

COMPRESSOR DEFINITION

Designation	VES F11C
Nominal Voltage/Frequency	230 V 32-150 Hz
Engineering Number	513907113

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-600a		
3 Nominal voltage and frequency	230 / 32-150	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Fullmotion Compressors)		
4.1 Evaporating temperature range	-35°C to 0°C	(-31°F to 32°F)	
5 Motor type	BPM		
6 Starting torque	LST - Low Starting Torque		
7 Expansion device	Capillary tube		
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	6.9	[kgf/cm ²] (98 psig)	/ °C - °F
9.2 Peak	7.8	[kgf/cm ²] (111 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/5	[hp]
2 Displacement	11.14	[cm ³] (0.680 cu.in)
2.1 Bore [mm]	26.000	
2.2 Stroke [mm]	21.000	
3 Lubricant charge	0	[ml] (0.00 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ALQUILB / ISO5	
4 Weight (with oil charge)	6.6	[kg] (14.55 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 31.7-150 Hz 3~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	VCC3 1156 XXXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC3 1156 XX	
6 Start winding resistance	9.30	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	9.30	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (32/150 Hz)	-	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (32/150 Hz)	-	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (32/150 Hz)	-	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V1300RPM			ASHRAELBP32 Static		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]	
292	74	86	45	0.65	0.92	6.52	1.64	1.91	

TEST CONDITIONS: @115V2000RPM			ASHRAELBP32 Static		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]	
447	113	131	67	0.94	1.40	6.65	1.68	1.95	

TEST CONDITIONS: @115V3000RPM			ASHRAELBP32 Static		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]	
658	166	193	103	1.38	2.07	6.39	1.61	1.87	

TEST CONDITIONS: @115V4000RPM			ASHRAELBP32 Static		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]	
815	205	239	135	1.78	2.56	6.02	1.52	1.76	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V1300RPM		ASHRAE32 Static				(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]
-35	(-31)	179	45	52	27	0.40	0.56	6.59	1.66	1.93
-30	(-22)	235	59	69	32	0.47	0.74	7.46	1.88	2.19
-25	(-13)	306	77	90	36	0.54	0.96	8.46	2.13	2.48
-20	(- 4)	393	99	115	41	0.61	1.23	9.59	2.42	2.81
-15	(+ 5)	497	125	146	46	0.67	1.57	10.88	2.74	3.19
-10	(+14)	621	156	182	50	0.72	1.96	12.33	3.11	3.61
-5	(+23)	764	193	224	55	0.77	2.42	13.96	3.52	4.09
0	(+32)	929	234	272	58	0.80	2.94	15.78	3.98	4.62

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V1300RPM		ASHRAE32 Static			(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]
-35	(-31)	162	41	47	29	0.43	0.51	5.70	1.44	1.67
-30	(-22)	218	55	64	34	0.51	0.68	6.46	1.63	1.89
-25	(-13)	288	73	84	39	0.58	0.90	7.32	1.84	2.14
-20	(- 4)	374	94	110	45	0.65	1.17	8.26	2.08	2.42
-15	(+ 5)	476	120	139	51	0.73	1.50	9.32	2.35	2.73
-10	(+14)	596	150	175	57	0.80	1.88	10.50	2.65	3.08
-5	(+23)	736	185	216	62	0.86	2.33	11.81	2.98	3.46
0	(+32)	896	226	263	68	0.93	2.84	13.27	3.34	3.89

TEST CONDITIONS: @115V1300RPM		ASHRAE32 Static			(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]
-35	(-31)	142	36	42	28	0.44	0.44	5.02	1.27	1.47
-30	(-22)	197	50	58	35	0.52	0.62	5.70	1.44	1.67
-25	(-13)	266	67	78	41	0.60	0.84	6.42	1.62	1.88
-20	(- 4)	350	88	102	48	0.69	1.10	7.20	1.81	2.11
-15	(+ 5)	449	113	132	56	0.78	1.41	8.04	2.03	2.36
-10	(+14)	566	143	166	63	0.88	1.79	8.97	2.26	2.63
-5	(+23)	701	177	205	70	0.97	2.22	9.98	2.51	2.92
0	(+32)	856	216	251	78	1.07	2.71	11.09	2.80	3.25

TEST CONDITIONS: @115V1300RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-35	(-31)	116	29	34	26	0.41	0.36	4.41	1.11	1.29
-30	(-22)	170	43	50	34	0.50	0.53	5.02	1.26	1.47
-25	(-13)	237	60	69	42	0.61	0.74	5.63	1.42	1.65
-20	(- 4)	318	80	93	51	0.72	1.00	6.25	1.58	1.83
-15	(+ 5)	414	104	121	60	0.84	1.30	6.90	1.74	2.02
-10	(+14)	526	133	154	69	0.96	1.66	7.58	1.91	2.22
-5	(+23)	656	165	192	79	1.09	2.08	8.31	2.09	2.44
0	(+32)	805	203	236	88	1.23	2.56	9.10	2.29	2.67

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(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]
-35 (-31)	266	67	78	41	0.60	0.83	6.44	1.62	1.89	
-30 (-22)	357	90	105	49	0.70	1.12	7.27	1.83	2.13	
-25 (-13)	469	118	138	57	0.81	1.47	8.19	2.06	2.40	
-20 (- 4)	604	152	177	66	0.92	1.90	9.21	2.32	2.70	
-15 (+ 5)	765	193	224	74	1.02	2.41	10.36	2.61	3.03	
-10 (+14)	953	240	279	82	1.12	3.00	11.66	2.94	3.42	
-5 (+23)	1170	295	343	89	1.21	3.70	13.14	3.31	3.85	
0 (+32)	1419	358	416	95	1.28	4.50	14.83	3.74	4.35	

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(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]
-35 (-31)	243	61	71	43	0.63	0.76	5.66	1.43	1.66	
-30 (-22)	330	83	97	52	0.74	1.04	6.42	1.62	1.88	
-25 (-13)	439	111	129	61	0.85	1.38	7.22	1.82	2.11	
-20 (- 4)	570	144	167	70	0.97	1.79	8.09	2.04	2.37	
-15 (+ 5)	727	183	213	80	1.09	2.29	9.06	2.28	2.65	
-10 (+14)	912	230	267	90	1.21	2.88	10.14	2.56	2.97	
-5 (+23)	1128	284	330	99	1.33	3.57	11.38	2.87	3.33	
0 (+32)	1375	347	403	107	1.43	4.36	12.79	3.22	3.75	

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(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]
-35 (-31)	226	57	66	44	0.64	0.71	5.10	1.28	1.49	
-30 (-22)	308	78	90	53	0.76	0.97	5.79	1.46	1.70	
-25 (-13)	413	104	121	63	0.88	1.30	6.49	1.63	1.90	
-20 (- 4)	541	136	158	75	1.02	1.70	7.23	1.82	2.12	
-15 (+ 5)	695	175	204	86	1.16	2.19	8.03	2.02	2.35	
-10 (+14)	878	221	257	98	1.31	2.77	8.92	2.25	2.61	
-5 (+23)	1091	275	320	110	1.45	3.45	9.93	2.50	2.91	
0 (+32)	1336	337	392	122	1.60	4.24	11.07	2.79	3.24	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V2000RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-35	(-31)	191	48	56	42	0.62	0.60	4.56	1.15	1.34
-30	(-22)	270	68	79	52	0.75	0.85	5.20	1.31	1.52
-25	(-13)	370	93	109	64	0.89	1.16	5.82	1.47	1.70
-20	(- 4)	495	125	145	77	1.05	1.56	6.44	1.62	1.89
-15	(+ 5)	647	163	189	91	1.21	2.04	7.09	1.79	2.08
-10	(+14)	827	208	242	106	1.39	2.61	7.80	1.97	2.29
-5	(+23)	1038	261	304	121	1.57	3.28	8.59	2.17	2.52
0	(+32)	1282	323	376	136	1.76	4.07	9.49	2.39	2.78

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(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]
-35	(-31)	390	98	114	65	0.90	1.22	5.90	1.49	1.73
-30	(-22)	512	129	150	77	1.06	1.60	6.69	1.69	1.96
-25	(-13)	673	170	197	90	1.22	2.11	7.56	1.90	2.22
-20	(- 4)	873	220	256	103	1.38	2.74	8.49	2.14	2.49
-15	(+ 5)	1114	281	326	118	1.56	3.51	9.49	2.39	2.78
-10	(+14)	1398	352	410	133	1.75	4.41	10.54	2.66	3.09
-5	(+23)	1726	435	506	148	1.95	5.46	11.64	2.93	3.41
0	(+32)	2099	529	615	163	2.17	6.65	12.78	3.22	3.74

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(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]
-35	(-31)	348	88	102	65	0.92	1.09	5.36	1.35	1.57
-30	(-22)	481	121	141	79	1.10	1.51	6.06	1.53	1.77
-25	(-13)	647	163	190	95	1.29	2.03	6.82	1.72	2.00
-20	(- 4)	849	214	249	111	1.48	2.67	7.64	1.93	2.24
-15	(+ 5)	1088	274	319	128	1.68	3.42	8.52	2.15	2.50
-10	(+14)	1365	344	400	145	1.89	4.31	9.43	2.38	2.76
-5	(+23)	1682	424	493	162	2.12	5.32	10.39	2.62	3.04
0	(+32)	2040	514	598	179	2.36	6.47	11.38	2.87	3.33

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(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]
-35 (-31)	314	79	92	65	0.90	0.98	4.89	1.23	1.43	
-30 (-22)	445	112	130	81	1.10	1.39	5.50	1.39	1.61	
-25 (-13)	605	152	177	98	1.30	1.90	6.16	1.55	1.80	
-20 (- 4)	796	200	233	115	1.51	2.50	6.86	1.73	2.01	
-15 (+ 5)	1019	257	299	134	1.72	3.21	7.61	1.92	2.23	
-10 (+14)	1277	322	374	152	1.95	4.03	8.39	2.12	2.46	
-5 (+23)	1570	396	460	171	2.19	4.97	9.21	2.32	2.70	
0 (+32)	1900	479	557	189	2.45	6.03	10.04	2.53	2.94	

TEST CONDITIONS: @115V3000RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-35 (-31)	293	74	86	65	0.92	0.92	4.45	1.12	1.30	
-30 (-22)	409	103	120	82	1.12	1.28	4.96	1.25	1.45	
-25 (-13)	549	138	161	99	1.33	1.73	5.51	1.39	1.61	
-20 (- 4)	717	181	210	117	1.55	2.25	6.10	1.54	1.79	
-15 (+ 5)	913	230	268	136	1.77	2.88	6.72	1.69	1.97	
-10 (+14)	1139	287	334	155	2.00	3.59	7.37	1.86	2.16	
-5 (+23)	1396	352	409	174	2.24	4.42	8.04	2.03	2.35	
0 (+32)	1685	425	494	193	2.50	5.35	8.71	2.20	2.55	

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(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]
-35 (-31)	473	119	138	87	1.17	1.48	5.42	1.37	1.59	
-30 (-22)	636	160	186	103	1.33	1.99	6.17	1.55	1.81	
-25 (-13)	814	205	239	116	1.52	2.55	7.03	1.77	2.06	
-20 (- 4)	1034	261	303	130	1.73	3.25	7.97	2.01	2.33	
-15 (+ 5)	1322	333	387	147	1.97	4.16	8.97	2.26	2.63	
-10 (+14)	1702	429	499	169	2.22	5.37	10.02	2.53	2.94	
-5 (+23)	2203	555	645	199	2.49	6.96	11.10	2.80	3.25	
0 (+32)	2849	718	835	239	2.77	9.03	12.19	3.07	3.57	

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(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]
-35	(-31)	458	116	134	90	1.21	1.43	5.05	1.27	1.48
-30	(-22)	620	156	182	109	1.42	1.94	5.65	1.42	1.66
-25	(-13)	796	201	233	125	1.64	2.50	6.37	1.61	1.87
-20	(- 4)	1012	255	297	141	1.88	3.18	7.18	1.81	2.10
-15	(+ 5)	1295	326	380	161	2.14	4.08	8.06	2.03	2.36
-10	(+14)	1671	421	490	185	2.40	5.27	9.00	2.27	2.64
-5	(+23)	2165	545	634	217	2.68	6.84	9.97	2.51	2.92
0	(+32)	2803	706	821	260	2.96	8.88	10.96	2.76	3.21

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(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]
-35	(-31)	422	106	124	91	1.24	1.32	4.64	1.17	1.36
-30	(-22)	578	146	169	112	1.47	1.81	5.13	1.29	1.50
-25	(-13)	748	189	219	131	1.72	2.35	5.73	1.44	1.68
-20	(- 4)	958	241	281	149	1.98	3.01	6.44	1.62	1.89
-15	(+ 5)	1233	311	361	171	2.24	3.88	7.23	1.82	2.12
-10	(+14)	1600	403	469	197	2.52	5.05	8.09	2.04	2.37
-5	(+23)	2085	525	611	232	2.79	6.59	8.98	2.26	2.63
0	(+32)	2712	683	795	277	3.06	8.60	9.91	2.50	2.90

TEST CONDITIONS: @115V4000RPM		ASHRAE32 Static			(Condensing temperature 65°C (+149°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]
-35	(-31)	371	93	109	87	1.25	1.16	4.26	1.07	1.25
-30	(-22)	519	131	152	110	1.51	1.63	4.66	1.17	1.37
-25	(-13)	681	172	199	131	1.77	2.14	5.19	1.31	1.52
-20	(- 4)	880	222	258	152	2.04	2.77	5.83	1.47	1.71
-15	(+ 5)	1145	288	335	175	2.30	3.61	6.55	1.65	1.92
-10	(+14)	1500	378	439	204	2.57	4.73	7.35	1.85	2.15
-5	(+23)	1971	497	578	240	2.83	6.24	8.21	2.07	2.40
0	(+32)	2585	651	757	287	3.08	8.20	9.09	2.29	2.66

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal VES		
2 Tray holder	No		
3 Connectors			
3.1 SUCTION	8.2 +0.12/-0.08	[mm]	(0.323" +0.005"/-0.003")
3.1.1 Material	Copper		
3.1.2 Shape	Straight		
3.2 DISCHARGE	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.2.1 Material	Copper		
3.2.2 Shape	Straight		
3.3 PROCESS	6.5 +0.12/-0.08	[mm]	(0.256" +0.005"/-0.003")
3.3.1 Material	Copper		
3.3.2 Shape	Straight		
3.4 Oil cooler (Copper)	No	[mm]	
3.5 Connector sealing	Rubber Plugs		