

## THE EAGLE DUAL 92 PLUNGER

The **Eagle Dual 92 Plunger** system represents a true advancement in down-hole pump technology. Sand, grit, iron sulfide, and other fines which normally contaminate the produced oil and water can now quickly pass through the pump assembly. The **Eagle Dual 92 Plunger** has two six inch **.92R to .98R hardness** sections, one on each end of plunger. The Dual 92 plunger is equipped with grooves to allow solids accumulation, thus reducing wear. The Dual 92R to 98R hardness ends solids from embedding thus allowing the middle of plunger to maintain its function as the seal. No longer are residual concentrations of these particulates allowed to collect between barrel and plunger.

Clearance between conventional pump plungers and barrels permit some fluid bypass, or slippage between these surfaces. Within this void space, sand, formation fines and other particulates can accumulate. During the normal up-and-down motions of the plunger, these accumulations cause rapid wear, usually in the form of vertical scoring, to both the plunger and barrel surfaces. Moreover, frictional forces generated by these accumulations cause excessive stresses to be generated throughout the pump and rod-string which often result in a stuck pump, automatic shut-down of the pumping unit, or a parted rod string.

Repairs necessitated by the above forms of damage, plus revenues lost during resulting downtime, cost the oil and gas industry tens of millions of dollars each year. By incorporating the **Eagle Dual 92 Plunger** system within the pump assembly, stuck plungers and premature wear of barrel and plunger surfaces can be eliminated. Costly well servicing and pump replacements can be reduced to a minimum.

How is this possible? During the down-stroke the **Eagle Dual 92 Plunger**, along with the Cyclone Seat Plug forces any entrained particulates collected within the space between barrel and plunger inward through the axial evacuation ports and into the center of the plunger. Here, they commingle with other fluids entering the pump and are displaced into the tubing. Throughout the up-stroke particulates are also collected within the tapered neck of the **Eagle Dual 92 Plunger**, where, during the down-stroke, they are flushed upward and enter the tubing through the Eagle Cyclone Top Plunger Adapter.

Simultaneously with the above, when run with the axial ported technology, incorporated within the **Eagle Cyclone Plunger System**, the fluid/particulates are constantly rotated. This rotation permits the pump barrel and plunger to wear more evenly, resulting in longer pump life and a more cost efficient pump assembly. While the pump is not operational, settling solids are redirected into the ID area of the plunger, reducing the possibility of stuck plungers and excessive barrel wear. This is done using the radial ported vane technology featured on the Eagle Cyclone Top Plunger Adapter.

**For best results, the complete Eagle Cyclone Plunger System is recommended.**

### **BENEFITS INCLUDE:**

- REDUCED NUMBER OF STUCK PLUNGERS
- BETTER FLOW EFFICIENCY
- BETTER PUMP EFFICIENCY
- REDUCED BARREL WEAR
- REDUCED PLUNGER WEAR
- UNIFORM WEAR OF PLUNGER
- UNIFORM WEAR OF BARREL
- REDUCED DOWN TIME
- EXTENDED PUMP RUNS
- REDUCED COST OF OPERATION



**Eagle Innovations** sub-surface Dual 92 pump plungers are made from high strength steel which are spray metal coated with, **nickel, carbide** and **E-Carbon™** base coatings. These coatings provide a hard, long wearing, corrosion resistant surface. The spray metal coating is metallurgically bonded to the base material.

Plungers Manufactured at  
API certified Facility.

US and Canada Patents.  
World Wide Patents Pending.

“Quality and Service  
for over 35 years.”

