

LAMPIRAN

Lampiran 1. Tabel Refrigerant (R-22) Thermodynamic Properties (SI Units)

Freon™ 22

Refrigerant

Table 1 (continued) Freon™ 22 Saturation Properties — Temperature Table

Temp °C	Pressure [kPa]	Volume [m ³ /kg]		Density [kg/m ³]		Enthalpy [kJ/kg]			Entropy [kJ/K·kg]		Temp °C
		Liquid v _f	Vapour v _g	Liquid d _f	Vapour d _g	Liquid H _f	Latent H _{fg}	Vapour H _g	Liquid S _f	Vapour S _g	
-46	78.9	0.0007	0.2684	1424.0	3.726	148.4	236.9	385.3	0.794	1.838	-46
-45	82.9	0.0007	0.2563	1421.0	3.901	149.4	236.4	385.8	0.799	1.835	-45
-44	87.1	0.0007	0.2450	1418.0	4.082	150.5	235.8	386.3	0.804	1.833	-44
-43	91.3	0.0007	0.2342	1416.0	4.270	151.6	235.1	386.7	0.809	1.830	-43
-42	95.8	0.0007	0.2240	1413.0	4.464	152.7	234.5	387.2	0.813	1.828	-42
-41	100.4	0.0007	0.2144	1410.0	4.665	153.8	233.9	387.7	0.818	1.825	-41
-40	105.2	0.0007	0.2052	1407.0	4.873	154.9	233.2	388.1	0.823	1.823	-40
-39	110.2	0.0007	0.1965	1404.0	5.088	156.0	232.6	388.6	0.827	1.821	-39
-38	115.4	0.0007	0.1883	1401.0	5.311	157.1	232.0	389.1	0.832	1.819	-38
-37	120.7	0.0007	0.1805	1398.0	5.541	158.2	231.3	389.5	0.837	1.816	-37
-36	126.3	0.0007	0.1730	1395.0	5.779	159.3	230.7	390.0	0.841	1.814	-36
-35	132.0	0.0007	0.1660	1392.0	6.025	160.4	230.0	390.4	0.846	1.812	-35
-34	138.0	0.0007	0.1593	1389.0	6.279	161.5	229.4	390.9	0.851	1.810	-34
-33	144.1	0.0007	0.1529	1386.0	6.541	162.6	228.7	391.3	0.855	1.808	-33
-32	150.5	0.0007	0.1468	1383.0	6.811	163.7	228.1	391.8	0.860	1.806	-32
-31	157.1	0.0007	0.1410	1380.0	7.090	164.8	227.4	392.2	0.864	1.804	-31
-30	163.9	0.0007	0.1355	1377.0	7.379	165.9	226.8	392.7	0.869	1.802	-30
-29	170.9	0.0007	0.1303	1374.0	7.676	167.0	226.1	393.1	0.873	1.800	-29
-28	178.2	0.0007	0.1253	1371.0	7.982	168.1	225.5	393.6	0.878	1.798	-28
-27	185.7	0.0007	0.1205	1368.0	8.298	169.2	224.8	394.0	0.882	1.796	-27
-26	193.4	0.0007	0.1160	1365.0	8.623	170.3	224.2	394.5	0.887	1.794	-26
-25	201.4	0.0007	0.1116	1362.0	8.958	171.4	223.5	394.9	0.891	1.792	-25
-24	209.7	0.0007	0.1075	1359.0	9.304	172.6	222.7	395.3	0.896	1.790	-24
-23	218.2	0.0007	0.1035	1356.0	9.659	173.7	222.1	395.8	0.900	1.788	-23
-22	227.0	0.0007	0.0998	1353.0	10.030	174.8	221.4	396.2	0.905	1.786	-22
-21	236.0	0.0007	0.0961	1350.0	10.400	175.9	220.7	396.6	0.909	1.784	-21
-20	245.3	0.0007	0.0927	1347.0	10.790	177.0	220.1	397.1	0.914	1.783	-20
-19	254.9	0.0007	0.0894	1343.0	11.190	178.2	219.3	397.5	0.918	1.781	-19
-18	264.8	0.0008	0.0862	1340.0	11.600	179.3	218.6	397.9	0.922	1.779	-18
-17	275.0	0.0008	0.0832	1337.0	12.020	180.4	217.9	398.3	0.927	1.777	-17
-16	285.4	0.0008	0.0803	1334.0	12.450	181.6	217.1	398.7	0.931	1.776	-16
-15	296.2	0.0008	0.0775	1331.0	12.900	182.7	216.5	399.2	0.935	1.774	-15
-14	307.3	0.0008	0.0749	1328.0	13.360	183.8	215.8	399.6	0.940	1.772	-14
-13	318.7	0.0008	0.0723	1324.0	13.830	185.0	215.0	400.0	0.944	1.771	-13
-12	330.4	0.0008	0.0699	1321.0	14.310	186.1	214.3	400.4	0.949	1.769	-12
-11	342.4	0.0008	0.0675	1318.0	14.810	187.3	213.5	400.8	0.953	1.767	-11
-10	354.8	0.0008	0.0653	1315.0	15.320	188.4	212.8	401.2	0.957	1.766	-10
-9	367.5	0.0008	0.0631	1311.0	15.850	189.6	212.0	401.6	0.962	1.764	-9
-8	380.5	0.0008	0.0610	1308.0	16.380	190.7	211.3	402.0	0.966	1.763	-8
-7	393.9	0.0008	0.0590	1305.0	16.940	191.9	210.5	402.4	0.970	1.761	-7
-6	407.7	0.0008	0.0571	1302.0	17.500	193.0	209.8	402.8	0.974	1.760	-6
-5	421.8	0.0008	0.0553	1298.0	18.090	194.2	209.0	403.2	0.979	1.758	-5
-4	436.3	0.0008	0.0535	1295.0	18.680	195.3	208.2	403.5	0.983	1.757	-4
-3	451.1	0.0008	0.0518	1292.0	19.300	196.5	207.4	403.9	0.987	1.755	-3
-2	466.4	0.0008	0.0502	1288.0	19.920	197.7	206.6	404.3	0.992	1.754	-2
-1	482.0	0.0008	0.0486	1285.0	20.570	198.8	205.9	404.7	0.996	1.752	-1
0	498.0	0.0008	0.0471	1282.0	21.230	200.0	205.0	405.0	1.000	1.751	0
1	514.4	0.0008	0.0457	1278.0	21.910	201.2	204.2	405.4	1.004	1.749	1
2	531.2	0.0008	0.0442	1275.0	22.600	202.4	203.4	405.8	1.008	1.748	2
3	548.4	0.0008	0.0429	1271.0	23.310	203.5	202.6	406.1	1.013	1.746	3
4	566.1	0.0008	0.0416	1268.0	24.040	204.7	201.8	406.5	1.017	1.745	4
5	584.1	0.0008	0.0403	1264.0	24.790	205.9	200.9	406.8	1.021	1.744	5
6	602.6	0.0008	0.0391	1261.0	25.560	207.1	200.1	407.2	1.025	1.742	6
7	621.5	0.0008	0.0380	1257.0	26.340	208.3	199.2	407.5	1.030	1.741	7

Lampiran 2. Tabel Refrigerant (R-22) Thermodynamic Properties (SI Units)

Freon™ 22

Refrigerant

Table 1 (continued) Freon™ 22 Saturation Properties — Temperature Table

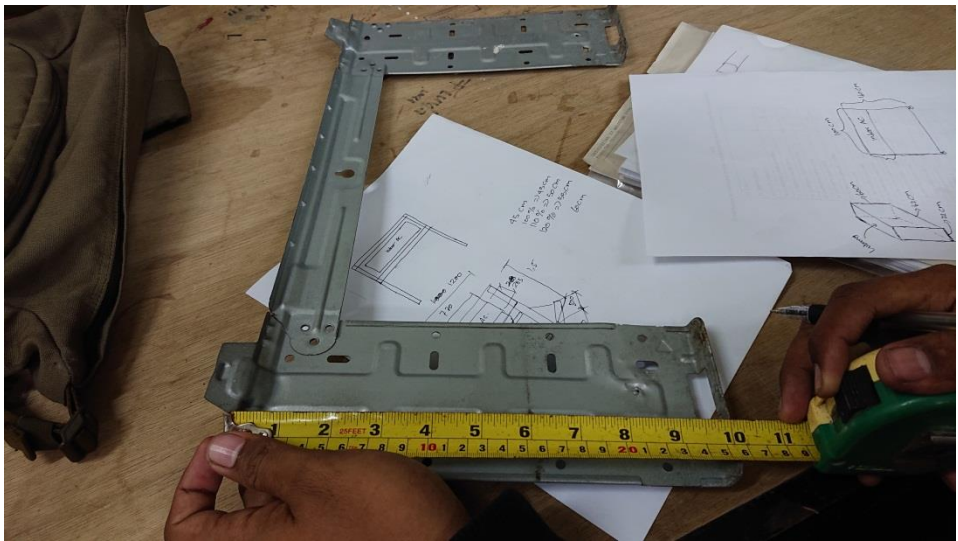
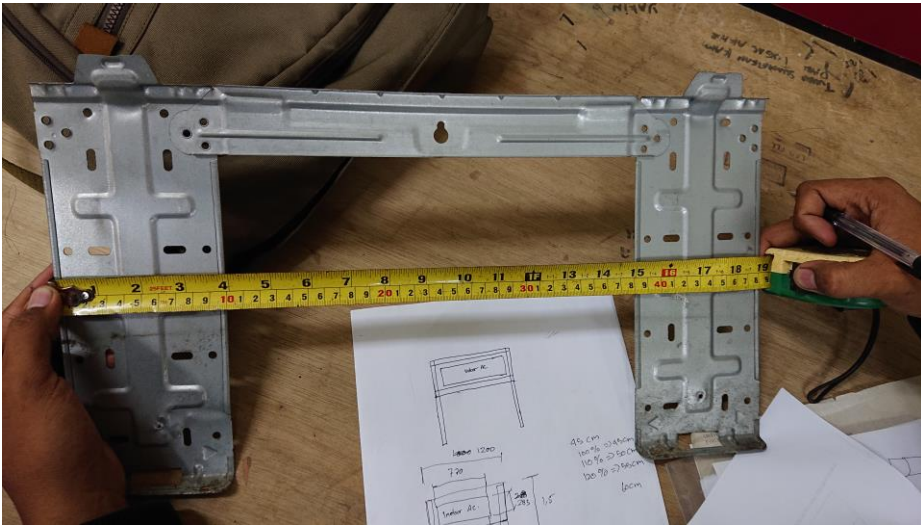
Temp °C	Pressure [kPa]	Volume [m ³ /kg]		Density [kg/m ³]		Enthalpy [kJ/kg]			Entropy [kJ/K·kg]		Temp °C
		Liquid v _l	Vapour v _g	Liquid d _l	Vapour d _g	Liquid H _l	Latent H _{lg}	Vapour H _g	Liquid S _l	Vapour S _g	
8	640.9	0.0008	0.0368	1254.0	27.150	209.5	198.4	407.9	1.034	1.739	8
9	660.7	0.0008	0.0358	1250.0	27.970	210.7	197.5	408.2	1.038	1.738	9
10	680.9	0.0008	0.0347	1247.0	28.820	211.9	196.7	408.6	1.042	1.737	10
11	701.7	0.0008	0.0337	1243.0	29.690	213.1	195.8	408.9	1.046	1.735	11
12	722.9	0.0008	0.0327	1239.0	30.570	214.3	194.9	409.2	1.051	1.734	12
13	744.5	0.0008	0.0318	1236.0	31.480	215.5	194.0	409.5	1.055	1.733	13
14	766.7	0.0008	0.0309	1232.0	32.410	216.7	193.2	409.9	1.059	1.732	14
15	789.3	0.0008	0.0300	1229.0	33.360	217.9	192.3	410.2	1.063	1.730	15
16	812.4	0.0008	0.0291	1225.0	34.340	219.1	191.4	410.5	1.067	1.729	16
17	836.1	0.0008	0.0283	1221.0	35.340	220.4	190.4	410.8	1.071	1.728	17
18	860.2	0.0008	0.0275	1217.0	36.360	221.6	189.5	411.1	1.076	1.726	18
19	884.8	0.0008	0.0267	1214.0	37.410	222.8	188.6	411.4	1.080	1.725	19
20	910.0	0.0008	0.0260	1210.0	38.480	224.1	187.6	411.7	1.084	1.724	20
21	935.7	0.0008	0.0253	1206.0	39.570	225.3	186.6	411.9	1.088	1.722	21
22	961.9	0.0008	0.0246	1202.0	40.700	226.5	185.7	412.2	1.092	1.721	22
23	988.7	0.0008	0.0239	1198.0	41.850	227.8	184.7	412.5	1.096	1.720	23
24	1016.0	0.0008	0.0232	1195.0	43.030	229.0	183.8	412.8	1.100	1.719	24
25	1044.0	0.0008	0.0226	1191.0	44.230	230.3	182.7	413.0	1.105	1.717	25
26	1072.0	0.0008	0.0220	1187.0	45.470	231.5	181.8	413.3	1.109	1.716	26
27	1101.0	0.0009	0.0214	1183.0	46.730	232.8	180.7	413.5	1.113	1.715	27
28	1131.0	0.0009	0.0208	1179.0	48.020	234.1	179.7	413.8	1.117	1.714	28
29	1161.0	0.0009	0.0203	1175.0	49.350	235.3	178.7	414.0	1.121	1.712	29
30	1192.0	0.0009	0.0197	1171.0	50.700	236.6	177.7	414.3	1.125	1.711	30
31	1223.0	0.0009	0.0192	1167.0	52.090	237.9	176.6	414.5	1.129	1.710	31
32	1255.0	0.0009	0.0187	1163.0	53.520	239.2	175.5	414.7	1.133	1.709	32
33	1288.0	0.0009	0.0182	1158.0	54.970	240.5	174.4	414.9	1.138	1.707	33
34	1321.0	0.0009	0.0177	1154.0	56.460	241.8	173.3	415.1	1.142	1.706	34
35	1355.0	0.0009	0.0172	1150.0	57.990	243.1	172.2	415.3	1.146	1.705	35
36	1389.0	0.0009	0.0168	1146.0	59.550	244.4	171.1	415.5	1.150	1.704	36
37	1424.0	0.0009	0.0164	1142.0	61.150	245.7	170.0	415.7	1.154	1.702	37
38	1460.0	0.0009	0.0159	1137.0	62.790	247.0	168.9	415.9	1.158	1.701	38
39	1497.0	0.0009	0.0155	1133.0	64.470	248.3	167.8	416.1	1.162	1.700	39
40	1534.0	0.0009	0.0151	1129.0	66.190	249.6	166.6	416.2	1.166	1.698	40
41	1571.0	0.0009	0.0147	1124.0	67.960	251.0	165.4	416.4	1.171	1.697	41
42	1610.0	0.0009	0.0143	1120.0	69.760	252.3	164.3	416.6	1.175	1.696	42
43	1649.0	0.0009	0.0140	1115.0	71.610	253.7	163.0	416.7	1.179	1.695	43
44	1689.0	0.0009	0.0136	1111.0	73.510	255.0	161.8	416.8	1.183	1.693	44
45	1729.0	0.0009	0.0133	1106.0	75.460	256.4	160.6	417.0	1.187	1.692	45
46	1770.0	0.0009	0.0129	1101.0	77.450	257.7	159.4	417.1	1.191	1.691	46
47	1812.0	0.0009	0.0126	1097.0	79.500	259.1	158.1	417.2	1.196	1.689	47
48	1855.0	0.0009	0.0123	1092.0	81.590	260.5	156.8	417.3	1.200	1.688	48
49	1899.0	0.0009	0.0119	1087.0	83.740	261.9	155.5	417.4	1.204	1.687	49
50	1943.0	0.0009	0.0116	1082.0	85.950	263.2	154.2	417.4	1.208	1.685	50
51	1988.0	0.0009	0.0113	1077.0	88.220	264.6	152.9	417.5	1.212	1.684	51
52	2033.0	0.0009	0.0110	1072.0	90.540	266.0	151.6	417.6	1.216	1.682	52
53	2080.0	0.0009	0.0108	1067.0	92.930	267.5	150.1	417.6	1.221	1.681	53
54	2127.0	0.0009	0.0105	1062.0	95.380	268.9	148.7	417.6	1.225	1.680	54
55	2175.0	0.0010	0.0102	1057.0	97.900	270.3	147.4	417.7	1.229	1.678	55
56	2224.0	0.0010	0.0100	1052.0	100.500	271.8	145.9	417.7	1.233	1.677	56
57	2274.0	0.0010	0.0097	1047.0	103.100	273.2	144.5	417.7	1.238	1.675	57
58	2324.0	0.0010	0.0094	1041.0	105.900	274.7	142.9	417.6	1.242	1.674	58
59	2375.0	0.0010	0.0092	1036.0	108.700	276.1	141.5	417.6	1.246	1.672	59
60	2427.0	0.0010	0.0090	1030.0	111.600	277.6	139.9	417.5	1.250	1.670	60
61	2480.0	0.0010	0.0087	1025.0	114.600	279.1	138.4	417.5	1.255	1.669	61

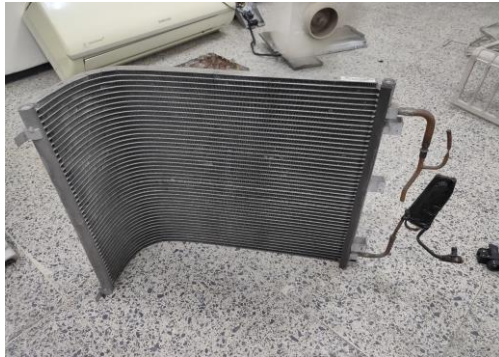
Lampiran 6. Dokumentasi saat proses pembuatan trainer a/c split



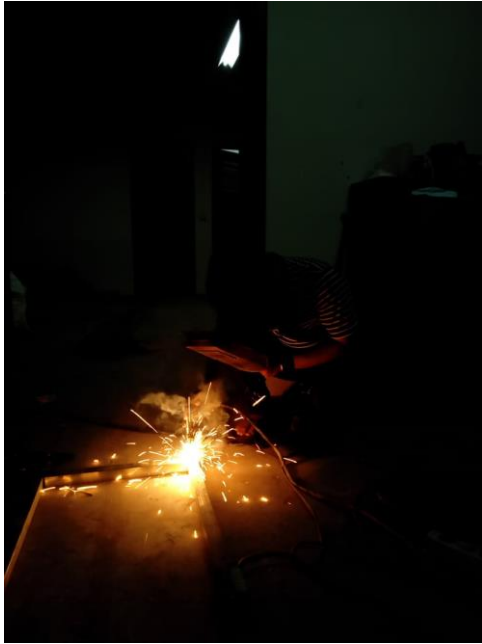




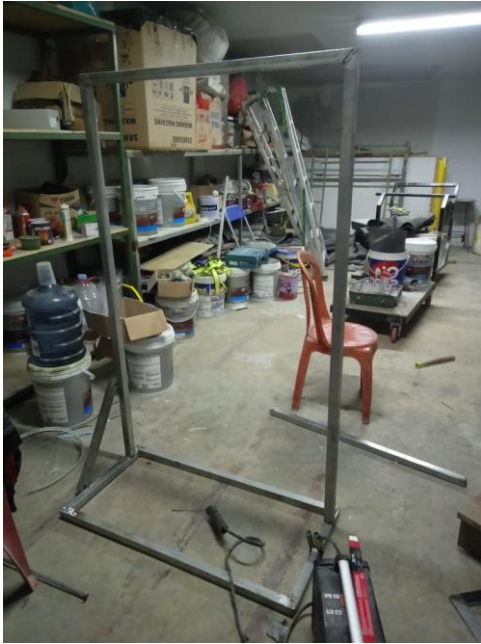
























Lampiran 8. Dokumentasi saat proses Pengambilan data P_1 , P_2 , P_3 , P_4 , T_1 , T_2 , T_3 , T_4



