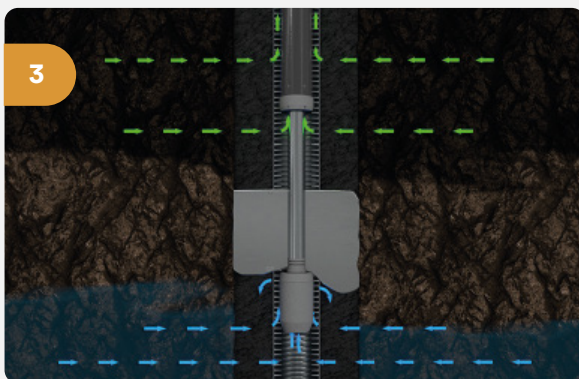
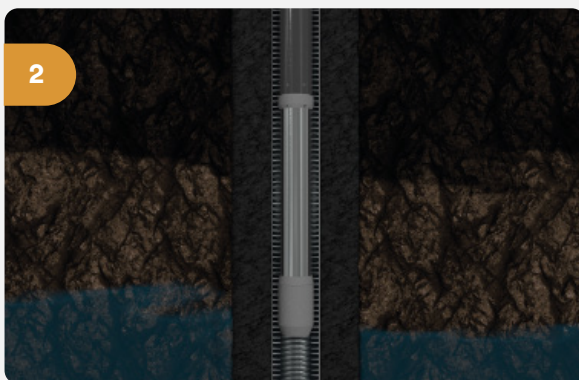
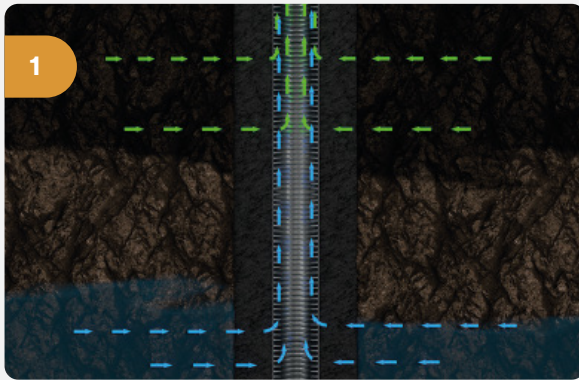


Reduce Water Production in Existing Wells



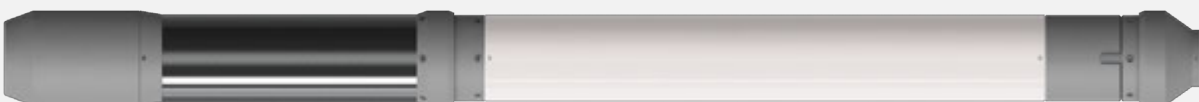
APPLICATION

The Wel-lok™ WSO (Water Shut Off) has been specifically developed to reduce unwanted water production from wells with sand screen and open hole gravel pack completions (OHGP). Unlike any other solution on the market, the Wel-lok™ WSO tool seals the annulus and the wellbore in one operation without the need to perforate the sandscreen or squeeze the alloy into the open hole annulus. The melted alloy fills inside the completion and in the annulus to form a metal to metal sealing solution that is seamless, significantly reducing unwanted water production.

WEL-LOK™ - AN OVERVIEW OF THE TECHNOLOGY

The Wel-lok™ technology consists of utilising a modified thermite chemical reaction heater to melt bismuth-based alloys downhole. The melted alloys have a viscosity similar to water, and a specific gravity 10 times that of water, allowing them to flow into the smallest areas of a wellbore without the need of any surface pumping equipment. As the alloys cool and solidify, they expand to provide a seamless gas tight seal that is non-corrosive and not affected by H₂S or CO₂.

The Wel-lok™ technology consists of utilising a modified thermite chemical reaction heater to melt bismuth-based alloys downhole.



Features



WEL-LOK™ WSO FEATURES

- Seals the annulus as well as the wellbore with advanced bismuth technology
- No need to damage the casing with perforation as melted alloy flows through the sand screen
- Molten alloy is gravity fed, eliminating the need to pump or squeeze
- Utilises modified thermite chemical reaction heater to quickly melt bismuth based alloys
- No moving parts means reliable operation
- No maximum run rate
- Easy and quick to deploy in a single trip intervention

KEY BENEFITS OF USING WEL-LOK™ WSO FOR INTERVENTION

- Reduced intervention costs
- Reduced water handling costs
- Extends the production life of the well
- Increased oil production
- Non-corrosive and not affected by H₂S or CO₂
- Reduced contingent liabilities
- Reduced environmental impact
- Temperature ranges up to 160°C