

Modular Chiller and Heat Pump Range

EACV & EAHV-M1500/1800YCL(-N)(-BS)



Cooling Capacity: 150 – 180kW
Heating Capacity: 150 – 180kW

e-Series machines are a modern take on traditional chillers. By utilising Mitsubishi Electric's latest technologies, e-Series chillers provide superior performance and reduced running costs in all conditions.

Able to be used as a single module or combined together with other modules, e-Series chillers can be deployed in systems from 150kW to 4320kW in a small physical package that is easy to install and has a low carbon footprint.

e series

MODULAR CHILLER AND HEAT PUMP RANGE

Key Features

Cooling-Only & Reversible Heat Pumps (150kW & 180kW modules)

Available in cooling-only or reversible heat pump models, e-Series are available in 150kW and 180kW modules to suit a wide range of applications.

Scalable Capacity and Enhanced System Resilience

A truly flexible solution, e-Series can be installed as a standalone single module, or with up to 24 modules in a combined interlinked system of up to 4,320kW, making it ideal for projects from small commercial sites to large industrial facilities. The modular design provides built-in resilience, with redundancy across modules eliminating the need for a dedicated backup chiller. Intelligent controls further enhance system performance by managing load sharing, duty rotation, and automatic fault response.

High Efficiency & Redundancy

Each module includes four inverter-driven scroll compressors and variable-speed fans each on their own refrigerant circuit – delivering excellent full-load and seasonal efficiency, built-in redundancy, and fast ROI.

Compact Footprint

e-Series offer up to 25% space saving (including clearances) when compared to traditional unitary chillers. What's more e-Series are available with built-in headers ideal for constrained plant and rooftop installations.

Precise Capacity Control & Wide Operating Range

Seamless capacity modulation from 8% to 100%, provides precise control of supply water temperatures for optimal comfort. This ultra-low turndown performance significantly reduces the need for separate low-load chillers. What's more, e-Series has a temperature operating range in cooling from 4°C to 30°C and heating up to 55°C (heat pump models).

Quiet Operation

With a full load sound power level of only 83dBA^{*4}, advanced acoustic engineering makes the e-Series suitable for noise-sensitive environments.

Low Inrush Current

With Mitsubishi Electric's inverter-driven compressors and fans e-Series has exceptionally low inrush current compared to fixed-speed compressor systems reducing electrical stress on start up.

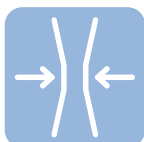
Environmentally Friendly

With 18.8 kg of R32 refrigerant evenly distributed across four independent circuits, each cooling-only module has a CO₂-equivalent footprint of just 3.18t per circuit (12.7t total), significantly reducing environmental impact.

Low Noise Operation



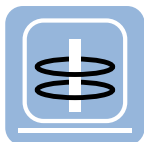
Narrow Footprint



4x Circuits



4x Inverter Compressors



High Efficiency Performance



*1 EAC/HV-M1500YCL(-N)(-BS) regulation EN14511.
*2 EAHV-M1500YCL(-N)(-BS) regulation EN14511.

*3 EAC/HV-M1500YCL(-N)(-BS) regulation EN14511 low temperature application.
*4 EAC/HV-M1500YCL(-N)(-BS) sound power level measured in anechoic room.

Specifications

150kW/180kW Modular Chillers (Cooling Only)

			EACV-M1500YCL(-N)(-BS)	EACV-M1800YCL(-N)(-BS)
POWER SUPPLY			3-phase 4-wire 380-400-415V 50/60Hz	
COOLING CAPACITY ¹⁾	Power Input	kW	150	180
	Power Input	kW	44.73	57.02
	Cooling Current 380 - 400 - 415V	A	76 - 72 - 69	96 - 91 - 88
	EER		3.35	3.16
	IPLV ³⁾		6.42	6.31
COOLING CAPACITY (EN14511) ²⁾	Power Input	kW	149.18	178.8
	Power Input	kW	45.55	58.22
	EER		3.28	3.07
	Eurovent Efficiency Class		A	B
	SEER		5.52	5.36
CURRENT INPUT	Max / Starting	A	120 / 23	
WATER PRESSURE DROP ¹⁾	Standard Piping Without Internal Header	kPa	56	79
	With Internal Header (N)	kPa	134	190
TEMPERATURE RANGE	Cooling	°C	Outlet water 4~30	
	Outdoor	°C	-15~-52	
CIRCULATING WATER VOLUME	Nominal	L/s	7.2	8.6
	Range	L/s	3.6~11.9	
SOUND PRESSURE LEVEL ¹⁾	Measured in anechoic room at 1m	dB(A)	65	67
SOUND POWER LEVEL ¹⁾	Measured in anechoic room	dB(A)	83	85
DIAMETER OF WATER PIPE (STANDARD PIPING)	Inlet & Outlet		65A grooved pipe coupling joint (76.1mm OD)	
DIAMETER OF WATER PIPE (INTERNAL HEADER PIPING)	Inlet & Outlet		150A grooved pipe coupling joint (165.1mm OD)	
EXTERNAL FINISH			Polyester powder coated steel plate	
EXTERNAL DIMENSION	W x D x H	mm	3400x1080x2350	
NET WEIGHT / OPERATING WEIGHT	Standard Piping	kg	1039 / 1074	
	Internal Header Piping	kg	1067 / 1142	
DESIGN PRESSURE	R32	MPa	4.15	
	Water	MPa	1.0	
HEAT EXCHANGER	Water Side		Stainless steel plate and copper brazing	
	Air Side		Salt-resistant corrugated fin aluminium micro channel (PFC)	
COMPRESSOR	Type		Inverter scroll hermetic compressor	
	Maker		Mitsubishi Electric Corporation	
	Starting Method		Inverter (soft start)	
	Quantity		4	
	Motor Output	kW	11.5 x 4	
FAN	Air Flow Rate	L/s	4500 x 4	
	Type, Quantity		Variable Speed Axial x 4	
	Starting Method		Inverter	
	Motor Output	kW	0.92 x 4	
PROTECTION	High Pressure Protection		High pres. Sensor & High pres. Switch at 4.15MPa (601psi)	
	Inverter Circuit		Over-heat protection, Over current protection	
	Compressor		Over-heat protection	
REFRIGERANT R32 (GWP 677) (AS PER AR5)	Full Charge	kg	4.7 x 4 circuits (18.8 total) ⁴⁾	
	CO ₂ Equivalent	t	12.7	
	Control		LEV (Linear Expansion Valve)	

Pump not included in e-Series units.

Due to continuous improvement, the above specifications may be subject to change without notice.

- (1) Under normal cooling conditions at outdoor temp 35°CDB/24°CWB. Outlet water temp 7°C, inlet water temp 12°C. Pump input not included.
 (2) Under normal cooling conditions at outdoor temp 35°CDB/24°CWB. Outlet water temp 7°C, inlet water temp 12°C. Pump input included, per EN14511.

(3) Calculations in accordance with AHRI 550-590.

(4) The factory charge of refrigerant for EACV-M1500YCL(-N)(-BS) and EACV-M1800YCL(-N)(-BS) is 3kg x 4 circuits (12kg total).

Optional Parts

DESCRIPTION	IMAGE	MODEL NAME	REMARKS
Piping Kit		EC-01HK ⁵⁾	For inside header type modules
Connection Piping Kit		EC-02HK ⁵⁾	For inside header type modules
Fin Guard		EC-130FG	For standard pipe type and inside header type modules ⁶⁾
Water Temperature Sensor		TW-TH16-E	For groups of 2 or more modules, and for systems of 2 or more groups

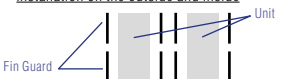
FIN GUARD SET⁶⁾

One set contains 4 fin guards. Please refer to the following installation examples

Installation only on the outside



Installation on the outside and inside



NOTE: Two sets are required.

⁵⁾ EC-01HK and EC-02HK contain panels and bolts together with the items shown. (Please refer to the instruction manual for details.)

Specifications

150kW/180kW Modular Chillers (Reversible Heat Pump)

			EAHV-M1500YCL(-N)(-BS)	EAHV-M1800YCL(-N)(-BS)
POWER SUPPLY			3-phase 4-wire 380-400-415V 50/60Hz	
COOLING CAPACITY ¹	Power Input	kW	150.00	180.00
	Power Input	kW	44.73	57.02
	Cooling Current 380 - 400 - 415V	A	76 - 72 - 69	96 - 91 - 88
	EER		3.35	3.16
	IPLV ⁵		6.42	6.31
COOLING CAPACITY (EN14511) ²	Power Input	kW	149.18	178.80
	Power Input	kW	45.55	58.22
	EER		3.28	3.07
	Eurovent Efficiency Class		A	B
	SEER		5.52	5.36
HEATING CAPACITY ³	Power Input	kW	150.00	180.00
	Power Input	kW	42.61	53.09
	Heating Current 380-400-415V	A	72 - 68 - 66	90 - 85 - 82
	COP		3.52	3.39
HEATING CAPACITY (EN14511) ⁴	Power Input	kW	150.82	181.20
	Power Input	kW	43.43	54.29
	COP		3.47	3.34
	SCOP Low/Medium		3.31/2.88	
CURRENT INPUT	Max / Starting	A	120 / 23	
WATER PRESSURE DROP ¹	Standard Piping Without Internal Header	kPa	56	79
	With Internal Header (N)	kPa	134	190
TEMPERATURE RANGE	Cooling	°C	Outlet water 4~30	
	Heating	°C	Outlet water 25~55	
	Cooling (Outdoor)	°C	-15~52	
	Heating (Outdoor)	°C	-20~43	
CIRCULATING WATER VOLUME	Nominal	L/s	7.2	8.6
	Range	L/s	3.6~11.9	
SOUND PRESSURE LEVEL ¹	Measured in anechoic room at 1m	dB(A)	65	67
SOUND POWER LEVEL ¹	Measured in anechoic room	dB(A)	83	85
DIAMETER OF WATER PIPE (STANDARD PIPING)	Inlet & Outlet		65A grooved pipe coupling joint (76.1mm OD)	
DIAMETER OF WATER PIPE (INTERNAL HEADER PIPING)	Inlet & Outlet		150A grooved pipe coupling joint (165.1mm OD)	
EXTERNAL FINISH			Polyester powder coated steel plate	
EXTERNAL DIMENSION	W x D x H	mm	3400x1080x2350	
NET WEIGHT / OPERATING WEIGHT	Standard Piping	kg	1280 / 1315	
	Internal Header Piping	kg	1307 / 1382	
DESIGN PRESSURE	R32	MPa	4.15	
	Water	MPa	1.0	
HEAT EXCHANGER	Water Side		Stainless steel plate and copper brazing	
	Air Side		Salt-resistant cross fin aluminium tube (HFT)	
COMPRESSOR	Type		Inverter scroll hermetic compressor	
	Maker		Mitsubishi Electric Corporation	
	Starting Method		Inverter (soft start)	
	Quantity		4	
	Motor Output	kW	11.5 x 4	
FAN	Lubricant		MEL46EH	
	Air Flow Rate	L/s	4500 x 4	
	Type, Quantity		Variable Speed Axial x 4	
	Starting Method		Inverter	
PROTECTION	Motor Output	kW	0.92 x 4	
	High Pressure Protection		High pres.Sensor & High pres.Switch at 4.15MPa (601psi)	
	Inverter Circuit		Over-heat protection, Over current protection	
	Compressor		Over-heat protection	
REFRIGERANT R32 (GWP 677) (AS PER AR5)	Full Charge	kg	11.5 x 4 Circuits (46 total) ⁶	
	CO ₂ Equivalent	t	31.0	
	Control		LEV (Linear Expansion Valve)	

Pump not included in e-Series units.

Due to continuous improvement, the above specifications may be subject to change without notice.

- (1) Under normal cooling conditions at outdoor temp 35°CDB/24°CWB. Outlet water temp 7°C, inlet water temp 12°C. Pump input not included.
- (2) Under normal cooling conditions at outdoor temp 35°CDB/24°CWB. Outlet water temp 7°C, inlet water temp 12°C. Pump input included, per EN14511.
- (3) Under normal heating conditions at outdoor temp 7°CDB/6°CWB. Outlet water temp 45°C, inlet water temp 40°C. Pump input not included.

- (4) Under normal heating conditions at outdoor temp 7°CDB/6°CWB. Outlet water temp 45°C, inlet water temp 40°C. Pump input included, per EN14511.
- (5) Calculations in accordance with AHRI 550-590.
- (6) The factory charge of refrigerant for EAHV-M1500YCL(-N)(-BS) and EAHV-M1800YCL(-N)(-BS) is 3kg x 4 circuits (12kg total).



Black Diamond Technologies and Mitsubishi Electric – an Exclusive Partnership Since 1981

The Mitsubishi Electric Product Range has been exclusively distributed by 100% locally owned and operated Black Diamond Technologies Limited for over 40 years in New Zealand.

The combination of an internationally trusted brand with the comfort of a locally owned and operated company means that you will always get the best products, the best local service and the best local support.

Based in Wellington with a further 4 support offices throughout New Zealand, Black Diamond Technologies Limited is here to help.

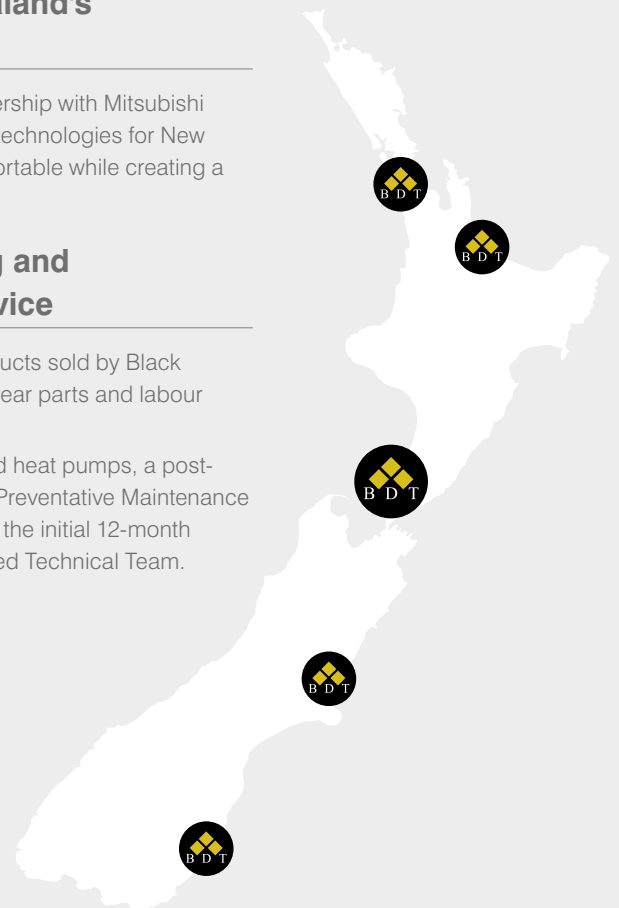
Our Vision – Creating New Zealand's Sustainable Future

Black Diamond Technologies Limited in partnership with Mitsubishi Electric, strives to develop and introduce new technologies for New Zealanders that will make our lives more comfortable while creating a greener tomorrow.

Peace of Mind Commissioning and Preventative Maintenance Service

Commercial chiller and heat pump HVAC products sold by Black Diamond Technologies are provided with a 1-year parts and labour warranty from the time of commissioning.

To validate the warranty on specific chillers and heat pumps, a post-commissioning Black Diamond Technologies Preventative Maintenance Service is required; this includes 4 site visits in the initial 12-month period and is carried out by our specially trained Technical Team.



For more information please visit our website or call our Applied Products Sales Team.

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