

Brushless Motors BLE Series

The **BLE** Series sets a new standard for brushless motors by contributing to energy savings in a compact yet powerful package. By using the control module (sold separately), further improvements in performance and functions are possible. The electromagnetic brake option is ideal for vertical drive applications.



Features

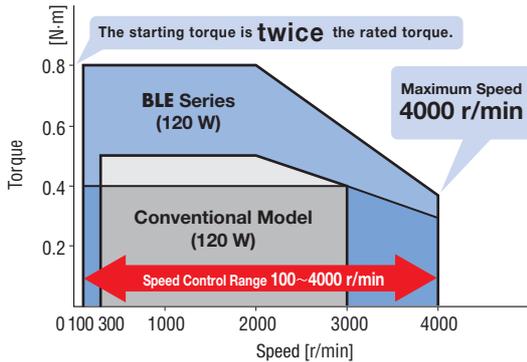
● Speed Control Range of 100 to 4000 r/min and Speed Ratio of 1:40

Compared with conventional models, the speed control range of the **BLE** Series is greatly expanded.

Use in high-speed applications even at the maximum speed of 4000 r/min is possible.

Speed Control Range **BLE** Series: 100 to 4000 r/min (speed ratio 1:40)
Conventional Model: 300 to 3000 r/min (speed ratio 1:10)

[Comparison Using 120 W Output Model]



● Excellent Speed Stability

The speed regulation (load) is $\pm 0.5\%$.

For this reason, this mechanism ensures that the motor drives at a stable speed over its entire speed range from low to high, even when the load condition fluctuates.

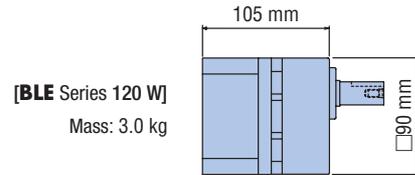
[Conventional Model]	[BLE Series]
Load -1%	Load $\pm 0.5\%$
Voltage $\pm 1\%$	Voltage $\pm 0.5\%$
Temperature $\pm 1\%$	Temperature $\pm 0.5\%$

● Energy Savings

Brushless motors use permanent magnets in the rotor. In comparison with an inverter-controlled motor, there is high efficiency and little loss, which means that energy savings is possible.

● Compact yet Powerful

In comparison with conventional models, high power is achieved with a slim body, efficient gearhead and lightweight size allowing for additional space savings.



● Features of Gearheads

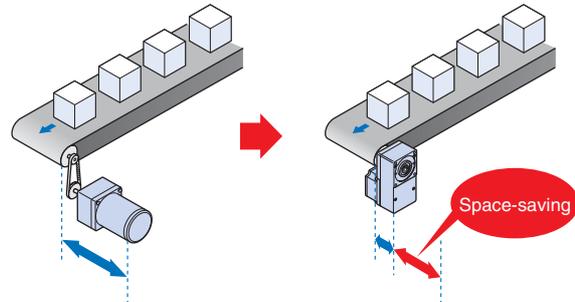
◇ Long Life Gearhead Rated Life of 10000 Hours

The rated life of the parallel shaft gearhead and hollow shaft flat gearhead is 10000 hours. The parallel shaft gearhead achieves a long life that is twice as long as that of a conventional model.

● The parallel shaft gearhead for 60 W and 120 W models has a tapped hole at the shaft end.

◇ Space Saving is Achieved with a Hollow Shaft Flat Gearhead

Direct connection to the drive shaft is possible without using a coupling, which enables equipment space saving.



[For Three-Phase Motor and Parallel Shaft Gearhead]

[For Brushless Motor and Hollow Shaft Flat Gearhead]

● Use of Control Module Extends Specifications and Functions

Use in combination with a control module (sold separately) extends specifications and functions and makes the following possible:



● Control Module **OPX-2A**
(Sold separately)

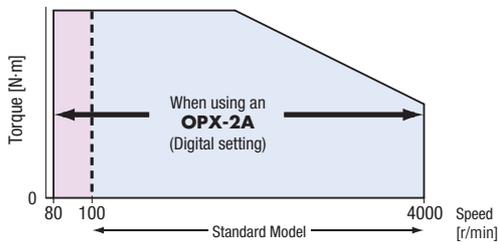


● Data Setting Software **MEXE02**
(Sold separately)

Functions	<ul style="list-style-type: none"> · Various Displaying Functions: Operating Speed (Setting of gear ratio and speed increasing ratio), Conveyor Transportation Speed, Load Factor, Alarm Code, Alarm History, Warning Code, Warning History, I/O Monitor
	<ul style="list-style-type: none"> · Speed (8 speeds max.) · Torque Limiting Function · I/O Signal Assignment Change and Extension · Test Operation · Data Copy

◇ Expansion of Speed Control Range to 80 to 4000 r/min

The digital speed setting function expands the speed control range to cover 80 to 4000 r/min (speed ratio 1:50).



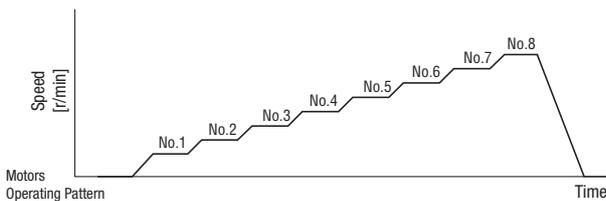
◇ Improved Speed Regulation

[BLE Series]	[When using control module*]
Load $\pm 0.5\%$	Load $\pm 0.2\%$
Voltage $\pm 0.5\%$	Voltage $\pm 0.2\%$
Temperature $\pm 0.5\%$	Temperature $\pm 0.2\%$

*When digital speed setting is used

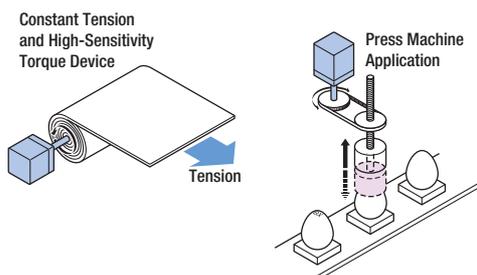
◇ Multi-Speed Operation up to 8 Speeds is Possible

Using the control module (sold separately), multi-speed operation up to 8 speeds is possible. Speed setting in 1 r/min units as well as separate setting of the acceleration and deceleration time are also possible.



◇ Limiting the Motor Output Torque

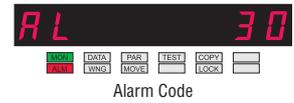
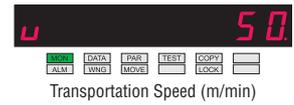
The motor output torque can be suppressed in accordance with the application and use condition.



◇ Various Digital Displays are Possible (**OPX-2A**)

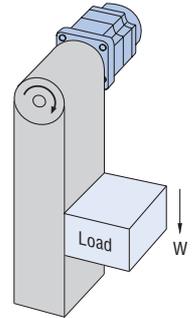
Speed, load factor, alarm code, etc. can be displayed digitally.

- The speed can be displayed as the speed of the gearhead output shaft.



● Speed Control during Vertical Drive

The motor with an electromagnetic brake enables stable speed control even during vertical drive (gravitational operation). When the power is turned off, the motor stops instantaneously to hold the load in place. The electromagnetic brake is automatically controlled via the driver in accordance with ON/OFF of the operation command signal.

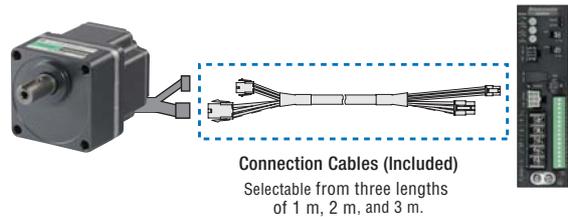


Note

- Regeneration energy generates during vertical drive. If the **BLE** Series will be used in applications that require vertical drive, be sure to use a regeneration unit (sold separately).

● Cable Comes in Three Lengths

The **BLE** Series comes with a cable with a length of 1 m, 2 m or 3 m for connection between the motor and driver. Select the cable length that best suits the extension length between the motor and driver.



● Select the Cable Length or a Flexible Connection Cable

◇ Cables up to 20 m are Available (Sold separately)

When the distance between the motor and the driver is extended, the accessory (sold separately) connection cable must be used. The distance between the motor and the driver can be extended up to 20 m.

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◇ Flexible Connection Cables are Also Available (Sold separately)

Use a flexible connection cable if the cable will be bent.

- Flexible connection cables → Page 30