



Mc Gold™

Mc Gold International LLC

Industrial Solution Provider

Complete Air-Conditioning Solution

- Residential
- Commercial
- Industrial

PRODUCT INDEX



Residential Air-Conditioner (1 ton to 2.0 ton)

Split Type Light Commercial (1 ton to 10 ton)



Light Commercial VRF System (1 ton to 1000 ton)



Package Type Units (Water Cooled / Roof-Top) (5 ton to 30 ton)

Air Handling Units (5 ton to onward as Required by clients)



Water Cooled Fan Coil Units (Wall-mounted / Cassette / Duct Type)



Heating Ventilation Air-Conditioning (Water Cooled / Air Cooled Chiller) (20 ton to 2000 ton)

SPECIFICATIONS

Model			EAS-1220-IHM410	EAS-1820-IHM410	EAS-2420-IHM410
Capacity		BTUs,	14500	19,500	26,600
Rated Capacity	Cooling	W	3500(1500-3900)	5120(1600-5700)	6300(2700-7800)
	Heating	W	3547(1600-4000)	5300(1800-6000)	7000(2300-8700)
Rated Power Consumption	Cooling	W	1150(420-1560)	1700(400-2200)	2050(650-2900)
	Heating	W	1050(430-1600)	1600(600-2300)	2000(600-2900)
Rated Running Current	Cooling	A	5.1(2.0-6.8)	7.5(2.0-9.8)	10.5(3.5-13.0)
	Heating	A	4.7(1.9-7.0)	7.4(3.2-10.2)	8.5(3.0-13.0)
Max. Input Power		W	2000	2300	3000
Max. Input Current		A	8.6	10.5	14.5
EER Cooling		W/W	3.4	3.4	3.4
COP Heating		W/W	3.38	3.36	3.5
Power supply source		V/Ph/Hz	220~240v/50Hz	220~240V/50Hz	220-240V~/50HZ
Refrigerant			R410a	R410A	R410a
Indoor Unit weight (Net)		Kg	11	14	16
Outdoor unit weight (Net)		Kg	30	35	48
Evaporator	Rows		2	2	2
	Tube Material		Inner-grooved copper	Inner-grooved copper	Inner-grooved copper
	Fin Material		Hydrophilic aluminum foil	Hydrophilic aluminum foil	Hydrophilic aluminum foil
Fan System	Fan motor Type		Cross-flow fan	cross-flow fan	Cross-flow fan
	Air circulation (H/M/L)	m ³ /h	600	1000	1200
Dimension	Net Dimension	mm	800*290*190	950*320*230	1080*330*233
Stop Valve	Liquid Valve	Inch	1/4	1/4	1/4
	Gas Valve	Inch	3/8	1/2	5/8
Compressor Model			Atz-AA108AHBA	ATZ-SM141 AXBA	ATZ-SM151 AXBA
Compressor	Drive mode	AC/DC	DC	DC	DC
	type		ROTARY	ROTARY	ROTRAY
Capacity		W	3890	5010	5380
Fan System	Fan Type		Axial-flow fan	Axial-flow fan	Axial-flow fan
	Motor Model		YDK25-6L16	YDK86-6H(B)	YDK86-6H(B)
	Motor Type	AC/DC	AC	AC	AC
Condenser	Rows	Row	1	2	2
	Tube Material		Inner-grooved copper	Inner-grooved copper	Inner-grooved copper
	Diameter x Thickness	mm	9.52*0.24	17x0.24	9.52*0.24
	Fin Material		Hydrophilix aluminum foil	Hydrophilix aluminum foil	Hydrophilix aluminum foil
Throttling gear			Capillary	Capillary	Capillary
Dimension	Net Dimension	mm	720*255*520	800*290*530	847*650*322

Unit performance rated in accordance with T3 High ambient design (50 C)

Specifications are subject to change without notice.

High Ambient Hi Wall Inverter Heat and Cool Elegant Series



- Turbo Mode
- Multi-Speed Fan
- Auto Restart
- Follow Me
- Wifi Control (Option)
- 24 Hour Time
- Self Diagnosis
- 3 Minute Protection
- R-410A

SPECIFICATIONS

Model			EAFFMB-2420CRN1410	EAFFMB-4820CRN1410	
Nameplate Parameter	Type		Fixed Speed	Fixed Speed	
	Rated Capacity	Cooling	W	6680	14000
	Rated Input Power	Cooling	W	2220	5060
	Rated Input Current	Cooling	A	10.4	23.3
	Max. Input Power		W	3180	6580
	Max. Input Current		A	14.8	31.4
	EER Cooling: Btu/h. W or W/W		W/W	3.01	2.77
	Power supply source		V/Ph/Hz	220~240V-1-50Hz	380V-3-50Hz
	Refrigerant			1400	R410A
	Refrigerant Charged		g	1250	3800
	Air Flow Volume		33/h	56	1300
	Noise Level (+/- 3dB)		dB(A)	56	55
	Noise level (+/- 3dB)		dB(A)	56	60
	Indoor unit weight (Net)		kg	46	57
	Outdoor unit weight (Net)		kg	49	110
	Outdoor unit configuration	Rows	tube pitchxrow pitch		25.4*36.38
Material				Inner-grooved copper	Inner-grooved copper
Tube		Diameter x Thickness	mm	7	7
		Material		Hydrophilic aluminium foil	Hydrophilic aluminium foil
Fin		Thickness	mm	0.095	0.095
		Fin spacing	mm	1.5	1.5
Fan system		Fan	Type	Centrifugal Fan	Centrifugal Fan
		Diameter x Length	mm	350*130	72*180.3
Fan motor		Model		YDK65-8	YDK138-8
			Type	AC/DC	AC
		Brand		KAIBANG or Equal	KAIBANG or Equal
		Capacitor	uF	4.5	6
		Motor speed (TiH/M/L)	rpm	600/530/480/450	530/470/390
		Net Dimension (WidthxDepthxHeight)	mm	510*1787*330	580*1925*400
Connect pipe		Liquid tube Diameter x Thickness	mm	6.35*0.5	9.52*0.6
		Gas tube Diameter x Thickness	mm	15.88*0.75	19.05*1.0
Stop Valve	Liquid Valve	Inch	1/4	3/8	
	Gas Valve	Inch	5/8	7/8	
Compressor Parameter	Drive mode		AC/DC	AC	
	type		ROTARY	ROTARY	
Fan system	Capacity (±5%)		W	6550	103000
		Type		Axial-flow fan	NA
	Diameter	mm	470	528*2	
	Motor	Model		YKT-65-6	YDK-80-6
Condenser	Output power	W	65	80*2	
	Type		AC/DC	AC	
Dimension	Rows		Row	2	
		Material		Inner-grooved copper	Inner-grooved copper
	Diameter x Thickness	mm	7	7	
	Material		Hydrophilic aluminium	Hydrophilic aluminium foil	
Net Dimension (WidthxDepthxHeight)		mm	820*300*650	940*360*1265	
	Packing Dimension (WidthxDepthxHeight)	mm	933*422*715	1045*420*1400	

Unit performance rated in accordance with T3 High ambient design (50 C)

Specifications are subject to change without notice.

High Ambient Range Floor Standing R410 Heat & Cool Inverter Series



- Turbo Mode
- Multi-Speed Fan
- Auto Restart
- Follow Me
- Wifi Control (Option)
- 24 Hour Time
- Self Diagnosis
- 3 Minute Protection
- R-410A

SPECIFICATIONS

Model			2 Ton Cassette Inverter HC	4 Ton Cassette Inverter HC
Power supply		V-ph-Hz	220-240	380-415
Cooling	Capacity	Btu/h	24000 BTU	48000 BTU
	Input	W	7000	14000
	Current	A	9.70	8.74
	EER	W/W	3.14	2.90
Heating	Capacity	Btu/h	24000	48000
	Input	W	7000	14000
	Current	A	8.00	6.94
	COP	W/W	3.80	3.60
Indoor fan motor	Qty		1	1
	Input	W	81/69/63	174/145/121
	Capacitor	uF	3	7
	Speed(hi/mi/lo)	r/min	600/520/470/400	800/700/630/500
Indoor coil	Number of rows		7	7
	Tube pitch(a)x row pitch(b)	mm	21x13.37	21x13.37
	Fin spacing	mm	1.4	1.4
	Number of circuits		8	10
Indoor air flow		m3/h	1250	2100
Sound level (sound pressure)		dB(A)	42/39/36	53/49/44
Indoor unit	Dimension (Wx Dx H)(body)	mm	840x840x225	840x840x300
	Dimension(Wx Dx H)(panel)	mm	950x950x65	950x950x65
	Net/Gross weight(body)	kg	27.5	35
	Net/Gross weight(panel)	kg	10.5	10.5
Compressor	Type		Rotary	Rotary
	Brand		Mitsubishi	Mitsubishi
	Rated current (RLA)	A	13.57	12.35
Outdoor fan motor	Qty		1	2
	Input	W	103/76	142/127
Outdoor coil	Fin spacing	mm	1.4	1.4
Outdoor unit	Dimension (WxDxH)	mm	960x700x396	1020x1350x369
	Packing(WxDxH)	mm	1008x742x452	1098x1380x445
	Net/Gross weight	kg	46/50.5	99/109
Refrigerant type / Quantity	Type		R410A	R410A
	Charged volume	kg	1.8	4.4

Unit performance rated in accordance with T3 High ambient design (50 C)

Specification are subject to chane without notice

High Ambient Range Ceiling Cassette Splits R410a Heat 7 Cool Inverter Series



- Turbo Mode
- Multi-Speed Fan
- Auto Restart
- Follow Me
- Wifi Control (Option)
- 24 Hour Time
- Self Diagnosis
- 3 Minute Protection
- R-410A

SPECIFICATIONS

Indoor Model			EAFCD-24HRFDN410	EAFCD-48HRFDN410
Cooling	Power supply	V- Ph-Hz	220~240-1-50	380~415-3-50
	Capacity	Btu/h	24000(4100-28000)	48000(14000-56000)
	Capacity	KW	7.03(1.20-8.21)	14.07(4.10-16.41)
	Input	W	2285(400-3155)	5190(1370-6310)
	EER	W/W	3.45	3.45
	Current	A	10.4(1.8-14.4)	9.0(2.4-10.9)
Heating	Capacity	Btu/h	24000(4100-29500)	56000(15000-63000)
	Capacity	KW	7.03(1.20-8.65)	16.41(4.40-18.46)
	Input	W	1900(400-3090)	4810(1465-6590)
	COP	W/W	3.6	3.6
	Current	A	8.7(1.8-14.1)	8.3(2.5-11.4)
Indoor fan motor	Model		ZKFN-55-8-1	ZKFN-90-8-1
	Old Model		WZDK55-38GS-W	WZDK90-38GS-W
	Qty		1	1
Indoor coil	Number of rows		3	3
	Tube pitch(a) x row pitch(b)	mm	21X13.37	21 x 13.37
	Fin type		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	7, innergroove tube	7, innergroove tube
Indoor air flow (Hi/Mi/Lo)		m3/h	1180/1050/850	2100/1800/1400
Indoor unit	Dimension (WxDxH)	mm	1068x675x235	1650x675x235
	Packing (WxDxH)	mm	1145x755x313	1725x755x313
	Net/Gross Weight	kg	25/30	38.2/44.6
Compressor	Model		ATF235D22UMT	ATQ420D1UMU
	Type		ROTARY	ROTARY
	Brand		GMCC	GMCC
Outdoor fan motor	Model		ZKFN-50-8-2	ZKFN-85-8-22+XKFN-85-8-22-2
	Qty		1	1 + 1
	Input	W	115	126
Outdoor coil	Number of rows		2	1.6
	Tube pitch(a)9* row pitch(b)	mm	254X22	25.4 x 22
	Fine Type		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	9.52, innergroove tube	9.52, innergroove tube
Outdoor air flow		m3/h	2700	6800
Outdoor sound pressure level		dB(A)	60.5	65
Outdoor unit	Dimension (WxDxH)	mm	845x363x702	952x415x1333
	Packing (WxDxH)	mm	965x395x755	1095x495x1480
	Net/Gross Weight	kg	49/51.5	108.1/121.2
Refrigerant	Type		R410A	R410A

High Ambient Floor Ceiling Heat and Cool Inverter



Unit performance rated in accordance with T3 High ambient design (50 C)

Specifications are subject to change without notice.

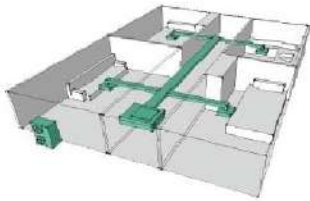
High ESP Duct

Long Distance Air Supply

High ESP makes the air supply distance up to 50m.

Applicable To A Variety Of Room Types

Specific ESP design can be applied to various room types easily, like rooms of L type or U type: the air outlet can be set separately from the indoor unit, so the air flow can be equally distributed even the room is in irregular structure.



Specification-50Hz AC fan motor

Model	Indoor	EAARVVDH112/4R1A	EAARVVDH12.5/4R1A	EAARVVDH14/4R1A	EAARVVDH15/4R1A	EAARVVDH22/4R1A	EAARVVDH28/4R1A	
Capacity	Cooling	kW	11.2	12.5	14.0	15.0	22.4	28.0
	Heating	kW	12.8	13.3	15.0	16.0	25.0	31.5
Electric Data	Power Supply	V~,Hz,ph	220~240,50,1	220~240,50,1	220~240,50,1	220~240,50,1	220~240,50,1	220~240,50,1
	Rated Power	W	600	600	600	600	1250	1250
Performance	Air Flow Volume(Hi,Mid,Low)	n3/h	20001/1600/1400	20001/1600/1400	20001/1600/1400	20001/1600/1400	4000/3200/2600	4000/3200/2600
	Noise Level(Hi/Mid,Low)	dB(A)	60/57/51	60/57/51	60/57/51	60/57/51	55	55
	External Static Pressure(ESP)	Pa	196	196	196	196	220	220
Dimension (WxDxH)	Net	mm	1200x719x380	1200x719x380	1200x719x380	1200x719x380	1350x700x460	1350x700x460
	Packing	mm	1235x760x415	1235x760x415	1235x760x415	1235x760x415	1540x810x610	1540x810x610
Weight	Net/Gross	kg	56/59	56/59	56/59	56/59	91/110	91/110
	Liquid Side	mm(inch)	9.52(3/8)	9.52(3/8)	9.52(3/8)	9.52(3/8)	12.7(1/2)	12.7(1/2)
Pipe Diameter	Gas Side	mm(inch)	19.05(3/4)	19.05(3/4)	19.05(3/4)	19.05(3/4)	22.2(7/8)	22.2(7/8)
	Drainage	mm	DN20(R3/4)	DN20(R3/4)	DN20(R3/4)	DN20(R3/4)	DN25	DN25
Stuffing Quantity	20/40/40H	unit	65/140/168	65/140/168	65/140/168	65/140/168	30/63/84	30/63/84





Notes:

- Cooling Capacity: Indoor temperature 27 C DB/19 C WB, Outdoor temperature: 35 C DB/24 C WB
- Heating Capacity: Indoor temperature 20 C DB, Outdoor temperature 7 C DB/5 C WB.
- Piping Length: Equivalent piping length: 7.5 m, Level difference: 0m.
- Sound level is measured at 1.4m below the unit.
- The above designs and specifications are subject to change without prior notice. Final specifications please refer to technical specification provided by sales representative.

Engineered System Group (ESG Range)

Series		12-25KW	30-40KW	50KW	65KW	75KW	100KW	130KW	150KW	200KW	
Air cooled Chiller and terminal Units	Air-cooled Chiller										
	Fan Coil Units										
	Air Handling Unit										

Engineered System Group (ESG Range)

	Series	Series	Capacity Range
Water Cooled Screw Chiller	Single Compressor		100-980KW
	Double Compressor		200-1960KW
Pakaged Unit	Water Cooled Package Unit		50-200KW
	Roof-top		10-120KW

ARV 7-IA Series

ARV 7-IA Series 380~415V-50/60Hz

HP	Model	8	10	12	14	
Combination	Cooling	35.2	38.0	33.5	49.0	
	Heating	27.6	31.5	37.5	45.0	
Capacity	Cooling	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	
	Power Supply	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	
Electric Data	Cooling Input	5.27	6.11	7.78	9.56	
	Heating Input	4.78	4.98	4.36	4.18	
	Heating Input	4.81	5.83	7.36	9.40	
	CO2	5.61	5.40	5.10	4.78	
Performance	Air Flow Volume	m ³ /h	12000	12000	12000	
	Noise Level	(dB(A))	57	58	58	58
Compressor	Type	DC Inverter	DC Inverter	DC Inverter	DC Inverter	
	Quantity	1	1	1	1	
Refrigerant type	Type	R410a	R410a	R410a	R410a	
	Type	DC motor	DC motor	DC motor	DC motor	
Fan Motor	Type	DC motor	DC motor	DC motor	DC motor	
	Fan Quantity	1	1	1	1	
Connection Ratio	%	50~200	50~200	50~200	50~200	
	Net	mm	800~765~1635	800~765~1635	800~765~1635	800~765~1635
Dimension(W×D×H)	Packing	mm	1030~825~1865	1030~825~1865	1030~825~1865	1030~825~1865
	Net	kg	212	212	212	212
Weight	Gross	kg	222	222	222	222
	Liquid Side	mm	12.7	12.7	12.7	12.7
Refrigerant Piping	Gas Side	mm	25.4	25.4	25.4	31.8
	Max. Length	m	1000	1000	1000	1000
Ambient Temp (Cooling/Heating)	°C	5~55/15~24	5~55/15~24	5~55/15~24	5~55/15~24	
	Max. Height	m	1101/30	1101/30	1101/30	1101/30
Stuffing Quantity	204/40/4	Unit	14/20/8	14/20/8	14/20/8	

ARV 7-IA Series 380~415V -50/60Hz

HP	Model	16	18	20	22	
Combination	Cooling	45.0	50.4	59.0	61.5	
	Heating	35.0	38.0	43.0	45.0	
Capacity	Cooling	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	
	Power Supply	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	
Electric Data	Cooling Input	6.56	7.22	8.67	10.42	
	EER	4.27	4.10	4.10	3.52	
	Heating Input	10.39	12.03	13.80	15.85	
	CO2	4.66	4.66	4.54	4.41	
Performance	Air Flow Volume	m ³ /h	17000	17000	17000	
	Noise Level	(dB(A))	61	61	61	61
Compressor	Type	DC Inverter	DC Inverter	DC Inverter	DC Inverter	
	Quantity	1	1	1	1	
Refrigerant type	Type	R410a	R410a	R410a	R410a	
	Type	DC motor	DC motor	DC motor	DC motor	
Fan Motor	Type	DC motor	DC motor	DC motor	DC motor	
	Fan Quantity	2	2	2	2	
Connection Ratio	%	50~200	50~200	50~200	50~200	
	Net	mm	900~765~1635	1340~765~1635	1340~765~1635	1340~765~1635
Dimension(W×D×H)	Packing	mm	1030~825~1865	1265~815~1865	1265~815~1865	1265~815~1865
	Net	kg	227	262	263	307
Weight	Gross	kg	237	273	272	312
	Liquid Side	mm	15.88	15.88	19.1	19.1
Refrigerant Piping	Gas Side	mm	31.8	31.8	31.8	31.8
	Max. Length	m	1000	1000	1000	1000
Ambient Temp (Cooling/Heating)	°C	5~55/15~24	5~55/15~24	5~55/15~24	5~55/15~24	
	Max. Height	m	1101/30	1101/30	1101/30	1101/30
Stuffing Quantity	204/40/4	Unit	14/20/8	11/22/22	11/22/22	

Note:
 1.Cooling Capacity: Indoor temperature 27°C DB/19°C WB, Outdoor temperature 35°C DB/24°C WB.
 2.Heating Capacity: Indoor temperature 20°C DB, Outdoor temperature 7°C DB/0°C WB.
 3.Piping Length: Equivalent piping length: 7.5m, level difference: 0m.
 4.We can guarantee the operation only within 150% Combination. If you want to connect more than 150% combination, please contact us and discuss the requirement.
 5.Aesthetic: chamber conversion value, measured in test room. During actual operation these values are normally somewhat higher as a result of ambient conditions.
 6.The above design and specifications are subject to change without prior notice. Final specifications please refer to technical specification provided by sales representative.
 7.Sound values are measured in a semi-anechoic room, at a position 1m in front of the unit and 1.5m above the floor.
 8.The above combined types are factory recommended type. The combined type also can be combined at will.

ARV 7-IA Series 380~415V-50/60Hz

HP	Model	40	44	48	40	40
Combination	Cooling	14.26	19.26	19.26	22.26	22.26
	Heating	11.9	16.9	17.8	19.4	19.4
Capacity	Cooling	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3
	Power Supply	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz
Electric Data	Cooling Input	29.29	30.19	35.31	35.08	35.08
	EER	3.87	3.91	3.90	3.87	3.84
	Heating Input	29.52	30.51	32.16	34.30	35.77
	CO2	4.26	4.31	4.28	4.25	4.21
Performance	Air Flow Volume	m ³ /h	13000~17000	13000~17000	17000~17000	17000~17000
	Compressor	Type	DC Inverter	DC Inverter	DC Inverter	DC Inverter
Fan Motor	Type	DC motor	DC motor	DC motor	DC motor	DC motor
	Connection Ratio	%	50~200	50~200	50~200	50~200
Dimension(W×D×H)	Net	mm	900~765~1635	900~765~1635	1340~765~1635	1340~765~1635
	Packing	mm	1030~825~1865	1030~825~1865	1265~815~1865	1265~815~1865
Weight	Net	kg	213~208	220~228	263~229	227~228
	Gross	kg	221~243	234~243	277~243	278~243
Refrigerant Piping	Max. Length	m	1000	1001	1002	1000
	Max. Height	m	1101/30	1101/30	1101/30	1101/30
Ambient Temp (Cooling/Heating)	°C	5~55/15~24	5~55/15~24	5~55/15~24	5~55/15~24	

ARV 7-IA Series 380~415V-50/60Hz

HP	Model	50	52	54	56	58
Combination	Cooling	24.26	26.2	19.36	20.36	22.36
	Heating	14.9	16.0	15.18	16.7	16.25
Capacity	Cooling	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3
	Power Supply	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz
Electric Data	Cooling Input	37.41	38.23	40.82	42.27	44.02
	EER	3.74	3.72	3.73	3.71	3.69
	Heating Input	37.75	40.24	42.03	44.69	48.25
	CO2	4.18	4.18	3.94	3.94	3.88
Performance	Air Flow Volume	m ³ /h	17000~17000	17000~17000	17000~17000	17000~17000
	Compressor	Type	DC Inverter	DC Inverter	DC Inverter	DC Inverter
Fan Motor	Type	DC motor	DC motor	DC motor	DC motor	DC motor
	Connection Ratio	%	50~200	50~200	50~200	50~200
Dimension(W×D×H)	Net	mm	1340~765~1635	1340~765~1635	1340~765~1635	1340~765~1635
	Packing	mm	1385~815~1865	1385~815~1865	1385~815~1865	1385~815~1865
Weight	Net	kg	327~328	328~328	362~419	327~412
	Gross	kg	342~343	343~342	277~442	324~442
Refrigerant Piping	Max. Length	m	1000	1000	1000	1000
	Max. Height	m	1101/30	1101/30	1101/30	1101/30
Ambient Temp (Cooling/Heating)	°C	5~55/15~24	5~55/15~24	5~55/15~24	5~55/15~24	

Note:
 1.Cooling Capacity: Indoor temperature 27°C DB/19°C WB, Outdoor temperature 35°C DB/24°C WB.
 2.Heating Capacity: Indoor temperature 20°C DB, Outdoor temperature 7°C DB/0°C WB.
 3.Piping Length: Equivalent piping length: 7.5m, level difference: 0m.
 4.We can guarantee the operation only within 150% Combination. If you want to connect more than 150% combination, please contact us and discuss the requirement.
 5.Aesthetic: chamber conversion value, measured in test room. During actual operation these values are normally somewhat higher as a result of ambient conditions.
 6.The above design and specifications are subject to change without prior notice. Final specifications please refer to technical specification provided by sales representative.
 7.Sound values are measured in a semi-anechoic room, at a position 1m in front of the unit and 1.5m above the floor.
 8.The above combined types are factory recommended type. The combined type also can be combined at will.

ARV 7-IA Series 380~415V -50/60Hz

HP	Model	24	25	28	30	
Combination	Cooling	67.0	73.0	78.5	85.0	
	Heating	50.0	51.5	53.5	56.0	
Capacity	Cooling	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	
	Power Supply	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	
Electric Data	Cooling Input	17.77	19.24	20.80	22.40	
	EER	3.77	3.72	3.81	3.79	
	Heating Input	17.83	20.12	21.40	22.80	
	CO2	4.25	4.05	4.09	3.93	
Performance	Air Flow Volume	m ³ /h	17000	17000	17000	
	Noise Level	(dB(A))	43	43	43	43
Compressor	Type	DC Inverter	DC Inverter	DC Inverter	DC Inverter	
	Quantity	2	2	2	2	
Refrigerant type	Type	R410a	R410a	R410a	R410a	
	Type	DC motor	DC motor	DC motor	DC motor	
Fan Motor	Type	DC motor	DC motor	DC motor	DC motor	
	Fan Quantity	1	1	1	1	
Connection Ratio	%	50~200	50~200	50~200	50~200	
	Net	mm	1340~765~1635	1340~765~1635	1669~825~1750	1669~825~1750
Dimension(W×D×H)	Packing	mm	1385~815~1865	1385~815~1865	1625~930~1930	1625~930~1930
	Net	kg	327	328	364	364
Weight	Gross	kg	342	343	402	402
	Liquid Side	mm	19.1	19.1	19.1	19.1
Refrigerant Piping	Gas Side	mm	31.8	31.8	35	35
	Max. Length	m	1000	1000	1000	1000
Ambient Temp (Cooling/Heating)	°C	5~55/15~24	5~55/15~24	5~55/15~24	5~55/15~24	
	Max. Height	m	1101/30	1101/30	1101/30	1101/30
Stuffing Quantity	204/40/4	Unit	11/22/22	11/22/22	9/12/12	

ARV 7-IA Series 380~415V -50/60Hz

HP	Model	32	34	35	38	
Combination	Cooling	60.0	65.2	101.0	106.0	
	Heating	50.0	106.0	112.0	119.0	
Capacity	Cooling	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	380~415,50/60.3	
	Power Supply	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	V-Jz.Pz	
Electric Data	Cooling Input	16.20	16.80	20.80	22.50	
	EER	3.67	3.60	3.82	3.48	
	Heating Input	16.30	28.30	31.50	32.90	
	CO2	3.83	4.41	3.74	3.66	
Performance	Air Flow Volume	m ³ /h	20000	20000	20000	
	Noise Level	(dB(A))	43	44	44	45
Compressor	Type	DC Inverter	DC Inverter	DC Inverter	DC Inverter	
	Quantity	2	2	2	2	
Refrigerant type	Type	R410a	R410a	R410a	R410a	
	Type	DC motor	DC motor	DC motor	DC motor	
Fan Motor	Type	DC motor	DC motor	DC motor	DC motor	
	Fan Quantity	2	2	2	2	
Connection Ratio	%	50~200	50~200	50~200	50~200	
	Net	mm	1654~825~1750	1654~825~1750	1654~825~1750	1654~825~1750
Dimension(W×D×H)	Packing	mm	1625~930~1930	1625~930~1930	1625~930~1930	1625~930~1930
	Net	kg	394	416	416	427
Weight	Gross	kg	407	422	422	430
	Liquid Side	mm	22.2	22.2	22.2	22.2
Refrigerant Piping	Gas Side	mm	35	35	35	35
	Max. Length	m	1000	1000	1000	1000
Ambient Temp (Cooling/Heating)	°C	5~55/15~24	5~55/15~24	5~55/15~24	5~55/15~24	
	Max. Height	m	1101/30	1101/30	1101/30	1101/30
Stuffing Quantity	204/40/4	Unit	6/12/12	6/12/12	6/12/12	

Note:
 1.Cooling Capacity: Indoor temperature 27°C DB/19°C WB, Outdoor temperature 35°C DB/24°C WB.
 2.Heating Capacity: Indoor temperature 20°C DB, Outdoor temperature 7°C DB/0°C WB.
 3.Piping Length: Equivalent piping length: 7.5m, level difference: 0m.
 4.We can guarantee the operation only within 150% Combination. If you want to connect more than 150% combination, please contact us and discuss the requirement.
 5.Aesthetic: chamber conversion value, measured in test room. During actual operation these values are normally somewhat higher as a result of ambient conditions.
 6.The above design and specifications are subject to change without prior notice. Final specifications please refer to technical specification provided by sales representative.
 7.Sound values are measured in a semi-anechoic room, at a position 1m in front of the unit and 1.5m above the floor.
 8.The above combined types are factory recommended type. The combined type also can be combined at will.

ARV 7-IA Series 380~415V -50/6

Water Cooled Fan Coil Units

Available Now!

Wall-mounted

Horizontal Concealed

Cassette

Ceiling & Floor

Cassette



Cassette

Specification-50Hz

Model	MCFCU-306-CACT50A	MCFCU-406-CA8A	MCFCU-506-CA8A	MCFCU-606-CA8A
Air Volume(HML)	CFM 30250/112	4082/1102	505/1203	600/1500
Air Volume(HML)	m ³ /h 5344/310	618/349	857/406	1027/510
Cooling Capacity	HML Speed W 3300/940/316	3600/520/210	4500/900/300	5400/420/354
Heating Capacity	HML Speed W 4800/420/200	5800/104/300	6700/594/200	8115/888/275
Noise Level	dB(A) 53	54	54	54
Fan Motor	Fan Quantity 1	1	1	1
	Motor Quantity 1	1	1	1
	Power Input W 55	62	75	90
Water Flow Volume	m ³ /h 0.52	0.70	0.94	1.15
Hydraulic Resistance	kPa 25	27	29	31
Max Working pressure	MPa 1.6	1.6	1.6	1.6
	Net(Body) mm 570x570x200	570x570x200	570x570x200	570x570x200
	Packing(Body) mm 620x620x285	620x620x285	620x620x285	620x620x285
	Net(Panel) mm 600x600x55	600x600x55	600x600x55	600x600x55
	Packing(Panel) mm 710x710x40	710x710x40	710x710x40	710x710x40
Weight	Net(Gross(Body)) kg 1820.3	1820.3	1820.3	2452.8
	Net(Gross(Panel)) kg 2.237	2.237	2.237	5.378
Water/Outlet Water Pipe			R3/4"(DN20)	
Drain Pipe			R3/4"(DN20)	
Stuffing Quantity(20x40x40)	181380/414	181380/414	181380/414	79170/182

Specification-50Hz

Model	MCFCU-806-CACT50A	MCFCU-1006-CA8A	MCFCU-1206-CA8A	MCFCU-1406-CA8A
Air Volume(HML)	CFM 80240/440	1020/2500	1200/5020	1400/2400
Air Volume(HML)	m ³ /h 1360/1804/80	1730/1785/80	2040/1530/100	2380/1785/100
Cooling Capacity	HML Speed W 7240/1804/80	9018/664/80	10816/614/80	12600/1071/80
Heating Capacity	HML Speed W 10807/1807/80	13512/1485/80	16205/1374/100	19000/1606/120
Noise Level	dB(A) 64	64	65	65
Fan Motor	Fan Quantity 1	1	1	1
	Motor Quantity 1	1	1	1
	Power Input W 134	165	189	225
Water Flow Volume	m ³ /h 1.4	1.68	1.82	2.23
Hydraulic Resistance	kPa 34	36	38	42
Max Working pressure	MPa 1.6	1.6	1.6	1.6
	Net(Body) mm 835x835x250	835x835x250	835x835x250	835x835x250
	Packing(Body) mm 910x910x350	910x910x350	910x910x350	910x910x350
	Net(Panel) mm 800x800x55	800x800x55	800x800x55	800x800x55
	Packing(Panel) mm 1000x1000x100	1000x1000x100	1000x1000x100	1000x1000x100
Weight	Net(Gross(Body)) kg 25529	26331	28325	28325
	Net(Gross(Panel)) kg 5.378	5.378	5.378	5.378
Water/Outlet Water Pipe			R3/4"(DN20)	
Drain Pipe			R3/4"(DN20)	
Stuffing Quantity(20x40x40)	75170/182	74150/172	74150/172	74150/172

Note:
 1. Cooling capacity test conditions: Air inlet Temp.: 27°C DB/19.5°C WB, Water inlet/outlet Temp.: 7°C /12°C;
 2. Heating capacity test conditions: Air inlet Temp.: 21°C DB, Water inlet Temp.: 60°C;
 3. Noise level is tested in full-operation room.

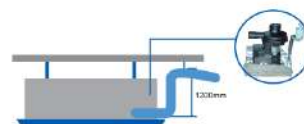
Cassette



Built-In Water Drainage Pump

The built-in pump can lift condensation water up to 1200mm high from the drainage pan.

Optional Air Outlet Panel (Round Flow/Four-way Cassette)



Four-way Cassette



Round Flow Cassette

Fresh Air Intake

Fresh air makes indoor air healthy and comfortable.



Optimized Electric Box

Better fire-proof and easy to maintenance.





Wall-mounted



A Variety of Panels

A variety of panels can be chosen



Long Term Washable Air Filter

The wash period is two times longer than normal filter.



Failure Automatic Detection

If there is a failure, the indicator will flash and the failure code will display on the wired controller; the failure cause is easier to be found.

Two Way Valve & Three Way Valve (Optional)



Wall-mounted



Specification-50Hz 4 Panels LH/LR/LK/LI

Model	MCOFCU200MMAR(L)	MCOFCU300MMAR(L)	MCOFCU400MMAR(L)
Air Volume	209/150/110	303/215/150	407/300/209
nM/L Speed	340/250/170	510/340/250	680/510/340
Cooling Capacity	1800/1300/1175	2710/2000/1768	3610/2670/2362
Heating Capacity	2700/2000/1761	4070/3000/2546	5410/4000/3522
Heating Capacity	W	W	W
Noise Level	dBA	44	43
Fan Quantity	1	1	1
Motor Quantity	1	1	1
Power Input	W	52	62
Water Flow Volume	l/h	350	610
Hydraulic Resistance	kPa	30	30
Max. Working pressure	MPa	1.6	1.6
Dimension (WxDxH)	mm	850*300*190	950*300*190
Packing	mm	920*370*210	1000*370*202
Net/Gross Weight	kg	11/12.5	12/14.5
Inlet/Outlet Water Pipe		Rc1/2"(DN15)	
Drain Pipe		R1/2"(DN15)	
Stuffing Quantity(20/40/40)		360/736/602	360/736/602

Specification-50Hz 4 Panels LH/LR/LK/LI

Model	MCOFCU500MMAR(L)	MCOFCU600MMAR(L)	MCOFCU800MMAR(L)
Air Volume	500/370/250	600/450/300	800/600/400
nM/L Speed	850/630/420	1020/750/510	1360/1020/680
Cooling Capacity	4510/3300/2304	5400/4000/3514	7210/5200/4602
Heating Capacity	6750/5000/4389	8150/6000/5275	10850/7900/7025
Heating Capacity	W	W	W
Noise Level	dBA	47	48
Fan Quantity	1	1	1
Motor Quantity	1	1	1
Power Input	W	76	134
Water Flow Volume	l/h	650	1000
Hydraulic Resistance	kPa	30	40
Max. Working pressure	MPa	1.6	1.6
Dimension (WxDxH)	mm	970*315*235	1050*330*235
Packing	mm	1010*390*300	1140*380*300
Net/Gross Weight	kg	15/17	16/18
Inlet/Outlet Water Pipe		Rc1/2"(DN15)	
Drain Pipe		R1/2"(DN15)	
Stuffing Quantity(20/40/40)		260/556/457	230/490/548

Note:
 1. Cooling capacity test conditions: Air inlet Temp.: 27°C DB/19.5°C WB, Water inlet/outlet Temp.: 7°C/12°C.
 2. Heating capacity test conditions: Air inlet Temp.: 21°C DB, Water inlet Temp.: 60°C.
 3. External Static Pressure (ESP) is optional.
 4. Noise level is tested in full-anechoic room.

Chiller Controller

Chiller Controller

FCU controller

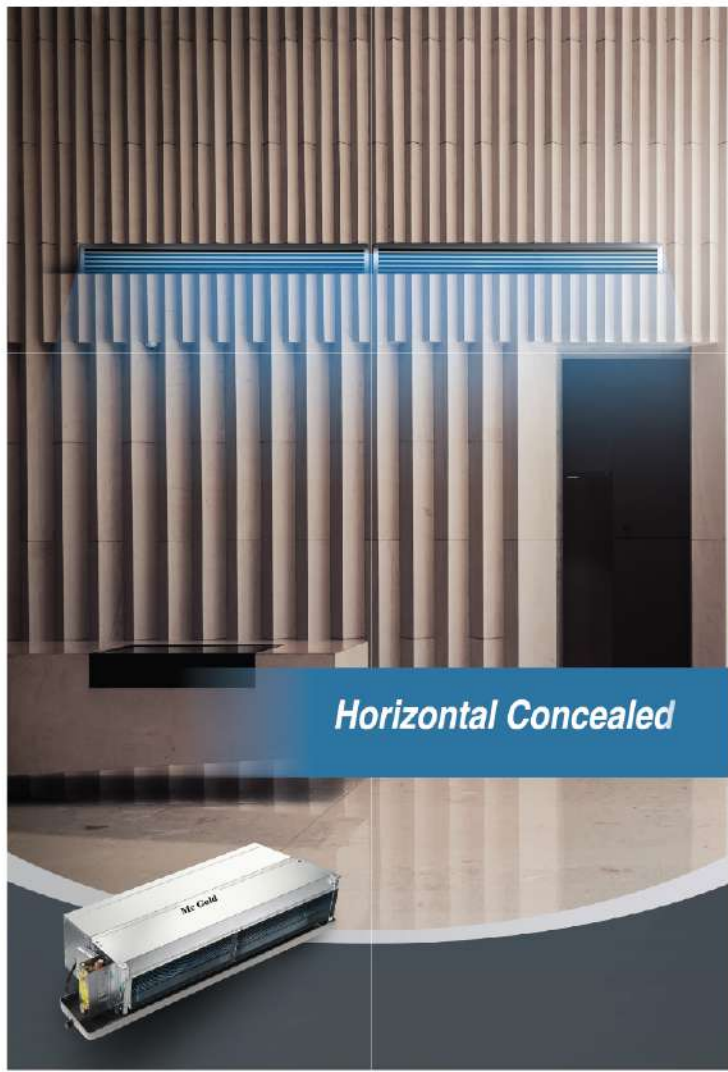


FCU Central controller



Chiller MODBUS control





Horizontal Concealed



Horizontal Concealed



Temperature Controller Central controller (Optional)

Return Air Plenum and Filter Air Standard

Back air return and down air return can be free choice, the long term air filter ensures better air quality.



Pipe Connecting Direction Free Choice

Right connecting pipe is standard, and left connecting pipe is optional. Left and right drain pipe also can be free choice.



Adjustable ESP

There are two types ESP can be selected for each model. Standard (30Pa) / Optional (12 Pa)



External Static Pressure

3 rows and metal fan wheel are standard for A6M series.



Horizontal Concealed FCU



Specification-50Hz A6 Series

Model	Left (Right)	AFC-209HCLR/4BAA6	AFC-309HCLR/4BAA6	AFC-409HCLR/4BAA6	AFC-509HCLR/4BAA6	AFC-609HCLR/4BAA6
Air Volume(HML)	CFM	209/158/119	309/225/159	409/300/201	509/375/255	609/450/306
	m³/h	142/107/78	219/161/119	293/214/145	363/244/165	433/323/219
Cooling Capacity	HML Speed	1800/1337/1175	2760/2027/1763	3630/2675/2352	4500/3337/2934	5400/3959/3574
Heating Capacity	HML Speed	2700/2029/1951	4050/3008/2848	5400/4059/3722	6750/5173/4749	8100/6288/5775
External Static Pressure	Pa	Standard (30Pa) / Optional (12 Pa)				
Rows Of Coil		2	2	2	2	2
Noise Level	dB(A)	540	542	544	546	547
Fan Motor	Fan Quantity	1	2	2	2	2
	Motor Quantity	1	1	1	1	1
Power Input	W	44	58	72	97	115
	Power Input	W	44	58	72	97
Water Flow Volume	m³/h	0.35	0.61	0.5	0.56	1.28
Hydraulic Resistance	kPa	430	430	430	430	440
Max Working pressure	MPa	1.6	1.6	1.6	1.6	1.6
Dimension(WxDxH)	Net	884x518x240	884x518x240	884x518x240	1028x518x240	1128x518x240
	Packing	715x293x545	915x293x545	915x293x545	1060x293x545	1150x293x545
Net Gross Weight	kg	12.8/14.0	16.4/18.8	18.9/18.4	18.9/18.9	20.2/23.7
Hot/Cold Water Pipe		R3/4"(DN20)				
Drain Pipe		R3/4"(DN20)				
Shipping Quantity(20°C/40°C)		256/355/418	192/489/520	192/489/520	176/326/440	160/396/440

Specification-50Hz A6 Series

Model	Left (Right)	AFC-809HCR3/4BAA6	AFC-1009HCR3/4BAA6	AFC-1209HCR3/4BAA6	AFC-1409HCR3/4BAA6
Air Volume(HML)	CFM	809/610/408	1009/750/500	1209/900/600	1409/1050/700
	m³/h	1301/428/193	1730/1275/519	2040/1520/620	2380/1781/690
Cooling Capacity	HML Speed	7200/4294/467	9000/5068/5462	10800/5989/6307	12600/6788/697
Heating Capacity	HML Speed	10800/5989/6307	13200/11457/6703	16200/13774/10533	18900/16069/12286
External Static Pressure	Pa	Standard (30Pa) / Optional (12 Pa)			
Rows Of Coil		3	3	3	3
Noise Level	dB(A)	548	550	552	554
Fan Motor	Fan Quantity	3	4	4	4
	Motor Quantity	1	1	1	1
Power Input	W	158	174	212	253
	Power Input	W	158	174	212
Water Flow Volume	m³/h	1.39	1.58	1.82	2.4
Hydraulic Resistance	kPa	540	540	540	550
Max Working pressure	MPa	1.6	1.6	1.6	1.6
Dimension(WxDxH)	Net	1319x518x240	1619x518x240	1719x518x240	1999x518x240
	Packing	1249x293x545	1649x293x545	1749x293x545	1929x293x545
Net Gross Weight	kg	2808	3133/3.0	33406	35.8/41.1
Hot/Cold Water Pipe		R3/4"(DN20)			
Drain Pipe		R3/4"(DN20)			
Shipping Quantity(20°C/40°C)		144/368/340	117/260/280	117/252/280	198/716/240

Notes:
 1. Cooling capacity test conditions: Air inlet Temp.: 27°C DB/19.5°C WB; Water inlet/outlet Temp.: 7°C/12°C.
 2. Heating capacity test conditions: Air inlet Temp.: 21°C DB; Water inlet Temp.: 60°C.
 3. External Static Pressure: 30Pa is optional.
 4. Noise level is tested in full anechoic room.
 5. If Models had 3 Rows of coil can be choose.

Horizontal Concealed FCU



Specification-50Hz A6M Series (3 Rows Steel Fan)

Model	Left (Right)	AFC-209HCLR/4BAA6	AFC-309HCLR/4BAA6	AFC-409HCLR/4BAA6	AFC-509HCLR/4BAA6	AFC-609HCLR/4BAA6
Air Volume(HML)	CFM	209/158/119	309/225/159	409/300/201	509/375/255	609/450/306
	m³/h	142/107/78	219/161/119	293/214/145	363/244/165	433/323/219
Cooling Capacity	HML Speed	1800/1337/1175	2700/2027/1763	3600/2675/2352	4500/3337/2934	5400/3959/3574
Heating Capacity	HML Speed	2700/2029/1951	4050/3008/2848	5400/4059/3722	6750/5173/4749	8100/6288/5775
External Static Pressure	Pa	Standard (30Pa) / Optional (12 Pa)				
Rows Of Coil		3	3	3	3	3
Noise Level	dB(A)	540	542	544	546	547
Fan Motor	Fan Quantity	1	2	2	2	2
	Motor Quantity	1	1	1	1	1
Power Input	W	44	58	72	87	108
	Power Input	W	44	58	72	87
Water Flow Volume	m³/h	0.35	0.61	0.6	0.66	1.06
Hydraulic Resistance	kPa	430	430	430	430	440
Max Working pressure	MPa	1.6	1.6	1.6	1.6	1.6
Dimension(WxDxH)	Net	884x518x240	884x518x240	884x518x240	1028x518x240	1128x518x240
	Packing	715x293x545	915x293x545	915x293x545	1060x293x545	1150x293x545
Net Gross Weight	kg	14.1/18.1	18.3/20.8	18.3/20.8	20.8/23.8	22.3/25.7
Hot/Cold Water Pipe		R3/4"(DN20)				
Drain Pipe		R3/4"(DN20)				
Shipping Quantity(20°C/40°C)		256/355/418	192/489/520	192/489/520	176/326/440	160/396/440

Specification-50Hz A6M Series (3 Rows Steel Fan)

Model	Left (Right)	AFC-809HCR3/4BAA6	AFC-1009HCR3/4BAA6	AFC-1209HCR3/4BAA6	AFC-1409HCR3/4BAA6
Air Volume(HML)	CFM	809/610/408	1009/750/500	1209/900/600	1409/1050/700
	m³/h	1301/428/193	1730/1275/519	2040/1520/620	2380/1781/690
Cooling Capacity	HML Speed	7200/4294/467	9000/5068/5462	10800/5989/6307	12600/6788/697
Heating Capacity	HML Speed	10800/5989/6307	13200/11457/6703	16200/13774/10533	18900/16069/12286
External Static Pressure	Pa	Standard (30Pa) / Optional (12 Pa)			
Rows Of Coil		3	3	3	3
Noise Level	dB(A)	548	550	552	554
Fan Motor	Fan Quantity	3	4	4	4
	Motor Quantity	2	2	2	2
Power Input	W	158	174	212	253
	Power Input	W	158	174	212
Water Flow Volume	m³/h	1.4	1.7	2.0	2.3
Hydraulic Resistance	kPa	540	540	540	550
Max Working pressure	MPa	1.6	1.6	1.6	1.6
Dimension(WxDxH)	Net	1319x518x240	1619x518x240	1719x518x240	1999x518x240
	Packing	1249x293x545	1649x293x545	1749x293x545	1929x293x545
Net Gross Weight	kg	28.9/32.8	36.2/40.7	38.8/41.5	43.8/46.3
Hot/Cold Water Pipe		R3/4"(DN20)			
Drain Pipe		R3/4"(DN20)			
Shipping Quantity(20°C/40°C)		144/368/340	117/260/280	117/252/280	198/716/240

Notes:
 1. Cooling capacity test conditions: Air inlet Temp.: 27°C DB/19.5°C WB; Water inlet/outlet Temp.: 7°C/12°C.
 2. Heating capacity test conditions: Air inlet Temp.: 21°C DB; Water inlet Temp.: 60°C.
 3. External Static Pressure: 30Pa is optional.
 4. Noise level is tested in full anechoic room.

Ceiling & Floor



3D Air Swing

Vertical and horizontal swing makes air below to every corner of the room.



Ultra Slim Design

The thickness is only 225mm, save installation space.



Innovative Centrifugal Fan

All units are equipped with 3-speed fan mode, adjusting the air flow rate in accordance with the ceiling height. Innovative centrifugal fan provides larger air volume but lower noise, making the air supply more quietly and smoothly.



Flexible Installation

Can be vertically installed against the wall or horizontally installed under the ceiling.



Ceiling & Floor



Ceiling & Floor

Specification-50Hz

Model		AFC-400CF4B	AFC-500CF4B	AFC-600CF4B	AFC-800CF4B	AFC-1000CF4B
Air Volume (AVL)	CFM	430/330/230	590/314/259	826/450/392	1300/720/490	1300/750/520
	m³/h	690/510/340	838/314/425	1002/765/510	1300/1220/690	1700/1275/610
Cooling Capacity	1HML Speed W	3600/3075/2352	4514/3837/2934	5406/4340/3314	7216/6124/4667	9000/7669/5862
Heating Capacity	1HML Speed W	5418/4663/3522	6765/5762/4399	8115/6818/5275	10807/9186/7025	13512/11405/8795
Noise Level	(dBA)	442	445	446	448	459
Fan Motor	Fan Quantity	2	2	3	3	4
	Motor Quantity	1	1	1	1	1
	Power Input W	78	89	117	190	230
Water Flow Volume	m³/h	0.62	0.80	0.88	1.25	1.58
Hydraulic Resistance	kPa	16	20	22	30	44
Max Working pressure	MPa	1.6	1.6	1.6	1.6	1.6
Dimension (WxDxH)	Net (Body)	926x680x265	828x669x268	1280x690x266	1280x666x266	1631x692x266
	Packing (Panel)	1010x720x290	1010x720x290	1360x720x290	1360x720x290	1719x720x290
Weight	Net (Body) (Excl.) kg	2427	2528	3055	3330	4450
Inst/Outlet Water Pipe				Rc3/4" (D40)		
Drain Type				R3/4" (D40)		
Stuffing Quantity (20/10/10H)		143/297/329	143/297/329	103/219/238	103/219/238	103/219/238

Note:
 1. Cooling capacity test conditions: Air inlet Temp.: 27°C DB/18.0°C WB, Water inlet/Outlet Temp.: 7°C /12°C;
 2. Heating capacity test conditions: Air inlet Temp.: 21°C DB, Water inlet Temp.: 60°C;
 3. Noise level is based in full anechoic rooms.

DX Modular Air Handling Units

Mc KLIMA offers a wide range of Direct Expansion Modular AHU's in combination with Condensing Units, which provide better performance for handling cooling loads where chilled water supply is unavailable. We also supply VRF solution combined with an AHU kit, to introduce multiple indoor units connected in series with a DX Split Type AHU (within 30% of total outdoor unit capacity) with respect to a single outdoor unit, or just a single DX Split Type AHU (within 50% to 100% total outdoor unit capacity). All condensing units are T3, High Ambient, capable of operating for 50°C. Standard capable of operating for 50°C. Standard R410A or Green Gas refrigerant and hermetic scroll compressors.

SPECIFICATIONS

Indoor Unit Capacity (USRT)	Air Flow (CFM)	Indoor Unit Motor (kW)	Outdoor Condensing Unit Input Power (kW)
3.4	1475	~ 2.2	4.00
5.5	2360	~ 2.2	6.25
7.3	2950	~ 3	8.71
8.5	3688	~ 4	10.04
11.6	4425	~ 4	13.85
14.8	5900	~ 5.5	16.98
17.6	7080	~ 7.5	19.65
22.5	8850	~ 7.5	25.89
29.6	11800	~ 7.5	33.96
35.3	14160	~ 11	39.30
44.4	17700	~ 11	51.78
53	22125	~ 11	58.95



