Pumping and Mixing Solutions

Your Pumping and Mixing Solutions Provider

Working with pumping and mixing equipment from different providers can be complicated, challenging, and costly. We provide complete, single-source solutions for any setting, from pumping and mixing equipment to a comprehensive suite of aftermarket services.

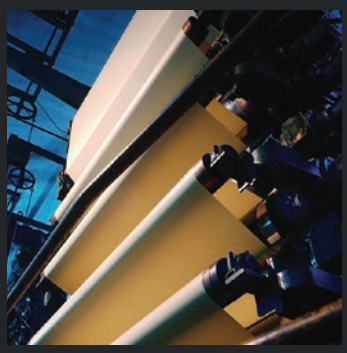
We recognize you've chosen us for a long-term investment and tailor custom packages precisely to the needs of your operation. With reliable, proven brands and decades of experience, choosing NOV means you never have to settle for anything less than the best.

Our global footprint and large stock holdings ensure that we service our install base effectively and efficiently no matter where in the world you are located.

Our core product portfolio, that we manufacture in-house, includes well-known **Mono™** and **Moyno™** progressing cavity pump brands, along with our **Chemineer™**, **Prochem™**, **Kenics™,** and **Greeco™** mixing brands.





Industries and applications for pumping and mixing solutions

- Water and waste water
- Oil and gas
- Mining and mineral processing
- Chemical
- Pharmaceutical
- Pulp and paper
- Food and beverage
- Petrochemical
- Biotechnology
- Agriculture and marine
- Flue gas desulfurization
- Polymer and plastics
- Ethanol and bio diesel
- Paints and coatings
- Desalination

A progressing cavity pump is a positive displacement pump with a single helix rotor that revolves eccentrically inside a double helix stator, creating a continuous cavity as it rotates that gently transfers the product. We work with our customers to ensure that we have an in-depth understanding of their application to provide a customer-focused solution that is cost-efficient and designed to endure its environment.

Pumping solutions

- General transfer pumps
- Dosing and small transfer pumps
- Packaged pumping solutions
- Market specific pumps
- Munchers and screens

General transfer pumps

Built on Legacy. Designed for the Future.

2000 Series | Now available with Scion Technology

Capacities up to 1000 m^3/h pressures up to 100 bar

Equipped with a highly reliable gear-joint design, the 2000 series effectively handles radial and thrust loads for maximum performance and endurance. New Scion Technology offers a free-moulded stator and enhanced geometry for reduced weight and improved performance.

EZstrip Transfer | Now available with Scion Technology

Capacities up to 225 m^3/h pressures up to 24 bar

Featuring the maintain-in-place (MIP) design, the EZstrip™ pump reduces maintenance time from hours to minutes, significantly decreasing system downtime and labor costs. New Scion Technology offers the smallest PCP footprint with a free-moulded stator and enhanced geometry for reduced weight and improved performance.

Compact C

Capacities up to 440 m^3/h pressures up to 24 bar

A competitively priced progressing cavity pump that has a compact construction and maximum performance characteristics.

An ideal solution for general industry and slurry transfers.

Widethroat / EZstrip Cake

Capacities up to 70 m^3/h pressures up to 48 bar

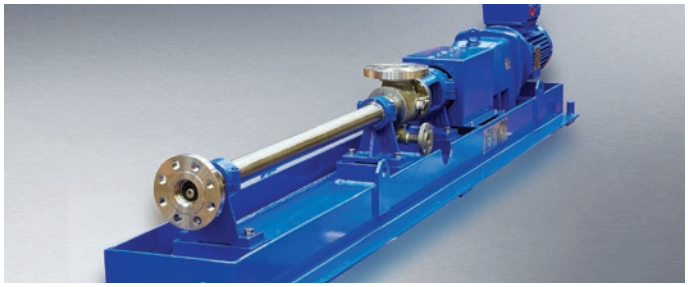
Equipped with a standard or large auger and a screw conveyor to assist the product into the pumping element.

Ideal for transferring liquids that have high solids content and/or viscosities.

Epsilon

Capacities up to 420 m^3/h pressures up to 72 bar

Progressing cavity pump with a unique and reliable flexishaft drive eliminates the need for coupling rod maintenance. The flexishaft comes with a 10-year warranty.



L-Frame

Capacities up to 45 m^3/h pressures up to 72 bar

Ideal for high pressure or long haul pumping and high temperature product transfer.

Dosing and small transfer pumps


Small pump


Dosing pump

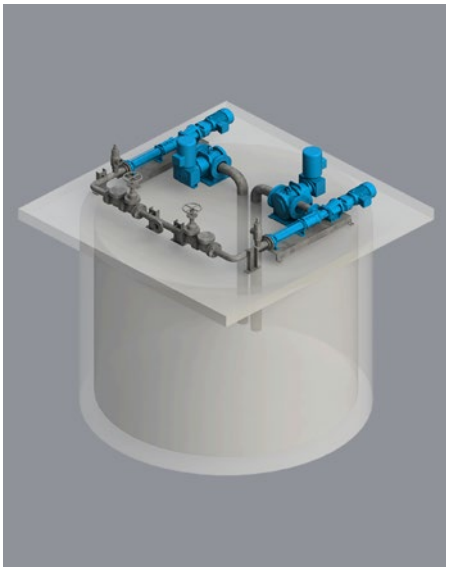
Small pump
Capacities up to 3 m^3/h pressures up to 5 bar

For small capacity, low pressure transfer duties.

Dosing pump
Capacities up to 1.25 m^3/h pressures up to 72 bar

Low flow, high pressure pump featured with high chemical resistance HDPE suction chamber. Ideal for chemical dosing.

Packaged pumping solutions



Munchpump packages
The Munchpump package consists of a TR Muncher with a progressing cavity pump for sewage and sludge maceration and pumping. The twin shaft, low speed, high-torque grinder consumes very little energy. In some cases, it can be as much as 50% lower than a comparable submersible pump system. Being a positive displacement pump, head is independent of speed, therefore very low pump speeds can be selected to reduce abrasive wear, lowering ongoing maintenance costs.

Pressure sewer system
InviziQ™ stands for invisible intelligence. We developed the industry's most advanced pressure sewer system with performance, reliability, durability, control, and value built into every unit. InviziQ offers the industry's first and only dry well design, coupled with a reliable transducer-level sensor and control system. InviziQ raises the bar for PSS technology.

API676 PCP
Manufactured in accordance with API 676, our positive displacement pump packages are designed to offer uninterrupted service that you can depend on. Vertical and horizontal variants available in a wide range of hydrocarbon resilient materials and accessories. Our Project management teams ensure the product is delivered to site and compliant to customer specifications.

Packaged pumping solutions


High solids (HS) system


Mining packages


Chopper Hopper


Solar packages

High solids (HS) system

The 2000 HS system combines high pump efficiency with low discharge pressure to provide unmatched performance in high-solids sludge cake transfer.

Mining packages

Fixed and traveller mine dewatering packages designed to work in the harshest of environments at flow rates of up to 150m3/h and 72 bar. We can design, deliver, and commission full dewatering packages that reduce power consumption, decrease downtime, and adapt to the mine changes over time.

Chopper Hopper

The powerful, all-in-one Chopper Hopper™ unit can homogenize objects such as whole fruits, vegetables, and meat products into a pumpable puree. Fierce cutting blades, combined with second- and third-stage grinding, shred solids as big as whole watermelons down to a particle size of less than 1 in. in a single pass. The design of this progressing cavity pump allows for low friction of the gear-joint design, leading to less wear and better overall performance.

Solar packages

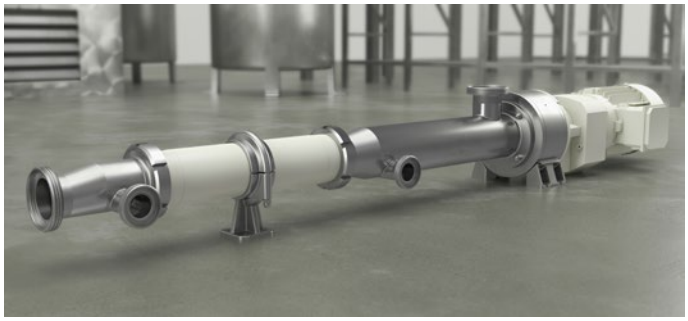
The SUN-SUB™ submersible pump, our most popular, eco-friendly solar water pumping solution, delivers economic, trouble-free, and reliable water, even during cloudy weather. Providing flow with every revolution, this highly efficient solar system maximizes the amount of water pumped throughout the day. Purpose-built to withstand the toughest conditions, our SUN-SUB range is ideal for off-grid and remote locations worldwide. The range accommodates high daily flows with discharge pressures up to 150 m.

Wine packages

We provide packages for must and fermented product transfer. A complete range of pumps are available from open-throat must transfer pumps to a range of trolley-mounted transfer pumps.


Wine packages

Market specific pumps



Hygienic
The new Hygienic pump features industry-standard hygienic connections and FDA-compliant elastomers. The pump was redesigned from the ground up based on industry feedback, ease of cleaning, and maintenance being paramount. The pump can handle viscosities of over 1,000,000 cPs yet offer minimal product degradation from its low shear action.

Explosive X Range
NOV collaborated with explosives industry experts to deliver our X Range pump with enhanced features to safely handle explosive emulsions. The patented pump comes with geometry to handle high dry solids, is easy to maintain, and can achieve flows of up to 60m^3/h at 24 bar.

Explosive XG Gear Pump
The 2 in. and 3 in. gear pump features 316L stainless steel construction with long-lasting, internal Buna rubber lined gears. Flow rates up to 35m^3/h at 8 bar on high viscosity products such as explosive emulsions or molasses can be expected.

Munchers and screens

Our Muncher and screens are the perfect solutions for downstream equipment protection. The Muncher product family is a range of twin shaft, slow speed, high torque grinders that prevent equipment from blockage problems by crushing, cropping, and shearing the solid in liquid.

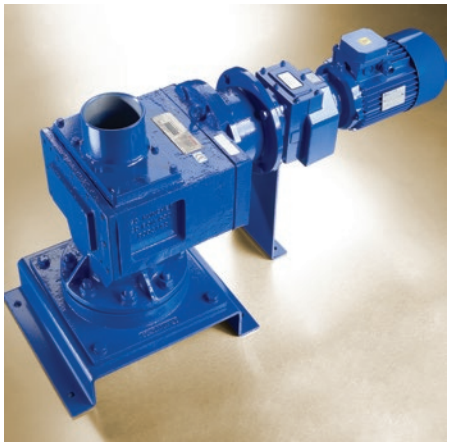
The self-cleaning Mono screens are ideal for heavy duty screening, and, by combining a Discreen with a Muncher, you have the option of keeping all macerated and screened residue in the main flow, eliminating removal costs.

Series A Muncher
Capacities up to 1400 m^3/h

The latest generation twin shaft channel grinder.

EZstrip™ TR Muncher
Capacities up to 500 m^3/h

Offering maintain-in-place (MIP) and a choice of cutter materials and thickness for effective and efficient grinding of solids.



SB Muncher
Capacities up to 60 m^3/h

Designed to replace traditional high speed, high power centrifugal macerators.

Pipeline and channel design available.

Discreen

Capacity up to 20000 m^3/h

The Discreen design is self-cleaning and does not require manual raking or cleaning. The screen is constructed using a number of shafts, each fitted with discs that overlap and intermesh with corresponding shafts. The shaft rotation forms a gentle conveying action of solids across the face of the screen to the discharge point while allowing water to flow through the disc stacks. Individual comb bars are fitted to the first and last shaft to eject screening solids for discharge back into the main flow or sump area.

Discam

Capacity of up to 16,000 m^3/h

Channel Depths of 1000, 1,500 & 2,000mm

The Discam is a unique new grinder and screen package, which offers a much more effective and low maintenance alternative to handling screenings than conventional systems. Easily retrofitted into existing sewage pump stations or inlet works, as well as installed in new build facilities, this high performance package is suitable for almost any type of waste water facility.

Mixing technologies

- Chemineer agitators
- Kenics static mixers and heat exchangers
- Prochem side entry agitators
- Greerco high shear mixers
- Impeller technology
- Computational fluid analysis

Chemineer agitators, Prochem side entry agitators, Kenics static mixers, and Greeco high shear mixers are utilized throughout the treatment process in different industries to optimize performance and minimize downtime.

Chemineer agitators

Model 20 HT/GT Mixer
With a high efficiency gearbox in right angle and parallel shaft configurations, modular design, and a wide range of speeds, these agitators provide outstanding application versatility.

MR Mixer
Unit combines quality, durability, and economy to supply unbeatable value in mixing equipment for the chemical, water, and general processing industries.

DT Mixer
Small mixer with a variety of sealing, drive, and wetted parts options that provide long-term, trouble-free service. These units are also readily available with right angle or parallel drives.

XP Mixer
Portable mixer that is available in a bung or clamp mounting arrangement. Most standard designs can be shipped within a week.

HT Agitators
A worldwide reputation for long life, flexibility, and ruggedness. As a result, the HT agitator is the preferred equipment in many industries for harsh, demanding environments where peak performance is integral.

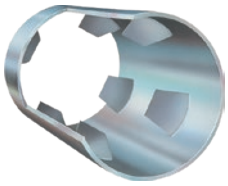
BT Mixer
Biopharma mixer used in sanitary applications. We offer an extensive submission package to meet the latest FDA requirements.

HS Mixer
Side entry agitator consisting of gear-driven agitator that provides an alternative to top entering selections for large volume vessels, especially in storage tank applications such as oil and gas, chemicals, and edible oils.

Kenics static mixers and heat exchanger

KM Static Mixer
With the longest list of installations in the industry, the detailed design capabilities of this mixer offer guaranteed mixing results.

UltraTab Static Mixer
Designed for low viscosity mixing such as chemical dosing, water treatment and desalinization applications.



HEV Static Mixer
With the lowest pressure drop per degree of static mixing available, this is ideal for low viscosity liquid or gas blending applications.

Ultraplate Static Mixer
Versatile, lightweight, and cost-effective superior performance solution, for water and wastewater turbulent flow blending applications.

KMX-V Static Mixer
Cross-stream mixing and flow splitting allow this unit to handle even the most extreme viscosities and volumetric ratios in the laminar flow regime.

Heat Exchanger
Edge-sealed elements dramatically improve heat transfer coefficients in high viscosity applications.

Prochem side-entry agitators

PB Mixer
Combines the proven features of the MD series with the simplicity of the pillow block bearing design

Greerco high shear mixers

Colloid Mill
Specifically designed to disperse solids and liquids into a carrying fluid, producing stable emulsions to the sub-micron particle range.

Homogenizer
High speed high shear batch mixer ideal for fast blending and homogenizing of materials through a wide range of viscosities.

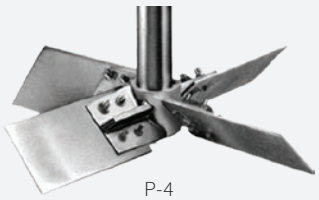
Pipeline Mixer
Designed for inline, continuous high shear homogenizing, mixing, emulsifying, and rapid dispersing.

Impeller technology – impeller designs to suit your applications

Our impeller designs are the result of over six decades of research and applied application experience, resulting in the broadest range of durable and efficient impeller options. Proprietary technologies are applied to thoroughly analyze all process parameters, ensuring proper impeller selection for optimal performance in every application. Carbon steel, 316/316L stainless steel, high alloys and coatings are available for all impellers.

Axial flow impellers

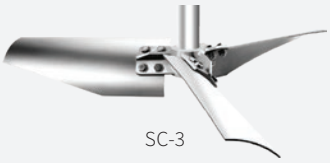
HE-3



P-4

XE-3

Maxflo W



SC-3

RL-3

JP-3

Maxflo WSE

Radial flow impellers

S-4

D-6

CD-6

BT-6

High viscosity impellers

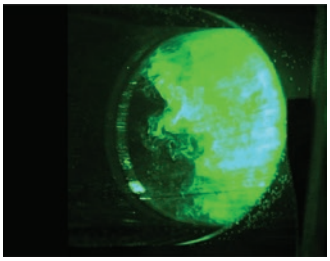
JT-2

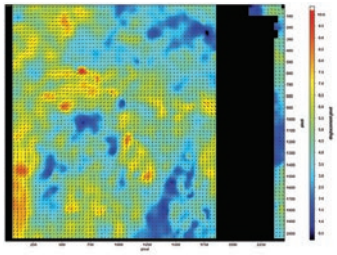
Anchor Impeller

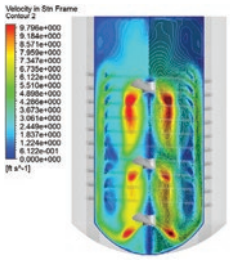
Double Helical Ribbon Impeller

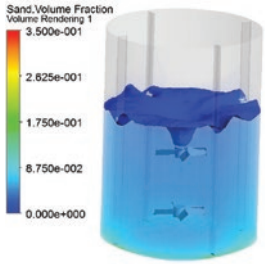
Screw (Auger) Impeller

Computational fluid analysis







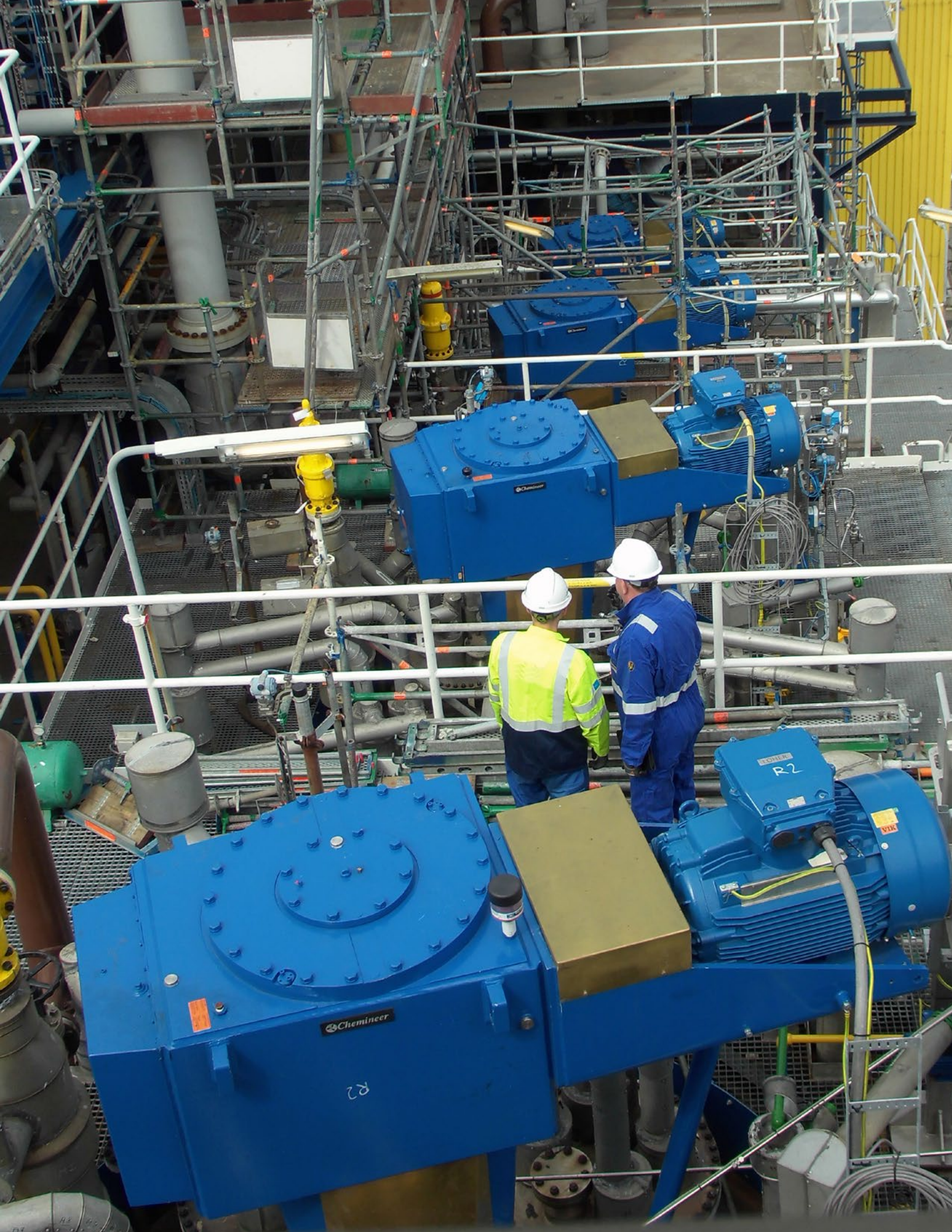


Computational Fluid Mixing (CFM)
CFM is a powerful fluid flow modeling tool that provides visual analysis of agitated systems. CFM uses mathematical fluid flow models to analyze blending and motion, solids suspension, chemical reaction, and heat transfer processes.

Our application engineers can produce two dimensional CFM simulations for rectangular and cylindrical tanks as well as turbulent and laminar flow static mixers. Three dimensional CFMs can be designed for non-symmetrical applications such as multi-reaction designs. The Chemineer Expert Design System (CEDS) can produce CFM simulations in as little as 15 seconds.

Digital Particle Image Velocimetry (DPIV)
DPIV keeps us on the forefront of mixing technology. DPIV uses a pulsed YAG laser to illuminate neutrally buoyant fluorescent particles. The result is a visual description of the agitated system, allowing engineers to see the actual flow patterns within the system. When used in conjunction with Computational Fluid Mixing, DPIV provides the most accurate application evaluation possible.

Laser Induced Fluorescence (LIF)
LIF is a measurement technique which enables the direct measurement of the degree of mixing. A laser beam is spread into a sheet light and projected through a clear pipe or vessel to illuminate a fluorescent dye. Images of the mixing are analyzed for blend time for agitators or COV for static mixers. This is used in product development, process research, and application validation.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