Models CMD and CMU Non-Elastomeric Sliding Sleeves

Product Family Nos. H81080 and H81079

The Model CM™ series sliding sleeves are high-performance, equalizing sliding sleeves which allow communication between the tubing and annulus for circulation or selective-zone production. When desired, the sleeve can be shifted open or closed using standard wireline methods and a B-type shifting tool. The tool is designed such that any lock profile and compatible sealbores can be specified to accept a wide range of wireline locks and accessories. The sleeve is available in Model CMD™, downshift-to-open or Model CMU™, upshift-to-open versions.

The nominal working specifications for the sleeve, in most cases, are burst, collapse and tensile equal to N-80 tubing, 375°F (191°C) service temperature with a 1,500 psi (103 bar) maximum shifting differential. The sleeves have been designed in four standard materials; 4140, 9 Chrome-1Moly, 13% Cr, and Nickel Alloy 718 for a wide range of services.

In designing the Model CM series sliding sleeves, several unique features have been combined to upgrade seal performance and increase service life.

- **Features and Benefits**
  - A specially designed diffuser ring made of high-strength thermoplastic is critically spaced between the flow ports and the upper packing unit. This prevents damage to the upper packing unit during shifting by controlling the rush of fluid or gas, and lessens the likelihood of tool string damage by providing for slow equalization of high differentials.
  - The seal stack is manufactured from proprietary, high strength, non-elastomeric compounds that are chemically inert and 30% stronger than commercially available materials. Rather than becoming hard and brittle or bonding to the metal, as is the case with elastomeric materials, our seal compound actually behaves as a lubricant, alleviating seal bonding problems.
  - Mill slots replace drill holes as flow ports on both the housing and the insert to allow more flow area, reduce erosion and allow higher torque and tensile strength through the sleeve.
  - Locating the threaded connection inside the primary seal stack eliminates the need for O-ring thread seals and cuts the number of potential leak paths in half.
  - A locking, angled torque shoulder replaces traditional square shoulder to allow higher torques and reduce thread back-off.
  - The threat of galling is further reduced by coating critical metallic components with proprietary surface treatments. This assures that the sleeve will be redressable in the future even when ordered in CRA materials. These coatings also provide corrosion and erosion resistance. Alloy and stainless steel grades are treated with QPQ coating which has performed flawlessly since 1985. High nickel alloys are coated with the Baker Hughes’ BAKERTRON™ ion plating process.
  - Modular design permits conversion from a Model CMD™ to Model CMU™ or vice versa by only changing the upper and lower subs.