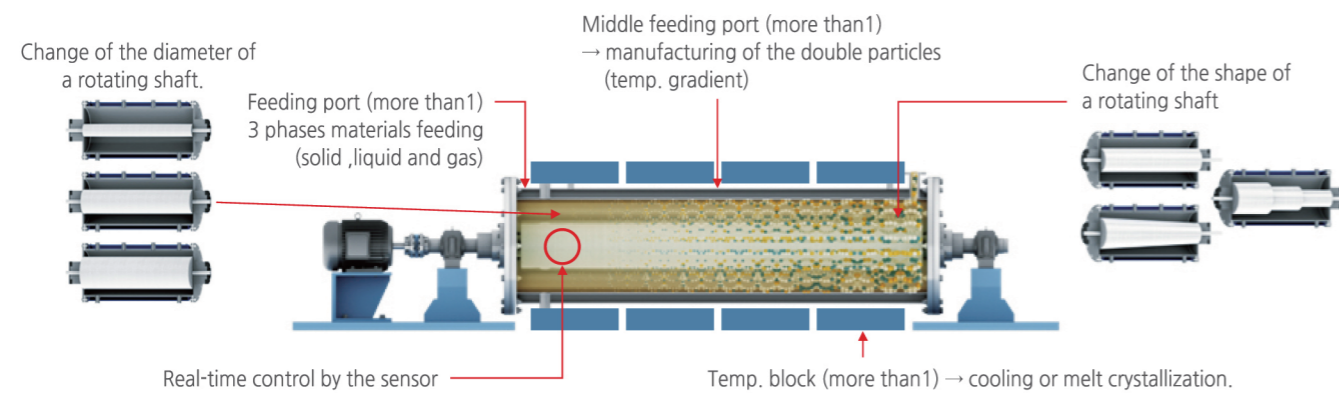


LCTR® series



Option



Solution feeding pump (for R&D)

Max 20 mL/min
Max 6 bar
Materials : PP or PTFE



Solution feeding pump (for production)

Max 200 L/min
Max 16 bar
Materials : PTFE



Slurry feeding pump

Max 600 rpm
Max 8 bar



Bath circulator

Controlling reaction temp.
-25 ~ 150 °C



Electronic scale (for confirming the feeding quantity)

Alternative to a flow-meter
0.01 ~ 10 kg
0.001 ~ 1 kg

Continuous re-crystallizer for high valuable materials

Re-crystallizer for
food additives



#209, 27, Dunchon-daero 457beon-gil, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea
Tel. +82-31-737-2375 Fax. 82-31-737-2757 E-mail. laminar@laminarm.co.kr
www.laminarm.com



LCTR[®]-mini



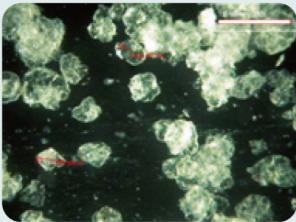
Characteristics of LCTR[®]-mini

- Higher purity materials produced, more than 99.5%
- Increase of 25% in the recovery efficiency
- Decrease of one eighth in production time as a continuous manufacturing system
- No amorphous morphology

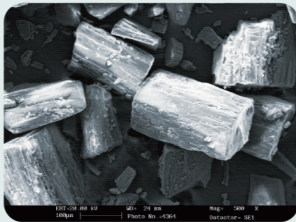
Specification of LCTR[®]-mini

Working volume (ml/L)	10
Max. working temp.(°C)	80
Max. agitation speed (rpm)	1500
Material	SUS316L
Dimension L/W/H (mm)	220*150*470
Weight (kg)	4

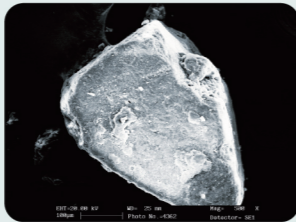
Application example



Methionine



Threonine

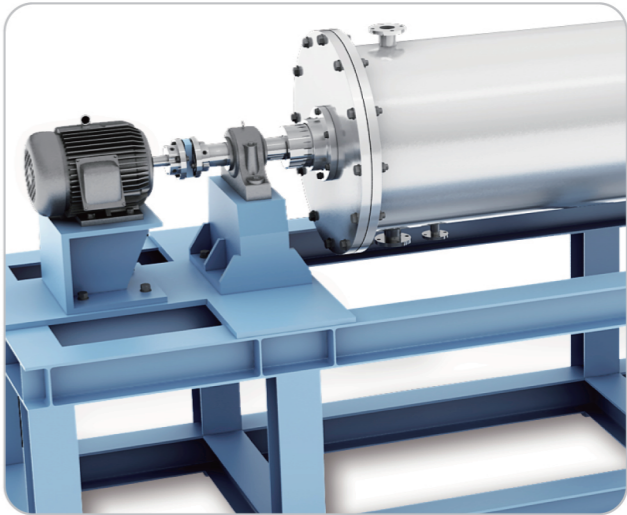


Lysine



IMP

LCTR[®]-exa



Characteristics of LCTR[®]-exa

- Re-crystallizer for production
- Increase in production by max.100 times

Specification of LCTR[®]-exa

Working volume (L)	1000
Max. workingbtemp. (°C)	80
Max. rotation speed (rpm)	200
Material	SUS316L
Dimension L/W/H (mm)	8000 * 2500 * 2500
Weight (ton)	10

Research results of GMP material

Classify	Batch system	Laminar's Taylor system
Process time (h)	8~9	0.5
Productivity per unit volume (kg/h, m ³)	10.7	1048
Energy consumption (TOE/ton)	25,200	15,200
Purity (%)	97	99.9
Crystallinity (%)	90	98
Equipment size (1.8ton/day basis, m ²)	21.0	0.27
Manufacturing system	Non-continuous	continuous
Refining cost of raw material (\$/kg)	16	7