ARTIFICIAL LIFT

Plunger Products and Accessories
Since 1984, Well Master’s mission has been to enhance gas well production and provide oil and gas producers and operators a practical means to maximize well efficiency and extend well life.

Today, Well Master provides a wide range of proven products and solutions designed to optimize gas well operations. Our ongoing research and development brings new technologies and applications to improve well performance. Our products are superior because we partner with those who know best about what works – the lease operators and owners themselves. They help design and test our plungers to be the most dependable and durable products in the market.

Our patented products are designed and produced to offer superior durability extending the time between replacements. This translates into less downtime, increasing your wells’ profits and productivity. Customers depend on Well Master experts to get them the products they need, when they need them.

**PLUNGER SELECTION**
Well Life Cycle Approach

<table>
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<th>Time (Yrs.)</th>
<th>Production Rate</th>
<th>Free Flowing</th>
<th>Very High Flow</th>
<th>High Flow</th>
<th>Moderate</th>
<th>Slow / Weak</th>
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<td>Venturi</td>
<td>Viper</td>
<td>Barstock</td>
<td>Dual Pad</td>
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DistributionNOW is an Authorized Distributor for Well Master Products and Services
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DistributionNOW Artificial Lift Systems

DistributionNOW offers a variety of artificial lift products including plunger lift systems, conventional rod pump systems, variable frequency drives with automation or optimization capabilities and high quality progressing cavity pumps for customer-specific well conditions.

Supplying quality artificial lift equipment and expertise to the oil and gas industry has become increasingly important as fields get older and new fields emerge with an increasing number of wells to come online. Our branch network provides producers access to product availability when and where it’s needed. That’s why DNOW is constantly searching for new technology to help our customers lower lifting costs and decrease downtime. In addition to our quality, leading edge products, we also offer a range of artificial lift services, including product specialists as well as local pump shop services, failure analysis and solutions consulting, all critical well hook-up components, and customized individual and classroom training for our customers.

Plunger Lift Systems
With a dedicated DNOW Plunger Lift Product Specialist and through an alignment with Well Master, we offer complete plunger lift downhole, surface, and controller equipment. Often the first artificial lift method in a well’s life cycle, a DNOW designed system is cost effective and delivers superior performance.

Rod Pump Systems
We offer complete rod lift system packages, including API or specialty rod pumps, sucker rods, and accessories manufactured to meet a wide variety of applications. We also offer complete system design and performance analysis including pre or post plunger lift well life cycle applications.

Progressing Cavity (PC) Pumps
We specialize in complete, customized PC pump system designs that consider all aspects of a customer’s well including operating conditions and fluid properties.

Variable Frequency Drives (VFD)
DistributionNOW supply variable frequency drives, available with basic operations suited for ESP, beam pump or PC pump applications. Ancillary items include automation and optimization options utilizing rod pump controller hardware (beam pump) or less costly patented Sensorless Artificial Lift Technology (SALT) software suitable for ESP, beam pump or PC pump.
Screaming Eagle™ Plunger

Clutched, Continuous Run, Bypass Plunger

Applications
- Deep, fast flowing wells with high gas or liquid volumes
- Wells in the initial stages of liquid loading
- Ideal for deviated and horizontal wells
- High producing gas injected wells
- Wells moving 150+ BBLs/day

Features and Benefits
- Robust Compact Clutch design prevents premature valve actuation
- Designed for high cycle rates for optimal deliquification
- Clutched and non-clutched versions for multiple applications
- Bypass design features 2 or 4 large ports for efficient fall time

Venturi Viper™ Plunger

Breakthrough Quick Drop Innovation

Applications
- Patented innovative design bridges gap between continuous and conventional run plungers
- Proven in a wide range of wells from low to high rates

Features and Benefits
- Dynamic Seal™ provides an ideal solution for horizontal and directional wells
- Fast fall and efficient lift with no moving parts
- Supersonic gas flow through venturi lightens liquid load
- Spin-Cleaning action works on plunger fall and upstroke
- Variable groove depth and spin turbulence increases sealing efficiency
- Exterior connecting holes direct spinning turbulent gas to tubing wall, causing an enhanced seal

Original Viper™ Plunger

High Performance, All-Purpose, Extended-Life Plunger

Applications
- Well suited for a variety of applications including horizontal and directional wells, and those that produce sand, paraffin, and coal fines

Features and Benefits
- Patented Dynamic Seal™ technology provides variable groove depth and spin turbulence that keeps the plunger centered in the tubing, resulting in lower lifting costs and extending plunger life
- Spin-Cleaning flutes work on cutting debris during plunger downstroke and exterior connecting holes direct spinning turbulent gas to tubing wall, evening out wear and minimizing fluid fall back
- Uniquely crafted from hardened steel and plated with electroless nickel, providing superior durability by extending the time between replacements, increasing your wells’ profits and productivity

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Sidewinder™ Plunger

Durable, Low Maintenance, Economical Solid Plunger

Applications
- Designed for wells with deviated tubing
- Effective against paraffin, salt and scale producing wells
- Used in high liquid producing wells

Features and Benefits
- Spin-cleaning flutes work on cutting debris during plunger downstroke, extending the life of the plunger and reducing wear
- Variable groove depth and spin turbulence increases sealing efficiency
- Hardened solid plunger with grooves designed to remove gas in wells with high gas volumes
- Uniquely crafted from hardened steel and plated with electroless nickel, providing superior durability, extending the time between replacements, increasing your wells' profits and productivity

Carbon Bolt™ Plunger

Durable, Low Maintenance, Economical Solid Plunger

Applications
- Suited for a variety of applications including horizontal and directional wells
- Effective against paraffin, salt and scale producing wells
- Ideal for wells with tight spots and downhole restrictions

Features and Benefits
- Dual Spin-cleaning flutes work on cutting debris during plunger downstroke, extending the life of the plunger and reducing wear
- Variable groove depth and spin turbulence increases sealing efficiency
- Hardened solid plunger with grooves designed to remove liquid in wells with moderate to high gas volumes
- Economical, high quality plunger made of hardened alloy steel

Cleanout Plunger

The Workhorse for Well Cleanup

Applications
- Barstock plunger ideal for wells that produce sand, paraffin, and coal fines

Features and Benefits
- Spin-cleaning flutes work on cutting debris
- One piece, solid design makes the cleanout plunger durable and economical
- Wide and deep grooves help move large amounts of solids while trapping gas to maximize seal
- Undersized O.D. and slightly shorter length to enable the plunger to pass through tight spots or slight bends
- Barstock plunger is uniquely crafted from hardened steel and zinc plated for superior durability
XceL™ Single and Dual Pad Plungers

Extended Life, Dual Pad Plunger

Applications
- Designed for marginal wells and wells with low Gas-Liquid Ratio (GLR)
- Ideal for wells with tight spots and downhole restrictions
- Used where standard pad plungers experience high wear

Features and Benefits
- Machined tool steel pads for precision mechanical seal
- Lower lifting costs with high performance and longer wear life
- Standard design uses hardened tool steel and is plated for extended life
- Pad wear indicators at .015 in and .030 in
- Highly articulated pads allow for up to 40 degrees/100 ft. dogleg severity
- Efficiently runs through profile nipples and tight spots
- Stress relieved fishing neck adds strength
- Jetted option available for horizontal/deviated wells

Hollow Point™ Plungers

Lightweight, Economical Plunger

Applications
- Designed for marginal wells
- Effective in paraffin, salt and scale producing wells
- Ideal for press sensitive wells

Features and Benefits
- Spin-cleaning flutes work on cutting debris during plunger downstroke, extending the life of the plunger and reducing wear
- Hardened hollow plunger with grooves designed to remove liquids in wells with low to moderate gas volumes
- Uniquely crafted from hardened steel providing superior durability, extending the time between replacement, increasing your wells’ profit and productivity
- Weld free design eliminates associated stress cracking and failure

Brush Plunger

Superior Sealing and Sweeping Tool

Applications
- Deliquification of very marginal or low pressure wells
- Wells that produce sand, salt, and/or coal fines
- Wells with tubing irregularities

Features and Benefits
- Provides exceptional seal efficiency
- Sweeps off sand, salt, and coal fines that adhere along the inside diameter of the tubing wall
- Designed with high heat, temperature resistant, nylon bristles for extended life and performance
- Designed with flexible, nylon brush material allowing solids to pass while traveling in tubing

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Plungers and Accessories

Integral Bumper Spring Pogo™ Plungers

Shock Absorbing Plungers

Applications
- Used where no downhole stop or spring assembly is installed
- Effective against paraffin, salt and scale producing wells

Features and Benefits
- Self-contained bumper spring eliminates the need for a downhole stop
- No-Go shoe has cutter to remove salt, scale and paraffin
- Economical solution compared to conventional spring assembly
- Eliminates the need for servicing of downhole spring
- No downhole restriction of conventional spring
- Available in rib design and standard dual pad

ShearMaster™

Floating Downhole Stop and "Scale Buster"

Applications
- Excellent in paraffin and scale control
- Used in high liquid producing wells in place of bottom hole spring assembly

Features and Benefits
- Cleaning action works as the tool cycles in lower tubing

Bumper Springs and Stops

Shock-Absorbing Downhole Tools

Applications
- Used in most wells that require a bottom hole spring/stop

Features and Benefits
- Designed to prevent potential damage to plunger by absorbing plunger impact at bottom of the well
- Flow-thru maximized with extra-large throat
- Stress relieved fishing neck adds strength
- Multiple seat cup materials and sizes available

Seat Cup Spring Assembly
- Designed to prevent the bumper spring from moving out of position
- Accommodates X, XN and F [API] seating nipples with multiple seat cup sizes available
- Enhanced seal with 2 seat cups
- Heat-resistant and standard fiber seal cups available

Collar Stop / Tubing Stop Spring Assembly
- Designed for accurate placement of tool in tubing string

Floating Spring Assembly
- Designed for easy retrieval with a fishing plunger and does not require a wire line to set or retrieve
- Utilizes a 1.90 inch No-Go in place of a seat cup

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3K Premium Lubricators

Durable, Dual-Outlet Lubricators

Features and Benefits

- Dual-outlet maximizes flow and enables the routing of debris
- M-Series Lubricator with Innovative Super-E Spring option is energy absorbing and specially formulated with TeksPak®, a thermoplastic elastomer which is both cost effective and an excellent solution for eliminating spring breakage
- Constructed of DOM Seamless Tubing, which can withstand impact from potentially fast-rising plungers
- Additional features of the optional lubricator top with easy access end cap:
  - Improves well site operator equipment safety and productivity given by spring design and the ease of top removal
  - Maximizes serviceability, making inspections simple and more efficient
  - Springs can be replaced easily in minutes
- Unique lubricator end cap designed for easier access to the plunger and spring including:
  - Acme threads
  - O-Ring sealed
  - Removable by hand or a strap wrench
  - 100% hydrostatically tested
- Flanged options also available

5K UNIBODY™ Lubricator

Robust, Heavy Duty Lubricator

Features and Benefits

- Meets API 6A wellhead specifications and spacing ensuring proper alignment and mechanical integrity improving operational efficiency and safety
- Manufactured from one billet of steel, eliminating all operational welds (handles are welded to gown nut)
- Body constructed of SAE 4140 alloy or AISI 1020 low carbon steel for cold or standard temperature applications
- Robust, CNC machined catcher mount port for catcher position accuracy
- Heavy Duty, e-nickel plated catcher for extended life and corrosion resistance
- Functional longevity and reliability of catcher with Parbak back-up rings in critical areas
- Additional material/wall thickness for dual outlet ports
- Designed with large 2 inch NPT flow ports that facilitates flow and debris removal
- Heavy Duty Bowen Nut with welded handles for ease of tightening and/or removal
- Optional anvil/puck to support two piece plunger separating rods
- Two 1/2 inch tie in port on side for chemical tie ins or extra bleed
- Unique slots designed to allow sensors to be mounted at the lowest entry point on lubricator
- Chemically washed to prevent corrosion and powder coated for a high quality finish
- Serial tag for traceability
- 100% hydrostatically tested
- Flanged options also available
Plungers and Accessories

Hawkeye™ IS Plunger Arrival Sensor

Reliable, Watertight, Low Power Consumption

Applications
- Designed for reliable operation in extreme conditions

Features and Benefits
- Adjustable sensitivity levels allows for utmost accuracy
- Extremely low power consumption, drawing less than 700 µA of current
- Does not use internal batteries
- Protected by a rugged watertight aluminum enclosure filled with hardened epoxy
- Features a 1/2” NPT port that enables use of either a Teck connector and armored cable, or a standard cable gland and instrumentation cable
- Detects plunger arrivals from up to three feet away

Tackle Box™ 5-In-1 Fishing Toolkits

Heat Treated 4140 and Nickel Plated, Rare Earth Magnet

Applications
- Ideal for retrieving all types of downhole equipment

Features and Benefits
- Kit includes: Fishing plunger, internal and external impression blocks, internal latch, overshot, internal fish neck, 220lb “Rare Earth” magnet and Allen wrench
- Comes in a durable case to store and protect tools
- Proven cost savings – pays for itself in less than two uses
- Plunger has the Well Master patented high lift rib and groove design for maximum lifting power
- Plunger is constructed of heat treated AISI/SAE 4140 too steel and nickel plated for extended life

Plunger Lift Controllers

Premium Timer / Pressure Optimization Solution

Applications
- Designed to withstand extreme conditions to optimize production

Features and Benefits
- Proven to function reliably
- Draws little energy from rechargeable battery
- Solar panel included
- Protected by a rugged water-tight steel enclosure with a locking door latch
- Features several pre-punched ports
- Can be configured as a simple well intermitter
- Includes a standard Modbus communication port
Technical Services

Minimize your Lease Operating Expense (LOE)

Lease owners, operators and procurement professionals are being challenged to deliver higher productivity with fewer resources. Don’t waste valuable time getting a marginal or aging well performing through trial and error. Our experts can get you up and running quickly, so you don’t lose valuable time or profit.

Services Available

- System installation
- Echometer plunger tracking and fluid level
- Well Optimization Consulting and advisory
- Troubleshooting and inspection
- On-site assistance

Training

Increase Your Knowledge

Whether you’re new to plunger lift principles and need the basics or seek to expand your knowledge of artificial lift systems and principles. Well Master experts provide the right level of information to meet your needs. We offer instructional programs at the Well Master training facility or we can bring them to your location.

Training Available

- Basic Plunger Lift Principles: a half-day program covering critical aspects of plunger lift system operation. From basic artificial lift principles and options to understanding well characteristics, this class will help you tackle the field with added confidence.

- Advanced Plunger Lift Concepts: This program covers more detailed well candidate selection criteria, analysis and interpretation of production and well analysis data. Additionally, you will learn advanced troubleshooting and well optimization.

DistributionNOW Locations
To enquire about our plunger lift products, please contact any DNOW branch, or contact us at the following:
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