

## COMPLETION SOLUTIONS | SUBSURFACE SAFETY VALVES

# AV annulus safety valve

Fully-retrievable, high-performance annular safety system

## FEATURES

- Interlock system prevents preset
- Tubing test facility while running
- Hydraulically set in one trip on tubing with no mandrel movement
- Annulus-mounted release mechanism
- Internal/external components rotationally locked together
- Element anti-extrusion system
- One-trip system allows multiple control-line bypass
- Premium thread connections—no elastomeric seals tubing to annulus
- Primary release method is applied tubing pressure using dedicated punch release tool on slickline
- Secondary release method available with simple tubing cut

## BENEFITS

- Tubing test facility allows hydraulic production packer to be set and tested before AV annulus safety valve is set
- Provides capability to act as redundant wellhead
- Multiple control-line bypass allows safety valve control, chemical injection, and addition of downhole gauge below the valve
- Multi-cone slip provides large casing contact, which minimizes slip to casing stress levels
- Single elastomeric seal between the lower and upper annulus minimizes potential leak paths. All other elastomeric seals are redundant after setting procedure
- Annulus release mechanism removes potential leak path tubing to annulus and cannot be accidentally released during wireline runs
- System run and retrieved with production tubing
- Primary punch release method permits retrieval of ASV with tubing—no tubing cut required

## Overview

The AV annulus safety valve system is a fully retrievable high-performance packer with an integral annulus safety valve. It provides annular bypass through a hydraulically operated poppet valve. This system is run in a single trip in conjunction with a setting sub that can be shifted to set hydraulic tubing or can be alternatively set using control line from the surface. The system incorporates premium tubing threads to permit connection to the tubing string and can be configured to accommodate multiple bypass, hydraulic, and electric control lines.

The AV annulus safety valve is deployed as part of the upper completion string and is typically designed to suit 9 5/8-in. and 10 3/4-in. casing sizes. The system can be configured to be set from below using a tubing mounted accessory or from above using a dedicated control line. It is retrieved with a dedicated tubing puncher tool run on wireline and applied tubing pressure. This permits recovery of the production tubing string and the annular safety system together.

## Applications

- Annulus fluid control in gas-lift applications
- Annulus pressure monitoring in critical situations
- Single or two-trip annulus safety system completions (completion can be run to depth and set with the surface tubing hanger flanged up)
- Completions where space out against a subsurface tubing hanger is necessary (i.e., no elastomeric expansion joint necessary)
- Where high tensile loads and pressure differentials exist with the completion anchored in unsupported or casing of poor-condition



HCT3038-004

AV annulus safety valve

AV annulus safety valve specifications

CASING				THREAD SIZE		MAXIMUM OD		MINIMUM OD		PRESSURE RATING	
SIZE		WEIGHT									
IN.	MM	LB/FT	KG/M	IN.	MM	IN.	MM	IN.	MM	BELOW PSI	BELOW BAR
9 5/8	244.48	43.5	64.74	5 1/2	139.7	8.475	215.27	4.680	118.87	5,000	344.5
		47.0	69.94								
		53.5	79.61								
10 3/4	273.05	55.5	82.60	5 1/2	137.7	9.480	240.79	4.680	118.87	5,000	344.5
		60.7	90.34	7	177.8	9.405	238.89	5.963	151.46		
		65.7	97.77	5 1/2	139.7	9.250	234.45	4.680	118.87		

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