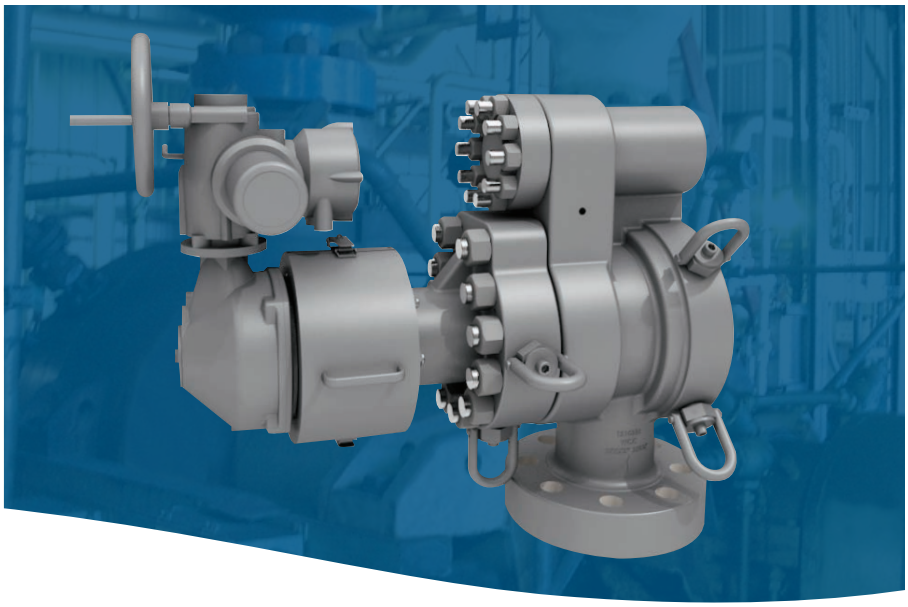
Decoking Control Valve

Hydraulic Decoking Systems

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



Flowserve Decoking Control Valve

The Flowserve Decoking Valve uses proven designs to provide trouble-free operation in the harsh decoking service. When maintenance is required, the valve can be completely refurbished at the plant site in less than a day.

The Flowserve decoking control valve controls the flow from the jet pump, with a single valve providing three distinct functions:

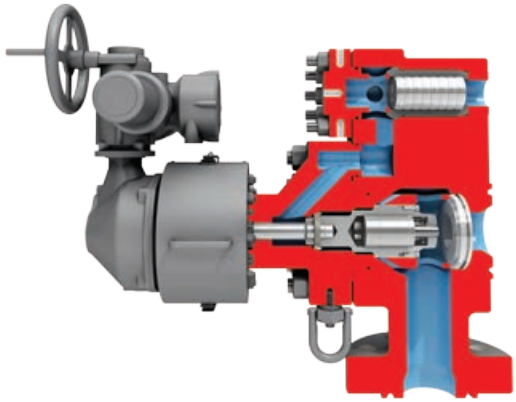
- Recirculation (bypass) flow control for pump protection
- Pre-fill of decoking lines, hoses, manifolds, etc., at a predetermined reduced flow rate to prevent water hammer
- Full flow to the decoking tool nozzles. Very low pressure drop (high Kv [Cv]) in full flow for reduced energy consumption

Cavitationless Design utilizes stacked orifice plates to gradually drop pressure across the valve without damaging internal components.

Short Stroke, Single Stem Operation assures no unwanted overlap of functions.

Non-clogging Design passes particles up to 3 mm (⅛ in).

Ultra-compact Design means less weight and a smaller size envelope.



Cartridge Design features field-removable orifice stacks for ease of maintenance.

Simple Installation is suitable for direct mounting on the jet pump.

Stainless Steel inlaid at all gasket surfaces.

Replaceable, Hardened plug and seat surfaces.

Instant Return to any operating mode upon command.

Dimensionally Interchangeable with Pacific heritage decoking control valve.

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Cost-Effective Solution

- Lower initial cost than alternative valve designs
- Lower lifetime maintenance cost than alternatives
- Design and maintenance simplicity with minimal moving parts
- No foundation required

Actuation

Limitorque® motor operator is standard. Optional double-acting pneumatic actuator with positioner is available with 5.5 bar (80 psi) to 7 bar (100 psi) air supply requirement.

Specifications	
Sizes	6 in x 6 in x 3 in 8 in x 8 in x 4 in
Flange Ratings	Class 1500 Class 2500
Body Material	CF8M
Actuator Types	Electric Pneumatic

Decoking Valve Operating Modes

Bypass

- Bypass mode provides the minimum flow required by the jet pump to prevent deadheading.
- As liquid enters the valve, it is diverted through the bypass stack, and cycled back to the supply tank.
- The stack is made up of multiple orifice plates that gradually drop the liquid pressure, avoiding the cavitation damage commonly found in other valve types.
- The valve should always be in bypass mode before starting the jet pump.

Pre-fill

- This mode performs a low pressure pre-fill sequence until the system lines are filled with liquid.
- The center stem retracts slightly, allowing liquid to pass through the plug stack. This drops the flow rate and pressure of the liquid before entering the system lines.
- This mode allows the system to start without damaging water hammer effects.

Decoking

- Decoking mode provides full flow to the cutting tool with minimal pressure drop.
- After pre-fill, the stem continues to retract, pulling the plug stack off the hardened valve seat.
- This mode is initiated any time after the decoking line is completely filled with liquid and all air expelled.
- To stop full flow, return the valve to bypass mode.

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To find your local Flowserve representative:

For more information about Flowserve Corporation, visit www.flowserve.com or call +1 937 890 5839.

USA and Canada
Flowserve Corporation
5215 North O'Connor Blvd.
Suite 2300
Irving, Texas 75039-5421 USA
Telephone: +1 937 890 5839

Europe, Middle East, Africa
Flowserve Corporation
Parallelweg 13
4878 AH Etten-Leur
The Netherlands
Telephone: +31 76 502 8100

Latin America
Flowserve Corporation
Martín Rodriguez 4460
B1644CGN-Victoria-San Fernando
Buenos Aires, Argentina
Telephone: +54 11 4006 8700
Telefax: +54 11 4714 1610

Asia Pacific
Flowserve Pte. Ltd.
10 Tuas Loop
Singapore 637345
Telephone: +65 6771 0600
Telefax: +65 6862 2329