

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: @440V60Hz			ASHRAELBP32 Fan		Evaporating temperature (Condensing temperature		-23.3°C (-9.94°F) 54.4°C (129.92°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]
8649	2180	2534	1823	3.04	58.64	4.74	1.19	1.39

E - PERFORMANCE - CURVES

TEST CONDITIONS: @440V50Hz			ASHRAE32 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)	3611	910	1058	873	2.44	24.27	4.12	1.04	1.21
-35	(-31)	4665	1176	1367	1004	2.54	31.46	4.66	1.17	1.36
-30	(-22)	6022	1517	1764	1141	2.67	40.74	5.28	1.33	1.55
-25	(-13)	7681	1936	2251	1285	2.82	52.18	5.97	1.51	1.75
-20	(- 4)	9642	2430	2825	1436	2.99	65.85	6.71	1.69	1.97
-15	(+ 5)	11906	3000	3489	1594	3.18	81.81	7.47	1.88	2.19
-10	(+14)	14473	3647	4241	1759	3.40	100.12	8.23	2.07	2.41

TEST CONDITIONS: @440V50Hz			ASHRAE32 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)	3381	852	991	902	2.48	22.68	3.75	0.94	1.10
-35	(-31)	4431	1117	1298	1052	2.61	29.82	4.22	1.06	1.24
-30	(-22)	5766	1453	1690	1209	2.76	38.94	4.77	1.20	1.40
-25	(-13)	7386	1861	2164	1375	2.93	50.08	5.37	1.35	1.57
-20	(- 4)	9291	2341	2722	1548	3.13	63.32	6.00	1.51	1.76
-15	(+ 5)	11480	2893	3364	1729	3.35	78.72	6.64	1.67	1.95
-10	(+14)	13955	3517	4089	1918	3.60	96.34	7.27	1.83	2.13

TEST CONDITIONS: @440V50Hz			ASHRAE32 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)	3015	760	884	901	2.49	20.18	3.35	0.84	0.98
-35	(-31)	4055	1022	1188	1075	2.64	27.24	3.77	0.95	1.10
-30	(-22)	5361	1351	1571	1258	2.82	36.13	4.26	1.07	1.25
-25	(-13)	6935	1748	2032	1449	3.03	46.93	4.78	1.20	1.40
-20	(- 4)	8776	2211	2572	1650	3.26	59.69	5.33	1.34	1.56
-15	(+ 5)	10884	2743	3189	1859	3.52	74.48	5.86	1.48	1.72
-10	(+14)	13259	3341	3885	2077	3.81	91.36	6.38	1.61	1.87

E - PERFORMANCE - CURVES

TEST CONDITIONS: @440V60Hz		ASHRAE32 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)	4152	1046	1217	1000	2.17	27.91	4.14	1.04	1.21	
-35 (-31)	5455	1375	1599	1171	2.32	36.79	4.67	1.18	1.37	
-30 (-22)	7093	1787	2078	1353	2.50	47.98	5.25	1.32	1.54	
-25 (-13)	9065	2284	2656	1547	2.72	61.58	5.86	1.48	1.72	
-20 (- 4)	11371	2866	3332	1753	2.96	77.66	6.49	1.63	1.90	
-15 (+ 5)	14013	3531	4106	1971	3.23	96.28	7.11	1.79	2.08	
-10 (+14)	16989	4281	4978	2200	3.52	117.52	7.72	1.95	2.26	

TEST CONDITIONS: @440V60Hz		ASHRAE32 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)	3820	963	1119	1020	2.16	25.62	3.76	0.95	1.10	
-35 (-31)	5100	1285	1494	1207	2.34	34.32	4.24	1.07	1.24	
-30 (-22)	6700	1688	1963	1409	2.55	45.24	4.76	1.20	1.39	
-25 (-13)	8621	2172	2526	1627	2.80	58.45	5.29	1.33	1.55	
-20 (- 4)	10861	2737	3183	1859	3.08	74.02	5.84	1.47	1.71	
-15 (+ 5)	13422	3382	3933	2108	3.40	92.03	6.37	1.60	1.87	
-10 (+14)	16303	4108	4777	2372	3.75	112.56	6.87	1.73	2.01	

TEST CONDITIONS: @440V60Hz		ASHRAE32 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)	3334	840	977	996	2.16	22.31	3.34	0.84	0.98	
-35 (-31)	4564	1150	1337	1206	2.35	30.66	3.78	0.95	1.11	
-30 (-22)	6100	1537	1787	1434	2.59	41.11	4.24	1.07	1.24	
-25 (-13)	7942	2001	2327	1682	2.86	53.74	4.72	1.19	1.38	
-20 (- 4)	10089	2543	2956	1948	3.18	68.62	5.19	1.31	1.52	
-15 (+ 5)	12543	3161	3675	2233	3.54	85.83	5.63	1.42	1.65	
-10 (+14)	15302	3856	4484	2536	3.94	105.44	6.03	1.52	1.77	

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		