

Gearmotor with Brake Specifications/Structure/Wiring

Brake Specifications

GTR Mini Series G·GT·H·F2-Type

[For gearmotors with water-resistant brake, refer to <P. E44>.]

Table-17

Item	Motor	3-Phase[200V·400V]					1-Phase[200V]					1-Phase[100V]									
		15W	25W	40W	60W	90W	15W	25W	40W	60W	90W	15W	25W	40W	60W	90W					
Brake Type		"Power-off, Brake-on" (Spring Close) Type																			
Rated Torque N·m (kgf·m) <1500~1800rpm>		0.37 { 0.038 }					0.54 { 0.055 }					0.37 { 0.038 }					0.54 { 0.055 }				
Voltage (Average)		DC90V										DC45V									
Power (75)		12W										10W									
Current (at 75)		0.13A										0.22A									
Allowable Work Emax J (kgf·m)		2.9 × 10 ⁴ { 3 × 10 ⁶ }																			
Allowable Braking Frequency		10 times per minute																			

GTR-L Series G-Type

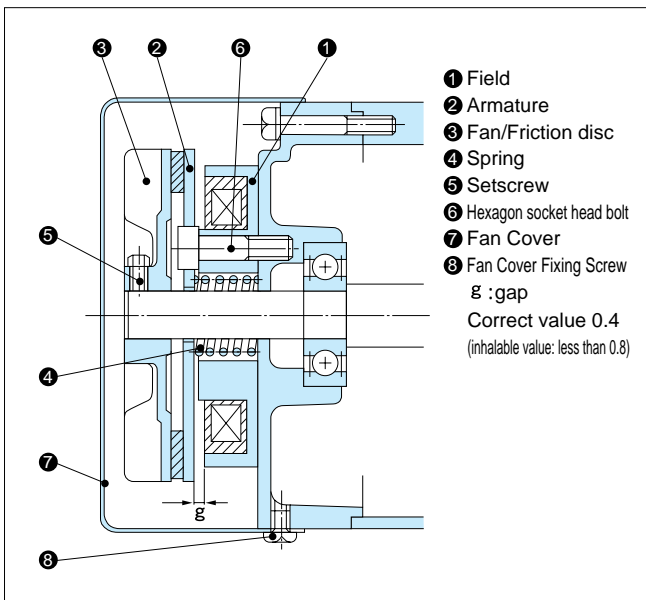
Table-18

Item	Motor	3-Phase[200V·400V]			1-Phase[100V]					1-Phase[200V]				
		15W	25W	40W	6W	10W	15W	25W	40W	10W	15W	25W	40W	
Brake Type		"Power-off, Brake-on" (Spring Close) Type												
Rated Torque N·m (kgf·m) <1500~1800rpm>		0.22 { 0.022 }			0.16 { 0.016 }		0.22 { 0.022 }			0.16 { 0.016 }		0.22 { 0.022 }		
Voltage (Average)		DC90V			DC45V					DC90V				
Power (75)		4.5W			5.0W					4.5W				
Current (at 75)		0.05A			0.11A					0.05A				
Allowable Work Emax J (kgf·m)		1.5 × 10 ⁴ { 1.5 × 10 ⁶ }												
Allowable Braking Frequency		10 times per minute												

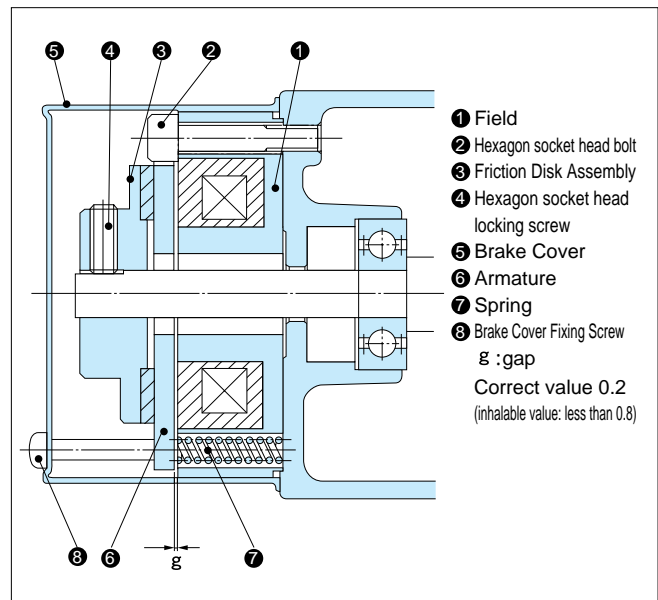
- Note** 1) Guideline values of allowable braking frequency for avoiding excessive motor temperature rise are given above. Braking frequency can be increased under light loads or where cooling of motor is sufficiently enough. (Be sure to maintain the motor surface temperature below 90 °C.)
 2) Avoid continuous energizing to the brake coil while the motor stops.
 3) Use the attached standard rectifier for the brake power supply. If another type of rectifier is to be used, consult us.
 4) The values of rated torque are guidelines and not the guaranteed values.

Brake Structure

GTR Mini Series G·GT·H·F2-Type



GTR-L Series G-Type



For gearmotors with water-resistant brake, refer to <P.E45>

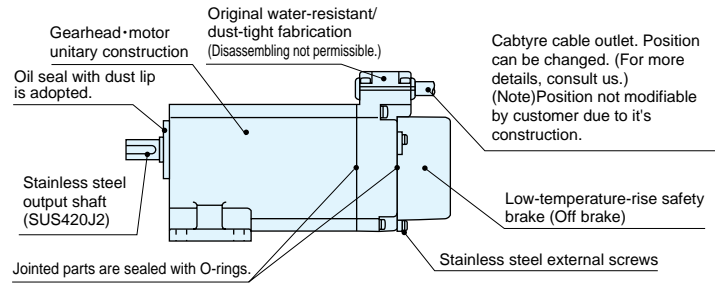
Water-Resistant Gearmotor (With Motor) / Water-Resistant Gearmotor with Brake

Characteristics/Wiring/ Specifications/Structure

Characteristics

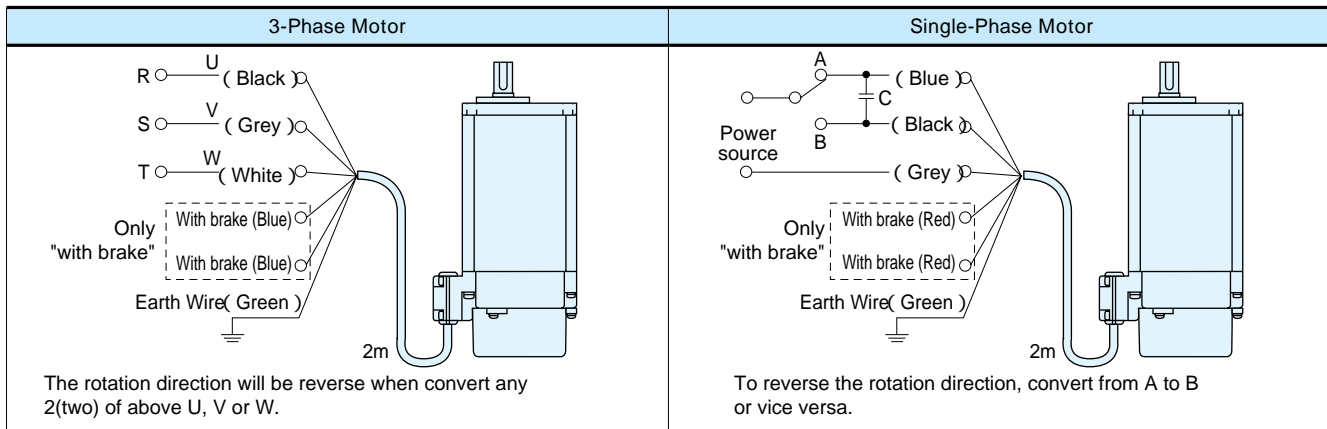
Gearmotors conform to IP65 of IEC Standard.

Suitable for the circumstances where water fly and/or periodical cleaning by water is being done.
 "IP65" stand for the grade of dust-tight and water-tight.
 The first digit "6" indicates "Perfect dust-tight structure" and the second digit "5" indicates "Protection from water jet in all direction".
 Note) Uses in water or under high-hydrostatic pressure are not permitted.



Lead Wire and Wiring

Note) For more details of Brake Gearmotor, refer to <P. E46>.



- Note 1) The voltage between the capacitor terminals of the single-phase motor will become nearly twice as much as that in the power source of the motor. Therefore, be sure to insulate wires at the terminals for safety.
 2) Do not damage the lead wire inside when peeling off the outer sheath of cab tyre cable.
 3) When using the machine in the circumstance where water may spatter during operation, it is recommended to use circuit breaker for safety.

Capacitor

For operations of single-phase motor, capacitor is needed. Utilize the capacitor attached with products with proper wiring. Since reversible wiring (3 lead wires) is applied in the single-phase motor, forward and reverse rotations are easily changed like a 3-phase motor.
 For the volume of capacitor, refer to the performance table. For shape and dimension, refer to P.E30.

Brake Specifications

GTR Mini-Series G·H·F2 (F2S) Type (Water-resistant)

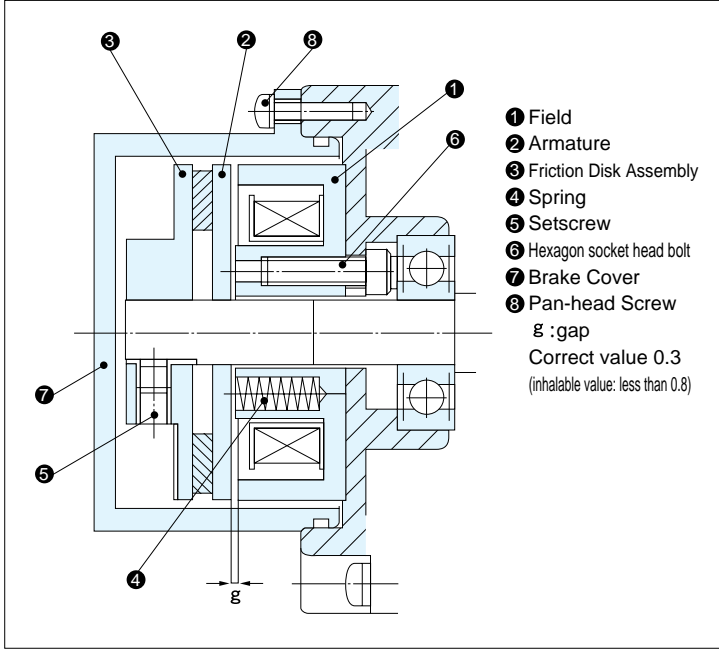
Table-20

Motor·Output Shaft Frame Number	3-Phase[200V]			3-Phase[200V]				Single-Phase[100V]		Single-Phase[100V]		
	15W	25W	40W	25W	40W	60W	90W	15W	25W	25W	40W	60W
Item	G-12 H-15 F-12	G-12 H-15 F-12	G-12 H-15 F-12	G-15	G-15 G-18 H-18 F-15	G-15 G-18 H-18 F-15	G-18 H-18 F-15	G-12 H-15 F-12	G-12 H-15 F-12	G-15	G-15 G-18 H-18 F-15	G-18
Brake Type	"Power-off, Brake-on" (Spring Close) Type											
Rated Torque N·m (kgf·m) <1500~1800rpm>	0.32 0.033 }			0.72 0.073 }				0.32 0.033 }		0.72 0.073 }		
Voltage (Average)	DC90V						DC45V					
Power (at 75)	5.6W			6.5W				5.1W		6.4W		
Current (at 75)	0.06A			0.07A				0.12A		0.14A		
Allowable Work Emax J (kgf·m)	2.5 × 10 ⁴ 2.5 × 10 ⁶ }			2.9 × 10 ⁴ 3 × 10 ⁶ }				2.5 × 10 ⁴ 2.5 × 10 ⁶ }		2.9 × 10 ⁴ 3 × 10 ⁶ }		
Allowable Braking Frequency	10 times per minutes											

- Note 1) Guideline values of allowable braking frequency for avoiding excessive motor temperature rise are given above. Braking frequency can be increased under light loads or where cooling of motor is sufficiently enough. (Be sure to maintain the motor surface temperature below 90 .)
 2) Avoid continuous energizing to the brake coil while the motor stops.
 3) Use the attached standard rectifier for the brake power supply. If another type of rectifier is to be used, consult us.
 4) The values of rated torque are guidelines and not the guaranteed values.

Brake Structure

GTR Mini-Series G·H·F2 (F2S) Type (Water-resistant)



Rectifier

The supplied rectifier A200-D90 (A100-D45) or A100-D90 is required for the brake operation of the gearmotor with brake. Since the braking delay time differs according to the brake wiring, select the most appropriate wiring method for the application, referring to page E44. The rectifier basically contains a surge absorber. However, if a risk is foreseen, add another surge absorber or noise filter for safety sake. For the shape and dimension of rectifier, refer to < P. E38 >.

Surge Suppressor / Option No. OP-ENC471D-10A

For use in cutting off the sparks of a brake switch for DC switching or AC line switching. For the shape and dimension of surge suppressor, refer to < P. E38 >.

Parallel Shaft Performance Table/ Dimension

Gearmotor with Brake

Water-resistant Gearmotor with Brake

Speed Control Gearmotor

Gearmotor with Clutch / Brake

GT-Type Gearmotor with Brake

Right Angle Shaft Performance Table/ Dimension

Gearmotor with Brake

With Water-resistant Brake Motor

Speed Control Gearmotor

Concentric Hollow Shaft Concentric Solid Shaft Performance Table/ Dimension

Gearmotor with Brake

With Water-resistant Brake Motor

Speed Control Gearmotor

Parallel Shaft GTR-L Series Performance Table/ Dimension

Reversible Gearmotor with Brake

Speed Control Gearmotor with Brake

Technical Information

Standard Motors

Cautions for Safety

Option