

WELLTEC® FLOW VALVE (WFV™) FOR INFLOW & INJECTION MANAGEMENT

The Welltec® Flow Valve is a full-bore valve that can be used for both production and injection purposes within the lower completion, the rugged design enables rotation during liner deployment.

With specially designed inlets and sealing system, the Welltec® Flow Valve is qualified to open and close multiple times under differential pressure whilst maintaining flow, from both injection and production scenarios.

The full-bore design makes it ideal for intervention-enabled completions and together with Welltec® Annular Barrier providing high pressure Zonal Isolation, the Welltec® Flow Valve forms an integral part of the Flex-Well® completion.

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Welltec®

WFV™ Solutions available

- WFV™ – DP (Dual Position)
- WFV™ – CDP (Calibrated Dual Position)
- WFV™ – MP (Multi Position)
- Sand Screen integration available for all variants
- High Temperature variants available



Applications

WFV™ – DP (Dual Position)

- Applicable for wells in reservoirs with high potential for fractures
- Isolate later water/gas breakthrough in Producers
- Delay bottom-up aquifer coning or gas cap cusping
- Selective zonal injection / stimulation within Injectors



WFV™ – CDP (Calibrated Dual Position)

- Applicable for heterogeneous reservoirs
- Balance inflow profile across the reservoir via ICD design
- isolate later water/gas breakthrough in Producers
- Delay bottom-up aquifer coning or gas cap cusping
- Both Selective zonal injection / stimulation and Balanced injection profile within Injectors



WFV™ – MP (Multi Position)

- Manage inflow profile across the reservoir via ICD design
- Applicable for heterogeneous reservoirs
- Applicable for water flooded carbonate reservoirs
- Establish initial uniform zonal flow along the well
- Optimize life of well performance



WFV™ Variants Features

WFV™ – DP (Dual Position) FLOW VALVES ENABLING ISOLATION OF WATER /GAS BREAKTHROUGH

- Flow areas 1.1 x Flow Area of Base Pipe
- ON - OFF slot design.
- Low profile with minimum impact on ECD

WFV™ – CDP (Calibrated Dual Position) FLOW VALVES ENABLING DELAY & ISOLATION OF WATER/GAS BREAKTHROUGH

- Flow areas can be calibrated on site prior to deployment based on drilling information.
- ON - OFF nozzle design.
- Low profile with minimum impact on ECD
- Inlet flow geometry to minimize erosion

WFV™ – MP (Multi Position) FLOW VALVES ENABLING OPTIMIZATION OF INFLOW PROFILE AND MANGE WATER/GAS BREALTHROUGH

- Flow areas can be adjusted through life of well.
- Multiple ON positions + one OFF.
- Low profile with minimum impact on ECD
- Inlet flow geometry to minimize erosion



WFV™ Consolidated Features

- Full bore design provides smooth flow area to minimize Delta P loss
- Coatings to minimize scale deposition
- Robust seal design for manipulation under Delta P
- High burst, collapse and torque capability
- All Variants can be combined with Sand Screens

WFV™ Consolidated Benefits

- No limitation on the quantity of WFVs per main bore or lateral
- Materials to match completion and environment
- Enabler for Cementless completions in combination with the WAB (Welltec® Annular Barrier)
- Enables rotation during completion
- Simple, reliable manipulation



Deployment and Operation

- Shifting by Well Stroker actuation or drive by solution
- SRO confirmation of sleeve position
- Standard shifting profile
- Liner can be worked and rotated during deployment

Available Sizes and Specs

- From 2 7/8" WFV™ to 9 5/8" WFV*
- High Temperature WFV™ available
- Materials fit to meet Client Specifications for Pressure and Tensile
- Proper Datasheet will be deliver upon selected WFV™
- Other sizes available upon D&E request (Lead times and feasibility to be determined)

WCS PRODUCT SPECIFICATIONS

Welltec® WFV™	General Information
Product Name	Welltec® Flow Valve (WFV™)
Product Variants	Dual Position, Calibrated Dual Position, Multi Position
Standard Profile Type*	B Shifting Profile*
Primary Seal Material (non-elastomeric)	PTFE - 10% Carbon Fiber / PEEK
Secondary Seal (elastomeric)	HNBR / Aflas
Metallurgy Options	4140 / 13Cr / S13 Cr / 25 Cr / Inc 718 / 925

*Can be configured with other profile types if required

Welltec® WFV™	312WFV	412WFV*	512WFV*	658WFV*	7WFV*	758WFV*	958WFV
Base-pipe Size**	3 ½"	4 ½"	5 ½"	6 5/8"	7"	7 5/8"	9 5/8"
Maximum Burst Pressure	10,000psi	10,000psi	10,000psi	8,000psi	5,000psi	7,500psi	7,500psi
Maximum Collapse Pressure	10,000psi	10,000psi	10,000psi	8,000psi	5,000psi	6,000psi	6,000psi
Maximum Diff. Unloading Pressure	1,500psi	1,500psi	2,000psi	1,500psi	1,500psi	2,000psi	2,000psi
Max OD	4.57"	5.57"	6.89"	8.10"	8.20"	7.8"	9.8"
Min ID	Full-bore (As Per Base-Pipe ID)						
Flow Area Range Sqin	0.007 in2 > 110% of Base-pipe						
WFV™ - DP *	√	√	√	√	√	√	√
WFV™ - CDP *	√	√	√	√	√		
WFV™ - MP *	√	√	√				

*Can be configured with wire-wrap or premium mesh screens for sand control applications

**Base-pipe Weight & Grade will match application requirement