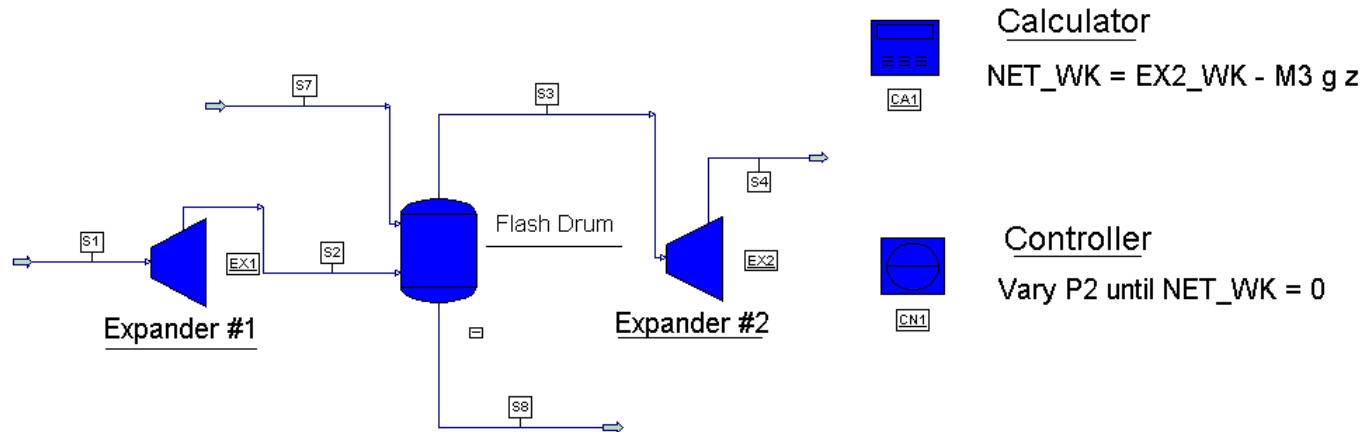


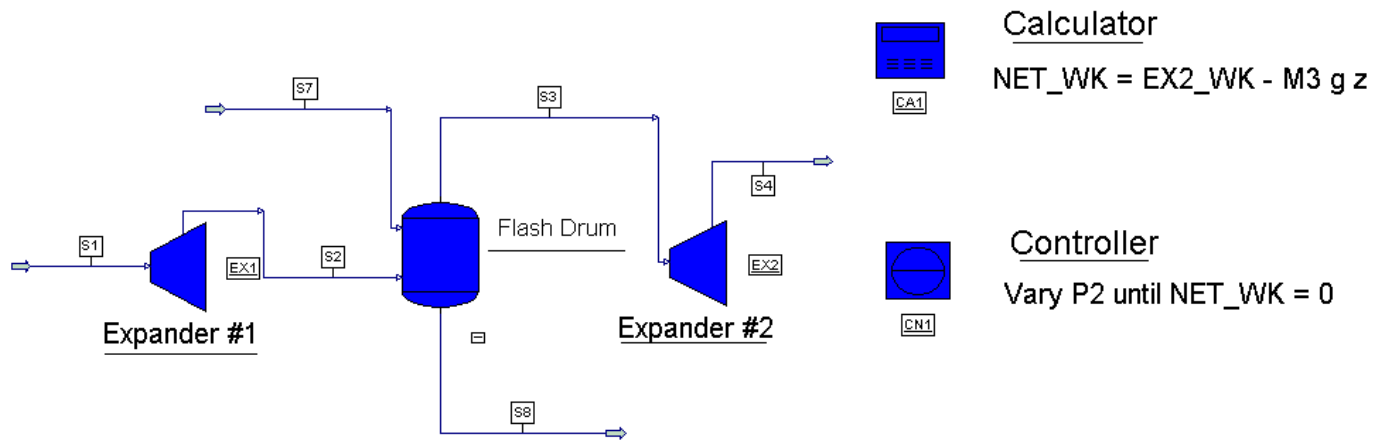
Stream Name		S1	S2	S3	S4	S7	S8
Stream Description							
Phase		Vapor	Vapor	Vapor	Mixed	Liquid	Liquid
Pressure	KPA	101.10	98.81	98.81	10.00	105.00	98.81
Temperature	C	25.80	23.86	24.54	-80.34	26.50	24.54
Total Sp. Enthalpy	KJ/KG	34.31	32.33	41.09	-121.29	93.99	85.23
Total Sp. Entropy	KJ/KG-C	6.47	6.47	6.49	6.49	5.01	4.98
Total Mass Rate	KG/SEC	1016.87	1016.87	1020.16	1020.16	1000.00	996.71
Total Enthalpy	M*WATT	34.89	32.88	41.92	-123.74	93.99	84.95

Expander #1 Duty $(H1 - H2) = 2.01$ MW
 Expander #2 Duty $(H3 - H4) =$ Lifting Duty $(M3 \text{ g z}) = 165.66$ MW
 Heat Duty $(H7 - H8) = 9.04$ MW
 Exhausting Height 16570 m



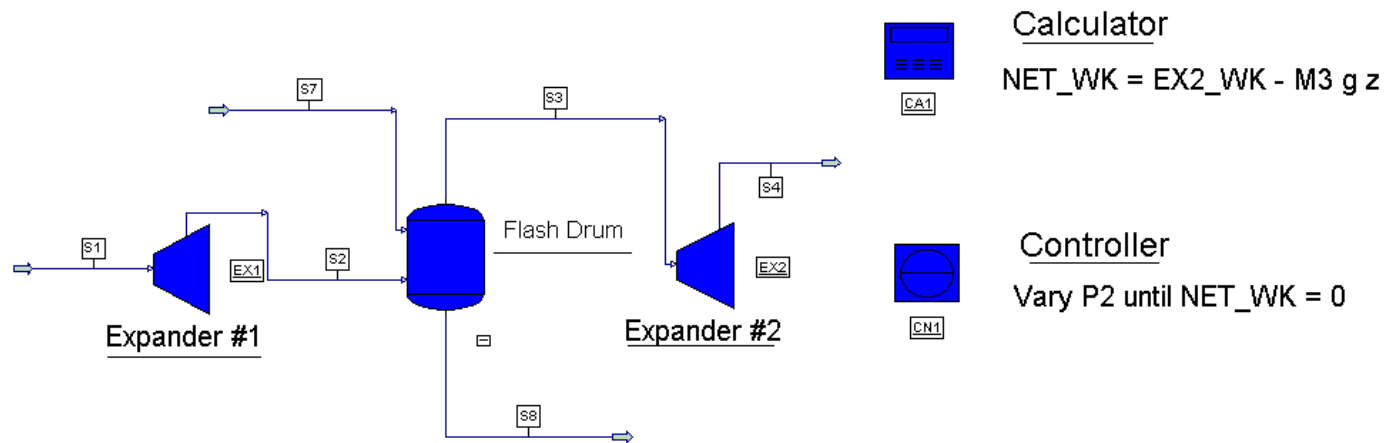
Stream Name		S1	S2	S3	S4	S7	S8
Stream Description							
Phase		Vapor	Vapor	Vapor	Mixed	Liquid	Liquid
Pressure	KPA	101.10	97.69	97.69	10.00	105.00	97.69
Temperature	C	25.80	22.90	24.87	-78.39	27.50	24.87
Total Sp. Enthalpy	KJ/KG	34.31	31.36	43.05	-119.33	98.44	86.73
Total Sp. Entropy	KJ/KG-C	6.47	6.47	6.50	6.50	5.03	4.99
Total Mass Rate	KG/SEC	1016.87	1016.87	1020.82	1020.82	1000.00	996.05
Total Enthalpy	M*WATT	34.89	31.89	43.95	-121.82	98.44	86.38

Expander #1 Duty (H1 - H2) = 3.00 MW
 Expander #2 Duty (H3 - H4) = Lifting Duty (M3 g z) = 165.77 MW
 Heat Duty (H7 - H8) = 12.06 MW
 Exhausting Height 16570 m



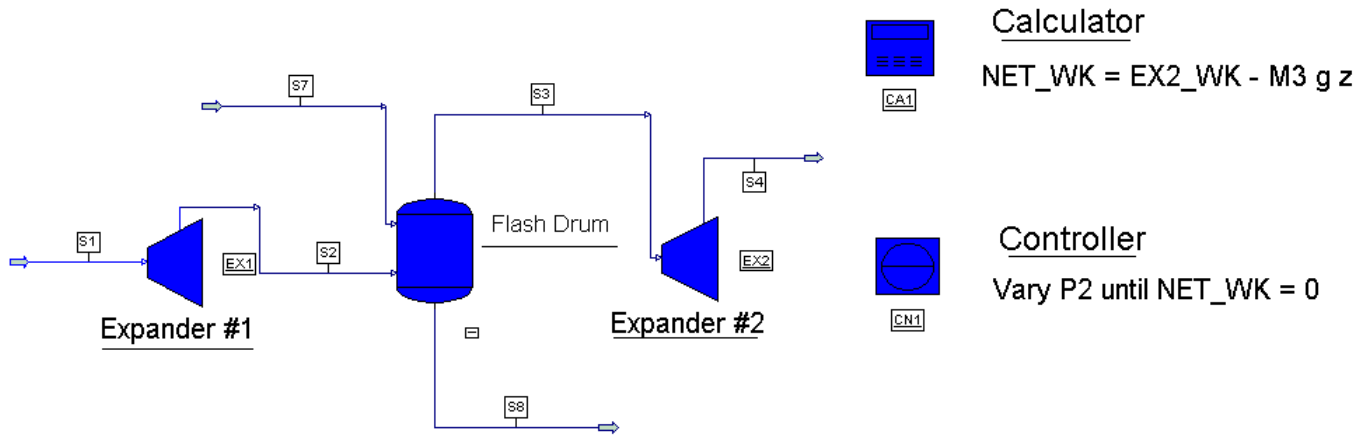
Stream Name		S1	S2	S3	S4	S7	S8
Stream Description							
Phase		Vapor	Vapor	Vapor	Mixed	Liquid	Liquid
Pressure	KPA	101.10	97.18	97.18	10.00	105.00	97.18
Temperature	C	25.80	22.46	25.03	-77.45	26.50	25.03
Total Sp. Enthalpy	KJ/KG	34.31	30.91	43.99	-118.39	93.99	87.43
Total Sp. Entropy	KJ/KG-C	6.47	6.47	6.50	6.50	5.01	4.99
Total Mass Rate	KG/SEC	1016.87	1016.87	1021.14	1021.14	2000.00	1995.73
Total Enthalpy	M*WATT	34.89	31.43	44.92	-120.90	187.99	174.49

Expander #1 Duty $(H1 - H2) = 3.46$ MW
 Expander #2 Duty $(H3 - H4) =$ Lifting Duty $(M3 \text{ g}z) = 165.82$ MW
 Heat Duty $(H7 - H8) = 13.50$ MW
 Exhausting Height 16570 m



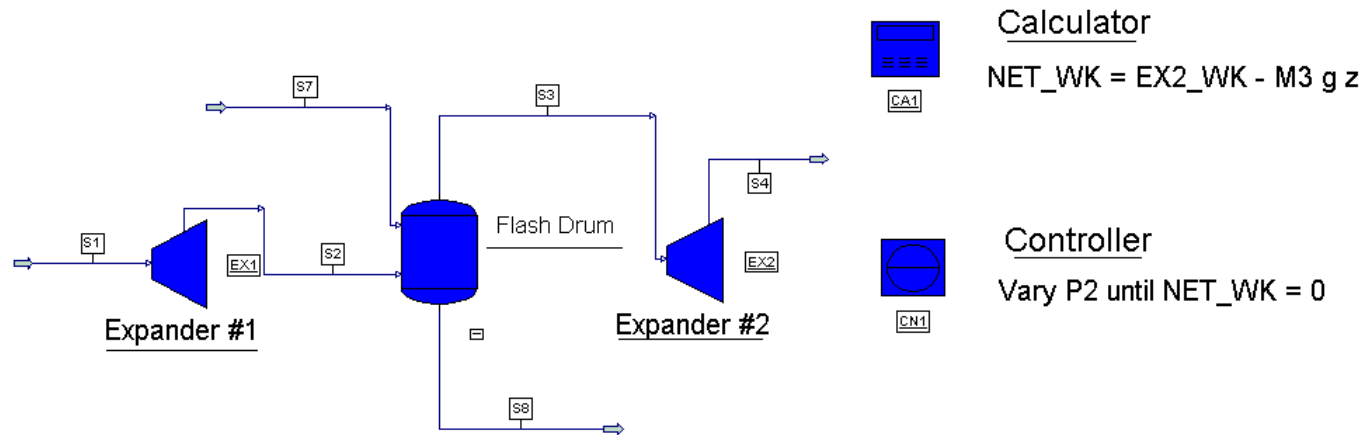
Stream Name		S1	S2	S3	S4	S7	S8
Stream Description							
Phase		Vapor	Vapor	Vapor	Mixed	Liquid	Unknown
Pressure	KPA	101.10	101.00	101.00	10.00	105.00	n/a
Temperature	C	28.50	28.42	28.41	-85.06	26.50	n/a
Total Sp. Enthalpy	KJ/KG	37.08	36.99	36.99	-125.39	93.99	n/a
Total Sp. Entropy	KJ/KG-C	6.48	6.48	6.48	6.48	5.01	n/a
Total Mass Rate	KG/SEC	1016.87	1016.87	1016.87	1016.87	0.00	n/a
Total Enthalpy	M*WATT	37.70	37.62	37.62	-127.51	0.00	n/a

Expander #1 Duty $(H1 - H2) = 0.08$ MW
 Expander #2 Duty $(H3 - H4) =$ Lifting Duty $(M3 \text{ g z}) = 165.13$ MW
 Heat Duty $(H7 - H8) = 0$ MW
 Exhausting Height 16570 m



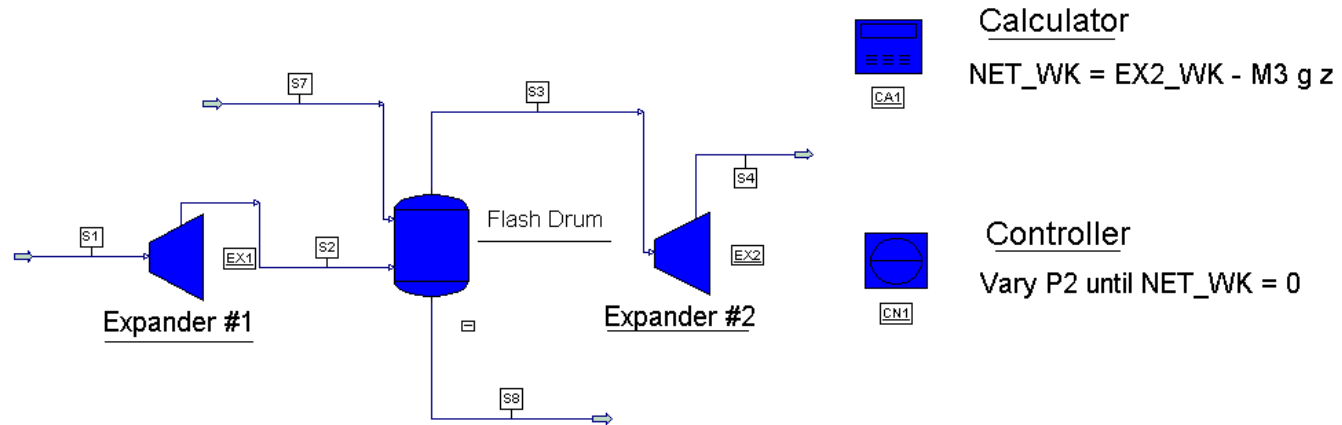
Stream Name		S1	S2	S3	S4	S7	S8
Stream Description							
Phase		Vapor	Vapor	Vapor	Mixed	Liquid	Unknown
Pressure	KPA	101.10	98.62	98.62	10.00	105.00	n/a
Temperature	C	34.00	31.84	31.84	-81.87	26.50	n/a
Total Sp. Enthalpy	KJ/KG	42.71	40.50	40.50	-121.88	93.99	n/a
Total Sp. Entropy	KJ/KG-C	6.49	6.49	6.49	6.49	5.01	n/a
Total Mass Rate	KG/SEC	1016.87	1016.87	1016.87	1016.87	0.00	n/a
Total Enthalpy	M*WATT	43.43	41.18	41.18	-123.94	0.00	n/a

Expander #1 Duty $(H1 - H2) = 2.25\ MW$
 Expander #2 Duty $(H3 - H4) = \text{Lifting Duty } (M3\ g\ z) = 165.12\ MW$
 Heat Duty $(H7 - H8) = 0\ MW$
 Exhausting Height 16570 m



Stream Name		S1	S2	S3	S4	S7	S8
Stream Description							
Phase		Vapor	Mixed	Vapor	Mixed	Liquid	Liquid
Pressure	KPA	101.10	85.83	85.83	10.00	105.00	85.83
Temperature	C	25.80	17.29	29.13	-51.34	35.00	29.13
Total Sp. Enthalpy	KJ/KG	34.31	20.39	71.83	-90.56	131.58	105.66
Total Sp. Entropy	KJ/KG-C	6.47	6.47	6.62	6.62	5.13	5.05
Total Mass Rate	KG/SEC	1016.87	1016.87	1030.89	1030.89	2000.00	1985.98
Total Enthalpy	M*WATT	34.89	20.74	74.04	-93.36	263.16	209.85

Expander #1 Duty (H1 - H2) = 14.15 MW
 Expander #2 Duty (H3 - H4) = Lifting Duty (M3 gz) = 167.40 MW
 Heat Duty (H7 - H8) = 53.31 MW
 Exhausting Height 16570 m



Stream Name		S1	S2	S3	S4	S7	S8
Stream Description							
Phase		Vapor	Mixed	Vapor	Mixed	Liquid	Liquid
Pressure	KPA	101.10	83.70	83.70	5.00	105.00	83.70
Temperature	C	25.80	16.38	28.85	-83.38	35.00	28.85
Total Sp. Enthalpy	KJ/KG	34.31	18.28	72.20	-128.41	131.58	104.40
Total Sp. Entropy	KJ/KG-C	6.47	6.47	6.63	6.63	5.13	5.05
Total Mass Rate	KG/SEC	1016.87	1016.87	1031.16	1031.16	2000.00	1985.71
Total Enthalpy	M*WATT	34.89	18.59	74.45	-132.41	263.16	207.30

Expander #1 Duty (H1 - H2) = 16.30 MW
 Expander #2 Duty (H3 - H4) = Lifting Duty (M3 gz) = 206.86 MW
 Heat Duty (H7 - H8) = 55.86 MW
 Exhausting Height 20470 m