

# Hydraulic Multiturn Actuator

Enables remote manual operation of Cameron gate valves

## Applications

Any operations where gate valves are operated by hydraulic pressure units (HPUs), including multistage hydraulic fracturing operations, especially zipper frac operations.

## How it improves wells

By delivering both the convenience of remote hydraulic operation and the reliability of fail-safe manual operation, the hydraulic multiturn actuator enables the safety and operational benefits of valve automation on trees and manifolds with the option of manual operation, as a contingency that mitigates potential NPT from hydraulic failures.

The multiturn actuator enables implementation of fully automated frac trees and manifolds, which

- accelerates well swap operations
- enables simultaneous fracturing operations
- provides true red zone clearance by removing the need for personnel in the area
- saves time, improves HSE, and optimizes wellsite performance.

## How it works

The hydraulic multiturn actuator enables remote operation of a frac valve while retaining the ability to operate the valve manually in a matter of seconds.

The hydraulic multiturn actuator maintains the drift position of the gate, eliminating the need to perform counterturns at the end of the stroke. It can be operated with ValveCommander\* automated control and advisory platform or with a standard HPU.

The hydraulic multiturn actuator

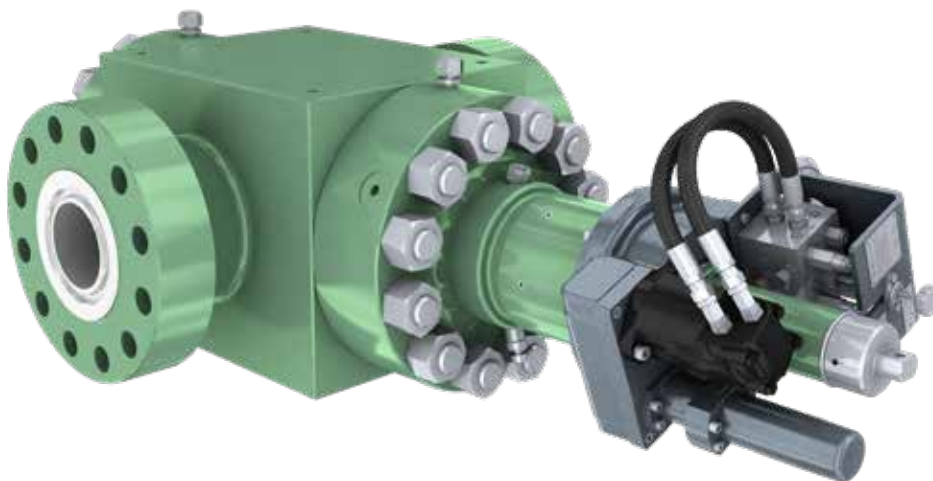
- regulates hydraulic actuation speed by controlling hydraulic fluid flow
- improves safety of manual operation because manual mode enables the actuator to freewheel and prevents hydraulic feedback during manual intervention.

## What it replaces

Conventionally, each valve would deliver one discrete capability (either hydraulic or manual operation). The hydraulic multiturn actuator enables both functions at each valve—saving time, simplifying rig-ups, maintaining safety, and offering emergency contingency functionality.

## Additional information

Gearboxes are available to accommodate select sizes of FLS-R\* large-bore HP API 6A slab-style gate valve and FLS-R-SIP large-bore HP fracturing API Spec 6A slab-style gate valves.



Hydraulic multiturn actuator installed on a 5-in gate valve.

### Hydraulic Multiturn Actuator Specifications

FLS-R and FLS-R-SIP Valve Sizes, in	Pressure Rating, psi
4	15,000
5	10,000 or 15,000
7	10,000 or 15,000 <sup>†</sup>

Temperature rating: -40 to 180 degF.

All specifications are subject to change without notice.

<sup>†</sup> Requires a mounting bracket, included in the kit.