

# Himax Brushless Gearmotor

## HG2015 Series

HG2015-3666  
HG2015-4166  
HG2015-5466



## HG2025 Series

HG2025-3266  
**HG2025-4266**  
HG2025-5366

Himax Brushless motors are manufactured to high standards for the discerning modeler. Designed for lightweight, high efficiency, and durability these Himax motors are sure to make today's radio controlled models perform. Please read the entire operating manual to ensure correct functionality and best performance. The HG2015 and HG2025 series is made for small models from 8 ounces up to approximately 30 ounces.

### Features:

High Efficiency, High Power, Lightweight, Replaces 280-370-400 motor

### Specifications:

Weight: HG2015-xx66 64g(2.3oz), HG2025-xx66 82g(2.9oz)

Max Power: HG2015-xx66 110W, HG2025-xx66 175W

Gear Ratio: 4.43:1, 5.33:1, 6.6:1 included

Max Motor RPM: 60,000 RPM

Shaft Size: 3.0mm, (.118") **4.0mm Shaft size**

Mounting: 10 x 10mm square stick mount

Maximum Motor Case Temperature: 100°C, (212°F)

### Electrical Specifications:

HA2015-5400 Kv = 5400, Rm = .120, lo = 1.0, Efficient Operating Current = 6-15A

HA2015-4100 Kv = 4100, Rm = .141, lo = .80, Efficient Operating Current = 5-12A

HA2015-3600 Kv = 3600, Rm = .295, lo = .54, Efficient Operating Current = 3-8A

HA2015-2800 Kv = 2800, Rm = .355, lo = .40, Efficient Operating Current = 2-7A

HA2025-5300 Kv = 5300, Rm = .044, lo = 1.4, Efficient Operating Current = 15-25A

**HA2025-4200 Kv = 4200, Rm = .075, lo = .75, Efficient Operating Current = 10-20A**

HA2025-3200 Kv = 3200, Rm = .144, lo = .53, Efficient Operating Current = 6-15A

HA2025-2700 Kv = 2700, Rm = .169, lo = .47, Efficient Operating Current = 5-12A

### Operation:

1. Himax Brushless motors require brushless sensorless speed controls. Failure to use a brushless sensorless electronic speed control (ESC) can result in damage to the motor and/or ESC. A Castle Creations Phoenix series ESC is recommended for best performance. The standard setting for timing advance is recommended for best operation.
2. The three wires of the motor can be connected to the three output leads of the ESC in any order. Check the direction of rotation of the motor. If the motor spins in the wrong direction switching any **two** of the motor wires will reverse rotation. Be sure to insulate the wires to prevent shorting which may damage the ESC.
3. **Do not shorten the motor wires.** Shortening or cutting the motor wires voids the warranty and may cause motor failure. If the supplied connectors are not to be used, remove them by desoldering. **DO NOT CUT THE CONNECTORS OFF!**
4. Allow for proper cooling of the motor during operation. With extremely high capacity batteries, care must be taken to prevent excessive motor temperature. Overheating of the motor is not covered under warranty. Insufficient cooling can result in overheated motors, even when operated at moderate power levels.
5. Do not disassemble the motor. Disassembling the motor voids the warranty. If service is required please return the unit to Maxx Products for service.
6. Install the propeller after proper rotation has been determined. Consult the ESC operation manual for proper arming and use procedures. Be sure the prop is clear before starting the motor. Once the battery is plugged in stay clear of the prop, electric motors are capable of extremely high torque and can be very dangerous.

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**How to pick the right gear motor?** First look at the motor suggested by the plane manufacturer.

- Use HG2015 series, if the plane calls for 280, 370 type gear motor, GWS100/300/350 series gear motor, or B20S type brushless motor.
- Use HG2025 series, if the plane calls for 370, 380, 400, 480 type gear motor, GWS350/400 series gear motor, or B20L type brushless motor.

**What if I already know the weight of my plane?** If you already know the weight of your plane, here are some quick guidelines to select the right gear motor.

- 3-D Aerobatic Airplanes – doing a lot of hovering – the thrust should be about 150% of the take off gross weight. For example, if the gross weight of the plane is 10 oz, you need about 15 oz of thrust to ensure optimum performance.
- High Performance Aerobatic Airplanes – the thrust can be between 75% and 100% of the take off gross weight. For example, if the gross weight of the plane is 10 oz, your thrust needs range between 7.5oz and 10 oz. You have plenty of room to tailor your thrust weight ratio. Use higher thrust for performance and lower thrust for duration.
- Sport Airplanes – 50% thrust to weight ratio will give you good flight performance and duration. Really? Only 50%? Yes, the thrust to weight ratio of Boeing 747 is around 35%. It is the lift – generated by forward speed – that suspends the airplane in the air.

**What about gear ratio?**

Remember Himax gear motors come with 6.6:1 gear set installed. This is probably the most common one to use. However, we also include the 5.3:1 and 4.4:1 gear sets for you to swap. Installation is very simple. Use the performance guide below and play with the propeller combination to select the optimum setup for your plane.

**Can I use a different propeller?**

Of course you can. Just make sure you follow the power rating so you do not push the motor beyond its rated power limit.

Himax Gearmotor	Gear ratio	2 Cell Li				3Cell Li	
		6 Cell Ni		7 Cell Ni		10 Cell Ni	
		6 V		7 V		10 V	
HG20153644	4.43	11 x 7		11 x 7		10 x 5	
		11.9 oz	5.3 A	15.3 oz	6.6 A	19.5 oz	7.6 A
HG20153653	5.33	12 x 6		12 x 6		11 x 5	
		10.4 oz	4.3 A	13.5 oz	5.4 A	19.0 oz	6.8 A
HG20153666	6.60	12 x 8		12 x 8		12 x 6	
		10.0 oz	3.5 A	13.2 oz	4.4 A	20.0 oz	6.4 A
HG20154144	4.43	12 x 6		11 x 5		9 x 6	
		18.2 oz	9.8 A	18.1 oz	9.0 A	26.4 oz	10.6 A
HG20154153	5.33	12 x 8		12 x 6		10 x 5	
		18.3 oz	8.4 A	19.6 oz	8.9 A	22.5 oz	8.5 A
HG20154166	6.60	12 x 8		12 x 8		11 x 7	
		14.2 oz	5.5 A	18.8 oz	7.0 A	26.9 oz	9.0 A
HG20155444	4.43	10 x 5		9 x 6		8 x 4	
		16.7 oz	9.7 A	20.5 oz	10.7 A	22.7 oz	10.5 A
HG20155453	5.33	10 x 7		10 x 5		9 x 4.5	
		17.2 oz	8.5 A	17.7 oz	8.7 A	24.9 oz	10.8 A
HG20155466	6.60	12 x 6		11 x 7		10 x 5	
		17.0 oz	8.1 A	21.1 oz	9.1 A	25.4 oz	9.9 A

Himax Gearmotor	Gear ratio	2 Cell Li				3Cell Li	
		6 Cell Ni		7 Cell Ni		10 Cell Ni	
		6 V		7 V		10 V	
HG20253244	4.43	12 x 8		12 x 6		11 x 7	
		17.3 oz	7.2 A	18.4 oz	7.6 A	32.3 oz	12.0 A
HG20253253	5.33	12 x 8		12 x 8		11 x 7	
		13.7 oz	4.9 A	18.1 oz	6.3 A	25.7 oz	8.1 A
HG20253266	6.60	12 x 8		12 x 8		12 x 8	
		9.9 oz	3.1 A	13.3 oz	4.0 A	25.7 oz	7.2 A
HG20254244	4.43	12 x 8		12 x 6		10 x 5	
		27.9 oz	15 A	29.8 oz	15.9 A	34.1 oz	15.2 A
HG20254253	5.33	12 x 8		12 x 6		11 x 5.5	
		22.5 oz	10 A	23.8 oz	10.8 A	35.0 oz	14.3 A
HG20254266	6.60	12 x 8		12 x 8		12 x 8	
		16.7 oz	6.4 A	22.2 oz	8.3 A	42.4 oz	15.2 A
HG20255344	4.43	10 x 5		10 x 5		8 x 6	
		20.4 oz	12 A	27.0 oz	15.8 A	36.3 oz	16.9 A
HG20255353	5.33	11 x 5.5		10 x 7		9 x 6	
		20.9 oz	12 A	27.2 oz	13.5 A	36.1 oz	15.8 A
HG20255366	6.60	12 x 8		12 x 6		10 x 7	
		25.4 oz	12 A	26.6 oz	12.8 A	38.1 oz	15.0 A

**Warranty:**

Himax motors have a two year limited warranty to the original owner, excluding wear items. All motors are guaranteed to be free from manufacturing defects within two years of date of purchase. Not covered under warranty is crash damage, customer abuse, improper use, or overheating. Warranty claims should be handled directly with Maxx Products. Be sure to include contact information and a description of the problem including which ESC, battery, and prop was being used.

**Service:**

Himax motors in need of service should be sent to Maxx Products, 815 Oakwood Rd, Unit D, Lake Zurich, IL 60047. Please include a note explaining the problem. Return shipping for non-warranty repair estimates must be prepaid.