



Free Match Multi Split System











Gree Free Match Multi Explanation

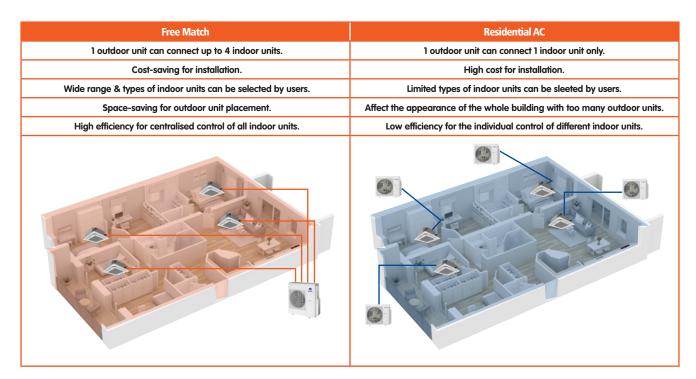
Gree Free Match Multi Explanation

As the name suggests, you are free to mix and match a number of units and unit types, depending on the space or budget.

The Gree Free Match system allows you to connect up to 4 indoor units to a single outdoor unit.

The indoor units can be different types and or capacities which means you can customize your heating and cooling needs specifically for your home or office.

This allows you complete temperature control over your entire home or office environment, which gives increased comfort and greater efficiency.



R32 Refrigerant

Gree's new Free Match range replaces that R410a refrigerant currently used with the more efficient and lower environment impacting refrigerant: R32.

R32 refrigerant has an ozone depletion level of zero and its global warming potential is 677, which is 1/3 that of R410a at 2088.

Not only does R32 have less impact on global warming, it is also 8% more efficient that R410a. This means a smaller refrigerant charge is required, furtherer decreasing the units carbon emission ratio.

Free Match Flexibility

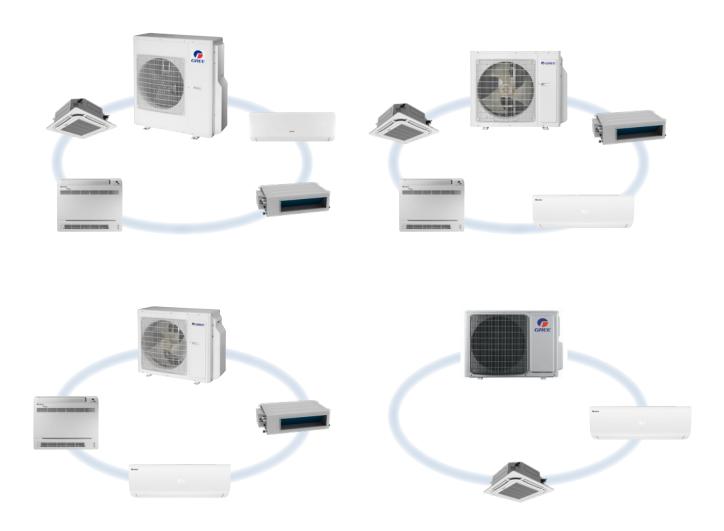
Gree Free Match Flexibility

Gree Free Match does what it name suggests, giving the customer the flexibility to use different types and sizes of heat pumps, perfectly matched to the space.

Gree Free Match outdoor units are designed with redundancy in mind, during typical use, not all rooms will need to be heated or cooled at the same time or rate, thus excess capacity is created.

Gree Free Match can be connected to 50% more capacity of the indoor unit when compared with the outdoor unit. As each room is individually controlled, this gives maximum control over temperature and air flow thus creating greater comfort.

Free Match Combinations



Free Match Control Options

Gree Free Match Control Options

- Gree Free Match units can be connected to a range of indoor units. This allows a wide range of control options to be used.
- All hi-walls, cassettes and floor consoles come with a standard wireless remote controller.
- Ducted units come standard with a wired wall controllers and these can also be fitted to the other units.
- Wi-Fi comes as standard on the hi-walls and floor console units.
- Through the wired wall controllers a central controller can be fitted.



YAP1F7 (WiFi)

- Weka Standard
- I Feel
- Turbo
- X fan
- Light
- Colasma



XK76

Optional wired wall controller for all hi-walls and mini floor console.



YAG1F

- Hyper Standard
- I Feel
- Turbo
- X fan
- Light
- Adjustable Auto



XK46

Standard wired wall controller with all Bulkhead units.



CE52-24/F(C)

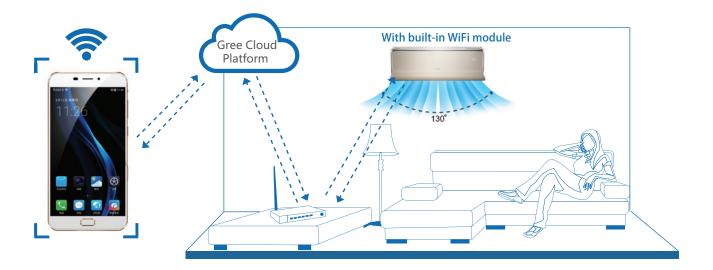
Central Controller.

Wi-Fi Options Free Match Indoor Units

Wi-Fi Options



- Wi-Fi standard on Hyper, Weka and Mini Floor Console.
- Optional on Bulkhead and Cassette.
- Download the Gree+ app on iphone or android from the app store.



Scan QR Code & Download Gree+ APP









Hyper Free Match Hi-wall Indoor Units







XK76 (Optional)

YAG1F

The Gree Hyper range of hi-wall indoor units brings a sleek contemporary look to your home. The Hyper indoor units feature Gree's latest technology, reliability and performance.







Hyper Features













































Series		Hyper								
Realcold Part No.		AC7232-I	AC7233-I	AC7204-I	AC7235-I	AC7206-I	AC7237-I			
Indoor Model No.		GWH09ABA-K6DNC8C-I	GWH12ABA-K6DNC8C-I	GWH15QD-K6DNC8A-I	GWH18QE-K6DNC8A-I	GWH21QE-K6DNC8A-I	GWH24QE-K6DNC8J-I			
	Performance									
Cooling Capacity kW 2.5 3.5 4.6 5.2 6.1 7.2										
Heating Capacity	kW	3.2	3.8	4.7	5.8	7.3	8.1			
Dehumidifying Volume	l/s	0.8	1.4	1.8	1.8	2	2.5			
Air flow	m³/h	231	264	264	347	403	361			
Sound Pressure	dB (A	19 / 43	19 / 43	27 / 47	29 / 48	29 / 52	29 / 48			
Sound Power	dB (A	29 / 53	29 / 53	37 / 58	39 / 58	39 / 62	39 / 58			
Indoor T ° set-point range	°C	+16~+30	+16~+30	+16~+30	+16~+30	+16~+30	+16~+30			
				Electrical						
Power Supply (From Outdoor)	V/P/Hz			220~240)/1/50					
Power / Communication Cable	m	3 x 1.5 + E	3 x 1.5 + E	3 × 1.5 + E	3 x 1.5 + E	3 x 1.5 + E	3 x 1.5 + E			
			Dime	nsions and Weights			•			
Product Length / Height / Depth	mm	798×295×222	798×295×222	970x300x224	1078x325x246	1078x325x246	1078x325x246			
Net / gross weight	kg	10	10.5	13.5	15.5	15.5	16			
				Installation						
	Liquid	6.35 (1 / 4")	6.35 (1 / 4")	6.35 (1 / 4")	6.35 (1 / 4")	6.35 (1 / 4")	6.35 (1 / 4")			
Refrigeration connections	Gas	9.52 (3 / 8")	9.52 (3 / 8")	12.7 (1 / 2")	15.88 (5 / 8")	15.88 (5 / 8")	15.88 (5 / 8")			
Drain Connection	mm	16	16	16	16	16	16			

Weka Free Match Hi-wall Indoor Units







XK76 (Optional)

YAP1F7 (WiFi)

The Gree Weka range of hi-wall indoor units brings a sleek contemporary look to your home. The Weka indoors feature Gree's latest technology, reliability and performance.







Weka Features



























































					. <u>.</u>			
Series		Weka						
Realcold Part No.		AC7321	AC7322	AC7323	AC7325	AC7326	AC7327	
Indoor Model No.		GWH07AGAXB -K6DNA1A/I	GWH09AGCXB -K6DNA1A/I	GWH12AGCXD -K6DNA1A/I	GWH18AGDXE -K6DNA1A/I	GWH21AGEXF -K6DNA1A/I	GWH24AGEXF -K6DNA1A/I	
			Perform	ance				
Cooling Capacity	kW	2.25	2.65	3.52	5.0	6.4	7.1	
Heating Capacity	kW	2.7	3.2	4.0	6.0	7.4	8.0	
Dehumidifying Volume	l/s	0.6	0.8	1.4	1.8	2.5	2.4	
Air Flow Volume (Max)	m³/h	144	205	200	291	361	361	
Sound Pressure (Min/Max) Ind	dB (A)	22 ~ 39	20 ~ 42	24 ~ 44	27 ~ 46	29 ~ 49	32 ~ 50	
Sound Power (Min/Max) Ind	dB (A)	38 ~ 55	35 ~ 57	39 ~ 59	43 ~ 62	41 ~ 62	48 ~ 66	
			Electri	cal				
Power Supply (From Outdoor)	V/P/Hz			220~24	0/50/1			
Control Wireing	m			3 x 1.5 + 1	E (4 cores)			
			Dimensions a	nd Weights				
Indoor Dimensions (WxHxD)	mm	704 × 260 × 185	825 x 293 x 196	825 x 293 x 196	982 x 311 x 221	1075 x 333 x 246	1075 x 333 x 246	
Indoor Net Weight	kg	7.5	9.5	9.5	13	16	16	
			Installa	tion				
Din - Commention - man fine	Liquid	6.35 (1 / 4")	6.35 (1 / 4 ")	6.35 (1 / 4")	6.35 (1 / 4")	6.35 (1/4")	6.35 (1 / 4")	
Pipe Connections mm (in)	Gas	9.52 (3 / 8 ")	9.52 (3 / 8")	9.52 (3 / 8")	12.7 (1 / 2")	12.7 (¹ / ₂ ")	15.88 (5 / 8")	
Drain Connection	mm	16	16	16	16	16	16	

Mini Floor Console Free Match Indoor Units



The Gree floor console unit offers an alternate to the hi-wall style indoor units. The console can supply hot air from two discharge grilles providing the ultimate in heating comfort.





XK76 (Optional)

YAG1F







Mini Floor Console Features













































Series		Mini Floor Mount				
Realcold Part No.		AC7423-I				
Indoor Model No.		GEH18AA-K6DNA1F-I				
	Performance					
Cooling Capacity	kW	5.2				
Heating Capacity	kW	5.3				
Dehumidifying Volume	l/s	1.8				
Air flow	m³/h	194~89				
Sound Pressure	dB (A)	47~31				
Sound Power	dB (A)	57~41				
Indoor T ° set-point range °C		+16~+30				
		Electrical				
Power Supply (From Outdoor)	V/P/Hz	220~240 / 1 / 50				
Power / Communication Cable	m	3 x 1.5 + E				
		Dimensions and Weights				
Product Length / Height / Depth	mm	700x600x315				
Net / gross weight	kg	15.5				
	Installation					
Refrigeration connections	Liquid	6.35 (1 / 4")				
reingeration contrections	Gas	12.7 (1 / 2")				
Drain Connection	mm	16				

Bulkhead Free Match Ducted Indoor Units





XK46

The Gree slim duct range of indoor units offers the ultimate in flexibility and discretion. Hidden from view in ceiling spaces these units are designed to supply conditioned air via a ceiling or wall diffuser.







(Optional)

Bulkhead Features











































Series		Bulkhead Ducted							
Realcold Part No.									
Indoor Model No.		GFH(09)EA-K6DNA1B/I	GFH(12)EA-K6DNA1B/I	GFH(18)EA-K6DNA1B/I	GFH(21)EA-K6DNA1B/I	GFH(24)EA-K6DNA1B/I			
Performance									
Cooling Capacity	kW	2.5	3.5	5	6	7.1			
Heating Capacity	kW	2.8	3.85	5.5	6.6	8			
Dehumidifying Volume	l/s	-	-	-	-	-			
Air flow	m³/h	450	550	700	1000	1000			
Static Pressure	Pa	5	5	5	5	5			
Sound Pressure	dB (A)	31~37	32~39	33~41	34~42	34~42			
Sound Power	dB (A)	41~47	42~49	43~51	44~52	44~52			
Indoor T ° set-point range	°C	+16~+30	+16~+30	+16~+30	+16~+30	+16~+30			
			Electrical			•			
Power Supply (From Outdoor)	V/P/Hz			220~240 / 1 / 50					
Power / Communication Cable	m	3 x 1.5 + E							
			Dimensions and W	eights					
Product Length / Height / Depth	mm	700×200×615	700x200x615	900x200x615	1100×200×615	1100×200×615			
Net / gross weight	kg	21	22	26	30	30			
			Installation						
Defilemention compation:	Liquid	6.35 (1 / 4")	6.35 (1 / 4")	6.35 (1 / 4")	9.52 (3 / 8")	9.52 (3 / 8")			
Refrigeration connections	Gas	9.52 (3 / 8")	9.52 (3 / 8")	12.7 (1 / 2")	15.88 (5 / 8")	15.88 (5 / 8")			
Drain Connection	mm	-	-	-	-	-			

Compact Cassette Free Match Indoor Units



The Gree cassette range of indoor units offers a compact design for easy installation. A strong and balanced airflow, with advanced protection functions and an intelligent drainage device.



XK76



YAG1F







(Optional)

Cassette Features













































Series		Cassette				
Realcold Part No.						
Indoor Model No.		GKH(12)BB-K6DNA3A/I	GKH(18)BB-K6DNA3A/I	GKH(24)BC-K6DNA4A/I		
		Performance				
Cooling Capacity	kW	3.5	4.5	7.1		
Heating Capacity	kW	4	5	8		
Dehumidifying Volume	l/s	-	-	-		
Air flow	m³/h	650	710	1280		
Sound Pressure	dB (A)	34~44	35~47	36~47		
Sound Power	dB (A)	45~55 46~58		47~58		
Indoor T ° set-point range	°C	+16~+30	+16~+30	+16~+30		
		Electrical				
Power Supply (From Outdoor)	V/P/Hz		220~240 / 1 / 50			
Power / Communication Cable	m	3 x 1.5 + E	3 x 1.5 + E	3 x 1.5 + E		
		Dimensions and Weig	hts			
Product Length / height / width	mm	596×240×596	596x240x596	840×240×840		
Net / gross weight	kg	20	20	26		
Façade	mm	763x105x763	763x105x763	1033x133x1033		
Weight	kg	3.5	3.5	7		
		Installation				
Refrigeration connections	Liquid	6.35 (1 / 4")	6.35 (1 / 4")	9.52 (3 / 8")		
reingerunon connections	Gas	9.52 (3 / 8")	12.7 (1 / 2")	15.88 (5 / 8")		
Drain Connection	mm	-	-	-		

Free Match Outdoor Units













Gree Free Match Outdoor Units

- Four different models to choose from
- Connectable from 2 to 4 units
- Wide temperature operation range
- Wide voltage operation range
- Auto restart
- Gree G10 180° Sine Wave Inverter
- Blue Fin / Gold Fin / Black Fin depending on the model

Outdoor Units Features















Free Match Outdoor Units



The Gree Free Match R32 multi split series is ideal for residential building and offices, since it allows the installation of up to 4 indoor units, i.e. up to 53 possible combinations with wall splits, cassettes, ducts and consoles to a single outdoor unit.

There are four different outdoor units to choose from, giving even more flexibility in finding the prefect system for your requirements.

Gree Free Match outdoors utilises the companies G10 Inverter technology. The G10 Inverter uses highly sensitive control technology to vary the speed of the air conditioner according to the required set point. When the desired temperature is reached, the G10 Inverter technology guarantees its continuous maintenance while achieving greater energy efficiency.

Gree G10 Inverter has 180° Sine Wave DC Variable Speed technology and this provides more precise control. By producing a smoother sine wave, the G10 Inverter allows for step less regulation of the operating frequency, this means the compressor is less strained, resulting in greater reliability while providing lower sound levels.

The G10 Inverter offers ultra-low power consumption standby mode. The Free Match outdoors use less than 1 watt in standby mode.

Reflecting the varied climate of our nation, the Gree Free match units can operate in cooling from -15 $^{\circ}$ C to 43 $^{\circ}$ C and in heating form -15 $^{\circ}$ C to 24 $^{\circ}$ C.

The Free Match system can operate safely between 160V and 276V, which means voltage variations, are less likely to cause damage. In the case of a power outage, the Gree Free Match will automatically restart with the same mode and settings as before the shutdown.

Our coastal environments can be harsh on outdoor units. To help ward off the challenges the outdoor coils have gold hydrophilic fin coating to assist defrost and to improve corrosion resistance. The chassis is made of zinc coated steel and painted for added resistance and the PCB's have three coats of AUS Guard to offer better moisture protection.

Gree Free Match units come standard with R32 ecological refrigerant, auto defrosts and self-diagnosis program in case it goes wrong. This is all back by Gree's amazing 6-Year parts and labour warranty.

Outdoor Units Specification

Realcold Part No.		AC5611	AC5612	AC5613	AC5614
Outdoor Model No.		GWHD(18)NK6KO	GWHD(24)NK6KO	GWHD(28)NK6KO	GWHD(36)NK6KO
Multi Split System	In/Out	2×1	3 x 1	4×1	4×1
			Performance		
Cooling Capacity	kW	5.2	7.1 (2.3~8.5)	8	10.5
Heating Capacity	kW	5.4	8.5 (3.7 ~ 8.8)	9.3	11
Heating Capacity H2	kW	4.6	6.1	7	8.2
Power Input	Cold (W)	1.45	1.95	2.3	3.1
	Hot (W)	1.3	2.2	2.65	3.2
AEER / ACOP	w/w	-	-	-	-
	Cool	-	-	-	-
SEER Label Stars, Hot/Ave/Cold	Heat	-	-	-	-
Air flow	(m³ / h)	2600	4000	4000	7200
Sound Pressure	(dB (A)	55	58	58	60
Sound Power	(dB (A)	65	68	68	70
Indoor T ° set-point range	°C	+16~+30	+16~+30	+16~+30	+16~+30
	Cold (°C)	-15~+43	-15~+43	-15~+43	-15~+43
Operating range in outdoor T °	Hot (°C)	-15~+24	-15~+24	-15~+24	-15~+24
			Electrical		
Power Supply (Outdoor)	(V / P / Hz)		220~240)/1/50	
Recommended Circuit Breaker	Α	16	25	-	-
Current Draw	Cold (A)	6.43	8.65	10.2	14
Correll Draw	Hot (A)	5.77	9.76	11.76	13
Communication Cable	(m)	3 x 1.5 + E	3 x 1.5 + E	3 x 1.5 + E	3 x 1.5 + E
Power cable	(n ° × s)	2 x 2.5 + E	2 x 2.5 + E	2 x 2.5 + E	2 x 2.5 + E
			Dimensions and Weights		
Product Length / height / width	(mm)	899 / 596 / 378	980 / 790 / 427	980 / 790 / 427	1088 / 1103 / 440
Packing Length / height / width	(mm)	948 / 645 / 420	1083 / 855 / 488	1083 / 855 / 488	1158 / 1235 / 493
Net / gross weight	(kg)	43 / 46	68 / 73	69 / 74	94 / 98
			Installation		
Refrigeration connections	Liquid	2 × 6.35 (1/4")	3 × 6.35 (1/4")	4 × 6.35 (1/4")	4 × 6.35 (1/4")
Kenigeranon connections	Gas	2 x 9.52 (³ / ₈ ")	3 × 9.52 (³/ ₈ ")	4 x 9.52 (³/ ₈ ")	4 × 9.52 (³/ ₈ ")
Refrigerant Charge R32	(kg)	1.05	1.8	2	2.75
Pre-charged Pipe Length	(m)	10	30	40	40
Additional Charge per Metre	(g / m)	20	20	20	20
Maximum length indoor unit	(m)	10	20	20	25
Maximum total length (UI / EU)	(m)	20	60	70	75
Maximum height difference	(m)	5	10	10	15

Unit Combinations

Line Up

Model	7 (2.25)	9 (2.5)	12 (3.5)	15 (4.6)	18 (5.2)	21 (6.1)	24 (7.1)
Hyper		•	•	•	•	•	•
Weka	•	•	•		•	•	•
Bulkhead		•	•		•	•	•
Cassette			•		•		•
Mini Floor					•		

Gree Free Match R32 Connection Combinations

The allowance for indoor connections is very flexible, but there are some recommendations to follow. The allowable connections for any outdoor unit are based on a minimum of 50% cooling capacity up to a maximum of 150% cooling capacity. However, please be aware that certain connections, while within the design parameters may produce undesirable performance. For that reason we do not recommend using an indoor unit rated at the same capacity as the outdoor unit e.g. an 18 indoor with an 18 outdoor. Or using a 21 or 24 indoor unit on a 24 or 28 outdoor unit.

8 Combinations



FM18					
2 Units					
7 + 7	9 + 9				
7 + 9	9 + 12				
7 + 12	9 + 15				
7 + 15	12 + 12				

33 Combinations



	FIV	124			
2 ل	Inits	3 Units			
7 + 7	12 + 12	7+7+7	7 + 12 + 12		
7 + 9	12 + 15	7+7+9	7 + 12 + 15		
7 + 12	12 + 18	7 + 7 + 12	9+9+9		
7 + 15	15 + 15	7 + 7 + 15	9 + 9 + 12		
7 + 18	15 + 18	7 + 7 + 18	9 + 9+ 15		
9 + 9	18 + 18	7+9+9	9 + 9 + 18		
9 + 12		7 + 9 + 12	9 + 12 + 12		
9 + 15		7 + 9 + 15	9 + 12 + 15		
9 + 18		7 + 9 + 18	12 + 12 + 12		

56 Combinations



	FM28								
2 (Jnits	3 U	Inits	4 Units					
7+7	12 + 18	7+7+7	7 + 12 + 18	7+7+7+7	7+9+9+9				
7+9	15 + 15	7+7+9	9+9+9	7+7+7+9	7 + 9 + 9 + 12				
7 + 12	15 + 18	7 + 7 + 12	9 + 9 + 12	7 + 7 + 7 + 12	7 + 9 + 9 + 15				
7 + 15	18 + 18	7 + 7 + 15	9 + 9+ 15	7 + 7 + 7 + 15	7 + 9 + 12 + 12				
7 + 18		7 + 7 + 18	9 + 9 + 18	7 + 7 + 7 + 18	9+9+9+9				
9 + 9		7+9+9	9 + 12 + 12	7+7+9+9	9 + 9 + 9 + 12				
9 + 12		7 + 9 + 12	9 + 12 + 15	7 + 7 + 9 + 12	9 + 9 + 9 + 15				
9 + 15		7 + 9 + 15	9 + 12 + 18	7 + 7 + 9 + 15	9 + 9 + 12 + 12				
9 + 18		7 + 9 + 18	12 + 12 + 12	7 + 7 + 9 + 18					
12 + 12		7 + 12 + 12	12 + 12 + 15	7 + 7 + 12 + 12					
12 + 15		7 + 12 + 15	12 + 12 + 18	7 + 7 + 12 + 15					

155 Combinations



				FM36			
2 L	Jnits		3 Units		4 Units		
7 + 12	21 + 24	7+7+7	9+9+9	12 + 12 + 21	7+7+7+7	7 + 7 + 18 + 21	9+9+9+1
7 + 15	24 + 24	7+7+9	9 + 9 + 12	12 + 12 + 24	7+7+7+9	7+9+9+9	9+9+9+
7 + 18		7 + 7 + 12	9 + 9 + 15	12 + 15 + 15	7 + 7 + 7 + 12	7 + 9 + 9 + 12	9+9+9+
7 + 21		7 + 7 + 15	9 + 9 + 18	12 + 15 + 18	7 + 7 + 7 + 15	7 + 9 + 9 + 15	9+9+9+
7 + 24		7 + 7 + 18	9 + 9 + 21	12 + 15 + 21	7 + 7 + 7 + 18	7 + 9 + 9 + 18	9 + 9 + 12 +
9 + 9		7 + 7 + 21	9 + 9 + 24	12 + 15 + 24	7 + 7 + 7 + 21	7 + 9 + 9 + 21	9 + 9 +12 +
9 + 12		7 + 7 + 24	9 + 12 + 12	12 + 18 + 18	7+7+7+24	7+9+9+24	9 + 9 + 12 +
9 + 15		7 + 9 + 9	9 + 12 + 15	12 + 18 + 21	7+7+9+9	7 + 9 + 12 + 12	9 + 9 + 12 +
9 + 18		7 + 9 + 12	9 + 12 + 18	12 + 18 + 24	7 + 7 + 9 + 12	7 + 9 + 12 + 15	9 + 9 + 12 +
9 + 21		7 + 9 + 15	9 + 12 + 21	12 + 21 + 21	7 + 7 + 9 + 15	7 + 9 + 12 + 18	9 + 9 + 15 +
9 + 24		7 + 9 + 18	9 + 12 + 24	15 + 15 + 15	7 + 7 + 9 + 18	7 + 9 + 12 + 21	9 + 9 + 15 +
12 + 12		7 + 9 + 21	9 + 15 + 15	15 + 15 + 18	7 + 7 + 9 + 21	7 + 9 + 12 + 24	9 + 9 + 15 +
12 + 15		7 + 9 + 24	9 + 15 + 18	15 + 15 + 21	7+7+9+24	7 + 9 + 15 + 15	9 + 9 + 18 +
12 + 18		7 + 12 + 12	9 + 15 + 21	15 + 15 + 24	7 + 7 + 12 + 12	7 + 9 + 15 + 18	9 + 12 + 12 +
12 + 21		7 + 12 + 15	9 + 15 + 24	18 + 18 + 18	7 + 7 + 12 + 15	7 + 9 + 15 + 21	9 + 12 + 12 +
12 + 24		7 + 12 + 18	9 + 18 + 18		7 + 7 + 12 + 18	7 + 9 + 18 + 18	9 + 12 + 12 +
15 + 18		7 + 12 + 21	9 + 18 + 21		7 + 7 + 12 + 21	7 + 12 + 12 + 12	9 + 12 + 12 +
15 + 21		7 + 12 + 24	9 + 18 + 24		7 + 7 + 12 + 24	7 + 12 + 12 + 15	9 + 12 + 15 +
15 + 24		7 + 18 + 18	9 + 21 + 21		7 + 7 + 15 + 15	7 + 12 + 12 + 18	9 + 12 + 15 +
18 + 18		7 + 18 + 21	9 + 21 + 24		7 + 7 + 15 + 18	7 + 12 + 12 + 21	12 + 12 + 12 +
18 + 21		7 + 18 + 24	12 + 12 + 12		7 + 7 + 15 + 21	7 + 15 + 15 + 15	12 + 12 + 12 +
18 + 24		7 + 21 + 21	12 + 12 + 15		7 + 7 + 15 + 24	9+9+9+9	12 + 12 + 12 +
21 + 21		7 + 21 + 24	12 + 12 + 18		7 + 7 + 18 + 18	9 + 9 + 9 + 12	12 + 12 + 15 +



Installation

- Each unit has its own set of pipework, so no brazing required
- Just like a standard hi-wall the interconnecting wiring is very simple.
- Compact design
- Wide temperature operation
- Single outdoor
- Capacity Redundancy of 150%

Installation Diagrams

