



Water Well Completion System

Two problems that often occur during completion of deep, production, water wells using gravel packed, telescopic screens are:

- releasing the screen without damaging it
- sealing the screen to the casing

Common methods of release such as a J-latch leave some doubt in the driller's mind as to whether or not it is properly released. Failure to release may lead to accidental lifting of the screen or screen damage in the case where it's already gravel packed. Many J-latch systems do not permit pushing which limits installation options. Sealing of the screen to the casing is fundamental to producing an effective well. Failure of the seal will lead to sanding of the well and/or loss of gravel pack.

IPI offers a water well completion system that addresses both of these areas and completely eliminates the associated problems. This system comprises the IPI Grab Packer for installation of the well screen and supporting it throughout gravel placement.

Sealing of the top of the screen to the casing is then achieved using a retrievable IPI slip-over screen sealing packer. Two options are available for this application:

- IMR – Inflatable, Mechanical, Retrievable packer
- MMR – Mechanical, Mechanical, Retrievable packer

THE INFLATABLE “GRAB PACKER”

Grab Packers are heavy duty inflatable packers with external, high tensile, grit coated, steel strips running the full length of the packer. When the packer is inflated in a screen or pipe the coated strips provide very high frictional anchoring capacity. They offer the following features:

- Specially designed for screen installation.
- High frictional grip capacity at low inflation pressures.
- Through pipe for circulation – direct or reverse
- “Top hat” for gravel packing
- Inflated by control tube run to surface
- Simply deflate the packer to release the screen



IMR

MMR

IMR, MMR

THE SCREEN SEALING PACKERS

The two most common types are the IMR and MMR – other variations are available, for example, fixed mechanical or inflatable seals for non-gravel packed wells.

Both the IMR and MMR are designed to slip over the top of the well screen riser pipe (which must be centralized to accommodate this) and to seal back into the casing.

The MMR type offers an M-Packer for sealing into the casing. This is superior to a standard K-rubber packer as it is vulcanized to the underlying pipe and offers far more sealing lips or fingers. The MMR can be installed using the Grab-packer.

The IMR type provides an inflatable packer seal in the casing which has a number of advantages:

- No danger of damaging the sealing rubber while installing
- 100% seal to the casing
- Anchoring of the slip-over packer in place

The IMR is installed using a special short straddle packer running tool which enables inflation of the casing sealing packer after the mechanical packer is installed onto the top of the screen riser pipe.

Both types are retrievable, with the IMR being retrieved using the straddle packer running tool to isolate and pressure shear a deflation port on the casing packer.

Both types also use the same type of mechanical sealing packer to seal onto the well screen riser pipe. This is an inverted M-Packer which is fully vulcanized to the lower pipe of the Slip-over Packer. They also both offer inverted cone lead-in and lead-out to ensure smooth running of tools through the connection.

