

## RV-1 Venturi Orifice Valve

Provides enhanced gas-lift flow performance and dependability by maximizing production and reducing nonproductive time

### Applications

- Wells requiring equipment to be wireline retrievable
- Wells that require high injection rates to maximize production rates
- High-profile wells with high intervention cost

### Features and Benefits

- Provides maximum gas passage with minimum differential between injection pressure and production pressure, which enables a lower injection point and higher production rates.
- Increases the injection volume capability through 1-in. gas-lift valves in wells with large tubing—without requiring installation of multiple standard, wireline-retrievable gas-lift valves at the injection point.
- Reduces needed gas-injection pressure by requiring lower differential pressure between the casing and tubing to maximize flow performance.
- Aids in achieving critical flow in unstable wells, which contributes to well stability.
- Contributes to optimization and stabilization of dual-gas-lift wells by means of more exact orifice sizing, which enables both production strings to produce simultaneously.

### Tool Description

Weatherford RV-1 wireline-retrievable gas-lift orifice valves feature a special Venturi flow area that significantly reduces gas-flow friction. Designed specifically for deepwater or other high-profile well applications, these valves can achieve critical flow with only 10% pressure drop across the valve; standard orifice valves require about 40 to 50% pressure drop to achieve critical flow. This enhanced performance enables RV-1 orifice valves to deliver higher injection rates at deeper injection points—with a more stable flow regime and at a lower operating cost.

Weatherford RV-1 valves can be equipped with the Weatherford premium reverse-flow check valve, which has a combination modified-PTFE and 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.



*Cutaway of the RV-1 Venturi orifice valve*



# RV-1 Venturi Orifice Valve

## Specifications

Valve		Latch Type	Valve OD	Port Size
Model	Model #			
RV-1	3301-XXX	BK-2	1.00 in. (25.40 mm)	1/8 in. (3.18 mm)
				5/32 in. (3.97 mm)
				3/16 in. (4.76 mm)
				1/4 in. (6.35 mm)
				5/16 in. (7.94 mm)

