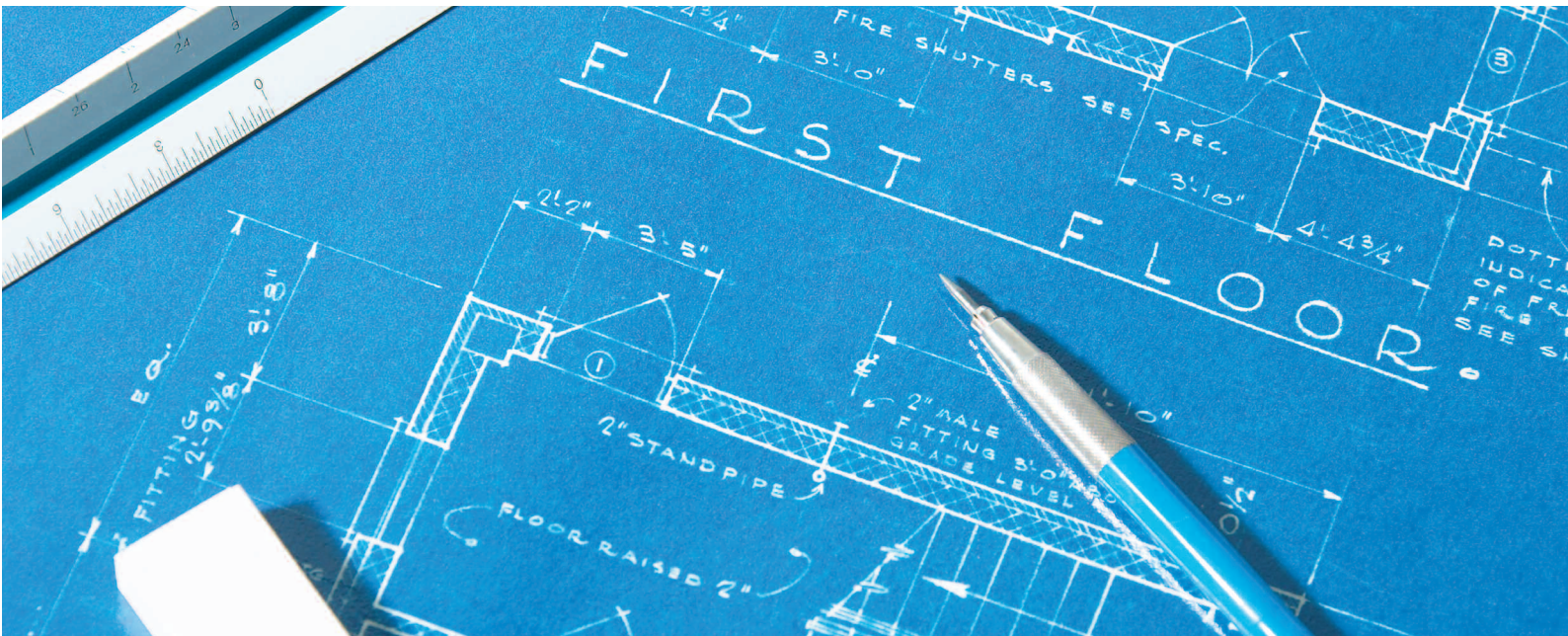


TOSHIBA

AIR CONDITIONING

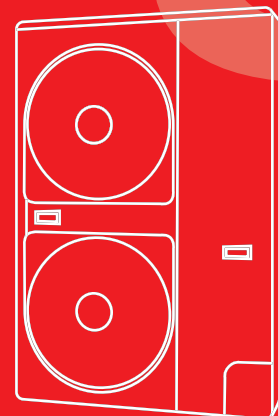
Inventor of the Inverter



MiNi-SMMS

WHEN COMMERCIAL MEETS RESIDENTIAL

MINI-S





COST SAVING INSTALLATION







R410A HIGH EFFICIENCY

HIGH RELIABILITY


QUIET OPERATION

SMALL AND LIGHTWEIGHT

MiNi-SMMS Indoor lineup

| Model Type | Model Name | Capacity Code | Cooling Cap. (kW) | Heating Cap. (kW) | Model Type | Model Name | Capacity Code | Cooling Cap. (kW) | Heating Cap. (kW) | |
|---|---|---------------|-------------------|-------------------|--|---|---------------|-------------------|-------------------|-------|
|  | MMU-AP0091H | 1.00 | 2.80 | 3.20 |  | MMD-AP0071SPH | 0.80 | 2.20 | 2.50 | |
| | MMU-AP0121H | 1.25 | 3.60 | 4.00 | | MMD-AP0091SPH | 1.00 | 2.80 | 3.20 | |
| | MMU-AP0151H | 1.70 | 4.50 | 5.00 | | MMD-AP0121SPH | 1.25 | 3.60 | 4.00 | |
| | MMU-AP0181H | 2.00 | 5.60 | 6.30 | | MMD-AP0151SPH | 1.70 | 4.50 | 5.00 | |
| | MMU-AP0241H | 2.50 | 7.10 | 8.00 | | MMD-AP0181SPH | 2.00 | 5.60 | 6.30 | |
| | MMU-AP0271H | 3.00 | 8.00 | 9.00 | |  | MMC-AP0151H | 1.70 | 4.50 | 5.00 |
| | MMU-AP0301H | 3.20 | 9.00 | 10.00 | | | MMC-AP0181H | 2.00 | 5.60 | 6.30 |
| | MMU-AP0361H | 4.00 | 11.20 | 12.50 | | | MMC-AP0241H | 2.50 | 7.10 | 8.00 |
| MMU-AP0481H | 5.00 | 14.00 | 16.00 | MMC-AP0271H | 3.00 | | 8.00 | 9.00 | | |
|  | MMU-AP0071MH | 0.80 | 2.20 | 2.50 | MMC-AP0361H | | 4.00 | 11.20 | 12.50 | |
| | MMU-AP0091MH | 1.00 | 2.80 | 3.20 | MMC-AP0481H | | 5.00 | 14.00 | 16.00 | |
| | MMU-AP0121MH | 1.25 | 3.60 | 4.00 |  | | MMK-AP0072H | 0.80 | 2.20 | 2.50 |
| | MMU-AP0151MH | 1.70 | 4.50 | 5.00 | | | MMK-AP0092H | 1.00 | 2.80 | 3.20 |
| | MMU-AP0181MH | 2.00 | 5.60 | 6.30 | | MMK-AP0122H | 1.25 | 3.60 | 4.00 | |
|  | MMU-AP0071WH | 0.80 | 2.20 | 2.50 | | MMK-AP0071H | 0.80 | 2.20 | 2.50 | |
| | MMU-AP0091WH | 1.00 | 2.80 | 3.20 | | MMK-AP0091H | 1.00 | 2.80 | 3.20 | |
| | MMU-AP0121WH | 1.25 | 3.60 | 4.00 | MMK-AP0121H | 1.25 | 3.60 | 4.00 | | |
| | MMU-AP0151WH | 1.70 | 4.50 | 5.00 | MMK-AP0151H | 1.70 | 4.50 | 5.00 | | |
| | MMU-AP0181WH | 2.00 | 5.60 | 6.30 | MMK-AP0181H | 2.00 | 5.60 | 6.30 | | |
| | MMU-AP0241WH | 2.50 | 7.10 | 8.00 | MMK-AP0241H | 2.50 | 7.10 | 8.00 | | |
|  | MMU-AP0071YH | 0.80 | 2.20 | 2.50 |  | MML-AP0071H | 0.80 | 2.20 | 2.50 | |
| | MMU-AP0091YH | 1.00 | 2.80 | 3.20 | | MML-AP0091H | 1.00 | 2.80 | 3.20 | |
| | MMU-AP0121YH | 1.25 | 3.60 | 4.00 | | MML-AP0121H | 1.25 | 3.60 | 4.00 | |
| | MMU-AP0152SH | 1.70 | 4.50 | 5.00 | | MML-AP0151H | 1.70 | 4.50 | 5.00 | |
| | MMU-AP0182SH | 2.00 | 5.60 | 6.30 | | MML-AP0181H | 2.00 | 5.60 | 6.30 | |
| | MMU-AP0242SH | 2.50 | 7.10 | 8.00 | | MML-AP0241H | 2.50 | 7.10 | 8.00 | |
|  | MMU-AP0071BH | 0.80 | 2.20 | 2.50 |  | MML-AP0071BH | 0.80 | 2.20 | 2.50 | |
| | MMU-AP0091BH | 1.00 | 2.80 | 3.20 | | MML-AP0091BH | 1.00 | 2.80 | 3.20 | |
| | MMU-AP0121BH | 1.25 | 3.60 | 4.00 | | MML-AP0121BH | 1.25 | 3.60 | 4.00 | |
| | MMU-AP0151BH | 1.70 | 4.50 | 5.00 | | MML-AP0151BH | 1.70 | 4.50 | 5.00 | |
| | MMU-AP0181BH | 2.00 | 5.60 | 6.30 | | MML-AP0181BH | 2.00 | 5.60 | 6.30 | |
| | MMU-AP0241BH | 2.50 | 7.10 | 8.00 | | MML-AP0241BH | 2.50 | 7.10 | 8.00 | |
| |  | MMU-AP0271BH | 3.00 | 8.00 | 9.00 |  | MMF-AP151H | 1.70 | 4.50 | 5.00 |
| | | MMU-AP0301BH | 3.20 | 9.00 | 10.00 | | MMF-AP181H | 2.00 | 5.60 | 6.30 |
| | | MMU-AP0361BH | 4.00 | 11.20 | 12.50 | | MMF-AP241H | 2.50 | 7.10 | 8.00 |
| | | MMU-AP0481BH | 5.00 | 14.00 | 16.00 | | MMF-AP271H | 3.00 | 8.00 | 9.00 |
| | | MMD-AP0181H | 2.00 | 5.60 | 6.30 | | MMF-AP361H | 4.00 | 11.20 | 12.50 |
| MMD-AP0241H | | 2.50 | 7.10 | 8.00 | MMF-AP481H | | 5.00 | 14.00 | 16.00 | |
| MMD-AP0271H | | 3.00 | 8.00 | 9.00 | | | | | | |
| MMD-AP0361H | | 4.00 | 11.20 | 12.50 | | | | | | |
| MMD-AP0481H | | 5.00 | 14.00 | 16.00 | | | | | | |

Technical Specifications Reverse Cycle

| | | MCY-MAP0401HT | MCY-MAP0501HT | MCY-MAP0601HT | |
|---|---------------------------------------|---------------|------------------|------------------|------------------|
|  | Outdoor Unit | | | | |
| | Cooling Capacity | kW | 12.10 | 14.00 | 15.50 |
| | COP | | 4.29 | 4.03 | 3.35 |
| | Heating Capacity | kW | 12.50 | 16.00 | 18.00 |
| | COP | | 4.61 | 4.00 | 3.71 |
| | Maximum number of indoor units | | 6 | 8 | 9 |
| | Dimensions (HxWxD) | mm | 1340 x 900 x 320 | 1340 x 900 x 320 | 1340 x 900 x 320 |
| | Weight | kg | 117 | 117 | 117 |
| | Maximum equivalent length separation* | m | 125 | 125 | 125 |
| | Maximum actual piping separation* | m | 100 | 100 | 100 |
| | Maximum pipe length | m | 180 | 180 | 180 |
| | Power supply | V-ph-Hz | (220-240)-1-50 | (220-240)-1-50 | (220-240)-1-50 |

*When PMV Kit is used: Maximum equivalent length separation (80m); Maximum actual piping separation (65m); Maximum pipe length (150m)



Flexibility and comfort: the key words.



The Toshiba MiNi-SMMS is a small VRF system suitable for both commercial and residential applications.

Great flexibility and control power combine in a VRF system which is small and compact enough to fit many rooms.

It has been designed to bridge the gap between the versatile Inverter Multi-Split Systems and the larger capacity of the SMMS, the compact MiNi-SMMS Inverter, space-saving system operates with R-410A

refrigerant and offers all the groundbreaking benefits of the current SMMS Inverter Technology.

A solution with the precise efficiency and control required by smaller offices, shops and private spaces is now available.

Piping connection and operation delivers unbeatable flexibility as only Toshiba know how: joint after header, header after joint, joint after joint and header after header.

Fast and easy to install with simple piping instructions, automatic system

addressing also reduces installation hassles. In fact, during installation, system addressing can also be customized using the wireless remote controller, eliminating the need for manual switch setting.



MiNi-SMMS

The perfect balance between big and small

This concept was developed to offer the most flexible solutions for shops, restaurants, offices, villas and for all applications where unobtrusive appearance and quiet operation are key advantages. The special compact design of this new outdoor unit is packed with advanced functions and money-saving advantages that make it the top choice for “professionals and individuals who demand the best”. Thanks to exclusive Toshiba technology and the DC Twin

Rotary Compressor, the new range of MiNi-SMMS offers an exceptional solution in terms of energy efficiency with COP values of up to 4.61 for the 12.1kW unit.

The extremely compact shape 1340x900x320mm (HxWxD) and it's weight of just 117kg allows easy installation on balconies and patios. Due to the lightweight design, the MiNi-SMMS requires very little to support its weight as opposed to the standard VRF systems, this enables faster and easier installation.

Extended refrigerant piping capability, multiple indoor unit combinations, simple piping and wiring offer great operational flexibility together with labour and cost saving installation. The new MiNi-SMMS system is appropriately designed to achieve optimum performances in various light commercial residential applications.



COP 4.29

HFC
R-410A

INVERTER



Compact Hi-wall



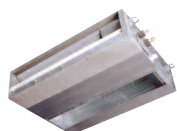
Hi-wall



NEW Compact Four way cassette



Four way cassette



Slim Duct



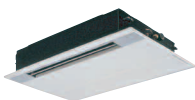
Standard ducted



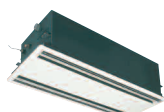
High static pressure ducted model



Floor standing



NEW One way cassette



Two way cassette



Ceiling Suspended



Floor standing concealed and vertical

13 internal units, a total of 81 variations.

The system is fitted with a range of super quiet, indoor fan coil units in 13 different styles, making this one of the most comprehensive choices of indoor units available in the market place.

A new compact, four-way cassette 600 x 600mm unit with reduced height of just 268mm is available in the capacity range 2.2 - 5.6kW.

The TCC Link control system is a standard interface with the full range of controls, as are SMMS controllers. PMV operation has been adopted for areas where very low sound levels are required, making this the ideal solution for hotel rooms and private spaces.

Compact Hi-wall



This new Hi-wall unit is perfect for modest spaces, such as offices, small shops or bedrooms. The units are designed to be the most compact (275x790x208mm) and lightweight (11kg) on the market. This new unit also achieves outstanding sound level performance within multiple application settings, to provide optimised user comfort.

New, Compact Four way cassette



The new, compact four-way cassette has been designed to suit standard 600mm x 600mm grid ceilings, allowing for simple installation and easy maintenance. Its fancy design fits any style of interior decor, too, for rooms where overall appearance is as important a consideration as performance itself.

TOSHIBA
Leading Innovation >>>



Super Modular Multi System
THE FREEDOM OF SIMPLICITY

S-MMS

Advanced air conditioning solutions.



In recent years user expectations of air conditioning systems have significantly changed.

Not only do they expect zone heating and cooling, but also demand a range of services that optimises room comfort, reduce energy and maintenance costs, combined with **maximised simplicity and operating flexibility.**

The system must be energy-efficient, versatile in installation and functionality, flexible in programming and use, reliable and easy to use. There are more and more requests for central and precise management of

the system, permitting accurate and personalized calculation of the energy consumption. The Super Multi Modular System (S-MMS) provides answers to these requirements: and are increasingly used as an alternative to traditional

water-based heating and cooling systems.



Typical applications and advantages.

The VRF system offers reliability, ambient comfort, modularity, **flexibility**, ease-of-installation and durability, with considerable energy savings.

Typical applications of this system are those that require product features that are linked to energy savings. Therefore, more and more

commercial centres, office towers, hospitals, hotels and homes have selected this type of system.

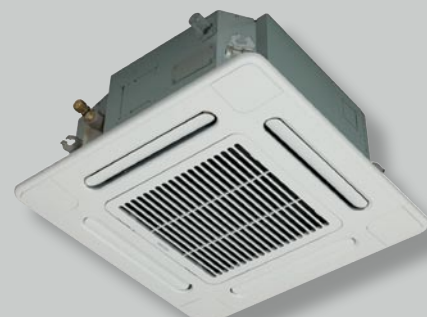


Enormous flexibility.

Optimised product choice.

The ultimate inverter system.

Minimised energy consumption.



Hotels/Offices.

In this type of application up to 48 indoor units can be installed in a single refrigerant circuit, and it is possible to reduce the capacity of one or more indoor units down to the minimum operating limit. This results in considerable energy savings a faster payback of the investment and optimised comfort.

This system also offers the ideal solution for dual-aspect buildings that require simultaneous heating and cooling, leading to further energy savings and making the systems a reliable choice for many prestigious applications.

Shopping centres.

S-MMS offers maximum flexibility. They can be used for even the smallest commercial rooms. The main features include providing the required cooling or heating capacity and comfort levels, ease of installation, maximum energy efficiency and reliability.

Homes.

The air-conditioned area can be divided into small or larger individual zones and here too the large choice of indoor units, including cassettes, ducted, Hi-wall, floor-mounted and many other unit types.

The system is very efficient and unobtrusive, making S-MMS an excellent investment!

Energy savings according to Toshiba.

The advanced electronic technology in these systems permits capacity control that results in significant energy savings.

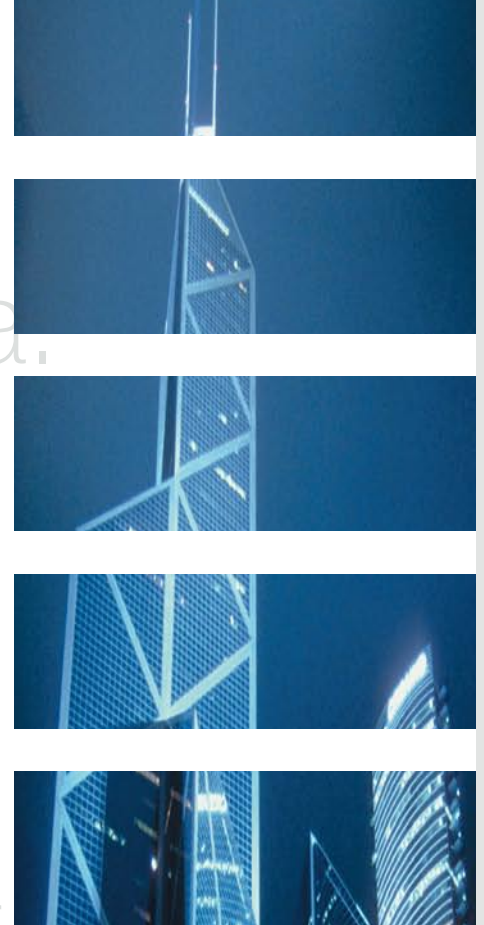
This objective is achieved thanks to the use of **sophisticated inverter control** and modulating control valves in each indoor unit.

These permit linear variation of the refrigerant flow in any circuit, directly proportional to the thermal load, resulting in further energy savings.

In fact the power input of the outdoor

unit is dramatically reduced with the heat load reduction in the areas served. Another factor of energy savings and management cost savings is that the systems are sized for the maximum load, and usually operate at part load.

Maintenance costs are also minimised. No particular routine maintenance is required, except periodical cleaning of the indoor unit filters.



S-MMS. The freedom of choice.

Variable refrigerant flow benefits from the advantages of direct expansion linked to inverter control and the most sophisticated electronic control. This technology has many advantages, from the system design

to the installation and operation phase. The wide range of indoor units makes VRF a flexible choice to satisfy many building requirements.

Toshiba has two VRF system ranges: the new compact SMMS heat pumps

providing cooling and heating, and Super Heat Recovery System (S-HRM) units providing simultaneous heating and cooling.

Silence is golden.

As a result of detailed improvements such as the fan drive circuit, fan blade design and construction of the outlet duct our design teams have successfully reduced outdoor unit noise levels.

These studies have eliminated the

peak noise levels at start up, normally associated with fixed-speed systems, by using soft start controls. An optional night operation/sound deadening control circuit board is available for reducing noise levels overnight by limiting the system's

maximum operation.

This has resulted in reduced operating noise levels.

The exclusive use of inverter-driven compressors also significantly contributes to reducing noise emissions.





Compact four way cassette

This new model suits all the standard 600x600 mm grid ceiling. Its sophisticated design fits with many room interiors, where the appearance is as important as the functionality.

SLIMLINE DIMENSIONS

EASY MAINTENANCE

FLEXIBLE CONTROL OPTIONS



Four way cassette

With the advanced high-lift drain pipe, it offers the ideal solution for small commercial applications.

CLEAN CEILING

FLEXIBLE INSTALLATION

EASY MAINTENANCE



Two way cassette

Discreet and easy to install, it fits any room interior. Thanks to its silent operation, it creates a very quiet and comfortable environment particularly for home theatre rooms.

SLIM DESIGN

LOW NOISE LEVEL

FLEXIBLE INSTALLATION



One way cassette

It's simple to install and is suitable for small areas, such as hotels or offices.

COMPACT HI-TECH DESIGN

LOW NOISE LEVEL

FLEXIBLE INSTALLATION

Standard ducted unit



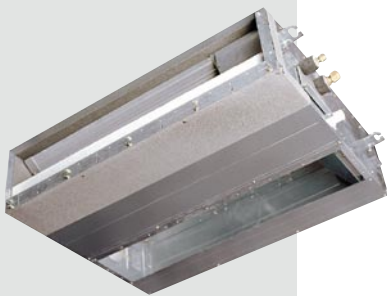
It can easily be installed in ceiling voids or false ceiling and operates very quietly. This flexible model provides a uniform temperature and air distribution and enhances the Indoor Air Quality.

FLEXIBLE INSTALLATION

LOW NOISE LEVEL

ENHANCED INDOOR AIR QUALITY

Slim Duct



It offers the ultimate technology with exceptional energy savings, high performance and easy installation.

VERY SLIM DESIGN - 210mm

LOW NOISE LEVEL

PERFECT COMFORT

High static pressure ducted unit



It's Toshiba most powerful ducted unit. Flexible and compact, it can be installed discretely in the ceiling space.

EASY INSTALLATION

EASY MAINTENANCE

WIDE RANGE OF OPTIONS AVAILABLE

Ceiling suspended unit



Thanks to its simple suspension, the installation is very easy. It creates a very pleasing environment, diffusing rapidly and uniformly the required temperature. It's a great solution for solid ceilings.

EASY INSTALLATION

OPTIMUM LOUVER CONTROL

PIPING FLEXIBILITY



Compact Hi-wall

It's compact and lightweight, perfect for modest spaces, such as offices, shops and hotel rooms.

COMPACT AND MODERN DESIGN

LOW NOISE LEVEL

AUTO-SWING AIR DISTRIBUTION



Hi-wall

Robust design and ideal for high cooling or heating requirements.

RELIABLE

PIPING FLEXIBILITY

TOP FOR COMFORT



Floor mounted console

It's suitable for refurbishment projects of small spaces.

PIPING FLEXIBILITY

TOP FOR COMFORT

WIDE CHOICE OF INSTALLATION SETTINGS



Concealed chassis unit

It's the perfect solution for perimeter walls and can be hidden behind a decorative panel to blend with any room interior.

VERY COMPACT DESIGN

LOW NOISE LEVEL

EASY MAINTENANCE



Floor standing

It's particularly suitable for large rooms with low ceilings. The units offer high air flow rates and air throw values.

HIGH AIR FLOWS

WIDE AIR DISTRIBUTION ANGLE

LARGE CAPACITY RANGE

Technical specifications heat pump

| Model Type | Model Name | Cooling cap. (kW) | Heating cap. (kW) | Height (mm) | Width (mm) | Depth (mm) | Weight (kg) |
|---|---------------|-------------------|-------------------|-------------|------------|------------|-------------|
| Four way Cassette  | MMU-AP0091H | 2.80 | 3.20 | 256 | 840 | 840 | 20 |
| | MMU-AP0121H | 3.60 | 4.00 | | | | 22 |
| | MMU-AP0151H | 4.50 | 5.00 | | | | 23 |
| | MMU-AP0181H | 5.60 | 6.30 | 319 | 840 | 840 | 28 |
| MMU-AP0241H | 7.10 | 8.00 | | | | | |
| MMU-AP0271H | 8.00 | 9.00 | | | | | |
| MMU-AP0301H | 9.00 | 10.00 | | | | | |
| MMU-AP0361H | 11.20 | 12.50 | 268 | 575 | 575 | 17 | |
| MMU-AP0481H | 14.00 | 16.00 | | | | | |
| MMU-AP0561H | 16.00 | 18.00 | | | | | |
| MMU-AP0071MH | 2.20 | 2.50 | | | | | |
| Compact Four way Cassette  | MMU-AP0091MH | 2.80 | 3.20 | 398 | 830 | 550 | 33 |
| | MMU-AP0121MH | 3.60 | 4.00 | | | | |
| | MMU-AP0151MH | 4.50 | 5.00 | | | | |
| | MMU-AP0181MH | 5.60 | 6.30 | | | | |
| Two way Cassette  | MMU-AP0071WH | 2.20 | 2.50 | 235 | 850 | 400 | 22 |
| | MMU-AP0091WH | 2.80 | 3.20 | | | | |
| | MMU-AP0121WH | 3.60 | 4.00 | | | | |
| | MMU-AP0151WH | 4.50 | 5.00 | 200 | 1000 | 710 | 21 |
| MMU-AP0181WH | 5.60 | 6.30 | | | | | |
| MMU-AP0241WH | 7.10 | 8.00 | | | | | |
| MMU-AP0271WH | 8.00 | 9.00 | | | | | |
| MMU-AP0301WH | 9.00 | 10.00 | 320 | 1350 | 800 | 22 | |
| MMU-AP0361WH | 11.20 | 12.50 | | | | | |
| MMU-AP0481WH | 14.00 | 16.00 | | | | | |
| MMU-AP0561WH | 16.00 | 18.00 | | | | | |
| One way Cassette  | MMU-AP0071YH | 2.20 | 2.50 | 320 | 550 | 800 | 27 |
| | MMU-AP0091YH | 2.80 | 3.20 | | | | |
| | MMU-AP0121YH | 3.60 | 4.00 | | | | |
| | MMU-AP0152SH | 4.50 | 5.00 | | | | |
| Concealed duct, stand type  | MMU-AP0182SH | 5.60 | 6.30 | 380 | 850 | 660 | 50 |
| | MMU-AP0242SH | 7.10 | 8.00 | | | | |
| | MMU-AP0361BH | 11.20 | 12.50 | | | | |
| | MMU-AP0481BH | 14.00 | 16.00 | | | | |
| Concealed duct, high static pressure  | MMU-AP0561BH | 16.00 | 18.00 | 470 | 1380 | 1250 | 155 |
| | MMD-AP0071BH | 2.20 | 2.50 | | | | |
| | MMD-AP0091BH | 2.80 | 3.20 | | | | |
| | MMD-AP0121BH | 3.60 | 4.00 | | | | |
| Slim Duct  | MMD-AP0151BH | 4.50 | 5.00 | 210 | 845 | 645 | 22 |
| | MMD-AP0181BH | 5.60 | 6.30 | | | | |
| | MMD-AP0241BH | 7.10 | 8.00 | | | | |
| | MMD-AP0271BH | 8.00 | 9.00 | | | | |
| Under-ceiling  | MMD-AP0301SH | 9.00 | 10.00 | 275 | 790 | 208 | 11 |
| | MMD-AP0361BH | 11.20 | 12.50 | | | | |
| | MMD-AP0481BH | 14.00 | 16.00 | | | | |
| | MMD-AP0561BH | 16.00 | 18.00 | | | | |
| Hi-wall  | MMD-AP0721H | 22.40 | 25.00 | 368 | 895 | 210 | 18 |
| | MMD-AP0961H | 28.00 | 31.50 | | | | |
| | MMD-AP0121SPH | 3.60 | 4.00 | | | | |
| | MMD-AP0151SPH | 4.50 | 5.00 | | | | |
| Hi-wall  | MMD-AP0181SPH | 5.60 | 6.30 | 600 | 745 | 220 | 21 |
| | MMD-AP0241SPH | 7.10 | 8.00 | | | | |
| | MMD-AP0361BH | 11.20 | 12.50 | | | | |
| | MMD-AP0481BH | 14.00 | 16.00 | | | | |
| Floor standing cabinet type  | MMD-AP0561BH | 16.00 | 18.00 | 1750 | 600 | 210 | 48 |
| | MMD-AP0721H | 22.40 | 25.00 | | | | |
| | MMD-AP0961H | 28.00 | 31.50 | | | | |
| | MMD-AP0121BH | 3.60 | 4.00 | | | | |
| Floor standing Concealed type  | MMD-AP0151BH | 4.50 | 5.00 | 630 | 950 | 230 | 37 |
| | MMD-AP0181BH | 5.60 | 6.30 | | | | |
| | MMD-AP0241BH | 7.10 | 8.00 | | | | |
| | MMD-AP0361BH | 11.20 | 12.50 | | | | |
| Tall floor-standing  | MMD-AP0481BH | 14.00 | 16.00 | 600 | 1045 | 220 | 29 |
| | MMD-AP0561BH | 16.00 | 18.00 | | | | |
| | MMD-AP0721H | 22.40 | 25.00 | | | | |
| | MMD-AP0961H | 28.00 | 31.50 | | | | |
| Tall floor-standing  | MMD-AP0121BH | 3.60 | 4.00 | 630 | 950 | 230 | 40 |
| | MMD-AP0151BH | 4.50 | 5.00 | | | | |
| | MMD-AP0181BH | 5.60 | 6.30 | | | | |
| | MMD-AP0241BH | 7.10 | 8.00 | | | | |
| Tall floor-standing  | MMD-AP0361BH | 11.20 | 12.50 | 600 | 1045 | 220 | 29 |
| | MMD-AP0481BH | 14.00 | 16.00 | | | | |
| | MMD-AP0561BH | 16.00 | 18.00 | | | | |
| | MMD-AP0721H | 22.40 | 25.00 | | | | |
| Tall floor-standing  | MMD-AP0961H | 28.00 | 31.50 | 1750 | 600 | 390 | 65 |
| | MMD-AP0121BH | 3.60 | 4.00 | | | | |
| | MMD-AP0151BH | 4.50 | 5.00 | | | | |
| | MMD-AP0181BH | 5.60 | 6.30 | | | | |

Cooling capacity based on an indoor air temperature of 27°C db/19°C wb and an outdoor air temperature of 35°db

Heating capacity based on an indoor air temperature of 20°C db and an outdoor air temperature of 7°db/6°C wb



S-MMS. Super Modular Multi System, Outdoor unit.

Features

The S-MMS system operates with R410A refrigerant and incorporates the latest inverter drive technology in all outdoor unit models.

Capacities range from 14 to 135 kW in cooling mode and 16 to 150 kW in heating mode with a capability to serve up to 48 indoor units.

Key features

High COP (4.25 with 22.4kW size): for reduced energy consumption and increased savings.

Advanced compressor Oil Management System guarantees improved reliability.

TCC Link: State-of-the-art communication bus system with automatically configured addressing.

Up to 48 indoor units can be connected.

Latest Inverter Technology with the Intelligent Power Drive Unit (IPDU).

Extended pipe runs up to 300m - for greater application flexibility.

Technical specifications **heat pump**

| Outdoor unit | Heat Pump | | MMY-MAP0501HT8 | MMY-MAP0601HT8 | MMY-MAP0801HT8 | MMY-MAP1001HT8 | MMY-MAP1201HT8 |
|---------------------|-----------|-----------|------------------|----------------|----------------|----------------|----------------|
| | | | 5 HP | 6 HP | 8 HP | 10 HP | 12 HP |
| Cooling capacity* | kW | CO | 14.00 | 16.00 | 22.40 | 28.00 | 33.50 |
| Power input | kW | CO | 3.65 | 4.64 | 5.67 | 7.67 | 11.92 |
| EER | | CO | 3.84 | 3.45 | 3.95 | 3.65 | 2.81 |
| Running Current | A | CO | 5.85 | 7.28 | 8.62 | 11.55 | 18.30 |
| Peak Demand Current | A | | 20.00 | 20.00 | 30.00 | 30.00 | 30.00 |
| Heating capacity** | kW | HP | 16.00 | 18.00 | 25.00 | 31.50 | 37.50 |
| Power input | kW | HP | 3.84 | 4.56 | 5.88 | 7.97 | 10.19 |
| COP | | HP | 4.17 | 3.95 | 4.25 | 3.95 | 3.68 |
| Dimensions | mm | H x W x D | 1800 x 990 x 750 | | | | |
| Weight | kg | | 228 | 228 | 258 | 258 | 258 |

* based on an indoor air temperature of 27°C db/19°C wb and an outdoor air temperature of 35°db

** based on an indoor air temperature of 20°C db and an outdoor air temperature of 7°db/6°C wb



S-HRM. Super Heat Recovery Multi System, Outdoor unit.

Features

Toshiba offers the three-pipe S-HRM that delivers simultaneous cooling and heating and exceptional energy efficiency.

The three-pipe VRF SHRM Systems that have set new standards in the global marketplace.

We now announce simultaneous cooling and heating systems to join the S-MMS range.

For ease of installation and cost saving the outdoor units are modular.

Key features

Energy consumption efficiency: average COP of 3.97 (22.4 kW).

Increased comfort: cooling or heating is automatically selected on a unit-by-unit basis to suit local area requirements and operating environment, thanks to the compact flow selector unit.

Toshiba's unique piping branch flexibility: the three-way pipe connection between indoor and outdoor units accommodates an installation height variation between indoor units of 35 m (equivalent to a 9-story building).

Enviably reliable with the Active Oil Management system.

Wide control applications: Artificial Intelligence network system available and Building Management System (BMS) compatible.

Technical specifications heat pump

| Outdoor unit | Heat Pump | | MMY-MAP0802FT8 | | | MMY-MAP1002FT8 | | | MMY-MAP1202FT8 | | |
|---------------------|-----------|-----------|------------------|-------|-------|----------------|--|--|----------------|--|--|
| | | | 8 HP | | | 10 HP | | | 12 HP | | |
| Cooling capacity* | kW | CO | 22.40 | 28.00 | 33.50 | | | | | | |
| Power input | kW | CO | 6.07 | 8.54 | 12.90 | | | | | | |
| EER | | CO | 3.69 | 3.28 | 2.60 | | | | | | |
| Running current | A | CO | 9.25 | 13.15 | 19.85 | | | | | | |
| Peak Demand Current | A | | 30.00 | 30.00 | 30.00 | | | | | | |
| Heating capacity** | kW | HP | 25.00 | 31.50 | 35.50 | | | | | | |
| Power input | kW | HP | 6.29 | 8.73 | 9.65 | | | | | | |
| COP | | HP | 3.97 | 3.61 | 3.68 | | | | | | |
| Dimensions | mm | H x W x D | 1800 x 990 x 750 | | | | | | | | |
| Weight | kg | | 263 | | | | | | | | |

* based on an indoor air temperature of 27°C db/19°C wb and an outdoor air temperature of 35°db

** based on an indoor air temperature of 20°C db and an outdoor air temperature of 7°db/6°C wb



Precision is our top priority.

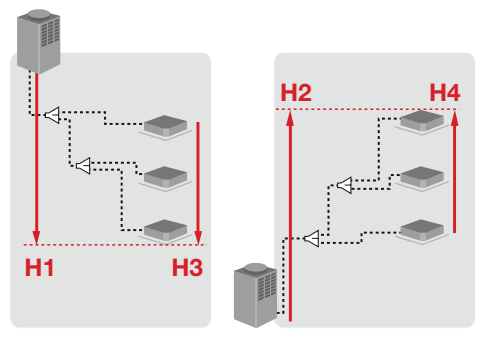
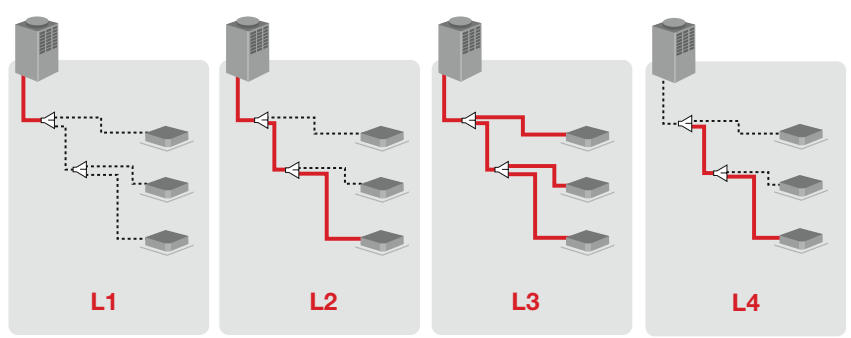
Sophisticated inverter control permits matching the actual refrigerant flow to the capacity required by the application for each indoor unit. This results in optimised efficiency of the refrigerant cycle and increased precision in

maintaining the required temperature, improving comfort for the occupants. The required capacity and the relating technical parameters for each indoor unit are electronically transmitted to the outdoor unit in order to optimise the zone load

calculation and to control the actual refrigerant flow to each indoor unit, using the special Pulsed Modulating Valves (PMV).

Extended piping capabilities

| Indoor unit | | SMMS | SHRM |
|-------------|---|------|------|
| L1 | Maximum equivalent length to first branch | 85 | 85 |
| L2 | Maximum equivalent length separation | 175 | 150 |
| L3 | Total length | 300 | 300 |
| L4 | Maximum equivalent length from first branch | 65 | 50 |
| H1 | Height difference, outdoor unit above | 50 | 50 |
| H2 | Height difference, outdoor unit below | 40 | 30 |
| H3 | Height difference between indoor units (Upper outdoor unit) | 30 | 35 |
| H4 | Height difference between indoor units (Lower outdoor unit) | 30 | 15 |



Technology is nothing without control.

An innovative and complete range of integrated controls for application in the new Toshiba MiNi-SMMS, S-MMS, S-HRM systems ensures maximum comfort and excellent performance by perfectly matching the different requirements.

The range is composed of three control types: local, central and network controls.

Toshiba network solutions.

Toshiba offers precise control of the new VRF systems.

The innovative solutions of the Toshiba network guarantee maximised integration with other building systems such as elevators, fire protection systems, lighting etc.

Open-network controls are specifically designed for Building Management Systems.



Control Options

| Model number | Reference | Description | Used with |
|-----------------|------------------------------------|--|--|
| RBC-AMT31E | Wired Remote Controller | Main wired remote controller | All indoor units |
| RBC-AS21E2 | Simplified Wired Remote Controller | As above but designed for hotel and domestic applications | All indoor units |
| RBC-EXW21E2 | Weekly Timer | A 7 day timer complete with day omit | RBC-AMT31E/TCB-SC642TLE2 |
| TCB-AX21U(W)-E2 | Infra-red Remote Kit | Wireless remote controller | 4-Way Cassette (not Compact Four Way Cassette) |
| RBC-AX22CE2 | Infra-red Remote Kit | Wireless remote controller | Underceiling |
| TCB-AX21E2 | Infra-red Remote Kit | Wireless remote controller | All other units (except High Static Ducted units) |
| TCB-T21LE2 | Remote Sensor | Remote temperature sensor | All indoor units |
| TCB-SC642TLE2 | Central Remote Controller | Enables the control of up to 64 individual units | S-MMS/S-HRM, 1:1 model connection interface required for DI/SDI (Excluding hi-wall type) |
| TCB-CC163TLE2 | On / Off Controller Enables | On/Off control (Max. 16 units) | All indoor units |
| TCB-IFCB4E2 | Remote location On/Off Control Box | Enables remote location On/Off control | All indoor units |
| TCB-PCMO2E | External Master On/Off control | External Master On/Off control board | S-MMS/S-HRM outdoor units |
| TCB-PCIN2E | Error Output Control Board | Error output control board | S-MMS/S-HRM outdoor units |
| TCB-PCDM2E | Power Peak Cut Control Board | Power Peak Cut Control Board | S-MMS/S-HRM outdoor units |
| BMS-TP0641ACE | Touch Screen Controller | Enables full control of up to 64 indoor units | All the systems |
| BMS-TP5121ACE | Touch Screen Controller | Enables full control of up to 512 indoor units | All the systems |
| BMS-TP0641PWE | Touch Screen Controller | Enables full control of up to 64 indoor units with electric billing | All the systems |
| BMS-TP5121PWE | Touch Screen Controller | Enables full control of up to 512 indoor units with electric billing | All the systems |
| BMS-IFLSV2E2 | TCS-Net Relay Interface | Relay for integration to TCS-Net | Touch Screen |
| BMS-LSV4E | BACnet @ Server | Allows control of 128 indoor units | S-MMS/S-HRM outdoor units |
| BMS-STBN03E | BACnet @ Server Software | Allows control of 128 indoor units | S-MMS/S-HRM outdoor units |
| BMS-IFWH4E2 | Energy Monitoring Interface | Relay interface to allow energy monitoring | Touch Screen |
| BMS-IFDD02E2 | Digital I/O Relay Interface | Digital I/O relay interface | Touch Screen |
| TCB-IFLN640TLE | Lonworks® Gateway | Allows control of 64 indoor units from a Lonworks based BMS | S-MMS/S-HRM outdoor units |

Toshiba units have everything under control.



Wired Control RBC-AMT31E

The standard remote controller can control an individual indoor unit or a group of 8 indoor units. The remote control allows the operating parameters to be set for the indoor unit. It also allows faults to be displayed and unit configurations to be set up. The weekly timer can be fitted to this remote control.



Simplified Control RBC-AS21E2

The simplified remote controller is connected in the same way as the standard remote controller, but offers reduced functionality. The remote controller does not have the lapse timer and the ability to set up the indoor unit. Unit fault codes are still displayed.



Central Controller TCB-SC642TLE2

The central controller can control up to 64 indoor units individually. All their individual functions can be controlled. Malfunction checks are available for each indoor unit.

This controller can also connect to the weekly timer and has volt-free inputs to enable the indoor units and indicate a fault. It has the ability to shut down all units in the event of a fire. Up to four controllers can be connected to the network.



IR Remote Control RBC-AX21E2

The wireless remote controller can be used with the appropriate indoor units to give full control of the indoor units. Two remote controllers can be used on the same indoor unit. The sensor on the remote controller can be used to control the system. Fault codes are displayed.



Weekly Timer RBC-EXW21E2

The weekly timer connects directly to the rear of a RBC-AM31 remote controller or a central remote controller.

The timer allows the connected air conditioners to be enabled under a 7-day profile with up to three on/off periods per day.



LonWorks Gateway TCB-IFLN640TLE

The LonWorks Gateway uses all standard network variables to control the individual functions of the indoor units.

The gateway can also be used with Interactive Intelligence.



Touch Screen BMS-TP0641ACE - up to 64 indoor units BMS-TP5121ACE - FCU BMS-TP0641PWE- up to 64 indoor units + electrical bill calculation BMS-TP5121PWE- FCU + electrical bill calculation

The Touch Screen Controller is a graphical interface with the air conditioning system. It can control each of the individual indoor units and is capable of providing information from the indoor unit settings and malfunction check codes. It is also used to calculate the energy consumption for the selected indoor units. This controller runs time schedules for the indoor units and allows you to set up data logs.



BACnet Server BMS-LSV4E

The BACnet server uses standard BACnet protocol to control the individual functions of the indoor units.

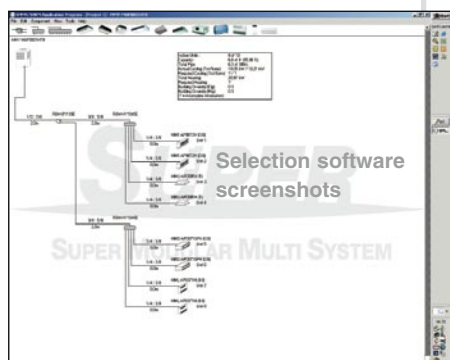
Product Selection at the click of a button.

Sophisticated system design software has been developed for the whole MiNi-S-MMS, S-MMS and S-HRM range and is a useful and irreplaceable support tool for engineers, architects, installers and in general for anyone who wants to apply the innovative Toshiba solutions.

With this software, the user can put together a complete VRF system by simply clicking

on the icons for the indoor units and the other connection components. It is also possible to define in advance relevant parameters such as outside and inside temperatures, fan speed, pipe system length and routing etc. The software automatically manages all the parameters entered, and the actual system capacity for the conditions required can be quickly calculated and simulated during the design stage.

Using this software, the design of VRF systems is calculated for the project at the given conditions. The software constantly monitors possible design errors and warns the user, when it reaches the system limits.



Diagnostic software.

In order to assist with the correct commissioning of systems, Toshiba has developed a diagnostic software program. The engineer can connect to the system using a

dedicated interface - enabling the download of all operating parameters and providing detailed information for instant analysis or record.

TOSHIBA
Leading Innovation >>>

Notice: Toshiba is committed to continuously improving its products, to ensure the highest quality and reliability standards, and to meet local regulations and market requirements.

All features and specifications subject to change without prior notice.

Note: All images provided in this brochure are used for illustration purposes only.

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