

MC Series Interval Control Valves

Apply SmartWell® Technology in Moderate or Marginal Assets

WellDynamics' MC interval control valves (MC-ICV) are multi-position valves that provide incremental flow control over individual reservoir zones, allowing optimization of reservoir architecture downhole and maximizing recovery.

MC-ICVs offer a cost-effective solution that lets operators enjoy the benefits of SmartWell® technology while working with moderate or marginal assets.

MC-ICVs are available in a range of sizes and thread configurations, and can be coupled with either an automatic or manual control system to accommodate specific operational requirements.

Benefits

- Cost-effectively control reservoir intervals remotely without well intervention
- Apply SmartWell technology capabilities in moderate or marginal assets

Features

- Simple cost-effective design
- Bonded/nitrile/HNBR/Viton seals
- Multi-position functionality with tungsten carbide flow trim
- Manual override

How MC-ICV Works

WellDynamics surface control systems provide accurate incremental control over the MC-ICV choke trim. These systems can be tailored to fit the operator's specific needs.

The MC-ICV is fitted with a tungsten carbide flow trim to control erosion from aggressive downhole conditions. It is available in a range of sizes and can be coupled with either an automatic or manual control system to accommodate specific operational requirements.



MC-ICV Valve

MC0-ICV

The MC0-ICV is an open/close ICV capable of isolating individual reservoir zones. The main valve element is based on robust bonded nitrile seals, designed for longevity and resistance to corrosion.

MC-ICV

The MC-ICV is a multi-position ICV that provides incremental flow control over individual reservoir zones, thereby allowing optimization of reservoir architecture downhole and maximizing recovery. Accurate incremental control over the MC-ICV choke trim is achieved with WellDynamics Digital Infrastructure surface control systems, which can be tailored to fit specific needs. The MC-ICV is fitted with a tungsten carbide flow trim to control erosion from aggressive downhole conditions.

HAL30649

Specifications								
Interval Control Valve	MC Series		IV Series		HV Series			
Size (in)	2 7/8	3 1/2	3 1/2	5 1/2	2 7/8	3 1/2	4 1/2	5 1/2
On/Off Version	No	No	-	-	Available	Available	Available	Available
Choking Version	Available	Available	Available	Available	Available	Available	Available	Available
Max. OD Available (in)	4.660	5.468	5.995	8.275	4.660	5.850	7.125	8.274
Min. ID Available (in)	2.250	2.750	2.750	4.562	2.315 2.318	2.750	3.750	4.560
Min. Internal Flow Area (sq. in.)	3.98	5.94	5.94	16.34	4.20	5.94	11.04	16.38
Hydraulic Chamber Displacement (cubic inches)	11.22	11.87	15.25	43.18	10.69	12.45	16.68	26.42
Piston Area (sq. in.)	1.870	2.558	4.365	8.500	1.783	2.075	2.780	4.404
Total Stroke (in.)	6.00	6.00	-	-	6.00	6.00	6.00	6.00
Max Working Pressure Available (psi)	5,000	5,000	7,500	7,500	7,500	7,500- 10,000	7,500- 10,000	7,500
Maximum Temperature Rating Available deg° F / deg° C	275/135	275/135	275/135	275/135	275/135	275/135	275/135	275/135 325/163
Maximum Hydraulic Chamber rating (psi)	5,000	5,000	10,000	10,000	10,000	10,000	10,000	10,000
Max Differential Unloading Pressure (psi)	1,000	1,000	5,000	4,000	5,000	5,000	5,000	5,000
Shroud	Available	No	Available	No	Available	Available	Available	No
Shroud OD Available (in.)	5.500	NA	7.413	NA	5.800	6.640, 7.053, 7.070, 8.030	7.925, 8.500, 8.515, 8.535	NA
Flow Area, ID of Shroud-HVC OD (sq. in.)	3.800	NA	4.965	NA	5.030	6.450, 7.980, 7.980, 8.170	9.580, 11.840, 9.480, 9.480	NA
Deflector	No	No	No	No	No	No	Available	Available
Deflector OD Available (in.)	NA	NA	NA	NA	NA	NA	8.315	9.330, 9.335, 9.375
Flow Area, OD of HVC - ID of Deflector (sq. in.)	NA	NA	NA	NA	NA	NA	5.60	13.06

Note

- a) Special ID valves are made to order.
- b) OD of valves will be bigger if a 1/4" bypass is required for chemical injection.
- c) Chemraz® seals are standard on HV and IV series valves and are available in cold array (40° F to 275° F) and standard array (70° F to 275° F).
- d) The HV and IV series are currently undergoing qualification to extend the temp rating to 325° F and the hydraulic chamber rating to 12000 psi.
- e) The HV and IV series valves are available in various metallurgy to suit well conditions.
- f) The IV series is an infinitely variable valve with real-time pressure, temperature monitoring and positive feedback of valve position.
- g) The HV series provides incremental positioning only in conjunction with an Accu-Pulse™ module.
- h) The HV series valves come with a standard fluid or gas trim. Flow trims can be customized to suit well/reservoir parameters.
- i) The MC series valve is available as a standard where metallurgy, thread connections, flow trims, seals etc. are concerned. No customization is available.

For more information on any of the details featured here, please email us at welldynamics@halliburton.com.

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