

from Bodine Electric Company

PMDC Gearmotor Does the Heavy Lifting



Warehouse Lifter / Materials Handling

Battery-Powered Hollow Shaft Gearmotor Lifts More Than 400 lbs.

From manufacturing and retail to warehousing and distribution, no matter where you work, eventually you will need to move something heavy. While lifting equipment is used across almost every industry to make the job easier and safer, 32% of workplace accidents in 2016 were related to material handling according to The

Traveler's Insurance Companies. With that information in mind, when a global manufacturer of lifting equipment contacted us for a design solution, our team was ready to help.

The design required a small, high-torque gearmotor that would be capable of lifting and holding up to 200kg (440 lbs). Because the lifts were portable, the gearmotor would need to operate from 24VDC battery power. The customer wanted to avoid using external brakes, so the gear train would need to be strong enough to be self-locking even under heavy loads. Finally, they wanted the gearmotor to provide nearly silent operation.

The Bodine engineering team provided a solution based on our standard/stock hollow shaft 33A-GB/H gearmotor. Design features include:

- Unvented, maintenance-free gearhousing
- Hardened output gearing for high torque and compact size
- Special windings that provided higher speed and torque at 24VDC
- Metric shaft and mounting threads
- Improved enclosure and sealing with PG strain relief
- Stainless steel drive shaft

Bodine brings over 110 years of problem solving experience to a wide range of applications in industries as diverse as energy production, medical, packaging, industrial automation, and solar powered outdoors equipment. We look forward to working with you on your next fractional-horsepower gearmotor design challenge.

application insights

The Design Requirements

An industrial lifter required a 24VDC gearmotor that would be capable of lifting up to 440 lbs.

The Solution

- 33A-GB/H hollow shaft with modified 24VDC windings for higher speed and torque.
- Self-locking gearhead eliminated need for external brakes
- Modified enclosure provided extra sealing and PG strain relief.



Stock / standard 33A-GB/H gearmotor
[\(click here for more info\)](#)