

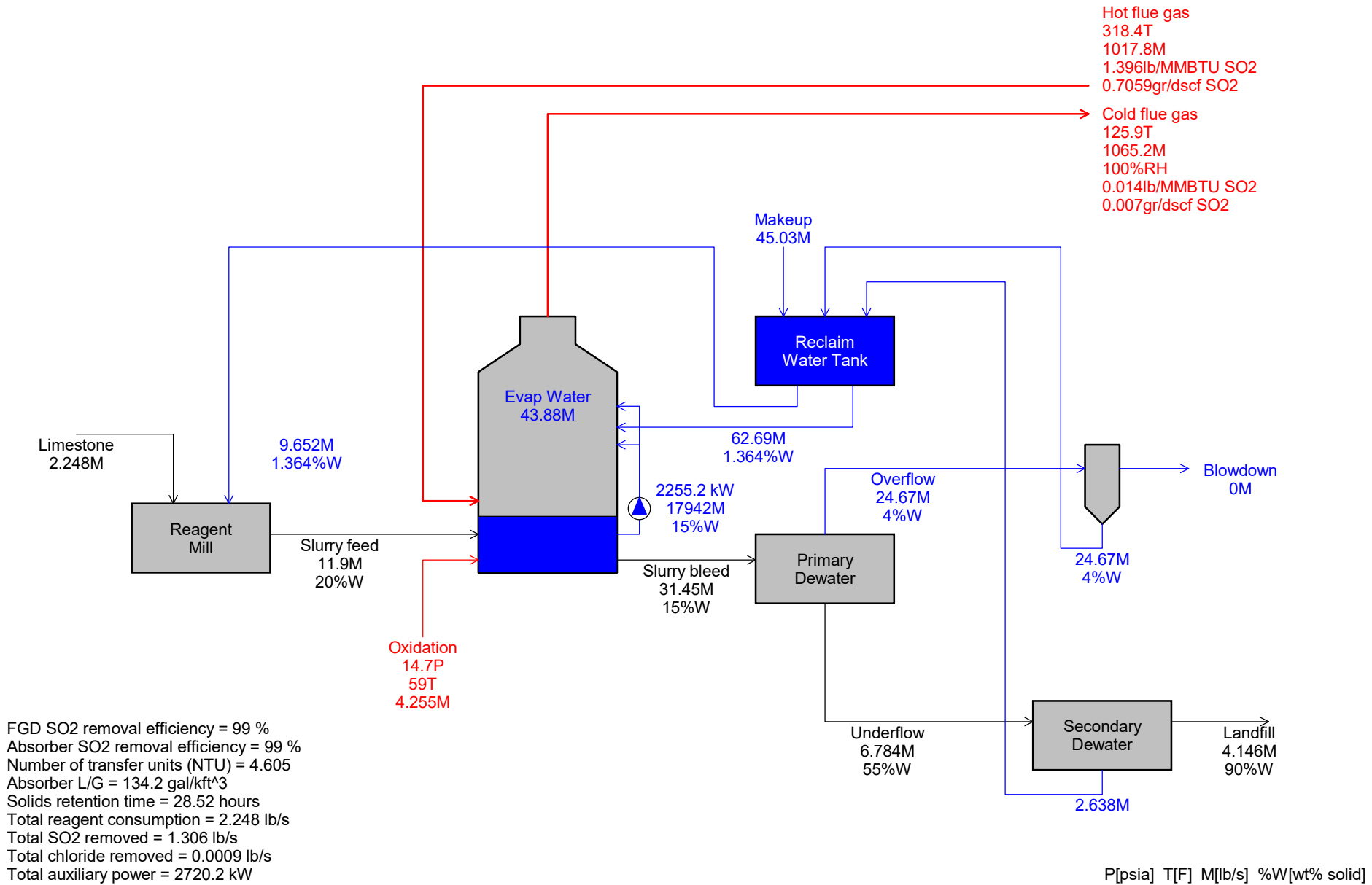
Boiler efficiency = 85.5% (344.3 Btu/lb) (3.44) (3.44) (3.44)
 Rankine cycle efficiency = 32.1% (10.1 Btu/lb) (10.1 Btu/lb) (10.1 Btu/lb) (10.1 Btu/lb)
 Overall efficiency = 27.4% (9.1 Btu/lb) (9.1 Btu/lb) (9.1 Btu/lb) (9.1 Btu/lb)

Steam cycle heat loss = 0.1 Btu/lb
 Steam cycle efficiency = 32.1%
 Overall cycle efficiency = 27.4%

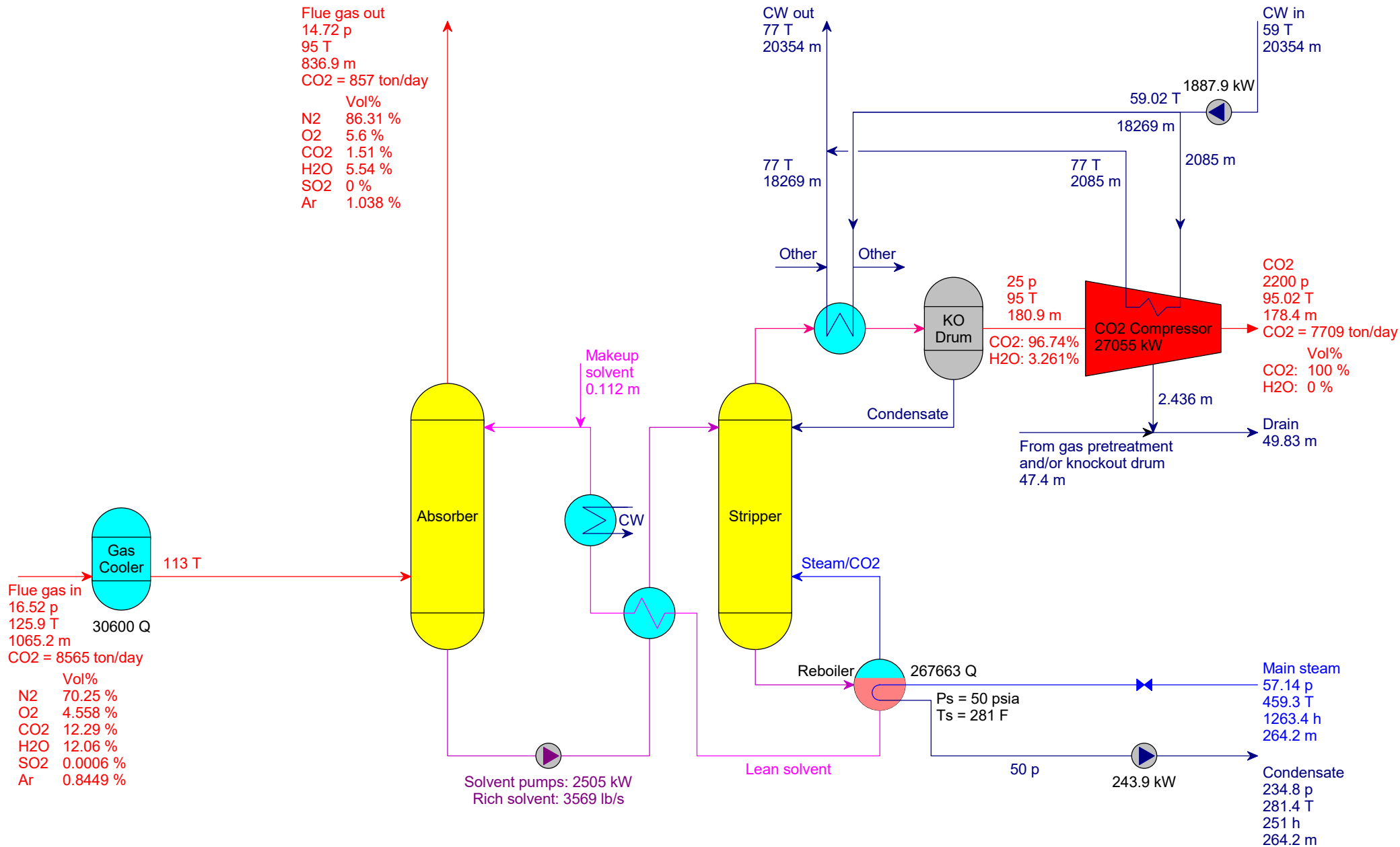
Stream	Flow Rate (lb/hr)	Temp (°F)	Pressure (psia)	Phase
Flue Gas In	100000	2000	15	Gas
Flue Gas Out	100000	1500	15	Gas
CO2 Out	10000	100	15	Gas
Water In	100000	100	15	Liquid
Water Out	100000	300	15	Liquid

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WFGD Flow Circuit - One Unit (Engineering Design)



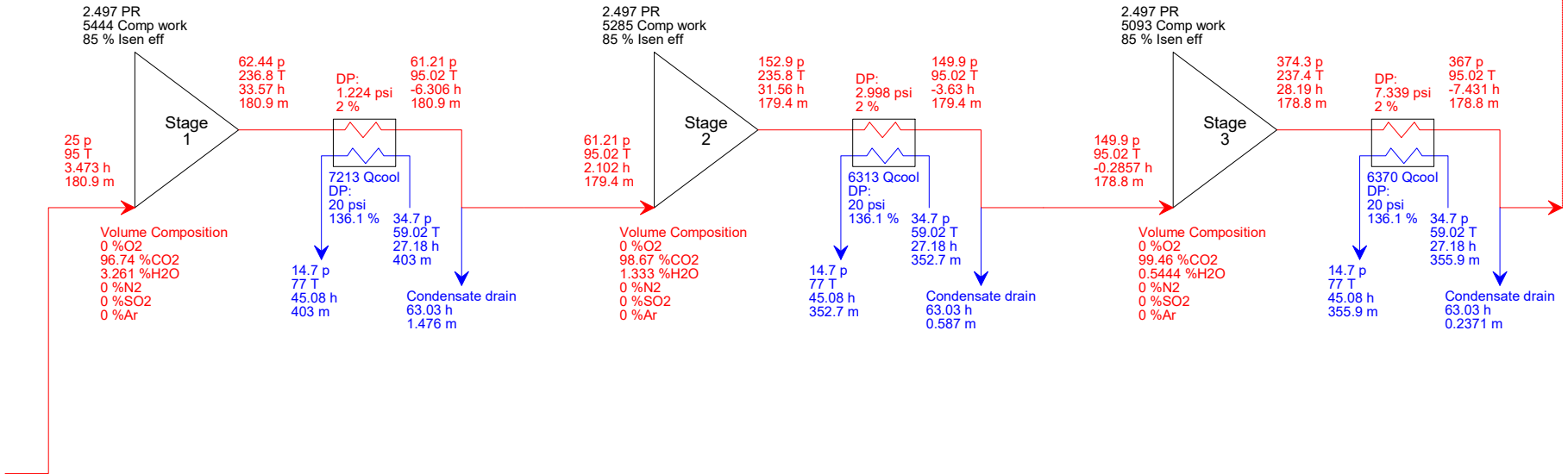
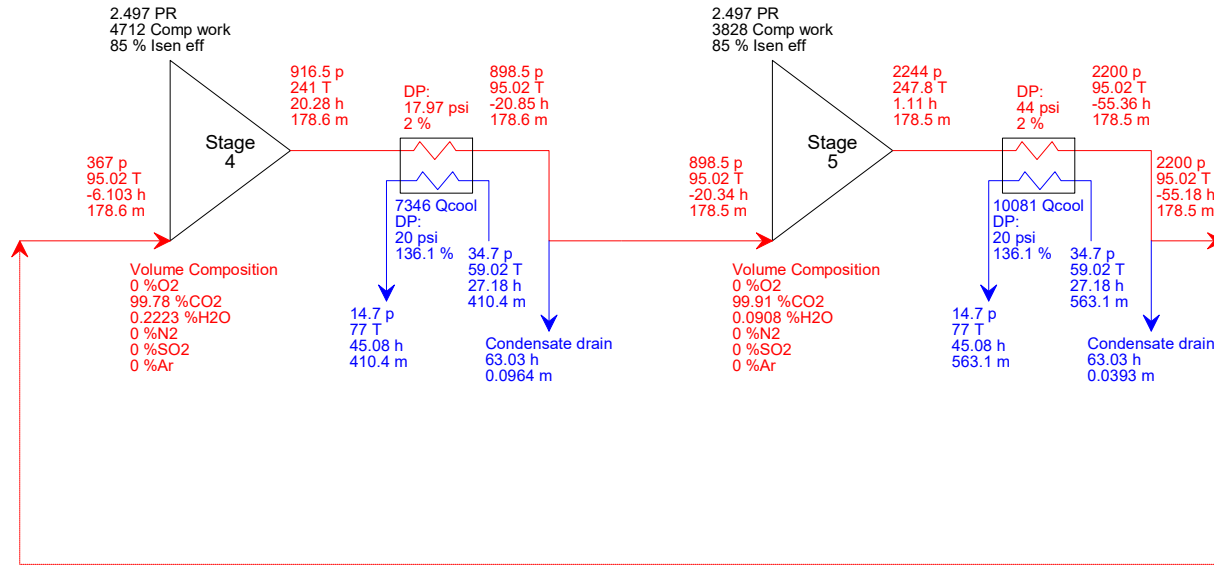
CO2 Capture Plant Flow Diagram



Process: Amine-based
 CO2 capture: 178.4 lb/s, 7709 ton/day
 CO2 capture efficiency: 90 %
 Heat input: 267663 BTU/s, 963.6 MMBTU/hr, 1500 BTU/lb CO2
 Total electrical power consumption: 32495 kW
 Solvent consumption: 4.836 ton/day

p[psia] T[F] h[BTU/lb] m[lb/s] Q[BTU/s]

Electricity consumption 27055kW
 Heat rejection to coolant 37324BTU/s
 Coolant massflow 2085lb/s
 Electrical / mechanical loss 1282.2BTU/s
 Overall pressure ratio 88



P[psia] T[F] M[lb/s] h[BTU/lb] Q,W[BTU/s]