



Hydraulic Decoking System

Rotary Joint

Under its Worthington®, Pacific® and IDP® heritage names, Flowserve hydraulic decoking systems are installed in more than 150 refineries worldwide.

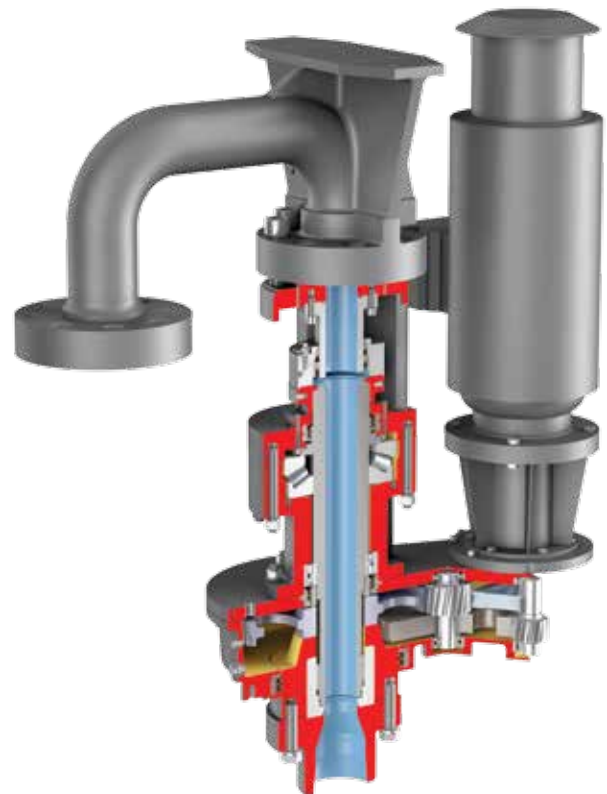


High-Pressure Rotary Joint

Flowserve has combined the best features of the Pacific and Worthington rotary joints for its standard offering in decoking systems. A robust, heavy-duty piece of equipment, the rotary joint is designed to support the suspended loads experienced on coking units. Flowserve is continually upgrading its rotary joint to accommodate today's higher cutting pressure requirements.

The function of the rotary joint is to transmit cutting fluid from the stationary hose connection to the drill stem and provide rotary motion to the drill stem. Additionally, it:

- Carries axial loads of the drill stem and cutting tool
- Seals hydraulic pressure against atmosphere



Experience In Motion

Cast Gooseneck

The cast gooseneck features an increased wall thickness and eliminates welds to reduce the wear from abrasive cutting water. This design also reduces the moment acting on the crosshead by shortening the length between the decoking hose and the rotary joint.

Multiple Flange Sizes

ANSI Class 2500 flanges are standard, with multiple sizes and ratings available to fit any decoking system.

Standard Dual Seal Cartridge Design

The dual seal feature of the cartridge allows for the safe operation of the rotary joint in the event of a failure of the primary seal, which is indicated by the integral bleed valve. After closing the bleed valve, the secondary seal will engage, giving the seal additional run time and allowing for the planned repair of the cartridge.

The dual seal cartridge is designed for quick replacement in the field and replaces previous seal designs. The new design features upgraded materials that allow for changes in component geometry, resulting in weight reductions that ease installation.

- Four-year seal life design
- 40% less weight
- Bolt-in assembly



Rotary Joint Drive Options

- Air piston motor
- Hydraulic
- E-motor (with VFD)

Maintenance

The Flowserve rotary joint is designed to provide reliable service with minimal preventive maintenance. Periodic bearing lubrication inspection assures long mean time between failure (MTBF) and lubricant changes are required only after extended operating times.

Flowserve Rotary Joint Basic Specifications

| | |
|---------------------|--|
| Axial load capacity | 600 kN (135 000 lbf) |
| Torque capacity | 17 000 Nm (12 540 lb-ft) |
| Speed | 2 to 16 rpm |
| Pressure | |
| – Standard | 431 bar (6250 psi) |
| – Optional | 205 bar (3000 psi) |
| Flow | 350 m ³ /h (1540 GPM) |
| Inlet Flange | |
| – Standard | 5 in RTJ 2500 lb |
| – Optional | 5 in RTJ 1500 lb Other by request |
| Outlet Flange | |
| – Standard | 6 in Compact 2500 lb |
| – Optional | Other by request |
| Drive Options | Pneumatic Hydraulic Electric w/VFD |

Bulletin PSS-90-6.3a (E) November 2013.
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