

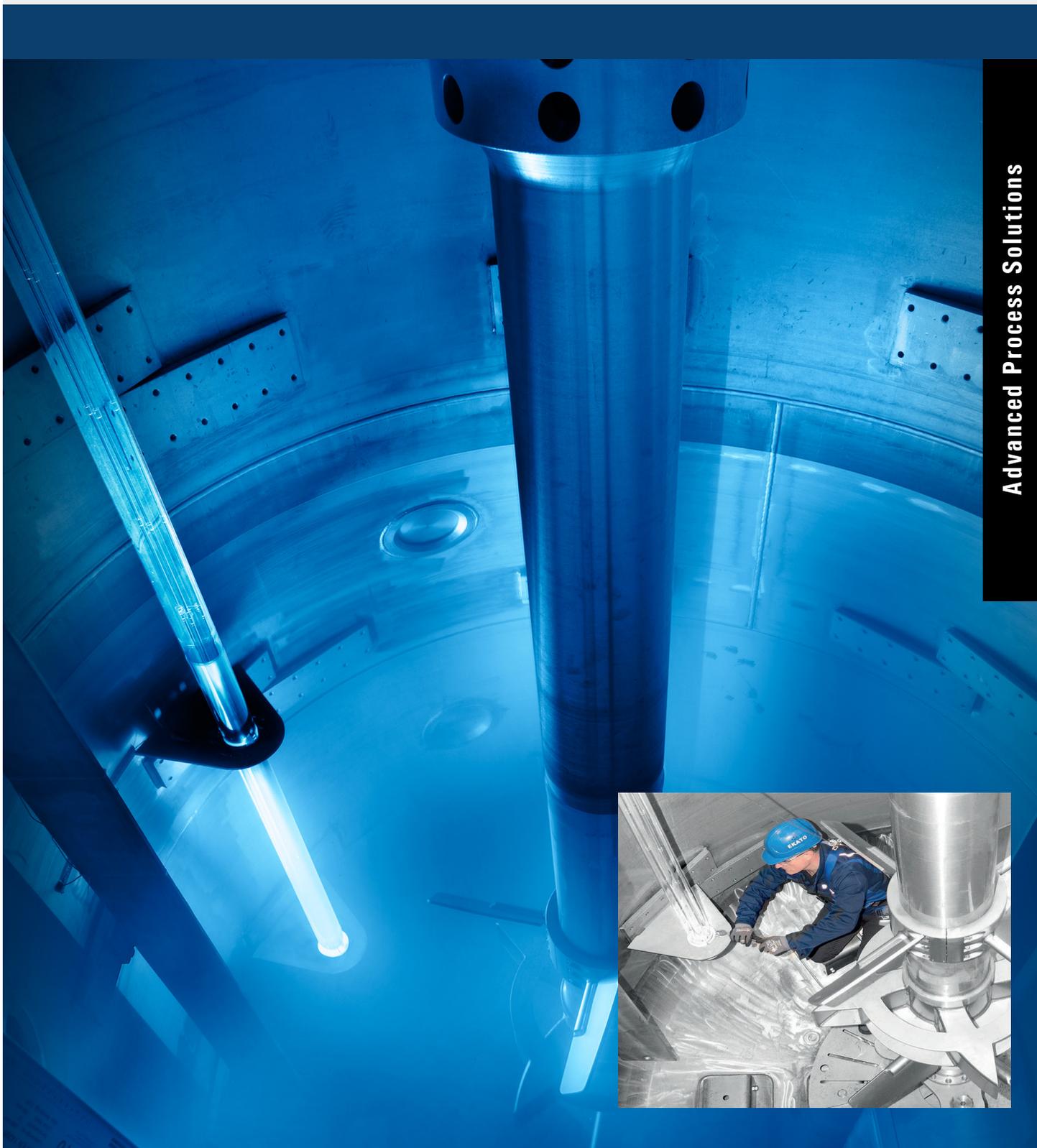
EKATO

EKATO PHOTOCHEMICAL REACTOR

EKATO PHOTOCHEMICAL REACTOR SYSTEMS

Tailor-made for your chemical process

Advanced Process Solutions



EKATO Photochemical Reactors: Tailor-made for your chemical process

Engineering and supply of industrial sized photochemical reactors, tailor-made to your requirements by EKATO. The EKATO services comprise:

- Scale-up of your process from lab-size to industrial-size with process guarantees
- Engineering of photochemical reactor system
- HAZOP: Monitoring of tightness, cooling, safety seals, etc.
- Manufacturing, installation, commissioning

High-performance mixing technology for your production

With an experience of more than 80 years, EKATO is the leading company in developing and manufacturing industrial agitators, reactors and safety seals and applies its state-of-the-art technology in all photochemical reactor systems:

- Maximum mass transfer due to EKATO's Combined Gassing® system
- Solids homogeneously suspended due to EKATO's high-performance impellers
- High cooling efficiency through the vessel wall or internal heat exchanger
- Elimination of scaling: EKATO designs for maximum flow velocities inside the reactor
- Maximum pumping rates through the irradiated zones of the reactor; optimized and validated before manufacturing by CFD studies

Robust and reliable reactor designs for safe production

EKATO applies state-of-the-art tools and methods to design and manufacture safe reactor systems. Special materials of construction such as titanium, ceramics or special glass-lining are applied to cope with aggressive process conditions. Additional safety measurements that EKATO applies are:

- EKATO designed and manufactured safety seals or magnetic drives
- Hydraulic loads on UV-lamp system are determined by flow simulations (CFD) and measurements in full scale
- Special design for a stress free fixation of the quartz tubes in the reactor (Finite Element Analysis)
- Integrated solution for cooling and insulation of the radiation source
- Hermetic sealing to the atmosphere in the unexpected event of broken quartz tubes
- Ex-proof design of all components

EKATO photochemical reactors: Typical applications

EKATO photochemical reactors are applied in industrial-scale production processes including, but not limited to, chlorination (e.g. chlorinated rubbers), brominations, fluorinations, sulfoxidations, sulfochlorinations (e.g. sulphochlorinated polyethylene), and nitrosylations.

Rely on EKATO to deliver your project from lab to industrial plant in shortest lead times from a single source.



EKATO photochemical reactor 30 m³

Photochemical reactions offer an advantage over traditional reaction technology by not forming thermodynamically disfavored products, overcoming large activation barriers and allowing reactions otherwise inaccessible by thermal processes.



Glass-lined photochemical reactor