

Eaton's Pump and
Motor Products

Char-Lynn® Motors
Eaton® Pumps and Motors

Hydrokraft® Pumps and Motors
Vickers® Pumps and Motors

Powering Business Worldwide

EATON

Powering Business Worldwide

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We have some of the most demanding customers in the world. They know how products perform in real-life conditions, and they expect the best from us. From design to manufacturing, we work to meet the very toughest specifications—or surpass them.

Eaton's Pump and Motor Products Catalog

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Reasons to Choose Eaton

Eaton's Hydraulics Group offers the most complete world-class hydraulic services, systems, and solutions.

From Mobile to Industrial

Eaton provides hydraulics to mobile OEMs in the agriculture, construction, mining, marine, and lawn and garden markets. Eaton is also a major force in providing hydraulic components and systems to leading industrial OEMs.

From world-class engineering capabilities in system design assistance to comprehensive service and technical support after the sale, Eaton is committed to one clear objective: complete customer satisfaction.

Global Distribution

Please contact your nearest Customer Service.

Designed to Your Specifications

Eaton supports the needs of design engineers with products that meet a range of specifications. Your engineers can consult with Eaton to determine the exact flow, torque and displacement needs of the required components for any vehicle or machine.

Remanufactured Products

Eaton also offers an extensive line of remanufactured parts and components that meet the same exacting standards as the original products, including:

- Eaton medium-duty and heavy-duty piston pumps and motors
- Vickers vane cartridge kits for pumps and motors
- Vickers piston rotating groups and complete units

We are your source for authentic remanufactured products. Our ISO 9001:2000 certified facility stands ready to meet your aftermarket needs.

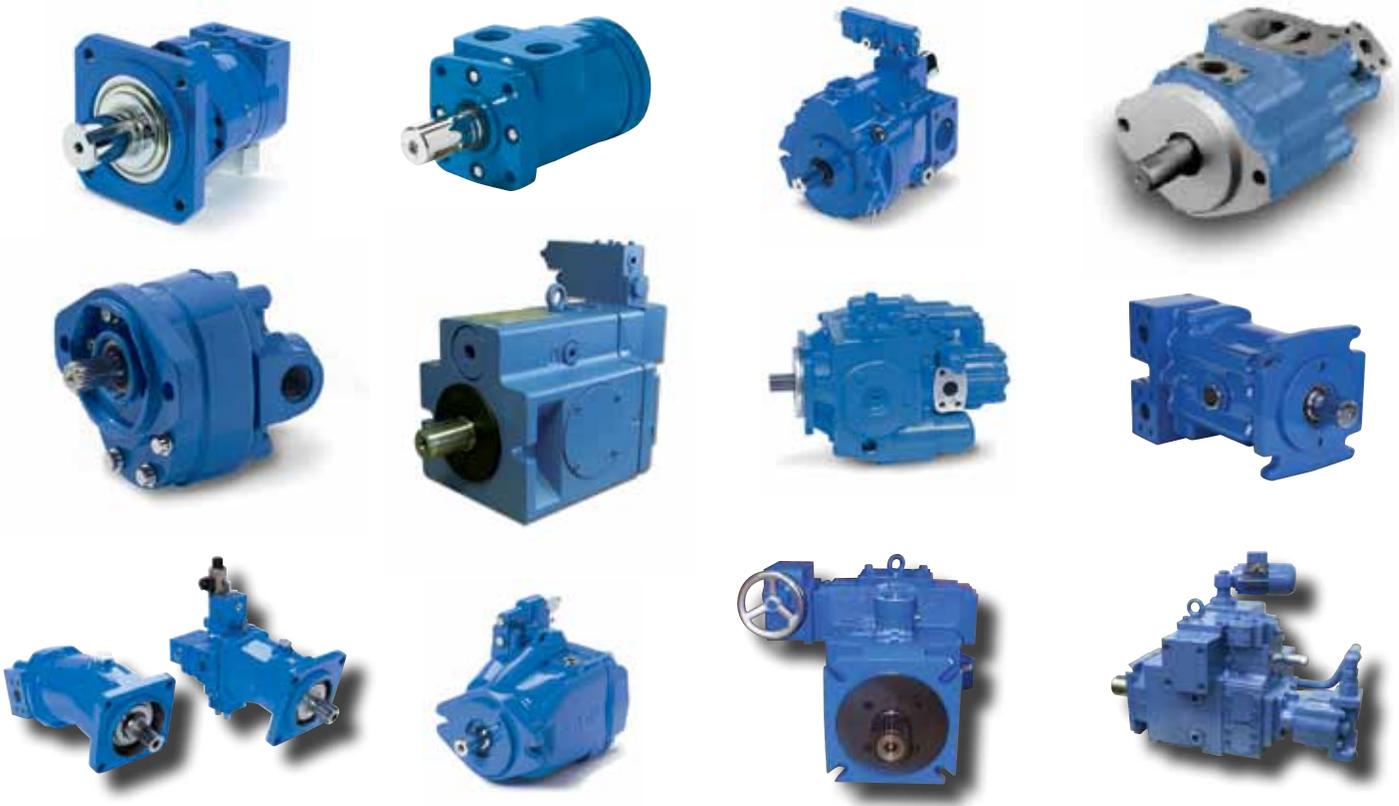
Product and Application Matrix

| | Char-Lynn Motors | Vickers Vane Pumps & Motors | Eaton Gear Products | Eaton Open Circuit Piston Pumps | Eaton Med. Duty Closed Circuit Piston Pumps & Motors | Eaton Heavy Duty Hydrostatics | Hydrokraft Pumps & Motors | Eaton Piston Pump Controls | Eaton Control Products | Eaton Packaged Systems* |
|---|------------------|-----------------------------|---------------------|---------------------------------|--|-------------------------------|---------------------------|----------------------------|------------------------|-------------------------|
| Logistics & Construction | | | | | | | | | | |
| Highway Construction | x | x | x | x | x | x | | x | x | |
| Railroad | x | x | x | x | x | x | | x | x | |
| Ports / Shipbuilding | x | x | x | | x | x | | x | x | x |
| Commercial Construction | x | x | x | x | x | x | | x | x | |
| Distribution Centers | x | x | x | x | x | x | x | x | x | |
| Aerospace (Ground Support / Tugs) | x | | x | | x | x | | x | x | x |
| Lift trucks / Telehandlers | x | x | x | x | x | x | | x | x | |
| Aerial work platforms | x | x | x | x | x | | | x | x | |
| Cranes / Winches | x | x | x | x | | | | x | x | x |
| Agriculture | | | | | | | | | | |
| Harvestors / Combines | x | x | x | x | x | x | | x | x | |
| Tractors | | | x | x | | | | x | x | |
| Implements / Attachments | x | x | x | x | x | x | | x | x | |
| Construction & Earth Moving | | | | | | | | | | |
| Pavers / Finishers | x | x | x | x | x | x | | x | x | |
| Compactors | x | | x | | x | x | | x | x | |
| Skid Steer Loaders | x | | x | x | x | | | x | x | |
| Wheel Loaders | | x | x | x | x | x | | x | x | |
| Motor Graders | x | x | x | x | x | x | | x | x | |
| Dozers | | x | x | x | x | x | | x | x | |
| Concrete Placement | x | x | x | x | x | x | | x | x | |
| Utility | | | | | | | | | | |
| Aerial / Boom Trucks | x | | | x | | | | x | x | |
| Digger Derricks | x | | | x | | | | x | x | |
| Forest Products | x | x | x | x | x | x | | x | x | |
| Lumber | x | | x | x | x | | | x | x | x |
| Paper | x | | x | x | x | | | x | x | x |
| Packaging | x | | x | x | x | | | x | x | x |
| Mining & Aggregate | | | | | | | | | | |
| Coal Shears | | | | x | | x | x | x | x | x |
| Rock Crushers | x | | | x | | x | x | x | x | x |
| Tunnel Boring | x | | | x | | x | x | x | x | x |
| Transportation | | | | | | | | | | |
| Fan Drives | | x | x | x | x | | | x | x | |
| Salt / Sand Spreaders | x | | x | x | | | | x | x | |
| Refuse | | x | x | x | | | | x | x | |
| Swing / Knuckle Booms / Lifts | x | x | x | x | | | | x | x | |
| Machine Tools | | | | | | | | | | x |
| Metal Cutting & Forming | x | x | x | x | | x | x | x | x | x |
| Paper Mills | | x | x | x | | x | x | x | x | x |
| Molding | | | | | | | | | | |
| Plastic Injection, Rubber, & Die Cast | x | x | x | x | | | x | x | x | x |
| Primary Metals | | | | | | | | | | |
| Steelworks | x | x | x | x | | | x | x | x | x |
| Automotive | | | | | | | | | | |
| Engine & Transmission plants | x | x | x | x | | | x | x | x | x |
| Energy | | | | | | | | | | |
| Power Generation | | | x | | | | x | x | x | x |
| Coal Reclaim, Transfer, Pulverizing | | x | | | | | x | x | x | x |
| Thero, Hydro, Wind | | x | x | x | | | x | x | x | x |
| Port Machinery | | | | | | | | | | |
| Ship to Shore Cranes & Container Handlers | x | x | x | x | x | x | x | x | x | x |
| Food & Beverage | | | | | | | | | | |
| Packaging Equipment | x | x | x | x | x | | | x | x | x |
| Food Processing | x | x | x | x | x | | | x | x | x |
| Entertainment | | | | | | | | | | |
| Motion Systems | x | x | x | x | x | x | x | x | x | x |

* North America Only

Capabilities

From Single Products to Complete Systems



Expectations keep rising. The best product available a few years ago may not even be on the market now. Customer demands and international competition keep your industry under constant pressure. That's where we can help. Eaton creates innovative products that give the advantage back to you.

Fluid power is a driving force in most mobile and industrial companies. Every year, our customers find more applications for hydraulics, and new vehicles and markets appear all the time. To make equipment with greater capabilities and speed, manufacturers turn to hydraulic pumps and motors from Eaton.

Make Eaton your global source for fluid power products.

Applications

Reliable Performance from Eaton



In demanding mobile and industrial applications, uptime is critical. Hydraulic components from Eaton deliver the functionality and durability you need to keep working. Our industry-leading systems support the needs of commerce and manufacturing across a wide range of markets, fueling innovation and strengthening partnerships around the world.

With a comprehensive range of hydraulic products and components, Eaton is the preferred supplier of systems to customers in all mobile and industrial industries. Eaton pumps, motors, transmissions, valves, cylinders, and controls, as well as hose and fittings, are ruggedly designed to give you reliable performance year after year.

Char-Lynn Motors

With decades of proven reliability and performance, Char-Lynn low-speed, high-torque hydraulic motors help you build a reputation for dependability. Our motors are designed and manufactured (speeds up to 2000 rpm and from 270-192,410 Nm [200-142,000 lb-in] of torque) to exceed the demanding requirements of the mobile and industrial industries.

Known throughout the industry for being a fast and flexible supplier, Eaton produces Char-Lynn spool valve, disc-valve and high-performance motors for original equipment manufacturers (OEMs) and distributors.



Features and Benefits

Spool Valve Motors

- Broad range of application specific solutions and options
- Industry-leading motor life with very high performance

Valve-In-Star™ (VIS) Motors

- High torque output in a small package for tight mobile applications
- Uses patented Valve-In-Star (VIS) technology for superior efficiencies at high pressure

Disc Valve Motors

- World's most complete range of low speed high torque motors
- Many options and features to fit the specific needs of your applications

ME Series Motors

- Industry leading motor life; built to withstand thermal shock
- High efficiencies and starting torque; smooth rotation at extremely low speeds

| Optional Feature | Benefit |
|--------------------------|--|
| 2 Speed Motors | Allows motor to have two displacements (higher speed has lower torque) |
| Seal Guard | Prevents physical damage to shaft seal from foreign debris |
| High pressure Shaft Seal | More robust shaft seal that can withstand high case pressure spikes |
| Environmental Protection | Epoxy coating for demanding application in harsh environment |
| Integrated Parking Brake | Spring applied hydraulic release brake |
| Mechanical Disc Brake | Bolt on caliper brake for wheel motor applications |
| Free Running Option | Improved mechanical efficiency at high-speed / high-flow conditions |
| Speed Sensors | To collect speed and / or direction information from a motor and provide electric signal |

| Optional Feature | Benefit |
|--------------------------------|--|
| Shuttle Valve | Redirects a portion of low pressure oil for increased cooling in closed loop applications |
| Case Port | To increase lubrication and flushing of the motor and reduce case pressure, extend seal life |
| Internal Check Valves | Relieves the case pressure to the low pressure port |
| Low Speed Valving | For better efficiency and smooth running at low speed conditions (<200 RPM) |
| Vented Two-Stage Seal | Extends shaft seal life |
| Viton Seals | For higher temp. Or chemical resistance applications |
| Integral Cross Over Valving | Cost effective design that limits the differential pressure across the motor |
| Metric Shafts, Ports, & Mounts | EU specific threads |
| Reverse Rotation | Allows clockwise shaft rotation with B port pressurized |



Char-Lynn Motors



Spool Valve Motors

Spool valve motors transmit high torque at low speeds by means of a cylindrical valve and a geroter or Geroler®, special drive members that turn the output shaft.

Options include a variety of output shafts: straight with Woodruff key, splined, tapered or straight with cross holes; plus other mountings, displacements and ports.

Specifications

Speed Range: Up to 2000 rpm
Torque Range: Up to 565 Nm (5000 lb-in)



Valve-In-Star (VIS) Motors

High performance VIS 30, 40 and 45 motors deliver high torque in a compact envelope.

Patented design reduces leakage by incorporating a flexible, pressure-balanced wear plate.

Specifications

Speed Range: Up to 500 rpm
Torque Range: Up to 5085 Nm (45,000 lb-in)



Disc Valve Motors

Disc valve hydraulic motors are designed with a flat, disc-shaped valving system. They use Geroler exclusively, are effective at very low speeds, and are reversible.

Options include a wide variety of shafts, mountings, ports, displacements, speed sensors and bolt-on valves. Two-speed models are available in Series 2000 and 10000.

Specifications

Speed Range: Up to 900 rpm
Torque Range: Up to 3390 Nm (30,000 lb-in)



ME Series Motors

These double swash plate, opposed-piston, low-speed, high-torque hydraulic motors operate smoothly at low speed within the maximum ratings and cause very little torque ripple.

Specifications

Speed Range: Up to 1000 rpm
Pressure Range: 248 and 276 bar (3600 and 4000 psi)
Torque Range: Up to 16136 Nm (11,900 lb-ft)



Vickers Vane Pumps and Motors

Eaton's Vickers products are known for high efficiency fixed pumps with low noise. These products have been optimized for both mobile and industrial markets. Their modular designs allow for flexibility in displacement, mounting, and port options. A cartridge kit design feature allows for easy repair and interchangeability between pumps.

Other manufacturers may produce pumps that look like Eaton's Vickers products; that's intentional. But none of them can match their endurance, reliability, warranty or performance.



Features and Benefits:

V10/V20 Series

- Low displacement/lower pressure
- Compact and economical for both mobile and industrial applications
- Integral valve options help reduce size and cost
- Balanced pressure-induced radial loads leads to longer bearing life
- Efficient design produces extra horsepower for your investment

V/VQ Series

- Medium to high displacement with double / triple pumps and medium pressures
- Industrial (V series) and Mobile (VQ) applications
- Cartridge kit design for ease of repair
- The industry standard
- Cold start capability

VMQ Series

- Highest potential displacements and pressures in portfolio
- Mobile and industrial applications
- Cold start capability
- Cartridge kit design for ease of repair

Vane Motors

- Economical alternative to piston technology for medium to low pressure industrial applications
- Noise and efficiency benefits over gear motors displacement products
- Heavy duty bearings



Vickers Vane Pumps and Motors



V10/V20

Time proven dependable, durable, quiet and most economical vane pumps. They are the premium fixed pump choice as the main system pumps for small industrial and mobile equipment or as pilot and auxiliary pumps for complex systems.

Specifications

- Speeds 2400-4800 (size dependent)
- Pressures up to 172 bar (2500 psi) (size dependent)
- Displacements:
V10: 3-23 cm³/(0.18-1.40 in³/r)
V20: 23-41 cm³/(1.40-2.5 in³/r)
- Double pump capable



V/VQ Series

The V series vane pumps are the pioneers of cartridge-design vane pumps. They are well known for long operating life, outstanding efficiency, flexible configuration and easy serviceability.

Specifications

- Speeds: 1800 for V, up to 2700 for VQ
- Pressures up to 210 bar (3000 psi) (size/type dependent)
- Four frame sizes (20, 25, 35, and 45)
- Displacements range from 7 to 193 cm³/(0.4-12 in³/r)
- Single, double, and thru-drive pumps



VMQ Series

The VMQ series of vane pumps is the pump that can do it all. Used in both mobile and industrial applications, the VMQ is designed for the highest pressure and displacement systems.

Specifications

- Speeds up to 3000 rpm
- Pressures up to 293 bar (4200 psi) (size dependent)
- Three frame sizes (25, 35, and 45)
- Displacements range from 10 to 268 cm³/(0.61-16.3 in³/r)
- Single, double, triple, and thru-drive pumps



Vane Motors

The M2U, M2-210 and M vane motor series are standards in the industry. The proven reliability and the available cartridge kit designs make for uptime easy serviceability.

Specifications

- Speeds up to 3600 rpm
- Pressures up to 155 bar (2300 psi) (size dependent)
- Four frame sizes (25, 35, 45, and 50)
- Torque range: 118-850 Nm (1050 to 7500 lb-in)
- Heavy duty shaft bearing available



Eaton Gear Products

Eaton's Series 26 & L2 products are small in package size and length, a variety of options and configurations are available and have reliable performance in the field. Eaton Global Gear Products are high efficiency, high performance and are extremely quiet.

The size and shape of the wave created in a gear pump depends on the way the gears fit together. By refining the fit of teeth between gears, Eaton has reduced the size of the wave. That reduces vibration and airborne noise.

Gear pumps are used in drive trains, hydrostatic transmissions, open and closed circuit piston applications, and charge pump applications. These products are integral to most construction, agriculture, lift trucks, fork trucks, bus, and material handling equipment.

When you specify a gear pump, look for more than output. For high performance with reduced vibration and noise, choose gear pumps from Eaton.

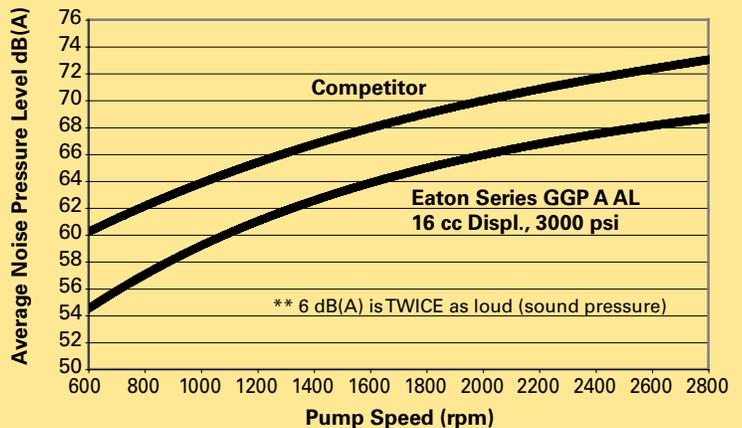


Features and Benefits:

- Continuous operating pressures to 4000 psi
- SAE, DIN, & ISO flange, shaft and porting styles
- High efficiency gear profiles
- 12 & 13 tooth low noise and pressure ripple gear design
- Meets ISO 9001 standards
- Single and multiple section pump options
- Options for applications requiring separate fluids or reservoirs
- Broad range of shaft and port options
- Common and separate inlet options
- Relief valve and priority control valve options
- Auxiliary mounting capabilities
- Field reversability

Low Noise Pressure Chart

Measured in a low noise room to ISO 4412, part 1. Distance of noise sensor to pump = 1 m (3.2 ft.), ISO32 fluid @ 48C (120F)



Eaton Gear Products



S26 Pumps

SAE A mount aluminum pumps with many shaft and porting options. Meets SAE and metric standards. Single and multiple sections available. Optional integral relief and flow valves simplify system design and installation. Easy field reversability.

Specifications

Displacements from .4 cid [6,6 cc] to 30,6 cm³/r (1.87 in³/r)
Speed Range (max.): 3000–3600 rpm
Rated Pressures: to 207 bar [3000 psi]; intermittent to 241 bar [3500 psi]



S26 Motors

SAE A mount aluminum bi-directional motors in a wide range of shaft and porting options, meeting SAE and metric standards. Optional integral relief and cross-over valves simplify system design and installation.

Specifications

Displacements from .43 cid [7,1 cc] to 31,8 cm³/r (1.94 in³/r)
Speed Range (max.): 3000-4000 rpm
Rated Pressures: to 207 bar [3000 psi]; intermittent to 241 bar [3500 psi]



L2 Pumps

SAE B mount aluminum pumps with many shaft and porting options, meeting SAE and metric standards. Single and multiple section options. Optional integral relief and flow valves simplify system design and installation.

Specifications

Displacements from 1.3 cid [21,3 cc] to 55,2 cm³/r (3.37 in³/r)
Speed Range (max.): 2250-3500 rpm
Rated Pressures: to 248 bar [3600 psi]; intermittent to 276 bar [4000 psi]



GGP A-Aluminum Pumps

SAE A mount aluminum pumps with a range of shaft and porting options, meeting SAE and metric standards. Single and multiple section options. Optional integral relief and flow valves simplify system design and installation. Permits easy field reversability.

Specifications

Displacements from .32 in³/r [5,3 cc] to 33,4 cm³/r (2.04 in³/r)
Speed Range (max.): 2100-4000 rpm
Rated Pressures: to 276 bar [4000 psi]; intermittent to 305 bar [4400 psi]



Open Circuit Piston Pumps

At the heart of every hydraulic system is a pump, which supplies force and motion to the components. Open circuit piston pumps offer the flexibility needed to drive a broad range of fluid power systems; they maximize energy savings at high power densities.

Eaton currently offers three lines of these versatile products. Including the PVM, PVH, PVE, and PVQ series pumps. These are based on time-tested designs, with countless hours of use in automotive, agricultural, and construction equipment.

Our newest designs, the Eaton 420 Series, are created to provide higher pressure and more efficient operation, giving our customers a competitive advantage.



Features and Benefits:

420 Series

- Smaller envelope size for compact mobile applications
- Configurations available to fit popular transmission and PTO packages
- Swashplate angle feed back and integrated speed sensors allow interface with engine control computers for efficient system operation

PVM Series

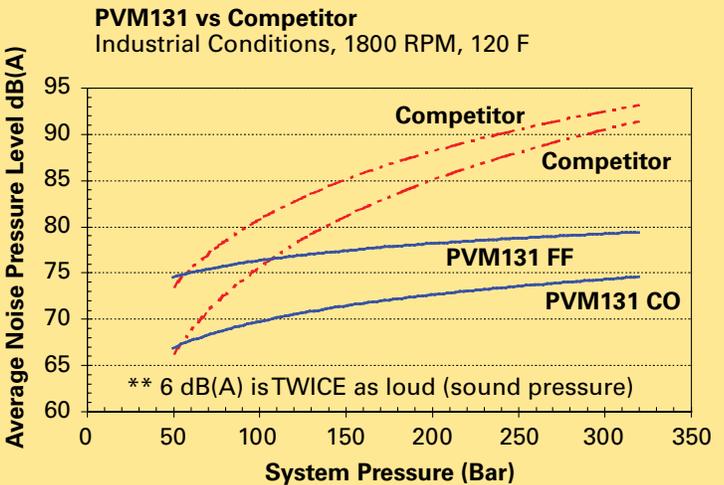
- Quietest medium pressure pump available: Up to 10 dBA quieter than most dual usage pump products and noise levels significantly lower than other pump brands
- Reduces need for expensive sound enclosures or inline pulsation dampers
- Features like gauge ports and adjustable displacement come standard with each pump

PVH Series

- Versatile design includes single pumps, thru-drive arrangements, and a variety of drive shaft and control options that will adapt to any application and provide the most cost effective installation
- Variety of controls including pressure compensator, flow compensator and torque control

PVQ Series

- PVQ model options provide quieter noise levels during operation over the standard PVB models at industrial conditions
- Functions well on alternate fluids like water glycol and environmentally friendly fluids



Open Circuit Piston Pumps



420 Series

High operating pressures and small envelope size for compact applications. Ideal for mobile applications, featuring both clockwise and counter-clockwise rotation drives.

Specifications

Displacements: 41-80 cm³/r (2.5–4.8 in³/r)

Speed Range (max.): 3000–3600 rpm

Rated Pressure: Up to 280 bar [4000 psi]; intermittent to 320 bar [4600 psi]

PVM Series

Quietest medium pressure pumps available—up to 10 dBA quieter than most dual usage pump products. High operating pressures. Designed for industrial applications with clockwise (right hand) rotation drives.

Specifications

Displacements: from 18cm³/r to 141cc (1.09–8.60 in³/r)

Speed (max.): 1800 rpm

Rated Pressures: to 280 bar [4000 psi]; intermittent to 320 bar [4600 psi]

PVH Series

Made for industrial and mobile applications, with both clockwise and counter-clockwise rotation. Available with a wide range of controls including torque controls. Widely used in construction equipment.

Specifications

Displacements: from 57cc to 141cc (3.48–8.60 in³/r)

Speed (max.): 2400 rpm

Rated Pressures: to 250 bar [3600 psi]; intermittent to 280 bar [4000 psi]

PVQ Series

Designed for industrial applications, with both clockwise and counter-clockwise rotation drives. Small displacements fit design of compact power applications. Allows higher efficiency than fixed displacement systems.

Specifications

Displacements: from 10cc to 94cc (1.08–5.7 in³/r)

Speed (max.): 1800 rpm

Rated Pressures: to 210 bar [3000 psi]



Medium Duty Closed Circuit Piston Pumps and Motors

First known as MD-CC products, Eaton medium duty closed circuit piston pumps and motors have been in production since the 1960s. Together, the pump and motor are generally referred to as a hydrostatic transmission, or HST. They are best suited for applications requiring mid-range power (< 85 HP engines) and system pressures (< 380 Bar/5500 PSI). An HST can provide continuous rotary motion at a remote location from the power source, which meets the unique and demanding requirements of off-highway vehicles.

Eaton MD-CC products are used to form the pump/motor hydraulic system for fans drive in engine cooling systems, and for driving small concrete transit mixers. They can also power auger/trenching auxiliary type circuits. Customers in construction markets use MD-CC components in skid-steer loaders, pavers, compactors, trenchers, truck mounted lift trucks, compact wheel loaders, telescopic booms, and railroad maintenance equipment.



Features and Benefits:

70160 & 70360 Manual Series Pumps

- Low component weight, reducing energy demands and increasing performance
- Low control arm efforts, reducing operator fatigue
- Compact package size, fits into tight places
- Square control shaft for tight linkage
- Trunnion shaft seals
- Robust housing and swashplate control for reduced noise and vibration

72400 Series Pumps

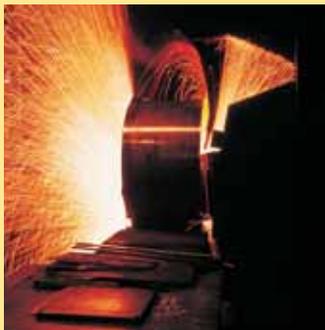
- Ease of installation, with easier routing for hoses than mechanical linkages
- Low operator effort, low noise and vibration
- Durable cast iron design
- More charge pump displacement flexibility
- Lower charge pressures required and lower parasitic losses
- Industry benchmark for precision and controllability
- Servo control

72450 Manual & 74300 Fixed Series Motors

- Flexible operation, allowing reverse flow in a closed circuit while maintaining constant pump input rotation
- Lightweight durable housing, for easy installation and service
- Numerous shaft and porting options
- Shuttle valves and speed pickups are well proven in the field

350 Series Pumps

- Extremely compact and easily integrated. Only 398.6 mm (15.7 in) long
- Full-Range of control options
 - Mechanical Servo and Hydraulic (non-feedback)
 - Electro-proportional “EP”
 - Proportional valve control with electronic swash plate feedback
- Non-contacting sensor
- Fast response, precise, real-time pump control
- Ideal for mobil hydrostatic transmissions (requires proprietary Eaton electronic control or control algorithms)



Medium Duty Closed Circuit Piston Pumps and Motors



70160 & 70360 Manual Series Pumps

Variable displacement piston pumps are used in closed loop systems either as a single or tandem pump. A charge supply is used to supplement the closed loop system with oil.

Specifications

Displacements: 20–49 cm³/r (1.22–3.0 in³/r)

Speed (max.): 3600 rpm

Rated Pressures: 172–345 bar [2500–5000 psi]; intermittent 210–345 bar [3000–5000 psi]



72400 Series Pumps

Versatile pumps with many features and options; five different charge pump displacements are available. Their flexible designs can be configured in numerous ways.

Specifications

Displacements: 41–49 cm³/r (2.48–3.0 in³/r)

Speed (max.): 3600 rpm

Rated Pressures: 210 bar [3000 psi]; intermittent 345–379 bar [5000–5500 psi]



72450 Manual & 74300 Fixed Series Motors

Converts hydraulic energy from a pump to mechanical energy. Fits applications that require continuous rotary motion at a remote location from the power source.

Specifications

Displacements: 41–49 cm³/r (2.48–3.0 in³/r)

Speed (max.): 3600 rpm

Rated Pressures: to 210–345 bar [3000–5000 psi]; intermittent to 370 bar [5400 psi]



350 Series Pumps

The 350 Series mobile pumps is an advanced design offered as either a single or dual pump (two pumps in one housing) for medium duty hydrostatic circuits. These pumps can be combined with an Eaton motor to transfer and control hydraulic power in many different ways.

Specifications

Displacements: 41–62 cm³/r (2.50–3.8 in³/r)

Speed (max.): 3600 rpm

Rated Pressures: to 280–380 bar [4000–5500 psi]



Heavy Duty Hydrostatics

Eaton is a recognized leader in heavy duty hydrostatic piston products for mobile and industrial applications. In the early 1970s, Eaton constructed a new plant to begin the volume manufacturing of the first Series 0 pumps and motors. Since then, Eaton has produced more than a million units, and introduced new product lines including the Series 1, Series 2, 760 Series and bent axis products.

These core products are supplemented with new pump-mounted electronic controls, from a simple electronic proportional (EP) displacement control to the sophisticated multiplex control with CAN communications for displacement and pressure control. Customers in construction and logistics use Eaton heavy duty hydrostatic piston products in applications such as compactors, wheel loaders, lift trucks, telehandlers, pavers, road planers, crawlers, dozers, rock crushers, motor graders, sweepers, snow groomers, and winches.



Features and Benefits:

Series 1 & 2 Pumps

- Field proven in a wide range of applications
- Low charge pressure requirements (reduced parasitic losses and operation at low input speeds)
- Serviceable bearing/valve plate combination
- Comprehensive range of auxiliary drive options SAE "A," "B," "B-B," and "C" including full tandem capability

760 Series Pumps

- Compact package size
- Quiet performance! Enhancements to housing, valve plate, and swash arm
- Full range of options available for all applications
- High corner power rating
- High speed / flow capability
- 480 bar (70,000 psi) peak rating
- Complete range of electro-hydraulic controllers

- Complete range of electro-hydraulic controllers
- High displacement integral charge pump
- Patented Integrated Valve System (IVS)

Bent Axis Motors

- Wide range of auxiliary drive options
- ISO, SAE, and planetary gearbox mounting configurations
- Complete range of variable motors controls

Series 1 Motors

- Compact size
- High power density
- Integral shuttle valve and valve block configuration
- Speed sensor options



Heavy Duty Hydrostatics



Heavy Duty Series 1 & 2 Axial Piston Pumps

Series 1 & 2 pumps meet your demands for compact, quiet hydrostatic power. The power-dense, axial-piston design and wide range of controls are suited for mobile and industrial applications.

Specifications

Displacements: 64–125 cm³/r (3.9–7.6 in³/r)

Speed Range (max.): 4510–3720 rpm

Nominal Pressure: Up to 430 bar [6250 psi]; peak 500 bar [7250 psi]



760 Series Heavy Duty Axial Piston Pumps and Motors

Series 760 combines the time tested reliability you expect from Eaton with compact packaging, exceptional control and quiet operation.

Specifications

Displacements: 130–160 cm³/r (8.0–10 in³/r)

Speed Range (max.): 4510–2775 rpm

Nominal Pressure: Up to 430 bar [6250 psi]
peak 500 bar [7250 psi]



Bent Axis Motors

Configurations include fixed and variable displacements, flange or gearbox mounts. Can be tailored with optional controls, ports, and valving.

Specifications

Variable Displacements: 55–225 cm³/r (3.3–13.7 in³/r)

Fixed Displacements: 11–22.5 cm³/r (0.66–13.7 in³/r)

Speed: Variable Disp., 3900–2500 rpm; Fixed Disp., 5590–3900 rpm

Rated Pressures: Up to 350 bar [5100 psi]; intermittent 450 bar [6500 psi]



Heavy Duty Series 1 Axial Piston Motors—Fixed & Variable

Eaton offers a complete line of piston motors for all types of hydrostatic drives. Product range includes fixed and variable displacement, axial and bent axis designs.

Specifications

Displacements: six models, ranging from 54 cc/r (3.34 cir) to 125 cc/r (7.62 cir)

Speed Range (max.): Up to 4510 rpm

Nominal Pressures: Up to 430 bar [6250 psi]



Hydrokraft Pumps and Motors

Eaton offers robust and reliable Hydrokraft high-pressure industrial open and closed circuit piston pumps and motors. The axial piston pumps feature cradle-type swash plate designs that provide reliable operation as well as long life.

Hydrokraft pumps are built with a through drive, which enables multiple pump installation from a single shaft. Multiple pump combinations are also available from the factory. These products are built for closed circuit applications with integrated valves and filters; an entire closed circuit system is available in one package.

For highly efficient system control, Hydrokraft pumps have wide range of control options, for variable displacement pumps, including mechanically, hydraulically and electrically controlled types. Multiple controls can be merged with variable displacement units, from a simple mechanical hand-wheel to electronic proportional control, including controller cards and associated software.



Features and Benefits:

- Many control options, allow matching of pumps to any application
- Automatic pressure balancing of cylinder block to the valve plate for high efficiency
- Swashplate design and other proven features reduce sound levels
- Self-priming open circuit pumps require no boosting
- Can be operated with mechanical, hydraulic or electrical controls
- Shaft bearing life is longest in it's class for long life and through-drive capability
- Most accurate HP limiter control in its class
- Through drive allows installation of multiple pumps with single shaft
- Largest shafts in class, for true tandem mount capability at corner horsepower.
- Automatic wear compensation ensures high resistance to dirt



Hydrokraft Pumps and Motors



Series W Axial Piston Pumps—Open Circuit

The W series pump is available with fixed (PF) and variable (PV) displacement. Rated 350 bar continuous, 420 bar peak, it is designed for all types of industrial and mobile applications.

Specifications

Displacements from 130 cc to 750 cc (8–45 in³/r)

Speed Range (max.): 2200–1200 rpm

Nominal Pressures: Up to 350 bar [5000 psi]; Peak to 420 bar [6000 psi]



Series X / W Axial Piston Motors

The X / W series motors are available with fixed (MFS) and variable (MVS) displacement. Rated 350 bar continuous, 420 bar peak, with advanced control options and through-drive.

Specifications

Displacements from 66 cc to 750 cc (4–45 in³/r)

Speed Range (max.): 2800–1800 rpm

Nominal Pressures: Up to 350 bar [5000 psi]; Peak to 420 bar [6000 psi]



Series X Axial Piston Pumps—Open Circuit

The X series pump is an open loop pump and available with fixed (PF) and variable (PV) displacement. Rated 350 bar continuous, 420 bar peak, it is designed for all standard industrial applications.

Specifications

Displacements from 66 cc to 250 cc (4–45 in³/r)

Speed Range (max.): 2300–1800 rpm

Nominal Pressures: Up to 350 bar [5000 psi]; Peak to 420 bar [6000 psi]



Series X / W Axial Piston Pumps—Closed Circuit

Closed circuit X / W series pumps are closed loop axial piston pumps. Rated 350 bar continuous, 420 bar peak with advanced control options and through-drive for all heavy duty industrial and mobile applications.

Specifications

Displacements from 66 cc to 750 cc (4–45 in³/r)

Speed Range (max.): 2600–1800 rpm

Nominal Pressures: Up to 350 bar [5000 psi]; Peak to 420 bar [6000 psi]



Standard Packaged Systems

Eaton has made a considerable expansion to its standard package systems product line. Eaton provides the industry's most complete line of standard power units to meet your customer's needs. Industrial power unit offerings include verticals, horizontal, L's, overheads, JIC and custom configurations. We offer the industry's fastest way to buy power units with the most flexible range of standard configurations. Typical applications include: civil projects, primary metals, metal forming, windpower, machine tools and automotive.



Features and Benefits:

- Continuous duty rated electric motors for durability and long life
- Aeroquip hose and fittings for leak free design
- Lift off tops for easy maintenance
- Close-coupled pump and motor for easy service and reliability
- Standard relief valve, pressure gauges and level / temperature
- Bar Manifolds and Pump / Motor Group configurations including the IMP (integrated motor pump)
- A more extensive selection of pumps, motors, valves, and reservoirs that are configurable
- Improved Cutler-Hammer motor starters with quick disconnect and variable drive capabilities.
- Expansion of accessories to include more filtration, accumulators, coolers, etc



Packaged Systems Styles



Vertical Power Units

Can be ordered in configurations for larger applications or lower profile designs for space savings. Available in gear, vane and variable piston pump options with multiple manifold options.

Specifications

Standard rated pressure up to 200 bar [3,000 psi]. Standard rated flows from 6–120 lpm (1.5–31.5 gpm). Standard reservoir sizes from (3–60 gallons). Standard motor configurations can range from 1–21 Kw (.75–30 HP).



L Style Power Units

These configurations include a containment tray and flooded pump inlet. Available in gear, vane and variable piston pump options with multiple manifold options.

Specifications

Standard rated pressure up to 235 bar [4,000 psi]. Standard rated flows from 6–216 lpm (1.5–57 gpm). Standard reservoir sizes from 38–455 liters (10–120 gallons). Standard motor configurations can range from 1–35 Kw (.75–50 HP).



Overhead Style Power Units

Designed for space savings for larger applications. Configurations include a flooded pump inlet and suction strainer. Available in gear, vane and variable piston pump options with multiple manifold options.

Specifications

Standard rated pressure up to 235 bar [4,000 psi]. Standard rated flows from 6–216 lpm (1.5–57 gpm). Standard reservoir sizes from 38–455 liters (10–120 gallons). Standard motor configurations can range from 1–35 Kw (.75–50 HP).



Horizontal or JIC Style Power Units

Designed for larger applications. Available in gear, vane and variable piston pump options with multiple manifold options.

Specifications

Standard rated pressure up to 275 bar [4,000 psi]. Standard rated flows from 6–348 liters (1.5–91 gpm). Standard reservoir sizes from 38–455 liters (10–120 gallons). Standard motor configurations can range from 1–70 Kw (.75–100 HP).



Piston Pump Controls

You want your fluid power system to respond quickly, accurately and repeatably while minimizing power consumption and parasitic losses. That's where Eaton's line of pump controls comes into play. Eaton provides a variety of options to control its variable displacement open-circuit and closed-circuit piston pumps to meet the needs of your system. Whether you need to manage pressure, flow or power, whether your control is based on system conditions or remote decisions, Eaton can find a control for you.

Eaton can also provide a variety of sensors to help meet your control needs, including speed sensors and swash plate angle (displacement) sensors. From presses, injection molding machines, compaction equipment, and robotics to steering, implements, fan drives, and ground drives, Eaton can provide the control you need to help you succeed.



Features and Benefits:

Pressure Compensated Controls

- The most basic open-circuit pump control. Provides a constant pressure at the outlet of the pump for quick valve and system response. The pressure may also be set remotely by using external relief valves.

Load Sensing Controls

- An economical control. Reduces parasitic losses by controlling the pump to meet the pressure and flow demands of the load. Thus minimizing the power draw on the prime mover. Settings may also be controlled remotely by using external valves.

Torque / Power Limiting Controls

- This control option allows the pump to limit the torque/power consumed by a given function. This enables power management of a system and helps prevent stalling the prime mover. This option can be added to either a pressure compensated or load sensing control.

Electronic Controls

- Eaton's most accurate servo control provides fast response time with very low hysteresis on closed-circuit pumps. Command signals are received via a CAN bus and redundant sensors can be provided for safety critical applications.

* Note: Some controls are only available on specific product lines. Contact your Eaton representative for more details.



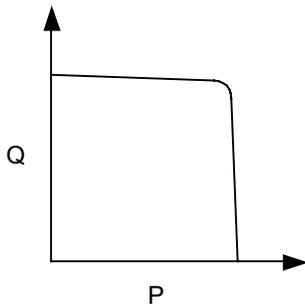
Piston Pump Controls



Pressure Compensated Controls

This control adjusts the pump displacement to maintain a constant pressure at the pump outlet until the maximum displacement (flow) is reached.

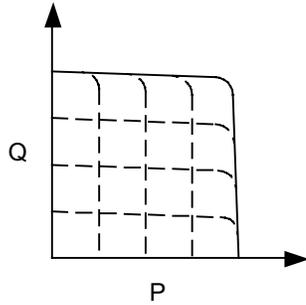
Specifications



Load Sensing Controls

By sensing the load pressure and the outlet pressure, this control adjusts the pump displacement to meet both the pressure and flow demands of the circuit, thus minimizing power consumption.

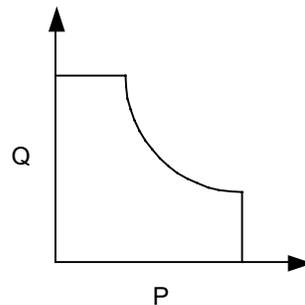
Specifications



Torque / Power Limiting Controls

A sense orifice creates a pressure proportional to flow that allows this control to limit the torque or power transmitted by the pump. Must be used with either a pressure compensated or load sensing control.

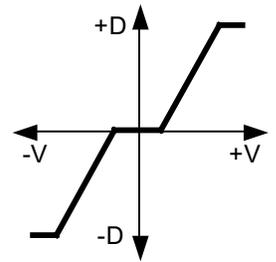
Specifications



Electronic Controls

Electronically actuated valves and displacement sensing methods (mechanical and/or electronic), are used to accurately control the displacement (flow) of closed-circuit pumps.

Specifications



Remanufactured Products

For more than 80 years, engineers have chosen Eaton and Vickers products for their quality, reliability and high performance features. This same quality and reliability is available in a complete line of products remanufactured by Eaton's Hydraulics Group. "Will fitters" claim their products are "as good as new", however, they cannot offer the same high performance found with Eaton's genuine Remanufactured Parts, because the parts are not to Eaton's original equipment specifications. Eaton guarantees 100 percent use of genuine Eaton parts for longer life at rated conditions. No one knows Eaton's products better than Eaton.

As parts enter our Remanufactured Products Facility, they're disassembled and pieces are inspected against certain specifications to determine if the part can be remanufactured. If so, the parts are reworked to perform like new, following the exact same processes we use in our manufacturing facility. Each unit is assembled and tested against original new standards prior to shipping to the customer.

Features and Benefits:

- Authentic Eaton parts
- Eaton certified
- Remanufactured to original equipment specifications
- Remanufactured parts are warranted same as new. The longest warranty in the industry for remanufactured parts by far!



Remanufactured Products

Piston Pump Products

Critical components remanufactured include: piston pump rotating group, cylinder block, piston shoe sub-assembly and piston pump valve plate.

If the remanufacturing process does not provide the same tolerances, materials and surface treatments as new, you may experience any one or many of the following:

- Reduced pump output
- Higher power requirements
- Loss of parts durability
- Increased noise
- Excessive heat generation
- Generation of contaminants

Closed Circuit Piston Families

Remanufacturing services are offered for the following closed circuit product families

- Heavy Duty
 - Series 1 pumps
 - Fixed displacement motors
 - Variable displacement motors
- Medium Duty
 - Fixed pumps and motors
 - Manual pumps and motors
 - Variable pumps and motors



Open Circuit Piston Families

Remanufacturing services are offered for open circuit PVB, PVE and PVH pumps. Eaton's offerings includes remanufactured rotating groups, valve plates and complete pumps. Yokes are offered for the E and H Series.

B Series



A



B



C



E Series



A



B



C



H Series



A



B



C



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