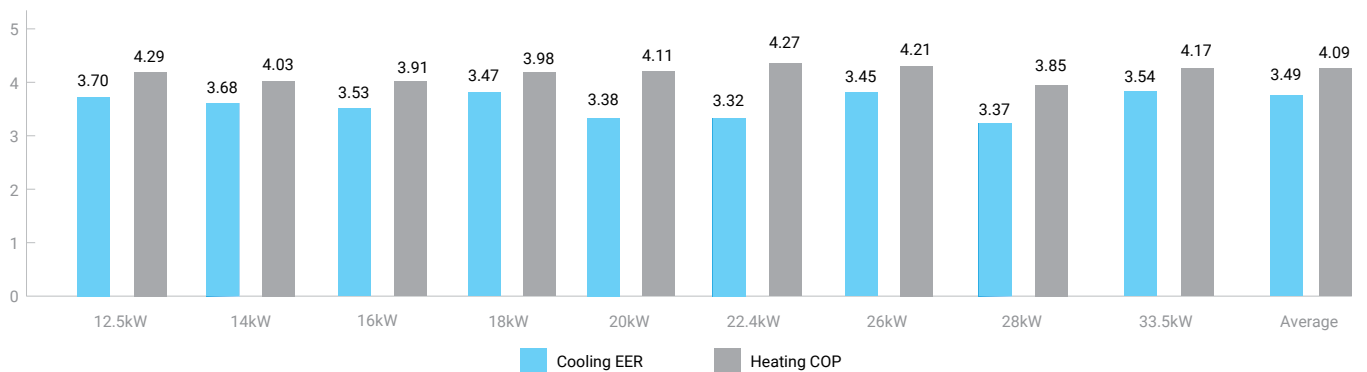
20/22.4kW



26/28/33.5kW

Capacity	12.5kW	14kW	16kW	18kW	20kW	22.4kW	26kW	28kW	33.5kW
Compressor	DC	DC	DC	DC	DC	DC	DC	DC	DC
Fan motor	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC	DC+DC

### EER&COP



### REFRIGERANT PIPING

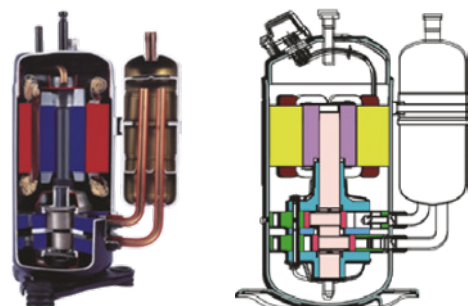
The total pipe length	The longest pipe length	Equivalent length from first indoor distributor to last indoor unit	Height difference between indoor and outdoor unit:	Height difference between indoor units
100m (12.5-22.4kW) 120m(26-33.5kW)	Actual length 60m Equivalent length 70m	20m	Outdoor unit above≤30m Outdoor unit below≤20m	8m

\*Please refer to the installation manual for detailed length description.

### FEATURES

#### HIGH EFFICIENCY DC INVERTER COMPRESSOR

- Twin-rotary DC inverter compressor
  - Use high efficiency and reliability compressor.
  - Has very good efficiency in part load condition.
- High Efficiency, Low Noise
  - Optimized the efficiency and noise during operation with the latest technology.
- Environmental Protection
  - Developed the compressor with alternative refrigerant which can protect environment.
- Low Vibration
  - Reduced the vibration during compressor start and operation by using 2CYL Structure, simplified the match of air-conditioning.



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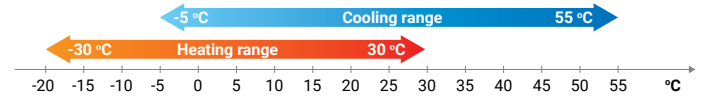
### HIGH EFFICIENCY DC MOTOR

- o High efficiency DC fan motor.
- o Low noise and high efficiency because of high-density.
- o wire winding engineering.
- o Brushless with built-in sensor.



### WIDE OUTDOOR OPERATION RANGE

- o Max. cooling operating temperature is designed up to 50°C. Heating operating temperature is down to -20°C. In the cold winter, system can heat the room continuously.
- o Outdoor unit running at temperature above 50°C need customized in factory, please consult to sales engineer.



### FAST COOLING AND HEATING

- o Every rooms meet set point most quickly and comfortably by optimized refrigerant control.



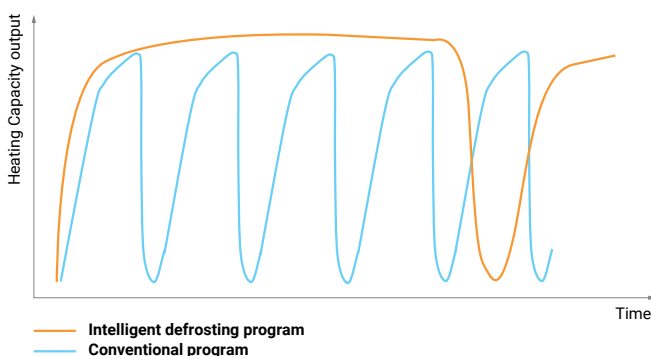
### 180° SINE WAVE CONTROL

- o The perfect combination of 180° Sine wave rotor frequency drive control technology and excellent IPM inverters, reduces the reactive loss of motor-driven, increases motor efficiency by 12%.



### INTELLIGENT DEFROSTING PROGRAM

- o Program starts only when unit needs to. Whereas conventional unit's defrosting timing & duration is fixed, causing fluctuations in temperature and personal comfort.



### Defrost curve

- o Conventional unit's defrosting timing & duration is fixed.
- o Intelligent defrosting program starts according to heat exchanging efficiency & capacity change due to the frost. Less temperature fluctuations, people feel more comfortable.

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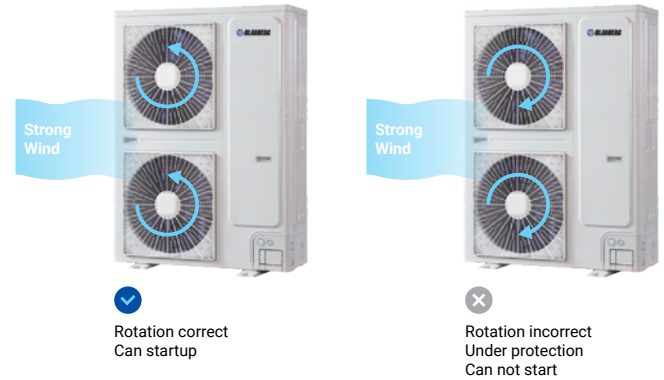
## VRF SYSTEM

### SILENT TECHNOLOGY



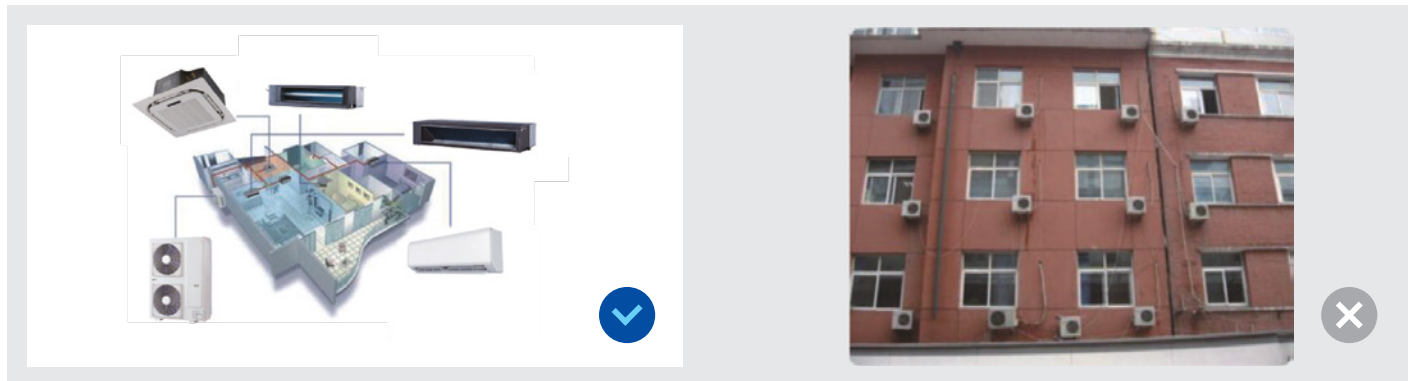
### FAN REVERSAL PROTECTION

In standby, if the outdoor fan motor is rotating in opposite direction at a high speed by the wind or other natural factors, the unit can't start so as to keep the fan motor from broken down, it will start when the fan motor speed slow down.



### SPACE SAVING INSTALLATION

- Multiple indoor units can be connected to 1 outdoor unit, and long piping connection is also possible.
- Compare to one-drive-one type, the outdoor unit can be installed in various places to realize the space-saving installation.



### HIGH EFFICIENCY

- Refrigerant cooling technology for PCB
  - The radiation fin is made of aluminum panels fitting together seamlessly.
  - This helps to cool down the IPM, it has better performance compared to air cooling for PCB.
  - The outdoor unit has capability to run in max. 55°C ambient temperature.



### AUTOMATICALLY ADDRESSING

- Automatically addressing: system will distribute address to indoor unit automatically.
- Automatic addressing will reduce artificial faults and manual works.



### INDEPENDENT DISPLAY BOARD

Digital display



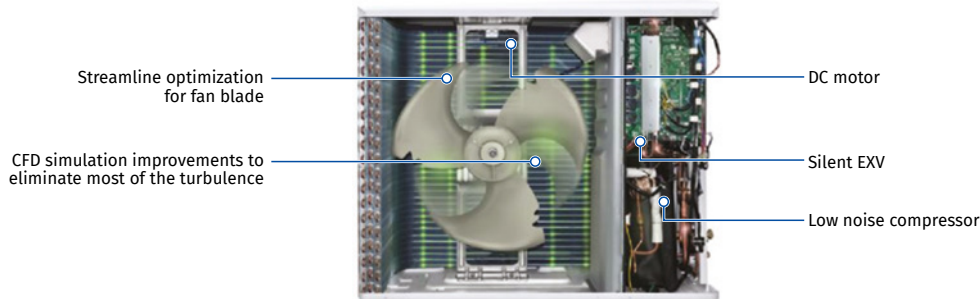
Digital display on the PCB, it can show system's operation status and error codes.

# BLHV MINI

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### LOWER NOISE

- 5 Major Technology Leads to Lower Noise.
- The Min. noise level is 54 dB(A).



### TECHNICAL DATA

Model Name			BLHV-R125-O/3R1A	BLHV-R140-O/3R1A	BLHV-R160-O/3R1A	BLHV-R180-O/3R1A	BLHV-R200-O/3R1A	BLHV-R224-O/3R1A	BLHV-R260-O/3R1A	BLHV-R280-O/3R1A	BLHV-R335-O/3R1A	
<b>Power type (V/N/HZ)</b>			380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	
<b>Cooling</b>	<b>Capacity</b>	<b>kW</b>	12.5	14	16	18	20	22.4	26	28	33.5	
		<b>Btu/h</b>	42000	47800	54000	61000	68200	76400	88700	95500	114300	
	<b>Power input</b>	<b>kW</b>	3.38	3.80	4.53	5.18	5.92	6.75	7.54	8.31	9.46	
	<b>EER</b>		3.70	3.68	3.53	3.47	3.38	3.32	3.45	3.37	3.54	
<b>Heating</b>	<b>Capacity</b>	<b>kW</b>	14	16	18	20	22	24	28.5	31.5	37.5	
		<b>Btu/h</b>	47000	54000	61000	68000	75000	81800	97200	107500	128000	
	<b>Power input</b>	<b>kW</b>	3.26	3.97	4.61	5.02	5.35	5.62	6.77	8.18	8.99	
	<b>COP</b>		4.29	4.03	3.91	3.98	4.11	4.27	4.21	3.85	4.17	
<b>Compressor</b>	<b>Type</b>		DC/Twin-rotary									
	<b>Qty</b>		1									
<b>Motor</b>	<b>Type</b>		DC/fan motor									
	<b>Qty</b>		2									
<b>Refrigerant</b>	<b>Type</b>		R410a									
	<b>Volume</b>	<b>kg</b>	3.45	3.8	3.8	4.2	5.3	5.3	6.1	8	8	
<b>Sound pressure Level</b>		<b>DB(A)</b>	56	56	58	58	58	58	60	60	60	
<b>Dimension (WxHxD)</b>	<b>Packing</b>	<b>mm</b>	1010x1445x415				1095x1545x485			1278x1703x560		
	<b>Body</b>	<b>mm</b>	975x1335x400				1015x1430x450			1120x1549x528		
<b>Weight</b>	<b>Net</b>	<b>kg</b>	86.6	86.6	90.1	94.7	112.7	112.7	142	154	154	
	<b>Gross</b>	<b>kg</b>	96.4	96.4	100	104.4	126.8	126.8	162	174	174	
<b>Connecting</b>	<b>Gas</b>	<b>mm</b>	Ø 15.88	Ø 15.88	Ø 15.88	Ø 19.05	Ø 19.05	Ø 19.05	Ø 22.2	Ø 22.2	Ø 22.2	
	<b>Liquid</b>	<b>mm</b>	Ø 9.52	Ø 9.52	Ø 9.52	Ø 9.52	Ø 9.52	Ø 9.52	Ø 9.52	Ø 12.7	Ø 12.7	
<b>Max Connected indoor units quantity</b>			6	7	8	9	10	10	12	15	18	

- Cooling Operation Conditions: Indoor Air Inlet Temperature: 27°C DB / 19°C WB, T1: Outdoor Air Inlet Temperature: 35°C DB, T3: Outdoor Air Inlet Temperature: 46°C DB.
- Heating Operation Conditions: Indoor Air Inlet Temperature: 20.0°C DB, Outdoor Air Inlet Temperature: 7°C DB / 6°C WB.

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8 / 10 / 12.5 / 14 / 16kW

## FEATURES

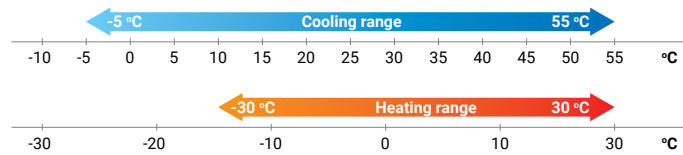
### COMPACT APPEARANCE

- o Easy for transportation.
- o It is suitable to be installed on terrace due to its compact appearance.



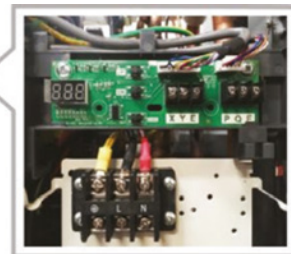
### WIDE OUTDOOR OPERATION RANGE

- o Because of refrigerant cooling design, the cooling ambient temperature range is up to 55 °C.
- o Heating ambient temperature is down to -15 °C, in cold weather, BLHV Mini VRF has capability to heat the room continuously.



### EASY MAINTENANCE WINDOW

- o LED display on the PCB: this is available to show operation status and error codes of the system.



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## TECHNICAL DATA

Model Name			BLHV-R080-O/1R1A	BLHV-R100-O/1R1A	BLHV-R125-O/1R1A	BLHV-R140-O/1R1A	BLHV-R160-O/1R1A
Power supply			220~240V/1N/ 50Hz	220~240V/1N/ 50Hz	220~240V/1N/ 50Hz	220~240V/1N/ 50Hz	220~240V/1N/ 50Hz
Cooling	Capacity	kW	8	10	12.5	14	16
		Btu/h	27300	34100	42600	47800	54600
	Power input	kW	2.60	3.00	3.20	3.75	4.75
	Rated current	A	11.8	13.6	14.5	17.0	21.8
	EER	W/W	3.08	3.33	3.91	3.73	3.37
Heating	Capacity	kW	9	11	14	16	17
		Btu/h	30700	37500	47800	54600	58000
	Power input	kW	2.65	3.1	3.52	4	4.4
	Rated current	A	12	14	16.1	18.2	20
	COP	W/W	3.40	3.55	3.98	4.00	3.86
DC Inverter compressor	Quantity		1				
	Type		Twin-rotary				
	Brand		Mitsubishi	GMCC	Mitsubishi	Mitsubishi	Mitsubishi
Fan motor	Type		DC				
	Qty		1				
	Power output	W	75	90	180	180	180
Fan blade	Fan Quantity		1				
	Air flow	m <sup>3</sup> /h	3300	4000	5500	5500	5500
Outdoor coil	Fin type		Hydrophilic Foil				
	Number of rows		3	2	2	3	3
	Tube type		Inner-grooved copper tube				
Refrigerant	Type		R410a				
	Volume	kg	2.00	2.60	3.00	3.45	3.80
Dimension (WxHxD)	Net	mm	935x702x383	1032x810x445	1100x870x528	1100x870x528	1100x870x528
	Packing	mm	975x770x420	1075x875x495	1140x965x540	1140x965x540	1140x965x540
Weight	Net	kg	47	60	85	90	90
	Gross	kg	50	65	95	100	100
ODU sound level		dB(A)	≤54	≤56	≤56	≤57	≤57
Cooling	Outdoor side	°C	-5~55				
Heating	Outdoor side	°C	-15~30				

1 The cooling conditions: indoor temp.: 27°C DB (80.6°C), 19°C WB (60°C) outdoor temp.: 35°C DB (95°C) equivalent pipe length: 5m drop length: 0m.

2 The heating conditions: indoor temp.: 20°C DB (68°C), 15 °C WB (44.6°C) outdoor temp.: 7°C DB (42.8°C) equivalent pipe length: 5m drop length: 0m.

3 Sound level: Anechoic chamber conversion value, measured at point 1 min front of the unit at a height of 1.2m. During actual operation, these values are normally somewhat higher as a result of ambient conditions.

4 The above data may be changed without notice for future improvement on quality at performance.