

corriente	descripción	p (bar)	T (°C)	m (ton/h)	h (kJ/kg)	s (kJ/kgK)
	1 entra a HPT1	82.775	508.4	151.43	3415.8	6.734
	2 entra a HPT2	30.916	379.6	136.351	3184.5	6.8402
	3 entra a HPT3	15.395	296	129.337	3028.5	6.8911
	4 entra a HPT4	7.254	216.6	124.366	2880	6.9445
	5 entra a HPT5	2.947	136.8	115.777	2729.7	7.0123
	6 entra a LPT d	0.86	95.5	107.142	2553.9	7.0986
	11 sale de HPT1	30.916	379.6	11.848	3184.5	6.8402
	11.1 sale de HPT1	58.264	460.8	3.231	3331.3	6.775
	12 sale de HPT2	15.395	296	7.015	3028.5	6.8911
	13 sale de HPT3	7.254	216.6	4.971	2880	6.9445
	14 sale de HPT4	2.947	136.8	8.588	2729.7	7.0123
	15 sale de HPT5	0.86	95.5	8.635	2553.9	7.0986
	16 sale de LPT h	0.106	47	107.142	2309.3	7.2636
	21 entra a conde	0.106	47	126.892	2010.4	6.32922969
	22 sale de conde	0.361	47	126.89	196.7	0.66439294
	23 entra a bomba	0.361	47	126.89	196.7	0.66439294
	24 sale de bomb	9.716	47.21	126.892	198.4	0.66675236
	25 entra a bomba	8.253	163.7	154.558	692	1.9801185
	26 sale de bomb	109.8	165.1	154.558	703.9	1.98166983
	32 c fria entra a i	9.68	50.8	126.737	213.3	0.71299216
	33 c fria entra a i	9.2	91	126.737	382.1	1.20441804
	34 c fria entra a i	6.79	128.1	126.737	538.7	1.6144762
	35 c fria entra a i	109.82	165.1	140.783	703.9	1.98166419
	36 c fria entra a i	108.34	193.4	140.783	827.5	2.25535238
	42 c fria sale de i	9.2	91	126.737	382.1	1.20441804
	43 c fria sale de i	8.31	128.1	126.737	538.7	1.61401925
44 / 64	c mezclada sa	8.253	163.7	154.558	692	1.9801185
	45 c fria sale de i	108.34	193.4	140.783	827.5	2.25535238
	46 c fria sale de i	106.76	230.2	140.783	993.4	2.59787105
	52 c cal entra a i	0.8	93.6	8.545	2574.2	7.17976693
	52.1 c cal entra a i	1.03	231.2	0.504	2937.4	7.9485782
	52.2 c cal entra a i	2.74	96.6	8.549	404.8	1.26795263
	53 c cal entra a i	2.74	134.8	8.549	2727.4	7.03788237
	54 c cal entra a i	6.79	214.6	5	2877.7	6.9690163
	54.1 c cal entra a i	25.76	225.5	2.333	969.9	2.57049207
	54.2 c cal entra a i	2.71	130	0.694	546.4	1.63464437
	54.3 c cal entra a i	14.36	171.4	16.996	725.9	2.05548109
	54.4 c cal entra a i	58.264	460.8	2.796	3331.3	6.775
	55 c cal entra a i	14.36	293.7	7.023	3026.1	6.91729702
	55.1 c cal entra a i	28.76	199.6	9.973	851.6	2.32610129
	56 c cal entra a i	28.76	376.8	9.515	3182.2	6.86736995
	56.1 c cal entra a i	84.907	509.4	0.458	3415.8	6.72221646
	62 c cal sale de i	0.8	56.9	17.094	238.1	0.79160386
	63 c cal sale de i	2.74	96.6	8.549	404.8	1.26795263
44 / 64	c mezclada sa	8.253	163.7	154.558	692	1.9801185
	65 c cal sale de i	14.36	171.4	16.996	725.9	2.05548109
	66 c cal sale de i	28.76	199.6	9.973	851.6	2.32610129
	145 entra a calder	94.49	230.2	140.783	993.4	2.60097996
	146 sale de calder	89.22	512.4	152.45	3418.1	6.70372454

A	entra a eco	94.49	230.2	140.783	993.4	2.60097996
B	sale de eco	94.13	256.2	140.783	1116.5	2.83939004
C	entra a vap	94.13	256.2	140.783	1116.5	2.83939004
D	sale de vap	94.04	306.5	139.389	2737.8	5.65617636
E	entra a cs1	94.04	306.5	138.679	2737.8	5.65617636
F	sale de cs1	92.32	463.1	138.679	3289.6	6.5202255
G	entra a cs2	92.32	380.5	152.454	3056	6.18293941
H	sale de cs2	89.22	512.4	152.454	3418.1	6.70372454

Temperaturas de transferencia de calor

Temperatura de salida del agua de enfriamiento del condensador

Tcond(°C) 40.2
Tcond(K) 313.35

Temperatura de salida de los gases de combustión de la chimenea

Tgas(°C) 178.6
Tgas(K) 451.75

Temperatura del aire precalentado para la combustión

Taire(°C) 360.8
Taire(K) 633.95

Temperatura de los gases de combustión que transfieren calor al economizador

	Tmax	Tmin	Tpromedio
Teco(°C)	539.5	444.4	
Teco(K)	812.65	717.55	765.1

Temperatura de los gases de combustión que transfieren calor a la vaporización

	Tmax	Tmin	Tpromedio
Tvap(°C)	1708.8	1708.8	
Tvap(K)	1981.95	1981.95	1981.95

Temperatura de los gases de combustión que transfieren calor al sobrecalentador 1

	Tmax	Tmin	Tpromedio
Tcs1(°C)	936.8	539.5	
Tcs1(K)	1209.95	812.65	1011.3

Temperatura de los gases de combustión que transfieren calor al sobrecalentador 2

	Tmax	Tmin	Tpromedio
Tcs2(°C)	1208	936.8	
Tcs2(K)	1481.15	1209.95	1345.55

Energía del combustible, el aire precalentado y los gases de combustión ventilados a la atm

Ucomb(kW) 118708.5

Qaire(kW) 1433.9

Qgas(kW) 17996.2

Parámetros ambientales

temperatura ambiental

To(°C) 25

To(K) 298.15

presión ambiental

p(bar) 1

p(pascal) 100000

entalpía

ho(kJ/kg) 104.856388

entropía

so(kJ/kgK) 0.36698036

m (kg/s)	e (kJ/kg)	E (kW)
42.0638889	1412.61671	59420.1522
37.8752778	1149.65318	43543.4334
35.9269444	978.477342	35153.7011
34.5461111	814.056132	28122.4736
32.1602778	643.541562	20696.4754
29.7616667	442.011217	13154.9905
3.29111111	1149.65318	3783.63635
0.8975	1315.89256	1181.01357
1.94861111	978.477342	1906.67182
1.38083333	814.056132	1124.07584
2.38555556	643.541562	1535.20415
2.39861111	442.011217	1060.21302
29.7616667	148.216467	4411.16909
35.2477778	127.898976	4508.15467
35.2472222	3.17005254	111.735546
35.2472222	3.17005254	111.735546
35.2477778	4.16659068	146.863062
42.9327778	106.186475	4558.88035
42.9327778	117.623946	5049.92273
35.2047222	5.28019347	185.887745
35.2047222	27.5615691	970.297383
35.2047222	61.9027267	2179.2683
39.1063889	117.62563	4599.91362
39.1063889	159.625494	6242.37664
35.2047222	27.5615691	970.297383
35.2047222	62.0389674	2184.06461
42.9327778	106.186475	4558.88035
39.1063889	159.625494	6242.37664
39.1063889	223.403553	8736.5062
2.37361111	438.111296	1039.90584
0.14	572.090216	80.0926303
2.37472222	31.3187301	74.3732843
2.37472222	633.61418	1504.65767
1.38888889	804.446598	1117.28694
0.64805556	208.066597	134.838714
0.19277778	63.5895886	12.2586596
4.72111111	117.61712	555.283494
0.77666667	1315.89256	1022.00989
1.95083333	968.2667	1888.92695
2.77027778	162.631707	450.535003
2.64305556	1139.25246	3011.10753
0.12722222	1416.12997	180.163201
4.74833333	6.64211512	31.5389766
2.37472222	31.3187301	74.3732843
42.9327778	106.186475	4558.88035
4.72111111	117.61712	555.283494
2.77027778	162.631707	450.535003
39.1063889	222.476633	8700.25772
42.3472222	1423.94334	60300.0449

39.1063889	222.476633	8700.25772
39.1063889	274.494667	10734.4952
39.1063889	274.494667	10734.4952
38.7191667	1055.96982	40886.2716
38.5219444	1055.96982	40678.0109
38.5219444	1350.15357	52010.541
42.3483333	1217.11542	51542.8097
42.3483333	1423.94334	60301.6271

ósfera

componente	W o Q transferido al ambiente destrucción de pérdida de ex E recurso			
turbina	38967.08167	5451.08671		44418.1684
HPT1	9597.6245	1314.44436		10912.0689
HPT2	5908.586667	574.473834		6483.0605
HPT3	5335.15125	572.000427		5907.15168
HPT4	5192.23875	698.555293		5890.79404
HPT5	5653.776833	827.495043		6481.27188
LPT	7279.703667	1464.11775		8743.82142
condensador	63927.88694	1295.40147	3101.01765	4396.41912
ic6		246.606169		2635.98724
ic5		141.715446		1784.17846
ic4		462.124639		2021.12171
ic3		216.517158		1430.28439
ic2		377.493242		1162.83278
tren		1444.45665		
bomba 1	59.92027778	24.7927617		59.9202778
bomba 2	510.9000556	19.8576713		510.900056
suma bombas	570.8203333	44.650433		
caldera	94821.26114	31596.3126		
suma ic caldera	104180.1218	30918.7384		83196.0998
economizador	4813.996472	903.804154		2938.04163
vaporización	62775.38492	23180.1407		53331.9171
cs1	21256.40894	3657.09523		14989.6253
cs2	15334.3315	3177.69835		11936.5158
combustión	119468.0293	30830.5965	6118.90718	119468.029
ciclo completo				120038.85

corriente	m (kg/s)	h (kJ/kg)	e (kJ/kg)	E (kW)
1	42.06388889	3415.8	1412.61671	59420.1522
2	37.87527778	3184.5	1149.65318	43543.4334
3	35.92694444	3028.5	978.477342	35153.7011
4	34.54611111	2880	814.056132	28122.4736
5	32.16027778	2729.7	643.541562	20696.4754
6	29.76166667	2553.9	442.011217	13154.9905
11	3.291111111	3184.5	1149.65318	3783.63635
11.1	0.8975	3331.3	1315.89256	1181.01357
12	1.948611111	3028.5	978.477342	1906.67182
13	1.380833333	2880	814.056132	1124.07584

14	2.385555556	2729.7	643.541562	1535.20415
15	2.398611111	2553.9	442.011217	1060.21302
16	29.76166667	2309.3	148.216467	4411.16909
21	35.24777778	2010.4	127.898976	4508.15467
22	35.24722222	196.7	3.17005254	111.735546
23	35.24722222	196.7	3.17005254	111.735546
24	35.24777778	198.4	4.16659068	146.863062
25	42.93277778	692	106.186475	4558.88035
26	42.93277778	703.9	117.623946	5049.92273
32	35.20472222	213.3	5.28019347	185.887745
33	35.20472222	382.1	27.5615691	970.297383
34	35.20472222	538.7	61.9027267	2179.2683
35	39.10638889	703.9	117.62563	4599.91362
36	39.10638889	827.5	159.625494	6242.37664
42	35.20472222	382.1	27.5615691	970.297383
43	35.20472222	538.7	62.0389674	2184.06461
44 / 64	42.93277778	692	106.186475	4558.88035
45	39.10638889	827.5	159.625494	6242.37664
46	39.10638889	993.4	223.403553	8736.5062
52	2.373611111	2574.2	438.111296	1039.90584
52.1	0.14	2937.4	572.090216	80.0926303
52.2	2.374722222	404.8	31.3187301	74.3732843
53	2.374722222	2727.4	633.61418	1504.65767
54	1.388888889	2877.7	804.446598	1117.28694
54.1	0.648055556	969.9	208.066597	134.838714
54.2	0.192777778	546.4	63.5895886	12.2586596
54.3	4.721111111	725.9	117.61712	555.283494
54.4	0.776666667	3331.3	1315.89256	1022.00989
55	1.950833333	3026.1	968.2667	1888.92695
55.1	2.770277778	851.6	162.631707	450.535003
56	2.643055556	3182.2	1139.25246	3011.10753
56.1	0.127222222	3415.8	1416.12997	180.163201
62	4.748333333	238.1	6.64211512	31.5389766
63	2.374722222	404.8	31.3187301	74.3732843
44 / 64	42.93277778	692	106.186475	4558.88035
65	4.721111111	725.9	117.61712	555.283494
66	2.770277778	851.6	162.631707	450.535003
145	39.10638889	993.4	222.476633	8700.25772
146	42.34722222	3418.1	1423.94334	60300.0449
A	39.10638889	993.4	222.476633	8700.25772
B	39.10638889	1116.5	274.494667	10734.4952
C	39.10638889	1116.5	274.494667	10734.4952
D	38.71916667	2737.8	1055.96982	40886.2716
E	38.52194444	2737.8	1055.96982	40678.0109
F	38.52194444	3289.6	1350.15357	52010.541
G	42.34833333	3056	1217.11542	51542.8097
H	42.34833333	3418.1	1423.94334	60301.6271

To(K) 298.15
ho(kJ/kg) 104.856388

so(kJ/kgK) 0.36698036

Tcond(K) 313.35

Tgas(K) 451.75

Taire(K) 633.95

Teco(K) 765.1

Tvap(K) 1981.95

Tcs1(K) 1011.3

Tcs2(K) 1345.55

Qgas(kW) 17996.2

Qaire(kW) 1433.9

Ucomb(kW) 118708.5

Ee 119468.029

Ee cv 82518.5256

E producto eficiencia exergética

38967.0817 0.87727799

9597.6245 0.87954215

5908.58667 0.91138848

5335.15125 0.90316815

5192.23875 0.88141577

5653.77683 0.87232521

7279.70367 0.83255402

0 0

2494.12956 0.94618423

1642.46302 0.92057104

2379.61205 1.17737197

1213.76723 0.84861951

784.409639 0.67456788

35.1275161 0.58623754

491.042384 0.96113198

2034.23748 0.69237871

30151.7764 0.56536082

11332.53 0.75602491

8758.81743 0.73378342

82518.5256 0.69071639

38967.0817 0.32462059