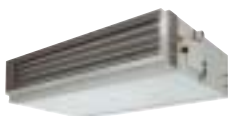


- └ SHRM
- └ R410A
- └ DUAL INVERTER
- └ HEAT RECOVERY VRF



SHRM R410A VRF HEAT RECOVERY

Features

In 2004 Toshiba launched the Super Modular Multi system, featuring unbeatable energy consumption efficiency with an amazing coefficient of performance (COP), high-efficiency non-ozone-depleting R410A, and the dual inverter system with DC twin-rotary compressors. To complement the successful SMMS range, Toshiba now offers the **three-pipe VRF** that delivers simultaneous cooling and heating and exceptional energy efficiency. The three-pipe VRF Super Heat Recovery Multi systems have set new standards in the global market place.

For ease of installation and cost saving the 8 and 10 HP units are modular.

Key features

Unbeatable 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.

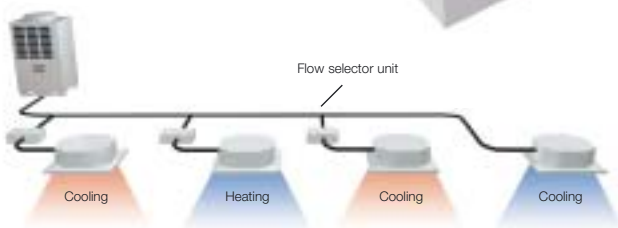
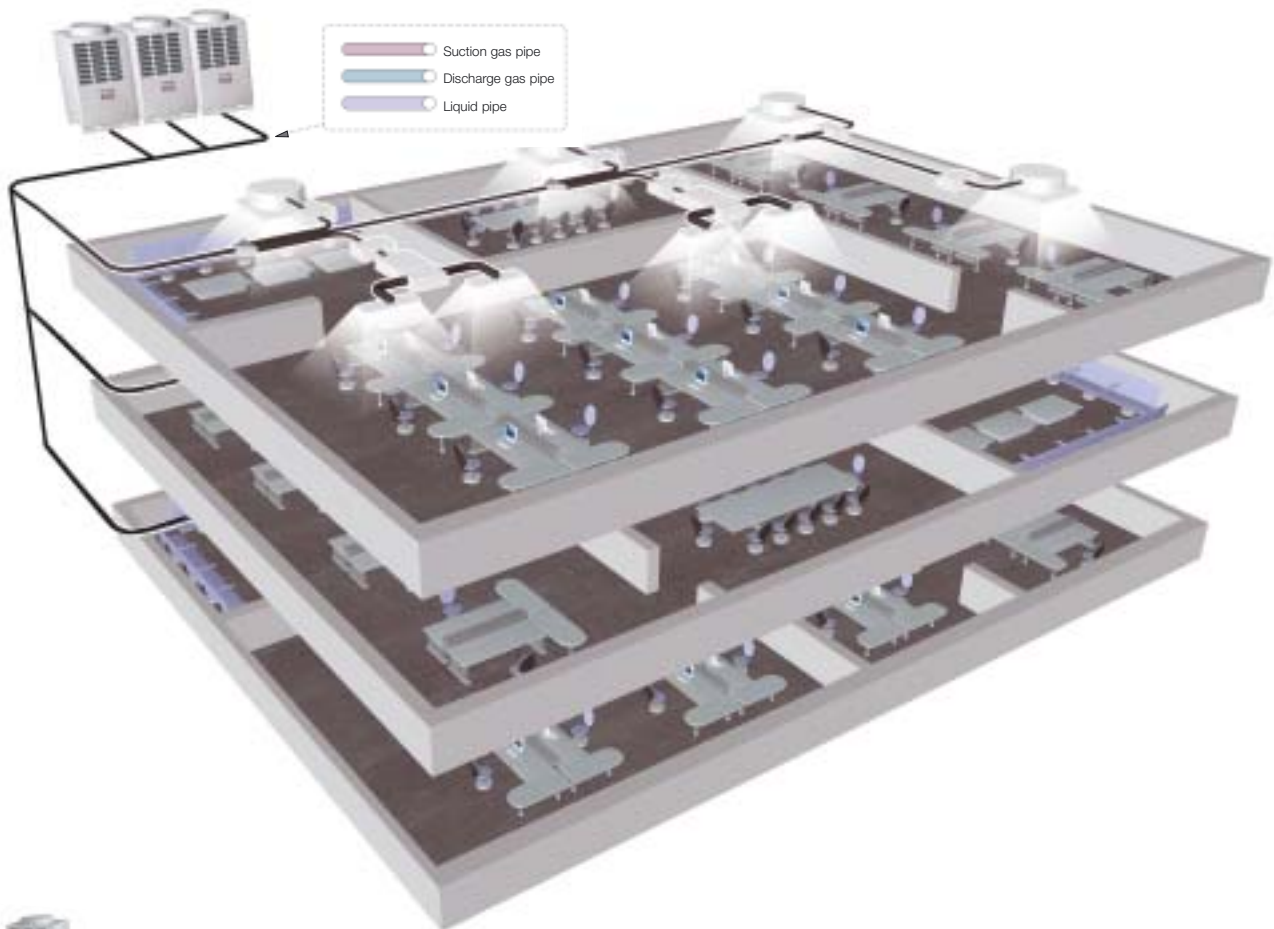
Wide control applications: Artificial Intelligence network system available and Building Management System (BMS) compatible.

SHRM: Technical specifications **heat pump**

	Model name	Size	Cooling capacity	Heating capacity	Outdoor units in combination	Number of indoor units Max	Total cap.of connectable indoor units	
							Min	Max
	MMY-MAP0802FT8	8 HP	22.4 kW	25.0 kW	1	13	5.6 HP	10.8 HP
	MMY-MAP1002FT8	10 HP	28.0 kW	31.5 kW	1	16	7.0 HP	13.5 HP
	MMY-MAP1202FT8	12 HP*	33.5 kW	35.5 kW	1	16	8.4 HP	14.4 HP
	MMY-AP1602FT8	16 HP	45.0 kW	50.0 kW	2 (22.4 + 22.4 kW)	27	11.2 HP	21.6 HP
	MMY-AP1802FT8	18 HP	50.4 kW	56.5 kW	2 (22.4 + 28.0 kW)	30	21.0 HP	40.5 HP
	MMY-AP2002FT8	20 HP	56.0 kW	63.0 kW	2 (28.0 + 28.0 kW)	33	14.0 HP	27.0 HP
	MMY-AP2402FT8	24 HP	68.0 kW	76.5 kW	3 (22.4 + 22.4 + 22.4 kW)	40	16.8 HP	32.4 HP
	MMY-AP2602FT8	26 HP	73.0 kW	81.5 kW	3 (22.4 + 22.4 + 28.0 kW)	43	18.2 HP	35.1 HP
	MMY-AP2802FT8	28 HP	78.5 kW	88.0 kW	3 (22.4 + 28.0 + 28.0 kW)	47	19.6 HP	37.8 HP
	MMY-AP3002FT8	30 HP	84.0 kW	95.0 kW	3 (28.0 + 28.0 + 28.0 kW)	48	21.0 HP	40.5 HP

* The 12 HP unit is not modular.

Simultaneous cooling and heating from different indoor units to meet all operating environments



Flow selector control
(models Y1122FE/Y1802FE/Y2802FE)
The flow selector enables the occupant to independently set the indoor unit for cooling and heating. It is compatible with the R410A S-HRM VRF system. Its light-weight, compact dimensions make it easy to install.

Technical specifications **heat pump**

Outdoor unit		MMY-MAP0802FT8 8 HP	MMY-MAP1002T8 10 HP	MMY-MAP1202T8 12 HP
Cooling capacity*	kW CO	22.4	28.0	33.5
Power input	kW CO	6.07	8.54	12.9
EER	W/W CO	3.69	3.28	2.60
Energy efficiency class	CO	A	B	E
Running current	A CO	9.25	13.15	19.85
Heating capacity**	kW HP	25.0	31.5	35.5
Power input	kW HP	6.29	8.73	9.65
COP	W/W HP	3.97	3.61	3.68
Running current	A HP	9.55	13.4	14.85
Air flow	m ³ /h - l/s	9900 - 2750	10500 - 2916	10500 - 2916
Sound pressure level - at 1m	dB(A)	57	58	59
Operating range, cooling	°C db	-10 - 43	-10 - 43	-10 - 43
Operating range, heating	°C wb	-20 - 15.5	-20 - 15.5	-20 - 15.5
Dimensions (H x W x D)	mm	1800 x 990 x 750	1800 x 990 x 750	1800 x 990 x 750
Weight	kg	263	263	263
Compressor type		Hermetic	Hermetic	Hermetic
Refrigerant charge R410A	kg	11.5	11.5	11.5
Pipework				
Suction line type - diameter	in	Brazed - 7/8	Brazed - 7/8	Brazed - 1-1/8
Liquid line type - diameter	in	Brazed - 3/4	Brazed - 3/4	Brazed - 3/4
Discharge line connection type - diameter	in	Flare - 1/2	Flare - 1/2	Flare - 1/2
Oil balance pipe	in	Flare - 3/8	Flare - 3/8	Flare - 3/8
Maximum equivalent length separation	m	150	150	150
Maximum actual piping length	m	125	125	125
Maximum total pipe length	m	300	300	300
Maximum lift (Indoor unit above/below)***	m	30/50	30/50	30/50
Power supply	V-ph-Hz	400-3-50	400-3-50	400-3-50

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

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

*** If the height difference between indoor units exceeds 3 m and if the indoor unit is above, max. lift is reduced to 30 m.



Protection devices.

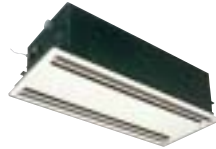
- Discharge and suction temperature sensors
- Internal overload relay
- Compressor overcurrent relay
- Overcurrent sensor
- High pressure switch
- Low pressure sensors



Four-way ceiling cassette

The classic choice

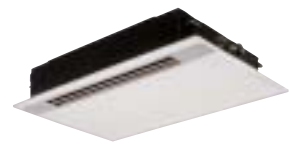
- new panel design improves air distribution and control
- easy access to control components via corner pockets, facilitating installation and height adjustment
- high lift drain (850 mm)
- simplified wiring connections



Two-way ceiling cassette

Ideal for smaller rooms

- slim and flat ceiling panel, just 8 mm high
- long-life filters fitted as standard
- fresh air intake is possible
- condensate drain pump included (510 mm)
- low noise design and balanced air flow



One-way ceiling cassette

The perfect choice for hotels and reception areas

- ideal for smaller rooms where one way air distribution is required
- compact hi-tech design
- condensate drain pump included (350 mm)



Standard ducted unit

The versatile choice

- allows complete design flexibility
- full range of filters to enhance indoor air quality
- fresh air intake is possible
- condensate drain pump included (27 mm)



High-pressure ducted unit

Meeting all your design criteria

- compatible with external static pressures up to 196 Pa
- inspection hole enables easy access and maintenance
- full range of options available



Slim-duct unit

Unobtrusive, concealed installation

- only 230 mm in height for greater application flexibility
- quiet powerful operation
- Perfect comfort throughout the room
- can use any style of air diffuser
- easy installation and maintenance



Ceiling-suspended unit

Ideal for refurbishment projects

- air distribution automatically set for cooling or heating mode
- refrigerant piping from the rear, right or top and two drain pipe directions possible
- optional high lift drain kit (600 mm)



Floor-mounted console

Suitable for refurbishment projects

- refrigerant and drain piping can be from four directions
- air distribution can be reversed to meet the occupants' preference
- wide choice of installation settings



Concealed-chassis unit

Perfect for perimeter walls

- ideal for commercial buildings with large fluctuations in load
- very quiet, ideal for specialist applications such as libraries
- split front panel for easy access
- can be hidden behind a decorative panel to blend with the room interior



Tall floor-standing unit

Ideal for rooms with no ceiling void

- reduced footprint
- wide capacity range
- air distribution angle up to 150°
- ideal for rooms with low ceilings, computer rooms and call centres



High-wall unit

Compact and stylish

- refrigerant piping can be from three directions
- 70° directional auto-swing louvre ensures even air distribution
- auxiliary piping for easy installation



Compact high-wall unit

New elegant aesthetics

- Weight reduced by 45% compared to the previous model
- Precise capacity control at all conditions
- Auto-swing mechanism
- Panel is easily removed

Technical specifications **heat pump**

Model type	Model name	Capacity code	Cooling capacity kW	Heating capacity kW	Height mm	Width mm	Depth mm	Weight kg
4-Way cassette 	MMU-AP0091H	1	2.8	3.2	256	840	840	20
	MMU-AP0121H	1.25	3.6	4.0				
	MMU-AP0151H	1.7	4.5	5.0	256	840	840	22
	MMU-AP0181H	2	5.6	6.3				
	MMU-AP0241H	2.5	7.1	8.0	256	840	840	23
	MMU-AP0271H	3	8.0	9.0				
	MMU-AP0301H	3.2	9.0	10.0				
	MMU-AP0361H	4	11.2	12.5	319	840	840	28
	MMU-AP0481H	5	14.0	16.0				
	MMU-AP0561H	6	16.0	18.0				
2-Way cassette 	MMU-AP0071WH	0.8	2.2	2.5	398	830	550	33
	MMU-AP0091WH	1	2.8	3.2				
	MMU-AP0121WH	1.25	3.6	4.0				
	MMU-AP0151WH	1.7	4.5	5.0	398	1350	550	44
	MMU-AP0181WH	2	5.6	6.3				
	MMU-AP0241WH	2.5	7.1	8.0	398	1350	550	48
	MMU-AP0271WH	3	8.0	9.0				
	MMU-AP0301WH	3.2	9.0	10.0				
1-Way cassette 	MMU-AP0071YH	0.8	2.2	2.5	235	850	400	22
	MMU-AP0091YH	1	2.8	3.2				
	MMU-AP0121YH	1.25	3.6	4.0				
	MMU-AP0151SH	1.7	4.5	5.0	198	1100	655	27
	MMU-AP0181SH	2	5.6	6.3				
	MMU-AP0241SH	2.5	7.1	8.0	198	1200	655	31
Concealed duct, standard type 	MMD-AP0071BH	0.8	2.2	2.5	320	550	800	27
	MMD-AP0091BH	1	2.8	3.2				
	MMD-AP0121BH	1.25	3.6	4.0				
	MMD-AP0151BH	1.7	4.5	5.0	320	700	800	30
	MMD-AP0181BH	2	5.6	6.3				
	MMD-AP0241BH	2.5	7.1	8.0	320	1000	800	39
	MMD-AP0271BH	3	8.0	9.0				
	MMD-AP0301BH	3.2	9.0	10.0				
	MMD-AP0361BH	4	11.2	12.5	320	1350	800	51
	MMD-AP0481BH	5	14.0	16.0				
MMD-AP0561BH	6	16.0	18.0					
Concealed duct, high static pressure 	MMD-AP0181H	2	5.6	6.3	380	850	660	50
	MMD-AP0241H	2.5	7.1	8.0	380	850	660	52
	MMD-AP0271H	3	8.0	9.0				
	MMD-AP0361H	4	11.2	12.5	380	850	660	56
	MMD-AP0481H	5	14.0	16.0	380	1200	660	67
	MMD-AP0721H	8	22.4	25.0	470	1380	1250	155
	MMD-AP0961H	10	28.0	31.5				
Slim duct, type 	MMD-AP0071SPH	0.8	2.2	2.5	210	845	645	24
	MMD-AP0091SPH	1	2.8	3.2				
	MMD-AP0121SPH	1.25	3.6	4.0				
	MMD-AP0151SPH	1.7	4.5	5.0	210	845	645	26
	MMD-AP0181SPH	2	5.6	6.3				
Ceiling-suspended 	MMC-AP0151H	1.7	4.5	5.0	210	910	680	21
	MMC-AP0181H	2	5.6	6.3				
	MMC-AP0241H	2.5	7.1	8.0	210	1180	680	25
	MMC-AP0271H	3	8.0	9.0				
	MMC-AP0361H	4	11.2	12.5	210	1595	680	33
MMC-AP0481H	5	14.0	16.0					
High-wall (version 2) 	MMK-AP0072H	0.8	2.2	2.5	275	790	208	11
	MMK-AP0092H	1	2.8	3.2				
	MMK-AP0122H	1.25	3.6	4.0				
High-wall (version 1) 	MMK-AP0071H	0.8	2.2	2.5	368	895	210	18
	MMK-AP0091H	1	2.8	3.2				
	MMK-AP0121H	1.25	3.6	4.0				
	MMK-AP0151H	1.7	4.5	5.0	368	1055	210	19
	MMK-AP0181H	2	5.6	6.3				
Floor-standing, cabinet type 	MML-AP0071H	0.8	2.2	2.5	630	950	230	37
	MML-AP0091H	1	2.8	3.2				
	MML-AP0121H	1.25	3.6	4.0				
	MML-AP0151H	1.7	4.5	5.0				
	MML-AP0181H	2	5.6	6.3				
	MML-AP0241H	2.5	7.1	8.0	630	950	230	40
Floor-standing, concealed type 	MML-AP0071BH	0.8	2.2	2.5	600	745	220	21
	MML-AP0091BH	1	2.8	3.2				
	MML-AP0121BH	1.25	3.6	4.0				
	MML-AP0151BH	1.7	4.5	5.0	600	1045	220	29
	MML-AP0181BH	2	5.6	6.3				
	MML-AP0241BH	2.5	7.1	8.0				
Tall floor-standing 	MMF-AP0151H	1.7	4.5	5.0	1750	600	210	48
	MMF-AP0181H	2	5.6	6.3				
	MMF-AP0241H	2.5	7.1	8.0	1750	600	210	49
	MMF-AP0271H	3	8.0	9.0				
	MMF-AP0361H	4	11.2	12.5	1750	600	390	65
	MMF-AP0481H	5	14.0	16.0				
	MMF-AP0561H	6	16.0	18.0				