

e-Series Modular Chiller Range

EAC/HV-P1500/1800YB(-N)(-BS)



Chiller systems have been used for decades to deliver controlled cooling to buildings, but with increasing pressure on energy efficiency and running costs, we now need a low-carbon, cost effective option.

Comprising of cooling only and heat pump models, Mitsubishi Electric's e-Series P1500/P1800 Modular Chiller range allows up to six individual units to be connected together to provide system capacities up to 1,080kW.



High Efficiency

The e-Series Modular Chiller range uses highly efficient scroll compressor technology originating from Mitsubishi Electric City Multi units, along with advanced inverters and controls to deliver exceptional efficiency with a wide operating range.

e-Series Modular Chillers offer high seasonal part-load efficiencies, resulting in lower running cost for the end user.

Unique Modular Approach

Using a modular approach reduces space requirements and simplifies logistics and installation. A modular approach also lends itself to a staged installation for future HVAC demands, as modular chillers can be scaled accordingly.

Reduced Plant Space

The e-Series Modular Chiller system can achieve between 30% ~ 40% space savings when compared to traditional chillers. Each module can be installed in a group of up to six units using the internal header. For designers looking to optimise roof and plant space, this is an enormous benefit over large unitary chillers.

Low Noise Levels

The e-Series Modular Chiller range are by their nature much quieter than conventional chillers. By utilising highly efficient fan and compressor technologies within a uniquely shaped chassis, the e-Series Modular Chiller range offers market leading low noise levels.

Specifications

150kW/180kW Modular Chillers (Cooling Only)

COOLING ONLY			EACV-P1500YB(-N)(-BS)	EACV-P1800YB(-N)(-BS)
POWER SOURCE			3-phase 4-wire 380-400-415v, 50/60Hz	3-phase 4-wire 380-400-415v, 50/60Hz
COOLING CAPACITY ¹				
		kW	150.0	180.0
		kcal/h	129,000	154,800
		BTU/h	511,800	614,160
	Power Input	kW	45.1	59.01
	Cooling Current 380 - 400 - 415V	A	77 - 73 - 70	77 - 73 - 70
	EER		3.33	3.05
	IPLV ³		6.55	6.33
COOLING CAPACITY (EN14511) ²				
		kW	148.58	177.76
		kcal/h	127,779	152,874
		BTU/h	506,955	606,517
	Power Input	kW	46.52	61.25
	EER		3.19	2.9
	Eurovent Efficiency Class		A	B
	ESEER ⁴		4.74	4.45
	SEER		4.62	4.58
MAXIMUM CURRENT INPUT			A	111
WATER PRESSURE DROP ¹			kPa	114
TEMP RANGE				
	Cooling Water	°C	Outlet water 5 ~ 30	Outlet water 5 ~ 30
	Outdoor	°C	-15 ~ 43	-15 ~ 43
CIRCULATING WATER VOLUME				
	Nominal	m3/h	25.8	31
	Range	m3/h	12.9 ~ 34.0	12.9 ~ 34.0
SOUND PRESSURE LEVEL (measured in anechoic room) at 1m ¹			dB(A)	66
SOUND POWER LEVEL (measured in anechoic room) ¹			dB(A)	84
DIAMETER OF WATER PIPE (Standard piping)				
	Inlet		65A grooved pipe coupling joint (76.3mm OD)	65A grooved pipe coupling joint (76.3mm OD)
	Outlet		65A grooved pipe coupling joint (76.3mm OD)	65A grooved pipe coupling joint (76.3mm OD)
DIAMETER OF WATER PIPE (Internal header piping)				
	Inlet		150A grooved pipe coupling joint (165.2mm OD)	150A grooved pipe coupling joint (165.2mm OD)
	Outlet		150A grooved pipe coupling joint (165.2mm OD)	150A grooved pipe coupling joint (165.2mm OD)
EXTERNAL FINISH			Polyester Powder coating steel plate	Polyester Powder coating steel plate
EXTERNAL DIMENSION			Width x Depth x Height	mm
			3400 x 1080 x 2350	3400 x 1080 x 2350
NET OPERATING WEIGHT				
	Internal Header Piping "-N" Model	kg	1324	1324
	Standard Piping Model	kg	1267	1267
DESIGN PRESSURE				
	R410A	MPa	4.15	4.15
	Water	MPa	1.0	1.0
HEAT EXCHANGER				
	Water Side		Stainless steel plate and copper brazing	Stainless steel plate and copper brazing
	Air Side		Resin Coated Aluminium Plate fin and copper tube	Resin Coated Aluminium Plate fin and copper tube
COMPRESSOR				
	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Maker		Mitsubishi Electric Corporation	Mitsubishi Electric Corporation
	Starting Method		Inverter	Inverter
	Quantity		4	4
	Motor Output	kW	11.7 x 4	11.7 x 4
	Lubricant		MEL32	MEL32
FAN				
	Air Flow Rate	m3/min	265 x 4	265 x 4
		L/s	4,417 x 4	4,417 x 4
		cfm	9,357 x 4	9,357 x 4
	Type, Quantity		Propeller fan x 4	Propeller fan x 4
	Starting Method		Inverter	Inverter
	Motor Output	kW	0.94 x 4	0.94 x 4
PROTECTION				
	High Pressure Protection		High pres. sensor & High pres. switch at 4.15MPa (601psi)	High pres. sensor & High pres. switch at 4.15MPa (601psi)
	Inverter Circuit		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
REFRIGERANT R410A (GWP 2008)				
	Full Charge	kg	15 x 4 circuit (60 total) ⁵	15 x 4 circuit (60 total) ⁵
	CO ₂ Equivalent ⁶	t	125.3	125.3
	Control		LEV	LEV

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 Calculated in accordance with EUROVENT conditions

*5 The factory charge of refrigerant for EACV-P1500YBL(-N)(-BS) and EACV-P1800YBL(-N)(-BS) is 3kg x 4 circuits (12kg total).

*6 Values based on Regulation (EU) No.517/2014.

150kW/180kW Modular Chillers (Heat Pump)

HEAT PUMP			EAHV-P1500YB(-N)(-BS)	EAHV-P1800YB(-N)(-BS)
POWER SOURCE			3-phase 4-wire 380-400-415v, 50/60Hz	3-phase 4-wire 380-400-415v, 50/60Hz
COOLING CAPACITY ^{*1}		kW	150.0	180.0
		kcal/h	129,000	154,800
		BTU/h	511,800	614,160
	Power Input	kW	45.1	59.01
	Cooling Current 380 - 400 - 415V ^{*1}	A	77 - 73 - 70	77 - 73 - 70
	EER (Pump input is not included)		3.33	3.05
	IPLV ^{*5}		6.55	6.33
COOLING CAPACITY (EN14511) ^{*2}		kW	148.58	177.76
		kcal/h	127,779	152,874
		BTU/h	506,955	606,517
	Power Input	kW	46.52	61.25
	EER		3.19	2.90
	Eurovent Efficiency Class		A	B
	ESEER ^{*6}		4.74	4.45
SEER		4.62	4.58	
HEATING CAPACITY ^{*3}		kW	150	180
		kcal/h	129,000	154,800
		BTU/h	511,800	614,160
	Power Input	kW	44.59	55.68
	Heating Current 380 - 400 - 415V ^{*3}	A	76 - 72 - 69	76 - 72 - 69
	COP		3.36	3.23
	SCOP (reversible) Low/Medium		3.24 / 2.85	3.24 / 2.85
HEATING CAPACITY (EN14511) ^{*4}		kW	151.42	182.24
		kcal/h	130,221	156,726
		BTU/h	516,645	621,803
	Power Input	kW	46.01	57.92
	COP		3.29	3.15
	Eurovent Efficiency Class		A	B
	SCOP (reversible) Low/Medium		3.24 / 2.85	3.24 / 2.85
MAXIMUM CURRENT INPUT	A	111	111	
WATER PRESSURE DROP ^{*1}	kPa	114	164	
TEMP RANGE	Cooling	°C	Outlet water 5 ~ 30	Outlet water 5 ~ 30
	Heating	°C	Outlet water 30 ~ 55	Outlet water 30 ~ 55
	Outdoor	°C	-15 ~ 43	-15 ~ 43
CIRCULATING WATER VOLUME	Nominal	m ³ /h	25.8	31
	Range	m ³ /h	+12.9 ~ 34.0	+12.9 ~ 34.0
SOUND PRESSURE LEVEL (measured in anechoic room) at 1m ^{*1}		dB(A)	66	68
SOUND POWER LEVEL (measured in anechoic room) ^{*1}		dB(A)	84	86
DIAMETER OF WATER PIPE (Standard piping)	Inlet		65A grooved pipe coupling joint (76.3mm OD)	65A grooved pipe coupling joint (76.3mm OD)
	Outlet		65A grooved pipe coupling joint (76.3mm OD)	65A grooved pipe coupling joint (76.3mm OD)
DIAMETER OF WATER PIPE (Internal header piping)	Inlet		150A grooved pipe coupling joint (165.2mm OD)	150A grooved pipe coupling joint (165.2mm OD)
	Outlet		150A grooved pipe coupling joint (165.2mm OD)	150A grooved pipe coupling joint (165.2mm OD)
EXTERNAL FINISH			Polyester powder coating steel plate	Polyester powder coating steel plate
EXTERNAL DIMENSION	Width x Depth x Height	mm	3400 x 1080 x 2350	3400 x 1080 x 2350
NET OPERATING WEIGHT	Internal Header Piping *-N* Model	kg	1394	1394
	Standard Piping Model	kg	1337	1337
DESIGN PRESSURE	R410A	MPa	4.15	4.15
	Water	MPa	1.0	1.0
HEAT EXCHANGER	Water Side		Stainless steel plate and copper brazing	Stainless steel plate and copper brazing
	Air Side		Resin Coated Aluminium Plate fin and copper tube	Resin Coated Aluminium Plate fin and copper tube
COMPRESSOR	Type		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Maker		Mitsubishi Electric Corporation	Mitsubishi Electric Corporation
	Starting Method		Inverter	Inverter
	Quantity		4	4
	Motor Output	kW	11.7 x 4	11.7 x 4
	Lubricant		MEL32	MEL32
	FAN	Air Flow Rate	m ³ /min	265 x 4
		L/s	4,417 x 4	4,417 x 4
		cfm	9,357 x 4	9,357 x 4
	Type, Quantity		Propeller fan x 4	Propeller fan x 4
	Starting Method		Inverter	Inverter
	Motor Output	kW	0.94 x 4	0.94 x 4
PROTECTION	High Pressure Protection		High pres. sensor & High pres. switch at 4.15MPa (601psi)	High pres. sensor & High pres. switch at 4.15MPa (601psi)
	Inverter Circuit		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
REFRIGERANT R410A (GWP 2008)	Full Charge	kg	15 x 4 circuit (60 total) ^{*7}	15 x 4 circuit (60 total) ^{*7}
	CO2 Equivalent ^{*8}		125.3	125.3
	Control		LEV	LEV

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 Calculated in accordance with EUROVENT conditions

*7 The factory charge of refrigerant for EAHV-P1500YB(-N)(-BS) and EAHV-P1800YB(-N)(-BS) is 3kg x 4 circuits (12kg total).

*8 Values based on Regulation (EU) No.517/2014.



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 39 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.

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