COMPRESSOR DEFINITION

Designation	**VES D7C**
Nominal Voltage/Frequency	**230 V 40-150 Hz**
Engineering Number	**800BY02**

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 40-150	[V / Hz]	
4 Application type	Low Back Pressure		
4.1 Evaporating temperature range	-35°C to -10°C	(-31°F to 14°F)	
5 Motor type	BPM		
6 Starting torque	LST - Low Starting Torque		
7 Expantion device	Capillary tube		
8 Compressor cooling		Operating voltage range	
		50 Hz	60 Hz
8.1 LBP (32ºC Ambient temperature)	Static	187 to 254 V	187 to 254 V
8.2 LBP (43ºC Ambient temperature)	Static	187 to 254 V	187 to 254 V
8.3 HBP (32ºC Ambient temperature)	-	-	-
8.4 HBP (43ºC Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	6.9	[kgf/cm²] (98 psig)	/ ºC - ºF
9.2 Peak	7.8	[kgf/cm²] (111 psig)	/ ºC - ºF
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation		[hp]
2 Displacement	7.23	[cm³] (0.441 cu.in)
2.1 Bore [mm]	24.000	
2.2 Stroke [mm]	16.000	
3 Lubricant charge	190	[ml] (6.42 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	6.8	[kg] (14.99 lb.)
5 Nitrogen charge	-	[kgf/cm²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 40-150 Hz 3~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	VES 2456 XX X X	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	INVERTER VES 2456X	
6 Start winding resistance	9.60	[Ω at 25ºC (77ºF)] +/- 8%
7 Run winding resistance	9.60	[Ω at 25ºC (77ºF)] +/- 8%
8 LRA - Locked rotor amperage (40/150 Hz)	2.10/2.10	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (40/150 Hz)	2.10/2.10	[A]
10 FLA - Full Load Amperage HBP (40/150 Hz)	-	[A]
11 Approval boards certification	VDE	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS:			**CECOMAFLBP**		Evaporating temperature		**-25°C (-13°F)**	
@220V1300RPM			**Static**		(Condensing temperature		**55°C (131°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]
122	31	36	25	0.20	0.47	4.84	1.22	1.42

TEST CONDITIONS:			**CECOMAFLBP**		Evaporating temperature		**-25°C (-13°F)**	
@220V1600RPM			**Static**		(Condensing temperature		**55°C (131°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]
158	40	46	31	0.24	0.60	5.13	1.29	1.50

TEST CONDITIONS:			**CECOMAFLBP**		Evaporating temperature		**-25°C (-13°F)**	
@220V2000RPM			**Static**		(Condensing temperature		**55°C (131°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]
198	50	58	38	0.28	0.75	5.18	1.31	1.52

TEST CONDITIONS:			**CECOMAFLBP**		Evaporating temperature		**-25°C (-13°F)**	
@220V3000RPM			**Static**		(Condensing temperature		**55°C (131°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]
302	76	88	60	0.44	1.15	5.06	1.28	1.48

TEST CONDITIONS:			**CECOMAFLBP**		Evaporating temperature		**-25°C (-13°F)**	
@220V4500RPM			**Static**		(Condensing temperature		**55°C (131°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]
471	119	138	94	0.68	1.80	5.00	1.26	1.47

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF** (Condensing temperature **35ºC (+95ºF))**
@220V1300RPM **Static**

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]
-35	**(-31)**	104	26	31	17	0.12	0.33	6.10	1.54	1.79
-30	**(-22)**	139	35	41	20	0.15	0.45	6.98	1.76	2.04
-25	**(-13)**	182	46	53	23	0.18	0.58	7.93	2.00	2.32
-20	**(- 4)**	235	59	69	26	0.20	0.75	9.03	2.27	2.64
-15	**(+ 5)**	299	75	88	29	0.22	0.96	10.35	2.61	3.03
-10	**(+14)**	377	95	111	32	0.24	1.22	11.98	3.02	3.51

TEST CONDITIONS: **CECOMAF** (Condensing temperature **45ºC (+113ºF))**
@220V1300RPM **Static**

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]
-35	**(-31)**	81	21	24	17	0.13	0.28	4.68	1.18	1.37
-30	**(-22)**	114	29	33	21	0.16	0.39	5.48	1.38	1.61
-25	**(-13)**	153	38	45	24	0.19	0.53	6.25	1.58	1.83
-20	**(- 4)**	200	50	59	28	0.22	0.70	7.08	1.78	2.08
-15	**(+ 5)**	258	65	75	32	0.24	0.90	8.05	2.03	2.36
-10	**(+14)**	328	83	96	35	0.27	1.15	9.22	2.32	2.70

TEST CONDITIONS: **CECOMAF** (Condensing temperature **55ºC (+131ºF))**
@220V1300RPM **Static**

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]
-35	**(-31)**	54	14	16	17	0.14	0.21	3.22	0.81	0.94
-30	**(-22)**	85	21	25	21	0.17	0.32	4.08	1.03	1.19
-25	**(-13)**	121	31	36	25	0.20	0.46	4.82	1.22	1.41
-20	**(- 4)**	165	42	48	30	0.23	0.63	5.53	1.39	1.62
-15	**(+ 5)**	217	55	64	34	0.27	0.83	6.29	1.59	1.84
-10	**(+14)**	280	71	82	39	0.29	1.08	7.17	1.81	2.10

TEST CONDITIONS: **CECOMAF** (Condensing temperature **35ºC (+95ºF))**
@220V1600RPM **Static**

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]
-35	**(-31)**	124	31	36	21	0.16	0.40	5.83	1.47	1.71
-30	**(-22)**	171	43	50	25	0.18	0.55	6.87	1.73	2.01
-25	**(-13)**	227	57	66	29	0.21	0.73	7.94	2.00	2.33
-20	**(- 4)**	293	74	86	32	0.24	0.94	9.11	2.30	2.67
-15	**(+ 5)**	373	94	109	36	0.27	1.20	10.47	2.64	3.07
-10	**(+14)**	469	118	138	39	0.29	1.51	12.08	3.04	3.54

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF** (Condensing temperature **45ºC (+113ºF))**
@220V1600RPM **Static**

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]
-35	**(-31)**	99	25	29	21	0.17	0.34	4.69	1.18	1.37
-30	**(-22)**	143	36	42	26	0.20	0.50	5.59	1.41	1.64
-25	**(-13)**	193	49	57	30	0.23	0.67	6.43	1.62	1.88
-20	**(- 4)**	253	64	74	35	0.26	0.88	7.29	1.84	2.14
-15	**(+ 5)**	324	82	95	39	0.30	1.13	8.24	2.08	2.42
-10	**(+14)**	409	103	120	43	0.33	1.43	9.37	2.36	2.75

TEST CONDITIONS: **CECOMAF** (Condensing temperature **55ºC (+131ºF))**
@220V1600RPM **Static**

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]
-35	**(-31)**	71	18	21	20	0.16	0.27	3.47	0.87	1.02
-30	**(-22)**	112	28	33	25	0.20	0.42	4.37	1.10	1.28
-25	**(-13)**	158	40	46	31	0.24	0.60	5.13	1.29	1.50
-20	**(- 4)**	211	53	62	36	0.28	0.81	5.83	1.47	1.71
-15	**(+ 5)**	274	69	80	42	0.32	1.05	6.53	1.65	1.91
-10	**(+14)**	349	88	102	48	0.36	1.34	7.32	1.84	2.15

TEST CONDITIONS: **CECOMAF** (Condensing temperature **35ºC (+95ºF))**
@220V2000RPM **Static**

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]
-35	**(-31)**	154	39	45	27	0.20	0.49	5.80	1.46	1.70
-30	**(-22)**	211	53	62	31	0.22	0.68	6.80	1.71	1.99
-25	**(-13)**	282	71	83	36	0.26	0.90	7.87	1.98	2.31
-20	**(- 4)**	367	92	107	41	0.29	1.18	9.07	2.29	2.66
-15	**(+ 5)**	468	118	137	45	0.33	1.51	10.43	2.63	3.06
-10	**(+14)**	587	148	172	49	0.37	1.89	11.99	3.02	3.51

TEST CONDITIONS: **CECOMAF** (Condensing temperature **45ºC (+113ºF))**
@220V2000RPM **Static**

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]
-35	**(-31)**	124	31	36	27	0.21	0.43	4.68	1.18	1.37
-30	**(-22)**	176	44	52	32	0.23	0.61	5.52	1.39	1.62
-25	**(-13)**	241	61	70	38	0.27	0.84	6.37	1.61	1.87
-20	**(- 4)**	318	80	93	44	0.32	1.11	7.28	1.83	2.13
-15	**(+ 5)**	411	104	120	49	0.36	1.44	8.28	2.09	2.43
-10	**(+14)**	520	131	152	55	0.40	1.82	9.42	2.37	2.76

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF** (Condensing temperature **55ºC (+131ºF))**
@220V2000RPM **Static**

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]
-35	**(-31)**	96	24	28	26	0.21	0.36	3.67	0.92	1.08
-30	**(-22)**	142	36	42	32	0.24	0.54	4.46	1.12	1.31
-25	**(-13)**	199	50	58	38	0.28	0.76	5.20	1.31	1.52
-20	**(- 4)**	268	68	79	45	0.33	1.02	5.92	1.49	1.73
-15	**(+ 5)**	351	88	103	53	0.39	1.34	6.67	1.68	1.95
-10	**(+14)**	449	113	132	60	0.44	1.72	7.50	1.89	2.20

TEST CONDITIONS: **CECOMAF** (Condensing temperature **35ºC (+95ºF))**
@220V3000RPM **Static**

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]
-35	**(-31)**	228	57	67	41	0.31	0.73	5.59	1.41	1.64
-30	**(-22)**	318	80	93	49	0.35	1.02	6.53	1.65	1.91
-25	**(-13)**	429	108	126	57	0.41	1.38	7.56	1.90	2.21
-20	**(- 4)**	562	141	165	65	0.46	1.80	8.69	2.19	2.55
-15	**(+ 5)**	718	181	210	73	0.52	2.31	9.94	2.51	2.91
-10	**(+14)**	901	227	264	80	0.58	2.91	11.33	2.86	3.32

TEST CONDITIONS: **CECOMAF** (Condensing temperature **45ºC (+113ºF))**
@220V3000RPM **Static**

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]
-35	**(-31)**	190	48	56	41	0.32	0.66	4.62	1.16	1.35
-30	**(-22)**	267	67	78	50	0.37	0.93	5.37	1.35	1.57
-25	**(-13)**	364	92	107	59	0.43	1.27	6.18	1.56	1.81
-20	**(- 4)**	484	122	142	68	0.50	1.68	7.06	1.78	2.07
-15	**(+ 5)**	627	158	184	78	0.57	2.19	8.04	2.03	2.36
-10	**(+14)**	795	200	233	87	0.63	2.78	9.13	2.30	2.67

TEST CONDITIONS: **CECOMAF** (Condensing temperature **55ºC (+131ºF))**
@220V3000RPM **Static**

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]
-35	**(-31)**	159	40	47	42	0.31	0.60	3.81	0.96	1.12
-30	**(-22)**	220	56	65	50	0.37	0.84	4.42	1.11	1.30
-25	**(-13)**	302	76	88	60	0.44	1.15	5.06	1.28	1.48
-20	**(- 4)**	405	102	119	71	0.52	1.55	5.75	1.45	1.68
-15	**(+ 5)**	532	134	156	82	0.60	2.04	6.50	1.64	1.90
-10	**(+14)**	684	172	200	93	0.67	2.63	7.33	1.85	2.15

E - PERFORMANCE - CURVES

TEST CONDITIONS: **CECOMAF** (Condensing temperature **35ºC (+95ºF))**
@220V4500RPM **Static**

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]
-35	**(-31)**	364	92	107	67	0.49	1.17	5.39	1.36	1.58
-30	**(-22)**	485	122	142	78	0.56	1.56	6.24	1.57	1.83
-25	**(-13)**	619	156	182	88	0.62	1.99	7.12	1.79	2.08
-20	**(- 4)**	780	197	229	97	0.68	2.51	8.06	2.03	2.36
-15	**(+ 5)**	980	247	287	107	0.75	3.15	9.13	2.30	2.67
-10	**(+14)**	1233	311	361	118	0.82	3.98	10.36	2.61	3.04

TEST CONDITIONS: **CECOMAF** (Condensing temperature **45ºC (+113ºF))**
@220V4500RPM **Static**

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]
-35	**(-31)**	298	75	87	66	0.48	1.03	4.49	1.13	1.32
-30	**(-22)**	423	107	124	80	0.57	1.47	5.25	1.32	1.54
-25	**(-13)**	555	140	163	93	0.65	1.93	5.98	1.51	1.75
-20	**(- 4)**	706	178	207	105	0.72	2.46	6.74	1.70	1.97
-15	**(+ 5)**	891	225	261	118	0.80	3.12	7.57	1.91	2.22
-10	**(+14)**	1122	283	329	131	0.87	3.93	8.53	2.15	2.50

TEST CONDITIONS: **CECOMAF** (Condensing temperature **55ºC (+131ºF))**
@220V4500RPM **Static**

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]
-35	**(-31)**	225	57	66	62	0.47	0.86	3.66	0.92	1.07
-30	**(-22)**	348	88	102	78	0.58	1.32	4.36	1.10	1.28
-25	**(-13)**	471	119	138	94	0.68	1.79	5.00	1.26	1.46
-20	**(- 4)**	608	153	178	108	0.76	2.32	5.61	1.41	1.65
-15	**(+ 5)**	772	194	226	124	0.85	2.96	6.26	1.58	1.83
-10	**(+14)**	976	246	286	140	0.93	3.75	6.99	1.76	2.05

F - EXTERNAL CHARACTERISTICS

1 Base plate	European Standard		
2 Tray holder	Yes		
3 Connectors			
3.1 SUCTION	6.1 +0.10/+0.00	[mm]	(0.240" +0.004"/+0.000")
3.1.1 Material	Copper		
3.1.2 Shape	Slanted 45° up + 15° to Back		
3.2 DISCHARGE	4.94 +0.08/-0.08	[mm]	(0.194" +0.003"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Slanted 0° up + 24° to Back		
3.3 PROCESS	6 +0.08/-0.08	[mm]	(0.236" +0.003"/-0.003")
3.3.1 Material	Copper(OD)		
3.3.2 Shape	Slanted 47° up + 59° to Back		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		