

Model

Designation	NL9CN	220-240V/50Hz 1~	Sales code:	105H6780
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Compressor design

Oil type	Polyolester	Refrigerant(s)	R290
Oil viscosity	32cSt	Displacement	8,35cm ³ / 0,51cu.in
Oil quantity	268cm ³ / 9,1fl.oz	Compressors on pallet	80
Refr. charge - tech. limit	150g / 5,3oz		
Free gas volume comp.	2360cm ³ / 79,8fl.oz		
Weight	10,5kg / 23,1lbs		
Motor protection	1# internal		
Winding resistance main	8,6Ω (at 25°C)		
Winding resistance aux	14,7Ω (at 25°C)		
Max. winding temp.	125°C / 257°F		
Max. discharge temp.	130°C / 266°F		



General - Configurations with NL9CN

	Conf. 1	Conf. 2	Conf. 3
Motor configuration	RSIR	RSCR	CSIR
Power supply (nominal)	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz
Number of phases	1	1	1
Voltage range	198-254V	198-254V	198-254V
Approvals	VDE, CCC, EAC	VDE, CCC, EAC	VDE, CCC, EAC
Starting torque	LST	LST	HST
Note	- / -		

Applications with NL9CN

	Conf. 1	Conf. 2	Conf. 3
Refrigerant	R290	R290	R290
Application	LBP+MBP	LBP+MBP	LBP+MBP
System cooling	fan 1,5m/s	fan 1,5m/s	fan 1,5m/s
Hot gas defrost	-/-	-/-	-/-
Long interval pull down	OK	OK	OK

Electrical data - Configurations with NL9CN

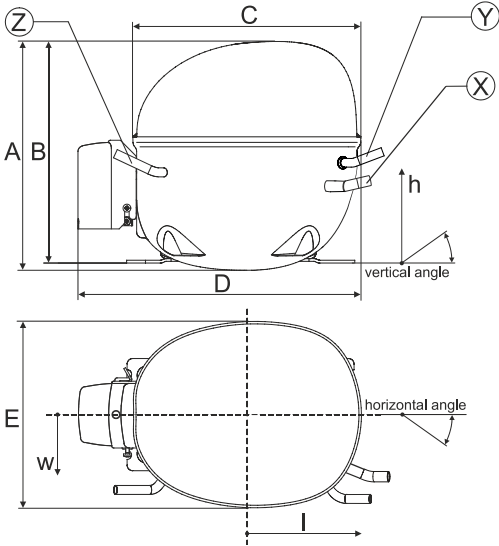
	Conf. 1	Conf. 2	Conf. 3
Starting device type	PTC	PTC	relay
Run capacitor	-/-	4μF	-/-
Start capacitor	-/-	-/-	80μF
LRA (locked rotor amps / 4s/ U(N))	11A	11A	11A
RLA (rated load amps / 1s/ U(N))	1,8A	1,8A	1,8A
Cut in current (U(N))	14,5A	14,5A	14,5A

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Compressor dimensions

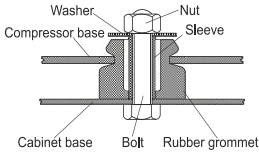
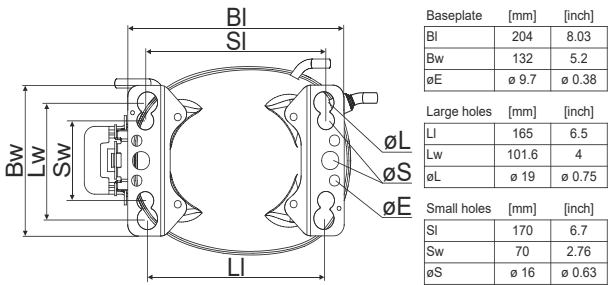
Housing	A Height	203mm / 7,99in
	B Height	197mm / 7,76in
	C Length shell	205mm / 8,07in
	D Length w. cover	254mm / 10in
	E Width	166mm / 6,54in

Connectors		Suction X	Discharge Y	Process Z
Diameter	[mm]	øi 9,61-9,79	øi 6,41-6,59	øi 6,41-6,59
	(i:inside, o:outside) [in]	øi 0,38-0,39	øi 0,25-0,26	øi 0,25-0,26
Material		copper	copper	copper
Horizontal angle		±2° 0°	0°	0°
Vertical angle		±2° 15°	35°	155°
Position l/h/w	[mm]	126/76/78	133/103/54	-107/94/72
	[in]	4,9/3/3,1	5,2/4/2,1	-4,2/3,7/2,8
Straight tube l.	[mm]	12	12	12
	[in]	0,5	0,5	0,5

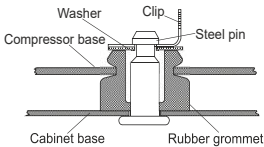


Compressor fixation

Bolt joint



Snap-on



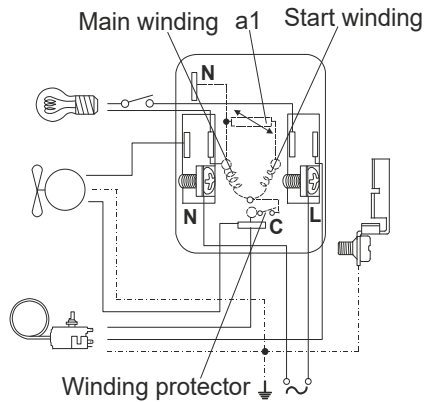
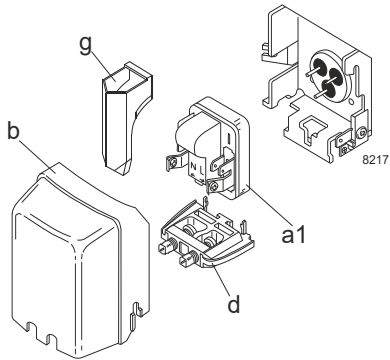
Mounting accessories	one comp.	multi pack
Bolt joint M6 ø16mm	118-1917	118-1918
Bolt joint ø1/4" ø16mm	118-1946	
Bolt joint ø1/4" ø19mm	118-1949	
Snap-on ø7,3 ø16mm	118-1947	118-1919

Application notes

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

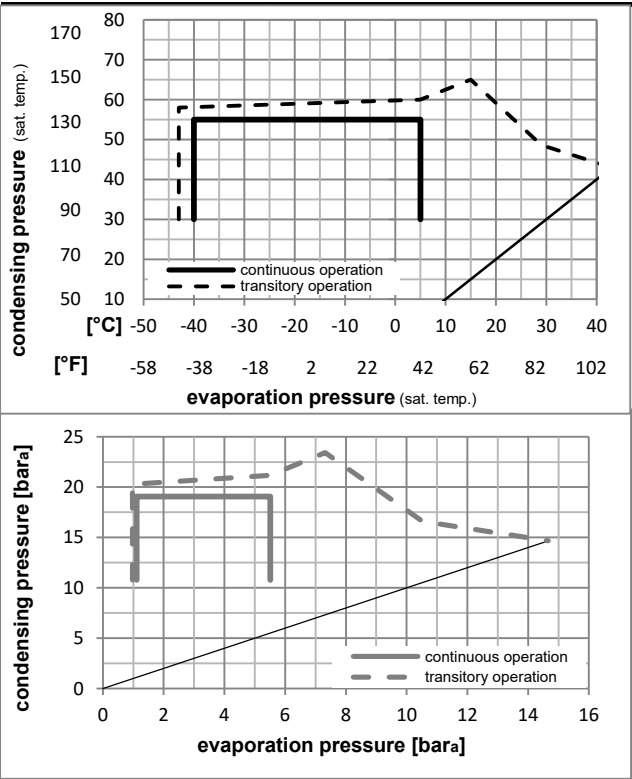
Model				
Designation	NL9CN	220-240V/50Hz	Conf. 1	Sales code: 105H6780

Configuration		Electrical accessories / wiring diagram	
Motor configuration	RSIR	RSIR	
Power supply (nominal)	220-240V/50Hz 1~		
Refrigerant	R290		
Application	LBP+MBP		
Voltage range	198-254V		
Starting torque	LST		
Approvals	VDE		
	CCC		
	EAC		



Ambient/ machine room temperatures minimum /maximum	
Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range:	10 - 48°C / 50 - 119°F
Compressor cooling:	fan 1,5m/s

Operation pressure range



Components		
a1	PTC starter (220V, 25Ohm, 4.8mm)	103N0018
b	plastic cover	103N2010
d	cord relief	103N1010
g	protection screen for PTC	103N0476

Alternative components		
a1	PTC starter (220V, 25Ohm, 6.3mm)	103N0011
b	plastic cover	103N2011
d	cord relief	103N1010
g	protection screen for PTC	103N0476

Model

Designation **NL9CN** **220-240V/50Hz** Conf. 1 Sales code: **105H6780**

Optimization + standard conditions

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

Evaporating pressure (saturation temperature)														
Condensing pressure (saturation temperature)														
Return gas temp.														
Liquid temp.														
Cooling capacity														
COP														
EER														
Power consumption														
Current consumption														
Ref. mass flow														
pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	P1	I	m		
[°C]										[W]	[A]	[kg/h]		
[°C]	-23	54	32	32	378,9	1294	326,1	1,39	4,74	1,19	273,3	1,72	3,84	ASHRAE LBP
[°F]	-10	130	90	90										
[°C]	-25	55	32	55	283,7	969	244,2	1,07	3,67	0,92	264,4	1,69	3,53	cecomaf LBP
[°F]	-13	131	90	131										
[°C]	-35	40	20	40	206,9	707	178,1	1,06	3,63	0,91	194,7	1,51	2,36	EN12900 LBP
[°F]	-31	104	68	104										
[°C]	-23	49	4,4	49	308,6	1054	265,5	1,17	3,99	1,01	263,9	1,69	4,27	ARI540 LBP
[°F]	-10	120	40	120										
[°C]	-23	41	32	32	419,3	1432	360,8	1,65	5,62	1,42	254,6	1,66	4,25	AHAM LBP
[°F]	-10	105	90	90										
[°C]	-35	45	32	45	193,5	661	166,6	0,99	3,37	0,85	196,1	1,50	2,17	opt
[°F]	-31	113	90	113										

Performance tables

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

	pe		Cooling capacity			COP	EER		P1	I	m
	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]
[°C / °F]	-40	-40	137,6	470	118,4	0,81	2,78	0,70	169,2	1,44	1,54
cond. pressure	-35	-31	193,5	661	166,6	0,99	3,37	0,85	196,1	1,50	2,17
pc= 45/113	-30	-22	258,8	884	222,8	1,16	3,97	1,00	223,0	1,56	2,91
return gas temp.	-25	-13	335,0	1144	288,3	1,34	4,58	1,15	250,0	1,64	3,78
RGT= 32/90	-15	5	525,7	1795	452,4	1,72	5,87	1,48	305,6	1,83	5,98
liquid temp	-5	23	777,6	2656	669,2	2,13	7,29	1,84	364,4	2,08	8,95
Tliq= 45/113	5	41	1102,4	3765	948,7	2,58	8,80	2,22	428,0	2,36	12,90
[°C / °F]	-40	-40	121,1	414	104,2	0,68	2,32	0,59	178,0	1,43	1,49
cond. pressure	-35	-31	167,1	571	143,8	0,81	2,77	0,70	206,2	1,50	2,07
pc= 55/131	-30	-22	220,8	754	190,1	0,94	3,21	0,81	234,9	1,59	2,74
return gas temp	-25	-13	283,7	969	244,2	1,07	3,67	0,92	264,4	1,69	3,53
RGT= 32/90	-15	5	443,0	1513	381,3	1,36	4,64	1,17	326,3	1,92	5,57
liquid temp	-5	23	656,8	2243	565,3	1,67	5,70	1,44	393,6	2,20	8,37
Tliq= 55/131	5	41	937,0	3200	806,4	2,00	6,84	1,72	467,8	2,53	12,15

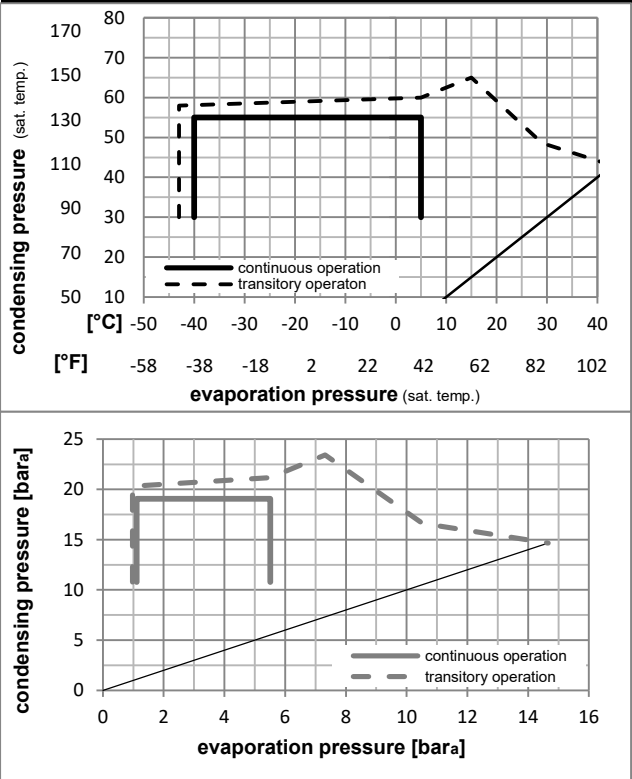
Model				
Designation	NL9CN	220-240V/50Hz	Conf. 2	Sales code: 105H6780

Configuration		Electrical accessories / wiring diagram		
Motor configuration	RSCR			
Power supply (nominal)	220-240V/50Hz 1~			
Refrigerant	R290			
Application	LBP+MBP			
Voltage range	198-254V			
Starting torque	LST			
Approvals	VDE CCC EAC			

Ambient/ machine room temperatures minimum /maximum

Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range:	10 - 48°C / 50 - 119°F
Compressor cooling:	fan 1,5m/s

Operation pressure range



Components		
a1	PTC starter (220V, 250hm, 4.8mm)	103N0021
e	run capacitor (4μF, 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, 250hm, 6.3mm)	103N0016
e	run capacitor (4μF, 6.3mm)	117-7117
b	plastic cover	103N2011
	screw M4x8mm	117-0301

Model

Designation **NL9CN** **220-240V/50Hz** Conf. 2 Sales code: **105H6780**

Optimization + standard conditions

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

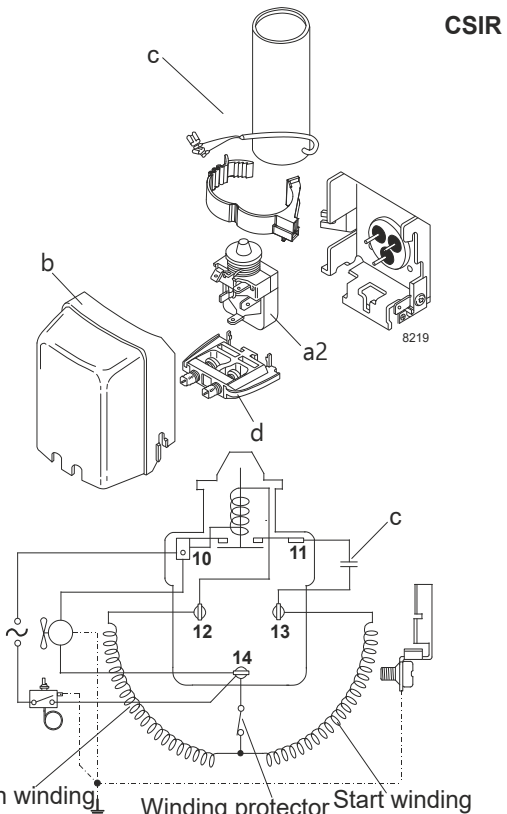
Evaporating pressure (saturation temperature)				Condensing pressure (saturation temperature)			Return gas temp.			Liquid temp.			Cooling capacity			COP			EER			Power consumption			Current consumption			Ref. mass flow		
pe	pc	RGT	Tliq	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	P1	I	m	[W]	[A]	[kg/h]	P1	I	m	[W]	[A]	[kg/h]	P1	I	m	[W]	[A]	[kg/h]
[°C]	-23	54	32	32	382,7	1307	329,3	1,44	4,93	1,24	265,1	1,67	3,88	ASHRAE LBP																
[°F]	-10	130	90	90																										
[°C]	-25	55	32	55	286,6	979	246,6	1,12	3,82	0,96	256,5	1,63	3,57	cecomaf LBP																
[°F]	-13	131	90	131																										
[°C]	-35	40	20	40	209,0	714	179,8	1,11	3,78	0,95	188,9	1,46	2,39	EN12900 LBP																
[°F]	-31	104	68	104																										
[°C]	-23	49	4,4	49	311,6	1064	268,2	1,22	4,16	1,05	256,0	1,64	4,32	ARI540 LBP																
[°F]	-10	120	40	120																										
[°C]	-23	41	32	32	423,4	1446	364,4	1,71	5,86	1,48	246,9	1,61	4,29	AHAM LBP																
[°F]	-10	105	90	90																										
[°C]	-35	45	32	45	195,5	668	168,2	1,03	3,51	0,88	190,2	1,45	2,19	opt																
[°F]	-31	113	90	113																										

Performance tables

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

	pe		Cooling capacity			COP		EER		P1		I		m	
	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]	[W]	[A]	[kg/h]	[kg/h]
[°C / °F]	-40	-40	139,0	475	119,6	0,85	2,89	0,73	164,1	1,40	1,55				
cond. pressure	-35	-31	195,5	668	168,2	1,03	3,51	0,88	190,2	1,45	2,19				
pc= 45/113	-30	-22	261,4	893	225,0	1,21	4,13	1,04	216,3	1,52	2,94				
return gas temp.	-25	-13	338,3	1155	291,2	1,40	4,76	1,20	242,5	1,59	3,82				
RGT= 32/90	-15	5	531,0	1813	457,0	1,79	6,12	1,54	296,4	1,78	6,04				
liquid temp	-5	23	785,3	2682	675,9	2,22	7,59	1,91	353,4	2,01	9,04				
Tliq= 45/113	5	41	1113,4	3802	958,2	2,68	9,16	2,31	415,1	2,29	13,03				
[°C / °F]	-40	-40	122,3	418	105,3	0,71	2,42	0,61	172,7	1,38	1,51				
cond. pressure	-35	-31	168,8	576	145,3	0,84	2,88	0,73	200,0	1,46	2,09				
pc= 55/131	-30	-22	223,0	762	192,0	0,98	3,34	0,84	227,9	1,54	2,77				
return gas temp	-25	-13	286,6	979	246,6	1,12	3,82	0,96	256,5	1,63	3,57				
RGT= 32/90	-15	5	447,5	1528	385,1	1,41	4,83	1,22	316,5	1,86	5,63				
liquid temp	-5	23	663,4	2266	570,9	1,74	5,93	1,50	381,7	2,13	8,45				
Tliq= 55/131	5	41	946,4	3232	814,5	2,09	7,12	1,79	453,7	2,45	12,27				

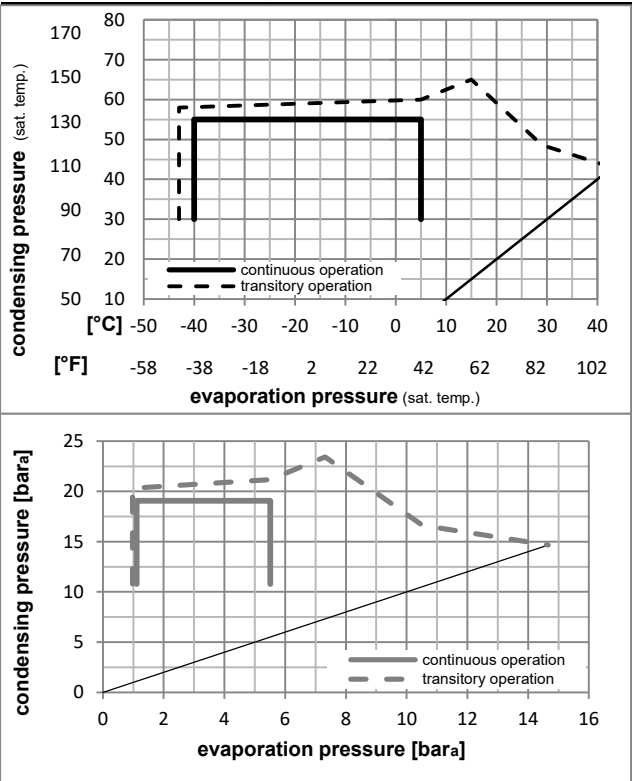
Model				
Designation	NL9CN	220-240V/50Hz	Conf. 3	Sales code: 105H6780

Configuration		Electrical accessories / wiring diagram		
Motor configuration	CSIR			
Power supply (nominal)	220-240V/50Hz 1~			
Refrigerant	R290			
Application	LBP+MBP			
Voltage range	198-254V			
Starting torque	HST			
Approvals	VDE CCC EAC			

Ambient/ machine room temperatures minimum /maximum

Ambient temperature range:	10 - 43°C / 50 - 110°F
Machine room temperature range:	10 - 48°C / 50 - 119°F
Compressor cooling:	fan 1,5m/s

Operation pressure range



Components		
a2	relay	117U7002
c	start capacitor (80µF)	117U5015
b	plastic cover	103N2010
d	cord relief	103N1010

Alternative components		
b	plastic cover	103N2011

Model

Designation **NL9CN** **220-240V/50Hz** Conf. 3 Sales code: **105H6780**

Optimization + standard conditions

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

Evaporating pressure (saturation temperature)					Condensing pressure (saturation temperature)						Power consumption																																																														
Return gas temp.					Current consumption						Ref. mass flow																																																														
Liquid temp.					Cooling capacity						COP				EER				P1				I				ṁ																																														
pe					pc					RGT					Tliq					[W]					[Btu/h]					[kcal/h]					[W/W]					[Btu/Wh]					[kcal/Wh]					[W]					[A]					[kg/h]													
[°C]					-23	54	32	32	378,9					1294					326,1					1,39					4,74					1,19					273,3					1,72					3,84					ASHRAE LBP																			
[°F]					-10	130	90	90																																																																	
[°C]					-25	55	32	55	283,7					969					244,2					1,07					3,67					0,92					264,4					1,69					3,53					cecomaf LBP																			
[°F]					-13	131	90	131																																																																	
[°C]					-35	40	20	40	206,9					707					178,1					1,06					3,63					0,91					194,7					1,51					2,36					EN12900 LBP																			
[°F]					-31	104	68	104																																																																	
[°C]					-23	49	4,4	49	308,6					1054					265,5					1,17					3,99					1,01					263,9					1,69					4,27					ARI540 LBP																			
[°F]					-10	120	40	120																																																																	
[°C]					-23	41	32	32	419,3					1432					360,8					1,65					5,62					1,42					254,6					1,66					4,25					AHAM LBP																			
[°F]					-10	105	90	90																																																																	
[°C]					-35	45	32	45	193,5					661					166,6					0,99					3,37					0,85					196,1					1,50					2,17					opt																			
[°F]					-31	113	90	113																																																																	

Performance tables

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

	pe		Cooling capacity			COP	EER		P1	I	m
	[°C]	[°F]	[W]	[Btu/h]	[kcal/h]	[W/W]	[Btu/Wh]	[kcal/Wh]	[W]	[A]	[kg/h]
[°C / °F]	-40	-40	137,6	470	118,4	0,81	2,78	0,70	169,2	1,44	1,54
cond. pressure	-35	-31	193,5	661	166,6	0,99	3,37	0,85	196,1	1,50	2,17
pc= 45/113	-30	-22	258,8	884	222,8	1,16	3,97	1,00	223,0	1,56	2,91
return gas temp.	-25	-13	335,0	1144	288,3	1,34	4,58	1,15	250,0	1,64	3,78
RGT= 32/90	-15	5	525,7	1795	452,4	1,72	5,87	1,48	305,6	1,83	5,98
liquid temp	-5	23	777,6	2656	669,2	2,13	7,29	1,84	364,4	2,08	8,95
Tliq= 45/113	5	41	1102,4	3765	948,7	2,58	8,80	2,22	428,0	2,36	12,90
[°C / °F]	-40	-40	121,1	414	104,2	0,68	2,32	0,59	178,0	1,43	1,49
cond. pressure	-35	-31	167,1	571	143,8	0,81	2,77	0,70	206,2	1,50	2,07
pc= 55/131	-30	-22	220,8	754	190,1	0,94	3,21	0,81	234,9	1,59	2,74
return gas temp	-25	-13	283,7	969	244,2	1,07	3,67	0,92	264,4	1,69	3,53
RGT= 32/90	-15	5	443,0	1513	381,3	1,36	4,64	1,17	326,3	1,92	5,57
liquid temp	-5	23	656,8	2243	565,3	1,67	5,70	1,44	393,6	2,20	8,37
Tliq= 55/131	5	41	937,0	3200	806,4	2,00	6,84	1,72	467,8	2,53	12,15