

**MPXpress®**



*Safe and reliable commuter locomotives*

**A smart investment  
performance *In safety,*  
and reliability**

 **MotivePower**  
A **Wabtec** company

*Solutions in Motion*



## MPXpress®

MotivePower, Inc., a Wabtec company, designed the MPXpress® diesel-electric commuter locomotive to enhance the safety, performance and reliability of railway passenger systems in North America. With units operating at several commuter agencies throughout North America, MPXpress® locomotives have been the proven and preferred choice for commuter rail agencies since 2003.

MotivePower is an industry leader in the design and manufacture of diesel-electric locomotives. Over the past 35 years, approximately 2,500 locomotives have been delivered from our 50-acre facilities in Boise, Idaho. We work closely with our customers to provide long-term solutions to achieve the highest levels of safety, performance, and reliability... **Solutions in Motion.**



### UNSURPASSED STRENGTH

**Structural Design:** The structural design of the MPXpress® meets the American Public Transportation Association's (APTA) crashworthiness standards for crew safety and exceeds current Federal Railroad Administration (FRA) requirements. Critical elements of the design include the following:

- 800,000-lb underframe buff strength
- FRA / APTA compliant anticlimbers front/rear
- FRA / APTA compliant collision posts in nose
- FRA / APTA compliant corner posts
- APTA compliant rollover support



### STATE-OF-THE-ART CONTROL SYSTEM

**Q-Tron® QES-III Microprocessor Control System:** Contained in the electrical control cabinet is among the most advanced technology for locomotive control available today. This provides improved adhesion, optimal systems control and monitoring, and better diagnostics capabilities, all resulting in improved performance and greater locomotive availability.



### REDUCED EMISSIONS

The MPXpress® is the cleanest diesel-electric commuter locomotive available today and meets existing EPA Tier 2 emission standards. MotivePower also offers after-treatment packages to further reduce emissions.

### OPTIONS

#### Full Range of Wabtec Options:

- Static Head-End-Power Inverter
- Electronic Fuel Injection and Diesel Oxidation Catalyst Package
- Automatic Engine Start / Stop - Q-Tron
- Event Recorder / Alertor - Wabtec Railway Electronics
- FastBrake Electronic Air Brake System - Wabtec Railway Electronics
- Electronic Train Management System (ETMS) - Wabtec Railway Electronics
- VideoTrax - Wabtec Railway Electronics
- Waste Treatment Systems - Microphor



### MORE POWER, IMPROVED ACCELERATION, INCREASED RIDER CAPACITY

**Engine:** The MPXpress® can be equipped with a prime mover rated up to 4,000 hp. The higher horsepower engine provides for increased acceleration or moving more passengers within the same schedule and can power consists of up to 12 cars at speeds of up to 93 miles per hour.



### VERSATILE DESIGN

#### Head-End Power Platform Options:

The MPXpress® can be built using one of two types of head-end power systems, available in 425-800 kW ratings, to supply power to the passenger coaches:

- Separate diesel engine power plant and alternator
- Static inverter that receives power from an AC alternator driven by the main traction engine; no separate power plant needed

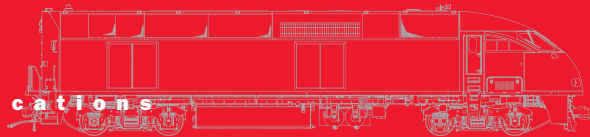


### SAFE, COMFORTABLE, USER-FRIENDLY

**Operator's Compartment:** MotivePower engineers worked closely with operating and maintenance crews to design a safe, comfortable, user-friendly cab with high-visibility windows and an ergonomically designed control console. The compartment is built to a standard specification which can be tailored to any customer specifications and desired options.

# MPXpress<sup>®</sup>

## Specifications



<b>Model designations</b>	<b>MP40PH-3C: 4,000 THP, separate diesel HEP</b> <b>MP36PH-3C: 3,600 THP, separate diesel HEP</b> <b>MP36PH-3S: 3,600 THP, static inverter HEP</b>
<b>Length over coupler pulling faces</b>	<b>68 feet, 0 inches</b>
<b>Height over cab and carbody</b>	<b>15 feet, 6 inches</b>
<b>Width over cab handrails</b>	<b>10 feet, 7 1/2 inches</b>
<b>Bolster centers</b>	<b>42 feet, 10 inches</b>
<b>Weight on rails, fully loaded</b>	<b>285,000 - 295,000 lbs</b>
<b>Starting tractive effort</b>	<b>85,000 lbs.</b>
<b>Continuous tractive effort</b>	<b>78,000 lbs. @ 13 mph</b>
<b>Maximum speed</b>	<b>108 mph with 56:21 GR</b>
<b>Curve negotiation, single unit</b>	<b>248 feet (23.1 degrees)</b>
<b>Curve negotiation w/ 85-foot car</b>	<b>315 feet (18.2 degrees)</b>
<b>Prime mover</b>	<b>MP36: 16-645F3B</b> <b>MP40: 16-710G3B</b>
<b>Engine control system</b>	<b>MP36: Q-Tron QES-III</b> <b>MP40: EMD EM2000</b>
<b>EPA emission compliance</b>	<b>MP36: Tier 0 through Tier 2</b> <b>MP40: Tier 2</b>
<b>Main generator (traction/companion)</b>	<b>MP36: AR10JBA/CA5 (reman.)</b> <b>MP36: MA15JBC/CA5 (new)</b> <b>MP40: AR15WBC/CA6A (new)</b>
<b>Auxiliary generator</b>	<b>18 kW a.c.</b>
<b>Traction motors</b>	<b>D87BTR, D78B or D87B d.c.</b>
<b>Dynamic brake</b>	<b>Blended / extended</b>
<b>Trucks</b>	<b>4-wheel, outside swing hanger</b>
<b>Wheelbase</b>	<b>9 feet, 0 inches (reman.)</b> <b>9 feet, 4 inches (new)</b>
<b>Wheel diameter</b>	<b>40 inches</b>
<b>Braking system</b>	<b>Wabtec 26LUL / blended</b> <b>Wabtec electronic / blended</b>
<b>Air compressor</b>	<b>WLN-A9</b>
<b>Hand brake</b>	<b>Wheel</b> <b>Electric</b>
<b>Fuel capacity</b>	<b>2,000 - 2,500 gallons</b>
<b>Sand capacity; front/rear</b>	<b>10/10 cubic feet</b>
<b>Head end power system</b>	<b>Separate diesel engine</b> <b>Static inverter</b>
<b>Head end power output</b>	<b>400 - 800 kW</b>



An ISO-9001:2000 registered company