FloRight

Passive Inflow Control Device (ICD)

FloRight is designed to promote uniform production or injection from the entire length of a horizontal well.

In conventional production wells, fluids have a tendency to cone at the heel of the well. This can lead to early water or gas break, resulting in lost recovery, lost revenues and reduced well life. Evening out the inflow profile results in better coning control, thereby delaying the water or gas breakthrough.

In carbonate reservoirs in particular, FloRight can be used to choke water production from natural fractures.

TAQA's FloRight is cleverly designed to combat this issue by promoting uniform production or injection from the entire length of the well.

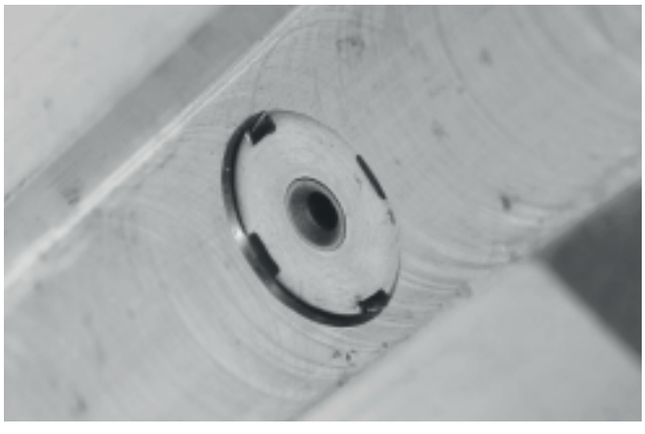
The integral centraliser OD of the housing holds the FloRight away from the liner or open hole wall allowing fluid to produce through all the nozzles. High torque connections and spiral shaped centralisers allow for reaming down of the assembly if required.

FloRight can also be used for evenly distributed acid stimulation during the production or injection life of the well.

The ICDs can be placed on every joint or run in combination with blank joints to provide well compartmentalisation, along with mechanical or swellable packers and the appropriate inflow control profile as per client requirements.

Mounted on each housing are up to 6 nozzles, pre-determined through flow modelling, to create a given pressure drop at a given flow rate. By altering the nozzle size or quantity of nozzles a pre-determined flow rate and pressure drop can be achieved.

By installing FloRight, a pre-determined pressure drop can be created between the reservoir and the completion liner. This choking effect creates a back pressure on higher quality sections to contribute to levelling out the inflow profile from the well.



Technical Specification

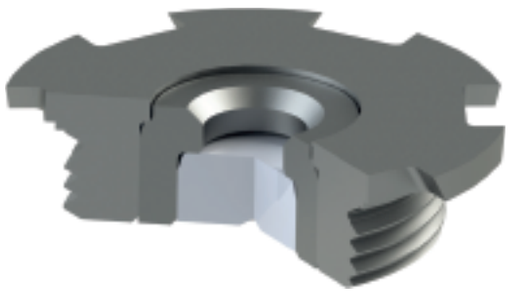
Material - Body	As per customer requirements
Material - ICD	Inconel 718 and Tungsten Carbide
Tubing Size and Weight	2⅜" and larger as per API 5CT
Open Hole Size	From 3/7/8"
Number of Nozzles	1 - 6
Nozzle Flow Rate	0 - 800bbl/day
Pressure Drop	0 - 1500psi

FloRight Dissolve

Limited entry liner dissolvable nozzle

Dissolvable nozzle for isolating tubing and annulus during run in hole.

LEL (Limited Entry Liner) is a lower completion design concept in which a solid liner with small pre-drilled holes is deployed. TAQA has designed and qualified a dissolvable nozzle, to be utilised for such an application based on TAQA's extensive experience of designing, manufacturing and installing a range of Inflow Control Devices.
Based on the FloRight valve, the FloRight Dissolve includes a dissolvable insert. This provides operators the timings required for completion of wellsite operations without intervention.



Technical Specification

Material - valve body	Alloy 718
Material - insert	Dissolvable Alloy
Number of nozzles	1-4
Nozzle sizes	3mm, 4mm & 6mm
Dissolvable timing	24hours up to 14 days depending on operational requirements

FloCheck System Accessories

Inner-String-Free Deployment Inflow Control Devices

TAQA FloCheck Valve

The FloCheck Passive valve enables fluid pump through eliminating the requirement of an inner string. In production mode, the check valve opens and allows the nozzle to produce like a conventional ICD.

FloCheck Passive Ball Seat Sub

FloCheck Passive Check-Valve Guide Shoe

FloCheck Ball Seat Sub

The FloCheck Ball Seat Sub is used on the bottom of screen assemblies to allow for setting of liner hanger packers when FloCheck valves are used. It accommodates a light-weight setting ball that is forced on to the seat when pressure is applied.

FloCheck Check-Valve Guide Shoe

The FloCheck Check-Valve Guide Shoe is used on the bottom of screen assemblies to allow for circulation when required during installation. The shoe incorporates the state-of-the-art float valve technology using valves similar to the type used in drill pipe floats

Technical Specifications	FloCheck Valve
Material - Body	Inconel 718
Material - ICD	High Grade Tungsten Carbide
Ball	PA-6
Cage	316L