crystal product can be well controlled by tailoring the subsequent tubular crystallizer to allow for the required growth. Building on this work it was then shown that for the same type of experimental setup the secondary nucleation rate could be controlled by changing the contact force, contact frequency and contact area.[150] It was also shown that a feature of contact secondary nucleation is the generation of nuclei with a narrow PSD with the contact force, frequency and area not having a significant effect on width. This feature clearly makes it very attractive to implement this technique in a continuous crystallization process.

Abbreviations

API	active pharmaceutical ingredient
CSD	crystal size distribution
CST	continuous stirred tank
MSMPR	mixed suspension mixed product removal
OBC	oscillatory baffled crystallizer
PFC	plug flow crystallizer
TCC	Taylor–Couette crystallizer

Roman Symbols

A	constant in supersaturation dependent nucleation rate equation
Ar	surface area of the excipient per unit volume of the crystallizing solution
B	nucleation rate
B	order of the nucleation rate
C	concentration
C^*	solubility
D_i	impeller diameter
E_L	impact energy
G	crystal growth rate
g	growth rate order
J	supersaturation dependent nucleation rate
k_a	shape factor of the particle used to calculate the surface area of particles
K_{c-c}	crystal–crystal collision constant
K_{c-i}	crystal–impeller collision constant
K_E	number of nuclei per collision
k_{g1} and k_{g2}	growth rate constants
K_i	impeller discharge coefficient
L_{c-c}	lower integration boundaries of the moments for crystal–crystal collision
L_{c-i}	lower integration boundaries of the moments for crystal–impeller collision
M_j	population density function