DATA SHEET

HALLIBURTON

WELL COMPLETIONS | SAND CONTROL

EquiFlow® OptiSteam™ flow control device

Maximum production efficiency and improve steam-oil-ratio in SAGD wells

FEATURES

- Externally adjustable
- Diffuser ports control exiting steam velocities
- Tested per ISO 14998
- ON/OFF flow ability with sleeve

BENEFITS

- Allows for last minute changes to flow setting
- Final flow setting can be selected later in the project, after more information is collected on the well

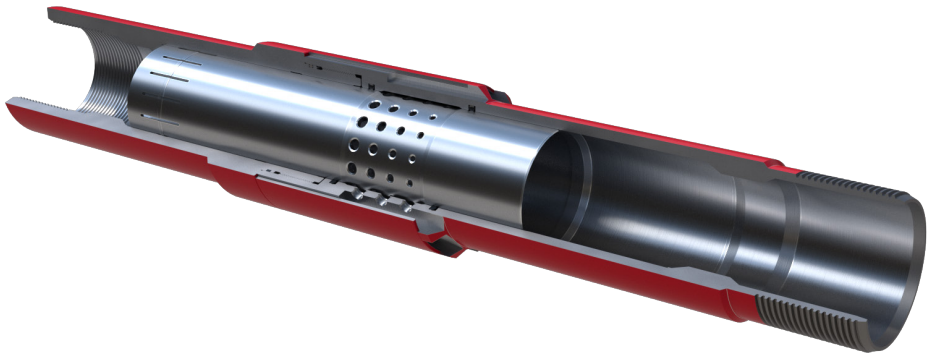
Overview

Halliburton's EquiFlow® OptiSteam™ flow control device (FCD) helps improve completion performance and efficiency in steam-assisted gravity drainage (SAGD) operations by balancing steam injection throughout the length of a completion.

The EquiFlow OptiSteam FCD consists of four components – a top sub, bottom sub, sleeve, and a center nipple with two sets of flow ports. Injected steam travels through the tubing and controlled ports, into the tubing-liner annulus, and finally through the liner into the formation.

The sleeve is an optional component which provides the operator ON/OFF ability. This allows flexibility to be run closed, circulate steam during warm-up, then shift open for injection. Also, if one zone becomes too hot, the device can be shifted closed. A common B-type shifting profile is used.

Halliburton's suite of flow control devices for SAGD wells offers solutions to maximize production efficiency and help operators improve steam-oil ratio (SOR). Together the EquiFlow inflow control device (ICD) and autonomous ICD help optimize steam flow in SAGD production wells.

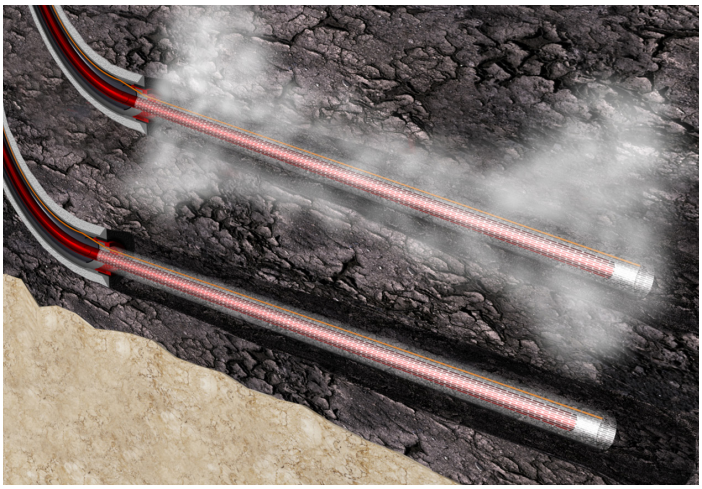


HCT1825-003

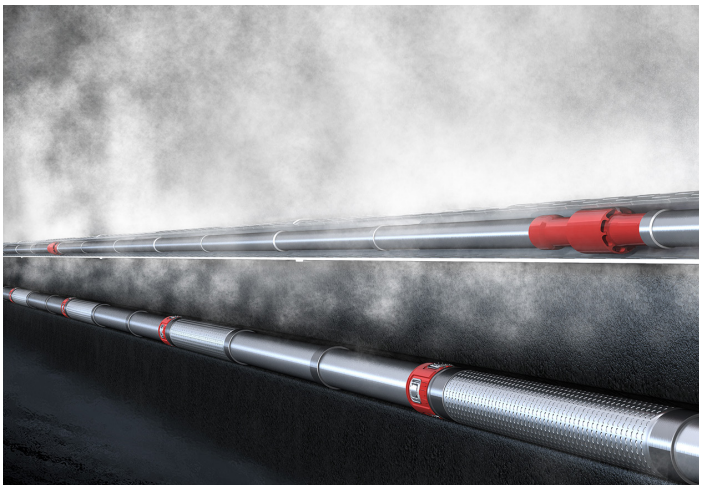
EquiFlow® OptiSteam™ flow control device (FCD)

Application

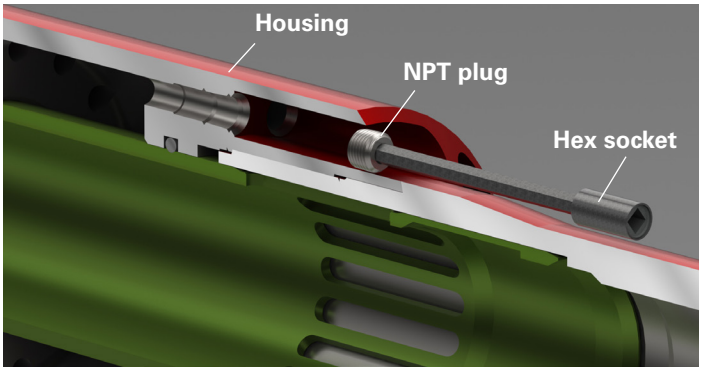
With SAGD injectors, steam must be balanced to account for varying payzone thickness, reservoir heterogeneity, and heel-toe tubing frictional effects. An optimized steam chamber allows for maximized bitumen recovery versus the traditional dual tubing injection method, which cannot properly balance the steam chamber and often develops a 'barbell' chamber instead. The EquiFlow® OptiSteam™ FCD provides the proper outflow balance.

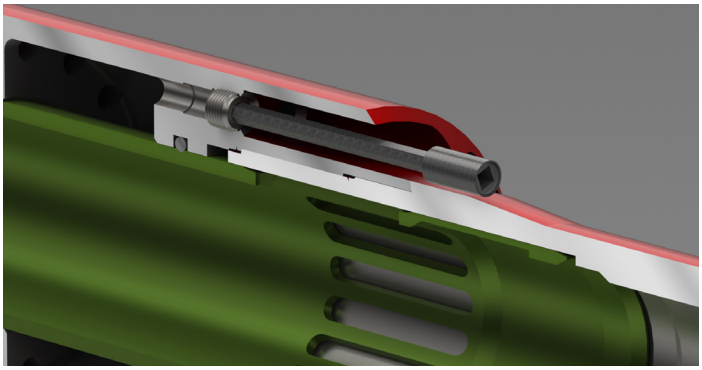


Without flow control devices



With EquiFlow® OptiSteam™ FCD



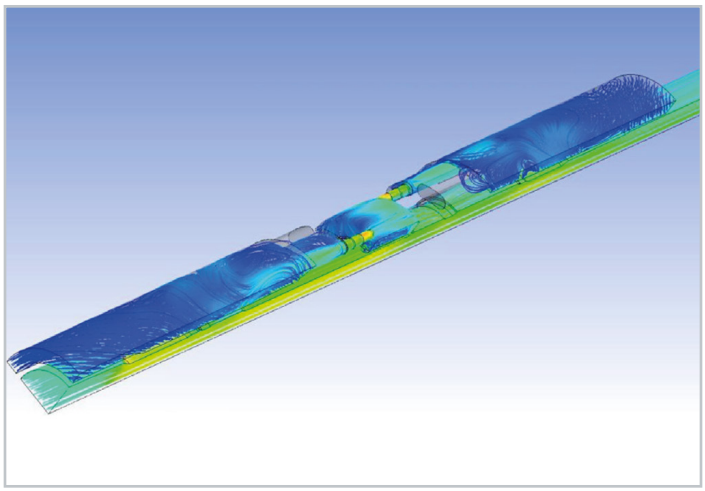


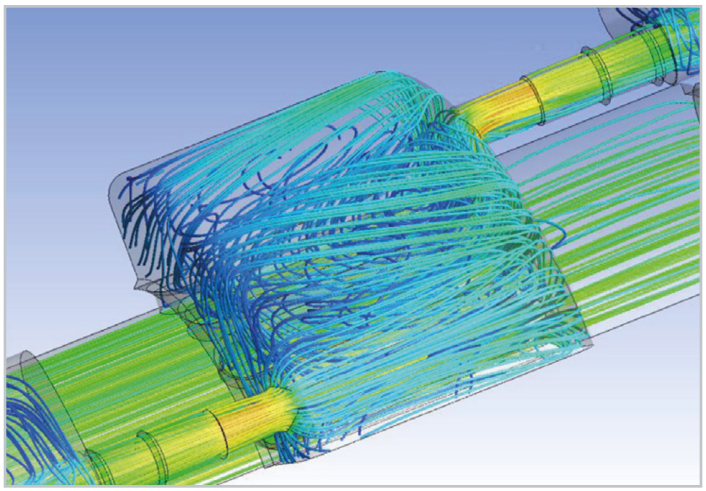
Simple external adjustability by plugging off ports prior to running

DATA SHEET

EquiFlow® OptiSteam™ FCD

FCD OD		MINIMUM BORE ID		QUANTITY OF NOZZLES 10 MM ID	STANDARD METALLURGY	STANDARD TEMP RATING
IN	MM	IN	MM			
4.30	109.2	1.87	47.5	24	NACE 4140	520°F (271°C)
4.80	121.9	2.313	58.8	28		
5.80	147.3	2.813	71.5	32		
6.80	172.7	3.81	96.8	36		





Design has been validated through computational fluid dynamic (CFD) software

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

halliburton.com

HALLIBURTON