

# Technical Data Sheet

Compressor model **ML90TB**  
 Voltage **220-240V 50Hz ~1**  
 Refrigerant **R404A**

## APPLICATION

## COMPRESSOR

## MOTOR

Application	High-Medium Back Pressure	Displacement	8,85 cm <sup>3</sup>	Nominal Power	3/8 hp
Refrigerant	R404A	Diameter	25,40 mm	Voltage/Frequency	220-240V 50Hz
Evaporating Temp.	-25,0 °C to 10,0 °C	Stroke	17,47 mm	Voltage range	187-255 V
Expansion	Capillar/Valve	Net Weight	11,27 Kg	Type	CSIR
Comp. Cooling	Fan cooled	Oil type	ISO VG 32 ESTER	Phase number	1 PH
Max. ambient temp.	43,0 °C	Oil charge	395 cm <sup>3</sup>	Locked Rotor Amps (LRA)	19,90 A
				Max. Cont. Current (MCC)	5,10 A
				Main W. resist. at 25°C	4,87 Ω
				Start W. resist. at 25°C	23,80 Ω

## NOMINAL PERFORMANCE

	ASHRAE	CECOMAF
Cooling Capacity	1.140 kCal/h	1.049 W
COP	1,98 W/W	1,61 W/W
EER	1,70 kCal/Wh	1,39 kCal/Wh
Input Power	670 W	653 W
Current	3,80 A	3,72 A

## APPROVALS



## TEST CYCLE CONDITIONS

	ASHRAE HMBP (D)	CECOMAF HMBP (C)
Evaporating temp. (T <sub>e</sub> )	7,2 °C	5,0 °C
Condensing temp. (T <sub>c</sub> )	55,0 °C	55,0 °C
Liquid temp. (T <sub>liq.</sub> )	46,0 °C	55,0 °C
Ambient temp. (T <sub>amb.</sub> )	35,0 °C	32,0 °C
Suction temp. (T <sub>suction</sub> )	35,0 °C	32,0 °C
Voltage/Frequency	220 V 50 Hz	220 V 50 Hz

## ELECTRICAL COMPONENTS

Starting capacitor	64- 77 μF 330 V			
Relay	Option 1	Option 2		
Reference	2014 149.	QLZ-7.8A		
Pick-Up	7,80 A	7,80 A		
Drop-Out	6,65 A	6,65 A		
Protector	Option 1			
Reference	T0425			
Current	11,50 A			
Time check	7,5-14 seg			
Disc temp. (Open/Close)	105,00 / 61,00 °C			

## ASHRAE

Tc °C	Te °C	Cooling Capacity kCal/h	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-25	385	345	2,61	1,30	1,12
40	-20	500	379	2,70	1,54	1,32
40	-15	635	414	2,81	1,78	1,53
40	-10	790	450	2,93	2,04	1,75
40	-5	964	487	3,05	2,30	1,98
40	0	1.157	524	3,19	2,57	2,21
40	5	1.370	563	3,34	2,83	2,43
40	7,2	1.470	580	3,41	2,95	2,53
40	10	1.603	602	3,50	3,10	2,66

45	-25	350	350	2,62	1,16	1,00
45	-20	454	388	2,73	1,36	1,17
45	-15	577	427	2,85	1,57	1,35
45	-10	720	467	2,98	1,79	1,54
45	-5	882	507	3,13	2,02	1,74
45	0	1.064	549	3,28	2,25	1,94
45	5	1.265	591	3,45	2,49	2,14
45	7,2	1.360	610	3,53	2,59	2,23
45	10	1.486	634	3,64	2,72	2,34

50	-25	315	355	2,64	1,03	0,89
50	-20	407	397	2,76	1,19	1,03
50	-15	519	440	2,89	1,37	1,18
50	-10	650	483	3,04	1,56	1,34
50	-5	801	528	3,20	1,76	1,52
50	0	971	573	3,38	1,97	1,69
50	5	1.160	619	3,57	2,18	1,87
50	7,2	1.250	640	3,66	2,27	1,95
50	10	1.370	666	3,78	2,39	2,05

55	-25	280	360	2,65	0,90	0,78
55	-20	360	406	2,78	1,03	0,89
55	-15	460	452	2,93	1,18	1,02
55	-10	580	500	3,10	1,35	1,16
55	-5	719	548	3,28	1,52	1,31
55	0	878	598	3,48	1,71	1,47
55	5	1.056	648	3,70	1,90	1,63
55	7,2	1.140	670	3,80	1,98	1,70
55	10	1.253	699	3,93	2,09	1,79

60	-25	245	365	2,66	0,78	0,67
60	-20	314	415	2,81	0,88	0,76
60	-15	402	465	2,98	1,01	0,86
60	-10	510	517	3,16	1,15	0,99
60	-5	637	569	3,36	1,30	1,12
60	0	784	622	3,59	1,47	1,26
60	5	951	676	3,83	1,64	1,41
60	7,2	1.030	700	3,94	1,71	1,47
60	10	1.136	731	4,09	1,81	1,56

## CECOMAF

Tc °C	Te °C	Cooling Capacity W	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-25	403	347	2,61	1,16	1,00
40	-20	528	381	2,71	1,38	1,20
40	-15	671	417	2,82	1,61	1,39
40	-10	833	453	2,94	1,84	1,59
40	-5	1.014	490	3,06	2,07	1,79
40	0	1.214	528	3,20	2,30	1,99
40	5	1.433	567	3,36	2,53	2,18
40	7,2	1.535	584	3,43	2,63	2,27
40	10	1.671	607	3,52	2,75	2,38

45	-25	362	352	2,63	1,03	0,89
45	-20	472	390	2,74	1,21	1,05
45	-15	601	429	2,86	1,40	1,21
45	-10	748	470	2,99	1,59	1,38
45	-5	915	511	3,14	1,79	1,55
45	0	1.100	553	3,30	1,99	1,72
45	5	1.305	596	3,47	2,19	1,89
45	7,2	1.401	615	3,55	2,28	1,97
45	10	1.528	639	3,66	2,39	2,07

50	-25	321	357	2,64	0,90	0,78
50	-20	417	399	2,76	1,04	0,90
50	-15	531	442	2,90	1,20	1,04
50	-10	664	486	3,05	1,36	1,18
50	-5	816	531	3,22	1,54	1,33
50	0	987	577	3,40	1,71	1,48
50	5	1.177	624	3,59	1,89	1,63
50	7,2	1.266	645	3,69	1,96	1,70
50	10	1.386	672	3,81	2,06	1,78

55	-25	280	362	2,66	0,77	0,67
55	-20	361	408	2,79	0,88	0,76
55	-15	461	455	2,94	1,01	0,87
55	-10	579	503	3,11	1,15	0,99
55	-5	717	552	3,30	1,30	1,12
55	0	873	602	3,50	1,45	1,25
55	5	1.049	653	3,72	1,61	1,39
55	7,2	1.132	675	3,82	1,68	1,45
55	10	1.243	704	3,96	1,77	1,53

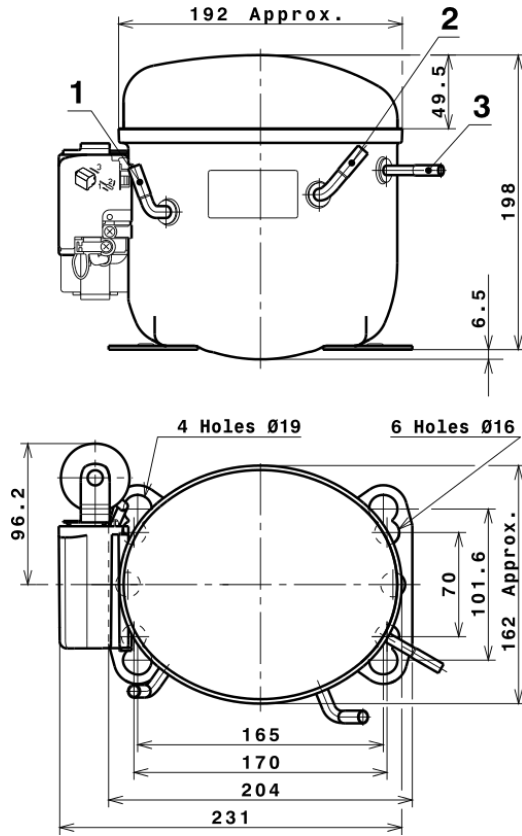
60	-25	240	367	2,67	0,65	0,56
60	-20	306	417	2,82	0,73	0,63
60	-15	391	468	2,99	0,83	0,72
60	-10	495	520	3,17	0,95	0,82
60	-5	618	573	3,38	1,08	0,93
60	0	760	626	3,60	1,21	1,05
60	5	920	681	3,85	1,35	1,17
60	7,2	997	705	3,97	1,41	1,22
60	10	1.100	737	4,12	1,49	1,29

## EN12900

X	Cooling Capacity (W)	Consumption (W)	Current (A)	Mass Flow (kg/h)
1	2.123,4126478547	340,7548900916	2,3181474384	41,753008087198
2	65,0692506749	1,7070186602	0,0018745925	1,4842036657486
3	-23,5460478342	5,0855222326	0,0229677064	-0,20462457186498
4	0,3587603633	0,0255644006	0,0003972658	0,01650788742581
5	-0,6112381783	0,1622330632	0,0008017919	-0,0039595139602085

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



## DESIGNATION INTERNAL DIAM.

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 (L, P ranges)



# 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 HMBP

