

COMPRESSOR DEFINITION

Designation	VEG T8U
Nominal Voltage/Frequency	230 V 60-150 Hz
Engineering Number	513800081

A - APPLICATION / LIMIT WORKING CONDITIONS

1 Type	Hermetic reciprocating compressor		
2 Refrigerant	R-290		
3 Nominal voltage and frequency	230 / 60-150	[V / Hz]	
4 Application type	Low-Medium Back Pressure (Light Commercial) up to -40°C		
4.1 Evaporating temperature range	-40°C to 0°C	(-40°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)	Fan	103 to 140 V	103 to 140 V
8.2 LBP (43°C Ambient temperature)	Fan	103 to 140 V	103 to 140 V
8.3 HBP (32°C Ambient temperature)	-	-	-
8.4 HBP (43°C Ambient temperature)	-	-	-
9 Maximum condensing pressures/temperature			
9.1 Operating (gauge)	19.1	[kgf/cm ²] (272 psig)	/ °C - °F
9.2 Peak (gauge)	21.2	[kgf/cm ²] (301 psig)	/ °C - °F
10 Maximum winding temperature	130	[°C]	

B - MECHANICAL DATA

1 Commercial designation	1/4	[hp]
2 Displacement	7.95	[cm ³] (0.485 cu.in)
2.1 Bore [mm]	22.500	
2.2 Stroke [mm]	20.000	
3 Lubricant charge	430	[ml] (14.54 fl.oz.)
3.1 Lubricants approved		
3.2 Lubricants type/viscosity	ESTER / ISO22	
4 Weight (with oil charge)	10.28	[kg] (22.66 lb.)
5 Nitrogen charge	-	[kgf/cm ²]

C - ELETRICAL DATA

1 Nominal Voltage/Frequency/Number of Phases	230 V 60-150 Hz 3 ~ (Three phase)	
2 Starting device type	Inverter	
2.1 Starting device	VCCMP2BXXXXXXX	
3 Start capacitor	-	[μF(VAC minimum)]
4 Run capacitor	-	[μF(VAC minimum)]
5 Motor protection	VCCMP2BXXXXXXX	
6 Start winding resistance	10.55	[Ω at 25°C (77°F)] +/- 8%
7 Run winding resistance	10.55	[Ω at 25°C (77°F)] +/- 8%
8 LRA - Locked rotor amperage (60/150 Hz)	3.30	[A] - Measured according to UL 984
9 FLA - Full load amperage L/MBP (60/150 Hz)	2.00	[A] - Measured according to UL 984
10 FLA - Full Load Amperage HBP (60/150 Hz)	2.00	[A] - Measured according to UL 984
11 Approval boards certification	UL	

D - PERFORMANCE - CHECK POINT DATA

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V2000RPM		ASHRAE32 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)	422	106	124	83	1.83	1.24	5.11	1.29	1.50
-35	(-31)	578	146	169	99	1.91	1.71	5.80	1.46	1.70
-30	(-22)	750	189	220	114	1.95	2.22	6.58	1.66	1.93
-25	(-13)	945	238	277	126	1.96	2.81	7.50	1.89	2.20
-20	(- 4)	1170	295	343	137	1.96	3.49	8.59	2.17	2.52
-15	(+ 5)	1432	361	420	146	1.97	4.29	9.89	2.49	2.90
-10	(+14)	1739	438	510	153	2.00	5.23	11.45	2.88	3.35
-5	(+23)	2098	529	615	158	2.07	6.35	13.28	3.35	3.89
0	(+32)	2516	634	737	162	2.20	7.65	15.44	3.89	4.52

TEST CONDITIONS: @115V2000RPM		ASHRAE32 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)	380	96	111	88	1.99	1.12	4.49	1.13	1.31
-35	(-31)	540	136	158	106	2.08	1.60	5.12	1.29	1.50
-30	(-22)	713	180	209	123	2.13	2.12	5.78	1.46	1.69
-25	(-13)	907	229	266	139	2.15	2.70	6.50	1.64	1.90
-20	(- 4)	1129	285	331	153	2.17	3.37	7.31	1.84	2.14
-15	(+ 5)	1387	349	406	167	2.19	4.15	8.27	2.08	2.42
-10	(+14)	1687	425	494	179	2.24	5.08	9.40	2.37	2.75
-5	(+23)	2037	513	597	190	2.34	6.16	10.73	2.70	3.15
0	(+32)	2444	616	716	200	2.49	7.43	12.32	3.10	3.61

TEST CONDITIONS: @115V2000RPM		ASHRAE32 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)	312	79	91	89	2.06	0.92	3.69	0.93	1.08
-35	(-31)	475	120	139	109	2.17	1.41	4.41	1.11	1.29
-30	(-22)	650	164	190	129	2.24	1.93	5.07	1.28	1.49
-25	(-13)	844	213	247	148	2.30	2.51	5.72	1.44	1.68
-20	(- 4)	1064	268	312	166	2.35	3.17	6.40	1.61	1.88
-15	(+ 5)	1317	332	386	184	2.41	3.94	7.14	1.80	2.09
-10	(+14)	1611	406	472	201	2.50	4.85	7.97	2.01	2.34
-5	(+23)	1953	492	572	217	2.64	5.90	8.94	2.25	2.62
0	(+32)	2350	592	689	233	2.84	7.14	10.09	2.54	2.96

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@115V2000RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	216	54	63	88	2.04	0.63	2.51	0.63	0.74
-35	(-31)	384	97	113	110	2.19	1.14	3.44	0.87	1.01
-30	(-22)	562	142	165	132	2.31	1.67	4.24	1.07	1.24
-25	(-13)	756	190	221	153	2.41	2.25	4.95	1.25	1.45
-20	(- 4)	974	246	286	175	2.51	2.91	5.62	1.42	1.65
-15	(+ 5)	1224	308	359	197	2.63	3.67	6.27	1.58	1.84
-10	(+14)	1513	381	443	218	2.79	4.55	6.95	1.75	2.04
-5	(+23)	1847	465	541	240	2.99	5.58	7.68	1.94	2.25
0	(+32)	2234	563	655	262	3.26	6.79	8.52	2.15	2.50

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@115V3000RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	590	149	173	124	2.12	1.74	4.91	1.24	1.44
-35	(-31)	851	214	249	151	2.42	2.52	5.64	1.42	1.65
-30	(-22)	1130	285	331	175	2.61	3.35	6.42	1.62	1.88
-25	(-13)	1438	362	421	196	2.71	4.28	7.30	1.84	2.14
-20	(- 4)	1784	450	523	216	2.78	5.32	8.30	2.09	2.43
-15	(+ 5)	2180	549	639	232	2.84	6.53	9.46	2.38	2.77
-10	(+14)	2636	664	772	246	2.93	7.93	10.81	2.72	3.17
-5	(+23)	3161	797	926	256	3.08	9.56	12.40	3.12	3.63
0	(+32)	3767	949	1104	263	3.34	11.45	14.25	3.59	4.18

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V3000RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	590	149	173	137	2.34	1.74	4.47	1.13	1.31
-35	(-31)	836	211	245	164	2.66	2.47	5.12	1.29	1.50
-30	(-22)	1102	278	323	190	2.87	3.27	5.76	1.45	1.69
-25	(-13)	1398	352	410	215	3.02	4.16	6.45	1.63	1.89
-20	(- 4)	1736	437	509	239	3.13	5.18	7.22	1.82	2.12
-15	(+ 5)	2124	535	622	261	3.24	6.36	8.10	2.04	2.37
-10	(+14)	2574	649	754	281	3.39	7.75	9.13	2.30	2.68
-5	(+23)	3096	780	907	299	3.62	9.36	10.34	2.61	3.03
0	(+32)	3700	932	1084	316	3.96	11.25	11.77	2.97	3.45

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@115V3000RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	562	142	165	143	2.49	1.65	4.04	1.02	1.18
-35	(-31)	794	200	233	172	2.82	2.35	4.67	1.18	1.37
-30	(-22)	1048	264	307	200	3.06	3.11	5.26	1.32	1.54
-25	(-13)	1335	336	391	229	3.23	3.97	5.84	1.47	1.71
-20	(- 4)	1664	419	488	257	3.38	4.96	6.45	1.63	1.89
-15	(+ 5)	2046	516	600	285	3.55	6.13	7.13	1.80	2.09
-10	(+14)	2492	628	730	313	3.76	7.50	7.91	1.99	2.32
-5	(+23)	3011	759	882	340	4.06	9.10	8.82	2.22	2.59
0	(+32)	3615	911	1059	366	4.47	10.99	9.91	2.50	2.90

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@115V3000RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	506	128	148	143	2.56	1.49	3.45	0.87	1.01
-35	(-31)	726	183	213	173	2.90	2.15	4.14	1.04	1.21
-30	(-22)	970	244	284	205	3.15	2.87	4.75	1.20	1.39
-25	(-13)	1247	314	365	238	3.36	3.71	5.30	1.34	1.55
-20	(- 4)	1569	396	460	271	3.55	4.68	5.83	1.47	1.71
-15	(+ 5)	1947	491	570	306	3.76	5.83	6.39	1.61	1.87
-10	(+14)	2389	602	700	341	4.03	7.19	6.99	1.76	2.05
-5	(+23)	2907	733	852	377	4.39	8.79	7.69	1.94	2.25
0	(+32)	3511	885	1029	413	4.89	10.67	8.50	2.14	2.49

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@115V3600RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	846	213	248	168	2.11	2.50	4.89	1.23	1.43
-35	(-31)	1061	267	311	193	2.41	3.14	5.49	1.38	1.61
-30	(-22)	1352	341	396	218	2.71	4.01	6.23	1.57	1.82
-25	(-13)	1716	432	503	242	2.99	5.10	7.10	1.79	2.08
-20	(- 4)	2153	542	631	267	3.26	6.42	8.09	2.04	2.37
-15	(+ 5)	2661	671	780	290	3.52	7.97	9.19	2.31	2.69
-10	(+14)	3239	816	949	313	3.76	9.75	10.38	2.62	3.04
-5	(+23)	3886	979	1139	334	3.98	11.75	11.66	2.94	3.42
0	(+32)	4600	1159	1348	353	4.18	13.99	13.01	3.28	3.81

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V3600RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	806	203	236	175	2.21	2.38	4.55	1.15	1.33
-35	(-31)	1018	257	298	202	2.56	3.01	5.04	1.27	1.48
-30	(-22)	1302	328	381	231	2.91	3.86	5.64	1.42	1.65
-25	(-13)	1656	417	485	261	3.25	4.92	6.34	1.60	1.86
-20	(- 4)	2080	524	609	290	3.58	6.21	7.13	1.80	2.09
-15	(+ 5)	2572	648	754	320	3.90	7.71	8.00	2.02	2.34
-10	(+14)	3131	789	918	350	4.21	9.42	8.94	2.25	2.62
-5	(+23)	3756	947	1101	378	4.51	11.36	9.94	2.50	2.91
0	(+32)	4446	1120	1303	406	4.78	13.51	10.98	2.77	3.22

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@115V3600RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	761	192	223	179	2.26	2.25	4.20	1.06	1.23
-35	(-31)	966	243	283	210	2.65	2.86	4.63	1.17	1.36
-30	(-22)	1240	312	363	242	3.04	3.68	5.14	1.30	1.51
-25	(-13)	1581	398	463	276	3.43	4.70	5.73	1.44	1.68
-20	(- 4)	1989	501	583	311	3.82	5.93	6.38	1.61	1.87
-15	(+ 5)	2462	620	721	347	4.19	7.37	7.08	1.78	2.07
-10	(+14)	2999	756	879	383	4.56	9.02	7.82	1.97	2.29
-5	(+23)	3599	907	1055	419	4.92	10.88	8.59	2.17	2.52
0	(+32)	4260	1074	1248	454	5.27	12.95	9.38	2.36	2.75

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 65°C (+149°F))					
@115V3600RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	711	179	208	183	2.26	2.10	3.74	0.94	1.10
-35	(-31)	905	228	265	216	2.68	2.68	4.16	1.05	1.22
-30	(-22)	1166	294	342	252	3.11	3.46	4.64	1.17	1.36
-25	(-13)	1491	376	437	289	3.54	4.43	5.17	1.30	1.52
-20	(- 4)	1879	474	551	329	3.96	5.61	5.73	1.45	1.68
-15	(+ 5)	2330	587	683	369	4.39	6.98	6.32	1.59	1.85
-10	(+14)	2842	716	833	411	4.81	8.55	6.92	1.74	2.03
-5	(+23)	3414	860	1000	454	5.23	10.32	7.52	1.90	2.20
0	(+32)	4043	1019	1185	497	5.64	12.29	8.12	2.05	2.38

E - PERFORMANCE - CURVES

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 35°C (+95°F))					
@115V4500RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	954	240	280	207	2.29	2.82	4.68	1.18	1.37
-35	(-31)	1352	341	396	253	3.05	4.00	5.34	1.34	1.56
-30	(-22)	1737	438	509	287	3.56	5.15	6.07	1.53	1.78
-25	(-13)	2133	538	625	312	3.87	6.34	6.88	1.73	2.02
-20	(- 4)	2565	646	752	331	4.07	7.65	7.77	1.96	2.28
-15	(+ 5)	3056	770	895	349	4.21	9.16	8.74	2.20	2.56
-10	(+14)	3630	915	1064	368	4.36	10.93	9.79	2.47	2.87
-5	(+23)	4312	1087	1264	392	4.59	13.04	10.92	2.75	3.20
0	(+32)	5125	1292	1502	425	4.98	15.58	12.12	3.06	3.55

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 45°C (+113°F))					
@115V4500RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	919	232	269	220	2.50	2.71	4.30	1.08	1.26
-35	(-31)	1341	338	393	274	3.31	3.97	4.88	1.23	1.43
-30	(-22)	1733	437	508	313	3.85	5.14	5.51	1.39	1.61
-25	(-13)	2118	534	621	343	4.21	6.30	6.19	1.56	1.81
-20	(- 4)	2520	635	738	366	4.44	7.52	6.92	1.74	2.03
-15	(+ 5)	2964	747	868	386	4.61	8.88	7.71	1.94	2.26
-10	(+14)	3473	875	1018	406	4.80	10.45	8.55	2.16	2.51
-5	(+23)	4071	1026	1193	430	5.07	12.31	9.44	2.38	2.77
0	(+32)	4783	1205	1402	461	5.49	14.54	10.39	2.62	3.04

TEST CONDITIONS:		ASHRAE32			(Condensing temperature 55°C (+131°F))					
@115V4500RPM		Fan								
Evaporating temperature		Cooling capacity			Power consumption	Current consumption	Gas flow rate	EFFICIENCY RATE		
		+/- 5%			+/- 5%	+/- 5%	+/- 5%	+/- 7%		
°C	(°F)	[Btu/h]	[kcal/h]	[W]	[W]	[A]	[kg/h]	[Btu/Wh]	[kcal/Wh]	[W/W]
-40	(-40)	771	194	226	223	2.72	2.27	3.77	0.95	1.10
-35	(-31)	1236	311	362	285	3.54	3.66	4.34	1.09	1.27
-30	(-22)	1652	416	484	331	4.10	4.90	4.94	1.24	1.45
-25	(-13)	2044	515	599	367	4.47	6.08	5.56	1.40	1.63
-20	(- 4)	2435	614	713	394	4.71	7.26	6.21	1.56	1.82
-15	(+ 5)	2850	718	835	417	4.90	8.53	6.88	1.73	2.02
-10	(+14)	3312	835	970	439	5.10	9.96	7.58	1.91	2.22
-5	(+23)	3845	969	1127	463	5.38	11.63	8.30	2.09	2.43
0	(+32)	4474	1127	1311	493	5.81	13.60	9.05	2.28	2.65

E - PERFORMANCE - CURVES

TEST CONDITIONS: @115V4500RPM		ASHRAE32 Fan			(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]
-40	(-40)	508	128	149	216	3.00	1.49	3.02	0.76	0.88
-35	(-31)	1034	261	303	286	3.81	3.06	3.65	0.92	1.07
-30	(-22)	1494	376	438	341	4.36	4.43	4.28	1.08	1.25
-25	(-13)	1911	482	560	383	4.72	5.68	4.91	1.24	1.44
-20	(- 4)	2309	582	677	415	4.95	6.89	5.54	1.40	1.62
-15	(+ 5)	2713	684	795	442	5.13	8.12	6.17	1.55	1.81
-10	(+14)	3147	793	922	466	5.32	9.46	6.79	1.71	1.99
-5	(+23)	3634	916	1065	492	5.59	10.98	7.42	1.87	2.17
0	(+32)	4198	1058	1230	521	6.01	12.76	8.04	2.03	2.36

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		