MARLEY®

Comp-DS driveshaft

Comp-DS™ composite driveshafts provide a high performance, lightweight and low maintenance alternative to steel driveshafts.

Marley's patented, unitized, carbon-fiber flexible elements with slip fit, stainless steel hubs are easier to install and align than others using steel torque elements. Comp-DS driveshafts are designed for fans up to 36 feet in diameter and for motors up to 300 hp.

Marley's Comp-DS composite driveshafts offer the following benefits:

Low Maintenance - Ease of Installation—The full-floating design has no intermediate couplings or bearings. The simple hub design and corresponding unitized flex elements, require less labor to install and maintain than previous designs. Also, maximum installation misalignment requirements are relaxed.

Lightweight—The lightweight, permanently bonded, tube and flange assembly is easily handled without the need for lifting equipment. The reduction in rotating mass also results in lower radial loads on motor and Geareducer bearings. Additionally, any realized loads from vibration in the mechanical system and adjoining structure are less.

Modern Construction—Robust composite design is comprised of high strength fiberglass and/or carbon fiber reinforced tubes in a tough epoxy matrix along with fiberglass flanges and urethane encased, carbon-fiber flex-elements. Additionally, the quantity of components and hardware is minimized.

UV and Corrosion Resistant Materials—All materials are specially selected for cooling tower duty and are constructed to provide maximum protection against corrosion and UV attack. The tube utilizes corrosion resistant epoxy with infused carbon-black pigment and UV absorbing additives. The flanges employ a unique corrosion resistant resin and are infused with UV protective carbon-black pigment. The flex-element utilizes unique, pigmented, polyurethane that serves to encapsulate and seal the composite core from the elements. Finally, hubs, hardware and flex-element fastener bearing plates are 316 stainless steel for extra protection against corrosion.

Performance—The composite tube prevents transient startup vibration and diminishes some of the initial, peak-torque impulse realized during hard starting. High torque ratings allow the Comp-DS design to accommodate high motor power ratings in an expanded speed range. Stiff and light, duty-specific, composite tube and flange assemblies allow for longer spans at higher speeds.

Easily interchanged—Owners with Marley 301 stainless steel driveshafts or Series 400 composite tube driveshafts may directly replace their existing assembly with the Comp-DS series.

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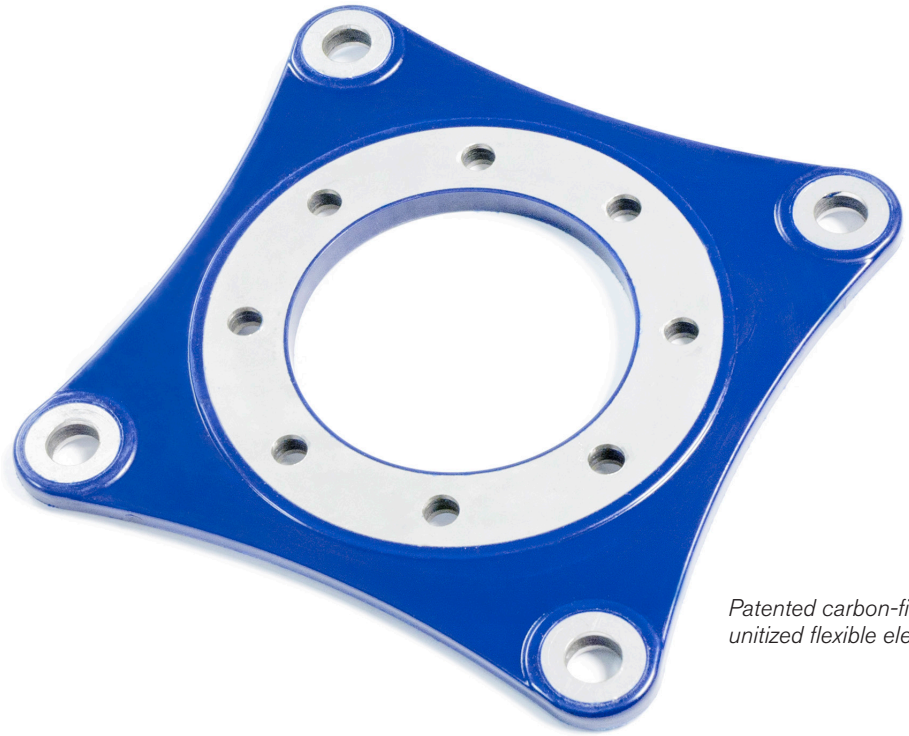

Patented carbon-fiber, unitized flexible element

SPECIFICATIONS

Construction and Materials—The driveshaft shall be a full-floating shaft with non-lubricated flexible couplings at each end. No intermediate couplings may be used. The tube material shall be composite construction consisting of fiberglass and/or carbon fiber infused with epoxy resin containing pigment and UV inhibitors for maximum UV protection. A polyurethane encased, unitized flexible-element made of carbon-fiber, with an inner and outer bolt-circle to connect a 316 stainless steel hub and composite flange, respectively, shall be implemented to transmit torque between the other coupling components. All other metal components are manufactured from 316 stainless steel.

Performance—The driveshaft shall be capable of transmitting the duty specific horsepower rating at the maximum motor speed, while able to withstand rated angular misalignment. The assembled driveshaft shall be dynamically balanced to AGMA 9000, Class 9 specifications at the manufacturer's plant and match-marked for field installation.

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