

Model
NL9CN

Sales code:
105H6780

Compressor Data

Refrigerant(s)	R290
Refr. charge - tech. limit	150g / 5.29oz
Weight	10.50 kg / 23.15lbs
Displacement	8.35 cm3 / 0.51cu.in
Compressors on pallet	80



General – Configurations With NL9CN

-	Conf. 1	Conf. 2	Conf. 3
Motor configuration	RSIR	RSCR	CSIR
Power supply (nominal)	220-240 V/50 Hz	220-240 V/50 Hz	220-240 V/50 Hz
Number of phases	1	1	1
Voltage range	198-254 V	198-254 V	198-254 V
Approvals	VDE, CCC, EAC	VDE, CCC, EAC	VDE, CCC, EAC
Starting torque	LST	LST	HST
Refrigerant	R290	R290	R290
Application	LBP+MBP	LBP+MBP	LBP+MBP
Long interval pull down	OK	OK	OK

Application Notes

- Provision for PE Grounding is located at the PE Stamp on the compressor

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Compressor Design

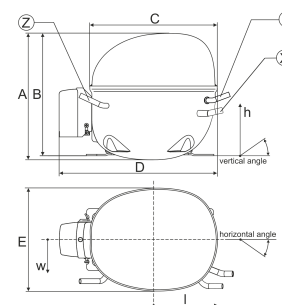
Oil type	POE	Winding resistance main	8.6 Ohm
Oil viscosity	32cSt	Winding resistance aux	14.7 Ohm
Oil quantity	268 / 9.06fl.oz	Max. winding temp.	125 °C
Free gas volume comp.	2,360 cm ³ / 79.80fl.oz	Max. discharge temp.	130°C / 266°F
Motor protection	internal		

Compressor Dimensions

Housing

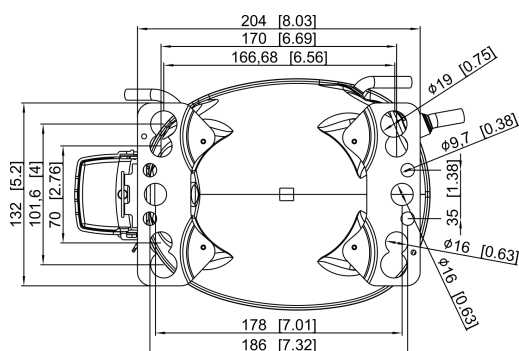
A Height	203mm / 7.99in
B Height	197mm / 7.76in
C Length shell	205mm / 8.07in
D Length w. cover	254mm / 10.00in
E Width	166mm / 6.54in

[Find 3D Model here](#)

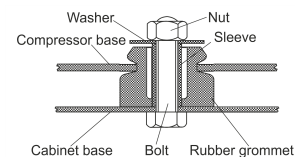


Connectors	Suction X	Discharge Y	Process Z
Diameter [mm]	øi 9.61–9.79 / 0.38–0.39in	øi 6.41–6.59 / 0.25–0.26in	øi 6.41–6.59 / 0.25–0.26in
Material	CU	CU	CU
Horizontal angle ±2°	0°	0°	0°
Vertical angle ±2°	15°	35°	155°
Position l/h/w [mm]	125.5/75.5/78 / 4.94/2.97/3.07in	133/102.5/54 / 5.24/4.04/2.13in	-107/93.5/72 / -4.21/3.68/2.83in
Straight tube l. [mm]	12 / 0.47in	12 / 0.47in	12 / 0.47in

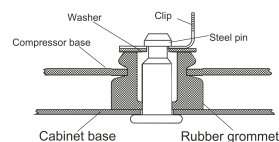
Mounting Accessories



Bolt joint



Snap-on



Dimensions in mm [in]

	one comp.	multi pack
Bolt joint M6 ø16mm	118-1917	118-1918
Bolt joint ø1/4" ø16mm	118-1946	-
Bolt joint ø1/4" ø19mm	118-1949	-
Snap-on ø7,3 ø16mm	118-1947	118-1919

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Configuration 1

Sales code:
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Configuration

Motor configuration	RSIR
Power supply (nominal)	220-240 V/50 Hz 1~
Refrigerant	R290
Application	LBP+MBP
Voltage range	198-254 V
Starting torque	LST
Approvals	VDE, CCC, EAC
Starting device type	PTC
Run capacitor	-/-
Start capacitor	-/-
LRA (locked rotor amps / 4s/ U(N))	11 A
RLA (rated load amps / 1s/ U(N))	1.8 A
Cut in current (U(N))	14.5 A

Ambient/ machine room temperatures minimum /maximum

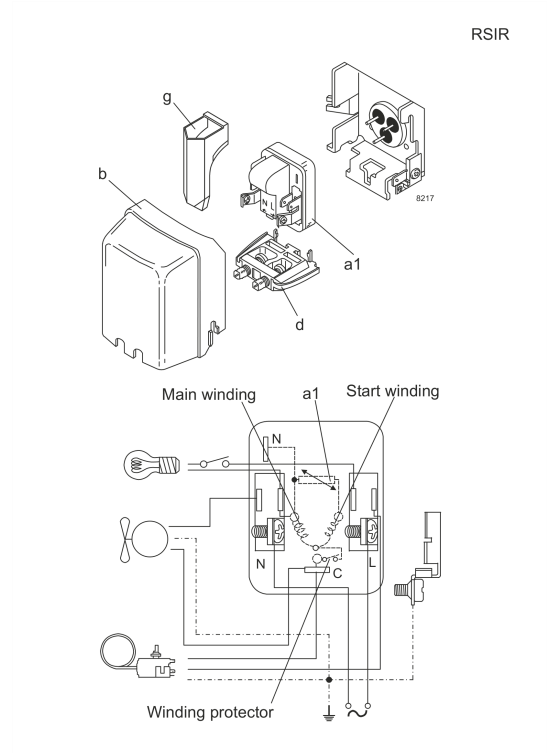
Ambient temperature range: 10 - 43°C / 50 - 109°F

Machine room temp. compressor: 10 - 48°C / 50 - 118°F

System Cooling

fan 1,5m/s

Electrical Accessories / Wiring Diagram



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Components

a1 PTC starter (220V, 250Ohm, 4.8mm) 103N0018

b plastic cover 103N2010

d cord relief 103N1010

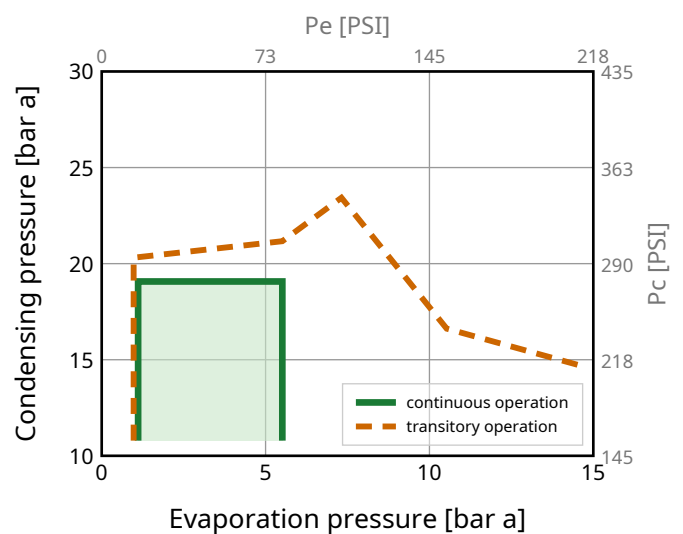
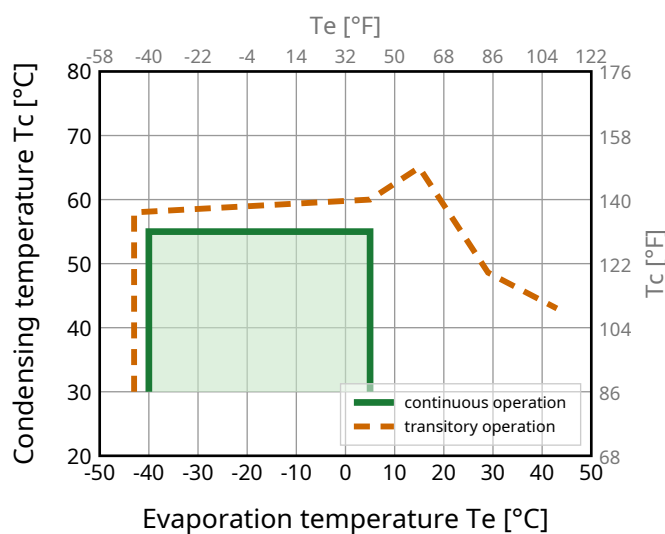
g protection screen for PTC 103N0476

Alternative components

a1 PTC starter (220V, 250Ohm, 6.3mm) 103N0011

b plastic cover 103N2011

Operation Pressure Range



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Configuration 1

Sales code:
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Standard Conditions

R290, 220 V/50 Hz, RSIR, fan 1,5m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	m	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	381	1300	328	1.39	4.75	273	1.72	3.87	ASHRAE LBP
-25 -13	55 131	32 89.6	55 131	284	968	244	1.07	3.66	264	1.69	3.56	CECOMAF LBP
-35 -31	40 104	20 68	40 104	207	706	178	1.06	3.63	195	1.51	2.38	EN12900 LBP
-23.3 -10	48.8 119.8	4.4 39.9	48.8 119.8	310	1058	267	1.18	4.01	264	1.69	4.31	ARI540 LBP
-23.3 -10	40.6 105.1	32.2 90	32.2 90	420	1434	362	1.65	5.63	255	1.66	4.27	AHAM LBP
-35 -31	45 113	32 89.6	45 113	194	660	166	0.99	3.37	196	1.50	2.18	opt LBP

Performance Tables

R290, 220 V/50 Hz, RSIR, fan 1,5m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	m
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-40	-40	138	469	118	0.81	2.77	169	1.44	1.55
-30	-22	259	883	223	1.16	3.96	223	1.56	2.92
-20	-4	424	1445	364	1.53	5.21	278	1.73	4.82
-10	14	643	2195	553	1.92	6.56	334	1.95	7.39
0	32	930	3174	800	2.35	8.03	396	2.21	10.81
5	41	1102	3761	948	2.58	8.79	428	2.36	12.92

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-40	-40	121	413	104	0.68	2.32	178	1.43	1.50
-30	-22	221	753	190	0.94	3.21	235	1.59	2.76
-20	-4	357	1219	307	1.21	4.14	295	1.80	4.50
-10	14	542	1851	466	1.51	5.15	359	2.05	6.90
0	32	788	2688	678	1.83	6.26	430	2.36	10.16
5	41	937	3197	806	2.00	6.83	468	2.53	12.19

Model
NL9CN

Configuration 2

Sales code:
105H6780

Configuration

Motor configuration	RSCR
Power supply (nominal)	220-240 V/50 Hz 1~
Refrigerant	R290
Application	LBP+MBP
Voltage range	198-254 V
Starting torque	LST
Approvals	VDE, CCC, EAC
Starting device type	PTC
Run capacitor	4 μF
Start capacitor	-/-
LRA (locked rotor amps / 4s/ U(N))	11 A
RLA (rated load amps / 1s/ U(N))	1.8 A
Cut in current (U(N))	14.5 A

Ambient/ machine room temperatures minimum /maximum

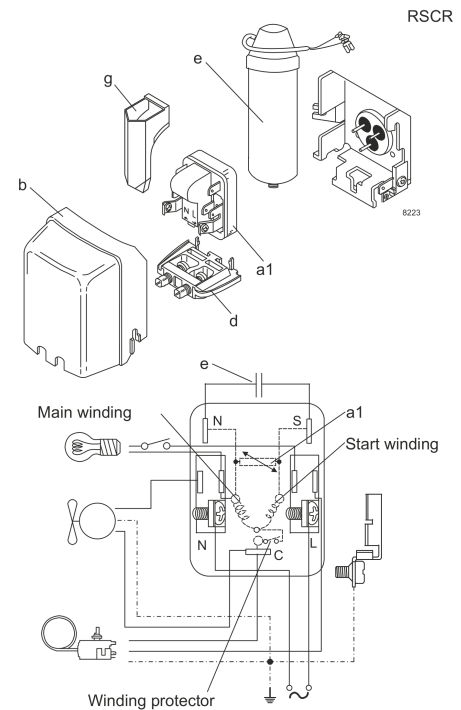
Ambient temperature range: 10 - 43°C / 50 - 109°F

Machine room temp. compressor: 10 - 48°C / 50 - 118°F

System Cooling

fan 1,5m/s

Electrical Accessories / Wiring Diagram



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Components

a1 PTC starter (220V, 250Ohm, 4.8mm) 103N0021

e run capacitor (4 μ F, 4.8mm) 117-7119

b plastic cover 103N2010

d cord relief 103N1010

g protection screen for PTC 103N0476

bracket for run capacitor 117-0300

Alternative components

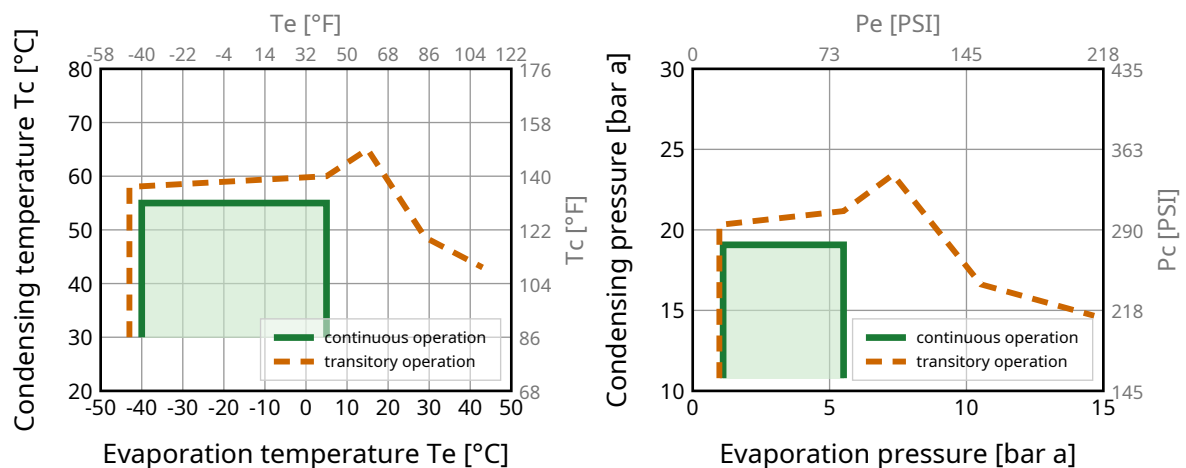
a1 PTC starter (220V, 250Ohm, 6.3mm) 103N0016

e run capacitor (4 μ F, 6.3mm) 117-7117

b plastic cover 103N2011

screw M4x8mm 117-0301

Operation Pressure Range



Model
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Configuration 2

Sales code:
105H6780

Standard Conditions

R290, 220 V/50 Hz, RSCR, fan 1,5m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	m	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	385	1313	331	1.45	4.95	265	1.67	3.91	ASHRAE LBP
-25 -13	55 131	32 89.6	55 131	287	978	246	1.12	3.81	256	1.64	3.59	CECOMAF LBP
-35 -31	40 104	20 68	40 104	209	713	180	1.11	3.78	189	1.46	2.40	EN12900 LBP
-23.3 -10	48.8 119.8	4.4 39.9	48.8 119.8	313	1069	269	1.22	4.17	256	1.64	4.35	ARI540 LBP
-23.3 -10	40.6 105.1	32.2 90	32.2 90	425	1449	365	1.72	5.87	247	1.61	4.31	AHAM LBP
-35 -31	45 113	32 89.6	45 113	196	667	168	1.03	3.51	190	1.45	2.20	opt LBP

Performance Tables

R290, 220 V/50 Hz, RSCR, fan 1,5m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	m
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
-40	-40	139	474	120	0.85	2.89	164	1.40	1.56
-30	-22	261	892	225	1.21	4.13	216	1.52	2.95
-20	-4	428	1459	368	1.59	5.42	269	1.68	4.87
-10	14	650	2217	559	2.00	6.83	324	1.89	7.46
0	32	939	3205	808	2.45	8.36	384	2.15	10.92
5	41	1113	3799	958	2.68	9.15	415	2.29	13.05

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

-40	-40	122	417	105	0.71	2.42	173	1.38	1.52
-30	-22	223	761	192	0.98	3.34	228	1.54	2.79
-20	-4	361	1231	310	1.26	4.31	286	1.74	4.54
-10	14	548	1869	471	1.57	5.36	348	1.99	6.97
0	32	796	2715	684	1.91	6.51	417	2.29	10.26
5	41	946	3229	814	2.09	7.12	454	2.45	12.31

Model
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Configuration 3

Sales code:
105H6780

Configuration

Motor configuration	CSIR
Power supply (nominal)	220-240 V/50 Hz 1~
Refrigerant	R290
Application	LBP+MBP
Voltage range	198-254 V
Starting torque	HST
Approvals	VDE, CCC, EAC
Starting device type	relay
Run capacitor	-/-
Start capacitor	80 µF
LRA (locked rotor amps / 4s/ U(N))	11 A
RLA (rated load amps / 1s/ U(N))	1.8 A
Cut in current (U(N))	14.5 A

Ambient/ machine room temperatures minimum /maximum

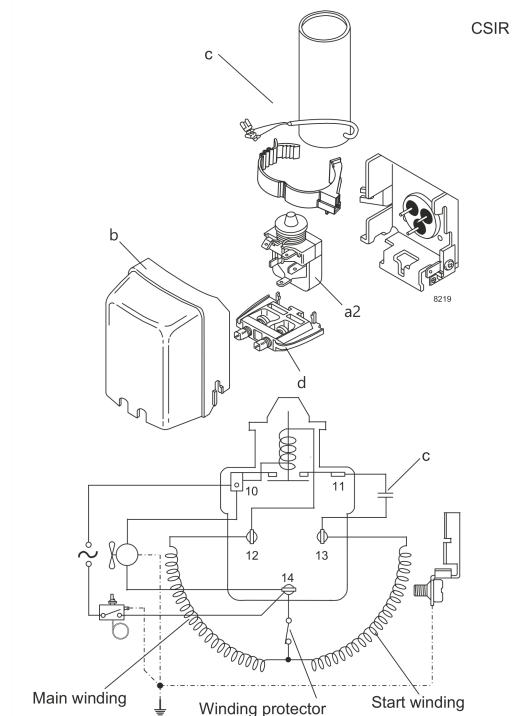
Ambient temperature range: 10 - 43°C / 50 - 109°F

Machine room temp. compressor: 10 - 48°C / 50 - 118°F

System Cooling

fan 1,5m/s

Electrical Accessories / Wiring Diagram



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Components

a2 relay 117U7002

c start capacitor (80µF) 117U5015

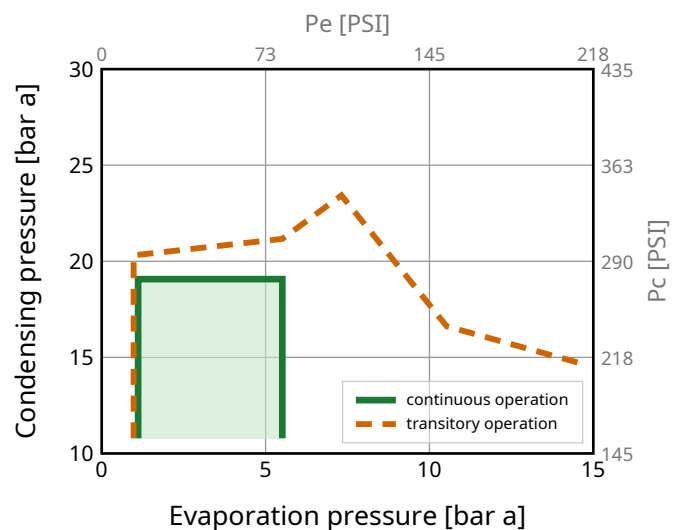
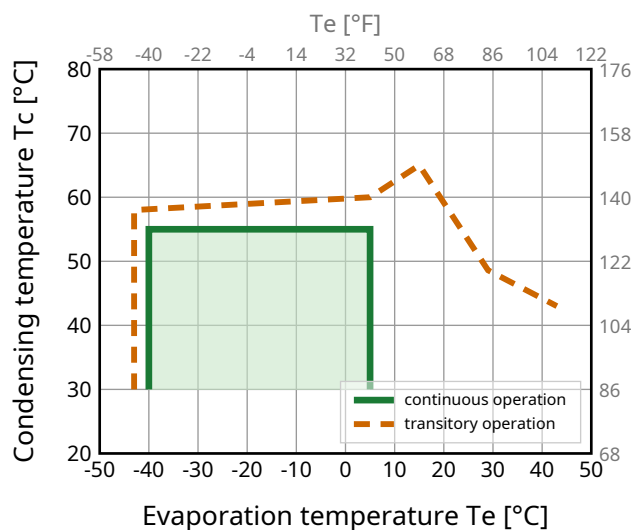
b plastic cover 103N2010

d cord relief 103N1010

Alternative components

b plastic cover 103N2011

Operation Pressure Range



Model
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Configuration 3

Sales code:
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Standard Conditions

R290, 220 V/50 Hz, CSIR, fan 1,5m/s

pe	pc	RGT	Tliq	Cooling capacity			COP	EER	P	I	m	
[°C] [°F]	[°C] [°F]	[°C] [°F]	[°C] [°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]	
-23.3 -10	54.4 129.9	32.2 90	32.2 90	381	1300	328	1.39	4.75	273	1.72	3.87	ASHRAE LBP
-25 -13	55 131	32 89.6	55 131	284	968	244	1.07	3.66	264	1.69	3.56	CECOMAF LBP
-35 -31	40 104	20 68	40 104	207	706	178	1.06	3.63	195	1.51	2.38	EN12900 LBP
-23.3 -10	48.8 119.8	4.4 39.9	48.8 119.8	310	1058	267	1.18	4.01	264	1.69	4.31	ARI540 LBP
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-35 -31	45 113	32 89.6	45 113	194	660	166	0.99	3.37	196	1.50	2.18	opt LBP

Performance Tables

R290, 220 V/50 Hz, CSIR, fan 1,5m/s

pc= 45/113 | RGT= 32/89.6 | Tliq= 45/113 | °C/°F

pe		Cooling capacity			COP	EER	P	I	m
[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[W]	[A]	[kg/h]
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-20	-4	424	1445	364	1.53	5.21	278	1.73	4.82
-10	14	643	2195	553	1.92	6.56	334	1.95	7.39
0	32	930	3174	800	2.35	8.03	396	2.21	10.81
5	41	1102	3761	948	2.58	8.79	428	2.36	12.92

pc= 55/131 | RGT= 32/89.6 | Tliq= 55/131 | °C/°F

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-30	-22	221	753	190	0.94	3.21	235	1.59	2.76
-20	-4	357	1219	307	1.21	4.14	295	1.80	4.50
-10	14	542	1851	466	1.51	5.15	359	2.05	6.90
0	32	788	2688	678	1.83	6.26	430	2.36	10.16
5	41	937	3197	806	2.00	6.83	468	2.53	12.19