

Supporting information available

Table 8. Energy consumption in the different stages of the process.

Process step	1 → 2	2 → 3	3 → 4	5 → 6	6 → 7	7 → 5	Auxiliary installations						
Operation	Pumping	Isobaric heating	Isenthalpic throttling	Isenthalpic throttling	Isobaric cooling	Isentropic compression	Dosage	Dosage	Agitation	Pumping	Heating	Pumping	Pumping
Equipment	L-114	E-119	Column entrance	Column head valve	E-125	G-126	L-115	L-116	M-117	L-118	E-120	L-123	L-124
CO ₂ flow rate (kg·h ⁻¹)	8.3	8.3	8.3	2,200	2,200	2,200							
Enthalpy difference (kJ·kg ⁻¹)	5	238	0	0	37	37							
Consumed energy (kJ·h ⁻¹)	41.5	1,975	0	0	81,400	81,400							
Consumed energy (kW·h ⁻¹)	0.01	0.5	0	0	22.5	22.5							
Equipment efficiency (%)	90	60	-	-	200	80							
Number of units	1	1	1	2	2	2	1	1	1	1	1	1	2
Total energy consumption (kW·h ⁻¹)	0.01	0.9	0	0	22.5	56.4	1	1	3	5	10	2	4