



Non-Return Valves

Cook Compression® non-return valves (also called check valves) provide a reliable safeguard against reverse flow in the discharge pipework from reciprocating compressors. The valves maintain line pressure in the event of unexpected decompression, preventing contamination of the process, protecting equipment against damage and improving safety.

Cook Compression custom designs each non-return valve based on pipe size, flow rate, pulsations, pressure, temperature and gas composition to ensure the lowest pressure losses and highest reliability.

RELIABLE VALVE CLOSING

At the heart of the Cook Compression non-return valve is a discharge plate valve from the proven Cook Compression Optima™ valve series.

To ensure the valve closes quickly during gas reversal, Cook Compression optimizes the plate mass and the springing based on the application flow rate. A steel plate provides a good initial seal, while a frictionless guide minimizes wear for extended component life.

Since each non-return valve is designed to the specified mass flow rate and pulsations, Cook Compression non-return valves do not experience flutter, thus maintaining their sealing effectiveness. For non-return valves that must accommodate a range of flows, Cook Compression valve designers work with the customer to achieve maximum performance.

THE RIGHT FIT

Cook Compression non-return valves feature single-piece upper and lower housings, typically in a flanged design for added safety. Flanged housings allow for flange to flange connection that uses shorter bolts that will extend less in case of extreme heat and will be less prone to failure.

ADVANTAGES

- Quick, effective seal without slamming or flutter
- Large flow area for improved efficiency
- Design options to fit your application
- Optimized for pipe size, flow rate, pulsations, pressure, temperature and gas composition
- Highly experienced valve engineering staff
- Hydro, PMI, leak, fugitive emission, and PED testing



Bell-shaped flanged housings provide space for large insert valves, to achieve greater flow and minimize the pressure drop that can characterize other non-return valves. Straight or neck-down flanged housing designs are also available, as the discharge valve requires.

Where minimizing the equipment footprint is a priority, the more compact wafer housing may be used.

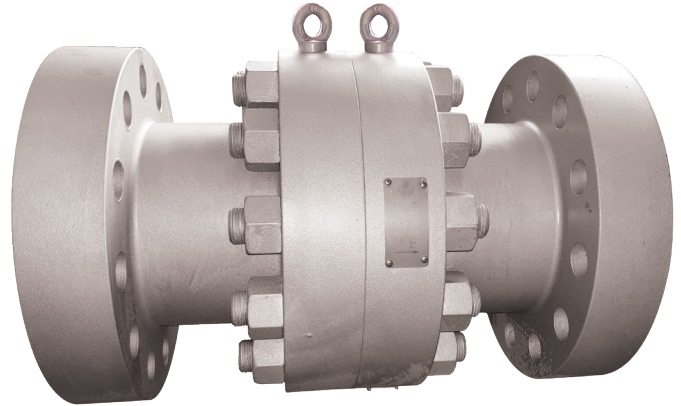
Designs can be made to fit raised face (RF) pipe flanges (most common in process plant applications) or ring type joint (RTJ) flanges. For corrosive applications, housing materials are available to meet NACE specifications.

TESTED PERFORMANCE

Cook Compression non-return valves are not only customized for the specific operating conditions, but each design is FEA verified, hydro tested for integrity, PED certified and fugitive emission tested per customer requirements.

TECHNICAL DATA	
Flow Type	Air or gas; pulsating or constant
Connection Type	Flange to flange; between flanges; Grayloc® connector*
Pressure Rating	ASME 150 to 2500 (PN 20 to 420)
Nominal Pipe Size (Diameter)	ASME B16.5 1" – 16" (25.4 to 406 mm)
Temperature Range	Cryogenic – 350°C (662°F)
Δ Pressure	0 – 250 bar (0 – 3,600 psi)
Available Certifications	PED, category 1 to 4 SPE 77/312

*Grayloc® is a registered trademark of Grayloc Products, L.L.C.



Straight flanged housing



Bell-shaped flanged housing



Compact wafer housing