plainsman mfg. inc.

Chemical pumps and accessories • Wellsite and production equipment • Downhole accessories • Pipeline/pigging • ESD's and accessories

(2), PB-002-010

plainsman mfg. inc.

About Plainsman Manufacturing Inc.

Plainsman Mfg. Inc. is a locally owned manufacturing and distribution company operating out of Edmonton, Alberta since 1966.

We manufacture and distribute products for oilfield production, pipeline maintenance, construction and gas and water distribution. Plainsman has an in-house full service manufacturing facility and engineering department that enables us to respond efficiently to customer and industry needs. Our on-site manufacturing facility is equipped with state-of-the-art automation equipment to fulfill customer orders in the most cost efficient manner.

Plainsman is dedicated to providing our domestic and international customers with the best possible service. For this reason, Plainsman operates out of a 44000 sq. ft. facility on the south side of Edmonton that allows us to maintain the level of inventory necessary to meet our customer's demands. Continued registration of our ISO 9001 quality assurance system since 1994 also reflects our commitment to quality and service. At Plainsman, we are constantly seeking out new and better products and services to meet our customer's requirements and the ever-changing demands of the industry.

Over the past 40 years Plainsman has built a solid distribution base which includes oilfield supply stores, OEMs, PC pump suppliers, chemical pump and instrumentation companies and utility companies principally in Western Canada. We are large enough to effectively look after our customer's needs and we're dedicated to providing the kind of personal service and attention our customers deserve.

We pride ourselves on creating a positive company culture that promotes internal career growth opportunities as well as an interesting and enjoyable place to work. What sets us apart from our competition is employee job satisfaction which leads to excellent customer service achieved through the cooperation of all departments.

ABOUT PLAINSMAN

ISO 9001:2008 QUASAR REGISTERED

Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

plainsman mfg. inc.
8305 McIntyre Road, Edmonton, Alberta, CAN T6E 5J7 T: (780) 496-9800 | TF: 1-877-448-0586 | F: (780) 463-9800 www.plainsmanmfg.com

Quality Policy Statement

We deliver superior quality products that meet customer expectations in a timely, waste-free manner.

Our management team provides resources and fosters a safe, engaging environment that enables us to achieve our goals.

We are committed to upholding and continually improving our ISO 9001 certified Quality Management System.

Derek Duncombe
President

Mark Lea-Wilson
VP of Operations
Quality Management Representative

Mike Kittlitz
Manager of Sales & Business Development

Tom Makelki
Global Operations

Certificate of Registration

This is to certify that **QUASAR** *has registered the Quality Management System of:*

Plainsman Mfg. Inc.

8305 McIntyre Road, Edmonton, AB T6E 5J7

to the Quality System Standard:

ISO 9001:2015

Initial Registration	Date of Issue	Date of Expiry	Certificate Number
16 July 2009	**25 July 2018**	**16 July 2021**	**Q9165**

Scope: Design, manufacture and distribution of products for oilfield production, pipeline maintenance and construction, gas and water distribution, industrial applications, pressure fittings and machining services.

QUASAR management systems

SCC Accredited CB-MS OCSM Accrédité CCN

Registrar

Registered by / Enregistrée par

Terms and Conditions governing registration and the use of this certificate are defined in the contract between QUASAR and the Holder.
Contact the certificate holder for further information related to the scope and boundaries of the registration.

3400E-QMS/2016-02 **QUASAR,** A Division of the CWB Group, 8260 Park Hill Drive, Milton, Ontario, Canada, L9T 5V7, Tel: 1-800-844-6790 / (905)-542-1312, Fax: (905) 542-1318, Web: www.cwbgroup.org

APEGA

The Association of Professional
Engineers and Geoscientists of Alberta

PERMIT TO PRACTICE

P09271

Plainsman Manufacturing Inc.

Is Hereby Authorized to Engage in the Practice of Engineering in the Province of Alberta

Start Date: **April 1, 2018**
Expiry Date: **March 31, 2019**
Permit Holder Since: **April 2006**

P.Eng.

President

F. Nagendran

P.Eng.

Registrar & CEO

Alberta Government

ABSA
the pressure equipment safety authority

Certificate of Authorization Permit

Quality Management System

Expiry Date: **March 16, 2019**

Reg. No.: **AQP-5081**

PLAINSMAN MFG. INC.
8305 MCINTYRE ROAD
EDMONTON, ALBERTA

having complied with the provisions of the SAFETY CODES ACT, is hereby authorized to perform the activities identified in the following table:

	Construction	Repair	Alter
Fittings			
Category C,F,H	Shop	- - -	- - -

As a condition of this permit, the holder is required to participate in interim audits by a safety codes officer to verify that the quality management system is being maintained in a manner acceptable to a safety codes officer.

Dated at Edmonton, this 10th day of March, 2016

Government of Alberta ■ PROVINCE OF ALBERTA

W. Pollen

Chief Inspector and Administrator

Certificate No.: 11164

Form No. AB-121
Rev. (2015/09)

Plainsman Mfg. Inc. Warranty

WARRANTY

Plainsman Mfg. Inc. ("Plainsman") warrants that it has the right to sell the Product and that the customer shall have and enjoy quiet possession of the Product free of any lien, claim, charge or encumbrance created or caused by Plainsman in favour of third parties. Plainsman further warrants that the Product is free from defects in material or workmanship.

Notwithstanding acceptance of Product by the customer, Plainsman agrees to repair (or, at its option, replace) Ex Works, Edmonton, Alberta, as the point of manufacture, any equipment (or any part thereof) which is not free from defects in material and workmanship at the time of shipment to the customer, provided the customer gives Plainsman notice and the particulars of any claim within 12 months from the date of installation of the Product or within 18 months from the date of shipping the Product to the customer, whichever date occurs first.

Upon receiving notice from the customer of a proper claim under this warranty, Plainsman shall, within a reasonable time having regard to the nature of the defect, repair or replace the Product (or part) pursuant to the terms and conditions hereof. Plainsman may require the customer to return the Product (or part) at the customer's expense to establish the claim. No credit or allowance will be given to the customer for any repairs or alterations made to the Products (or part) without the prior written approval of Plainsman.

The customer's sole and exclusive remedy (in law or equity, in contract, tort whether based on negligence, strict liability or any other theory of tort liability, or under any other theory of law) and Plainsman's sole liability (including that of its officers, employees and agents) in respect of the design, materials, manufacture, installation and serving of the Product shall in every event be limited to the repairing or replacing of the Product (or part thereof) in accordance with this warranty. Plainsman shall not, in any event, be liable for any loss of profits, revenue, business, reputation, or goodwill, delay damages, removal or installation costs, downtime, special damages or consequential damages.

Except as set out in this warranty, there are no representations, warranties, conditions or collateral agreements, expressed or implied, statutory or otherwise, with respect to any Product (or part thereof) including, without limitation, with respect to merchantability, quality, design, material, workmanship, description, or fitness for purpose. For certainty, the provisions of the United Nations Convention on Contracts for the International Sale of Goods, the Sale of Goods Act, RSA 2000, c S-2 and comparable convention or legislation are expressly excluded and shall not apply.

Any documentation between Plainsman and the customer respecting the Product will be subject to the terms and conditions provided herein.

As Plainsman has no control over the Product following delivery, Ex Works, Edmonton, and the customer assumes responsibility for all claims by third parties affected by the Product. Plainsman shall not be responsible for claims arising out of or connected with the use of the Product in any off-shore application except to the extent that such claims are made in accordance with the provisions of this warranty. All warranty claims are governed by the laws of the Province of Alberta regardless of the location of the equipment.

plainsman mfg. inc.

Products & Services

PRODUCTS & SERVICES

Chemical Pumps & Accessories

Arrow Chemical Injection Pumps
Atomizers
Ball Check Valves
Ceramic Coated Plungers
Chemical Pump Drip Pans
Chemical Pump Packing
Chemical Pump Skid Packages
Drum Gauges
Low Emission and Recovery Pumps
Micro Valve Kits
Tank Gauges

Downhole Accessories

PL5 Centralizing Couplings
Rod Guides
SafetyTorq™ Tubing Drains
Shear Couplings
Sucker Rod Couplings
TorqKing Collar
ToughTorq™ PL5 Centralizing Couplings
ToughTorq™ Shear Couplings
Tubing Plugs
Type SB Tubing Drains

Wellsite & Production

Back Pressure Regulators
Ball Check Valves
Balon Valves
Blow Out Preventers
Chokes
Flow Cross
Flow Tees
Grizzly Environmental Stuffing Box
Orfice Plates
Orifice Unions
Polished Rod Clamps
Rod Rotators
Run Ticket Boxes
Slim Line Dual Pack Stuffing Boxes
Stuffing Box Packing
Stuffing Boxes
Swing Check Valves

Emergency Shutdown Systems

HiLo-Matic™ Hydraulic Controller
HiLo-Matic™ Pressure Pilot
Stick Pilot

Gas Utilities & Water Distribution

Electrofusion Equipment
Insulating Unions
Meter Lifts
Meter Risers
Meter Swivels
Polyethylene Fittings- Electrofusion & Conventional
Steel Band Casing Insulators
Tracer Wire

Pipeline

Flange Insulation Kits
Pipe Repair Clamps
Polyethylene Casing Insulators
Repair Clamps and Sleeve Couplings
Safety Flex Marker Posts
Steel Band Casing Insulators
Tracer Wire
Wrap-It End Seals

ISO 9001 : 2015 CWB cwbregistration REGISTERED

Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

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Exclusive Distributor:
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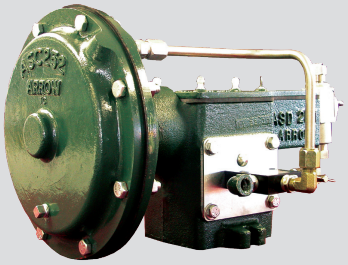
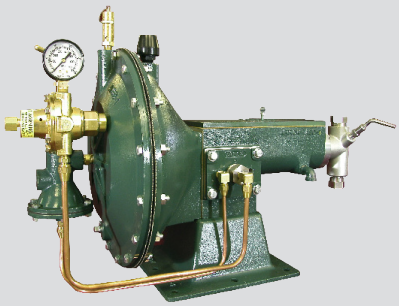
ARROW ENGINE COMPANY
www.arrowengine.com

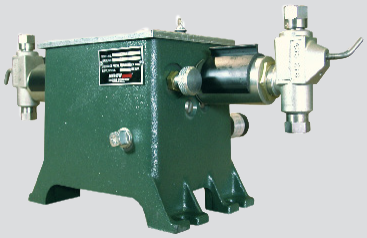
Chemical Pumps & Gauges



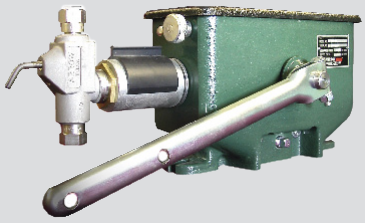
Arrow 510 Pump
- Proven and reliable pneumatic pump
- Plainsman's patented micro valve assembly for long life
- Discharge pressures to 6,000 psi
- 510 Enviro Pump retrofit kit available for 100% emission recovery



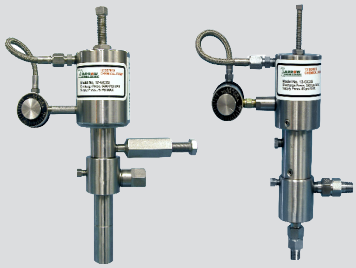
Arrow 500 Pump
- Volumes up to 600 gallons per day
- High operating efficiency
- Extremely high discharge pressures–up to 12,000 psi



Arrow 430 Pump
- Electric motor driven, low maintenance
- No plastic internals
- Up to 4 pumps can run off 1 motor
- Convertible to use hydraulic power source



Arrow 10 Series Beam Pump
- Reliable and versatile under any operating condition
- Works on a cam, no gears
- Single or dual head operation



Arrow 12 & 13 Pumps
- Gas or air operation
- All stainless steel construction
- Timer adjustable

CHEMICAL PUMPS & GAUGES

ISO 9001:2008 QUASAR REGISTERED

Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

CHEMICAL PUMPS & GAUGES

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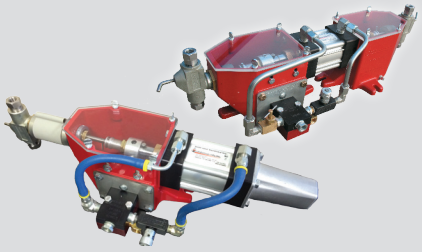

Horizon Pumps
- Single or dual head options
- Horizon HD: hydraulically driven
- Horizon ER: pneumatic driven, full recovery or low emission
- Equipped with Plainsman's micro valve assembly

Solar Pump
- Field Proven with thousands of installations
- Requires no gas, no air or electrical power source
- Wide range of configurations for almost any application

Ball Check Valves
- Metal to metal seats
- Simple design easy to install, with only two moving parts
- Low cracking pressure suitable for vacuum or low-pressure

Drum & Tank Gauges
- NPT connections
- Available in a variety of lengths

Chemical Pump Skids
- Fully assembled
- Capable of multiple injection points with different rates
- Heavy-duty steel beam construction

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Specifications subject to change without notice

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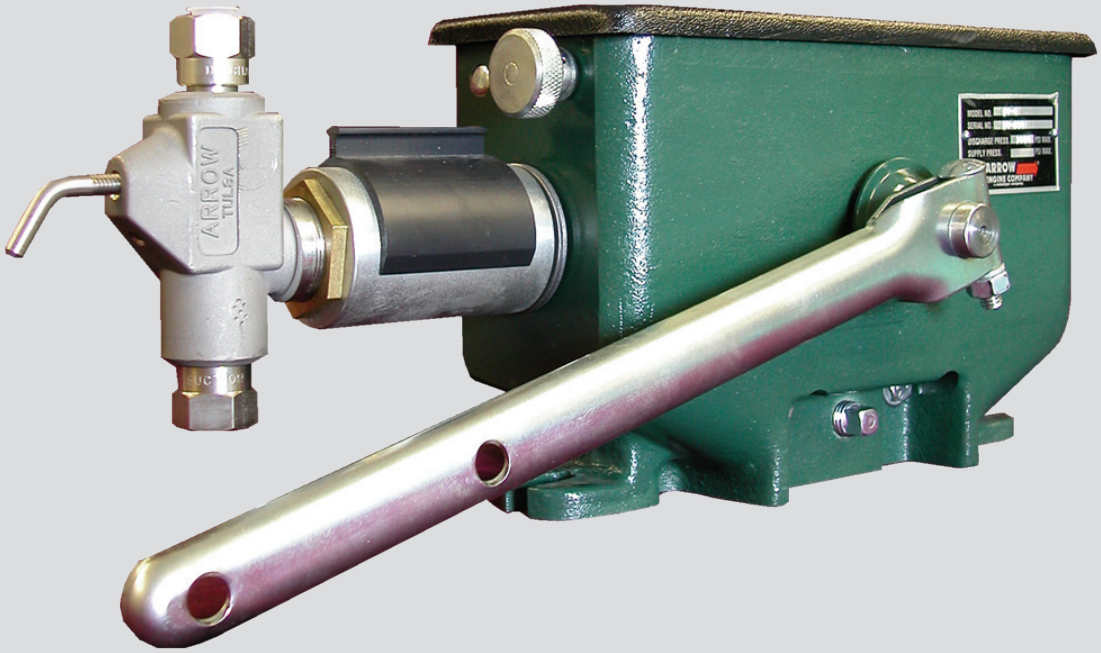
Arrow Engine Company
1-(800)-331-3662
ARROW ENGINE COMPANY
www.arrowengine.com

Arrow 10 Series

The Arrow 10 Series, or more commonly referred to as the Beam Pump, is a positive displacement pump that is powered by a direct connection with rod, 1/4" pipe or cable to the walking beam or rod line. The 10 Series pumps on the upstroke of the walking beam and then returns to its set position on the downstroke.

Features

- Maximum flow rate dependent on pumpjack's strokes per minute
- Governing adjustment knob allows for adjustable flow rates
- Head assembly: Single or dual head configurations available
- Plunger sizes: 3/16",1/4", 3/8", 1/2", 3/4" or 1"
- Packing & O-rings: Any combination of Buna-N, Fluorosilicone, Hard, Kalrez, Teflon or Viton
- Standard injector heads are supplied with ductile iron body and stainless steel trim
- Complete stainless steel configuration is optional
- Metal-to-metal seats available as alternatives to standard injector head parts



ARROW 10 SERIES

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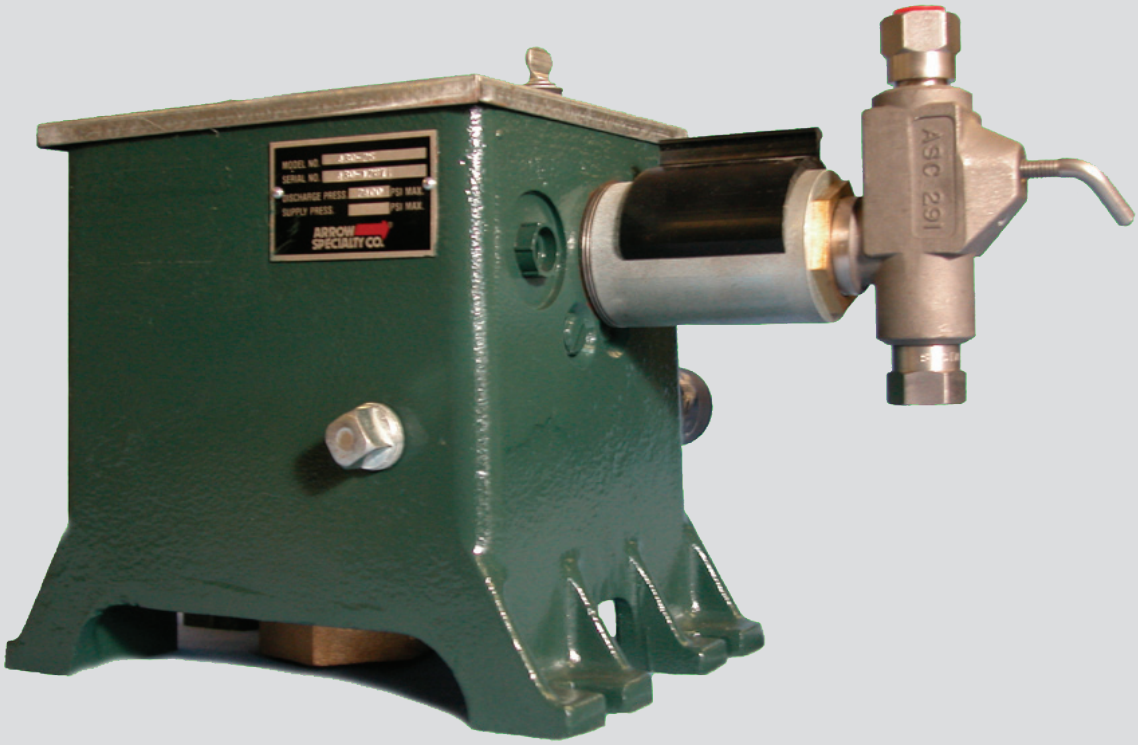
Exclusive Distributor:
Arrow Engine Company
1-(800)-331-3662
ARROW ENGINE COMPANY
www.arrowengine.com

Arrow 430 Series

The Arrow 430 Series is able to handle a wide variety of chemicals used in oil and gas production facilities, pipelines, process plants and other applications where a rugged, easy to maintain, proportioning pump is required. The 430 Series utilizes electric motors, v-belt, pneumatic motors or gasoline engines as a power source.

Features

- Adjustable flow rate
- Head assembly: 1 to 8 heads (all functioning off one motor)
- Gear ratios: Choice of 25:1, 50:1, or 100:1
- Motor: 110 volt, 12 volt, 12 volt explosion proof, three-phase or hydraulic
- Plunger sizes: 3/16”,1/4”, 3/8”, 1/2”, 3/4” or 1”
- Packing & O-rings: Any combination of Buna-N, Fluorosilicone, Hard, Kalrez, Teflon or Viton
- Standard injector heads are supplied with ductile iron body and stainless steel trim
- Complete stainless steel configuration is optional
- Metal-to-metal seats available as alternatives to standard injector head parts



ARROW 430 SERIES

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Exclusive Distributor:
Arrow Engine Company
1-(800)-331-3662
ARROW ENGINE COMPANY
www.arrowengine.com

Arrow 12 & 13 Series

The Arrow 12 and 13 Series drum pumps offer a unique solution to chemical injection applications. The 12 Series operates on gas or air at a regulated supply pressure of 15 to 75 PSI. The 13 Series operates on gas or air at a regulated supply pressure of 15 to 85 PSI.

Features

- Adjustable flow rate from one pint per day up to 54 quarts per day
- All stainless steel wetted parts, piston housing and timer assure minimum corrosion
- No external lubricator required due to plunger packing design
- Plunger size: 1/2" or 1/4"
- Packing & O-rings: Any combination of Buna-N, Fluorosilicone, Hard, Kalrez, Teflon or Viton
- Standard injector heads are supplied with ductile iron body and stainless steel trim
- Metal-to-metal seats available as alternatives to standard injector head parts

ARROW 12 &13 SERIES

ISO 9001:2008 QUASAR REGISTERED

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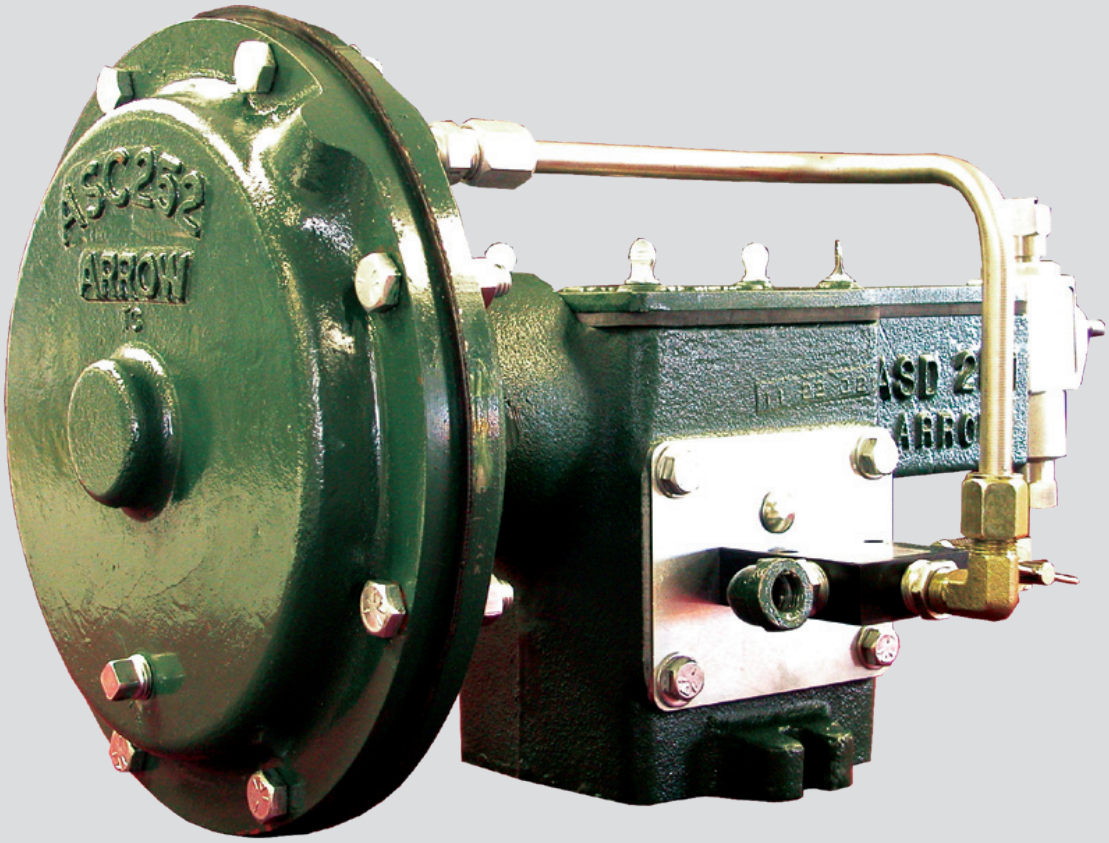
ARROW ENGINE COMPANY
www.arrowengine.com

Arrow 510 Series

The Arrow 510 Series is powered by a diaphragm motor with a spring return. This chemical injection pump has an adjustable speed, which is controlled by regulating the exhaust gas discharge.

Features

- Stroke Lengths: 1/3” or 1”
- Plunger sizes: 3/16”,1/4”, 3/8”, 1/2”
- Output: Up to 100 quarts per day depending on plunger size
- Packing & O-rings: Any combination of Buna-N, Fluorosilicone, Hard, Kalrez, Teflon or Viton
- Standard injector heads are supplied with ductile iron body and stainless steel trim
- Complete stainless steel configuration is optional
- Metal-to-metal seats available as alternatives to standard injector head parts



ARROW 510 SERIES

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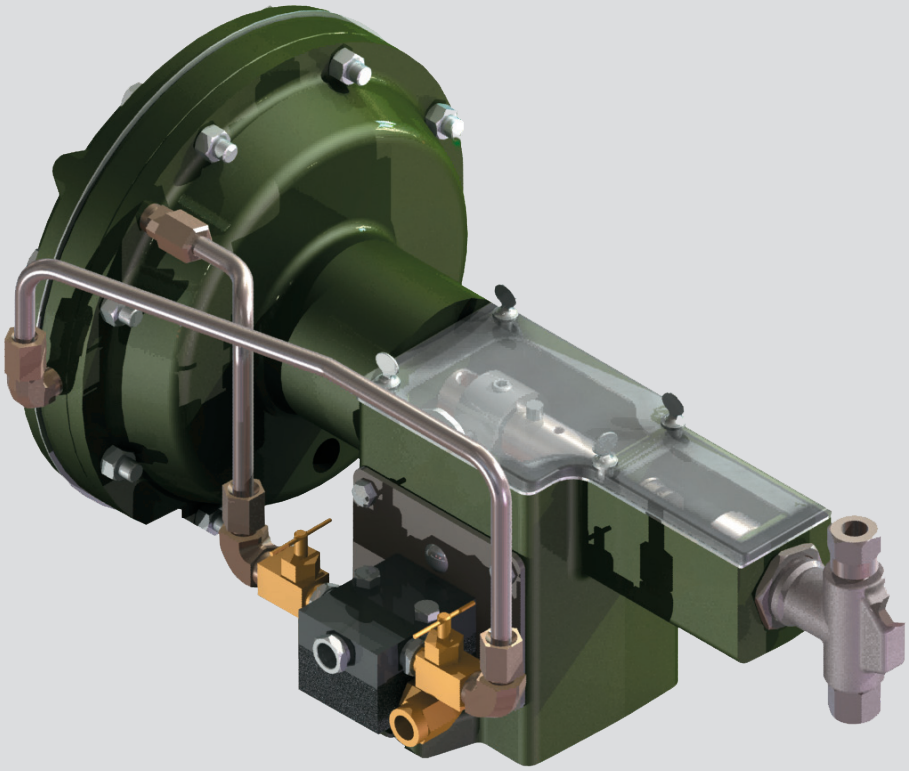
510 Enviro Pump

The 510 Enviro Pump kit turns a conventional 510 style pump into a 100% emission recovery pump, economically eliminating GHG emissions from chemical injection. It operates on differential pressures as low as 10 psi and inlet pressures up to 100 psi, with all exhaust gas going back into the pipeline.

- Retro-fit with kit to any existing 510 style pump
- Based on proven 510-style pump
- 100% exhaust recovery

Features

- Environmentally friendly
- Plainsman microvalve
- Low pressure operation
- Cost effective way to be environmentally responsible
- Simple and easy to work on
- 3/16", 1/4", 3/8" or 1/2" plunger
- Operates on differential pressure
- Inlet pressures up to 100 psi
- Patents pending



510 ENVIRO PUMP

MADE IN CANADA

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Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

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Horizon HD™ Pump

This hydraulic-driven piston pump is an economical alternative to an explosion proof electric pump. The hydraulic power is supplied by the oil pump on the power unit engine, and discharged back into the oil pan for zero emissions. It can also be driven by a hydraulic system.

Features

- Oil or hydraulic fluid driven
- Economical alternative to explosion proof electric pump
- Closed loop oil circuit means zero emissions
- 100 psi max supply pressure
- 10 to 50 psi differential pressures
- Proven Arrow fluid end and Plainsman Microvalve
- Inject up to 9 gallons (35 L) per day
- Environmentally friendly
- Single head or dual head
- Temperature range from -30˚C to 150˚C

HORIZON HD™ PUMP

MADE IN CANADA

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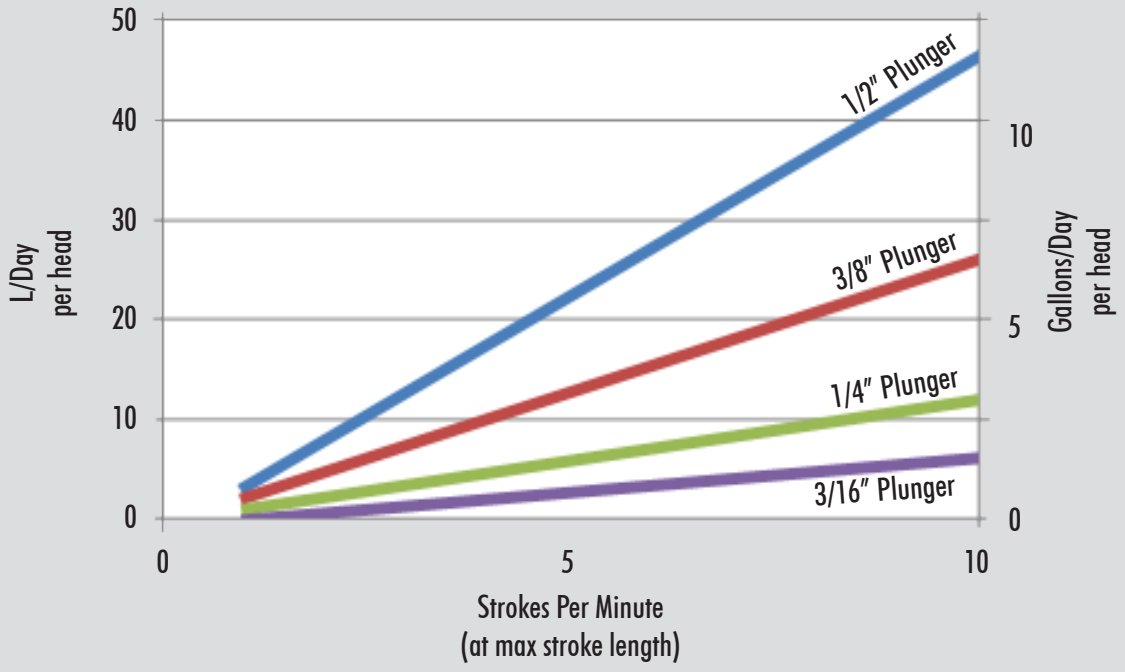
HORIZON HD™ PUMP

plainsman mfg. inc.

VOLUMETRIC SPECIFICATIONS		
Plunger Size	Volume	
	Minimum	Maximum
3/16″	200 mL/day	5 L/day
1/4″	500 mL/day	9 L/day
3/8″	1 L/day	20 L/day
1/2″	2 L/day	35 L/day



MADE IN CANADA

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Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

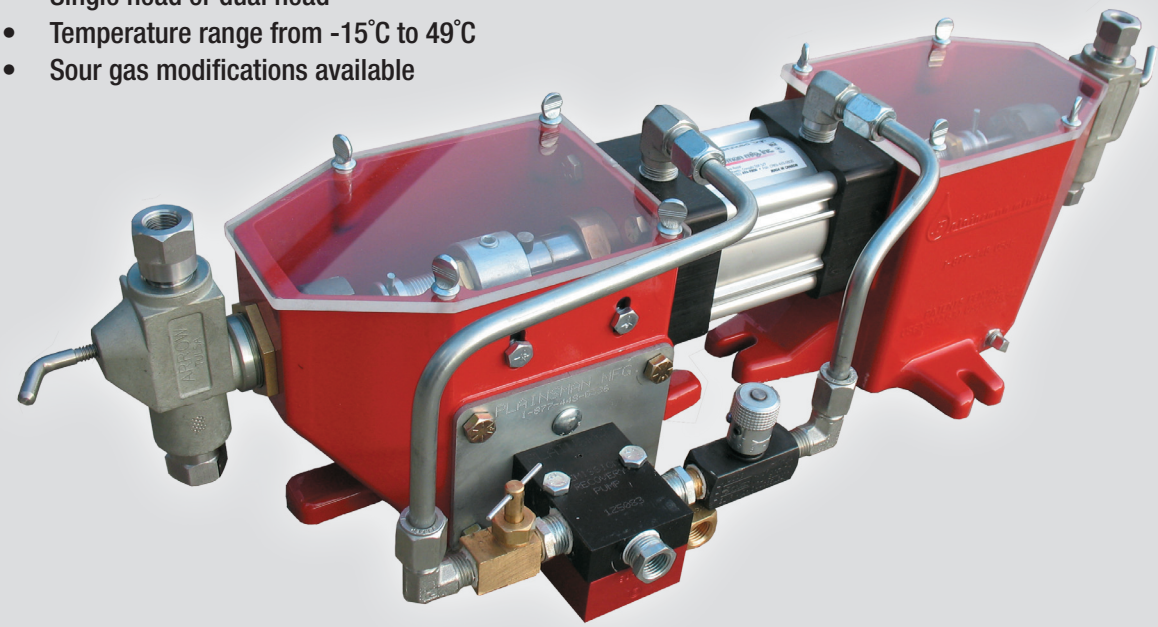
plainsman mfg. inc.

Horizon ER™ Pump

This pneumatic piston pump economically eliminates GHG emissions from chemical injection. It operates on differential pressures as low as 10 psi and inlet pressures up to 250 psi, with all exhaust gas going back into the pipeline. Volume adjustment is simple and versatile with both stroke rate and stroke length adjustments.

Features

- Recover exhaust gas into pipeline
- 250 psi max supply pressure
- 10 to 100 psi differential pressures
- Proven Arrow fluid end and Plainsman Microswitch
- Inject up to 66 gallons (250L) per day
- No lubricator required
- Environmentally friendly
- Single head or dual head
- Temperature range from -15˚C to 49˚C
- Sour gas modifications available



Also available with low emission switch for low pressure and reduced emission operation

VOLUMETRIC SPECIFICATIONS		
Plunger Size	Volume	
	Minimum	Maximum
3/16″	200 mL/day	35 L/day
1/4″	500 mL/day	65 L/day
3/8″	1 L/day	155 L/day
1/2″	2 L/day	250 L/day

Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

HORIZON ER PUMP

MADE IN CANADA

ISO 9001:2008 QUASAR REGISTERED

HORIZON ER PUMP

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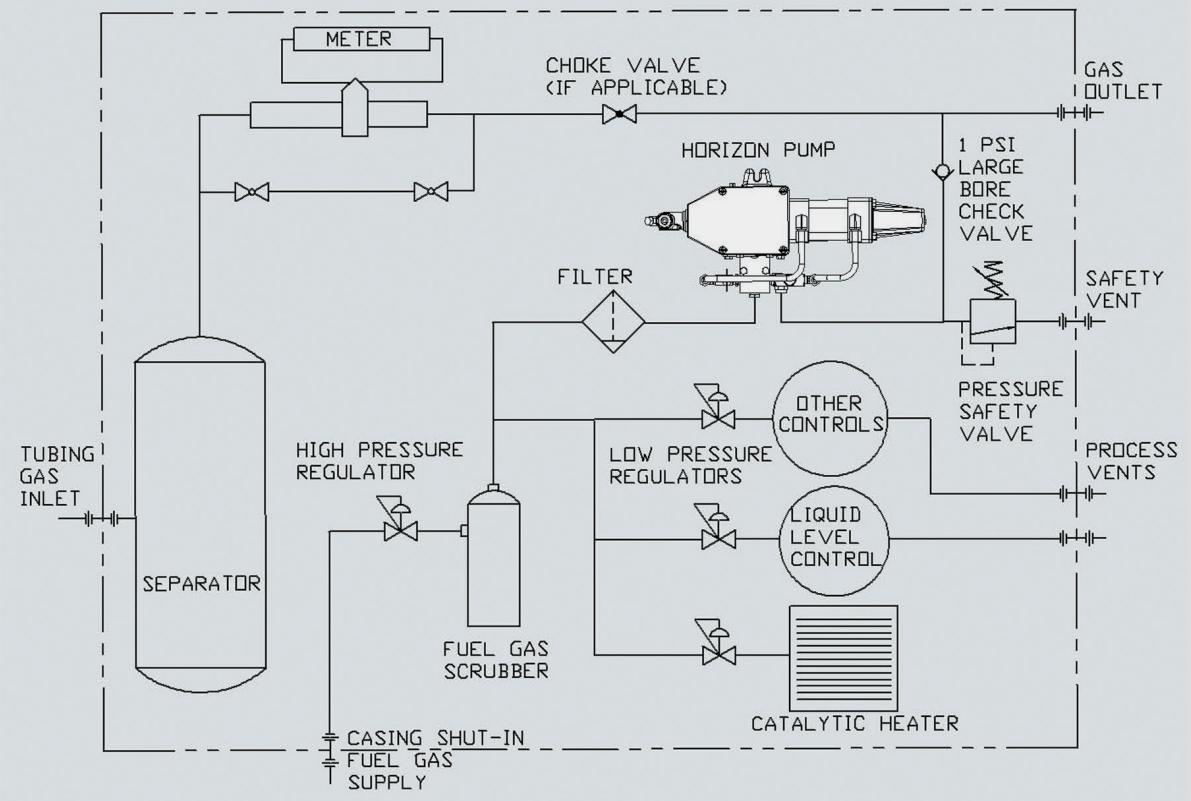
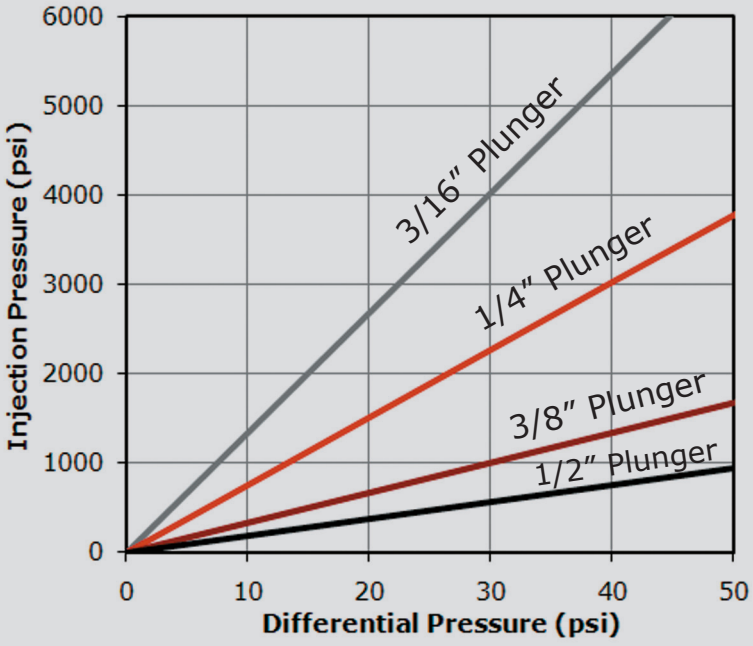
Typical Installation*:





Order Information:

1. Single or Dual Head
2. Chemical being injected
3. Packing/O-Rings
4. Stainless or Ductile
5. Injection Rate
6. Plunger Size
7. Injection Pressure

*Contact Plainsman for more details

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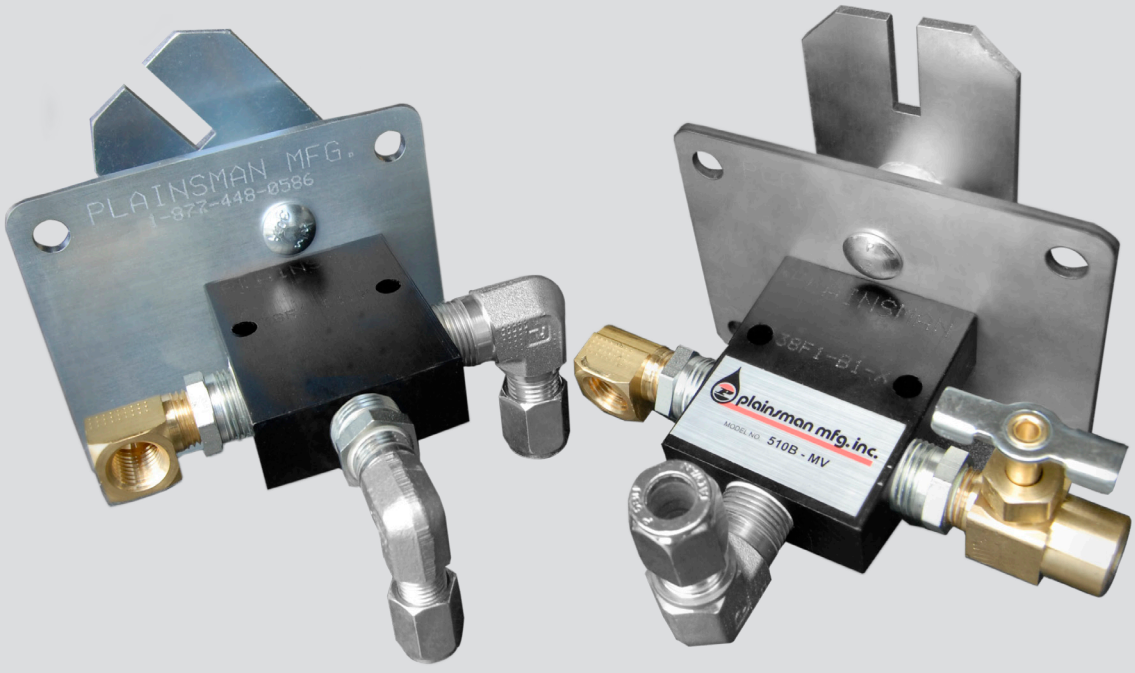
Plainsman Chemical Pump Micro Valve Assembly

MICRO VALVE

The Plainsman Micro Valve Assembly includes a patented trigger mechanism and modified micro switch that improves pump performance and extends life. It increases the micro switch life three fold and allows stroke rates below three strokes per minute. The Micro Valve Assembly can also retrofit existing 5100 or 5000 style diaphragm pumps.

FEATURE	BENEFIT
A. Stroke rates below 3 strokes/min	Cost savings due to decreased chemical consumption Pump consumes less fuel gas
B. Trigger plate extends the life of the micro switch	Cost savings due to longer lived micro switch
C. Compatible with Texsteam series 5100, CVS series 51 and Flomore series 5200.	Can retrofit existing pump styles with Plainsman Micro Valve Assembly
D. Also available for 5000 series diaphragm pumps	Can improve different model pumps with same proven technology



Plainsman Model 510B-MV Reverse Acting Trigger Plate Mechanism
U.S. Patent No. 6,263,777
Canadian Patent 2,294,410

MADE IN CANADA

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MICRO VALVE

plainsman mfg. inc.

Example 'A'

- An operator is using a Plainsman pump with a 3/8" plunger operating at 1.5 strokes/min to produce a required 5 liters/day
- Most switches stall at less than 3 strokes/min, which requires an end user to pump more than the required 5 liters/day
- Net savings in chemical is 2 liters/day. Using methanol at a cost of $1.20 per gallon, saving are $.60/day
- Net savings in vented fuel gas (148 cubes per day per gallon) $.50/day

Example 'B'

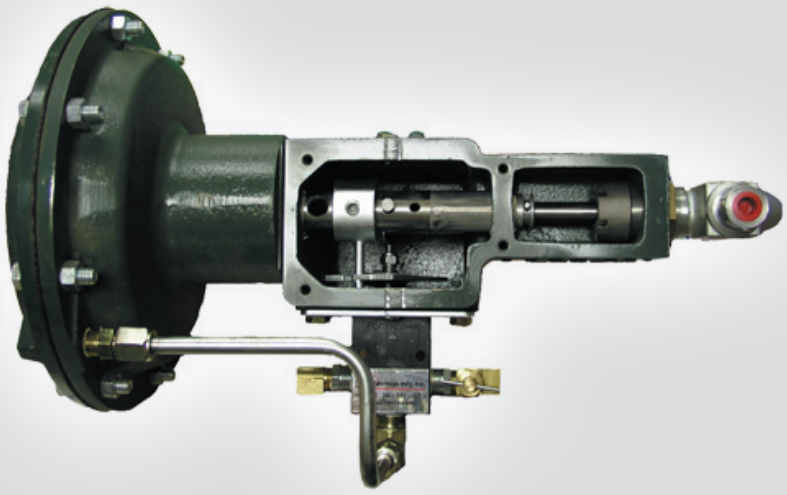
- The Plainsman trigger plate triples the life of a standard micro switch
- Net savings is 2 switches per life cycle plus labor estimated at $250.00

Technical Specifications

- Tested to over 16 million cycles
- Maximum Inlet Pressure: Up to 35 psi is the normal operating range (higher supply pressures are accommodated with a regulator)
- Stroke Rate: 0-30 strokes/min. at 35 psi inlet pressure is the normal operating range

Ordering Information

- Specify the model 510B-MV or 500B-MV assembly kit if you are converting an existing pump
- Special conversion kits are available to convert pumps in the field without removing the rod and diaphragm, please ask our salespeople for more information
- Specify the model 510B or 500B-MV with your choice of head material and plunger size, and the prefix "MICRO" if you are ordering a new pump



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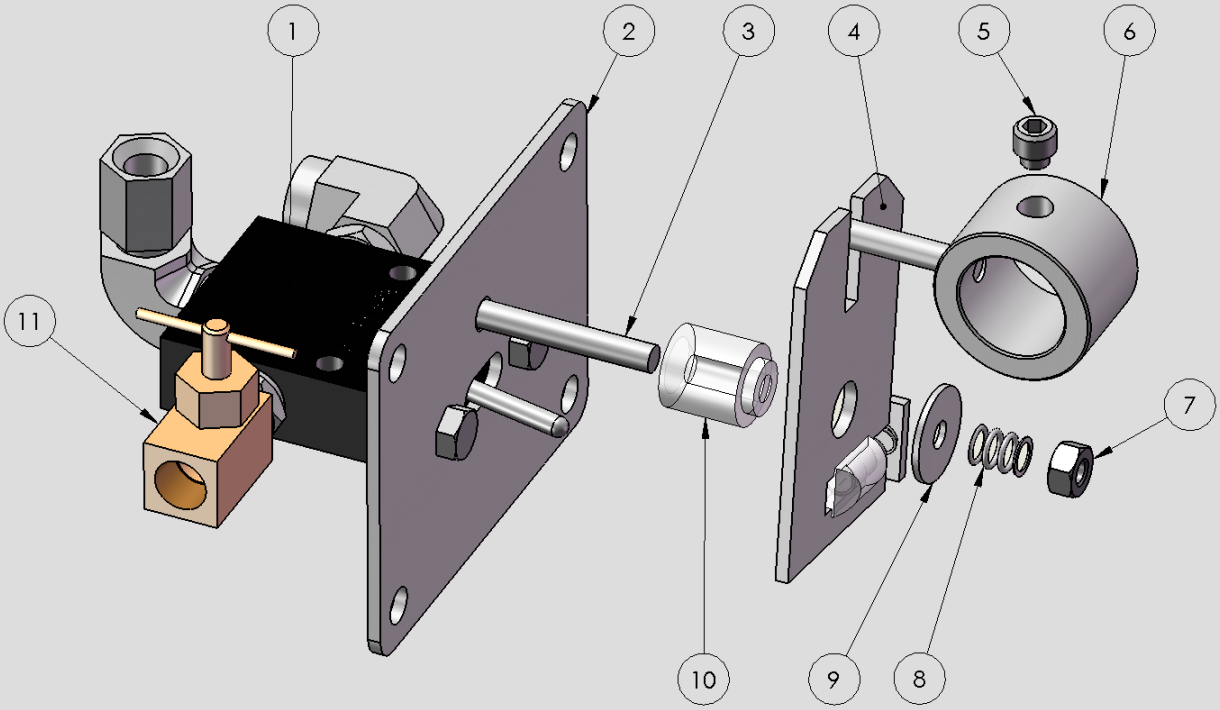
Micro Valve Assembly

MICRO VALVE

510B Parts List

ITEM	PART NUMBER	DESCRIPTION
1	125072	Plainsman Micro Switch
2	125067	Cover Plate
3	125036	Carriage Bolt
4	125040	Trigger Plate
5	125078	Set Screw
6	125063	Trigger Ring
7	125400	Nylock Nut
8	125037	Trigger Plate Mounting Spring
9	125079	Trigger Plate Washer
10	125069	Bearing Spacer
11	125035	Exhaust Needle Valve



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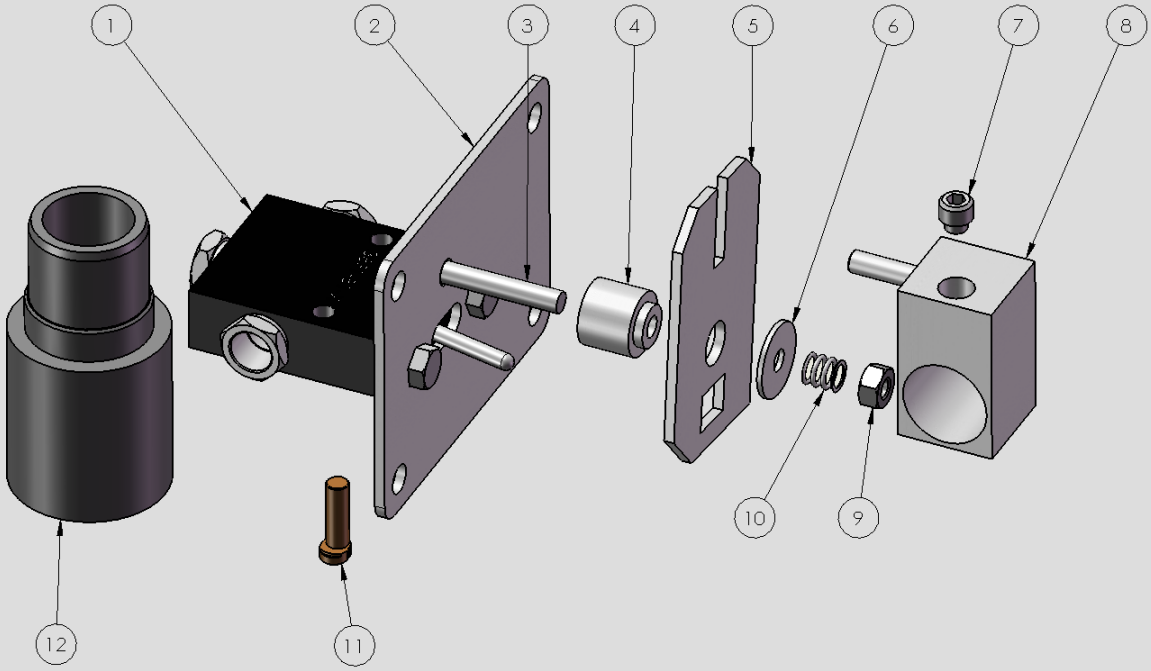
500B Parts List

ITEM	PART NUMBER	DESCRIPTION
1	125072	Plainsman Micro Switch
2	125068	Cover Plate
3	125087	Carriage Bolt
4	125088	Bearing Spacer
5	125075	Trigger Plate
6	125079	Trigger Plate Washer
7	125078	Set Screw
8	125064	Trigger Block
9	140033	Nylock Nut
10	125037	Trigger Plate Mounting Spring
11	130238	Adjusting Pin
12	125039	Rod Bushing



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P-5700 Tank Gauge

The simplest most effective way to meter chemicals is by using a Plainsman Tank Gauge. All tank gauges come with a calibrated rate scale and a universal volume height scale.

Features

- High visibility rate scale
- 1/2” NPT carbon steel connections (stainless available)
- Aluminum construction for corrosion resistance
- Floating sight ball for easy fluid level indication
- Dual calibration (rate and height) standard
- Teflon seals standard
- Available in a variety of lengths
- Retractable mounting bracket included

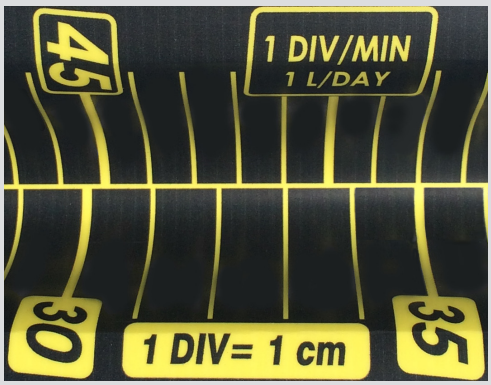
Technical Specifications

Wetted Parts:
Nipple: Carbon steel (stainless optional)
Seal: Teflon
Glass: Schott duran

Other Parts:
Body: Aluminum
Scale: Metric height / rate

Ratings

Liquid
Height: 1 division = 1 cm
Rate: Measured in litre / 24 hrs, 1 division per minute



P-5700 TANK GAUGE

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P-5700 TANK GAUGE

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Ordering Information

Stock:
1) Order using model number from the table below

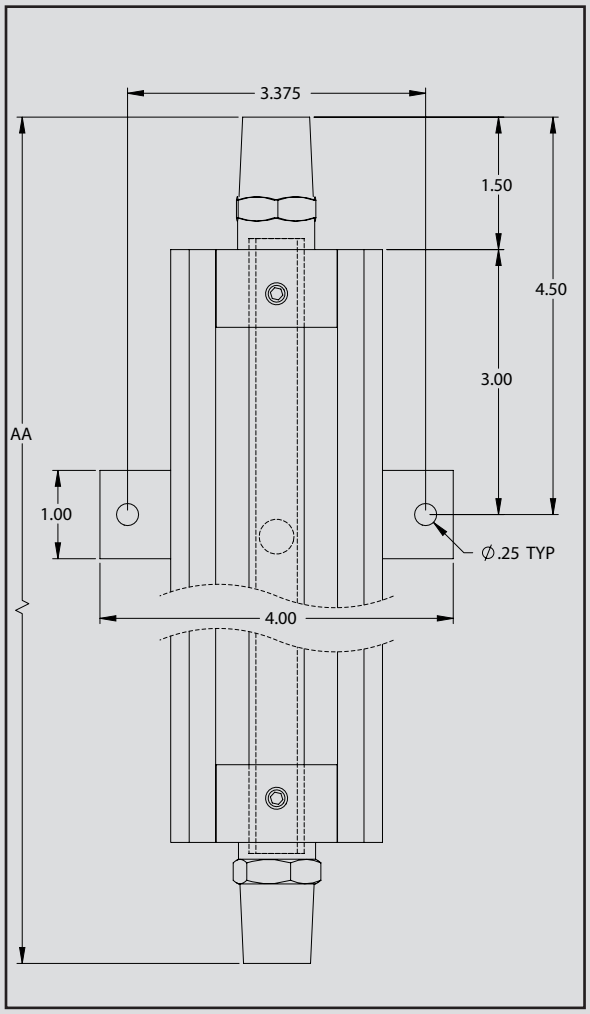
Custom:
1) Determine height required
2) Choose nipple material
3) Choose scale type
4) Construct model number from system below:

Model Numbering:

P5700-AA-BB-XYZ (i.e. P5700-52-48-CTM)

AA: overall length
BB: scale length (BB = AA - 4 in.)
X: nipple material (C - carbon steel,
S - Stainless)
Y: seal material (T - TFE)
Z: scale type (M - Metric Rate/Height,
R - Rate, H - Height,
C - Clear, X - Special)

General Dimensions



MODEL#	LENGTH 'AA'	LENGTH SCALE	MATERIAL NIPPLE	MATERIAL SEAL	SCALE	PRESSURE RATING (PSI)
P5700-24-20-CTM	24″	20″	Carbon Steel	TFE	Metric R/H	185
P5700-36-32-CTM	36″	32″	Carbon Steel	TFE	Metric R/H	165
P5700-52-48-CTM	52″	48″	Carbon Steel	TFE	Metric R/H	140
P5700-60-56-CTM	60″	56″	Carbon Steel	TFE	Metric R/H	130
P5700-64-60-CTM	64″	60″	Carbon Steel	TFE	Metric R/H	120
P5700-72-68-CTM	72″	68″	Carbon Steel	TFE	Metric R/H	100
P5700-88-84-CTM	88″	84″	Carbon Steel	TFE	Metric R/H	n/a
Pressures at 150° F Max, No Corrosion. Glass is not recommended for use in steam or superheated water applications						

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DRUM GAUGE

P596 & P779 Drum Gauge

The simplest most effective way to meter chemicals, Plainsman Drum Gauges come calibrated for rate and volume on 55 gallon drums. Choose from a plain P596 gauge or a P779 with a built-in rate testing valve.

P596 & P779 Drum Gauge Standard Features

- Designed for horizontal 55 gallon drum
- 3/4" NPT Inlet, 1/4" NPT Outlet
- Retaining pin hole not drilled through front of casting to protect operator from overflow spill or spray
- Special seal used in critical seal area instead of o-ring for better seal and longer glass life
- Cast aluminum frame is dual calibrated and serves as a volume and rate gauge
- Floating sight ball for easy fluid level indication
- Optional vent connection

P596 Drum Gauge Only

- Optional stainless steel nipple

P779 Drum Gauge Only

- Complete with spring loaded test valve for rate tests
- Optional stainless steel valve
- Optional extra long valve
- Teflon seals in valve

Ratings

Volume: 5 - 55 Gallons, 20 - 205 Litres
Rate: 1 - 70 Quarts/Day for 1 min test
1 - 70 Litres/Day for 1 min test

Ordering Information

Model Number

- P596 (Standard)
- P596S (Stainless Steel Wetted Parts)
- P779 (Standard)
- P779-S (Stainless Steel Wetted Parts)
- P779-KS (King Size Valve)
- P779-V (Vented Top)
- Alternate Seal Material (if necessary)

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DRUM GAUGE

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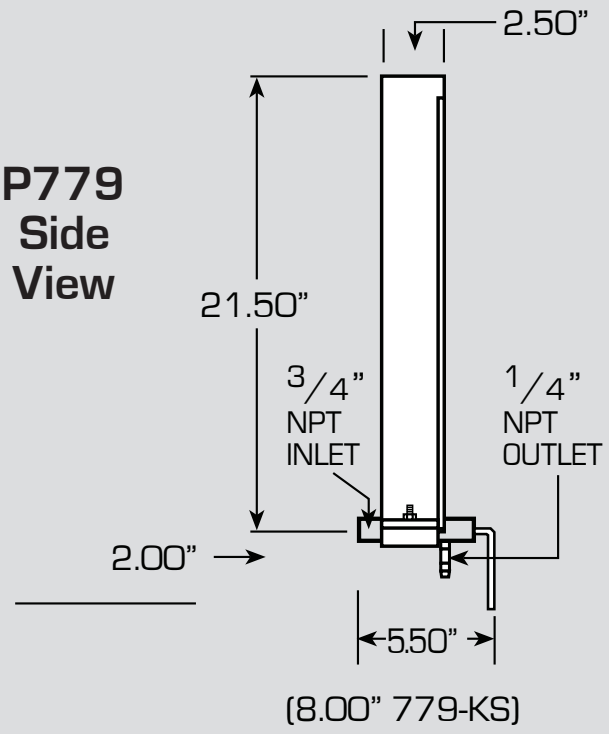
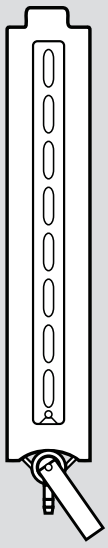
PART	MATERIAL			
	779	779-S	779-KS	779-V
Retainer Seal	Viton (Nitrile Opt.)	Viton (Nitrile Opt.)	Viton (Nitrile Opt.)	Viton (Nitrile Opt.)
Valve Shaft	SS	SS	SS	SS
Valve Body	Carbon Steel, Zinc Pltd.	SS	Carbon Steel, Zinc Pltd.	Carbon Steel, Zinc Pltd.
Valve Seat	Teflon	Teflon	Teflon	Teflon
Shaft Seal	Viton (Nitrile Opt.)	Viton (Nitrile Opt.)	Viton (Nitrile Opt.)	Viton (Nitrile Opt.)
End Block Seal	Teflon	Teflon	Teflon	Teflon
End Block	Carbon Steel, Zinc Pltd.	SS	Carbon Steel, Zinc Pltd.	Carbon Steel, Zinc Pltd.
Glass	Schott Duran	Schott Duran	Schott Duran	Schott Duran
Shaft Spring	SS	SS	SS	SS
Vent Bushing	N/A	N/A	N/A	Carbon Steel, Zinc Pltd.

P779 Side View



(8.00” 779-KS)

P779 Front View



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Tubular Gauge Glass

Exclusive distributor of Schott Duran Tubular Gauge Glass. Custom lengths available.
Working pressures up to 600 psi (4100 kPa) & temperature ratings up to 425°F (218°C).

	OD	MAX LENGTH	DESCRIPTION
Standard (Clear)	1/2”	72”	Good for applications such as liquid level gauges, sight flows, low pressure boilers, closed tanks, and hydraulic equipment. Standard glass is economical, with a long service life.
	5/8”	85-1/2”	
	3/4”	72”	
Redline	1/2”	72”	The red line shaded with white llines makes it easier to read the liquid level.
	5/8”		
	3/4”		
Heavywall (Redline)	5/8”	48”	Good for flowmeter applications (crude oil, water or gas). Permits stable and reliable operation while viewing flow rates.
	3/4”		

Options

ACRYLIC	72” maximum length
POLYCARBONATE	96” maximum length
Rubber gasket sizes	1/2”, 3/4”, and 5/8”

TUBULAR GAUGE GLASS

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Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

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Chemical Pump Skid

Designed to be a complete stand-alone package for all your chemical injection needs. The Plainsman Chemical Pump Skid offers versatility, portability and a reliable weather-proof chemical management system. Available with AC, DC, solar, or pneumatic powered pumps, the skid is fully assembled and ready to plumb into your injection point.

Features:

- Fully assembled
- 500 gallon (1890 L) steel dual wall, vacuum sealed chemical tank
- Plainsman P-5700 tank gauge
- Trusted Arrow chemical pumps with common parts for service
- Capable of multiple injection points with different rates
- Pressure safety release valve
- Chemical drip trays
- Heavy-duty steel beam construction
- Isolatable heads
- Built-in filter

CHEMICAL PUMP SKID

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CHEMICAL PUMP SKID

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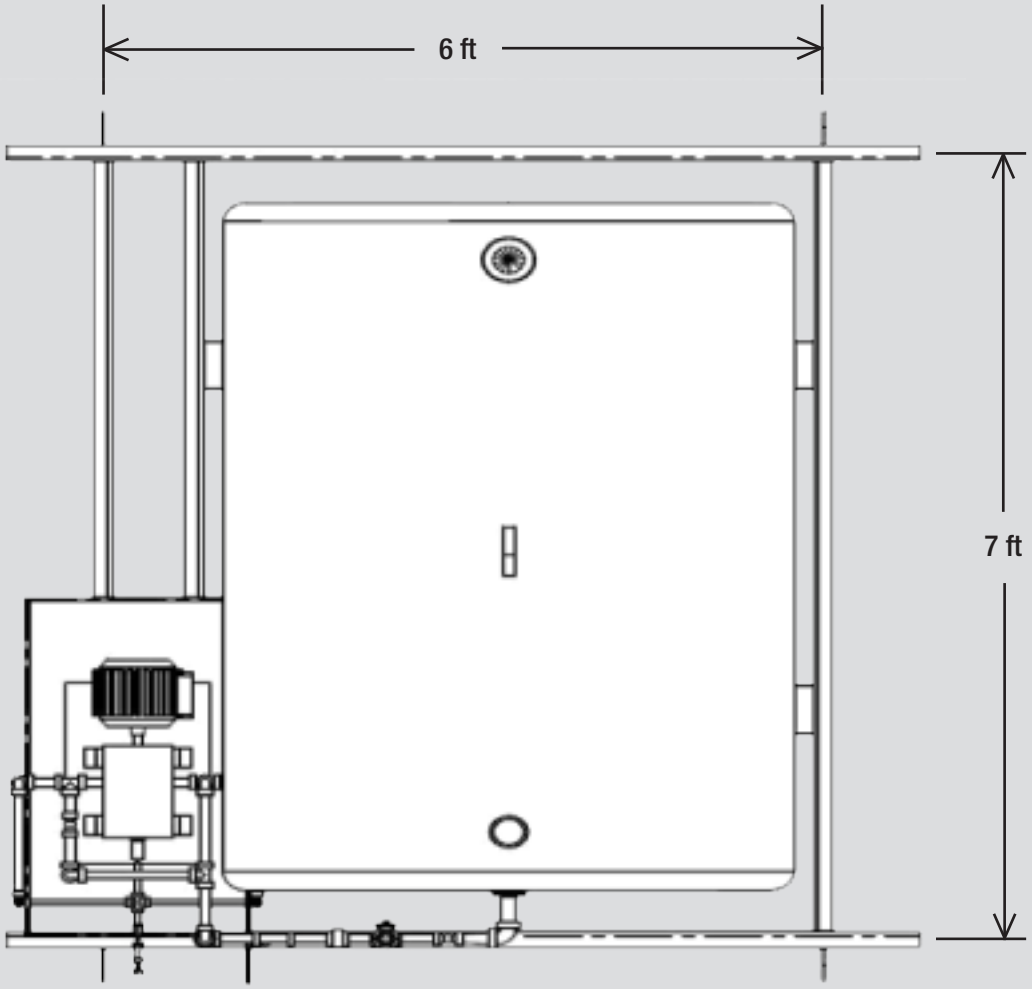
Footprint



Options

- 300 gallon tank
- 2” camlock fill for chemical tank
- 120 VAC, 240 VAC, 12VDC (non-explosion proof or explosion proof), solar, pneumatic
- Various plunger sizes and packing materials for specific applications available

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PUMP ACCESSORIES

Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

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ATOMIZER

Model AM 0001 Atomizer

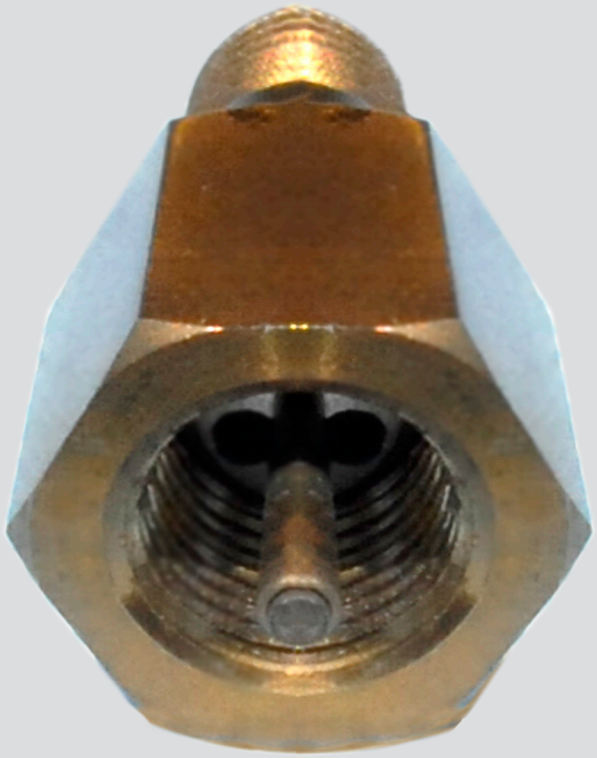
Save chemical costs by using chemicals more efficiently. The Atomizer disperses liquids more efficiently and also acts as a check valve.

Features

- Accelerates the mixing of liquids or promotes atomization of liquid into gas
- Use for line check or as a backup for line check

Specifications

Inlet: 1/4" fNPT
Outlet: 1/4" mNPT
Opening Pressure: 150 to 300 psi
Rated Pressure: 6000 psi



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BALL CHECK VALVES

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Plainsman Ball Check Valves

Reliable, field proven check valves.

Features

- Metal to metal seats
- Simple design makes it easy to install and maintain, with only two moving parts
- Low cracking pressure makes it suitable for vacuum or low-pressure applications
- Lower price component to replace the alternatives in the same application
- Designed for manufacturing to keep costs down

Technical Specifications

Cracking Pressure: 3-5 PSI [20-35 kPa]
Viton seals standard
Temperature Range: Based on viton seal, -15˚F to 400˚F (-26˚C to 205˚C)
Spring: Stainless steel (Inconel optional)
Ball: Stainless steel
Spring Retainer: CF8M stainless

Note: Valves without a CRN cannot be used in piping subject to the ALBERTA PRESSURE EQUIPMENT SAFETY REGULATION

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Specifications subject to change without notice

BALL CHECK VALVES

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Part Numbers

PLAINSMAN MODEL NO.	CONNECTIONS	CV	MAXIMUM WORKING PRESSURE	STANDARD BODY MATERIAL
CB-25*	1/4″ fNPT x 1/4″ fNPT	0.69	3000 PSI	12L14 CARBON STEEL
CB-37*	3/8″ fNPT x 3/8″ fNPT	2.56	3000 PSI	12L14 CARBON STEEL
CB-50*	1/2″ fNPT x 1/2″ fNPT	3.7	3000 PSI	12L14 CARBON STEEL
CB-75*	3/4″ fNPT x 3/4″ fNPT	4.86	3000 PSI	12L14 CARBON STEEL
CB-100*	1″ fNPT x 1″ fNPT	6.73	3000 PSI	12L14 CARBON STEEL
CB-150	1-1/2″ fNPT x 1-1/2″ fNPT	26.3	3000 PSI	12L14 CARBON STEEL
CB-200	2″ fNPT x 2″ fNPT	41.11	3000 PSI	12L14 CARBON STEEL
CBM-100	1″ mNPT x 1″ mNPT	26.3	3000 PSI	12L14 CARBON STEEL
CBM-150	1-1/2″ mNPT x 1-1/2″ mNPT	41.11	3000 PSI	12L14 CARBON STEEL
SB-25*	1/4″ fNPT x 1/4″ fNPT	0.69	3000 PSI	316 STAINLESS
SB-37*	3/8″ fNPT x 3/8″ fNPT	2.56	3000 PSI	316 STAINLESS
SB-50*	1/2″ fNPT x 1/2″ fNPT	3.7	3000 PSI	316 STAINLESS
SB-75*	3/4″ fNPT x 3/4″ fNPT	4.86	3000 PSI	316 STAINLESS
SB-100*	1″ fNPT x 1″ fNPT	6.73	3000 PSI	316 STAINLESS
SB-50 6000*	1/2″ fNPT x 1/2″ fNPT	3.7	6000 PSI	316 STAINLESS
SB 100 6000*	1″ fNPT x 1″ fNPT	6.73	6000 PSI	316 STAINLESS
SB-25 10000*	1/4″ fNPT x 1/4″ fNPT	0.69	10000 PSI	316 STAINLESS
SB-50 10000*	1/2″ fNPT x 1/2″ fNPT	3.7	10000 PSI	316 STAINLESS
SB-75 10000*	3/4″ fNPT x 3/4″ fNPT	4.86	10000 PSI	316 STAINLESS
SB-100 10000*	1″ fNPT x 1″ fNPT	6.73	10000 PSI	316 STAINLESS
MB-200	2 mNPT x 2 mNPT	26.3	3000 PSI	316 STAINLESS

* Canadian Registration Number (CRN): 0C02533.2

Ordering Information

Specify the Plainsman model desired.

Model Numbering:
A-XX YYYYY (i.e. SB-25 10000)

A: Material (CB=Carbon Steel, SB=Stainless Steel)

XX: Connection Size (i.e. 25 = 1/4” NPT connection)

YYYYY: Working Pressure (6000 psi [41.4 MPa] or 10000 PSI [68.9 MPa] models only)

PLAINSMAN ALSO DISTRIBUTES MODEL ASB-283, ASA-675 AND ASA-676 CHECK VALVES.

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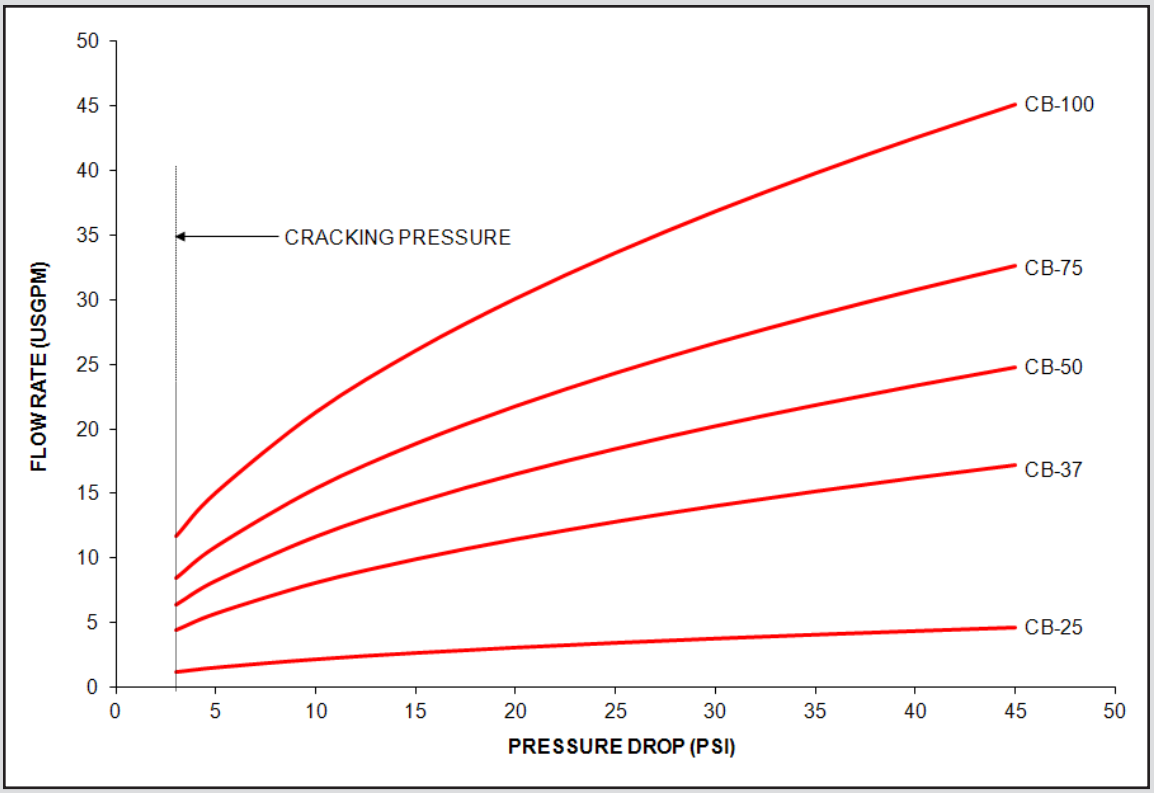
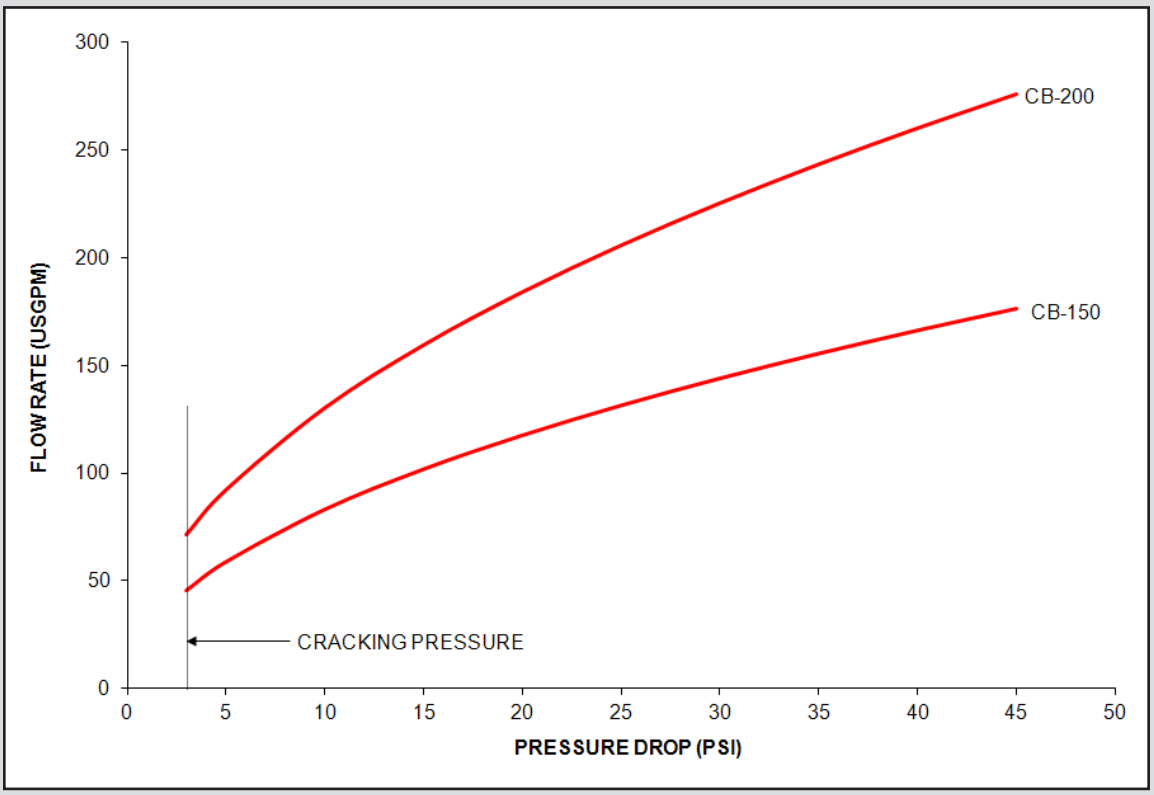
BALL CHECK VALVES





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DRIP PAN

Model PL 1722 Drip Pan

Avoid environmental contamination with a Plainsman drip pan.

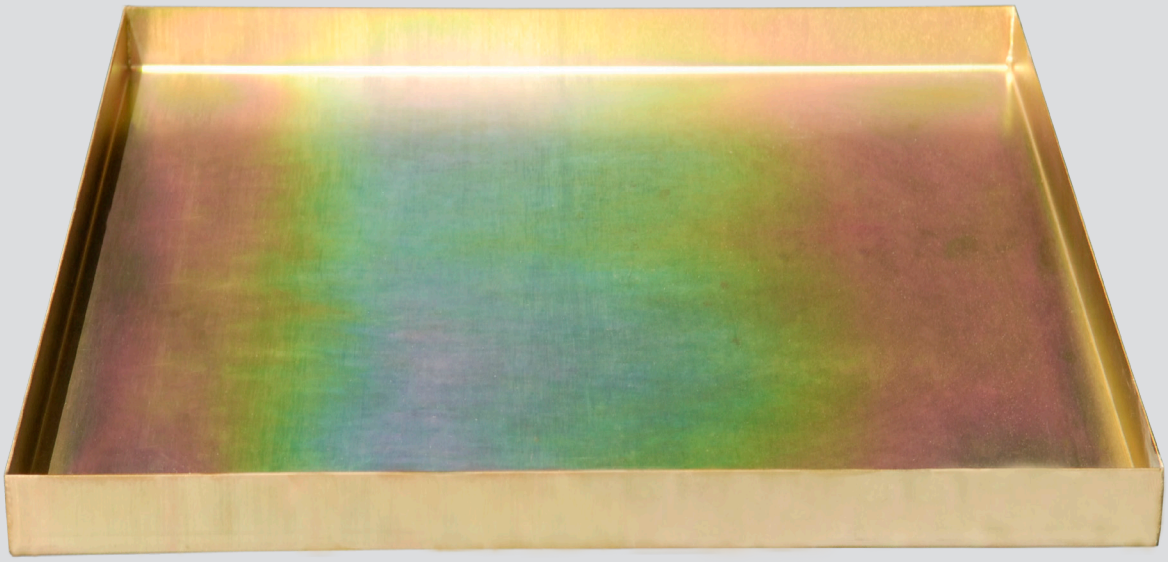
Features

- Fits all Plainsman chemical pumps
- Leak-free design with liquid-tight welded corners
- Gold zinc plated for chemical resistance to corrosion

Specifications

Dimensions	17” x 22” x 1”, 14 ga. Steel	18.5” x 10.5” x 1.5”, 14 ga. Steel
Capacity	6.4 quarts (6.1 L)	5.0 quarts (4.8 L)

Other sizes available on request



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INLINE FILTER

Model PL-250 High Pressure Instrumentation Line Filter

The PL250 is designed to clean instrumentation supply gas, ensuring maximum instrumentation life.

Features

- Hex construction for easy disassembly
- Lightweight aluminum construction
- Optional drain valve and pressure gauge

Specifications

Working Pressure : 2150 PSI
Operating Temperature: -40ºF to 180ºF (-40ºC to 80ºC)
50 µm pore size HDPE filter element standard
Inlet port: 1/4" fNPT
Outlet ports: 1/4" fNPT (2 ports)
Drain port: 1/4" fNPT

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PRESSURE REGULATORS

plainsman mfg. inc.

Model P-39-N Pressure Regulator

The P-39-N is a high pressure, user friendly regulator, capable of stepping down high inlet pressures to lower instrumentation working pressures. It is designed for easy field adjustment and maintenance.

Features

- Corrosion resistant nickel plating
- Wire mesh filter to keep dirt and foreign objects out
- T-handle for easy adjustment
- 4 seat valve disk block — spare seats can be rotated on job site

Specifications

Inlet: 1/4" fNPT
Outlets: 1/4" fNPT (2 ports)
Vents: 4
Inlet Pressure: 5500 psi (max)
Outlet Pressure: 0 to 60 psi
Temperature Range: -40 ºF to 225 ºF (-40 ºC to 106 ºC)
Body: Nickle-plated brass
Diaphragm: 302 stainless
Seat: PTFE

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PRESSURE REGULATORS

Model P-39 Pressure Regulator

The P-39 is a high pressure, versatile workhorse, capable of stepping down high inlet pressures to lower instrumentation working pressures. Its tamper proof design and built-in bronze filter make it a great choice for OEM systems or workshop calibrated systems.

Features

- Sintered bronze inlet filter to keep dirt and foreign objects out
- Tamper proof cap nut over adjusting screws
- 4 seat valve disk block — spare seats can be rotated on job site

Specifications

Inlets: 1/4" fNPT (2 ports)
Outlets: 1/4" fNPT (2 ports)
Vents: 4
Inlet Pressure: 5500 psi (max)
Outlet Pressure: 0 to 60 psi
Temperature Range: -70 ºF to 225 ºF (-57 ºC to 106 ºC)
Body: Forged brass
Diaphragm: 302 Stainless
Seat: Kel F

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PACKING

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Plainsman Packing

Plainsman offers specialized packing for chemical pumps beyond the standard Buna-N to meet any chemical pumping requirement.

Buna-N

Buna-N is the standard for chemical injection. The most economical and versatile packing, it can be used for methanol, hydrocarbons, ethylene glycol, water, dilute acids, dilute alkali, salt solutions and much more. It is not recommended for keytones, aromatics, polar solvents, etc.

Buna-N has good wear resistance and temperature resistance from -35˚F to 250˚F (-37˚C to 120˚C)

Hard Packing

Buna-based Hard Packing is suitable for Buna applications requiring higher pressure capabilities (3000 PSI and up)

Viton

This Fluorocarbon is suitable for higher temperatures (up to 200˚C)and aromatics, chlorinated hydrocarbons, etc

Teflon

Teflon is virtually impervious to most chemicals and has a wide operating temperature range (-150˚C to 230˚C). It has less wear resistance than other packing

Fluorosilicone

Fluorosilicone is resistant to solvents, harsh aromatics and fuels. Temperature range: -60˚C to 230˚C

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CERAMIC PLUNGERS

plainsman mfg. inc.

Ceramic Coated Plungers

Reduce grit abrasion with ceramic coated plungers.

Features

- Coating increases resistance to abrasion
- Excellent for use with crystallizing chemicals or grit
- Ceramic coating extends beyond packing area to ensure the best possible seal

Specifications

Plunger: 316 stainless
Coating: Chromium oxide (Cr_2O_3)
Available for: 10, 430 and 510 series pumps

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TANK & GAUGE

ASA 664 Tank and ASB 871 Gauge

Add a metal tank and gauge to a Plainsman pump skid for convenience.

Features

- Welded construction
- Integrated gauge - 1/4” fNPT Connection

Specifications

Tank
Capacity: 5 gallons
Material: Stainless

Gauge
Body: Stainless
Seals: Viton

Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

PRESSURE REGULATORS

plainsman mfg. inc.

Type 50 Pressure Regulator

The Type 50 regulator is a fine-tuning tool for adjusting supply pressures of individual instruments.

Features

- 40 micron mesh filter to keep debris out
- Integrated Dripwell
- Non-relieving

Specifications

Inlet: 1/4” fNPT
Outlets: 1/4” fNPT
Vents: 1
Inlet Pressure: 250 psi (max)
Outlet Pressure: 0 to 120 psi
Temperature Range: 0 ºF to 160ºF (-18 ºC to 71 ºC)
Body: Cast aluminum with vinyl paint
Diaphragm: Buna-N

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Specifications subject to change without notice

plainsman mfg. inc.

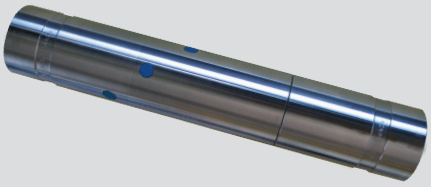
Downhole Accessories

DOWNHOLE ACCESSORIES

Type SB Tubing Drains
- Reliably drain fluid from production tubing
- Large drain area ensures fluid is drained faster
- Easily adjustable shear pressure

SafetyTorq™ Tubing Drains
- Design allows for rapid installation with power tongs
- Torque Ring compatible when no-turn tools aren't run
- Designed for multiple thread re-builds
- Suitable for horizontal applications

Shear Couplings
- Reliably separate the rod string from the downhole pump
- Integral key prevents shear of pins in torsion
- Alloy steel for durability and long life



ToughTorq™ Shear Couplings
- Ideal for PC pump applications in problem wells
- Enhanced flexibility and material toughness with proprietary Ni-Cr-Mo alloy
- Box x Box construction

PL5 Spin-thru Centralizers
- Reduce wear in deviated PC pump wells
- Field replaceable Nylon rotor
- High temperature rotor (218°C)

ToughTorq™ PL5 Spin-thru Centralizers
- For use in higher torque applications
- High temperature rotor (218°C)

Sucker Rod Couplings
- Economical sucker rod couplings
- AISI 8630 material
- Threads conform to API 11B

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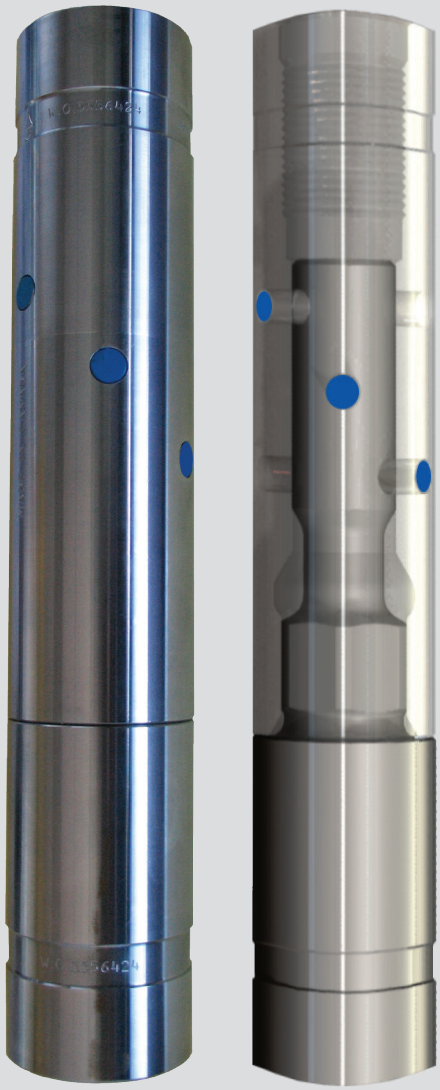
ToughTorq™ Shear Coupling

Ideal For PC Pump Applications In Problem Wells

The ToughTorq™ Shear Coupling† has been specially designed for use with high torque rod applications such as Weatherford® T66/XD and HD sucker rods and Alberta Oil Tool Drive Rods®††.

Shear couplings are used to reliably separate the rod string from the bottom hole assembly when the pump seizes or the rod gets stuck. This prevents the costly and environmentally unfriendly process of pulling tubing and rods out simultaneously.

The ToughTorq™ Shear Coupling has an increased resistance to fatigue in horizontal and deviated wells. With the integral ToughTorq™ key, it is ideal for reciprocating and rotating rod applications as well as continuous and conventional sucker rods.



Features

- Improved internal torque transmitting key design
- Enhanced flexibility
- Improved material toughness using a proprietary Ni-Cr-Mo alloy
- Reduced stress distribution around shear pins
- Improved surface treatment around high stress areas
- Ideal for vertical, horizontal and deviated wells
- Box-by-box construction
- Threads are formed (cold rolled), not cut, conforming to API 11B
- Precisely calibrated shear pin values
- ISO 9001 ensures full material and manufacturing traceability
- Slim hole diameter

† Patent pending.
†† Weatherford and Alberta Oil Tool are in no way affiliated with Plainsman Mfg. Inc.

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TOUGHTORQ™ SHEAR COUPLING

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TOUGHTORQ™ SHEAR COUPLING

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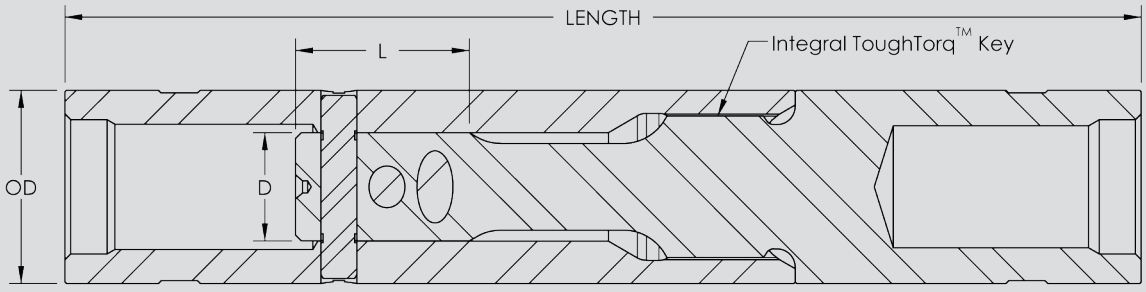
SIZE[1] (IN)	OD (IN)	LENGTH[3] (IN)	SHEAR STRENGTH (LB)	"L"[4] (IN)	"D"[4] (IN)	MAXIMUM ALLOWABLE STATIC TORQUE (LB-FT)[2]	PINS	
							#	COLOUR
7/8 (22 mm)	1.63 (41 mm)	10.45 (265 mm)	30,000 LBF (133 kN)	1.80	1.13	1250 LB-FT (1695 N·m)	2	White
			35,000 LBF (156 kN)	1.80	1.13		3	White & Black
			40,000 LBF (178 kN)	1.80	1.13		3	Blue
			45,000 LBF (200 kN)	1.80	1.13		3	White
1 (25 mm)	2.00 (51 mm)	11.20 (284 mm)	30,000 LBF (133 kN)	1.80	1.13	2,500 LB-FT (3,390 N·m)	2	White
			35,000 LBF (156 kN)	1.80	1.13		3	White & Black
			40,000 LBF (178 kN)	1.80	1.13		3	Blue
			45,000 LBF (200 kN)	1.80	1.13		3	White
		11.7 (297 mm)	50,000 LBF (222 kN)	2.30	1.13		4	Blue & Yellow
			60,000 LBF (266 kN)	2.30	1.13		4	White
1-1/8 (28 mm)	2.25 (57 mm)	13.6 (345 mm)	30,000 LBF (133 kN)	2.45	1.50	3,750 LB-FT (5,080 N·m)	3	Red & Yellow
			35,000 LBF (156 kN)	2.45	1.50		3	White & Black
			40,000 LBF (178 kN)	2.45	1.50		3	Blue
			45,000 LBF (200 kN)	2.45	1.50		3	White
			50,000 LBF (222 kN)	2.45	1.50		4	Blue & Yellow
			60,000 LBF (266 kN)	2.45	1.50		4	White

1. Other sizes available, please contact Plainsman
2. To maximize fatigue life, Plainsman recommends using a .8 service factor
3. No additional coupling is needed
4. Customer-driven request for well fishing applications



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TOUGHTORQ™ COATINGS

Make-up Procedure:

Follow recommended make-up procedure of rod manufacturer for sucker rod grade being used. The ToughTorq™ Shear Coupling is compatible with all sucker rod grades.

For torsional applications, install at least one rod length above the bottom hole pump. Using centralizing couplings on either side of the shear is recommended.

Coatings

Plainsman provides two* coating options to prolong the life of the ToughTorq™ Shear Coupling that is available separately or in combination.

CODE	NAME	DETAILS
CT1	HardCoat™	For severe downhole wear/fatigue conditions. This coating case hardens the shear coupling's keyway and external surface without affecting the base metal, improving wear resistance and increasing the shear's life. For easy identification, shears are stamped CT1 and labelled prior to shipping.
CT2	SoftCoat™	For combating abrasion between shear coupling and tubing. Recommeded when the tubing has not been hardened. A soft urethane is bonded to the outside of the shear coupling, preventing abrasive particles, like sand, from wearing the interface between the tubing and shear coupling.

* Other coatings may be available upon request: contact Plainsman.

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Shear Couplings

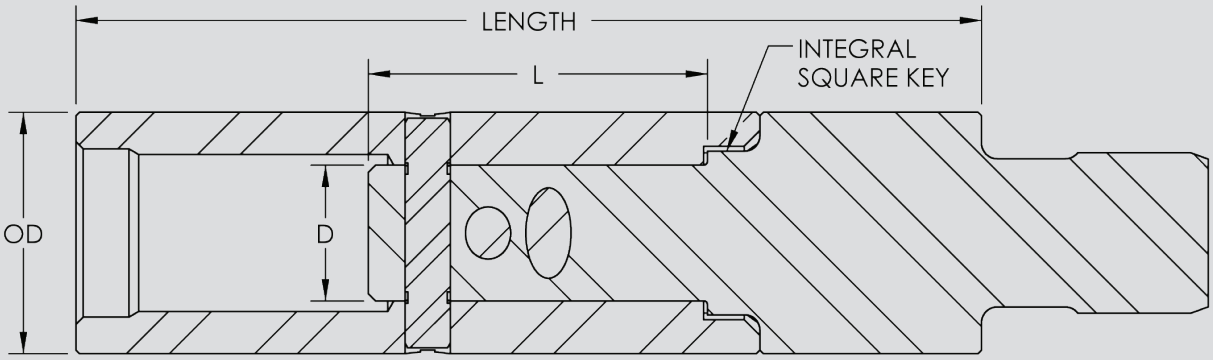
SHEAR COUPLINGS

Features

- Integral square key prevents shear of pins in torsion
- Ideal for insert, tubing and progressing cavity pumps*
- 4340 HTSR construction for durability and long life

Material Specifications

Coupling: 4340 HTSR
Shear Pin: ANSI W1



Typical API Grade D Sucker Rod Reference Information

ROD SIZE (IN)	MAXIMUM TORQUE (FT-LB)	MAXIMUM TENSILE LOAD (LB)
3/4	460	35,780
7/8	735	48,700
1	1,100	63,625
1- 1/8	1,570	80,500

Tensile load values derived from API 11B, and are for reference only.
Torque values are typical from rod manufacturer and are for reference only.
Consult rod manufacturer for specifications regarding load and torque.

* For deviated horizontal, and problem wells, Plainsman recommends referring to the proven designed ToughTorq™ Shear Coupling brochure

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SHEAR COUPLINGS

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SIZE (PIN & BOX) (IN)	OD (IN)	LENGTH (IN)	SHEAR STRENGTH (LB)	"L"[4] (IN)	"D"[4] (IN)	MAXIMUM ALLOWABLE STATIC TORQUE[3] (LB-FT)	PINS	
							#	COLOUR
3/4	1.63	7.00	14,000	2.80	1.13	1,500	2	Green
			19,000	2.80	1.13		2	Red
			22,000	2.80	1.13		2	Yellow
			26,000	2.80	1.13		2	Black
			30,000	2.80	1.13		2	White
			35,000	2.80	1.13		3	Black & White
7/8	1.63[1]	7.25	14,000	2.80	1.13	1,500	2	Green
			19,000	2.80	1.13		2	Red
			22,000	2.80	1.13		2	Yellow
			26,000	2.80	1.13		2	Black
			30,000	2.80	1.13		2	White
			35,000	2.80	1.13		3	Black & White
			40,000	2.80	1.13		3	Blue
		8.00	50,000	3.31	1.13		4	Blue & Yellow
1	2.00[1]	7.50	30,000	2.80	1.13	2,000	2	White
			35,000	2.80	1.13		3	Black & White
			40,000	2.80	1.13		3	Blue
			45,000	2.80	1.13		3	White
		8.00	50,000	3.31	1.13		4	Yellow
1-1/8	2.38	8.50	35,000[2]	3.25	1.50	3,750	3	Black & White
			40,000	3.25	1.50		3	Blue
			45,000[2]	3.25	1.50		3	White
			50,000	3.25	1.50		4	Blue & Yellow
			60,000[2]	3.25	1.50		4	White

1. Slimhole coupling diameter
2. Available in ToughTorq™ configuration only (Box x Box)
3. To maximize fatigue life, Plainsman recommends using a .8 service factor
4. Customer-driven request for well fishing applications

Note: For torsional applications, place coupling in straight section of well, minimum of 1-2 rods above rotor, with centralizing couplings

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ToughTorq™ PL5 Spin-Through Coupling

The ToughTorq™ PL5 Spin-Through Coupling† has been specially designed for use with high torque rod applications such as Weatherford® T66/XD and HD sucker rods and Alberta Oil Tool Drive Rods®††.

Spin-through couplings reduce operating costs of progressing cavity pumped wells. The PL5 centralizer reduces rod and tubing wear, work over frequency, lifting costs and maintenance. PL5 centralizers are field replaceable and available with high temperature rotor materials rated to 218 °C.

Features

- High torque capabilites
- Available with abrasion resistant hard coating for severe service conditions
- Slim hole diameter maximizes flow path and protects tubing wall
- Pin by Pin construction
- Proprietary design maximizes contact strength and improves rotor retention
- Proprietary HTSR alloy steel components
- Formed (cold rolled) box and pin threads, not cut, conforming to API 11B
- Full material traceability stamping
- Manufactured to precisely engineered standards in ISO 9001 facility
- Field replaceable standard (104 °C) and high temperature (218 °C) rotors
- Proprietary blend of rotor materials provides maximum lubricity and wear life
- Available with or without coupling(s)

TOUGHTORQ™ PL5 COUPLING

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† Patent pending.

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TOUGHTORQ™ PL5 COUPLING

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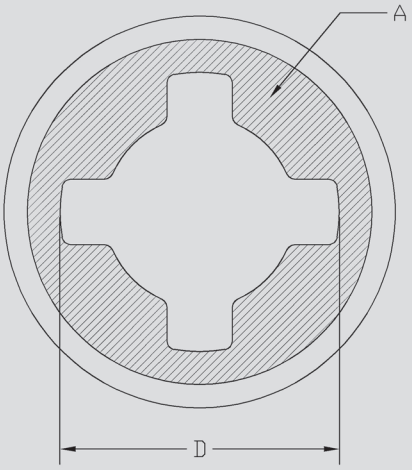
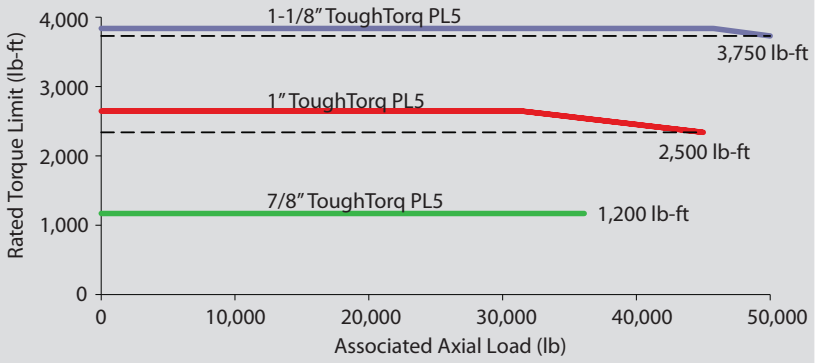
ROD SIZE (IN.)[1]	TUBING SIZE (IN.)	ROTOR DIAMETER D (IN.)	FLOW AREA A (IN.^{2})		REQUIRED COUPLING	MAXIMUM OPERATING TORQUE (LB • FT)[2, 3]		ASSOCIATED AXIAL LOAD (LB)[6]
			MIN[7]	MAX[7]		HIGH STRENGTH COUPLING[4]	REGULAR COUPLING[5]	
7/8″ (22 mm)	2-3/8″ (60 mm)	1.86 (47 mm)	0.34 (217 mm^2)	0.87 (561 mm^2)	SLIM HOLE ONLY	1,200 (1,625 N • m)	875 (1,185 N • m)	30,000 (13,600 kg)
	2-7/8″ (73 mm)	2.29 (58 mm)	1.08 (700 mm^2)	1.53 (985 mm^2)	SLIM HOLE OR FULL SIZE			
	3-1/2″ (89 mm″)	2.82 (71 mm)	2.57 (1658 mm^2)	3.26 (2103 mm^2)				
1″ (25 mm)	2-7/8″ (73 mm)	2.27 (58 mm)	0.81 (522 mm^2)	1.25 (806 mm^2)	SLIM HOLE ONLY	2,500 (3,390 N • m)	2,000 (2,710 N • m)	40,000 (18,140 kg)
	3-1/2″ (89 mm)	2.82 (71 mm)	1.75 (1130 mm^2)	2.44 (1574 mm^2)	SLIM HOLE OR FULL SIZE			
	4-1/2″ (114 mm)	3.21 (82 mm)	2.41 (1557 mm^2)	6.48 (4181 mm^2)				
1-1/8″ (29 mm)	3-1/2″ (89 mm)	2.80 (71 mm)	1.75 (1130 mm^2)	2.44 (1574 mm^2)	SLIM HOLE OR FULL SIZE	3,750 (5,080 N • m)	2,900 (3,930 N • m)	50,000 (22,680 kg)
	4-1/2″ (114 mm)	3.21 (82 mm)	2.41 (1557 mm^2)	6.48 (4181 mm^2)				





Rated Torque Limit vs. Associated Axial Load[2,3,4,6]

Notes:

1) Other sizes available as well as optional coating for increased wear life. Contact Plainsman for details.
2) Maximum operating torque subject to the following conditions:
   - Do not exceed sucker rod manufacturer's operating torque guidelines
   - All values based on coupling contact areas as follows:
     - 7/8" ToughTorq PL5 Contact Area = 0.573 in^2 (370 mm^2) or greater
     - 1" ToughTorq PL5 Contact Area = 1.120 in^2 (723 mm^2) or greater
     - 1-1/8" ToughTorq PL5 Contact Area = 1.451 in^2 (936 mm^2) or greater
   - Connections to be made-up as per Plainsman's Tough Torq™ PL5 make-up procedure PB-CPLR06
3) To maximize fatigue life, Plainsman recommends using a 0.8 service factor
4) High Strength coupling with 105 ksi (724 MPa) minimum yield strength in like new condition
5) Regular coupling with 80 ksi (552 MPa) minimum yield strength in like new condition
6) Associated axial load may be exceeded at lesser operating torques. Refer to graph above.
7) Min and max flow areas based on heaviest and lightest API 5CT tubing that the centralizer rotor will fit.

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Plainsman PL5 Centralizing Couplings

PL5 COUPLINGS

Plainsman PL5 Centralizing Couplings are a spin-through, non-rotating style of sucker rod and drive rod centralizer designed specifically for reducing operating costs of progressing cavity pump applications. The PL5 protects the well from accelerated rod and tubing wear, reducing work over frequency, lifecycle lifting costs and maintenance costs. They are field replaceable and available for 5/8" to 1-1/8" rod to fit in 2-3/8" to 4-1/2" tubing.

Features

- Reduces tubing wear in deviated and progressing cavity pumped wells
- Available with abrasion resistant hard coating for severe service conditions
- Available with high strength proprietary steel for increased torque capacity
- Alloy Steel heat-treated, stress-relieved mandrel with rolled threads
- Field replaceable nylon sleeve
- Regular (104˚C) and high temperature (218˚C) sleeves
- Available with or without attached coupling
- Proprietary blends of sleeve materials provides maximum lubricity and wear life
- Field proven and developed over 10 years of running history

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PL5 COUPLINGS

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PL5 DIMENSION INFORMATION

Pin Size (in.)	Tubing Size (in.)	Sleeve Diameter, D (in.)	Flow Area, A (sq. in.)		Maximum Torque* [Standard] (lb-ft)	Maximum Torque* [Select] (lb-ft)		Recommended Coupling
			Min (1)	Max (2)	Regular Coupling (6)	High Strength Coupling (5)	Regular Coupling (6)	
5/8	2-3/8 (4)	1.86	0.68	1.22	275	TBD	TBD	5/8″ Full Size
3/4	2-3/8 (4)	1.86	0.34	0.87	470	TBD	TBD	3/4″ Full Size
	2-7/8 (4)	2.29	1.08	1.52	470			
	3-1/2 (4)	2.82	2.57	3.26	470			
7/8	2-7/8 (4)	2.27	0.81	1.25	750	TBD	TBD	7/8″ Full Size
	3-1/2 (4)	2.82	1.75	2.44	750			
1	2-7/8 (4)	2.27	0.58	1.02	1000	1400	1100	1″ Slimhole(3)
	3-1/2 (4)	2.80	1.75	2.99	1000			1″ Full Size
	4-1/2	3.21	2.41	6.47	1000			
1-1/8	3-1/2	2.82	1.75	2.99	1200	2000	1570	1-1/8″ Full Size
	4-1/2	3.21	2.41	6.47	1200			

* higher torque ratings available in the ToughTorq™ model, see Plainsman Representative for details.

Dimensional Notes

Make-up Procedure should follow that of Grade D (Type 75) sucker rods as per Section 5 of RP 11BR, "API Recommended Practice for Care and Handling of Sucker Rods." Make-up torque should be at or above highest expected operating torque.

1) Based on heaviest allowable tubing as per API 5CT, unless specified otherwise
2) Based on lightest tubing as per API 5CT
3) For maximum rotor retention area, upgrade to a ToughTorq PL5
4) CAUTION: Ensure sleeve diameter (D) does not exceed tubing ID drift diameter for proper installation
5) High Strength coupling with 105 ksi minimum yield strength in like new condition
6) Regular coupling with 80 ksi minimum yield strength in like new condition

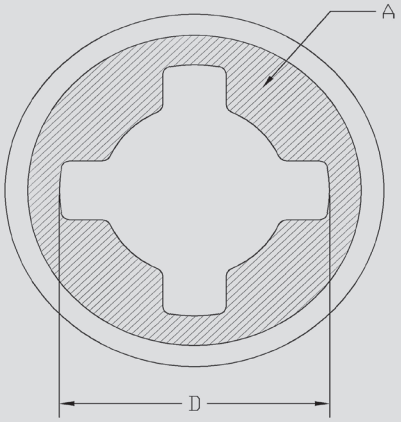
Material Specification

Mandrel: Standard: 4140 HTSR, Select: Proprietary HTSR Alloy Steel

Sleeve material options:

- Nylon 6, CL200-001 Proprietary Blend (standard)
- Zytel Polyphthalamide (PPA) Blend
  (high temperature resistance, superior abrasian resistance)
- Other materials available to suit application requirements

Max. Operating Temperature:
104 ° C (Nylon 6)
218 ° C (Zytel)



Thread Specification

Rolled to API 11B

Ordering Information

A) Standard or Select material
B) Pin Size
C) Tubing Size
D) Max Temperature of Well
E) Replacement parts required

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SafetyTorq™ Tubing Drain

Tubing drains allow you to reliably drain the production tubing prior to pulling out of hole. This prevents the difficult and environmentally unfriendly process of pulling wet tubing. Once on surface, the tubing drain can be redressed for future use†.

The patented SafetyTorq™ Tubing Drain was designed with rapid well installation and work over in mind without neglecting life cycle costs of operating a well. This tubing drain can be easily installed with power tongs without fear of damaging the tubing drain. This enhances safety by eliminating the need for manual wrenches and snipes and ensuring proper make-up torque is achieved every time.

Features

- Available for both standard and high temperature applications
- Compact design allows rapid installation with power tongs
- Torque ring compatible when no-turn tools aren't run
- Suitable for horizontal applications
- Larger sleeve shoulder prevents sleeve from contacting the casing
- Industry leading thread treatment for prolonged run life
- Viton seals standard — others available upon request
- Calibrated brass shear screws provide consistent shear values and reduce wear on steel parts, permitting multiple reuse
- All components precisely manufactured in ISO 9001 environment
- Multiple rebuilds allowed, reducing total cost of ownership
- Pin by Pin construction

Materials of Construction

NOMINAL SIZE	BODY MATERIAL	SLEEVE MATERIAL	SCREW MATERIAL
2-7/8	AISI 1026	AISI 4140–L80	Proprietary custom grade brass
2-7/8″ – 7P	AISI 4140–L80	AISI 4140–L80	
3-1/2	AISI 1026	AISI 4140–L80	
3-1/2″ – 7P	AISI 4140–L80	AISI 4140–L80	
4-1/2	AISI 1026	AISI 4140–L80	
5-1/2	AISI 4140–L80	AISI 4140–L80	

† Use only authentic Plainsman screws and seals for rebuilding. Plainsman recommends following the Repair & Handling Procedure PB-TBGD04.

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SAFETYTORQ™ TUBING DRAIN

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SAFETYTORQ™ TUBING DRAIN

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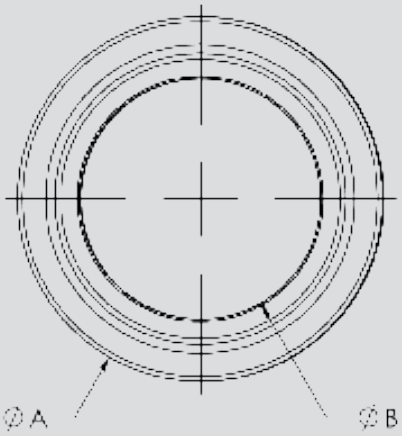
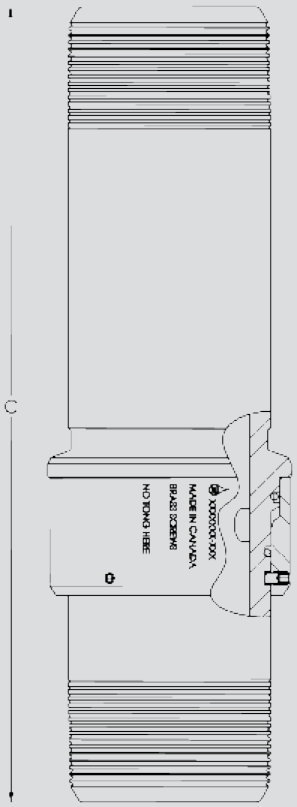
THREAD SIZE[1]	OD (A) (IN)	ID (B) (IN)	LENGTH (C) (IN)	MAX # OF SCREWS	MAX SHEAR PRESSURE[2] (PSI)	SHEAR PRESSURE PER SCREW[2,3] (PSI)	PARTING LOAD IN TENSION[4] (1000 LB)
2-7/8 EUE[6]	3.93 (100 mm)	2.45 (62 mm)	14.75 (375 mm)	6	4,800 (33,100 kPa)	800 (5,515 kPa)	105
				7	5,600 (38,610 kPa)		
3-1/2 EUE[6]	4.50 (115mm)	2.97 (75mm)	14.75 (375 mm)	6	4,320 (29,780 kPa)	720 (4,960 kPa)	145
				7	5,040 (34,750 kPa)		
4-1/2 EUE[6,7]	5.61 (143 mm)	3.96 (101mm)	15.28 (389mm)	10	4,350 (29,990 kPa)	435 (3,000 kPa)	200
5-1/2 LT&C[7]	6.25 (158 mm)	4.97 (126mm)	17.00 (432 mm)	6	4,000 (27,580 kPa)	667 (4,600 kPa)	225

1. Other sizes available — please contact Plainsman
2. These values will vary ± 10% dues to material and manufacturing tolerances
3. When using less than the maximum # of screws, space them evenly around the sleeve
4. If more than 30% of this load is applied during an intervention, replace Tubing Drain body with a new one
5. Maximum operating temperature: Viton seals — 400ºF (205ºC), Perfluoroelastomer seals — 572ºF (300ºC)
6. NUE available on request
7. Other thread styles available on request





Note:
- Same screws fit in all sizes of drains
- Use only authentic Plainsman replacement screws
- Do not use stainless steel screws Installation Torque: 10 lb-in
- Plainsman recommends following the Repair & Handling Procedure PB-TBGD04.

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Type SB™ Tubing Drain

Tubing drains allow you to reliably drain the production tubing prior to pulling out of hole. This prevents the difficult and environmentally unfriendly process of pulling wet tubing.

Features

- Industry standard, economical design
- Viton seals standard (back-up rings not required)
- Brass screws provide consistent and accurate shear values while reducing wear on steel parts, permitting reuse
- Beveled edges on bottom and top to ensure drain slides past casing patches or other casing issues
- Multiple rebuilds allowed, reducing total cost of ownership
- Torque ring compatible

Materials of Construction

NOMINAL SIZE	BODY MATERIAL	SLEEVE MATERIAL
2-3/8″	AISI 1026	AISI 4140–L80
2-7/8″	AISI 1026	AISI 4140–L80
3-1/2″	AISI 1026	AISI 4140–L80
2-7/8″ – 7P	Available in SafetyTorq™ Series	
3-1/2″ – 7P	Available in SafetyTorq™ Series	
4-1/2″	Available in SafetyTorq™ Series	
5-1/2″	Available in SafetyTorq™ Series	

TYPE SB™ TUBING DRAIN

MADE IN CANADA

ISO 9001:2008 QUASAR REGISTERED

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TYPE SB™ TUBING DRAIN

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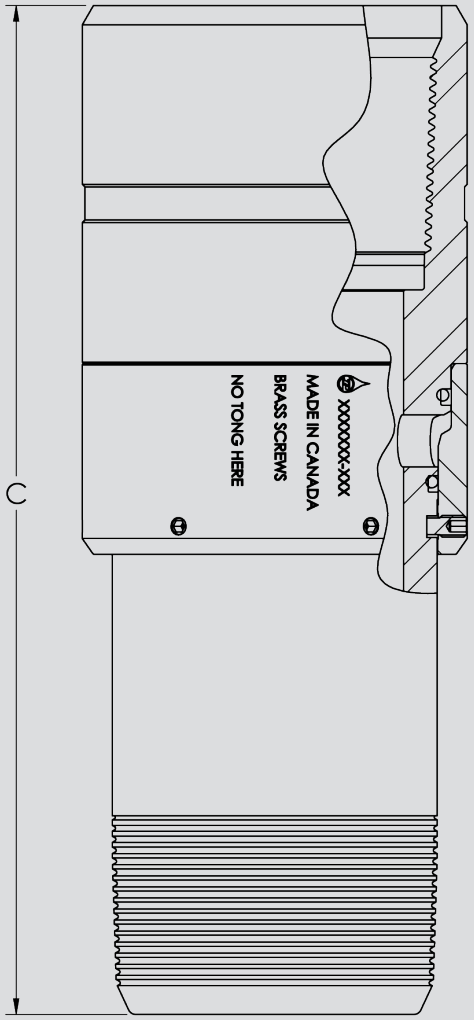
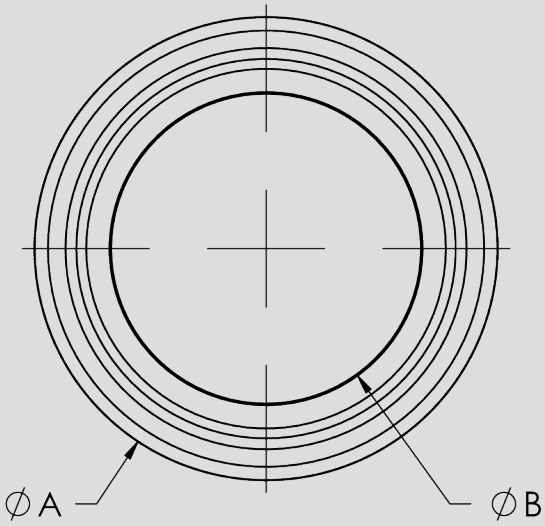
THREAD SIZE [5]	OD (A) (IN.)	ID (B) (IN.)	LENGTH (C) (IN.)	MAX # OF SCREWS	MAX SHEAR PRESSURE[1] (PSI)	SHEAR PRESSURE / SCREW [2] (PSI)	PARTING LOAD IN TENSION[3] (1000 LB)
2-3/8" EUE	3.38	2.06	9.63	6	5400	900	75
2-7/8" EUE[5]	3.88	2.45	10.50	6	4800	800	105
3-1/2" EUE[5]	4.44	2.97	11.63	6	4320	720	145
4-1/2" EUE[5]	Available in SafetyTorq™ Series						
5-1/2" EUE[5]	Available in SafetyTorq™ Series						

[1] These values will vary ± 10% due to material manufacturing tolerances
[2] When using less than the maximum # of screws, space them evenly around the sleeve
[3] If more than 30% of this load is applied during an intervention, replace Tubing Drain body
[4] Maximum operating temperature: Viton seals - 400°F (205°C)
[5] NUE or LT&C thread type, seven screw configuration and high-temp option are available in SafetyTorq™ Series





Note:
- Same screws fit in all sizes of drains
- Use only authentic Plainsman replacement screws
- Do not use stainless steel screws
- Installation Torque: 10 lb-in
- Plainsman recommends following the Repair & Handling Procedure PB-TBGD04

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Sucker Rod Couplings

Features

- Economical sucker rod coupling method
- Body Material: AISI 8630
- Threads rolled to API 11B, Section 8 Sucker Rod Connections

Sizes

	OD (IN.)		LENGTH
STANDARD	**REG**	**SLIMHOLE**	**(IN.)**
5/8″	1.500	1.250	4.00
3/4″	1.625	1.500	4.00
7/8″	1.812	1.625	4.00
1″	2.187	2.000	4.00
1-1/8″	2.375	N/A	4.50
CHANGEOVER			
7/8″ x 3/4″	1.812	1.625	4.00
1″ x 3/4″	2.187	2.000	4.00
1″ x 7/8″	2.187	2.000	4.00
5/8″ x 3/4″	1.625	1.500	4.00
POLISHED ROD			
3/4″	1.625	1.500	4.00
7/8″	1.812	1.625	4.00
1″	2.187	2.000	4.00
1-1/8″	2.375	N/A	4.50

SUCKER ROD COUPLINGS

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TOUGHTORQ™ COUPLINGS

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ToughTorq™ Couplings

The ToughTorq™ high strength couplings are designed to work with ToughTorq™ PL5 Spin-Through Couplings and high torque PC Pump applications. This coupling has been specially designed for use with high torque rod applications such as Weatherford® T66/XD and HD sucker rods and Alberta Oil Tool Drive Rods®††. ToughTorq™ high strength couplings are interchangeable with Tenaris® UHS, Weatherford® Hi-T™ and Alberta Oil Tool® high strength couplings.

ToughTorq™ high strength coupling threads are cold formed, which reshape the steel fibres to follow the thread profile. This process improves resistance to corrosion and abrasion, leaving a hardened thread flank and residual compressive stress in the thread root. This increases fatigue resistance in all forms of loading (tension and torsion). Traditional thread cutting and burnishing do not provide the benefits of cold-forming.

Sizes

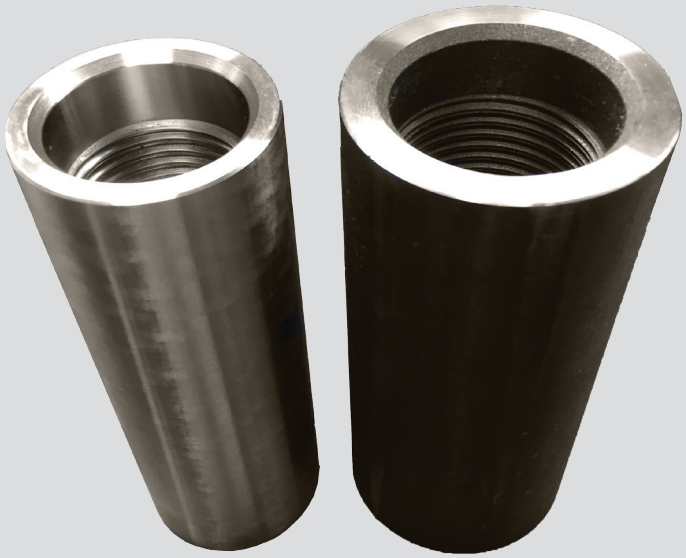
NOMINAL SIZE	OD (IN.)	LENGTH	TORQUE RATING (LB • FT) [2]	TYPE	GRADE [1]
7/8″	1.625	4.00	1,200 (1,625 N • m)	SLIMHOLE	High Strength (HS)
1″	2.000	4.00	2,500 (3,390 N • m)	SLIMHOLE	

Features

- Designed for high strength applications
- Cold-formed, fully rolled threads to maximize strength and fatigue resistance
- Formed (cold rolled) box threads, not cut, conforming to API 11B
- Anti-corrosion coating for shipping and storage
- Maximum face contact area increases connection strength

Notes:

1) ToughTorq™ HS couplings are manufactured from high quality heat-treated, stress-relieved 4140 Cr-Mo steel with 115 ksi (758 MPa) minimum yield strength. Each coupling is stamped 'HS' for easy identification.
2) To maximize fatigue life, Plainsman recommends using a 0.8 service factor.
3) Contact faces on the pin and coupling must be clean & dry before makeup.



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†† Weatherford and Alberta Oil Tool are in no way affiliated with Plainsman Mfg. Inc.

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Specifications subject to change without notice

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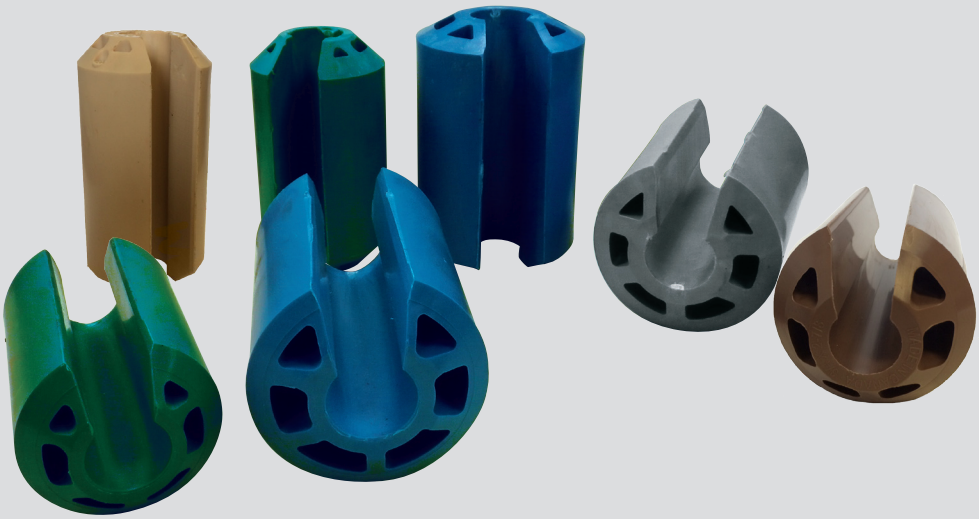
ToughGrip™ Rod Guide

ToughGrip™ Rod Guides reduce operating costs on pumping wells and are an economical alternative to molded-on and spin-thru centralizers. With our proprietary design, ToughGrip™ Rod Guides have an increased flow area compared to our competitors.

ToughGrip™ Rod Guides are field installed on the rod string with our easy to use installation tool. They reduce rod and tubing wear, work over frequency, lifting costs and maintenance.

Features

- Industry leading gripping power on sucker rod and continuous rod
- Increased flow area in tubing with unique part cross section
- Proprietary Nylon blend delivers high strength, flexibility, impact strength, lubricity and wear life
- Working temperature rating of 104 °C (218 °F)
- Manufactured and tested to precisely engineered standards in an ISO 9001 facility
- Colour coded by rod size for easy identification
- Rapid field installation down to 0 °C (32 °F) with available installation tool
- Installation tool is four feet in length, allowing for safe connection processes



TOUGHGRIP™ ROD GUIDE

MADE IN CANADA

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TOUGHGRIP™ ROD GUIDE

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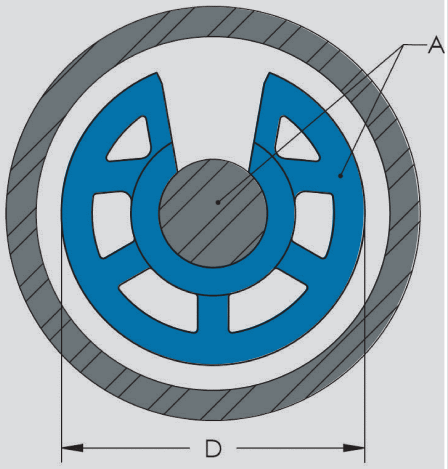
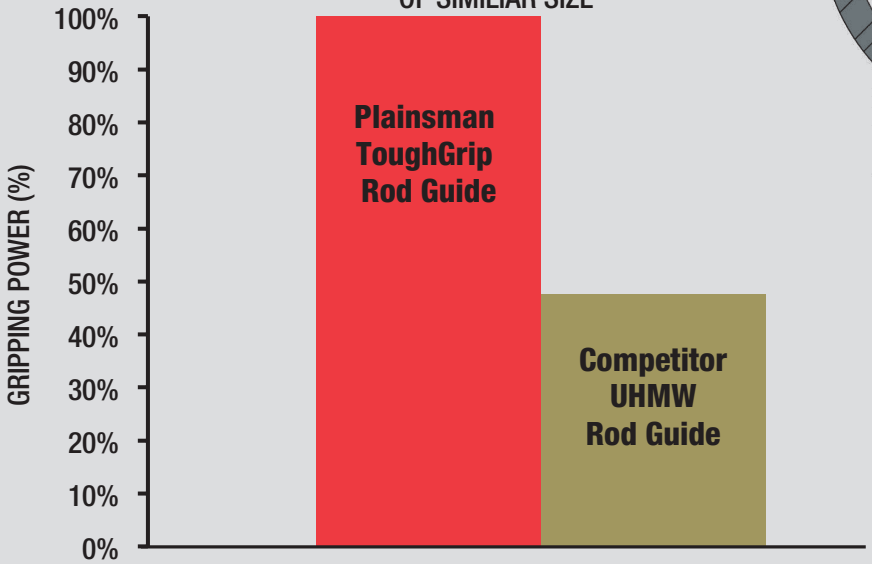
ROD SIZE (IN.)	TUBING SIZE (IN.)[1]	INSTALLED DIAMETER, D (IN.)	ROD GUIDE COLOUR	BLOCKED AREA, A (IN.^{2})	
				PLAINSMAN	COMPETITOR
3/4	2-3/8	1.85	LIGHT BROWN	1.96	2.44
	2-7/8	2.11	BROWN	2.38	3.18
7/8	2-3/8	1.85	GREEN	1.94	2.40
	2-7/8	2.15		2.50	3.25
	3-1/2	2.66		3.66	4.83
1	2-7/8	2.20	BLUE	2.69	3.21
	3-1/2	2.65		3.57	4.91
	4-1/2	3.12		4.72	6.77
1-1/8	3-1/2	2.74	GREY	3.98	4.85
	4-1/2	3.12		4.71	6.69

*Other sizes will be considered if requested.



COMPARISON OF GRIPPING POWER WITH ROD GUIDES OF SIMILIAR SIZE



Notes:

1) Please contact Plainsman for details or technical questions.
2) Plainsman recommends rod guides are heated to 0 °C (32° F) or higher prior to installation.
3) Gripping power based on actual test data.

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Sleeved Tubing Plug

Sleeved tubing plugs are placed at the bottom of the tubing string in order to provide a temporary seal while pressure testing the tubing and running the tubing into the wellbore. Pressurizing the tubing plug opens the sleeve, allowing fluid to flow into the tubing string.

The Plainsman Sleeved Tubing Plug prevents debris from being left downhole and does not restrict production flow. This tool is practical, low cost and easily rebuildable, providing a cost efficient option for your rod lift applications.

Features

- No downhole debris as sleeve remains attached to the tubing string
- Slotted body flow area is larger than standard tubing internal area
- Chamfered end-cap prevents hang-ups while tripping the tubing
- Rebuild kits available, which reduce total cost of ownership
- Adjustable burst pressures
- All components precisely manufactured in ISO 9001 environment
- Standard EUE tubing threads

Specifications

Description	3-1/2″ EUE[1]	2-7/8″ EUE[1]
Maximum Number of Screws[2]	6	6
Shear Pressure per Screw[3]	720 psi	800 psi
Default Burst Pressure[2]	2880 psi	3200 psi
Maximum Burst Pressure	4320 psi	4800 psi
Maximum Operating Temperature[4]	205°C	205°C

1. Requests for other sizes will be considered - LT&C available on request
2. Default assembly has four screws, when using less than the maximum # of screws, space them evenly around the sleeve
3. These values will vary ± 10% dues to material and manufacturing tolerances
4. High temperature Perfluoroelastomer seals rated for 300°C available upon request

SLEEVED TUBING PLUG

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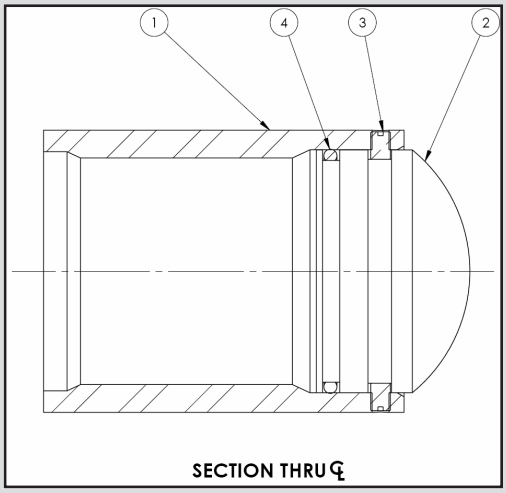
Tubing Plugs

TUBING PLUGS

Features

- Domed bottom prevents hang ups while tripping pipe
- Adjustable shear values
- Low cost



Part Numbers

Item	Description	2-7/8" EUE	3-1/2" EUE
-	Tubing Plug Assembly	425193	425084
1	Body	425195	425082
2	Plug	425196	425081
3	Shear Screw (Brass Only)	425079	355027
4	O-Ring	425194	425080

Specifications

Description	2-7/8" EUE	3-1/2" EUE
Number of Screws	10	25
Shear Pressure per Screw	320 psi	120 psi
Maximum Burst Pressure	3200 psi	3000 psi

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TorqKing™ Collar

TorqKing Collars are an innovative, simple design with a significant advantage

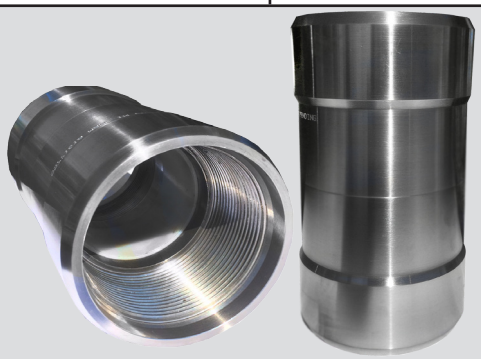
When a full string of TorqKing Collars† are used and torqued properly with the rig tubing tongs, you can elimnate the need for a no-turn tool or torque rings.
TorqKing Collars reduce the risk of catching on a pinched torque ring during a coil job, an area where a coil may hang up. TorqKing Collars also reduce rig time costs, as the rig crew is able to make up the collar using the tubing tongs directly on the collar, eliminating the need to install torque rings on site.
The TorqKing has an upset area to allow the tubing tongs to be used to make up the pipe connections. During make up with a conventional EUE collar there is a greater risk of crimping or severely damaging the collar which creates a potential for tubing backing off, a leak point in the string, and having to scrap the collar.

Features:

- UHMW plastic insert reduces potential rod wear by keeping the rod off of the tubing wall
- Stronger, more robust design than a conventional EUE tubing collar
- Multiple material grades availible to suit customer needs
- Industry leading thread treatment for prolonged run life
- Beveled edges on bottom and top to ensure collar slides past casing patches or other casing issues

SIZE*	GRADE	COLLAR ID (IN)	API COUPLING TORQUE (FOR REFERENCE ONLY, FT-LBS)	TORQKING COLLAR INSTALL TORQUE (FT-LBS)
2-7/8" EUE	J-55	2.42	1650	2150
	L-80		2250	-
	P110		3040	-
3-1/2" EUE	J-55	2.97	2280	3500
	L-80		3030	4060
	P110		4230	4950
3-1/2" EUE	J-55	2.42**	2280	3500
	L-80		3030	4060
	P110		4230	4950
4-1/2" EUE	J-55	3.92	2860	4500
	L-80		3940	-

* Additional Sizes, Threads and Grades available on request
** For 2-7/8" OD rod components only
† PRECISION MACHINING & MFG. Patent pending



TORQKING™ COLLAR

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Reciprocating Style (DogBone) Shear Coupling

Ideal For Reciprocating Application In Problem Wells

The Reciprocating Style DogBone Shear Coupling has been designed for reciprocating applications. It contains an engineered threaded joint that will break when the specified axial load is applied. The joint is pre-stressed to maximize fatigue resistance and prevent premature failure of the shear coupling.

Shear Couplings are used to reliably separate the rod string from the bottom hole assembly when the rod gets stuck. This prevents the costly and environmentally unfriendly process of pulling tubing and rods out simultaneously.

Features

- Designed for reciprocating applications
- Full size and slim hole models available
- Protects rod string from yielding or parting due to overload conditions while freeing stuck pumps
- Designed to withstand cyclical compressive loading without shearing prematurely
- Shear is preloaded during assembly to prevent fatigue failure while in service
- Strong, reliable roll-formed box and pin end threads (adheres to API Specification 11B)
- Custom coupling design and manufacturing available
- Box by box construction

RECIPROCATING STYLE (DOGBONE) SHEAR COUPLING

MADE IN CANADA

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RECIPROCATING STYLE (DOGBONE) SHEAR COUPLING

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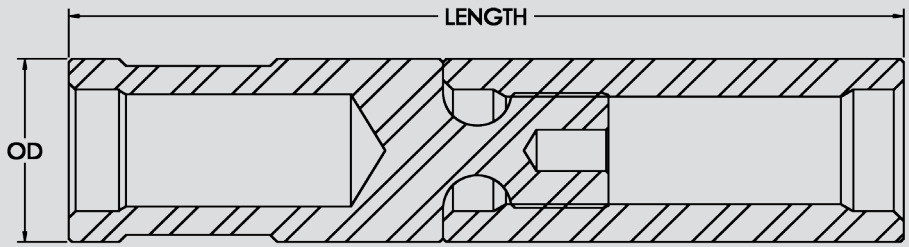
Ordering Information

1. Other sizes available, please contact Plainsman
2. No additional coupling needed
3. All products are right hand threads
4. Please contact Plainsman for lead times

SIZE[1] (IN)	OD (IN)	LENGTH (IN)	SHEAR RATING (LB)
3/4 (FS) (19 mm)	1.63 (41 mm)	7.25 (184 mm)	20,000 LBF (88 kN)
			26,000 LBF (115 kN)
7/8 (FS) (22 mm)	1.81 (46 mm)	7.25 (184 mm)	26,000 LBF (115 kN)
			30,000 LBF (133 kN)
1 (SH) (25 mm)	2.00 (51 mm)	7.25 (184 mm)	26,000 LBF (115 kN)
			35,000 LBF (156 kN)
			40,000 LBF (178 kN)
			50,000 LBF (222 kN)
1 (FS) (25 mm)	2.19 (55 mm)	7.25 (184 mm)	35,000 LBF (156 kN)



Make-up Procedure:
Follow recommended make- up procedure of rod manufacturer for sucker rod grades being used. The Reciprocating (Dogbone) Shear Coupling is compatible with all the sucker rod grades.

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Wellsite & Production Products

Rod Rotators
- Effectively remove paraffin build up
- Evenly distribute rod and tubing wear
- Two models available:
  - 3020 Gear Driven (240 lb-ft/325 N·m)
  - 3020 Slow Gear (240 lb-ft/325 N·m)
  - 2520 Ratchet Table (120 lb-ft/163 N·m)

Polished Rod Clamps
- Industry leading clamping capacity
- Indentation style; high strength forged steel construction
- Available in single, double and triple bolt sizes to handle every well application

Stuffing Boxes
- Available in single or dual pack for rod sizes 1”, 1-1/8”, 1-1/4”, 1-1/2”, 1-3/4”
- Slimline stuffing box zinc plated for corrosion protection

Grizzly Environmental Safety Box
- Adapts easily to industry stuffing boxes
- Reduces environmental impact of packing leaks and rod string failure
- Nickel super-alloy coated for maximum corrosion and abrasion resistance

Adjustable Chokes
- Available for 2000 psi and 3000 psi working pressure
- Forged steel body
- Orifice sizes of 1/2”, 3/4” and 1”

WELLSITE & PRODUCTION

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WELLSITE & PRODUCTION

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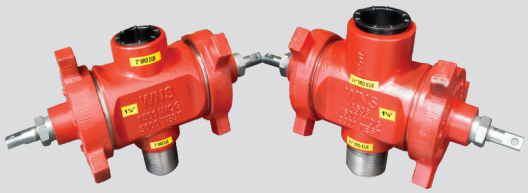
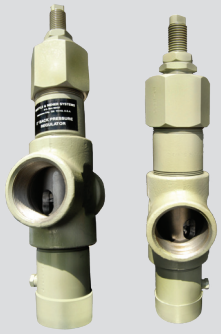


Blow Out Preventers

- Full opening
- Minimize downtime with quick opening end caps
- Bubble tight seal provided with cap o-ring
- Blowout proof threaded ram bolt

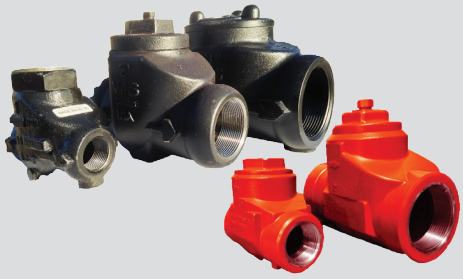
Flow Tees

- 3000 psi (21 MPa) working pressure
- Ductile iron Grade 65-45-12
- Muliple thread combinations available



Back Pressure Regulators

- Available in cross or tee configuration
- 1/4” NPT pressure port
- Spring ranges available:
  - 10-200 psi (0.1-1.4 MPa)
  - 10-500 psi (0.1-3.5 MPa)
  - 10-900 psi (0.1-6.2 MPa)
  - 10-1500 psi (0.1-10 MPa)



Swing Check Valves

- Pressure ranges from 300-3600 psi (2-25 MPa)
- Sizes available from 1” (25 mm) to 4” (102 mm)
- Two materials available:
  - Ductile iron Grade 65-45-12 (Black)
  - A216 WCB cast steel (Red)

Ball Check Valves

- Metal to metal seats
- Simple design easy to install; only two moving parts
- Low cracking pressure suitable for vacuum or low-pressure applications

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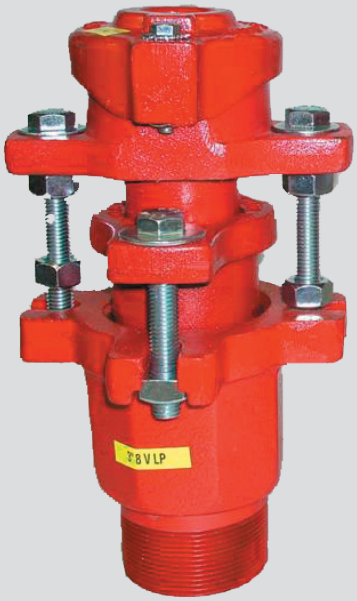
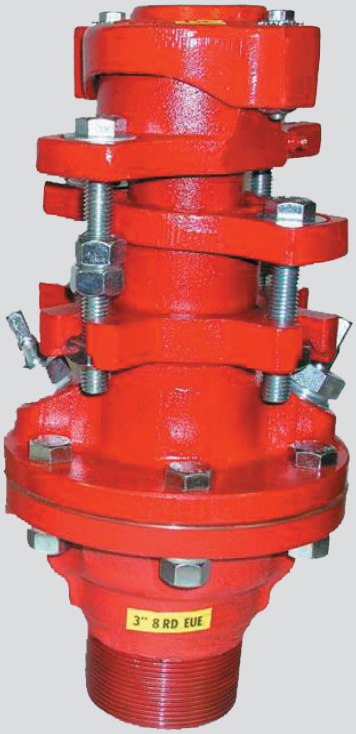
Stuffing Boxes

STUFFING BOXES

Features

- Available in single or dual pack
- Cap, glands, body and base made of Grade 65-45-12 ductile iron
- API gauged threads
- Bottom threads available in API tubing [EUE] or LP [line pipe]
- Built-in misaligning feature
- Available for the following rod sizes: 1”, 1-1/8” 1-1/4”, 1-1/2” and 1-3/4”





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Cone Packing

Features

- Available for following rod sizes: 1”, 1-1/8” 1-1/4”, 1-1/2” and 1-3/4”
- Available in a variety of compounds including:
  - Gold Flake
  - Special Lube
  - Soft Cone
  - Teflon Filled
  - High Temperature
- Hydrogen saturated nitrile available for H_2S service

SOFT	For normal pumping wells. Standard packing in all WNS stuffing boxes for any type polished rod or liner.
HARD	For wells that produce large volumes of water. Use only on hard-faced liner.
SPECIAL LUBRICATED	Self-contained lubricant for wells with an absence of fluid.
HEAVY DUTY	For wells that pump or flow off.
HIGH TEMP	For high-temperature applications to 425˚F.
TEFLON FILLED	Longer-lasting for pumping situations such as long stroke, fast cycle, lack of lubrication.
BRASS TEFLON	Combines the longevity of Teflon with the cleaning action of brass. Used on steel polished rods, or hard-faced liners only.
TYPE WN-G	For wells with H_2S or in CO_2 service.
BOTTOM CLEANER CONES	Helps prevent undesirable deposits on polished rods, or liners.

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Slim-Line Dual Pack Stuffing Box

SLIMLINE STUFFING BOX

Features

- Six larger Chevron style cotton reinforced nitrile packing on each end for longer life
- Zinc plated for corrosion protection
- Brass split bushings
- Packing chamber is easily tightened by hand
- Lock ring sets upper body in place after proper packing compression is achieved
- Lubricating gland for rod lubrication, that also provides pressure on upper and lower gland
- O-ring on lower gland to provide better sealing

Technical Specifications

DESCRIPTION	PLAINSMAN PART NUMBER	ROD SIZE	MOUNTING SIZE	O.D.	LENGTH	PACKING
Slim-Line Dual Pack Stuffing Box	Model 237-125	1.25″	2-3/8″ EUE	3.12″	13.0″	2.5″ O.D. x 1.25″ I.D. Lubrikup
	Model 237-150	1.50″				

Operating Temperature: 121˚C/250˚F ←→ -35˚C/-31˚F
Max. Operating Pressure: 3000 psi
*This product is available only on a manufacture to order basis. Please call sales for lead times.

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SLIMLINE STUFFING BOX

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Parts List

PART	PART NUMBER (1.25″)	PART NUMBER (1.50″)	MATERIAL
Cap	SB-237-000-10	SB-237-000-10	4140 HTSR
Lock ring	SB-237-000-20	SB-237-000-20	4140 HTSR
Body	SB-237-000-30	SB-237-000-30	4140 HTSR
Top brass bushing	SB-237-125-40	SB-237-150-40	C660 Brass
Bottom brass bushing	SB-237-125-50	SB-237-150-50	C660 Brass
Washer	SB-237-125-60	SB-237-150-60	C660 Brass
Bottom mount	SB-237-000-70	SB-237-000-70	4140 HTSR
Split ring packing*	2-1/2″ x 1-1/4″ x 3″ PKG	2-1/2″ x 1-1/4″ x 3″ PKG	Nitrile with cotton reinforcement
Grease fitting	¼″ NPT NIPPLE	¼″ NPT NIPPLE	Carbon steel
O-ring	228 VITON	228 VITON	Viton
Plug	¼″ NPT SH PLUG ZP	¼″ NPT SH PLUG ZP	Carbon steel
* Up to 20% sour packing available as custom option			

Ordering Information

1. Specify order is for Model 237-125 or Model 237- 150 Slim-Line Dual Pack Stuffing Box.
2. When ordering parts, specify appropriate model of Stuffing Box and the associated part number from the above chart.

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Grizzly Environmental Stuffing Box

GRIZZLY STUFFING BOX

Reduce environmental impact of packing leaks and rod string failure with our Grizzly Environmental Stuffing Box (GESB). Bolted on to the existing stuffing box, the GESB acts as secondary containment as well as lubrication for the rod string. In case of a break, the flapper shuts closed and prevents any spills on the wellsite, which saves you on production downtime and soil or water contamination.

The versatile GESB can be used with a pressure gauge, pressure switch, sight gauge, or other leak indicator to provide notification that your wellhead needs servicing.

Features

- Nickel super-alloy coated for maximum corrosion and abrasion resistance
- 2000 psi working pressure, 3000 psi test pressure
- Fits 1-1/4” and 1-1/2” polished rod
- Multi-use containment chamber can be used as:
  - Polished rod lubricator when filled with grease
  - Leak detection and containment
  - Secondary pressure containment
  - Blow-Out Preventer if polished rod breaks
- Wear block on flapper and packing set available in Delrin or Brass
- Bolted top design for easy service
- Material meets NACE MR01-75
- 316 stainless steel flapper and assembly
- Three 1/2” NPT body holes (oil fill, oil drain, & shutdown/leak detection)
- Adapts easily to WNS and Hercules stuffing boxes
- 2-7/8” EUE bottom connection for added versatility
- All units are made in an ISO 9001 quality system
- Standard packing
  - 1-1/4” x 2-1/4” x 3”
  - 1-1/2” x 2-1/4” x 3”

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GRIZZLY STUFFING BOX

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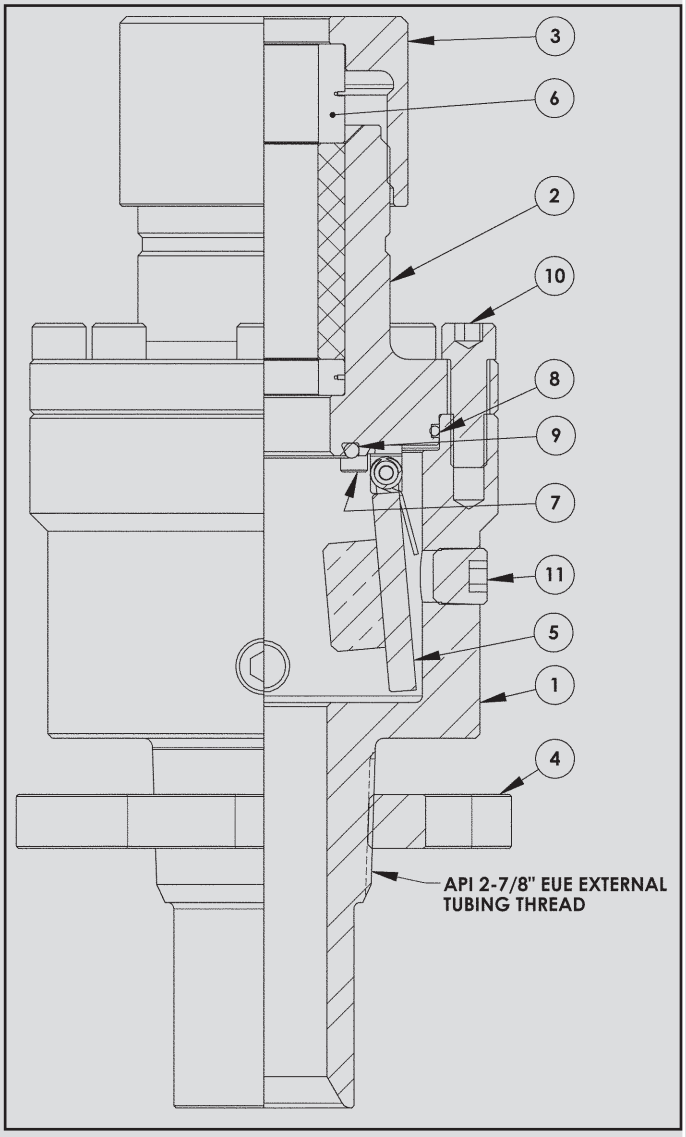
PART DESCRIPTION	PART NUMBER
Grizzly Environmental Safety Box complete with 1 - 1/4" BRASS packing set and flapper wear block	428415
Grizzly Environmental Safety Box complete with 1 - 1/4" DELRIN packing set and flapper wear block	428416
Grizzly Environmental Safety Box complete with 1 - 1/2" BRASS packing set and flapper wear block	428417
Grizzly Environmental Safety Box complete with 1 - 1/2" DELRIN packing set and flapper wear block	428418

ITEM	PART DESCRIPTION	PART NUMBER
1	Lower Body, G-116	428183
2	Upper Body, G-104	428182
3	Upper body cap, G-100	428177
4	Lower body wing nut, G-117	428184
5	Flapper assembly, Delrin	428175
5	Flapper assembly, Brass	428176
6	Packing set, 1-1/4" Brass	428178
6	Packing set, 1-1/4" Delrin	428179
6	Packing set 1-1/2" Brass	428180
6	Packing set, 1-1/2" Delrin	428181
7	SKT head cap screw	425886
8	O-Ring	428186
9	O-Ring	428391
10	SKT Head Capscrew	428185
11	Pipe Plug 1/2" NPT 316 SS	426632



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GRIZZLY STUFFING BOX

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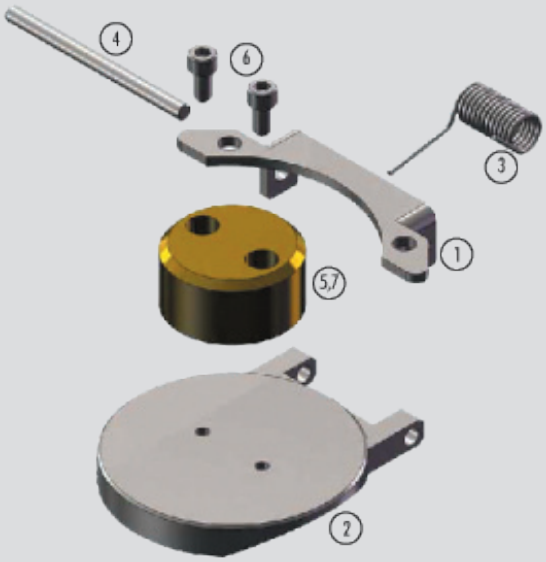
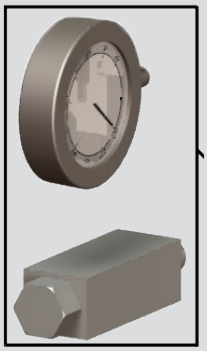
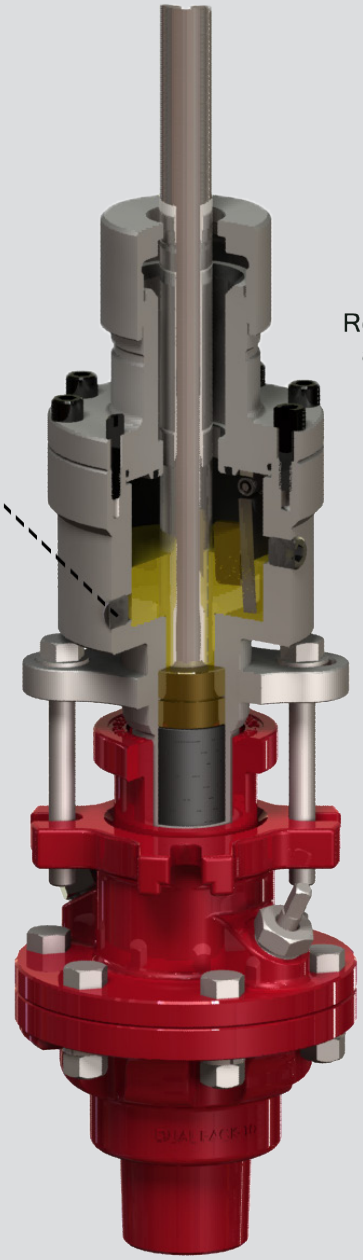
Flapper Breakdown

ITEM	PART DESCRIPTION	PART NUMBER
1	FLAPPER BRACKET, G-108	428187
2	FLAPPER, G-112	428188
3	SPRING (FLAPPER) INCONEL, G-111	428189
4	HINGE PIN (FLAPPER), G-110	428190
5	WEAR BLOCK, DELRIN, G-113-D	428191
6	SKT HEAD CAP SCREW	428192
7	WEAR BLOCK, BRASS, G-113-B	428193

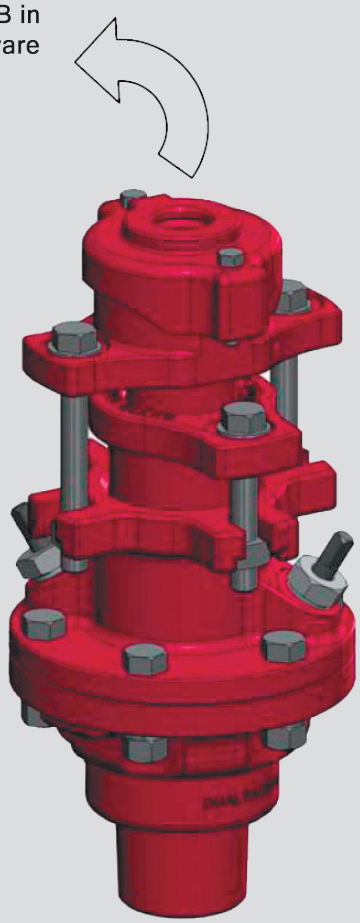




1/2" NPT Ports
for Accessories



Remove top cap and lube gland
and proceed to bolt GESB in
place with existing hardware



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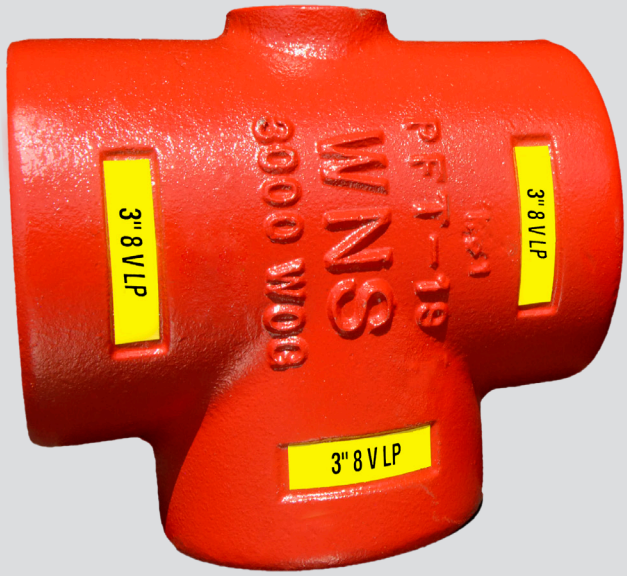
Flow Tees

FLOW TEES

Features:

- Ductile iron construction Grade 65-45-12
- 100% gauging – every thread gauged with API gauge
- Multiple thread combinations available
- Plastic bag packaging for resistance to moisture and other contaminants
- 3000 psi working pressure
- Corrosion resistance coatings available
- Reference chart for available sizes



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FLOW TEES

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ITEM ID	MODEL	3000# WORKING PRESSURE	WEIGHT/LBS
390037	FT 120601	2-3/8"EUE X 2-3/8"EUE X 2"LP X 1"NPT FLOW TEE	9
390038	FT 120801	2-7/8"EUE X 2-7/8"EUE X 2"LP X 1"NPT FLOW TEE	13
390039	FT 120807	2-7/8"EUE X 2-7/8"EUE X 3"LP X 1"NPT FLOW TEE	20
390040	FT 120811	3"LP X 2-7/8"EUE X 2" X 1" FLOW TEE	20
390041	FT 120817	2-7/8"X 2-7/8"X 3"X NO BLEED FLOW TEE	20
390042	FT 120901	3"EUE X 3"EUE X 3" LP X 1"NPT FLOW TEE	18
390043	FT 120902	3"EUE X 3"LP X 3"LP X 1" NPT	18
390044	FT 120903	3"EUE X 3"EUE X 2"NPT X 1"NPT FLOW TEE	20
390045	FT 120904	3"EUE X 3"LP X 2"LP X 1" FLOW TEE	18
390046	FT 120905	3"EUE X 2-7/8"EUE X 3"NPT X 1"NPT FLOW TEE	20
390047	FT 120908	3"EUE X 2-7/8"EUE X 2"LP X 1"LP FLOW TEE	20
390048	FT 120921	3"LP X 3"LP 3"LP X 1"NPT	18
390049	FT 120922	3"LP X 3"LP X 2"LP X 1" FLOW TEE	20

Notes:

- Pumping Flow Tee has 1" NPT minor side outlets for bleeder ports unless specified otherwise
- Bleeder can be left blank
- Last thread in each series is the major side outlet
- WNS-Coat® Coating: Call for pricing

Ordering Information

1. Flow line size x tee size x bleeder port size
2. Model number

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Blow-Out Preventers

BLOW-OUT PREVENTER

Features

- Full opening
- API gauged threads
- Bodies made of ductile iron Grade 65-45-12
- Working pressure of 1500 psi
- Minimizes down time with quick opening end caps
- Bubble tight seal provided with cap o-ring
- Blowout proof threaded ram bolt
- Threads not exposed to the process fluid

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BLOW-OUT PREVENTER

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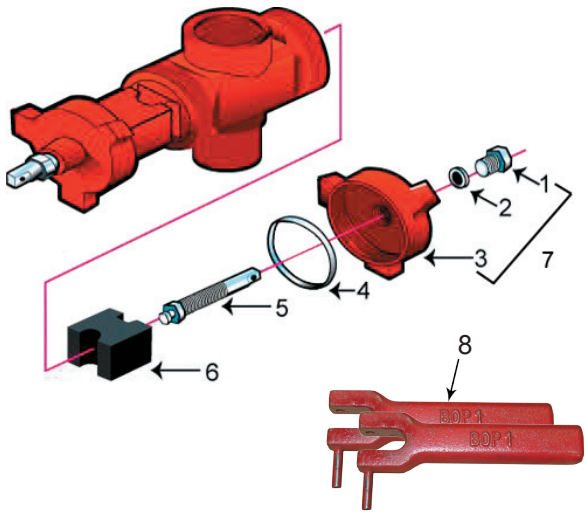
BOP Part Numbers

BLOW OUT PREVENTER	PART #
2-3/8"EUE x 5/8" Nitrile	425447
2-3/8"EUE x 1-1/4" Nitrile	390001
2-3/8"EUE x 1-1/2" Nitrile	390002
2-3/8"EUE x 1-1/4" Hydrin	426883
2-7/8"EUE x 1-1/4" Hydrin	426884
2-7/8"EUE x 1-1/4" Nitrile	390003
2-7/8"EUE x 1-1/2" Nitrile	390004
2-7/8"EUE x 1-1/2" Hydrin	428014
3"EUE x 5/8"-1" Nitrile	429641
3"EUE x 1-1/4" Nitrile	390005
3"EUE x 1-1/2" Nitrile	390006
3"NPT x 5/8" Nitrile	427338
3"NPT x 1-1/4" Nitrile	390007
3"NPT x 1-1/2" Nitrile	429072
3"NPT x Blind Nitrile	426174



ITEM	DESCRIPTION	PART #
1	Packing Gland	390010
2	Packing Ring	390019
3	Wing Cap	390008
4	O-Ring	390012
5	Ram Screw	390020
6	Ram Set, Blind, Nitrile	390017
	Ram Set, 1-1/4", Nitrile	390015
	Ram Set, 1-1/2", Nitrile	390016
	Ram Set, 1-1/4", Hydrin	390018
	Ram Set, 1-1/2", Hydrin	429462
	Ram Set, 5/8"x 1-1/4", Nitrile	428873
7	Wing Cap Assembly	390009
8	Flip Over Handles (Set of 2)	390011

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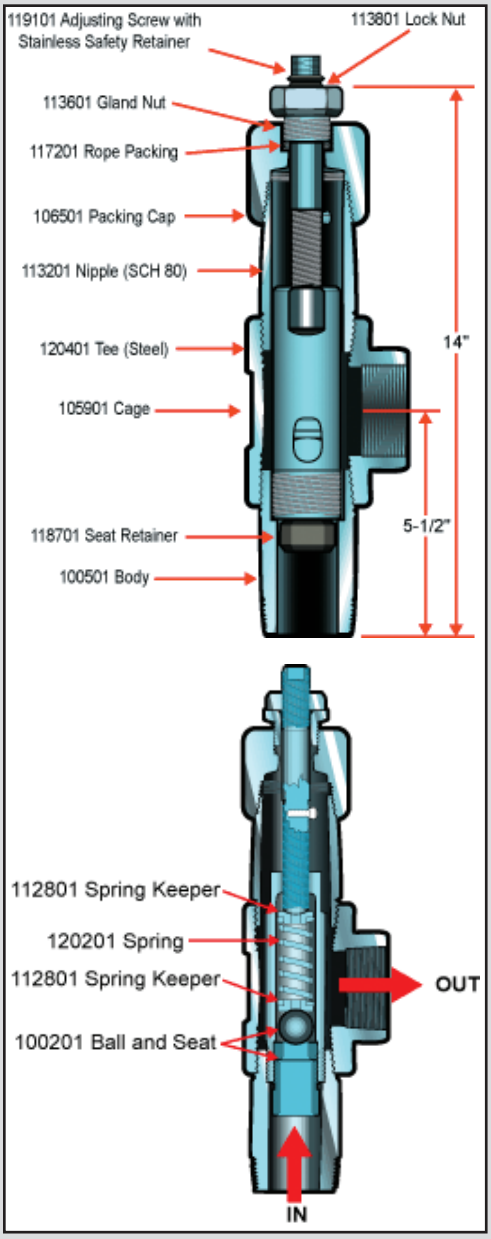
2” Back Pressure Regulator

BACK PRESSURE REGULATOR

Features

- Available in cross or tee configuration
- Spring ranges available: 10-200 psi, 10-500 psi, 10-900 psi and 10-1500 psi
- Reduces paraffin by keeping gas in solution
- ¼” NPT pressure port



PARTS LIST	
PART NAME	2” NPT PART #
Body	100501
Cage	105901
Seat Retainer	118701
Spring 10-200 psi	120201
Spring 10-500 psi	120202
Spring 10-900/1500 psi	120203
Spring Keeper	112801
Lock Nut	113801
Lock Screw	119301
Adjusting Screw	119101
Packing Cap	106501
Gland Nut	113601
Rope Packing	117201
Tee (Steel)	120401
Plug 1/4” F.S.	117501
Nipple (SCH 80)	113201
Ball & Seat	100201
Ball & Seat 1500#	100202

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Adjustable Chokes

ADJUSTABLE CHOKES

Features

- Forged steel body
- Hardened alloy trim
- Available for 2000 psi and 3000 psi working pressure applications
- Orifice sizes of ½", ¾", and 1"
- Thumbscrew locks stem in set position
- Standard lubrication for stem

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Polished Rod Clamps

Plainsman's Polished Rod Clamps are a high quality, high strength, yet lightweight and easy to use clamp. Available in single, double and triple bolt sizes to handle every well application. Now with 20% more holding power thanks to a proprietary hard coating that provides abrasion and corrosion resistance to maximize life.

Features

- Indentation style
- Forged steel construction for high strength
- Precision machined parallel faces and perpendicular rod bore
- Hard black coating
- Industry leading clamping capacity

TYPES	WORKING LOAD	MAX TEST LOAD	SIZES	BOLT TORQUE	HEIGHT	BODY MATERIAL	SHIPPING WEIGHT
Single Bolt	16,000 lb	33,000 lb	1-1/8″ 1-1/4″ 1-1/2″	250 lb-ft	2.45″	Forged Alloy Steel	4.25 LBS
Double Bolt	32,000 lb	66,000 lb	1-1/8″ 1-1/4″ 1-1/2″	250 lb-ft	4.90″	Forged Alloy Steel	8.25 LBS
Triple Bolt	45,000 lb	76,000 lb	1-1/8″ 1-1/4″ 1-1/2″	250 lb-ft	7.35″	Forged Alloy Steel	12.5 LBS

POLISHED ROD CLAMPS

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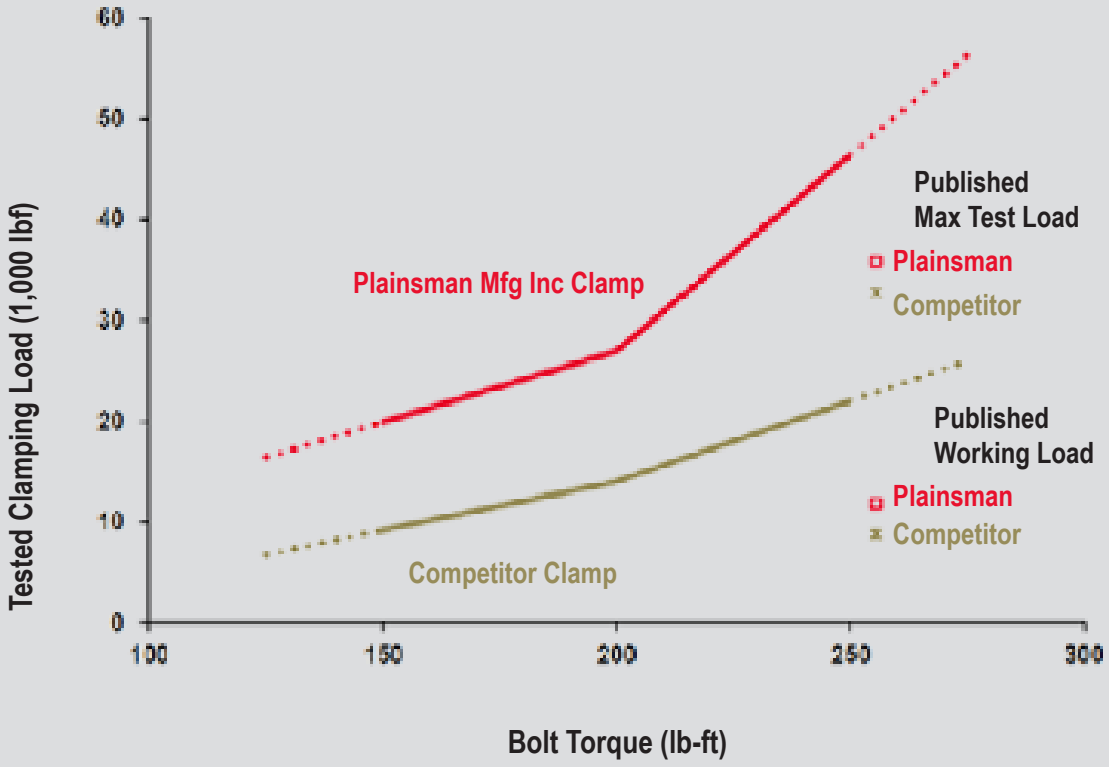
POLISHED ROD CLAMPS

Clamping Capacity Tests*



*Based on actual test results with calibrated equipment, new 1-1/4" single bolt clamps, and new polished rods

NOTES:

1. Clamping capacity for illustrative purposes only. Always use specified bolt torque and working loads.
2. Do not clamp on hard surfaced, or spray metal sections of polished rods as it may not clamp properly or may damage the rod.

Ordering Information

1. Determine the working load requirements
2. Specify the polished rod diameter
3. Specify single, double or triple bolt based on working load

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Rod Rotators

ROD ROTATORS

	3020	3020SG	2520
Max.Torque Ouput	240 lb-ft	240 lb-ft	120 lb-ft
Max. Recommended Load	40,000 lbs	40,000 lbs	33,000 lbs
Polished Rod Size	1-1/8" to 1-3/4"	1-1/8" to 1-3/4"	1-1/8" to 1-1/2"
Shipping Weight	48 lbs	48 lbs	35 lbs
Rotation Type	Helical Worm Gear	Helical Worm Gear	Ratchet Table
Body Material	Ductile Iron	Ductile Iron	Ductile Iron
Rotation per 90º Lever Stroke	<5º	<2.5º	15º

1. Custom cable lengths available
2. Rotators must be under load to operate

Features

- Effectively remove paraffin build up
- Evenly distribute rod and tubing wear
- Use with Plainsman PL5 centralizing couplings for maximum effectiveness
- Parts interchangeable with existing 302 and 252 rod rotators

3020 Gear Driven

3020SG (Slow Gear Driven)

2520 Ratchet Table

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2520 ROD ROTATOR PARTS LIST

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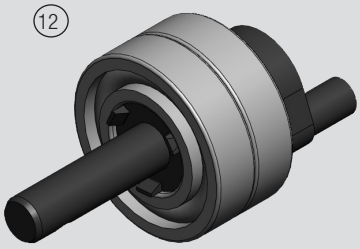
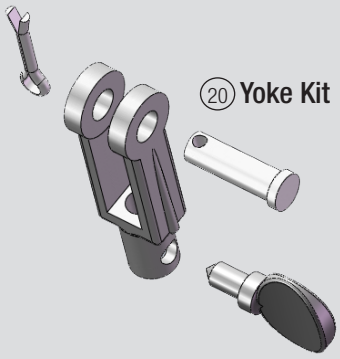
2520 Rod Rotator Parts List

ITEM	PART DESCRIPTION	PART NUMBER
1	Housing	425765
2	Top Cover	425766
3	Ratchet Table	425769
4	Rod Loading Bearing	325015
5	O-Ring	425761
6	Plug	125001
7	Holding Pawl	425771
8	External Retaining Ring (E-Ring)	425760
9	Holding Pawl Bolt	425772
10	1-1/4" Pilot 1-1/2" Pilot	425774 425775
11	Actuator Pawl	425770
12	Cam Shaft Assembly	427096
13	Cam Shaft	425768
14	Cam Shaft Bearings	425763
15	Cam Shaft Packing Gland	425767
16	Oil Seal (for cam shaft packing gland)	425762
17	Actuator Lever	425773
18	Bolt (for actuator lever)	425764
19	Safety Beam Clamp Assembly	425757
20	Yoke Kit	427102
21	3/16" Galvanized Wire Cable Assembly c/w Ends	425758

1. 2520 Rod Rotators come complete with all the assemblies and parts as shown below
2. Cam shaft bearings can only be ordered as part of cam shaft assembly

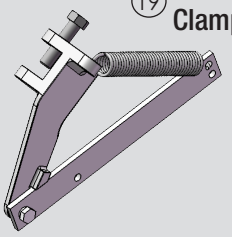
Cam Shaft Assembly (12)

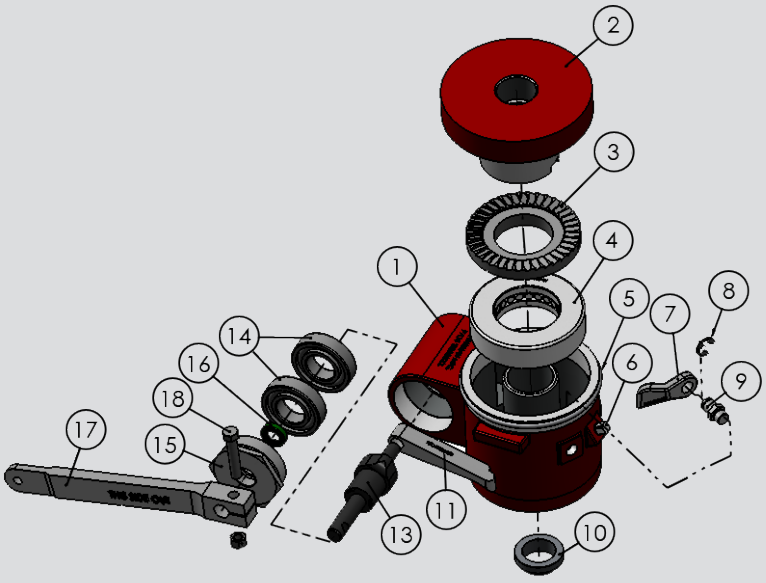




(20) Yoke Kit

(19) Safety Beam Clamp Assembly





(21) Cable Assembly

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Specifications subject to change without notice

3020 ROD ROTATOR PARTS LIST

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3020 Rod Rotator & 3020 Slow Gear Parts List

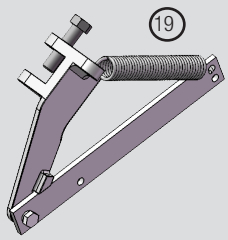
ITEM	PART DESCRIPTION	PART NUMBER
1	Body	427852
2	Rod Load Bearing	426144
3	Middle Shaft Bearing	426145
4	Worm Drive Shaft	427849
	Worm Drive Shaft, Slow Gear	431950
5	Actuator Lever	427848
6	E-Ring (large)	426168
7	Bearing for Actuator Ratchet	426147
8	Ratchet Spring	426167
9	J-Hook	429071
10	Actuator Ratchet Body	427851
11	Grease Nipple	426148
12	Bearing for Backstop Nut	426146
13	Backstop Nut	427850
14	Worm Gear	427853
	Worm Gear, Slow Gear	431951
15	Large O-Ring (body)	426169
16	Small O-Ring (Pillar Post)	426149
17	Cover cap	427847
18	1-1/4" Pilot 1-1/2" Pilot	425774 425775
19	Safety Beam Clamp Assembly	425757
20	Yoke Kit	427102
21	3/16" Galvanized Wire Cable Assembly c/w ends	425758

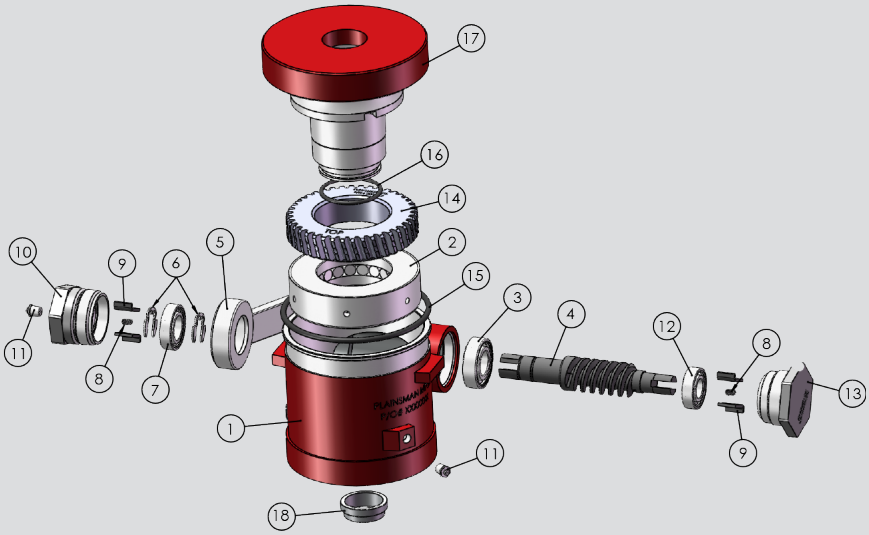
Actuator Cable Assembly

Yoke Kit

1. 3020 Rod Rotators come complete with all the assemblies and parts as shown below

Safety Beam Clamp Assembly





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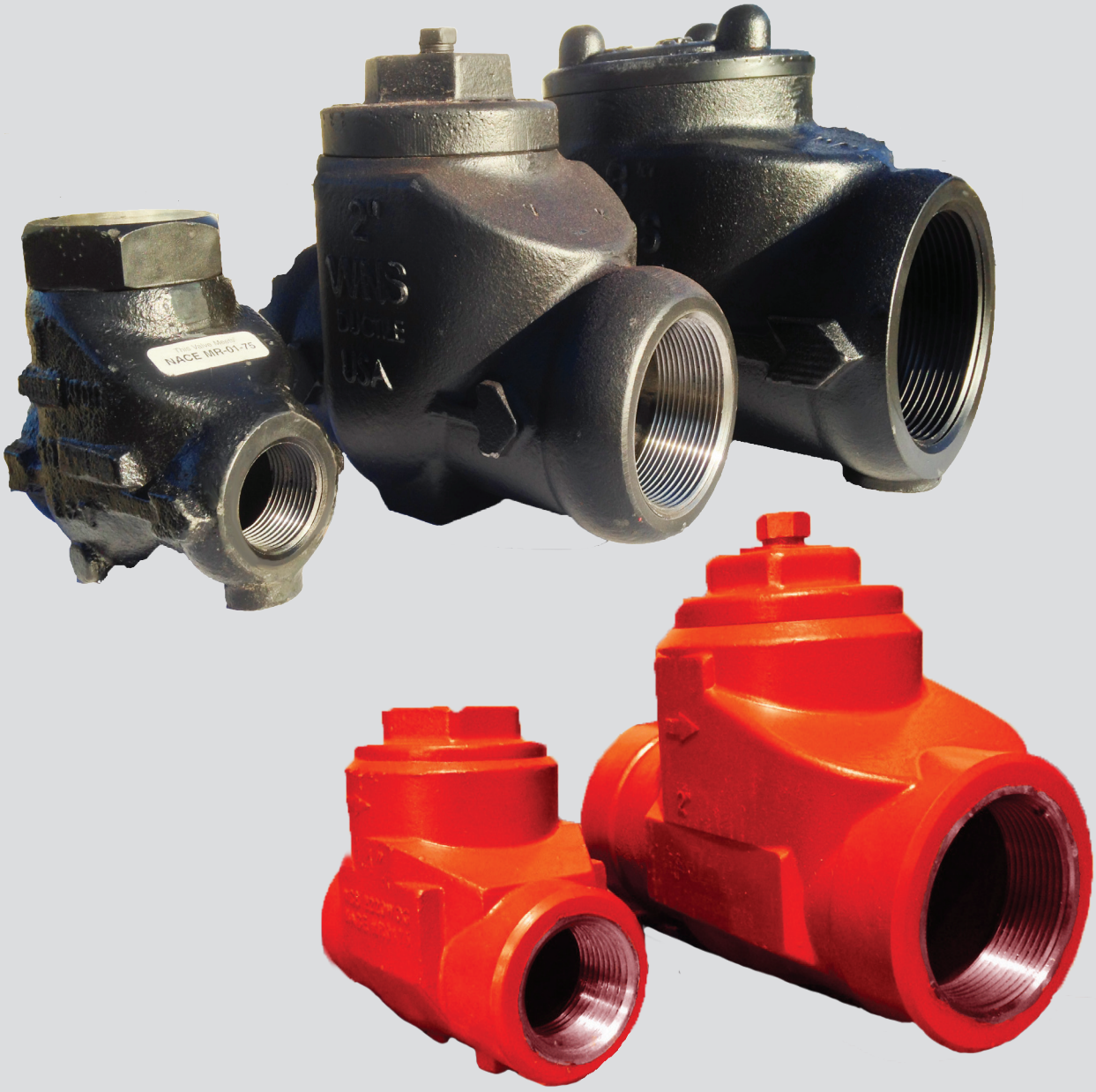
Swing Check Valves

SWING CHECK VALVES

Features

- Valve body and bonnet made of ductile iron Grade 65-45-12 (Black) or A216 WCB cast steel (Red)
- Standard 316 stainless steel clapper with Buna-N seal for 1” to 3” sizes, conforms to NACE MR-01-75
- Pressure ranges from 300-3600 psi working pressure
- Available sizes: 1” to 4”



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Excess Flow Valve

Limit the maximum flow rate in the pipeline with this valve and thereby minimize pipeline abrasion wear. Adjustable with two closing flow rates to accommodate changes in well flow rates as they age.

Also ask about our patented externally adjustable model.

EXCESS FLOW VALVE SPECIFICATIONS	
Canadian Registration Number, CRN	0C08173.2
Material of Construction	A-479 304 Stainless Steel
Closing Flow	300 MACFD or 500 MACFD
Design Pressure	350 psi (2413 kPa)
Hydro Test Pressure	525 psi (3620 kPa)
Maximum Design Temperature	200 °F (93.3 °C)
Minimum Design Metal Temperature	-50 °F (-45.6 °C)
End Connections	2″ fNPT
Corrosion Allowance	1/8″

EXCESS FLOW VALVE

MADE IN CANADA

ISO 9001:2008 QUASAR REGISTERED

Phone: 780-496-9800 Fax: 780-463-9800 Toll Free: 1-877-448-0586 www.plainsmanmfg.com

EXCESS FLOW VALVE

plainsman mfg. inc.

Closing Flow Rates

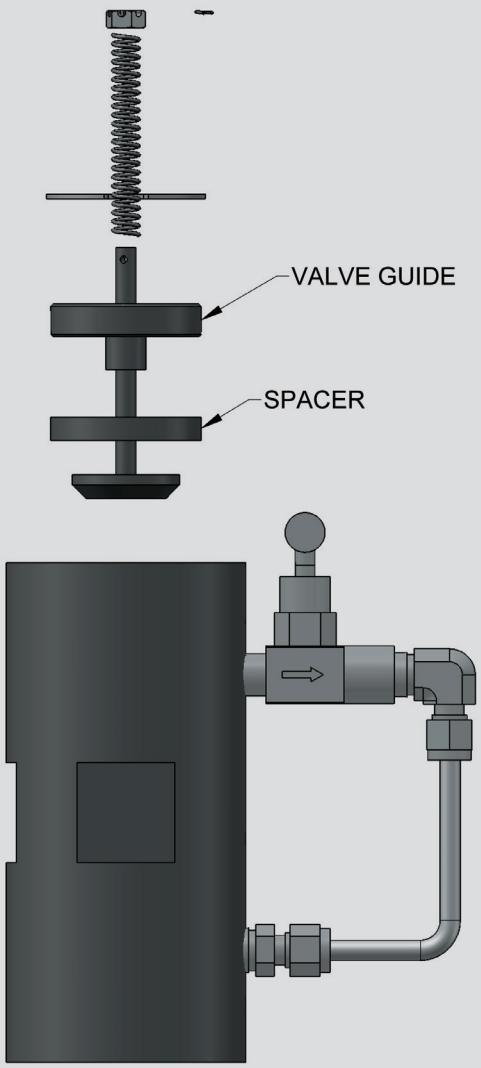
The closing flow rate of the excess flow valve is dependent on the order that the valve guide and spacer components are inserted in the excess flow valve during assembly or maintenance.

500 MACFD

Placing the spacer prior to placing the valve guide in the excess flow valve maximizees the travel distance of the poppet head to the valve seat, thus yielding a closing flow of 500 MACFD.

300 MACFD

Placing the valve guide prior to placing the spacer in the excess flow valve minimizes the travel distance of the poppet head to the valve seat, thus yielding a constant flow of 300 MACFD.



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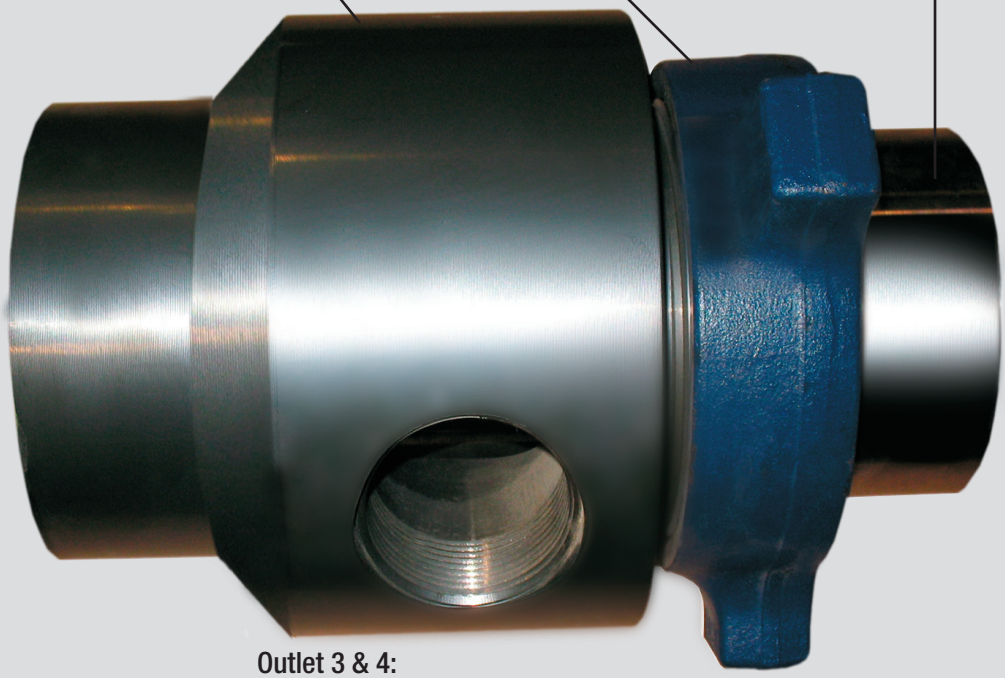
Flow Cross

FLOW CROSS SPECIFICATIONS	
Material	1045 Steel
Maximum Working Pressure	2000 psi
Outlet 1 Size	API 2-7/8″ EUE
Outlet 2 Size	API 3-1/2″ EUE
Outlet 3 Size	2″ fNPT
Outlet 4 Size	3″fNPT

COMPONENTS	
Component 1	Body
Component 2	Sub
Component 3	Hammer Union Nut
Component 4	O-Ring



FLOW CROSS

MADE IN CANADA

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Plainsman Ball Check Valves

Reliable, field-proven check valves.

Features

- Metal to metal seats
- Simple design makes it easy to install and maintain, with only two moving parts
- Low cracking pressure makes it suitable for vacuum or low-pressure applications
- Lower price component to replace the alternatives in the same application

Technical Specifications

Cracking Pressure: 3-5 PSI (20-35 kPa) based on Viton seals
Temperature Range: Based on viton seal, -15°F to 400°F (-26°C to 205°C)
Temperature Range for Pressure Equipment and Pressure Piping: -15˚F to 100˚F (-26˚C to 38˚C)
Spring: Stainless steel, (Inconel optional)
Ball: Stainless steel
Spring Retainer: CF8M Stainless
Note: Valves without a CRN cannot be used in piping subject to the ALBERTA PRESSURE EQUIPMENT SAFETY REGULATION.

BALL CHECK VALVES

MADE IN CANADA

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BALL CHECK VALVES

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Part Numbers

PLAINSMAN MODEL NO.	CONNECTIONS	CV	MAXIMUM WORKING PRESSURE	STANDARD BODY MATERIAL
CB-25*	1/4″ fNPT x 1/4″ fNPT	0.69	3000 PSI	12L14 CARBON STEEL
CB-37*	3/8″ fNPT x 3/8″ fNPT	2.56	3000 PSI	12L14 CARBON STEEL
CB-50*	1/2″ fNPT x 1/2″ fNPT	3.7	3000 PSI	12L14 CARBON STEEL
CB-75*	3/4″ fNPT x 3/4″ fNPT	4.86	3000 PSI	12L14 CARBON STEEL
CB-100*	1″ fNPT x 1″ fNPT	6.73	3000 PSI	12L14 CARBON STEEL
CB-150	1-1/2″ fNPT x 1-1/2″ fNPT	26.3	3000 PSI	12L14 CARBON STEEL
CB-200	2″ fNPT x 2″ fNPT	41.11	3000 PSI	12L14 CARBON STEEL
CBM-100	1″ mNPT x 1″ mNPT	26.3	3000 PSI	12L14 CARBON STEEL
CBM-150	1-1/2″ mNPT x 1-1/2″ mNPT	41.11	3000 PSI	12L14 CARBON STEEL
SB-25*	1/4″ fNPT x 1/4″ fNPT	0.69	3000 PSI	316 STAINLESS
SB-37*	3/8″ fNPT x 3/8″ fNPT	2.56	3000 PSI	316 STAINLESS
SB-50*	1/2″ fNPT x 1/2″ fNPT	3.7	3000 PSI	316 STAINLESS
SB-75*	3/4″ fNPT x 3/4″ fNPT	4.86	3000 PSI	316 STAINLESS
SB-100*	1″ fNPT x 1″ fNPT	6.73	3000 PSI	316 STAINLESS
SB-50 6000*	1/2″ fNPT x 1/2″ fNPT	3.7	6000 PSI	316 STAINLESS
SB 100 6000*	1″ fNPT x 1″ fNPT	6.73	6000 PSI	316 STAINLESS
SB-25 10000*	1/4″ fNPT x 1/4″ fNPT	0.69	10000 PSI	316 STAINLESS
SB-50 10000*	1/2″ fNPT x 1/2″ fNPT	3.7	10000 PSI	316 STAINLESS
SB-75 10000*	3/4″ fNPT x 3/4″ fNPT	4.86	10000 PSI	316 STAINLESS
SB-100 10000*	1″ fNPT x 1″ fNPT	6.73	10000 PSI	316 STAINLESS
MB-200	2 mNPT x 2 mNPT	26.3	3000 PSI	316 STAINLESS

* Canadian Registration Number (CRN): 0C02533.2

Ordering Information

Specify the Plainsman model desired.

Model Numbering:
A-XX YYYYY (i.e. SB-25 10000)

A: Material (CB=Carbon Steel, SB=Stainless Steel)

XX: Connection Size (i.e. 25 = 1/4” NPT connection)

YYYYY: Working Pressure (6000 psi [41.4 MPa] or 10000 PSI [68.9 MPa] models only)

PLAINSMAN ALSO DISTRIBUTES MODEL ASB-283, ASA-675 AND ASA-676 CHECK VALVES.

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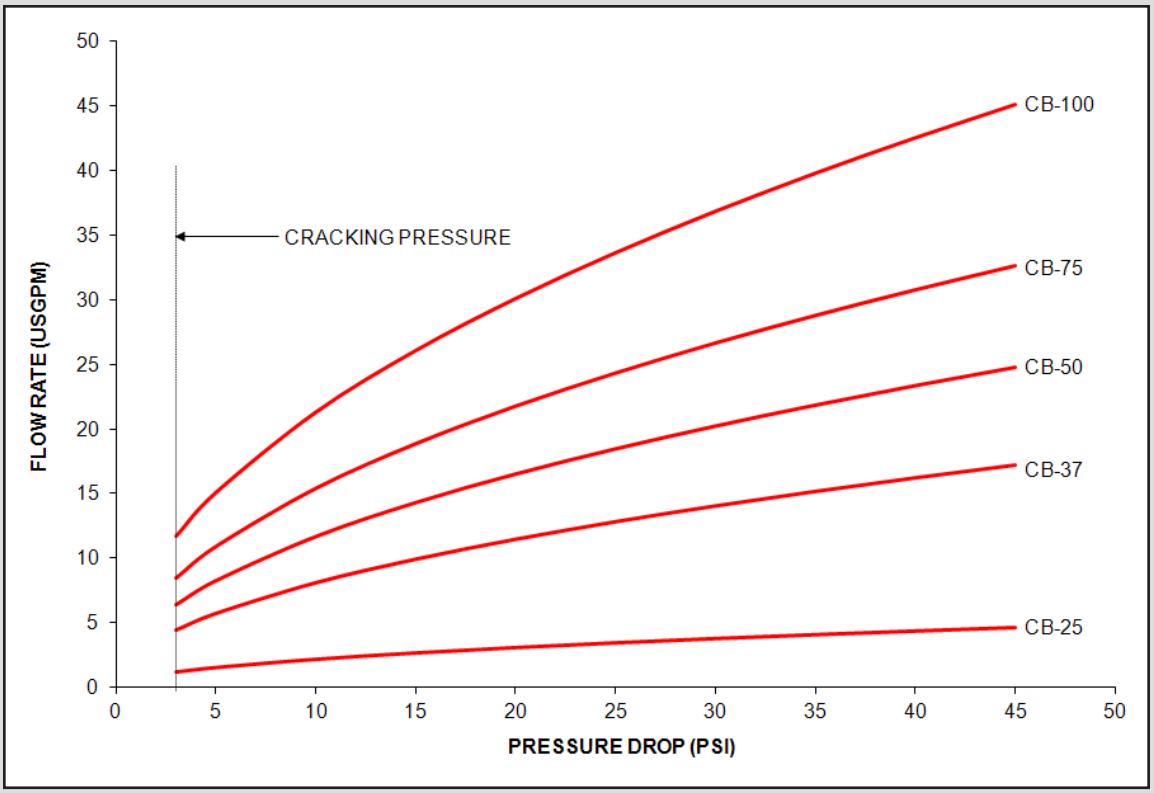
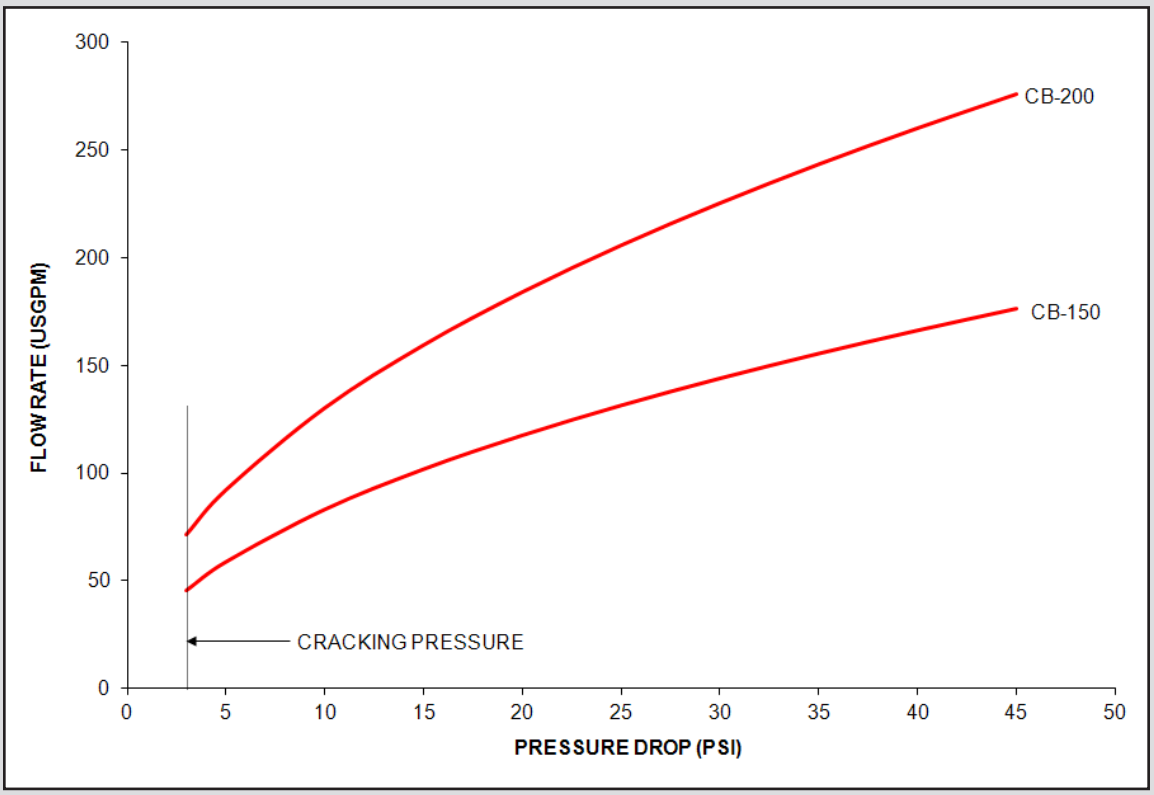
BALL CHECK VALVES





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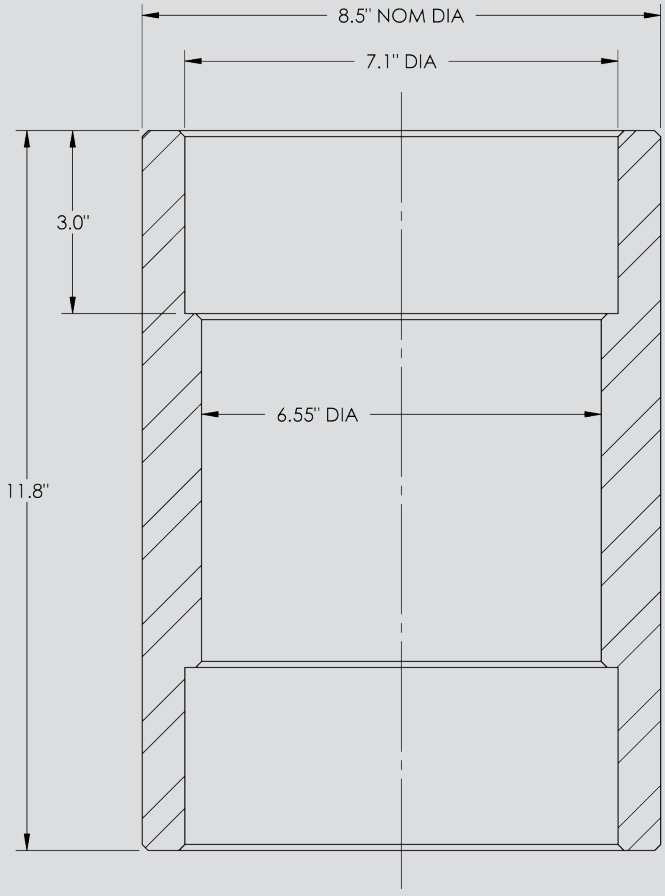
Plainsman Casing Coupling

CASING COUPLING

Features

- AISI 1026 construction
- Fits 7” casing with socket weld connections
- Hi-temp flat black coating

General Dimensions



SECTION THRU ℄

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Orifice Unions

Features

- Stainless steel orifice cup
- Forged carbon steel union
- Orifice to customer specification
- Available in five sizes

BLIND PRESSURE RATINGS	
UNION SIZE (NPT)	MAX PRESSURE (PSI)
1/2″	3000
3/4″	3000
1″	3000
1-1/2″	2500
2″	1000

Operating Information

Note: Blind operation (i.e no orifice hole) is not recommended to permanently cap a pipe

Ordering Information

1. Specify IPS size: 1/2”, 3/4”, 1”, 1-1/2” or 2”
2. Specify orifice diameter (to nearest 1/64th)

ORIFICE UNIONS

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Run Ticket Box (RTB-1)

The Run Ticket Box eliminates the expense of tracking down lost or unreadable run tickets by keeping the tickets safe, clean and dry at a constant location on the well site. The box is constructed from durable polyethylene and has a plastic see through window for run ticket visibility. The RTB1 features a spring loaded hinged lid which helps keep the lid closed during windy conditions.

RUN TICKET BOX

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Specifications subject to change without notice

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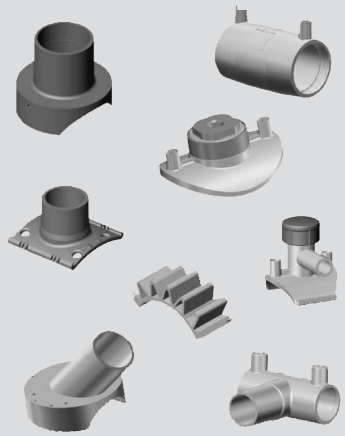
Electrofusion & Butt Fusion Products

FUSION PRODUCTS



Electrofusion Fittings

- Couplings
- Elbows
- Tees
- Reducers
- Caps
- Tapping Tees
- Saddles
- Flex Restraints
- Available in 2406 or 3408

Electrofusion Processor

- Proven and reliable
- Available for rent or purchase

Conventional / Butt Fusion Fittings

- 45° Elbows
- 90° Elbows
- Reducers
- Caps
- Purge Caps
- Available in 2406 or 3408
- Tapping Tees
- Saddles
- Couplings
- Flanges
- PE Ball Valves

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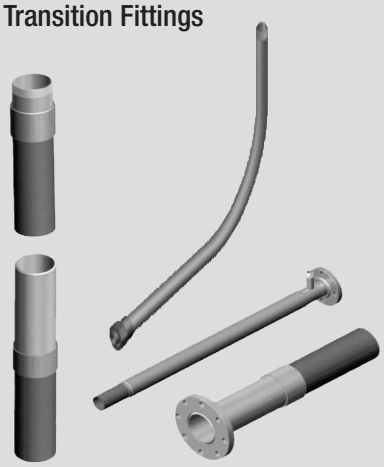
Meter Connection Products

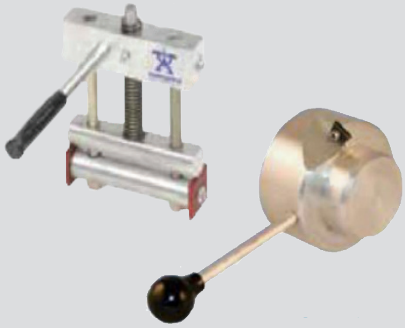
Meter Connection Products
- Meter Swivels
- Meter Nuts
- Meter Sets

Ground Joint Insulating Unions
- Available in 150# and 3000#

Risers & Transitions
- Anodeless Risers
- Riser Accessories
- Transition Fittings



Tools
- Electrofusion Tools
- Squeeze-off Tools



METER CONNECTION PRODUCTS

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METER LIFT

Plainsman Meter Lift

Outdoor Deep-Set Meter Box

Features

- Weholite profile wall HDPE pipe construction
- Larger inside diameter than other models
- Constant outside diameter--no exterior insulation due to intrinsic insulation properties of profile
- Insulating Plug and Meter Table retrievable without special tools

Advantages

- Durable HDPE construction reduces damage during handling
- Large inside diameter allows more room to work, as well as attach devices such as pressure reducers
- Deep set foam plug eliminates need for exterior insulation
- No special tools required to retrieve plug or meter table

Technical Specifications

Pipe:
18 in. ID Weholite Pipe
HDPE Profile Wall Pipe
Plug:
Closed-cell polyethylene foam
PVC Handle
Lid:
Galvanized and Stainless Steel
2000 lb Capacity
Fittings:
All fittings are NSF Listed waterworks brass
Tubing:
3/4 CTS Crosslinked Polyethylene (PEX), terminating in 3/4 NPT Male Nipples. Max Pressure 160 psi at 23° C
Weight:
Standard model (no lid): 140 lb
Lid: 27 lb

MADE IN CANADA

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METER LIFT

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Configuration:

Height:
From 90” [2290 mm] to 120’ [3050 mm]
in 6” [152 mm] increments, 120” standard

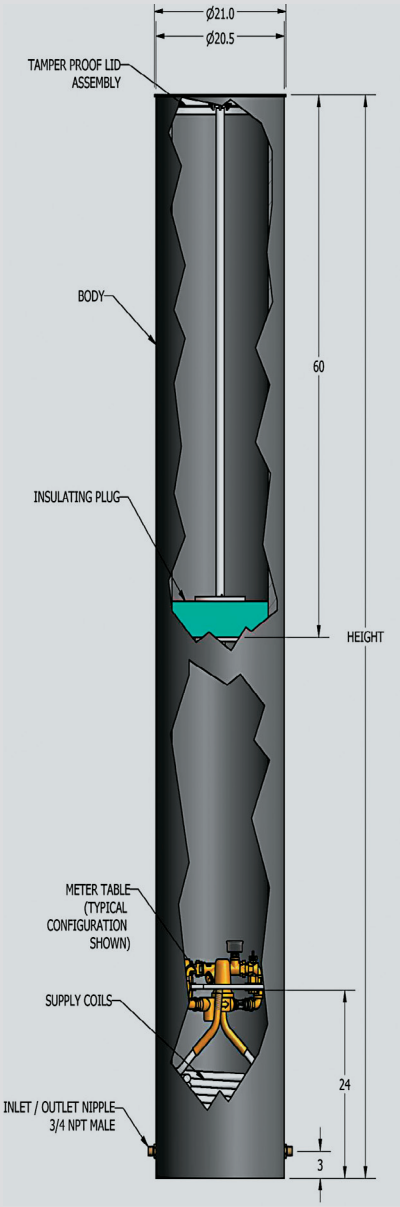
Flow (gpm):
0.25, 0.50, 0.75, 1(standard), 2.5, 5.0

Meter Table Fittings:
Standard:

- Ball Angle Valve*
- Angle Dual Check*
- Elbows*
- Nipples & Bushings

Options:

- Pressure Reducing Valve **
- Y-Strainer
- Tee
- Pressure Gauge



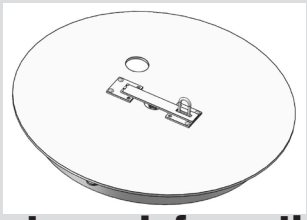
Notes:

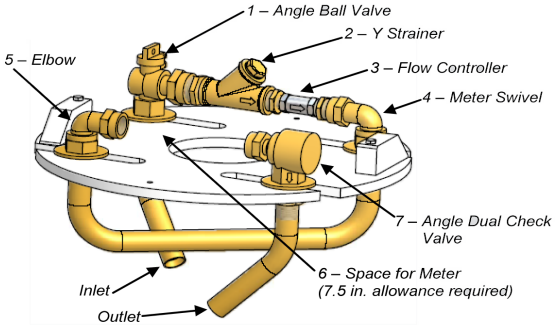
* Comes with meter swivel connection
** The meter lift inlet pressure must not exceed 160 psi, with or without a PRV. Consult Plainsman’s Engineering department if higher pressures are required.

Additional Customizations:

Customization of Meter Lift is available upon consultation. Examples of customizations include:

- Antenna hole and locking hasp on lid as shown below
- Different sized connections (not 3/4”)





Example: Meter Table

For Quotes or Information:

- Specify Plainsman Model 18 Meter Lift
- Indicate Height required
- Indicate inlet pressure
- Indicate fittings required. Be sure to indicate the order of fittings, via list and/or clear schematic.

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Tracer Wire

TRACER WIRE

Plainsman understands the importance of a quality tracer wire. That is why we recommend a pure copper wire that is annealed for ease of use and protected with a .03" to .045" thick polyethylene jacket. For the tougher jobs that require more strength go with an annealed copper clad that doesn't spring off the reel. Plainsman's tracer wire is easy to handle and has almost twice the strength of a copper line. For directional drilling applications we recommend our **EHS Wire**, which is more than 6 times the strength of a copper line.

100 % COPPER TRACER WIRE with .045" Polyethylene Jacket

Features

- Insulated with high molecular weight polyethylene (HMWPE) specifically for use in direct burial applications.
- HMWPE is a rugged and durable material considered excellent for moisture and abrasion resistance.
- Manufactured according to Underwriters Laboratory constructions in both 30 volt and 600 volt versions suitable for use at a maximum continuous operating temperature of 75 °C in wet and dry locations.

COPPER CLAD STEEL TRACER WIRE with .045" Polyethylene Jacket

Features

- Combines the high strength of steel with the electrical and corrosion resistant properties of copper.
- Insulated with high molecular weight polyethylene (HMWPE).
- HMWPE is a rugged and durable material considered excellent for moisture and abrasion resistance which produces a product designed for direct burial use in wet or dry locations.
- Manufactured and tested according to industry standards for metal conductors and extruded insulation coatings as specified by UL and ASTM.

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TRACER WIRE

plainsman mfg. inc.

STOCK ITEMS					
Type	AWG	Insulation Thickness	spool size M[ft]	Strenth in lbs	Nominal O.D.
Soft* Copper	14	0.045	152[500]/762[2500]	124	.154″
Soft* Copper	12	0.045	1000[3281]	198	.171″
Soft* Copper Clad	14	0.045	762[2500]	487	.154″
Soft* Copper Clad	12	0.045	300[984]	696	.171″

100 % Copper Tracer Wire with .030”/.045” Polyethylene Jacket Technical Info

AWG	STRENTH IN LBS	INSULATION THICKNESS		NOMINAL OVERALL DIAMETER		SPOOL SIZE (M[FT])	
	SOFT*	30 V	600 V	30 V	600 V	152[500]	762[2500]
14	124	.030″	.045″	.124″	.154″	152[500]	762[2500]
12	198	.030″	.045″	.141″	.171″	152[500]	762[2500]
10	310	.030″	.045″	.162″	.192″	152[500]	762[2500]
8	480	.030″	.045″	.206″	.236″	152[500]	762[2500]
6	760	.030″	.045″	n/a	.275″	152[500]	762[2500]

Standards:
2.1 ASTM B-1, B-3, and B-8 for copper conductors
2.2 ASTM D-1248 for Polyethylene Extrusion Materials, ICEA S-70-547 Weatherproof Resistant Polyethylene Conductors, ICEA S-61-402 /NEMA WC5 Thermoplastic Insulated Wire&Cable, ICEA S-95-658/NEMA WC70 Non-Shielded 0 – 2kv Cables
2.3 UL 1581 Standard for Electrical Wires, Cables, and Flexible Cords

Copper Clad Steel Tracer Wire with .030”/.045” Polyethylene Jacket Technical Info

AWG	STRENTH IN LBS			INSULATION THICKNESS		NOMINAL OVERALL DIAMETER		SPOOL SIZE M[FT]	
	SOFT*	HARD	EXTRA HARD	30 V	600 V	30 V	600 V	152[500]	762[2500]
14	170	250	n/a	.030″	.045″	.124″	.154″	152[500]	762[2500]
12	256	380	1150	.030″	.045″	.141″	.171″	152[500]	762[2500]
10	407	575	1804	.030″	.045″	.162″	.192″	152[500]	762[2500]
8	648	886	2586	.030″	.045″	1.88″	.218″	152[500]	762[2500]

Standards-
2.1 ASTM B-227-04, B-869-02, B910/B-910M-06 all for Copper Clad Steel
2.2 ASTM D-1248 for Polyethylene Extrusion Materials, ICEA S-70-547 Weatherproof Resistant Polyethylene Conductors, ICEA S-61-402/ NEMA WC5 Thermoplastic Insulated Wire&Cable, ICEA S-95-658/NEMA WC70 Non-Shielded 0 – 2kv Cables
2.3 UL 83 Standard for Thermoplastic Insulating, UL 1581 Reference Standard for Electrical Wires

Ordering Information:

1. Type of Wire required (Copper or Copper Clad)
2. Gauge of wire required
3. Length of wire required
4. Length per spool required

* The copper is annealed to increase the flexibility and reduce the brittleness

Non-standard colors and custom packaging are available by quotation

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Safety Flex Marker Post

Prevent damage to your signage for underground equipment such as gas/oil pipelines, valves, water/sewer lines, cables and more.

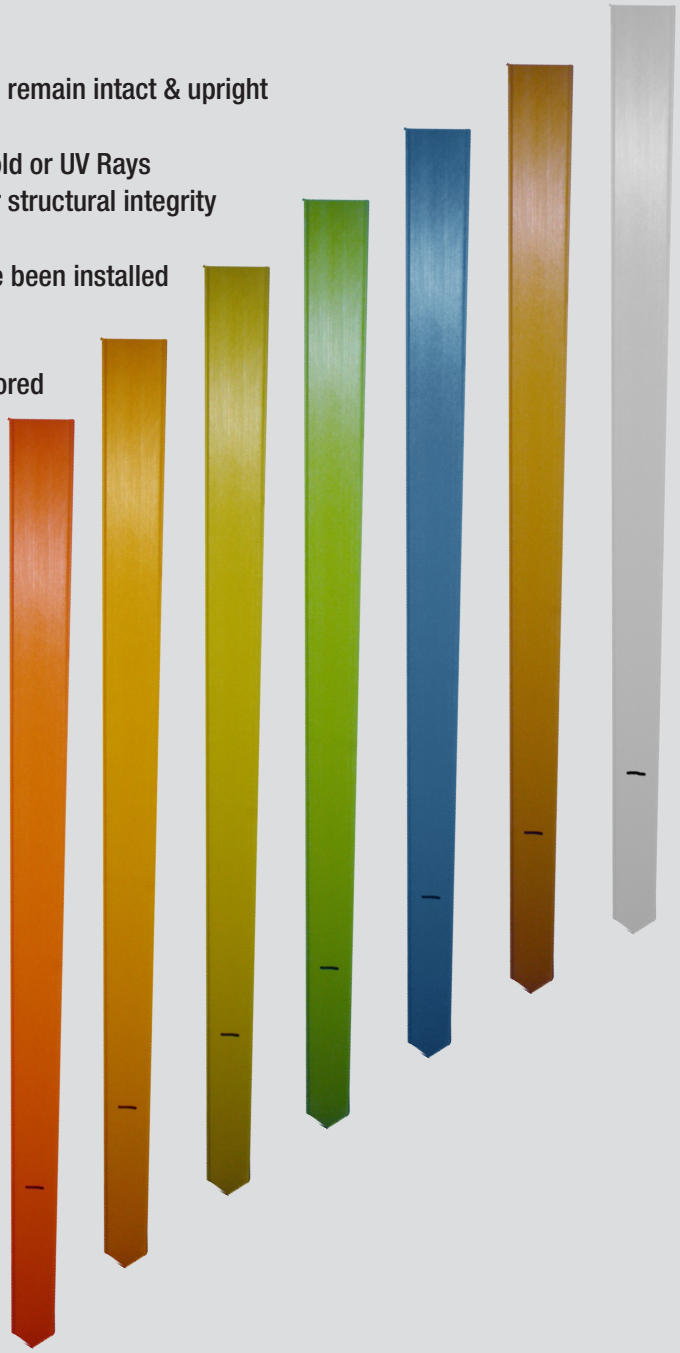
Available in standard seven foot lengths and in seven different colours (red, orange, yellow, green, blue, brown and white)

Features

- Springs back after impact
- Will withstand countless vehicile impacts and remain intact & upright
- Resists fire and high temperatures
- Will not rust, rot or become brittle from the cold or UV Rays
- Engineered to remain flexible, and retain their structural integrity year after year
- Virtually impossible to remove once they have been installed
- Will install in minutes by one person
- No excavation required on installation
- Easily installed using a driving tool, and anchored in the ground using a barb for permanent installation
- Lightweight and easily transported

Ordering Information

1. Quantity
2. Colour
3. Design of signage sticker desired



SAFETY FLEX MARKER POST

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Specifications subject to change without notice

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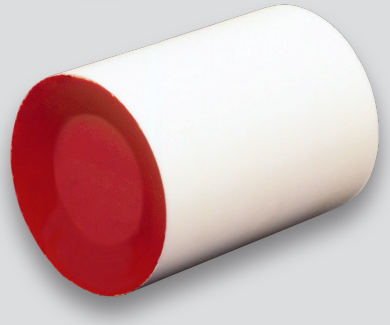
Pipeline & Pigging Products

Bare Hard Density Pigs
- Used for drying and mild cleaning

Fully Coated Hard Density Pigs
- Withstands 5% presence of H_2S and CO_2
- Used for drying and mild cleaning where extended service is required

Crisscross Hard Density Pigs
- Used for wiping or light removal of paraffin and sediments
- Crisscross pattern creates a scraping effect

Scraper Hard Density Pigs
- Equipped with helical bands of silicone carbide or hardened steel brush
- Ideal for removal of paraffin, scale or other sediments



Bi-Directional Hard Density Pigs
- For bi-directional cleaning applications
- Available in bare, fully coated, crisscross or scraper style

PIPELINE & PIGGING

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PIPELINE & PIGGING

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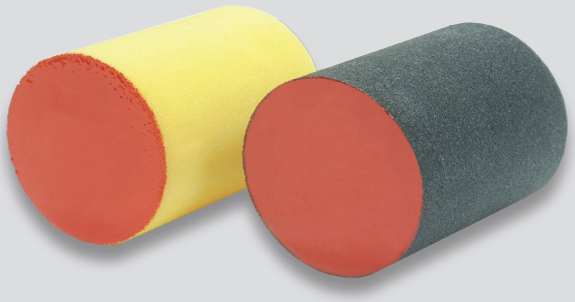

Soft Density Pigs

- Used for drying or swabbing on short runs
- Can undergo a diameter reduction of 65%
- Traverse all obstructions and bends that occur in piping

Batching Pigs

- Used for separation or displacement of fluids
- Can be assembled in configurations of all cups, all discs or of any other combination
- Four cup/disc assemblies are recommended for maximum sealing

Gauging Pigs

- Used to locate obstacles or indents in a pipeline
- Ensures passage of cleaning pigs
- Constructed with two, three or four cups or discs and an aluminum gauge plate

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PIPELINE & PIGGING

Scraper Cups

- Available in different durometers
- Conical or stepped design
- Ether or ester polyurethane base compound for H_2S or abrasions qualities

Filming Pigs

- Ideal for inhibitor applications
- Lead and follower pig ensure proper cleaning of pipeline
- Contains any liquid in a full column form

Tuff Disc Pigs

- Polyurethane base
- Easily traverse 90 degree bends
- Used for dewatering and batching
- Disc design allows for easy removal of paraffin and other waste materials

Tuff Cup Pigs

- Polyurethane base
- Available in a variety of durometers
- Perfect for dewatering, batching, controlling paraffin buildup and removing waste materials

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PIPELINE & PIGGING

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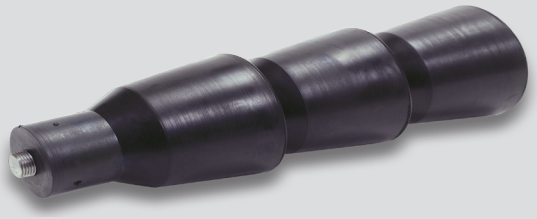

PL Cups & Discs

- Used for cleaning and batching applications
- PL Cups are not recommended for exposure to aromatics or hydrogen sulfide

PL Cups & Discs

- Ideal for situations where more than one size of continuous piping requires pigging
- Available with webs, discs and scraper cups
- Primarirly used for dewatering and removing other waste materials

Bullet Cup Pigs

- Buna-N or neoprene base
- Hollow or filled construction

Multi Disc Pigs

- Available with a solid or hallow core, short or long style
- Flexing capability through short radius bends, dents or imperfections

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PIPELINE & PIGGING

Pig Balls

- Available in neoprene, buna-n, natural rubber, urethane and hard density foam

Stainless Steel Repair Clamps

- Available in 1/2” to 24” sizes
- Used for applications of up to 200 psi
- Supplied with flame resistant neoprene gasket

Sleeve Couplings

- Available in 2” to 12” sizes
- Used in pressures ranging from 500 to 1000 psi
- Can be supplied with fiberglass body or plastic coated steel body

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Polyethylene Casing Insulators

CASING INSULATORS

Features

- Injection molded, virgin high density polyethylene
- Low friction, high abrasion resistance allows the carrier pipe to slide easily and free of damage into the casing pipe
- Low moisture absorption and high insulating value of polyethylene electrically insulates the carrier pipe and protects it from electrical current induced corrosion
- Pipe size range from 2” to 48”
- Custom extended runner heights available to 2-1/2”

Technical Specifications

Dielectric Strength	450-500 Volts/Mil
Compressive Strength	3200 PSI
Tensile Strength	3100-5100 PSI
Water Absorption	<0.01%

Max Operating Temperature

225˚F

Nuts & Bolts

(1) 3/16” NC x 1-1/2” Lg., square drive, round head bolt, carbon steel, zinc plated (c/w hex nut)
(2) 1/4” NC x 1-3/4” Lg., square drive, round head bolt, carbon steel, zinc plated (c/w hex nut)
(3) 5/16” NC x 2-1/2” Lg., square drive, round head bolt, carbon steel, zinc plated (c/w hex nut)

Ordering Information

1. Specify the Nominal IPS or the actual outside diameter of the carrier pipe
2. Specify the Nominal IPS or the actual inside diameter of the casing pipe
3. Specify the spacing requirements or the actual number of units required

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CASING INSULATORS

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CARRIER PIPE SIZE (IPS)	MIN. CASING SIZE (IPS)	DIAMETER ACROSS RUNNERS (IN.)	RUNNER HEIGHT (IN.)	NUMBER OF RUNNERS	NUMBER OF SEGMENTS			NUMBER OF BOLTS	INSULATOR WIDTH
					FULL 4 PI	FULL 2 PI	TOTAL SEGMENTS		
2″	4″	3.63″	0.63″	6	--	--	2	4 (1)	3.25″
3″	6″	5.08″	0.79″	6	--	--	2	4 (1)	3.36″
4″	6″	5.75″	0.63″	6	--	--	2	4 (2)	3.25″
6″	10″	8.38″	0.88″	6	--	--	2	4 (3)	3.65″
8″	12″	10.45″	0.91″	6	--	--	2	4 (3)	4.84″
10″	14″	12.45″	0.85″	6	--	--	2	4 (3)	4.82″
12″	16″	14.52″	0.88″	6	--	--	2	4 (3)	4.75″
14″	18″	15.86″	0.93″	7	3	1	4	12 (3)	5.95″
16″	20″	17.86″	0.93″	8	4	--	4	12 (3)	5.95″
18″	22″	19.86″	0.93″	9	4	1	5	15 (3)	5.95″
20″	24″	21.86″	0.93″	10	5	--	5	15 (3)	5.95″
22″	26″	23.86″	0.93″	11	5	1	6	18 (3)	5.95″
24″	28″	25.86″	0.93″	12	6	--	6	18 (3)	5.95″
26″	30″	27.86″	0.93″	13	6	1	7	21 (3)	5.95″
28″	32″	29.86″	0.93″	14	7	--	7	21 (3)	5.95″
30″	34″	31.86″	0.93″	15	7	1	8	24 (3)	5.95″
32″	36″	33.86″	0.93″	16	8	--	8	24 (3)	5.95″
34″	38″	35.86″	0.93″	17	8	1	9	27 (3)	5.95″
36″	40″	37.86″	0.93″	18	9	--	9	27 (3)	5.95″
38″	42″	39.86″	0.93″	19	9	1	10	30 (3)	5.95″
40″	44″	41.86″	0.93″	20	10	--	10	30 (3)	5.95″
42″	46″	43.86″	0.93″	21	10	1	11	33 (3)	5.95″
44″	48″	45.86″	0.93″	22	11	--	11	33 (3)	5.95″
46″	50″	47.86″	0.93″	23	11	1	12	36 (3)	5.95″
48″	52″	49.86″	0.93″	24	12	--	12	36 (3)	5.95″

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Steel Band Casing Insulators

Band

Steel band is made from two semi-circular pieces of 14 gauge mild steel that is 12” wide.
Galvanized after welding to provide rust protection (painted upon request).

Runners

Runners are HDPE (high density polyethylene)
10-1/2” long x 2” wide for 12” diameter and larger (height depends on application)
10-1/2” long x 1” wide for 10” diameter and smaller (height depends on application)
Tensile Strength = 3500 PSI
Compressive Strength = 4500 PSI

Single runner load capacity:	15 000lbf for 10-1/2” x 2” Runners (6x safety factor from ultimate compressive failure)
Single runner load capacity:	7 000lbf for 10-1/2” x 1” Runners (6x safety factor from ultimate compressive failure)

STEEL BAND CASING INSULATORS

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STEEL BAND CASING INSULATORS

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Liner

PVC Liner (Polyvinyl Chloride)
12” wide, 0.100 thickness
Dielectric strength (3.18mm surge test) = 50 000 V min

Brackets

14 gauge mild steel bolted to the HDPE runners and MIG welded to the steel band
Galvanized after welding to provide rust protection (painted upon request)
Optional risers are 10 gauge mild steel, 10-1/2” wide and MIG welded to the steel band (used to accommodate runners that are greater than 3-1/2” high)

Nuts & Bolts

Runner Bolts: 4 per runner, 1/4”UNC x 2-1/2” long, hex head capscrew, zinc plated carbon steel, c/w zinc plated hex nut
Steel Band Bolts: 8 per Insulator, 5/16”UNC x 2-1/2” long, round head, square drive (#4 Robertson), zinc plated carbon steel, c/w zinc plated hex nut

Note: Custom engineered sizes, runner heights and positions to accommodate any application

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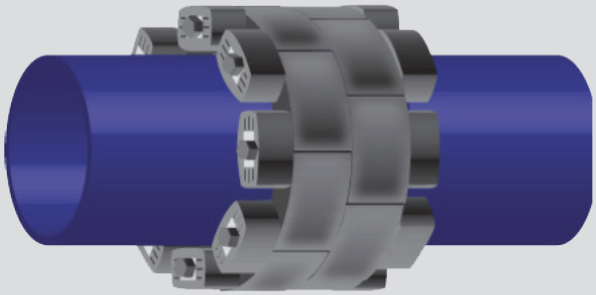
Wrap-It Links

Wrap-It Links form a mechanical rubber seal between pipes going through walls, floors, vaults, tanks and pipeline crossings. Wrap-It Links make a watertight seal and fire stop seal if UL seals are used. They can also seal the gap between an inner pipe and an outer pipe sleeve or pipeline casing. They seal the gap between electrical conduits and the outer conduits or between electrical conduits and the wall hole they pass through.

Wrap-It Links are designed to make a hydrostatic seal of up to 20 psig and up to 40 ft of head. In addition to their sealing properties, Wrap-It Links help absorb vibrations, shock and sound waves. They also insulate the inner pipe from all outer structures including outer pipe sleeves, pipeline crossings, walls and tanks.

They are also ideal for filling gaps in interior walls and floors, keeping unwanted noise and fumes from invading office space. They have the added benefit of diminishing annoying liquid and turbulence noise.



Physical Properties

Type	Seal Material	Pressure Plates	Bolts & Nuts	Temperature Range	Applications
WL (Standard)	EPDM Black	Glass Reinforced Plastic	Steel Zinc dichromate	-40°C/121°C (-40°F/250°F)	Suitable in most applications in water, both above ground and direct burial. Provides electrical insulation where cathodic protection is required.
WL-SS	EPDM Black	Glass Reinforced Plastic	316 SS	-40°C/121°C (-40°F/250°F)	Same as WL but with corrosion resistance of stainless steel hardware.
WL-O	Nitrile	Glass Reinforced Plastic	Steel Zinc dichromate	-40°C/99°C (-40°F/210°F)	Resistant to most hydrocarbons, oil, gas, jet fuel and many solvents.
WL-O-SS	Nitrile	Glass Reinforced Plastic	316 SS	-40°C/99°C (-40°F/210°F)	Same as WL-O but with corrosion resistance of stainless steel hardware.

WRAP-IT LINKS

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HiLo-Matic™ Hydraulic Controller

The self-contained HiLo-Matic™ Hydraulic Controller provides reliable emergency valve shutdown capability when external power is unavailable. Essentially, it provides the energy needed to actuate an automated valve. The controller can be supplied alone for retrofit applications or in conjunction with a pressure pilot, actuator and valve to round out a complete emergency shutdown system.

Features:

- Temperature range: -50° F to 180° F (-46° C to 82° C)
- Standard reservoir usable volume: 183 in^3 (3.0L)
- Extended reservoir usable volume: 330in^3 (5.4L)
- SCADA compatible, for remote operation
- Modular design, compatible with existing installations
- Readily available spares/support
- Environmentally friendly: zero emissions, recyclable oil
- Self-contained, requires no outside power
- Compatible with 1/4 turn or linear actuators
- Easy field installation

HILO-MATIC™ HYDRAULIC CONTROLLER

MADE IN CANADA

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HILO-MATIC™ HYDRAULIC CONTROLLER

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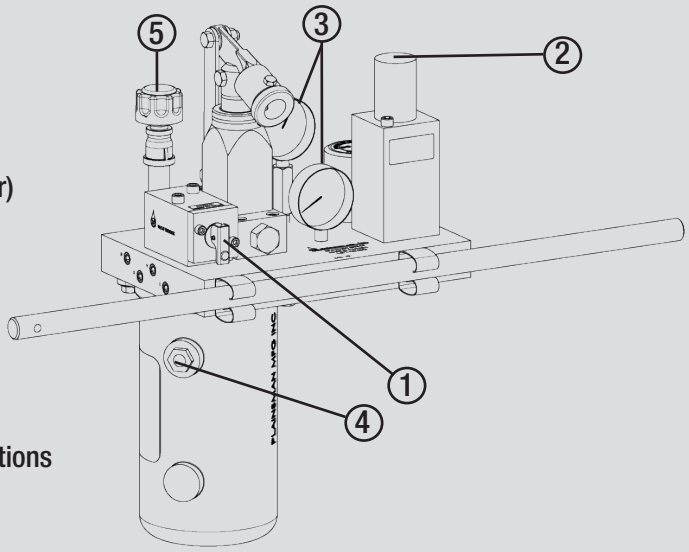
High Pressure Model:

- Maximum actuator pressure:
  - Nominal 2000 PSI (138 bar)
  - Available up to 5000 PSIG (340 bar)
- Maximum signal pressure: 150 PSIG (10 bar)
- Weight: 36 lbs (16kg)



Features:

1. Instant Automatic Mode
- A visual cue indicates active status

2. Automatic Accumulator
- Compensates for temperature fluctuations

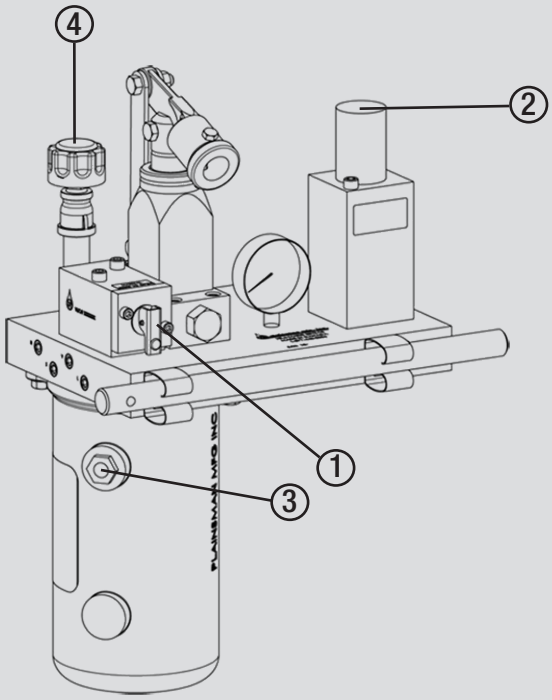
3. Dual Gauges
- Visual indication of system status

4. Glass Sight
- Will not fog over time

5. Raised Breather
- Prevents oil contamination (e.g. snow)

Low Pressure Model:

- Maximum actuator pressure:
  - Nominal 100 PSI (8 bar)
  - 150 PSIG (10 bar)
- Maximum signal pressure: 150 PSIG (10 bar)
- Weight: 32 lbs (14 kg)



Features:

1. Instant Automatic Mode
- A visual cue indicates active status

2. Automatic Accumulator
- Compensates for temperature fluctuations

3. Glass Sight
- Will not fog over time

4. Raised Breather
- Prevents oil contamination (e.g. snow)

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Specifications subject to change without notice

HILO-MATIC™ HYDRAULIC CONTROLLER

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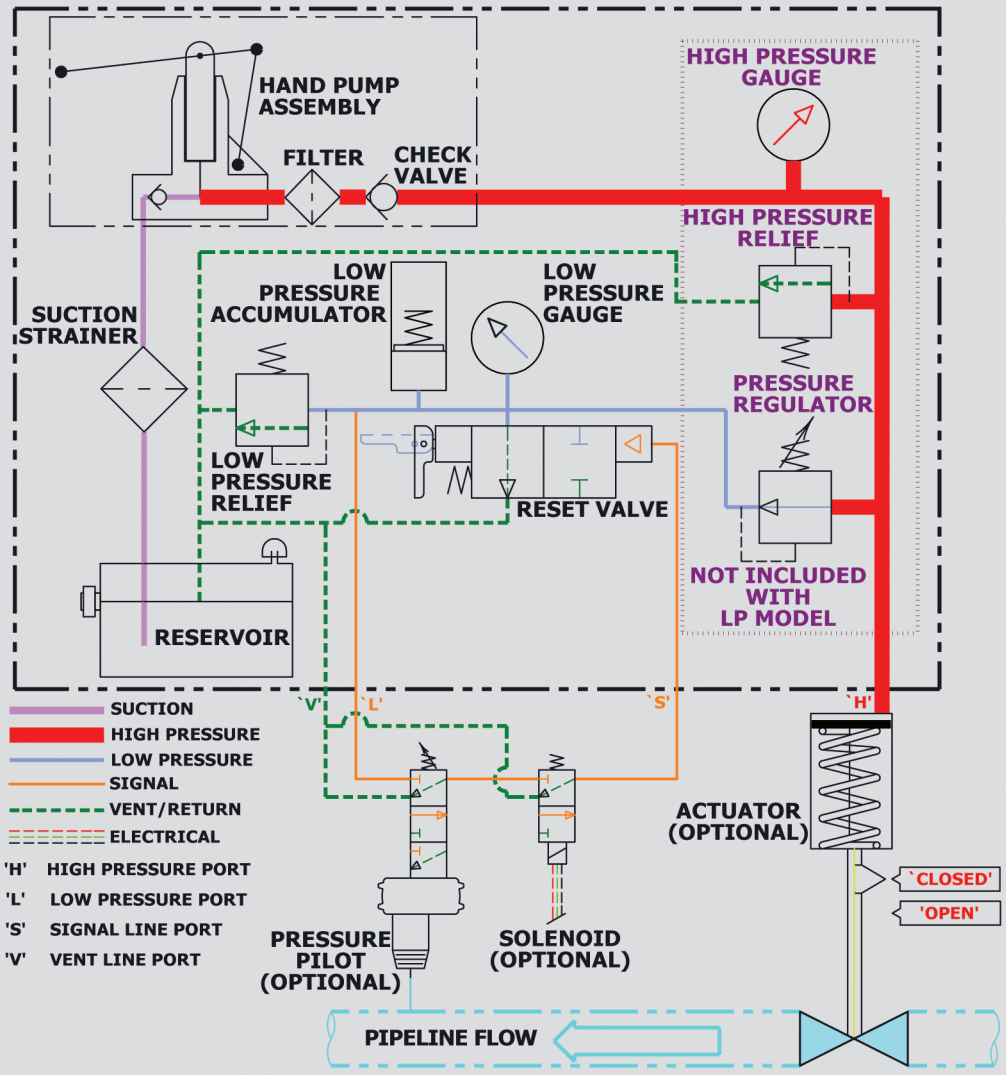
Hydraulic Controller Schematic:



SHOWN WITH PRESSURE PILOT, SOLENOID, AND RESET VALVE TRIPPED, AND CONTROL VALVE IN CLOSED POSITION

To Open control valve:

1. Ensure line is within pressure pilot set-points
2. Energize solenoid
3. Manually latch reset valve
4. Operate hand pump until actuator is open and reset valve automatically arms

Control Valve will close if either:

- Reset valve is manually pushed in
- Line pressure falls outside of set-points
- Solenoid is de-energized

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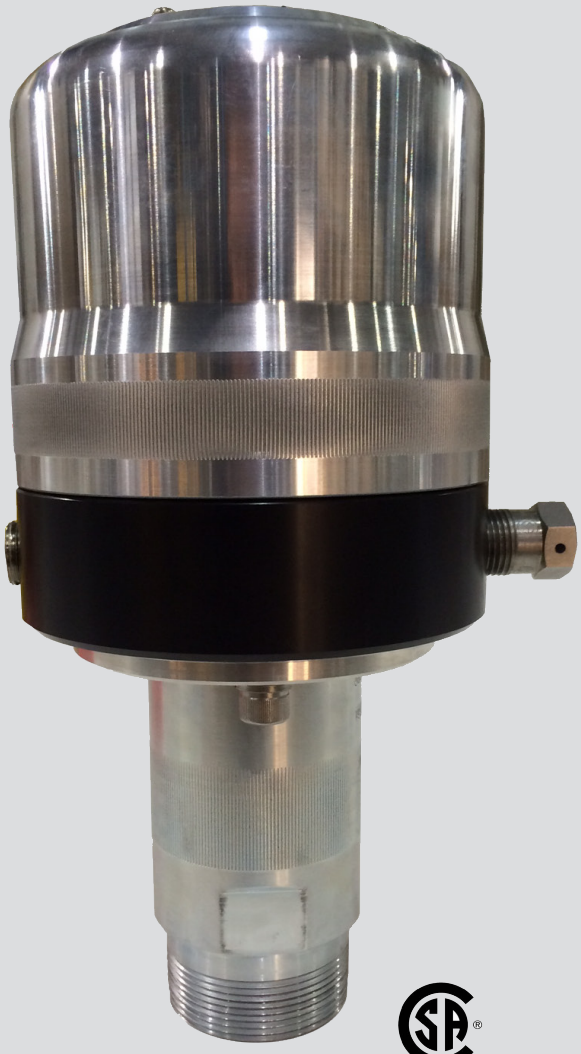
HiLo-Matic™ PLX™ Switch

The PLX ™ Switch is an explosion proof electrical switch that reliably reacts to pressure input from a pipeline. It is ideal for shutdown, control, and/or monitoring in hazardous or explosive environments. Simple design allows easy field set-point changes while corrosion resistant materials and proven micro switches ensure long life and minimal maintenance.

Specifications

- Available in Auto Reset (Low/High set-points) or Manual Reset (High set-point only)
- CSA Approved for Canadian and US Process Control Equipment standards:
  Class I, Div 1, Groups C & D, T4
- ABSA CRN: 0F09864.2 et al., ASME B31.3
- Set points: 20–2,500 psi (other ranges on request)
- Maximum working pressure: 0–5,000 psi
- Temperature range: -46°C to 40°C
- Maximum process temperature: 121°C
- 2" mNPT process connection
- 1/2" fNPT cable gland connection
- NACE trim is available
- Precision, snap acting, SPDT microswitch ratings:
  - 15 Amps @ 125/250/480 VAC
  - 1/2 Amp @ 125 VDC
  - 1/4 Amp @ 250 VDC
  - 1/8 hp @ 125 VAC
  - 1/4 hp @ 250 VAC



Features

- Minimum deadband
- Low maintenance
- Reliable
- Safety vent/seal indicator (dual seal)
- Severe duty
- Wrench flats/knurling
- Easy installation/operation
- Factory set, yet field adjustable
- All aluminum and stainless construction
- CSA approved explosion proof breather
- Compatible with most existing systems
- Can be wired normally open or normally closed

C US

HILO-MATIC™ PLX™ SWITCH

MADE IN CANADA

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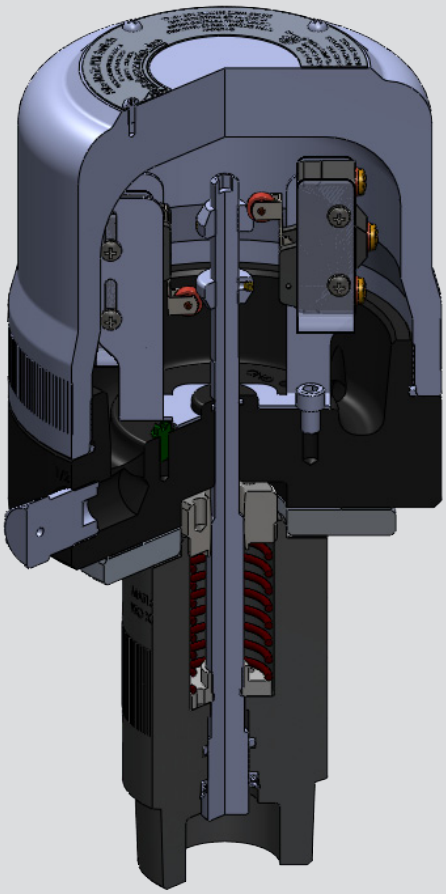
HILO-MATIC™ PLX™ SWITCH

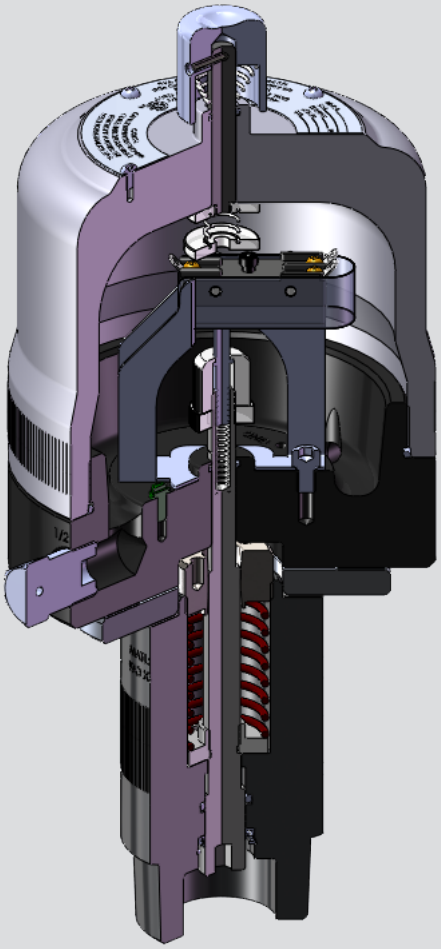
plainsman mfg. inc.

Materials

- Body—AISI 4130 with corrosion inhibiting coating
- Case/Cover—6061-T6 Aluminum
- Pressure Sensing Piston—316 SS
- Seal—PTFE/302SS
- Snap Ring Retainer—PH15-17MO



Automatic Reset (Low or High)



Manual Reset (High only)

Ordering Information

Please specify the following:

1. Auto or Manual Reset
2. Low and/or High set-point as required
3. Anticipated pressure range if possible

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HiLo-Matic™ Pressure Pilot

The HiLo-Matic™ Pressure Pilot is a two position, three-way valve that reliably reacts to pressure input from a pipeline. It is used in conjunction with a hydraulic controller and an actuator/valve combination to provide unmanned emergency shutdown of a pipeline in cases of over or under pressure. Pressure limits can be set for low/high, low only or high only.

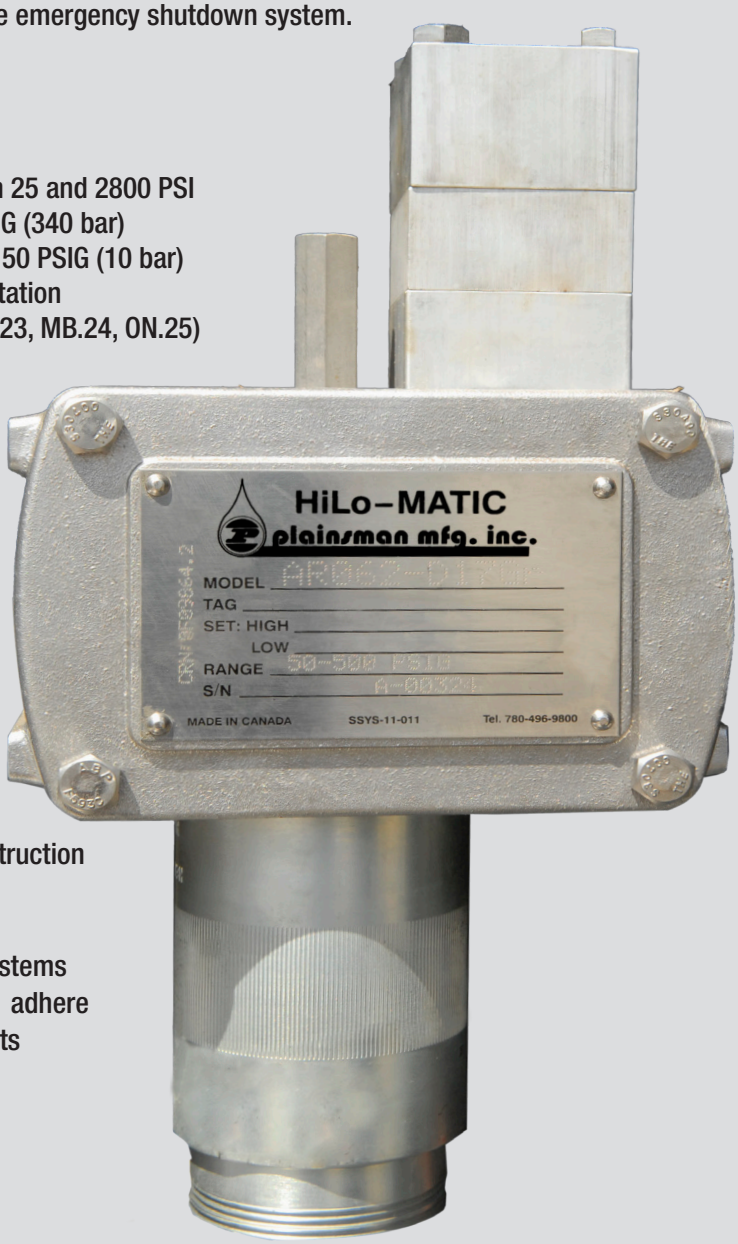
The pressure pilot can be supplied alone for retrofit applications or in conjunction with a hydraulic controller, actuator and valve to round out a complete emergency shutdown system.

Specifications:

- ±1% repeatability
- Pressure set-points available between 25 and 2800 PSI
- Maximum working pressure: 5000 PSIG (340 bar)
- Maximum instrumentation pressure: 150 PSIG (10 bar)
- Compatible with oil/gas/air instrumentation
- ABSA CRN 0F09864.2 (also BC.21, SK.23, MB.24, ON.25)
- NACE trim available

Features:

- Minimum deadband
- Reliable/low maintenance
- Bubble tight design
- Block and bleed design
- Safety vent/seal indicator
- Severe duty
- Wrench flats/knurling
- Easy installation/operation
- Factory set, yet field adjustable
- All aluminum and stainless steel construction
- Readily available spares/support
- Rebuild kit available
- Compatible with most existing ESD systems
- Components wetted by process fluid adhere to NACE MR0175 material requirements



HILO-MATIC™ PRESSURE PILOT

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HILO-MATIC™ PRESSURE PILOT

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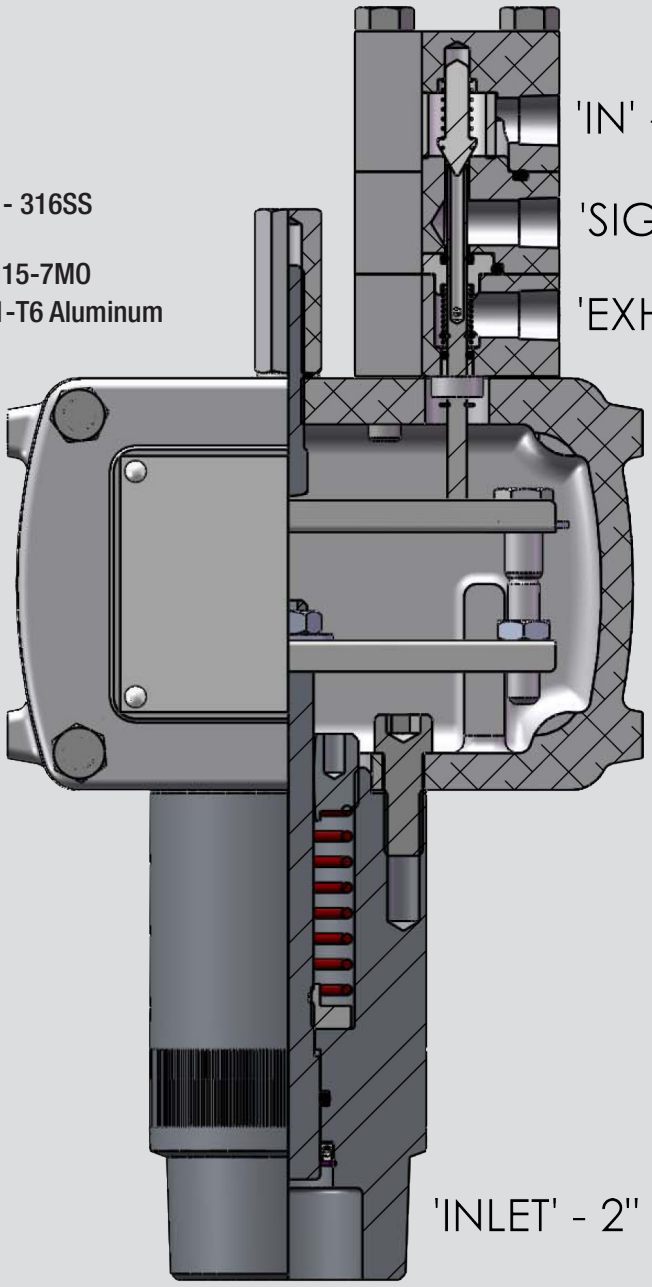
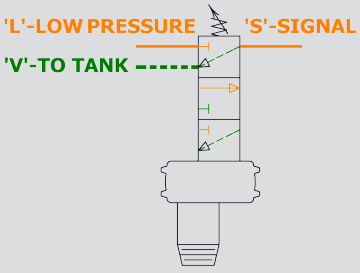
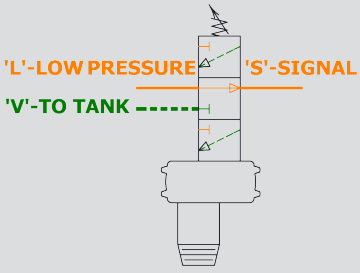
Materials:

- Body - ASTM 4130
- Case - Tenzalloy
- Pressure Sensing Piston - 316SS
- Seal - PTFE / 302SS
- Snap Ring Retainer - PH15-7MO
- Pilot Block Bodies - 6061-T6 Aluminum

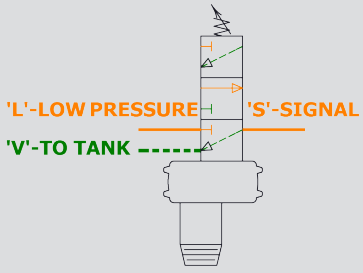




IN LOW TRIPPED POSITION
SIGNAL PRESSURE WILL
RETURN TO TANK



IN OPERATING POSITION
SIGNAL PRESSURE WILL
SEE 'LOW PRESSURE'



IN HIGH TRIPPED POSITION
SIGNAL PRESSURE WILL
RETURN TO TANK

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Specifications subject to change without notice

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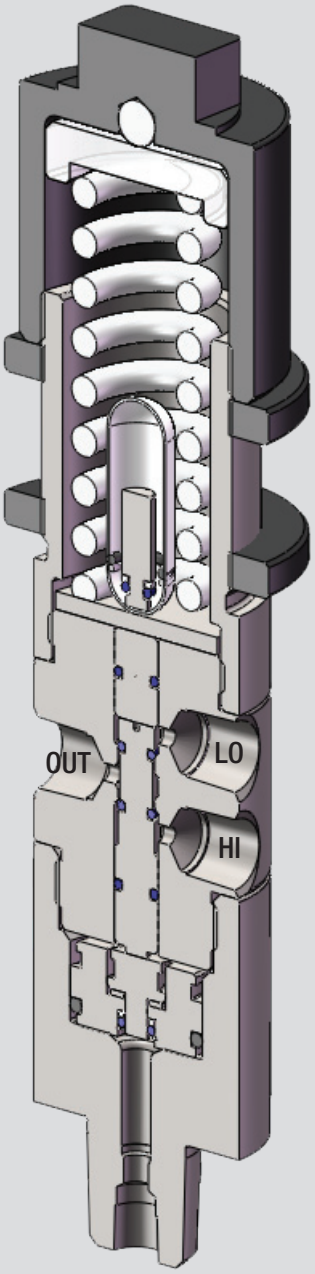
Stick Pilot

The Stick Pilot is designed to monitor and respond to the pressure fluctuations of a system. It can be installed as a Pressure Safety High (rising/increasing pressure) or Pressure Safety Low (falling/decreasing pressure) device. The setpoint is easily adjustable via the cap and the device will automatically reset. Four different pressure ranges are available by easily changing the piston arrangment. All the parts necessary to make the changes are provided with each stick pilot.

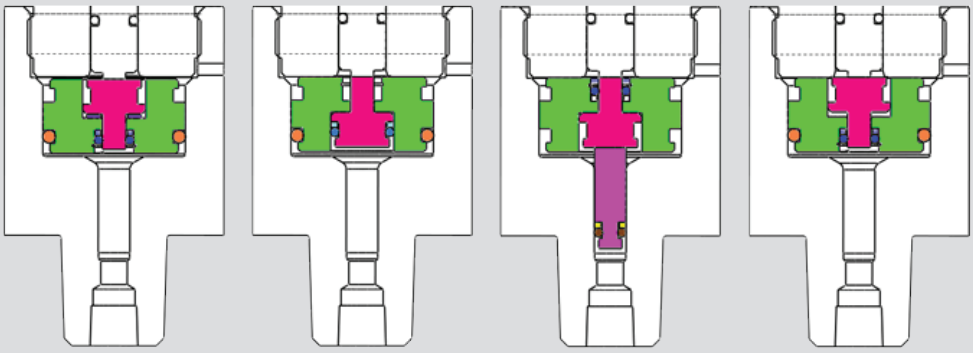


Specifications

- ±1% Repeatability
- Pressure setpoints available between 10-290 psi, 290-1440 psi,1440-5900 psi, or 5900-10,000 psi
- Service temperature range: -50 to 180°F (-46 to 82°C)
- Maximum working pressure: 10,000 psi (689 bar)
- Maximum instrumentation pressure: 150 psi (10 bar)
- Compatible with oil/gas/air instrumentation
- Connection port: 1/2” NPT or 1/8” NPT
- Instrumentation ports: 1/4” NPT
- Dimensions: 1.75” OD X 8.5” tall (lock rings are 2.25” OD)
- ABSA CRN 0F14102.2 (also BC.21, SK.23)

Features

- Block and bleed valve design
- Minimum deadband
- Factory set, yet field adjustable
- Overpressure relief ports in piston and spring housing
- Wrench flats for easy installation
- Interchangeable piston arrangements to achieve different pressure ranges
- All parts are conveniently stored in the stick pilot
- Rebuild kit available (Plainsman Part Number 431929)



10-290 psi | 290-1440 psi | 1440-5900 psi | 5900-10,000 psi

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STICK PILOT

MADE IN CANADA

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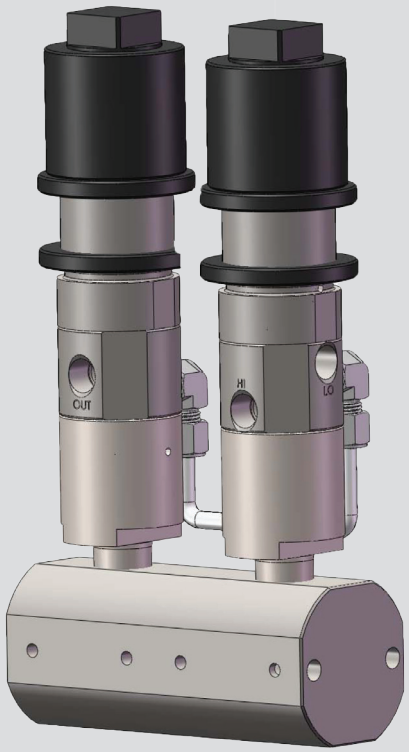
STICK PILOT & MANIFOLD

plainsman mfg. inc.

Stick Pilot & Manifold

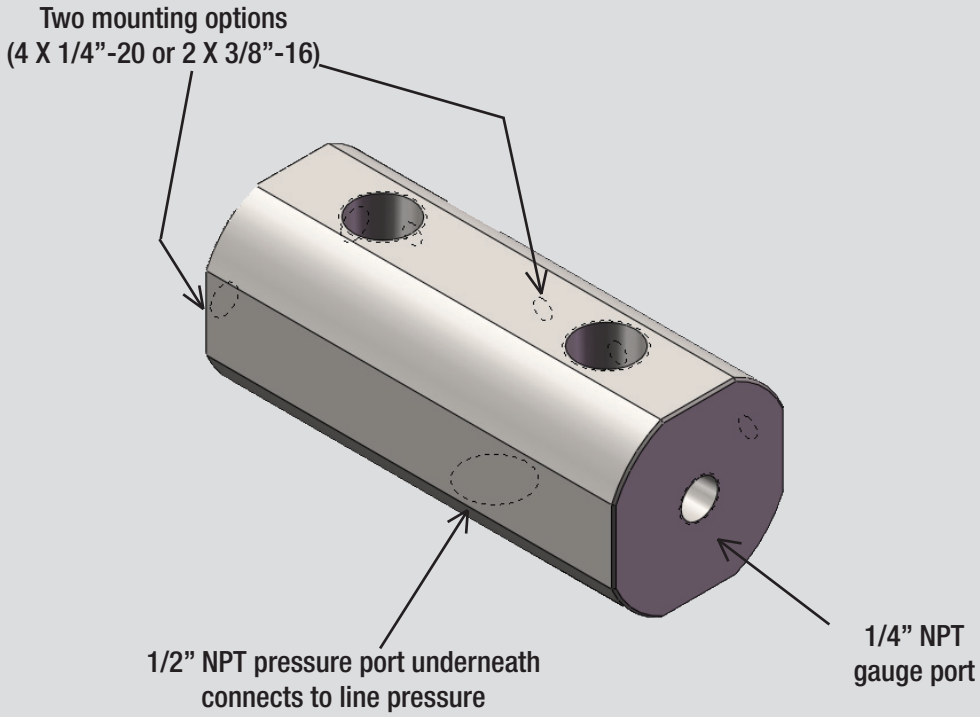
Features

- Manifold dimensions: 2.5” OD X 5.5” long (2.3” A/F)
- 1/2” NPT ports for Stick Pilots
- 1/4” NPT gauge port
- 1/2” NPT line pressure port
- Two mounting options: 1/4”-20 or 3/8”-16
- Two Stick Pilots assembled with a Manifold becomes a Pressure Safety High and Low system



MATERIALS OF CONSTRUCTION	
Body, Pistons, Stems, Spring	316 Stainless Steel
O-rings	PTFE Coated Viton
Cap and Rings	Delrin
Spring Guide	Nylon
Manifold Body	316 Stainless Steel

Note: Other materials may be available upon special request



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