

Technical Data Sheet

ENGINEERING
TOMORROW



Compressor model **NPY12RAa**
Voltage **220-240V 50Hz ~1**
Refrigerant **R290**

APPLICATION

COMPRESSOR

MOTOR

Application	High Back Pressure	Displacement	12,10 cm ³	Nominal Power	1/2 hp
Refrigerant	R290	Diameter	27,00 mm	Voltage/Frequency	220-240V 50Hz
Evaporating Temp.	-15,0 °C to 10,0 °C	Stroke	21,13 mm	Voltage range	198-255 V
Expansion	Capillar/Valve	Net Weight	12,16 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	400 cm ³	Locked Rotor Amps (LRA)	20,00 A
				Max. Cont. Current (MCC)	5,20 A
				Main W. resist. at 25°C	4,50 Ω
				Start W. resist. at 25°C	8,70 Ω

NOMINAL PERFORMANCE

	ASHRAE	CECOMAF
Cooling Capacity	1.500 kCal/h	1.460 W
COP	2,45 W/W	2,08 W/W
EER	2,11 kCal/Wh	1,80 kCal/Wh
Input Power	712 W	701 W
Current	4,05 A	4,00 A

APPROVALS



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	64- 77 µF 330 V		
Relay	Option 1	Option 2	
Reference	2014 158.	QLZ-9.05A	
Pick-Up	9,05 A	9.05 A	
Drop-Out	7,70 A	7.70 A	
Protector	Option 1	Option 2	
Reference	MRA38130	T0252	
Current	11,70 A	11,50 A	
Time check	7,5-14 seg	7,5-14 seg	
Disc temp. (Open/Close)	105,00 / 52,00 °C	105,00 / 52,00 °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	653	494	3,21	1,54	1,32
40	-10	813	523	3,31	1,81	1,56
40	-5	1.000	549	3,41	2,12	1,82
40	0	1.213	572	3,49	2,47	2,12
40	5	1.452	592	3,57	2,85	2,45
40	7,2	1.566	600	3,60	3,04	2,61
40	10	1.718	609	3,63	3,28	2,82

45	-15	636	505	3,25	1,46	1,26
45	-10	795	540	3,37	1,71	1,47
45	-5	981	572	3,49	1,99	1,71
45	0	1.192	601	3,60	2,31	1,98
45	5	1.431	627	3,70	2,66	2,28
45	7,2	1.544	637	3,74	2,82	2,42
45	10	1.696	649	3,79	3,04	2,61

50	-15	620	517	3,29	1,39	1,20
50	-10	777	557	3,44	1,62	1,39
50	-5	962	595	3,58	1,88	1,62
50	0	1.172	630	3,71	2,16	1,86
50	5	1.409	662	3,84	2,48	2,13
50	7,2	1.522	675	3,89	2,62	2,26
50	10	1.673	690	3,96	2,82	2,42

55	-15	603	528	3,33	1,33	1,14
55	-10	760	575	3,50	1,54	1,32
55	-5	943	618	3,67	1,77	1,52
55	0	1.152	659	3,83	2,03	1,75
55	5	1.388	696	3,98	2,32	1,99
55	7,2	1.500	712	4,05	2,45	2,11
55	10	1.650	731	4,13	2,63	2,26

60	-15	587	540	3,37	1,26	1,09
60	-10	742	592	3,57	1,46	1,25
60	-5	924	642	3,76	1,67	1,44
60	0	1.132	688	3,95	1,91	1,64
60	5	1.366	731	4,13	2,17	1,87
60	7,2	1.478	750	4,21	2,29	1,97
60	10	1.627	772	4,31	2,45	2,11

CECOMAF

Tc	Te	Cooling Capacity	Consumption	Current	COP	EER
°C	°C	W	W	A	W/W	kCal/Wh
40	-15	702	496	3,22	1,42	1,22
40	-10	876	526	3,32	1,67	1,44
40	-5	1.078	552	3,42	1,95	1,69
40	0	1.306	575	3,50	2,27	1,96
40	5	1.563	596	3,58	2,62	2,27
40	7,2	1.684	604	3,61	2,79	2,41
40	10	1.847	613	3,65	3,01	2,60

45	-15	680	508	3,26	1,34	1,16
45	-10	851	543	3,38	1,57	1,35
45	-5	1.049	575	3,50	1,82	1,58
45	0	1.275	605	3,61	2,11	1,82
45	5	1.528	631	3,72	2,42	2,09
45	7,2	1.649	641	3,76	2,57	2,22
45	10	1.809	654	3,81	2,77	2,39

50	-15	658	519	3,30	1,27	1,09
50	-10	826	561	3,45	1,47	1,27
50	-5	1.021	599	3,59	1,70	1,47
50	0	1.244	634	3,73	1,96	1,70
50	5	1.494	666	3,86	2,24	1,94
50	7,2	1.613	679	3,91	2,38	2,05
50	10	1.772	695	3,98	2,55	2,20

55	-15	635	531	3,34	1,20	1,03
55	-10	800	578	3,51	1,38	1,20
55	-5	993	622	3,68	1,60	1,38
55	0	1.212	663	3,85	1,83	1,58
55	5	1.460	701	4,00	2,08	1,80
55	7,2	1.577	717	4,07	2,20	1,90
55	10	1.735	736	4,15	2,36	2,04

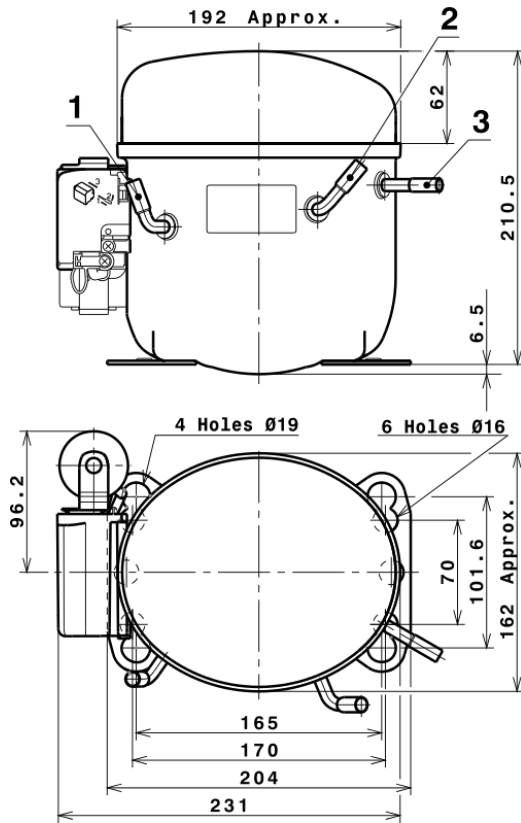
60	-15	613	543	3,38	1,13	0,98
60	-10	775	596	3,58	1,30	1,12
60	-5	964	645	3,78	1,49	1,29
60	0	1.181	692	3,97	1,71	1,47
60	5	1.425	736	4,15	1,94	1,67
60	7,2	1.541	755	4,23	2,04	1,77
60	10	1.697	777	4,33	2,18	1,89

EN12900

X	Cooling Capacity (W)	Consumption (W)	Current (A)	Mass Flow (kg/h)
1	1.575,1320947625	349,9958236197	2,5557409976	11,219235789163
2	54,2752886615	-5,0999338474	-0,0256994985	0,42600330700353
3	-7,2003082256	6,0182297625	0,0248060884	0,095499137702538
4	0,5430912733	-0,0577670641	-0,0000997154	0,0091359740275923
5	-0,1575522295	0,2433002230	0,0010863217	0,0045041594526353

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

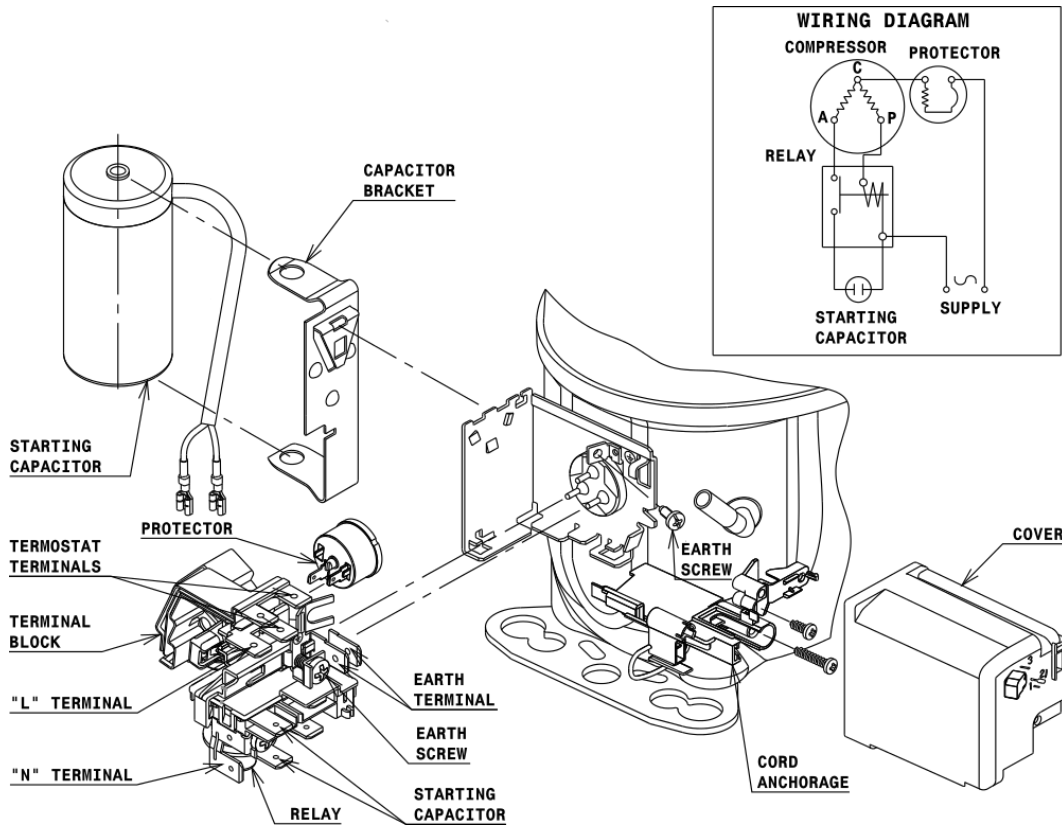


DESIGNATION INTERNAL DIAM.

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

WIRING DIAGRAMS AND ELECTRICAL ASSEMBLY

CSIR CONNECTION (L, P ranges)



FIXINGS



SILENT BLOCKS (MOUNTING ACCESSORIES)

STANDARD

Ø16 holes (170x70 net)



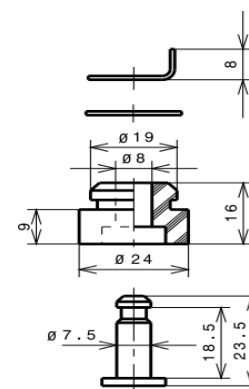
AMERICAN FEET

Ø19 holes (165x101.6 net)



SNAP-ON

Ø16 holes (170x70 net)



SOA

SOA R290 HBP

