

# EKATO POLYMERIZATION

From Specialty to Bulk Applications

## EKATO

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More than 250,000 agitators are operating worldwide in various industrial applications. For the production of polymers, EKATO offers not only the best suitable mixing system but also supports the customer in process optimization and new developments.

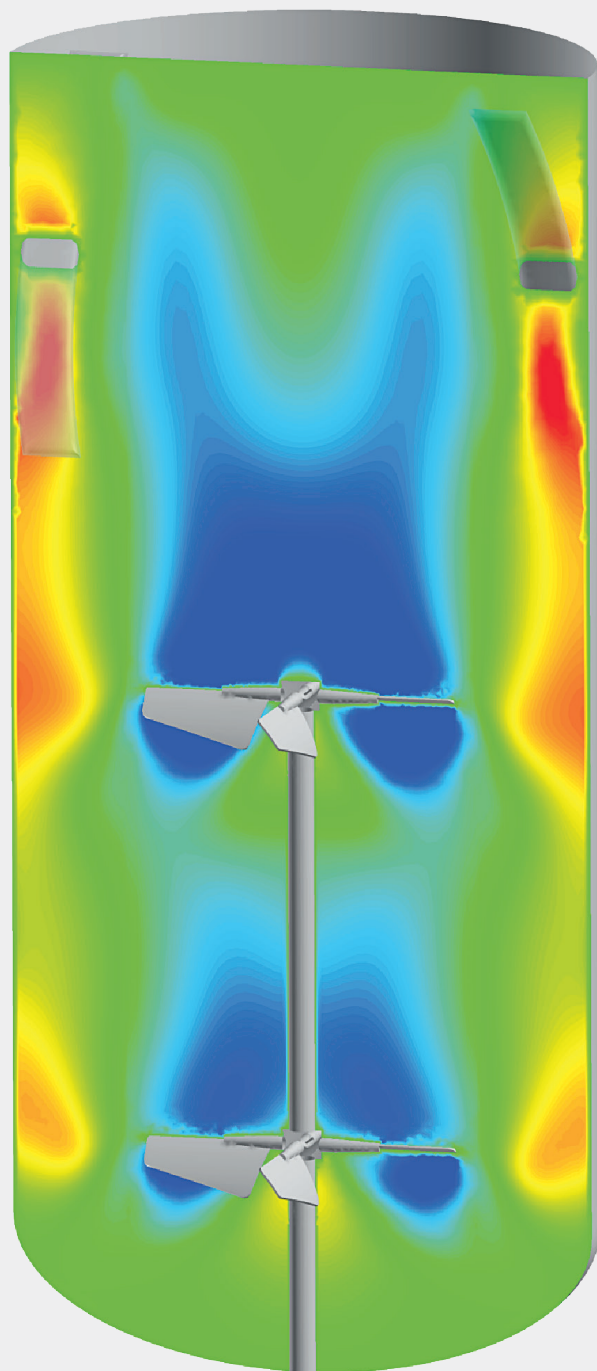
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Advanced Process Solutions



- Long-term Experience
- Specialized Engineering Team
- Reliable Design
- Process Guarantee



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## EKATO Polymerization

Polymerization comprises a wide range of applications. EKATO has acquired decades of experience in project management based on the licensor's engineering requests. This also includes comprehensive specification and documentation requirements. In the last years, EKATO has specialized in optimizing existing mixing solutions as well as in joint developments from laboratory to industrial scale.

## EKATO Polymerization – Applications

EKATO can support the customers with long-term experience in process and engineering know-how for all polymerization processes (polycondensation, emulsion-, solution- and suspension polymerization). The range extends from well-known polymers such as HDPE, PET, PP or PVC to specialties or green polymers that are still being developed.

### Experience

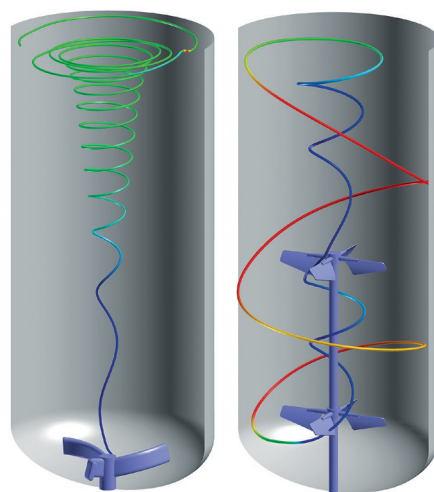
- Decades of experience in designing agitators according to licensed processes and cooperation with leading licensors
- Joint developments for new polymers, technologies and mixing systems
- Debottlenecking and upgrades
- In-house flow simulations (CFD) and finite element analysis (FEA)

### Applications

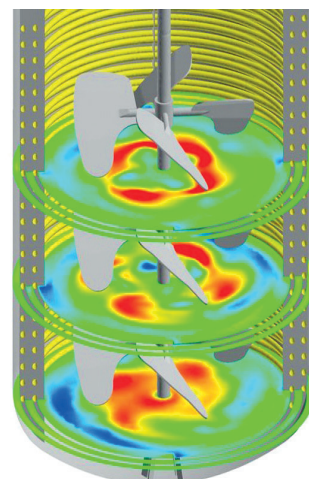
- Individual designs for polycondensation, emulsion-, solution- and suspension polymerization
- Low shear impellers
- Shortest blend times in world scale vessels
- Easy control of physical parameters such as molecular weight distribution (MWD), viscosity, crystallinity and others

### Engineering Services

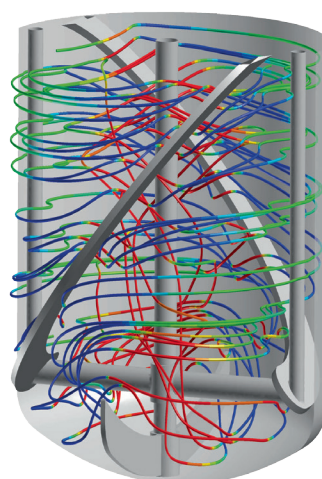
- Determination of optimized mixing system
- Determination of optimized vessel geometry, arrangements, feed and drain points
- Lab tests and scale-up for new products or upgraded technology



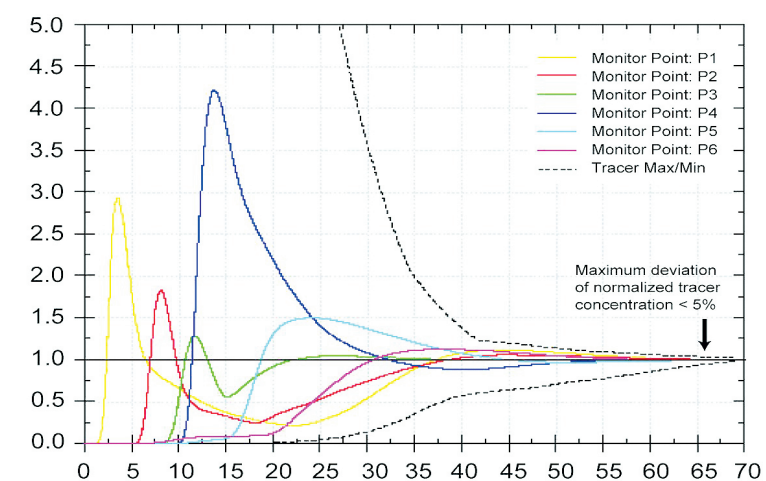
Conventional design/improved EKATO design  
(e.g. S-PVC)



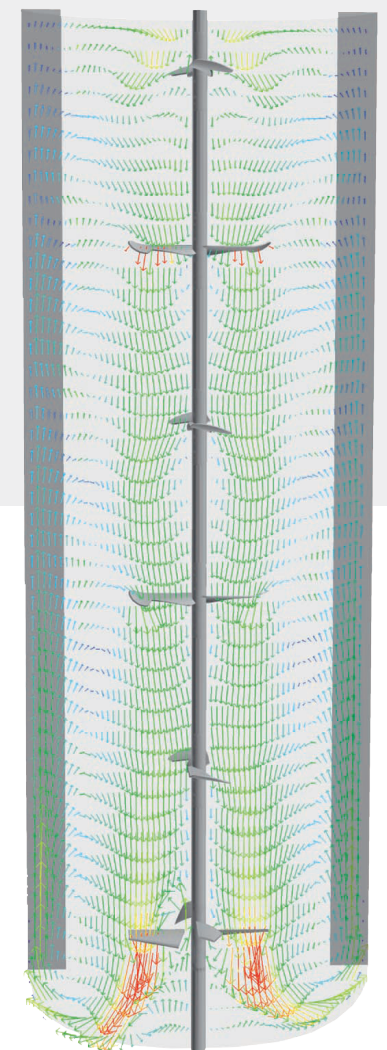
Multistage low shear system with  
ISOJET B (e.g. EVA)



High viscous mass polymerization  
with EKATO PARAVISC (e.g. PMMA)



Analysis of blend times:  
Approx. 60 sec. for homogeneous blending in 400m³ scale



Extremely short blend times by  
EKATO Virtual Draft Tube design (e.g. HDPE)