

### COMPRESSOR DEFINITION

Designation	NE K6181U
Nominal Voltage/Frequency	220-240 V 50 Hz
Engineering Number	861FA51

### 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	Medium Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-20°C to 10°C	(-4°F to 50°F)	
5 Motor type	CSIR		
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 <sup>2</sup> ] (262 psig)	/ °C - °F
9.2 Peak	20.6	[kgf/cm <sup>2</sup> ] (293 psig)	/ °C - °F
10 Maximum winding temperature	130	[ °C ]	

### B - MECHANICAL DATA

1 Commercial designation	1/3	[hp]
2 Displacement	7.28	[cm <sup>3</sup> ] (0.444 cu.in)
2.1 Bore [mm]	26.497	
2.2 Stroke [mm]	13.200	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	AB / ISO32	
4 Weight (with oil charge)	10	[kg] (22.05 lb.)
5 Nitrogen charge	-	[kgf/cm <sup>2</sup> ]

### 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	MTRP-0029	
3 Start capacitor	43-53(330)	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	T0186/G6	
6 Start winding resistance	28.20	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	6.10	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50 Hz)	12.00	[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	VDE	

### D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V50Hz			ASHRAEHBP46 Fan		Evaporating temperature (Condensing temperature		7.2°C (44.96°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]
3238	816	949	386	2.44	11.08	8.39	2.11	2.46

### E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V50Hz			ASHRAE46 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]
-20	(- 4)	1590	401	466	231	1.93	0.38	6.86	1.73	2.01
-15	(+ 5)	1852	467	543	250	1.98	4.34	7.43	1.87	2.18
-10	(+14)	2226	561	652	264	2.03	6.71	8.44	2.13	2.47
-5	(+23)	2698	680	791	275	2.06	8.14	9.82	2.48	2.88
0	(+32)	3255	820	954	283	2.09	9.30	11.49	2.90	3.37
+5	(+41)	3883	979	1138	290	2.11	10.86	13.37	3.37	3.92
+10	(+50)	4569	1151	1339	297	2.12	13.48	15.37	3.87	4.50

TEST CONDITIONS: @220V50Hz			ASHRAE46 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]
-20	(- 4)	1369	345	401	248	1.97	0.29	5.53	1.39	1.62
-15	(+ 5)	1610	406	472	273	2.05	4.14	5.89	1.49	1.73
-10	(+14)	1951	492	572	293	2.11	6.40	6.64	1.67	1.95
-5	(+23)	2378	599	697	309	2.17	7.76	7.68	1.94	2.25
0	(+32)	2878	725	843	322	2.21	8.86	8.94	2.25	2.62
+5	(+41)	3438	866	1007	333	2.25	10.37	10.33	2.60	3.03
+10	(+50)	4043	1019	1185	344	2.28	12.97	11.77	2.97	3.45

TEST CONDITIONS: @220V50Hz			ASHRAE46 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]
-20	(- 4)	1166	294	342	261	2.01	0.23	4.48	1.13	1.31
-15	(+ 5)	1389	350	407	293	2.11	3.96	4.74	1.20	1.39
-10	(+14)	1699	428	498	319	2.19	6.14	5.31	1.34	1.56
-5	(+23)	2084	525	611	341	2.27	7.41	6.10	1.54	1.79
0	(+32)	2529	637	741	360	2.35	8.46	7.04	1.77	2.06
+5	(+41)	3022	762	886	377	2.41	9.94	8.03	2.02	2.35
+10	(+50)	3549	894	1040	393	2.47	12.52	9.01	2.27	2.64

### F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
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	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.1 +0.10/+0.00	[mm]	(0.240" +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		