



75:1 Metal Gearmotor 25Dx54L mm HP

Overview

This brushed DC gearmotor is available in high- and low-power versions in a number of gear ratios. Integrated quadrature encoders are also available on certain gear ratios, including just the motor portion by itself (i.e. no gearbox).

Gear Ratio	No-Load Speed@ 6 V	Stall Torque@ 6 V	Stall Current@ 6 V	 Pololu With Encoder		 Pololu Without Encoder	
				motor without gearbox	motor without gearbox		
1:1	9800 RPM	2 oz-in	6 A		motor without gearbox		
	5600 RPM	1 oz-in	2.2 A		motor without gearbox		
4.4:1	2220 RPM	8 oz-in	6 A				25Dx48L mm HP
	1280 RPM	5 oz-in	2.2 A				25Dx48L mm
9.7:1	1010 RPM	17 oz-in	6 A	25Dx48L mm HP			25Dx48L mm HP
	580 RPM	11 oz-in	2.2 A	25Dx48L mm			25Dx48L mm
20.4:1	480 RPM	36 oz-in	6 A				25Dx50L mm HP
	275 RPM	24 oz-in	2.2 A				25Dx50L mm
34:1	285 RPM	60 oz-in	6 A	25Dx52L mm HP			25Dx52L mm HP
	165 RPM	40 oz-in	2.2 A	25Dx52L mm			25Dx52L mm
47:1	210 RPM	80 oz-in	6 A	25Dx52L mm HP			25Dx52L mm HP
	120 RPM	50 oz-in	2.2 A	25Dx52L mm			25Dx52L mm
75:1	130 RPM	130 oz-in	6 A	25Dx54L mm HP			25Dx54L mm HP
	75 RPM	85 oz-in	2.2 A	25Dx54L mm			25Dx54L mm
99:1	100 RPM	160 oz-in	6 A				25Dx54L mm HP
	57 RPM	110 oz-in	2.2 A				25Dx54L mm
172:1	57 RPM	260 oz-in	6 A				25Dx56L mm HP
	33 RPM	170 oz-in	2.2 A	25Dx56L mm			25Dx56L mm
227:1	25 RPM	220 oz-in	2.2 A				25Dx56L mm
378:1	15 RPM	250 oz-in	2.2 A				25Dx58L mm
499:1	12 RPM	300 oz-in	2.2 A				25Dx58L mm

Note: At some of the higher gear ratios, these motors can generate enough torque to damage themselves. Any torque greater than about 250 oz-in (18 kg-cm) is likely to damage the gearbox, so we recommend that you avoid stalling the 172:1 HP, 227:1, 378:1, and 499:1 versions of these motors at 6 V.

These motors are intended for use at 6 V. In general, these kinds of motors can run at voltages above and below this nominal voltage, so they should comfortably operate in the 3 – 9 V range, though they can begin rotating at voltages as low as 1 V. Higher voltages could start negatively affecting the life of the motor.

Details for item #1575

Exact gear ratio: $(22 \times 20 \times 22 \times 22 \times 23) / (12 \times 12 \times 10 \times 10 \times 10) \approx (74.83:1)$

Gearmotor Dimensions

These gearmotors have output shafts with a diameter of 4 mm. The Pololu universal aluminum

mounting hub for 4mm shafts can be used to mount our larger Pololu wheels (60mm-, 70mm-, 80mm-, and 90mm-diameter) or custom wheels and mechanisms to the gearmotor's output shaft (see the left picture below). These are the same type of motors used in the Wild Thumper all-terrain chassis, and the gearbox's output shaft works directly with the 120mm-diameter Wild Thumper wheels.



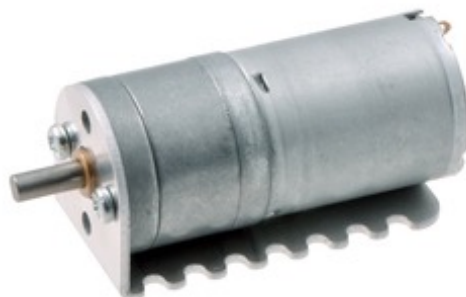
Pololu 60x8mm wheel on a Pololu 25D mm metal gearmotor.



Pololu

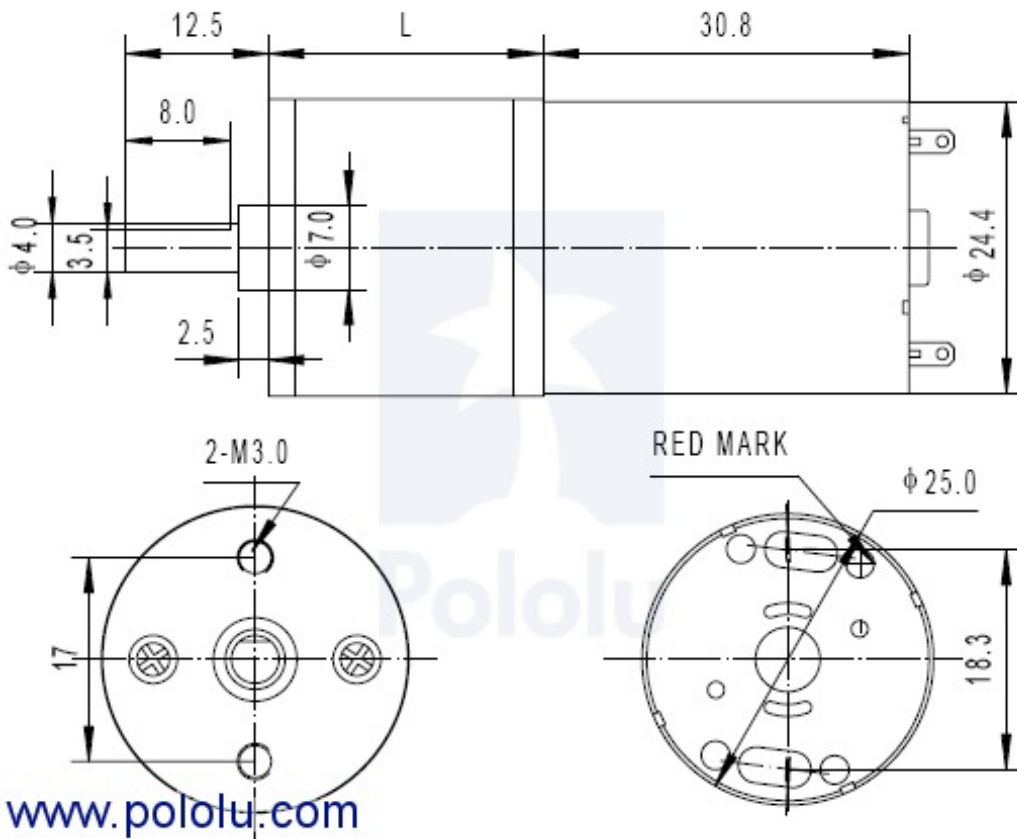
Dagu Wild Thumper wheel 120x60mm (chrome) with Pololu 25D mm metal gearmotor.

The face plate has two mounting holes threaded for M3 screws. You can use our custom-designed 25D mm metal gearmotor bracket (shown in the picture below) to mount the gearmotor to your project via these mounting holes and the screws that come with the bracket.



Pololu 25D mm gearmotor with bracket.

The diagram below shows the dimensions (in mm) of the 25D mm line of gearmotors. The value of L is shown in the table below.



www.pololu.com

Gear Ratio	L (mm)
4.4:19.7:1	17
20.4:1	19
34.147:1	21
75:199:1	23
172:1227:1	25
378:1499:1	27

Dimension diagram (in mm) for the 25D mm metal gearmotors.

Selecting the Right Gearmotor

We offer a wide selection of metal gearmotors that offer different combinations of speed and torque. Our metal gearmotor comparison table can help you find the motor that best meets your project's requirements.

[Documentation on producer website.](#)

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [DC Motors](#) category:

Click to view products by [Pololu](#) manufacturer:

Other Similar products are found below :

[78:1 20DX43L MM 12V CB DUAL](#) [9.7:1 METAL GEARMOTOR 25DX63L MM HP 6V W](#) [19:1 METAL GEARMOTOR 37DX68L 64 CPR](#)
[100:1 METAL GEARMOTOR 37DX73L 64 CPR](#) [15:1 MICRO METAL GEARMOTOR HPCB 6V EXT](#) [15:1 MICRO METAL](#)
[GEARMOTOR HPCB 12V EXT](#) [9.7:1 METAL GEARMOTOR 25DX63L MM LP 12V](#) [100:1 METAL GEARMOTOR 37DX57L MM](#) [100:1](#)
[METAL GEARMOTOR 37DX73L 24V 64 CPR](#) [30:1 MICRO METAL GEARMOTOR HPCB](#) [30:1 MICRO METAL GEARMOTOR MP](#)
[CONCENTRIC LACT4-12V-20 LINEAR ACTUATOR](#) [10:1 METAL GEARMOTOR 37DX50LMM 12V](#) [10:1 METAL GEARMOTOR](#)
[37DX65L 24V 64 CPR](#) [10:1 METAL GEARMOTOR 37DX65LMM 12V 64CPR](#) [34:1 25DX52L MM HP 12V](#) [34:1 25DX52L MM LP 12V](#)
[34:1 25DX52L MM MP 12V](#) [378:1 25DX58L MM LP 12V](#) [4.4:1 METAL GEARMOTOR 25DX48L MM HP](#) [4.4:1 METAL GEARMOTOR](#)
[25DX48L MM HP 6V](#) [47:1 25DX52L MM LP 12V](#) [50:1 HPCB 12V DUAL-SHAFT](#) [50:1 HPCB 6V](#) [5:1 HPCB 12V](#) [5:1 MICRO METAL](#)
[GEARMOTOR HPCB](#) [5:1 MICRO METAL GEARMOTOR HPCB DUAL](#) [HP 6V MOTOR WITH 48 CPR ENCODER](#) [75:1 25DX54L MM](#)
[HP 12V](#) [75:1 25DX54L MM MP 12V](#) [131:1 METAL GEARMOTOR 37DX57L MM](#) [131:1 METAL GEARMOTOR 37DX73L 24V 64 CPR](#)
[75:1 HPCB 6V DUAL-SHAFT](#) [75:1 METAL GEARMOTOR 25DX54L MM LP 6V](#) [75:1 MICRO METAL GEARMOTOR DUAL](#) [75:1](#)
[MICRO METAL GEARMOTOR HPCB](#) [34:1 METAL GEARMOTOR 25DX52L MM HP 6V](#) [LACT10-12V-20 LINEAR ACTUATOR](#)
[LACT10P-12V-20 LINEAR ACTUATOR](#) [LACT12-12V-20 LINEAR ACTUATOR](#) [LACT12P-12V-20 LINEAR ACTUATOR](#) [LACT2P-12V-](#)
[20 LINEAR ACTUATOR](#) [LACT6-12V-20 LINEAR ACTUATOR](#) [DFR0332](#) [DFR0411](#) [DFR0430](#) [50:1 HPCB 12V](#) [50:1 HPCB 6V DUAL-](#)
[SHAFT](#) [50:1 MICRO METAL GEARMOTOR MP](#) [50:1 MICRO METAL GEARMOTOR MP 6V DUAL](#)