Table 4. *Energy input rate* (W) *for volume regulation in cells as a function of variations in cell radius, growth rate, osmolarity difference between inside and outside of cells, and the use of wall and of contractile vacuole methods of cell volume regulation*

Assumptions	Cell of 5 μm radius	Cell of 10 μm radius
(1) Contractile vacuole (minimal thermodynamic input) with L_p of 10^{-14} m s^{-1} Pa^{-1} and a pressure difference of 0·2 MPa	$1{\cdot}26 \times 10^{-13}$	$5{\cdot}03 \times 10^{-13}$
(2) Contractile vacuole [mechanistic calculation; other assumptions as in (1)]	$3{\cdot}45 \times 10^{-12}$	$13{\cdot}8 \times 10^{-12}$
(3) Contractile vacuole (minimal 10^{-15} m s^{-1} Pa^{-1}, pressure difference of 0·2 MPa	$1{\cdot}26 \times 10^{-14}$	$5{\cdot}02 \times 10^{-14}$
(4) Contractile vacuole (minimal thermodynamic input) with L_p of 10^{-14} m s^{-1} Pa^{-1}, pressure difference of 0·4 MPa	$5{\cdot}04 \times 10^{-13}$	$20{\cdot}16 \times 10^{-13}$
(5) Polyglycan cell wall (minimal thermodynamic input) growth rate as indicated	$1{\cdot}96 \times 10^{-12}$ (8×10^{-6} s^{-1})	$7{\cdot}84 \times 10^{-12}$ (4×10^{-6} s^{-1})
(6) Polyglycan cell wall [mechanistic calculation; other assumptions as in (5)]	$2{\cdot}51 \times 10^{-12}$ (8×10^{-6} s^{-1})	$10{\cdot}04 \times 10^{-12}$ (4×10^{-6}s^{-1})
(7) Polyglycan cell wall [as for (6), but with pressure difference of 0·4 MPa]	$5{\cdot}02 \times 10^{-12}$ (8×10^{-6} s^{-1})	$20{\cdot}08 \times 10^{-12}$ (4×10^{-6} s^{-1})