

TECHNICAL INFORMATION



MXSE Failsafe Caliper Disc Brake

Introduction

The Hilliard Corporation and Twiflex Ltd. have applied over 70 years of combined experience to develop a new range of spring applied electrically released caliper disc brakes. The design incorporates the MX and SMX caliper, a well proven industry standard utilizing electromagnetic technology for the actuator developed by Hilliard.

General Description

The MX SE and SMX SE series of spring applied and electrically released calipers are designed for medium to heavy emergency stopping and holding applications. The calipers can be used with standard brake discs or clamped to the guide rail of existing equipment. Normally one or two units can be used per disc, but the number may be increased depending on the disc size and brake torque requirement.

Caliper

The calipers are constructed of ductile iron with high strength aluminum shoes. Parallel motion linkage promotes even pad wear. The shoe arms are pivoted with bushings for smooth and consistent action.

Actuator

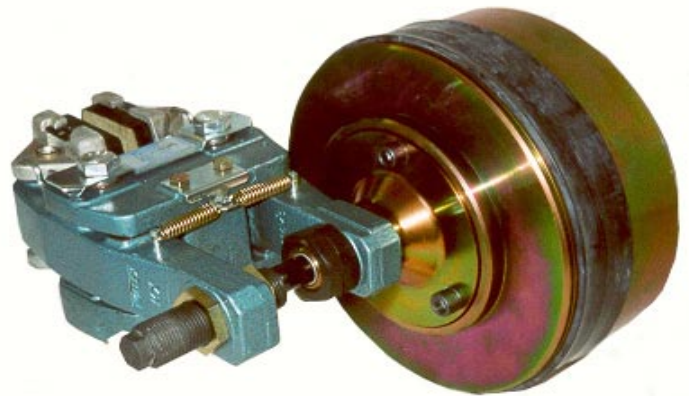
Rugged electromagnet designed for long life. Efficient parallel motion design can disengage the brake across large gaps for extended periods between adjustments. Fully potted coils protect against harsh environments.

Mounting

Two models allow for base mounting or side mounting. Ideally the calipers should be mounted horizontally at 3 or 9 o'clock.

Controller

A wide range of voltages are available from 115 VAC to 575 VAC. Controllers and rectifier panels to suit special requirements can be supplied.



Easy Pad Change

Standard pads are made from organic non-asbestos material. Pads are also available in high coefficient, high temperature, and graphite materials. Typical pad change times are less than 5 minutes.

Manual Release

It may be necessary to manually release the brake under certain emergency conditions, such as lowering a suspended hoist load, before electric power can be restored. Two release models are available. One uses a simple ball ramp mechanism which allows for quick manual release with minimal force effort. The other simply uses a manual release bolt threaded into the back of the actuator.

Mounting Brackets

Mounting brackets are welded steel construction with painted finish. Models are available to accommodate from one to eight calipers per disc.

Braking Torque Formula

Three standard spring packs are available.

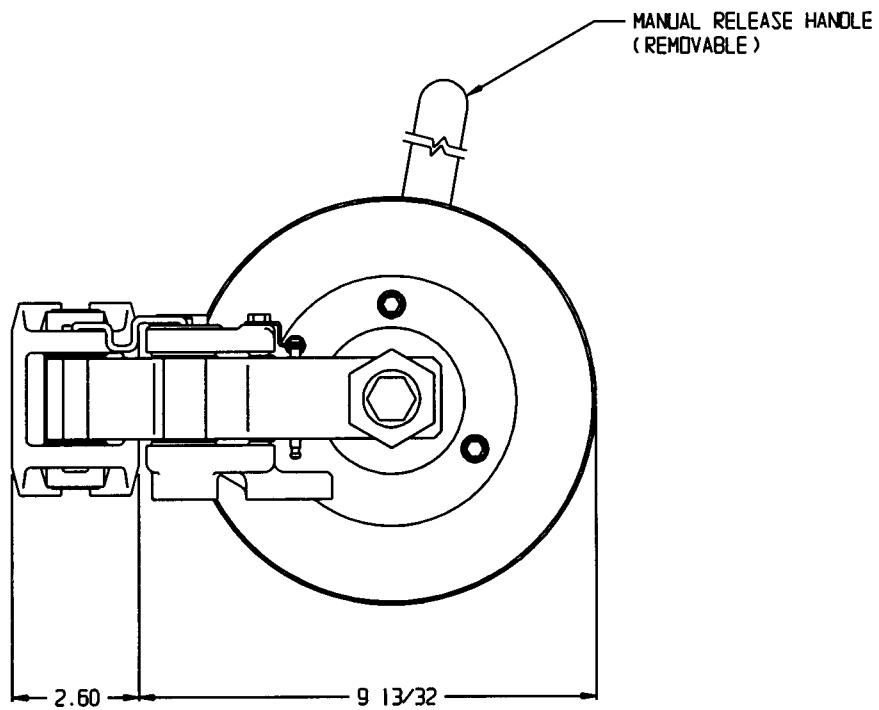
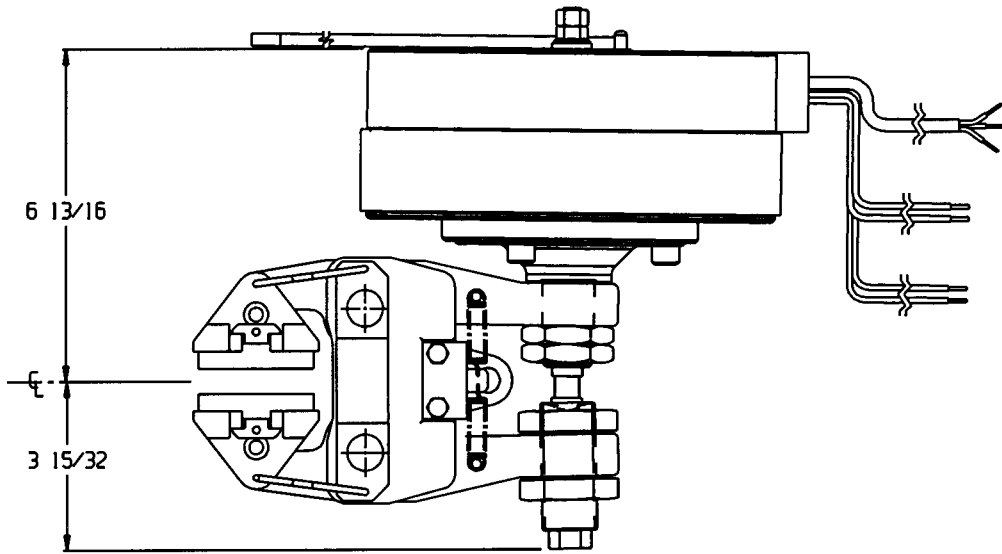
Heavy (9H00): $T = 86 \times (R - 1.3)$

Medium (6H3L): $T = 67 \times (R - 1.3)$

Light (6M3L): $T = 46 \times (R - 1.3)$

R = disc radius in inches

T = brake torque in lb-ft



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