

Pressure-Actuated Circulating Valve

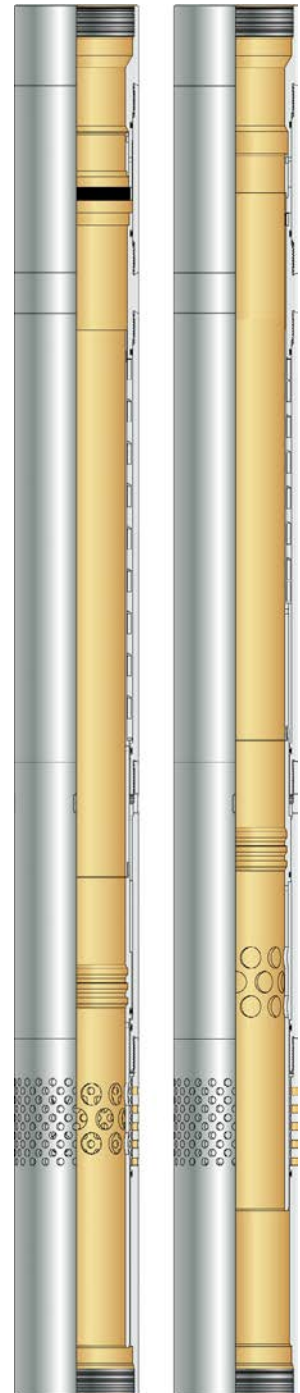
Superior Completion Services' patented **Pressure-Actuated Circulating (PAC) Valve** provides complete isolation of the productive interval during all phases of completion operations. The PAC valve operates hydraulically and requires no mechanical well intervention to initiate production. Once actuated, the valve provides a full-open flow path into the production tubing. Actuation is initiated by applying differential pressure from valve ID to OD. Initial actuation pressure unlocks the valves while maintaining pressure integrity (this patented PAC valve actuation method allows multiple valves to be in the same pressure cycle). Reducing the actuation pressure to equal the annular pressure allows the valve to cycle to the full open position.

APPLICATIONS

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

Features and Benefits

- Optimized flow areas for maximum production
- Interventionless actuation reduces operational risk and overall cost of completion
- Balanced design prevents premature actuation until seals are in place
- Provides positive bidirectional zonal isolation
- Redundant lock open system
- Unlocked position maintains pressure integrity
- Can be used in 5 to 10 3/4 in. (127.8 to 273.1 mm) casing sizes
- Tubing-pressure actuated
- Ideal for use in deepwater intelligent completions where mechanical access is limited



Pressure-Actuated Circulating Valve

TECHNICAL DATA

Pressure-Actuated Circulating Valve												
Tubing Size		Maximum OD		Minimum ID		Temperature Rating		Differential Pressure Rating		Shifting Profile	Nominal Shear Range	
inch	mm	inch	mm	inch	mm	°F	°C	psi	MPa		psi	MPa
2 3/8	60.3	2.75	69.9	1.88	47.6	350	176.7	10,000	68.9	B	1,406-6,520	9.7-44.1
2 7/8	73.0	3.19	80.9	2.189	55.6	350	176.7	10,000	68.9	B	1,325-6,400	9.1-44.1
3 1/2	88.9	3.93	99.8	2.81	71.5	350	176.7	10,000	68.9	B	1,640-7,224	11.3-49.8
3 1/2	88.9	4.01	101.85	2.750	69.85	350	176.7	10,000	68.9	B	1,905-8141	13.13-56.13
3 1/2	88.9	3.99	101.35	2.562	65.07	350	176.7	15,000	103.5	B	1,820-7,841	12.5-54.0
4 1/2	114.3	4.77	121.0	3.50	88.9	250	121.1	10,000	68.9	Sup	1,440-2,880	9.9-19.9
4 1/2	114.3	5.51	139.95	3.688	93.67	350	176.7	15,000	103.5	B	1,845-8,762	12.7-60.4
5 1/2	139.7	6.07	154.2	4.82	122.5	250	121.1	8,000	55.2	Sup	1,910-3,660	13.2-25.2

REFERENCES

- ComPlete™ System data sheets (FP, FPDZ, HST)
- HPR Isolation System data sheet
- ISO Isolation System data sheet
- Screen-wrapped sleeves data sheet