

montratec

By Columbus McKinnon

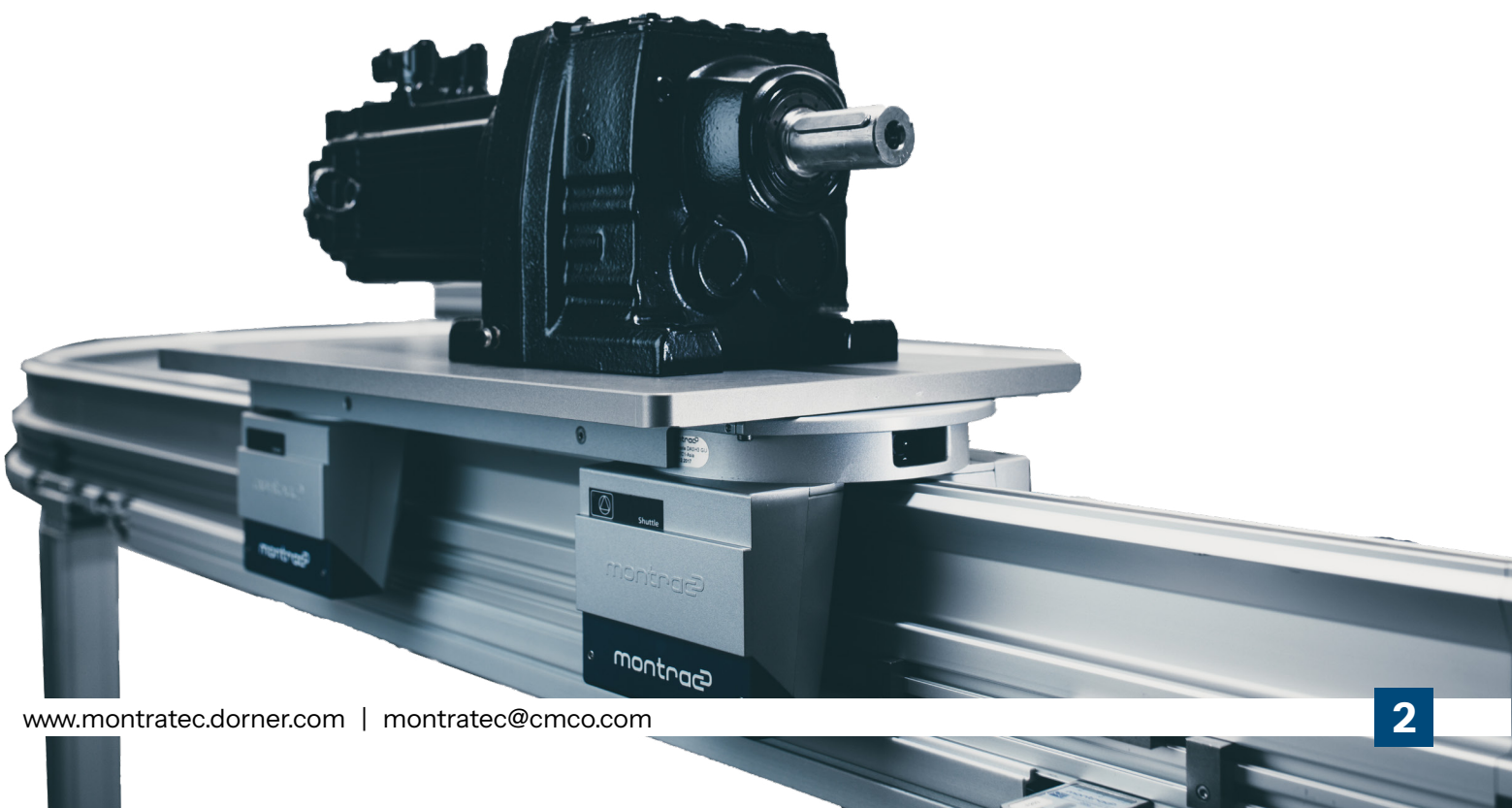


Innovative Transport Automation: montrac[®] by montratec

Founded in 2017 as a spin-off from a highly successful worldwide corporate group, montratec combines over 20 years of intralogistics experience with the innovation of a dynamic start-up. The strategic investment in asynchronous automation and transport systems has expanded our global footprint within the product movement market.

Dorner by Columbus McKinnon Corporation (CMCO), a worldwide leader in intelligent motion solutions, acquired montratec in 2023. With montratec's intralogistics solutions for assembly, production, and manufacturing processes, CMCO offers a comprehensive portfolio of precision conveyance solutions.

The montrac® transport system is an intelligent, modular shuttle conveyor for connecting industrial logistics and production. It facilitates the digital process automation and networking of intralogistics 4.0 processes in medical technology, electronics, plastics, automotive, and other industries. Learn more about montrac®'s unique features, benefits, and value proposition.



CHAPTER 1:

Understanding montrac® Transport System

More than 2,500 montrac® monorail transport systems have been installed worldwide. Here's an overview of montrac® shuttles, rail system components, and their key precision conveyance features.

montrac® Shuttles

We offer four shuttle generations of the intelligent montrac® transport automation system:

1

montrac® Shuttle S015 and X030:

These are standard shuttles with a maximum speed of 55 meters/min, capable of transporting loads up to 30 kg.

2

montrac® Shuttle S014CR and X021CR:

Designed for cleanrooms, these shuttles can achieve a maximum speed of 55 meters/min, transporting loads up to 30 kg. The rubberized support and drive rollers allow for extra-low particle emissions, and the contactless braking system minimizes friction.

3

montrac® Shuttle X050:

Capable of transporting loads up to 50 kg, these shuttles have optional five-beam sensor modules for the rear and front axels, which prevent collisions during reversing or turning and can monitor wide carriers.

4

montrac® Shuttle W040 and W070:

The W040 transports loads up to 40 kg, and the W070 model can handle up to 70 kg. The innovative sensor modules on both shuttles' space-saving monorail systems help prevent potential collisions, and the W070 includes sensor-monitored reversing capabilities.

Rail System Components

Each montrac® transport system consists of the following five primary components:



Trac:

A straight monorail Trac has a colorless, extruded, anodized aluminum profile. The TracControl routing module can be placed at any point along the conductor rails, which can run right or left along the Trac.



TracLink:

The TracLink connects two active components or two sections of Trac. The TracLink serves as a feed-in for the TracSupply power source, enabling electrical connection to the conductor rails.



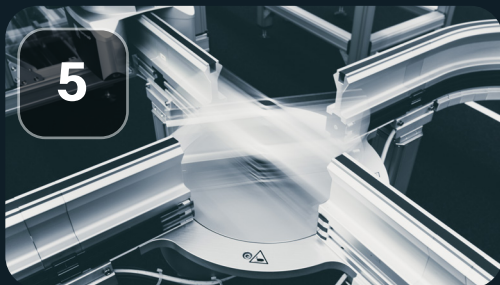
TracCurve (Change of Direction):

The TracCurve enables 45° or 90° changes in direction with a connection radii of 520 mm or 220 mm. Joining two 90° TracCurves can create one 180° curve.



TracSwitch and TracSwitch Arena (Switch):

The TracSwitch component redirects shuttles from one track to two or two tracks to one. A narrow radius allows the creation of junctions within a confined space. The TracSwitch Arena component redirects shuttles from a track further on or back to the main track, forming a single component that creates a complete bypass.



TracCrossing (Junction):

The TracCrossing is a junction component enabling two tracks running at right angles to cross.

How montrac® Aligns with CMCO's Precision Conveyance Landscape

Dorner is a leading manufacturer of precision conveyance that provides products at the right time, consistent place, and correct orientation. montrac® is the next evolution of material handling technology that shares the same values and conveyance systems, with the added benefit of asynchronous monorails. Asynchronous motion improves manufacturing efficiency by reducing redundant tooling, speeding up cycle times, and minimizing the conveyor's overall footprint.

CHAPTER 2: Unique Features of montrac®

Our montrac® innovative transport system can handle longer runs despite space constraints. It can transport routes over several floors through interconnected lift systems. By installing the transfer system (between machines) under the ceiling and integrating buffer zones, operators can have smoother material flow and larger free production areas.

Our montrac® transport system offers the following comprehensive features:

- 24-volt DC energy-efficient motors
- Ceiling mount
- Complex configuration capabilities
- Ease of modification
- Anti-static and shock/vibration-free operation
- High-speed indexing
- Lower overall ownership cost
- Minimized noise
- No pneumatics
- On-board power requirements
- Simple I/O link communication
- Stopping accuracy up to 0.02 mm

CHAPTER 3:

Benefits of Implementing montrac®

For industrial facilities, montrac® transport system offers the following advantages.



Flexible Modular Construction

The components can adapt to an array of production volumes, allowing for growth and adaptability while preventing overinvestment. The system's flexibility extends to various product sizes, shapes, and types, making it easier to expand lines, reconfigure, or adjust other settings as needed. Individual shuttles can be repaired or serviced without affecting the overall production process.



Energy Efficiency

The montrac® transport system requires no compressed air, which removes the need for components like valves, tubing, filters, and regulators while eliminating the cost of air consumption. By reducing energy consumption, montrac® provides considerable cost savings and lowers CO2 and other harmful emissions. Implementing montrac® contributes to environmentally friendly business practices and complies with legal regulations.



Electrostatic Discharge (ESD) Capabilities

With continuous grounding, montrac® is ESD-capable. Its static dissipative properties allow it to conform to the demanding ESD requirements of the electronics industry, ensuring the secure transport of sensitive electronic and semiconductor components. The system also meets DIN EN 61340-5-1 requirements, even under dry room conditions.



Shock-Free Transport

Every shuttle provides shock-free transport of workpiece pallets, with advanced distance sensors that continuously monitor the surrounding environment for obstacles or other shuttles. The intelligent control of deceleration and acceleration is the key to this advantage, with shuttles capable of adjusting speed based on the current speed and measured distance of the shuttle in front. When the distance sensor detects a change in distance, it initiates the required acceleration or deceleration response in real time to prevent collisions and maintain the proper distance.



Low Maintenance

With minimal maintenance requirements, montrac® offers the following advantages:

- Increases system availability
- Increases productivity
- Minimizes downtime
- Minimizes operational risks
- Promotes customer satisfaction
- Reduces consumption of resources, promoting sustainability
- Reduces maintenance costs
- Simplifies projection of maintenance costs



Long-Term Impact

The advanced, patented technology of montrac® is future-proof, giving facility managers the following long-term benefits:

- Lower total cost of ownership
- Enhanced operational efficiency
- Increased productivity
- Maintenance-friendly features
- Reduced downtime
- Ease of line expansion

How montrac[®] Benefits Industries



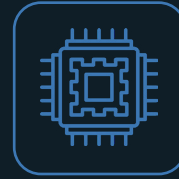
Aerospace:

Our cutting-edge montrac[®] intralogistics technology offers innovative internal logistics solutions for equipment assembly applications in the aerospace sector.



Optical/Medical/ Pharmaceutical:

The transport of optical lenses and blood bags, for example, benefits from the shock-free, space-saving design of montrac[®], which can interlink automatic lathes.



Semiconductor:

montrac[®]'s systems are cleanroom compatible and are ideal for semiconductor manufacturing. montrac[®]'s ESD-safe materials and continuous grounding technology protect sensitive electronic components, reducing damage risks and enhancing yield rates.



Automotive and Electric Vehicle (EV):

With high transport speeds and industry-leading cycle times, montrac[®] provides shock-free transport of automotive and EV parts. Examples include:

Assembly: Doors, engines, motors, pedals, turbocharger hoses

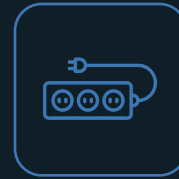
Transport: Clutch, MFT, steering gear

EV: Battery cell production



Plastics:

Our montrac[®] transport systems promote cleanliness, high availability and flexibility, reduced labor costs, and quality intensification. A common plastic production application is transfer process linking between different injection molding machines.



Electronics:

With montrac[®], several products can be placed on a single workpiece platform and be transported shock-free and flexibly based on the layout design. To save time, the shuttle has onboard power testing capabilities while it is moving between stages of production.

CHAPTER 4: montrac®'s Value Proposition

Our montrac® intelligent transport system is ideal for internal transport of workpiece pallets, process sequencing, and assembly automation. The following features differentiate our solution from others in the product movement market:

- Asynchronous Movement
- Cleanroom Certification
- Little to No Downtime
- Faster Setup
- Industry 4.0 Controls
- Low Energy Consumption
- Space-Saving Capabilities

Transforming Your Operations with montrac®

At montratec, we are committed to providing smart, modular transport automation solutions for customers in the automotive, electronics, medical, plastics, and other industries. [Contact us](#) online or email us at montratec@cmco.com to learn more about our innovative transport systems.



About Us

Tired of rigid production lines that can't keep up with your changing needs? Frustrated by inefficient intralogistics eating into your profits? At montratec®, we don't just move products – we propel your entire operation into the future. Our groundbreaking monorail montrac® system isn't just another shuttle conveyor; it's a revolution in motion.

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