

COMPRESSOR DEFINITION

Designation	NE X2180UB
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	513308224

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	18.70	[cm ³] (1.141 cu.in)
2.1 Bore [mm]	32.186	
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)	11.2	[kg] (24.69 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	Current Relay	
2.1 Starting device	QL2-7.8-NTC-15	
3 Start capacitor	108-130(330)	[µF(VAC minimum)]
4 Run capacitor	12.5(400)	[µF(VAC minimum)]
5 Motor protection	USP-M12-83	
6 Start winding resistance	7.80	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	5.20	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	22.50	[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	CCC - CE - EAC - UKCA - VDE	

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]
3172	799	929	584	2.79	9.44	5.43	1.37	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)	1615	407	473	348	1.76	4.77	4.62	1.17	1.35
-35	(-31)	2050	517	601	394	1.96	6.07	5.22	1.31	1.53
-30	(-22)	2599	655	761	439	2.16	7.71	5.92	1.49	1.74
-25	(-13)	3262	822	956	485	2.36	9.70	6.73	1.70	1.97
-20	(- 4)	4039	1018	1183	530	2.55	12.05	7.61	1.92	2.23
-15	(+ 5)	4930	1242	1445	576	2.75	14.77	8.56	2.16	2.51
-10	(+14)	5935	1496	1739	622	2.95	17.86	9.54	2.40	2.80

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)	1470	370	431	354	1.80	4.34	4.16	1.05	1.22
-35	(-31)	1909	481	559	411	2.04	5.65	4.65	1.17	1.36
-30	(-22)	2452	618	718	468	2.28	7.27	5.23	1.32	1.53
-25	(-13)	3099	781	908	526	2.53	9.21	5.88	1.48	1.72
-20	(- 4)	3850	970	1128	584	2.79	11.49	6.59	1.66	1.93
-15	(+ 5)	4705	1186	1379	643	3.05	14.09	7.32	1.85	2.15
-10	(+14)	5663	1427	1659	701	3.31	17.04	8.08	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)	1296	327	380	352	1.78	3.83	3.69	0.93	1.08
-35	(-31)	1738	438	509	420	2.07	5.14	4.14	1.04	1.21
-30	(-22)	2274	573	666	489	2.37	6.74	4.65	1.17	1.36
-25	(-13)	2904	732	851	558	2.68	8.63	5.20	1.31	1.52
-20	(- 4)	3627	914	1063	628	2.99	10.82	5.78	1.46	1.69
-15	(+ 5)	4445	1120	1302	699	3.32	13.31	6.37	1.60	1.87
-10	(+14)	5356	1350	1569	770	3.66	16.11	6.94	1.75	2.03

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		