

# Technical Data Sheet

Compressor model **ML90FB**  
 Voltage **220-240V 50Hz ~1**  
 Refrigerant **R404A**

## APPLICATION

Application	Low Back Pressure
Refrigerant	R404A
Evaporating Temp.	-40,0 °C to -10,0 °C
Expansion	Capillar/Valve
Comp. Cooling	Fan cooled
Max. ambient temp.	43,0 °C

## COMPRESSOR

Displacement	8,85 cm <sup>3</sup>
Diameter	25,40 mm
Stroke	17,47 mm
Net Weight	9,74 Kg
Oil type	ISO VG 32 ESTER
Oil charge	400 cm <sup>3</sup>

## MOTOR

Nominal Power	1/3 hp
Voltage/Frequency	220-240V 50Hz
Voltage range	198-255 V
Type	CSIR
Phase number	1 PH
Locked Rotor Amps (LRA)	13,00 A
Max. Cont. Current (MCC)	3,00 A
Main W. resist. at 25°C	8,60 Ω
Start W. resist. at 25°C	27,80 Ω

## NOMINAL PERFORMANCE

	ASHRAE	CECOMAF
Cooling Capacity	350 kCal/h	275 W
COP	1,16 W/W	0,83 W/W
EER	1,00 kCal/Wh	0,71 kCal/Wh
Input Power	350 W	333 W
Current	2,30 A	2,24 A

## APPROVALS



## TEST CYCLE CONDITIONS

	ASHRAE LBP (B)	CECOMAF LBP (A)
Evaporating temp. (T <sub>e</sub> )	-23,3 °C	-25,0 °C
Condensing temp. (T <sub>c</sub> )	55,0 °C	55,0 °C
Liquid temp. (T <sub>liq.</sub> )	32,0 °C	55,0 °C
Ambient temp. (T <sub>amb.</sub> )	32,0 °C	32,0 °C
Suction temp. (T <sub>suction</sub> )	32,0 °C	32,0 °C
Voltage/Frequency	220 V 50 Hz	220 V 50 Hz

## ELECTRICAL COMPONENTS

Starting capacitor	47- 56 μF 330 V			
Relay	Option 1			
Reference	2014 145.			
Pick-Up	7,10 A			
Drop-Out	6,00 A			
Protector	Option 1	Option 2		
Reference	MRA38084	T0102		
Current	9,80 A	9,80 A		
Time check	7,5-14 seg	7,5-14 seg		
Disc temp. (Open/Close)	95,00 / 57,00 °C	95,00 / 62,00 °C		

## ASHRAE

Tc °C	Te °C	Cooling Capacity kCal/h	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-40	180	220	1,85	0,95	0,82
40	-35	246	251	1,95	1,14	0,98
40	-30	325	286	2,07	1,32	1,14
40	-25	417	326	2,21	1,49	1,28
40	-23,3	452	340	2,26	1,55	1,33
40	-20	523	369	2,37	1,65	1,42
40	-15	642	418	2,56	1,79	1,54
40	-10	775	470	2,77	1,92	1,65

45	-40	160	215	1,83	0,87	0,74
45	-35	222	248	1,94	1,04	0,89
45	-30	296	286	2,07	1,21	1,04
45	-25	385	328	2,22	1,36	1,17
45	-23,3	418	343	2,28	1,42	1,22
45	-20	486	374	2,39	1,51	1,30
45	-15	602	425	2,59	1,65	1,42
45	-10	730	480	2,82	1,77	1,52

50	-40	140	210	1,82	0,78	0,67
50	-35	197	246	1,93	0,93	0,80
50	-30	268	286	2,07	1,09	0,94
50	-25	352	331	2,23	1,24	1,07
50	-23,3	384	347	2,29	1,29	1,11
50	-20	450	379	2,41	1,38	1,19
50	-15	561	433	2,62	1,51	1,30
50	-10	685	490	2,86	1,63	1,40

55	-40	120	205	1,80	0,68	0,59
55	-35	173	243	1,92	0,83	0,71
55	-30	240	286	2,07	0,98	0,84
55	-25	320	333	2,24	1,12	0,96
55	-23,3	350	350	2,30	1,16	1,00
55	-20	413	384	2,43	1,25	1,07
55	-15	520	440	2,65	1,37	1,18
55	-10	640	500	2,90	1,49	1,28

60	-40	100	200	1,78	0,58	0,50
60	-35	149	241	1,92	0,72	0,62
60	-30	211	286	2,07	0,86	0,74
60	-25	287	336	2,25	1,00	0,86
60	-23,3	316	353	2,31	1,04	0,89
60	-20	376	389	2,45	1,12	0,97
60	-15	479	448	2,68	1,24	1,07
60	-10	595	510	2,94	1,36	1,17

## CECOMAF

Tc °C	Te °C	Cooling Capacity W	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-40	188	220	1,85	0,86	0,74
40	-35	265	251	1,95	1,06	0,91
40	-30	353	286	2,07	1,24	1,07
40	-25	453	326	2,21	1,39	1,20
40	-23,3	489	340	2,26	1,44	1,24
40	-20	563	369	2,37	1,52	1,32
40	-15	685	418	2,56	1,64	1,42
40	-10	818	470	2,77	1,74	1,50

45	-40	160	215	1,83	0,75	0,64
45	-35	227	248	1,94	0,91	0,79
45	-30	305	286	2,07	1,07	0,92
45	-25	394	328	2,22	1,20	1,04
45	-23,3	426	343	2,28	1,24	1,07
45	-20	494	374	2,39	1,32	1,14
45	-15	605	425	2,59	1,42	1,23
45	-10	728	480	2,82	1,52	1,31

50	-40	132	210	1,82	0,63	0,54
50	-35	188	246	1,93	0,77	0,66
50	-30	256	286	2,07	0,89	0,77
50	-25	335	331	2,23	1,01	0,87
50	-23,3	364	347	2,29	1,05	0,91
50	-20	424	379	2,41	1,12	0,97
50	-15	525	433	2,62	1,21	1,05
50	-10	638	490	2,86	1,30	1,12

55	-40	104	205	1,80	0,51	0,44
55	-35	150	243	1,92	0,62	0,53
55	-30	207	286	2,07	0,72	0,63
55	-25	275	333	2,24	0,83	0,71
55	-23,3	301	350	2,30	0,86	0,74
55	-20	355	384	2,43	0,92	0,80
55	-15	446	440	2,65	1,01	0,88
55	-10	548	500	2,90	1,10	0,95

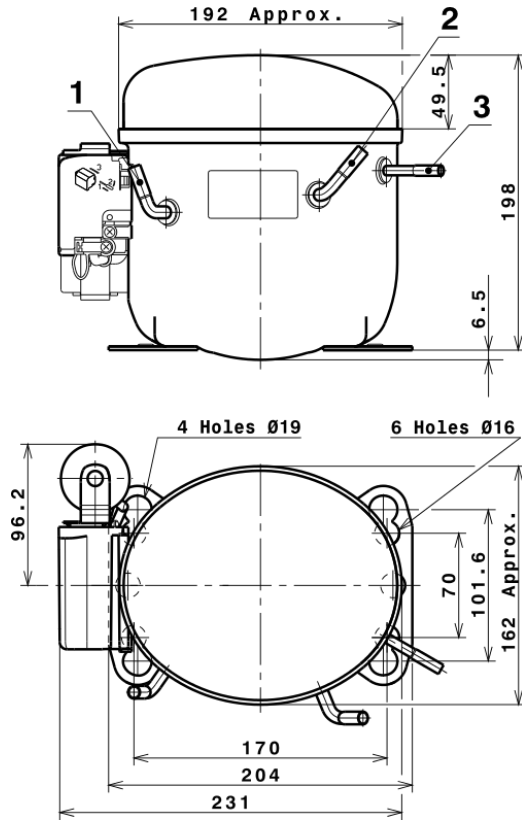
60	-40	75	200	1,78	0,38	0,33
60	-35	111	241	1,92	0,46	0,40
60	-30	158	286	2,07	0,55	0,48
60	-25	216	336	2,25	0,64	0,56
60	-23,3	239	353	2,31	0,68	0,58
60	-20	286	389	2,45	0,73	0,63
60	-15	366	448	2,68	0,82	0,71
60	-10	458	510	2,94	0,90	0,78

## EN12900

X	Cooling Capacity (W)	Consumption (W)	Current (A)	Mass Flow (kg/h)
1	1.972,6561929721	481,8938153644	2,8473779149	26,25282572793
2	47,6578283869	9,0554426093	0,0428200428	0,71590394545251
3	-22,3241067124	3,0789661501	0,0128482722	-0,18689587873362
4	0,2115813099	0,0913003484	0,0005378255	0,0050152208233641
5	-0,4188572744	0,1025276796	0,0004033150	-0,0030086918520084

Equation	$x_1 + x_2Te + x_3Tc + x_4Te^2 + x_5TeTc$
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## COMPRESSOR DIMENSIONS



## DESIGNATION INTERNAL DIAM.

1	Suction	6,5 mm
2	Service	6,5 mm
3	Discharge	4,9 mm

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### CSIR CONNECTION



# Technical Data Sheet

## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

### STANDARD

Ø16 holes (170x70 net)



### AMERICAN FEET

Ø19 holes (165x101.6 net)



### SNAP-ON

Ø16 holes (170x70 net)



## SOA

SOA R404A LBP

