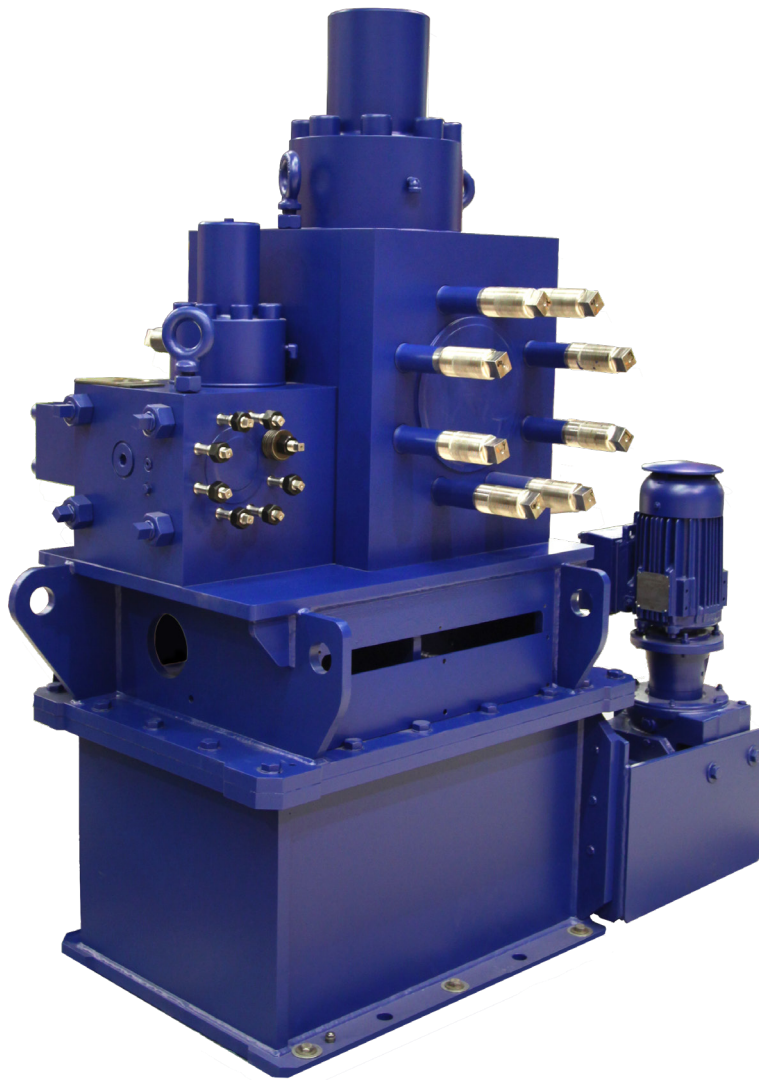


ELWOOD[®]

**FLUID
POWER**

DECOKING CONTROL VALVE



195 West Ryan Road
Oak Creek, WI 53154

414-764-7500
info@elwood.com

www.elwood.com/fluidpower.html

Long Legacy of Service to the Refining Industry

In 1803, less than a decade after Joseph Bramah ushered in the era of modern hydraulics by patenting the first hydrostatic press, the R.D. Wood & Griffin Pipe Companies were established, manufacturing water valves and pipes. In 1851, the Charles Elmes Engineering Works was established and later became the Elmes Press & Valve Company to manufacture water valves, systems, and presses. These two companies existed independently until the early 1960's when they were purchased by the Nordberg Heavy Machinery Group of Milwaukee. In 1972, Rex Chainbelt bought the Nordberg Heavy Machinery Group, changing the name of the company to Rexnord. In 1983, Elwood purchased the Hydraulic Products division of Rexnord and formed the Fluid Power Group of Elwood.

The R.D. Wood and Nordberg decoking product lines that came with this purchase from Rexnord has a long history of service to the refining industry that dates back to 1938 with the sale of the first decoking unit to Shell Petroleum Corporation in Wood River, Illinois. Since that time, the list has grown to include a worldwide base of customers.

Companies

Ameriven	Frontier Refining	Pertamina
Asiatic Petroleum	Gelsenberg Benzin, AG	Petrobras
Atlantic Richfield	General Petroleum	Pure Oil
Bongaigaon	Gulf Oil	Shell Compania
Canadian Natural Resources Ltd.	Hyundai Oilbank	Shell Petroleum
Chevron Oil	Imperial Oil	Sinclair Refining
Chevron Texaco	Koch Refining	Skelly Oil
Citgo	Magnolia Petroleum	Socony Vacuum Oil
Cities Service	Marathon Oil	Standard Oil
Clark Oil and Refining	Mitsubishi Kasei	Suncor
Coastal States Petrochemical	Mobil Oil	Union Oil
Conoco Phillips	Motiva Enterprises	Union Pacific
Continental Oil	Numaligarh	Valero
Crown Central Petroleum	Ohio Oil Company	
Exxon	Pasadena Refining	

Countries

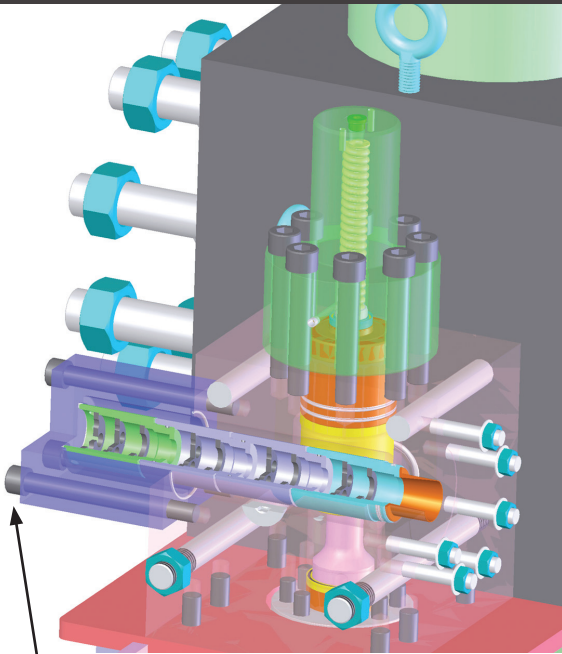
Argentina
Brazil
Canada
Chile
Germany
India
Indonesia
Japan
Russia
South Korea
Spain
United States
Venezuela

Decoking Valve Technical Data

Maximum	Operating Pressure		6,000 PSI 420 bar	Main Valve	Sealing Material	Stainless Steel, Resilon, & Viton	Bypass Valve	Sealing Material	Stainless Steel, Resilon, & Viton	Other Data	Internal Material (High Pressure Area)	Stainless Steel
	Water Temperature		90 °C 194 °F								Body Material	Stainless Steel
Flow Rate	8" x 3"	2,000 GPM 7,600 LPM	Flange	2,500 lb. Ring Type Joint	Flange	300 lb. Raised Face	Other Data	Largest Diameter Size Particulate to Pass		5 mm		
	6" x 3"	2,000 GPM 7,600 LPM										

Integrated Orifice Design

The integrated orifice design provides a compact and easy to maintain reliable pressure reducing element in the decoking valve product. The single sleeved design provides superior performance over the stacked plate designs by eliminating multiple sealing areas.

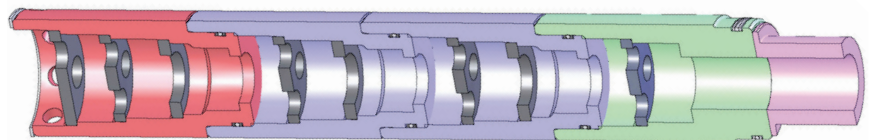


Easy Service:
Remove four
bolts and cap

Advantages of this design include:

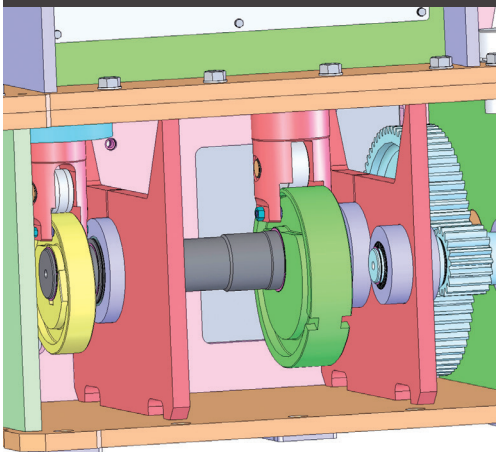
- Easily serviced by removing 4 bolts and cap located on the bypass valve
- Non-clogging design
- High reliability
- Optional differential pressure transducer wear on the orifice packs can be monitored to allow servicing during a planned maintenance.

Individual Stainless
Steel Orifice Design



Precise Valve Control

The valve spindles are mechanically linked to the CAMs providing precise, accurate position control of both the main and bypass valves in the forward and reverse directions.



Other advantages of directly linking the CAM and spindle include:

- Elimination of valve chatter during operation
- No external pilot valves required
- No external air supply required to operate air cylinders
- Positive pre-fill positioning
- Direct coupling to motor and gearbox provides capability to reverse valve direction from pre-fill back to bypass.
- Mechanical position control protects the pump from both valves open or both valves closed at the same time.

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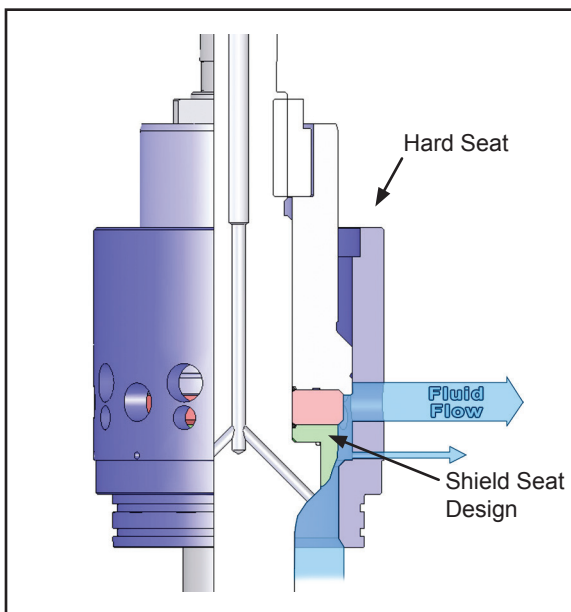
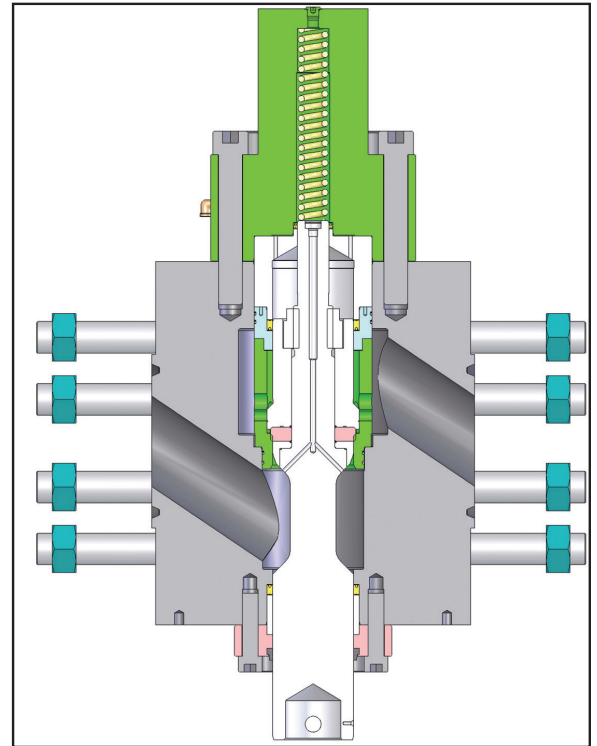
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Spindle Design

At the heart of the decoking valve is the balanced spindle technology used to control the flow of fluid. This design has a proven track record with over 100 worldwide installations going back to the first decoking valve shipped in 1938.

Over the years, we have responded to the needs of our customers to increase the pressure and flow requirements of the decoking valve. These requirements have been the catalyst for several innovations and enhancements to the basic spindle design.



Shield Seat Design

The contour of the spindle above and below the composite disc is used to meter flow, controlling the effects of high fluid velocities. When the spindle is opening, the gap between the seat and the disc accelerates faster than the gap between the spindle and bores, minimizing the effects of high velocity fluids acting on the seat and disc. This innovation provides superior valve life.

Hard Seating Material

Decoking units have hard seating materials to ensure drop tight sealing with long life.

Maintenance

Spindle design consists of 5 components that can be easily serviced without moving the valve unit or disconnecting the piping.

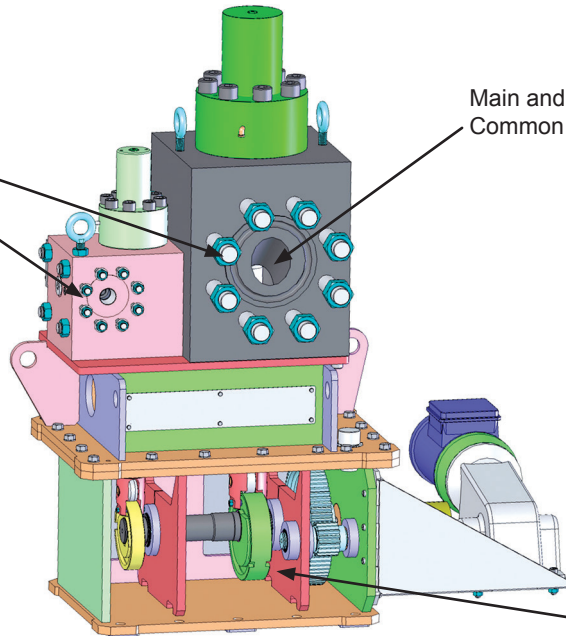
Innovative Product Enhancements

The original R.D. Wood and later Nordberg Decoking Valve was specifically designed and built to meet the demanding requirements of the refining industry. Technical and design enhancements have been implemented based on our long history and valued partnerships with our customers.

Front View

Flange connections integrated into valve bodies.

Main and Bypass Valves have Common Input Port

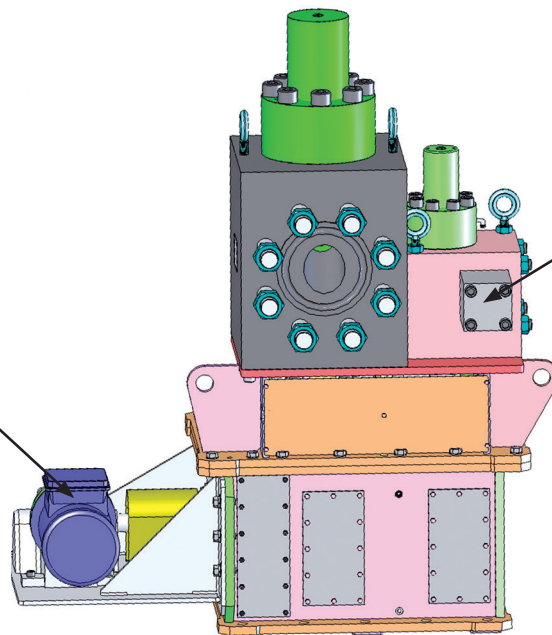


Motor Driven Cams Mechanically Linked to Spindle

Rear View

Heavy Duty Motor and Gearbox with Encoder Feedback

Integrated Orifice Pack with Single Sleeve Design. Remove Four (4) Bolts for Easy Servicing.



Other Innovations:

- Safety Interlock
- Improved Spindle Design with Hard Seat

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Elwood Fluid Power is proud to provide high pressure hydraulic valves and systems for water and other low viscosity applications. Traditionally, Elwood custom valves have been used in steel mills, aluminum mills, and petrochemical facilities across the world!

Today Elwood is expanding its markets into custom high pressure water or low viscosity applications across many industries. Contact us today to start talking with our team!

Water and Low Viscosity Hydraulics

2-, 3- & 4-Way Directional Control Valves

As one of the most fundamental components in hydraulic and pneumatic machinery, directional control valves are responsible for stopping, allowing, and changing direction of fluid flow from one or multiple sources.

Packed Spool 4-Way Directional Control Valves

Deliver precise valve control through air actuated function.

Pressure Control Valves

Named for their primary function, pressure control valves provide relief, reduce, or stop system pressure.

Isolation Valves

Utilize system maintenance with the ISO-Lock valve by isolating manifold mounted directional control valves without shutting the entire system down.

2-Way Valves

- Descaling applications
- Pump unloading & bypass applications
- Stopping applications

Accumulator System Shut-Off Valves

As system pressure builds, this safety valve shuts off pressure when determined levels are reached.

Decoking Control Valves

Assisting the refinery industry since the late 1930's, Elwood's decoking control valves have come a long way. Support provided is for older Nordberg and Rexnord valves. Newer designs feature additional beneficial characteristics. Available in spindle and cartridge designs, customized to fit your needs.

Valve Stands & Manifolds

ELWOOD POLICY STATEMENT

It is the policy of Elwood to provide our customers with products that meet or exceed their expectations for performance, reliability and safety while ensuring compliance with applicable laws and regulations, and to continually improve all aspects of our business.

