



REVOLUTIONARY MIXING SOLUTIONS

Innovative mixing
solutions for chemical,
petroleum and other
industrial applications



WHO WE ARE

ProSep is an industry-leading, technology and service provider for integrated process solutions to the global energy industry. Operating since 2005, ProSep has established a track record of providing best in class technology solutions to the upstream and midstream segments of the oil and gas industry.





WHAT WE DO

ProSep creates customized and efficient solutions for our clients and their operations, worldwide. Utilizing our proprietary product portfolio, we provide innovative solutions for process separation of oil, gas and produced water streams. Our proprietary mixers can be easily integrated and retrofitted into existing process systems, reducing chemical, wash water, scavenger and power consumption while providing a significant internal rate of return (IRR) and net present value (NPV) to the customer. Our technologies allow operators to meet or exceed regulatory requirements, simultaneously reducing CAPEX/OPEX costs and maintaining operational efficiency. We do this by drawing on a combination of highly experienced personnel, efficient processes and exceptional conventional and proprietary technologies.

OUR SPECIALTIES

- Natural Gas Sweetening
- Natural Gas Dehydration
- Crude Dehydration and Desalting
- Crude Blending
- Produced Water Treatment
- Tertiary Water Separation – Zero Harmful Discharge
- Process and Mechanical Engineering
- Chemical Optimization

PROSEP MIXING TECHNOLOGY

PID Symbol				
Commercial Name	ECLIPSE	AIM	MAX	EBS
Description Name	Enhanced Center Located Injection Pipe Spool	Annular Injection Mixer	Multiphase Adjustable Xtreme Mixer	Enhanced Blending System
Underlying Principle	ECLIPSE evenly distributes injected fluid around the center located cone, then uses local dynamic pressure to create small droplets while increasing interfacial area for enhanced mass transfer.	In the AIM, injected fluid is forced into streams, then sheared into small droplets by the increasing local dynamic pressure of the main process flow, which provides dispersion and mixing into the production stream.	MAX homogeneously applies shear force to the dispersed phase of the main process flow, providing a narrow droplet distribution, and enhancing mass transfer with the ability to modulate with process fluctuations.	The EBS is the newest addition to our comprehensive mixer line. EBS is a combination of the Pre-Distribution Injector with the MAX. The even distribution of injected fluid allows for a quicker, more easily obtained homogeneous mixture.
Characteristics	<ul style="list-style-type: none"> • 25-60% Injection Savings • <0.3 bar Pressure Drop • Low injection rate possible 	<ul style="list-style-type: none"> • 25-60% Injection Savings • <0.3 bar Pressure Drop 	<ul style="list-style-type: none"> • >90% Mixing Efficiency • <0.3 bar Pressure Drop • 6:1 Turndown Ratio • Narrow droplet size distribution 	Faster blending; Uniform distribution of injected phase
Process Flow Condition	<ul style="list-style-type: none"> • Liquid Injection into Gas Flow 	<ul style="list-style-type: none"> • Liquid Injection into Gas Flow and Liquid Flow 	<ul style="list-style-type: none"> • Liquid Injection into Liquid and Multiphase Flow 	<ul style="list-style-type: none"> • High Liquid Injection into Liquid Flow

MIXERS

ProSep offers operators in all areas of the process industries mixers best suited for their operations. With an expanding global footprint, ProSep's revolutionary and proprietary mixer technologies have proven their worth in the world's most challenging regions and applications.

ECLIPSE

Enhanced Center Located Injection Pipe Spool

With a unique, center-located injector, ProSep's ECLIPSE, low injection flow mixer allows for efficient mixing of small injected fluid volumes into the process flows. The ECLIPSE's design is superior to other technologies, such as injection quills, provides homogeneous, high efficiency mixing with no lower limit on the injection fluid flow rate.

BENEFITS

- Low differential pressure
- Inline solution
- Easily retrofitted
- No moving parts
- De-bottlenecks stressed processes

APPLICATIONS

- H₂S Scavenging
- Natural gas dehydration
- Amine injection

AIM

Annular Injection Mixer

ProSep's high efficiency mixer, AIM, achieves efficient mixing of injected fluid with multiphase, gaseous or liquid dominant flows with a low pressure drop over the operating range. Momentum transfer creates injected fluid dispersion with high mass-transfer properties, while the annular injection ring along the pipe wall creates a homogeneous downstream process fluid.

BENEFITS

- Low differential pressure
- Inline solution
- Easily retrofitted
- Low maintenance

APPLICATIONS

- Crude blending
- Demulsifier injection
- Scale inhibition
- Corrosion inhibition
- Caustic injection

MAX

Multiphase Adjustable Xtreme Mixer

ProSep's multiphase, adjustable mixer is driven by process fluid momentum, delivering high efficiency mixing at low differential pressures. Its patented design creates intense, balanced turbulence in the mixer for optimized utilization of momentum transfer, while its adjustability allows for high performance throughout the whole turndown range.

BENEFITS

- Low pressure drop
- Easily retrofitted
- 3-in-1 Solution – injection, dispersion and homogenization
- Low maintenance
- Maintains efficiency at all turndown conditions

APPLICATIONS

- pH control
- Demulsifier injection
- Chlorination
- Desalting
- Scavenging

EBS

Enhanced Blending System

ProSep's Enhanced Blending System applies our proprietary mixing technologies and design expertise to provide the optimal blending of two different process streams to achieve the desired product density, viscosity. Automated monitoring and control systems are available to maintain the product specification automatically by regulating the two process fluid flow rates and energy input.

BENEFITS

- Low differential pressure
- Inline solution
- Effectively blends complex fluids
- Broad density and viscosity range
- 0-100% turndown capability of the injected flow

APPLICATIONS

- Crude blending
- Solvent extraction
- Catalysis
- Caustic washing

Our revolutionary and proprietary mixer technologies have proven their worth in the world's most challenging regions and applications.





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