

TYPICAL SPECIFICATION
DRIVE UNIT FOR BRIDGE SUPPORTED CIRCULAR COLLECTOR

The drive assembly for bridge supported collector mechanisms consists of a fabricated steel drive base, a matched worm gear set, chain drive with guard, gearmotor and overload alarm and motor cut-off actuating system.

The drive design and torque ratings of these gears are in full conformance with and certified to the latest ANSI/AGMA standards. The worm gear assemblies are manufactured to a minimum AGMA Tolerance Grade 10 in conformance with ANSI/AGMA 2011-A98. The worm gear set consist of a single piece alloy steel worm and worm shaft matched to a centrifugally cast manganese bronze worm gear and housed in a precision machined high grade cast iron housing. The drive design and torque ratings are in conformance with the latest ANSI/AGMA Standards 6022 and 6034.

The helical gearmotor is heavy duty parallel shaft type and operates on 3 phase, 60 hertz 230/460 volt power, is at least 1/2 HP and designed for outdoor service.

The chain drive includes a drive sprocket on the output shaft of the gearmotor and a driven sprocket on the worm shaft connected with a steel self lubricated roller chain. The chain drive assembly includes a shear pin coupling assembly to provide backup overload protection. The chain drive assembly is supplied with a 304 stainless steel chain guard that conforms to OSHA requirements.

The worm gear set consists of a carburized and ground AISI 8620 alloy steel worm shaft in conformance with ANSI/AGMA 2004-C08, fabricated as an integral unit and a centrifugally cast UNS 86300 bronze worm gear in conformance with ASTM B271 and ANSI/AGMA 2004-C08, with all placed in an ASTM A48 Class 40 Gray cast iron housing, complete with oil fill, level and drain fittings, and sight gauge.

The drive includes a factory calibrated indicating overload device actuated by thrust from the worm shaft and operating two electrically isolated SPDT switches. The first switch will close a circuit to a remote alarm when the mechanism torque reaches 100% of the rated continuous running torque of the drive unit. The second switch will open the motor circuit when mechanism torque reaches 125% of the rated continuous running torque of the drive unit to cut power to the motor. The overload limiting device is enclosed in a stainless steel weatherproof housing. A shear pin coupling will provide additional torque limiting protection at higher torque levels.

The drive assembly will receive one (1) prime coat of Tnemec N69-1211 (Red) Hi-Build Epoxoline II, 2.0 mils minimum dry film thickness followed by one (1) finish coat of Tnemec Series 73-32GR (Light Gray) Endura-Shield, 2.0 mils minimum dry film thickness. The motor and primary reducer will be provided with the original manufacturer's standard finish paint. Aluminum, stainless steel, galvanized steel, plastic and other special materials will not be shop painted.

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