

R-410A

SUPER MODULAR MULTI
SYSTEMDual DC twin-rotary
compressors

SMMS VRF Outdoor unit

Features

The 2-pipe VRF Super Modular Multi System (SMMS) operates with R-410A refrigerant and incorporates the latest inverter technology in all outdoor unit models. In addition, the SMMS incorporates twin-inverter compressors in every outdoor unit. The capacities range from 14 to 135 kW in cooling mode and 16 to 150 kW in heating mode with the capability to serve up to 48 indoor units.

Key features

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

Best in class in partial load and precise control based on dual inverter compressors in each unit.

Pipe runs up to 300 m: greater application flexibility.

Advanced compressor Oil Management System: it guarantees improved reliability.

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

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

Protection devices

- Discharge and suction temperature sensors
- Internal overload relay
- Compressor over current relay
- Over-current sensor
- High-pressure switch
- Low-pressure sensors

Technical specifications **heat pump**

Outdoor unit	CO HP	MAP0501T8-E	MAP0601T8-E	MAP0801T8-E	MAP1001T8-E	MAP1201T8-E
		MAP0501HT8-E 5 HP	MAP0601HT8-E 6 HP	MAP0801HT8-E 8 HP	MAP1001HT8-E 10 HP	MAP1201HT8-E 12 HP
Cooling capacity ¹	kW	14	16	22.4	28	33.5
Power input, cooling	%	3.65	4.64	5.67	7.67	11.92
EER	W/W	3.84	3.45	3.95	3.65	2.81
Energy efficiency class, cooling		A	A	A	A	C
Running current, cooling	A	5.85	7.28	8.62	11.55	18.30
Heating capacity ²	kW	16	18	25	31.5	37.5
Power input, heating	%	3.84	4.56	5.88	7.97	10.19
COP	W/W	4.17	3.95	4.25	3.95	3.68
Energy efficiency class, heating		A	A	A	A	A
Running current, heating	A	6.09	7.08	8.93	11.98	15.65
Peak demand current, heating ³	A	20	20	30	30	30
Air flow	m ³ /h – l/s	9000 – 2520	9000 – 2520	9900 – 2750	10500 – 2917	10500 – 2917
Sound pressure level	dB(A)	55	56	57	58	59
Operating range – db, cooling	°C	-5 to 43	-5 to 43	-5 to 43	-5 to 43	-5 to 43
Operating range – wb ⁴ , heating	°C	-20 to 16	-20 to 16	-20 to 16	-20 to 16	-20 to 16
Dimensions (H x L x D)	mm	1800 x 990 x 750	1800 x 990 x 750	1800 x 990 x 750	1800 x 990 x 750	1800 x 990 x 750
Weight	kg	228	228	258	258	258
Compressor type		Hermetic	Hermetic	Hermetic	Hermetic	Hermetic
Refrigerant charge R410A	kg	8.5	8.5	11.8	11.8	11.8
Pipework						
Suction line type – diameter	in	Flare – 5/8	Brazed – 3/4	Brazed – 7/8	Brazed – 7/8	Brazed – 1-1/8
Liquid line type – diameter	in	Flare – 3/8	Flare – 3/8	Flare – 1/2	Flare – 1/2	Flare – 1/2
Discharge line connection type – diameter	in	Flare – 3/8	Flare – 3/8	Flare – 3/8	Flare – 3/8	Flare – 3/8
Maximum equivalent length separation	m	175	175	175	175	175
Maximum actual piping separation	m	150	150	150	150	150
Maximum pipe length	m	300	300	300	300	300
Maximum lift (Indoor unit above/below) ⁵	m	40/50	40/50	40/50	40/50	40/50
Power supply	V-ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50

¹ Based on an indoor air temperature of 27 °C db/19 °C wb and an outdoor air temperature of 35 °C db





² Based on an indoor air temperature of 20 °C db and an outdoor air temperature of 7 °C db/6 °C wb

³ If outdoor units are combined, refer to the installation manual















⁴ The unit can be operated even if outdoor temperature gets down to -20 °C, however note that the warranty covers only up to -15 °C because operation beyond that temperature is out of specification. When outdoor air temperature falls to under -15 °C, it may cause shortening the product lifetime.

⁵ If the height difference between indoor units exceeds 3 m and if the indoor unit is above, max. lift is reduced to 30 m

Technical specifications **outdoor units**

	Model name		Cooling capacity	Heating capacity	Outdoor units in combination	Max. number of indoor units
	MMY-MAP0501HT8-E	5 HP	14 kW	16 kW	1	8
	MMY-MAP0601HT8-E	6 HP	16 kW	18 kW	1	10
	MMY-MAP0801HT8-E	8 HP	22.4 kW	25 kW	1	13
	MMY-MAP1001HT8-E	10 HP	28 kW	31.5 kW	1	16
	MMY-MAP1201HT8-E	12 HP	33.5 kW	37.5 kW	1	20
	MMY-AP1401HT8-E	14 HP	38.4 kW	43 kW	2 (22.4 kW + 16 kW)	23
	MMY-AP1601HT8-E	16 HP	45 kW	50 kW	2 (22.4 kW + 22.4 kW)	27
	MMY-AP1801HT8-E	18 HP	50.4 kW	56.5 kW	2 (28 kW + 22.4 kW)	30
	MMY-AP2001HT8-E	20 HP	56 kW	63 kW	2 (28 kW + 28 kW)	33
	MMY-AP2201HT8-E	22 HP	61.5 kW	69 kW	3 (22.4 kW + 22.4 kW + 16 kW)	37
	MMY-AP2211HT8-E	22 HP	61.5 kW	69 kW	2 (33.5 kW + 28 kW)	37
	MMY-AP2401HT8-E	24 HP	68 kW	76.5 kW	3 (22.4 kW + 22.4 kW + 22.4 kW)	40
	MMY-AP2411HT8-E	24 HP	68 kW	76.5 kW	2 (33.5 kW + 33.5 kW)	40
	MMY-AP2601HT8-E	26 HP	73 kW	81.5 kW	3 (28 kW + 22.4 kW + 22.4 kW)	43
	MMY-AP2801HT8-E	28 HP	78.5 kW	88 kW	3 (28 kW + 28 kW + 22.4 kW)	47
	MMY-AP3001HT8-E	30 HP	84 kW	95 kW	3 (28 kW + 28 kW + 28 kW)	48
	MMY-AP3201HT8-E	32 HP	90 kW	100 kW	4 (22.4 kW + 22.4 kW + 22.4 kW + 22.4 kW)	48
	MMY-AP3211HT8-E	32 HP	90 kW	100 kW	3 (33.5 kW + 28 kW + 28 kW)	48
	MMY-AP3401HT8-E	34 HP	96 kW	108 kW	4 (28 kW + 22.4 kW + 22.4 kW + 22.4 kW)	48
	MMY-AP3411HT8-E	34 HP	96 kW	108 kW	3 (33.5 kW + 33.5 kW + 28 kW)	48
	MMY-AP3601HT8-E	36 HP	101 kW	113 kW	4 (28 kW + 28 kW + 22.4 kW + 22.4 kW)	48
	MMY-AP3611HT8-E	36 HP	101 kW	113 kW	3 (33.5 kW + 33.5 kW + 33.5 kW)	48
	MMY-AP3801HT8-E	38 HP	106.5 kW	119.5 kW	4 (28 kW + 28 kW + 28 kW + 22.4 kW)	48
	MMY-AP4001HT8-E	40 HP	112 kW	126.5 kW	4 (28 kW + 28 kW + 28 kW + 28 kW)	48
	MMY-AP4201HT8-E	42 HP	118 kW	132 kW	4 (33.5 kW + 28 kW + 28 kW + 28 kW)	48
	MMY-AP4401HT8-E	44 HP	123.5 kW	138 kW	4 (33.5 kW + 33.5 kW + 28 kW + 28 kW)	48
	MMY-AP4601HT8-E	46 HP	130 kW	145 kW	4 (33.5 kW + 33.5 kW + 33.5 kW + 28 kW)	48
	MMY-AP4801HT8-E	48 HP	135 kW	150 kW	4 (33.5 kW + 33.5 kW + 33.5 kW + 33.5 kW)	48

Technical specifications heat pump

Model Type	Model name	MiNi-SMMS	SMMS and SHRM	Capacity code	Cooling cap. (kW)	Heating cap. (kW)	Height (mm)	Length (mm)	Depth (mm)	Weight (kg)		
Four-way cassette 	MMU-AP0091H	●	●	1	2.8	3.2	256	840	840	20		
	MMU-AP0121H	●	●	1.25	3.6	4						
	MMU-AP0151H	●	●	1.7	4.5	5				22		
	MMU-AP0181H	●	●	2	5.6	6.3						
	MMU-AP0241H	●	●	2.5	7.1	8	319	840	840	23		
	MMU-AP0271H	●	●	3	8	9						
	MMU-AP0301H	●	●	3.2	9	10						
	MMU-AP0361H	●	●	4	11.2	12.5						
MMU-AP0481H	●	●	5	14	16	28						
MMU-AP0561H	●	●	6	16	18							
Compact four-way cassette 	MMU-AP0071MH	●	●	0.8	2.2	2.5	268	575	575	17		
MMU-AP0091MH	●	●	1	2.8	3.2							
MMU-AP0121MH	●	●	1.25	3.6	4							
MMU-AP0151MH	●	●	1.7	4.5	5							
MMU-AP0181MH	●	●	2	5.6	6.3							
Two-way cassette 	MMU-AP0071WH	●	●	0.8	2.2	2.5	398	830		33		
	MMU-AP0091WH	●	●	1	2.8	3.2						
	MMU-AP0121WH	●	●	1.25	3.6	4						
	MMU-AP0151WH	●	●	1.7	4.5	5	1350			44		
	MMU-AP0181WH	●	●	2	5.6	6.3						
	MMU-AP0241WH	●	●	2.5	7.1	8						
MMU-AP0271WH	●	●	3	8	9	48						
MMU-AP0301WH	●	●	3.2	9	10							
One-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						
	MMU-AP0152SH	●	●	1.7	4.5	5	200	1000	710	21		
	MMU-AP0182SH	●	●	2	5.6	6.3						
MMU-AP0242SH	●	●	2.5	7.1	8	22						
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						
	MMD-AP0151BH	●	●	1.7	4.5	5		700			30	
	MMD-AP0181BH	●	●	2	5.6	6.3						
	MMD-AP0241BH	●	●	2.5	7.1	8						
	MMD-AP0271BH	●	●	3	8	9		1000			39	
	MMD-AP0301SH	●	●	3.2	9	10						
	MMD-AP0361BH	●	●	4	11.2	12.5		1350				51
	MMD-AP0481BH	●	●	5	14	16						
MMD-AP0561BH	●	●	6	16	18							
Concealed duct, high static pressure 	MMD-AP0181H	●	●	2	5.6	6.3	380	850	660	50		
	MMD-AP0241H	●	●	2.5	7.1	8						
	MMD-AP0271H	●	●	3	8	9						
	MMD-AP0361H	●	●	4	11.2	12.5		1200			56	
	MMD-AP0481H	●	●	5	14	16						
	MMD-AP0721H	●	●	8	22.4	25						
MMD-AP0961H	●	●	10	28	31.5	470	1380	1250	155			
Slim Duct 	MMD-AP0071SPH	●	●	0.8	2.2	2.5	210	845	645	22		
	MMD-AP0091SPH	●	●	1	2.8	3.2						
	MMD-AP0121SPH	●	●	1.25	3.6	4				23		
	MMD-AP0151SPH	●	●	1.7	4.5	5						
	MMD-AP0181SPH	●	●	2	5.6	6.3						
Ceiling-suspended 	MMC-AP0151H	●	●	1.7	4.5	5	210	910	680	21		
	MMC-AP0181H	●	●	2	5.6	6.3						
	MMC-AP0241H	●	●	2.5	7.1	8		1180			25	
	MMC-AP0271H	●	●	3	8	9						
	MMC-AP0361H	●	●	4	11.2	12.5						
MMC-AP0481H	●	●	5	14	16	1595		33				
High-wall 	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						
High-wall 	MMK-AP0151H	●	●	1.7	4.5	5.0	368	1055	210	19		
	MMK-AP0181H	●	●	2	5.6	6.3						
	MMK-AP0241H	●	●	2.5	7.1	8.0		1430			25	
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						
	MML-AP0151H	●	●	1.7	4.5	5				40		
	MML-AP0181H	●	●	2	5.6	6.3						
	MML-AP0241H	●	●	2.5	7.1	8						
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						
	MML-AP0151BH	●	●	1.7	4.5	5		1045			29	
	MML-AP0181BH	●	●	2	5.6	6.3						
	MML-AP0241BH	●	●	2.5	7.1	8						
Tall floor-standing 	MMF-AP0151H	●	●	1.7	4.5	5	1750	600	210	48		
	MMF-AP0181H	●	●	2	5.6	6.3						
	MMF-AP0241H	●	●	2.5	7.1	8						
	MMF-AP0271H	●	●	3	8	9			390		49	
	MMF-AP0361H	●	●	4	11.2	12.5						
	MMF-AP0481H	●	●	5	14	16						
MMF-AP0561H	●	●	6	16	18	65						
Fresh air intake 	MMD-AP0481HFE		SMMS	5	14	12	380	660	1200	67		
	MMD-AP0721HFE		SMMS	8	22.4	18.7	470	1380	1250	150		
	MMD-AP0961HFE		SMMS	10	28	23.3						