

LAMPIRAN

➤ Lampiran Kegiatan



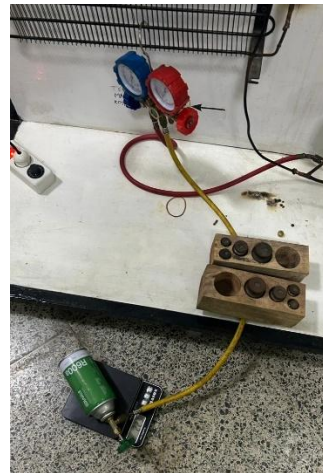
Pembuatan Rangka



Pemipaan



Penyambungan Pipa



Pengisian Refrigeran



Pengambilan Data



Pengambilan Data



Foto Akhir

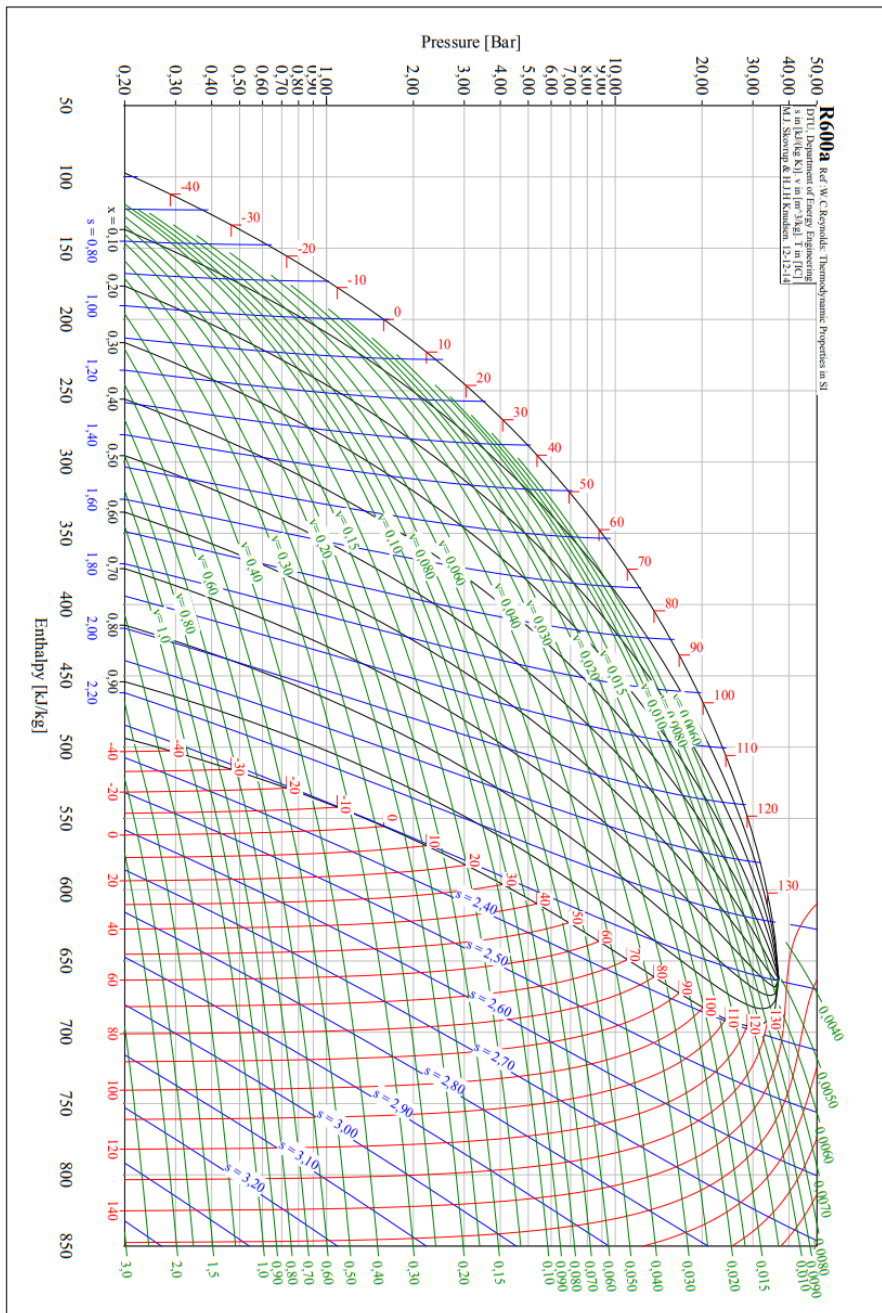
➤ Lampiran Table Dan Grafik Ph Yang Di Pakai

Thermodynamic properties of R-600a - Saturated state

LIQUID									
Absolute pressure p (bar)	Boiling point t _b (°C)	Volume v [*] (liter/kg)	Density ρ [*] (kg/dm ³)	Enthalpy h [*] (kJ/kg)	Entropy s [*] (kJ/kg.K)	Dew point t _d (°C)	Volume v [*] (m ³ /kg)	Density ρ [*] (kg/m ³)	Enthalpy h [*] (kJ/kg)
0.004	-100	1.482	0.684	-6.395	0.087	-100.0	65.234	0.015	428.190
0.006	-95	1.473	0.679	3.368	0.121	-95.0	41.078	0.024	433.861
0.010	-90	1.483	0.674	12.549	0.173	-90.0	26.648	0.038	439.602
0.015	-85	1.494	0.669	22.144	0.225	-85.0	17.764	0.056	445.465
0.020	-80	1.505	0.664	31.624	0.276	-80.0	12.140	0.082	451.362
0.030	-70	1.538	0.650	51.330	0.318	-70.0	6.050	0.165	463.470
0.040	-65	1.538	0.650	61.380	0.423	-65.0	4.410	0.227	469.633
0.060	-60	1.551	0.645	71.413	0.471	-60.0	3.266	0.306	475.855
0.126	-55	1.564	0.640	81.450	0.518	-55.0	2.459	0.407	482.142
0.168	-50	1.576	0.634	91.764	0.564	-50.0	1.879	0.532	488.489
0.221	-45	1.589	0.629	102.086	0.610	-45.0	1.456	0.697	494.893
0.287	-40	1.602	0.624	112.512	0.655	-40.0	1.143	0.875	501.349
0.368	-35	1.616	0.619	123.042	0.700	-35.0	0.907	1.102	507.853
0.466	-30	1.630	0.614	133.682	0.744	-30.0	0.728	1.372	514.400
0.584	-25	1.644	0.608	144.433	0.787	-25.0	0.591	1.689	520.887
0.729	-20	1.659	0.603	155.300	0.831	-20.0	0.483	2.066	527.407
0.903	-15	1.674	0.597	166.283	0.874	-15.0	0.393	2.509	533.970
1.013	-11.76	1.684	0.594	173.481	0.901	-11.76	0.354	2.808	538.487
1.085	-10	1.690	0.592	177.385	0.916	-10.0	0.332	3.012	540.633
1.310	-5	1.706	0.586	188.632	0.958	-5.0	0.278	3.593	547.628
1.570	0	1.722	0.581	200.000	1.000	0.0	0.235	4.257	554.337
1.867	5	1.740	0.575	211.504	1.042	5.0	0.200	5.012	561.056
2.206	10	1.758	0.569	223.148	1.083	10.0	0.170	5.867	567.778
2.590	15	1.776	0.563	234.940	1.124	15.0	0.146	6.831	574.497
3.022	20	1.796	0.557	246.881	1.165	20.0	0.126	7.913	581.207
3.507	25	1.816	0.551	258.980	1.205	25.0	0.110	9.126	587.961
4.047	30	1.837	0.544	271.241	1.246	30.0	0.095	10.480	594.770
4.643	35	1.859	0.537	283.663	1.286	35.0	0.082	11.983	601.633
5.312	40	1.883	0.531	296.285	1.326	40.0	0.073	13.666	607.802
6.044	45	1.907	0.524	309.073	1.366	45.0	0.064	15.529	614.344
6.849	50	1.933	0.517	322.060	1.406	50.0	0.057	17.595	620.823
7.730	55	1.960	0.510	335.251	1.446	55.0	0.050	19.866	627.233
8.692	60	1.989	0.503	348.657	1.486	60.0	0.045	22.426	633.528
9.739	65	2.020	0.495	362.291	1.526	65.0	0.040	25.242	639.718
10.875	70	2.053	0.487	376.168	1.566	70.0	0.035	28.369	645.766
12.107	75	2.089	0.479	390.309	1.607	75.0	0.031	31.846	651.643
13.438	80	2.128	0.470	404.732	1.647	80.0	0.028	35.721	657.313
14.874	85	2.170	0.461	419.464	1.687	85.0	0.025	40.027	662.753
16.420	90	2.215	0.452	434.520	1.726	90.0	0.022	44.780	668.000
18.085	95	2.263	0.444	450.000	1.778	95.0	0.020	50.000	672.818
19.865	100	2.328	0.430	466.004	1.811	100.0	0.018	56.897	677.637
21.778	105	2.395	0.418	482.309	1.854	105.0	0.016	63.910	680.899
23.826	110	2.473	0.404	499.389	1.897	110.0	0.014	72.331	683.141
26.019	115	2.568	0.389	517.263	1.942	115.0	0.012	82.372	685.808
28.366	120	2.688	0.372	536.259	1.989	120.0	0.011	94.741	688.459
30.880	125	2.852	0.351	557.006	2.040	125.0	0.009	110.866	684.814
33.578	130	3.115	0.321	581.255	2.099	130.0	0.007	134.723	678.439

HC

R-600a | Saturated state



Lampiran 1 Tabel 1 *Properties* Udara Pada Tekanan 1 atm

Temp. $T, ^\circ\text{C}$	Density $\rho, \text{kg/m}^3$	Specific Heat $c_p, \text{J/kg}\cdot\text{K}$	Thermal Conductivity $k, \text{W/m}\cdot\text{K}$	Thermal Diffusivity $\alpha, \text{m}^2/\text{s}$	Dynamic Viscosity $\mu, \text{kg/m}\cdot\text{s}$	Kinematic Viscosity $\nu, \text{m}^2/\text{s}$	Prandtl Number Pr
-150	2.866	983	0.01171	4.158×10^{-6}	8.636×10^{-6}	3.013×10^{-6}	0.7246
-100	2.038	966	0.01582	8.036×10^{-6}	1.189×10^{-5}	5.837×10^{-6}	0.7263
-50	1.582	999	0.01979	1.252×10^{-5}	1.474×10^{-5}	9.319×10^{-6}	0.7440
-40	1.514	1002	0.02057	1.356×10^{-5}	1.527×10^{-5}	1.008×10^{-5}	0.7436
-30	1.451	1004	0.02134	1.465×10^{-5}	1.579×10^{-5}	1.087×10^{-5}	0.7425
-20	1.394	1005	0.02211	1.578×10^{-5}	1.630×10^{-5}	1.169×10^{-5}	0.7408
-10	1.341	1006	0.02288	1.696×10^{-5}	1.680×10^{-5}	1.252×10^{-5}	0.7387
0	1.292	1006	0.02364	1.818×10^{-5}	1.729×10^{-5}	1.338×10^{-5}	0.7362
5	1.269	1006	0.02401	1.880×10^{-5}	1.754×10^{-5}	1.382×10^{-5}	0.7350
10	1.246	1006	0.02439	1.944×10^{-5}	1.778×10^{-5}	1.426×10^{-5}	0.7336
15	1.225	1007	0.02476	2.009×10^{-5}	1.802×10^{-5}	1.470×10^{-5}	0.7323
20	1.204	1007	0.02514	2.074×10^{-5}	1.825×10^{-5}	1.516×10^{-5}	0.7309
25	1.184	1007	0.02551	2.141×10^{-5}	1.849×10^{-5}	1.562×10^{-5}	0.7296
30	1.164	1007	0.02588	2.208×10^{-5}	1.872×10^{-5}	1.608×10^{-5}	0.7282
35	1.145	1007	0.02625	2.277×10^{-5}	1.895×10^{-5}	1.655×10^{-5}	0.7268
40	1.127	1007	0.02662	2.346×10^{-5}	1.918×10^{-5}	1.702×10^{-5}	0.7255
45	1.109	1007	0.02699	2.416×10^{-5}	1.941×10^{-5}	1.750×10^{-5}	0.7241
50	1.092	1007	0.02735	2.487×10^{-5}	1.963×10^{-5}	1.798×10^{-5}	0.7228
60	1.059	1007	0.02808	2.632×10^{-5}	2.008×10^{-5}	1.896×10^{-5}	0.7202
70	1.028	1007	0.02881	2.780×10^{-5}	2.052×10^{-5}	1.995×10^{-5}	0.7177
80	0.9994	1008	0.02953	2.931×10^{-5}	2.096×10^{-5}	2.097×10^{-5}	0.7154
90	0.9718	1008	0.03024	3.086×10^{-5}	2.139×10^{-5}	2.201×10^{-5}	0.7132
100	0.9458	1009	0.03095	3.243×10^{-5}	2.181×10^{-5}	2.306×10^{-5}	0.7111
120	0.8977	1011	0.03235	3.565×10^{-5}	2.264×10^{-5}	2.522×10^{-5}	0.7073
140	0.8542	1013	0.03374	3.898×10^{-5}	2.345×10^{-5}	2.745×10^{-5}	0.7041

➤ Perangkat lunak CoolPack

