

COMPRESSOR DEFINITION

Designation	NE X2190UA
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513308225

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	220-240 / 50	[V / Hz]	
4 Application type	Low Back Pressure R290		
4.1 Evaporating temperature range	-40°C to -10°C	(-40°F to 14°F)	
5 Motor type	CSCR		
6 Starting torque	HST - High starting torque		
7 Expansion device	Capillary tube or Expansion valve		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	-	-	-
8.2 LBP (43°C Ambient temperature)	-	-	-
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	18.4	[kgf/cm ²] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm ²] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1	[hp]
2 Displacement	21.02	[cm ³] (1.283 cu.in)
2.1 Bore [mm]	34.120	
2.2 Stroke [mm]	23.000	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	11.6	[kg] (25.57 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	220-240 V 50 Hz 1 ~ (Single phase)	
2 Starting device type	Voltage Relay	
2.1 Starting device	RVA4AL3C-649	
3 Start capacitor	108-130(330)	[µF(VAC minimum)]
4 Run capacitor	15(400)	[µF(VAC minimum)]
5 Motor protection	USP-M0M-83	
6 Start winding resistance	8.40	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	4.27	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	24.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification		

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
3522	888	1032	651	3.09	10.48	5.41	1.36	1.59

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1755	442	514	386	1.90	5.18	4.54	1.14	1.33
-35	(-31)	2253	568	660	440	2.12	6.67	5.13	1.29	1.50
-30	(-22)	2877	725	843	494	2.35	8.53	5.83	1.47	1.71
-25	(-13)	3628	914	1063	548	2.59	10.79	6.62	1.67	1.94
-20	(- 4)	4505	1135	1320	602	2.84	13.44	7.48	1.89	2.19
-15	(+ 5)	5508	1388	1614	656	3.09	16.50	8.40	2.12	2.46
-10	(+14)	6638	1673	1945	710	3.34	19.97	9.35	2.36	2.74

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1610	406	472	394	1.94	4.75	4.09	1.03	1.20
-35	(-31)	2109	532	618	459	2.22	6.24	4.60	1.16	1.35
-30	(-22)	2726	687	799	524	2.50	8.08	5.20	1.31	1.52
-25	(-13)	3462	872	1014	590	2.79	10.29	5.86	1.48	1.72
-20	(- 4)	4315	1087	1264	656	3.08	12.87	6.58	1.66	1.93
-15	(+ 5)	5287	1332	1549	722	3.38	15.84	7.33	1.85	2.15
-10	(+14)	6377	1607	1869	789	3.68	19.19	8.09	2.04	2.37

TEST CONDITIONS: @220V50Hz			ASHRAE32 Fan		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1441	363	422	396	1.98	4.25	3.64	0.92	1.07
-35	(-31)	1941	489	569	472	2.31	5.74	4.11	1.04	1.20
-30	(-22)	2552	643	748	550	2.65	7.57	4.64	1.17	1.36
-25	(-13)	3272	825	959	628	2.99	9.73	5.21	1.31	1.53
-20	(- 4)	4103	1034	1202	707	3.34	12.24	5.81	1.46	1.70
-15	(+ 5)	5045	1271	1478	787	3.70	15.11	6.42	1.62	1.88
-10	(+14)	6097	1536	1786	867	4.06	18.34	7.02	1.77	2.06

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.1 +0.10/+0.00	[mm]	(0.319" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 42°		
3.2 DISCHARGE	6.45 +0.10/+0.00	[mm]	(0.254" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.45 +0.10/+0.00	[mm]	(0.254" +0.004"/+0.000")
3.3.1 Material	Copper		
3.3.2 Shape	Slanted 42°		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		