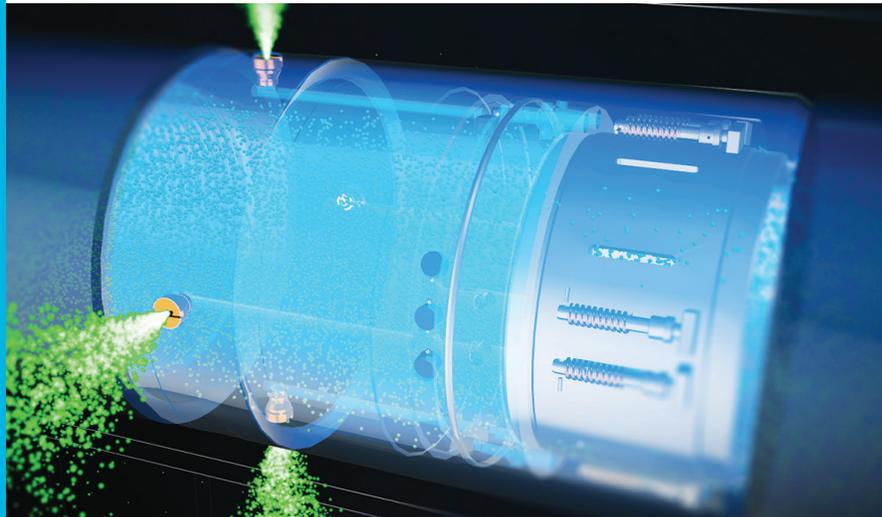


EQUALIZER JET stimulation flow control device

Cut liner deployment time in half and maximize reservoir stimulation



The EQUALIZER JET FCD significantly simplifies and accelerates liner installations and enables more uniform acid jetting across the entire length of the wellbore for improved reservoir stimulation.

The **EQUALIZER JET™ stimulation flow control device (FCD)** accelerates liner deployment and delivers precise, high-velocity acid treatments across long lateral wellbores, reducing OPEX and maximizing reservoir stimulation in carbonate formations. Using a unique **multitasking valve (MTV)** that controls communication through the string, the FCD circulates liners to bottom in 50% less time than the standard deployment method for limited-entry-liners (LELs), or liners with holes drilled in them. And high-performance jet nozzles incorporated into the MTV ensure uniform treatments—regardless of varying permeability throughout the pay zone.

Although installing LELs into wellbores is a simple way to allow acid delivery and

subsequent production, getting them to bottom in extended-reach wells can be extremely challenging. Insufficient weight above the completion and friction between the pipe and the wellbore can cause liners to get stuck and fall short of total depth (TD). Circulating liners to bottom is the most reliable way to get them to TD and ensure maximum pay zone access, but achieving the needed closed-system circulation requires an inner string and a washpipe, resulting in logistics that add days of time to liner deployments.

To simplify and speed up operations, the EQUALIZER JET FCD's MTV temporarily prevents flow between the tubing and the annulus, converting the liner into a solid pipe. This enables circulation around

Applications

- Liner deployment in long horizontal wells
- Controlled acid jetting
- Carbonate formations

Features and benefits

- Multitasking valve
 - Accelerates liner deployment
 - Enables circulation without the need for an inner string or washpipe
 - Eases deployment in extended-reach wells
 - Maximizes reservoir contact
 - Enables actuation of other tools without additional trips
 - Features a redundant design and robust construction for increased reliability
- Jet nozzle inserts
 - Deliver high-velocity acid treatments
 - Ensure uniform treatment coverage across low- and high-permeability zones
 - Maximize reservoir stimulation
 - Enable long-term production inflow without risk of erosion

the liner during run-in, eliminating the need for an inner string and washpipe and easing deployment in long laterals. If preferred, liners can also be floated in using the MTV. And as long as the MTVs are in the closed position, other tubing-actuated devices such as openhole packers can be set, reducing tool trips.

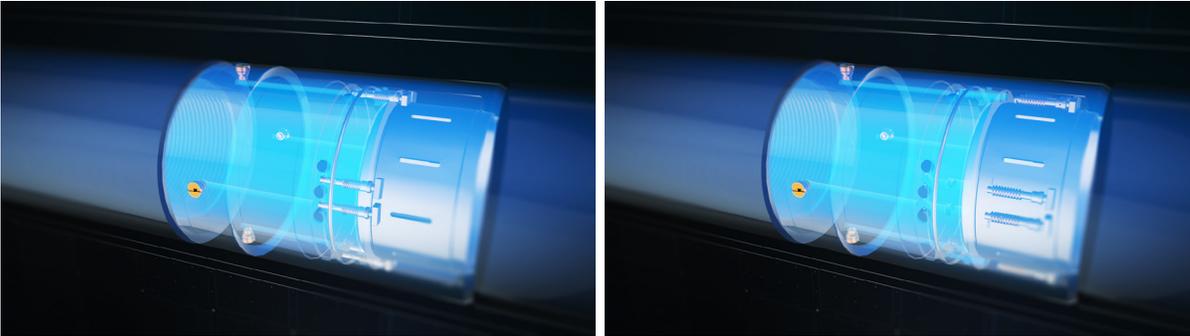
When the acid treatment is ready to be pumped, pressure is bled off and small pistons inside the MTVs eject, re-establishing communication between the tubing and

annulus. A redundant design ensures successful actuation.

Unlike standard LELs that can have inconsistently sized and spaced holes—that can result in undertreated and even untreated areas of the wellbore—the EQUALIZER JET FCD’s jet nozzles ensure even coverage across the pay zone. The nozzles, which are precisely sized and inserted into each device, can jet acid at velocities up to 500 ft/sec (152 m/sec) for improved reservoir stimulation and production potential.

Multiple nozzle sizes are available and can be selected based on the optimal stimulation program for the reservoir. Production can flow directly back through the nozzle ports after stimulations are complete.

Contact your local Baker Hughes, a GE company (BHGE) representative today to learn more about how our EQUALIZER JET FCD can accelerate liner deployment and maximize reservoir stimulation in your next acidizing application.



During run-in, the pistons inside the MTV prevent communication between the tubing and the annulus so the liner can be circulated to bottom (left). When pressure is bled off, a wire inside the pistons shears and allows them to eject from their ports, converting the liner back to an open system (right).

Specifications	
Casing sizes	6 ⁵ / ₈ in.
	7 in.
Nozzle sizes	1 to 6 mm
Device body metallurgy	Customer specified
MTV actuation rating	1,600 to 5,000 psi (112 to 345 bar)

Contact your local BHGE representative about additional sizes.

bhge.com

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