Dynamic performance
Empowering intelligent & adaptable platforms

Eaton CMA advanced mobile valve
> **Ride control** smooths riding disturbances to reduce bucket or boom shake on this wheel loader, which enables increased driving speeds and higher productivity.

> **Swing control** reduces jerk and settling time in high-inertia services, such as the slew function on this forestry forwarder.

> **P-Q, or feed force control** can help this mobile drilling rig improve bit life by more than 25% and feed rate by 50%, increasing productivity and lowering costs.

> **Boom stability control** can reduce boom oscillation by up to 75% and settling time by up to 90%, increasing safety and productivity for this concrete pump truck.
The Eaton CMA advanced mobile valve is a CAN-enabled electrohydraulic mobile valve that enables manufacturers to deliver a whole new level of machine performance and operator productivity. Featuring onboard electronics and sophisticated software algorithms, the CMA valve provides more flexible configuration, more immediate communication and more precise control than ever before.

The CMA advanced mobile valve features a sectional configuration. CMA valve banks can be configured with CMA sections and CMT sections, enabling you to create the perfect control solution for your application.

**CMA**

**Superior control and precision**

CMA sections feature independent metering, which uses two spools to control the supply and return flow for a single bi-directional actuator. The CMA section is capable of controlling both flow and pressure simultaneously on a service. Electronic independent metering of port flow provides infinite control flexibility.

**CMT**

**Tailored technology**

CMT sections contain two spools that are each capable of controlling the supply flow for an actuator. A single CMT section is capable of controlling two bi-directional actuators, which can be a cost-effective way to control services that do not require the flexibility and precision of independent metering.

CMA mobile valve with inlet section and two CMA sections

CMA mobile valve with inlet section and two CMT sections

**CMA sections are ideal for services such as:**

- Boom control
- Drilling/feed control
- Grade control/level
- Swing
- Winching
- Auxiliary functions

**CMT sections are ideal for services such as:**

- Bucket
- Clamping
- Extension
- Outriggers
- Auxiliary functions
Flexible and configurable
Designed to intelligently improve machine performance

**Conditioning valve:**
Contains embedded electronics, sensors and the inlet pilot spool for controlling the pump.

**Valve system module (VSM):**
Powers the valve and connects the vehicle’s CAN network to the valve’s internal CAN network.

**Pressure-reducing valve:**
Provides pilot pressure to valve sections.

**Inlet section:**
Provides pump and tank connections and regulates load sense pressure.

**Pilot valve:**
Contains the embedded electronics, sensors and pilot spools.

**Auxiliary valves:**
Optional work ports and/or anti-cavitation valves.

**Work ports:**
Connects valve to work function.

**CMT work section:**
Controls the flow for two bi-directional actuators.

**CMA work section:**
Uses independent metering to control flow and pressure in a bi-directional actuator.

The CMA valve enables a novice operator to control a machine like an expert.
Solutions for every control challenge

Adaptive and responsive to your specific application

The Eaton CMA valve features a host of integrated control applications to improve machine performance and productivity. These software-enabled functions can:

- Increase productivity, safety and efficiency
- Enable IoT and diagnostics
- Reduce overall system costs

### FORCE

<table>
<thead>
<tr>
<th>FORCE</th>
<th>CMA</th>
<th>CMT</th>
<th>FLOW</th>
<th>CMA</th>
<th>CMT</th>
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</thead>
<tbody>
<tr>
<td>Pressure</td>
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<td>✓</td>
<td>Intelligent flow control</td>
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<td>✓</td>
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<tr>
<td>Torque</td>
<td>✓</td>
<td>✓</td>
<td>Swing control</td>
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<td>✓</td>
</tr>
<tr>
<td>P-Q</td>
<td>✓</td>
<td>✓</td>
<td>Spool position</td>
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<tr>
<td>Electronic relief</td>
<td>✓</td>
<td>✓</td>
<td>Pressure-compensated meter-in flow control</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Electronic feed reducer</td>
<td>✓</td>
<td>✓</td>
<td>Pressure-compensated meter-out flow control</td>
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<td>✓</td>
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</table>

### SYSTEM

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>DIAGNOSTICS</th>
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<tbody>
<tr>
<td>Flow share</td>
<td>Smart data</td>
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<tr>
<td>Intellifloat</td>
<td>Hose burst detection</td>
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<tr>
<td>Float</td>
<td>Data security</td>
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<tr>
<td>Boom stability control</td>
<td>Limp mode</td>
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<tr>
<td>Auto-shake</td>
<td>Pro-FX Configure valve configuration software</td>
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<tr>
<td>Electronic load sense</td>
<td></td>
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<tr>
<td>Ride control</td>
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### Simple setup and optimization

Eliminate weeks of development time

The CMA valve’s software-driven configuration and calibration process streamlines design and reduces setup time from weeks to hours, helping you speed time to market.

> Electronic tuning eliminates the need to change spools
> Real-time valve/system feedback simplifies optimization
> Controller area network (CAN) eliminates wiring to individual sections, reducing installation time
> Onboard controller and sensors ease system integration and minimize external components

### Valve setup

1. Download and install Pro-FX Configure
2. Connect computer to valve
3. Enter valve parameters
4. Test application and refine
## Platform integration savings

Save time and reduce costs with CAN

<table>
<thead>
<tr>
<th>STANDARD EH VALVE</th>
<th>CMA VALVE</th>
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<tbody>
<tr>
<td>8 SECTIONS</td>
<td>8 SECTIONS</td>
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</tbody>
</table>

- **Wires**
  - 2 connectors, 4 wires, 4 pins per section: 32 vs. 4
  - 1 controller, 4 wires, 4 pins per bank

- **Outputs**
  - 2 controller outputs per section: 16 vs. CAN
  - Controlled via CAN bus

- **Amps**
  - 2A required per section: 16 vs. 4
  - Voice coil technology reduces required power: $1A + 0.375A/section$

- **Sensors**
  - N/A vs. 6 available onboard sensors per section: pressure, temperature, position (CV & PV)

- **Diagnostic Messages**
  - N/A vs. 0 vs. 81 vs. 815
  - Pro-FX Configure suite provides real-time diagnostics, plotting and control capability

The CMA valve delivers time and cost savings in development and manufacturing through reduced wiring components, a smaller controller and integral onboard sensing.

### Differentiate your new vehicle designs

If you want your platform to offer unrivaled performance, you need the mobile valve without rivals. Only the Eaton CMA advanced mobile valve can offer true pressure control and next-generation stability.

**Are you ready to differentiate your machinery? Let’s talk.**

Visit [Eaton.com/CMA](https://www.eaton.com/CMA) or contact your Eaton sales representative.