SPLIT - OUTDOOR UNITS

MODEL			MSH-40EB	MSH-60EB	MSH-80EB	MSH-100EB	MSH-120EB
Suitable for building heat loss			3 - 5 kW	4 - 6 kW	6 - 8 kW	7 - 9,5 kW	10 - 12 kW
Compatible hydronic box			MSH-60IB MSH-60IB-3		MSH-100IB MSH-100IB/3 MSH-100IB-3/9		MSH-160IB MSH-160IB/3 MSH-160IB-3/9
Power supply		V/Ph/Hz	220-240/1/50				
Heating (A7/W35)	Capacity	kW	4,25	6,20	8,30	10,0	12,1
	Rated input	kW	0,82	1,24	1,60	2,00	2,44
	COP		5,20	5,00	5,20	5,00	4,95
Cooling (A35/W18)	Capacity	kW	4,5	6,55	8,4	10	12
	Rated input	kW	0,81	1,34	1,66	2,08	3
	EER		5,55	4,9	5,05	4,8	4
Seasonal space heating energy efficiency class	LWT at 35 ºC		A+++				
	LWT at 55 ºC		A++				
SCOP	Warmer climate	35 ºC	6,46	6,57	6,99	7,09	6,48
		55 ºC	4,15	4,21	4,51	4,62	4,43
	Average climate	35 ºC	4,85	4,95	5,22	5,20	4,81
		55 ºC	3,31	3,52	3,37	3,47	3,45
	Colder climate	35 ºC	4,06	4,21	4,33	4,32	4,08
		55 ºC	2,63	2,85	2,88	2,99	3,02
SEER	LWT at 7 ºC		4,99	5,34	5,83	5,98	4,89
	LWT at 18 ºC		7,77	8,21	8,95	8,78	7,1
Minimum crosssection of the earth wire		mm^2	2,5	2,5	2,5	4	6
Minimum crosssection of the power supply wire		mm^2	2,5	2,5	2,5	4,0	6,0
Inrush current		A	1				
Rated current		A	10,5	12,0	14,5	16,0	24,5
Circuit breaker		A	16	16	16	20	32
Water flow range		m^3/h	0,4~0,9	0,4~1,25	0,4~1,65	0,4~2,1	0,7~2,5
Rated water flow		m^3/h	0,73	1,07	1,43	1,72	2,08
Compressor	Type		Twin rotary DC invertor				
Outdoor fan	Motor type		Brushless DC motor				
	Number of fans		1				
Air side heat exchanger	Type		Finned tube				
Refrigerant		Typ / kg / t Eq. CO_2	R32 / 1,5 / 1,013		R32 / 1,65 / 1,113		R32 / 1,84 / 1,242
Precharged length		m	15				
Additional refrigerant		g/m	20		38		
Throttle type			Electronic expansion valve				
Piping connections	Type		Flare				
	Liquid Dia. (OD)	inch	1/4"		3/8"		
	Gas Dia. (OD)	inch	5/8"				
	Min. pipe length	m	3,5				
	Max. pipe length	m	30				
Installation height difference	Outdoor unit above	m	20				
	Outdoor unit below	m	20				
Sound power level		dB(A)	56	58	59	60	64
Sound pressure level in 1 meter		dB(A)	44	45	46	49	50
Net dimensions (W×H×D)		mm	1008×712×426		1118×865×523		1118×865×523
Packed dimensions (W×H×D)		mm	1065×800×485		1180×890×560		1180×890×560
Net/gross weight		kg	58/64		75/89		97/111
Operating temperature range	Cooling	ºC	-5 to 43				
	Heating	ºC	-25 to 35				
	DHW	ºC	-25 to 43				
OTHER TECHNICAL DATA							
Distance of holes	W x D	mm	375×663		456×656		
Communication cable		mm^2	3x0,75 Shielded field supplied				
STANDARD ACCESSORIES							
Coper flare nuts		-	yes				
Drainage hose adapter		-	yes				
HEATING SYSTEM REQUIREMENT							
Minimum water volume of heating system		l	60	90	120	150	180

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R32 (single component refrigerant HFC-32), GWP of refrigerant used: 675.
Contains fluorinated greenhouse gases covered by the Kyoto Protocol.
Explanatory notes on the very last page of the catalogue.
Cross-section of each wire must correspond to the IEC 60364.

SPLIT - OUTDOOR UNITS

MODEL			MSH-140EB	MSH-160EB	MSH-120EB-3	MSH-140EB-3	MSH-160EB-3
Suitable for building heat loss			11 - 14 kW	12 - 15 kW	10 - 12 kW	11 - 14 kW	12 - 15 kW
Compatible hydronic box			MSH-160IB MSH-160IB/3 MSH-160IB-3/9		MSH-160IB MSH-160IB/3 MSH-160IB-3/9		
Power supply		V/Ph/Hz	220-240/1/50		380-415/3/50		
Heating (A7/W35)	Capacity	kW	14,5	16,0	12,1	14,5	16,0
	Rated input	kW	3,09	3,56	2,44	3,09	3,56
	COP		4,70	4,50	4,95	4,70	4,50
Cooling (A35/W18)	Capacity	kW	13,5	14,2	12	13,5	14,2
	Rated input	kW	3,74	3,94	3	3,74	3,94
	EER		3,61	3,61	4	3,61	3,61
Seasonal space heating energy efficiency class	LWT at 35 ºC		A+++				
	LWT at 55 ºC		A++				
SCOP	Warmer climate	35 ºC	6,58	6,29	6,48	6,58	6,29
		55 ºC	4,49	4,48	4,43	4,49	4,48
	Average climate	35 ºC	4,72	4,62	4,81	4,72	4,62
		55 ºC	3,47	3,41	3,45	3,47	3,41
	Colder climate	35 ºC	4,07	4,02	4,08	4,07	4,02
		55 ºC	3,05	3,12	3,02	3,05	3,12
SEER	LWT at 7 ºC		4,86	4,69	4,89	4,86	4,69
	LWT at 18 ºC		6,9	6,75	7,1	6,9	6,75
Minimum crosssection of the earth wire		mm^2	10	10	2,5	2,5	2,5
Minimum crosssection of the power supply wire		mm^2	10,0	10,0	2,5	2,5	2,5
Inrush current		A	1				
Rated current		A	25,0	26,0	9,0	10,0	11,0
Circuit breaker		A	32	32	16	16	16
Water flow range		m^3/h	0,7~2,75	0,7~3,0	0,7~2,5	0,7~2,75	0,7~3,0
Rated water flow		m^3/h	2,49	2,75	2,08	2,49	2,75
Compressor	Type		Twin rotary DC invertor				
Outdoor fan	Motor type		Brushless DC motor				
	Number of fans		1				
Air side heat exchanger	Type		Finned tube				
Refrigerant		Typ / kg / t Eq. CO_2	R32 / 1,84 / 1,242				
Precharged length		m	15				
Additional refrigerant		g/m	38				
Throttle type			Electronic expansion valve				
Piping connections	Type		Flare				
	Liquid Dia. (OD)	inch	3/8"				
	Gas Dia. (OD)	inch	5/8"				
	Min. pipe length	m	3,5				
	Max. pipe length	m	30				
Installation height difference	Outdoor unit above	m	20				
	Outdoor unit below	m	20				
Sound power level		dB(A)	65	68	64	65	68
Sound pressure level in 1 meter		dB(A)	51	54	50	51	54
Net dimensions (W×H×D)		mm	1118×865×523				
Packed dimensions (W×H×D)		mm	1180×890×560				
Net/gross weight		kg	97/111		112/126		
Operating temperature range	Cooling	ºC	-5 to 43				
	Heating	ºC	-25 to 35				
	DHW	ºC	-25 to 43				
OTHER TECHNICAL DATA							
Distance of holes	W x D	mm	456×656				
Communication cable		mm^2	3x0,75 Shielded field supplied				
STANDARD ACCESSORIES							
Coper flare nuts		-	yes				
Drainage hose adapter		-	yes				
HEATING SYSTEM REQUIREMENT							
Minimum water volume of heating system		l	210	240	180	210	240

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SPLIT - INDOOR HYDROBOX UNIT

MODEL			MSH-60IB/3	MSH-100IB/3	MSH-100IB-3/9	MSH-160IB/3	MSH-160IB-3/9
Compatible Outdoor unit model			MSH-40EB MSH-60EB	MSH-80EB MSH-100EB	MSH-80EB MSH-100EB	MSH-120EB MSH-140EB MSH-160EB	MSH-120EB-3 MSH-140EB-3 MSH-160EB-3
Function			Heating and Cooling				
Setting water temperature range	Cooling	ºC	5~25				
	Heating	ºC	25~65				
	DHW	ºC	30~60				
Power supply		V/Ph/Hz	220-240/1/50		380-415/3/50	220-240/1/50	380-415/3/50
Sound power level		dB(A)	38	42		43	
Sound pressure level (1m)		dB(A)	28	30		32	
Dimensions (WxHxD)		mm	421×790×270				
Packing (W×H×D)		mm	525×1050×360				
Net/gross weight		kg	43/49			45/51	
WATER CIRCUIT							
Piping connections		inch	R1"				
Safety valve set pressure		MPa	0,3				
Drainage pipe connection		inch	1"				
Expansion tank	Volume	L	8				
	Max. water pressure	MPa	0,3				
	Pre-pressure	MPa	0,1				
Water side	Type		Plate type				
Water pump head		m	9				
Water flow range		m^3/h	0,4~1,25	0,4~2,10		0,70~3,00	
Auxiliary electric heater	Type	-	Automatic				
	Capacity	kW	3		9	3	9
	Combination	-	3		3/6/9	3	3/6/9
	Power supply	V/Ph/Hz	220-240/1/50		380-415/3/50	220-240/1/50	380-415/3/50
Internal water volume		L	5				
Refrigerant circuit	Liquid Dia. (OD)	inch	1/4"	3/8"			
	Gas Dia. (OD)	inch	5/8"				
OTHER TECHNICAL DATA							
Circuit breaker		A	16	16	16	16	16
Recommended power cable		mm^2	2,5	2,5	2,5	2,5	2,5
Inrush current		A	13,5	13,5	13,5	13,5	13,5
Nominal current		A	13,5	13,5	13,5	13,5	13,5
Maximum current		A	13,5	13,5	13,5	13,5	13,5
Display cable		-	Field supplied 5x0,75				
STANDARD ACCESSORIES							
Installation and owner's manual		-	yes				
Operation manual		-	yes				
M16 Copper Nut Tamper Cap		-	1				
M9 Copper Nut Tamper Cap		-	0	1			
M6 Copper Nut Tamper Cap		-	1	0			
M8 expansion screws		-	5				
Thermistor for domestic hot water tank or zone 2 water flow		-	1				
M16 Copper nut		-	1				
Y-shape filter		-	1				
Mounting bracket		-	1				
OPTIONAL ACCESSORIES							
Three-way valve		-	Field supply (230V, 10-30 sec. switch time)				

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