MITSUBISHI ELECTRIC

IT Cooling

Close Control Air Conditioners

S-MEXT

INVERTER

EEV

EC FAN

R HFC R410A

R 32

Full Inverter Air Conditioning Split System For Small & Medium Size IT Environments from 8 to 19kW

s-MEXT

High Energy Efficiency, Small Footprint & Quality for Small & Medium Data Centres

Building on the strong legacy of IT Cooling, Mitsubishi Electric presents s-MEXT:
The new split cooling system joins together the best experience and technology with the highest quality and reliability standards of Mitsubishi Electric.

This innovative cooling package has been engineered with the best kW/m² ratio and gets your data centre ready for the future.

High Capacity Per Footprint*

The indoor s-MEXT air conditioner matches the highest efficiency levels with the industry's most compact footprint, thanks to the split design.

Its small size design means it can easily integrate into small IT rooms or existing environments without sacrificing any kW per square metre.

Beyond Traditional Operating Limits

Increased power densities in IT environments have led to growing temperatures (up to 23°C) of intake airflows directed to the IT equipment (ASHRAE 'Thermal Guidelines for Data Processing Environments').

The s-MEXT and Mr Slim cooling package has been designed to manage return air temperatures up to 35°C, matching the requirements of the most critical data centres (up to 52°C outdoor air temperature).

Exceeding Your Efficiency Targets

Air conditioning and cooling systems account for about 40% of total electricity usage in data centres. An efficient cooling strategy may assist your company in improving energy efficiency, which could result in significant cost savings.

Both the s-MEXT and Mr Slim units feature best-in-class components to reduce power consumption and advanced logic to control the whole cooling system efficiently.

- Inverter compressors in the Mr Slim units, for the continuous modulation of the refrigeration power
- DC fans for Mr Slim and EC fans for s-MEXT units help improve airflow modulation

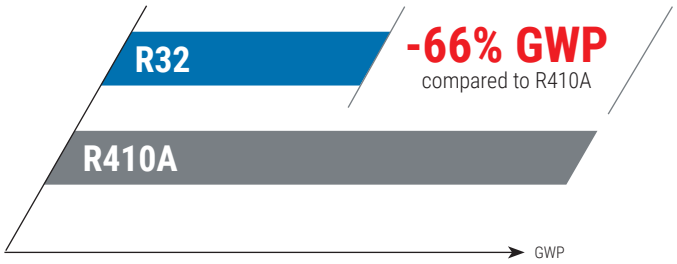
*Findings based on market research conducted by Mitsubishi Electric Australia (March 2022)

The First R32 System

For Future-Proof Data Centres

s-MEXT is compatible with the R32 Mr Slim units.

Engineered with EC fans, Inverter compressor, safety devices, and control logic, the new close control unit is the first IT Cooling system designed for sustainable data centres.



Why R32?

Reduced Environmental Impact

- **Zero ODP** - Ozone Depletion Potential
- Up to **one-third GWP** of R410A

Performance & Envelope

- Requires **less refrigerant volume per kW** compared to other chillers or computer room air conditioning (CRAC) units that use R410A refrigerant
- **High refrigeration capacity** and thermal conductivity
- **Low-pressure drop**
- **Affordable** and readily available

Reliability

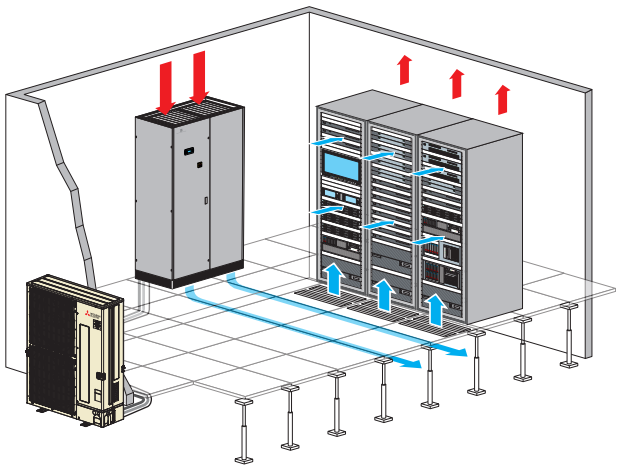
- **Easy to handle**, reuse and recycle
- **Low toxicity**, low flammability
- A single component refrigerant

Installation

The unit's installation flexibility is available with two types of air supply.

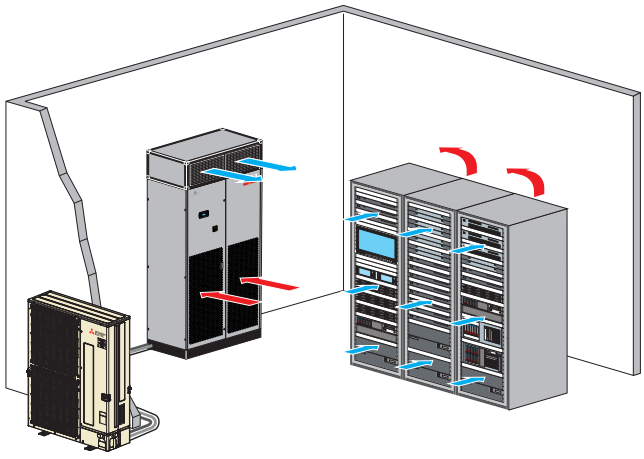
Under
Bottom Air Supply & Top Air Return

The installation option 'under' is suitable for rooms with raised floors.



Over
Top Air Supply & Frontal Air Return

The installation option 'over' is suitable for rooms with standard floors.



s-MEXT

Harnessing the Highest Capacity into a Small Footprint

s-MEXT controls temperature and relative humidity with pinpoint accuracy, even in the case of very strong thermal variations. Has been engineered to deliver top-class efficiency values, the indoor unit features premium quality components: EC plug fans, evaporating coil with hydrophilic treatment, electrical panel and PID microprocessor control system. A large variety of accessories available from Mitsubishi Electric to match the most critical installation requirements.

s-MEXT Series is equipped with components, safety devices, and control logic making it suitable to be paired with Mr Slim with R32 and R410A refrigerants.

2 System Solutions

s-MEXT close controls air conditioner presents two types of refrigerant: R32 and R410A.

New Generation Inverter EC Fans

High-performing EC fans are made of polymeric ultralight material and help improve airflow modulation at partial loads. The fans deliver significant advantages in terms of:

- Reduction in noise levels of up to 4-5 dB(A) when compared with similar traditional* solutions
- Reduction of up to 25% power absorption when compared to similar traditional* solutions

Fast Installation & Easy Maintenance

The constructive features and the internal layout guarantee faster installation, and the frontal access to the main components makes routine inspections easier.

EVOLUTION+ Advanced Unit Control

The electronic heart of the unit is the EVOLUTION+ controller. Designed internally to manage all the unit's variables perfectly, it features evolved characteristics to make the unit totally configurable:

- Automatic reactivation after a black-out
- Serial cards for BMS interfacing
- BLACK BOX for preventive analyses
- Up to 100 events recorded
- Non-volatile 'flash' memory for data storage
- Display with easy-to-read graphic icons

*Traditional is a non-Inverter system/fixed speed compressor (EC fans compared to AC fans)

Mr Slim

Outdoor Units for Medium to Large Offices

The outdoor unit features an EC Inverter compressor, axial fans with DC motor and step-less speed control.

By using a special power receiver to sub-cool the refrigerant, together with two individually controlled expansion valves, the units work within their optimal range in any operating state. Mr Slim outdoor unit is connected to s-MEXT indoor unit via a PAC-IF013 interface board.

2 System Solutions

PUZ Series presents two options of refrigerant: R32 and R410A.

DC Inverter Compressor

The inverter compressor allows for the modulation of the refrigeration power based on the actual needs, thus increasing the efficiency at partial loads.

- No in-rush current
- Energy savings of up to 50% when compared with similar traditional* on/off units
- Continuous operation without on/off cycles helps to maximise reliability when compared with similar traditional* on/off units

Main Features

Developed for high-performance operation, the Power Inverters offer a host of special functions:

- Redundancy functions with automatic switchover in the event of a fault and delay correction
- Easy Maintenance function and automatic refrigerant level monitoring

Linear Expansion Valve (LEV)

The linear expansion valve of Mr Slim ensures a wide modulation of the power cooling, thus optimising the compressor performance according to its operating field variation.

- Rapid achievement of the system stability
- Accurate adaptation to load fluctuations

*Traditional is a non-Inverter system/fixed speed compressor (EC fans compared to AC fans)

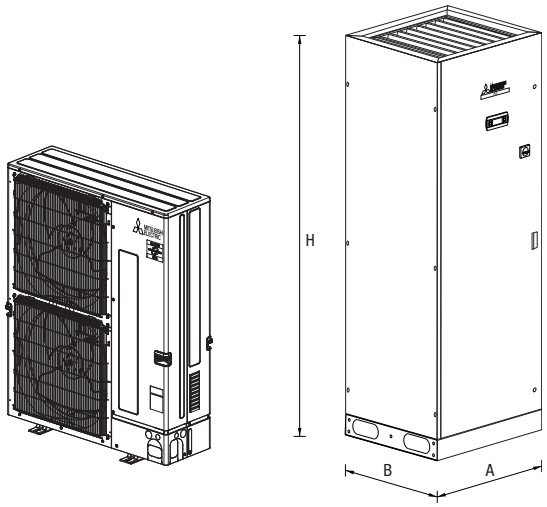
Product Specifications

s-MEXT-G00-M2					
Indoor Unit			**S 009**	**S 013**	**S 018**
Refrigerant			R32		R410A
Size			F1		F2
Cooling Capacity*1, *2	**Total**	**kW**	8.60	11.80	16.64
	Sensible	**kW**	8.00	10.00	16.64
	SHR*3		0.93	0.85	1.00
	System EER (nominal)		3.52	3.40	3.00
"EC" Supply Fan		**No.**	1		2
	Airflow	**m³/h**	2150	2610	4200
Sound Level ISO 3744*4	**Pressure Level**	**dB(A)**	57	61	60
	Power Level	**dB(A)**	73	77	76
Refrigerant Circuits		**No.**	1		
Power Supply		**V/Ph/Hz**	240/1/50		
Dimensions	**Length (A)**	**mm**	600		1000
	Depth (B)	**mm**	500		
	Height (H)	**mm**	1980		
Net Weight		**kg**	106	110	165

Mr Slim				
Indoor Unit		**PUZ-ZM 100**	**PUZ-ZM 125**	**PUZ-RP 200**
Quantity	**No.**	1		
Model	**PUZ**	ZM100 VKA-A	ZM125 YKA-A	RP200 YKA-A
Power Input*5	**kW**	2.00	2.92	4.86
Power Supply	**V/Ph/Hz**	240/1/50	415/3+N/50	

Notes:

*1 Indoor conditions (in) 27°C - R.H. 47%; outdoor air temperature 35°C; ESP = 20Pa.
*2 SHR = Sensible cooling capacity gross/total cooling capacity gross.
*3 Unit in standard configuration/execution, without optional accessories.
*4 Average sound pressure level, at a distance of 1m, for units in a free field on a reflecting surface.
The average sound pressure level is calculated based on the sound power level measured in accordance with ISO 3744.
*5 Gross value. Characteristics referred to entering air at 27°C-47% RH; Ambient temperature 35°C; ESP = 20Pa.



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