

EQUALIZER SELECT autonomous inflow and injection control device

Auto-adjust flow behavior to enhance production volume and quality



The **EQUALIZER SELECT™ autonomous inflow and injection control device** (AICD) features a unique tortuous path geometry that equalizes flow across the lateral to enhance production and to improve recovery—with no interaction from surface.

Ideal for applications where water coning is expected, the AICD automatically adjusts the pressure drop to delay water breakthrough and to restrict water production post-breakthrough. As fluid flows through the device's series of staggered flow chambers, pressure is gradually reduced based on the fluid's momentum and properties. This creates a dynamic choking effect that minimizes the production of higher density fluids such as water.

Because the EQUALIZER SELECT AICD's optimized geometry delivers consistent

flow performance for fluid viscosities ranging from 0 to 700 cP, the AICD can be used in most reservoirs and can accommodate changing conditions throughout well life. In addition to the production performance benefits, this versatility also helps to minimize inventory requirements and control costs. The AICD's design also features a large flow area to minimize jetting effects and to promote self-cleaning. This dramatically reduces the risk of erosion- and plugging-related device failures, enabling long-term, optimized production without interruption.

To create a reservoir-driven solution for each individual well, the EQUALIZER SELECT AICD offers multiple field-adjustable fluid resistance settings. Using the latest reservoir data, each device's flow resistance setting can be

Applications

- Conventional wells with high-viscosity oil
- Heterogeneous reservoirs
- Reservoirs where water/oil or gas/oil contacts are present
- Conditions where heel-to-toe effect is a risk
- SAGD well production and injection
- Water and degradable polymer injection
- Multilaterals

Features and benefits

- Tortuous geometry
 - Equalizes flow across the lateral surface
 - Delays gas and water breakthrough
 - Prolongs well life
- Consistent flow performance for viscosities ranging from 0 to 700 cP
 - Accommodates most reservoirs
 - Minimizes inventory requirements
- Large inflow area
 - Minimizes erosional effects
 - Prevents plugging
- Field-adjustable fluid resistance settings
 - Enable on-the-fly device optimization at the rig prior to deployment
- In-house dynamic reservoir modeling capability
 - Delivers reservoir-optimized completion designs to improve well productivity
- Full compatibility with a wide range of BHGE completion technologies
 - Enables customization for a variety of challenges

adjusted at the rig prior to deployment by simply opening or closing flow paths through selected chambers.

The EQUALIZER SELECT AICD is fully compatible with a broad range of Baker Hughes, a GE company (BHGE) completion solutions—such as sand control screens, multitasking valves, sliding sleeves, and intelligent production systems—to further optimize long-term production.

Contact your local BHGE representative today to find out more about the EQUALIZER SELECT AICD and how it can help enhance production and improve recovery.

Properties/Specifications (with the EXCLUDER™ sand control screen)

Pipe Size	4 in.	4½ in.	5½ in.	6⅝ in.
Pipe Weight	9.5 lb/ft	11.6 lb/ft	17.0 lb/ft	20.0 lb lb/ft
Maximum OD	5.500 in.	5.995 in.	6.995 in.	8.125 in.
Minimum ID	3.548 in.	4.000 in.	4.892 in.	5.921 in.
Joint Yield Strength	139,000 lb (63,049 kg)	157,000 lb (71,214 kg)	262,000 lb (118,841 kg)	544,000 lb (247,273 kg)
Yield Torque	7,400 ft-lb	9,900 ft-lb	10,800 ft-lb	12,300 ft-lb
Collapse Pressure	4,000 psi (275.8 bar)	3,000 psi (206.8 bar)	2,500 psi (172.4 bar)	2,400 psi (165.5 bar)
Burst Pressure	2,600 psi (179.3 bar)	2,300 psi (158.6 bar)	1,900 psi (131 bar)	1,600 psi (110.3 bar)
Bend Limit	30 0/100 ft			
Thread Type	Hunting Seal Lock-HT			VAM Top HC

EQUALIZER SELECT AICD restriction levels are designated by a term referred to as flow resistance ratings (FRRs). An FRR is an indication of pressure drop in units of bar for any given setting when flowing 175 BPD of water at standard conditions (1 cP and 62.4 lbm/ft³). FRRs can be tailored to the application by adjusting the number of chambers along each distinct path within the EQUALIZER

SELECT AICD. The available FRRs for the EQUALIZER SELECT AICD are as follows: **0.8, 1.6, 3.2, 4.8, 6.4, and 12.8**. Each EQUALIZER SELECT AICD is available with four different FRR settings, which can be customized using the various FRRs .

Flow performance curves for different EQUALIZER SELECT settings and fluid

properties may be provided upon request. BHGE has conducted extensive testing on EQUALIZER SELECT AICDs including:

- Flow performance (single and multiphase flow)
- Mechanical integrity
- Plugging
- Erosion

Accessory Equipment for EQUALIZER completions

Functionality	Accessory
Filtration Mechanism	Unconsolidated Formations: EXCLUDER™, BakerWrapXP™, and BAKERWELD™ sand control screens; GeoFORM™ conformable sand management system Consolidated Formations: Slotted tubular (debris barrier)
Well Compartmentalization	Mpas™ packers and REPacker™ swellable packers
Zonal Shutoff	Sliding sleeves (EQUALIZER Plus configuration)
String Isolation During Run-in	Multitasking valve (MTV)

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