



Air Conditioning Technical Data

Commercial multi system



EEDEN12-102

CMSQ-A

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1 Features

- Especially developed for light commercial applications (shops, restaurants, small offices) where multi systems are required
- High efficiency: COP ranges up to 4.1
- These outdoor units can be mounted easily on a roof, placed against an outside wall or can even be installed indoors
- Maximum piping length up to 200m and level difference (outdoor unit - indoor unit) up to 30m
- Assymetric combination is allowed: combination of different indoor units with different capacities is possible
- Individual control: up to 4 indoor units can be controlled individually

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2 Specifications

2-1 Technical Specifications				CMSQ200A		CMSQ250A		
Cooling capacity	Nom.		kW	20.0 (1)		25.0 (1)		
Heating capacity	Nom.		kW	22.4 (2)		28.0 (2)		
Capacity control	Method			Inverter controlled				
Power input - 50Hz	Cooling	Nom.	kW	6.60		6.74		
	Heating	Nom.	kW	5.80		6.83		
Power input - 60Hz	Cooling	Nom.	kW	-				
	Heating	Nom.	kW	-				
EER				3.03		3.71		
COP				3.86		4.10		
Indoor index connection	Min.			100		125		
	Max.			200		250		
Casing	Colour			Daikin White				
	Material			Painted galvanized steel plate				
Dimensions	Unit	Height	mm	1,680				
		Width	mm	635		930		
		Depth	mm	765				
	Packed unit	Height	mm	1,855				
		Width	mm	796		1,055		
		Depth	mm	860				
Weight	Unit		kg	159		187		
	Packed unit		kg	182		217		
Packing	Material			Carton				
	Weight		kg	3.80		4.02		
Packing 2	Material			Wood				
	Weight		kg	19.15		20.85		
Packing 3	Material			Plastic				
	Weight		kg	0.215		0.265		
Heat exchanger	Length		mm	1,483		1,778		
	Rows	Quantity		54				
	Fin pitch		mm	2.00				
	Passes	Quantity		8		18		
	Face area		m²	1.762		2.112		
	Stages	Quantity		2				
	Empty tubeplate hole	Quantity		0				
	Tube type			ø8 Hi-XSS				
	Fin	Type		Non-symmetric waffle louvre				
		Treatment		Hydrophilic and corrosion resistant				
Fan	Type			Propeller fan				
	Quantity			1				
	Air flow rate	Cooling	Nom.	m³/min	95 (14)		171 (14)	
		Heating	Nom.	m³/min	95 (14)		171 (14)	
	External static pressure		Max.	Pa	50			
	Discharge direction			Vertical				
Fan motor	Quantity			1				
	Model			Brushless DC motor				
	Output		W	350		750		
Sound power level	Cooling	Nom.	dBA	78		81		
Sound pressure level	Cooling	Nom.	dBA	57		59		
	Night quiet mode	Level 1	dBA	55				
		Level 2	dBA	50				
		Level 3	dBA	45				
Compressor	Quantity			1				
	Model			Inverter				
	Type			Hermetically sealed scroll compressor				
	Speed		rpm	6,300		7,980		
	Output		W	2.8		3,800		
	Crankcase heater		W	33				

2 Specifications

2-1 Technical Specifications					CMSQ200A		CMSQ250A	
Refrigerant	Type				R-410A			
	Charge			kg	6.2		7.7	
	Control				Expansion valve (electronic type)			
	Circuits	Quantity			1			
Refrigerant oil	Type				Synthetic (ether) oil			
	Charged volume			l	1.7		2.1	
Piping connections	Liquid	Type			Braze connection			
		OD	mm		9.52			
	Gas	Type			Braze connection			
		OD	mm		15.9		19.1	
	Heat insulation				Both liquid and gas pipes			
	Piping length	OU - IU	Max.	m	-			
	Total piping length	System	Actual	m	200			
Defrost method					Reversed cycle			
Defrost control					Sensor for outdoor heat exchanger temperature			
Safety devices	Item	01			High pressure switch			
		02			Fan driver overload protector			
		03			Overcurrent relay			
		04			Inverter overload protector			
		05			PC board fuse			

2-2 Electrical Specifications					CMSQ200A		CMSQ250A		
Power supply	Name				W1				
	Phase				3N~				
	Frequency			Hz	50				
	Voltage			V	400				
Voltage range	Min.			%	-10				
	Max.			%	10				
Current	Nominal running current (RLA) - 50Hz	Cooling		A	9.53		9.73		
		Heating		A	8.38		9.86		
		Compr essor 1	Heating	A	-				
		Compr essor 2	Heating	A	-				
		Compr essor 3	Heating	A	-				
	Nominal running current (RLA) - 60Hz	Cooling		A	-				
		Heating		A	-				
		Compr essor 1	Heating	A	-				
		Compr essor 2	Heating	A	-				
		Compr essor 3	Heating	A	-				
	Current - 50Hz	Maximum running current			A	-			
		Zmax	List			-			
		Minimum Ssc value			kVa	-		910	
		Minimum circuit amps (MCA)			A	11.9		18.5	
Maximum fuse amps (MFA)			A	16		25			
Current - 60Hz	Minimum circuit amps (MCA)			A	-				
	Maximum fuse amps (MFA)			A	-				
	Maximum running current			A	-				
Wiring connections - 50Hz	For power supply	Quantity			5				
		Remark			Earth wire included				
Wiring connections - 60Hz	For power supply	Quantity			-				
		Remark			-				
Power supply intake					Both indoor and outdoor unit				

2 Specifications

Notes

- (1) Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 5m (horizontal); level difference: 0m
- (2) Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 5m; level difference: 0m
- (3) Sound power level is an absolute value that a sound source generates.
- (4) Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings.
- (5) Sound values are measured in a semi-anechoic room.
- (6) External static pressure is mentioned in high static pressure
- (7) MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).
- (8) MSC means the maximum current during start up of the compressor
- (9) Maximum allowable voltage range variation between phases is 2%.
- (10) RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB
- (11) Select wire size based on the value of MCA
- (12) TOCA means the total value of each OC set.
- (13) Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.
- (14) 230V

3 Electrical data

3 - 1 Electrical Data

CMSQ-A

	Minimum Ssc value [kVA]	Zmax [Ω]
CMSQ200	-	-
CMSQ250	910	-

Notes:

- 1 In accordance with EN/IEC 61000-3-11⁽¹⁾, respectively EN/IEC 61000-3-12⁽²⁾, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply with $Z_{sys}^{(4)} \leq Z_{max}$, respectively $S_{sc}^{(3)} \geq$ minimum Ssc value.
- 2 (1) European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated smaller than or equal to 75A.
 (2) European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current > 16A smaller than or equal to 75A per phase.
 (3) Short-circuit power.
 (4) System impedance.

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4 Options

4 - 1 Options

Nr	Item	CMSQ200	CMSQ250
1	Refnet header	KHRQ22M29H	
2	Refnet joint	KHRQ22M20T	
		-	KHRQ22M29T9
3	Central drain pan kit	KWC26B160	KWC26B280

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Notes:

1. All options are kits.
2. The option should be installed inside the outdoor unit.

5 Capacity tables

5 - 1 Cooling Capacity Tables

Cooling CMSQ200A

Combination (%) Capacity index	Outdoor air temp. °CDB	Indoor air temp.: °CWB															
		14,0		16,0		18,0		19,0		20,0		22,0		24,0			
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100% 20,00 kW	10	13,50	2,27	16,1	2,76	18,7	3,27	20,0	3,53	21,3	3,80	23,9	4,34	25,3	4,49		
	12	13,50	2,31	16,1	2,81	18,7	3,33	20,0	3,60	21,3	3,87	23,9	4,42	25,0	4,47		
	14	13,50	2,36	16,1	2,86	18,7	3,39	20,0	3,67	21,3	3,94	23,9	4,51	24,6	4,44		
	16	13,50	2,40	16,1	2,91	18,7	3,46	20,0	3,74	21,3	4,02	23,8	4,57	24,3	4,52		
	18	13,50	2,44	16,1	2,97	18,7	3,53	20,0	3,81	21,3	4,10	23,5	4,71	24,0	4,75		
	20	13,50	2,49	16,1	3,03	18,7	3,63	20,0	4,00	21,3	4,39	23,2	4,94	23,7	4,98		
	21	13,50	2,51	16,1	3,06	18,7	3,76	20,0	4,15	21,3	4,55	23,0	5,06	23,5	5,09		
	23	13,50	2,58	16,1	3,26	18,7	4,03	20,0	4,44	21,3	4,88	22,7	5,29	23,2	5,33		
	25	13,50	2,75	16,1	3,49	18,7	4,31	20,0	4,76	21,3	5,22	22,4	5,52	22,8	5,56		
	27	13,50	2,93	16,1	3,72	18,7	4,61	20,0	5,09	21,3	5,59	22,0	5,75	22,5	5,80		
	29	13,50	3,12	16,1	3,97	18,7	4,92	20,0	5,43	21,2	5,93	21,7	5,98	22,2	6,03		
	31	13,50	3,32	16,1	4,23	18,7	5,25	20,0	5,80	20,9	6,16	21,4	6,22	21,9	6,27		
	33	13,50	3,53	16,1	4,51	18,7	5,60	20,0	6,19	20,6	6,40	21,1	6,45	21,5	6,51		
	35	13,50	3,76	16,1	4,80	18,7	5,97	20,0	6,60	20,2	6,63	20,7	6,69	21,2	6,75		
	37	13,50	3,99	16,1	5,10	18,7	6,36	19,7	6,83	19,9	6,86	20,4	6,92	20,9	6,99		
	39	13,50	4,24	16,1	5,43	18,7	6,77	19,3	7,07	19,6	7,10	20,1	7,16	20,6	7,23		
90% 18,00 kW	10	12,15	2,04	14,5	2,46	16,8	2,90	18,0	3,13	19,2	3,36	21,5	3,84	23,9	4,33		
	12	12,15	2,07	14,5	2,50	16,8	2,95	18,0	3,19	19,2	3,43	21,5	3,91	23,9	4,41		
	14	12,15	2,11	14,5	2,54	16,8	3,01	18,0	3,25	19,2	3,49	21,5	3,99	23,9	4,49		
	16	12,15	2,14	14,5	2,59	16,8	3,06	18,0	3,31	19,2	3,56	21,5	4,07	23,8	4,57		
	18	12,15	2,18	14,5	2,64	16,8	3,12	18,0	3,37	19,2	3,63	21,5	4,15	23,5	4,71		
	20	12,15	2,22	14,5	2,69	16,8	3,19	18,0	3,44	19,2	3,76	21,5	4,46	23,2	4,94		
	21	12,15	2,24	14,5	2,72	16,8	3,24	18,0	3,56	19,2	3,90	21,5	4,62	23,0	5,06		
	23	12,15	2,29	14,5	2,83	16,8	3,47	18,0	3,81	19,2	4,18	21,5	4,95	22,7	5,29		
	25	12,15	2,41	14,5	3,02	16,8	3,71	18,0	4,08	19,2	4,47	21,5	5,30	22,3	5,52		
	27	12,15	2,56	14,5	3,22	16,8	3,96	18,0	4,36	19,2	4,78	21,5	5,67	22,0	5,75		
	29	12,15	2,73	14,5	3,43	16,8	4,23	18,0	4,65	19,2	5,10	21,3	5,94	21,7	5,98		
	31	12,15	2,90	14,5	3,66	16,8	4,51	18,0	4,96	19,2	5,45	20,9	6,17	21,4	6,22		
	33	12,15	3,08	14,5	3,89	16,8	4,80	18,0	5,29	19,2	5,81	20,6	6,40	21,0	6,45		
	35	12,15	3,27	14,5	4,14	16,8	5,11	18,0	5,64	19,2	6,19	20,3	6,63	20,7	6,69		
	37	12,15	3,47	14,5	4,40	16,8	5,44	18,0	6,01	19,2	6,60	20,0	6,87	20,4	6,92		
	39	12,15	3,68	14,5	4,67	16,8	5,79	18,0	6,39	19,2	7,03	19,6	7,10	20,1	7,16		
80% 16,00 kW	10	10,80	1,81	12,88	2,16	15,0	2,54	16,0	2,74	17,0	2,94	19,1	3,35	21,2	3,78		
	12	10,80	1,84	12,88	2,20	15,0	2,59	16,0	2,79	17,0	2,99	19,1	3,41	21,2	3,85		
	14	10,80	1,87	12,88	2,24	15,0	2,64	16,0	2,84	17,0	3,05	19,1	3,48	21,2	3,92		
	16	10,80	1,90	12,88	2,28	15,0	2,68	16,0	2,89	17,0	3,11	19,1	3,55	21,2	4,00		
	18	10,80	1,93	12,88	2,32	15,0	2,74	16,0	2,95	17,0	3,17	19,1	3,62	21,2	4,08		
	20	10,80	1,97	12,88	2,37	15,0	2,79	16,0	3,01	17,0	3,23	19,1	3,75	21,2	4,36		
	21	10,80	1,98	12,88	2,39	15,0	2,82	16,0	3,04	17,0	3,30	19,1	3,88	21,2	4,52		
	23	10,80	2,02	12,88	2,43	15,0	2,95	16,0	3,24	17,0	3,53	19,1	4,16	21,2	4,84		
	25	10,80	2,09	12,88	2,59	15,0	3,15	16,0	3,46	17,0	3,77	19,1	4,45	21,2	5,19		
	27	10,80	2,22	12,88	2,76	15,0	3,36	16,0	3,69	17,0	4,03	19,1	4,76	21,2	5,55		
	29	10,80	2,36	12,88	2,94	15,0	3,59	16,0	3,94	17,0	4,30	19,1	5,08	21,2	5,93		
	31	10,80	2,50	12,88	3,13	15,0	3,82	16,0	4,19	17,0	4,59	19,1	5,42	20,9	6,16		
	33	10,80	2,66	12,88	3,32	15,0	4,07	16,0	4,47	17,0	4,89	19,1	5,79	20,6	6,39		
	35	10,80	2,82	12,88	3,53	15,0	4,32	16,0	4,75	17,0	5,20	19,1	6,17	20,2	6,63		
	37	10,80	2,99	12,88	3,75	15,0	4,60	16,0	5,06	17,0	5,54	19,1	6,57	19,9	6,86		
	39	10,80	3,16	12,88	3,98	15,0	4,89	16,0	5,38	17,0	5,90	19,1	7,00	19,6	7,10		

Symbols:

TC : Total capacity cooling: kW

PI : Power input: kW (Comp. + outdoor fan motor)

Note1: The above table shows the average value of conditions which may occur.

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5 Capacity tables

5 - 1 Cooling Capacity Tables

Cooling CMSQ200A

Combination (%) Capacity index	Outdoor air temp. °CDB	Indoor air temp.: °CWB															
		14,0		16,0		18,0		19,0		20,0		22,0		24,0			
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI		
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW		
70% 14,00 kW	10	9,45	1,59	11,27	1,89	13,09	2,20	14,00	2,37	14,9	2,53	16,7	2,88	18,6	3,24		
	12	9,45	1,61	11,27	1,92	13,09	2,24	14,00	2,41	14,9	2,58	16,7	2,93	18,6	3,30		
	14	9,45	1,64	11,27	1,95	13,09	2,28	14,00	2,45	14,9	2,63	16,7	2,99	18,6	3,36		
	16	9,45	1,66	11,27	1,98	13,09	2,32	14,00	2,50	14,9	2,67	16,7	3,04	18,6	3,43		
	18	9,45	1,69	11,27	2,02	13,09	2,36	14,00	2,54	14,9	2,73	16,7	3,10	18,6	3,49		
	20	9,45	1,72	11,27	2,05	13,09	2,41	14,00	2,59	14,9	2,78	16,7	3,17	18,6	3,59		
	21	9,45	1,74	11,27	2,07	13,09	2,43	14,00	2,62	14,9	2,81	16,7	3,22	18,6	3,72		
	23	9,45	1,77	11,27	2,11	13,09	2,48	14,00	2,70	14,9	2,94	16,7	3,44	18,6	3,98		
	25	9,45	1,80	11,27	2,19	13,09	2,65	14,00	2,89	14,9	3,14	16,7	3,68	18,6	4,26		
	27	9,45	1,90	11,27	2,34	13,09	2,82	14,00	3,08	14,9	3,35	16,7	3,93	18,6	4,55		
	29	9,45	2,02	11,27	2,48	13,09	3,00	14,00	3,28	14,9	3,57	16,7	4,19	18,6	4,86		
	31	9,45	2,14	11,27	2,64	13,09	3,19	14,00	3,49	14,9	3,80	16,7	4,47	18,6	5,19		
	33	9,45	2,27	11,27	2,80	13,09	3,39	14,00	3,71	14,9	4,05	16,7	4,76	18,6	5,53		
	35	9,45	2,40	11,27	2,97	13,09	3,61	14,00	3,95	14,9	4,31	16,7	5,07	18,6	5,90		
	37	9,45	2,54	11,27	3,15	13,09	3,83	14,00	4,20	14,9	4,58	16,7	5,40	18,6	6,28		
	39	9,45	2,69	11,27	3,34	13,09	4,07	14,00	4,46	14,9	4,87	16,7	5,74	18,6	6,69		
60% 12,00 kW	10	8,10	1,38	9,66	1,62	11,22	1,88	12,00	2,01	12,78	2,15	14,3	2,43	15,9	2,72		
	12	8,10	1,40	9,66	1,65	11,22	1,91	12,00	2,04	12,78	2,18	14,3	2,47	15,9	2,77		
	14	8,10	1,42	9,66	1,67	11,22	1,94	12,00	2,08	12,78	2,22	14,3	2,52	15,9	2,82		
	16	8,10	1,44	9,66	1,70	11,22	1,97	12,00	2,12	12,78	2,26	14,3	2,56	15,9	2,87		
	18	8,10	1,47	9,66	1,73	11,22	2,01	12,00	2,15	12,78	2,30	14,3	2,61	15,9	2,93		
	20	8,10	1,49	9,66	1,76	11,22	2,04	12,00	2,19	12,78	2,35	14,3	2,66	15,9	2,99		
	21	8,10	1,50	9,66	1,77	11,22	2,06	12,00	2,21	12,78	2,37	14,3	2,69	15,9	3,02		
	23	8,10	1,52	9,66	1,80	11,22	2,10	12,00	2,26	12,78	2,41	14,3	2,79	15,9	3,21		
	25	8,10	1,55	9,66	1,84	11,22	2,18	12,00	2,37	12,78	2,57	14,3	2,98	15,9	3,43		
	27	8,10	1,61	9,66	1,95	11,22	2,32	12,00	2,52	12,78	2,73	14,3	3,18	15,9	3,66		
	29	8,10	1,70	9,66	2,07	11,22	2,47	12,00	2,68	12,78	2,91	14,3	3,39	15,9	3,90		
	31	8,10	1,80	9,66	2,19	11,22	2,62	12,00	2,85	12,78	3,09	14,3	3,61	15,9	4,16		
	33	8,10	1,91	9,66	2,32	11,22	2,78	12,00	3,03	12,78	3,29	14,3	3,84	15,9	4,43		
	35	8,10	2,02	9,66	2,46	11,22	2,95	12,00	3,22	12,78	3,49	14,3	4,08	15,9	4,71		
	37	8,10	2,13	9,66	2,61	11,22	3,13	12,00	3,41	12,78	3,71	14,3	4,34	15,9	5,01		
	39	8,10	2,25	9,66	2,76	11,22	3,32	12,00	3,62	12,78	3,94	14,3	4,61	15,9	5,33		
50% 10,00 kW	10	6,75	1,19	8,05	1,37	9,35	1,57	10,00	1,68	10,65	1,78	11,95	2,00	13,25	2,23		
	12	6,75	1,20	8,05	1,39	9,35	1,60	10,00	1,70	10,65	1,81	11,95	2,04	13,25	2,27		
	14	6,75	1,22	8,05	1,41	9,35	1,62	10,00	1,73	10,65	1,84	11,95	2,07	13,25	2,31		
	16	6,75	1,24	8,05	1,44	9,35	1,65	10,00	1,76	10,65	1,87	11,95	2,11	13,25	2,35		
	18	6,75	1,25	8,05	1,46	9,35	1,67	10,00	1,79	10,65	1,90	11,95	2,14	13,25	2,39		
	20	6,75	1,27	8,05	1,48	9,35	1,70	10,00	1,82	10,65	1,94	11,95	2,18	13,25	2,44		
	21	6,75	1,28	8,05	1,49	9,35	1,72	10,00	1,83	10,65	1,96	11,95	2,20	13,25	2,46		
	23	6,75	1,30	8,05	1,52	9,35	1,75	10,00	1,87	10,65	1,99	11,95	2,25	13,25	2,52		
	25	6,75	1,32	8,05	1,54	9,35	1,78	10,00	1,91	10,65	2,05	11,95	2,36	13,25	2,69		
	27	6,75	1,34	8,05	1,60	9,35	1,88	10,00	2,03	10,65	2,18	11,95	2,51	13,25	2,86		
	29	6,75	1,42	8,05	1,69	9,35	1,99	10,00	2,15	10,65	2,32	11,95	2,67	13,25	3,05		
	31	6,75	1,50	8,05	1,79	9,35	2,11	10,00	2,28	10,65	2,46	11,95	2,84	13,25	3,24		
	33	6,75	1,58	8,05	1,89	9,35	2,24	10,00	2,42	10,65	2,61	11,95	3,01	13,25	3,45		
	35	6,75	1,67	8,05	2,00	9,35	2,37	10,00	2,57	10,65	2,77	11,95	3,20	13,25	3,67		
	37	6,75	1,76	8,05	2,12	9,35	2,51	10,00	2,72	10,65	2,93	11,95	3,40	13,25	3,89		
	39	6,75	1,86	8,05	2,24	9,35	2,65	10,00	2,88	10,65	3,11	11,95	3,60	13,25	4,13		

Symbols:

TC : Total capacity cooling: kW

PI : Power input: kW (Comp. + outdoor fan motor)

Note1: The above table shows the average value of conditions which may occur.

3TW31342-1

5 Capacity tables

5 - 1 Cooling Capacity Tables

Cooling CMSQ250A

Combination (%) Capacity index	Outdoor air temp. °CDB	Indoor air temp.: °CWB													
		14,0		16,0		18,0		19,0		20,0		22,0		24,0	
		TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW
100% 25,00 kW	10	16,9	2,32	20,1	2,82	23,4	3,34	25,0	3,60	26,6	3,88	29,9	4,43	31,6	4,59
	12	16,9	2,36	20,1	2,87	23,4	3,40	25,0	3,67	26,6	3,95	29,9	4,51	31,2	4,56
	14	16,9	2,41	20,1	2,92	23,4	3,46	25,0	3,74	26,6	4,03	29,9	4,60	30,8	4,54
	16	16,9	2,45	20,1	2,98	23,4	3,53	25,0	3,82	26,6	4,10	29,8	4,66	30,4	4,61
	18	16,9	2,49	20,1	3,03	23,4	3,60	25,0	3,89	26,6	4,19	29,4	4,81	30,0	4,85
	20	16,9	2,54	20,1	3,09	23,4	3,71	25,0	4,09	26,6	4,48	29,0	5,05	29,6	5,08
	21	16,9	2,57	20,1	3,12	23,4	3,84	25,0	4,23	26,6	4,65	28,8	5,16	29,4	5,20
	23	16,9	2,63	20,1	3,33	23,4	4,11	25,0	4,54	26,6	4,98	28,4	5,40	29,0	5,44
	25	16,9	2,81	20,1	3,56	23,4	4,40	25,0	4,86	26,6	5,33	27,9	5,63	28,6	5,68
	27	16,9	3,00	20,1	3,80	23,4	4,70	25,0	5,19	26,6	5,71	27,5	5,87	28,1	5,92
90% 22,50 kW	29	16,9	3,19	20,1	4,05	23,4	5,02	25,0	5,55	26,5	6,06	27,1	6,11	27,7	6,16
	31	16,9	3,39	20,1	4,32	23,4	5,36	25,0	5,92	26,1	6,29	26,7	6,35	27,3	6,40
	33	16,9	3,61	20,1	4,60	23,4	5,72	25,0	6,32	25,7	6,53	26,3	6,59	26,9	6,64
	35	16,9	3,84	20,1	4,90	23,4	6,09	25,0	6,74	25,3	6,77	25,9	6,83	26,5	6,89
	37	16,9	4,08	20,1	5,21	23,4	6,49	24,6	6,98	24,9	7,01	25,5	7,07	26,1	7,13
	39	16,9	4,33	20,1	5,54	23,4	6,91	24,2	7,22	24,5	7,25	25,1	7,32	25,7	7,38
	10	15,2	2,08	18,1	2,51	21,0	2,96	22,5	3,19	24,0	3,43	26,9	3,92	29,8	4,42
	12	15,2	2,11	18,1	2,55	21,0	3,01	22,5	3,25	24,0	3,50	26,9	4,00	29,8	4,50
	14	15,2	2,15	18,1	2,60	21,0	3,07	22,5	3,32	24,0	3,56	26,9	4,07	29,8	4,59
	16	15,2	2,19	18,1	2,65	21,0	3,13	22,5	3,38	24,0	3,63	26,9	4,15	29,8	4,67
80% 20,00 kW	18	15,2	2,23	18,1	2,70	21,0	3,19	22,5	3,45	24,0	3,71	26,9	4,23	29,4	4,81
	20	15,2	2,27	18,1	2,75	21,0	3,25	22,5	3,51	24,0	3,84	26,9	4,55	29,0	5,04
	21	15,2	2,29	18,1	2,78	21,0	3,31	22,5	3,64	24,0	3,98	26,9	4,71	28,7	5,16
	23	15,2	2,33	18,1	2,89	21,0	3,54	22,5	3,90	24,0	4,26	26,9	5,06	28,3	5,40
	25	15,2	2,46	18,1	3,09	21,0	3,79	22,5	4,17	24,0	4,56	26,9	5,41	27,9	5,63
	27	15,2	2,62	18,1	3,29	21,0	4,04	22,5	4,45	24,0	4,88	26,9	5,79	27,5	5,87
	29	15,2	2,78	18,1	3,51	21,0	4,32	22,5	4,75	24,0	5,21	26,6	6,06	27,1	6,11
	31	15,2	2,96	18,1	3,73	21,0	4,60	22,5	5,07	24,0	5,56	26,2	6,30	26,7	6,35
	33	15,2	3,14	18,1	3,97	21,0	4,90	22,5	5,40	24,0	5,93	25,8	6,54	26,3	6,59
	35	15,2	3,34	18,1	4,23	21,0	5,22	22,5	5,76	24,0	6,32	25,4	6,77	25,9	6,83
70% 17,50 kW	37	15,2	3,54	18,1	4,49	21,0	5,56	22,5	6,13	24,0	6,74	24,9	7,01	25,5	7,07
	39	15,2	3,76	18,1	4,77	21,0	5,91	22,5	6,53	24,0	7,18	24,5	7,25	25,1	7,31
	10	13,5	1,85	16,1	2,21	18,7	2,60	20,0	2,80	21,3	3,00	23,9	3,42	26,5	3,86
	12	13,5	1,88	16,1	2,25	18,7	2,64	20,0	2,85	21,3	3,06	23,9	3,49	26,5	3,93
	14	13,5	1,91	16,1	2,29	18,7	2,69	20,0	2,90	21,3	3,11	23,9	3,55	26,5	4,00
	16	13,5	1,94	16,1	2,33	18,7	2,74	20,0	2,96	21,3	3,17	23,9	3,62	26,5	4,08
	18	13,5	1,97	16,1	2,37	18,7	2,79	20,0	3,01	21,3	3,24	23,9	3,69	26,5	4,16
	20	13,5	2,01	16,1	2,42	18,7	2,85	20,0	3,07	21,3	3,30	23,9	3,83	26,5	4,45
	21	13,5	2,02	16,1	2,44	18,7	2,88	20,0	3,10	21,3	3,37	23,9	3,97	26,5	4,61
	23	13,5	2,06	16,1	2,49	18,7	3,02	20,0	3,30	21,3	3,61	23,9	4,25	26,5	4,95
	25	13,5	2,13	16,1	2,65	18,7	3,22	20,0	3,53	21,3	3,85	23,9	4,55	26,5	5,30
	27	13,5	2,27	16,1	2,82	18,7	3,44	20,0	3,77	21,3	4,12	23,9	4,86	26,5	5,67
	29	13,5	2,41	16,1	3,00	18,7	3,66	20,0	4,02	21,3	4,39	23,9	5,19	26,5	6,06
	31	13,5	2,56	16,1	3,19	18,7	3,90	20,0	4,28	21,3	4,68	23,9	5,54	26,1	6,29
	33	13,5	2,71	16,1	3,39	18,7	4,15	20,0	4,56	21,3	4,99	23,9	5,91	25,7	6,53
	35	13,5	2,88	16,1	3,60	18,7	4,42	20,0	4,86	21,3	5,31	23,9	6,30	25,3	6,77
	37	13,5	3,05	16,1	3,83	18,7	4,70	20,0	5,17	21,3	5,66	23,9	6,71	24,9	7,01
	39	13,5	3,23	16,1	4,06	18,7	4,99	20,0	5,50	21,3	6,02	23,9	7,15	24,5	7,25
	10	11,8	1,62	14,1	1,93	16,4	2,25	17,5	2,42	18,6	2,59	20,9	2,94	23,2	3,31
	12	11,8	1,65	14,1	1,96	16,4	2,29	17,5	2,46	18,6	2,63	20,9	2,99	23,2	3,37
	14	11,8	1,67	14,1	1,99	16,4	2,33	17,5	2,50	18,6	2,68	20,9	3,05	23,2	3,43
	16	11,8	1,70	14,1	2,02	16,4	2,37	17,5	2,55	18,6	2,73	20,9	3,11	23,2	3,50
	18	11,8	1,73	14,1	2,06	16,4	2,41	17,5	2,60	18,6	2,78	20,9	3,17	23,2	3,57
	20	11,8	1,76	14,1	2,10	16,4	2,46	17,5	2,65	18,6	2,84	20,9	3,23	23,2	3,67
	21	11,8	1,77	14,1	2,12	16,4	2,48	17,5	2,67	18,6	2,87	20,9	3,28	23,2	3,80
	23	11,8	1,80	14,1	2,16	16,4	2,53	17,5	2,76	18,6	3,00	20,9	3,51	23,2	4,07
	25	11,8	1,84	14,1	2,24	16,4	2,70	17,5	2,95	18,6	3,21	20,9	3,76	23,2	4,35
	27	11,8	1,94	14,1	2,38	16,4	2,88	17,5	3,14	18,6	3,42	20,9	4,01	23,2	4,65
	29	11,8	2,06	14,1	2,54	16,4	3,06	17,5	3,35	18,6	3,65	20,9	4,28	23,2	4,97
	31	11,8	2,18	14,1	2,69	16,4	3,26	17,5	3,56	18,6	3,88	20,9	4,56	23,2	5,30
	33	11,8	2,31	14,1	2,86	16,4	3,47	17,5	3,79	18,6	4,13	20,9	4,86	23,2	5,65
	35	11,8	2,45	14,1	3,03	16,4	3,68	17,5	4,03	18,6	4,40	20,9	5,18	23,2	6,02
	37	11,8	2,59	14,1	3,22	16,4	3,91	17,5	4,28	18,6	4,67	20,9	5,51	23,2	6,41
	39	11,8	2,74	14,1	3,41	16,4	4,15	17,5	4,55	18,6	4,97	20,9	5,86	23,2	6,83

Symbols:

TC : Total capacity cooling: kW

PI : Power input: kW (Comp. + outdoor fan motor)

Note1: The above table shows the average value of conditions which may occur.

3TW31342-1

5 Capacity tables

5 - 1 Cooling Capacity Tables

Cooling CMSQ250A

Combination (%) Capacity index	Outdoor air temp. °CDB	Indoor air temp.: °CWB													
		14,0		16,0		18,0		19,0		20,0		22,0		24,0	
		TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW
60% 15,00 kW	10	10,1	1,41	12,1	1,66	14,0	1,92	15,0	2,05	16,0	2,19	17,9	2,48	19,9	2,78
	12	10,1	1,43	12,1	1,68	14,0	1,95	15,0	2,09	16,0	2,23	17,9	2,52	19,9	2,83
	14	10,1	1,45	12,1	1,71	14,0	1,98	15,0	2,12	16,0	2,27	17,9	2,57	19,9	2,88
	16	10,1	1,47	12,1	1,74	14,0	2,02	15,0	2,16	16,0	2,31	17,9	2,62	19,9	2,94
	18	10,1	1,50	12,1	1,77	14,0	2,05	15,0	2,20	16,0	2,35	17,9	2,67	19,9	2,99
	20	10,1	1,52	12,1	1,80	14,0	2,09	15,0	2,24	16,0	2,40	17,9	2,72	19,9	3,05
	21	10,1	1,53	12,1	1,81	14,0	2,11	15,0	2,26	16,0	2,42	17,9	2,74	19,9	3,08
	23	10,1	1,56	12,1	1,84	14,0	2,15	15,0	2,30	16,0	2,46	17,9	2,85	19,9	3,28
	25	10,1	1,58	12,1	1,88	14,0	2,23	15,0	2,42	16,0	2,62	17,9	3,04	19,9	3,50
	27	10,1	1,64	12,1	1,99	14,0	2,37	15,0	2,58	16,0	2,79	17,9	3,25	19,9	3,74
	29	10,1	1,74	12,1	2,11	14,0	2,52	15,0	2,74	16,0	2,97	17,9	3,46	19,9	3,98
	31	10,1	1,84	12,1	2,24	14,0	2,68	15,0	2,91	16,0	3,16	17,9	3,68	19,9	4,25
	33	10,1	1,95	12,1	2,37	14,0	2,84	15,0	3,10	16,0	3,36	17,9	3,92	19,9	4,52
	35	10,1	2,06	12,1	2,51	14,0	3,02	15,0	3,29	16,0	3,57	17,9	4,17	19,9	4,81
	37	10,1	2,18	12,1	2,66	14,0	3,20	15,0	3,49	16,0	3,79	17,9	4,43	19,9	5,12
	39	10,1	2,30	12,1	2,82	14,0	3,39	15,0	3,70	16,0	4,02	17,9	4,71	19,9	5,45
50% 12,50 kW	10	8,44	1,21	10,1	1,40	11,7	1,61	12,5	1,71	13,3	1,82	14,9	2,04	16,6	2,28
	12	8,44	1,23	10,1	1,42	11,7	1,63	12,5	1,74	13,3	1,85	14,9	2,08	16,6	2,32
	14	8,44	1,25	10,1	1,44	11,7	1,66	12,5	1,77	13,3	1,88	14,9	2,11	16,6	2,36
	16	8,44	1,26	10,1	1,47	11,7	1,68	12,5	1,80	13,3	1,91	14,9	2,15	16,6	2,40
	18	8,44	1,28	10,1	1,49	11,7	1,71	12,5	1,83	13,3	1,94	14,9	2,19	16,6	2,44
	20	8,44	1,30	10,1	1,51	11,7	1,74	12,5	1,86	13,3	1,98	14,9	2,23	16,6	2,49
	21	8,44	1,31	10,1	1,52	11,7	1,75	12,5	1,87	13,3	2,00	14,9	2,25	16,6	2,52
	23	8,44	1,33	10,1	1,55	11,7	1,78	12,5	1,91	13,3	2,03	14,9	2,29	16,6	2,57
	25	8,44	1,35	10,1	1,57	11,7	1,82	12,5	1,95	13,3	2,10	14,9	2,41	16,6	2,74
	27	8,44	1,37	10,1	1,63	11,7	1,92	12,5	2,07	13,3	2,23	14,9	2,56	16,6	2,92
	29	8,44	1,45	10,1	1,73	11,7	2,03	12,5	2,20	13,3	2,37	14,9	2,73	16,6	3,11
	31	8,44	1,53	10,1	1,83	11,7	2,16	12,5	2,33	13,3	2,51	14,9	2,90	16,6	3,31
	33	8,44	1,62	10,1	1,93	11,7	2,29	12,5	2,47	13,3	2,67	14,9	3,08	16,6	3,52
	35	8,44	1,70	10,1	2,05	11,7	2,42	12,5	2,62	13,3	2,83	14,9	3,27	16,6	3,74
	37	8,44	1,80	10,1	2,16	11,7	2,56	12,5	2,77	13,3	3,00	14,9	3,47	16,6	3,98
	39	8,44	1,90	10,1	2,28	11,7	2,71	12,5	2,94	13,3	3,18	14,9	3,68	16,6	4,22

Symbols:

TC : Total capacity cooling: kW

PI : Power input: kW (Comp. + outdoor fan motor)

Note1: The above table shows the average value of conditions which may occur.

3TW31342-1

5 Capacity tables

5 - 2 Heating Capacity Tables

Heating CMSQ200A

Combination (%)		Outdoor air temp.		Indoor air temp.: °CDB											
				16,0		18,0		20,0		21,0		22,0		24,0	
		(°CDB)	(°CWB)	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW	TC kW	PI kW
100% 22,4 kW	-19,8	-20,0	12,7	3,81	12,6	4,02	12,6	4,24	12,6	4,34	12,5	4,45	12,5	4,67	
	-18,8	-19,0	13,0	3,92	13,0	4,13	13,0	4,34	12,9	4,44	12,9	4,55	12,9	4,76	
	-16,7	-17,0	13,8	4,14	13,8	4,33	13,7	4,53	13,7	4,63	13,7	4,73	13,6	4,92	
	-13,7	-15,0	14,5	4,33	14,5	4,51	14,5	4,70	14,4	4,79	14,4	4,89	14,4	5,07	
	-11,8	-13,0	15,3	4,50	15,3	4,68	15,2	4,85	15,2	4,94	15,2	5,03	15,1	5,21	
	-9,8	-11,0	16,1	4,66	16,0	4,82	16,0	4,99	16,0	5,08	15,9	5,16	15,9	5,33	
	-9,5	-10,0	16,4	4,73	16,4	4,89	16,4	5,06	16,3	5,14	16,3	5,22	16,3	5,38	
	-8,5	-9,1	16,8	4,79	16,7	4,95	16,7	5,11	16,7	5,19	16,7	5,27	16,6	5,43	
	-7,0	-7,6	17,3	4,89	17,3	5,05	17,3	5,20	17,2	5,28	17,2	5,36	17,2	5,51	
	-5,0	-5,6	18,1	5,01	18,1	5,16	18,0	5,31	18,0	5,38	18,0	5,46	17,9	5,61	
	-3,0	-3,7	18,8	5,12	18,8	5,26	18,7	5,40	18,7	5,48	18,7	5,55	18,7	5,69	
	0,0	-0,7	19,9	5,27	19,9	5,41	19,9	5,54	19,8	5,61	19,8	5,68	19,5	5,69	
	3,0	2,2	21,0	5,41	21,0	5,53	21,0	5,66	20,9	5,72	20,9	5,79	19,5	5,33	
	5,0	4,1	21,8	5,49	21,7	5,61	21,7	5,73	21,7	5,79	21,0	5,57	19,5	5,13	
	7,0	6,0	22,5	5,56	22,4	5,68	22,4	5,80	21,7	5,58	21,0	5,36	19,5	4,93	
	9,0	7,9	23,2	5,63	23,2	5,75	22,4	5,58	21,7	5,37	21,0	5,16	19,5	4,76	
	11,0	9,8	23,9	5,70	23,8	5,80	22,4	5,39	21,7	5,18	21,0	4,98	19,5	4,59	
	13,0	11,8	24,7	5,77	23,8	5,59	22,4	5,19	21,7	5,00	21,0	4,81	19,5	4,43	
	15,0	13,7	25,3	5,79	23,8	5,40	22,4	5,02	21,7	4,83	21,0	4,65	19,5	4,29	
90% 20,2 kW	-19,8	-20,0	12,6	4,18	12,6	4,38	12,5	4,57	12,5	4,67	12,5	4,76	12,4	4,96	
	-18,8	-19,0	13,0	4,29	12,9	4,48	12,9	4,66	12,9	4,76	12,9	4,85	12,8	5,04	
	-16,7	-17,0	13,7	4,48	13,7	4,66	13,7	4,84	13,6	4,92	13,6	5,01	13,6	5,19	
	-13,7	-15,0	14,5	4,66	14,4	4,82	14,4	4,99	14,4	5,07	14,4	5,16	14,3	5,32	
	-11,8	-13,0	15,2	4,81	15,2	4,97	15,2	5,13	15,1	5,21	15,1	5,29	15,1	5,44	
	-9,8	-11,0	16,0	4,95	16,0	5,10	15,9	5,25	15,9	5,33	15,9	5,40	15,8	5,55	
	-9,5	-10,0	16,4	5,02	16,3	5,16	16,3	5,31	16,3	5,39	16,3	5,46	16,2	5,61	
	-8,5	-9,1	16,7	5,07	16,7	5,22	16,6	5,36	16,6	5,43	16,6	5,51	16,6	5,65	
	-7,0	-7,6	17,3	5,16	17,2	5,30	17,2	5,44	17,2	5,51	17,2	5,58	17,1	5,72	
	-5,0	-5,6	18,0	5,27	18,0	5,41	18,0	5,54	17,9	5,61	17,9	5,67	17,6	5,65	
	-3,0	-3,7	18,7	5,37	18,7	5,50	18,7	5,63	18,7	5,69	18,6	5,75	17,6	5,39	
	0,0	-0,7	19,9	5,51	19,8	5,63	19,8	5,75	19,5	5,69	18,9	5,46	17,6	5,03	
	3,0	2,2	21,0	5,63	20,9	5,74	20,2	5,54	19,5	5,33	18,9	5,12	17,6	4,72	
	5,0	4,1	21,7	5,70	21,5	5,73	20,2	5,32	19,5	5,12	18,9	4,93	17,6	4,54	
	7,0	6,0	22,4	5,77	21,5	5,51	20,2	5,12	19,5	4,93	18,9	4,74	17,6	4,38	
	9,0	7,9	22,8	5,69	21,5	5,31	20,2	4,94	19,5	4,75	18,9	4,58	17,6	4,22	
	11,0	9,8	22,8	5,48	21,5	5,12	20,2	4,77	19,5	4,59	18,9	4,42	17,6	4,08	
	13,0	11,8	22,8	5,29	21,5	4,94	20,2	4,60	19,5	4,43	18,9	4,27	17,6	3,94	
	15,0	13,7	22,8	5,11	21,5	4,78	20,2	4,45	19,5	4,29	18,9	4,13	17,6	3,82	
80% 17,9 kW	-19,8	-20,0	12,5	4,56	12,5	4,73	12,5	4,90	12,4	4,99	12,4	5,08	12,4	5,25	
	-18,8	-19,0	12,9	4,65	12,9	4,82	12,8	4,99	12,8	5,07	12,8	5,15	12,8	5,32	
	-16,7	-17,0	13,7	4,83	13,6	4,98	13,6	5,14	13,6	5,22	13,6	5,30	13,5	5,45	
	-13,7	-15,0	14,4	4,98	14,4	5,13	14,3	5,28	14,3	5,35	14,3	5,43	14,3	5,58	
	-11,8	-13,0	15,2	5,12	15,1	5,26	15,1	5,40	15,1	5,47	15,1	5,54	15,0	5,68	
	-9,8	-11,0	15,9	5,25	15,9	5,38	15,9	5,51	15,8	5,58	15,8	5,65	15,6	5,68	
	-9,5	-10,0	16,3	5,30	16,3	5,44	16,2	5,57	16,2	5,63	16,2	5,70	15,6	5,52	
	-8,5	-9,1	16,6	5,35	16,6	5,48	16,6	5,61	16,6	5,68	16,5	5,74	15,6	5,39	
	-7,0	-7,6	17,2	5,43	17,2	5,56	17,1	5,68	17,1	5,74	16,8	5,63	15,6	5,18	
	-5,0	-5,6	18,0	5,53	17,9	5,65	17,9	5,77	17,3	5,56	16,8	5,35	15,6	4,92	
	-3,0	-3,7	18,7	5,62	18,6	5,73	17,9	5,52	17,3	5,31	16,8	5,10	15,6	4,70	
	0,0	-0,7	19,8	5,74	19,1	5,53	17,9	5,14	17,3	4,95	16,8	4,76	15,6	4,39	
	3,0	2,2	20,2	5,56	19,1	5,19	17,9	4,83	17,3	4,65	16,8	4,48	15,6	4,13	
	5,0	4,1	20,2	5,34	19,1	4,99	17,9	4,64	17,3	4,48	16,8	4,31	15,6	3,98	
	7,0	6,0	20,2	5,14	19,1	4,80	17,9	4,47	17,3	4,31	16,8	4,15	15,6	3,84	
	9,0	7,9	20,2	4,95	19,1	4,63	17,9	4,32	17,3	4,16	16,8	4,01	15,6	3,71	
	11,0	9,8	20,2	4,78	19,1	4,47	17,9	4,17	17,3	4,02	16,8	3,88	15,6	3,59	
	13,0	11,8	20,2	4,61	19,1	4,32	17,9	4,03	17,3	3,89	16,8	3,75	15,6	3,47	
	15,0	13,7	20,2	4,47	19,1	4,18	17,9	3,91	17,3	3,77	16,8	3,63	15,6	3,37	

Symbols:

TC : Total capacity cooling: kW

PI : Power input: kW (Comp. + outdoor fan motor)

Note1: is shown as reference.

When selecting the unit models, avoid the outdoor air temperature range shown by

Note2: The above table shows the average value of conditions which may occur.

3TW31342-2

5 Capacity tables

5 - 2 Heating Capacity Tables

Heating CMSQ200A

Combination (%)		Outdoor air temp.		Indoor air temp.: °CDB											
				16,0		18,0		20,0		21,0		22,0		24,0	
		(°CDB)	(°CWB)	kW	PI kW	kW	PI kW	kW	PI kW	kW	PI kW	kW	PI kW	kW	PI kW
70% 15,7 kW	-19,8	-20,0	12,5	4,94	12,4	5,09	12,4	5,24	12,4	5,31	12,4	5,39	12,34	5,54	
	-18,8	-19,0	12,8	5,02	12,8	5,17	12,8	5,31	12,8	5,38	12,7	5,46	12,72	5,60	
	-16,7	-17,0	13,6	5,17	13,6	5,31	13,5	5,45	13,5	5,51	13,5	5,58	13,47	5,72	
	-13,7	-15,0	14,3	5,31	14,3	5,44	14,3	5,57	14,3	5,63	14,3	5,70	13,66	5,47	
	-11,8	-13,0	15,1	5,43	15,1	5,55	15,0	5,68	15,0	5,74	14,7	5,60	13,66	5,15	
	-9,8	-11,0	15,8	5,54	15,8	5,66	15,7	5,71	15,2	5,49	14,7	5,28	13,66	4,86	
	-9,5	-10,0	16,2	5,59	16,2	5,71	15,7	5,55	15,2	5,34	14,7	5,13	13,66	4,73	
	-8,5	-9,1	16,6	5,64	16,5	5,75	15,7	5,41	15,2	5,21	14,7	5,01	13,66	4,62	
	-7,0	-7,6	17,1	5,71	16,7	5,60	15,7	5,20	15,2	5,01	14,7	4,81	13,66	4,44	
	-5,0	-5,6	17,7	5,70	16,7	5,31	15,7	4,94	15,2	4,76	14,7	4,58	13,66	4,23	
	-3,0	-3,7	17,7	5,43	16,7	5,07	15,7	4,72	15,2	4,55	14,7	4,38	13,66	4,05	
	0,0	-0,7	17,7	5,07	16,7	4,74	15,7	4,41	15,2	4,25	14,7	4,10	13,66	3,79	
	3,0	2,2	17,7	4,76	16,7	4,45	15,7	4,15	15,2	4,01	14,7	3,86	13,66	3,57	
	5,0	4,1	17,7	4,58	16,7	4,29	15,7	4,00	15,2	3,86	14,7	3,72	13,66	3,45	
	7,0	6,0	17,7	4,41	16,7	4,13	15,7	3,86	15,2	3,72	14,7	3,59	13,66	3,33	
60% 13,44 kW	9,0	7,9	17,7	4,26	16,7	3,99	15,7	3,73	15,2	3,60	14,7	3,47	13,66	3,22	
	11,0	9,8	17,7	4,11	16,7	3,86	15,7	3,61	15,2	3,48	14,7	3,36	13,66	3,12	
	13,0	11,8	17,7	3,97	16,7	3,73	15,7	3,49	15,2	3,37	14,7	3,25	13,66	3,02	
	15,0	13,7	17,7	3,85	16,7	3,62	15,7	3,38	15,2	3,27	14,7	3,16	13,66	2,93	
	-19,8	-20,0	12,4	5,31	12,4	5,44	12,33	5,57	12,32	5,64	12,31	5,70	11,71	5,42	
	-18,8	-19,0	12,8	5,39	12,7	5,51	12,71	5,63	12,70	5,70	12,58	5,68	11,71	5,22	
	-16,7	-17,0	13,5	5,52	13,5	5,63	13,44	5,73	13,01	5,51	12,58	5,30	11,71	4,88	
	-13,7	-15,0	14,3	5,63	14,2	5,74	13,44	5,37	13,01	5,17	12,58	4,97	11,71	4,58	
	-11,8	-13,0	15,0	5,74	14,3	5,43	13,44	5,05	13,01	4,86	12,58	4,68	11,71	4,32	
	-9,8	-11,0	15,2	5,49	14,3	5,12	13,44	4,77	13,01	4,59	12,58	4,42	11,71	4,08	
	-9,5	-10,0	15,2	5,34	14,3	4,98	13,44	4,64	13,01	4,47	12,58	4,30	11,71	3,98	
	-8,5	-9,1	15,2	5,21	14,3	4,86	13,44	4,53	13,01	4,37	12,58	4,20	11,71	3,89	
	-7,0	-7,6	15,2	5,00	14,3	4,68	13,44	4,36	13,01	4,20	12,58	4,05	11,71	3,74	
	-5,0	-5,6	15,2	4,76	14,3	4,45	13,44	4,15	13,01	4,00	12,58	3,86	11,71	3,57	
	-3,0	-3,7	15,2	4,55	14,3	4,26	13,44	3,97	13,01	3,83	12,58	3,69	11,71	3,42	
50% 11,20 kW	0,0	-0,7	15,2	4,25	14,3	3,98	13,44	3,72	13,01	3,59	12,58	3,47	11,71	3,22	
	3,0	2,2	15,2	4,00	14,3	3,75	13,44	3,51	13,01	3,39	12,58	3,27	11,71	3,04	
	5,0	4,1	15,2	3,86	14,3	3,62	13,44	3,39	13,01	3,27	12,58	3,16	11,71	2,94	
	7,0	6,0	15,2	3,72	14,3	3,49	13,44	3,27	13,01	3,16	12,58	3,06	11,71	2,84	
	9,0	7,9	15,2	3,60	14,3	3,38	13,44	3,17	13,01	3,06	12,58	2,96	11,71	2,75	
	11,0	9,8	15,2	3,48	14,3	3,27	13,44	3,07	13,01	2,97	12,58	2,87	11,71	2,67	
	13,0	11,8	15,2	3,37	14,3	3,17	13,44	2,97	13,01	2,87	12,58	2,78	11,71	2,59	
	15,0	13,7	15,2	3,27	14,3	3,07	13,44	2,89	13,01	2,79	12,58	2,70	11,71	2,52	
	-19,8	-20,0	12,31	5,69	11,92	5,53	11,20	5,14	10,84	4,95	10,48	4,76	9,76	4,39	
	-18,8	-19,0	12,64	5,71	11,92	5,33	11,20	4,96	10,84	4,77	10,48	4,59	9,76	4,24	
	-16,7	-17,0	12,64	5,33	11,92	4,98	11,20	4,63	10,84	4,47	10,48	4,30	9,76	3,97	
	-13,7	-15,0	12,64	5,00	11,92	4,67	11,20	4,35	10,84	4,20	10,48	4,04	9,76	3,74	
	-11,8	-13,0	12,64	4,70	11,92	4,40	11,20	4,11	10,84	3,96	10,48	3,82	9,76	3,53	
	-9,8	-11,0	12,64	4,45	11,92	4,16	11,20	3,89	10,84	3,75	10,48	3,62	9,76	3,35	
	-9,5	-10,0	12,64	4,33	11,92	4,05	11,20	3,79	10,84	3,65	10,48	3,52	9,76	3,27	
	-8,5	-9,1	12,64	4,23	11,92	3,96	11,20	3,70	10,84	3,57	10,48	3,45	9,76	3,20	
	-7,0	-7,6	12,64	4,07	11,92	3,82	11,20	3,57	10,84	3,45	10,48	3,32	9,76	3,09	
	-5,0	-5,6	12,64	3,88	11,92	3,64	11,20	3,41	10,84	3,29	10,48	3,18	9,76	2,95	
	-3,0	-3,7	12,64	3,71	11,92	3,49	11,20	3,27	10,84	3,16	10,48	3,05	9,76	2,84	
	0,0	-0,7	12,64	3,48	11,92	3,28	11,20	3,07	10,84	2,97	10,48	2,87	9,76	2,67	
	3,0	2,2	12,64	3,29	11,92	3,10	11,20	2,91	10,84	2,81	10,48	2,72	9,76	2,53	
	5,0	4,1	12,64	3,18	11,92	2,99	11,20	2,81	10,84	2,72	10,48	2,63	9,76	2,45	
	7,0	6,0	12,64	3,07	11,92	2,89	11,20	2,72	10,84	2,63	10,48	2,55	9,76	2,38	
	9,0	7,9	12,64	2,97	11,92	2,80	11,20	2,63	10,84	2,55	10,48	2,47	9,76	2,31	
	11,0	9,8	12,64	2,88	11,92	2,72	11,20	2,56	10,84	2,48	10,48	2,40	9,76	2,24	
	13,0	11,8	12,64	2,79	11,92	2,63	11,20	2,48	10,84	2,40	10,48	2,33	9,76	2,18	
	15,0	13,7	12,64	2,71	11,92	2,56	11,20	2,41	10,84	2,34	10,48	2,27	9,76	2,12	

Symbols:

TC : Total capacity cooling: kW

PI : Power input: kW (Comp. + outdoor fan motor)

Note1: is shown as reference.

When selecting the unit models, avoid the outdoor air temperature range shown by

Note2: The above table shows the average value of conditions which may occur.

3TW31342-2

5 Capacity tables

5 - 2 Heating Capacity Tables

Heating CMSQ250A

Combination (%)	Outdoor air temp.		Indoor air temp.: °CDB											
	(°CDB)	(°CWB)	16,0		18,0		20,0		21,0		22,0		24,0	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100% 28,0 kW	-19,8	-20,0	15,8	4,48	15,8	4,74	15,7	4,99	15,7	5,11	15,7	5,24	15,6	5,49
	-18,8	-19,0	16,3	4,62	16,2	4,87	16,2	5,11	16,2	5,23	16,1	5,36	16,1	5,60
	-16,7	-17,0	17,2	4,87	17,2	5,10	17,1	5,33	17,1	5,45	17,1	5,57	17,0	5,80
	-13,7	-15,0	18,2	5,10	18,1	5,32	18,1	5,54	18,1	5,64	18,0	5,75	18,0	5,97
	-11,8	-13,0	19,1	5,30	19,1	5,51	19,0	5,72	19,0	5,82	19,0	5,92	18,9	6,13
	-9,8	-11,0	20,1	5,48	20,0	5,68	20,0	5,88	19,9	5,98	19,9	6,08	19,9	6,27
	-9,5	-10,0	20,5	5,57	20,5	5,76	20,4	5,95	20,4	6,05	20,4	6,15	20,3	6,34
	-8,5	-9,1	21,0	5,64	20,9	5,83	20,9	6,02	20,8	6,11	20,8	6,21	20,8	6,40
	-7,0	-7,6	21,7	5,76	21,6	5,94	21,6	6,12	21,6	6,22	21,5	6,31	21,5	6,49
	-5,0	-5,6	22,6	5,90	22,6	6,08	22,5	6,25	22,5	6,34	22,5	6,43	22,4	6,60
	-3,0	-3,7	23,5	6,03	23,5	6,20	23,4	6,36	23,4	6,45	23,4	6,53	23,3	6,70
	0,0	-0,7	24,9	6,21	24,9	6,37	24,8	6,53	24,8	6,60	24,8	6,68	24,4	6,70
	3,0	2,2	26,3	6,37	26,3	6,52	26,2	6,67	26,2	6,74	26,2	6,82	24,4	6,28
	5,0	4,1	27,2	6,46	27,2	6,61	27,1	6,75	27,1	6,82	26,2	6,56	24,4	6,04
	7,0	6,0	28,1	6,55	28,0	6,69	28,0	6,83	27,1	6,57	26,2	6,31	24,4	5,81
90% 25,2 kW	9,0	7,9	29,0	6,63	28,9	6,77	28,0	6,58	27,1	6,33	26,2	6,08	24,4	5,60
	11,0	9,8	29,9	6,71	29,8	6,83	28,0	6,34	27,1	6,10	26,2	5,87	24,4	5,41
	13,0	11,8	30,8	6,79	29,8	6,58	28,0	6,11	27,1	5,89	26,2	5,66	24,4	5,22
	15,0	13,7	31,6	6,81	29,8	6,36	28,0	5,91	27,1	5,69	26,2	5,48	24,4	5,05
	-19,8	-20,0	15,7	4,93	15,7	5,15	15,6	5,38	15,6	5,50	15,6	5,61	15,6	5,84
	-18,8	-19,0	16,2	5,05	16,2	5,27	16,1	5,49	16,1	5,60	16,1	5,71	16,0	5,93
	-16,7	-17,0	17,2	5,28	17,1	5,49	17,1	5,69	17,0	5,80	17,0	5,90	17,0	6,11
	-13,7	-15,0	18,1	5,48	18,1	5,68	18,0	5,88	18,0	5,97	18,0	6,07	17,9	6,27
	-11,8	-13,0	19,0	5,66	19,0	5,85	19,0	6,04	18,9	6,13	18,9	6,22	18,9	6,41
	-9,8	-11,0	20,0	5,83	19,9	6,01	19,9	6,19	19,9	6,27	19,9	6,36	19,8	6,54
	-9,5	-10,0	20,5	5,91	20,4	6,08	20,4	6,25	20,3	6,34	20,3	6,43	20,3	6,60
	-8,5	-9,1	20,9	5,97	20,8	6,14	20,8	6,31	20,8	6,40	20,7	6,48	20,7	6,65
	-7,0	-7,6	21,6	6,08	21,5	6,24	21,5	6,41	21,5	6,49	21,5	6,57	21,4	6,74
	-5,0	-5,6	22,5	6,21	22,5	6,37	22,4	6,52	22,4	6,60	22,4	6,68	22,0	6,65
	-3,0	-3,7	23,4	6,32	23,4	6,47	23,3	6,63	23,3	6,70	23,3	6,78	22,0	6,35
80% 22,4 kW	0,0	-0,7	24,8	6,49	24,8	6,63	24,8	6,77	24,4	6,69	23,6	6,43	22,0	5,92
	3,0	2,2	26,2	6,63	26,2	6,76	25,2	6,52	24,4	6,28	23,6	6,03	22,0	5,56
	5,0	4,1	27,1	6,72	26,8	6,75	25,2	6,27	24,4	6,03	23,6	5,80	22,0	5,35
	7,0	6,0	28,0	6,80	26,8	6,49	25,2	6,03	24,4	5,81	23,6	5,59	22,0	5,15
	9,0	7,9	28,4	6,70	26,8	6,25	25,2	5,81	24,4	5,60	23,6	5,39	22,0	4,97
	11,0	9,8	28,4	6,46	26,8	6,03	25,2	5,61	24,4	5,41	23,6	5,20	22,0	4,81
	13,0	11,8	28,4	6,22	26,8	5,81	25,2	5,41	24,4	5,22	23,6	5,02	22,0	4,64
	15,0	13,7	28,4	6,02	26,8	5,63	25,2	5,24	24,4	5,05	23,6	4,87	22,0	4,50
	-19,8	-20,0	15,6	5,37	15,6	5,57	15,6	5,77	15,6	5,88	15,5	5,98	15,5	6,18
	-18,8	-19,0	16,1	5,48	16,1	5,68	16,0	5,87	16,0	5,97	16,0	6,07	16,0	6,26
	-16,7	-17,0	17,1	5,68	17,0	5,87	17,0	6,05	17,0	6,15	16,9	6,24	16,9	6,42
	-13,7	-15,0	18,0	5,87	18,0	6,04	17,9	6,22	17,9	6,30	17,9	6,39	17,9	6,57
	-11,8	-13,0	19,0	6,03	18,9	6,20	18,9	6,36	18,9	6,44	18,8	6,53	18,8	6,69
	-9,8	-11,0	19,9	6,18	19,9	6,34	19,8	6,49	19,8	6,57	19,8	6,65	19,5	6,69
	-9,5	-10,0	20,4	6,25	20,3	6,40	20,3	6,55	20,3	6,63	20,3	6,71	19,5	6,50
	-8,5	-9,1	20,8	6,31	20,8	6,46	20,7	6,61	20,7	6,68	20,7	6,76	19,5	6,34
	-7,0	-7,6	21,5	6,40	21,5	6,55	21,4	6,69	21,4	6,76	21,0	6,63	19,5	6,10
	-5,0	-5,6	22,4	6,52	22,4	6,66	22,4	6,80	21,7	6,55	21,0	6,29	19,5	5,79
	-3,0	-3,7	23,3	6,62	23,3	6,75	22,4	6,50	21,7	6,25	21,0	6,01	19,5	5,53
	0,0	-0,7	24,8	6,77	23,8	6,52	22,4	6,06	21,7	5,83	21,0	5,61	19,5	5,17
	3,0	2,2	25,3	6,55	23,8	6,11	22,4	5,69	21,7	5,48	21,0	5,27	19,5	4,87
	5,0	4,1	25,3	6,29	23,8	5,88	22,4	5,47	21,7	5,27	21,0	5,07	19,5	4,69
	7,0	6,0	25,3	6,05	23,8	5,66	22,4	5,27	21,7	5,08	21,0	4,89	19,5	4,52
	9,0	7,9	25,3	5,83	23,8	5,46	22,4	5,08	21,7	4,90	21,0	4,72	19,5	4,37
	11,0	9,8	25,3	5,63	23,8	5,27	22,4	4,91	21,7	4,74	21,0	4,57	19,5	4,23
	13,0	11,8	25,3	5,43	23,8	5,09	22,4	4,75	21,7	4,58	21,0	4,41	19,5	4,09
	15,0	13,7	25,3	5,26	23,8	4,93	22,4	4,60	21,7	4,44	21,0	4,28	19,5	3,97

Symbols:

TC : Total capacity cooling: kW

PI : Power input: kW (Comp. + outdoor fan motor)

Note1: is shown as reference.

When selecting the unit models, avoid the outdoor air temperature range shown by

Note2: The above table shows the average value of conditions which may occur.

3TW31342-2

5 Capacity tables

5 - 2 Heating Capacity Tables

Heating CMSQ250A

Outdoor air temp.		Indoor air temp.: °CDB											
		16,0		18,0		20,0		21,0		22,0		24,0	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
Combination (%)	(°CDB) (°CWB)	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70% 19,6 kW	-19,8 -20,0	15,6	5,81	15,5	5,99	15,5	6,17	15,5	6,26	15,5	6,34	15,4	6,52
	-18,8 -19,0	16,0	5,91	16,0	6,08	16,0	6,25	15,9	6,34	15,9	6,43	15,9	6,60
	-16,7 -17,0	17,0	6,09	16,9	6,25	16,9	6,41	16,9	6,49	16,9	6,57	16,8	6,74
	-13,7 -15,0	17,9	6,25	17,9	6,40	17,9	6,56	17,8	6,63	17,8	6,71	17,1	6,45
	-11,8 -13,0	18,9	6,39	18,8	6,54	18,8	6,68	18,8	6,76	18,3	6,59	17,1	6,06
	-9,8 -11,0	19,8	6,52	19,8	6,66	19,6	6,72	19,0	6,47	18,3	6,22	17,1	5,72
	-9,5 -10,0	20,3	6,58	20,3	6,72	19,6	6,53	19,0	6,29	18,3	6,04	17,1	5,57
	-8,5 -9,1	20,7	6,64	20,7	6,77	19,6	6,37	19,0	6,13	18,3	5,90	17,1	5,43
	-7,0 -7,6	21,4	6,72	20,9	6,59	19,6	6,12	19,0	5,90	18,3	5,67	17,1	5,23
	-5,0 -5,6	22,1	6,71	20,9	6,26	19,6	5,82	19,0	5,61	18,3	5,39	17,1	4,98
	-3,0 -3,7	22,1	6,40	20,9	5,97	19,6	5,56	19,0	5,36	18,3	5,16	17,1	4,76
	0,0 -0,7	22,1	5,97	20,9	5,58	19,6	5,20	19,0	5,01	18,3	4,83	17,1	4,46
	3,0 2,2	22,1	5,60	20,9	5,24	19,6	4,89	19,0	4,72	18,3	4,55	17,1	4,21
	5,0 4,1	22,1	5,39	20,9	5,05	19,6	4,71	19,0	4,54	18,3	4,38	17,1	4,06
	7,0 6,0	22,1	5,20	20,9	4,87	19,6	4,54	19,0	4,39	18,3	4,23	17,1	3,92
	9,0 7,9	22,1	5,01	20,9	4,70	19,6	4,39	19,0	4,24	18,3	4,09	17,1	3,79
60% 16,8 kW	11,0 9,8	22,1	4,85	20,9	4,54	19,6	4,25	19,0	4,10	18,3	3,96	17,1	3,67
	13,0 11,8	22,1	4,68	20,9	4,39	19,6	4,11	19,0	3,97	18,3	3,83	17,1	3,56
	15,0 13,7	22,1	4,54	20,9	4,26	19,6	3,98	19,0	3,85	18,3	3,72	17,1	3,46
	-19,8 -20,0	15,5	6,26	15,4	6,41	15,4	6,56	15,4	6,64	15,4	6,71	14,6	6,38
	-18,8 -19,0	15,9	6,34	15,9	6,49	15,9	6,64	15,9	6,71	15,7	6,69	14,6	6,15
	-16,7 -17,0	16,9	6,50	16,9	6,63	16,8	6,75	16,3	6,49	15,7	6,24	14,6	5,74
	-13,7 -15,0	17,8	6,63	17,8	6,76	16,8	6,32	16,3	6,08	15,7	5,85	14,6	5,39
	-11,8 -13,0	18,8	6,76	17,9	6,40	16,8	5,95	16,3	5,73	15,7	5,51	14,6	5,08
	-9,8 -11,0	19,0	6,46	17,9	6,03	16,8	5,61	16,3	5,41	15,7	5,21	14,6	4,81
	-9,5 -10,0	19,0	6,28	17,9	5,87	16,8	5,46	16,3	5,26	15,7	5,07	14,6	4,68
	-8,5 -9,1	19,0	6,13	17,9	5,73	16,8	5,33	16,3	5,14	15,7	4,95	14,6	4,58
	-7,0 -7,6	19,0	5,89	17,9	5,51	16,8	5,13	16,3	4,95	15,7	4,77	14,6	4,41
	-5,0 -5,6	19,0	5,60	17,9	5,24	16,8	4,89	16,3	4,71	15,7	4,54	14,6	4,21
	-3,0 -3,7	19,0	5,35	17,9	5,01	16,8	4,68	16,3	4,51	15,7	4,35	14,6	4,03
	0,0 -0,7	19,0	5,01	17,9	4,69	16,8	4,38	16,3	4,23	15,7	4,08	14,6	3,79
50% 14,0 kW	3,0 2,2	19,0	4,71	17,9	4,42	16,8	4,14	16,3	3,99	15,7	3,86	14,6	3,58
	5,0 4,1	19,0	4,54	17,9	4,26	16,8	3,99	16,3	3,85	15,7	3,72	14,6	3,46
	7,0 6,0	19,0	4,38	17,9	4,12	16,8	3,85	16,3	3,73	15,7	3,60	14,6	3,35
	9,0 7,9	19,0	4,24	17,9	3,98	16,8	3,73	16,3	3,61	15,7	3,48	14,6	3,24
	11,0 9,8	19,0	4,10	17,9	3,85	16,8	3,61	16,3	3,49	15,7	3,38	14,6	3,15
	13,0 11,8	19,0	3,97	17,9	3,73	16,8	3,50	16,3	3,39	15,7	3,27	14,6	3,05
	15,0 13,7	19,0	3,85	17,9	3,62	16,8	3,40	16,3	3,29	15,7	3,18	14,6	2,97
	-19,8 -20,0	15,4	6,70	14,9	6,51	14,0	6,05	13,6	5,83	13,1	5,60	12,2	5,17
	-18,8 -19,0	15,8	6,73	14,9	6,28	14,0	5,84	13,6	5,62	13,1	5,41	12,2	4,99
	-16,7 -17,0	15,8	6,28	14,9	5,86	14,0	5,46	13,6	5,26	13,1	5,06	12,2	4,68
	-13,7 -15,0	15,8	5,88	14,9	5,50	14,0	5,13	13,6	4,94	13,1	4,76	12,2	4,40
	-11,8 -13,0	15,8	5,54	14,9	5,18	14,0	4,83	13,6	4,66	13,1	4,49	12,2	4,16
	-9,8 -11,0	15,8	5,24	14,9	4,90	14,0	4,58	13,6	4,42	13,1	4,26	12,2	3,95
	-9,5 -10,0	15,8	5,10	14,9	4,77	14,0	4,46	13,6	4,30	13,1	4,15	12,2	3,85
	-8,5 -9,1	15,8	4,98	14,9	4,66	14,0	4,36	13,6	4,21	13,1	4,06	12,2	3,77
	-7,0 -7,6	15,8	4,79	14,9	4,49	14,0	4,20	13,6	4,06	13,1	3,92	12,2	3,64
	-5,0 -5,6	15,8	4,57	14,9	4,29	14,0	4,01	13,6	3,87	13,1	3,74	12,2	3,48
	-3,0 -3,7	15,8	4,37	14,9	4,11	14,0	3,85	13,6	3,72	13,1	3,59	12,2	3,34
	0,0 -0,7	15,8	4,10	14,9	3,86	14,0	3,62	13,6	3,50	13,1	3,38	12,2	3,15
	3,0 2,2	15,8	3,88	14,9	3,65	14,0	3,42	13,6	3,31	13,1	3,20	12,2	2,98
	5,0 4,1	15,8	3,74	14,9	3,52	14,0	3,31	13,6	3,20	13,1	3,10	12,2	2,89
	7,0 6,0	15,8	3,62	14,9	3,41	14,0	3,20	13,6	3,10	13,1	3,00	12,2	2,80
	9,0 7,9	15,8	3,50	14,9	3,30	14,0	3,10	13,6	3,00	13,1	2,91	12,2	2,72
	11,0 9,8	15,8	3,39	14,9	3,20	14,0	3,01	13,6	2,92	13,1	2,82	12,2	2,64
	13,0 11,8	15,8	3,29	14,9	3,10	14,0	2,92	13,6	2,83	13,1	2,74	12,2	2,56
	15,0 13,7	15,8	3,20	14,9	3,02	14,0	2,84	13,6	2,75	13,1	2,67	12,2	2,50

Symbols:

TC : Total capacity cooling: kW

PI : Power input: kW (Comp. + outdoor fan motor)

Note1: is shown as reference.

When selecting the unit models, avoid the outdoor air temperature range shown by

Note2: The above table shows the average value of conditions which may occur.

3TW31342-2

5 Capacity tables

5 - 3 Integrated Heating Capacity Correction Factor

CMSQ200-250A

INTEGRATED HEATING CAPACITY COEFFICIENT

The heating capacity tables do not take account of the reduction in capacity, when frost has accumulated or while the defrosting operation is in progress. The capacity values, which take these factors into account, in other words, the integrated heating capacity values, can be calculated as follows:

Formula:

Integrated heating capacity = A

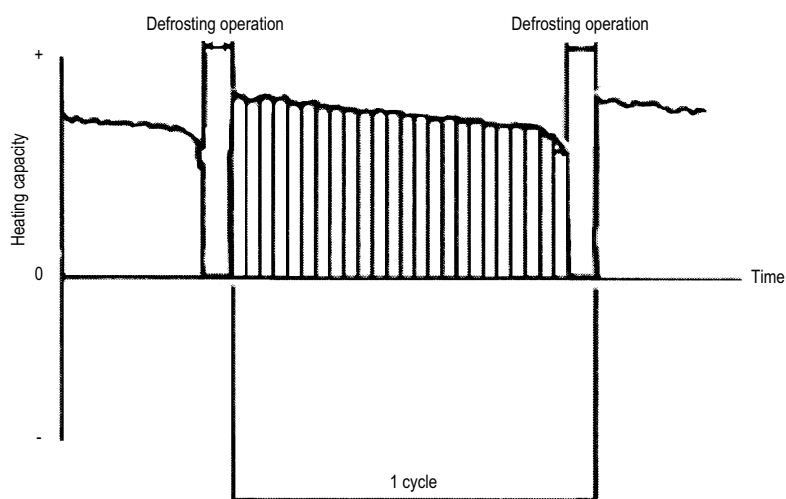
Value given in table of capacity characteristics = B

Integrating correction factor for frost accumulation (kW) = C

$A = B \times C$

Integrating correction factor for finding integrated heating capacity

Inlet port temperature of heat exchanger (°C/RH 85%)	-7	-5	-3	0	3	5	7
Integrating correction factor for frost accumulation	0.96	0.93	0.87	0.81	0.83	0.89	1.0



3TW27232-7

NOTE

- The figure shows that the integrated heating capacity expresses the integrated capacity for a single cycle (from defrost operation to defrost operation) in terms of time.

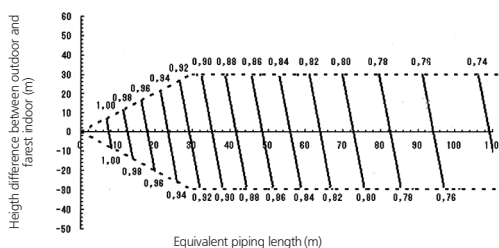
Please note that, when there is an accumulation of snow against the outside surface of the outdoor unit heat exchanger, there will always be a temporary reduction in capacity, although this will of course vary in degree in accordance with a number of other factors, such as the outdoor temperature (°CDB), relative humidity (RH) and the amount of frosting which occurs.

5 Capacity tables

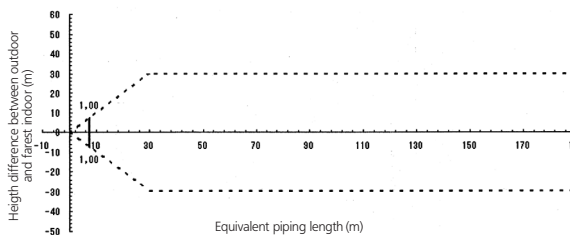
5 - 4 Capacity Correction Factor

CMSQ200A

Correction ratio for cooling capacity



Correction ratio for heating capacity



Notes

- These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.
- With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.
- Method of calculating the capacity of the outdoor units**
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

Condition: Indoor connection ratio does not exceed 100%

$$\begin{aligned} \text{Maximum capacity of outdoor units} &= \text{Capacity of outdoor units from capacity table at 100\% connection ratio} \\ &\times \text{Correction ratio of piping to farthest indoor} \end{aligned}$$

Condition: Indoor connection ratio exceeds 100%

$$\begin{aligned} \text{Maximum capacity of outdoor units} &= \text{Capacity of outdoor units from capacity table at installed connection ratio} \\ &\times \text{Correction ratio of piping to farthest indoor} \end{aligned}$$

- When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased.
For new diameters, see below.

model	Gas pipe	Liquid pipe
CMSQ200	19.1	9.5

- When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

model	Gas pipe	Liquid pipe
CMSQ200	15.9	9.5

- Equivalent length used in the above figures is based upon the following equivalent length

$$\begin{aligned} \text{Equivalent piping length} &= \\ \text{Equivalent length of main pipe} &\times \text{Correction factor} \\ + \\ \text{Equivalent length of branch pipes} &\times \text{Correction factor} \end{aligned}$$

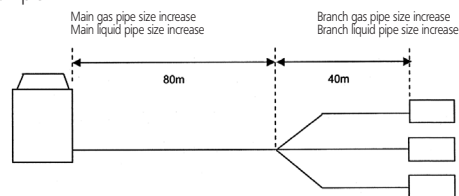
Choose the correction factor from the following table.

When cooling capacity is calculated: gas pipe size

When heating capacity is calculated: liquid pipe size

	Correction factor	
	Standard size	Size increase
Cooling (Gas pipe)	1.0	0.5
Heating (Liquid pipe)	1.0	0.5

Example



In the above case

(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m

(Heating) Overall equivalent length = 80m x 1.0 + 40m x 1.0 = 120m

The rate of change in:

Cooling capacity when height difference = 0 is thus approximately 0.78.

Heating capacity when height difference = 0 is thus approximately 1.0

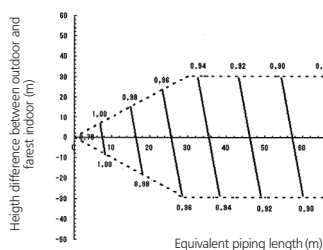
3TW31342-6

5 Capacity tables

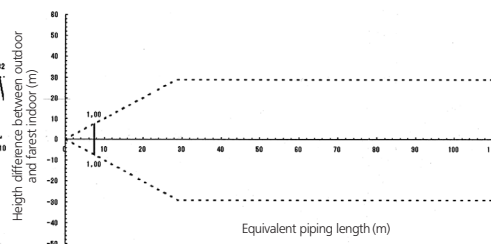
5 - 4 Capacity Correction Factor

CMSQ250A

Correction ratio for cooling capacity



Correction ratio for heating capacity



Notes

- These figures illustrate the correction ratio for piping length in capacity for a standard indoor unit system at maximum load (with the thermostat set to maximum) under standard conditions.
Moreover, under partial load conditions there is only a minor deviation from the rate of change in capacity shown in the above figures.
- With this outdoor unit, evaporating pressure constant control when cooling, and condensing pressure constant control when heating is carried out.
- Method of calculating the capacity of the outdoor units**
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is smaller.

Condition: Indoor connection ratio does not exceed 100%

$$\begin{aligned} \text{Maximum capacity of outdoor units} &= \text{Capacity of outdoor units from capacity table at 100\% connection ratio} \\ &\times \text{Correction ratio of piping to farthest indoor} \end{aligned}$$

Condition: Indoor connection ratio exceeds 100%

$$\begin{aligned} \text{Maximum capacity of outdoor units} &= \text{Capacity of outdoor units from capacity table at installed connection ratio} \\ &\times \text{Correction ratio of piping to farthest indoor} \end{aligned}$$

- When level difference is 50m or more and equivalent pipe length is 90m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased.
For new diameters, see below.

model	Gas pipe	Liquid pipe
CMSQ250	22.2	12.7

- When the pipe length after the first refrigerant branch kit is more than 40m, pipe size between first and final branch kit must be increased (refer also to installation manual).
Diameter of main pipes (standard size)

model	Gas pipe	Liquid pipe
CMSQ250	19.1	9.5

- Equivalent length used in the above figures is based upon the following equivalent length

$$\begin{aligned} \text{Equivalent piping length} &= \\ \text{Equivalent length of main pipe} &\times \text{Correction factor} \\ + \\ \text{Equivalent length of branch pipes} &\times \text{Correction factor} \end{aligned}$$

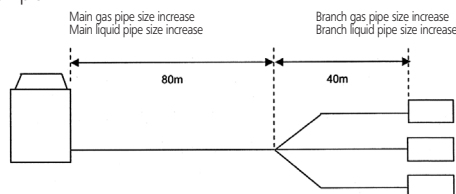
Choose the correction factor from the following table.

When cooling capacity is calculated: gas pipe size

When heating capacity is calculated: liquid pipe size

	Correction factor	
	Standard size	Size increase
Cooling (Gas pipe)	1.0	0.5
Heating (Liquid pipe)	1.0	0.5

Example



In the above case

(Cooling) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 80m

(Heating) Overall equivalent length = 80m x 0.5 + 40m x 1.0 = 120m

The rate of change in:

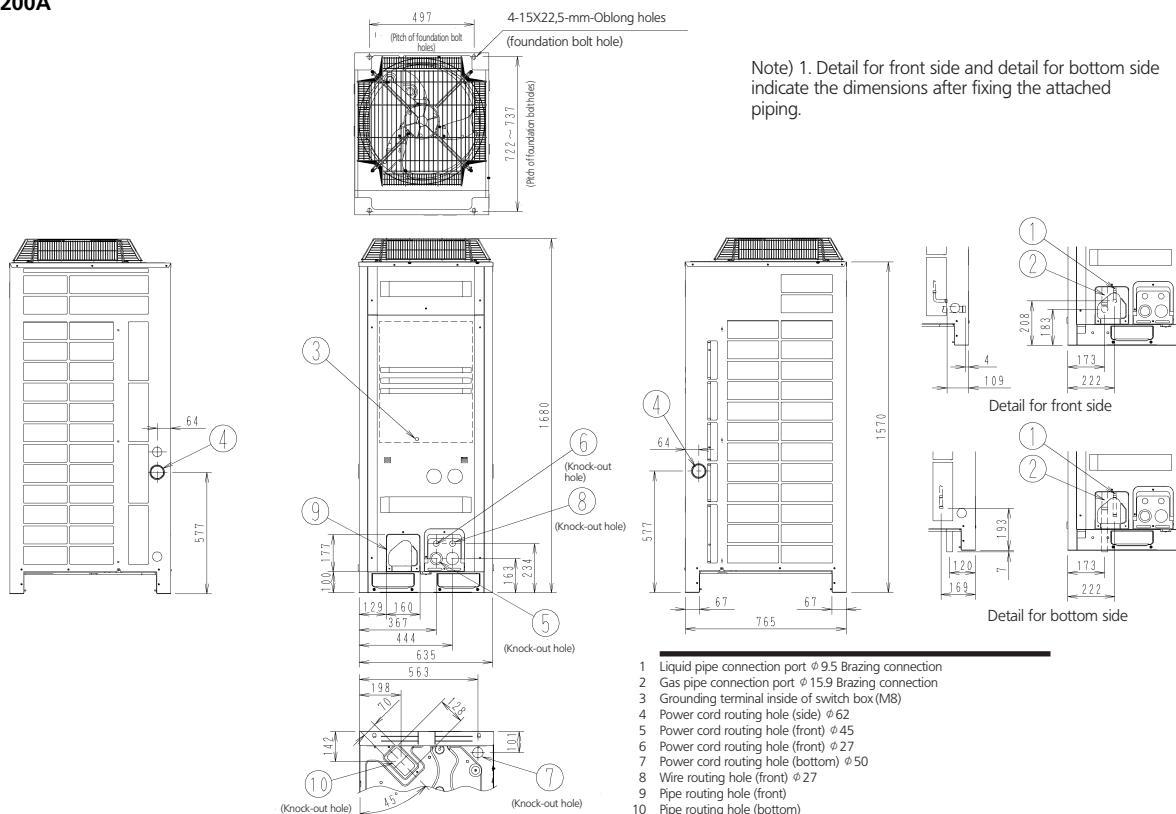
Cooling capacity when height difference = 0 is thus approximately 0.80.

Heating capacity when height difference = 0 is thus approximately 1.0

6 Dimensional drawings

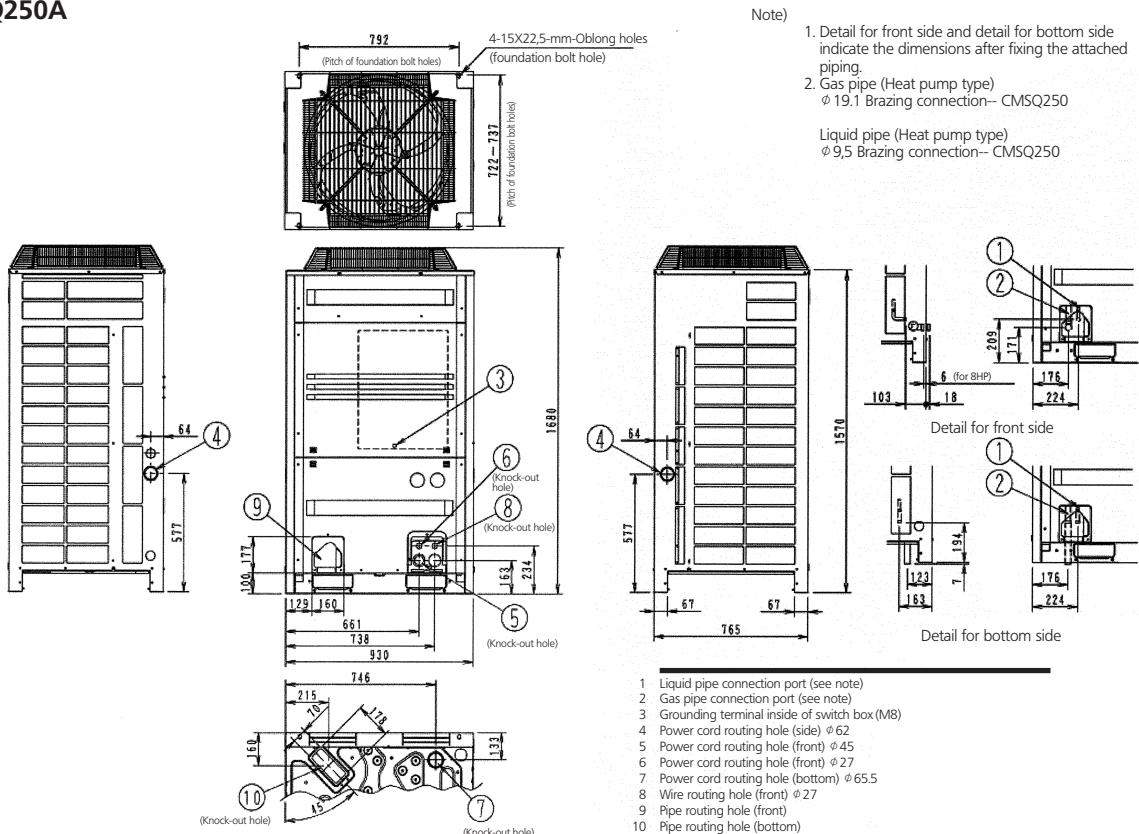
6 - 1 Dimensional Drawings

CMSQ200A



3D051448E

CMSQ250A



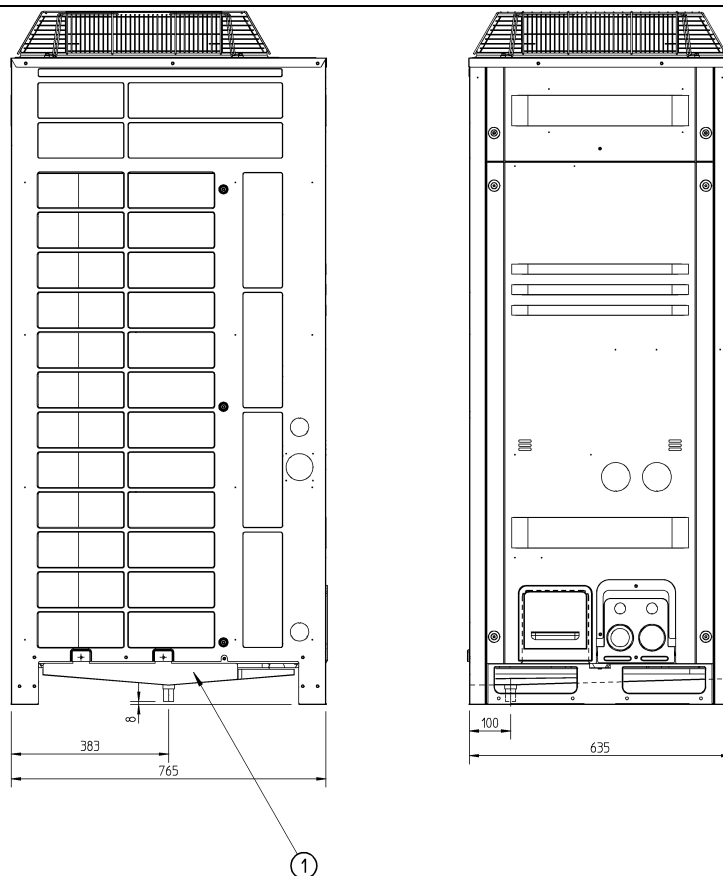
3TW31354-1

6 Dimensional drawings

6 - 2 Dimensional Drawings with Accessories

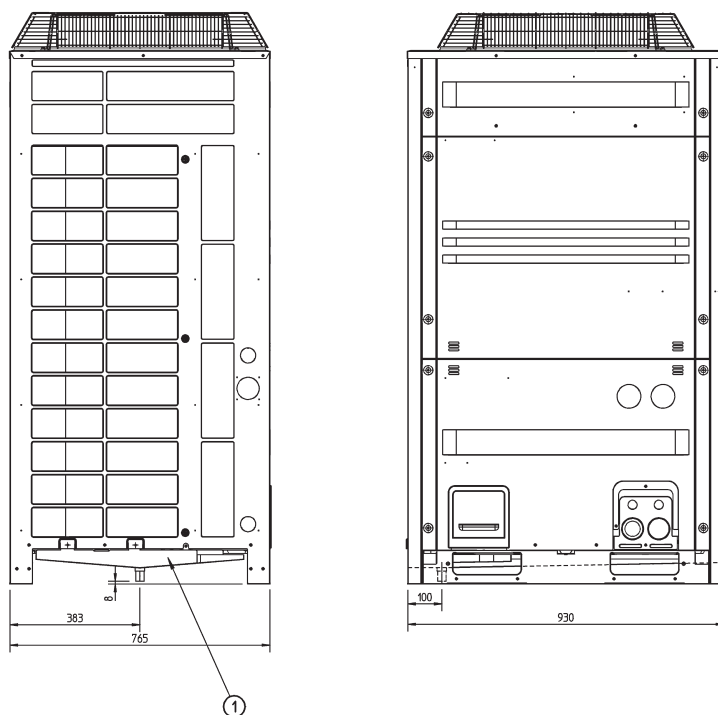
6

CMSQ200A



3TW27234-1

CMSQ250A

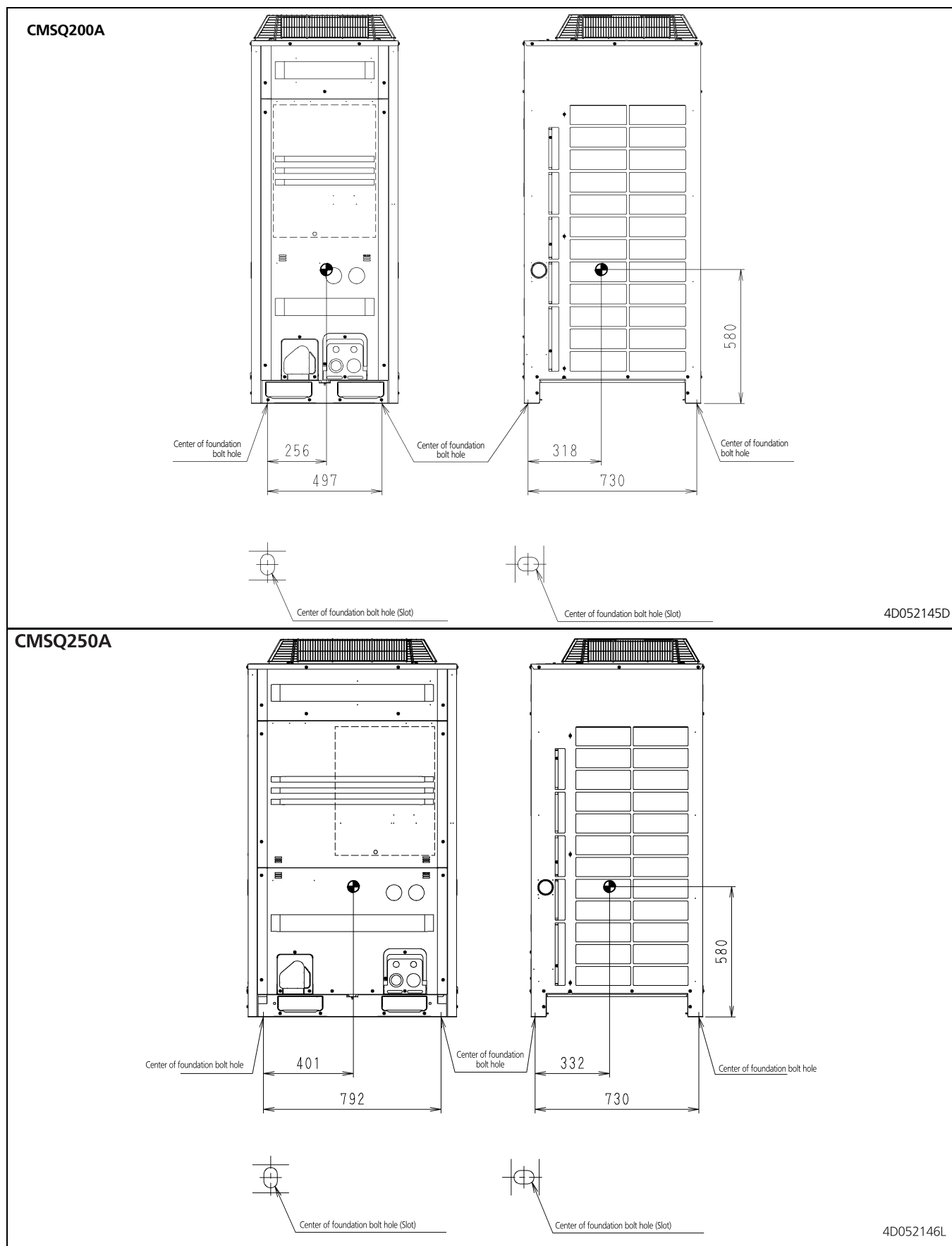


Item	Part name	Remark
1	Central drain pan kit	KWC26B280

3TW27244-1

7 Centre of gravity

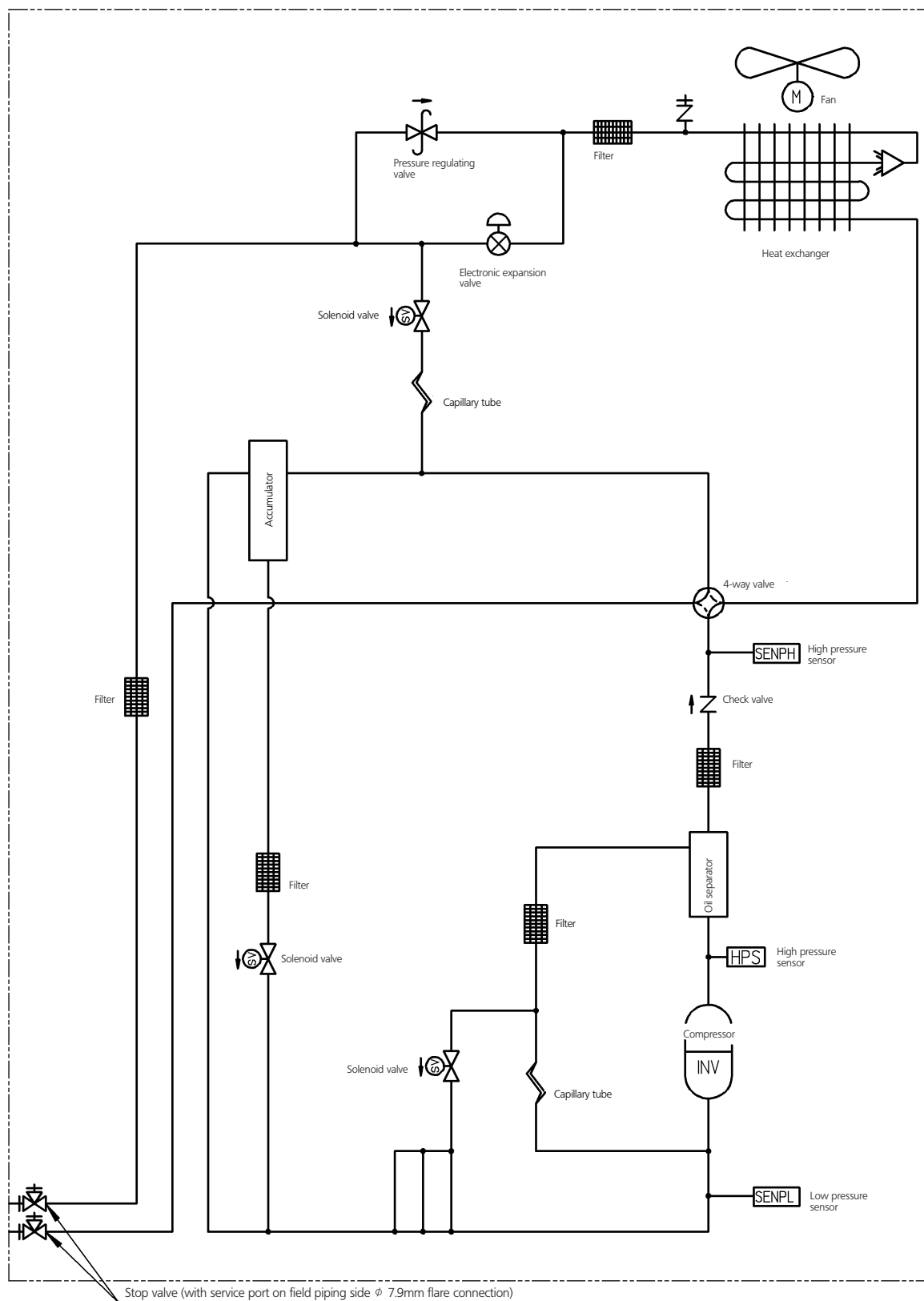
7 - 1 Centre of Gravity



8 Piping diagrams

8 - 1 Piping Diagrams

CMSQ200A

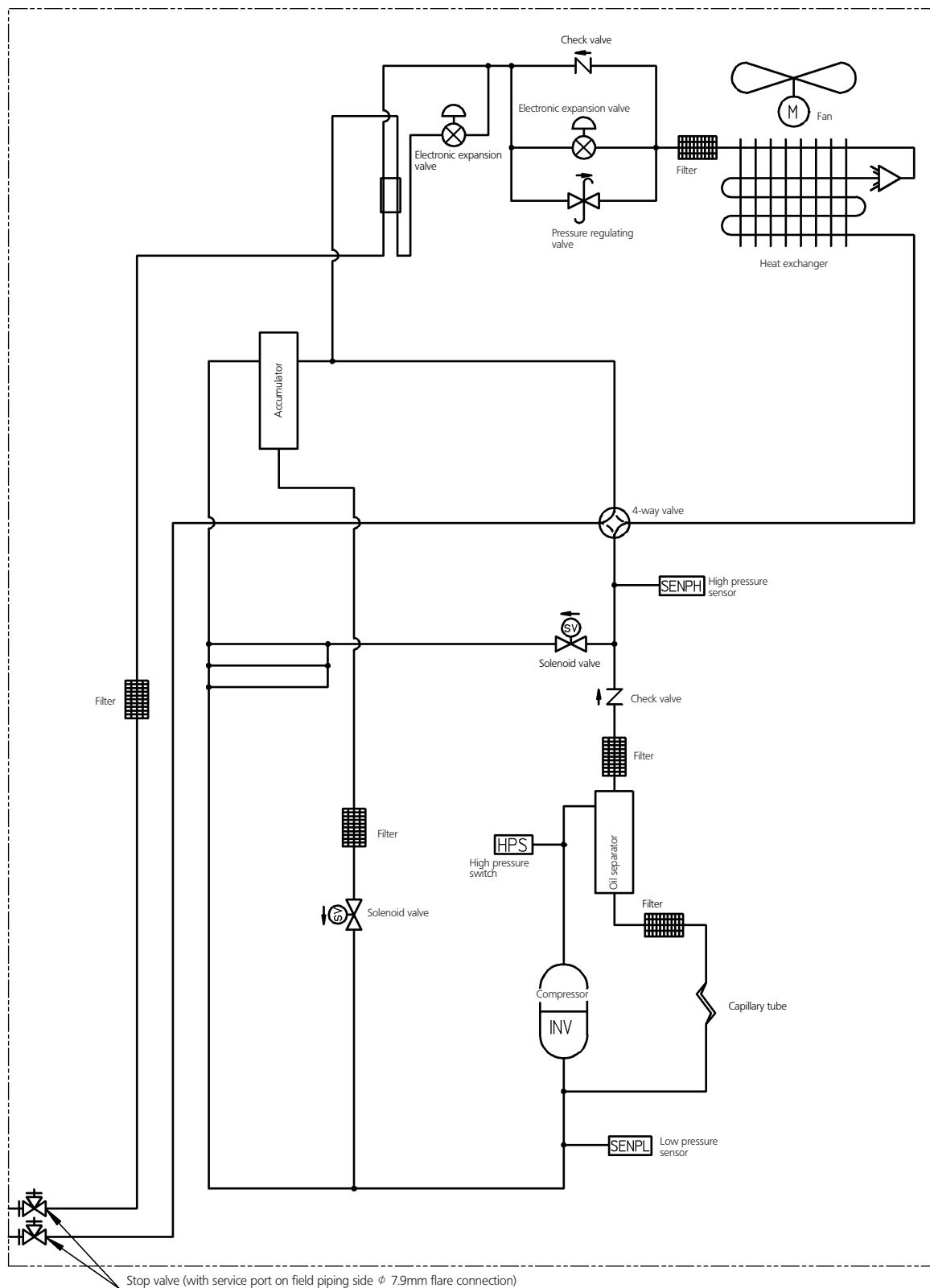


4TW31345-1

8 Piping diagrams

8 - 1 Piping Diagrams

CMSQ250A



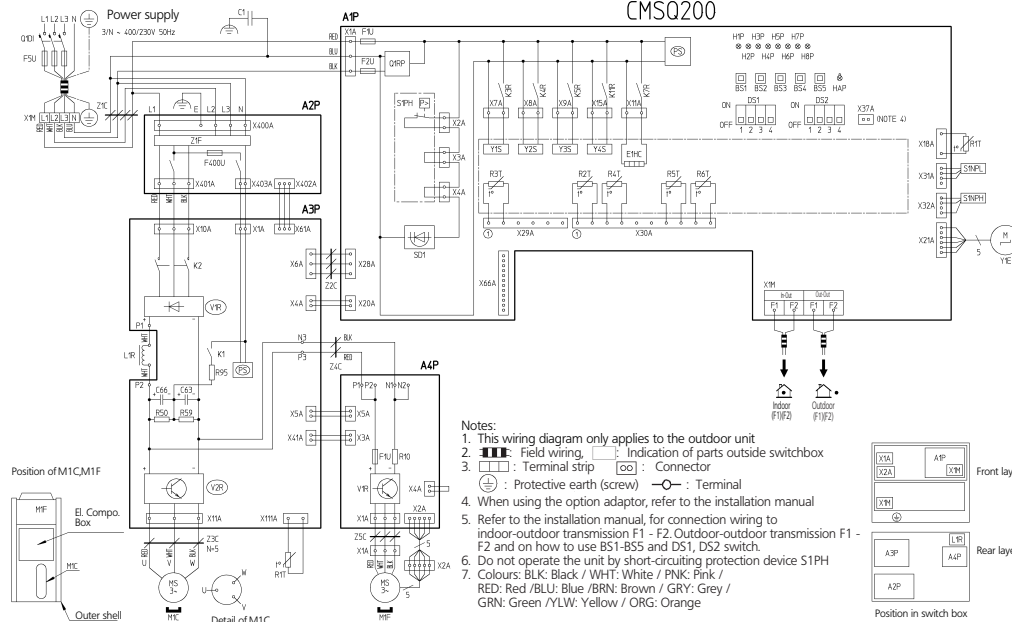
4TW31355-1

9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

CMSQ200A

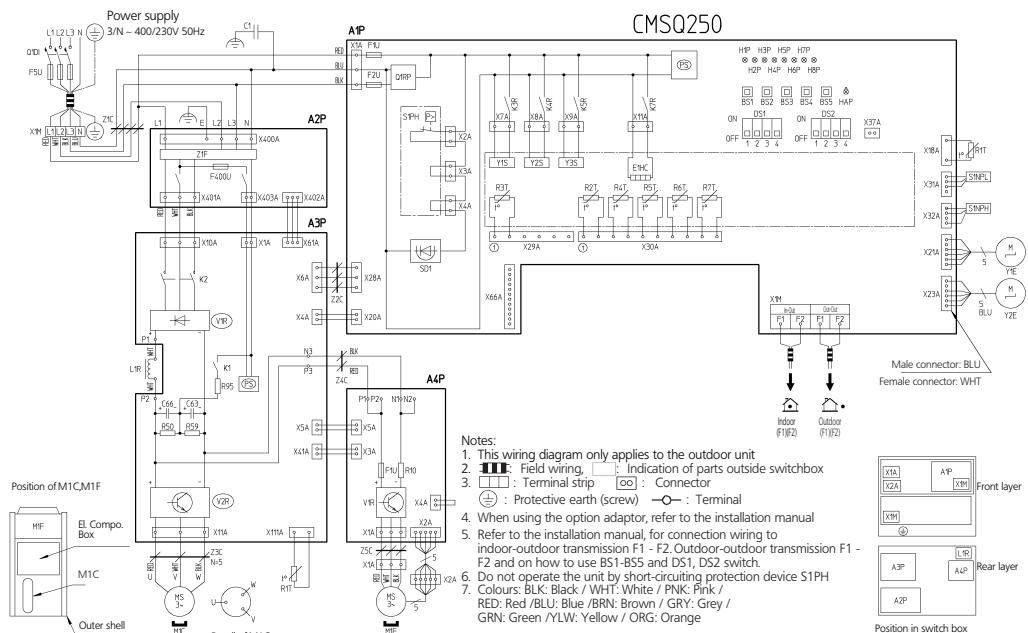
- A1P : Printed circuit board (Main)
- A2P : Printed circuit board (Noise filter)
- A3P : Printed circuit board (Inverter)
- A4P : Printed circuit board (Fan)
- BS1~BS5 : Push button switch (Mode, set, return, test, reset)
- C1 : Capacitor
- C63, C66 : Dip switch
- DS1, DS2 : Crankcase heater
- E1HC : Fuse (250V, 8A (D)) (A4P)
- F1U : Fuse (250V, 3.15A (D)) (A1P)
- F5U : Field fuse
- F400U : Fuse (250V, 6.3A (D)) (A2P)
- H1P~H8P : Pilotlamp (service monitor - orange)
- [H2P] : Prepare test — Flickering
- HAP : Multifunction detection — Light up
- K1 : Pilotlamp (service monitor - green)
- K2 : Magnetic relay
- K3R : Magnetic relay (M1C)
- K4R : Magnetic relay (Y1S)
- K5R : Magnetic relay (Y2S)
- K7R : Magnetic relay (Y3S)
- K11R : Magnetic relay (E1HC)
- L1R : Magnetic relay (Y4S)
- L1R : Reactor
- M1C : Motor (compressor)
- M1F : Motor (fan)
- PS : Switching power supply (A1P/A3P)
- Q1RP : Phase reversal detect circuit
- Q1DI : Earth leakage breaker
- R10 : Resistor (Current sensor (A4P))
- R50, R59 : Resistor
- R95 : Resistor (current limiting)
- R11 : Thermistor (air) (A1P)
- R17 : Thermistor (fin) (A3P)
- R21 : Thermistor (Suction)
- R31 : Thermistor (discharge pipe) (M1C)
- R41 : Thermistor (Heat exch. deicer)
- R51 : Thermistor (Heat exch. deicer)
- R61 : Thermistor (liquid pipe)
- R71 : Thermistor (Accumulator)
- S1NPH : Pressure sensor (High)
- S1NPL : Pressure sensor (Low)
- S1PH : Pressure switch (High)
- S1 : Safety devices input
- V1R : Power module (A4P)
- V1R/V2R : Power module (A3P)
- X1A/X2A : Connector (M1F)
- X1M : Terminal strip (Power supply)
- X1M : Terminal strip (Control) (A1P)
- X1M : Terminal strip (ASP)
- Y1E : Electronic expansion valve (Main)
- Y1S : Solenoid valve (Hot gas)
- Y2S : Solenoid valve (oil return)
- Y3S : Solenoid valve (4-way valve)
- Y4S : Solenoid valve (injection)
- Z1C~Z5C : Noise filter (ferrite core)
- Z1F : Noise filter (with surge absorber)



2TW31346-1

CMSQ250A

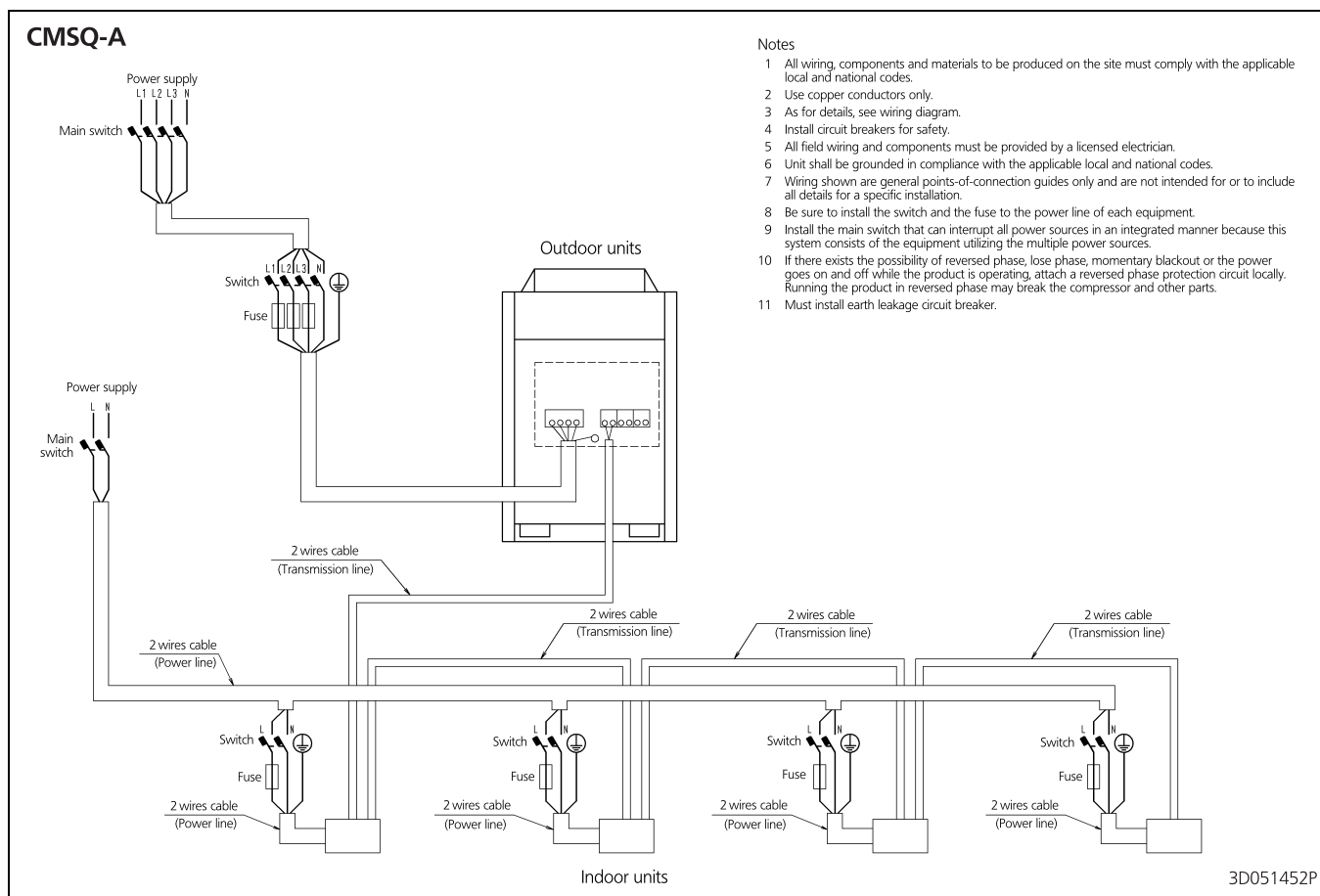
- A1P : Printed circuit board (Main)
- A2P : Printed circuit board (Noise filter)
- A3P : Printed circuit board (Inverter)
- A4P : Printed circuit board (Fan)
- BS1~BS5 : Push button switch (Mode, set, return, test, reset)
- C1 : Capacitor
- C63, C66 : Dip switch
- DS1, DS2 : Crankcase heater
- E1HC : Fuse (250V, 8A (D)) (A4P)
- F1U : Fuse (250V, 3.15A (D)) (A1P)
- F5U : Field fuse
- F400U : Fuse (250V, 6.3A (D)) (A2P)
- H1P~H8P : Pilotlamp (service monitor - orange)
- [H2P] : Prepare test — Flickering
- HAP : Multifunction detection — Light up
- K1 : Pilotlamp (service monitor - green)
- K2 : Magnetic relay
- K3R : Magnetic relay (M1C)
- K4R : Magnetic relay (Y1S)
- K5R : Magnetic relay (Y2S)
- K7R : Magnetic relay (Y3S)
- K11R : Magnetic relay (E1HC)
- L1R : Reactor
- M1C : Motor (compressor)
- M1F : Motor (fan)
- PS : Switching power supply (A1P/A3P)
- Q1RP : Phase reversal detect circuit
- Q1DI : Earth leakage breaker
- R10 : Resistor (Current sensor (A4P))
- R50, R59 : Resistor
- R95 : Resistor (current limiting)
- R11 : Thermistor (air) (A1P)
- R17 : Thermistor (fin) (A3P)
- R21 : Thermistor (Suction)
- R31 : Thermistor (discharge pipe) (M1C)
- R41 : Thermistor (Heat exch. deicer)
- R51 : Thermistor (Heat exch. deicer)
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- R71 : Thermistor (Accumulator)
- S1NPH : Pressure sensor (High)
- S1NPL : Pressure sensor (Low)
- S1PH : Pressure switch (High)
- S1 : Safety devices input
- V1R : Power module (A4P)
- V1R/V2R : Power module (A3P)
- X1A/X2A : Connector (M1F)
- X1M : Terminal strip (Power supply)
- X1M : Terminal strip (Control) (A1P)
- X1M : Terminal strip (ASP)
- Y1E : Electronic expansion valve (Main)
- Y2E : Solenoid valve (Hot gas)
- Y2S : Solenoid valve (oil return)
- Y3S : Solenoid valve (4-way valve)
- Y4S : Solenoid valve (injection)
- Z1C~Z5C : Noise filter (ferrite core)
- Z1F : Noise filter (with surge absorber)



2TW31356-1

10 External connection diagrams

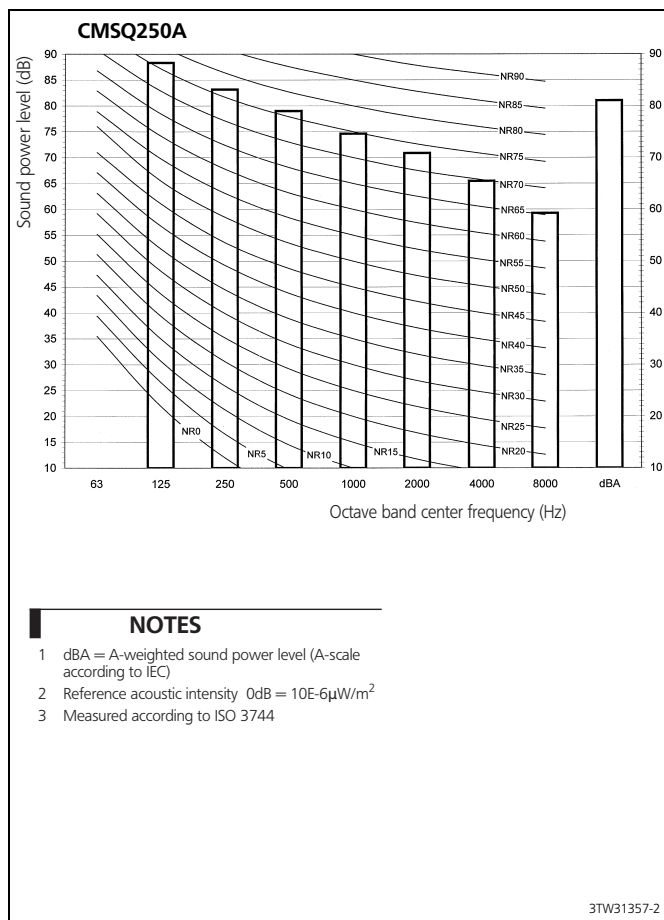
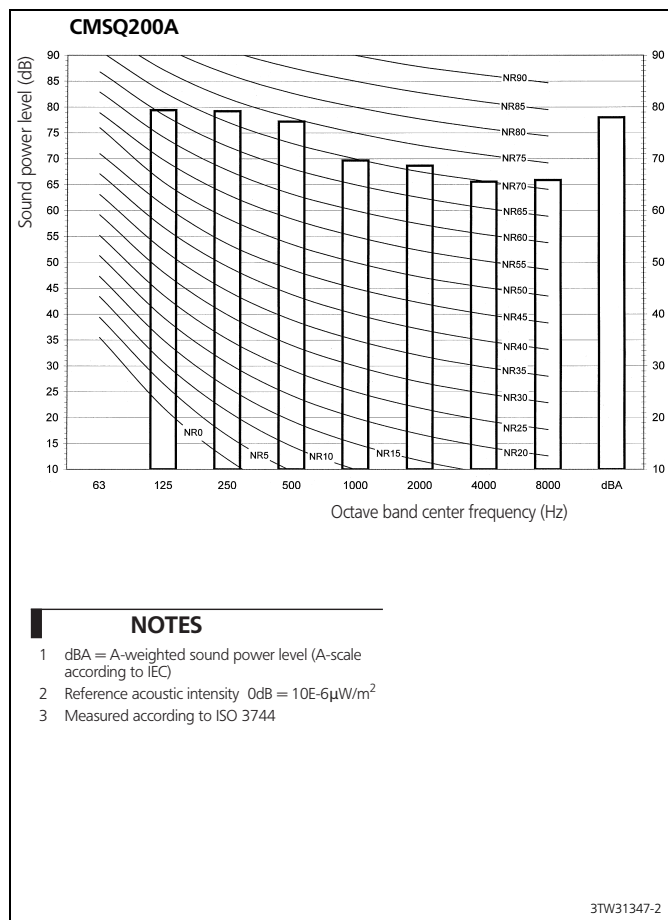
10 - 1 External Connection Diagrams



11 Sound data

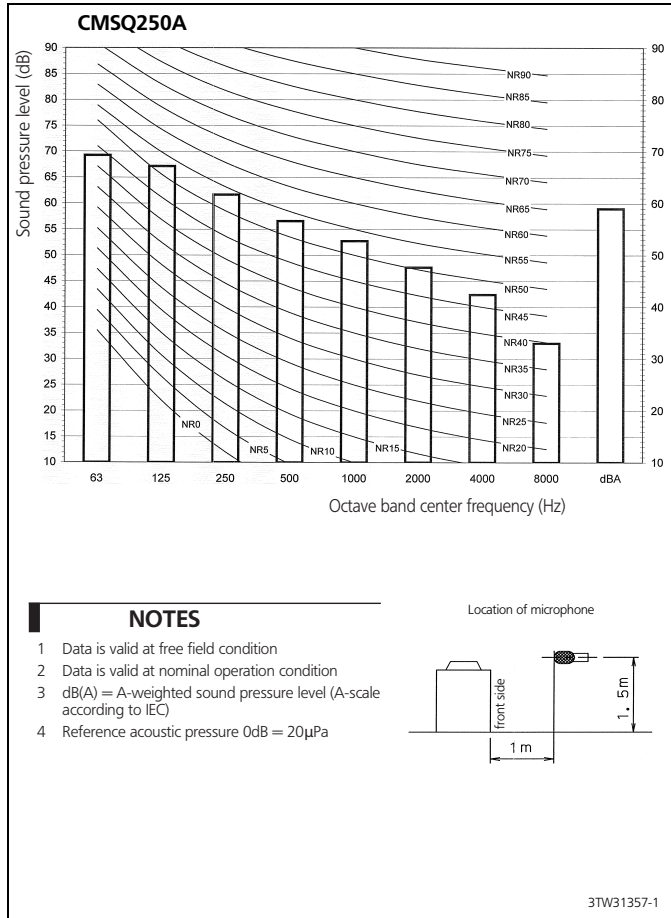
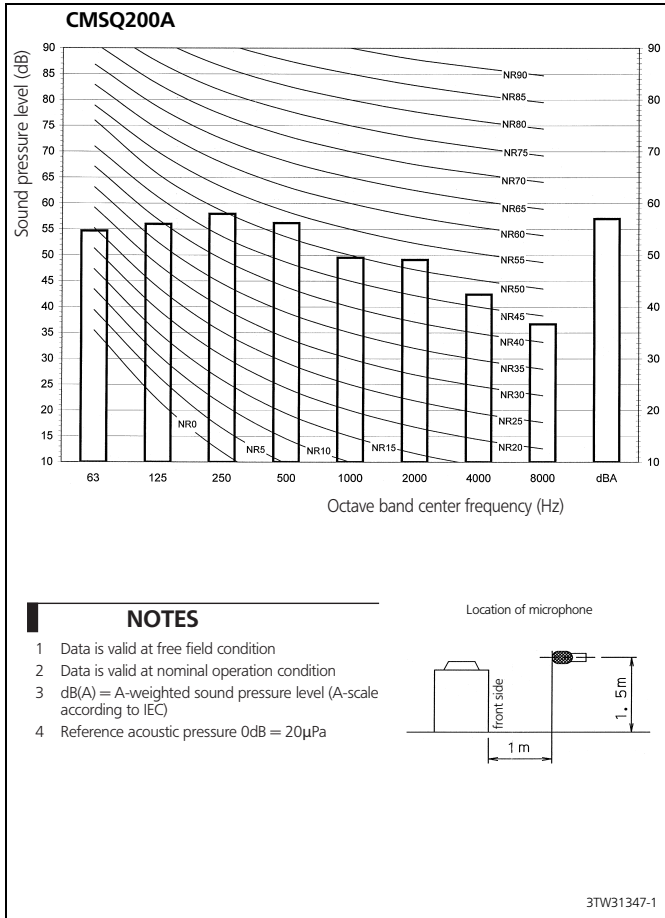
11 - 1 Sound Power Spectrum

11



11 Sound data

11 - 2 Sound Pressure Spectrum - Cooling



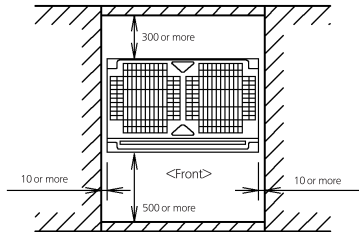
12 Installation

12 - 1 Installation Method

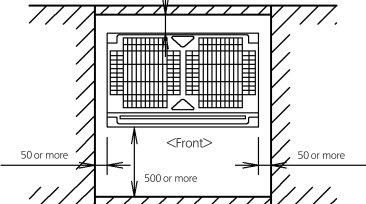
CMSQ-A

For single unit installation

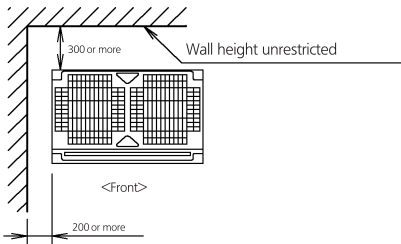
<Pattern 1>



<Pattern 2>

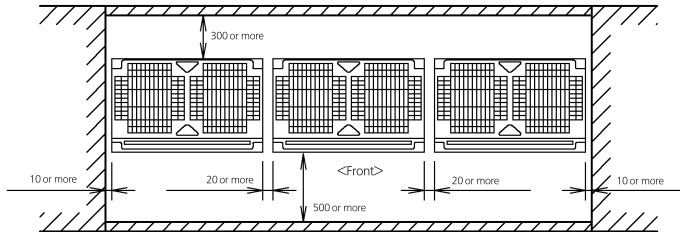


<Pattern 3>

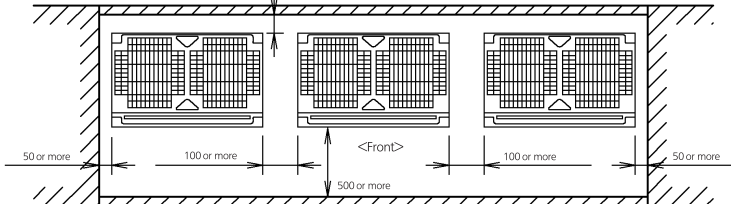


For installation in rows

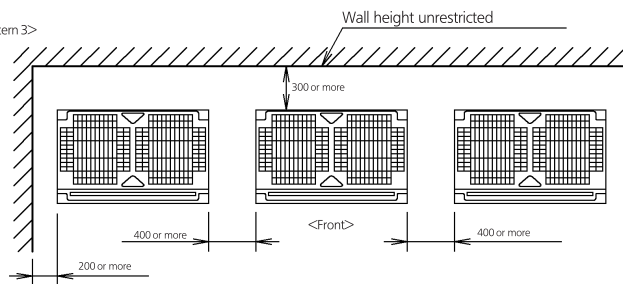
<Pattern 1>



<Pattern 2>



<Pattern 3>



Notes:

- Heights of walls in case of Patterns 1 and 2:
Front: 1500 mm
suction side: 500 mm
Side: Height unrestricted.
Installation space to be shown in this drawing is based on the cooling operation at 35 degrees outdoor air temperature.
When the design outdoor air temperature exceeds 35 degrees or the load exceeds maximum ability because of much generation load of heat in all outdoor unit, take the suction side space more broadly than the space to be shown in this drawing.
- If the above wall heights are exceeded then $h1/2$ and $h2/2$ should be added to the front and suction side service spaces respectively as shown in the figure on the right.
- When installing the units the most appropriate pattern should be selected from those shown above in order to obtain the best fit in the space available always bearing in mind the need to leave enough space for a person to pass between units and wall and for the air to circulate freely.
(If more units are to be installed than are catered for in the above patterns your layout should take account of the possibility of short circuits.)
- The units should be installed to leave sufficient space at the front for the on site refrigerant piping work to be carried out comfortably.

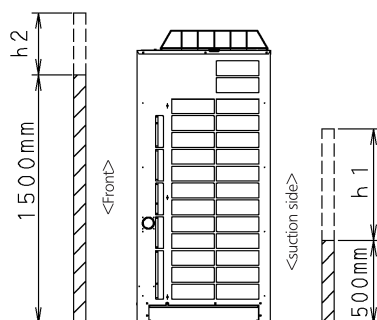
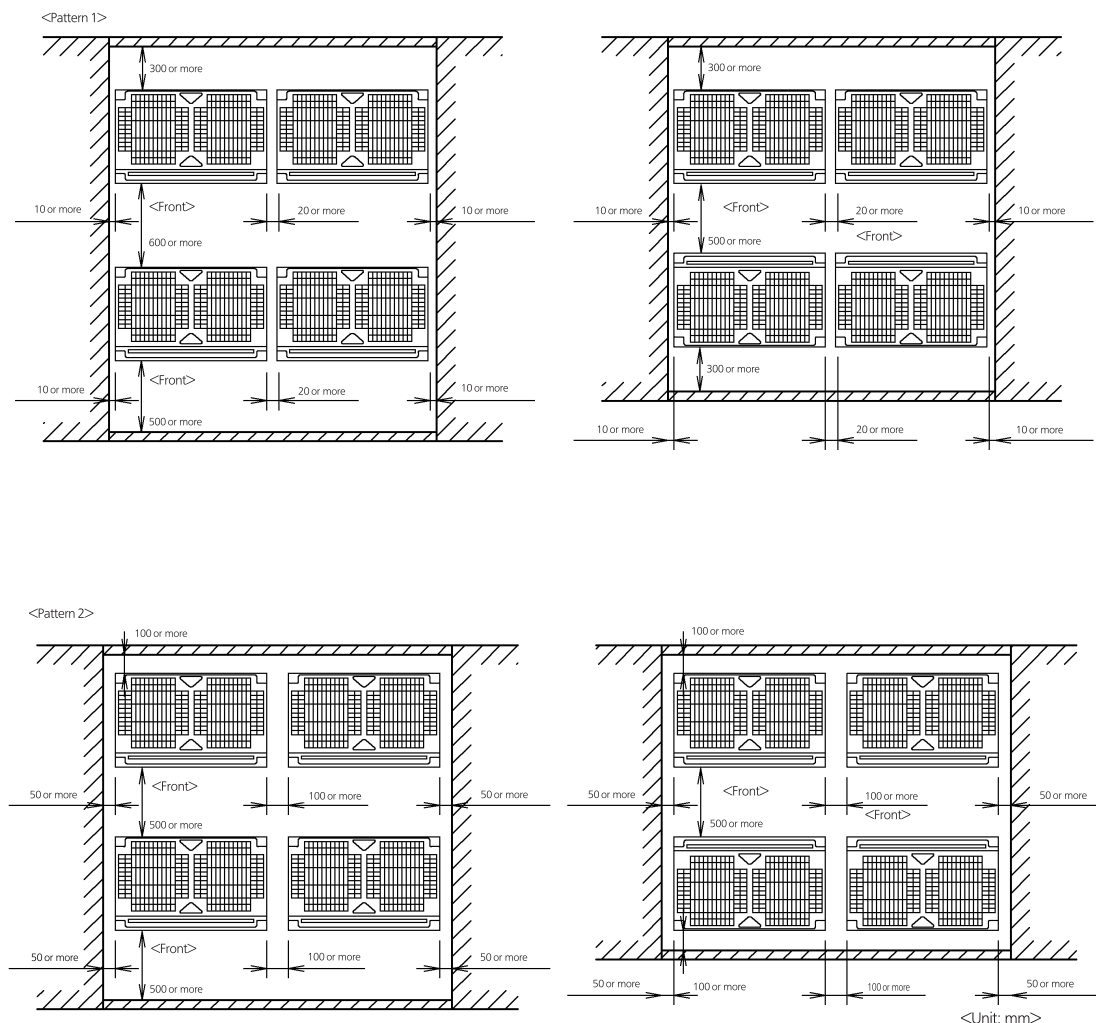
3D051451R

12 Installation

12 - 1 Installation Method

CMSQ-A

For centralized group layout



Notes:

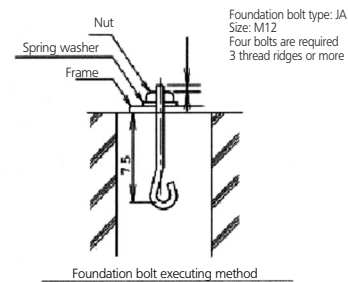
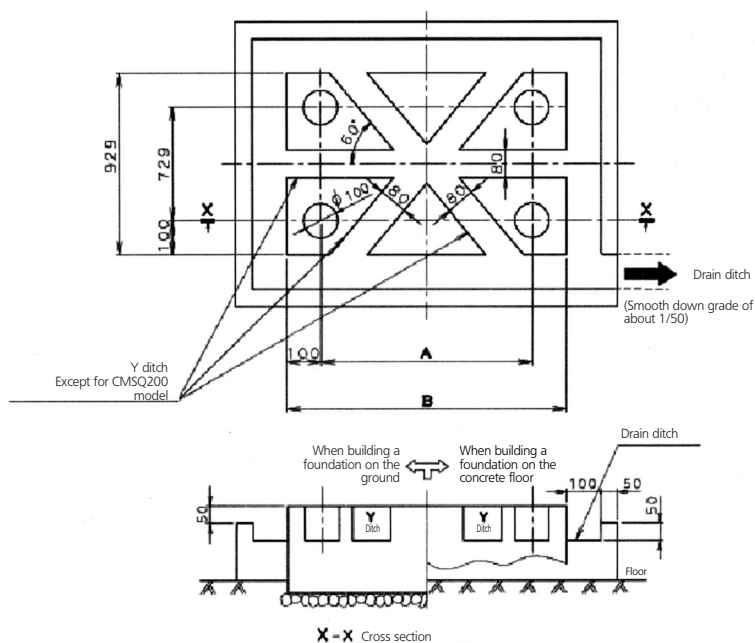
- Heights of walls in case of Patterns 1 and 2:
Front: 1500 mm
suction side: 500 mm
Side: Height unrestricted.
Installation space to be shown in this drawing is based on the cooling operation at 35 degrees outdoor air temperature.
When the design outdoor air temperature exceeds 35 degrees or the load exceeds maximum ability because of much generation load of heat in all outdoor unit, take the suction side space more broadly than the space to be shown in this drawing.
- If the above wall heights are exceeded then $h1/2$ and $h2/2$ should be added to the front and suction side service spaces respectively as shown in the figure on the right.
- When installing the units the most appropriate pattern should be selected from those shown above in order to obtain the best fit in the space available always bearing in mind the need to leave enough space for a person to pass between units and wall and for the air to circulate freely.
(If more units are to be installed than are catered for in the above patterns your layout should take account of the possibility of short circuits.)
- The units should be installed to leave sufficient space at the front for the on site refrigerant piping work to be carried out comfortably.

3D051451R

12 Installation

12 - 2 Fixation and Foundation of Units

CMSQ200-250A



Notes:

- 1 The proportions of cement: sand: gravel for the concrete shall be 1:2:4, and the reinforcement bars that their diameter are 10mm, (approx. 300mm intervals) shall be placed.
- 2 The surface shall be finished with mortar. The corner edges shall be chamfered.
- 3 When the foundation is built on a concrete floor, rubble is not necessary. However, the surface of the section on which the foundation is built shall have rough finish.
- 4 A drain ditch shall be made around the foundation to thoroughly drain water from the equipment installation area.
- 5 When installing the equipment on a roof, the floor strength shall be checked, and water-proofing measures shall be taken.
- 6 Y ditch is not necessary for CMSQ200 model.

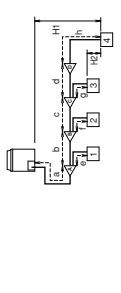
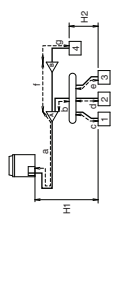
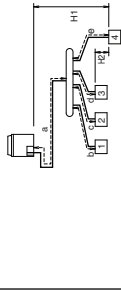
Model	A	B
CMSQ200	497	697
CMSQ250	792	992

3TW31349-6

12 Installation

12 - 3 Refrigerant Pipe Selection

CMSQ200-250A

Example of connection (Connection of 4 indoor units Heat pump system)		One outdoor unit installed	Branch with refnet joint	Branch with refnet joint and refnet header	Branch with refnet header						
1 indoor unit 2 refnet joint 3 refnet header											
Maximum allowable length		Actual pipe length	Pipe length between outdoor and indoor units ≤165 m								
	Between outdoor and indoor units	Equivalent length	[Example] unit 4: a+b+c+d+h≤165 m								
		Total extension length	Equivalent pipe length between outdoor and indoor units ≤190 m (Assume equivalent pipe length of refnet joint to be 0.5 m and of the refnet header to be 1.0 m. (for calculation purposes))								
Allowable height		Difference in height	Total piping length from outdoor unit to all indoor units ≤200 m								
	Between outdoor and indoor units	Difference in height	Difference in height between outdoor and indoor units (H1)≤30 m								
	Between indoor and indoor units	Difference in height	Difference in height between adjacent indoor units (H2)≤4 m								
Allowable length after the branch		Actual pipe length	Pipe length from first refrigerant branch kit (either refnet joint or refnet header) to indoor unit ≤40 m (See note on next page)								
Refrigerant branch kit selection			[Example] unit 4: b+c+d+h≤40 m								
Refrigerant branch kits can only be used with R410A.		How to select the refnet joint									
		• When using refnet joints at the first branch counted from the outdoor unit side. Choose from the following table in accordance with the capacity of the outdoor unit.									
		<table><tr><th>Outdoor unit capacity type</th><th>Refrigerant branch kit name</th></tr><tr><td>CMSQ200</td><td>KHRQ22M20T</td></tr><tr><td>CMSQ250</td><td>KHRQ22M29T9</td></tr></table>				Outdoor unit capacity type	Refrigerant branch kit name	CMSQ200	KHRQ22M20T	CMSQ250	KHRQ22M29T9
Outdoor unit capacity type	Refrigerant branch kit name										
CMSQ200	KHRQ22M20T										
CMSQ250	KHRQ22M29T9										
		• For refnet joints other than the first branch, select the proper branch kit model based on the total capacity index.									
		<table><tr><th>Indoor capacity type</th><th>Refrigerant branch kit name</th></tr><tr><td><200</td><td>KHRQ22M20T</td></tr><tr><td>200≤x<250</td><td>KHRQ22M29T9</td></tr></table>				Indoor capacity type	Refrigerant branch kit name	<200	KHRQ22M20T	200≤x<250	KHRQ22M29T9
Indoor capacity type	Refrigerant branch kit name										
<200	KHRQ22M20T										
200≤x<250	KHRQ22M29T9										
Example of downstream indoor units		[Example] in case of refnet joint C; indoor units 3+4	[Example] in case of refnet joint B; indoor unit 4, in case of refnet header; indoor units 1+2+3	[Example] in case of refnet header; indoor units 1+2+3+4							

12 Installation

12 - 3 Refrigerant Pipe Selection

CMSQ200-250A

12

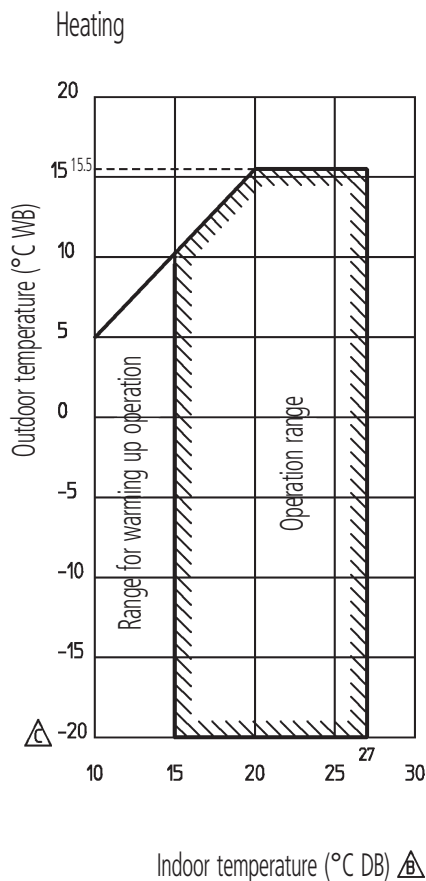
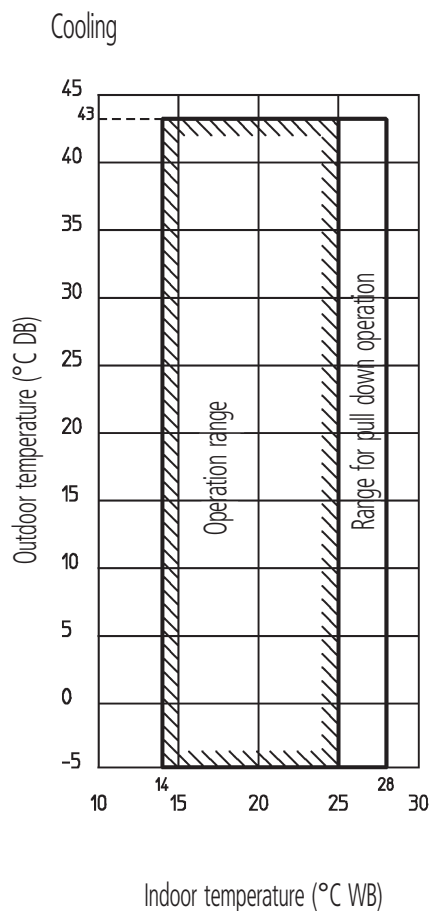
Pipe size selection	A,B,C. Piping between outdoor unit and refrigerant branch kit • Choose from the following table in accordance with the outdoor unit total capacity type, connected downstream. Outdoor unit connection piping size <table><tr><th rowspan="2">Outdoor unit capacity type</th><th colspan="2">Piping size (outer diameter) (mm)</th></tr><tr><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td>CMSQ200</td><td>Ø15.9</td><td rowspan="2">Ø9.5</td></tr><tr><td>CMSQ250</td><td>Ø19.1</td></tr></table> D. Piping between refrigerant branch kits • Choose from the following table in accordance with the total capacity of all the indoor units connected below this. • Do not let the connection piping exceed the refrigerant piping size chosen by general system model name. <table><tr><th rowspan="2">Indoor or outdoor unit total capacity</th><th colspan="2">Piping size (outer diameter) (mm)</th></tr><tr><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td><150</td><td>Ø15.9</td><td rowspan="3">Ø9.5</td></tr><tr><td>150≤<200</td><td>Ø19.1</td></tr><tr><td>200≤<250</td><td>Ø22.2</td></tr></table> E. Piping between refrigerant branch kit and indoor unit • Pipe size for direct connection to indoor unit must be the same as the connection size of indoor unit. <table><tr><th rowspan="2">Indoor capacity type</th><th colspan="2">Piping size (outer diameter) (mm)</th></tr><tr><th>Gas pipe</th><th>Liquid pipe</th></tr><tr><td>50</td><td>Ø12.7</td><td>Ø6.4</td></tr><tr><td>60~125</td><td>Ø15.9</td><td>Ø9.5</td></tr></table>	Outdoor unit capacity type	Piping size (outer diameter) (mm)		Gas pipe	Liquid pipe	CMSQ200	Ø15.9	Ø9.5	CMSQ250	Ø19.1	Indoor or outdoor unit total capacity	Piping size (outer diameter) (mm)		Gas pipe	Liquid pipe	<150	Ø15.9	Ø9.5	150≤<200	Ø19.1	200≤<250	Ø22.2	Indoor capacity type	Piping size (outer diameter) (mm)		Gas pipe	Liquid pipe	50	Ø12.7	Ø6.4	60~125	Ø15.9	Ø9.5
Outdoor unit capacity type	Piping size (outer diameter) (mm)																																	
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CMSQ250	Ø19.1																																	
Indoor or outdoor unit total capacity	Piping size (outer diameter) (mm)																																	
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150≤<200	Ø19.1																																	
200≤<250	Ø22.2																																	
Indoor capacity type	Piping size (outer diameter) (mm)																																	
	Gas pipe	Liquid pipe																																
50	Ø12.7	Ø6.4																																
60~125	Ø15.9	Ø9.5																																
How to calculate the additional refrigerant to be charged Additional refrigerant to be charged R (kg) R should be rounded off in units of 0.1 kg	When the equivalent pipe length between outdoor and indoor units is 90 m or more, the size of the main pipes (both gas side and liquid side) must be increased. Depending on the length of the piping, the capacity may drop, but even in such a case it is possible to increase the size of the main pipes. 1 2 3 4 5 1 Outdoor unit 2 Main pipes 3 Increase 4 First refrigerant branch kit 5 Indoor unit 1 2 3 4 5 1 Outdoor unit 2 Main pipes 3 Increase 4 First refrigerant branch kit 5 Indoor unit 1 2 3 4 5 1 Outdoor unit 2 Main pipes 3 Increase 4 First refrigerant branch kit 5 Indoor unit 1 2 3 4 5 1 Outdoor unit 2 Main pipes 3 Increase 4 First refrigerant branch kit 5 Indoor unit 1 2 3 4 5 1 Outdoor unit 2 Main pipes 3 Increase 4 First refrigerant branch kit 5 Indoor unit 1 2 3 4 5 1 Outdoor unit 2 Main pipes 3 Increase 4 First refrigerant branch kit 5 Indoor unit 1 2 3 4 5 1 Outdoor unit 2 Main pipes 3 Increase 4 First refrigerant branch kit 5 Indoor unit 1 2 3 4 5 1 Outdoor unit 2 Main pipes 3 Increase 4 First refrigerant branch kit 5 Indoor unit 1 2 3 4 5 1 Outdoor unit 2 Main pipes 3 Increase 4 First refrigerant branch kit 5 Indoor unit 1 2 3 4 5 1 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13 Operation range

13 - 1 Operation Range

CMSQ200-250A



4TW25797-3C

NOTES

- These figures assume the following operation conditions:
indoor and outdoor units:
 - equivalent pipe length: 7.5 m
 - level difference: 0 m
- Depending on operation and installation conditions, the indoor unit can change over to freeze-up operation (indoor de-icing).
- To reduce the freeze-up operation (indoor de-icing) frequency it is recommended to install the outdoor unit in a location not exposed to wind.



Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.



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