

### Dump truck radial

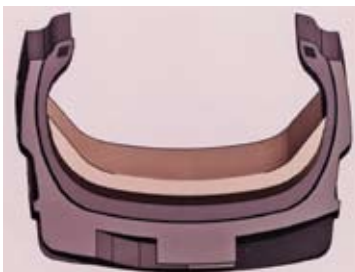
Michelin adds dimensional offerings to its line of X-SUPER TERRAIN AD radial tires, which are said to improve productivity and mobility for articulated dump trucks working on aggressive soils. Benefits of the radials include longer life through deeper tread and a more durable rubber compound; improved resistance



to aggressions because of the tread rubber compound, tread pattern, rugged shoulders, and sidewall design; and more traction from the self-cleaning and aggressive tread. Comfort is improved through reduced vibration from staggered tread-blocks and a flexible radial casing. The decreased vibration generates less mechanical stress, thereby increasing life of the dumpers.

### Self-sealing liner

QuikGel self-sealing polyurethane liner from Arnco offers protection from punctures up to 0.3125 in (8 mm) in diameter. The liner protects and covers the middle of the sidewall and features extra shoulder coverage for lateral punctures as well as improved protection in



the tread area versus the tread centerline. The self-sealing gel membrane protects against small punctures, allows the tire and vehicle to perform as intended, is re-treadable, and is centrifugally cast-balanced to provide a smooth ride. QuikGel is suitable for skid steers, agricultural vehicles, telehandlers, golf carts, lawn and garden equipment, and other lightweight applications.

### Mobile work lamp

Hella's FreeForm AS200FF xenon general-purpose work lamp is suitable for use on mobile plant and machinery with 24-V electrical systems. The unit's optical system and 35-W xenon gas diffusion layer lamps deliver efficient lighting performance and accurate optics where needed, according to the company. The injection-molded units are crafted in flame-retardant, UV-resistant polymers that



prevent attack from a range of elements and offer self-damping vibration protection. Other features include smooth distribution, two beam patterns, high output, reduced spill light and glare, and resistance to corrosion and impact damage.

### Ignition battery

The ODYSSEY PC2150 starting, lighting, and ignition (SLI) battery, from EnerSys, offers up to a 70% increase in starting power at low temperature versus traditional wet cell batteries, according to the company. Thin-plate pure-lead technology offers improved cranking power in extreme cold weather of -22°F (-30°C). Other features include a service life of six to eight years, storage up to two years at



77°F (25°C) when charged, rugged construction, vibration resistance, sealed dry cell construction to prevent external corrosion and acid leakage, slow loss of power at end of life, and maintenance-free operation. The battery is suitable for heavy-duty deep-cycle applications including trucks, fire trucks, buses, construction equipment, trailers, RVs, and in the marine industry.

### Bearing design guide

Brush Wellman offers an interactive Bearing Design Guide to facilitate the location of replacement bearing and/or bushing material for existing applications. The guide ([www.toughmet.com/bearingdesign](http://www.toughmet.com/bearingdesign)) provides dimensional tolerances and bearing performance information for ToughMet in plain bearing applications. ToughMet is a copper-nickel-tin alloy that uses a continuous casting process and proprietary spinodal hardening heat treatment for bearing and wear applications—offering strength and hardness, low friction, corrosion resis-



tance, and thermal conductivity. When switching from another bushing material to ToughMet, the DesignGuide assumes the rest of the machine will not change. The guide also provides warnings and guidelines to avoid design mistakes and can be used to validate new designs.

## Radial tires

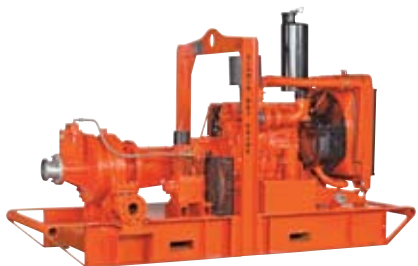
MITAS offers four versions of its MPT radial tires: MPT-20, MPT-21, MPT-22, and EM-02. The line was designed for use on refuse collection trucks as well as military and multipurpose goods vehicles. The company's range of off-highway tires



covers almost 50 tread types available in several dozen sizes. The MPT-20 features a year-round universal tread for on- and off-highway use, while the MPT-21 is a directional tread with quality grip and self-cleaning properties. The EM-02 and MPT-22 treads also offer good grip and self-cleaning.

## Centrifugal pump

Dri-Prime pumps from **Godwin** are available in sizes from 50 to 400 mm (2 to 16 in) and offer maximum flow rates up to 37,000 L/min (8000 gal/min). The pumps can handle solids up to 125 mm (5 in) in diameter, making them suitable for sewage, storm water, oil, and other pumping requirements. Product benefits include an automatic self-priming feature for intermittent flow conditions; dry running feature that protects the pump seal;



a simplified priming system with no moving parts for improved maintenance; straight line suction to the impeller eye; and a close-coupled, rugged, environmentally friendly design. Two series are offered—one for high volume and one for high head applications.

## Composite springs

**Liteflex** lightweight steel and composite springs decrease mass by using a hybrid spring design that improves fuel efficiency and payload capacity while increasing the power-to-weight ratio for



faster acceleration. Suitable for heavy truck, military, RV, and off-highway vehicles, the springs also offer improved responsiveness to changing road conditions. Elimination of the metal-to-metal contact inherent on leaf springs results in a quieter ride, and the indestructible composite springs offer a longer fatigue life and eliminate sagging. The springs are a mixture of fiberglass and epoxy said to be identical to steel in load deflection.

## Integrated air

**Hammond Air Conditioning** has redesigned its aftermarket air-conditioning (A/C) systems for various manufacturers of tractor-loader backhoes in an effort to keep up with the introduction of Tier II engines and with cab designs that provide increased visibility. The additional glass in cabs creates an extra load on the system; therefore, systems generate between



20,000 to 25,000 BTUs, while blowers circulate air between 400 to 500 ft<sup>3</sup>/min (11,000 to 14,000 L/min). Drop-in A/C kits use a **Sanden** compressor; the redesigned compressor mounts fit the engines and are packaged with condenser, compressor, electrical connectors, mounting brackets, installation manual, and tie wraps.

## Engine-driven welder

The rugged Vantage 400 from The **Lincoln Electric Company** features the firm's Chopper technology to offer consistent starts and a smooth arc for stick, downhill pipe, TIG or wire welding, as well as gouging. Housed in a compact, corrosion-resistant stainless-steel case,



the 400-A welder/generator features an 1800 rpm water-cooled, four-cylinder **Perkins** diesel engine that delivers 400 A at 36 V and up to 450 A at 32 V of rated dc welding output. The Vantage 400 also generates 19,000 W of three-phase 240-V ac generator power for industrial equipment. The voltage reduction device allows users to select a lower open circuit voltage for safety in the stick welding mode, especially in wet or humid conditions, and standard engine gauges allow operators to monitor engine performance.

## Dry well calibrator

The CTD9100 industrial series dry well calibrators for thermometers from **WIKA** offer a compact design, short reaction time, improved performance, and ease of use as well as portability without compromising calibration performance. Improved usage prevents input and set-up errors and increases operational reliability. Features include a short reaction time, insertion depth of 150 mm (5.9 in),



temperature range of -30 to +650°C (-22 to +1202°F), and quick on-site calibration. The compact design makes the calibrators easily transportable and usable in hard-to-reach locations. The CTD9100 line can be controlled using a PC via the RS-485 interface; accessories are available.

**Construction seat**

GRAMMER's Actimo Evolution premium seat for wheeled loaders, excavators, and dumpers features electronic setting of the seat to the user's weight and active seat climate control. Body heat and perspiration are removed by the cover material and stored in a layer of



activated charcoal underneath, while under that layer a ventilation level extracts the moisture and allows cool, dry air to flow. Sensors and electronics automatically adjust to the driver's weight and respond to even slight shifts. Other features include easy-to-use controls and horizontal fore/aft and low-frequency suspensions to improve comfort further and to comply with workplace safety regulations.

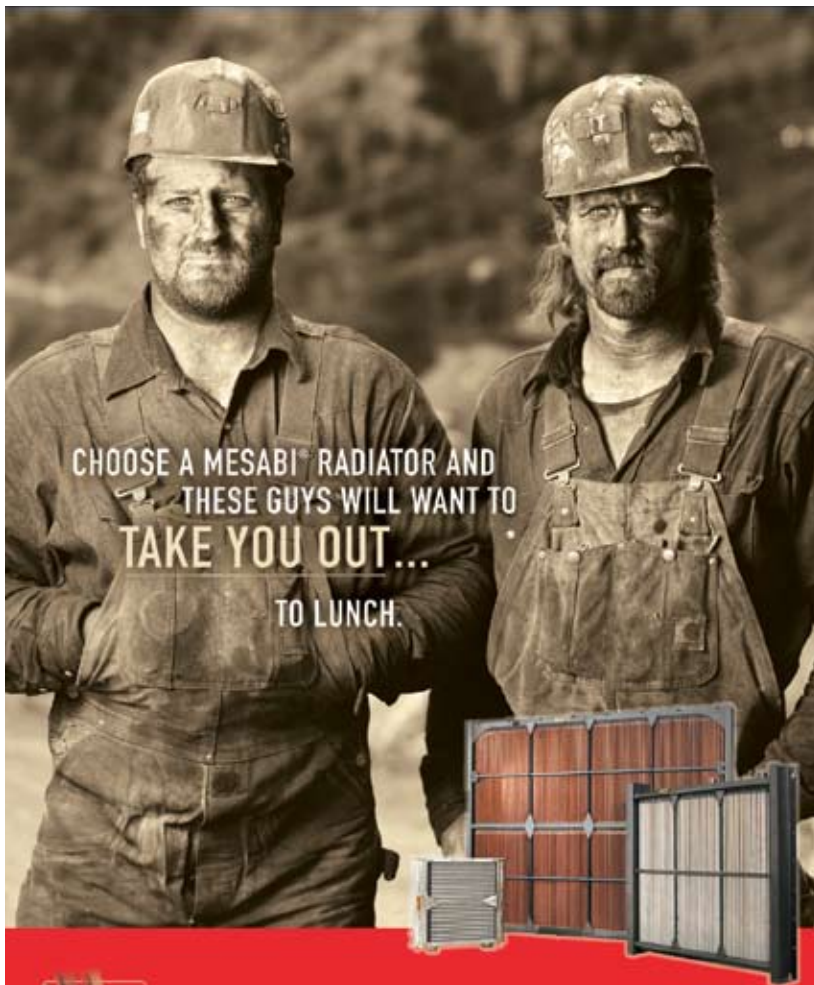
**Vibration system**

Sears Manufacturing offers a vibration monitoring system (VMS) seat, which



incorporates a system to monitor and log the amount of vibration exposed to plant operators, complying with the EU Physical Agents Directive. The VMS enables the monitoring of all harmful vibrations to facilitate planning that would maximize use of available labor by enabling operators to work safely for a full day without absorbing the allowable quota of vibrations. The seat typi-

cally replaces the existing seat and uses sensors below the seat's surface to measure the amount of vibration and electronically store the data for download as needed. The sensors are positioned to prevent tampering and do not affect seat comfort or performance; the system can also be configured to work with portable storage devices.



CHOOSE A MESABI® RADIATOR AND  
THESE GUYS WILL WANT TO  
TAKE YOU OUT...  
TO LUNCH.



**NO LEAKY SOLDERED SEAMS**

Individual cooling tubes are held in headers with rubber seals to absorb stresses that can cause soldered seams to crack and leak.

**FIELD REPAIRABLE**

Seals allow damaged tubes to be removed and replaced in-the-field, often without removing the radiator from equipment.

**EASY TO CLEAN**

With optional V-tube core™, tubes are arranged to create open passages so dirt and debris can blow through the radiator.

**TIER II DESIGNS AVAILABLE**

Manufactured by L&M Radiator, Inc.



1414 East 37th Street, Hibbing, MN 55746 USA  
218.263.8993 Toll Free in USA and Canada **800.346.3500**

MESABI® is a registered trademark of L&M Radiator, Inc. © 2006

sohe.hotims.com/10241-237X

### Marker lamp

LEDtronics offers PAR46 Series lamp marker lights, featuring an LED lamp in a sealed, round dome-shaped protection fixture. The lamp creates a bright, glowing spotlight suitable for trains, forklifts, and industrial vehicles, while the robust



housing offers resistance to moisture and dust in harsh environments. The red marker light is available in 25 to 38 V dc or 10 to 85 V dc applications, with peak intensities up to 350 cd. The solid-state design renders the LEDs impervious to shock, vibration, frequent switching, and environmental extremes. The lamps feature an average life span of 100,000 h or 11 years, produce little heat, and use 3.8 W of power.

### Non-pneumatic mobility

The Michelin TWEEL non-pneumatic mobility concept is maintenance-free, puncture-proof, easy to mount and dismount, and provides a longer service life than radial tires, according to the company. The single non-pneumatic tire is comprised of a rubber tread bonded to the hub by flexible spokes fused with a deformable wheel that absorbs shocks



and rebounds to provide ride comfort. Lacking a tire-like pressurized air cavity, the TWEEL cannot be punctured, providing continuous mobility and improving productivity. The hub and spoke design allows for easy replacement and retreadability, and other features include less vibration and bumps to the driver, better distribution of pavement stress, and improved road hazard resistance. The TWEEL is suitable for use in the earth-moving industry.

### Low vibration seat

The D5090VRS semi-active seat from Sears Manufacturing decreases body mass vibrations by using computer-controlled electro-magnetic/air cushion suspension. Features include vibration reduction to below 0.75 Hz, a frequency below 1.2 Hz, and potential vibration transfer to the operator reduced by 40%. The decreased level of vibration also improves ride comfort, which results in



less fatigue, improved productivity, and potentially faster travel times. Fully adjustable seat packages can be retrofitted to existing equipment and are suitable for use in the construction, quarrying, mining, and agricultural industries.

### Medium-duty cleaner

Flexco's MMP medium-duty pre-cleaner for underground mines and harsh above-ground applications offers consistent cleaning performance, a long operating life, and low maintenance in abrasive applications, according to the company. The easy-to-install Mineline MMP features a 10-in (250-mm) TuffShear blade that provides optimal blade tip tension on high-speed, high-load conveyor applications. The blade is designed with 6 in (150 mm) of usable urethane and deliv-



ers longer wear in most medium-duty applications. Self-contained quick mount tensioners store sufficient energy to keep the blade powered to the belt, and a material path option allows users to match the blade width to the belt's material path to reduce differential wear and ensure contact.

### Excavating bucket

Helac expands the line of PowerGrip multi-purpose buckets to meet demand for 20-ton (18-t) excavators and backhoes. Designed as a general-purpose excavating bucket, PowerGrip also can be used as a trenching, grading, or clamshell bucket, and as a grapple or hydraulic thumb. By increasing the tasks a single machine can perform, PowerGrip reduces the number of attachments needed at the job site. The ready-to-use, pin-on attachment is easy to install and operate, according to the company, without weld-



ing, fabrication, or measurement required. Other features include resilience to shock loads, an enclosed rotary actuator hinge design, abrasion-resistant steel, and a consistent holding force through 120° of movement. Three models are offered in various widths for up to 45,000 lb (20,400 kg).

# Are you comparing all the differences?

Comparing a brake by wire system to a manual fluid power braking system is like comparing apples to oranges. Brake by wire systems offer you much more than braking.

With all the features and benefits that brake by wire has to offer, you owe it to yourself, your company, and your customers to explore it further.

## Some advantages of brake by wire:

Enhances vehicle performance

Additional safety features

Flexible system designs

Redundant systems

Programmability

Improved vehicle control



Innovative Braking and Controls Worldwide

Give us a call at 1.800.477.6426  
or visit [www.mico.com](http://www.mico.com).