

COMPRESSOR DEFINITION

Designation	VEG D7H
Nominal Voltage/Frequency	230 V 46-133 Hz
Engineering Number	513804003

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-134a		
3 Nominal voltage and frequency	230 / 46-133	[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 Expansion device	Capillary tube		
8 Compressor cooling	Operating voltage range		
		50 Hz	60 Hz
8.1 LBP (32°C Ambient temperature)	Static	-	-
8.2 LBP (43°C Ambient temperature)	Static	85 to 140 V	85 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing temperature			
9.1 Operating	14.2	[kgf/cm ²] (202 psig)	/ °C - °F
9.2 Peak	15.9	[kgf/cm ²] (226 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	7.23	[cm ³] (0.441 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	18.200	
3 Lubricant charge	350	[ml] (11.84 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO10	
4 Weight (with oil charge)	10.74	[kg] (23.68 lb.)
5 Nitrogen charge	0.2 to 0.3	[kgf/cm ²] (2.84 to 4.27 psig)

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 46-133 Hz 3~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	VCC3 1156 X2A52/VCC3 1156 XXXXX	
3 Start capacitor	-	[µF(VAC minimum)]
4 Run capacitor	-	[µF(VAC minimum)]
5 Motor protection	VCC31156XXXXX	
6 Start winding resistance	7.69	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	7.69	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (46/133 Hz)	3.30/3.30/3.30/3.30/3.3 [A] - Measured according to UL 984	
9 FLA - Full load amperage L/MBP (46/133 Hz)	3.30/3.30/3.30/3.30/3.3 [A] - Measured according to UL 984	
10 FLA - Full Load Amperage HBP (46/133 Hz)	3.30/3.30/3.30/3.30/3.3 [A] - Measured according to UL 984	
11 Approval boards certification	CE - NOM - UKCA - UL	

D - PERFORMANCE - CHECK POINT DATA

TEST CONDITIONS: @115V1400RPM			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]
357	90	105	58	0.87	2.03	6.14	1.55	1.80

TEST CONDITIONS: @115V1600RPM			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]
384	97	113	62	0.92	2.18	6.18	1.56	1.81

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]
487	123	143	78	1.13	2.77	6.24	1.57	1.83

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]
747	188	219	123	1.62	4.24	6.07	1.53	1.78

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]
976	246	286	165	2.18	5.55	5.90	1.49	1.73

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V1400RPM		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)	201	51	59	33	0.54	1.14	5.91	1.49	1.73	
-30 (-22)	264	67	77	39	0.58	1.50	6.81	1.72	1.99	
-25 (-13)	357	90	105	46	0.68	2.03	7.83	1.97	2.29	
-20 (- 4)	478	120	140	53	0.81	2.72	8.99	2.27	2.64	
-15 (+ 5)	626	158	184	61	0.93	3.58	10.34	2.60	3.03	
-10 (+14)	802	202	235	68	1.03	4.59	11.88	2.99	3.48	

TEST CONDITIONS: @115V1400RPM		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)	164	41	48	33	0.49	0.93	5.19	1.31	1.52	
-30 (-22)	240	60	70	41	0.59	1.36	5.92	1.49	1.73	
-25 (-13)	339	85	99	50	0.74	1.93	6.72	1.69	1.97	
-20 (- 4)	461	116	135	60	0.91	2.62	7.62	1.92	2.23	
-15 (+ 5)	604	152	177	69	1.07	3.45	8.65	2.18	2.54	
-10 (+14)	769	194	225	78	1.20	4.41	9.83	2.48	2.88	

TEST CONDITIONS: @115V1400RPM		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)	155	39	45	34	0.55	0.87	4.53	1.14	1.33	
-30 (-22)	228	57	67	44	0.66	1.29	5.18	1.31	1.52	
-25 (-13)	318	80	93	54	0.81	1.81	5.86	1.48	1.72	
-20 (- 4)	425	107	125	65	0.97	2.42	6.60	1.66	1.93	
-15 (+ 5)	549	138	161	74	1.11	3.13	7.41	1.87	2.17	
-10 (+14)	688	173	202	83	1.22	3.94	8.33	2.10	2.44	

TEST CONDITIONS: @115V1600RPM		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)	229	58	67	38	0.60	1.29	6.00	1.51	1.76	
-30 (-22)	315	79	92	46	0.68	1.79	6.86	1.73	2.01	
-25 (-13)	416	105	122	53	0.78	2.36	7.83	1.97	2.30	
-20 (- 4)	536	135	157	60	0.89	3.05	8.97	2.26	2.63	
-15 (+ 5)	680	171	199	66	1.00	3.88	10.30	2.60	3.02	
-10 (+14)	853	215	250	72	1.08	4.89	11.88	2.99	3.48	

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V1600RPM		Static								
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]	
-35 (-31)	206	52	60	39	0.58	1.17	5.27	1.33	1.54	
-30 (-22)	289	73	85	48	0.69	1.64	5.98	1.51	1.75	
-25 (-13)	385	97	113	57	0.84	2.19	6.75	1.70	1.98	
-20 (- 4)	500	126	147	66	0.99	2.85	7.61	1.92	2.23	
-15 (+ 5)	639	161	187	74	1.13	3.65	8.60	2.17	2.52	
-10 (+14)	806	203	236	83	1.26	4.62	9.76	2.46	2.86	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@115V1600RPM		Static								
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]	
-35 (-31)	175	44	51	38	0.62	0.99	4.63	1.17	1.36	
-30 (-22)	260	66	76	49	0.74	1.47	5.32	1.34	1.56	
-25 (-13)	358	90	105	60	0.89	2.03	6.00	1.51	1.76	
-20 (- 4)	474	119	139	71	1.06	2.70	6.71	1.69	1.96	
-15 (+ 5)	612	154	179	82	1.22	3.50	7.47	1.88	2.19	
-10 (+14)	779	196	228	93	1.36	4.47	8.35	2.10	2.45	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@115V2000RPM		Static								
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]	
-35 (-31)	296	75	87	50	0.81	1.68	5.94	1.50	1.74	
-30 (-22)	387	98	113	57	0.89	2.19	6.81	1.72	2.00	
-25 (-13)	504	127	148	65	0.98	2.86	7.73	1.95	2.26	
-20 (- 4)	654	165	192	74	1.08	3.72	8.78	2.21	2.57	
-15 (+ 5)	841	212	246	84	1.18	4.80	10.02	2.53	2.94	
-10 (+14)	1072	270	314	93	1.28	6.14	11.54	2.91	3.38	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V2000RPM		Static								
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]	
-35 (-31)	264	67	77	51	0.84	1.49	5.20	1.31	1.52	
-30 (-22)	363	91	106	61	0.95	2.06	5.97	1.50	1.75	
-25 (-13)	482	121	141	72	1.08	2.73	6.73	1.70	1.97	
-20 (- 4)	626	158	184	83	1.21	3.57	7.55	1.90	2.21	
-15 (+ 5)	803	202	235	94	1.34	4.58	8.50	2.14	2.49	
-10 (+14)	1017	256	298	105	1.46	5.83	9.65	2.43	2.83	

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@115V2000RPM		Static								
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]	
-35 (-31)	224	56	66	49	0.76	1.26	4.52	1.14	1.32	
-30 (-22)	330	83	97	62	0.91	1.87	5.28	1.33	1.55	
-25 (-13)	451	114	132	76	1.07	2.56	5.96	1.50	1.75	
-20 (- 4)	591	149	173	90	1.23	3.37	6.63	1.67	1.94	
-15 (+ 5)	757	191	222	103	1.39	4.32	7.36	1.85	2.16	
-10 (+14)	954	240	279	116	1.54	5.46	8.22	2.07	2.41	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@115V2500RPM		Static								
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]	
-35 (-31)	361	91	106	63	0.94	2.04	5.73	1.44	1.68	
-30 (-22)	494	124	145	75	1.06	2.80	6.59	1.66	1.93	
-25 (-13)	660	166	193	87	1.20	3.75	7.57	1.91	2.22	
-20 (- 4)	863	217	253	100	1.35	4.91	8.68	2.19	2.54	
-15 (+ 5)	1103	278	323	111	1.50	6.30	9.94	2.50	2.91	
-10 (+14)	1382	348	405	122	1.63	7.92	11.35	2.86	3.33	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V2500RPM		Static								
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]	
-35 (-31)	311	78	91	62	0.86	1.76	5.07	1.28	1.48	
-30 (-22)	437	110	128	75	1.01	2.48	5.80	1.46	1.70	
-25 (-13)	600	151	176	90	1.19	3.40	6.60	1.66	1.94	
-20 (- 4)	799	201	234	106	1.39	4.55	7.50	1.89	2.20	
-15 (+ 5)	1038	262	304	122	1.60	5.93	8.50	2.14	2.49	
-10 (+14)	1318	332	386	137	1.81	7.55	9.62	2.42	2.82	

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@115V2500RPM		Static								
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]	
-35 (-31)	288	73	84	63	0.95	1.63	4.52	1.14	1.32	
-30 (-22)	397	100	116	77	1.07	2.25	5.19	1.31	1.52	
-25 (-13)	543	137	159	93	1.24	3.08	5.89	1.48	1.73	
-20 (- 4)	729	184	214	110	1.45	4.15	6.63	1.67	1.94	
-15 (+ 5)	956	241	280	128	1.68	5.46	7.44	1.87	2.18	
-10 (+14)	1226	309	359	147	1.92	7.02	8.32	2.10	2.44	

E - PERFORMANCE - CURVES

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]	[W/W]
-35 (-31)	430	108	126	77	1.19	2.43	5.64	1.42	1.65	
-30 (-22)	575	145	169	90	1.28	3.26	6.42	1.62	1.88	
-25 (-13)	758	191	222	103	1.40	4.30	7.32	1.85	2.15	
-20 (- 4)	983	248	288	117	1.54	5.60	8.37	2.11	2.45	
-15 (+ 5)	1258	317	369	131	1.72	7.18	9.56	2.41	2.80	
-10 (+14)	1589	400	466	145	1.90	9.10	10.92	2.75	3.20	

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]	[W/W]
-35 (-31)	425	107	125	82	1.10	2.41	5.06	1.28	1.48	
-30 (-22)	551	139	161	96	1.28	3.12	5.74	1.45	1.68	
-25 (-13)	709	179	208	110	1.47	4.03	6.50	1.64	1.90	
-20 (- 4)	907	229	266	125	1.67	5.16	7.35	1.85	2.16	
-15 (+ 5)	1151	290	337	139	1.86	6.57	8.32	2.10	2.44	
-10 (+14)	1448	365	424	154	2.05	8.30	9.42	2.37	2.76	

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)	337	85	99	76	1.02	1.90	4.48	1.13	1.31	
-30 (-22)	495	125	145	96	1.32	2.80	5.12	1.29	1.50	
-25 (-13)	682	172	200	117	1.60	3.87	5.81	1.46	1.70	
-20 (- 4)	906	228	266	138	1.87	5.16	6.56	1.65	1.92	
-15 (+ 5)	1173	296	344	159	2.11	6.70	7.37	1.86	2.16	
-10 (+14)	1489	375	436	180	2.32	8.53	8.28	2.09	2.43	

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)	592	149	174	111	1.49	3.35	5.35	1.35	1.57	
-30 (-22)	816	206	239	134	1.77	4.63	6.10	1.54	1.79	
-25 (-13)	1064	268	312	151	1.97	6.04	7.09	1.79	2.08	
-20 (- 4)	1354	341	397	164	2.13	7.70	8.24	2.08	2.42	
-15 (+ 5)	1704	429	499	178	2.28	9.73	9.50	2.39	2.78	
-10 (+14)	2133	538	625	196	2.47	12.22	10.78	2.72	3.16	

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)	494	125	145	104	1.41	2.80	4.78	1.20	1.40
-30	(-22)	733	185	215	134	1.79	4.16	5.46	1.38	1.60
-25	(-13)	994	250	291	157	2.07	5.64	6.35	1.60	1.86
-20	(- 4)	1294	326	379	176	2.29	7.37	7.38	1.86	2.16
-15	(+ 5)	1653	417	484	195	2.48	9.44	8.49	2.14	2.49
-10	(+14)	2089	527	612	217	2.68	11.97	9.59	2.42	2.81

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)	355	89	104	87	1.22	2.01	4.05	1.02	1.19
-30	(-22)	606	153	178	127	1.77	3.44	4.69	1.18	1.37
-25	(-13)	877	221	257	158	2.19	4.98	5.51	1.39	1.61
-20	(- 4)	1187	299	348	185	2.52	6.75	6.44	1.62	1.89
-15	(+ 5)	1553	391	455	211	2.80	8.86	7.42	1.87	2.17
-10	(+14)	1994	502	584	239	3.07	11.42	8.37	2.11	2.45

F - EXTERNAL CHARACTERISTICS

1 Base plate	Universal EG/F/AMEM version 2		
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		