

New R32 VRF MINI-SMMS 4, 5, 6HP for Europe

TOSHIBA are pleased to announce the new R32 VRF MINI-SMMS 4.0 – 6.0HP Outdoor units for Europe have been added to the VRF product range.

1. Model Names

Europe model (HSW-E) 1ph 50Hz 220~240v / Heat Pump		
HP	Capacity (kW) Cooling / Heating	Model Name
4	12.1 / 12.1	MCY-MUG0401HSW-E
5	14.0 / 14.0	MCY-MUG0501HSW-E
6	15.5 / 15.5	MCY-MUG0601HSW-E



2. Safety Equipment

This new product uses R32 refrigerant and may require the following safety devices under certain installation conditions. Please refer to the installation manuals and selection software for more details.

Safety devices for Europe market.

Name	Model Name	Appearance
SV Unit (Shut-Off Valve Unit)	RBM-SV1121HUPE	
	RBM-SV1801HUPE	
Battery Kit	TCB-BT1UPE	
Leak Detector	TCB-LD1UPE	

3. Production Date

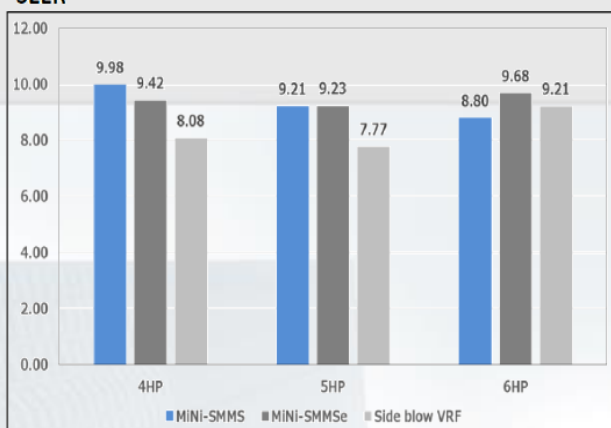
Outdoor Units: December 2022 from TCAE

R32 Safety Equipment: December 2022 from TCTC

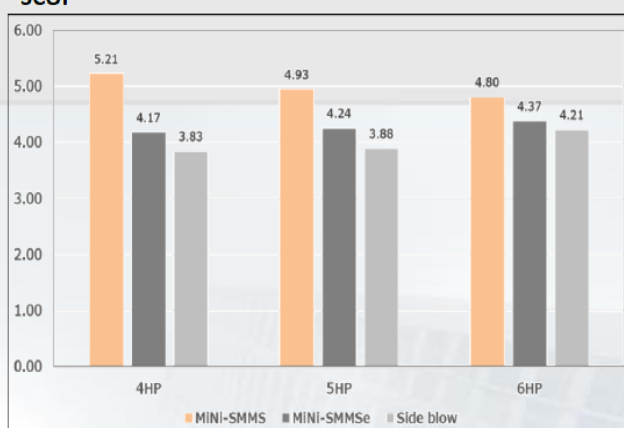
4. Performance

The performance of this new product has been improved from the current 2 fan models with a single fan chassis design.

SEER



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5. Features

- Reduced chassis size compared to current 2 fan models
- Reduced gas pipe size for the 6HP model (19.1mm > 15.9mm)
- Uses low GWP R32 refrigerant and has a reduced refrigerant charge compared to current model.

5.1 Specifications

Specification Comparison

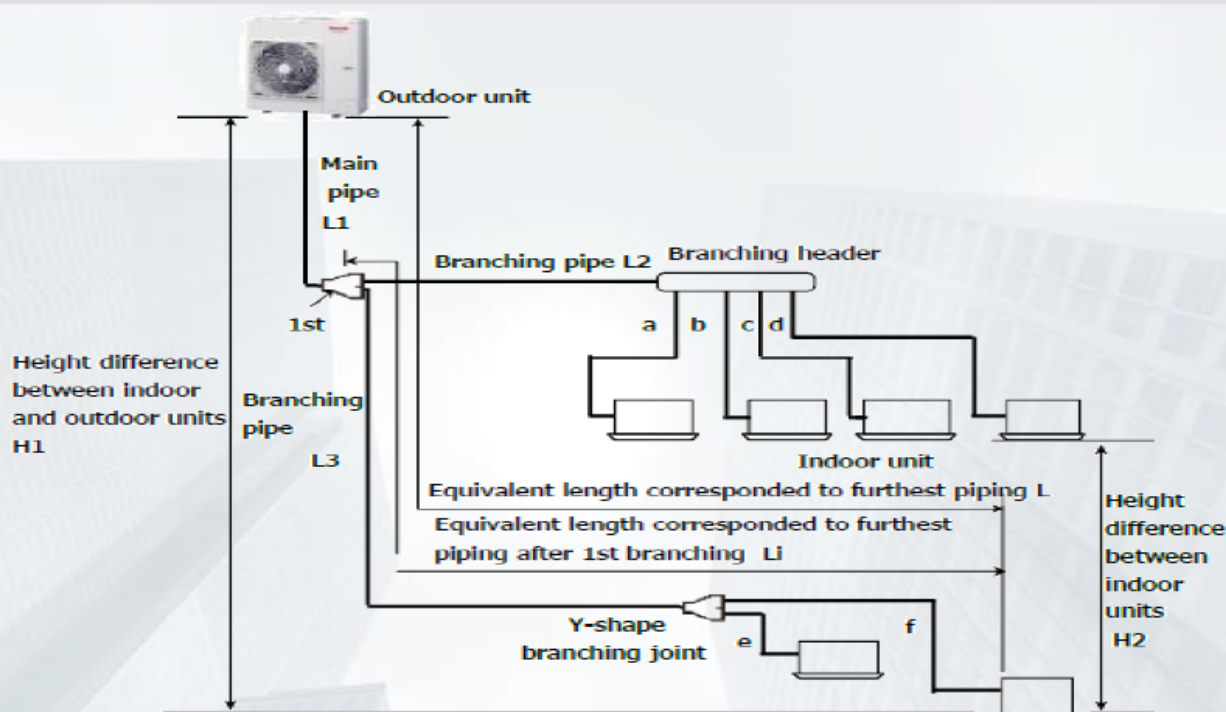
		New MINI-SMMS			MINI-SMMSe			Side Blow VRF		
Equivalent HP		4HP	5HP	6HP	4HP	5HP	6HP	4HP	5HP	6HP
Appearance										
Cooling Capacity (kW)		12.1	14.0	15.5	12.1	14.0	15.5	12.1	14.0	15.5
Heating Capacity (kW)		12.1	14.0	15.5	12.5	16.0	18.0	12.5	16.0	18.0
External Dimensions	Height	1,050mm			1,235mm			910mm		
	Width	1,010mm			990mm			990mm		
	Depth	370mm			390mm			390mm		
	Volume	0.39m3			0.48m3			0.35m3		
Connecting Port Diameter	Gas	15.9mm	15.9mm		15.9mm	19.1mm		15.9mm	19.1mm	
	Liquid	9.5mm			9.5mm			9.5mm		
Refrigerant	Type	R32			R410a			R410a		
	Amount	2.4Kg			6.4Kg			3.3Kg		



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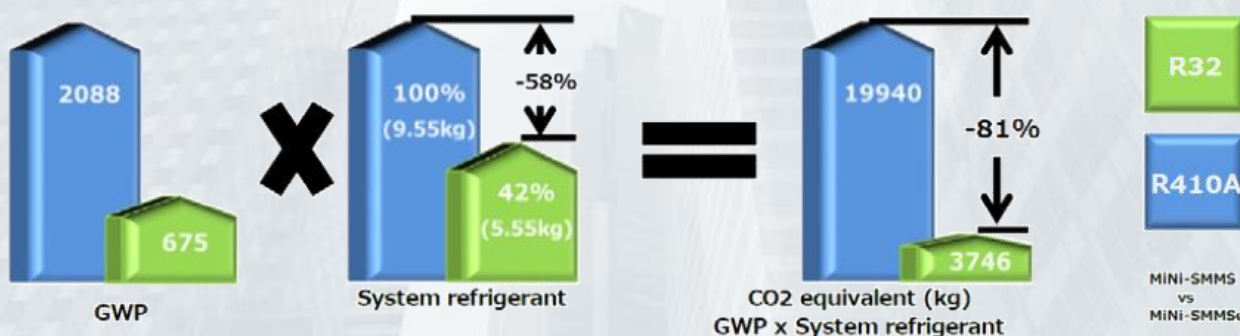
Piping Specification			MINI-SMMS	MINI-SMMSe	Side Blow VRF
Piping Length	Total Extension of pipe (Liquid pipe, Real pipe)		300m	180m	90m
	Furthest Piping Length L	Real Length	120m	100m	50m
		Equivalent Length	150m	125m	60m
	Max. equivalent length of main pipe		80m	65m	30m
	Max. equivalent length of furthest piping from 1 st branch Li		40m	35m	20m
Height Difference	Max. real length of indoor unit connecting pipe		15m	15m	10m
	Height between indoor and outdoor units H1	Upper outdoor unit	50m	30m	15m
		Lower outdoor unit	40m	20m	15m
	Height between indoor units H2		15m	15m	10m

*Please refer to the installation Manual or Databook for more details



5.3 Refrigerant Charge

- Uses low GWP R32
- A 58% reduction in system refrigerant charge
- A total equivalent CO2 reduction of 81% by system refrigerant



Assumptions: Outdoor unit: 6HP, Indoor units: 6, Piping: 6.4mm x 6m and 9.52mm x 40mm

6. Applicable Markets

UK & Ireland

7. Connectable Indoor Units

Factory	FCU Type	FCU Model Name	FCU HP
TCC	Smart 4-Way Air Discharge Cassette	MMU-UP0091H-E	1.00
		MMU-UP0121H-E	1.25
		MMU-UP0151H-E	1.70
		MMU-UP0181H-E	2.00
		MMU-UP0241H-E	2.50
		MMU-UP0271H-E	3.00
		MMU-UP0301H-E	3.20
		MMU-UP0361H-E	4.00
TCTC	4-Way Air Discharge Cassette	MMU-UP0481H-E	5.00
		MMU-UP0091HP-E	1.00
		MMU-UP0121HP-E	1.25
		MMU-UP0151HP-E	1.70
		MMU-UP0181HP-E	2.00
		MMU-UP0241HP-E	2.50
		MMU-UP0271HP-E	3.00
		MMU-UP0301HP-E	3.20
TCC	Compact 4-Way Cassette	MMU-UP0361HP-E	4.00
		MMU-UP0481HP-E	5.00
		MMU-UP0051MH-E	0.60
		MMU-UP0071MH-E	0.80
		MMU-UP0091MH-E	1.00
		MMU-UP0121MH-E	1.25
TCC	2-Way Air Discharge Cassette	MMU-UP0151MH-E	1.70
		MMU-UP0181MH-E	2.00
		MMU-UP0071WH-E	0.80
		MMU-UP0091WH-E	1.00
		MMU-UP0121WH-E	1.25
		MMU-UP0151WH-E	1.70
		MMU-UP0181WH-E	2.00
		MMU-UP0241WH-E	2.50
		MMU-UP0271WH-E	3.00
		MMU-UP0301WH-E	3.20
TCTC	1-Way Air Discharge Cassette	MMU-UP0361WH-E	4.00
		MMU-UP0481WH-E	5.00
		MMU-UP0031YHP-E	0.30
		MMU-UP0051YHP-E	0.60
		MMU-UP0071YHP-E	0.80
		MMU-UP0091YHP-E	1.00
		MMU-UP0121YHP-E	1.25
		MMU-UP0151YHP-E	1.70
		MMU-UP0181YHP-E	2.00
		MMU-UP0241YHP-E	2.50
TCC	1-Way Air Discharge Cassette	MMU-UP0271YHP-E	3.00
		MMU-UP0151SH-E	1.70
		MMU-UP0181SH-E	2.00
TCAC	Compact Slim Duct	MMU-UP0271SH-E	2.50
		MMD-UP0051SPHY-E	0.60
		MMD-UP0071SPHY-E	0.80
		MMD-UP0091SPHY-E	1.00
		MMD-UP0121SPHY-E	1.25
		MMD-UP0151SPHY-E	1.70
		MMD-UP0181SPHY-E	2.00
		MMD-UP0241SPHY-E	2.50
		MMD-UP0271SPHY-E	3.00

Factory	FCU Type	FCU Model Name	FCU HP
TCTC	Concealed Duct	MMD-UP0051BHP-E	0.60
		MMD-UP0071BHP-E	0.80
		MMD-UP0091BHP-E	1.00
		MMD-UP0121BHP-E	1.25
		MMD-UP0151BHP-E	1.70
		MMD-UP0181BHP-E	2.00
		MMD-UP0241BHP-E	2.50
		MMD-UP0271BHP-E	3.00
		MMD-UP0301BHP-E	3.20
		MMD-UP0361BHP-E	4.00
		MMD-UP0481BHP-E	5.00
TCTC	Concealed Duct High Static	MMD-UP0181HP-E	2.00
		MMD-UP0241HP-E	2.50
		MMD-UP0271HP-E	3.00
		MMD-UP0361HP-E	4.00
		MMD-UP0481HP-E	5.00
TCTC	Ceiling	MMC-UP0151HP-E	1.70
		MMC-UP0181HP-E	2.00
		MMC-UP0241HP-E	2.50
		MMC-UP0271HP-E	3.00
		MMC-UP0361HP-E	4.00
TCTC	High-Wall	MMC-UP0481HP-E	5.00
		MMK-UP0031HP-E	0.30
		MMK-UP0051HP-E	0.60
		MMK-UP0071HP-E	0.80
		MMK-UP0091HP-E	1.00
		MMK-UP0121HP-E	1.25
		MMK-UP0151HP-E	1.70
		MMK-UP0181HP-E	2.00
		MMK-UP0241HP-E	2.50
		MMK-UP0271HP-E	3.00
		MMK-UP0301HP-E	3.20
		MMK-UP0361HP-E	4.00

R32 Compatibility for the above indoor units will be implemented from September 2022 production. Please refer to [Product Bulletin TIB543-01](#) for further details.

8. Accessories

Branching Joints and headers

Name	Model Name	Remark
Y-Shape Branching Joint	RBM-BY55E	
4-Branching Header	RBM-HY1043E	
8-Branching Header	RBM-HY1048E	

PMV Kit

Name	Model Name	Remark
PMV Kits	RBM-PMV0361U-E	Available for UP indoors
	RBM-PMV0901U-E	Available for UP indoors

Optional PCB of Outdoor Unit

Name	Model Name	Remark
Power Peak-Cut Control board	TCB-PCDM4E	
External master on/off control board	TCB-PCM04E	
Output Control board	TCB-PCIN4E	



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9. Specifications

Outdoor unit model name				MCY-MUG040 1HSW-E		MCY-MUG050 1HSW-E		MCY-MUG060 1HSW-E							
Outdoor unit type				Inverter		Inverter		Inverter							
Capacity code				HP	4	5	6								
Cooling Capacity (*1)				kW	12.1	14		15.5							
Heating Capacity(Rated.) (*1)				kW	12.1	14		15.5							
Heating Capacity(Max.)				kW	14.2	16		17							
Electrical characteristics (Nominal) (*1)				Power supply		(*2) 1phase 50Hz 220/230/240V									
				Cooling		Running current		A	14.2/13.6/13.1		17.8/17.0/16.3		20.3/19.4/18.6		
						Power consumption		kW	2.92		3.73		4.29		
						Power factor		%	93		95		96		
						EER		4.14		3.75		3.61			
						SEER (Erp lot6/21)		9.98		9.21		8.8			
				Heating (Rated.)		Running current		A	11.9/11.4/10.9		14.4/13.7/13.2		16.1/15.4/14.8		
						Power consumption		kW	2.38		2.95		3.36		
						Power factor		%	91		93		95		
						COP		5.08		4.75		4.61			
						SCOP (Erp lot6/21)		5.21		4.93		4.8			
				Heating (Max.)		Running current		A	15.5/14.9/14.2		18.3/17.5/16.7		19.9/19.1/18.3		
						Power consumption		kW	3.22		3.85		4.21		
						Power factor		%	94		96		96		
						COP		4.41		4.16		4.04			
Starting Current				A	Soft start										
Dimension				Unit		Height		mm				1050			
						Width		mm				1010			
						Depth		mm				370			
				Packing		Height		mm				1174			
						Width		mm				1097			
Depth		mm				508									
Total Weight				Unit		kg		100							
				Packed unit		kg		109							
Appearance(Color)						Silky shade									
						(Munsell 1Y8.5/0.5)									
Compressor				Type		Hermetic twin rotary compressor									
				Motor output		kW		3.75							
Fan unit				Fan		Propeller fan (Quantity 1)									
				Motor output		W		100							
				Air volume		m3/h		4,560		4,740					
Heat exchanger						Finned tube									
Refrigerant R32(Charged refrigerant amount(kg)) (*3)						2.4		2.4		2.4					
High-pressure switch						MPa		ON:4.15, OFF:3.20							
Protective devices						Discharge temp. sensor / Suction temp. sensor / High-pressure									
						Low-pressure sensor / Compressor case thermostat / P.C board fuse									
Electrical specifications				Unit		MCA (*4)		A		23.5		26.5		28	
						MOCP (*5)		A		32		32		32	
Refrigerant Piping				Connecting port diameter		Gas side(main pipe)		mm		15.8		15.8		15.8	
						Liquid side(main pipe)		mm		9.5		9.5		9.5	
				Connecting method		Gas side		Flare							
						Liquid side		Flare							
				Connecting piping diameter		Gas side		mm		15.8					
						Liquid side		mm		9.5					
Total extension of piping						m		300							
Max. No. of connected indoor units						8		10		13					
Connectable FCU diversity						80%-130%									
Sound pressure level						Cooling		dB(A)		52		53		54	
						Heating		dB(A)		54		55		56	
				Night operation (*6) (Sound reduction) control		Cooling		dB(A)		50/47/44					
						Heating		dB(A)		50/47/44					
Sound power level						Cooling		dB(A)		69		70		71	
						Heating		dB(A)		71		72		73	
				Night operation (*6) (Sound reduction) control		Cooling		dB(A)		68/66/61					
						Heating		dB(A)		68/66/61					
Operation temperature range						Cooling		CDB		-5 to 46					
						Heating		CWB		-20 to 15.5					