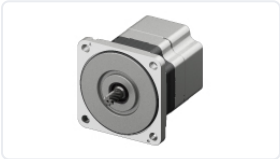


Orientalmotor

Brushless Motors BLV Series R Type

BLMR6200SKM-GFV-F + GFS6G30FR + BLVD-KRD + CCM020B1AAF + LC03D06A



Motor



Gearhead



Control Circuit



Connection Cable



Power Supply
Cable

Produktklassifikation	Produktname	Preis	Versand
Motor	BLMR6200SKM-GFV-F	483.00 €	Up to 5 pcs Estimated Ship 4weeks
Gearhead	GFS6G30FR	321.00 €	Up to 5 pcs Estimated Ship 4weeks
Control Circuit	BLVD-KRD	393.00 €	Up to 5 pcs Estimated Ship 4weeks
Connection Cable	CCM020B1AAF	65.00 €	Up to 5 pcs Estimated Ship 4weeks

Power Supply Cable	LC03D06A	17.00 €	Up to 5 pcs Estimated Ship 4weeks
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Notice: The shipping date refers to the time of dispatch from the warehouse in Düsseldorf/Germany.
Shipments with 30 pieces or more will require air freight.

Inklusive

- Motor: Not included

Gearhead: Mounting Screws, Parallel Key, Safety Cover (with Screws)

Control Circuit: Not included



Spezifikationen

Description of Specification Items.



Frame Size	110 mm
Rated Output Power	200 W
Shaft/Gear Type	Hollow Shaft Flat Gearhead
Gear Ratio	30
Rotation Direction	Direction opposite to the motor (when viewed from the front)
Electromagnetic Brake	Equipped
Cable Outlet Direction	Drawing on the Output Shaft Side
Power Supply Input Rated Voltage	24–48 VDC
Power Supply Input Allowable Operating Voltage	15–55 VDC
Power Supply Input Rated Input Current	5.3 (48 V)~10.5 A (24 V)
Power Supply Input Maximum Input Current	18 A
Rating Torque (Motor Shaft)	0.637 N·m
Permissible Torque	16.2 N·m (0.033–100 r/min) 11.5 N·m (133 r/min)

Maximum Instantaneous Torque	32.5 N·m
Rated Speed (Motor Shaft)	3000 r/min
Speed Control Range	0.033–133 r/min (Speed Ratio1: 4000)*1
Permissible Inertia J (When Deceleration Time is Set)	$30600 \times 10^{-4} \text{ kg} \cdot \text{m}^2$ *2
Permissible Inertia J (Immediate Stop)	$1800 \times 10^{-4} \text{ kg} \cdot \text{m}^2$ *3
Rotor Inertia J	$0.514 \times 10^{-4} \text{ kg} \cdot \text{m}^2$
Speed Regulation (Load)	±0.01% or less: conditions 0–Rated Torque, Rated Speed, Rated Voltage, Normal Ambient Temperature
Speed Regulation (Voltage)	±0.01% or less: Conditions Rated Voltage 24–48 VDC, Rated Speed, No load, Normal Ambient Temperature
Speed Regulation (Temperature)	±0.01% or less: conditions Operating Ambient Temperature 0~+40°C, Rated Speed, No load, Rated Voltage
Resolution	0.01° (1 revolutions: 36000 Pulse) *1
Electromagnetic Brake Type	Power off activated type
Electromagnetic Brake Static Friction Torque (Motor Shaft)	0.637 N·m
Time Rating	Continuous
Motor Section Mass	2.2 kg
Gearhead Mass	4.8 kg
Circuit Mass	0.12 kg

*1 This is the setting value at the time of shipment.

*2 This is the maximum allowable inertia when the acceleration/deceleration time is set to 0.1 seconds or more. Set the acceleration/deceleration time so that the torque required during acceleration/deceleration operation does not exceed the instantaneous maximum torque.

*3 This also applies when the deceleration time is set to less than 0.1 seconds.

Connection Cable (Motor~Control Circuit):CCM020B1AAF

Applicable Product	BLV Series R Type (100 W, 200 W, 400 W Type)
Connection Point	Motor~circuit
Cable Type	Standard
Length	2 m
Mass	0.25 kg

Power Supply Cable (Control Circuit~Power Supply):LC03D06A

Type	Cable for Power Supply
Applicable Product	BLVD-KRD AZ Series Multi-Axis Driver only (For Main Power Supply)
Connection Point	Control Circuit~Power Supply
Cable Type	Standard
Length	0.6 m



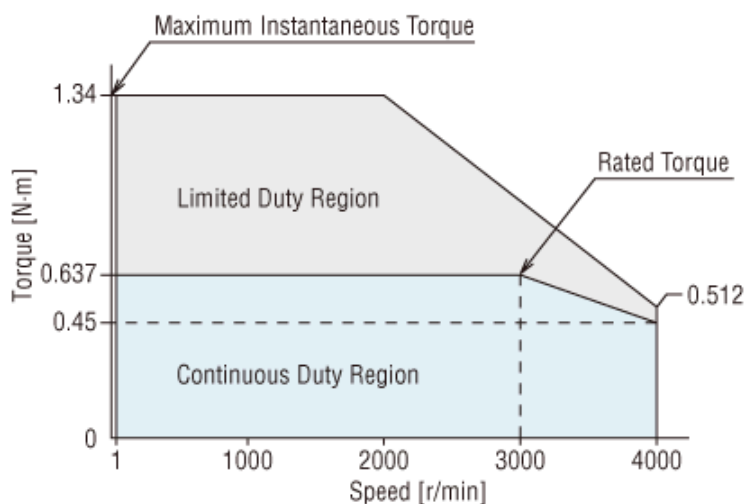
Kennlinien

Rotation speed - Torque characteristic

Continuous duty region: Region where continuous operation is possible.

Limited duty region: This region is mainly used for acceleration.

● 200 W



● All specifications and characteristics are for the motor alone. Rotation speed - Torque characteristics are values at rated voltage.

Speed - Torque Characteristics

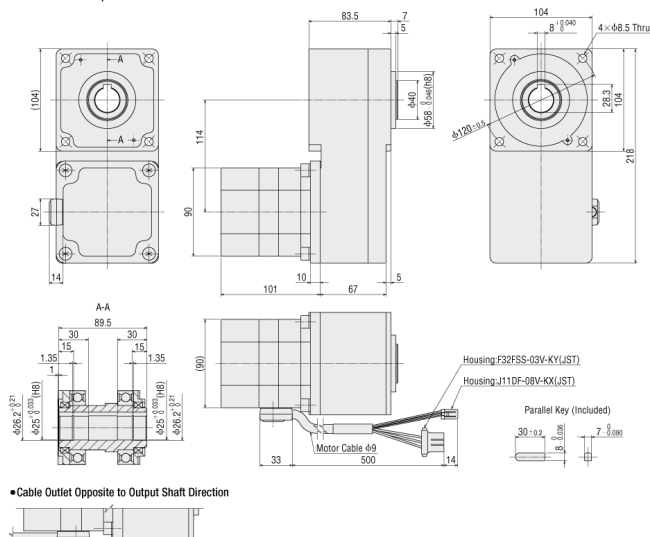
Abmessungen

■ Dimensions (Unit: mm)

- Electromagnetic Brake Motor
- ◇ Hollow Shaft Flat Gearhead 200 W

Motor Product Name	Gearhead Product Name
BLMR6200SKM-GFV ☐	GFS6G ☐ FR

- Cable Outlet in Output Shaft Direction

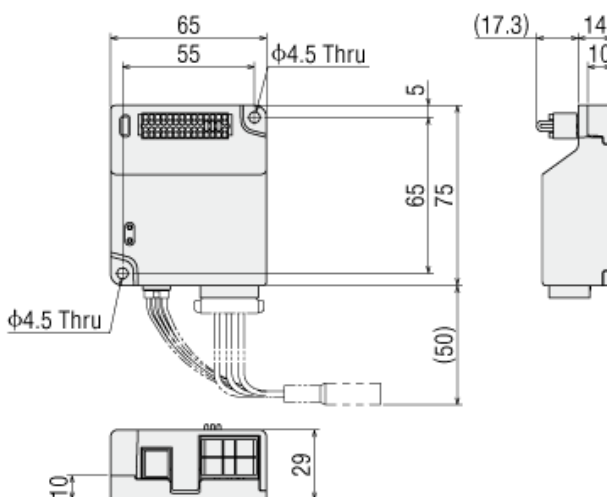


Either **F** (cable outlet in output shaft direction) or **B** (cable outlet opposite to output shaft direction) indicating the cable outlet direction is entered where the box is located in the product name.
A number indicating the gear ratio is entered where the box is located within the product name.

Motor/Gearhead

■ Dimensions (Unit: mm)

● Driver
BLVD-KRD

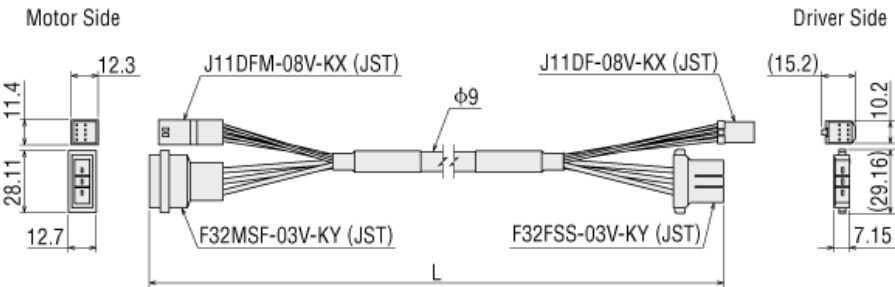


Control Circuit

■ **Dimensions** (Unit: mm)

● **Connection Cables, Flexible Connection Cables (For 100 W, 200 W, 400 W)**

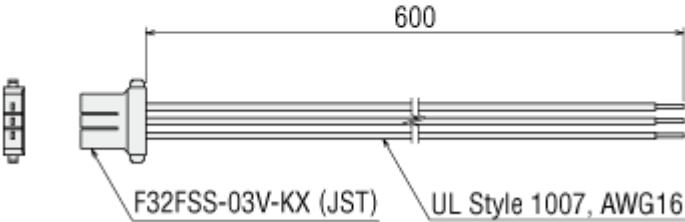
Type	Length L (m)	Product Name
Connection Cable	1	CCM010B1AAF
	2	CCM020B1AAF
	3	CCM030B1AAF
Flexible Connection Cable	1	CCM010B1AAR
	2	CCM020B1AAR
	3	CCM030B1AAR



Connection Cable (When Selected)

■ **Dimensions** (Unit: mm)

● **Power Supply Cable**
LC03D06A



Power Supply Cable (When selected)

Daten-Download

Einige 3D-CAD-Links führen Sie zur web2CAD-Website unseres Partners.

Für den Zugriff auf CAD-Daten und vereinzelte andere Dateien ist eine Anmeldung erforderlich.

CAD(Anmeldung erforderlich)

2DCAD	Motor/Gearhead	A1818_F.dxf
	Control Circuit	A1806.dxf
3DCAD (STEP)	Motor/Gearhead	A1818_F.zip
	Control Circuit	A1806.zip
3DCAD (Web2CAD)	Motor/Gearhead	Zur web2CAD-Website
	Control Circuit	Zur web2CAD-Website



Manual

English

BLV Series R Type Motor	HM-5308E.pdf
BLV Series R Type Installation and Connection Edition	HP-5140E.pdf
BLV Series R Type Function Edition	HP-5142E.pdf
BLV Series R Type Driver CANopen Communication Profile	HP-5143E.pdf

Document

UL Certification (Motor)	UL_E208200X5A6006.pdf
UL Certification (Circuit)	UL_E208200X4A6005.pdf
CE/UKCA Declaration of Conformity (Circuit)	DoC-9205.pdf
Functional Safety Certificate (Circuit)	TUVSUD_Z10_106467_0002.pdf
EDS File (CANopen)	BLVD-KRD_CANopen_V400.eds

• Please download the support software MEXE02 from the website.



Weitere Spezifikationen

Common Specifications

Item	Specifications
Input Signals	4 points, Photocoupler input method
Output Signals	2 points, Photocoupler and open-collector output
Main Operation Functions	Continuous operation, positioning operation, JOG operation, return-to-home operation
Operation Data Setting Number	256 Points
Setting Tool	Support Software MEXE02
Maximum Extension Distance	Distance between motor and driver: 3.5 m [*] (when a connection cable (sold separately) is used)

^{*} 60 W type is 3.0 m.

Communication Specifications

Power supply for communication^{*}

Power supply current capacity	Input power supply voltage
0.2 A or more	24-48 VDC

^{*} For **BLVD-KBRD**、**BLVD-KCRD**, a power supply for communication is not required.

RS-485 Communication Specifications



Electrical Characteristics	EIA-485 compliant Using twisted-pair wires, the total extension distance of the communication cable should be no more than 10 m. *
communication mode	Half duplex Asynchronous mode (Data: 8-bits, Stop bit: 1-bit/2-bits, Parity: none/even/odd)
Transmission Rate	Select from 9,600 bps, 19,200 bps, 38,400 bps, 57,600 bps, 115,200 bps, 230,400 bps (initial value)
Protocol	Modbus RTU Mode
Connection Type	A maximum of 31 units can be connected to a single host controller.

* If a specific wiring and layout causes the motor cable or power supply cable to generate a noise problem, shield the cable or use ferrite cores.

CANopen Communication Specifications

Electrical Characteristics	ISO 11898 compliant Please use a CAN-BUS cable.
Communication Protocol	CANopen
Communication Profile	Compliant with CiA DS301 Version 4.2.0
Device Profile	CiA DSP402 Version 4.0.0 compliant
Node ID	1~127
Bit Rate	Select from 1 Mbps, 800 kbps, 500 kbps (initial value), 250 kbps, 125 kbps, 50 kbps, 20 kbps, 10 kbps
Maximum Bus Length	25 m (maximum bus length at 1 Mbps)
Communication Object	NMT (Network Management) SDO (Service Data Object: 1 SDO server)

	PDO (Process Data Object: 4 Receive-PDO, 4 Transmit-PDO) EMCY (Emergency Object) SYNC(Synchronization Object)
Modes of operation	Profile velocity mode (pv) Profile position mode (pp) Profile torque mode (tq) [*] Homing mode (hm)

^{*} Effective for driver ver.4.00 or later.

General Specifications

Item	Motor	Driver
Insulation Resistance	100 MΩ or more when 500 VDC megger is applied between the windings and the case after continuous operation ^{*1} under normal ambient temperature and humidity.	100 MΩ or more when 500 VDC megger is applied between the heat sink and the main power supply input terminal after continuous operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 0.5 kVAC at 50 Hz between the windings and the case for 1 minute after continuous operation ^{*1} under normal ambient temperature and humidity.	Sufficient to withstand 0.5 kVAC at 50 Hz between the heat sink and the main power supply input terminal for 1 minute after continuous operation under normal ambient temperature and humidity.
Temperature Rise	Temperature rise of the windings is 60 °C or less measured by the thermocouple method and temperature rise of the case surface is 50 °C or less ^{*2} , after rated continuous operation ^{*1} under normal ambient temperature and humidity.	Temperature rise of the heat sink is 50 °C or less measured by the thermocouple method after rated continuous operation under normal ambient temperature and humidity.

Operating Environment	Ambient Temperature	0 to +40 °C (Non-freezing)	0 to +40 °C (Non-freezing) ^{*3}
	Ambient Humidity	85 % max. (Non-condensing)	
	Altitude	Up to 1000 m above sea level	
	Atmosphere	No corrosive gases or dust. Should not be exposed to water or oil. Cannot be used in a radioactive area, magnetic field, vacuum, or other special environments.	
	Vibration	Not subject to continuous vibration or excessive shock. Conforms to JIS C 60 068-2-6, "Sine-Wave Vibration Test Method" Frequency Range: 10 to 55 Hz, Half Amplitude: 0.15 mm, Sweep Direction: 3 directions (X, Y, Z), Number of Sweeps: 20 times	
Storage Conditions ^{*4}	Ambient Temperature	-20 to +70 °C (Non-freezing)	-25 to +70 °C (Non-freezing)
	Ambient Humidity	85 % max. (Non-condensing)	
	Altitude	Up to 3000 m above sea level	
	Atmosphere	No corrosive gases or dust. Should not be exposed to water or oil. Cannot be used in a radioactive area, magnetic field, vacuum, or other special environments.	
Thermal Class		UL/CSA Standards: 105 (A) ^{*5} , EN Standards: 120 (E)	—
Degree of Protection		IP40	IP20 ^{*6}

- *1

The 400 W type has a 30 minutes rating.
- *2

Install a heat sink (material: aluminum) of the following size for the round shaft type so that the surface temperature of the motor case does not exceed 90 °C.

60 W type: 135 × 135 mm, thickness 5 mm

100 W type: 165 × 165 mm, thickness 5 mm

200 W type: 200 × 200 mm, thickness 5 mm

400 W type: 250 × 250 mm, thickness 6 mm

750 W type: 350 × 350 mm, thickness 10 mm

BLMR5200K-GR-□ and BLMR5200KM-GR-□ should be mounted on a 200 x 200 mm, thickness 5 mm heat sink (material: aluminum) with the gearhead installed so that the surface temperature of the motor case does not exceed 90 °C.
- *3

Install the driver in a location that has the same heat radiation capability as an aluminum metal plate.

BLVD-KRD: 200 x 200 mm, thickness 2 mm, BLVD-KBRD/BLVD-KCRD: 350 x 350 mm, thickness 2 mm
- *4

The value for storage condition applies to short periods such as the period during transport.
- *5

BLVD-KCRDis not UL/CSA standards certified.
- *6

Excluding BLVD-KCRD.

Note

Do not measure insulation resistance or perform a dielectric strength test while the motor and driver are connected.

Permissible Radial Load and Permissible Axial Load

Parallel Shaft Gearhead

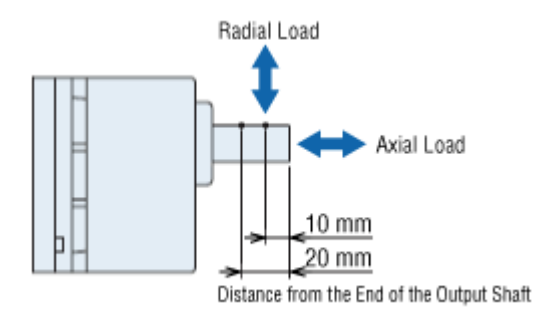
Product Name	Gear Ratio		Permissible Radial Load		Permissible Axial Load N
			10 mm From the End of the Output Shaft N	20 mm From the End of the Output Shaft N	
BLMR460	5	At 1~3000 r/min	200	250	100
		At 4000 r/min	180	220	
	10, 15, 20	At 1~3000 r/min	300	350	

		At 4000 r/min	270	330	
		At 1~30 00 r/min	450	550	
		At 4000 r/min	420	500	
BLMR5 100	5	At 1~30 00 r/min	300	400	150
		At 4000 r/min	230	300	
	10, 15, 20	At 1~30 00 r/min	400	500	
		At 4000 r/min	370	430	
	30, 50, 100, 20 0	At 1~30 00 r/min	500	650	
		At 4000 r/min	450	550	
BLMR5 200	15	At 1~30 00 r/min	400	500	150
		At 4000 r/min	370	430	
	20, 30, 50	At 1~30 00 r/min	500	650	
		At 4000 r/min	450	550	



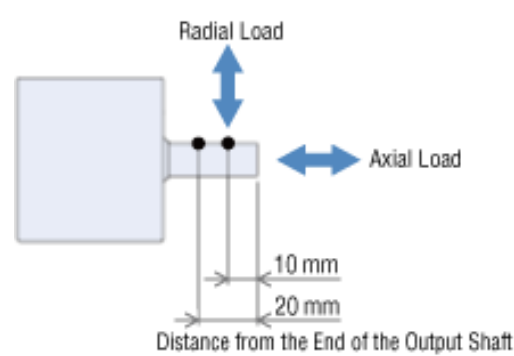
BLMR6 200 BLMR6 400	5, 10, 1 5, 20	At 1~30 00 r/min	550	800	200
		At 4000 r/min	500	700	
	30, 50	At 1~30 00 r/min	1000	1250	300
		At 4000 r/min	900	1100	
	100, 20 0	At 1~30 00 r/min	1400	1700	400
		At 4000 r/min	1200	1400	
BLMR6 750	5, 10	At 1~30 00 r/min	550	800	200
		At 4000 r/min	500	700	
	15, 20, 30	At 1~30 00 r/min	1000	1250	300
		At 4000 r/min	900	1100	
	50	At 1~30 00 r/min	1300	1450	400
		At 4000 r/min	1200	1300	





CS Geared Motor

Product Name	Gear Ratio		Permissible Radial Load		Permissible Axial Load N
			10 mm From the End of the Output Shaft t N	20 mm From the End of the Output Shaft t N	
BLMR260	5	At 1~3000 r/min	150	190	70
		At 4000 r/min	130	170	
	10, 15, 20	At 1~3000 r/min	200	260	
		At 4000 r/min	180	230	

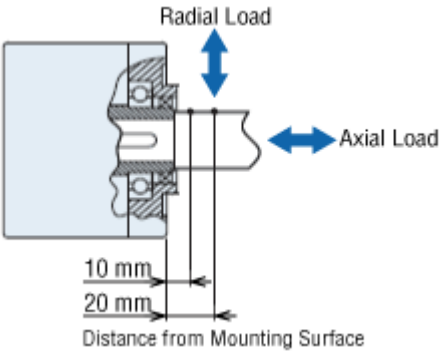


Hollow Shaft Flat Gearhead

Product Name	Gear Ratio		Permissible Radial Load		Permissible Axial Load N
			10 mm From Mounting Surface N	20 mm From Mounting Surface N	
BLMR460	5, 10	At 1~3000 r/min	800	660	400
		At 4000 r/min	730	600	
	15, 20, 30, 50, 100, 200	At 1~3000 r/min	1200	1000	
		At 4000 r/min	1100	910	
BLMR5100	5, 10	At 1~3000 r/min	900	770	500
		At 4000 r/min	820	700	
	15, 20	At 1~3000 r/min	1300	1110	
		At 4000 r/min	1200	1020	
	30, 50, 100, 200	At 1~3000 r/min	1500	1280	
		At 4000 r/min	1400	1200	
BLMR5200	15, 20	At 1~3000 r/min	1300	1110	500

		At 4000 r/min	1200	1020	
	30, 50	At 1~300 0 r/min	1500	1280	
		At 4000 r/min	1400	1200	
BLMR6200 BLMR6400	5, 10	At 1~300 0 r/min	1230	1070	800
		At 4000 r/min	1130	990	
	15, 20	At 1~300 0 r/min	1680	1470	
		At 4000 r/min	1550	1360	
	30, 50, 100	At 1~300 0 r/min	2040	1780	
		At 4000 r/min	1900	1660	
BLMR6750	5, 10	At 1~300 0 r/min	1230	1070	800
		At 4000 r/min	1130	990	
	15, 20	At 1~300 0 r/min	1680	1470	
		At 4000 r/min	1550	1360	
	30, 50	At 1~300 0 r/min	2040	1780	

	At 4000 r/min	1900	1660	
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Round Shaft Type

Product Name	Permissible Radial Load		Permissible Axial Load N
	10 mm From the End of the Output Shaft N	20 mm From the End of the Output Shaft N	
BLMR260	70	100	15
BLMR5100 BLMR5200 BLMR5400	150	170	25
BLMR6750	262	304	25

Driving Wheel Motor

Product Name	Gear Ratio	Permissible radial load	Permissible Axial Load
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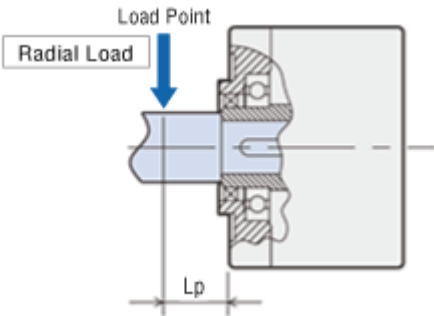
			N	N
BLMR5100 BLMR5200	20	At 1~3000 r/min	840	500
		At 4000 r/min	780	
	50	At 1~3000 r/min	980	
		At 4000 r/min	910	
BLMR6400	20	At 1~3000 r/min	1070	800
		At 4000 r/min	980	
	50	At 1~3000 r/min	1300	
		At 4000 r/min	1200	

Permissible Radial Load Calculation

The formula for calculating the permissible radial load varies depending on the mechanism.

When One Side of the Load Shaft is Not Supported by the Bearing Unit

The radial load is the most difficult mechanism. A Stepped Type Load Shaft is recommended.



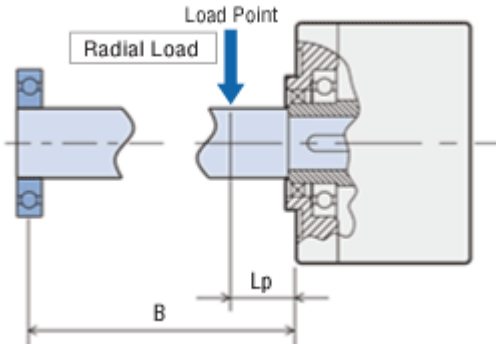
F₀[N]:Permissible radial load at the flange-mounting surface position

L_p [mm]:Distance from Flange-Mounting Surface to Radial Load Point

B [mm]:Distance from flange-mounting surface to bearing unit

Product Name	Permissible Radial Load W [N]
GFS4G□FR	$W[N] = \frac{40}{40 + L_p} \times F_0[N]$
GFS5G□FR 5GR□FR	$W[N] = \frac{50}{50 + L_p} \times F_0[N]$
GFS6G□FR 6GR□FRS2	$W[N] = \frac{60}{60 + L_p} \times F_0[N]$

When Supporting One Side of the Load Shaft with the Bearing Unit



Product Name	Permissible Radial Load W [N]
GFS4G□FR GFS5G□FR 5GR□FR GFS6G□FR 6GR□FRS2	$W[N] = \frac{B}{B - L_p} \times F_0[N]$

Product Name	Speed	Gear Ratio	F ₀ [N]
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GFS4G□FR	At 1~3000 r/min	5, 10	1000
		15~200	910
	At 4000 r/min	5, 10	1500
		15~200	1370
GFS5G□FR 5GR□FR	At 1~3000 r/min	5, 10	1080
		15, 20	1550
		30 ~ 200	1800
	At 4000 r/min	5, 10	980
		15, 20	1430
		30 ~ 200	1680
GFS6G□FR 6GR□FRS2	At 1~3000 r/min	5, 10	1430
		15, 20	1960
		30~100	2380
	At 4000 r/min	5, 10	1320
		15, 20	1810
		30 ~ 100	2210

Standards

Regulations and Standards Materials

Documents about compliance with regulations and standards can be downloaded from the "Data Download" tab on the product details page.

(The types of files available for download vary by product.)

Explanations of the Global Laws, Regulations and Standards can be found [here](#).

Information about our compliance with safety standards for each of our product models can be found [here](#).

Hazardous Substances

The product does not contain any substances (10 substances) exceeding the regulation values of the RoHS Directive (2011/65/EU, 2015/863/EU).

For more information about compliance with regulations on chemical substances in Oriental Motor's Products, [click here](#).



Systemkonfiguration

Motors, gearheads, drivers, connection cables and power supply cables need to be ordered separately.

