Presentation



THP WELL SCREEN

Product Line Well Completion

Product Line – Well Completion



Well Screens

- Slotted liner / Pre drilled Liner
- FreeFlow
- SandFree / SolidWrap
- SlimPack
- PoroBond
- PoroLock

Inflow Control Devices

- AICV autonomous inflow control valve
- QFlux ICD
- SelectFlux on/off icd

Swellable Packers

- Q-Seal
- Q-Slip / Q-Stop

Complementary products

Tracer carriers / Centralizers / Bottom Shoes

Features and benefits

PoroLock Screen - Premium solid metal mesh

- Unique simultaneous forming of layers
 - Patented technology
- Weave locked by direct wrapping
- Multiple layer design
- No risk of weave damage by manufacturing process
- No welding on weave
- World best weave quality and validation system
- World highest collapse and burst rates

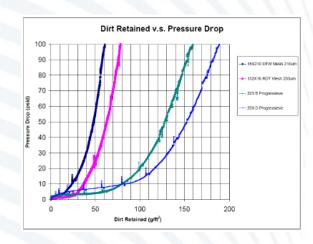


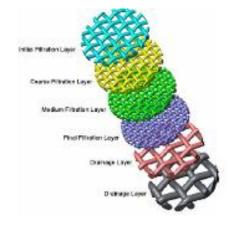


Features and benefits

PoroBond Screen - Metal laminate mesh

- Premium diffusion bonded laminate screen
- Multiple layer design
- 3D with high plugging resistance
- Sinter technique with diffusion of all layers
- Strong protective outer shroud
- Customized design

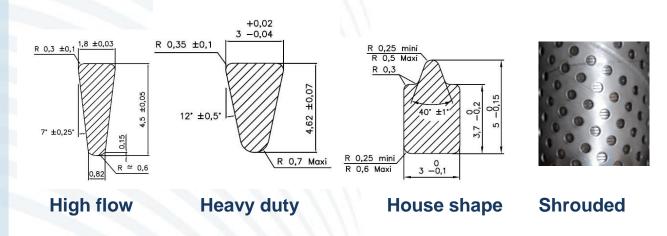




Features and benefits

SandFree / SolidWrap – Wire wrapped screen

- Pipe base screen + tight-fit jacket / direct wrapped
- Free flow continuous slot opening
- Best tolerances +25/-50 micron (99,7%)
- High flow v-wires for fine formation sands and heavy oil
- Heavy duty wires for erosion resistance and thermal applications
- Chrome and nickel alloys for sour service
- Protective outer shrouds for multi laterals





Features and benefits

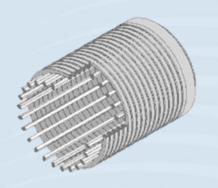


SlimPack Screen

- Pre-packed with gravel between dual WWS
- High permeable ceramic gravel or resin coated
- Thin pack for reduced OD/ID ratio running operations
- Compacted with unique vibrating system
- Controlled and monitored curing process



Features and benefits



FreeFlow Screen

- Rod base wire wrapped screen
- High flow heavy duty v-wires for with minimal pressure drop
- Superior weld strength all tested
- Internal external flush design



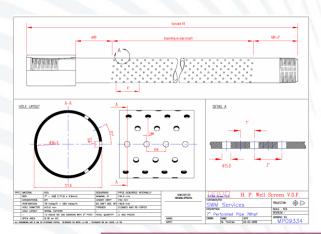
HD BridgeSlotted Screen (PPS)

- High density punched screen jackets
- Higher open area and more accuracy
- Non clogging slots

Features and benefits

HP Slotted Liner / HP Pre drilled Liner

- Robust and cost effective solution for
 - Sand control
 - Bore hole stability
 - Long horizontals
- Accurate multi spindle CNC machining
- Customized designs: Spiral / Staggered / Gang
- Every single slot / hole inspected
- Flush design for narrow side tracks







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Inflow Control

INFLOW CONTROL

QFlux®

Passive ICD

SelectFlux® Active Valve

AICV®

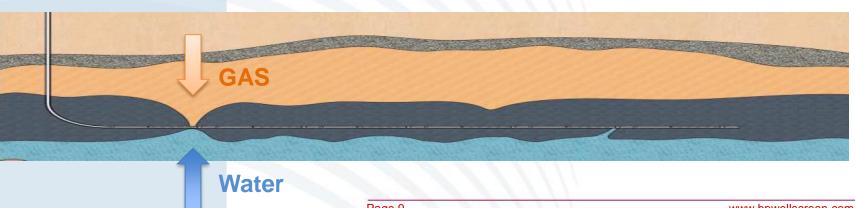
Automatic Valve

IOR: Increased Oil Recovery

Water & Gas breakthrough problems

- Friction inside the well
- Heterogeneous reservoirs
- Fractures
- Fingering and mobility ratio

Inflow Control is required



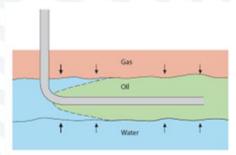
QFLUX ICD

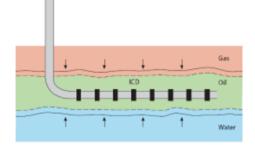


QFLUX - Inflow Control Device ICD

Delays gas & water breakthrough

- Creating an even influx profile along the horizontal length
- Design on friction loss and reservoir permeability
- Near wellbore and dynamic reservoir modeling
- Choking oil production by ceramic nozzles
- Specific flow rate/pressure drop by altering nozzle size and quantity
- Removable housing-coffer for installing orifices on site
- Large robust orifices for easy installation in housing





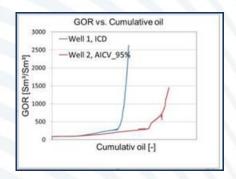
AICV

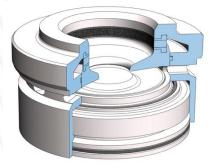


AICV - Autonomous inflow control valve

Stops water & gas completely at breakthrough

- Autonomous, requires no external power or control system
- Reversible, allows the oil to pass after an earlier stoppage.
- No limit in number of zones
- Retrofitable, can be installed in new and old wells
- Valve functions based on viscosity ratio
- ICD function chocking back oil production at start-up
- No separation, transport and handling of unwanted fluids





SelectFlux



Selective production, stimulation and injection Stops water & gas completely selectively

- Sliding sleeve valve (SSD)
- Fitted with QFlux ICD nozzles (ON/OFF ICD)
- Multiple elements over horizontal length
- Opening and closing in same run
- Coil tubing or slick line + tractor shifting tool
- ISO 14310 V3 qualified HPHT seals





Screen & tracer section

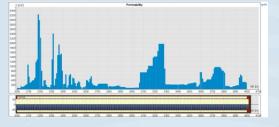
ICD Housing

SSD section

QFLUX ICD

Inflow control modeling & design: NETool

- Focus on reservoir objectives:
- Oil recovery or max flow io delaying water breaktrough
- Selection of isolation seal locations based on formation permeability or production profile.
- Computation of optimum choking level for each interval for best oil recovery
- Computations of oil, gas and water flow rates, average reservoir pressure and recovery factor with time
- Determination of well intervals likely to be the sources for early water or gas break-though
- Determination of the time of water or gas break-through.
- Scenario analysis
- Assessment of multiple design options and selecting one that best meets reservoir and production objectives.



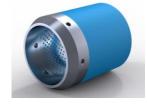


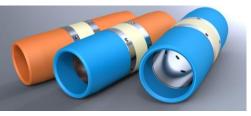


Swellable Isolation Seals

Swellable Isolation Seals

- Zonal isolation for inflow control
- Permeability based segmentation
- Improved recovery
- Prevents annular flow
- Enhanced screen life
- Water, Oil, Hybrid, Acid activation
- Colored elastomer
- Slip-on (Q-Slip Q-Stop) / Wrapped on pipe (Q-Seal)
- Proven design
- More than 10.000 units in action
- Designed by well data





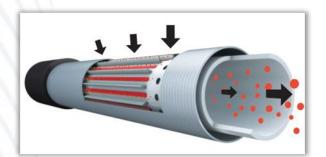




Tracer carriers

Tracer carrier

- Integrated system
- Directed flow
- 100% effected
- Pre installed tracer material



Perforation AICV Tracer Screen

HPWS Contact

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