

# Brushless Motors BLF Series

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[www.orientalmotor.com/catalog](http://www.orientalmotor.com/catalog)

Motor:  Driver:   
 ● For detailed information about regulations and standards, please see the Oriental Motor website.



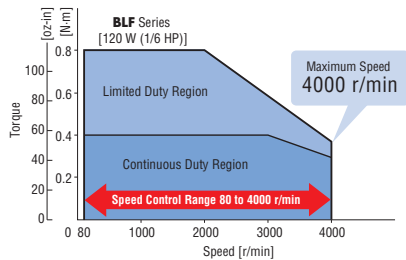
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- Wide Output Range from 30 W (1/25 HP) up to 400 W (1/2 HP)
- Wide Speed Control Range from 80 r/min up to 4000 r/min
- Easy Operation with the Digital Operator

## Features

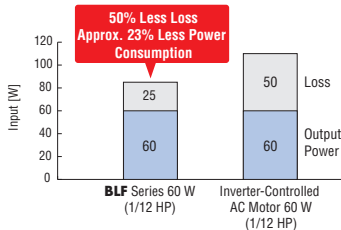
### Wide Speed Control Range from 80 r/min up to 4000 r/min

A wide speed control range from 80 to 4000 r/min (speed ratio of 50:1) enables the motor to be used for various applications.



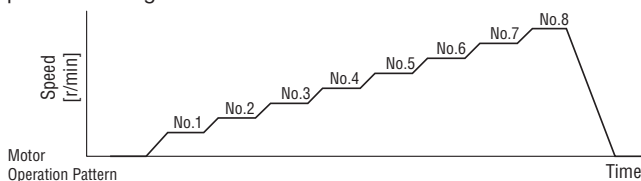
### Energy-Saving

At an output power of 60 W (1/12 HP), the power loss of the **BLF** Series is approximately half that of an inverter-controlled AC motor, which contributes to the energy-saving operation of the equipment.



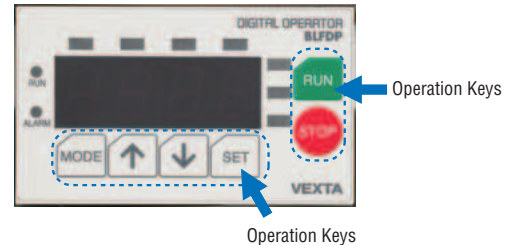
### Multi-Speed Operation Using up to Eight Speeds

Up to eight speeds can be set digitally setting. On the digital operator, the speed can be set in units of 1 r/min and a different acceleration/deceleration time can be set for each speed. Switch the speed according to the needs.



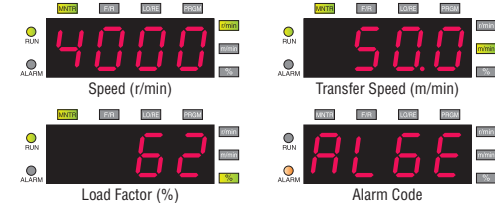
### Easy Operation with the Digital Operator

Various settings and operations can be performed using the six operation keys on the digital operator.



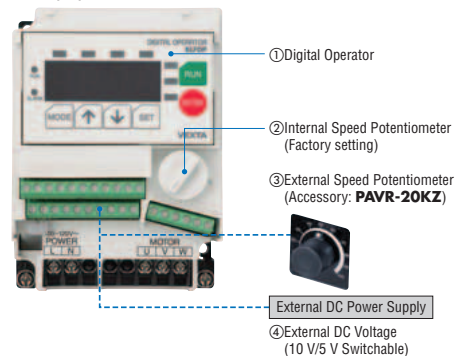
### Various Digital Displays

Speed, load factor, alarm code, etc. can be displayed digitally.  
 ● The speed can be displayed as gearhead output shaft speed.



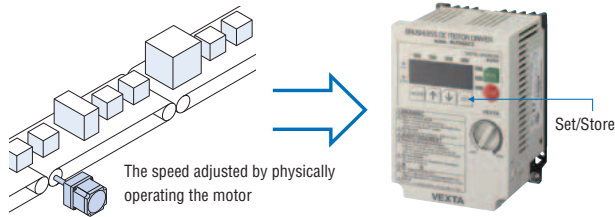
### Four Speed Setting Methods

Select one of four speed setting methods according to the condition in which your equipment is used.



## Speed Teaching Function

The speed adjusted by physically operating the motor can be set and stored.



## Sink/Source Logic Switchable

To ensure safety and usability, sink/source logic can be selected by a switch.

- The factory setting is the sink logic.

## Full Range of Protective Functions

The **BLF** Series detects various motor and driver errors such as overload, overvoltage, undervoltage, missing phase, overspeed, overcurrent, EEPROM error, CPU error, operation error and external error. Upon detection of an error, the driver will immediately stop the motor and output an alarm signal.

## Detachable Digital Operator

The digital operator can be detached from the driver and used at a location as far as 5 m (16.4 ft.) away using an accessory remote-control kit (sold separately). Use the digital operator as a handy operation unit or display outside the switch board. (The digital operator conforms to IP65 when the remote-control kit is used.)

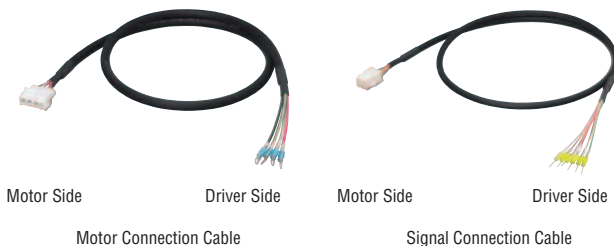


## A Maximum Motor/Driver Wiring Distance of 20 m (65.6 ft.)

By separating the motor cable and signal cable, the **BLF** Series is less vulnerable to noise and capable of an extension of the motor/driver wiring distance to a maximum of 20 m (65.6 ft.). Select connection cables (sold separately) from among eight lengths [1 to 20 m (3.3 to 65.6 ft.)].

**Note**

- Be sure to purchase connection cables (sold separately).



## Uses a Terminal Block for Driver Connection

The driver-end of each cable has terminals, instead of a connector, to make it easy to wire the cable into a switch board.

## Long Life Gearhead Rating of 10000 Hours

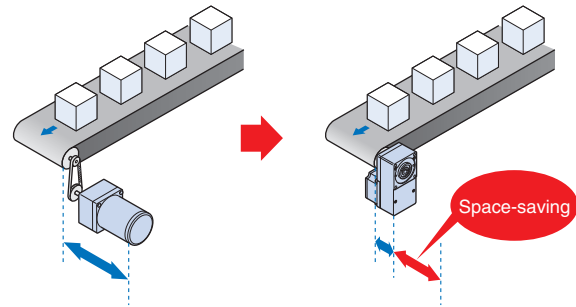
The rated life of the parallel shaft gearhead and hollow shaft flat gearhead is 10000 hours (at 3000 r/min). The parallel shaft gearhead achieves a rated life of twice as long as that of a conventional gearhead.

- The 60 W (1/12 HP), 120 W (1/6 HP), 200 W (1/4 HP) and 400 W (1/2 HP) parallel shaft gearhead has a tapped hole at the output shaft end.

## Features of Hollow Shaft Flat Gearhead

### ◇ Space-Saving and Low-Cost

The output shaft can be coupled directly to a driven shaft without using a coupling, which allows for reduced size and installation space of the equipment. Since no shaft-coupling parts are needed, the parts and labor cost will also decrease.

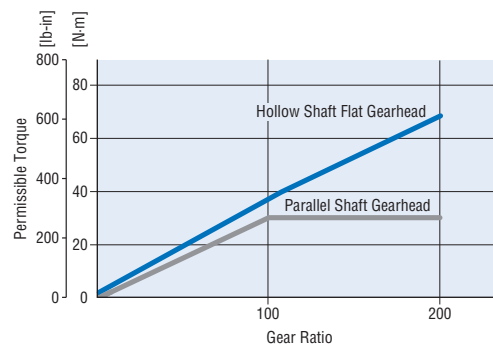


[For Three-Phase Motor and Parallel Shaft Gearhead]

[For Brushless Motor and Hollow Shaft Flat Gearhead]

### ◇ High Permissible Torque

While the permissible torque of parallel shaft gearhead saturates at high gear ratios, the hollow shaft flat gearhead enables the motor torque to be fully utilized.



[Frame size 90 mm (3.54 in.)]

## IP65 Protection

The motor (excluding the mounting surface of the round shaft type and the connector) and digital operator (when an accessory remote-control kit is used) provide a high level of protection conforming to IP65 meaning you can use the **BLF** Series in locations where the unit may come into contact with water.

- The **BLF** Series is not designed for washing directly in water or use in an environment where the unit constantly receives water splashes. The protection class of the driver is IP20.

Overview, Product Series

Brushless Motors

AC Input BMU

AC Input BLE

AC Input BLF

AC Input BXII

DC Input BLH

AC Speed Control Motors

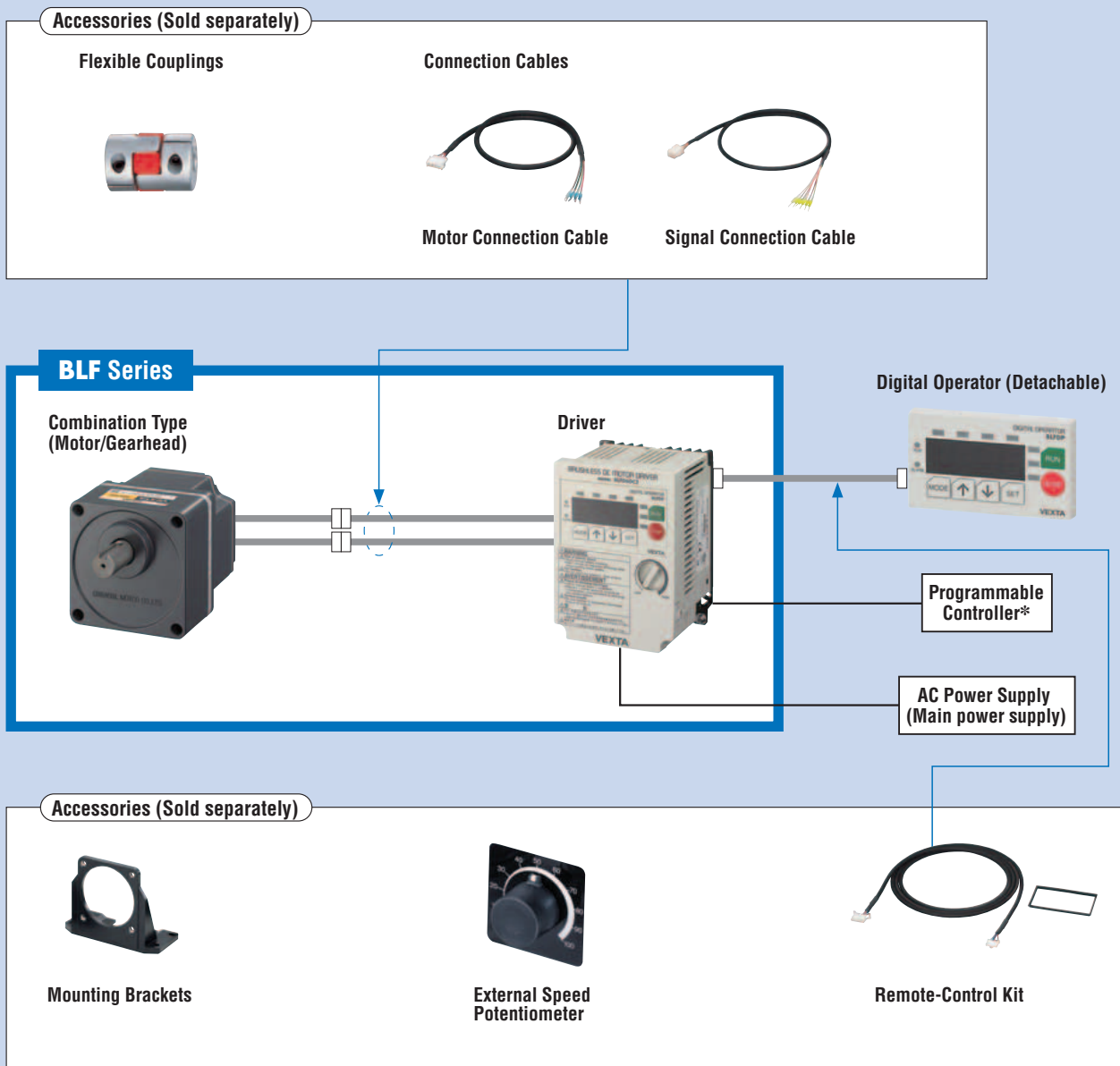
DSC

BHF

Accessories

Installation

System Configuration



\*Not supplied

Product Number

**BLF 2 30 A - 5 FR**

- ①
- ②
- ③
- ④
- ⑤
- ⑥

①	Series	<b>BLF: BLF</b> Series
②	Motor Frame Size	<b>2:</b> 60 mm (2.36 in.) <b>4:</b> 80 mm (3.15 in.) <b>5:</b> 90 mm (3.54 in.) <b>6:</b> 104 mm (4.09 in.) [110 mm (4.33 in.) for Gearhead]
③	Output Power (W)	(Example) <b>30:</b> 30 W (1/25 HP)
④	Power Supply Voltage	<b>A:</b> Single-Phase 100-120 VAC <b>C:</b> Single-Phase 200-240 VAC <b>S:</b> Three-Phase 200-240 VAC
⑤	Gear Ratio/Shaft Type	Number: Gear ratio for combination types: 8 types from <b>5</b> to <b>200</b> <b>A:</b> Round Shaft Type
⑥		Blank: Combination Type – Parallel Shaft Gearhead <b>FR:</b> Combination Type – Hollow Shaft Flat Gearhead

## Product Line

**Combination Type** The combination type comes with a motor and gearhead pre-assembled.  
 The combination of motors and gearheads can be changed, and they are also available separately.  
 In addition, the gearhead can be removed and the assembly position can be changed in 90° increments.

### Combination Type – Parallel Shaft Gearhead

Output Power	Power Supply Voltage	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	Single-Phase 100-120 VAC	<b>BLF230A</b> -□	<b>5, 10, 15, 20</b>	\$698.00
			<b>30, 50, 100</b>	\$707.00
			<b>200</b>	\$716.00
	Single-Phase 200-240 VAC	<b>BLF230C</b> -□	<b>5, 10, 15, 20</b>	\$704.00
			<b>30, 50, 100</b>	\$713.00
			<b>200</b>	\$722.00
	Three-Phase 200-240 VAC	<b>BLF230S</b> -□	<b>5, 10, 15, 20</b>	\$704.00
			<b>30, 50, 100</b>	\$713.00
			<b>200</b>	\$722.00
60 W (1/12 HP)	Single-Phase 100-120 VAC	<b>BLF460A</b> -□	<b>5, 10, 15, 20</b>	\$746.00
			<b>30, 50, 100</b>	\$754.00
			<b>200</b>	\$764.00
	Single-Phase 200-240 VAC	<b>BLF460C</b> -□	<b>5, 10, 15, 20</b>	\$752.00
			<b>30, 50, 100</b>	\$760.00
			<b>200</b>	\$770.00
	Three-Phase 200-240 VAC	<b>BLF460S</b> -□	<b>5, 10, 15, 20</b>	\$752.00
			<b>30, 50, 100</b>	\$760.00
			<b>200</b>	\$770.00
120 W (1/6 HP)	Single-Phase 100-120 VAC	<b>BLF5120A</b> -□	<b>5, 10, 15, 20</b>	\$792.00
			<b>30, 50, 100</b>	\$803.00
			<b>200</b>	\$813.00
	Single-Phase 200-240 VAC	<b>BLF5120C</b> -□	<b>5, 10, 15, 20</b>	\$798.00
			<b>30, 50, 100</b>	\$809.00
			<b>200</b>	\$819.00
	Three-Phase 200-240 VAC	<b>BLF5120S</b> -□	<b>5, 10, 15, 20</b>	\$798.00
			<b>30, 50, 100</b>	\$809.00
			<b>200</b>	\$819.00
200 W (1/4 HP)	Single-Phase 100-120 VAC	<b>BLF6200A</b> -□	<b>5, 10, 15, 20</b>	\$833.00
			<b>30, 50</b>	\$843.00
			<b>100, 200</b>	\$859.00
	Single-Phase 200-240 VAC	<b>BLF6200C</b> -□	<b>5, 10, 15, 20</b>	\$838.00
			<b>30, 50</b>	\$848.00
			<b>100, 200</b>	\$864.00
	Three-Phase 200-240 VAC	<b>BLF6200S</b> -□	<b>5, 10, 15, 20</b>	\$838.00
			<b>30, 50</b>	\$848.00
			<b>100, 200</b>	\$864.00
400 W (1/2 HP)	Three-Phase 200-240 VAC	<b>BLF6400S</b> -□	<b>5, 10, 15, 20</b>	\$1,010.00
			<b>30, 50</b>	\$1,020.00
			<b>100, 200</b>	\$1,036.00

The following items are included with each product.  
 Motor, Driver, Gearhead, Installation Screws, Parallel Key, Operating Manual

### Round Shaft Type

Output Power	Power Supply Voltage	Product Name	List Price
30 W (1/25 HP)	Single-Phase 100-120 VAC	<b>BLF230A-A</b>	\$572.00
	Single-Phase 200-240 VAC	<b>BLF230C-A</b>	\$578.00
	Three-Phase 200-240 VAC	<b>BLF230S-A</b>	\$578.00
60 W (1/12 HP)	Single-Phase 100-120 VAC	<b>BLF460A-A</b>	\$605.00
	Single-Phase 200-240 VAC	<b>BLF460C-A</b>	\$611.00
	Three-Phase 200-240 VAC	<b>BLF460S-A</b>	\$611.00
120 W (1/6 HP)	Single-Phase 100-120 VAC	<b>BLF5120A-A</b>	\$622.00
	Single-Phase 200-240 VAC	<b>BLF5120C-A</b>	\$628.00
	Three-Phase 200-240 VAC	<b>BLF5120S-A</b>	\$628.00
200 W (1/4 HP)	Single-Phase 100-120 VAC	<b>BLF6200A-A</b>	\$635.00
	Single-Phase 200-240 VAC	<b>BLF6200C-A</b>	\$640.00
	Three-Phase 200-240 VAC	<b>BLF6200S-A</b>	\$640.00
400 W (1/2 HP)	Three-Phase 200-240 VAC	<b>BLF6400S-A</b>	\$812.00

The following items are included with each product.  
 Motor, Driver, Operating Manual

### Combination Type – Hollow Shaft Flat Gearhead

Output Power	Power Supply Voltage	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	Single-Phase 100-120 VAC	<b>BLF230A</b> -□FR	<b>5, 10, 15, 20</b>	\$756.00
			<b>30, 50, 100</b>	\$768.00
			<b>200</b>	\$780.00
	Single-Phase 200-240 VAC	<b>BLF230C</b> -□FR	<b>5, 10, 15, 20</b>	\$762.00
			<b>30, 50, 100</b>	\$774.00
			<b>200</b>	\$786.00
	Three-Phase 200-240 VAC	<b>BLF230S</b> -□FR	<b>5, 10, 15, 20</b>	\$762.00
			<b>30, 50, 100</b>	\$774.00
			<b>200</b>	\$786.00
60 W (1/12 HP)	Single-Phase 100-120 VAC	<b>BLF460A</b> -□FR	<b>5, 10, 15, 20</b>	\$838.00
			<b>30, 50, 100</b>	\$850.00
			<b>200</b>	\$862.00
	Single-Phase 200-240 VAC	<b>BLF460C</b> -□FR	<b>5, 10, 15, 20</b>	\$844.00
			<b>30, 50, 100</b>	\$856.00
			<b>200</b>	\$868.00
	Three-Phase 200-240 VAC	<b>BLF460S</b> -□FR	<b>5, 10, 15, 20</b>	\$844.00
			<b>30, 50, 100</b>	\$856.00
			<b>200</b>	\$868.00
120 W (1/6 HP)	Single-Phase 100-120 VAC	<b>BLF5120A</b> -□FR	<b>5, 10, 15, 20</b>	\$890.00
			<b>30, 50, 100</b>	\$901.00
			<b>200</b>	\$913.00
	Single-Phase 200-240 VAC	<b>BLF5120C</b> -□FR	<b>5, 10, 15, 20</b>	\$896.00
			<b>30, 50, 100</b>	\$907.00
			<b>200</b>	\$919.00
	Three-Phase 200-240 VAC	<b>BLF5120S</b> -□FR	<b>5, 10, 15, 20</b>	\$896.00
			<b>30, 50, 100</b>	\$907.00
			<b>200</b>	\$919.00
200 W (1/4 HP)	Single-Phase 100-120 VAC	<b>BLF6200A</b> -□FR	<b>10, 15, 20</b>	\$1,078.00
			<b>30, 50, 100</b>	\$1,090.00
	Single-Phase 200-240 VAC	<b>BLF6200C</b> -□FR	<b>10, 15, 20</b>	\$1,084.00
			<b>30, 50, 100</b>	\$1,096.00
	Three-Phase 200-240 VAC	<b>BLF6200S</b> -□FR	<b>10, 15, 20</b>	\$1,084.00
			<b>30, 50, 100</b>	\$1,096.00
400 W (1/2 HP)	Three-Phase 200-240 VAC	<b>BLF6400S</b> -□FR	<b>5, 10, 15, 20</b>	\$1,286.00
			<b>30, 50, 100</b>	\$1,298.00

The following items are included with each product.  
 Motor, Driver, Gearhead, Installation Screws, Parallel Key, Safety Cover (with screws), Operating Manual

Overview,  
Product  
Series

Brushless  
Motors

AC Input  
BMU

AC Input  
BLE

AC Input  
BLF

AC Input  
BXII

DC Input  
BLH

AC Speed  
Control  
Motors

DSC

BHF

Accessories

Installation



For details (specifications, characteristics, dimensions and others) on these products please refer to either to our website, contact technical support or your nearest Oriental Motor sales office.

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