

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: @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]
6862	1729	2011	1339	2.33	20.42	5.12	1.29	1.50

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)	2876	725	843	665	1.92	8.49	4.32	1.09	1.27
-35	(-31)	3795	956	1112	770	2.00	11.23	4.93	1.24	1.45
-30	(-22)	4918	1239	1441	875	2.08	14.59	5.63	1.42	1.65
-25	(-13)	6245	1574	1830	977	2.17	18.58	6.39	1.61	1.87
-20	(- 4)	7777	1960	2279	1078	2.27	23.21	7.21	1.82	2.11
-15	(+ 5)	9512	2397	2787	1176	2.37	28.50	8.09	2.04	2.37
-10	(+14)	11451	2886	3355	1272	2.48	34.46	9.00	2.27	2.64

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)	2573	648	754	669	1.91	7.60	3.83	0.97	1.12
-35	(-31)	3471	875	1017	791	2.00	10.27	4.39	1.11	1.29
-30	(-22)	4559	1149	1336	911	2.10	13.52	5.00	1.26	1.47
-25	(-13)	5837	1471	1710	1031	2.22	17.36	5.66	1.43	1.66
-20	(- 4)	7305	1841	2141	1150	2.34	21.79	6.36	1.60	1.86
-15	(+ 5)	8963	2259	2626	1267	2.47	26.85	7.08	1.78	2.07
-10	(+14)	10810	2724	3168	1383	2.61	32.52	7.82	1.97	2.29

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)	2236	563	655	664	1.90	6.60	3.38	0.85	0.99
-35	(-31)	3147	793	922	804	2.01	9.31	3.91	0.99	1.15
-30	(-22)	4234	1067	1241	945	2.13	12.55	4.47	1.13	1.31
-25	(-13)	5496	1385	1611	1086	2.27	16.34	5.06	1.27	1.48
-20	(- 4)	6935	1748	2032	1226	2.42	20.69	5.66	1.43	1.66
-15	(+ 5)	8549	2154	2505	1366	2.58	25.60	6.26	1.58	1.83
-10	(+14)	10339	2605	3029	1506	2.76	31.10	6.86	1.73	2.01

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)	3490	879	1023	781	1.65	10.31	4.46	1.12	1.31	
-35 (-31)	4402	1109	1290	888	1.76	13.03	4.98	1.25	1.46	
-30 (-22)	5604	1412	1642	1005	1.90	16.62	5.58	1.41	1.64	
-25 (-13)	7095	1788	2079	1133	2.05	21.10	6.26	1.58	1.83	
-20 (- 4)	8877	2237	2601	1272	2.23	26.49	6.97	1.76	2.04	
-15 (+ 5)	10949	2759	3208	1421	2.44	32.80	7.70	1.94	2.26	
-10 (+14)	13311	3354	3900	1581	2.67	40.05	8.43	2.12	2.47	

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)	3151	794	923	786	1.66	9.30	4.00	1.01	1.17	
-35 (-31)	4099	1033	1201	923	1.81	12.13	4.44	1.12	1.30	
-30 (-22)	5307	1337	1555	1069	1.99	15.74	4.96	1.25	1.45	
-25 (-13)	6775	1707	1985	1224	2.18	20.15	5.53	1.39	1.62	
-20 (- 4)	8505	2143	2492	1388	2.40	25.37	6.13	1.54	1.80	
-15 (+ 5)	10495	2645	3075	1561	2.64	31.44	6.73	1.70	1.97	
-10 (+14)	12745	3212	3735	1743	2.90	38.34	7.31	1.84	2.14	

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)	2673	674	783	754	1.62	7.89	3.56	0.90	1.04	
-35 (-31)	3665	924	1074	922	1.81	10.84	3.97	1.00	1.16	
-30 (-22)	4888	1232	1432	1098	2.02	14.49	4.44	1.12	1.30	
-25 (-13)	6342	1598	1858	1281	2.25	18.86	4.94	1.25	1.45	
-20 (- 4)	8028	2023	2352	1472	2.50	23.95	5.46	1.38	1.60	
-15 (+ 5)	9945	2506	2914	1670	2.77	29.78	5.97	1.50	1.75	
-10 (+14)	12093	3047	3543	1876	3.06	36.38	6.44	1.62	1.89	

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		