

COMPRESSOR DEFINITION

Designation	NJ X2215US
Nominal Voltage/Frequency	400 V 50 Hz / 440 V 60 Hz
Engineering Number	887AS21

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	400 / 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	3PHASE		
6 Starting torque	HST - Hight 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 3/4	[hp]
2 Displacement	37.88	[cm ³] (2.312 cu.in)
2.1 Bore [mm]	44.980	
2.2 Stroke [mm]	23.850	
3 Lubricant charge	750	[ml] (25.36 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	21.9	[kg] (48.28 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	400 V 50 Hz / 440 V 60 Hz 3 ~ (Three phase)	
2 Starting device type	3PHASE	
2.1 Starting device		
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	34HM294-50	
6 Start winding resistance	9.14	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.14	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	18.50/18.50	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (50/60 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (50/60 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	UL - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @400V50Hz			EN12900LBP Fan		Evaporating temperature (Condensing temperature		-35°C (-31°F) 40°C (104°F)	
Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
3255	820	954	787	2.04	10.90	4.14	1.04	1.21

E - PERFORMANCE - CURVES

TEST CONDITIONS: @400V50Hz			EN12900 Fan		(Condensing temperature 35°C (+95°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	2699	680	791	652	1.90	8.63	4.13	1.04	1.21
-35	(-31)	3580	902	1049	755	1.97	11.48	4.75	1.20	1.39
-30	(-22)	4652	1172	1363	858	2.05	14.96	5.43	1.37	1.59
-25	(-13)	5914	1490	1733	962	2.14	19.08	6.15	1.55	1.80
-20	(- 4)	7367	1857	2159	1068	2.25	23.88	6.90	1.74	2.02
-15	(+ 5)	9011	2271	2640	1174	2.36	29.37	7.67	1.93	2.25
-10	(+14)	10846	2733	3178	1282	2.48	35.57	8.46	2.13	2.48

TEST CONDITIONS: @400V50Hz			EN12900 Fan		(Condensing temperature 45°C (+113°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	2174	548	637	666	1.92	7.60	3.26	0.82	0.96
-35	(-31)	2970	748	870	785	2.00	10.43	3.78	0.95	1.11
-30	(-22)	3928	990	1151	904	2.10	13.84	4.34	1.09	1.27
-25	(-13)	5048	1272	1479	1024	2.21	17.86	4.93	1.24	1.44
-20	(- 4)	6330	1595	1855	1145	2.33	22.50	5.53	1.39	1.62
-15	(+ 5)	7774	1959	2278	1267	2.47	27.79	6.14	1.55	1.80
-10	(+14)	9380	2364	2749	1390	2.62	33.75	6.75	1.70	1.98

TEST CONDITIONS: @400V50Hz			EN12900 Fan		(Condensing temperature 55°C (+131°F))					
Evaporating temperature		Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1711	431	501	663	1.92	6.65	2.59	0.65	0.76
-35	(-31)	2420	610	709	801	2.01	9.44	3.02	0.76	0.88
-30	(-22)	3262	822	956	940	2.12	12.77	3.46	0.87	1.01
-25	(-13)	4237	1068	1242	1080	2.25	16.66	3.92	0.99	1.15
-20	(- 4)	5345	1347	1566	1221	2.40	21.14	4.38	1.10	1.28
-15	(+ 5)	6586	1660	1930	1363	2.56	26.22	4.84	1.22	1.42
-10	(+14)	7960	2006	2333	1506	2.74	31.92	5.28	1.33	1.55

E - PERFORMANCE - CURVES

TEST CONDITIONS: @400V60Hz		EN12900 Fan			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40 (-40)	3259	821	955	778	1.67	10.42	4.18	1.05	1.23	
-35 (-31)	4125	1039	1209	885	1.76	13.22	4.68	1.18	1.37	
-30 (-22)	5270	1328	1544	1007	1.89	16.94	5.24	1.32	1.54	
-25 (-13)	6694	1687	1962	1143	2.05	21.60	5.85	1.47	1.71	
-20 (- 4)	8398	2116	2461	1293	2.24	27.22	6.48	1.63	1.90	
-15 (+ 5)	10381	2616	3042	1457	2.46	33.83	7.12	1.79	2.09	
-10 (+14)	12643	3186	3705	1636	2.72	41.46	7.74	1.95	2.27	

TEST CONDITIONS: @400V60Hz		EN12900 Fan			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40 (-40)	2709	683	794	787	1.67	9.47	3.44	0.87	1.01	
-35 (-31)	3518	887	1031	918	1.81	12.35	3.84	0.97	1.12	
-30 (-22)	4551	1147	1333	1062	1.98	16.04	4.29	1.08	1.26	
-25 (-13)	5808	1464	1702	1218	2.16	20.55	4.77	1.20	1.40	
-20 (- 4)	7288	1837	2136	1385	2.37	25.91	5.26	1.33	1.54	
-15 (+ 5)	8993	2266	2635	1565	2.60	32.15	5.75	1.45	1.69	
-10 (+14)	10921	2752	3200	1756	2.85	39.28	6.21	1.57	1.82	

TEST CONDITIONS: @400V60Hz		EN12900 Fan			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity +/- 5%			Power consumption +/- 5%	Current consumption +/- 5%	Gas flow rate +/- 5%	EFFICIENCY RATE +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40 (-40)	2150	542	630	782	1.64	8.36	2.76	0.70	0.81	
-35 (-31)	2903	732	851	938	1.82	11.33	3.09	0.78	0.90	
-30 (-22)	3825	964	1121	1104	2.02	14.97	3.45	0.87	1.01	
-25 (-13)	4915	1239	1440	1280	2.23	19.33	3.84	0.97	1.12	
-20 (- 4)	6174	1556	1809	1466	2.46	24.41	4.22	1.06	1.24	
-15 (+ 5)	7601	1915	2227	1661	2.69	30.26	4.59	1.16	1.34	
-10 (+14)	9196	2317	2695	1866	2.93	36.89	4.92	1.24	1.44	

F - EXTERNAL CHARACTERISTICS

1 Base plate	American Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	12.81 +0.04/-0.04	[mm]	(0.504" +0.002"/-0.002")
3.1.1 Material	Copper		
3.1.2 Shape	Vertical		
3.2 DISCHARGE	8.04 +0.04/-0.04	[mm]	(0.317" +0.002"/-0.002")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted J		
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	Vertical		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		