

COMPRESSOR DEFINITION

Designation	VNE X621U
Nominal Voltage/Frequency	208-240 V 50-60 Hz
Engineering Number	866FX26

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	208-240 / 50-60	[V / Hz]	
4 Application type	Medium Back Pressure (Commercial Compressors)		
4.1 Evaporating temperature range	-20°C to 10°C	(-4°F to 50°F)	
5 Motor type	BPM		
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	[hp]
2 Displacement	21.02	[cm ³] (1.283 cu.in)
2.1 Bore [mm]	34.120	
2.2 Stroke [mm]	23.000	
3 Lubricant charge	400	[ml] (13.53 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	11.3	[kg] (24.91 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELECTRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	208-240 V 50-60 Hz 1~ (Single phase)	
2 Starting device type	Inverter	
2.1 Starting device	CF20A01 P 0.0 X	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	USP-102-83	
6 Start winding resistance	1.94	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	1.94	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (110/250 Hz)	4.60	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (110/250 Hz)	4.60	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (110/250 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	CCC - UL - VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V2200RPM			ARIMBP Fan		Evaporating temperature (Condensing temperature)		-6.7°C (19.94°F) 48.9°C (120.02°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
4316	1088	1265	572	2.63	18.04	7.54	1.90	2.21

TEST CONDITIONS: @220V3000RPM			ARIMBP Fan		Evaporating temperature (Condensing temperature)		-6.7°C (19.94°F) 48.9°C (120.02°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
5772	1455	1691	788	3.55	24.12	7.32	1.84	2.14

TEST CONDITIONS: @220V3600RPM			ARIMBP Fan		Evaporating temperature (Condensing temperature)		-6.7°C (19.94°F) 48.9°C (120.02°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
6898	1738	2021	981	4.37	28.83	7.03	1.77	2.06

TEST CONDITIONS: @220V4500RPM			ARIMBP Fan		Evaporating temperature (Condensing temperature)		-6.7°C (19.94°F) 48.9°C (120.02°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
8115	2045	2378	1231	5.42	33.91	6.59	1.66	1.93

TEST CONDITIONS: @220V5000RPM			ARIMBP Fan		Evaporating temperature (Condensing temperature)		-6.7°C (19.94°F) 48.9°C (120.02°F)	
Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%		
[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
8677	2186	2542	1378	6.05	36.26	6.30	1.59	1.85

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V2200RPM		ARI4 Fan			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-20	(- 4)	3127	788	916	398	1.85	11.04	7.85	1.98	2.30
-15	(+ 5)	3842	968	1126	441	2.03	13.66	8.69	2.19	2.55
-10	(+14)	4699	1184	1377	479	2.18	16.84	9.78	2.47	2.87
-5	(+23)	5705	1438	1672	508	2.30	20.65	11.23	2.83	3.29
0	(+32)	6870	1731	2013	527	2.37	25.15	13.13	3.31	3.85
+5	(+41)	8202	2067	2403	531	2.37	30.39	15.57	3.92	4.56
+10	(+50)	9710	2447	2845	517	2.30	36.44	18.64	4.70	5.46

TEST CONDITIONS: @220V2200RPM		ARI4 Fan			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-20	(- 4)	2614	659	766	432	2.00	10.23	6.12	1.54	1.79
-15	(+ 5)	3244	817	951	478	2.20	12.75	6.83	1.72	2.00
-10	(+14)	4006	1010	1174	523	2.40	15.89	7.62	1.92	2.23
-5	(+23)	4910	1237	1439	565	2.57	19.69	8.60	2.17	2.52
0	(+32)	5963	1503	1747	600	2.72	24.22	9.86	2.48	2.89
+5	(+41)	7173	1808	2102	624	2.82	29.55	11.48	2.89	3.36
+10	(+50)	8551	2155	2506	636	2.87	35.74	13.57	3.42	3.98

TEST CONDITIONS: @220V2200RPM		ARI4 Fan			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-20	(- 4)	2206	556	646	470	2.14	9.71	4.59	1.16	1.35
-15	(+ 5)	2756	694	807	519	2.34	12.19	5.38	1.35	1.58
-10	(+14)	3429	864	1005	572	2.57	15.33	6.08	1.53	1.78
-5	(+23)	4234	1067	1241	626	2.80	19.19	6.79	1.71	1.99
0	(+32)	5179	1305	1518	677	3.02	23.82	7.61	1.92	2.23
+5	(+41)	6274	1581	1838	723	3.22	29.30	8.62	2.17	2.53
+10	(+50)	7526	1897	2205	759	3.38	35.67	9.93	2.50	2.91

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3000RPM		ARI4 Fan			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-20 (- 4)	4194	1057	1229	560	2.53	14.79	7.50	1.89	2.20	
-15 (+ 5)	5164	1301	1513	622	2.78	18.38	8.27	2.08	2.42	
-10 (+14)	6268	1580	1837	677	3.01	22.49	9.22	2.32	2.70	
-5 (+23)	7539	1900	2209	721	3.18	27.28	10.46	2.63	3.06	
0 (+32)	9010	2270	2640	750	3.29	32.95	12.08	3.05	3.54	
+5 (+41)	10714	2700	3140	759	3.31	39.67	14.21	3.58	4.16	
+10 (+50)	12686	3197	3717	744	3.22	47.64	16.95	4.27	4.97	

TEST CONDITIONS: @220V3000RPM		ARI4 Fan			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-20 (- 4)	3562	898	1044	601	2.72	13.92	6.00	1.51	1.76	
-15 (+ 5)	4441	1119	1301	666	3.00	17.48	6.69	1.69	1.96	
-10 (+14)	5442	1371	1595	731	3.27	21.60	7.41	1.87	2.17	
-5 (+23)	6597	1662	1933	790	3.53	26.46	8.28	2.09	2.43	
0 (+32)	7940	2001	2327	840	3.74	32.25	9.38	2.36	2.75	
+5 (+41)	9505	2395	2785	877	3.89	39.14	10.84	2.73	3.18	
+10 (+50)	11324	2854	3318	894	3.96	47.33	12.75	3.21	3.74	

TEST CONDITIONS: @220V3000RPM		ARI4 Fan			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-20 (- 4)	3006	758	881	641	2.86	13.23	4.60	1.16	1.35	
-15 (+ 5)	3750	945	1099	712	3.16	16.60	5.32	1.34	1.56	
-10 (+14)	4603	1160	1349	787	3.48	20.58	5.92	1.49	1.73	
-5 (+23)	5598	1411	1640	864	3.81	25.36	6.51	1.64	1.91	
0 (+32)	6768	1706	1983	937	4.12	31.13	7.20	1.81	2.11	
+5 (+41)	8148	2053	2388	1001	4.40	38.05	8.09	2.04	2.37	
+10 (+50)	9771	2462	2863	1054	4.63	46.32	9.28	2.34	2.72	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3600RPM		ARI4 Fan			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-20 (- 4)	4958	1249	1453	689	3.08	17.48	7.20	1.81	2.11	
-15 (+ 5)	6087	1534	1784	770	3.40	21.67	7.87	1.98	2.31	
-10 (+14)	7369	1857	2159	844	3.70	26.44	8.70	2.19	2.55	
-5 (+23)	8843	2228	2591	904	3.94	32.00	9.78	2.47	2.87	
0 (+32)	10548	2658	3091	946	4.09	38.58	11.21	2.83	3.29	
+5 (+41)	12524	3156	3670	963	4.15	46.38	13.09	3.30	3.84	
+10 (+50)	14811	3732	4340	949	4.07	55.61	15.51	3.91	4.55	

TEST CONDITIONS: @220V3600RPM		ARI4 Fan			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-20 (- 4)	4245	1070	1244	734	3.27	16.59	5.84	1.47	1.71	
-15 (+ 5)	5279	1330	1547	817	3.63	20.77	6.47	1.63	1.90	
-10 (+14)	6451	1626	1890	901	3.98	25.60	7.13	1.80	2.09	
-5 (+23)	7800	1966	2286	979	4.31	31.29	7.91	1.99	2.32	
0 (+32)	9367	2361	2745	1046	4.59	38.04	8.90	2.24	2.61	
+5 (+41)	11191	2820	3279	1095	4.80	46.09	10.21	2.57	2.99	
+10 (+50)	13311	3354	3900	1122	4.91	55.63	11.94	3.01	3.50	

TEST CONDITIONS: @220V3600RPM		ARI4 Fan			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-20 (- 4)	3580	902	1049	773	3.40	15.75	4.56	1.15	1.34	
-15 (+ 5)	4453	1122	1305	861	3.78	19.71	5.21	1.31	1.53	
-10 (+14)	5450	1373	1597	956	4.20	24.37	5.76	1.45	1.69	
-5 (+23)	6610	1666	1937	1054	4.62	29.95	6.30	1.59	1.85	
0 (+32)	7973	2009	2336	1148	5.02	36.66	6.92	1.74	2.03	
+5 (+41)	9579	2414	2807	1232	5.39	44.73	7.73	1.95	2.27	
+10 (+50)	11466	2890	3360	1302	5.69	54.36	8.82	2.22	2.58	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4500RPM		ARI4 Fan			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-20 (- 4)	5830	1469	1708	872	3.90	20.56	6.68	1.68	1.96	
-15 (+ 5)	7164	1805	2099	991	4.39	25.50	7.21	1.82	2.11	
-10 (+14)	8680	2187	2544	1103	4.85	31.15	7.85	1.98	2.30	
-5 (+23)	10427	2628	3055	1200	5.24	37.74	8.69	2.19	2.55	
0 (+32)	12450	3137	3648	1274	5.52	45.53	9.82	2.47	2.88	
+5 (+41)	14796	3729	4336	1315	5.67	54.79	11.30	2.85	3.31	
+10 (+50)	17512	4413	5131	1317	5.65	65.76	13.23	3.33	3.88	

TEST CONDITIONS: @220V4500RPM		ARI4 Fan			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-20 (- 4)	5014	1264	1469	920	4.06	19.60	5.50	1.39	1.61	
-15 (+ 5)	6237	1572	1828	1037	4.56	24.54	6.02	1.52	1.77	
-10 (+14)	7628	1922	2235	1158	5.07	30.27	6.56	1.65	1.92	
-5 (+23)	9234	2327	2706	1275	5.56	37.03	7.20	1.81	2.11	
0 (+32)	11101	2797	3253	1379	6.00	45.08	8.01	2.02	2.35	
+5 (+41)	13276	3346	3890	1463	6.34	54.68	9.07	2.29	2.66	
+10 (+50)	15806	3983	4632	1517	6.56	66.07	10.48	2.64	3.07	

TEST CONDITIONS: @220V4500RPM		ARI4 Fan			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-20 (- 4)	4255	1072	1247	945	4.16	18.72	4.45	1.12	1.30	
-15 (+ 5)	5281	1331	1548	1061	4.66	23.38	5.00	1.26	1.47	
-10 (+14)	6461	1628	1893	1192	5.23	28.89	5.47	1.38	1.60	
-5 (+23)	7840	1976	2297	1330	5.82	35.53	5.92	1.49	1.73	
0 (+32)	9466	2386	2774	1466	6.41	43.53	6.44	1.62	1.89	
+5 (+41)	11386	2869	3336	1592	6.95	53.16	7.12	1.79	2.09	
+10 (+50)	13644	3438	3998	1700	7.42	64.68	8.03	2.02	2.35	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V5000RPM		ARI4 Fan			(Condensing temperature 35°C (+95°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-20	(- 4)	6042	1522	1770	947	4.30	21.30	6.37	1.61	1.87
-15	(+ 5)	7451	1878	2183	1091	4.90	26.53	6.81	1.72	2.00
-10	(+14)	9062	2284	2655	1231	5.48	32.52	7.35	1.85	2.15
-5	(+23)	10922	2752	3200	1356	6.00	39.53	8.06	2.03	2.36
0	(+32)	13080	3296	3833	1457	6.40	47.84	9.01	2.27	2.64
+5	(+41)	15586	3928	4567	1523	6.65	57.71	10.27	2.59	3.01
+10	(+50)	18488	4659	5418	1544	6.70	69.42	11.93	3.01	3.49

TEST CONDITIONS: @220V5000RPM		ARI4 Fan			(Condensing temperature 45°C (+113°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-20	(- 4)	5182	1306	1518	993	4.39	20.25	5.26	1.33	1.54
-15	(+ 5)	6466	1630	1895	1131	4.98	25.45	5.72	1.44	1.68
-10	(+14)	7938	2000	2326	1279	5.60	31.50	6.19	1.56	1.81
-5	(+23)	9645	2431	2826	1425	6.22	38.68	6.73	1.70	1.97
0	(+32)	11638	2933	3410	1559	6.78	47.26	7.43	1.87	2.18
+5	(+41)	13963	3519	4092	1672	7.24	57.51	8.35	2.10	2.45
+10	(+50)	16671	4201	4885	1752	7.57	69.69	9.57	2.41	2.80

TEST CONDITIONS: @220V5000RPM		ARI4 Fan			(Condensing temperature 55°C (+131°F))					
Evaporating temperature	Cooling capacity (Qe) +/- 5%			Input power (We) +/- 5%	Electric current +/- 5%	Mass flow rate +/- 5%	Efficiency EER & COP +/- 7%			
	°C	(°F)	[Btu/h]				[kcal/h]	[W]	[Btu/Wh]	[kcal/Wh]
-20	(- 4)	4431	1116	1298	1005	4.44	19.50	4.37	1.10	1.28
-15	(+ 5)	5503	1387	1613	1134	5.01	24.36	4.87	1.23	1.43
-10	(+14)	6749	1701	1978	1286	5.68	30.18	5.28	1.33	1.55
-5	(+23)	8216	2071	2408	1450	6.39	37.23	5.69	1.43	1.67
0	(+32)	9955	2509	2917	1615	7.11	45.78	6.15	1.55	1.80
+5	(+41)	12014	3027	3520	1772	7.78	56.10	6.75	1.70	1.98
+10	(+50)	14441	3639	4232	1909	8.38	68.45	7.56	1.91	2.22

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal
2 Tray holder	No
3 Connectors	
3.1 SUCTION	8.1 +0.10/+0.00 [mm] (0.319" +0.004"/+0.000")
3.1.1 Material	Copper
3.1.2 Shape	Slanted 42°
3.2 DISCHARGE	6.45 +0.10/+0.00 [mm] (0.254" +0.004"/+0.000")
3.2.1 Material	Copper
3.2.2 Shape	Slanted parallel to Base Plate
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	Slanted 42°
3.4 Oil cooler (Copper)	No [mm]
3.5 Connector sealing	Rubber Plugs