

Moving to higher  
pressures with more  
torque, less heat

Eaton HP30 High-Pressure Motor



**EATON**

*Powering Business Worldwide*

# Optimal performance under pressure

Backed by decades of proven reliability and performance under some of the toughest conditions and harshest environments, Eaton's lineup of hydraulic motors has established a reputation as an industry leader in low-speed, high-torque technology.

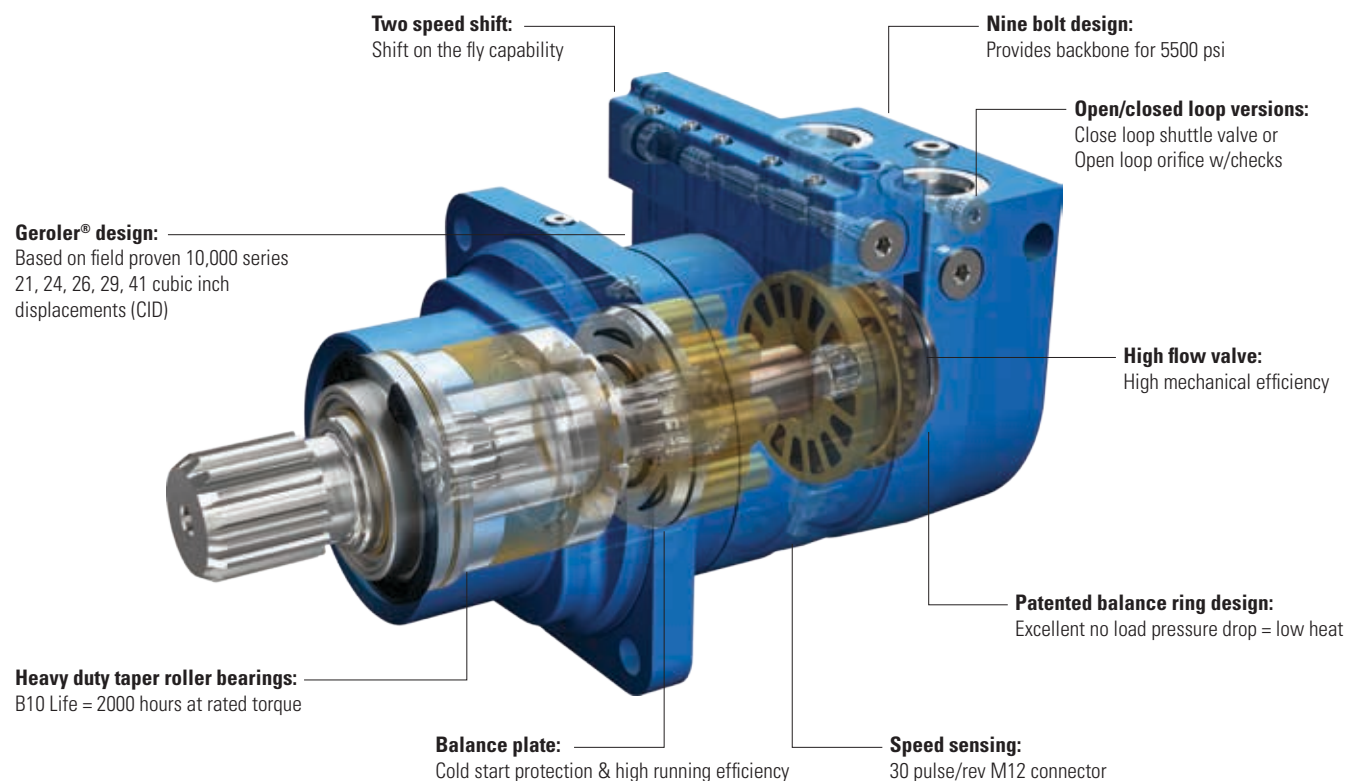
Eaton is committed to building on our proven hydraulic motor innovations with new solutions

designed to help you achieve continuous improvement in efficiency, reliability and safety. Continuing this trend, Eaton has developed the HP30 motor with the latest technology to provide an ideal solution for enhancing the performance of both mobile and stationary industrial hydraulic systems.

Eaton's highly versatile HP30 motor delivers high starting torque at low speeds compared to radial piston motors of similar sizes. The motor also offers lower pressure drop that translates to lower internal frictional losses across all points of operation.

By remaining fully functional with high back pressure, Eaton's HP30 can be installed in series circuits without limitations on duty cycle or pressure ratings. These capabilities provide increased productivity, efficiency and flexibility for its users.

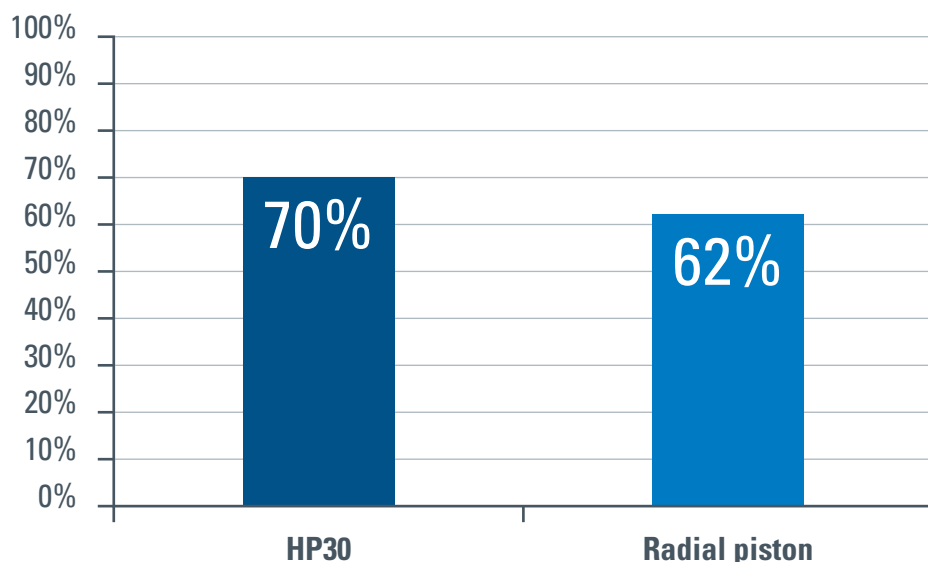
## HP30 Built to Perform



# Starting torque efficiency by the numbers

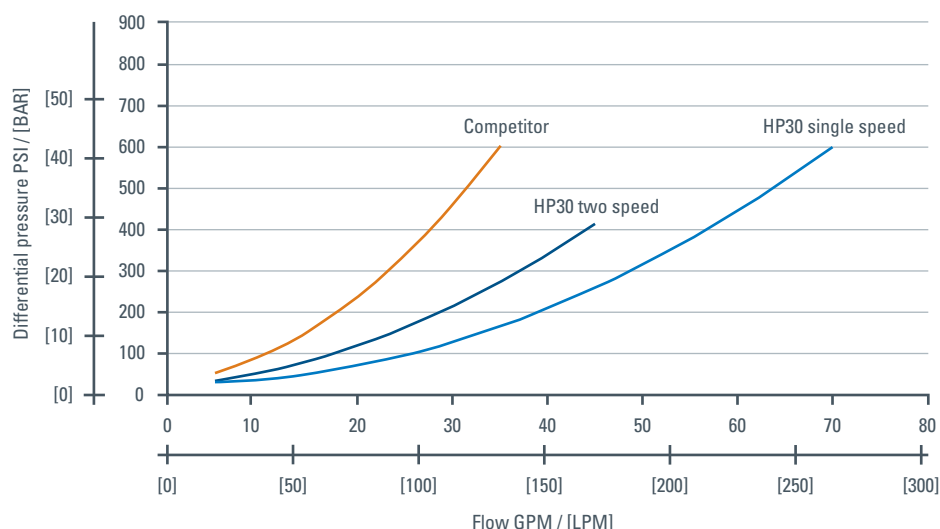
Featuring exceptional starting torque efficiency and two-speed capability, Eaton's HP30 offers significant advantages over competitive radial piston and cam lobe designs. By minimizing no load pressure drop to less than 23 bar [333 psi] at 133 lpm [35 gpm] in high-speed mode, the HP30 motor reduces parasitic heat build-up and improving vehicle operating efficiency and reducing emissions.

## Minimum starting torque efficiency (@5000 psid and 0.1 rpm)



Note: HP30 testing (TR-8137), radial piston (TR-5412A)

## HP30 NLPD - No load pressure drop



## Eaton's HP30 motor benefits

- High starting torque efficiency to provide maximum power at start-up
- Lowest pressure drop motor in the industry
- Minimal heat generation to reduce system cooling costs and space requirements
- Two-speed capability

## Technical specifications

- A high pressure (5800 psi) and high flow (70 GPM) Geroler® motor
- Displacement: 21.0 – 41.3 in<sup>3</sup>/r (344 - 677 cm<sup>3</sup>/r)
- Torque: Up to 25602 in lbs. (2893 Nm)
- Two-speed capabilities with option of spring applied hydraulic release brake

## Standard options available

- Standard, wheel and bearingless mounts
- Two-speed option – 1:1.5 speed ratio
- Fully integrated brake option
- Series circuit ready



To learn more about how the HP30 motor can help you experience performance and productivity on a whole new level, visit [eaton.com/HP30](https://eaton.com/HP30) or contact your local distributor.



### Maximizing productivity through high starting torque efficiency

- The HP30 has an optimized eccentricity to improve starting torque efficiency without sacrificing overall torque capacity or endurance. This capability allows the HP30 motor to provide maximum power to the output shaft at start-up where frictional drag is at its worst, providing the right amount of torque needed for the most demanding mobile and stationary applications.

### Maximizing reliability and performance

- Eaton's HP30 Series motors are available with an integral two-speed feature that allows the operator to shift the motor between low speed high torque (LSHT) mode and high speed low torque (HSLT) mode.
- A patented pressure compensated dual balance ring design minimizes leakage and improves volumetric efficiency.

- Eaton's Extreme Duty Seal Guard option is the best answer to keep dirt, grime and other foreign matter out of equipment. The unique seal helps protect equipment by using a "two-piece" sealing technology.
- Patented balance plate design protects motor from cold starts while allowing increased mechanical and volumetric efficiency.

### Minimizing heat with low no load pressure drop (NLPD)

- More heat means more lost energy and a greater need for cooling, costing your operation money. Eaton is getting rid of the heat by optimizing the motor in ways that our competitors can't. The HP30 uses a disc valve with large flow passages to minimize fluid losses. As a result, less heat is generated as the fluid travels through the motor.

- The unique valve design minimizes NLPD in both single and two-speed operating modes.

### Minimizing space to keep your business competitive

- It's all about space and smaller is better. Eaton's HP30 motor can handle higher pressures meaning the same amount of work can be done in a smaller package, giving you an advantage in the marketplace.

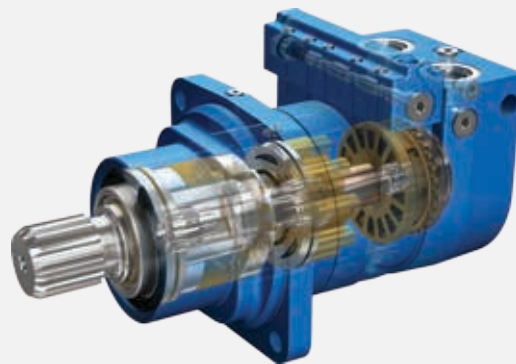
### Maximizing flexibility – capabilities built to perform

- Series circuit capability reduces the overall connections required over parallel circuits. This gives system engineers more options when designing circuits.
- Speed sensing for real time control of your machine.
- Open or closed loop circuit capability allows Eaton's HP30 motor to work with primary or auxiliary circuits.

## Committed to excellence

Decision makers turn to Eaton for an unwavering commitment to personal support that makes customer success a top priority. Each product is independently tested and backed by industry-leading warranties, and the largest engineering and technical support teams in the industry.

» To learn more about Eaton's HP30 Series motors, visit [eaton.com/HP30](http://eaton.com/HP30)



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Getting the job done  
faster with more  
torque, higher speeds

Eaton HP50 Track Motor



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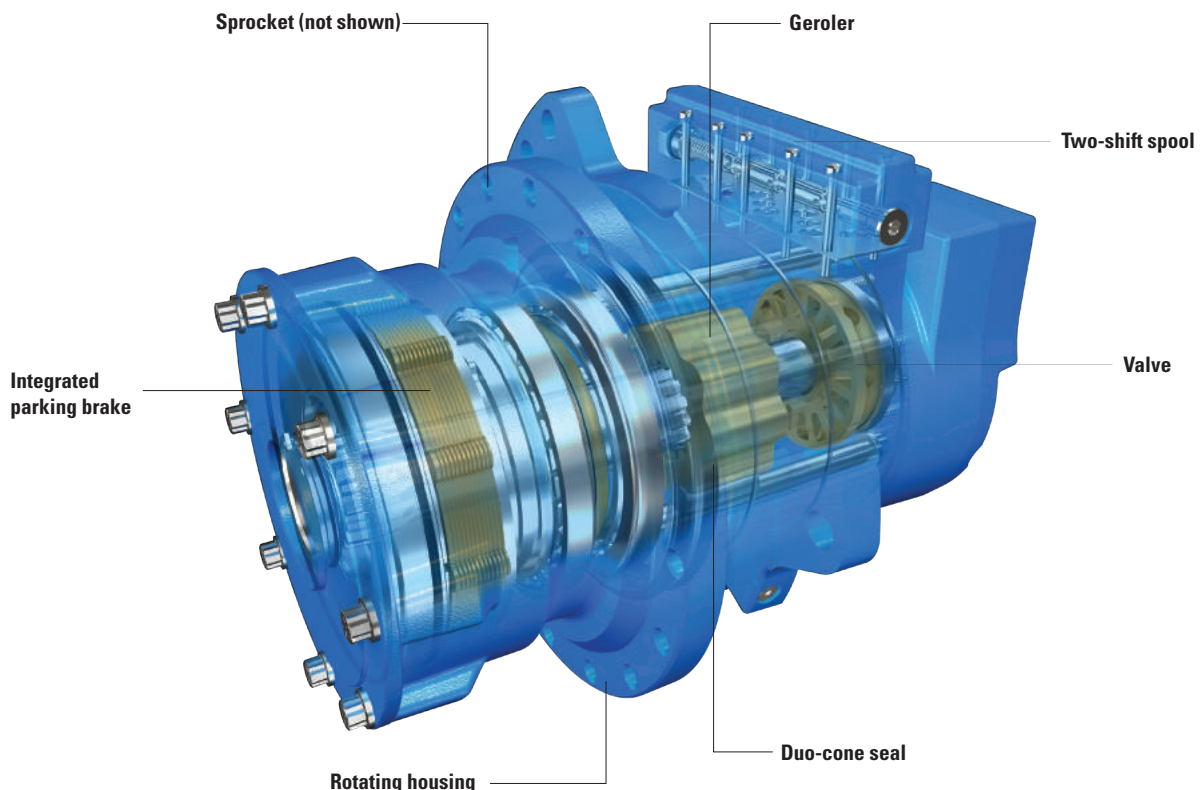
# The next generation of hydraulic motors

Eaton's line of hydraulic motors boasts a proven track record of innovative solutions and trustworthy performance under demanding conditions. This tradition continues with the new HP50 track motor. Leveraging the widely adopted Eaton HP30 motor architecture, the HP50 represents the next generation of this proven Geroler® technology.

The HP50 track motor delivers the perfect combination of greater productivity, improved efficiency, and excellent reliability at an exceptional value. Now you can have it all, without spending more.

The HP50 powers the tracks on compact track loaders (CTL) with both single-speed and two-speed models and incorporates an integrated spring-applied, pressure release parking brake. The HP50 provides the most horsepower Eaton has delivered to date from its direct drive Geroler motor with a peak of 70 gallons per minute (GPM) and 6000 pounds per square inch differential (PSID). The motor also achieves higher speeds, lower parasitic pressure drop, and the highest starting torque in two-speed mode compared to other radial piston motors.

## HP50 Motor Built for power

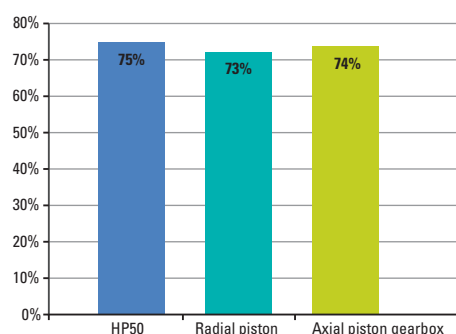


# More starting torque in two-speed mode

With productivity as the market driver, the popularity of two-speed mode has become the standard on tracked machines. Typically, high-speed mode was used only for transport and low-speed mode for work functions such as plowing into a pile and starting off with a load. But that is changing as operators perform more work in high-speed mode to complete jobs faster.

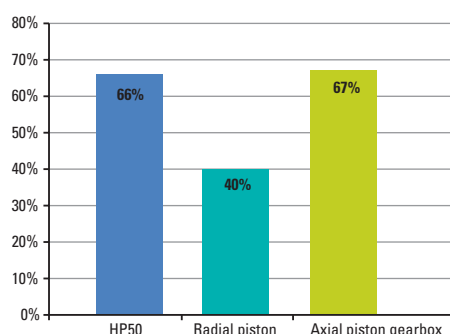
While the HP50 matches the performance of radial piston motors at low speed, results show that it surges ahead of the competition in two-speed mode. The HP50 generates as much as 23% more starting torque than competing radial piston motors when in two-speed mode. This means less shifting and a more efficient workflow.

Low speed starting torque efficiency



Note: Low speed - 5000 psi @ 1 rpm

High speed starting torque efficiency

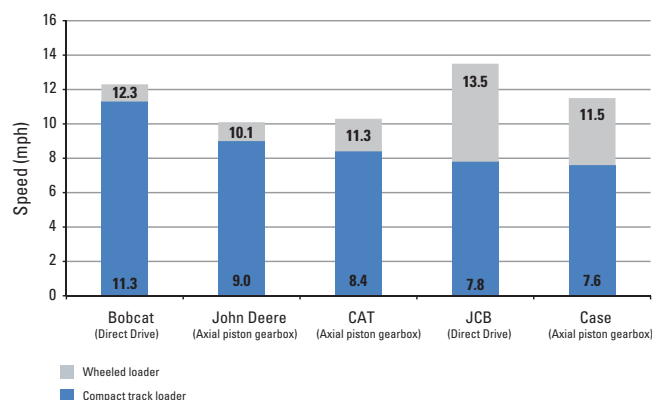


Note: High speed - 5000 psi @ 1 rpm

## Increasing top speeds

CTL operators demand a lot from their equipment. Getting the job done quickly often means working at top speed. Eaton's direct drive solution reliably achieves higher speeds over the competition. The HP50 can put your machine at the top of the chart in terms of travel, and higher speed equals greater production.

Maximum ground speed comparison



Wheeled loader  
Compact track loader

Reference:

Bobcat: <http://www.bobcat.com/loaders/compact-track-loaders/models/H590/specs/options>  
Deere: [http://www.deere.com/en\\_US/products/equipment/compact\\_track\\_loaders/229e/229e.page](http://www.deere.com/en_US/products/equipment/compact_track_loaders/229e/229e.page)  
CAT: [http://www.cat.com/en\\_US/products/new/equipment/compact-track-and-multi-terrain-loaders/compact-track-loaders/1000002410.html](http://www.cat.com/en_US/products/new/equipment/compact-track-and-multi-terrain-loaders/compact-track-loaders/1000002410.html)  
CASE: [http://www.casece.com/en\\_us/Gallery/Downloads/CTL\\_TR340/CTL-TR340-T4F-Specs.pdf](http://www.casece.com/en_us/Gallery/Downloads/CTL_TR340/CTL-TR340-T4F-Specs.pdf)  
JCB: <http://www.jcbna.com/products/Machines/Compact-Track-Loaders.aspx>

### Eaton's HP50 motor benefits

- Highest starting torque efficiency in high-speed
- Low pressure drop
- Minimal heat generation
- Ideal combination of performance, reliability, and value

### Technical specifications

- A high pressure (6000 psi) and high flow (70 GPM) Geroler motor
- Displacement: 42.5 – 95.0 in<sup>3</sup>/r (696 - 1557 cm<sup>3</sup>/r)
- Torque: Up to 50,000 in-lbs. (5650 Nm)
- Two-speed capabilities with the option of spring applied hydraulic release brake

### Committed to excellence

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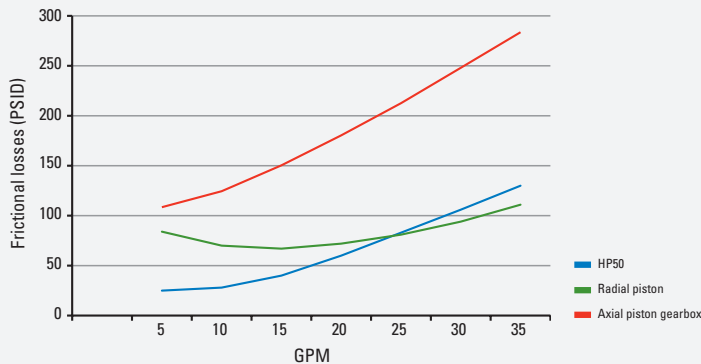


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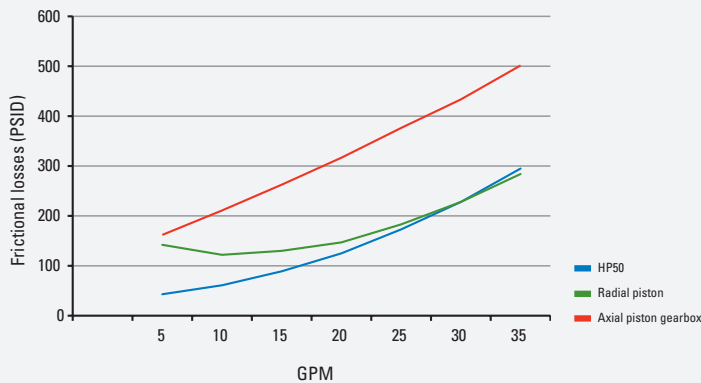
# Minimal heat generation

The HP50 increases efficiency by reducing heat generation across all flow points by maintaining a low No-Load Pressure Drop (NLPD). As shown by the graph, lower pressure means less parasitic horsepower losses due to heat generation. This can save up to 1 HP by just switching the propel system to the HP50. Less heat means the motor operates at a lower temperature, reducing cooling costs and space requirements, and makes more power available to the machine's work circuits.

## NLPD in low speed



## NLPD in high speed



# Reliability through robust design

In accelerated durability tests simulating a high-pressure corner horsepower condition, the HP50 showed a significant gain in expected product life—up to four times the life of radial piston motors. (And up to ten times the life against axial piston gearbox motors.) The unique Geroler design profile and optimized driveline of the HP50 motor matches the power outputs of the new Tier 4 and 5 engine designs.

## Eaton durability testing

