

FloReg[™] Deploy-Assist (DA) Device

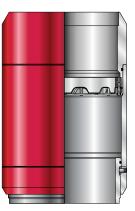
The Weatherford FloReg deploy-assist (DA) device promotes enhanced hydrocarbon production and recovery by providing uniform inflow profile throughout a horizontal wellbore. This device reduces the tendency of early water or gas production, allowing the reservoir to drain more efficiently while maximizing production and recovery. Empirical operating envelopes, quantified through rigorous laboratory flow testing, assist in providing a uniquely tailored inflow solution for every well.

The FloReg DA device enables predetermined setting of pressure drop (heel-to-toe) along a screen section, using multiple open or closed flow ports to provide the required reservoir management.

FloReg inflow control devices (ICDs) have proved the potential of extending well life by prolonging the plateau period, minimizing water and/or gas production, lessening annular flow, and increasing recovery. The FloReg DA is designed and built similarly to the Weatherford standard FloReg ICD and incorporates port isolation balls to deliver a simple but effective solution for washpipe-free well operations. The isolation balls maximize fluid circulation through the completion shoe to aid efficient deployment of the completion string.

This device is designed for use with a wide range of Weatherford sand screens.





Applications

- Multizonal, horizontal, sand-controlled wells requiring fluid circulation during deployment and well cleanup
- · Interventionless deployment

Features, Advantages, and Benefits

- Modular design minimizes inventory requirements and reduces product delivery times.
- The FloReg DA device retains an in-place isolation ball to prevent formation surging during initial installation and production reducing damage to the formation.





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Features, Advantages, and Benefits (continued)

- FloReg flow ports are made of wear-resistant tungsten carbide, providing long service life at the designed choke pressure.
- The number of open flow ports can be adjusted, based on well test results, before deployment, optimizing well inflow performance and saving rig time.
- Pressure drop in the flow ports is viscosity independent but density dependent, inhibiting water breakthrough during production and thereby increasing ultimate recovery of oil while decreasing produced water.

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., mm)	10.450 265.43								
Maximum OD (in., mm)	_	_	_	_	5.625 142.88	_	6.800 172.72	_	_
Flow port quantity	5 10								
Flow port sizes (in., mm)	1/8 or 3/32 3.18 or 2.38								
Flow port length (in., mm)	0.500 12.70								
Flow port material	Tungsten carbide								
Base material and stress intensity (ksi, MPa)	13Cr 110 758								
Elastomer material*	FKM95								

^{*}Alternative elastomer material is available.

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