

Technical Data Sheet

ENGINEERING
TOMORROW



Compressor model **NST42RA**
 Voltage **220-240V 50Hz ~1**
 Refrigerant **R290**
 Compressor status

APPLICATION

COMPRESSOR

MOTOR

Application	High Back Pressure	Displacement	42,00 cm ³	Voltage/Frequency	200-240V 50Hz
Refrigerant	R290	Diameter	45,00 mm	Voltage range	187-255 V
Evaporating Temp.	-15,0 °C to 10,0 °C	Stroke	26,40 mm	Type	CSR
Expansion	Capillar/Valve	Net Weight	22,93 Kg	Phase number	1 PH
Comp. Cooling	Fan cooled	Oil type	ISO VG 46 ESTER	Locked Rotor Amps (LRA)	61,00 A
Max. ambient temp.	43,0 °C	Oil charge	700 cm ³	Max. Cont. Current (MCC)	17,30 A
		HP	1 1/2 hp	Main W. resist. at 25°C	0,84 Ω
				Start W. resist. at 25°C	4,38 Ω

NOMINAL PERFORMANCE

APPROVALS

	ASHRAE	CECOMAF
Cooling Capacity	4.849 kCal/h	4.725 W
COP	2,55 W/W	2,18 W/W
EER	2,19 kCal/Wh	1,88 kCal/Wh
Input Power	2.210 W	2.170 W
Current	12,12 A	11,95 A

TEST CYCLE CONDITIONS

	ASHRAE HBP (D)	CECOMAF HBP (C)
Evaporating temp. (T _e)	7,2 °C	5,0 °C
Condensing temp. (T _c)	55,0 °C	55,0 °C
Liquid temp. (T _{liq.})	46,0 °C	55,0 °C
Ambient temp. (T _{amb.})	35,0 °C	32,0 °C
Suction temp. (T _{suction})	35,0 °C	32,0 °C
Voltage/Frequency	220 V 50 Hz	220 V 50 Hz

ELECTRICAL COMPONENTS

Starting capacitor	88-108 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		

This product is approved for R290 and R600a regarding explosion safety according to standard EN 60335-1 and EN 60335-2-34



ASHRAE

Tc	Te	Cooling Capacity	Consumption	Current	COP	EER
°C	°C	kCal/h	W	A	W/W	kCal/Wh
40	-15	2.545	1.460	9,14	2,03	1,74
40	-10	3.116	1.573	9,56	2,30	1,98
40	-5	3.780	1.680	9,97	2,62	2,25
40	0	4.535	1.782	10,36	2,96	2,55
40	5	5.381	1.877	10,74	3,33	2,87
40	7,2	5.782	1.918	10,90	3,51	3,02
40	10	6.318	1.967	11,11	3,74	3,21

45	-15	2.385	1.511	9,33	1,84	1,58
45	-10	2.923	1.635	9,79	2,08	1,79
45	-5	3.552	1.752	10,25	2,36	2,03
45	0	4.273	1.864	10,69	2,67	2,29
45	5	5.085	1.970	11,12	3,00	2,58
45	7,2	5.471	2.015	11,30	3,16	2,72
45	10	5.988	2.070	11,53	3,36	2,89

50	-15	2.226	1.562	9,52	1,66	1,42
50	-10	2.729	1.696	10,03	1,87	1,61
50	-5	3.324	1.824	10,53	2,12	1,82
50	0	4.011	1.947	11,02	2,40	2,06
50	5	4.789	2.063	11,50	2,70	2,32
50	7,2	5.160	2.113	11,71	2,84	2,44
50	10	5.658	2.174	11,97	3,03	2,60

55	-15	2.066	1.613	9,71	1,49	1,28
55	-10	2.536	1.758	10,27	1,68	1,44
55	-5	3.097	1.896	10,82	1,90	1,63
55	0	3.749	2.029	11,36	2,15	1,85
55	5	4.493	2.156	11,89	2,42	2,08
55	7,2	4.849	2.210	12,12	2,55	2,19
55	10	5.328	2.277	12,41	2,72	2,34

60	-15	1.907	1.664	9,91	1,33	1,15
60	-10	2.342	1.819	10,51	1,50	1,29
60	-5	2.869	1.968	11,11	1,70	1,46
60	0	3.487	2.111	11,70	1,92	1,65
60	5	4.197	2.249	12,29	2,17	1,87
60	7,2	4.538	2.308	12,54	2,29	1,97
60	10	4.998	2.380	12,86	2,44	2,10

CECOMAF

Tc	Te	Cooling Capacity	Consumption	Current	COP	EER
°C	°C	W	W	A	W/W	kCal/Wh
40	-15	2.737	1.468	9,17	1,86	1,61
40	-10	3.356	1.582	9,59	2,12	1,83
40	-5	4.070	1.690	10,01	2,41	2,08
40	0	4.880	1.793	10,41	2,72	2,35
40	5	5.785	1.890	10,79	3,06	2,65
40	7,2	6.213	1.930	10,96	3,22	2,78
40	10	6.785	1.981	11,16	3,43	2,96

45	-15	2.550	1.520	9,36	1,68	1,45
45	-10	3.128	1.644	9,83	1,90	1,64
45	-5	3.800	1.763	10,29	2,16	1,86
45	0	4.569	1.876	10,74	2,44	2,10
45	5	5.432	1.983	11,17	2,74	2,37
45	7,2	5.842	2.028	11,36	2,88	2,49
45	10	6.390	2.085	11,59	3,07	2,65

50	-15	2.364	1.571	9,55	1,50	1,30
50	-10	2.899	1.706	10,07	1,70	1,47
50	-5	3.531	1.835	10,57	1,92	1,66
50	0	4.257	1.959	11,07	2,17	1,88
50	5	5.079	2.077	11,56	2,45	2,11
50	7,2	5.470	2.127	11,77	2,57	2,22
50	10	5.995	2.189	12,03	2,74	2,37

55	-15	2.177	1.622	9,74	1,34	1,16
55	-10	2.671	1.768	10,31	1,51	1,31
55	-5	3.261	1.908	10,86	1,71	1,48
55	0	3.945	2.042	11,41	1,93	1,67
55	5	4.725	2.170	11,95	2,18	1,88
55	7,2	5.099	2.225	12,18	2,29	1,98
55	10	5.600	2.293	12,48	2,44	2,11

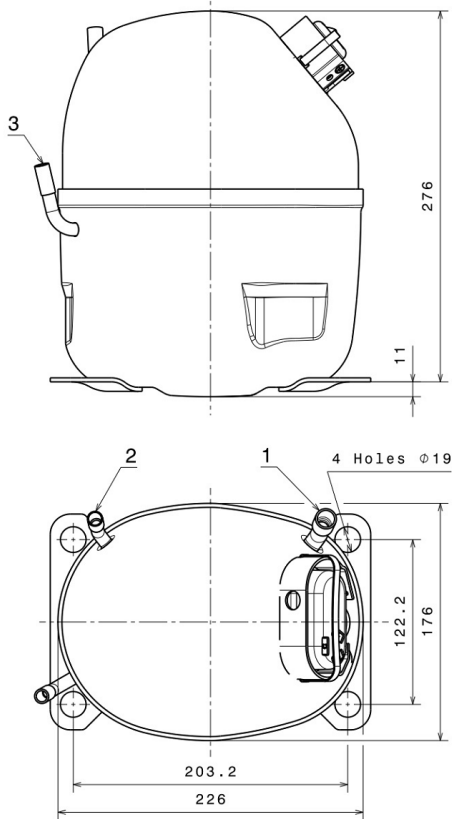
60	-15	1.991	1.673	9,94	1,19	1,03
60	-10	2.443	1.830	10,55	1,34	1,15
60	-5	2.991	1.980	11,16	1,51	1,31
60	0	3.634	2.125	11,76	1,71	1,48
60	5	4.372	2.264	12,35	1,93	1,67
60	7,2	4.727	2.323	12,61	2,03	1,76
60	10	5.205	2.397	12,93	2,17	1,88

EN12900

X	Cooling Capacity (W)	Consumption (W)	Current (A)	Mass Flow (kg/h)
1	7.388,0476356031	1.158,5993757776	7,7364777691	64,922701237541
2	239,9516564119	3,4879146288	0,0008695130	2,2557809700284
3	-64,5601042856	17,0569426910	0,0709987296	-0,20578586100852
4	1,8776935685	-0,1015368484	-0,0001120392	0,031122354778012
5	-1,7625134051	0,4368103982	0,0020713833	-0,0025245916773776

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

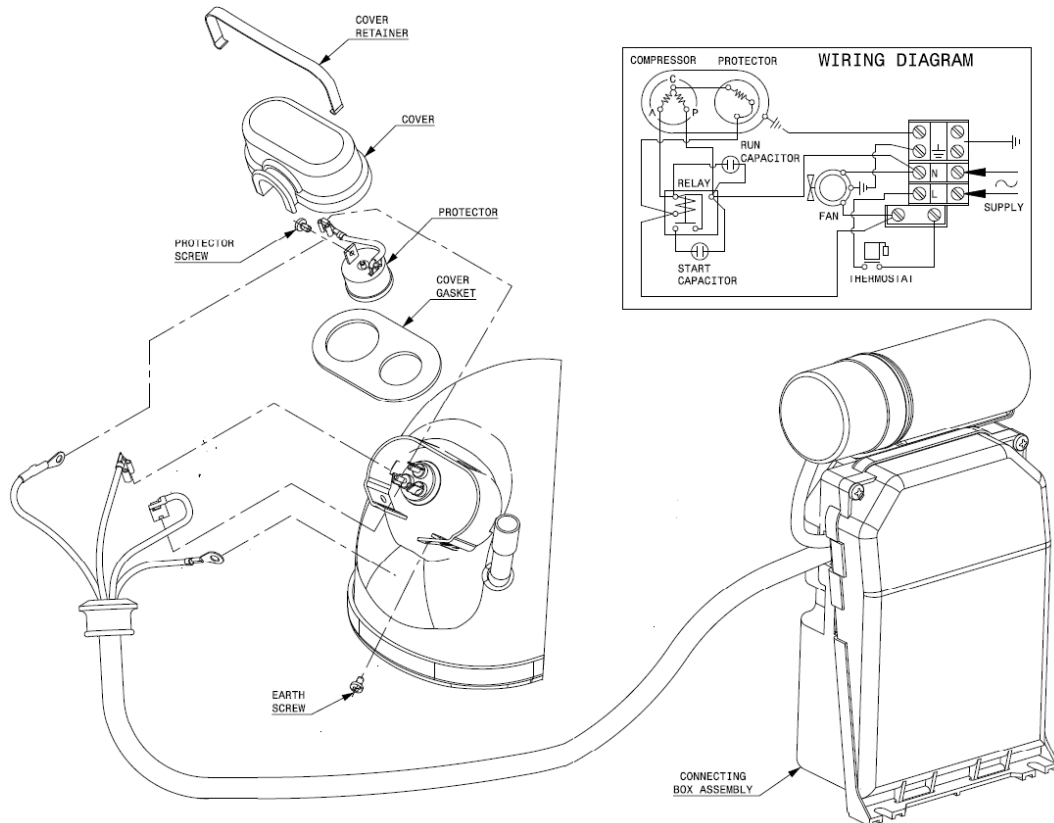


DESIGNATION INTERNAL DIAM.

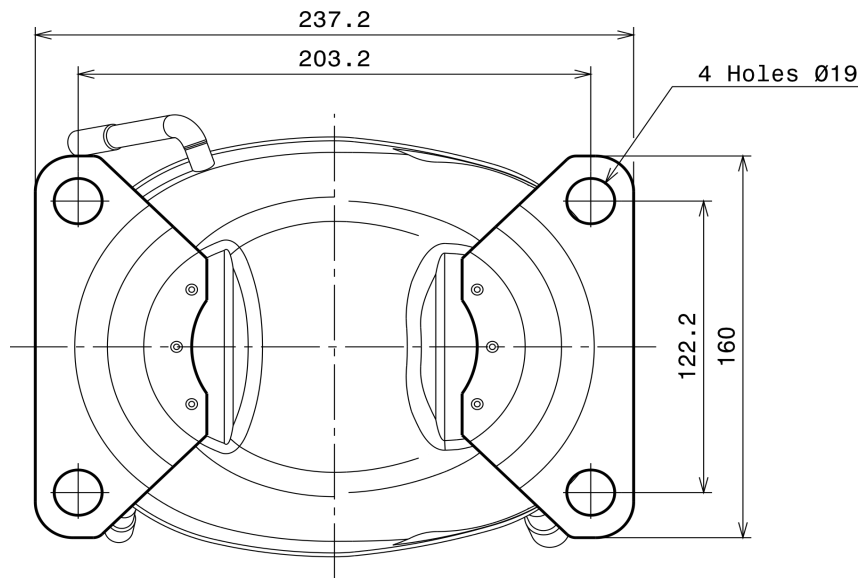
1	Suction	12,7 mm
2	Service	9,7 mm
3	Discharge	8,0 mm

WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

CSR CONNECTION (EXTERNAL CONNECTING BOX) (NS Range)



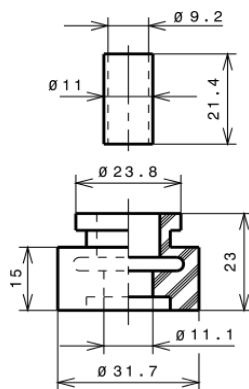
FIXINGS



SILENT BLOCKS (MOUNTING ACCESSORIES)

STANDARD

Ø19 holes (203.2x122.2 net)



SOA

SOA R290 HBP

