

NOVA

Gas lift valves

APPLICATIONS

- Continuous flow production

BENEFITS

- Maximizes efficiency
- Reduces costs
- Improves productivity

FEATURES

- Computer-generated flow profile
- Stabilized, lower injection pressure
- Simple, versatile, field-proven design

NOVA* gas lift valves feature a computer-generated flow profile that enables maximum gas passage with minimal differential across the valve. The NOVA valve flow regime virtually eliminates any effect of tubing pressure on the gas injection rate and stabilizes the gas injection pressure. Stable injection rates can result in more stable tubing pressure, increased production, and reduced operating expenses.

The NOVA valve series replaces conventional orifice valves that have inherently unstable injection rates because of the effect of tubing pressure. Even slight variations in the tubing flow regime can lead to wide fluctuations in the tubing pressure and result in unsteady injection rates, instability, and slugging.

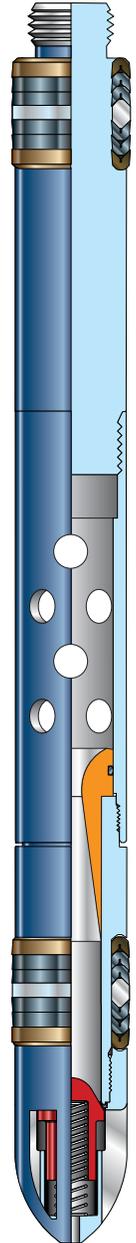
Conventional flat-faced orifice valves require an approximately 40% pressure drop to achieve critical flow; in most cases, operating with such excessive pressure loss is not practical. NOVA valves achieve critical flow with a pressure drop of 10% or less. Injection rates are constant when operating in the critical flow regime because the tubing pressure does not affect the injection volume.

Higher productivity and lower costs are achieved with innovative engineering, a field-proven design, and the same number of moving parts as a typical flat-faced gas lift orifice valve. In addition, NOVA valves fit in any existing side pocket mandrel.

Operation

The NOVA valve uses an orifice venturi check valve for continuous flow operations. Injection fluid or gas enters through the entry ports and then flows through the orifice venturi. Injection pressure moves the check valve off the seat, allowing gas to enter the tubing. Reverse flow pushes the check valve closed, preventing tubing fluids and pressure from flowing back into the casing.

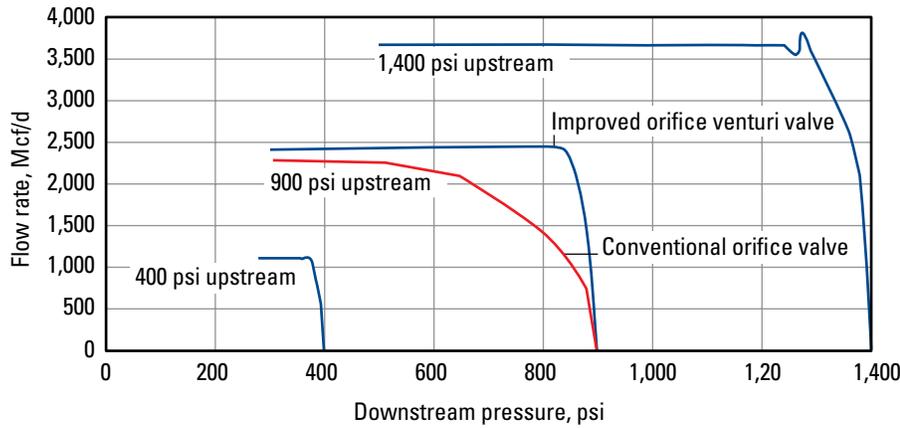
For injection of gas from the tubing to the casing annulus, the valve is installed in a mandrel with a type EC pocket, which has tubing ports between the seal-bores in the mandrel pocket. Injection gas flows out the bottom of the valve, through the mandrel snorkel into the casing or tubing annulus.



NOVA orifice venturi

Engineering Data for Retrievable NOVA Gas Lift Valves

Valve Type	Nominal OD, in [mm]	Latch	Running Tool	Pulling Tool	Mandrel Series
10	1.000 [25.4]	BK series	JK	JDC	KBM, KBMM, KBMG, KBG
15	1.500 [38.1]	RA	JC-3	JDC	MMA
15	1.500 [38.1]	RK	RK-1	JDS	MMM, MMG, MMRG



NOVA valves achieve critical flow with a pressure drop of 10% or less, while conventional orifice valves require an approximately 40% pressure drop.