

COMPRESSOR DEFINITION

Designation	NJX2219GS
Nominal Voltage/Frequency	400V 50Hz / 440V 60Hz
Engineering Number	945AS21

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R404A		
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 - 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 pressures/temperature			
9.1 Operating (gauge)	24,71	[bar]	
9.2 Peak (gauge)	27,71	[bar]	
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	2 1/4	[hp]
2 Displacement	38	[cm ³]
2.1 Bore [mm]	45,00	
2.2 Stroke [mm]	23,85	
3 Lubricant charge	750	[ml]
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	21,8	[kg]
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	400V 50Hz / 440V 60Hz	3~ (3 phase)
2 Starting device type	3 Phase	
2.1 Starting device	-	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	34HM294	
6 Start winding resistance	7,6	Ω at 25°C (77°F) +/- 8%
7 Run winding resistance	7,6	Ω at 25°C (77°F) +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	22	[A] - Measured according to UL 984
9 FLA - Full load amperage	3	[A] - Measured according to UL 984
10 FLA - Full Load Amperage	-	[A] - Measured according to UL 984
11 Approval boards certification	-	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @400V50Hz			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]	
7385	1861	2164	1472	2.96	50,43	5.02	1,26	1,47	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @400V50Hz			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)	3455	870	1012	829	2,23	23,33	4.17	1,05	1,21
-35	(-31)	4603	1159	1348	978	2,38	31,05	4.71	1,19	1,38
-30	(-22)	6010	1514	1760	1127	2,55	40,72	5.33	1,34	1,56
-25	(-13)	7677	1933	2248	1277	2,73	52,35	6.01	1,51	1,76
-20	(-4)	9604	2419	2813	1427	2,93	65,35	6.73	1,69	1,97
-15	(+5)	11790	2969	3453	1578	3,13	81,46	7.47	1,88	2,19
-10	(+14)	14236	3586	4169	1729	3,35	98,94	8.23	2,07	2,41

TEST CONDITIONS: @400V50Hz			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)	3255	820	953	864	2,27	21,97	3.76	0,95	1,10
-35	(-31)	4308	1085	1261	1029	2,44	29,04	4.19	1,05	1,23
-30	(-22)	5633	1419	1650	1197	2,63	38,14	4.71	1,19	1,38
-25	(-13)	7232	1821	2118	1369	2,85	49,29	5.28	1,33	1,55
-20	(-4)	9104	2293	2666	1545	3,08	62,48	5.89	1,48	1,73
-15	(+5)	11248	2833	3294	1725	3,33	77,70	6.52	1,64	1,91
-10	(+14)	13666	3442	4002	1909	3,60	94,97	7.16	1,80	2,10

TEST CONDITIONS: @400V50Hz			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)	2970	748	870	878	2,29	20,04	3.38	0,85	0,99
-35	(-31)	4016	1011	1176	1060	2,48	27,06	3.79	0,95	1,11
-30	(-22)	5305	1336	1553	1249	2,70	35,90	4.25	1,07	1,24
-25	(-13)	6836	1722	2002	1446	2,95	46,57	4.73	1,19	1,38
-20	(-4)	8611	2169	2522	1651	3,22	59,07	5.22	1,31	1,53
-15	(+5)	10628	2677	3112	1862	3,52	73,38	5.70	1,44	1,67
-10	(+14)	12887	3246	3774	2082	3,85	89,52	6.19	1,56	1,81

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]	
8909	2245	2611	1803	2,99	60,87	4,94	1,25	1,45	

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)	4220	1063	1236	1023	2,21	28,49	4,12	1,04	1,21
-35	(-31)	5603	1411	1641	1214	2,39	37,81	4,62	1,16	1,35
-30	(-22)	7271	1831	2129	1409	2,59	49,28	5,16	1,30	1,51
-25	(-13)	9222	2323	2701	1610	2,81	62,91	5,73	1,44	1,68
-20	(-4)	11457	2885	3355	1815	3,05	78,70	6,31	1,59	1,85
-15	(+5)	13975	3520	4093	2026	3,31	96,64	6,90	1,74	2,02
-10	(+14)	16778	4226	4914	2242	3,59	116,74	7,48	1,88	2,19

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)	3873	975	1134	1043	2,24	26,15	3,71	0,94	1,09
-35	(-31)	5192	1307	1520	1255	2,44	35,01	4,13	1,04	1,21
-30	(-22)	6810	1715	1994	1474	2,66	46,14	4,62	1,16	1,35
-25	(-13)	8730	2199	2557	1699	2,91	59,54	5,14	1,29	1,51
-20	(-4)	10950	2758	3207	1929	3,19	75,21	5,67	1,43	1,66
-15	(+5)	13470	3393	3945	2166	3,48	93,15	6,22	1,57	1,82
-10	(+14)	16291	4103	4771	2409	3,80	113,35	6,76	1,70	1,98

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)	3440	866	1007	1016	2,21	23,22	3,38	0,85	0,99
-35	(-31)	4690	1181	1373	1256	2,44	31,61	3,73	0,94	1,09
-30	(-22)	6239	1571	1827	1504	2,70	42,24	4,15	1,04	1,21
-25	(-13)	8087	2037	2368	1760	2,98	55,13	4,59	1,16	1,35
-20	(-4)	10234	2577	2997	2024	3,29	70,26	5,05	1,27	1,48
-15	(+5)	12680	3194	3714	2297	3,63	87,63	5,52	1,39	1,62
-10	(+14)	15426	3885	4518	2577	4,00	107,25	5,98	1,51	1,75

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @400V/50Hz			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]	
4030	1016	1181	985	2,34	31,92	4,09	1,03	1,20	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @400V/50Hz			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)	3239	816	949	827	2,21	24,11	3,92	0,99	1,15
-35	(-31)	4220	1064	1237	957	2,34	31,42	4,41	1,11	1,29
-30	(-22)	5485	1382	1608	1092	2,48	41,07	5,02	1,27	1,47
-25	(-13)	7033	1772	2061	1233	2,65	53,06	5,70	1,44	1,67
-20	(-4)	8865	2234	2598	1380	2,84	67,39	6,42	1,62	1,88
-15	(+5)	10981	2767	3218	1533	3,04	84,07	7,17	1,81	2,10
-10	(+14)	13380	3372	3921	1691	3,26	103,10	7,91	1,99	2,32

TEST CONDITIONS: @400V/50Hz			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)	2644	666	775	850	2,19	22,36	3,11	0,78	0,91
-35	(-31)	3497	881	1025	999	2,36	29,51	3,50	0,88	1,03
-30	(-22)	4584	1155	1343	1155	2,56	38,91	3,97	1,00	1,16
-25	(-13)	5904	1488	1731	1319	2,77	50,57	4,48	1,13	1,31
-20	(-4)	7459	1880	2186	1490	2,99	64,48	5,01	1,26	1,47
-15	(+5)	9248	2331	2710	1668	3,24	80,66	5,54	1,40	1,62
-10	(+14)	11271	2840	3303	1854	3,51	99,09	6,08	1,53	1,78

TEST CONDITIONS: @400V/50Hz			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)	1936	488	567	839	2,21	19,18	2,31	0,58	0,68
-35	(-31)	2672	673	783	1016	2,39	26,37	2,63	0,66	0,77
-30	(-22)	3588	904	1052	1201	2,61	35,66	2,99	0,75	0,88
-25	(-13)	4687	1181	1374	1394	2,85	47,06	3,36	0,85	0,99
-20	(-4)	5966	1504	1749	1594	3,12	60,56	3,74	0,94	1,10
-15	(+5)	7427	1872	2177	1802	3,43	76,17	4,12	1,04	1,21
-10	(+14)	9069	2286	2658	2018	3,77	93,89	4,49	1,13	1,32

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @440V60Hz			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]	
4855	1224	1423	1220	2,33	38,43	3,98	1,00	1,17	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @440V60Hz			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)	3756	947	1101	997	2,13	28,03	3,77	0,95	1,10
-35	(-31)	5067	1277	1485	1165	2,29	37,78	4,35	1,10	1,27
-30	(-22)	6656	1677	1951	1343	2,48	49,87	4,96	1,25	1,45
-25	(-13)	8522	2148	2498	1530	2,68	64,30	5,57	1,40	1,63
-20	(-4)	10666	2688	3126	1727	2,91	81,06	6,18	1,56	1,81
-15	(+5)	13088	3298	3836	1933	3,16	100,16	6,77	1,71	1,98
-10	(+14)	15788	3979	4627	2150	3,43	121,60	7,34	1,85	2,15

TEST CONDITIONS: @440V60Hz			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)	3030	764	888	1008	2,13	25,61	3,01	0,76	0,88
-35	(-31)	4097	1033	1201	1193	2,30	34,57	3,43	0,87	1,01
-30	(-22)	5417	1365	1588	1394	2,50	45,99	3,89	0,98	1,14
-25	(-13)	6991	1762	2049	1610	2,76	59,88	4,34	1,09	1,27
-20	(-4)	8818	2222	2584	1841	3,05	76,24	4,79	1,21	1,40
-15	(+5)	10899	2747	3194	2088	3,40	95,07	5,22	1,32	1,53
-10	(+14)	13233	3335	3878	2351	3,79	116,37	5,63	1,42	1,65

TEST CONDITIONS: @440V60Hz			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)	2107	531	618	929	2,07	20,84	2,27	0,57	0,66
-35	(-31)	3022	761	886	1166	2,29	29,82	2,59	0,65	0,76
-30	(-22)	4146	1045	1215	1412	2,54	41,24	2,94	0,74	0,86
-25	(-13)	5481	1381	1606	1666	2,82	55,11	3,29	0,83	0,96
-20	(-4)	7026	1771	2059	1930	3,14	71,42	3,64	0,92	1,07
-15	(+5)	8782	2213	2574	2202	3,49	90,17	3,99	1,00	1,17
-10	(+14)	10748	2708	3150	2484	3,87	111,37	4,33	1,09	1,27

F - EXTERNAL CHARACTERISTICS

1 Base plate	American Standard		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	ID 12,81 ±0,04	[mm]	(0.504" ±0,04")
3.1.1 Material	Copper		
3.1.2 Shape	Vertical		
3.2 DISCHARGE	ID 8,04 ±0,04	[mm]	(0.316" ±0,04")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted J		
3.3 PROCESS	ID 6,5 ±0,05	[mm]	(0.256" ±0,05")
3.3.1 Material	Copper		
3.3.2 Shape	Vertical		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		