

Reclosable Annular Flow Valve (X-AFV)

Superior Completion Services’ patented X-AFV system is used to isolate a concentric flow path created between the isolation string inside the screen and blank assembly. This valve can also help maintain zonal isolation during production installation without being pressure sensitive.

The X-AFV is utilized in the upper interval of a multi-zone completion to provide positive isolation after stimulation treatments have been completed. The valve is hydraulically actuated by creating a pre-set ID to OD differential across the actuating piston. The valve includes a balancing feature, which prevents treating pressure from prematurely shearing and shifting the actuating piston until the production seals are landed. Formation pressure has no effect on valve actuation.

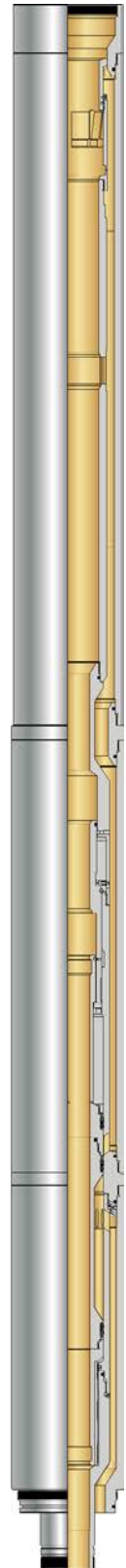
The valve is commonly used to isolate the upper zone of a dual completion or the upper zone of an intelligent well completion.

APPLICATIONS

- Interventionless zonal isolation and production initiation
- Fluid loss control
- Deviated wellbores
- Completion designs with limited tubing ID access
- Intelligent and multizone completions
- Post-completion zonal isolation

Features and Benefits

- Optimized flow areas for maximum production
- Interventionless actuation reduces operational risk and overall project cost
- Mechanical backup profile with compatible shifting tool
- Mechanically reclosable to provide an isolation barrier
- Balanced design prevents premature actuation until seals are in place
- Provides positive bidirectional zonal isolation
- Unlocked position maintains pressure integrity
- Can be used in 7 to 10 3/4 in. (177.8 to 273.1 mm) casing sizes
- Tubing-pressure actuated
- Ideal for use in deepwater intelligent completions where mechanical access is not possible



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TECHNICAL DATA

Reclosable Annular Flow Valve																	
Nominal OD		Minimum ID		Flow Area Through Valve		Flow Area Through ID		Sealbore Size		Frac Mode Pressure		Temperature Rating		Nominal Shear Range		Type B Shifting Profile	
inch	mm	inch	mm	inch ²	cm ²	inch ²	cm ²	inch	mm	psi	MPa	°F	°C	psi	MPa	inch	mm
5.56	141.2	4.2	106.7	3.8	95.3	2.19	55.6	3.3	82.6	12,500	86.2	250	121	1,830-8,676	12.6-59.8	2.188	55.6
7.26	184.4	7.5	190.5	5.2	130.8	2.56	65.1	4.0	101.6	12,500	86.2	250	121	1.572	10.8	2.562	65.1
7.26	184.4	7.5	190.5	6.2	157.5	2.81	71.5	4.0	101.6	12,500	86.2	250	121	1.572	10.8	2.813	71.5
7.70	195.6	6.2	157.5	5.2	130.8	2.56	65.0	4.0	101.6	15,000	103.4	350	177	1,971-7,697	13.5-53.1	2.56	65.0

REFERENCES

- ComPlete™ system data sheets (FP, FPDZ)
- ISO isolation system data sheet
- Intelligent well completion system data sheet