

PulseEight Multi-zonal ICV

TAQA's re-deployable Multi-zonal Intelligent Control Valve (ICV-M) can provide a suitable alternative to conventional surface controlled ICVs.

The PulseEight Multizonal ICV (ICV-M) is an inline tool designed to straddle a ported assembly or sliding sleeve to permit intelligent variable control of flow that typically could only be actioned by intervention, and only in an on/off scenario.

The tool permits the capability of variable choking of the isolated flow from the interval adjacent to the sliding sleeve. It enters into the PulseEight ICV-M where it co-mingles with the flow from lower intervals which have entered via the lower permanently open ports.

The upper variable ports can choke, or seal off the adjacent zone without affecting the flow coming from the lower intervals and still permit communication telemetry to any ICVs placed below.

The all-electric system is microprocessor driven and can respond to commands from surface or autonomously to changes in the well environment. The ICV-M can be reconfigured whilst in the well using TAQA's Fluid Harmonics signals transmitted from surface. The proprietary communication system is suitable for liquid, gas and multi-phase fluid environments, and in many cases can utilise the existing wellhead equipment to interface with the downhole valve.

Delivering zonal control without the need of control lines/cables, the PulseEight ICV-M can offer significant cost savings over conventional surface controlled valves and PDHGs, both in terms of specific 'Smart' well hardware, and basic well hardware which must be upgraded to be compatible with multiple control lines. In addition, the simple deployment and retrieval of the Multi-zone ICV can lead to massively reduced RIH time and costs, coupled with the ability to re-deploy where appropriate.

Features

- Easily deployed on slickline / e-line for new or retrofit installations
- Infinitely variable choke configuration for discrete control of individual zones
- Can function based on surface commands or autonomously
- Single trip installation

Benefits

- Can be deployed as required for discrete interval control
- Can be retrofitted into existing sliding sleeve completions
- Requires conventional packer design (no feed through requirements)
- Re-deployable asset, no need to permanently install



Technical Specification

| | |
|-----------------------|-----------------|
| OD | 2.50" |
| Max rate | 10,000BPD |
| Body pressure rating | 10,000psi |
| Static seal rating | 5000psi |
| Unloading seal rating | 1500psi |
| Operating temperature | 110°C |
| Power | Lithium battery |