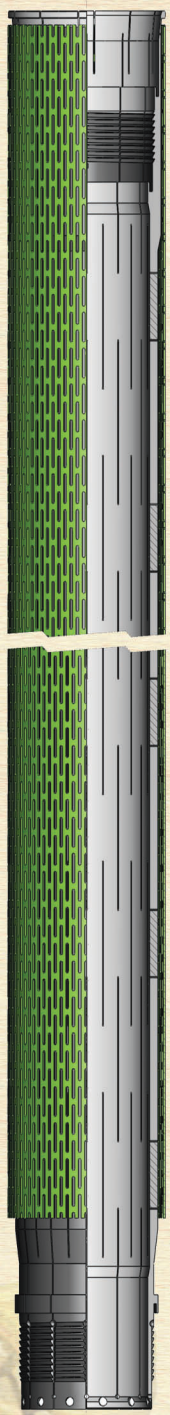
SandStop Expandable Screen (SES™)

HPOGC Sandstop Expandable Screen (SES™) is the revolutionary expandable tubular technology for sand control completions, localized by HPOGC as a technological leader in upstream business of local market. Sand control in unconsolidated environments requires a broad, diversified portfolio of products and services with a wide range of options.



Expandable products and equipment are designed to reduce well costs, caused by sand production and increase productivity, providing proven value-added alternatives to traditional well construction techniques. HPOGC's exclusive sand control components ensures that our SandStop Expandable Screen (SES™) system continues to be the only well screen offering true wellbore contact and support.

Upon the SES™ string is run to the desired depth and the SES™ Screens are in pay zone(s), the Setting Ball is dropped. Then the pressure is gradually increased from the surface to set the exclusive designed SES™ Hanger Packer. In the next run, the specifically designed Expansion tools expands the SES™ Screens.

SES™ System Benefits

- SES™ is the industry's only expandable sand control screen that can achieve borehole contact and eliminate the annulus without using Gravel Pack system.
- SES™ eliminates the need for gravel-filled annulus around the well screen, resulting in a larger effective wellbore diameter.
- SES™ makes the most efficient use of the wellbore space, meaning that the flow area is maximized, optimizing both the drawdown and inflow profiles along the well.
- Simple and Time-Saving installation.
- Stabilizes weak formations, allowing them to withstand high depletions of over 10,000 psi.

Manufacturing & Tests

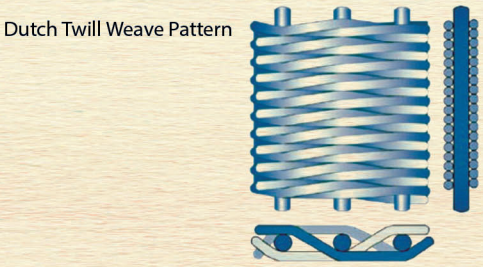
SES Screens plays the main role in sand control process. Any SES Screen is a three-layer construction manufactured to the highest standards, robust enough to withstand the toughest well conditions while maintaining sand exclusion for the life of the well.

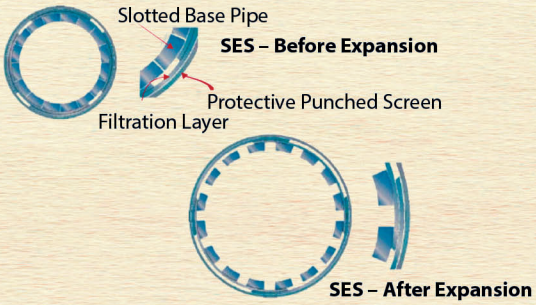
Slotted Base Pipe: custom-manufactured stainless steel pipe slotted to an exact pattern and precise specification using an custom designed automated abrasive water jet slotting system.

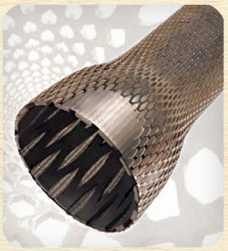
Filtration Layer (Wire-cloth Mesh): Exclusively designed Filter Medium for SES system, woven to a Dutch Twill design, sandwiched between Slotted Base Pipe and Protective Punched Screen. The filter layers overlap each other along the length of the Base Pipe and slide to accommodate the circumference increase, during expansion while remaining sand-tight.

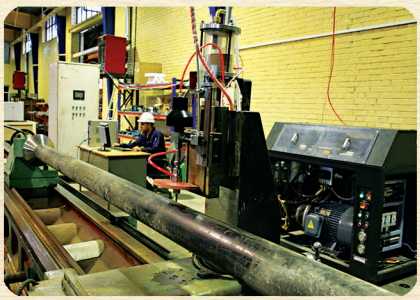
Protective Punched Screen: Pre-perforated expandable stainless steel plate formed around Filtration Layer and seam welded along the length of the Screen and protects the Filtration Layer during deployment.

The three layers are held together using special welding process to ensure strength and integrity.









The slotting machine (Abrasive WaterJet) is custom designed, as this process is unique to this innovative product. Our facility is now fully operational and many of our major clients have viewed the facility and audited the processes. The expansion tests of SES Screens and all related tests for SES Hanger Packer have been successfully performed, based on customers' needs.

In addition to our existing test equipment, HPOGC has designed and built a second-to-none 12-meter long Simulation & Test Well to carry out controlled bench tests for all packers and expandable technologies. The unit has a full data acquisition suite which gives the ability to test the equipment as and when required.

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