

The Renewable Solutions Provider

# Making a World of Difference

## Multi-Split Systems



Air Conditioning | Heating  
Ventilation | Controls

Tel 01706367 500

Supplied by Celsius Air Conditioning Ltd

[www.celsiusair.co.uk](http://www.celsiusair.co.uk)



## Mitsubishi Electric Multi-Split Systems

Ideal for shops and small commercial buildings that require air conditioning in more than one room, the Mitsubishi Electric Multi-Split systems combine flexibility and performance while lowering CO<sub>2</sub> emissions and running costs.

Using R410A refrigerant and flexible enough to suit a number of applications, the range includes models that will run up to eight indoor units per single outdoor unit, between 5.3 and 15.5kW.

With vastly reduced power consumption, inverter technology and with increased pipe length and advanced controls, the Multi-Split range is extremely efficient and versatile, helping to make system application easier.

## The name Mitsubishi is synonymous with excellence

Founded in 1921, Mitsubishi Electric is now a global, market leading environmental technologies manufacturer. In the UK, the Living Environmental Systems Division provides pioneering solutions that cool, heat, ventilate and control our buildings in some of the most energy efficient ways possible.

We believe that global climate challenges need local solutions. Our aim is to help individuals and businesses reduce the energy consumption of their buildings and their running costs.

Providing accurate and controlled comfort all year round, our air conditioning range can work on their own or in conjunction with other systems. Whatever the requirement we offer a solution that matches the needs to almost any building.

At Mitsubishi Electric we have evolved and today we offer advanced environmental systems that really can **make a world of difference.**



**Mitsubishi Electric Multi-Split Systems**  
are highly efficient and extremely versatile

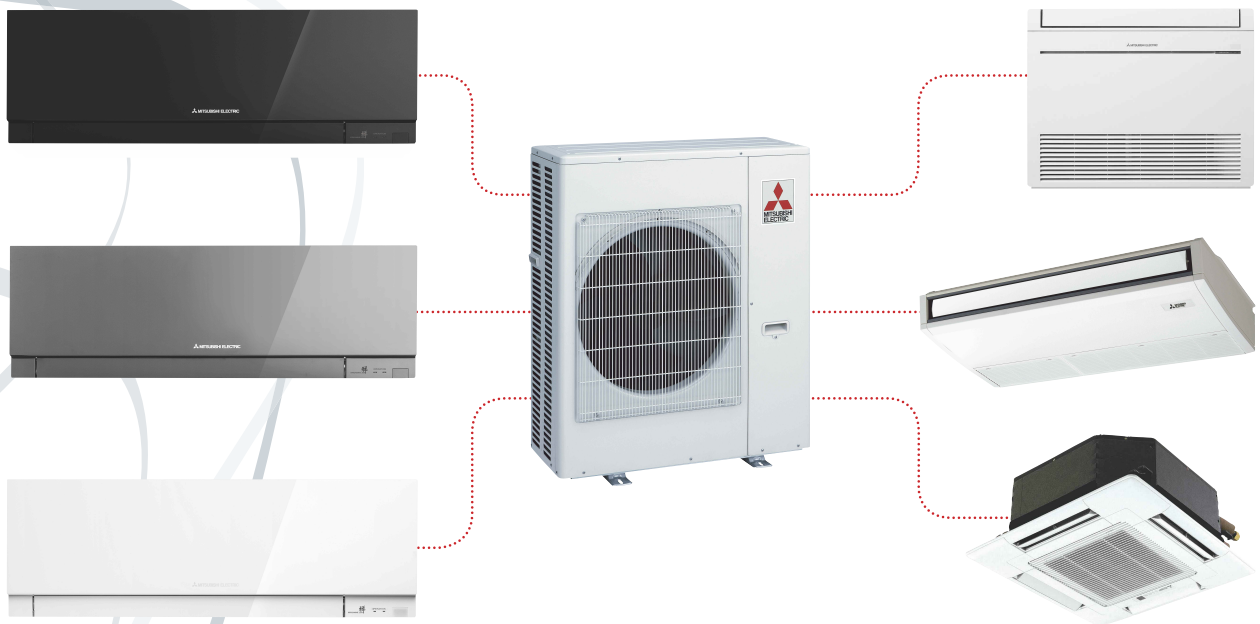
# Multi-Split Heat Pump System

Multi-Split heat pump systems allow up to eight individually controlled indoor units to be connected directly to a single outdoor unit and are available between 5.3 and 15.5kW in size.

The indoor units can be ceiling cassette, ducted, floor, wall or ceiling suspended types and can be selected from both our M Series and Mr Slim ranges. This wide choice allows different types of indoor units at different capacities to be used on the same system, enabling the ideal unit type and size to be specified for each individual room or location.

By installing a system in this way, installation space, costs and time are all significantly reduced. Indoor units may then also be added within the capacity of the system as future requirements change, making the range extremely flexible.

## Example of a 6-way Multi-Split System





## The Ecodesign Directive

With buildings accounting for around half of all UK greenhouse emissions, legislation is demanding increased energy efficiency.

The Ecodesign Directive for Energy Related Products (ErP) is European legislation adopted in 2009 to improve the environmental performance of any products that use energy or that are related to energy consumption. Driving the visibility of seasonal efficiency, the legislation focuses on air conditioning in a bid to reduce overall energy consumption, and to accelerate market transformation to more energy efficient products.

As such the Multi-Split range has been designed to meet all ErP standards in line with Ecodesign requirements. In addition, Mitsubishi Electric has long championed the use of seasonal efficiency as the best way of delivering a truer picture of performance for end users, rather than Coefficient of Performance (CoP) and Energy Efficiency Ratio (EER) at nominal conditions. For further information please visit [mitsubishielectric.eu/erp](http://mitsubishielectric.eu/erp).

The Mitsubishi Electric **Multi-Split** range meets and goes beyond the minimum requirements of Ecodesign (ErP)

## Case for Replace

From the end of 2014 it will be illegal to use R22 refrigerant<sup>\*1</sup> to service and maintain air conditioning, yet there are estimated to be around 750,000<sup>\*2</sup> systems still in use in the UK that rely on R22.

Many of these building operators remain unaware that whilst their air conditioning will not be illegal to run, it may need immediate replacement if it requires maintenance involving any degassing of the system. The continual rise in energy costs also means everyone involved in the built environment is focusing on energy use and consumption and this is where modern equipment can really help to support replacement.

Our Multi-Split range also incorporates our unique 'Replace Technology'<sup>\*3</sup> which allows the upgrade of systems using existing pipe work, without the need to apply any special cleaning machines. For further information please visit the following website:

[replace.mitsubishielectric.co.uk](http://replace.mitsubishielectric.co.uk)



<sup>\*1</sup> The EC Ozone Regulation (No. 1005/2009) was introduced to control and phase out the remaining uses of all Ozone Depleting Substances (ODS) such as R22 refrigerant. This has led to a total ban on its use for service and maintenance by the start of the year 2015. ODS can result in greater UV radiation reaching the earth's surface which is harmful for humans, animals and plants, leading to increases in skin cancer, cataracts and a reduction in food crop yields. Modern alternatives such as HFC's, which include R410A, do not have the same ozone depleting potential (ODP).

<sup>\*2</sup> Mitsubishi Electric's estimate in 2012.

<sup>\*3</sup> Not applicable to MXZ-8B models.

# Multi-Split Features

## Inverter Technology

Multi-Split outdoor units utilise Inverter technology to save energy and thus running costs for two main reasons:

### **One:**

The compressor varies its speed to match the cooling or heating load and therefore consumes only the power necessary to match the exact requirement of the room.

### **Two:**

When an inverter driven air conditioner is operating at partial load, the energy efficiency of the system is higher than at full load.

## Individual Control of Units

All indoor units that form part of a Multi-Split system can be individually controlled (On/Off and Setpoint) according to the need of the room or location it is installed.

This saves energy where rooms are maybe out of use, as well as allowing for individual preference on room temperature.



## Controls Compatibility

Compatible with a comprehensive range of controls options, Multi-Split systems can fully integrate with other Mitsubishi Electric cooling, heating and ventilation products as well as other building services, offering a complete controls solution.

## MELCloud™ Control System

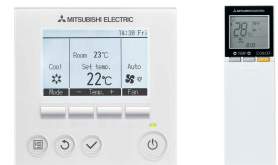
MELCloud is a cloud based solution for controlling your Multi-Split air conditioning system either locally or remotely by PC, Tablet or Smartphone via the Internet.

For further information please visit the website: [melcloud.com](http://melcloud.com)



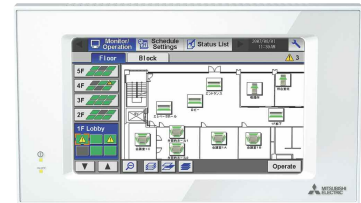
### Local Control

- Backlit options
- Setpoint limit, weekly schedule & night setback



### Central Control

- Touch screen option
- Controls up to 50 indoor units
- Weekly / annual schedule
- Web connectivity



### BEMS

- BACnet, Modbus, Trend, Lonworks & KNX
- Simple BEMS options



### Further Options

- PC software - control up to 2000 indoors
- Energy monitoring
- Remote control / monitor



# Multi-Split Application

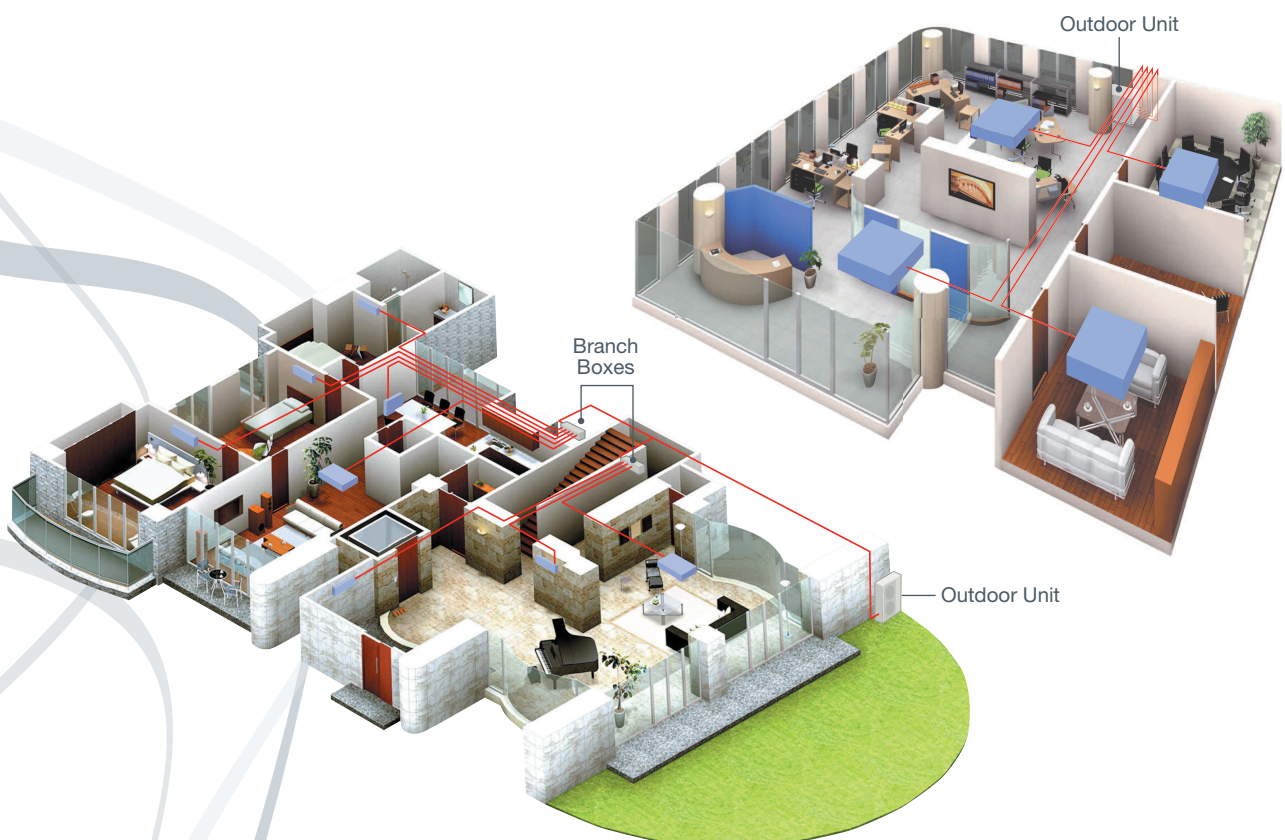
## Versatile System Design

The system is an ideal choice for small commercial properties desiring a flexible and effective solution with regards to system design.

Available to configure in two variants, the 2-6 port Multi-Split systems have each indoor unit connected to the outdoor unit, whereas the 8 port Power Multi-Split system utilises 3 way and 5 way branch boxes to realise indoor unit connection.

Adding to the flexible piping design, the total piping length ranges from 30 to 115m and maximum height difference from 10 to 30m.

### Multi-Split office application



### ▲ Power Multi-Split executive suite application



## Outdoor units

### MXZ-2D53VA

2 indoor units  
Nominal cooling capacity 5.3kW



### MXZ-3D54VA2

2-3 indoor units  
Nominal cooling capacity 5.4kW



### MXZ-4D72VA

2-4 indoor units  
Nominal cooling capacity 7.2kW

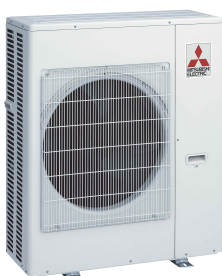


### MXZ-4D83VA

2-4 indoor units  
Nominal cooling capacity 8.3kW

### MXZ-5D102VA

2-5 indoor units  
Nominal cooling capacity 10.2kW



### MXZ-6C122VA

2-6 indoor units  
Nominal cooling capacity 12.2kW



### MXZ-8B140VA

2-8 indoor units  
Nominal cooling capacity 14.0kW

### MXZ-8B160YA

2-8 indoor units  
Nominal cooling capacity 15.5kW

### BRANCH BOXES

#### PAC-AK53BC

#### PAC-AK32BC



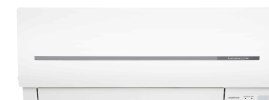
## Indoor units

### Wall Mounted

#### MSZ-EF-VEB Zen Series



#### MSZ-SF Series



#### MSZ-EF-VES Zen Series



#### MSZ-GF Series



#### MSZ-EF-VEW Zen Series

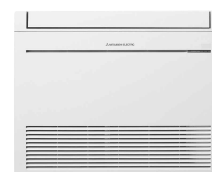


#### MSZ-FH Series



### Floor Mounted

#### MFZ-KJ Series

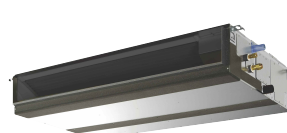


### Ceiling Concealed Ducted

#### SEZ-KD Series



#### PEAD-RP Series



### Ceiling Cassette

#### SLZ-KA Series



#### PLA-RP Series



### Ceiling Suspended

#### PCA-RP Series





## Compatibility Table

Model	MXZ-2D53VA	MXZ-3D54VA2	MXZ-4D72VA	MXZ-4D83VA	MXZ-5D102VA	MXZ-6C122VA	MXZ-8B140VA	MXZ-8B160YA
<b>Wall Mounted</b>								
MSZ-SF20VA	●	●	●	●	●	●	●	●
MSZ-SF25VE	●	●	●	●	●	●	●	●
MSZ-SF35VE	●	●	●	●	●	●	●	●
MSZ-SF50VE	●	●	●	●	●	●	●	●
MSZ-FH25VE	●	●	●	●	●	●	●	●
MSZ-FH35VE	●	●	●	●	●	●	●	●
MSZ-EF25VEB/S/W	●	●	●	●	●	●	●	●
MSZ-EF35VEB/S/W	●	●	●	●	●	●	●	●
MSZ-EF50VEB/S/W	●	●	●	●	●	●	●	●
MSZ-GF60VE			●	●	●	●	●	●
MSZ-GF71VE				●	●	●	●	●
<b>Floor Mounted</b>								
MFZ-KJ25VE	●	●	●	●	●	●	●	●
MFZ-KJ35VE	●	●	●	●	●	●	●	●
MFZ-KJ50VE		●	●	●	●	●	●	●
<b>Ducted</b>								
SEZ-KD25VAQ*3	●	●	●	●	●	●	●	●
SEZ-KD35VAQ	●	●	●	●	●	●	●	●
SEZ-KD50VAQ		●	●	●	●	●	●	●
SEZ-KD60VAQ			●	●	●	●	●	●
SEZ-KD71VAQ				●	●	●	●	●
PEAD-RP50JAQ*1		●	●	●	●	●	●	●
PEAD-RP60JAQ*1				●	●	●	●	●
PEAD-RP71JAQ*1				●	●	●	●	●
<b>Ceiling Cassette</b>								
SLZ-KA25VAQ	●	●	●	●	●	●	●	●
SLZ-KA35VAQ	●	●	●	●	●	●	●	●
SLZ-KA50VAQ		●	●	●	●	●	●	●
PLA-RP35BA							●	●
PLA-RP50BA		●	●	●	●	●	●	●
PLA-RP60BA			●	●	●	●	●	●
PLA-RP71BA				●	●	●	●	●
PLA-RP100BA*2							●	●
<b>Ceiling Suspended</b>								
PCA-RP50KAQ		●	●	●	●	●		
PCA-RP60KAQ			●	●	●	●		
PCA-RP71KAQ				●	●	●		

\*1 Total capacity of indoor units must not exceed 100% if PEAD-RP is used. \*2 Can only be connected using a PAC-AK53BC with a PAC-AK52YP-E connection pipe.

\*3 The SEZ-KD25VAQ cannot be used when the total indoor capacity is equal to the outdoor capacity i.e. when the capacity ratio is 1.

Note: For additional combination tables please consult your local sales office.

## Specifications

MXZ-D/C - OUTDOOR UNITS		MXZ-2D53VA	MXZ-3D54VA2	MXZ-4D72VA	MXZ-4D83VA	MXZ-5D102VA	MXZ-6C122VA
NUMBER OF CONNECTABLE INDOOR UNITS		2	2 - 3	2 - 4	2 - 4	2 - 5	2 - 6
CAPACITY (kW)	Heating (nominal)	6.4 (1.0-7.0)	7.0 (2.6-9.0)	8.6 (3.4-10.7)	9.0 (3.4-11.6)	10.5 (4.1-14.0)	14.0 (3.5-16.5)
	Cooling (nominal)	5.3 (1.1-5.6)	5.4 (2.9-6.8)	7.2 (3.7-8.8)	8.3 (3.7-9.2)	10.2 (3.9-11.0)	12.2 (3.5-13.5)
	Heating (UK)	5.3 (0.83-5.81)	5.8 (2.16-7.47)	7.1 (2.82-8.89)	7.5 (2.82-9.63)	8.7 (3.40-11.63)	11.6 (2.90-13.71)
	Cooling (UK)	5.2 (1.09-5.55)	5.3 (2.87-6.74)	7.0 (3.67-8.72)	8.2 (3.67-9.12)	10.1 (3.86-10.90)	12.1 (3.47-13.39)
COP / EER (nominal)*1		3.76 / 3.44	4.40 / 4.00	3.77 / 3.20	3.72 / 2.93	3.62 / 2.61	3.67 / 3.01
SCOP / SEER (BSEN14825)		4.2 / 7.1	4.0 / 6.4	3.9 / 5.7	3.9 / 5.2	3.8 / 5.3	- / -
ErP ENERGY EFFICIENCY CLASS Heating/Cooling		A+ / A++	A+ / A++	A / A+	A / A	A / A	N/A
MAX AIRFLOW (m³/min)		33.3 / 32.9	43.0 / 42.1	43.0 / 42.1	43.8 / 42.1	59.3 / 56.6	69.9 / 59.5
SOUND PRESSURE LEVEL (dBA) Heating/Cooling - Sil-Hi		53 / 50	53 / 50	53 / 50	50 / 49	55 / 53	57 / 55
SOUND POWER LEVEL (dBA) Cooling		64	64	64	64	68	69
DIMENSIONS (mm) Width x Depth x Height		800 x 285 x 550	840 x 330 x 710	840 x 330 x 710	900 x 320 x 915	900 x 320 x 915	900 x 320 x 1070
WEIGHT (kg)		37	57	58	69	70	87
ELECTRICAL SUPPLY		220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz
PHASE		Single	Single	Single	Single	Single	Single
POWER INPUT (kW)	Heating/Cooling (nominal)	1.70 / 1.54	1.59 / 1.35	2.28 / 2.25	2.42 / 2.83	2.90 / 3.91	3.81 / 4.05
	Heating/Cooling (UK)	1.54 / 1.23	1.44 / 1.08	2.07 / 1.80	2.20 / 2.26	2.63 / 3.12	3.46 / 3.21
STARTING CURRENT (A)		7.6	7.0	10.0	12.4	17.2	18.0
RUNNING CURRENT (A) Heating/Cooling [MAX]		7.6 / 6.9 [12.2]	7.0 / 6.1 [18]	10.0 / 9.9 [18]	10.6 / 12.4 [20.4]	12.7 / 17.2 [21.4]	16.7 / 17.8 [30]
INTERCONNECTING CABLE No. CORES		4 Core	4 Core	4 Core	4 Core	4 Core	4 Core
TOTAL PIPE LENGTH (m)		30	50	60	70	80	80
MAX PIPE LENGTH PER INDOOR UNIT (m)		20	25	25	25	25	25
MAX HEIGHT DIFFERENCE (m)		15 (10 if OU higher than IU)	15 (10 if OU higher than IU)	15 (10 if OU higher than IU)	15 (10 if OU higher than IU)	15 (10 if OU higher than IU)	15 (10 if OU higher than IU)
CHARGE R410A (kg) [Precharged Length]		1.30 [20m]	2.70 [40m]	2.70 [40m]	3.50 [40m]	4.0 [40m]	4.8 [60m]
FUSE RATING (BS88) - HRC (A)		15	25	25	25	25	32

MXZ-8B - OUTDOOR UNITS		MXZ-8B140VA	MXZ-8B160YA
NUMBER OF CONNECTABLE INDOOR UNITS		2 - 8	2 - 8
CAPACITY (kW)	Heating (nominal)	16.0	18.0
	Cooling (nominal)	14.0	15.5
	Heating (UK)	13.3	14.95
	Cooling (UK)	13.9	15.4
COP / EER (nominal)*1		3.91 / 3.52	3.61 / 3.21
ENERGY LABEL Heating/Cooling		A / A	A / A
MAX AIRFLOW (m³/min)		100	106
SOUND PRESSURE LEVEL (dBA) Heating/Cooling - Sil-Hi		52 / 47-50	54 / 48-51
DIMENSIONS (mm) Width x Depth x Height		950 x 330 x 1350	950 x 330 x 1350
WEIGHT (kg)		129	139
ELECTRICAL SUPPLY		220-240v, 50Hz	380-415v, 50Hz
PHASE		Single	Three
POWER INPUT (kW)	Heating/Cooling (nominal)	3.90 / 3.79	4.80 / 4.64
	Heating/Cooling (UK)	3.55 / 3.03	4.37 / 3.71
STARTING CURRENT (A)		14	7
RUNNING CURRENT (A) [MAX] Heating/Cooling		17.05 / 16.55 [29.5]	7.00 / 6.77 [13]
INTERCONNECTING CABLE No. CORES		4 Core	4 Core
TOTAL PIPE LENGTH (m)		115	115
MAX PIPE LENGTH PER INDOOR UNIT (m)		15 (from Branch Box)	15 (from Branch Box)
FURTHEST PIPE LENGTH - Outdoor to Indoor (m)		70	70
MAX HEIGHT DIFFERENCE - Outdoor to Indoor (m)		30 (20 if OU lower than IU)	30 (20 if OU lower than IU)
MAX HEIGHT DIFFERENCE - Indoor to Indoor (m)		12	12
CHARGE R410A (kg) - 40m		8.5	8.5
FUSE RATING (BS88) - HRC (A)		40	25

PAC-AK32BC - Branch Box		PAC-AK32BC
NUMBER OF CONNECTABLE INDOOR UNITS		1 - 3
POWER SUPPLY TO BRANCH BOX		From Outdoor Unit
POWER SUPPLY TO INDOOR UNITS		From Branch Box
PIPE SIZE mm (in) Main Outdoor Side - Gas		15.88 (5/8")
PIPE SIZE mm (in) Main Outdoor Side - Liquid		9.52 (3/8")
MAX PIPE LENGTH - Outdoor Unit to Branch Box (m)		55
TOTAL PIPE LENGTH - Branch Boxes to Indoor Unit (m)		60
MAX HEIGHT DIFFERENCE - Outdoor Unit to Branch Box (m)		30
MAX HEIGHT DIFFERENCE - Branch Box to Indoor Unit (m)		15
DIMENSIONS (mm) Width x Depth x Height		450 x 280 x 198

PAC-AK53BC - Branch Box		PAC-AK53BC
NUMBER OF CONNECTABLE INDOOR UNITS		1 - 5
POWER SUPPLY TO BRANCH BOX		From Outdoor Unit
POWER SUPPLY TO INDOOR UNITS		From Branch Box
PIPE SIZE mm (in) Main Outdoor Side - Gas		15.88 (5/8")
PIPE SIZE mm (in) Main Outdoor Side - Liquid		9.52 (3/8")
MAX PIPE LENGTH - Outdoor Unit to Branch Box (m)		55
TOTAL PIPE LENGTH - Branch Boxes to Indoor Unit (m)		60
MAX HEIGHT DIFFERENCE - Outdoor Unit to Branch Box (m)		30
MAX HEIGHT DIFFERENCE - Branch Box to Indoor Unit (m)		15
DIMENSIONS (mm) Width x Depth x Height		450 x 280 x 198

\*1 System COP / EER when connected to MSZ-EF x indoor unit connections.

## ACCESSORIES / OPTIONAL EXTRAS

## MXZ-8B Connection Pipe

**PAC-AK52YP-E** - Y shaped pipe for MXZ-8B models enabling size 100 connection (PLA-RP)

## System Controllers

**MAC-333IF** - For connection to M-NET system  
**MAC-397IF** - For connection to MA remote controllers  
**MAC-557IF** - For connection to MELCloud

## Air Outlet Guides

**MAC-889SG** - for MXZ-2D53VA

**MAC-856SG** - for MXZ-3D54VA2, MXZ-4D72VA, MXZ-4D83VA & MXZ-5D102VA

**MAC-857SG** - for MXZ-6C122VA

**PAC-SG59SG** - for MXZ-8B140VA, MXZ-8B160YA



Telephone: 01707 282880

MELSmart Technical Services: 0161 866 6089

Technical Help - option 1

Warranty - option 3

Training - option 6 followed by option 1

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