

## Tables

**Table 1 - Pressure Acoustic Boundary Conditions**

Index	Domain and Boundary condition	Equations
1. Boundary	Pressure Boundary	$P = P_0$
2. Boundary	Sound soft boundary	$-n \cdot \nabla P = 0$
3. Boundary	Sound hard boundary	$P_t = 0$
4. Boundary	Axis-symmetric coordinate	$r = 0$

**Table 2 - Laminar Flow Boundary Conditions**

Index	Domain and Boundary condition	Equations
1. Boundary	Wall Boundary (slip)	$-n \cdot u = 0$
2. Boundary	Wall Boundary (no slip)	$u = 0$
3. Boundary	Axial Symmetry	$r = 0$
4. Domain	Volumetric Force	$F = \frac{2\alpha I}{\rho C} \frac{N}{m^3}$

**Table 3 - Heat Transfer Boundary Conditions**

Index	Domain and Boundary condition	Equations
1. Domain	Cell suspension domain (volumetric heat source active, isothermal)	$Q_g = \frac{\text{Input Power} \times \text{conv. factor}}{\text{sample volume}}$
2. Domain	Tube wall domain (tube material – polypropylene)	
3. Domain	Ice-bath domain	
4. Boundary	Insulation	$n.q = -n.q = 0$
5. Boundary	Axial Symmetry	$r=0$