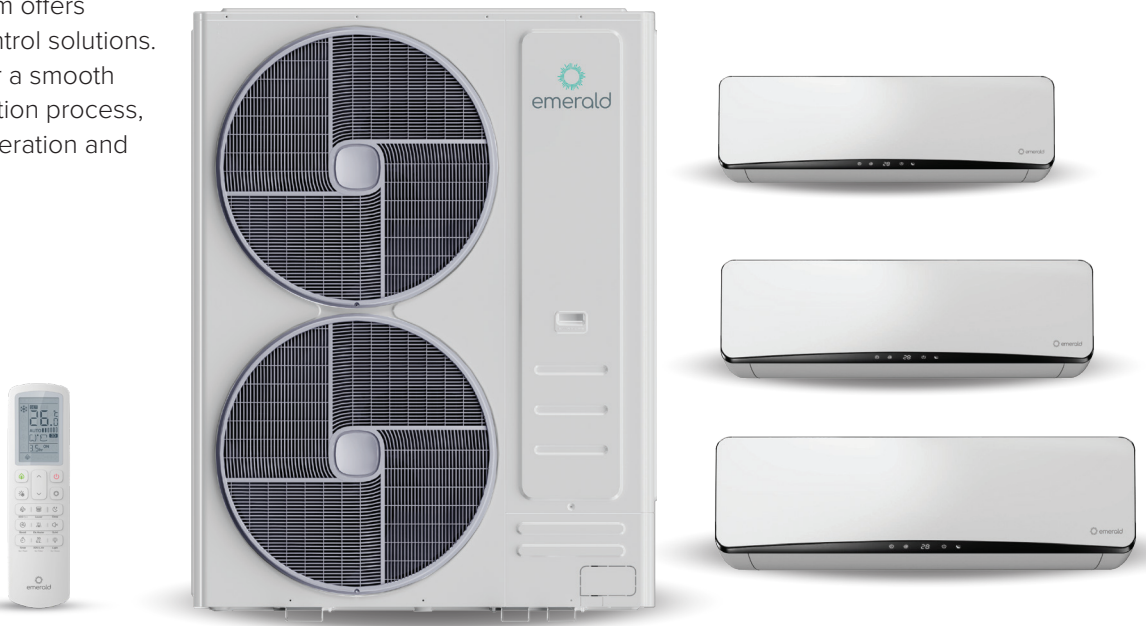


# Air Conditioning

## Multi-Head Ultra System 20kW

Engineered to deliver outstanding performance in both residential homes and small commercial buildings, this system offers versatile climate control solutions. Follow this guide for a smooth and efficient installation process, ensuring optimal operation and comfort.



Model	Heating	Cooling	Dimensions (WxHxL)	Weight
Outdoor ACV200U	26kW	20kW	1250x1650x440	165kg
Indoor ACV28W	3.6kW	2.8kW	845x270x203	9.5kg
Indoor ACV36W	4.0kW	3.6kW	845x270x203	9.5kg
Indoor ACV45W	5.4kW	4.5kW	960x315x230	13kg
Indoor ACV56W	6.7kW	5.6kW	1120x315x230	14.5kg
Indoor ACV71W	8.2kW	7.1kW	1120x315x230	14.5kg
Indoor ACV84W	8.4kW	8.4kW	1120x315x230	14.5kg

### House sizing guide

Room Size	Example room	Recommended indoor unit model
14 - 40m <sup>2</sup>	Bedroom, Home Office	Indoor ACV28W
16 - 45m <sup>2</sup>		Indoor ACV36W
22 - 60m <sup>2</sup>	Bedroom with ensuite, small lounge	Indoor ACV45W
27 - 75m <sup>2</sup>		Indoor ACV56W
33 - 90m <sup>2</sup>	Lounge, large kitchen, open plan areas, large lounges	Indoor ACV71W
35 - 95m <sup>2</sup>		Indoor ACV84W

# Air Conditioning

## Multi-Head Ultra System 20kW

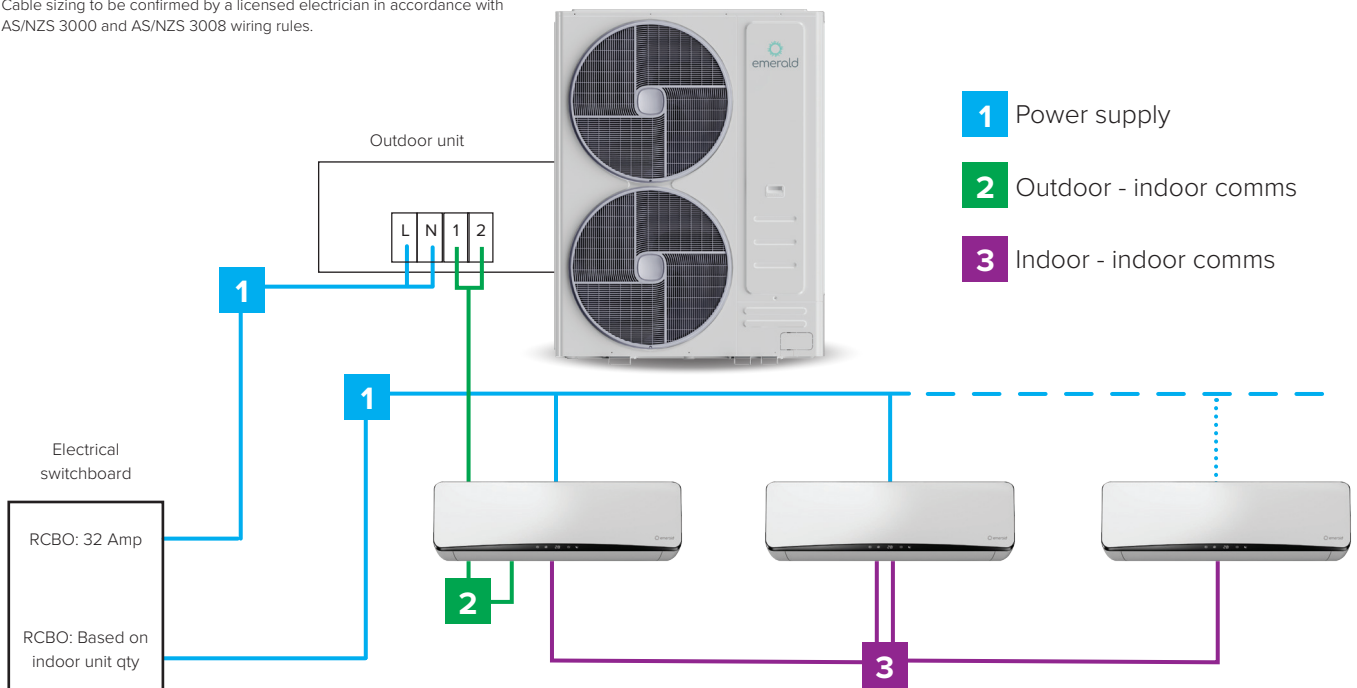
### Electrical installation

#### Isolators and cables

Wired controller & comms cable	0.75mm <sup>2</sup> 2 core shielded twisted pair
Outdoor unit rated current	24.74 A
Outdoor unit breaker size	32 A
Outdoor unit power cable	Site dependent

Indoor unit rated current	5.24 A
Indoor unit breaker size	10 A Based on indoor unit qty
Indoor unit power cable	2.5mm <sup>2</sup> (power)

Cable sizing to be confirmed by a licensed electrician in accordance with AS/NZS 3000 and AS/NZS 3008 wiring rules.



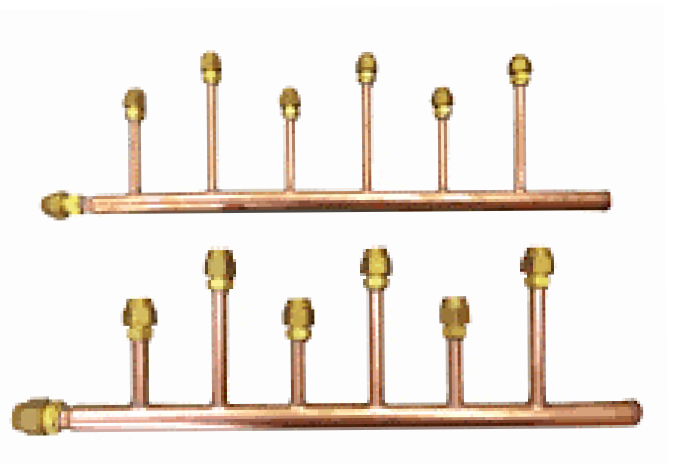
### Indoor unit connections

A pair of branch headers with 6 indoor unit connections is supplied.

- ACV28W/ACV36W includes adaptor: 12.7mm to 9.52mm adaptor
- ACV45W adaptor not required
- ACV56W/ACV71W/ACV84W includes adaptors: 6.35mm to 9.52mm adaptor and 12.7mm to 15.9mm



Emerald AC VRF Branch Adaptors  
(ACA-0609AD, ACAV-1215AD, ACAV-0912AD)



AC VRF Branch Header 6 (ACA-6BH)

# Air Conditioning

## Multi-Head Ultra System 20kW

### Refrigerant piping installation

#### Required

Vacuum process  
Refrigerant handling license

#### Recommended

Nitrogen test

#### Outdoor unit piping connection sizes

Liquid line	Ø9.53mm (3/8 Inch)
Gas line	Ø19.05mm (3/4 Inch)

#### Indoor units

ACV28W/ACV36W	Liquid line	Ø6.35mm (1/4 Inch)
ACV28W/ACV36W	Gas line	Ø9.52mm (3/8 Inch)
ACV45W	Liquid line	Ø6.35mm (1/4 Inch)
ACV45W	Gas line	Ø12.7mm (1/2 Inch)
ACV56W/ACV71W/ACV84W	Liquid line	Ø9.52mm (3/8 Inch)
ACV56W/ACV71W/ACV84W	Gas line	Ø15.9mm (5/8 Inch)

All piping connections are flare connections, no welding or brazing required.

#### Refrigerant piping

Max indoor unit = 9  
Min indoor unit = 2  
Maximum individual pipe length <= 40m  
Total pipe length <= 120m

### Additional refrigerant requirements

Typical indoor units installation scenarios allow up to 30m refrigerant piping without requiring additional refrigerant.

For precise refrigerant calculations based on actual piping length, visit <https://www.emerald.com.au/forbusiness/refrigerant-charge-calculator/>

### Refrigerant piping schematic

