



AIR-COOLED MINI CHILLERS Technical Specification

جدول مشخصات فنی مینی چیلر ها

Model			MGC-F05W/N1	MGC-F07W/N1	MGC-F10W/N1	MGC-F10W/SN1	MGC-F12W/SN1	MGC-F14W/SN1	MGC-F16W/SN1	
Power supply			V-Ph-Hz	220-240, 1, 50	220-240, 1, 50	220-240, 1, 50	380-415, 3, 50	380-415, 3, 50	380-415, 3, 50	380-415, 3, 50
Cooling	Capacity	kW	5	7.2	10.5	10.5	12	14	16	
	Input	W	1938	2755	3614	3930	4410	4859	6430	
Heating	Capacity	kW	5.5	7.7	12	12	14	16.12	18	
	Input	W	1987	2834	4004	4240	4643	5218	6444	
Max. input consumption		W	2350	3200	5500	4400	5000	6550	7700	
Max. input current		A	11.7	16.7	25.7	8.3	9.1	10.5	14.3	
Starting current		A	36.8	55	110	45	66	80	92	
Refrigerant	Refrigerant Type		R410A	R410A	R410A	R410A	R410A	R410A	R410A	
	Refrigerant Charged volume	g	1600	2100	3000	2700	3000	3600	4200	
Throttle Type			Capillary	Capillary	Capillary	Capillary	Capillary	Capillary	Capillary	
Compressor	Type		ROTARY	ROTARY	Fix speed Scroll type	Fix speed Scroll type	Fix speed Scroll type	Fix speed Scroll type	Fix speed Scroll type	
	Brand		Midea-Toshiba	Midea-Toshiba	Copeland	Copeland	SANYO	SANYO	SANYO	
	Capacity	Btu/h	—	—	—	42300	48100	56000	65510	
	Input	W	—	—	—	4100	4750	5750	6750	
	Number of Compressor		1	1	1	—	—	—	—	
	Thermal protector		Inner	Inner	Inner	Inner	Inner	Inner	Inner	
	Refrigerant oil	ml	ESTER OIL VG74, 750	ESTER OIL VG74, 1100	POE OIL, 1656	POE OIL, 1952	FV68S, 1700	FV68S, 1600	FV68S, 1700	
	Outdoor fan motor	Type	AC motor	AC motor	AC motor	AC motor	AC motor	AC motor	AC motor	
Outdoor fan motor	Brand		Welling	Welling	Welling	Welling	Welling	Welling	Welling	
	Number of fan		1	1	2	2	2	2	2	
	Input (Hi/Lo)	W	220	220	185/120	185/120	185/120	185/120	185/120	
	Speed (Hi/Lo)	r/min	660	660	860/610	860/610	860/610	860/610	860/610	
	Max. air flow	m ³ /h	5563	5624	6500/4300	6465/4270	6470/4280	6500/4300	6550/4483	
	Outdoor coil	Number of rows		1	1	3	2	2	3	3
	Outdoor coil	Fin type		Hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium foil	Hydrophilic aluminium foil	Hydrophilic aluminium foil	Hydrophilic aluminium foil	Hydrophilic aluminium foil
Tube outside dia. and type		mm	Ø7.94	Ø7.94	Ø9.53	Ø7.94	Ø7.94	Ø9.53	Ø7.94	
			Inner grooved copper tube	Inner grooved copper tube	inner groove tube	Inner grooved copper tube	Inner grooved copper tube	Inner grooved copper tube	Inner grooved copper tube	
Hydraulic module	Water pump	Input (H/M/L)	W	93/67/46	93/67/46	210/175/120	210/175/120	210/175/120	210/175/120	
		Pumping head	m	5.5	5.5	8.5	8.5	8.5	8.5	8.5
	Expansion tank	volume	L	2	2	3	3	3	3	
		Type		Plate	Plate	Plate	plate	plate	plate	plate
	Heat exchange	Rated water flow	m ³ /h	0.86	1.24	1.74	1.72	2.0	2.4	2.8
		heat-exchanger water pressure drop	kpa	21	35	44	44	40	34	38
Pressure Difference Switch			standard	standard	standard	standard	standard	standard	standard	
The Max. and Min. water inlet pressure		kpa	500/150	500/150	60/50	500/150	500/150	500/150	500/150	
Outdoor noise level (sound pressure)		dB(A)	55	56	500/150	58/48	59/49	60/50	60/51	
Outdoor unit	Dimension (W×H×D)	mm	990×966×354	990×966×354	940×1245×360	940×1245×360	1070×1249×420	1070×1249×420	1070×1249×420	
	Packing (W×H×D)	mm	1120×1100×435	1120×1100×435	1058×1380×438	1058×1380×438	1188×1385×498	1188×1385×498	1188×1385×498	
	Net/ Gross weight	kg	83/89	94/100	138/145	131/139	137/145	145/160	142/150	
Pipe diameter	Water inlet/outlet	mm	R1	R1	R5/4	R5/4	R5/4	R5/4	R5/4	
Control			electronic controller	electronic controller	electronic controller	electronic controller	electronic controller	electronic controller	electronic controller	
Ambient temp.		°C	Cooling: 10°C~43°C; Heating: -15~24°C				Cooling: 10°C~43°C; Heating: -15~24°C			
Water inlet setting temp. range (default)		°C	Cooling: 4~20°C; Heating mode: 30~55°C				Cooling: 4~20°C; Heating mode: 30~55°C			

Nominal capacity is based on the following conditions:

1. Cooling: outdoor ambient temperature 35°C, inlet/outlet water temperature 12/7°C.
2. Heating: outdoor ambient temperature 7°C 85% R.H.; inlet/outlet water temperature 40/45°C.
3. 1m away in open field (sound pressure).





چیلرهای مدولار
آبی هوا خنک

AIR-COOLED
MODULAR CHILLERS



25/30 kw



250 kw



180 kw



120 kw



60 kw

AIR-COOLED SCROLL MODULAR CHILLERS Technical Specification (قابل پیوند)

Model		MGBT-F25W/RN1	MGBT-D25W/RN1	MGBT-F30W/RN1	MGBT-D30W/RN1	MGBT-F60W/RN1	MGBT-D60W/RN1	MGBT-F120W/RN1	MGBT-F180W/RN1	MGBT-F250W/RN1	
Cooling Capacity (*1)	kW	28	28	30	30	60	60	120	180	250	
	Btu/h	95500	95500	102300	102300	204700	204700	409400	614100	830000	
Cooling Capacity (*2)	kW	24.9	24.9	25.8	25.8	51.6	51.6	103.2	154.8	216	
	Btu/h	85000	85000	88030	88030	176100	176100	352100	528200	737000	
Heating Capacity	kW	29.5	29.5	32	32	64	65	128	195	270	
Power supply	V/Ph/Hz	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-415/3/50	380-400/3/50	
Power supply	Manual switch	A	50	50	50	125	125	250	350	450	
	Fuse	A	36	36	36	100	100	200	300	300	
Compressor	Type	Scroll (fixed speed)	Digital Scroll + Fixed speed	Scroll (fixed speed)	Digital Scroll + Fixed speed	Scroll (fixed speed)	Digital Scroll + Fixed speed	Scroll (fixed speed)	Scroll (fixed speed)	Scroll (fixed speed)	
	Brand	Copeland	Copeland	Copeland	Copeland	Copeland	Danfoss+Copeland	Copeland	Copeland	Copeland	
Compressor	Quantity	Pieces	2	1+1	2	1+1	2	3	4	6	
	Quantity	Pieces	2	1+1	2	1+1	2	3	4	6	
Power input	Cooling (*1)	kW	9.3	9.3	10.0	10.0	19.3	19.4	38.5	57.9	
	Cooling rated current (*1)	A	14.6	14.6	16.3	16.3	33.6	33.6	68.8	100.8	
	Cooling (*2)	kW	11.16	11.16	12	12	23.16	23.28	46.2	58.5	
	Cooling rated current (*2)	A	17.52	17.52	19.56	19.56	40.32	40.32	82.56	121	
	Heating	kW	9.2	9.2	9.8	9.8	19.8	20.4	41.5	59.4	
	Heating rated current	A	14.3	14.3	16.0	16.0	34.3	35.1	71.8	102.9	
Max. Input consumption	kW	12.6	12.5	12.6	12.5	29.5	29	55.5	78.3	104.9	
Max. Current	A	21.8	21.5	21.8	21.5	54.4	54.6	93.8	133.4	194.6	
Refrigerant	Type	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	
	Weight	kg	3.1×2	3.1×2	3.1×2	3.1×2	6.0×2	6.5×2	6.0×6	6.0×6	
Condenser (Air side)	Air side heat-exchanger type	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	Fin-coil	
	Quantity of fan motor	Pieces	1	1	1	1	2	2	4	6	
	Air flow volume	×10 ³ m ³ /h	12	12	12	12	24	24	48	72	
	Fan motor model		YDK400-8-YA	YDK400-8-YA	YDK400-8-YA	YDK400-8-YA	YS700-6F	YDK550-6E	YS700-6F	YS700-6F	YS700-6F
	Fan motor rated current	A	3.1	3.1	3.1	3.1	1.8×2	4.5×2	1.8×4	1.8×6	14.4×8
	Fan motor input	kW	0.4	0.4	0.4	0.4	0.7×2	0.55×2	0.7×4	0.7×6	5.6×8
Evaporator (Water side)	Water side heat-exchanger type	Double-pipe	Double-pipe	Double-pipe	Double-pipe	Shell-tube	Shell-tube	Shell-tube	Shell-tube	Shell-tube	
	Water resistance loss	kPa	60	60	60	60	15	15	25	30	40
	Water inlet/outlet pipeline inside normal diameter	mm	DN40	DN40	DN40	DN40	DN100	DN100	DN65	DN80	DN100
	Water flow volume	m ³ /h	4.8	4.8	5.2	5.2	10.3	10.3	22.4	31	43
	Max. Pressure	MPa	1	1	1	1	1	1	1	1	1
	Water pipe connection type		Flexible joint	Flexible joint	Flexible joint	Flexible joint	Flexible joint	Flexible joint	Flexible joint	Flexible joint	Flexible joint
Dimension	Net(W×H×D)	mm	1514×1865×841	1514×1865×841	1514×1865×841	1514×1865×841	2000×1880×900	2000×1880×900	2000×2090×1685	2850×2110×2000	3800×2130×2000
	Packing size(W×H×D)	mm	1590×2065×995	1590×2065×995	1590×2065×995	1590×2065×995	2090×2055×985	2090×2055×985	2090×2240×1755	2980×2280×2135	3900×2200×2100
Weight	Net weight	kg	380	380	380	380	580	600	1150	1730	2450
	Operation Weight	kg	400	400	400	400	650	670	1200	2000	2600
Connection wiring	Power wiring	mm ² ×No.	10×4+6×1	10×4+6×1	10×4+6×1	10×4+6×1	25×4+16×1	16×4+10×1	35×3+16×2	70×3+35×2	185×4+70×1
	Signal wiring	mm ² ×No.	0.75×3-core with shielding	0.75×3-core with shielding	0.75×3-core with shielding	0.75×3-core with shielding	0.75×3-core with shielding	0.75×3-core with shielding	0.75×3-core with shielding	0.75×3-core with shielding	
Control type		Wired controller	Wired controller	Wired controller	Wired controller	Wired controller	Wired controller	Wired controller	Wired controller	Wired controller	
Safety protection device		High/low-pressure switch, anti-frost protection, water flow volume controller, over-load protection, and power phases sequence protection etc.			High/low-pressure switch, anti-frost protection, water flow volume controller, over-load protection, and power phases sequence protection etc.			High/low-pressure switch, anti-frost protection, water flow volume controller, over-load protection, and power phases sequence protection etc.		High/low-pressure switch, anti-frost protection, water flow volume controller, over-load protection, and power phases sequence protection etc.	
Noise level	dB(A)	65	65	65	65	67	67	70	74	74	
Operation water temp.	°C	Cooling: 5-17 Heating: 45-50	Cooling: 5-17 Heating: 45-50	Cooling: 5-17 Heating: 45-50	Cooling: 5-17 Heating: 45-50	Cooling: 5-17 Heating: 45-50	Cooling: 5-17(0°C must add antifreeze) Heating: 22-50	Cooling: 5-17 Heating: 45-50	Cooling: 5-17 Heating: 45-50	Cooling: 5-17(0°C must add antifreeze) Heating: 22-50	
Ambient temp.	°C	Cooling: 10-52 Heating: -10-21	Cooling: 10-52 Heating: -10-21	Cooling: 10-52 Heating: -10-21	Cooling: 10-52 Heating: -10-21	Cooling: 10-52 Heating: -10-21	Cooling: 10-52 Heating: -10-21	Cooling: 10-52 Heating: -10-21	Cooling: 10-52 Heating: -10-21	Cooling: 10-52 Heating: -10-21	

Note:

Specifications are based on the following conditions:

- Cooling : (*1) chilled water inlet/outlet: 12°C / 7°C, and outdoor ambient temp. of 35°(117°F)CDB.
(*2) chilled water inlet/outlet: 12°C / 7°C, and outdoor ambient temp. of 46°(114°F)CDB.
- Heating : warm water inlet/outlet: 40°C / 45°C, and outdoor ambient temp. 7°CDB/6°CWB.
- Water side fouling factor: 0.086m²·C/kW.



R-410A



COOLING HEATING



EXV CONTROL



HERMETIC SCROLL



RELIABILITY

چیلرهای اسکرو (آبی هوا خنک)

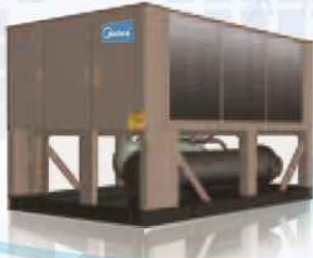
AIR-COOLED SCREW CHILLERS

جدول مشخصات فنی چیلرهای اسکرو (آبی هوا خنک)

Descriptions		Single compressor			Dual compressors		
		Unit Model	LSBLGCW360A	LSBLGCW450A	LSBLGCW600A	LSBLGCW720A	LSBLGCW800A
Cooling capacity	kW	364	450	594	729	810	902
Power supply		380-400V,3P+N+PE,50Hz			380V/3P/50Hz		
Rated power consumption	kW	113	138	184	227	251	278
Compressor	Type	Semi-hermetic, twin screw compressor			Semi-hermetic, twin screw compressor		
	Quantity	1	1	1	2	2	2
Energy adjustable range%		25%,50%,75%,100% 4-step (50%~100% stepless as option)			25%,50%,75%,100% 4-steps (50%~100% stepless as option)		
Refrigerant	Type	R134a			R134a		
	Charge (kg)	80	122	125	80x2	80+122	122x2
Air Side Heat-exchanger	Type	Reversed M sharp Heat exchanger. High efficient exchanger tube + aluminum fins			M type Heat exchanger, High efficient exchanger tube + Aluminum fins		
	Fans Quantity	6	8	10	12	14	16
	Air Volume (m ³ /h)	23000x6	23000x8	20000x10	23000x12	23000x14	23000x16
	Motor input (kW)	2.8x6	2.8x8	1.8x10	2.8x12	2.8x14	2.8x16
Water Side Heat-exchanger	Type	Shell-and-tube heat-exchanger			Shell-and-tube heat-exchanger		
	Water Volume (m ³ /h)	62.6	77.4	102	125	139	155
	Water pressure drop (kPa)	50	55	60	65	70	80
	Inlet/outlet Pipe diameter (mm)	DN125	DN125	DN125	DN150	DN150	DN150
Water side fouling factor (m ² ·°C/kW)		0.086 (m ² ·k/kW)			0.086		
Dimension	Length (mm)	3730	4730	5700	7425	8425	9425
	width (mm)	2280	2280	2280	2280	2280	2280
	height (mm)	2370	2370	2400	2430	2430	2430
Shipping weight (kg)		3320	4325	5000	6700	7750	8900
Running weight (kg)		3520	4530	5200	7000	8050	9200

Notes:

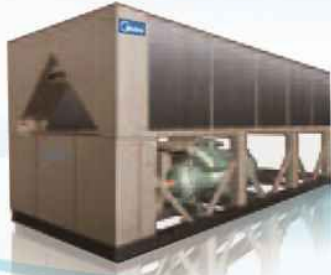
- Nominal cooling capacities are based on the following conditions:
Chilled water inlet/outlet temp: 12°C/7°C; Outdoor temp (DB/WB):35°C/24°C.
- The applicable ambient temperature range of R134a air-cooled screw unit is 15°C~43°C.



LSBLGCW360A
360kw / 100RT unit



LSBLGCW450A
450kw / 120RT unit



LSBLGCW600A
600kw / 170RT unit



LSBLGCW720A
720kw / 200RT unit



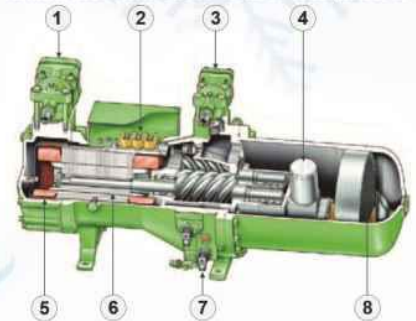
LSBLGCW800A
800kw / 225RT unit



LSBLGCW900A
900kw / 250RT unit



Advanced Twin-Rotor Screw Compressor



- | | |
|---------------------------|----------------------------|
| ① Suction cut-off valve | ⑤ Suction filter net |
| ② Solenoid valve | ⑥ Motor |
| ③ Discharge cut-off valve | ⑦ Oil heater |
| ④ Oil filter | ⑧ Oil separator filter net |

(Certificates)

