

COMPRESSOR DEFINITION

Designation	VNE K207U
Nominal Voltage/Frequency	100-300 V 33-75 Hz
Engineering Number	860BX71

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	100-300 / 33-75	[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	BPM		
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 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		[hp]
2 Displacement	7.28	[cm ³] (0.444 cu.in)
2.1 Bore [mm]	26.497	
2.2 Stroke [mm]	13.200	
3 Lubricant charge	500	[ml] (16.91 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	11.6	[kg] (25.57 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	100-300 V 33-75 Hz 3 ~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	CF10C01 M 0.1 X	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	MST00LJ	
6 Start winding resistance	3.82	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	2.53	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (50/60 Hz)	-	[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	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @220V2000RPM			EN12900LBP_HH Static		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]
446	112	131	115	0.56	1.41	3.88	0.98	1.14

TEST CONDITIONS: @220V2000RPM			EN12900LBP_HH 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]
446	112	131	115	0.56	1.41	3.88	0.98	1.14

TEST CONDITIONS: @220V2400RPM			EN12900LBP_HH 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]
506	128	148	135	0.65	1.60	3.75	0.95	1.10

TEST CONDITIONS: @220V3000RPM			EN12900LBP_HH 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]
662	167	194	176	0.83	2.09	3.76	0.95	1.10

TEST CONDITIONS: @220V4500RPM			EN12900LBP_HH 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]
976	246	286	271	1.26	3.09	3.60	0.91	1.05

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V2000RPM		EN12900HH 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)	345	87	101	96	0.47	1.04	3.59	0.90	1.05	
-35 (-31)	449	113	132	109	0.53	1.36	4.14	1.04	1.21	
-30 (-22)	586	148	172	120	0.58	1.78	4.87	1.23	1.43	
-25 (-13)	756	190	221	131	0.63	2.30	5.77	1.45	1.69	
-20 (- 4)	958	242	281	141	0.68	2.93	6.79	1.71	1.99	
-15 (+ 5)	1194	301	350	151	0.72	3.66	7.92	2.00	2.32	
-10 (+14)	1462	368	428	160	0.76	4.51	9.13	2.30	2.68	

TEST CONDITIONS: @220V2000RPM		EN12900HH 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)	270	68	79	98	0.49	0.89	2.75	0.69	0.81	
-35 (-31)	350	88	103	112	0.54	1.16	3.14	0.79	0.92	
-30 (-22)	464	117	136	126	0.60	1.54	3.69	0.93	1.08	
-25 (-13)	612	154	179	139	0.66	2.03	4.38	1.10	1.28	
-20 (- 4)	793	200	232	153	0.72	2.65	5.19	1.31	1.52	
-15 (+ 5)	1009	254	296	166	0.78	3.38	6.08	1.53	1.78	
-10 (+14)	1258	317	369	179	0.84	4.24	7.03	1.77	2.06	

TEST CONDITIONS: @220V2400RPM		EN12900HH 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)	421	106	123	116	0.56	1.27	3.63	0.91	1.06	
-35 (-31)	546	138	160	130	0.62	1.66	4.21	1.06	1.23	
-30 (-22)	709	179	208	143	0.68	2.15	4.95	1.25	1.45	
-25 (-13)	908	229	266	156	0.74	2.76	5.81	1.46	1.70	
-20 (- 4)	1144	288	335	169	0.79	3.49	6.78	1.71	1.99	
-15 (+ 5)	1416	357	415	181	0.85	4.35	7.83	1.97	2.29	
-10 (+14)	1726	435	506	193	0.90	5.32	8.94	2.25	2.62	

E - PERFORMANCE - CURVES

TEST CONDITIONS:		EN12900HH			(Condensing temperature 45°C (+113°F))					
@220V2400RPM		Fan								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-40 (-40)	314	79	92	118	0.58	1.04	2.66	0.67	0.78	
-35 (-31)	416	105	122	133	0.64	1.38	3.13	0.79	0.92	
-30 (-22)	556	140	163	149	0.71	1.84	3.74	0.94	1.10	
-25 (-13)	734	185	215	165	0.78	2.44	4.45	1.12	1.30	
-20 (- 4)	949	239	278	181	0.85	3.17	5.23	1.32	1.53	
-15 (+ 5)	1203	303	352	198	0.92	4.03	6.08	1.53	1.78	
-10 (+14)	1494	377	438	215	0.99	5.03	6.95	1.75	2.04	

TEST CONDITIONS:		EN12900HH			(Condensing temperature 35°C (+95°F))					
@220V3000RPM		Fan								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-40 (-40)	505	127	148	149	0.71	1.53	3.40	0.86	1.00	
-35 (-31)	673	170	197	166	0.79	2.04	4.06	1.02	1.19	
-30 (-22)	887	223	260	183	0.86	2.69	4.85	1.22	1.42	
-25 (-13)	1146	289	336	200	0.93	3.49	5.74	1.45	1.68	
-20 (- 4)	1450	365	425	216	1.01	4.43	6.72	1.69	1.97	
-15 (+ 5)	1799	453	527	232	1.08	5.52	7.77	1.96	2.28	
-10 (+14)	2193	553	643	247	1.15	6.76	8.87	2.23	2.60	

TEST CONDITIONS:		EN12900HH			(Condensing temperature 45°C (+113°F))					
@220V3000RPM		Fan								
Evaporating temperature	Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE			
	+/- 5%						+/- 7%			
°C (°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]	
-40 (-40)	417	105	122	151	0.72	1.38	2.75	0.69	0.80	
-35 (-31)	555	140	163	172	0.81	1.84	3.23	0.81	0.95	
-30 (-22)	734	185	215	192	0.90	2.43	3.82	0.96	1.12	
-25 (-13)	956	241	280	212	0.99	3.18	4.50	1.13	1.32	
-20 (- 4)	1218	307	357	232	1.08	4.06	5.24	1.32	1.53	
-15 (+ 5)	1522	384	446	253	1.18	5.10	6.03	1.52	1.77	
-10 (+14)	1867	471	547	273	1.27	6.29	6.84	1.72	2.01	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3000RPM		EN12900HH 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)	334	84	98	151	0.72	1.22	2.21	0.56	0.65
-35	(-31)	450	113	132	174	0.82	1.64	2.60	0.66	0.76
-30	(-22)	604	152	177	197	0.93	2.21	3.07	0.77	0.90
-25	(-13)	796	201	233	221	1.04	2.93	3.60	0.91	1.06
-20	(- 4)	1026	258	301	245	1.15	3.79	4.18	1.05	1.22
-15	(+ 5)	1293	326	379	270	1.26	4.80	4.78	1.21	1.40
-10	(+14)	1597	403	468	296	1.38	5.96	5.40	1.36	1.58

TEST CONDITIONS: @220V3600RPM		EN12900HH 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)	644	162	189	183	0.86	1.95	3.51	0.88	1.03
-35	(-31)	859	217	252	205	0.95	2.60	4.20	1.06	1.23
-30	(-22)	1121	283	329	226	1.05	3.41	4.97	1.25	1.46
-25	(-13)	1431	361	419	247	1.14	4.36	5.81	1.46	1.70
-20	(- 4)	1788	451	524	267	1.24	5.46	6.70	1.69	1.96
-15	(+ 5)	2193	553	643	287	1.33	6.73	7.64	1.93	2.24
-10	(+14)	2646	667	775	307	1.42	8.15	8.61	2.17	2.52

TEST CONDITIONS: @220V3600RPM		EN12900HH 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)	487	123	143	182	0.86	1.61	2.69	0.68	0.79
-35	(-31)	675	170	198	207	0.97	2.23	3.26	0.82	0.95
-30	(-22)	906	228	266	233	1.08	3.00	3.88	0.98	1.14
-25	(-13)	1181	298	346	258	1.20	3.93	4.56	1.15	1.34
-20	(- 4)	1501	378	440	284	1.32	5.01	5.27	1.33	1.55
-15	(+ 5)	1864	470	546	310	1.43	6.25	6.01	1.52	1.76
-10	(+14)	2272	573	666	336	1.55	7.65	6.77	1.71	1.98

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V3600RPM		EN12900HH 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)	385	97	113	180	0.85	1.40	2.14	0.54	0.63	
-35 (-31)	539	136	158	208	0.97	1.97	2.59	0.65	0.76	
-30 (-22)	733	185	215	238	1.10	2.69	3.09	0.78	0.91	
-25 (-13)	968	244	284	268	1.24	3.56	3.62	0.91	1.06	
-20 (- 4)	1243	313	364	299	1.38	4.59	4.16	1.05	1.22	
-15 (+ 5)	1559	393	457	331	1.52	5.79	4.71	1.19	1.38	
-10 (+14)	1916	483	562	364	1.67	7.15	5.26	1.33	1.54	

TEST CONDITIONS: @220V4500RPM		EN12900HH 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)	759	191	222	229	1.07	2.29	3.31	0.83	0.97	
-35 (-31)	1010	254	296	258	1.21	3.06	3.92	0.99	1.15	
-30 (-22)	1321	333	387	287	1.34	4.01	4.61	1.16	1.35	
-25 (-13)	1692	426	496	314	1.46	5.15	5.38	1.36	1.58	
-20 (- 4)	2124	535	622	341	1.58	6.49	6.23	1.57	1.82	
-15 (+ 5)	2617	659	767	366	1.69	8.03	7.14	1.80	2.09	
-10 (+14)	3170	799	929	390	1.80	9.77	8.13	2.05	2.38	

TEST CONDITIONS: @220V4500RPM		EN12900HH 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)	594	150	174	227	1.06	1.96	2.61	0.66	0.77	
-35 (-31)	833	210	244	264	1.22	2.75	3.16	0.80	0.93	
-30 (-22)	1123	283	329	299	1.38	3.72	3.75	0.94	1.10	
-25 (-13)	1463	369	429	334	1.54	4.86	4.38	1.10	1.28	
-20 (- 4)	1853	467	543	367	1.68	6.19	5.05	1.27	1.48	
-15 (+ 5)	2295	578	672	398	1.83	7.69	5.76	1.45	1.69	
-10 (+14)	2787	702	817	429	1.96	9.38	6.51	1.64	1.91	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @220V4500RPM		EN12900HH 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)	422	106	124	213	1.00	1.54	1.99	0.50	0.58
-35	(-31)	649	163	190	259	1.21	2.37	2.50	0.63	0.73
-30	(-22)	916	231	268	304	1.41	3.36	3.01	0.76	0.88
-25	(-13)	1224	308	359	347	1.61	4.50	3.53	0.89	1.04
-20	(- 4)	1573	396	461	388	1.79	5.81	4.06	1.02	1.19
-15	(+ 5)	1962	494	575	428	1.97	7.28	4.59	1.16	1.35
-10	(+14)	2393	603	701	466	2.14	8.93	5.12	1.29	1.50

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