

# Technical Data Sheet

ENGINEERING  
TOMORROW



Compressor model **MP12FB**  
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 12,05 cm<sup>3</sup>  
Diameter 29,37 mm  
Stroke 17,78 mm  
Net Weight 12,11 Kg  
Oil type ISO VG 32 ESTER  
Oil charge 400 cm<sup>3</sup>

## MOTOR

Nominal Power 3/8 hp  
Voltage/Frequency 220-240V 50Hz  
Voltage range 187-264 V  
Type CSIR  
Phase number 1 PH  
Locked Rotor Amps (LRA) 14,80 A  
Max. Cont. Current (MCC) 3,60 A  
Main W. resist. at 25°C 4,28 Ω  
Start W. resist. at 25°C 17,74 Ω

## NOMINAL PERFORMANCE

	ASHRAE	CECOMAF
Cooling Capacity	450 kCal/h	350 W
COP	1,16 W/W	0,82 W/W
EER	1,00 kCal/Wh	0,71 kCal/Wh
Input Power	450 W	426 W
Current	2,75 A	2,66 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 149.			
Pick-Up	7,80 A			
Drop-Out	6,65 A			
Protector	Option 1	Option 2		
Reference	MRP36AMK	T0171		
Current	10,30 A	10,30 A		
Time check	7,5-14 seg	7,5-14 seg		
Disc temp. (Open/Close)	105,00 / 61,00 °C	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	-40	195	240	2,00	0,94	0,81
40	-35	291	297	2,20	1,14	0,98
40	-30	406	354	2,40	1,33	1,15
40	-25	541	411	2,60	1,53	1,32
40	-23,3	592	430	2,67	1,60	1,38
40	-20	696	467	2,82	1,73	1,49
40	-15	871	524	3,03	1,93	1,66
40	-10	1.065	580	3,26	2,14	1,84

45	-40	170	230	1,97	0,86	0,74
45	-35	259	292	2,18	1,03	0,89
45	-30	368	354	2,40	1,21	1,04
45	-25	496	416	2,62	1,39	1,19
45	-23,3	545	437	2,70	1,45	1,25
45	-20	645	477	2,85	1,57	1,35
45	-15	812	539	3,09	1,75	1,51
45	-10	1.000	600	3,34	1,94	1,67

50	-40	145	220	1,93	0,77	0,66
50	-35	227	287	2,16	0,92	0,79
50	-30	330	354	2,40	1,08	0,93
50	-25	451	421	2,64	1,25	1,07
50	-23,3	497	443	2,72	1,30	1,12
50	-20	593	487	2,89	1,42	1,22
50	-15	754	554	3,15	1,58	1,36
50	-10	935	620	3,42	1,75	1,51

55	-40	120	210	1,90	0,66	0,57
55	-35	196	282	2,14	0,81	0,69
55	-30	291	354	2,40	0,96	0,82
55	-25	406	426	2,66	1,11	0,95
55	-23,3	450	450	2,75	1,16	1,00
55	-20	541	497	2,93	1,27	1,09
55	-15	696	569	3,21	1,42	1,22
55	-10	870	640	3,50	1,58	1,36

60	-40	95	200	1,87	0,55	0,47
60	-35	164	277	2,13	0,69	0,59
60	-30	253	354	2,40	0,83	0,71
60	-25	361	431	2,68	0,98	0,84
60	-23,3	403	457	2,78	1,03	0,88
60	-20	490	507	2,97	1,12	0,97
60	-15	637	584	3,27	1,27	1,09
60	-10	805	660	3,58	1,42	1,22

## CECOMAF

Tc °C	Te °C	Cooling Capacity W	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-40	203	240	2,00	0,85	0,73
40	-35	316	297	2,20	1,06	0,92
40	-30	444	354	2,40	1,25	1,08
40	-25	589	411	2,60	1,43	1,24
40	-23,3	642	430	2,67	1,49	1,29
40	-20	751	467	2,82	1,61	1,39
40	-15	928	524	3,03	1,77	1,53
40	-10	1.123	580	3,26	1,94	1,67

45	-40	170	230	1,97	0,74	0,64
45	-35	267	292	2,18	0,91	0,79
45	-30	380	354	2,40	1,07	0,93
45	-25	509	416	2,62	1,23	1,06
45	-23,3	557	437	2,70	1,28	1,10
45	-20	655	477	2,85	1,37	1,19
45	-15	818	539	3,09	1,52	1,31
45	-10	997	600	3,34	1,66	1,44

50	-40	137	220	1,93	0,62	0,54
50	-35	218	287	2,16	0,76	0,66
50	-30	316	354	2,40	0,89	0,77
50	-25	430	421	2,64	1,02	0,88
50	-23,3	472	443	2,72	1,07	0,92
50	-20	560	487	2,89	1,15	0,99
50	-15	707	554	3,15	1,28	1,10
50	-10	871	620	3,42	1,40	1,21

55	-40	104	210	1,90	0,49	0,43
55	-35	169	282	2,14	0,60	0,52
55	-30	251	354	2,40	0,71	0,61
55	-25	350	426	2,66	0,82	0,71
55	-23,3	387	450	2,75	0,86	0,74
55	-20	465	497	2,93	0,94	0,81
55	-15	597	569	3,21	1,05	0,91
55	-10	744	640	3,50	1,16	1,01

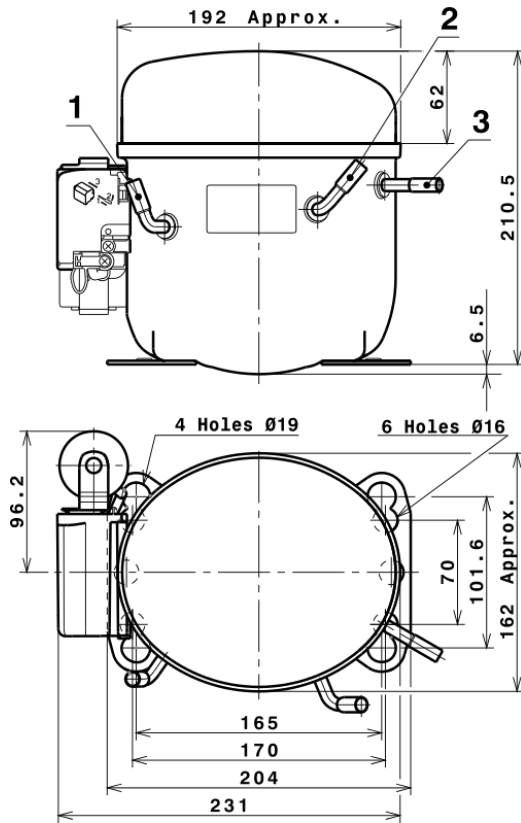
60	-40	70	200	1,87	0,35	0,30
60	-35	121	277	2,13	0,44	0,38
60	-30	187	354	2,40	0,53	0,46
60	-25	270	431	2,68	0,63	0,54
60	-23,3	302	457	2,78	0,66	0,57
60	-20	370	507	2,97	0,73	0,63
60	-15	486	584	3,27	0,83	0,72
60	-10	618	660	3,58	0,94	0,81

## EN12900

X	Cooling Capacity (W)	Consumption (W)	Current (A)	Mass Flow (kg/h)
1	2.776,0059245265	466,2993053749	2,8399581441	62,527972842903
2	70,4248680444	3,5098206681	0,0220389986	1,7814825217556
3	-31,6732058392	6,1579323002	0,0248430454	-0,46021623625644
4	0,3117993811	0,0007366574	0,0002080883	0,012332396964082
5	-0,6284860892	0,2050553591	0,0007919418	-0,0080171969092183

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

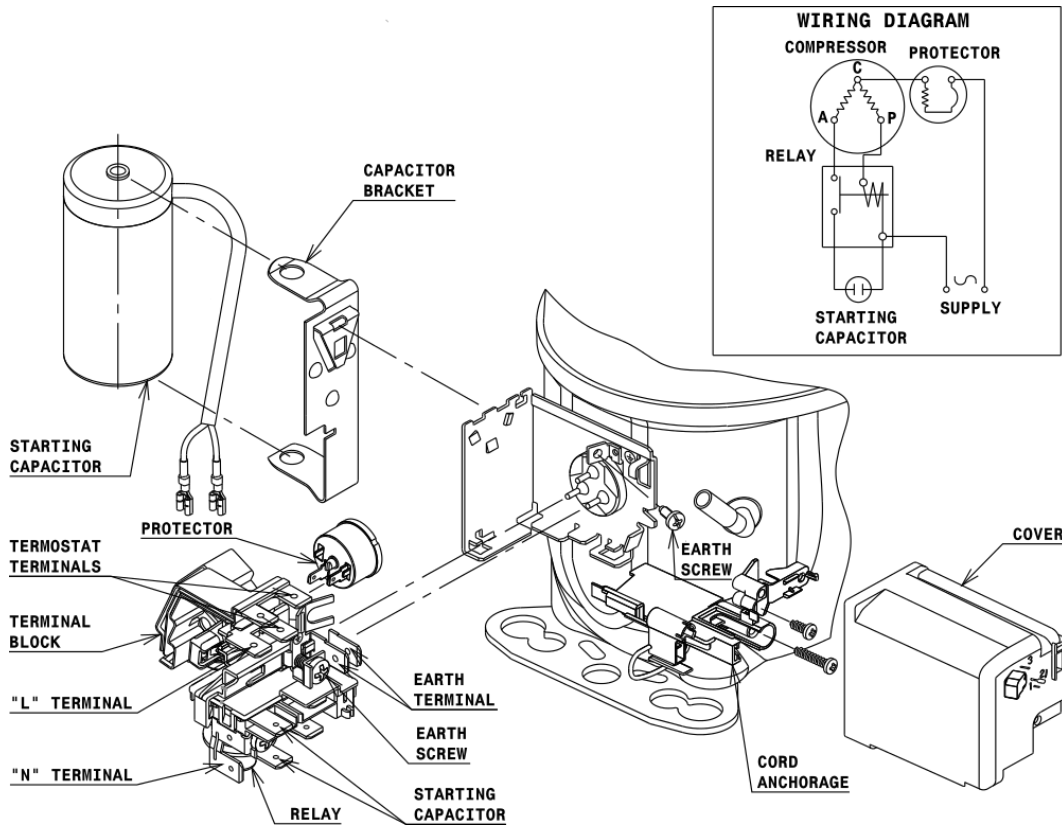


## DESIGNATION INTERNAL DIAM.

DESIGNATION	INTERNAL DIAM.
1 Suction/Service	8,1 mm
2 Service/Suction	8,1 mm
3 Discharge	6,5 mm

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### CSIR CONNECTION (L, P ranges)



## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

### STANDARD

$\varnothing 16$  holes (170x70 net)



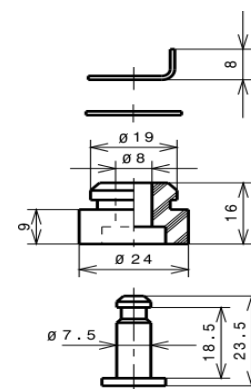
### AMERICAN FEET

$\varnothing 19$  holes (165x101.6 net)



### SNAP-ON

$\varnothing 16$  holes (170x70 net)



## SOA

SOA R404A LBP

