CORNING

The future flows through Corning[®] Advanced-Flow[™] Reactors





Make industrial production real



than conventional batch reactors and are specially designed for the seamless transition from lab feasibility to process development to industrial-scale producting of chemicals for the pharmaceutical, fine and specialty chemical industries.

Mass Transfer 100 x better *

Heat Transfer 1000 x better *

Reaction Volume 1000 x lower *

Our reactors enable the continuous processing of chemicals with a smaller footprint

Residence Time Distribution 50 x better *

compared to batch reactors

Higher yields, lower costs

Corning innovation brings significant performance benefits to the chemical processing industry through Corning[®] Advanced-Flow[™] reactors – a full range of reactor products suited to meet the needs of a particular reaction or a wide portfolio of reactions.

Continuous-flow chemical production utilizing Corning[®] Advanced-Flow[™] reactors can provide:

- Seamless scale-up
- Increased production yields
- Lower overall production costs
- Enhanced plant safety
- Higher product quality
- Decreased waste generation and energy consuption
- Faster product time to market

Corning[®] reactors can be effectively run on reactions with miscible and immiscible liquids, and gases and liquids containing some amounts of small solids particles, with dimensions up to 200 microns.

Many different types of reactions are well suited for Corning's reactor equipment, including:

- Nitrations
- Oxidations
- Brominations
- Chlorinations
- Grignards
- Alkylations
- Organo-metallics
- Hydrogenations
- Polymerizations
- ... and others.

Corning[®] Advanced-Flow[™] reactors can be integrated into existing chemical processing infrastructures and designed upon request to ATEX and GMP standards. Corning's reactors can be easily incorporated into industrial systems via standard connectors, helping customers migrate to Corning's technology with little or no downtime.







G1 Photo Reactor



G1 Reactor

Product Portfolio

Laboratory scouting glass reactor



G1 SiC Reactor

Process development and small production silicon carbide reactor

FLOW RATE: 30 to 200 ml/mi

Process development and small production photo reactor

Process development and small production glass reactor

FLOW RATE: 30 to 200 ml/mir



G3 Reactor

Pilot and production glass reactor

LOW RATE: 400 to 2000 ml/



G4 SiC Reactor

Production silicon carbide reactor

LOW RATE: 1000 to 8000 ml/

Corning[®] Advanced-Flow[™] Offer

Corning[®] Advanced-Flow[™] reactors include a full range of services to enhance customers' projects from development, through to implementation and operation including:

- Workshops and trainings
- Quick feasibility test (QFT)
- Basic and detailed auxiliary systems engineering
- Customized turnkey solutions
- Technical support
- FAT/SAT and industrial start up
- Assistance for FDA qualifications
- Pre-and post purchase technical support
- Compliance with international standards (ATEX, PED, SELO...)





Corning incorporated is the world leader in specialty glass and ceramics.

Corning's Advanced-Flow[™] reactors are specially designed for the seamless transition from lab feasibility to process development to industrial-scale to multi-ton production of chemicals. Corning[®] reactors are designed to meet the needs of pharmaceutical, fine and specialty chemicals companies who are seeking process optimization of a particular reaction or a wide portfolio of reactions. Corning reactors comprise highly engineered fluidic modules that integrate heat-transfer and mass-transfer in a single piece of equipment. These reactors are easily scalable and enable seamless, cost-effective solutions for fast scale-up and time to market. Corning[®] reactors increase the efficiency, scalability, yields and quality of chemical processing while reducing environmental impact, performance variability and cost.

Corning[©] Advanced-Flow[™] Reactors a worldwide presence. Thinking global and acting local



CORNING

EMEA and NSA

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