Spray Lubrication Management and Automation Experts

PRO-MIX™ Proportional Mixers

SPRA-RITE™ Spray Systems

Reclaim-PRO™ Lubricant Purification and Recycling Units
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Metalworking Industries Served

Industrial Innovations has the know-how across a wide-range of metalworking sectors to optimize and manage lubrication programs for improved operations. We help boost productivity, improve die and tool life, achieve consistent part quality and reduce your lubrication and removal fees.

Stamping/Fabricating/Roll Forming
Friction and die wear are a serious consideration in metal forming manufacturing. Whereas a certain amount of friction is necessary, excessive friction is undesirable as it increases the amount of force required to perform an operation, causing wear on tooling and affecting ease of metal flow through the operation. An effective lubrication management solution helps to optimize metal forming operations.

With a multitude of installations, Industrial Innovations is the leading North American provider of lubrication solutions to the metalforming industry from stand-alone solutions to comprehensive plant-wide, closed-loop systems. With 500-PSI capability, our equipment can easily mix and distribute thick and emulsified lubricants required for processing of High Strength Steel (HSS) and advanced materials.

Metal Cutting
In no other industry is the importance of lubricant application as crucial as in metalcutting operations. Cutting fluids help carry away heat generated during machining, cool the tool and workpiece, improve machinability, prevent adhesion of chips to the tool or workpiece, and flush away chips from the cutting zone. All this is necessary to achieve a quality surface finish and dimensional accuracy.

With cutting fluids contributing from 8 – 16% of total production cost in machining operations, implementing the most effective coolant management solution is critical. Industrial Innovations’ lubricating expertise can help reduce Investment in drill bits, taps, cutters and saw blades while improving production output and part quality. And a reclamation unit can pay for itself quickly by rescuing and re-using coolant that would otherwise be hauled away for discard.

Forging and Die Casting
Proper lubricant application in metal forging and casting operations can help lower frictional forces and create a smoother flow of metal through the mold. In addition, lubrication can create a thermal barrier between the workpiece and the die, helping to reduce temperature gradients that can affect component integrity. Lubricants also aid in keeping the metal and die surfaces from sticking together and assist in the removal of the workpiece from the die.

Our specialized servo-driven SPRA-RITE Lube Reciprocators quickly and accurately guide the spray manifold into the die area for precise lube application as each nozzle can be programmed at any location in the spray cycle. Our manifolds come in all sizes, offer quick disconnect, and are available in a variety of drip-free spray tips and tubes. We also offer Hydra-Hone shot sleeve reconditioning units for an economic alternative to a new shot sleeve for maintenance of cold chamber units.
PRO-MIX™ Proportional Mixers

Accurate, Thorough, Consistent

Thorough and precise blending of a stable, homogeneous lube mixture sets the foundation for an effective lubrication management solution. Our PRO-MIX line of proportional mixing systems ensures a consistent blend of lubricant concentrate with water in ratios anywhere from 1:1 to 1:1,500, helping you to achieve better process control.

PRO-MIX System Features
- Blends lubricant and water to desired ratios
- Manual or automatic delivery of lube through in-plant piping network
- Styles offering 1 to 3 lube mixtures
- High pressure styles available for thick, emulsified lubricants
- Safety monitoring and diagnostics capabilities
- System lock-out feature to prevent tampering
- Stainless steel reservoirs

<table>
<thead>
<tr>
<th>System</th>
<th>Holding Capacity</th>
<th>Output Capacity</th>
<th>Lube Type</th>
<th>On-board</th>
<th>Number of Lube Outputs</th>
<th>Number of Ratios Out</th>
<th>Fill Type</th>
<th>Dimensions H x W x D</th>
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</thead>
<tbody>
<tr>
<td>PRO-MIX I</td>
<td>10 gallons</td>
<td>25 gph</td>
<td>1</td>
<td>1</td>
<td>Gravity Fed</td>
<td>40 x 40 x 24</td>
<td></td>
<td></td>
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<tr>
<td>PRO-MIX III</td>
<td>20 gallons</td>
<td>100 gph</td>
<td>1</td>
<td>1</td>
<td>Gravity Fed</td>
<td>50 x 48 x 30</td>
<td></td>
<td></td>
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<tr>
<td>PRO-MIX V</td>
<td>20 gallons</td>
<td>200 gph</td>
<td>1</td>
<td>1</td>
<td>Pump Fed</td>
<td>69 x 46 x 48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRO-MIX V Dual</td>
<td>20 gallons</td>
<td>200 gph</td>
<td>2</td>
<td>1</td>
<td>Pump Fed</td>
<td>69 x 46 x 48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRO-MIX V Double</td>
<td>20 + 20 gallons*</td>
<td>400 gph</td>
<td>2</td>
<td>2</td>
<td>Pump Fed</td>
<td>69 x 46 x 48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRO-MIX V Triple</td>
<td>20 gallons</td>
<td>600 gph</td>
<td>1</td>
<td>3</td>
<td>Pump Fed</td>
<td>69 x 96 x 48</td>
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</tr>
</tbody>
</table>

*Indicates that this unit includes two separate tanks.

SPRA-RITE™ Spray Systems

Precise, Controllable, Zero-Drip

Our patented SPRA-RITE airless lubricant application systems feature independently-controlled, electrically operated injector valves for controlling nozzles with individual settings for skip cycle counting, delay spray, volume control and length of spray. Applying lubricant through patented zero-drip nozzles, SPRA-RITE application systems deliver precise and efficient lube placement to tooling or stock, helping to increase production rates, reduce lubricant waste, and improve environmental conditions.

SPRA-RITE System Features
- Choice of turnkey systems to meet various application needs
- Pedestal style designs for portability
- Styles available for applying thick emulsified lubricants at rich dilution
- Independent spray nozzle control
- Stainless steel lubricant reservoir tank with liquid regulator, air relief valve, and a liquid strainer
- Reserve reservoir for eliminating press shutdown for relfiling

<table>
<thead>
<tr>
<th>System</th>
<th>Max Fluid Pressure</th>
<th>Reservoir Capacity</th>
<th>Manifolds</th>
<th>Displacement</th>
<th>Part Recipes</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRA-RITE LP Air</td>
<td>100 psi</td>
<td>5, 10, 16 gal</td>
<td>2, 4, 6, 8</td>
<td>Air over oil</td>
<td>200</td>
<td>Beta</td>
</tr>
<tr>
<td>SPRA-RITE LP Pump</td>
<td>100 psi</td>
<td>20 gal</td>
<td>2, 4, 6, 8</td>
<td>Diaphragm pump</td>
<td>200</td>
<td>Beta</td>
</tr>
<tr>
<td>SPRA-RITE HP</td>
<td>500 psi</td>
<td>No Reservoir</td>
<td>2, 4, 6, 8</td>
<td>Positive Displacement Pump</td>
<td>200</td>
<td>Beta</td>
</tr>
<tr>
<td>SPRA-RITE HP Tank</td>
<td>500 psi</td>
<td>20 gal</td>
<td>2, 4, 6, 8</td>
<td>Positive Displacement Pump</td>
<td>200</td>
<td>Beta</td>
</tr>
<tr>
<td>SPRA-RITE Alpha</td>
<td>100 psi</td>
<td>5, 10, 16 gal</td>
<td>2, 4, 6</td>
<td>Air over oil</td>
<td>0</td>
<td>Alpha</td>
</tr>
<tr>
<td>SPRA-RITE Ultra Lube</td>
<td>5 psi</td>
<td>5, 10, 16 gal</td>
<td>2, 4, 6, 8</td>
<td>Air over oil</td>
<td>200</td>
<td>Beta</td>
</tr>
</tbody>
</table>

Learn more at www.industrialinnovations.com
SPRA-RITE™ Alpha System

**Reliable, Turnkey, Value Solution**

Our SPRA-RITE Alpha System is an effective, reliable, and simple turnkey lube application solution for smaller pressroom applications. It provides a complete system inclusive of an injector manifold, Alpha controls, tank, nozzles and tubing. As with our other systems, it’s airless and comes with our patented zero-drip “Z” nozzles, offering independent control of volume and stroke.

**SPRA-RITE System Features**
- 2, 4 or 6 injector manifold
- Independent control of up to six injectors for volume and stroke
- Nozzle purge and test feature
- Skip cycle capability
- 5-gallon stainless steel tank
- Simple program modification using data display and function buttons
- 99.5% drip-free “Z” nozzles

### System Specifications

<table>
<thead>
<tr>
<th>System</th>
<th>Max Fluid Pressure</th>
<th>Reservoir Capacity</th>
<th>Manifolds</th>
<th>Displacement</th>
<th>Part Recipes</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRA-RITE Alpha</td>
<td>100 psi</td>
<td>5 gal</td>
<td>2, 4, 6</td>
<td>Air over oil</td>
<td>0</td>
<td>Alpha</td>
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</tbody>
</table>

Note: See our “Z” Nozzle flyer for the variety of nozzles that you can include with this system.

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SPRA-RITE™ Ultra Lube System

**Atomized Spray for High Viscosity Lubricants**

A turnkey solution for applying highly viscous lubricants up to 800 cps, the lube is atomized with air into an ultra-fine spray at the nozzle. The nozzles are air-controlled and each injector can be controlled independently. The Ultra Lube system includes an injector manifold, Beta controls, tank, nozzles and tubing.

**SPRA-RITE Ultra Lube Features**
- Ultra-compact air atomizing spray nozzle
- Flat or cone patterns
- 0–220 mL/min
- Fully adjustable flow control
- 2, 4, 6, 8 or 10 injector manifold
- 200 part storage recipes
- Independent skip cycle counting
- Independent delay spray
- Independent volume control
- Control up to 10 individual spray nozzles
- Operator lock-out capability
- Magnetic mount
- 5 gallon stainless steel tank

### System Specifications

<table>
<thead>
<tr>
<th>Ultra Lube System</th>
<th>Viscosity Range</th>
<th>Reservoir Capacity</th>
<th>Manifolds</th>
<th>Displacement</th>
<th>Part Recipes</th>
<th>Controls</th>
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</thead>
<tbody>
<tr>
<td>SPRA-RITE Ultra Lube</td>
<td>&lt; 800 CPS</td>
<td>5 gal</td>
<td>2, 4, 6, 8 and 10</td>
<td>Air over oil</td>
<td>200</td>
<td>Beta</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ultra Lube Zero-Drip Nozzles</th>
<th>Spray Angle Degree</th>
<th>Available Volume (gpm) @ 40 PSI</th>
<th>Mount Styles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat or Cone</td>
<td>0–220 mL/min</td>
<td>Magnetic and Die Mount Bases</td>
<td></td>
</tr>
</tbody>
</table>
SPRA-RITE™
Lubricant Injector System Process Controller

User-Friendly, Flexible Control
SPRA-RITE Controls utilize an interface to define, manage, and store the critical process variables associated with the control of the lubricant application process. The volume of lubricant and stroke count are loaded into each of the injectors independently using touch key controls. Existing programs are easily edited using the menu prompts and the touch keys. SPRA-RITE’s design provides our customers the unique ability to custom design a lubricating system to meet their specific process requirements.

SPRA-RITE Lubricant Injector System Process Controller Features
• SPRA-RITE injector manifold models are available and stackable in 2, 4, 6, 8 and 10 injectors
• Key switch lock out for process security
• HOT key programming of the spray process parameters
• 200 part storage recipes
• Independent skip cycle counting
• Independent delay spray
• Independent volume control
• Control up to 48 individual spray nozzles
• SPRA-RITE Controls are BCD capable to communicate with certain press controls for automatic spray recipe operation

For less complex applications, we offer our Alpha Processor with capability to control up to 6 injectors for volume and stroke.

SPRA-RITE™
Customer Injector Manifold Assemblies

Complete and Patented Solution
Our SPRA-RITE application solutions rely upon pressurized lubricant encapsulated within the manifold assembly until the injection cycle is initiated. Each manifold has a means of generating the required lubricant pressure.

SPRA-RITE injector manifold assemblies include the manifold, pressure regulator, injectors, and injector coils.

For customers who only require an injector manifold assembly for use with an existing SPRA-RITE processor, we offer a manifold package that includes the injector, the manifold/enclosure interface, pressure regulator and pressure gauge.

SPRA-RITE Custom Injector Manifold Assembly Features
• 2, 4, 6, 8 and 10 injectors
• Independent volume control of each injector and a minimum spray time of 20 milliseconds
• Manufactured using high speed injector valves, NEMA enclosures, pressure regulators and pressure gauges
• Capable of connecting to press controls
• 1/8”, 3/16” and 1/4” fittings
• 24V or 110V coils
• Different valves available for high pressure applications

Learn more at... www.industrialinnovations.com
Reduced Setup Time. Precise Application

Our patented zero-drip, die-mount nozzles enable quick setup while effectively applying lubricants to specific areas of the stamping or drawing tooling and/or the stock. These nozzles incorporate low pressure with high velocity to produce the most effective means for the controlled application of lubricants, helping to eliminate costly waste.

The simple u-channel frame makes placement and setup simple and easy. And once setup, these nozzles maintain their position to consistently deliver the precise amount of fluid to meet your needs.

See next page for complete ordering information.

SPRA-RITE™
Zero-Drip Die-Mount Nozzle Assembly

Our die-mount nozzles and quick-disconnect are the perfect combination for almost any quick die change solution.

SPRA-RITE Die Mount Nozzle Assembly Features

- 99.5% drip-free
- No strainers, springs or ball checks
- Patented technology
- Choice of volume and spray angles
- Styles for application of thick, emulsified lubricants
- Precise application control
- Lightweight construction
- Universally adjustable
- Cuts down on die setup time and cost
- Easily mounts to die

Individual spray tips can be ordered by simply requesting the angle and volume as a single string; ie. 01565

Flow rates are listed at 40-PSI.
Dripless Solutions Across Applications

Our patented “Z” series lubricant application nozzles incorporate a unique design to effectively apply lubricants to specific areas of the stamping or drawing tooling and/or the stock with virtually zero drip. The High Velocity or HV-style spray lubricator nozzle assembly combines low pressure with high velocity to produce the most effective means for the controlled application of lubricants, helping to eliminate costly waste.

See next page for complete ordering information.

SPRA-RITE™

Zero-Drip Lubricant “Z” Series Nozzles

SPRA-RITE “Z” Series Nozzles Features
- 99.5% drip-free
- No strainers, springs or ball checks
- Patented technology
- Choice of volume and spray angles
- Styles for application of thick, emulsified lubricants
- Precise application control
- Lightweight construction
- Universally adjustable
- Magnetic or Die Mounts available

Fully-adjustable magnetic base stand

One nut locks everything in place
Achieve Quick Die Change Goals

Industrial Innovations Quick Spray Release Multi-Connection Injector Manifolds enables “one-click” disconnect and connect of multiple hoses to simplify lube line hookup. This helps to reduce changeover time and ensure lubricant spray is applied where intended every time.

During die changeover, the operator simply unclicks the quick-disconnect manifold and removes the die. The new die is then put in place and the new manifold plugged in. The operator then loads the part program and spray profile for accurate volume, placement and timing of the lubricant.

SPRA-RITE “One-Click” Multi-Connection, In-Die Spray Manifold Features

• Quick spray release multi-connection
• Eliminate costly set-up time
• Apply lubricant in the same place — every time
• Eliminate confusing lube line hook-up
• Hook up to eight lube lines with one-click
• Top half of nozzle stays with press, bottom half of nozzle stays with die

Green, Lean and Cost-Effective

Improve your bottom line and environment by reclaiming oils instead of disposing as waste. Our Reclaim-PRO coolant purification systems are known for reducing lubrication requirements by as much as 70% while also decreasing machine downtime. Our approach relies on polypropylene coalescing plates to separate oil from coolant or water by utilizing the buoyancy of the oil droplets. This helps eliminate disposal issues as no absorbents are used in the process.

Reclaim-PRO System Features

• Proprietary simulation process used to custom design each separator
• 10+ years of field life and easy maintenance
• Low operating and maintenance costs
• Gravity-operated, no utilities are required
• Recyclable oil recovered
• Predictable performance
• Cleanable coalescing plate system
• No absorbents required
• For use with hydrocarbons or vegetable oil lubricants
• Various accessories available such as pumps, controls, coolant addition systems, etc.

<table>
<thead>
<tr>
<th>System</th>
<th>Type</th>
<th>Output Capacity</th>
<th>Media Stacks</th>
<th>Dimensions W x L x H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reclaim-PRO Mini</td>
<td>Portable</td>
<td>.3 to .7 gpm</td>
<td>0.5</td>
<td>8 x 26 x 19</td>
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<tr>
<td>Reclaim-PRO I</td>
<td>Fixed</td>
<td>.6 to 1 gpm</td>
<td>1</td>
<td>15 x 51 x 22</td>
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<tr>
<td>Reclaim-PRO II</td>
<td>Fixed w/ fork pockets</td>
<td>2.4 to 4 gpm</td>
<td>4</td>
<td>29 x 100 x 34</td>
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<tr>
<td>Reclaim-PRO III</td>
<td>Fixed w/ fork pockets</td>
<td>5 to 10 gpm</td>
<td>9</td>
<td>41 x 100 x 42</td>
</tr>
</tbody>
</table>
Over 30 Years of Service and Innovation

Industrial Innovations has over 30 years of experience in providing solutions-based lubrication management programs for industrial environments. Using a comprehensive approach, we assess your operations to ensure that you get the right combination of equipment and services for your particular needs. Development of an effective lubrication program is critical to maintaining productivity, component quality and equipment life, yet few companies have the resources to manage this ongoing process. As the largest manufacturer of metalworking lubricant proportional mixers and spray application systems in the U.S., you can count on Industrial Innovations to deliver a world-class lubrication management solution.