

Design, modelling and operation of a 100 kW chemical-looping combustor for solid fuels

Pontus Markström
Department of Energy and Environment
Chalmers University of Technology
SE-412 96 Göteborg, Sweden

Errata

1. Jacket page v, Publications: see item 13
2. Jacket page 30, Eq. (3.7): $dt \rightarrow dt'$
3. Jacket page 48, Fig. 4.10: see item number 16 below
4. Jacket page 50, Section 4.7.4: see item number 19 below
5. Jacket page 50, Table 4.3: see items 17 and 20–22 below
6. Jacket page 57, Nomenclature: The Froude number in fluid dynamics is $u_0^2/(gD)$
7. Jacket page 69, Appendix A.1: “Refill particles to CY2” should be “Refill particles to AR or FR”
8. Paper II, Section 3.6: C1, C2 and C3 should be CY1, CY2 and CY3
9. Paper IV, Table 4: \dot{m} is measured in kg/min
10. Paper IV, Fig. 9 (legend): Ref. [17] should be [13]
11. Paper V, Section 1.3 (1st line on page 3): “fuel reactor” should be “air reactor”
12. Paper V, Table 10 (4th row): LS3 should be LS4
13. Paper VI, The title has changed to: “Analytical model of gas conversion in a 100 kW chemical-looping combustor for solid fuels - comparison with operational results”
14. Paper VI, Section 3.2 (below Eq. (9)): “from the fuel” should be “from the char”
15. Paper VI, Section 3.2: $dC_i \rightarrow dC_{i,m}$
16. Paper VI, Fig. 4: The x-axis should be labelled AR flow (L_n/min)
17. Paper VI, Section 6.1 and Table 5: k_{F,CH_4} should be $1 \text{ m}_n^3/(\text{tonne}\cdot\text{s})$
18. Paper VI, Section 6.2 (1st sentence): “fluidisation flow of steam” should be “total fluidisation flow”.
19. Paper VI, Section 6.2 and 6.4: “ $F_0 = 5 \text{ kg/h}$ ” should be “steam flow of 5 kg/h ”
20. Paper VI, Sections 6.3–6.4 and Table 5: κ should be 0.72 (char) and 0.33 (full)
21. Paper VI, Section 6.3 and Table 5: $\phi_{s,core}$ should be 0.90 for γ_c
22. Paper VI, Section 6.4 and Table 5: ξ should be 0.70
23. Paper VI, Section 6.4: F_g is around $189 L_n/\text{min}$ based on a fuel analysis
24. Paper VI, Table 3: “ F_0 ” should be “Steam flow”
25. Paper VI, Table 4–5: $n_m = 0.26$ and $n_T = 2.74$
26. Paper VI, Nomenclature: F_0 and \dot{V}_0 are the total fluidisation flows (steam+N₂+volatiles)
27. Paper VI, Nomenclature: F_g and \dot{V}_g are the gas from gasification of the char