







The Mr Slim R32 Power Inverter Range

A blend of energy efficiency and sophisticated design









TIME FOR

It's time to enjoy energy savings and great new product features **It's time** to put R32 refrigerant at the heart of your conversations and plans moving forward, with the market leading range of R32 products from Mitsubishi Electric

It's time for your air conditioning to help meet EU carbon emissions targets



The 2014 F-Gas Regulations have one key objective: **to reduce F-Gas emissions by 79% between 2015 and 2030**, by cutting the availability of hydrofluorocarbons (HFCs) with a high Global Warming Potential (GWP). It's time therefore to look at alternative, low GWP refrigerants such as R32.

> Already making up 50% of the existing R410A refrigerant found in many current air conditioning systems, **R32 has a GWP of 675 (one third that of R410A)**, is highly energy efficient and is easy to recycle. Plus, the volumetric capacity of R32 is around 20% higher than that of R410A, which means system refrigerant volumes are lower.

Benefits of R32

93%

63%

45

Low GWP of 675

2030

High efficiency refrigerant

F-Gas phase down compliant

Less refrigerant volume requirement compared to R410A

Affordable & readily available

A single component refrigerant

Easy to handle, reuse and recycle

The Mr Slim R32 Power Inverter Range

The Mr Slim R32 Power Inverter range blends a host of outstanding features with a premium quality, sophisticated design. Offering our highest seasonal efficiency levels, advanced control options and extended pipe runs, this range is extremely flexible and available in four different indoor unit types, from 3.5 to 14kW.

Industry Leading Seasonal Energy Efficiency Ratings

The R32 Power Inverter is able to achieve high seasonal efficiencies through the optimisation of a newly designed compressor and use of the latest energy-saving technologies. ERP energy efficiency ratings of A++ are common throughout the range, with annual power consumption drastically reduced, resulting in increased run cost savings.

	Heating / Cooling							
Indoor Unit	3.5kW	5.0kW	6.0kW	7.1kW	10.0kW	12.5kW	14.0kW	
PLA-ZM 4-Way Blow Ceiling Cassette	A++ / A++	A++ / A++	A++ / A++	A++ / A++	A++ / A++	A++ / A++	A++ / A++	
PKA-M Wall Mounted	A+ / A++	A+ / A++	A+ / A++	A+ / A++	A+ / A++	-	-	
PEAD-M Ceiling Concealed Ducted	A / A+	A+ / A++	A+ / A++	A / A+	A+ / A++	A / A+	A+ / A+	
PCA-M Ceiling Suspended	-	A+ / A++						

3-Phase Power Supply

The 10.0, 12.5 and 14.0kW models are also available as a 3-phase option. Choosing this option dramatically reduces the running current of the unit and subsequent fuse rating.

Power Supply		10.0kW	12.5kW	14.0kW
3-Phase	Max Running Current (A)	8.5	10.0	13.7
	Fuse Rating (A)	16	16	16
Power Supply		10.0kW	12.5kW	14.0kW
Power Supply Single Phase	Max Running Current (A)	10.0kW 27.0	12.5kW 27.0	14.0kW 28.7

Note: Example using a 4-Way Blow Ceiling Cassette



Increased Pipe Lengths

Pipe lengths of up to 100m with a 30m height difference are now available with the R32 Power Inverter, increasing the application possibilities of the range.

Outdoor Unit	Max Pipe Length (m)	Max Height Difference (m)
PUZ-ZM35/50VKA	50	30
PUZ-ZM60/71VHA	55 (5m increase over R410A PUHZ-ZRP Power Inverter)	30
PUZ-ZM100/125/140VKA/YKA	100 (25m increase over R410A PUHZ-ZRP Power Inverter)	30



Full Heating Capacity Down to -3°C

Designed to provide powerful heating, even on bitterly cold or snowy days. When compared to the R410A Power Inverter, the rated heating capacity is maintained down to outside temperatures of -3°C.

Multi-Split Applications

The R32 Power Inverter can be used as a Multi-Split, making it an ideal option for open plan spaces in medium sized premises such as shops or offices, where two or three indoor units are required connected to a single outdoor unit. The indoor units can be a mix of ceiling cassettes, wall mounted, ceiling concealed ducted or ceiling suspended types.

Indoor Unit		Triple			
Combination	7.1kW	10.0kW	12.5kW	14.0kW	14.0kW
PLA-ZM	3.5 x 2	5.0 x 2	6.0 x 2	7.1 x 2	5.0 x 3
PKA-M	3.5 x 2	5.0 x 2	6.0 x 2	7.1 x 2	5.0 x 3
PEAD-M	3.5 x 2	5.0 x 2	6.0 x 2	7.1 x 2	5.0 x 3
PCA-M	-	5.0 x 2	6.0 x 2	7.1 x 2	5.0 x 3





Built using micron-precise calculations, the compressor is the heart of the R32 Power Inverter air conditioning system





Poki-Poki Motor



Dramatically enhanced motor efficiency utilising Mitsubishi Electric's original dense winding technology.

Heat Caulking



Mitsubishi Electric's heat caulking method minimises cylinder distortion for even greater efficiency.

30Pa External Static Pressure

An external static pressure of 30Pa enables the outdoor unit to be installed on balconies in high-rise buildings or spaces near louvres.*

* Optional (requires PAC-SJ71FM-E). Rated noise levels may be higher when equipped with this option.



Solutions that address the ban on R22 refrigerant

As of 1st January 2015 it became illegal to use R22 refrigerant⁻¹ to service and maintain air conditioning units, yet there are a large number of 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.

The R32 Power Inverter models incorporate our unique **'Replace Technology'** which allows the upgrade of systems using existing pipe work, without the need to apply any special cleaning machines.



*1 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 R32, do not have the same ozone depleting potential (ODP).

PLA-ZM 4-Way Blow Ceiling Cassette System

The new square grille design of the **PLA-ZM** beautifully harmonises with any interior, making it ideal for applications such as offices or retail stores.

Horizontal Airflow Control

New horizontal airflow control helps remove uncomfortable draughts and improve comfort levels.

Optional 3D i-see Sensor

Highly accurate 360° motion detection for body temperature and room occupancy, improving efficiency and comfort through automatic selection of energy-saving modes.





Optional Filter Lowering Grille

Allows easy, regular cleaning of the filter, improving efficiency and reducing maintenance.

This feature is particularly useful in rooms that have a high ceiling

1.2m

1.6m

2.0m

2.4m

2.8m

3.2m

3.6m

Controller Options





The **PKA-M** blends a host of outstanding features with a sophisticated pure white, flat panel, streamlined design. Offering high seasonal efficiency, advanced control options and quiet operation, this range provides extreme flexibility and ease of installation.

- Improved airflow control, including adjustable louvres for uniform air distribution
 - Internal pipe connection to wall mounted unit for easy and neat installation

Compact Indoor Units

Indoor unit width has been reduced by as much as 510mm. Units take up much less space, greatly increasing installation possibilities.









CN22 connector as standard for connection to PAR-33MAA wired controller



Wired Controller

PAR-FL32MA Wireless Controller

PEAD-M Ceiling Concealed Ducted System

The **PEAD-M** includes a host of outstanding features with an unobtrusive design for easy installation and maintenance.

Compact Indoor Units

The height of all models has been unified to 250mm. Compared to the previous PEAD-RP EA range, this has seen a reduction by as much as 75mm (sizes 100-140), making installation in low ceilings with a minimal clearance space possible.



External Static Pressure

The external static pressure can be set to five stages, up to a maximum of 150Pa, making units applicable for a wide range of building types. This is now standard on all unit sizes.

External static pressure setting

Model / Size	35	50	60	71	100	125	140
PEAD-M			35/50/	70/100/	/150Pa		

Drain pump is included as standard





PCA-M Ceiling Suspended System

- TEMP

The PCA-M incorporates a stylish new indoor unit design with airflow settings for both high and low ceiling applications, expanding the installation possibilities of this unit.

Stylish Indoor Unit Design

A new stylish square-like design allows these units to blend in seamlessly with the ceiling.

Automatic Air-speed Adjustment

In addition to the conventional 4-speed setting, units are now equipped with an automatic air-speed adjustment mode. This setting automatically adjusts the air speed to conditions that match the room environment. At the start of the heating/cooling operation, the airflow is set to high-speed to guickly heat/cool the room. When the room temperature reaches the desired setting, the airflow speed is decreased automatically creating a stable, comfortable environment.

High / Low Ceiling Modes

Units are equipped with high and low ceiling operation modes that make it possible to switch the airflow volume to match room height. The ability to choose the optimum airflow volume makes it possible to reduce draughts.

Size	High Ceiling	Standard Ceiling	Low Ceiling
50	3.5m	2.7m	2.5m
60	3.5m	2.7m	2.5m
71	3.5m	2.7m	2.5m
100	4.2m	3.0m	2.6m
125	4.2m	3.0m	2.6m
140	4.2m	3.0m	2.6m

Optional Drain Pump

The pumping height of the optional drain pump has been increased from 400mm to 600mm, expanding the location possibilities of the unit.



Controller Options



Wired Controller

PAR-SL94B Wireless Controller and receiver





After room temperature is stabilised

Outside air Intake

Unts are equipped with a knock-out hole that enables the induction of fresh air.





Mobile control and monitoring of your Mitsubishi Electric systems

MELCloud is a cloud based solution for controlling and monitoring your Mitsubishi Electric air conditioning, ventilation or heating systems either locally or remotely by PC, tablet or smartphone app.

It offers the ability to control which units are on/off, temperature settings, the 7 day weekly schedule, frost protection settings, holiday mode and also log and record errors.

Ensuring total flexibility from a single device, from any worldwide location, the MELCloud app also provides localised information like weather forecasts and customer service contact details.











PKA-M R32 Power Inverter Heat Pump

Wall Mounted System

Product Specifications





PKA-M - INDOOR UNITS		РКА-М35НА	PKA-M50HA	PKA-M60KA	PKA-M71KA	PKA-M100KA	PKA-M100KA
CAPACITY (kW)	Heating (nominal) Cooling (nominal) Heating (UK) Cooling (LK)	4.1 (1.6-5.2) 3.6 (1.6-4.5) 3.5 (1.35-4.4) 3.3 (1.45-4.15)	5.0 (2.5-7.3) 4.6 (2.3-5.6) 4.25 (2.15-6.2) 4.23 (2.15-15)	7.0 (2.8-8.2) 6.1 (2.7-6.7) 5.95 (2.4-6.95) 5.5 (2.5-6.15)	8.0 (3.5-10.2) 7.1 (3.3-8.1) 6.8 (3.0-8.65) 6.55 (3.05-7.45)	11.2 (4.5-14.0) 9.5 (4.9-11.4) 9.5 (3.85-11.9) 9.2 (4.5-10.5)	11.2 (4.5-14.0) 9.5 (4.9-11.4) 9.5 (3.85-11.9) 9.2 (4.5-10.5)
SHF (nominal)		0.81	0.72	0.86	0.78	0.73	0.73
COP / EER (nominal)		3.94 / 4.14	3.71 / 3.71	4.04 / 3.91	3.78 / 3.81	3.61 / 3.95	3.61 / 3.95
SCOP / SEER (BS EN14825)		4.0 / 6.3	4.1 / 6.4	4.2 / 6.8	4.3 / 6.8	4.4 / 6.5	4.4 / 6.4
ERP ENERGY EFFICIENCY CLASS	Heating/Cooling	A+ / A++	A+ / A++	A+ / A++	A+ / A++	A+ / A++	A+ / A++
AIRFLOW (I/s)	Lo-Mi-Hi	150-175-200	150-175-200	300-333-367	300-333-367	333-383-433	333-383-433
PIPE SIZE MM (in)	Gas	12.7 (1/2")	12.7 (1/2")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")	15.88 (5/8")
	Liquid	6.35 (1/4")	6.35 (1/4")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")	9.52 (3/8")
SOUND PRESSURE LEVEL (dBA)	Lo-Mi-Hi	36-40-43	36-40-43	39-42-45	39-42-45	41-45-49	41-45-49
SOUND POWER LEVEL (dBA)		60	60	64	64	65	65
DIMENSIONS (mm)	Width x Depth x Height	898 x 249 x 295	898 x 249 x 295	1170 x 295 x 365	1170 x 295 x 365	1170 x 295 x 365	1170 x 295 x 365
WEIGHT (kg)		13	13	21	21	21	21
ELECTRICAL SUPPLY		Fed by Outdoor Unit	Fed by Outdoor Unit	Fed by Outdoor Unit			
FUSE RATING (BS88) - HRC (A)		6	6	6	6	6	6
INTERCONNECTING CABLE NO.	CORES	4	4	4	4	4	4
WIRED REMOTE CONTROLLER R	EFERENCE	PAR-33MAA	PAR-33MAA	PAR-33MAA	PAR-33MAA	PAR-33MAA	PAR-33MAA
WIRELESS REMOTE CONTROLLE	R REFERENCE	PAR-FL32MA	PAR-FL32MA	PAR-FL32MA	PAR-FL32MA	PAR-FL32MA	PAR-FL32MA

PUZ-ZM - OUTDOOR UNITS	6	PUZ-ZM35VKA	PUZ-ZM50VKA	PUZ-ZM60VHA	PUZ-ZM71VHA	PUZ-ZM100VKA	PUZ-ZM100YKA ³
SOUND PRESSURE LEVEL (dBA)	Heating/Cooling	46 / 44	46 / 44	49 / 47	49 / 47	51 / 49	51 / 49
SOUND POWER LEVEL (dBA)	Cooling	65	65	67	67	69	69
WEIGHT (kg)		46	46	70	70	116	123
DIMENSIONS (mm)	Width x Depth x Height	809 x 300 x 630	809 x 300 x 630	950 x 330 + 25 x 943	950 x 330 + 25 x 943	1050 x 330 + 40 x 1338	1050 x 330 + 40 x 1338
ELECTRICAL SUPPLY		220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	220-240v, 50Hz	380-415v, 50Hz
PHASE		Single	Single	Single	Single	Single	Three
SYSTEM POWER INPUT (kW)	Heating/Cooling (nominal)	1.040 / 0.869	1.347 / 1.239	1.732 / 1.560	2.116 / 1.863	3.102 / 2.405	3.102 / 2.405
	Heating/Cooling (UK)	0.81 / 0.84	1.12 / 1.12	1.25 / 1.65	1.54 / 1.92	2.47 / 2.06	2.47 / 2.06
STARTING CURRENT (A)		5.0	5.0	6.0	6.0	13.0	6.0
SYSTEM RUNNING CURRENT (A)	Heating/Cooling [MAX]	4.97 / 4.31 [13.4]	5.98 / 5.57 [13.4]	7.41 / 6.65 [19.4]	9.10 / 7.96 [19.4]	13.46 / 10.45 [27.1]	4.49 / 5.45 [8.6]
FUSE RATING (BS88) - HRC (A)		16	16	25	25	32	16
MAINS CABLE NO. CORES		3	3	3	3	3	5
MAX PIPE LENGTH (m)		50	50	55	55	100	100
MAX HEIGHT DIFFERENCE (m)		30	30	30	30	30	30
CHARGE REFRIGERANT (kg) / CO ₂ EQUIVALENT (t)	R32 (GWP 675) - 30m	2.0 / 1.35	2.00 / 1.35	2.80 / 1.89	2.80 / 1.89	4.00 / 2.70	4.00 / 2.70
MAX ADDITIONAL REFRIGERANT (kg) / CO2 EQUIVALENT (t)	R32 (GWP 675)	0.30 / 0.20	0.30 / 0.20	0.80 / 0.54	0.80 / 0.54	2.80 / 1.89	2.80 / 1.89

3 Three Phase

Product Dimensions





Front View

599





Side View



Product Dimensions

Upper View



PKA-M60/71/100KA

Front View



Side View





PUZ-ZM R32 Power Inverter Heat Pump

Outdoor Unit **Product Specifications**



 $\mathbf{R}\mathbf{32}$









Mitsubishi Electric in, Living Environmental Systems UK

mitsubishielectric2



Changes for the Better

Telephone: 01707 282880

email: air.conditioning@meuk.mee.com web: airconditioning.mitsubishielectric.co.uk microsite: timeforR32.co.uk

UNITED KINGDOM Mitsubishi Electric Europe Living Environment Systems Division, Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, England. General Enquiries Telephone: 01707 282880 Fax: 01707 278881 IRELAND Mitsubishi Electric Europe, Westgate Business Park, Ballymount, Dublin 24, Ireland. Telephone: Dublin (01) 419 8800 Fax: Dublin (01) 419 8890 International code: (003531)

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Note: The fuse rating is for guidance only. Pease refer to the relevant databook for detailed specification. It is the responsibility of a qualified detectriciar/detortical engineer to select the correct cable size and fuse rating based on current fusionation generation controls engineer to advect and a set of the set of the set of the detectriciar detec R410A (GWP:1975), R32 (GWP: 550), R407C (GWP:1650) or R134a (GWP:1300).



