ADDITIONAL SERVICES

- Basic injection packages
- Single pump skids
- Multi-pump head skids
  - For multiple chemical / injection points and high or low flow applications
- Multi-pump systems
  - For multiple chemicals and stand-by/duty applications

TYPE OF SKID PACKAGES

- Commission and Start-up
  - Ensure successful installation and operation
  - Validate system parameters
  - Pump and system operation, maintenance and on-site training

- Technical Support
  - Preventative maintenance programs offered by Pulsafeeder or Authorized Service Center (ASC) technicians
  - Repair & Conversions
    - Provided by ASCs
    - ASCs provide factory pump repairs
  - Maintenance Programs
    - Improves performance
    - Ensures safe operation
    - Genuine Pulsafeeder Parts ensure excellent reconditioning

Pulsafeeder Genuine Parts

- KOPkit (Keep on Pumping kit) for pumps
- Spare parts for systems and pumps
- Fast delivery and installation
- On-site repairs

ASC Technicians

Pulsafeeder's ASCs provide local assistance to support your engineered system. Technicians are factory trained, and have the tools and knowledge to provide the services required. ASCs are also available to hold operation and maintenance training seminars for your staff. For more information about Pulsafeeder ASCs, visit pulsa.com/authorized-service-centers.
TYPICAL APPLICATIONS

Pulsafeeder, Inc. is a leader in providing metering pump technologies for both stand-alone pumps and skid mounted configurations. We understand that chemical injection packages are a vital component in Chemical, Petrochemical, Refining, and Oil & Gas applications. By listening to the needs of our customers, Pulsafeeder engineers and fabricates skids to your specifications, and ensures they are compliant with industry and international standards (e.g. ASME, API, ATEX).

We understand that each chemical has its own unique set of challenges that must be taken into consideration in the design, selection, and application of the pump systems. Safety, reliability, and precise control are required to optimize the chemical reaction and reduce operating costs no matter what chemicals you are dosing.

We have an extensive design portfolio demonstrating our expertise with chemical injection packages; from a simple one pump skid to complex, multi-pump skids. Known for their rugged construction and dependability, our pumps and systems are manufactured to the highest level of performance and quality. Along with providing integrated engineering solutions, we offer full warranty packages and exceptional after sales service.

CHEMICAL INJECTION SKID SYSTEM STRUCTURE

<table>
<thead>
<tr>
<th>Structural</th>
<th>Skid sizing, piping, tank support, and frame work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanks</td>
<td>Pressure vessels, storage, and tote tanks</td>
</tr>
<tr>
<td>Mechanical</td>
<td>Rotating equipment pump, valves, safety components, and measuring equipment</td>
</tr>
<tr>
<td>Electrical</td>
<td>Motor</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>Controls based on pressure level, flowrate, and temperature instruments</td>
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</tbody>
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KEY BENEFITS OF PULSAFEEDER CHEMICAL INJECTION SKID SYSTEMS

- Single source accountability
- Extensive design portfolio to industry and international standards
- Complete system function testing prior to shipment
- Complete documentation packages
- 24 X 7 X 365 technical service
- Nationwide service network

MARKETS

- Chemical - applications for chemical intermediate and end products
- Petrochemical - applications for the manufacturing of plastics, pharmaceuticals, paints, detergents, and other products
- Refining - applications to clean, separate, and convert crude oil
- Oil & Gas - applications for the treatment of oil, gas, and water

Let Pulsafeeder take care of the chemical injection system details: from conceptual design through engineering and fabrication, to installation, commissioning, and after sales service.
TYPES OF SKID PACKAGES

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SPEC PULSAFEEDER. GET MORE THAN YOU EXPECT.
CHEMICAL PROCESSING
Metering or injection of the following:
- Ethylene glycols for the manufacturing of plastics, textiles, latex paints, and adhesives
- Deionized water, Ethanolamines / MEA, for the production of herbicides and various surfactants
- Methanol, used during the production of MTBE
- Liquid Nitrogen, Nitrate, Ammonium, Urea, Phosphate, and Potassium used in the fertigation process

PETROCHEMICAL
Metering or injection of the following:
- Hydrochloric acid for descaling
- Corrosion inhibitor used to prevent oxidation
- Caustic soda used in high pressure cleaning
- Amine treatment to remove sour gas
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SYSTEMS EXPERTISE

CHEMICAL INJECTION SKID SYSTEM STRUCTURE

- Structural
  - Skid sizing, piping, tank support, and framework

- Tanks
  - Pressure vessels, storage, and tote tanks

- Mechanical
  - Rotating equipment: pump, valves, safety components, and measuring equipment

- Electrical
  - Motor
  - Instrumentation
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INJECTION SKID SYSTEMS

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CHEMICAL PROCESSING

PETROCHEMICAL

Metering or injection of the following:

- Biosides for bacteria control of water for well flooding
- Caustics and acids to adjust pH of sour gas or crude oil to cut down on corrosion
- Methanol injection for control of separation, foaming, scale, and corrosion
- Demulsification applications
- Rationing antifoam, E.P. additives to lubricants
- Antiknock and alcohol additives in gasoline

OIL & GAS

Metering or injection of the following:

- Corrosion inhibitors
- Amine solutions for hydrogen sulfides removal
- Caustic soda for sulfurous impurities removal
- Antifoam and defoamer chemicals
Requirements for Chemical Injection Systems are unique.

Contact our expert team about your skid system requirements.

For More Information, Contact Your Authorized Pulsafeeder Distributor or Representative

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