

COMPRESSOR DEFINITION

Designation	NJ X2219GS
Nominal Voltage/Frequency	400 V 50 Hz / 440 V 60 Hz
Engineering Number	945AS21

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-404A		
3 Nominal voltage and frequency	400 / 50	[V / Hz]	
4 Application type	Low Back Pressure R404A		
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)	Fan	360 to 424 V	396 to 484 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	25.2	[kgf/cm ²] (358 psig)	/ °C - °F
9.2 Peak	28.3	[kgf/cm ²] (402 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	2 1/4	[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)	21.85	[kg] (48.17 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	7.77	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.77	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	23.00/23.00	[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]
4051	1021	1187	1053	2.60	32.16	3.85	0.97	1.13

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)	3289	829	964	888	2.47	24.46	3.70	0.93	1.08
-35	(-31)	4282	1079	1255	1020	2.58	32.04	4.21	1.06	1.23
-30	(-22)	5525	1392	1619	1159	2.71	41.52	4.77	1.20	1.40
-25	(-13)	7018	1769	2056	1305	2.87	53.00	5.37	1.35	1.57
-20	(- 4)	8761	2208	2567	1458	3.04	66.57	6.01	1.51	1.76
-15	(+ 5)	10753	2710	3151	1617	3.24	82.33	6.65	1.68	1.95
-10	(+14)	12995	3275	3808	1783	3.46	100.38	7.29	1.84	2.14

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)	2781	701	815	908	2.49	23.50	3.06	0.77	0.90
-35	(-31)	3660	922	1072	1062	2.62	31.05	3.45	0.87	1.01
-30	(-22)	4756	1199	1394	1223	2.78	40.53	3.88	0.98	1.14
-25	(-13)	6071	1530	1779	1391	2.96	52.03	4.36	1.10	1.28
-20	(- 4)	7602	1916	2228	1566	3.16	65.65	4.85	1.22	1.42
-15	(+ 5)	9352	2357	2740	1748	3.39	81.49	5.36	1.35	1.57
-10	(+14)	11318	2852	3316	1936	3.64	99.64	5.85	1.47	1.71

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)	2129	536	624	905	2.45	21.07	2.35	0.59	0.69
-35	(-31)	2839	715	832	1083	2.61	28.23	2.62	0.66	0.77
-30	(-22)	3734	941	1094	1269	2.80	37.34	2.94	0.74	0.86
-25	(-13)	4815	1213	1411	1462	3.01	48.50	3.29	0.83	0.97
-20	(- 4)	6081	1532	1782	1662	3.25	61.80	3.66	0.92	1.07
-15	(+ 5)	7532	1898	2207	1869	3.52	77.35	4.03	1.02	1.18
-10	(+14)	9168	2310	2687	2083	3.81	95.24	4.39	1.11	1.29

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]
-40	(-40)	3868	975	1133	1038	2.18	28.74	3.72	0.94	1.09
-35	(-31)	5166	1302	1514	1221	2.37	38.66	4.22	1.06	1.24
-30	(-22)	6662	1679	1952	1408	2.57	50.08	4.73	1.19	1.39
-25	(-13)	8354	2105	2448	1597	2.79	63.11	5.23	1.32	1.53
-20	(- 4)	10244	2581	3002	1791	3.02	77.84	5.73	1.44	1.68
-15	(+ 5)	12331	3107	3613	1988	3.28	94.40	6.21	1.56	1.82
-10	(+14)	14615	3683	4283	2190	3.55	112.87	6.67	1.68	1.95

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]
-40	(-40)	3147	793	922	1042	2.20	26.69	3.04	0.77	0.89
-35	(-31)	4234	1067	1241	1244	2.41	35.92	3.41	0.86	1.00
-30	(-22)	5535	1395	1622	1456	2.63	47.11	3.80	0.96	1.11
-25	(-13)	7050	1777	2066	1677	2.88	60.35	4.19	1.06	1.23
-20	(- 4)	8779	2212	2573	1909	3.15	75.76	4.59	1.16	1.35
-15	(+ 5)	10723	2702	3142	2151	3.45	93.44	4.99	1.26	1.46
-10	(+14)	12881	3246	3774	2404	3.77	113.50	5.36	1.35	1.57

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]
-40	(-40)	2377	599	696	1013	2.15	23.46	2.33	0.59	0.68
-35	(-31)	3169	799	929	1230	2.39	31.51	2.59	0.65	0.76
-30	(-22)	4192	1056	1228	1464	2.66	41.96	2.87	0.72	0.84
-25	(-13)	5447	1373	1596	1713	2.95	54.93	3.18	0.80	0.93
-20	(- 4)	6933	1747	2031	1979	3.28	70.52	3.50	0.88	1.03
-15	(+ 5)	8650	2180	2535	2262	3.63	88.84	3.82	0.96	1.12
-10	(+14)	10599	2671	3106	2562	4.01	109.99	4.14	1.04	1.21

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		