

RDDK-2A Shearable Orifice Gas-Lift Valve

Provides operational efficiency while also enhancing flow performance to maximize the production rate and reduce nonproductive time

Applications

- Wells in which casing-to-tubing communication is desired to begin gas-lift operations without wireline intervention
- Wells requiring equipment to be wireline retrievable
- Wells that require high injection rates to enhance production rates
- High-profile wells with high intervention cost

Features and Benefits

- With its hollow valve body and flow-through latch, the valve senses tubing pressure before it opens, which prevents premature valve opening.
- The valve can be manufactured from various materials and customized to fit well conditions.
- The integral reverse-flow check valves provide a barrier to tubing-to-casing communication when well containment is needed.
- The assembly can be equipped with the Weatherford QS-type reverse-flow check valve, which has a combination modified-PTFE and metal-to-metal seal, or the Q-type reverse-flow check valve, which has a strictly metal-to-metal seal. This enables optimal performance, customized for specific well conditions.
- The aerodynamic check dart—designed using computational flow dynamics and physical testing—provides maximum gas passage and erosion resistance.
- The valve is compatible with all manufacturers' gas-lift mandrels that meet American Petroleum Institute (API) 19G1 standards.

Tool Description

The Weatherford RDDK-2A gas-lift valve is specifically designed for deepwater or other high-profile well applications. It is a wireline-retrievable, shearable orifice valve with a 1 1/2-in. nominal outside diameter (OD). Upon initial installation, the valve functions as a dummy valve and facilitates the completion test by applying pressure in the annulus. After a predetermined amount of pressure is applied to the annulus, the fracture rod breaks and the valve operates as an orifice valve.



Cutaway of the RDDK-2A shearable orifice gas-lift valve



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Depending on operator preference and specific well conditions, the assembly can be equipped with the Weatherford QS-type reverse-flow check valve, which has a combination modified-PTFE and metal-to-metal seal, or with the Q-type reverse-flow check valve, which has a metal-to-metal seal. These check valves were designed by applying computational flow-dynamics analysis and physical testing to maximize gas-passage capability and erosion resistance.

Weatherford RDDK-2A gas-lift valves can be provided to meet API 19G2 V-1 certification, which is currently the highest standard in the industry.

Specifications

Valve Model	Valve Model Number	Latch Type	Valve OD	Shear-Pressure Range	Choke Size
RDDK-2A	0218-XXX	RKP	1.50 in. (38.10 mm)	1,000 to 6,500 psi (6,895 to 44,816 kPa)	3/16 in. (4.76 mm)
					1/4 in. (6.35 mm)
					5/16 in. (7.94 mm)
					3/8 in. (9.53 mm)
					7/16 in. (11.11 mm)
					1/2 in. (12.70 mm)

