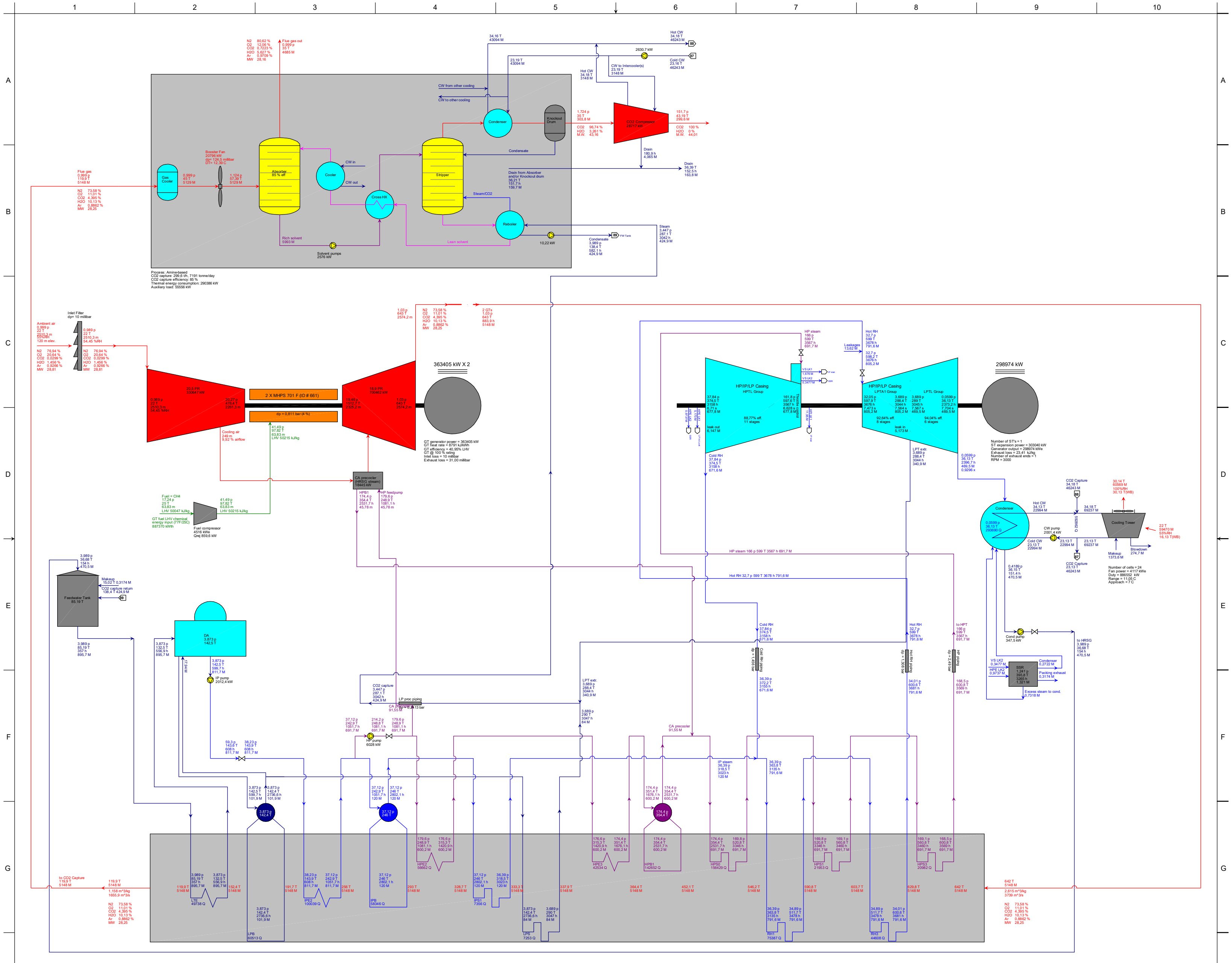


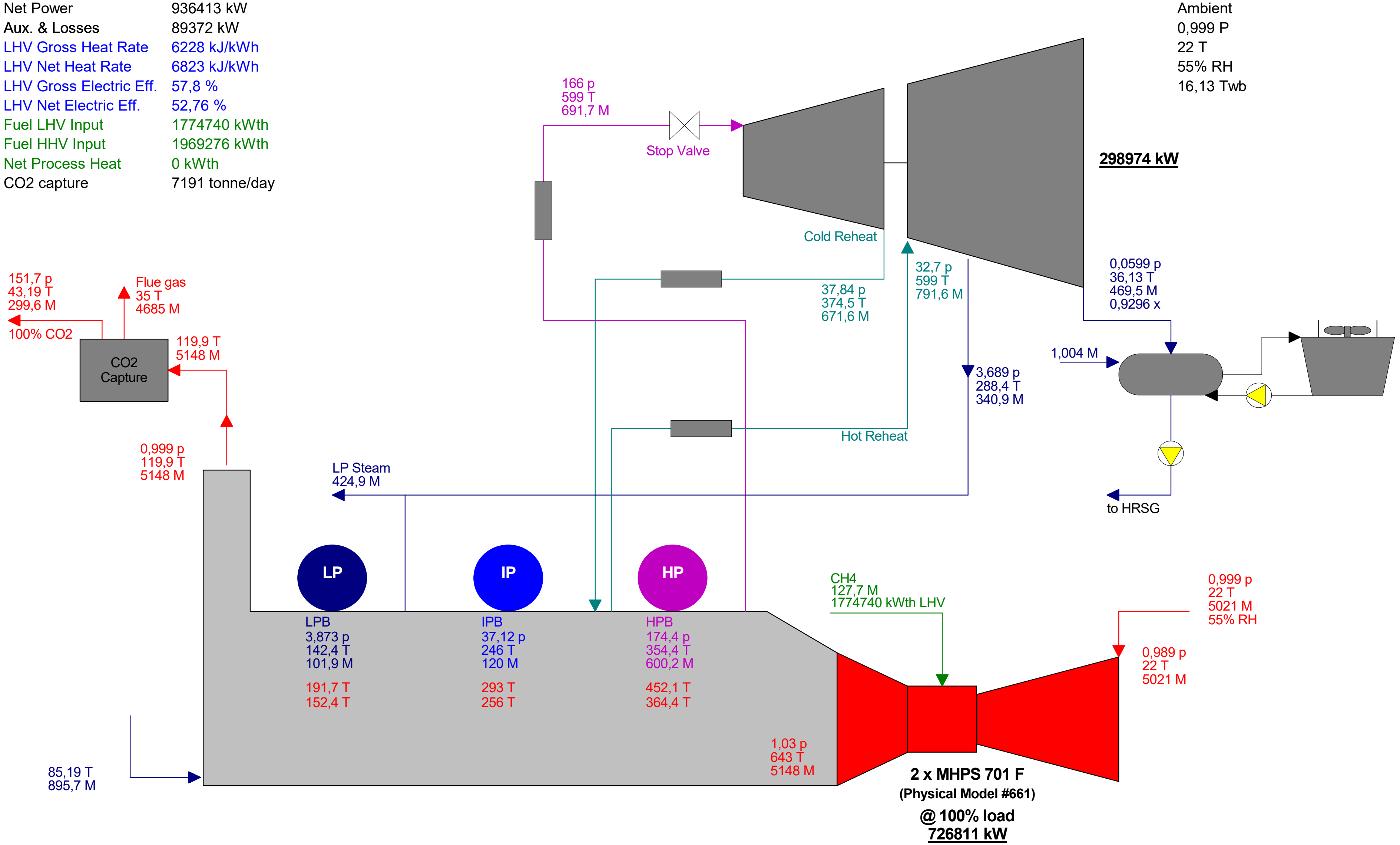
Gross Power = 1025785 kW, Aux. & Transformer losses = 89372 kW, Net Power Output = 936413 kW
Gross Heat Rate = 6228 kJ/kWh, Net Heat Rate = 6823 kJ/kWh (LHV)
Gross Elec Eff = 57,8 %, Net Elec Eff = 52,76 %, PURPA Eff = 52,76 %, CHP (Total) Eff = 52,76 % (LHV)
Fuel LHV chemical energy input = 1774740 kW

GT PRO 29.0 IMG
1305 03-14-2021 22:12:53 file=C:\Users\imart\Documents\Thermoflow 29\a_IMG\a_Brochure\Ex11_GTCC+CCS\CC 2x1 1000MW+Flue Gas CCS.GTP
p [bar], T [C], h [kJ/kg], M [t/h], Q [kW], Steam Properties: IAPWS-IF97
Upper case M for total plant flows, lower case m for each GT/HRSG flows

Company:	Ignacio Martin Gonzalez
User:	IMG
CO2 Capture:	Chemical Absorption (Amine-based)
Plant Configuration:	Gas Turbine: MHPS 701 F (Physical Model) - 2 units
	HRSG: Reheat, Horizontal HRSG - 2 units
	Steam Turbine: Condensing, Reheat - 1 unit
	Cooling System: Water cooling with mechanical draft cooling tower
Project:	
Site:	
Heat Balance:	
Date:	03-14-2021
Notes:	

GT PRO 29.0 IMG

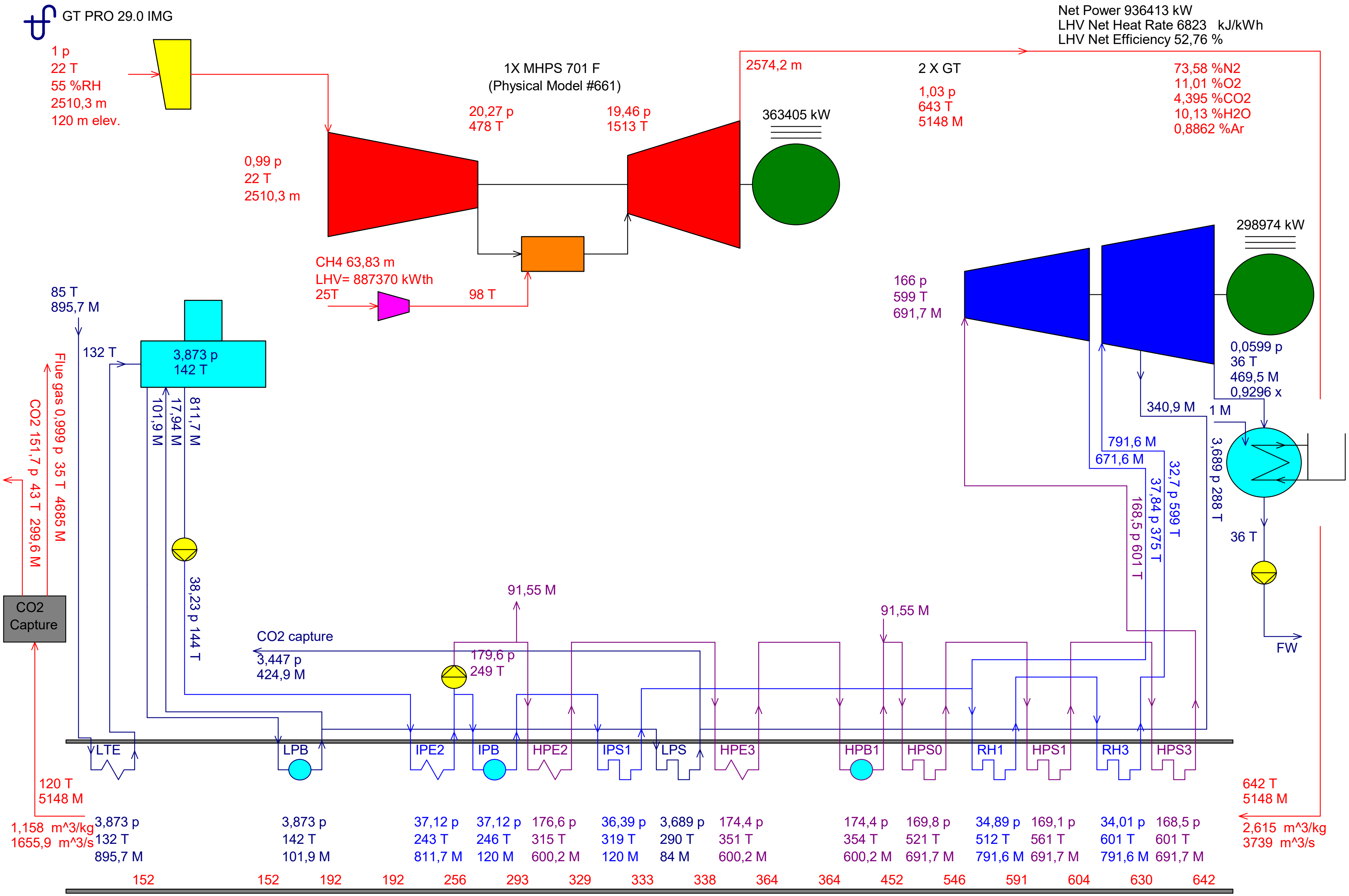
Gross Power	1025785 kW
Net Power	936413 kW
Aux. & Losses	89372 kW
LHV Gross Heat Rate	6228 kJ/kWh
LHV Net Heat Rate	6823 kJ/kWh
LHV Gross Electric Eff.	57,8 %
LHV Net Electric Eff.	52,76 %
Fuel LHV Input	1774740 kWth
Fuel HHV Input	1969276 kWth
Net Process Heat	0 kWth
CO2 capture	7191 tonne/day



p [bar] T [C] M [t/h], Steam Properties: IAPWS-IF97

GT PRO 29.0 IMG

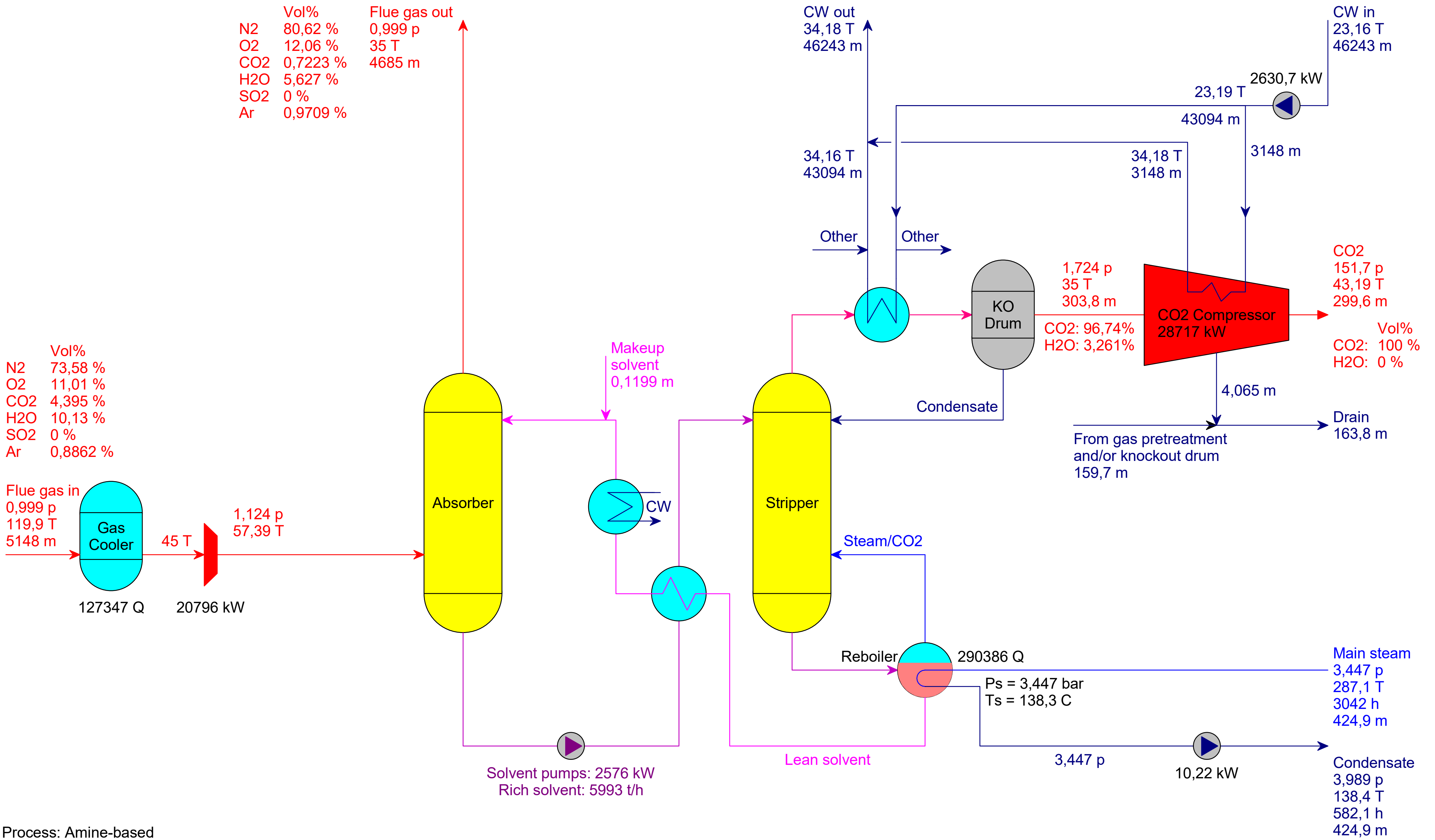
1305 03-14-2021 22:12:53 file=C:\Users\imart\Documents\Thermoflow 29\a_IMG\a_Brochure\Ex11_GTCC+CCS\CC 2x1 1000MW+Flue Gas CCS.GTP



p[bar], T[C], M[t/h], Steam Properties: IAPWS-IF97

1305 03-14-2021 22:12:53 file=C:\Users\imart\Documents\Thermoflow 29\a_IMG\a_Brochure\Ex11_GTCC+CCS\CC 2x1 1000MW+Flue Gas CCS.GTP

CO2 Capture Plant Flow Diagram



Process: Amine-based
CO2 capture: 299,6 t/h, 7191 tonne/day
CO2 capture efficiency: 85 %
Heat input: 290386 kW, 290,4 MW, 3489 kJ/kg CO2
Total electrical power consumption: 55556 kW
Solvent consumption: 2,877 tonne/day

p[bar] T[C] h[kJ/kg] m[t/h] Q[kW]