TM_CASSETTE(GA)_R32_3D INV_EU_NA_2109

CASSETTE
R32 3D INVERTER CONTROL

TECHNICAL MANUAL

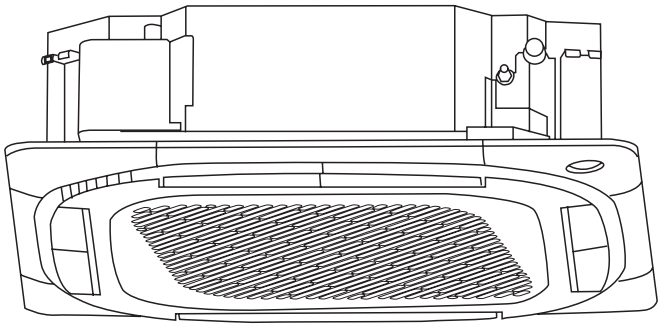


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Specifications

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1. Model Reference

Refer to the following table to determine the specific indoor and outdoor unit model number of your purchased equipment.

Indoor Unit Model	Outdoor Unit Model	Capacity (Btu/h)	Power Supply
MCA3U-12HRFNX-QRD0W(GA)	MOX230-12HFN8-QRD0W(GA)	12k	1Φ, 220~240V~, 50Hz
MCA3U-18HRFNX-QRD0W(GA)	MOX330U-18HFN8-QRD0W(GA)	18k	
MCD1-24HRFNX-QRD0W(GA)	MOX430U-24HFN8-QRD0W(GA)	24k	
MCD1-30HRFNX-QRD0W(GA)	MOD30U-30HFN8-QRD0W(GA)	30k	
MCD1-36HRFN8-QRD0W(GA)	MOD30U-36HFN8-QRD0W(GA)	36k	
MCD1-42HRFNX-QRD0W(GA)	MOD30U-42HFN8-QRD0W(GA)	48k	
MCD1-36HRFN8-QRD0W(GA)	MOD30U-36HFN8-RRD0W(GA)	36k	3Φ, 380~415V~, 50Hz
MCD1-48HRFNX-QRD0W(GA)	MOE30U-48HFN8-RRD0W(GA)	48k	
MCD1-55HRFNX-QRD0W(GA)	MOE30U-55HFN8-RRD0W(GA)	60k	

2. General Specifications

Indoor model			MCA3U-12HRFNX-QRD0W(GA)	MCA3U-18HRFNX-QRD0W(GA)	MCD1-24HRFNX-QRD0W(GA)
Outdoor model			MOX230-12HFN8-QRD0W(GA)	MOX330U-18HFN8-QRD0W(GA)	MOX430U-24HFN8-QRD0W(GA)
Power supply (Indoor)		V- Ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Power Supply (Outdoor)		V-Ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Max. input consumption		W	1850	2950	3700
Max. current		A	9	13.5	19
Indoor fan motor	Model		ZKFP-46-8-1	ZKFP-46-8-1	ZKFN-45-8-1
	Qty		1	1	1
	Insulation class		E	E	B(Dayang)/E(Tongda)
	IP rating		IP40(Dayang)/IPX4(Zhipu)	IP40(Dayang)	IP20
	Output	W	46	46	45
	Capacitor	uF	/	/	/
	Speed(Hi/Mi/Lo)	r/min	800/304	752/664/576	608/552/496
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	21x13.37	21x13.37	21x13.37
	Fin spacing	mm	1.3	1.3	1.3
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ7,Inner groove tube	Φ7,Inner groove tube	Φ7,Inner groove tube
	Coil length x height x width	mm	1300x210x26.74+ 1360x210x26.74	1360x210x26.74	2155x168x26.74
	Number of circuits		4	4	4
Indoor air flow (Hi/Mi/Lo)		m3/h	569/485/389	680/584/479	1247/1118/992
Indoor sound pressure level		dB(A)	42/37.5/34.5	45.4/44/39	50/47.5/42
Indoor sound power level		dB(A)	57	59	59
Indoor unit	Dimension(WxDxH)(body)	mm	570x570x260	570x570x260	830x830x205
	Dimension(WxDxH)(panel)	mm	647x647x50	647x647x50	950x950x55
	Packing(WxDxH)(body)	mm	662x662x317	662x662x317	910x910x250
	Packing(WxDxH)(panel)	mm	715x715x123	715x715x123	1035x1035x90
	Net/Gross weight(body)	Kg	16.3/20.4	16/20.6	21.6/25.4
	Net/Gross weight(panel)	Kg	2.5/4.5	2.5/4.5	6/9
Drainage water pipe diameter		mm	ODΦ25mm	ODΦ25mm	ODΦ25mm
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ6.35/Φ9.52(1/4"/3/8")	Φ6.35/Φ12.7(1/4"/1/2")	Φ9.52/Φ15.9(3/8"/5/8")
Controller			Wired control	Wired control	Wired control
Operation temperature		°C	16-30	16-30	16-30
Room temperature	Cooling	°C	16-32	16-32	16-32
	Heating	°C	0~30	0~30	0~30
Qty'per 20' /40' /40'HQ		Indoor unit	214/461/519	120/264/297	77/161/198
Compressor	Model		KSN98D64UFZ3	KSN140D21UFZ	KTM240D43UKT
	Type		ROTARY	ROTARY	ROTARY
	Brand		GMCC	GMCC	GMCC
	Capacity	W	1930/3100	4385	7600
	Input	W	292/765	1140	2045
	Rated current(RLA)	A	2.15/4.65	7.50	9
	Refrigerant oil/oil charge	ml	VG74 300	VG74 440	VG74/620
Outdoor fan motor	Model		ZKFN-34-10-1-3	ZKFN-34-10-1-3	ZKFN-80-8-3
	Qty		1	1	1
	Insulation class		B	B	E
	IP rating		IP24	IP24	IPX4
	Output	W	34	34	80
	Capacitor	uF	/	/	/
	Speed	r/min	780/600	760/650	800/580

Outdoor coil	Number of rows		1	2.0	1.6
	Tube pitch(a)x row pitch(b)	mm	21x22	21x22	21x22
	Fin spacing	mm	1.3	1.3	1.3
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ7,Inner groove tube	Φ7,Inner groove tube	Φ7,Inner groove tube
	Coil length x height x width	mm	745*504*22	860*504*44	900*44*609
	Number of circuits		2	4	5
Outdoor air flow		m3/h	2200	2100	3500
Outdoor sound pressure level		dB(A)	53.6	56	60
Outdoor sound power level		dB(A)	62	65	68
Throttle type			EXV	EXV	EXV+Throttle valve
Outdoor unit	Dimension(W*D*H)	mm	765x303x555	805x330x554	890x342x673
	Packing (W*D*H)	mm	887x337x610	915x370x615	995x398x740
	Net/Gross weight	Kg	26.6/29	32.5/35.2	43.9/46.9
Refrigerant type	Type	-	R32	R32	R32
	GWP	-	675	675	675
	Charged quantity	Kg	0.72	1.15	1.5
Design pressure		MPa	4.3/1.7	4.3/1.7	4.3/1.7
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ6.35/Φ9.52(1/4"/3/8")	Φ6.35/Φ12.7(1/4"/1/2")	Φ9.52/Φ15.9(3/8"/5/8")
	Max. refrigerant pipe length	m	25	30	50
	Max. difference in level	m	10	20	25
Ambient temperature	Cooling	°C	-15~50	-15~50	-15~50
	Heating	°C	-15~24	-15~24	-15~24
Qty'per 20' /40' /40'HQ		Outdoor unit	132/264/352	114/234/312	99/198/198

Notes:

1) Capacities are based on the following conditions:

Cooling(T1): - Indoor Temperature 27°C(80.6°F) DB /19 °C(66.2°F) WB
-Outdoor Temperature 35 °C(95°F) DB /24 °C(75.2°F) WB
-Interconnecting Piping Length 5m
- Level Difference of Zero.

Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
-Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Interconnecting Piping Length 5 m
- Level Difference of Zero.

2) Capacities are Net Capacities.

3) Due to our policy of innovation some specifications may be changed without notification.

Indoor model			MCD1-30HRFNX-QRD0W(GA)	MCD1-36HRFN8-QRD0W(GA)	MCD1-36HRFN8-QRD0W(GA)
Outdoor model			MOD30U-30HFN8-QRD0W(GA)	MOD30U-36HFN8-QRD0W(GA)	MOD30U-36HFN8-RRD0W(GA)
Power supply (Indoor)		V- Ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Power Supply (Outdoor)		V-Ph-Hz	220~240-1-50	220~240-1-50	380~415-3-50
Max. input consumption		W	4500	5000	5000
Max. current		A	20	22.5	10.0
Indoor fan motor	Model		ZKFN-125-8-1	ZKFN-125-8-1	ZKFN-125-8-1
	Qty		1	1	1
	Insulation class		B	B	B
	IP rating		IP20	IP20	IP20
	Output	W	125	125	125
	Capacitor	uF	/	/	/
	Speed(Hi/Mi/Lo)	r/min	660/600/550	700/630/570	700/630/570
Indoor coil	Number of rows		2	3.0	3.0
	Tube pitch(a)x row pitch(b)	mm	21x13.37	21x13.37	21x13.37
	Fin spacing	mm	1.3	1.3	1.3
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ7,Inner groove tube	Φ7,Inner groove tube	Φ7,Inner groove tube
	Coil length x height x width	mm	2135*210*26.74	2135*252*40.11	2135*252*40.11
	Number of circuits		5	10	10
Indoor air flow (Hi/Mi/Lo)		m3/h	1700/1530/1300	1700/1530/1300	1700/1530/1300
Indoor sound pressure level		dB(A)	50.5/48/46	51/48/46	51.0/49.0/46.0
Indoor sound power level		dB(A)	63	64	64
Indoor unit	Dimension(WxDxH)(body)	mm	830x830x245	830x830x245	830x830x245
	Dimension(WxDxH)(panel)	mm	950x950x55	950x950x55	950x950x55
	Packing(WxDxH)(body)	mm	910x910x290	910x910x290	910x910x290
	Packing(WxDxH)(panel)	mm	1035x1035x90	1035x1035x90	1035x1035x90
	Net/Gross weight(body)	Kg	24.6/28.6	27.2/31.2	27.2/31.2
	Net/Gross weight(panel)	Kg	6/9	6/9	6/9
Drainage water pipe diameter		mm	ODΦ25mm	ODΦ25mm	ODΦ25mm
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ15.9(3/8"/5/8")
Controller			Wired control	Wired control	Wired control
Operation temperature		°C	16-30	16-30	16-30
Room temperature	Cooling	°C	16-32	16-32	16-32
	Heating	°C	0~30	0~30	0~30
Qty'per 20' /40' /40'HQ		Indoor unit	96/208/234	96/208/234	96/208/234
Compressor	Model		KTM240D43UKT	KTF310D43UMT	KTF310D43UMT
	Type		ROTARY	ROTARY	ROTARY
	Brand		GMCC	GMCC	GMCC
	Capacity	W	7600	10010	10010
	Input	W	2045	2765	2765
	Rated current(RLA)	A	9	5.38	5.38
	Thermal protector		/	INT01L-4639	INT01L-4639
	Thermal protector position		/	EXTERNAL	EXTERNAL
	Refrigerant oil/oil charge	ml	VG74/620	VG74/1000	VG74/1000
Outdoor fan motor	Model		ZKFN-120-8-2	ZKFN-120-8-2	ZKFN-120-8-2
	Qty		1	1	1
	Insulation class		E	E	E
	IP rating		IPX4	IPX4	IPX4
	Output	W	120	120	120
	Capacitor	uF	/	/	/
	Speed	r/min	900/750/550	950/850/700	950/850/700

Outdoor coil	Number of rows		1.6	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.3	1.3	1.3
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ9.52,Inner groove tube	Φ9.52,Inner groove tube	Φ9.52,Inner groove tube
	Coil length x height x width	mm	1005x762x22+580x762x22	995x762x44	995x762x44
	Number of circuits		4	4	4
Outdoor air flow		m3/h	3800	4000	4000
Outdoor sound pressure level		dB(A)	62	63	63.0
Outdoor sound power level		dB(A)	70	70	70
Throttle type			EXV+Throttle valve	EXV+Throttle valve	EXV+Throttle valve
Outdoor unit	Dimension(W*D*H)	mm	946x410x810	946x410x810	946x410x810
	Packing (W*D*H)	mm	1090x500x885	1090x500x885	1090x500x885
	Net/Gross weight	Kg	52.8/57.3	66.9/71.5	80.5/85
Refrigerant type	Type	-	R32	R32	R32
	GWP	-	675	675	675
	Charged quantity	Kg	2	2.4	2.4
Design pressure		MPa	4.3/1.7	4.3/1.7	4.3/1.7
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ15.9(3/8"/5/8")
	Max. refrigerant pipe length	m	50	75	75
	Max. difference in level	m	25	30	30
Ambient temperature	Cooling	°C	-15~50	-15~50	-15~50
	Heating	°C	-15~24	-15~24	-15~24
Qty'per 20' /40' /40'HQ		Outdoor unit	44/96/138	44/96/138	44/96/138

Notes:

1) Capacities are based on the following conditions:

Cooling(T1): - Indoor Temperature 27°C(80.6°F) DB /19 °C(66.2°F) WB
-Outdoor Temperature 35 °C(95°F) DB /24 °C(75.2°F) WB
-Interconnecting Piping Length 5m
- Level Difference of Zero.

Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
-Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Interconnecting Piping Length 5 m
- Level Difference of Zero.

2) Capacities are Net Capacities.

3) Due to our policy of innovation some specifications may be changed without notification.

Indoor model			MCD1-42HRFNX-QRD0W(GA)	MCD1-48HRFNX-QRD0W(GA)	MCD1-55HRFNX-QRD0W(GA)
Outdoor model			MOD30U-42HFN8-QRD0W(GA)	MOE30U-48HFN8-RRD0W(GA)	MOE30U-55HFN8-RRD0W(GA)
Power supply (Indoor)		V- Ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Power Supply (Outdoor)		V-Ph-Hz	220~240-1-50	380~415-3-50	380~415-3-50
Max. input consumption		W	5000	6900	7500
Max. current		A	22.5	13	14
Indoor fan motor	Model		ZKFN-125-8-1	ZKFN-125-8-1	ZKFN-125-8-1
	Qty		1	1	1
	Insulation class		B	B	B
	IP rating		IP20	IP20	IP20
	Output	W	125	125	125
	Capacitor	uF	/	/	/
	Speed(Hi/Mi/Lo)	r/min	712/648/584	712/648/584	736/672/608
Indoor coil	Number of rows		3.0	3.0	3.0
	Tube pitch(a)x row pitch(b)	mm	21x13.37	21x13.37	21x13.37
	Fin spacing	mm	1.3	1.3	1.3
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ7,Inner groove tube	Φ7,Inner groove tube	Φ7,Inner groove tube
	Coil length x height x width	mm	980*252*40.11+980*252*40.11	980*252*40.11+980*252*40.11	980*252*40.11+980*252*40.11
	Number of circuits		10	10	10
Indoor air flow (Hi/Mi/Lo)		m3/h	1900/1750/1600	1900/1750/1600	2000/1850/1650
Indoor sound pressure level		dB(A)	52.5/50/47.5	52.5/50.5/48	54.5/52/49.5
Indoor sound power level		dB(A)	66	66	66
Indoor unit	Dimension(WxDxH)(body)	mm	830x830x287	830x830x287	830x830x287
	Dimension(WxDxH)(panel)	mm	950x950x55	950x950x55	950x950x55
	Packing(WxDxH)(body)	mm	910x910x330	910x910x330	910x910x330
	Packing(WxDxH)(panel)	mm	1035x1035x90	1035x1035x90	1035x1035x90
	Net/Gross weight(body)	Kg	29.3/33.5	29.3/33.5	29.3/33.5
	Net/Gross weight(panel)	Kg	6/9	6/9	6/9
Drainage water pipe diameter		mm	ODΦ25mm	ODΦ25mm	ODΦ25mm
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ15.9(3/8"/5/8")
Controller			Wired control	Wired control	Wired control
Operation temperature		°C	16-30	16-30	16-30
Room temperature	Cooling	°C	16-32	16-32	16-32
	Heating	°C	0~30	0~30	0~30
Qty'per 20' /40' /40'HQ		Indoor unit	84/182/208	84/182/208	84/182/208
Compressor	Model		KTF310D43UMT	KTQ420D1UMU	KTQ420D1UMU
	Type		ROTARY	ROTARY	ROTARY
	Brand		GMCC	GMCC	GMCC
	Capacity	W	10010	13700	13700
	Input	W	2765	3700	3700
	Rated current(RLA)	A	5.38	7.02	7.02
	Thermal protector		INT01L-4639	INT01L-4639	INT01L-4639
	Thermal protector position		EXTERNAL	EXTERNAL	EXTERNAL
	Refrigerant oil/oil charge	ml	VG74/1000	VG74/1400	VG74/1400
Outdoor fan motor	Model		ZKFN-120-8-2	ZKFN-85-8-22-5	ZKFN-85-8-22-5
	Qty		1	2	2
	Insulation class		E	E	E
	IP rating		IPX4	IPX4	IPX4
	Output	W	120	85	85
	Capacitor	uF	/	/	/
	Speed	r/min	950/750	830/650	830/650

Outdoor coil	Number of rows		2.6	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.5	1.4	1.4
	Fin type (code)		Hydrophilic aluminum	Hydrophilic aluminum	Hydrophilic aluminum
	Tube outside dia.and type	mm	Φ9.52,Inner groove tube	Φ9.52,Inner groove tube	Φ9.52,Inner groove tube
	Coil length x height x width	mm	995x762x22+960x762x22+580 x762x22	990x1270x44	990x1270x44
	Number of circuits		6	8	8
Outdoor air flow		m3/h	4000	7500	7500
Outdoor sound pressure level		dB(A)	63	63.5	64
Outdoor sound power level		dB(A)	72	74	75
Throttle type			EXV+Throttle valve	EXV+Throttle valve	EXV+Throttle valve
Outdoor unit	Dimension(W*D*H)	mm	946x410x810	952x415x1333	952x415x1333
	Packing (W*D*H)	mm	1090x500x885	1095x495x1480	1095x495x1480
	Net/Gross weight	Kg	71.0/75.0	103.7/118.3	107.0/121.2
Refrigerant type	Type	-	R32	R32	R32
	GWP	-	675	675	675
	Charged quantity	Kg	2.8	2.9	3.0
Design pressure		MPa	4.3/1.7	4.3/1.7	4.3/1.7
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ15.9(3/8"/5/8")	Φ9.52/Φ15.9(3/8"/5/8")
	Max. refrigerant pipe length	m	75	75	75
	Max. difference in level	m	30	30	30
Ambient temperature	Cooling	°C	-15~50	-15~50	-15~50
	Heating	°C	-15~24	-15~24	-15~24
Qty'per 20' /40' /40'HQ		Outdoor unit	44/96/138	22/48/48	22/48/48

Notes:

1) Capacities are based on the following conditions:

Cooling(T1): - Indoor Temperature 27°C(80.6°F) DB /19 °C(66.2°F) WB
-Outdoor Temperature 35 °C(95°F) DB /24 °C(75.2°F) WB
-Interconnecting Piping Length 5m
- Level Difference of Zero.

Heating: - Indoor Temperature 20°C(68°F) DB / 15°C(59°F) WB
-Outdoor Temperature 7°C(44.6°F) DB / 6°C(42.8°F) WB
- Interconnecting Piping Length 5 m
- Level Difference of Zero.

2) Capacities are Net Capacities.

3) Due to our policy of innovation some specifications may be changed without notification.