

e-Series Modular Chiller Range

EAC/HV-P900YA(-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, and suitable for both comfort and process cooling applications, Mitsubishi Electric's e-Series P900 Modular Chiller allows up to six individual units to be connected together to provide system capacities from 90kW to 540kW.



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.

Wide Operating Range

The e-Series Modular Chiller has a wide operating range in both cooling and heating. The low chilled water temperature range of the 90kW module is also ideal for efficient process cooling applications.

Specifications

90kW Modular Chiller (Cooling Only)

COOLING ONLY			EACV-P900YA(-N)(-BS)	
POWER SOURCE			3-phase 4-wire 380-400-415v, 50/60Hz	
COOLING CAPACITY*1 WATER		kW	90	
		kcal/h	77,400	
		BTU/h	307,080	
		Power Input*2	kW	27.27
		Current Input 380 - 400 - 415V	A	46.0 - 43.7 - 42.2
	Pump input is not included	EER		3.30
		ESEER		5.66
	Certified value by EUROVENT	EER		3.08
		ESEER*3		4.71
		ESEER (includes pump based on EN14511)*4		5.46
	SEER (includes pump based on EN14511)		4.88	
	IPLV*5		6.34	
COOLING CAPACITY*6 BRINE/GLYCOL (ethylene glycol 35WT%)		kW	56.73	
		kcal/h	48,788	
		BTU/h	193,563	
		Power Input*2	kW	25.98
		Current Input 380 - 400 - 415V	A	43.9 - 41.7 - 40.2
		EER*2		2.18
		EER (Includes pump input based on EN14511)		2.10
	Brine/Glycol Flow Rate	m3/h	11.5	
MAXIMUM CURRENT INPUT		A	61	
WATER PRESSURE DROP	Water*1	kPa	135	
	Brine/ Glycol (ethylene glycol 35WT%)*6	kPa	106	
TEMP RANGE	Cooling Water	°C	Outlet water 5 ~ 25	
	Cooling Brine/Glycol (ethylene glycol 35WT%)	°C	Outlet brine -10 ~ 25	
	Outdoor	°C	-15 ~ 43	
CIRCULATING WATER VOLUME	Nominal	m3/h	15.5	
	Range	m3/h	7.7 ~ 25.8	
SOUND PRESSURE LEVEL (measured in anechoic room) at 1m*1		dB(A)	65	
SOUND POWER LEVEL (measured in anechoic room)*1		dB(A)	77	
DIAMETER OF WATER PIPE (Standard piping)	Inlet		50A grooved pipe coupling joint (60.3mm OD)	
	Outlet		50A grooved pipe coupling joint (60.3mm OD)	
DIAMETER OF WATER PIPE (Internal header piping)	Inlet		100A grooved pipe coupling joint (114.3mm OD)	
	Outlet		100A grooved pipe coupling joint (114.3mm OD)	
EXTERNAL FINISH			Polyester powder coating steel plate	
EXTERNAL DIMENSION	Width x Depth x Height	mm	2250 x 900 x 2450	
NET OPERATING WEIGHT	Internal Header Piping "-N" Model	kg	1047	
	Standard Piping Model	kg	977	
DESIGN PRESSURE	R410A	MPa	4.15	
	Water	MPa	1.0	
HEAT EXCHANGER	Water Side		Stainless steel plate and copper brazing	
	Air Side		Resin coated Aluminium Plate fin and copper tube	
COMPRESSOR	Type		Inverter scroll hermetic compressor	
	Maker		Mitsubishi Electric Corporation	
	Starting Method		Inverter	
	Quantity		2	
	Motor Output	kW	11.7 x 2	
	Case Heater	kW	0.045 x 2	
	Lubricant		MEL32	
FAN	Air Flow Rate	m3/min	77 x 6	
		L/s	1,283 x 6	
		cfm	2,719 x 6	
	Type, Quantity		Propeller fan x 6	
	Starting Method		Inverter	
	Motor Output	kW	0.19 x 6	
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 R410A (GWP 2008)	Full Charge	kg	19 x 2 Circuits (38 total)*7	
	CO2 Equivalent*8	t	79.37	
	Control		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.

*2 Pump input not included.

*3 Values in compliance with EN14511-3: 2013 Fixed flow.

*4 Values in compliance with EN14511-3: 2013 Variable flow.

*5 Calculations in accordance with AHRI 550-590.

*6 Under normal cooling conditions at outdoor temp 35°CDB/24°CWB. Outlet Brine/Glycol temp -5°C, inlet Brine/Glycol temp 0°C

*7 Factory charge of refrigerant for EACV-P900YA(-N)(-BS) is 6kg x 2 circuits (12kg total).

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

90kW Modular Chiller (Heat Pump)

HEAT PUMP			EAHV-P900YA(-N)(-BS)
POWER SOURCE			3-phase 4-wire 380-400-415v, 50/60Hz
COOLING CAPACITY ¹ WATER		kW	90
		kcal/h	77,400
		BTU/h	307,080
	Power Input ²	kW	27.27
	Current Input 380 - 400 - 415V	A	46.0-43.7-42.2
	Pump input is not included	EER	3.3
		ESEER	5.66
	Certified value by EUROVENT	EER	2.94
		ESEER ⁴	4.71
		ESEER (includes pump based on EN14511) ⁵	5.46
	SEER (includes pump based on EN14511)	4.88	
	IPLV ⁶	6.34	
HEATING CAPACITY WATER ²		kW	90
		kcal/h	77,400
		BTU/h	307,080
	Power Input ³	kW	25.71
	Current input 380-400-415V	A	43.4-41.2-39.7
	COP ²		3.5
	COP (Pump input included per EN14511)		3.25
	SCOP (Reversible) low/medium (includes pump input based on EN14511)		3.66/2.89
MAXIMUM CURRENT INPUT		A	61
WATER PRESSURE DROP ¹		kPa	135
TEMP RANGE	Cooling (Water)	°C	Outlet water 5 ~ 25
	Heating (Water)	°C	Outlet water 30 ~ 55
	Outdoor	°C	-15 ~ 43
CIRCULATING WATER VOLUME	Nominal	m ³ /h	15.5
	Range	m ³ /h	7.7 ~ 25.8
SOUND PRESSURE LEVEL (measured in anechoic room) at 1m ¹		dB(A)	65
SOUND POWER LEVEL (measured in anechoic room) ¹		dB(A)	77
DIAMETER OF WATER PIPE (Standard piping)	Inlet		50A grooved pipe coupling joint (60.3mm OD)
	Outlet		50A grooved pipe coupling joint (60.3mm OD)
DIAMETER OF WATER PIPE (Internal header piping)	Inlet		100A grooved pipe coupling joint (114.3mm OD)
	Outlet		100A grooved pipe coupling joint (114.3mm OD)
EXTERNAL FINISH			Polyester powder coating steel plate
EXTERNAL DIMENSION	Width x Depth x Height	mm	2250 x 900 x 2450
NET OPERATING WEIGHT	Internal Header Piping "-N" Model	kg	1077
	Standard Piping Model	kg	1007
DESIGN PRESSURE	R410A	MPa	4.15
	Water	MPa	1.0
HEAT EXCHANGER	Water Side		Stainless steel plate and copper brazing
	Air Side		Resin coated aluminium Plate fin and copper tube
COMPRESSOR	Type		Inverter scroll hermetic compressor
	Maker		Mitsubishi Electric Corporation
	Starting Method		Inverter
	Quantity		2
	Motor Output	kW	11.7 x 2
	Case Heater	kW	0.045 x 2
	Lubricant		MEL32
FAN	Air Flow Rate	m ³ /min	77 x 6
		L/s	1,283 x 6
		cfm	2,719 x 6
	Type, Quantity		Propeller fan x 6
	Starting Method		Inverter
	Motor Output	kW	0.19 x 6
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 R410A (GWP 2008)	Full Charge	kg	19 x 2 Circuits (38 total) ⁷
	CO ₂ Equivalent ⁸	t	79.37
	Control		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

*2 Under normal heating conditions at outdoor temp 7°CDB/6°CWB. Outlet water temp 45°C, inlet water temp 40°C.

*3 Pump input is not included

*4 Values in compliance with EN14511-3: 2013 Fixed flow.

*5 Values in compliance with EN14511-3: 2013 Variable flow.

*6 Calculations in accordance with AHRI 550-590

*7 Factory charge of refrigerant for EAHV-P900YAL(-N)(-BS) is 6kg x 2 circuits (12kg total).

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



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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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For more information on Mitsubishi Electric Heat Pumps please visit our website or call our Customer Service Team.

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