

# Technical Data Sheet

Compressor model **MS30FF\_V**  
 Voltage **208-230V 60Hz ~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	29,95 cm <sup>3</sup>
Diameter	39,98 mm
Stroke	23,85 mm
Net Weight	22,70 Kg
Oil type	ISO VG 46 ESTER
Oil charge	887 cm <sup>3</sup>

## MOTOR

Nominal Power	7/8 hp
Voltage/Frequency	208-230V 60Hz
Voltage range	177-253 V
Type	CSR
Phase number	1 PH
Locked Rotor Amps (LRA)	51,00 A
Max. Cont. Current (MCC)	11,00 A
Main W. resist. at 25°C	1,08 Ω
Start W. resist. at 25°C	4,07 Ω

## NOMINAL PERFORMANCE

	ASHRAE	CECOMAF
Cooling Capacity	1.400 kCal/h	1.086 W
COP	1,31 W/W	0,92 W/W
EER	1,13 kCal/Wh	0,80 kCal/Wh
Input Power	1.240 W	1.178 W
Current	6,40 A	6,15 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	230 V 60 Hz	230 V 60 Hz

## ELECTRICAL COMPONENTS

Starting capacitor	88-108 μF 330 V		
Run capacitor	20 μF 450 V		
Relay	Option 1	Option 2	
Reference	3ARR3 10S3	RVA 3AG..	
Pick-Up	180-195 V	180-195 V	
Drop-Out	40-105 V	40-105 V	
Protector	Option 1	Option 2	
Reference	MRA38142	T0257	
Current	24,00 A	24,00 A	
Time check	7,5-14 seg	6,0-16 seg	
Disc temp. (Open/Close)	120,00 / 52,00 °C	120,00 / 52,00 °C	

## ASHRAE

Tc °C	Te °C	Cooling Capacity kCal/h	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-40	520	733	4,45	0,83	0,71
40	-35	844	864	4,95	1,14	0,98
40	-30	1.219	1.004	5,48	1,41	1,21
40	-25	1.643	1.151	6,05	1,66	1,43
40	-23,3	1.799	1.203	6,26	1,74	1,49
40	-20	2.117	1.306	6,66	1,88	1,62
40	-15	2.641	1.469	7,31	2,09	1,80
40	-10	3.215	1.640	8,01	2,28	1,96

45	-40	440	710	4,37	0,72	0,62
45	-35	749	852	4,90	1,02	0,88
45	-30	1.107	1.002	5,47	1,28	1,10
45	-25	1.516	1.160	6,09	1,52	1,31
45	-23,3	1.666	1.215	6,30	1,59	1,37
45	-20	1.974	1.326	6,74	1,73	1,49
45	-15	2.482	1.499	7,43	1,93	1,66
45	-10	3.040	1.680	8,17	2,10	1,81

50	-40	360	688	4,28	0,61	0,52
50	-35	653	840	4,86	0,90	0,78
50	-30	995	1.001	5,47	1,16	0,99
50	-25	1.388	1.169	6,12	1,38	1,19
50	-23,3	1.533	1.228	6,35	1,45	1,25
50	-20	1.830	1.345	6,81	1,58	1,36
50	-15	2.323	1.528	7,55	1,77	1,52
50	-10	2.865	1.720	8,33	1,94	1,67

55	-40	280	665	4,20	0,49	0,42
55	-35	557	828	4,81	0,78	0,67
55	-30	884	999	5,46	1,03	0,88
55	-25	1.261	1.178	6,15	1,25	1,07
55	-23,3	1.400	1.240	6,40	1,31	1,13
55	-20	1.687	1.364	6,89	1,44	1,24
55	-15	2.164	1.558	7,67	1,62	1,39
55	-10	2.690	1.760	8,50	1,78	1,53

60	-40	200	643	4,12	0,36	0,31
60	-35	461	816	4,77	0,66	0,57
60	-30	772	997	5,46	0,90	0,77
60	-25	1.133	1.186	6,19	1,11	0,96
60	-23,3	1.267	1.252	6,45	1,18	1,01
60	-20	1.544	1.383	6,97	1,30	1,12
60	-15	2.004	1.588	7,79	1,47	1,26
60	-10	2.515	1.800	8,67	1,63	1,40

## CECOMAF

Tc °C	Te °C	Cooling Capacity W	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-40	540	733	4,45	0,74	0,64
40	-35	912	864	4,95	1,06	0,91
40	-30	1.326	1.004	5,48	1,32	1,14
40	-25	1.781	1.151	6,05	1,55	1,34
40	-23,3	1.945	1.203	6,26	1,62	1,40
40	-20	2.277	1.306	6,66	1,74	1,51
40	-15	2.815	1.469	7,31	1,92	1,66
40	-10	3.394	1.640	8,01	2,07	1,79

45	-40	441	710	4,37	0,62	0,54
45	-35	769	852	4,90	0,90	0,78
45	-30	1.138	1.002	5,47	1,14	0,98
45	-25	1.549	1.160	6,09	1,34	1,15
45	-23,3	1.698	1.215	6,30	1,40	1,21
45	-20	2.001	1.326	6,74	1,51	1,30
45	-15	2.495	1.499	7,43	1,66	1,44
45	-10	3.030	1.680	8,17	1,80	1,56

50	-40	341	688	4,28	0,50	0,43
50	-35	625	840	4,86	0,74	0,64
50	-30	951	1.001	5,47	0,95	0,82
50	-25	1.318	1.169	6,12	1,13	0,97
50	-23,3	1.452	1.228	6,35	1,18	1,02
50	-20	1.726	1.345	6,81	1,28	1,11
50	-15	2.175	1.528	7,55	1,42	1,23
50	-10	2.666	1.720	8,33	1,55	1,34

55	-40	242	665	4,20	0,36	0,31
55	-35	482	828	4,81	0,58	0,50
55	-30	763	999	5,46	0,76	0,66
55	-25	1.086	1.178	6,15	0,92	0,80
55	-23,3	1.205	1.240	6,40	0,97	0,84
55	-20	1.450	1.364	6,89	1,06	0,92
55	-15	1.855	1.558	7,67	1,19	1,03
55	-10	2.302	1.760	8,50	1,31	1,13

60	-40	143	643	4,12	0,22	0,19
60	-35	339	816	4,77	0,41	0,36
60	-30	576	997	5,46	0,58	0,50
60	-25	854	1.186	6,19	0,72	0,62
60	-23,3	958	1.252	6,45	0,77	0,66
60	-20	1.174	1.383	6,97	0,85	0,73
60	-15	1.535	1.588	7,79	0,97	0,84
60	-10	1.938	1.800	8,67	1,08	0,93

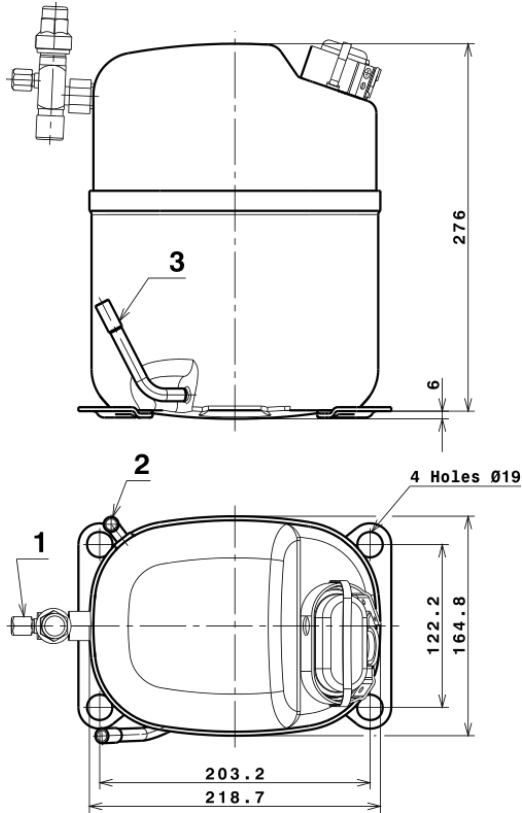
## EN12900

X	Cooling Capacity (W)	Consumption (W)	Current (A)	Mass Flow (kg/h)
1	8.184,1907413692	1.563,9521716380	7,7439930507	180,46706135161
2	203,4769788821	22,5418890336	0,1013531629	4,9845235581915
3	-91,5386317962	12,4862214391	0,0510818369	-1,2183202108138
4	0,7831496875	0,1690169262	0,0009426751	0,03200088280989
5	-1,8029021216	0,4271464021	0,0017058697	-0,019309904768886

Equation	$x_1 + x_2Te + x_3Tc + x_4Te^2 + x_5TeTc$
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# Technical Data Sheet

## COMPRESSOR DIMENSIONS

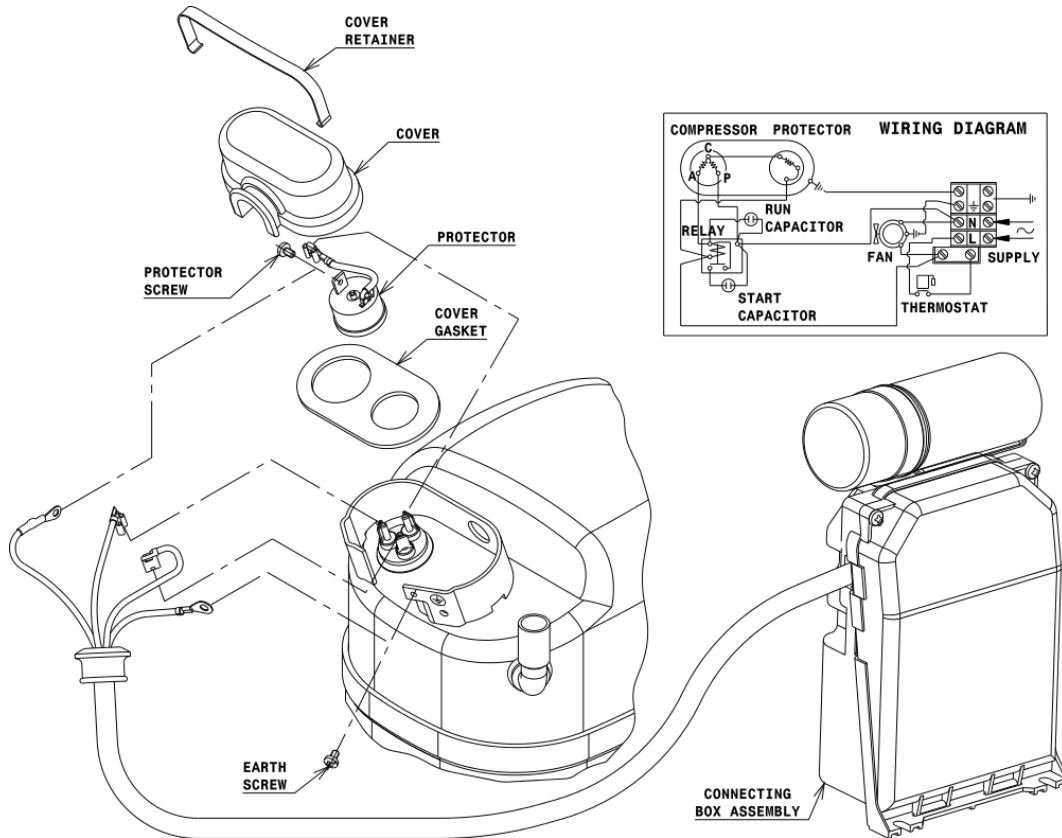


## DESIGNATION INTERNAL DIAM.

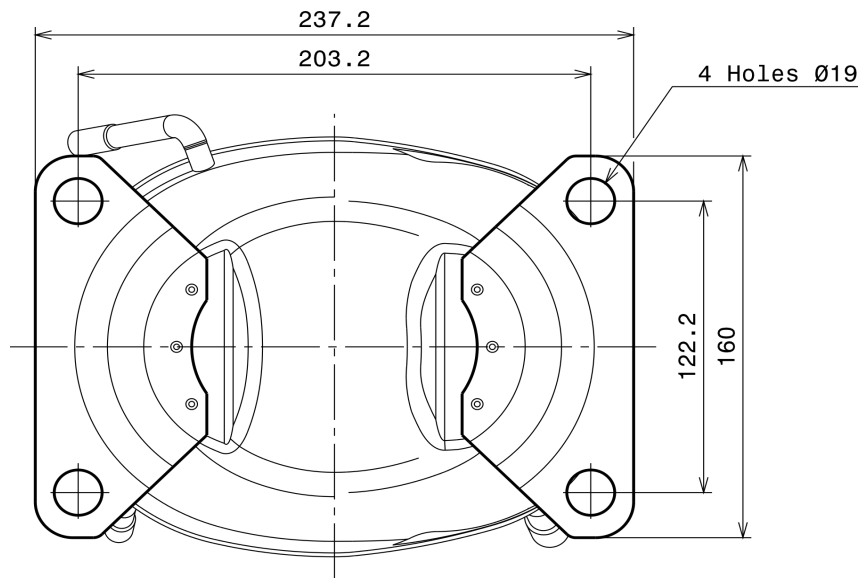
	DESIGNATION	INTERNAL DIAM.
1	Service Valve	5/8" SAE
2	Service	9,7 mm
3	Discharge	8,0 mm

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

### CSR CONNECTION (EXTERNAL CONNECTING BOX) (S range)



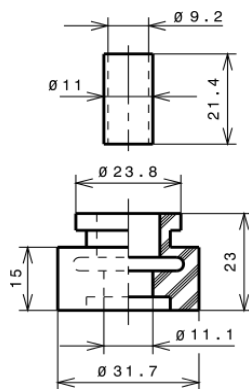
## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

### STANDARD

Ø19 holes (203.2x122.2 net)



## SOA

SOA R404A LBP

