

Brushless Motors/AC Speed Control Motors

AC Speed Control Motors

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 Series

DSC

BHF Series

BHF

Accessories


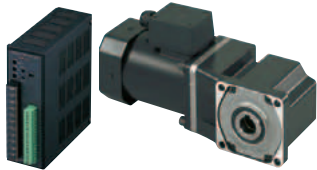




Installation

Page

DSC Series	D-138
BHF Series	D-176

Product Line of AC Speed Control Motors

The specifications and functions of each series are introduced with in the lists below.
Use these for your series selection.

		Speed Control Unit	
		Compact/Easy to Use	High-power and roll-down operation possible
Series		<p>DSC Series</p> 	<p>BHF Series</p> 
Page		▶ Page D-138	▶ Page D-176
Features		<ul style="list-style-type: none"> ● Digital Indicator ● Setting via Operation Panel ● A Maximum of 4 Operating Data Patterns Can Be Set ● Instantaneous Bi-Directional Operation is Possible 	<ul style="list-style-type: none"> ● Smallest Frame Size Among 200 W (1/4 HP) Output Power ● Speed Regulation ±3% ● Vertical Operation (gravitational operation) Possible
Motor Types		Induction Motors Electromagnetic Brake Motors	Induction Motors Electromagnetic Brake Motors
Power Supply Input		Single-Phase 110/115 VAC	Single-Phase 100-115 VAC
		Single-Phase 220/230 VAC	Single-Phase 200-230 VAC
		—	Three-Phase 200-230 VAC
Output Power	Frame Size 60 mm (2.36 in.)	6 W (1/125 HP)	—
	Frame Size 70 mm (2.76 in.)	15 W (1/50 HP)	—
	Frame Size 80 mm (3.15 in.)	25 W (1/30 HP)	—
		40 W (1/19 HP)	—
	Frame Size 90 mm (3.54 in.)	60 W (1/12 HP)	—
	Frame Size 104 mm (4.09 in.)	—	200 W (1/4 HP)
Speed Control Range*1	50Hz	90 (300)~1400 r/min*2	100~2400 r/min
	60Hz	90 (300)~1600 r/min*2	
	[r/min]		
			
Speed Setting Methods	Potentiometer Control	External Speed Potentiometer	Internal/External Speed Potentiometer
	Digital Setting	●	—
	External DC Voltage	●	●
Functions	Digital Speed Indicator	●	● SDM496
	Instantaneous Stop	●	●
	Acceleration/Deceleration Operation	●	●
	Multi-Speed Operation	4 Speeds	2 Speeds (Internal/External switching)
	Load Holding/Gravitational Operation	● Electromagnetic Brake Type	● Electromagnetic Brake Type
	Multi-Motor Control	●	●
	Protective Function	●	●
	Maximum Extension Distance	10.5 m (34.4 ft.)	50 m (164 ft.)
Gearheads	Parallel Shaft Gearhead	●	●
	Right-Angle Gearhead	—	●
Safety Standards			
List Price		\$237.00~\$600.00	\$489.00~\$981.00

*1 The dotted line indicates the variable speed range at 60 Hz.

*2 The value inside the () represents the electromagnetic brake type value.

SDM496 : Possible when a speed indicator (**SDM496**, accessory) is used.

How to Read Specifications

Product Name Upper Level: Combination Type Lower Level: Round Shaft Type	Max. Output Power W (HP)	Voltage VAC	Frequency Hz	Variable Speed Range r/min	Permissible Torque		Starting Torque mN·m (oz-in)	Current A	Power Consumption W	Capacitor μF	Motor Overheat Protection Device
					1200 r/min (50 Hz)	90 r/min					
					1450 r/min (60 Hz)	mN·m (oz-in)					
DSCI425UA-□A-3V DSCI425UA-A-3V	25 (1/30)	Single-Phase 110 Single-Phase 115	60	90~1600	205 (29)	45 (6.3)	125 (17.7) 135 (19.1)	0.75	58 69	6.5	TP

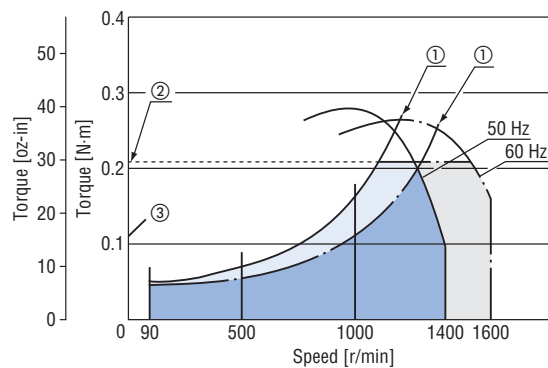
- ① Maximum Output Power: This refers to, with the combination of motor and speed controller, the amount of work that can be performed by a motor in a given period of time. It also expresses the maximum output that can be generated within the safe-operation line on the speed – torque characteristics diagram.
- ② Variable Speed Range: This refers to, with the combination of motor and speed controller, the range of variable speed. For speed control motors, the variable speed range varies with the load torque.
- ③ Permissible Torque: This refers to, at the typical set speed at 1450 r/min (60 Hz) and 90 r/min, the maximum torque that can be generated below the safe-operation line or the permissible torque when gearhead is attached.
- ④ Starting Torque: This refers to, with the combination of motor and speed controller, the torque generated the instant the motor starts.
- ⑤ Current: This refers to the current sent into the speed controller at the maximum output.

● Permissible Radial Load and Permissible Axial Load of Motors

Similar to standard AC motors. Refer to "How to Read Motor Specifications" of constant speed motors.

● How to read motor specifications of constant speed motors → Page C-12

How to Read Speed – Torque Characteristics



- ① Safe-Operation Line: The safe-operation line, measured by motor's temperature, indicates its limit for continuous operation (30 minutes operation for a reversible motor) with the temperature level below the permissible maximum. Whether the motor can be operated continuously or not, is judged by measuring the temperature of the motor case. When the temperature of the case is 90°C (194°F) or less, the motor is capable of continuous operation.
- ② Permissible Torque When Gearhead is Attached: When using a gearhead attached to motor, be aware that it is necessary to operate below the maximum permissible torque. If the actual torque required should exceed the maximum permissible torque, it may cause damage to the gearhead and/or may reduce its life.
- ③ Starting Torque: This refers to the degree of torque with which the motor can start.

How to Read Gearhead Specifications

Similar to standard AC motors. Refer to "How to Read Gearhead Specifications" of constant speed motors.

● How to read gearhead specifications of constant speed motors → Page C-13

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