

VVER1000 EXERGY BALANCE

Q_{th} (kW)

η_{energy}

component	Resource	Product	Exergy efficiency	Irreversibilities	% total
HP vane	17,007.12	0.00	0.00%	17,007.12	3.05%
Reheater 2 vane	759.50	0.00	0.00%	759.50	0.14%
HP1 turbine	194,302.44	167,050.41	85.97%	27,252.03	4.88%
Extraction pump	2,112.77	1,911.28	90.46%	201.49	0.04%
Feedwater heater	152,255.96	148,854.29	97.77%	3,401.67	0.61%
Feedwater pump	17,952.91	15,427.35	85.93%	2,525.56	0.45%
SG inlet vane	816.04	0.00	0.00%	816.04	0.15%
LP1 turbine	126,935.35	105,477.37	83.10%	21,457.98	3.84%
LP2 turbine	131,410.44	107,318.95	81.67%	24,091.49	4.32%
LP3 turbine	226,959.40	180,311.22	79.45%	46,648.18	8.36%
Condenser inlet	100,374.35	100,374.35	100.00%	0.00	0.00%
HP3 turbine	122,222.20	104,054.41	85.14%	18,167.79	3.25%
IP vane	136.20	0.00	0.00%	136.20	0.02%
LP4 turbine	195,466.93	150,548.59	77.02%	44,918.34	8.05%
HP2 turbine	112,090.24	95,943.06	85.59%	16,147.18	2.89%
LP5 turbine	222,471.46	165,020.31	74.18%	57,451.15	10.29%
FWH_LP1	13,546.35	9,823.76	72.52%	3,722.59	0.67%
FWH_LP2	54,810.47	41,834.37	76.33%	12,976.09	2.32%
FWH_LP3	54,790.88	45,902.09	83.78%	8,888.78	1.59%
FWH_HP1	50,749.65	44,293.46	87.28%	6,456.19	1.16%
HP1 mix	65,852.14	65,872.13	100.03%	-19.99	0.00%
FWH_HP3	101,027.49	89,911.49	89.00%	11,116.00	1.99%
FWH_HP4	89,529.07	83,094.48	92.81%	6,434.59	1.15%
HP5	122,842.69	121,533.87	98.93%	1,308.82	0.23%
FW turbine	30,036.01	24,818.75	82.63%	5,217.26	0.93%
cond mix	16,103.34	15,390.89	95.58%	712.45	0.13%
FWH_LP4	16,031.17	13,985.68	87.24%	2,045.49	0.37%
HP2 mix	124,703.01	123,891.39	99.35%	811.61	0.15%
Reheater 1	35,522.87	32,113.20	0.00%	3,409.67	0.61% Reheat 1-Reheater 1
Reheater 2	51,403.52	46,391.01	0.00%	5,012.52	0.90% Reheat 2-Reheater 2
Condenser	99,099.54	0.00	0.00%	99,099.54	17.75% Tk = 15,00 °C
Steam generator	1,344,760.91	1,268,614.75	94.34%	76,146.16	13.64% Tk = 313,00 °C
economizer	293,084.37	259,252.42	88.46%	33,831.95	6.06% Tk = 313,00 °C
global	1,637,845.28	1,079,693.86	65.92%	558,151.43	100.00%
<i>T0 = 288,15 K</i>	<i>3,221,553.73</i>	<i>33.51%</i>			