

# Technical Data Sheet

ENGINEERING  
TOMORROW



Compressor model **MST38RA\_T**  
Voltage **220-240V 50Hz ~1**  
Refrigerant **R404A**

## APPLICATION

## COMPRESSOR

## MOTOR

Application	High Back Pressure	Displacement	38,00 cm <sup>3</sup>	Nominal Power	1 1/2 hp
Refrigerant	R404A	Diameter	45,00 mm	Voltage/Frequency	200-240V 50Hz
Evaporating Temp.	-15,0 °C to 10,0 °C	Stroke	23,85 mm	Voltage range	198-255 V
Expansion	Capillar/Valve	Net Weight	23,13 Kg	Type	CSR
Comp. Cooling	Fan cooled	Oil type	ISO VG 46 ESTER	Phase number	1 PH
Max. ambient temp.	43,0 °C	Oil charge	700 cm <sup>3</sup>	Locked Rotor Amps (LRA)	65,00 A
				Max. Cont. Current (MCC)	20,00 A
				Main W. resist. at 25°C	0,83 Ω
				Start W. resist. at 25°C	2,70 Ω

## NOMINAL PERFORMANCE

## APPROVALS

	ASHRAE	CECOMAF
Cooling Capacity	5.005 kCal/h	4.625 W
COP	2,30 W/W	1,89 W/W
EER	1,98 kCal/Wh	1,63 kCal/Wh
Input Power	2.530 W	2.445 W
Current	13,75 A	13,31 A

## TEST CYCLE CONDITIONS

	ASHRAE HBP (D)	CECOMAF HBP (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	108-130 μF 330 V			
Run capacitor	30 μF 420 V			
Relay	Option 1			
Reference	3ARR3 10AS3			
Pick-Up	180-195 V			
Drop-Out	40-105 V			
Protector	Option 1			
Reference	GA3LMV81			
Current	49,00 A			
Time check	6,0-16 seg			
Disc temp. (Open/Close)	120,00 / 57,00 °C			



## ASHRAE

Tc °C	Te °C	Cooling Capacity kCal/h	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-15	2.778	1.494	9,40	2,16	1,86
40	-10	3.486	1.626	9,83	2,49	2,14
40	-5	4.258	1.774	10,35	2,79	2,40
40	0	5.093	1.937	10,98	3,06	2,63
40	5	5.992	2.116	11,74	3,29	2,83
40	7,2	6.408	2.200	12,12	3,39	2,91
40	10	6.954	2.311	12,64	3,50	3,01

45	-15	2.530	1.540	9,55	1,91	1,64
45	-10	3.189	1.687	10,04	2,20	1,89
45	-5	3.912	1.849	10,63	2,46	2,12
45	0	4.697	2.027	11,35	2,70	2,32
45	5	5.546	2.220	12,21	2,91	2,50
45	7,2	5.940	2.310	12,64	2,99	2,57
45	10	6.459	2.429	13,23	3,09	2,66

50	-15	2.283	1.586	9,70	1,67	1,44
50	-10	2.892	1.747	10,25	1,93	1,66
50	-5	3.565	1.924	10,93	2,16	1,85
50	0	4.301	2.116	11,74	2,36	2,03
50	5	5.101	2.324	12,70	2,55	2,20
50	7,2	5.473	2.420	13,18	2,63	2,26
50	10	5.963	2.547	13,84	2,72	2,34

55	-15	2.035	1.632	9,85	1,45	1,25
55	-10	2.595	1.807	10,48	1,67	1,44
55	-5	3.218	1.998	11,23	1,87	1,61
55	0	3.905	2.205	12,14	2,06	1,77
55	5	4.655	2.427	13,22	2,23	1,92
55	7,2	5.005	2.530	13,75	2,30	1,98
55	10	5.468	2.665	14,49	2,39	2,05

60	-15	1.788	1.678	10,01	1,24	1,07
60	-10	2.298	1.868	10,71	1,43	1,23
60	-5	2.872	2.073	11,55	1,61	1,39
60	0	3.509	2.294	12,56	1,78	1,53
60	5	4.209	2.531	13,75	1,93	1,66
60	7,2	4.538	2.640	14,35	2,00	1,72
60	10	4.973	2.783	15,16	2,08	1,79

## CECOMAF

Tc °C	Te °C	Cooling Capacity W	Consumption W	Current A	COP W/W	EER kCal/Wh
40	-15	2.908	1.503	9,43	1,93	1,67
40	-10	3.657	1.636	9,86	2,24	1,93
40	-5	4.467	1.785	10,39	2,50	2,16
40	0	5.336	1.951	11,04	2,74	2,36
40	5	6.265	2.132	11,81	2,94	2,54
40	7,2	6.692	2.217	12,19	3,02	2,61
40	10	7.253	2.329	12,73	3,11	2,69

45	-15	2.617	1.549	9,58	1,69	1,46
45	-10	3.302	1.697	10,07	1,95	1,68
45	-5	4.048	1.861	10,68	2,18	1,88
45	0	4.853	2.041	11,41	2,38	2,05
45	5	5.718	2.236	12,29	2,56	2,21
45	7,2	6.118	2.328	12,72	2,63	2,27
45	10	6.643	2.448	13,32	2,71	2,34

50	-15	2.326	1.596	9,73	1,46	1,26
50	-10	2.948	1.758	10,29	1,68	1,45
50	-5	3.629	1.936	10,98	1,87	1,62
50	0	4.371	2.130	11,80	2,05	1,77
50	5	5.172	2.341	12,79	2,21	1,91
50	7,2	5.543	2.439	13,27	2,27	1,96
50	10	6.033	2.567	13,95	2,35	2,03

55	-15	2.035	1.642	9,88	1,24	1,07
55	-10	2.593	1.819	10,52	1,43	1,23
55	-5	3.211	2.011	11,29	1,60	1,38
55	0	3.888	2.220	12,21	1,75	1,51
55	5	4.625	2.445	13,31	1,89	1,63
55	7,2	4.969	2.549	13,85	1,95	1,68
55	10	5.423	2.686	14,61	2,02	1,74

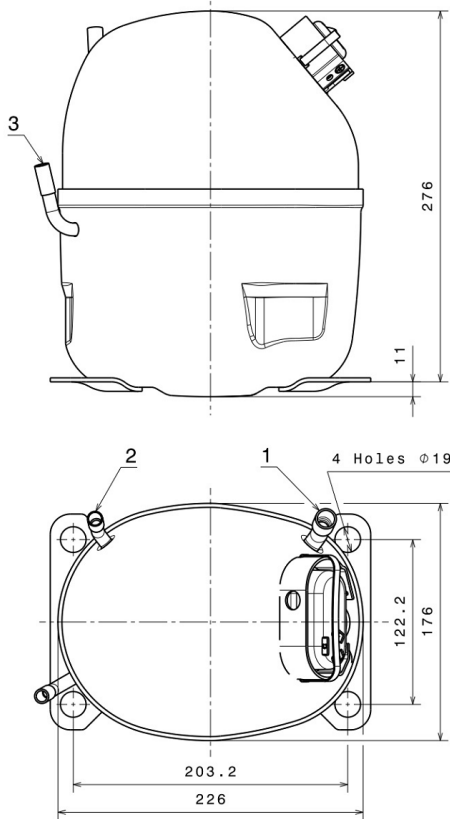
60	-15	1.744	1.688	10,04	1,03	0,89
60	-10	2.238	1.879	10,75	1,19	1,03
60	-5	2.792	2.087	11,61	1,34	1,16
60	0	3.406	2.310	12,64	1,47	1,27
60	5	4.079	2.550	13,86	1,60	1,38
60	7,2	4.394	2.660	14,46	1,65	1,43
60	10	4.812	2.805	15,29	1,72	1,48

## EN12900

X	Cooling Capacity (W)	Consumption (W)	Current (A)	Mass Flow (kg/h)
1	9.185,5987171187	1.266,5588618526	7,4523628450	182,32640186202
2	284,4378171261	12,5127268453	0,0025967746	5,9579614079882
3	-99,9439471033	18,5721952970	0,0923188147	-0,86259288725552
4	1,1297010687	0,3692432129	0,0037461906	0,06588023104499
5	-2,7335325724	0,6052322812	0,0040055111	-0,0088557711527597

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

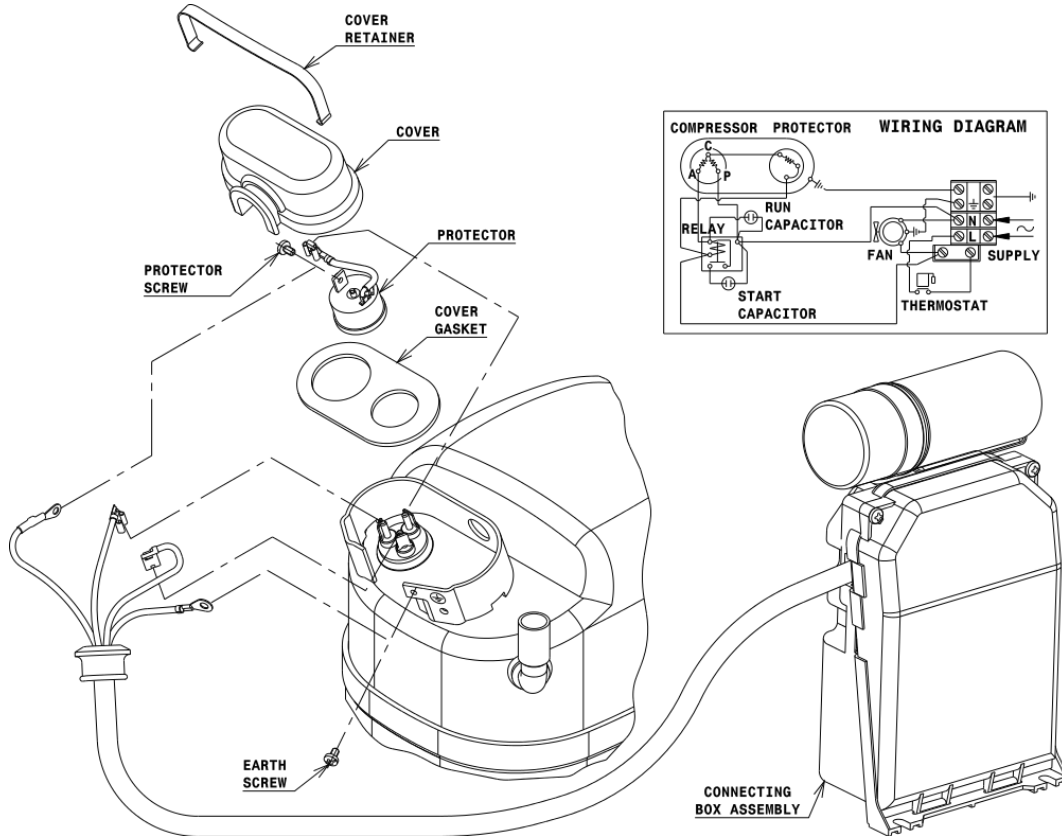


## DESIGNATION INTERNAL DIAM.

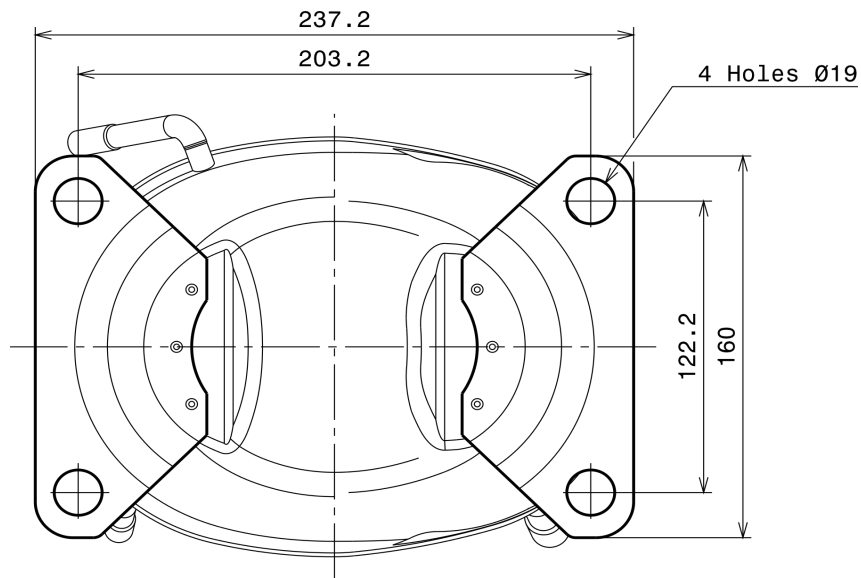
DESIGNATION	INTERNAL DIAM.
1 Suction	12,7 mm
2 Service	9,7 mm
3 Discharge	8,0 mm

## WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

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



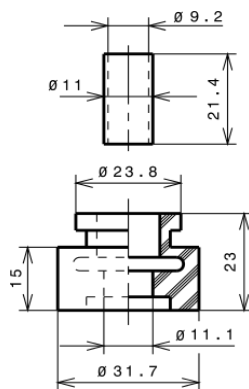
## FIXINGS



## SILENT BLOCKS (MOUNTING ACCESSORIES)

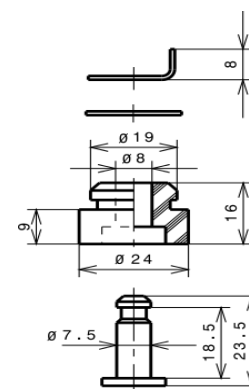
### STANDARD

Ø19 holes (203.2x122.2 net)



### SNAP-ON

Ø16 holes (170x70 net)



## SOA

SOA R404A HBP

