



FloReg™ High-Rib Inflow Control Device

The Weatherford FloReg high-rib (HR) inflow control device (ICD) helps evenly distribute inflow throughout a horizontal wellbore. This device reduces the tendency of early water or gas production, enabling the reservoir to drain more efficiently while maximizing production and recovery.

Due to increasing water and gas well challenges, the requirement has arisen for an ICD that accommodates and withstands the high production or injection flow rates now becoming common in today's well-completion scenarios.

The FloReg HR ICD is designed and built similarly to the standard Weatherford FloReg ICD and incorporates the same methodology. The device is designed to withstand high production or injection rates without imposing any erosion risk and with larger flow areas upstream and downstream of the flow ports, accommodating the higher flow rates and reducing frictional pressure drops.

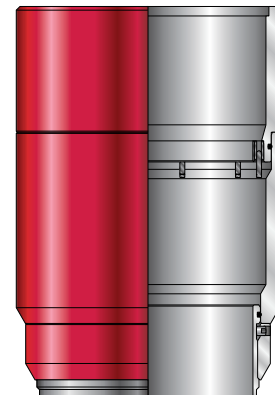
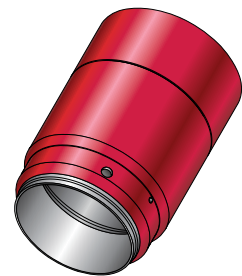
The system can be interfaced with a range of Weatherford screens designed specifically for higher flow rates or heavy oil applications.

Applications

- Wells requiring high production or injection rates
- Well applications with predicted high erosion rates
- Wells with expected high frictional pressure drops due to high viscosities

Features, Advantages, and Benefits

- The large flow area accommodates higher flow rates, eliminating erosion risk.
- The FloReg HR ICD provides uniform inflow profiles along the wellbore, improving hydrocarbon production and recovery.
- The number of open flow ports can be adjusted at the surface to the prescribed setting based on the latest data, saving valuable rig time and associated costs.





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Features, Advantages, and Benefits (continued)

- Pressure drop in each flow port is viscosity independent while density dependent, inhibiting water breakthrough to increase ultimate recovery of oil while decreasing produced water.
- Rigorous flow testing and computational fluid dynamics (CFD) modeling has confirmed the performance characteristics of the device, enabling the development of empirical operating envelopes.
- Flow ports are made of tungsten carbide, mitigating flow-induced erosion.
- Each device is standard rather than machined to suit a specific application, reducing the need for multiple screens held in inventory on location and saving costs.

Specifications

Size (in.)	2-3/8	2-7/8	3-1/2	4	4-1/2	5	5-1/2	6-5/8	7
Suitable screen selection	Metal-mesh and wire-wrap screens								
Overall tool length (in., <i>mm</i>)	10.400 264.16								
OD (in., <i>mm</i>)	—	—	—	—	5.630 142.88	—	7.000 177.80	8.125 206.38	—
Flow port quantity ^a	5	10							
Flow port sizes (in., <i>mm</i>)	0.125 3.175								
	0.094 2.381								
Length of flow port (in., <i>mm</i>)	0.500 12.700								
Flow port material	Tungsten carbide								
Base material and stress intensity (ksi, <i>MPa</i>)	13Cr 110 758								
Elastomer material ^p	FKM95								

^a Quantity of ports can be changed to suit application.

^b Alternative elastomer material is available.