

R32 e-series Modular Chiller Range

Project Reference

83065 - Copthorne Barchester Care

Quote Reference

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Prepared By

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Important Note

EAHV-M1500YCL(-N)

Air Source Reversible Heat Pump / Chiller

Note: The applications for e-series have been divided into three types: Cooling Only, Heating&Cooling, Heating Only. The Heating Only applications share similar features with the Heating&Cooling applications, except for the total minimum water circulation volume, which differs. In the case of Heating Only, the total minimum water volume has been calculated based on the assumption that for multi-unit systems with more than 6 units, grouping of 6 units method is considered. Please regard this calculation as guidance. For each project involving "Heating Only" applications, the total minimum water volume needs to be calculated. Please refer to the Databook in the following link for this calculation:

https://library.mitsubishielectric.co.uk/pdf/book/DB_MEES23K029_e-series_YCL_JL23#page-1

As these units fall within the category of equipment rated above 75 amps, customers who require harmonics information are encouraged to contact Mitsubishi Electric directly. For the sites experiencing high harmonic emissions, we offer support in identifying effective solution.



EAHV-M1500YCL(-N)

Air Source Reversible Heat Pump / Chiller

Design Conditions - Cooling

Outdoor Condition	°C	35
Fluid Inlet Temperature	°C	12
Fluid Outlet Temperature	°C	7
Concentration of Glycol	%	0
Number of Units	No.	2

Total Cooling Capacity	kW	300
Cooling Capacity per Unit	kW	150
Input Power per Unit	kW	45
Flow Rate per Unit	l/s	7.2
Pressure Drop	kPa	134

EER	kW/kW	3.35
SEER (See page 3)	kW/kW	5.49
SEER (EN 14825)	kW/kW	5.52

Design Conditions - Heating

Outdoor Condition	°C	-5
Fluid Inlet Temperature	°C	40
Fluid Outlet Temperature	°C	45
Concentration of Glycol	%	0
Number of Units	No.	2

Total Heating Capacity*	kW	253
Heating Capacity per Unit*	kW	127
Input Power per Unit	kW	56
Flow Rate per Unit	l/s	6.9
Pressure Drop	kPa	127

COP	kW/kW	2.25
SCOP (See page 3)	kW/kW	3.26
SCOP Low/Medium (EN 14825)	kW/kW	3.31 / 2.88

*Capacity corrected for defrost



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Refrigerant		
Refrigerant Type		R32
GWP		675
Total Charge Per Unit	kg	46
Equivalent CO ₂ Emissions per Unit	kg	31,050

Compressors		
Compressor Type	Inverter Scroll Hermetic Compressor	
Starting Method	Inverter	
Number of Compressors per Unit	No.	4
Compressor Motor Output (per Compressor)	kW	11.5

Water Side Heat Exchangers		
Heat Exchanger Type	Stainless Steel Plate	
Total Minimum Water Circuit Volume (Heating)*	Litres	1650
Total Minimum Water Circuit Volume (Cooling)*	Litres	1700

*For Heating&Cooling mode, the Water Circuit Volume is the highest value between heating and cooling.

Fans		
Fan Type	Propeller Fan	
Starting Method	Inverter	
Number of Fans per Unit	No.	4
Total Airflow per Unit	l/s	18000
Fan Motor Output (per Fan)	kW	0.92
Available External Static Pressure	Pa	20

Electrical Data		
Power Supply per Unit	V/ph/Hz	380-415V/3-phase/50Hz
Max Total Current per Unit	A	120
Starting Current per Unit	A	23.1

Weight		
Weight per Unit (with headers)	kg	1307
Total Weight (with Headers)	kg	2614

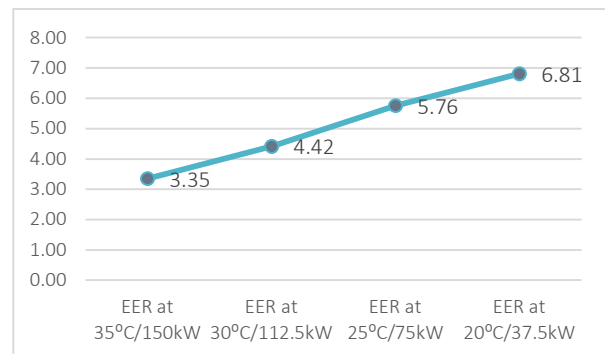
EAHV-M1500YCL(-N)

Air Source Reversible Heat Pump / Chiller

Seasonal Efficiencies - SEER User Defined

Prated,c	kW	150
Fluid Outlet Temp	°C	7
SEER*	kW/kW	5.49

EER at 35°C/150kW	kW/kW	3.35
EER at 30°C/112.5kW	kW/kW	4.42
EER at 25°C/75kW	kW/kW	5.76
EER at 20°C/37.5kW	kW/kW	6.81



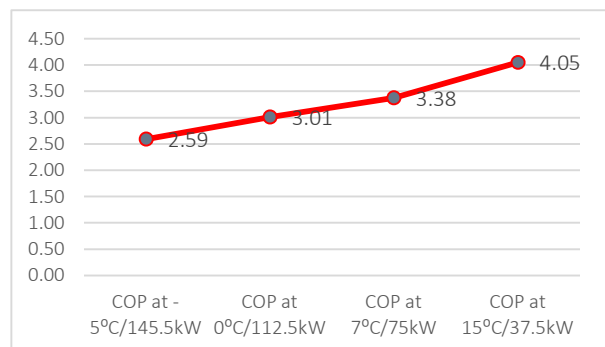
*SEER given as an indication based on the guidance found in Part L of the building regulations with a fixed flow rate of 7.2l/s.

$$SEER = (0.03 * EER@35^{\circ}C) + (0.33 * EER@30^{\circ}C) + (0.41 * EER@25^{\circ}C) + (0.23 * EER@20^{\circ}C)$$

Seasonal Efficiencies - SCOP User Defined

Prated,h	kW	145.5
Fluid Outlet Temp	°C	45
SCOP**	kW/kW	3.26

COP at -5°C/145.5kW	kW/kW	2.59
COP at 0°C/112.5kW	kW/kW	3.01
COP at 7°C/75kW	kW/kW	3.38
COP at 15°C/37.5kW	kW/kW	4.05



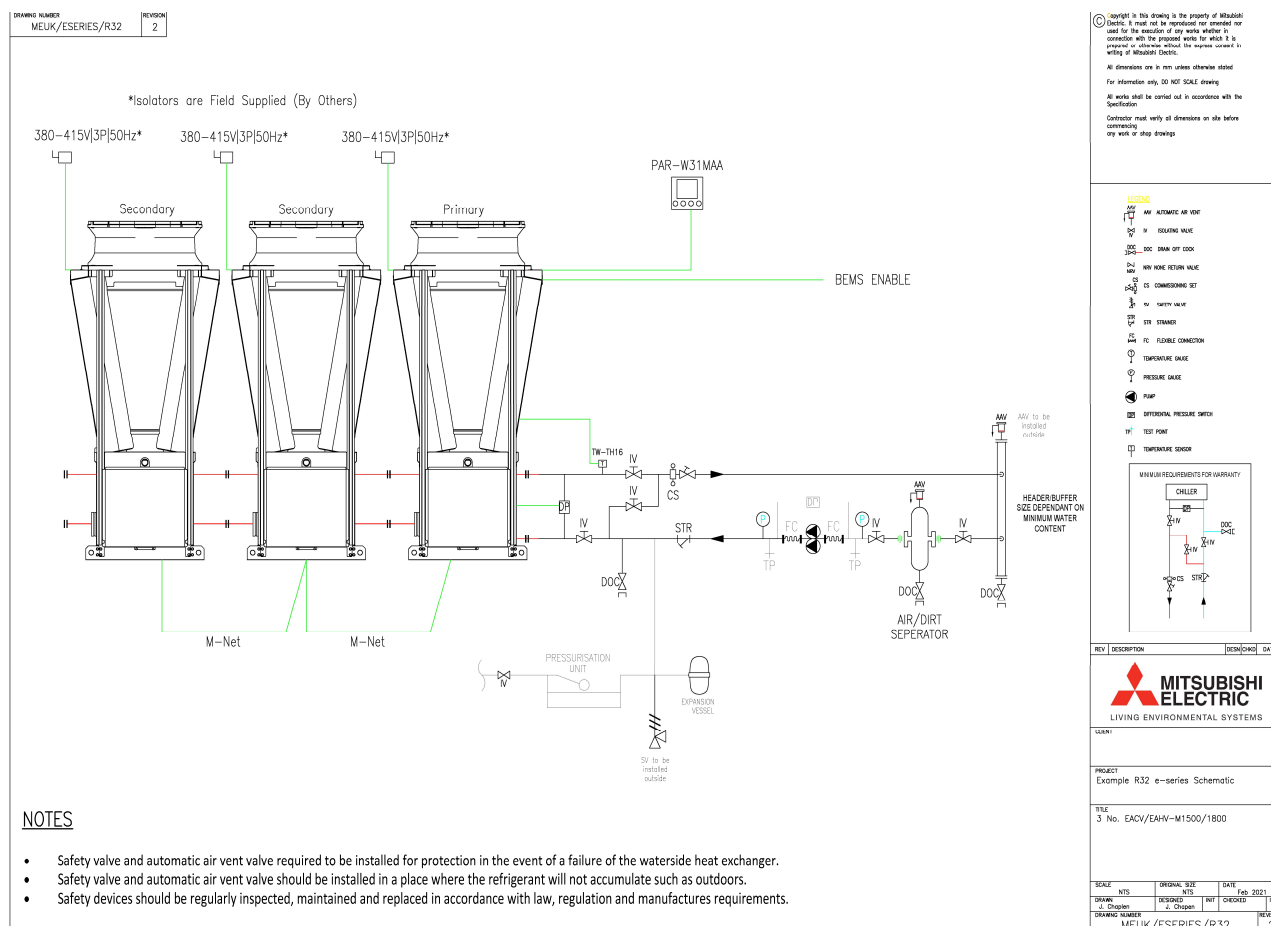
**SCOP given as an indication based on simplified ambient temperatures and weighting from EN18525 with a fixed flow rate of 7.2l/s

$$SCOP = (0.05 * COP@-5^{\circ}C) + (0.4 * COP@0^{\circ}C) + (0.45 * COP@7^{\circ}C) + (0.1 * COP@15^{\circ}C)$$

EAHV-M1500YCL(-N)

Air Source Reversible Heat Pump / Chiller

Example Schematic



Water Filtration

Strainer	Magnetic Filter	Air Dirt Separator
20 Mesh or More (Minimum)	Recommended if steel pipe	Minimum

Minimum-Without this filtration method the installations risks not receiving full warranty.

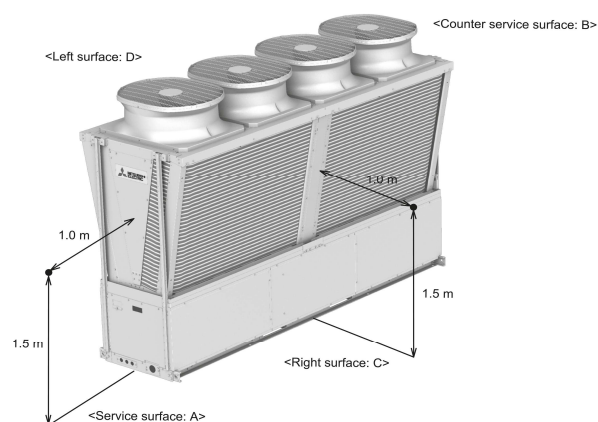
Recommended -This filtration method has recognised benefits for this type of system but its inclusion will not affect warranty

EAHV-M1500YCL(-N)

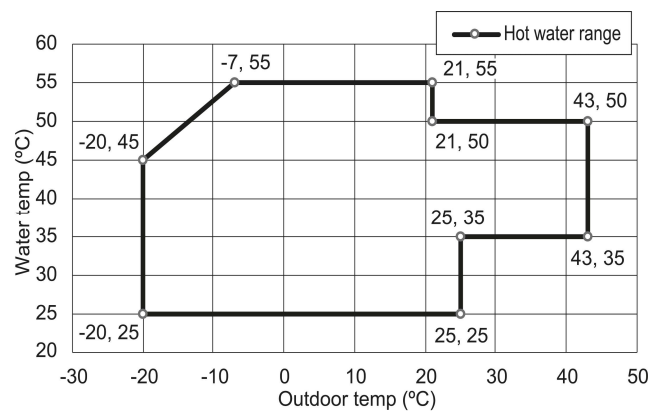
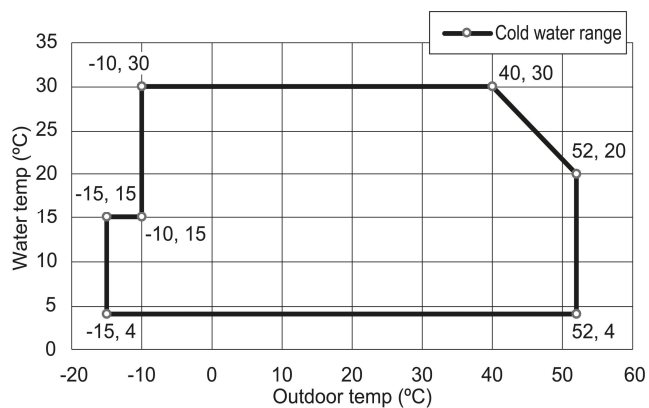
Air Source Reversible Heat Pump / Chiller

Noise Level

EAHV-M1500YCL(-N)	
Measured Location	Sound Pressure Level dB(A)
Service Surface A	65
Counter Service Surface B	65
Right Surface C	68
Left Surface D	69



Operating Window

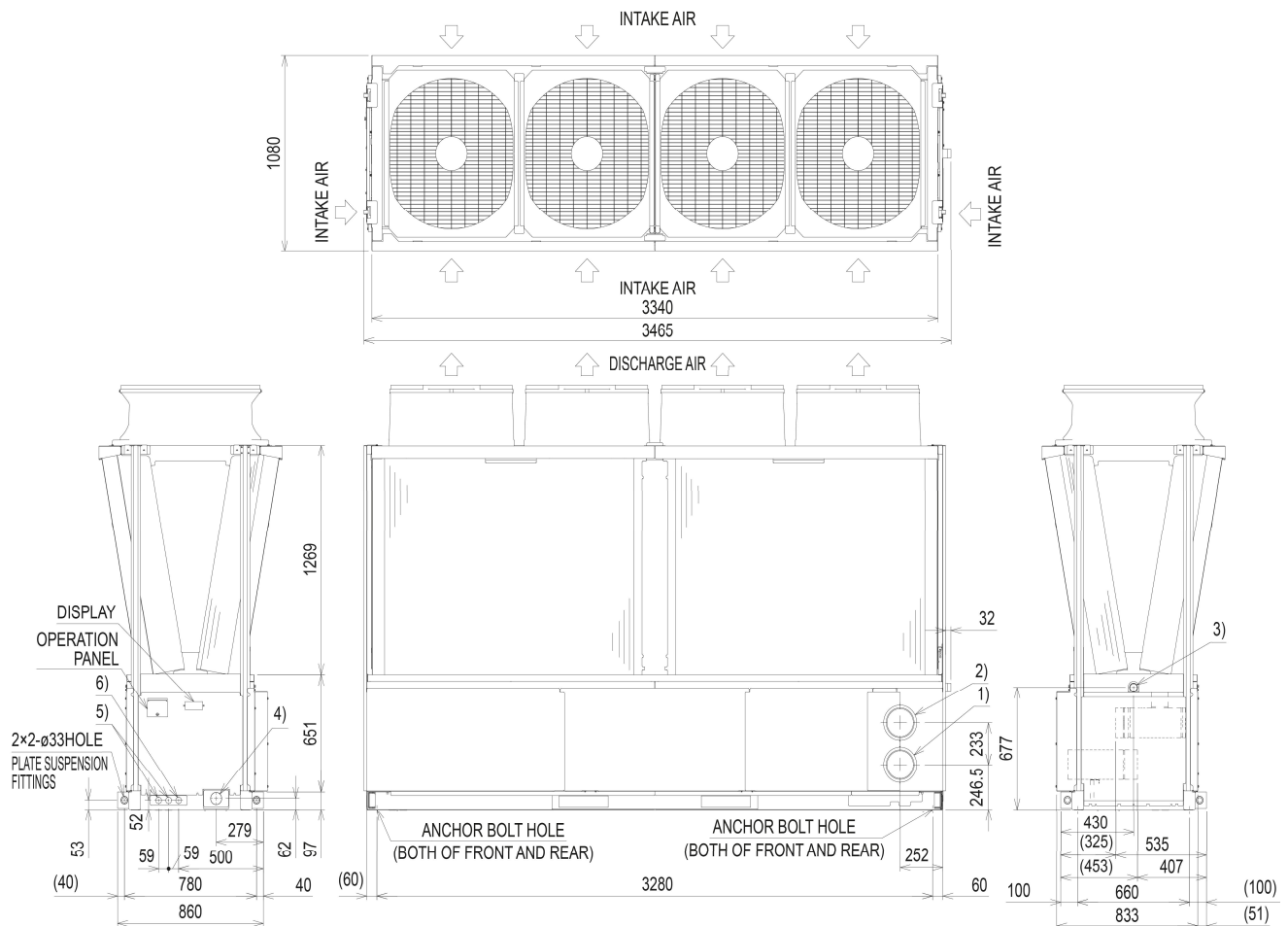


EAHV Models Only

EAHV-M1500YCL(-N)

Air Source Reversible Heat Pump / Chiller

Dimensions



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Dimensions

