# LG Refrigeration Compressors





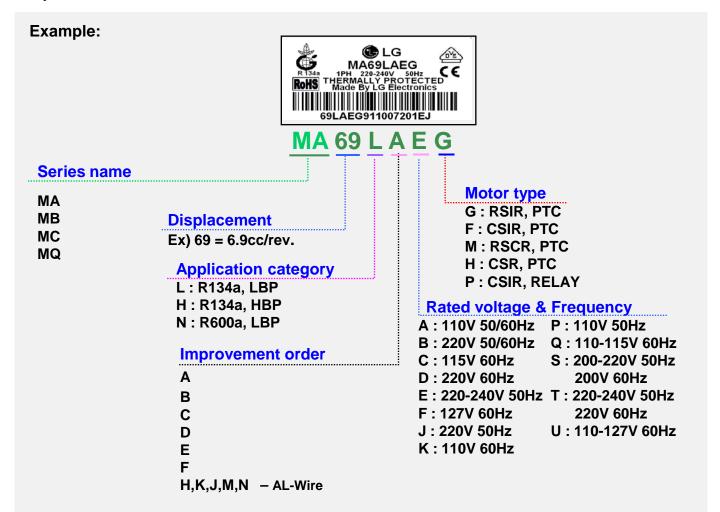
Refrigerants: R 134a R 600a



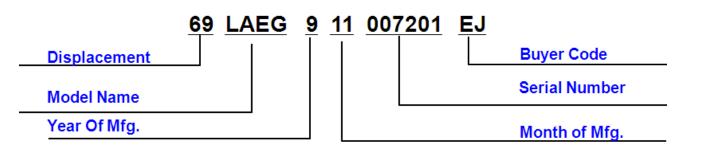
Hermetic Compressors



# **Compressor Name Code:**



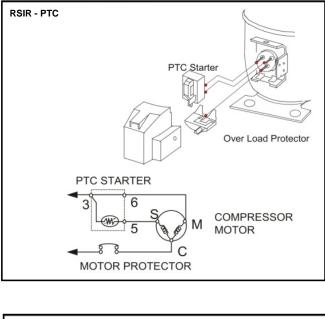
# Serial Number:

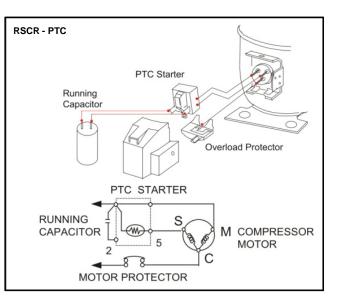


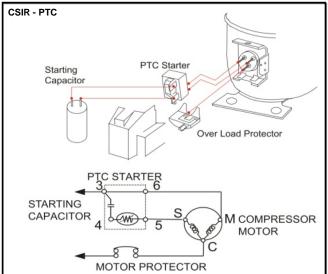
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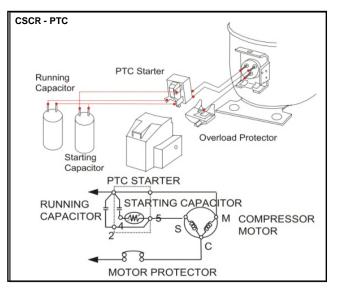


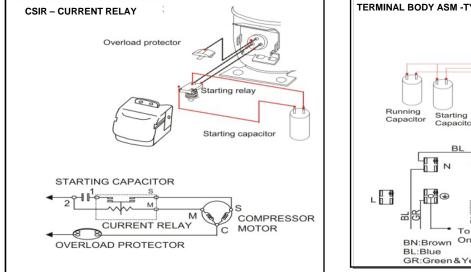
# **Electrical Wiring Diagrams :**

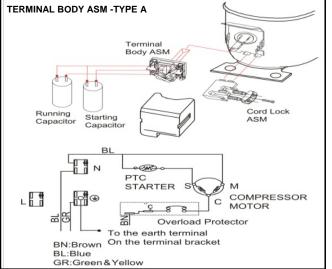








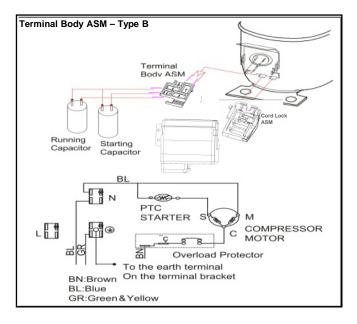


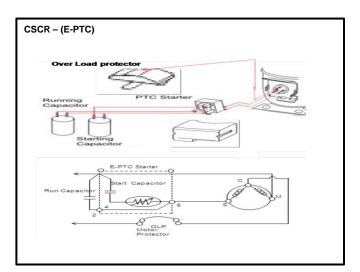


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# **Electrical Wiring Diagrams :**



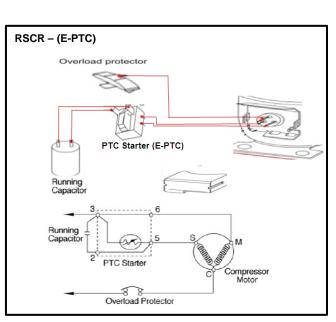


# **Motor Types**

	Overload	Starting	Device	Capacitors						
Motor Type	Protector	PTC Starter	Current Relay	Starting	Running					
RSIR	Yes	Yes								
RSCR	Yes	Yes			Yes					
CSIR	Yes	Yes	Yes	Yes						
CSCR	Yes	Yes		Yes	Yes					

# Motor Starting Torque Classification

Туре	Description
LST	Low Starting Torque For RSIR/RSCR motor in LBP / HBP model Suitable for capillary application
нѕт	High Starting Torque For CSIR/ CSCR motor in LBP / HBP model Suitable for expansion valve application

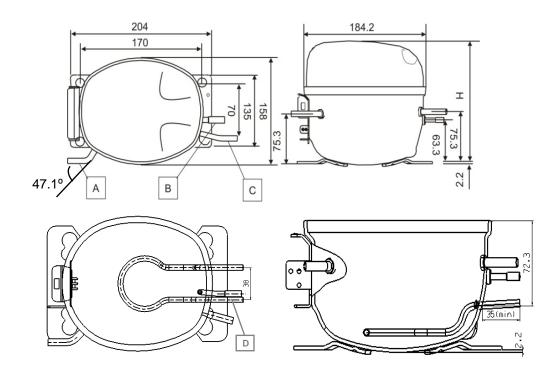


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# **Compressor Mounting Details:**

# MA/MC/MQ



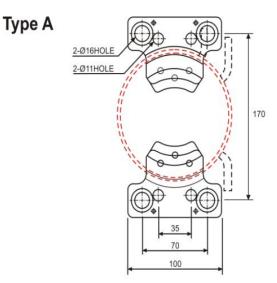
# **Compressor Pipe Dimensions:**

Pipe	OD (mm)	ID (mm)	T(mm)	Material	Remarks
Suction (A)	7.94	6.54	0.7	copper	Suction Pipe bend as per the customer
( )		6.10	0.9	copper	requirement
Discharge (B)	6.7	5.00	0.85	copper	
	7.94	6.54	0.7	copper	
Process (C)	7.94	6.10	0.9	copper	
Oil Cooling (D)	6.35	4.95	0.7	copper	

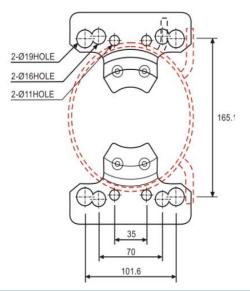
# Compressor Height:

Series	Height (H) (mm)
MA42/45/53	172
MA57/62/69/72/88 MA42LH*/MA53LH*/ MA45LH*	177
MC53/57/ MA62LH*/ MA69LH* / MA72LH*	180
MQ88/98	

# Mounting Bracket:

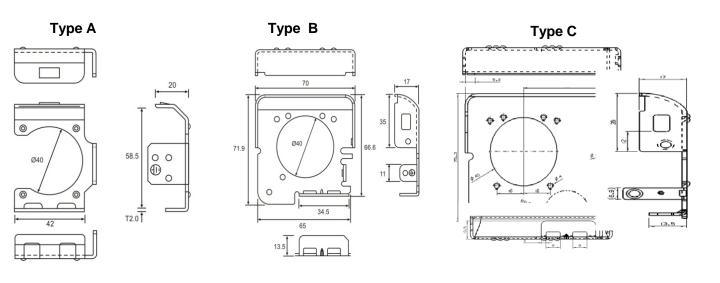




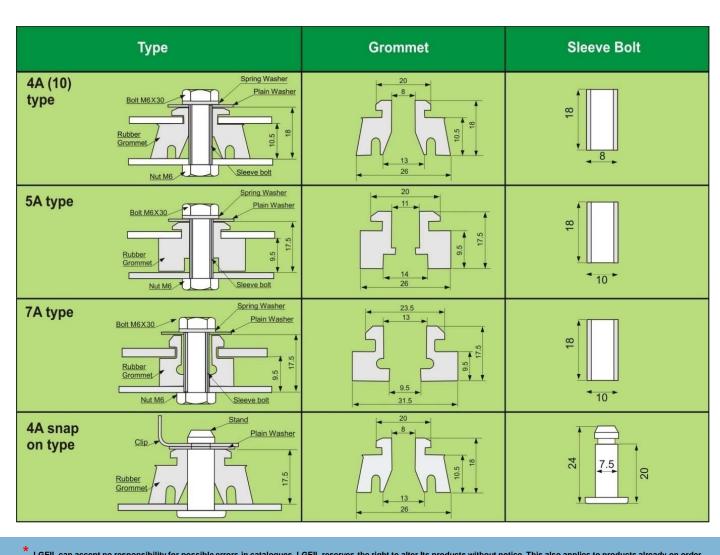


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# **Terminal Protector:**



# **Mounting Accessories:**



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Parformanca data chaat R134a

Compressors

		Net Weight	(kg)	8.1	0.1 8.2	8.2	8.2	7.5	8.3 8.3	8.3	8.2	0 00	8.2	8.9	8.8	9.1	8.2	0.6	8.5	9.2	9.1	9.2	9.0	9.1	9.1	9.0 0.6	9.1	9.5 0.0	5.6	9.3	8.4	0.0	8.3 9.1	8.2	8.2	9.0 9.5	8.1	9.5	9.6 9.5	9.1	8.6	8.6 8.6	9.5	9.3 8.2	8.3
		Compressor Height	(mm)	172	112	172	172	177	172	172	172	117	177	177	171	172	172	117	177	177	171	111	180	177	177	180	177	180	180	177	172	177	177	177	172	177	180	180	180	177	172	1/2	177	177	177
		Cooling	ady i	ST	st o	ST	ST	ST	ST	st	s s	א ה	ST	ST	ST	ST	ST of	0 J	ST	ST/OC	ST	STOC	ST	ST/OC	ST/OC	2 2	ST/OC	ST	ST	FC	ST	sı s	ST	ST	ST	ST	ST	ST	N N	ST	2 f	2 5	2	<u>6</u> 5	2 22
		đ	(cc)	220	220	220	220	220	220 220	220	220	720	220	220 220	220	220	220	220	220	220	220	022	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220 220	220	220 220	220
	OIL		Viscosity (cst)	22	2 22	22	22	22	3 23	32	32	3 8	22	3 23	32	22	32	3 6	52	22	22 52	3 6	22	22	22	2 22	22	32	22	22	22	22	22 %	22	22	1 B	9	9	9 9	22	22	2 22	22	2 23	12
			Running V (µF/Surge Voltage)	5/400				5/400	5/400	-	5/400	5/400	5/400				5/400		5/400			5/400			5/400		5/400							14/220	5/400	- 5/400	5/400	5/400	5/400 5/400	5/400					,
		aci	Starting R (µF/ Surge (µl Voltage) V	H									,													50/275				50/275			- 40~60/275		+	5/400			30/300			50/2/5		40~60/230	50/275
	ARTS			Н	кго 61A1	61A1	RFB	LFB	SFB	SFB	RFB	K01A1	SFB	61A1 SFR	61A1	TFB	SFB	SFB	SFB	361A1	561A1	CEB	S61A1	SFB			<del>, -</del>	TFB TCD			61A1	RFB					RFB	RFB			-		VFB	-	
	ELECTRICAL PARTS	Motor	Protector (OLP)	4TM158RFB	4 I M I DORF D DRB 19T61A1	DRB19T61A1	4TM174RFB	4TM166LFB	4TM213SFB 4TM149NFB	4TM213SFB	4TM158RFB	DRB1/R61A1	4TM213SFB	DRB20T61A	DRB20T61A1	4TM232TFB	4TM213SFB	41M2135FB	4TM213SFB	DRB24S61A1	DRB24S61A1	ATM213CEB	4 I WZ 135FD DRB24S61A1	4TM213SFB	4TM213SFB	41M2321FB 4TM232TFB	DRB19T61A1	4TM232TFB	4 INIZ3211 D 4 TM232TFB	4TM314TFB	DRB26T61A1	4TM283RFB	4TM283RFB 4TM314TFB	4TM314TFB	4TM158RFB	DRB19T61A1 4TM158RFB	4TM158RFB	4TM158RFB	41M1166LFB 4TM174TFB	4TM158RFB	DRB20T61A1	41M213SFB 4TM213SFB	4TM276VFB	4TM283RFB 4TM283RFB	4TM314
	ELE	Starting	Device (PTC)	QP2-33MD2	QP2-33MC1	QP1-33MC1	OP2-33MC1	QP2-33MD2	QP2-33MC1 OP2-33MD2	QP2-33MC1	QP2-33MD2	GP2-33MD2	QP2-33MD2	P220MC	P220MC	QP2-33MC1	QP2-33MD2	DP2-33MC1	QP2-33MD2	QP2-33MC1	P220MC	0P2-33MD2	QP2-33MC1	QP2-33MC1	QP2-33MD2	ULZ-3.3B3 QL2-3.3B3	QP2-33MD2	QP2-33MC1	QP2-33MC1	QL2-5.55	QP2-33MC1	GP2-33MC1	QP2-33MC1 01 2.5 55B3	PGR8MB	QP2-33MD2	QP2-33MD2 QP2-33MD2	QP2-33MD2	0P2-33MD2	QP-33MD2 330MB	QP2-33MD2	8	8.8	30	P330 OP2-33MB3	QL2-5.55B3
			Motor Type							,															-					2								-							
	Hz)			RSCR-PTC	RSIR-PTC	RSIR-PTC	RSIR-PTC	RSCR-PTC	RSIR-PTC RSCR-PTC	RSIR-PTC	RSCR-PTC	RSCR-PTC	RSCR-PTC	RSIR-PTC PSIR-PTC	RSIR-PTC	RSIR-PTC	RSCR-PTC	RSIR-PTC	RSCR-PTC	RSIR-PTC	RSIR-PTC	PSUR-PTC	RSIR-PTC	RSIR-PTC	RSCR-PTC	CSIR-Relay	RSCR-PTC	RSIR-PTC	RSIR-PTC	CSIR-Relay	4 RSIR-PTC		S RSIR-PTC		RSCR-PTC	RSCR-PTC RSCR-PTC	RSCR-PTC	RSCR-PTC	KSCR-P1C CSCR-PTC	RSCR-PTC	RSIR-PTC	CSIR-PTC RSIR-PTC	RSIR-PTC	RSIR-PTC CSIR-PTC	CSIR-Relay
	PERFORMANCE (ASHRAE -23.3°C/54.4°C @ 60 Hz)		W Btu/Wh	'		1	'		'		'				'		'								1		'	'			ł	-	3 4.5		'			'			'		'		'
	-23.3°C/5		Power COF (W) W/W			1		-	•		•				-		•			-								·		-	32 1.3	155 1.4	85 1.3 32 1.3	137 1.3			-	1		-	•			• •	
	(ASHRAE		Btu/h (/						•																						580		834 1 1048 2								,				
	RMANCE	Cooling Capacity	M	÷					•	•					•		•								•			•			-		244 306								•				
	PERFO	Cooli	kcal/h	·		÷	•		•	·	•		•		•	÷	÷		ł		÷	•			ł		÷	·		÷	146	180	210 264	149	•			•			•		•	• •	•
	Hz)	Ĺ	Btu/Mh	3.77	3.80	3.80	3.97	3.77	3.78	3.78	3.97	4.31 4 31	4.21	4.21 4.10	4.21	4.21	4.21	4.21	4.61	4.44	4.44	4.00	4.03	4.69	4.61	4.24	4.71	4.41	4.41	4.11	4.00	3.97	4.19 3.87	-	5.34	5.34 5.30	5.26	5.50	5.50 5.42	5.28	7.50	7.50 7	7.50	7.51	7.05
	PERFORMANCE (ASHRAE -23.3°C/54.4°C @ 50 Hz)		W/W	1.1	11	1.1	1.2	1.1	1.1	11	1.2	<u>;</u>	1.2	12	1.2	1.2	12	12	13	1.3	1:3	4.1	4. C.	1.4	1.4	12	1.4	t. 13	i ti	1.2	1:2	1:2	1.2		1.6	1.6	1.5	1.6	1.6	1.5	2.2	22	2.2	2.2	2.1
	23.3°C/54	Input	Power (VV)	26 20	g 96	96	66	97	104 104	104	66	7	118	118	118	130	130	130	125	134	134	122	134	127	148	159	145	152	162	227	123	150 74	163	-	104	104	105	106	112	109	188	233	254	275 275	355
	SHRAE -		₽	0.144	0.15U 0.144	0.144	0.154	0.144	0.154	0.154	0.154	0.159	0.195	0.195	0.195	0.215	0.215	0.215	0.226	0.234	0.234	0.234	0.234	0.234	0.268	0.265	0.268	0.264	0.281	0.367	0.193	0.234	0.268	-	0.218	0.218	0.217	0.229	0.239	0.226	0.554	0.686	0.749	0.811	0.983
eet:	AANCE (A	acity	Btu/h	365	365	365	393	365	393	393	393 101	405	496	496 496	496	548	548	540 548	576	596	596	060	596	596	683 C75	675 675	683	671	715	933	492	596 596	683 933	-	556	556 552	552	584	584 607	576	1409	1/4/ 1747	1906	2064	2501
a sn	PERFORI	Cooling Capacity	M	107	107	107	115	107	115	115	115	119	145	145	145	160	160	160	169	174	174	1/4	174	174	200	198	200	197	209	273	144	174	200 273	-	163	<u>8</u>	162	171	1/1	169	413	512 512	558	605 605	733
dat			kcal/h	32	8 8	92	66	92	66 B	6	<sup>66</sup>	2 <u>6</u>	125	125	125	138	138	33	145	150	150		150	150	172	170	172	169	8	235	124	150	172		140	140	139	147	14/	145	355	440	480	520 520	630
ance		Displa- cement	(cc)	4.2	4.2	4.2	4.2	4.2	4.5	4.5	4.5	4.5	5.3	5.3 5.3	5.3 5.3	5.7	5.7	57	5.7	6.2	6.2	2.0 2.0	6.2	6.2	6.9	6.9 6.9	6.9	6.9	7.2	8.8	5.3	5.1 6.2	6.9 8.8	5.3	5.3	53	5.3	5.7	5.7	5.7	4.2	5.3 5.3	5.7	6.2	7.2
Pertormance data sheet:		Model		MA42LFJM	MA42LUUG	MA42LMJG	MA42LKJG	MA42LHJM*	MA45LDJG MA45LCJM	MA45LCJG	MA45LDJM	MA45LFJM MA45LHJM	MA53LAJM	MA53UJG MA53LR IG	MA53LHJG	MA57LBJG	MASTLAIM		MA57LDJM	MA62LBJG	MA62UJG		MA62LHJG	MA62LCEG	MA69LAEM	MA69LAEP	<b>MA69LCJM</b>	MA69LHEG	MA72LHEG	<b>MA88LAEP</b>	MA53LATG	MAS/LATG*	MA69LATG* MA88LATD*	MA53LBFH*	<b>MA53LAEM</b>	MA53LHEM MC53LAFM	MC53LBEM	MC57LAEM	MC57LBEM MC62LAEH*	<b>MA57LBJM</b>	MA42HAEG	MA53HAEF MA53HAEG	MA57HAEG	MA62HAEG MA62HAFF	MA72HAEP
Pe		Freq (H-)	(711)		_ <	_	-	_				_ <		- 14		9														-	- 1	50/60 N		60			50			50 N			50	~ 2	<u>_</u>
34a -		Voltage	2									000	ł									010 000	220		220-240		220	220-240	770					127			220-240			220			220-240		
R13		igerai licatio							D	ow	nlo	ad	froi	m V	Vw	w.\$	Sor	ma	nu	als	.co	om.	. Al	IN	ten	ual	s S	Sea	rcł	n A	nd	Dov	wnlo	bad		В	33-11	1 48	97			-	18P	ł	

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Note: ST: Static Cooled, OC: Oil Cooled, FC - Fan Cooled.



# R600a - Performance data sheet:

:	Net Weight (kg)	9.5	9.6	9.6	9.6	9.5	9.5	9.0	s ruch ruch ruch ruch ruch ruch ruch ruch
	Compressor Height (mm)	180	180	180	180	180	180	177	<b>Conversions:</b> 1 Watt = 3.41 Btu/hr 1 Watt = 0.86 Kca/hr 1 Kcal/hr = 3.97 Btu/h 1 cu.ft = 28.32 liters
	Cooling Type	ST	SI	ST	ST	ST	ST	ST	<b>Conversions:</b> 1 Watt = 3.41 Bt 1 Watt = 0.86 Kd 1 Kcal/hr = 3.97 1 cu.ft = 28.32 li
oIL	Qty (cc)	220	220	220	220	220	220	220	0
	Viscosity (cSt)	10	9	10	9	10	10	10	
	Icitor Running (JuF/Surge Voltage)	5/400	5/400	5/400	5/400	5/400	5/400	5/400	
	Capacitor Starting Ru (µF/ Surge (µF Voltage) V(	30/300	30/300			30/300		•	
ELECTRICAL PARTS	Motor Protector (OLP)	4TM149NFB	4TM149NFB	4TM149NFB	4TM149NFB	4TM149NFB	4TM134KFB	4TM149NFB	
ELECTF	Starting Device (PTC)	P330MB	SMB3		ND2	PTHTM330MB3	PTHTM470MD2	220MD2	
	Motor Type	CSCR-PTC	CSCR-EPTC	RSCR-PTC	RSCR-EPTC	CSCR-EPTC	RSCR-EPTC	RSCR-PTC	
PERFORMANCE (CECOMAF -25°C/55°C @ 50 Hz)	EER Btu/Mh	4.6		4.9	4.9	4.6	4.4	4.2	
5°C/55°C	COP W/W	1.3	5	1.4	1.4	1.3	1.3	1.2	
DMAF -2	Input Power (W)	67	6	92	88	91	09	98	
E (CEC	acity Btu/h	447	447	447	420	420	264	366	
ORMANC	ling Capacity W Bt	131	131	131	123	123	17	107	
PERF(	Coolin kcal/h	112.5	112.5	112.5	99	106	99	92.25	
(ZH	EER Btu/Mh	5.96	5.96	6.30	6.29	5.96	5.70	5.49	
4°C @ 50	COP W/W	1.7	1.7	1.8	1.8	1.7	1.7	1.6	
3.3°C/54.	Input Power (VV)	100.0	100.0	94.5	89.0	94.0	61.7	89.0	
HRAE -2	먚	0.234	0.234	0.234	0.220	0.220	0.138	0.192	
PERFORMANCE (ASHRAE -23.3°C/54.4°C @ 50 Hz)	city Btu/h	596	596	596	560	560	352	488	
RFORM/	Cooling Capacity h W B	174	174	174	164	164	103	143	
H	Cooli kcal/h	150	150	150	141	141	88.6	123	Dooled
	Displa- cement (CC)	9.8	8.6	9.8	9.0	9.0	6.2	8.2	C Fan C
	Model	MQ98NAJH	MQ98NBJH	MQ98NAEM	MQ88NAEM	MQ88NAEH	MQ62NAEM	MB82NAEM	ST: Static Cooled, OC: Oil Cooled, FC - Fan Cooled
	6 Lited				0			ooled, C	
	Voltage (V)	000	077			220-240			Static C
uc	<b>B</b> Applicatio	009	2	0	- 18		Inte	00	អ៊ី ភូ ព័ត្រិm Www.Somanuals.com. All Manuals Search And Downloa
	6	50	-9		L	100	mu	au	

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# Applications:

### Low Back pressure (LBP):

These models are used to work in low evaporating temperature ranges, these are suitable for commercial refrigeration, deep freezers and house hold refrigerators as well.

•Deep freezer

Refrigerator

Ice cube Machine

Laboratory Appliance

•Dehumidifier

#### **Compressor Selection Guide:**

#### **Refrigerator:**

Application	Capa (L)	Compressor						
DC	170-190	MA42LFJG/ MA42LHJG/ MA42LJJG/ MA42LMJG						
	210-230	MA53LBJG MA53LHJG						
	280	MA57LBJG/ MA57LHJG						
FF	300-350	MA62LBJG/MA62LHJG						
	390	MA69LAEG/MA69LHEG						
	400	MA69LAEP						
	360-450	MA72LBJG/MA72LHEG						

**Deep Freezer:** 

Capa (L)	Compressor
70-80	MA42LFJG / MA42LMJG/ MA42LHJG / MA42LJJG
250	MA57LBJG / MA57LHJG / MA62LBJG / MA62LHJG
300	MA69LAEP
350	MA72LAEP
400	MA88LAEP

•Panel Cooler •Water Chiller

•Milk Cooler

•Refrigerated Air Dryer

## **HBP Applications:**

These models are suitable to work under the conditions exposed to high evaporating temperature ranges. These type of compressors are suitable for the applications such as dehumidifiers. •Beverage Cooler/Bottle Cooler

# **Compressor Selection Guide:**

Application	Сара	Compressor					
Water Cooler	20 LPH	MA53HAEF					
	100-120 Ltrs	MA53HAEF					
Bottle Cooler	150-200 Ltrs	MA62HAEG					
	220-250 Ltrs	MA72HAEP / MA88HAEP					
	110 Ltrs (2 Case)	MA53HAEF					
Visi Cooler	150 Ltrs (4 Case)	MA62HAEG					
	250 Ltrs (7 Case)	MA72HAEP / MA88HAEP					

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# **Applications:**

Evaporating Temperature Range										
LBP	-30°C to -5°C									
НВР	-5°C to +15°C									

# Oil types:

All the compressors are charged with moisture free oil.

OIL Types	
R 134a	Polyole Ester Oil
R 600a	Mineral Oil

# Safety :





Install the refrigerant, lubricant oil and electrical componeent (Capacitor and controller) specified by compressor manufacturer

It can cause fire or electrical shock



Connect the electrical wiring correctly in accordance with manufacturer's instruction. It can cause fire or electrical shock



Compressor must be grounded whenever power is supplied. It can cause electrical shock



Before servicing, always remove the power plug from the outlet. It can cause electrical shock



Before welding, always remove refrigerant in the compressor. Do not operate compressor in the air or vaccum status. It can cause explosion.



Do not touch the compressor with bare hands during operation or after stopping instantly. It can cause get burnt.

# Safety Approval:



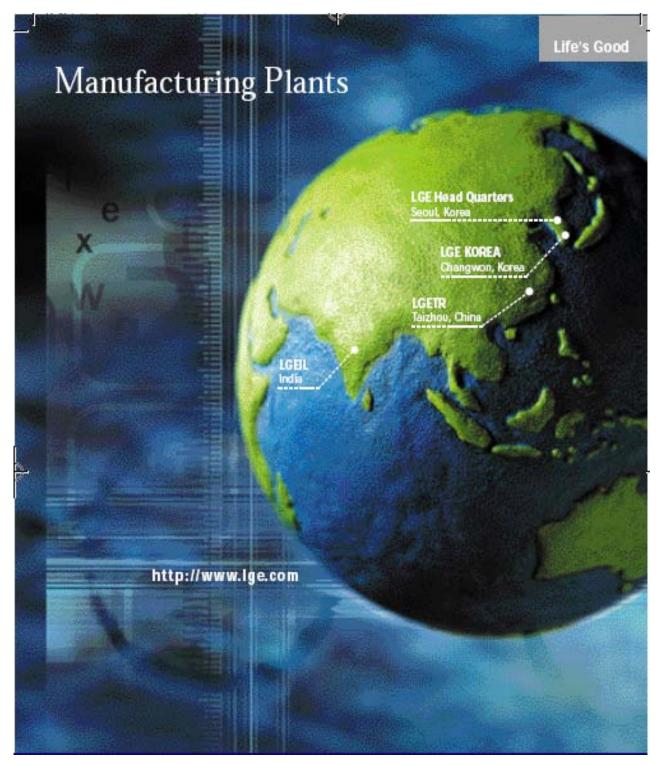
VDE approved model





TUV approved model





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