

COMPRESSOR DEFINITION

Designation	NJX2215US
Nominal Voltage/Frequency	400V 50Hz / 440V 60Hz
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 R-290		
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 Expantion 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)	18,07	[bar]	
9.2 Peak (gauge)	20,17	[bar]	
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1 3/4	[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	9,3	Ω at 25°C (77°F) +/- 8%
7 Run winding resistance	9,3	Ω at 25°C (77°F) +/- 8%
8 LRA - Locked rotor amperage (60 Hz)	21	[A] - Measured according to UL 984
9 FLA - Full load amperage	2,7	[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]
6036	1521	1769	1143	2,32	18,04	5,28	1,33	1,55

E - PERFORMANCE - CURVES

TEST CONDITIONS: @400V50Hz		ASHRAE32 Fan				Condensing temperature 35°C (+95°F)				
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	2914	734	854	679	1,93	8,65	4,29	1,08	1,26
-35	(-31)	3854	971	1129	780	2,00	11,43	4,94	1,25	1,45
-30	(-22)	4972	1253	1457	878	2,08	14,79	5,66	1,43	1,66
-25	(-13)	6267	1579	1837	972	2,16	18,71	6,45	1,62	1,89
-20	(-4)	7741	1951	2269	1063	2,25	23,21	7,28	1,84	2,13
-15	(+5)	9392	2367	2753	1150	2,35	28,29	8,17	2,06	2,39
-10	(+14)	11221	2828	3289	1234	2,46	33,94	9,09	2,29	2,67

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)	2623	661	769	683	1,94	7,79	3,84	0,97	1,13
-35	(-31)	3563	898	1044	806	2,03	10,57	4,42	1,11	1,30
-30	(-22)	4677	1179	1371	926	2,14	13,90	5,05	1,27	1,48
-25	(-13)	5964	1503	1748	1042	2,24	17,80	5,72	1,44	1,68
-20	(-4)	7424	1871	2176	1155	2,35	22,25	6,43	1,62	1,88
-15	(+5)	9058	2283	2655	1264	2,47	27,26	7,16	1,81	2,10
-10	(+14)	10865	2738	3184	1370	2,59	32,84	7,93	2,00	2,32

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)	2341	590	686	693	1,95	6,95	3,38	0,85	0,99
-35	(-31)	3224	812	945	828	2,05	9,56	3,89	0,98	1,14
-30	(-22)	4293	1082	1258	964	2,17	12,77	4,45	1,12	1,30
-25	(-13)	5549	1398	1626	1101	2,30	16,57	5,04	1,27	1,48
-20	(-4)	6990	1761	2049	1238	2,44	20,96	5,64	1,42	1,65
-15	(+5)	8617	2172	2526	1377	2,60	25,95	6,26	1,58	1,83
-10	(+14)	10431	2629	3057	1516	2,77	31,53	6,88	1,73	2,02

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]
6913	1742	2026	1329	2,25	20,65	5,20	1,31	1,52

E - PERFORMANCE - CURVES

TEST CONDITIONS: @440V60Hz		ASHRAE32 Fan					Condensing temperature 35°C (+95°F)			
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	3580	902	1049	736	1,57	10,46	4,86	1,23	1,42
-35	(-31)	4484	1130	1314	864	1,70	13,20	5,19	1,31	1,52
-30	(-22)	5669	1429	1662	998	1,85	16,82	5,68	1,43	1,67
-25	(-13)	7135	1798	2091	1136	2,01	21,30	6,28	1,58	1,84
-20	(-4)	8881	2238	2603	1281	2,19	26,66	6,94	1,75	2,03
-15	(+5)	10908	2749	3197	1430	2,39	32,88	7,63	1,92	2,24
-10	(+14)	13216	3331	3873	1585	2,61	39,98	8,34	2,10	2,44

TEST CONDITIONS: @440V60Hz		ASHRAE32 Fan		Condensing temperature				45°C (+113°F)		
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	3154	795	924	771	1,61	9,35	4,09	1,03	1,20
-35	(-31)	4116	1037	1206	909	1,77	12,20	4,53	1,14	1,33
-30	(-22)	5332	1344	1563	1056	1,94	15,85	5,05	1,27	1,48
-25	(-13)	6802	1714	1993	1212	2,13	20,31	5,61	1,41	1,64
-20	(-4)	8525	2148	2498	1377	2,33	25,58	6,19	1,56	1,81
-15	(+5)	10502	2647	3078	1551	2,56	31,65	6,77	1,71	1,98
-10	(+14)	12732	3209	3732	1735	2,80	38,52	7,34	1,85	2,15

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)	2872	724	842	782	1,61	8,51	3,67	0,93	1,08
-35	(-31)	3807	959	1116	935	1,79	11,27	4,07	1,03	1,19
-30	(-22)	4978	1255	1459	1098	1,99	14,78	4,53	1,14	1,33
-25	(-13)	6385	1609	1871	1273	2,21	19,05	5,02	1,26	1,47
-20	(-4)	8028	2023	2353	1458	2,44	24,07	5,51	1,39	1,61
-15	(+5)	9907	2496	2903	1655	2,69	29,84	5,99	1,51	1,75
-10	(+14)	12021	3029	3523	1862	2,97	36,36	6,46	1,63	1,89

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]
3368	849	987	804	2,01	11,29	4,19	1,06	1,23

E - PERFORMANCE - CURVES

TEST CONDITIONS: @400V50Hz		EN12900 Fan			Condensing temperature 35°C (+95°F)					
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	2788	702	817	696	1,95	8,92	4,00	1,01	1,17
-35	(-31)	3669	925	1075	799	2,03	11,74	4,59	1,16	1,35
-30	(-22)	4722	1190	1384	898	2,12	15,18	5,26	1,32	1,54
-25	(-13)	5949	1499	1744	995	2,21	19,22	5,98	1,51	1,75
-20	(-4)	7349	1852	2154	1088	2,30	23,87	6,76	1,70	1,98
-15	(+5)	8921	2248	2615	1178	2,40	29,13	7,57	1,91	2,22
-10	(+14)	10667	2688	3126	1265	2,50	35,00	8,43	2,13	2,47

TEST CONDITIONS: @400V50Hz					EN12900 Fan	Condensing temperature			45°C (+113°F)	
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	2317	584	679	700	1,95	8,13	3,31	0,83	0,97
-35	(-31)	3131	789	918	825	2,05	10,95	3,79	0,96	1,11
-30	(-22)	4083	1029	1197	947	2,16	14,33	4,31	1,09	1,26
-25	(-13)	5173	1304	1516	1063	2,27	18,26	4,87	1,23	1,43
-20	(-4)	6401	1613	1876	1174	2,39	22,74	5,45	1,37	1,60
-15	(+5)	7766	1957	2276	1281	2,50	27,77	6,06	1,53	1,78
-10	(+14)	9269	2336	2717	1383	2,62	33,34	6,70	1,69	1,96

TEST CONDITIONS: @400V50Hz					EN12900 Fan	Condensing temperature			55°C (+131°F)	
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	1880	474	551	711	1,94	7,30	2,64	0,67	0,77
-35	(-31)	2526	637	740	847	2,07	9,81	2,98	0,75	0,87
-30	(-22)	3323	837	974	982	2,20	12,97	3,38	0,85	0,99
-25	(-13)	4270	1076	1252	1118	2,33	16,79	3,82	0,96	1,12
-20	(-4)	5368	1353	1573	1253	2,47	21,27	4,28	1,08	1,26
-15	(+5)	6617	1668	1939	1388	2,62	26,40	4,77	1,20	1,40
-10	(+14)	8016	2020	2349	1524	2,78	32,19	5,26	1,33	1,54

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]
3955	997	1159	908	1,75	13,23	4,36	1,10	1,28

E - PERFORMANCE - CURVES

TEST CONDITIONS: @440V60Hz		EN12900 Fan			Condensing temperature 35°C (+95°F)					
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	3287	828	963	780	1,64	10,49	4,22	1,06	1,24
-35	(-31)	4194	1057	1229	896	1,75	13,41	4,68	1,18	1,37
-30	(-22)	5352	1349	1569	1023	1,89	17,20	5,23	1,32	1,53
-25	(-13)	6763	1704	1982	1161	2,05	21,84	5,82	1,47	1,71
-20	(-4)	8427	2124	2470	1311	2,23	27,34	6,43	1,62	1,88
-15	(+5)	10342	2606	3031	1472	2,44	33,71	7,02	1,77	2,06
-10	(+14)	12509	3152	3666	1645	2,67	40,93	7,61	1,92	2,23

TEST CONDITIONS: @440V60Hz					EN12900 Fan	Condensing temperature			45°C (+113°F)	
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	2776	700	814	798	1,62	9,74	3,48	0,88	1,02
-35	(-31)	3587	904	1051	933	1,79	12,56	3,84	0,97	1,13
-30	(-22)	4622	1165	1355	1078	1,97	16,24	4,29	1,08	1,26
-25	(-13)	5880	1482	1723	1232	2,16	20,76	4,77	1,20	1,40
-20	(-4)	7362	1855	2158	1396	2,36	26,13	5,27	1,33	1,55
-15	(+5)	9067	2285	2657	1570	2,58	32,36	5,78	1,46	1,69
-10	(+14)	10996	2771	3223	1753	2,82	39,44	6,27	1,58	1,84

TEST CONDITIONS: @440V60Hz					EN12900 Fan	Condensing temperature			55°C (+131°F)	
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	2254	568	661	807	1,63	8,77	2,79	0,70	0,82
-35	(-31)	2978	750	873	957	1,80	11,58	3,11	0,78	0,91
-30	(-22)	3877	977	1136	1119	1,99	15,16	3,47	0,87	1,02
-25	(-13)	4953	1248	1452	1293	2,22	19,49	3,83	0,97	1,12
-20	(-4)	6205	1564	1819	1479	2,47	24,59	4,20	1,06	1,23
-15	(+5)	7634	1924	2237	1677	2,75	30,45	4,55	1,15	1,33
-10	(+14)	9239	2328	2708	1887	3,06	37,07	4,89	1,23	1,43

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		