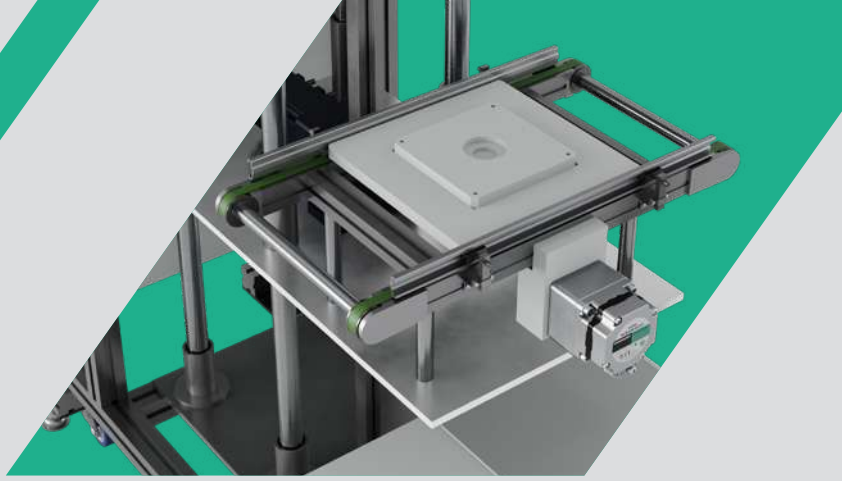
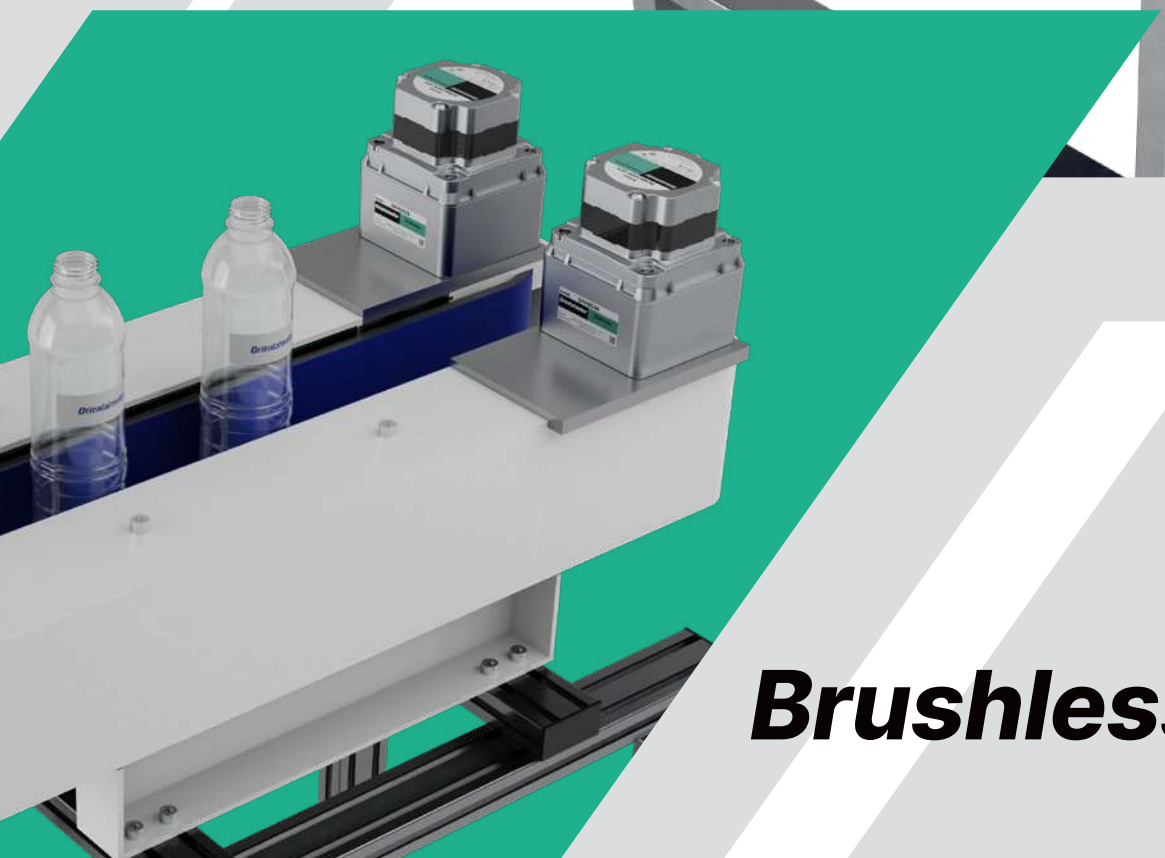
Oriental motor



Enhancing the Efficiency of Transport Conveyors



Brushless Motor

Brushless Motors Add to the Efficiency of Transport Conveyors

While induction motors and inverters are often used in transport conveyors, brushless motors are an alternative option available.
We will show you how to use brushless motors that provide new value to conveyor systems.

Save Space and Reduce the Weight of Conveyors

Here are application examples that take advantage of the "small, thin, light weight, and high power" of brushless motors.

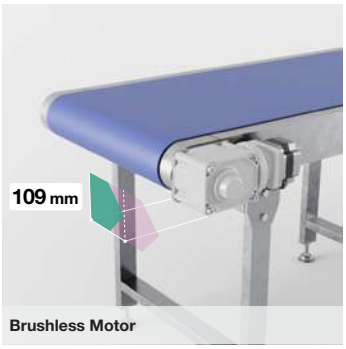
✻ Comparison of a brushless motor (right) and an induction motor (left) that have the equivalent torque and frame size

Belt Conveyor

CASE 1

To accommodate limited installation space, minimize the protrusion on the side of the conveyor





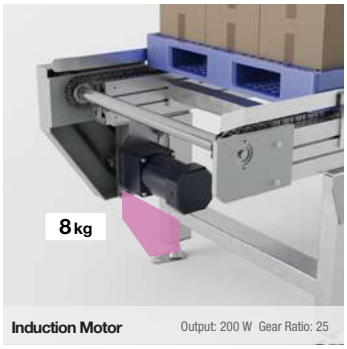
Products Used
Brushless Motor **BLM5200HPK** (200 W)
Gearhead **5XH50S**

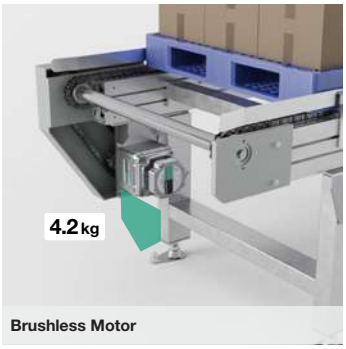
- Reduction of Protrusion Caused by Motor by Approx. 50% (232 mm → 109 mm)
- Hollow Shaft Reduces Protrusion of Parts, Such As Couplings

Chain Conveyor

CASE 2

Heavy Motor Make it Difficult to Assemble and Maintain a Conveyor





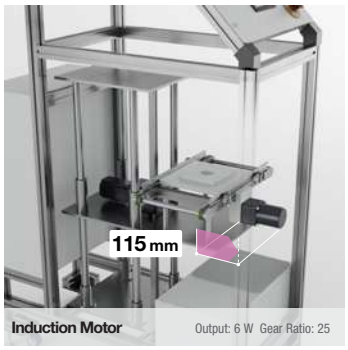
Products Used
Brushless Motor **BLM6200S-GFV** (200 W)
Gearhead **GFV6G50**

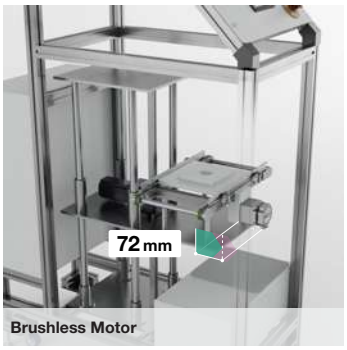
- Reduction of Mass Cause by Motor by Approx. 50% (8 kg → 4.2 kg)
- Reduced Operator Workload

Incorporating a Belt Conveyor into a Device

CASE 3

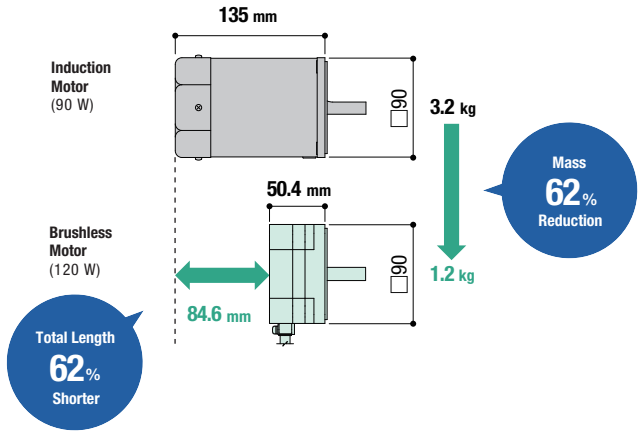
Incorporate a Conveyor into Small Equipment





Products Used
Brushless Motor **BLM230-GFV2** (30 W)
Gearhead **GFV2G10**

- Reduction of Protrusion Caused by Motor by Approx. 40% (115 mm → 72 mm)
- Contributes to Downsizing of Equipment and Reduction of Occupied Area



Brushless motors utilize permanent magnets in the rotor, enabling them to be smaller, thinner, lighter, and more powerful than traditional induction motors.

Stabilize the Conveyor Speed

Here are application examples that take advantage of the "excellent speed stability" of brushless motors.

✻ Comparison of a brushless motor (right) and an induction motor that has the equivalent torque and frame size (left)

Side Conveyor

CASE 1

Varying speeds between the left and right conveyor belts lead to inconsistent positioning of prints and labels





Products Used

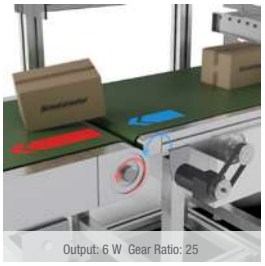
Brushless Motor
BLM6200S-GFV (200 W)
Gearhead
GFV6G50

- Reduces Speed Discrepancy between the Left and Right Belts
- Improved Quality of Printing and Labeling

Belt Conveyor and Connecting Conveyance

CASE 2

Speed discrepancies in the delivery section caused by changes in mass disrupt the flow of workpieces





Products Used

Brushless Motor
BLM230-GFV2 (30 W)
Gearhead
GFV2G10

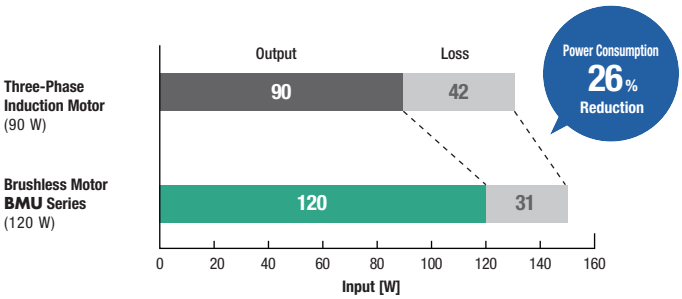
- Reduces Belt Speed Discrepancy between Before and After Workpiece Delivery
- Smoother Workpiece Delivery Improves Productivity

Brushless motors have high speed stability because they are controlled in such a way that the difference between the velocity demand value and the detected speed is zero. Speed remains stable even when the motor load fluctuates.

Comparison of Speed Regulation (Load)	
Brushless Motor BMU Series	**Combination of Induction Motor and General Inverter (V/f Control)**
± 0.2%	**Approx. 10% (Reference Value)**

Energy Saving of Conveyors

Brushless motors are more efficient than inverter-controlled induction motors, reducing power consumption and CO_2 emissions.



Options for Use in Food Machineries

Watertight, dust-resistant motors with IP67 specifications and motors with H1 lubricant are available. Advantages include resistance to water, dust, and rust, and worker safety considerations.

A Machine Including the Motor can be Washed with Water
Can be washed with water while still attached to equipment
Watertight and Dust-Resistant

Resistant to Water and Dust
Can be used in applications where dust may come into contact with the motor
Watertight and Dust-Resistant | H1 Lubricant Compatible

H1 Food-Grade Lubricant Compatible
H1 Lubricant Compatible

Increased Corrosion Resistance
Rust-resistant special coating, stainless steel materials used for screws and main shafts
Watertight and Dust-Resistant

Product Line of Brushless Motors

	BMU Series	BLE2 Series
Series		
Key Features	 · Perfect operation and functionality for conveyors · Speed can be set as a digital value · Actual speed is displayed as a digital value	 · Extensive functions · Speed can be set as a digital value · Actual speed is displayed as a digital value
Output	30 W~ **400 W**	
Power Supply Input Specification	AC Power Supply	
Speed Regulation (Load)	±0.2%	
Speed Control Range	80~4000 r/min	
Motor Type	Parallel Shaft Gearhead, Right-Angle Gearhead, Hollow Shaft Gearhead, Watertight and Dust-Resistant, H1 Food-Grade Lubricant Compatible, Round Shaft (No gearhead)	

■ Parallel Shaft Gearhead

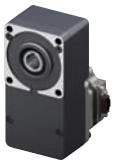




■ Right-Angle Gearhead



■ Hollow Shaft Gearhead



■ Round Shaft



These products are manufactured at plants certified with the international standards ISO 9001 (for quality assurance) and ISO 14001 (for systems of environmental management).