

## **SEAL BORE PACKERS, RETAINERS, PLUGS**

### **Overview** (Short Description & Operation)

- Cement Retainer
- Ramcharger Setting Tool
- Snap Latch Seal Unit
- J Snap Latch
- Retrieve-Master Packer
- L Permanent Packer
- S Permanent Packer
- A Mill-Out Sub
- A Seal Bore Extension
- L Nok Out Assembly
- C Permanent Packer
- LC Nok-Out
- HM Bridge Plug
- DB-5 Bridge Plug
- D-10 Bridge Plug
- HY-Mech Setting Tool
- Seal Assemblies

### **Cement Retainer**

This compact retainer was engineered for trouble free running and setting on either tubing or wireline.

The Wireline Cement Retainer was designed for fast running and reliable setting with a Baker E-4 pressure Setting Assembly. This retainer uses a one-piece Upper Slip and a Shear Ring. The Tubing Set retainer differs from wireline set version in that a pre-segmented Top Slip replaces the one-piece Top Slip and the Shear Ring is deleted.

### **Ramcharger Setting Tool**

This setting tool is used to run and set Cement Retainers and Bridge Plugs on tubing or drill pipe.

It is advised that the Ramcharger (Retainer/Bridge Plug Assembly) be run into the well at a moderate speed. At setting depth, tension is pulled into the tubing to act against the slips. To release the tool from the retainer, pick up to close the valve, and while holding slight tension apply 300 to 400 ft/lb of right hand torque to the tubing.

### **Snap Latch Seal Unit**

The Snap Latch Seal Unit was designed for use with the Wireline Set D Cement Retainer, to provide control of the Cement Retainer Valve, while effectively anchoring and sealing the tubing in the retainer.

When the seal unit enters the retainer, the bottom Shifter Sub pushes the Retainer Valve open. This also allows the Snap Latch Collet to collapse into and engage the latch threads in the top of the retainer, anchoring the tubing to the retainer.

### **J-Type Snap Latch Seal Unit**

This unit was designed to use with the D Cement Retainer.

When the unit enters the retainer, the bottom Actuating Mandrel pushes the retainer valve open, and at the same time the Snap Latch Collet collapses into and engages the latch threads in the top of the retainer. To release J Snap Unit, it is necessary to release tubing tension and rotate ½ turn to the right before picking up about 4,500 daN (10,000 lbs) over string weight.

### **Retrieve-Master Packer**

This packer combines the features of a Wireline Set Packer with the versatility of a Retrievable Packer and is mainly used in production and testing applications.

To run the tool, connect it to a Wireline Setting Tool and set in the same manner as a Permanent Wireline Set Packer. To retrieve it, use the Retrieve-Master Retrieving Tool on tubing.

### **L Permanent Packer**

This packer combines the proven features of the S Packer with a versatile large Seal Bore. This packer is suited for applications where differential pressures may reach 10,000 PSI.

The Model L can be run and set on wireline using the Baker E-4 Setting Assembly or the B Hydraulic Setting Tool and L Setting Adapter. Milling over and then retrieving may remove the L Model.

### **S Permanent Packer**

It is one of the most reliable and versatile high performance permanent packers available. Most sizes are suitable for applications with differential pressures up to 15,000 PSI. The S Packer was designed to run and set on wireline using an E-4 Setting Assembly, however, it may also be run and set hydraulically on tubing using a B Setting Tool.

### **A Mill-Out Sub**

The Mill-Out Sub is run below permanent Seal Bore Packers to allow sufficient inside diameter to accommodate the mandrel and catch of the most common packer milling tools.

### **A Seal Bore Extension**

This extension is used to provide an additional sealing bore when a long seal assembly is run to accommodate tubing movement and has the same honed I.D. as the packer. It attaches directly to an A Mill-Out Sub. If no Mill-out Sub is used, a packer to seal bore adapter may be required.

### **L Nok-Out Assembly**

This assembly may be run on the bottom of the tubing using the tubing to Nok-Out Adapter. This system may be used for snubbing applications, or when tail pipe is run below the packer.

### **C Permanent Packer**

This is an economical medium performance Permanent Packer, designed specifically for dual zone gas well completions and rated for 45,000kPa (6,500 PSI) differential pressure.

### **LC Nok-Out Assembly**

This assembly is often run with the Model C and L Packers and then converted to a temporary Bridge Plug. It is usually expended when the Seal Assembly is landed, or can be knocked out at any time before running the Seal Assembly with a knock out string or a wireline sinker bar.

### **HM Bridge Plug**

The HM Bridge Plug is tubing run hydraulic set permanent Bridge Plug, which combines pressure, and tubing tension to set.

The Plug is available in two ratings, the HM-5 (for 34.5 Mpa and 94°C) or HM-10 (for 69 Mpa and 177 °C). Both use an HM Tubing Setting Adapter to run.

### **DB-5 Bridge Plug**

The DB-5 Bridge Plug is an economical, fully drillable Bridge Plug for applications where a 35 Mpa plug is sufficient.

This Plug was designed for running and setting using an E-4 Pressure Setting Assembly, or on regular or coiled tubing using a B Hydraulic Setting Assembly.

**Protex Complete Integrated Solutions Ltd**

PO Box 42029, 400 – 9737 MacLeod Tr. S.  
Calgary, Alberta, T2J-0A0 Canada  
E-mail: [pcpump@protexcis.com](mailto:pcpump@protexcis.com)  
Web: <http://www.protexcis.com>  
Phone: 1-(403) 252-9230  
Fax: 1-(403) 252-9350

**D-10 Bridge Plug**

This specific plug was designed for speed and safety while running on wireline, and for strength and durability after setting. It will safely handle working differential pressure of up to 70 Mpa.

**Hy-Mech Setting Tool**

This setting tool is utilized to run and set Cement Retainer on tubing.

The tool is installed on the Cement Retainer. The assembly should be run into the well at a moderate speed. When setting depth is reached, a steel ball is dropped if it was not run in place. This produces enough force to break the shear screws and set the top slips.

**Seal Assemblies**

The seal assemblies were designed to provide a dependable leak proof seal between a Seal Bore Packer and the production string.

The Latch Locator Sub is used where it is desirable to latch the Seal Assembly in the packer bore. The Locator Sub is used where it is desirable to allow the seals to move up and down within the packer bore.

**FOR CLIENTS:**

**All requests on quotes of any described tools can be submitted either through email or facsimile. EMAIL: [pcpump@protexcis.com](mailto:pcpump@protexcis.com) FAX: 1.403.252 9350**