Hillmar

Hillmar Industries Ltd.

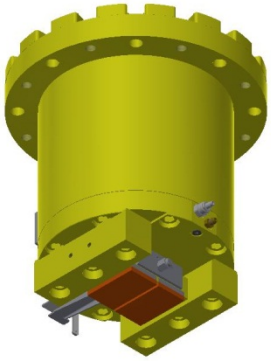
RAIL BRAKES
RBHD-STSR-ALL
POWER POINT PRESENTATION
SLS & MKTG
ENGLISH

DOC NO.: 200-112-64710

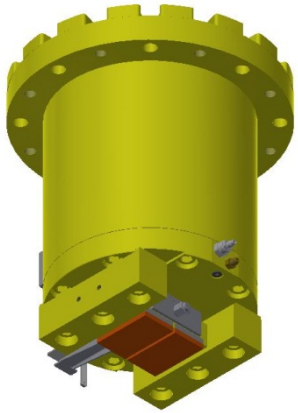
2 RAIL BRAKES
DYNAMIC

INTERNATIONAL PATENTS APPLY

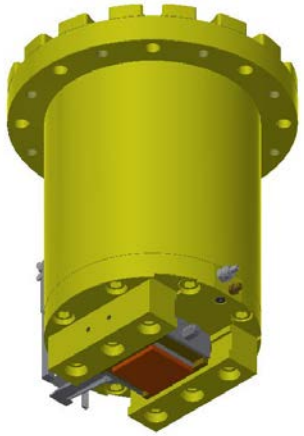
1.0 Rail Brakes Models



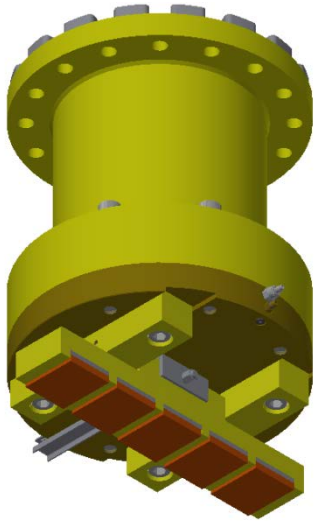
RBHD-STSR-MCS-060-040
RBHD-STSR-MCS-075-040
RBHD-STSR-MCS-090-040
RBHD-STSR-MCS-100-040



RBHD-STSR-CS-100-040

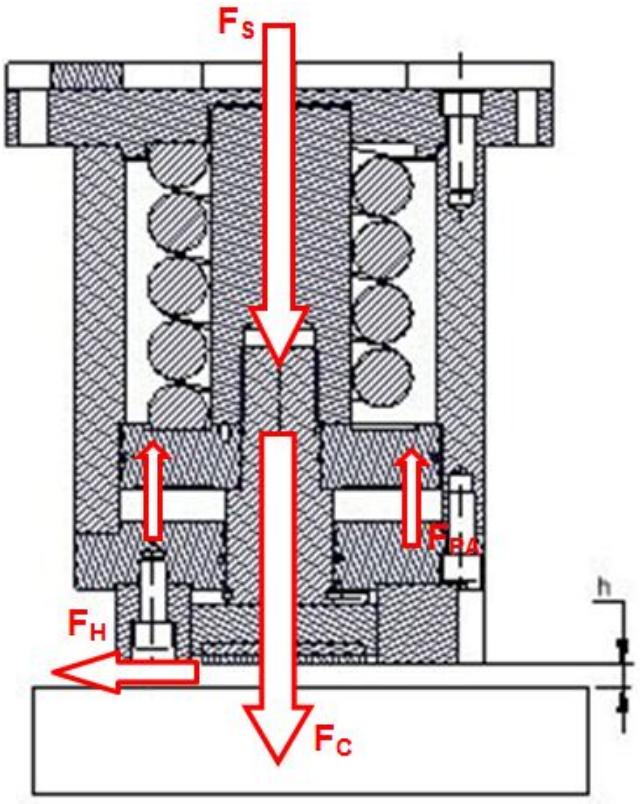


RBHD-STSR-200-040



RBHD-STSR-300-040

2.0 Principle Of Operation (Coil Spring Design)



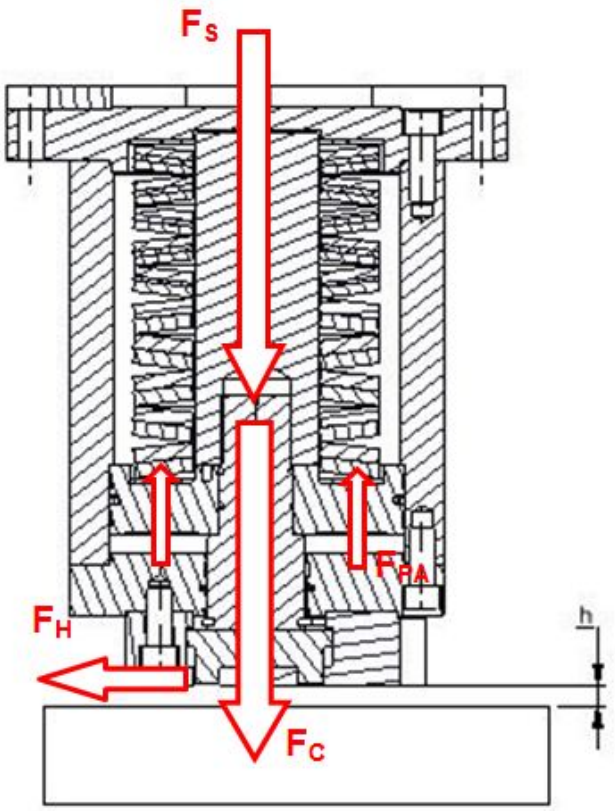
International patents apply

F_S = Spring Force
F_{PA} = Cylinder pressure to compress the springs
F_C = Clamping Force
F_H = Holding Force
$F_H = F_C \times \mu$

DYNAMIC $\mu = 0.4$ (dynamic shoe)

NOTE:
Coil Spring Standard on the following Models:
RBHD-STSR-MCS-060-040
RBHD-STSR-MCS-075-040
RBHD-STSR-MCS-090-040
RBHD-STSR-MCS-100-040
RBHD-STSR-CS-100-040

3.0 Principle Of Operation (Disc Spring Design)



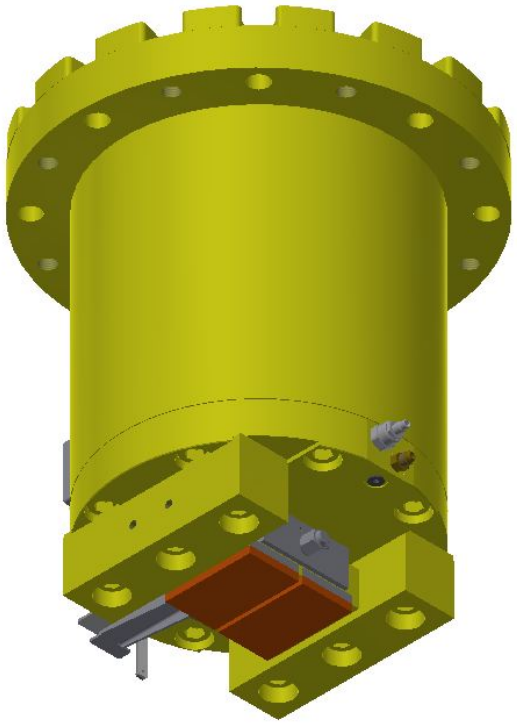
International patents apply

F_S = Spring Force
F_{PA} = Cylinder pressure to compress the springs
F_C = Clamping Force
F_H = Holding Force
$F_H = F_C \times \mu$

DYNAMIC $\mu = 0.4$ (dynamic shoe)

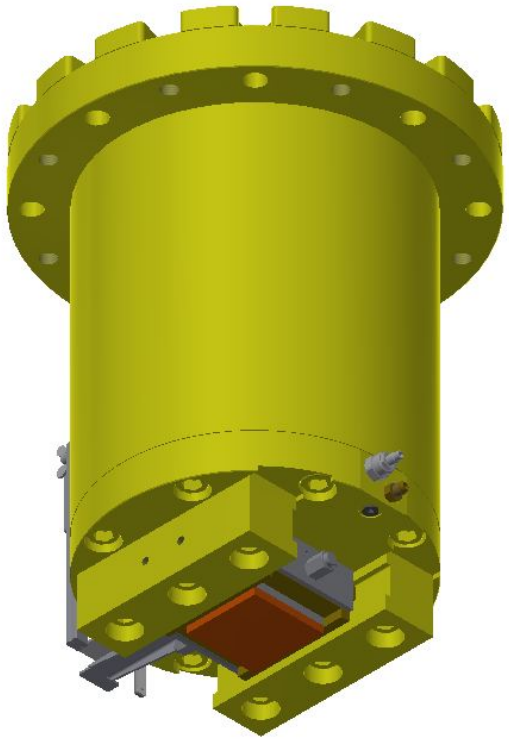
NOTE:
Disc Spring Standard on the following Models:
RBHD-STSR-200-040
RBHD-STSR-300-040

4.0 Design Highlights (Coil Spring Design)



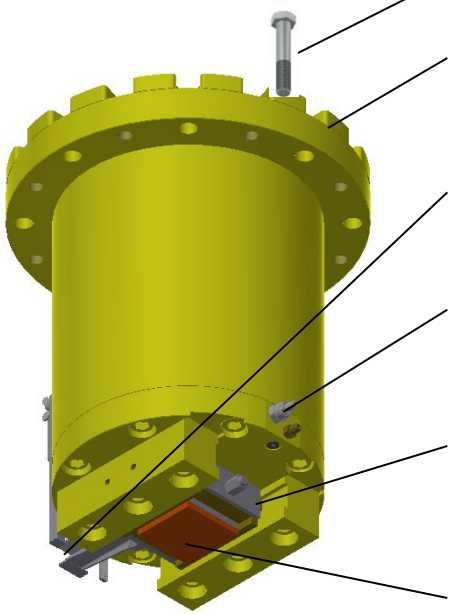
- Patented spring caging feature mechanical lock. This allows rail brake to be shipped in released position and or locked released should a brake fault be detected during operation.
- Brake designed for dynamic braking with friction shoes
- Static braking application can be achieved by installing static serrated shoes.
- The Coil Spring designed for over 1 million cycles rated at nominal 8mm±6mm design retracted clearance. Full Braking Force to maintained through this working stroke thus this dynamic rail brake doesn't require adjustment for lining wear
- Complete corrosion protection including 5 year structural enclosure paint system (option).
- Compact design fits easily between trucks under equalizer beam.
- Friction shoe completely field replaceable.
- Back pressure test connection fitting standard.
- Design to operate at low pressures.
- All hydraulic systems provided with bleed ports.
- Single hydraulic cylinder to ensure no possibility of unbalanced release force due to cylinder failure.
- Cartridge flow control valve, thus full corrosion protection.

5.0 Design Highlights (Disc Spring Design)



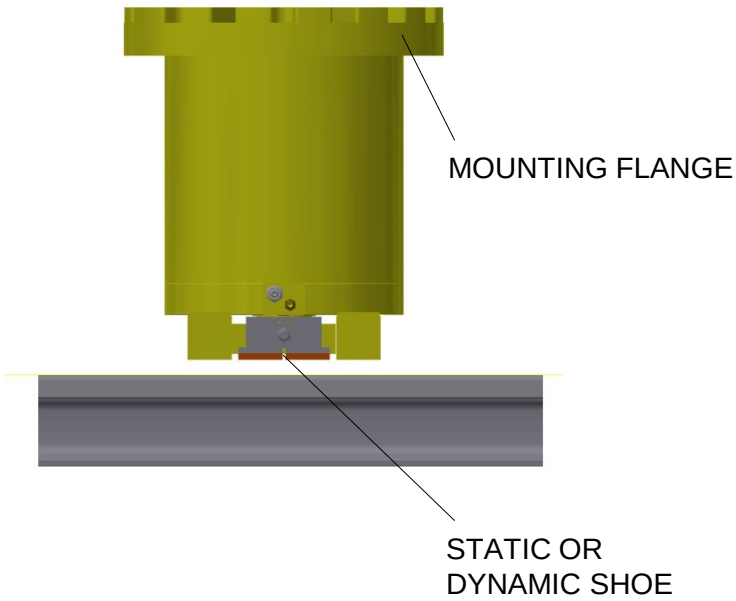
- Patented spring caging feature mechanical lock. This allows rail brake to be shipped in released position and or locked released should a brake fault be detected during operation.
- Brake designed for dynamic braking with friction shoes
- Static braking application can be achieved by installing static serrated shoes.
- Spring stack designed for over 1 million cycles rated at nominal 8mm±2mm design retracted clearance.
- Complete corrosion protection including 5 year structural enclosure paint system (option).
- Compact design fits easily between trucks under equalizer beam.
- Friction shoe completely field replaceable.
- Back pressure test connection fitting standard.
- Design to operate at low pressures.
- All hydraulic systems provided with bleed ports.
- Single hydraulic cylinder to ensure no possibility of unbalanced release force due to cylinder failure.
- Cartridge flow control valve, thus full corrosion protection.

6.0 Standard Features



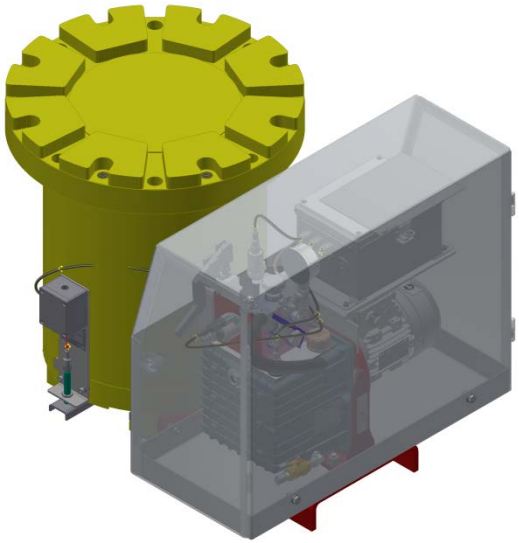
- Patented spring caging bars to allow for mechanical lock and easy field installation & field service.
- Brake can be easily be taken out of service by the simple installation of the spring caging forks.
- Disc & Coil spring design – spring design life ~1 million cycles.
- Compact & bolted design – ease of maintenance.
- All springs completely protected against corrosion.
- Flow control valve standard
- Brake release switch standard
- Nominal design release clearance 8mm
- Field replaceable friction shoes
- Low operating pressure
- Manual release bolts stored with power unit
- Brake release spacers
- All disc spring stack per lubricated with molybdenum disulphide paste.
- No pre-compressed spring stack

7.0 Design Options



- Mechanical limit switch
- Rail sweeps
- Custom mounting flange
- Back pressure test equipment
- Custom paint color
- Complete 5 year structural corrosion protection.
- Hose & fitting packages
- Electro hydraulic option, see section 8.0.
- Jacking feature option,
  (only available to models 060, 075, 090 & 100).
- For static rail brake refer to static rail brake product line.

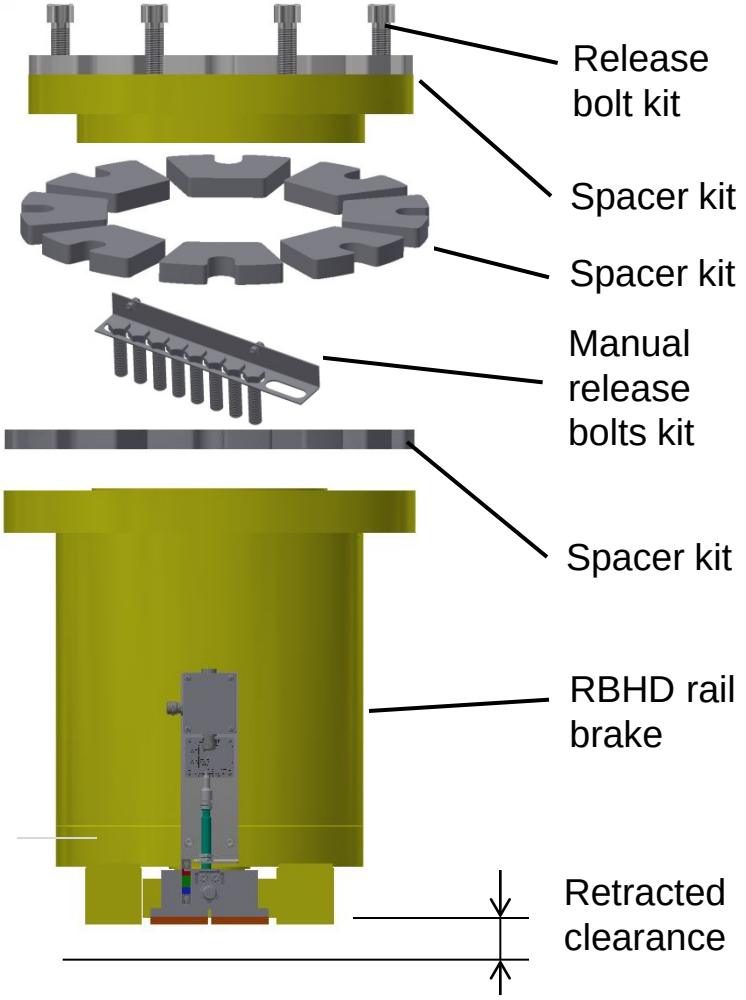
8.0 Electro Hydraulic Unit



Rail Brake with integrally mounted hydraulic power units.

- Simple field installation.
- Shipped fully tested in released position complete with hydraulic fluid.
- Elimination of field flushing of hydraulic system.
- Eliminating external piping
- Brake shipped in brake release position, no power is required to install the brake.
- All power units equipped with standard features such as hand pump, temp level switch, pressure switch, sight level gauge, etc.
- All hydraulic components completely field replaceable.
- All units completely pre wired to SS junction box including proximity switch.

9.0 Spacer kit & Purpose

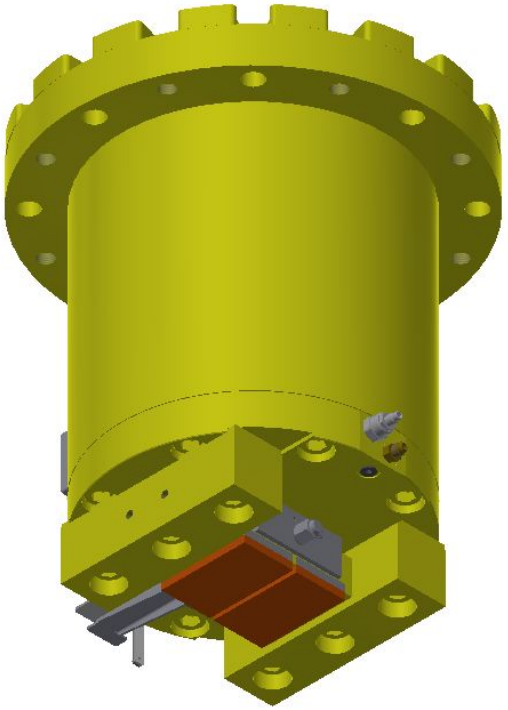


The rail brake spacer kit is provided to ensure that:

1. The rail brake retracted clearance can be accurately maintained at time of installation.
2. In case of catastrophic seal failure the manual release bolts can be used.

Release Bolt Kit
Only one release bolt kit is supplied with each hydraulic power unit. The bolt kit is stored, one kit inside each power unit

10.0 Standards



All Hillmar products are designed & manufactured in accordance with the following standards.

8.1 Design standards.
8.2 Performance standards.
8.3 Document standards.
8.4 Production & Quality standards.
8.5 Packaging standards.

All Hillmar products are delivered with Hillmar commitment to customer satisfaction.

All Hillmar products manufactured in accordance with DIN 10204-2.1 Quality Standard

Hillmar is an ISO Certified company.