Valve Rod / Hollow Valve Rod

Eagle Innovations Inc.
Advanced OilField Technologies

175 West 900 South #7 St. George, UT 84770

Ph: 435-656-0505 Fax: 435-628-9069

www.eagleinnovations.net

## THE EAGLE **SURE FLOW VALVE**

The Eagle Sure-Flow Valve was designed to assist the traveling valve in gassy and dirty conditions. When a ball is stuck or prohibited from unseating, this patented feature will allow the ball to be unseated by a stem cradle. This stem will hydraulically force the ball off the seat. The cradle maintains control without impinging the ball with the cradle stem. This cycle is completed by the cradle maintaining fluid in the cavity below the ball and seat. The cycle is repeated when the stem is actuated by a full open bore drag plunger attached to the bottom assembly of the stem mechanism. The stem mechanism is designed with patented radial ports to allow heavy or high solids fluids to pass thru the valve eliminating concerns of sticking or premature wear. The radial design self-cleans the stem mechanism of debris with no interruption in the stem action. The Sure-Flow Valve's Radial Stem design facilitates greater fluid flow thru the valve by a positive open on each stroke.

### Sandmaster Cyclone SandCheck Valve Rod Guide / (Required)

Pump Barrel

Cyclone Top Adaptei

Radial Ported Vanes

**Cyclone Ported Adapter** 

Axial Evacuation Ports

Acceleration Chamber

API Pump Plunger

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**High Flow Cyclone Travelling Valve** 

**Sure Flow Valve** 

ligh Flow Cyclon

**Material Construction:** 316 Stainless Steel

**US and Canada Patents World Wide Patents Pending** 

#### **BENEFITS INCLUDE:**

INCREASED PUMP EFFICIENCY **INCREASED BALL LIFE INCREASED SEAT LIFE INCREASED CAGE LIFE** INCREASED PRODUCTION DECREASED GAS LOCK

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## THE EAGLE **SURE FLOW VALVE INSTRUCTIONS**

#### PLEASE READ BEFORE INSTALLATIONS!

Your Sure Flow is shipped assembled and hand tightened. Part needs to be tightened to pump shop specifications. Be aware one component has a left hand thread, the main cage. The Sure Flow threads are assembled with non-permanent Locktite 263. It is very important that the enclosed installation instructions be closely followed for your Sure Flow to function properly. Failure to do so may result in poor performance as well as premature failure.

NOTE: The SURE FLOW is designed to be used with EAGLE'S HIGH FLOW CAGE. Standard API cage may be used with an ALTERNATE pattern ball. Standard API cages may vary in cage depth and may not allow the Sure Flow to fully actuate open. Failure to do so may result in premature Sure Flow failure.

- 1. Apply stainless steel thread anti-seize thread lubricant to the threads of the SEAT PLUG section of the SURE FLOW.
- 2. After the seat and alternate pattern ball are placed in traveling valve cage. Install the SEAT PLUG section into the bottom of the traveling valve cage tighten to API specifications.

NOTE: There should NOT BE ANY CLEARANCE between the Sure Flow main cage and the plunger section when fully actuated.

It is NOT permissible to run the Sure Flow with a bottom barrel extension. This could cause premature damage to the Sure Flow when stroked out of barrel.

CAUTION: PUMP SPACING SHOULD BE ADEQUATE AND UNDER NO CIRCUMSTANCE SHOULD THE SURE FLOW BE ALLOWED TO TAG BOTTOM ON THE DOWN STROKE WHICH COULD CAUSE PREMATURE SURE FLOW FAILURE.

Thank you for purchasing what we at Eagle believe to be the most innovative and costsaving piece of equipment available to the oil industry today......EAGLE'S SURE

\*ARP Ultra Torque Anti-Seize recommended for all thread connections during installation. **Material Construction:** 

**US and Canada Patents World Wide Patents Pending** 

**FLOW SYSTEM** 

316 Stainless Steel

#### BENEFITS INCLUDE:

INCREASED PUMP EFFICIENCY INCREASED BALL LIFE **INCREASED SEAT LIFE** INCREASED CAGE LIFE INCREASED PRODUCTION **DECREASED GAS LOCK** 



## THE EAGLE SURE FLOW VALVE

High Flow Traveling Cage

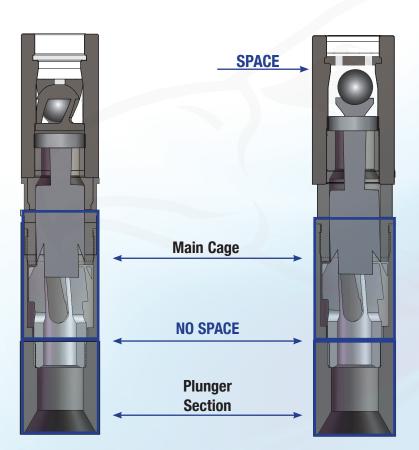


Standard API Cage

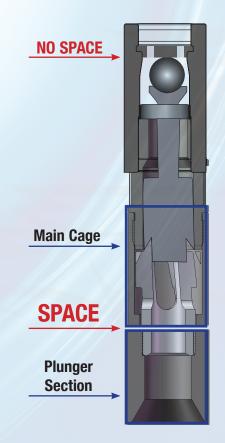


Standard API Cage





**Recommended Installation** 



Improper Installation

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