RB-SA RAIL BRAKE - SELF ADJUSTING BROCHURE

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RELIABILITY THROUGH QUALITY AND INNOVATION

WHERE TO USE (APPLICATIONS)

Rail Brakes are Storm Brakes which apply spring force on the top of the rail. They utilize the weight of the crane in the braking process and provide the friction force along the rail. Actual braking capacity depends on the applied force and applicable coefficient of friction (different for static and dynamic braking).

RAIL BRAKE DEFINITION

Rail Brakes are spring set and hydraulically released by Hydraulic Power Unit. Once released, it hangs above the rail at pre-designed clearance. Brake mounting clearance and the existing rail vertical deviation affects achievable braking force and the life span of the springs within the brake.

Conventional design and spring selection dictates that shoe to rail clearances are very limited and brake shoe travel is restricted in order to prolong the life of the springs.

New concept BRELX design and spring selection allows for unrestricted spring movement for greater rail height fluctuation still ensuring long spring life. Brake force is consistent over the ±19 mm shoe-to-rail clearance.

BRELX new SRB-SA Series of Self Adjusting Rail Brakes were developed specifically to address problems with crane rail vertical fluctuations.

Rail height fluctuations are typically caused over time by settling and fatigue failures of the rail support foundations. Rail height fluctuation has been a big problem for traditional rail brakes. It has either caused the rail brake to impact the rail brake (high rail), causing damage to the rail brake, crane and rail; or it has resulted in such large gaps between the rail brake and the rail (low rail) that the brake no longer produces adequate force or capacity. Conventional spring set rail brake spring life is also shortened significantly by increased rail brake stroke. That is why their operating range is typically limited.

Our new rail brake solves this problem by permitting a large rail deviation while providing uniform capacity over the full range of movement.

It is very important to note that BRELX new rail brake, unlike thruster rail brakes or wheel chocks, is completely spring set. That means that the forces applied to the rail are supplied, full force, by the springs. This is NOT a self-actuating device, so the crane can be moved at any time in any direction without jockeying the crane to gain release.

OPERATIONAL DESCRIPTION

The solenoid valve SV1 is normally open when de-energized to allow setting of the rail brake when control power is lost. This new rail brake works by using a patent pending, simple and very reliable mechanism to first adjust the rail brake to existing rail-to-brake shoe clearances; then apply the full load. This action happens naturally as brake pressure reduces on brake setting command. There are no extra hydraulic valves involved in the action.

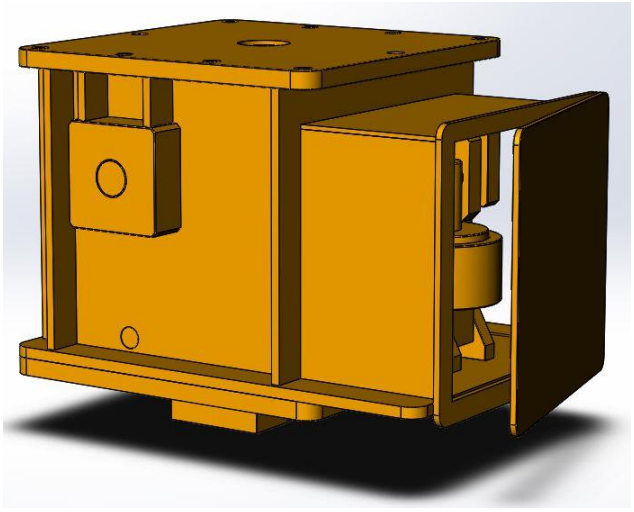
MOST IMPORTANT FEATURES

- Completely spring set brake
- Two step braking to first adjust the rail brake to existing rail to shoe clearances; then apply the full load
- Brakes designed for extra-long spring life
- Compensates for up to 38 mm rail deviations with full rated capacity
- All components, including the hydraulic release cylinder are fully enclosed in a sealed housing, out of the elements.
- All hydraulic components including the cylinder are fully serviceable without removing the rail brake. Simply remove a cover and remove/replace.
- NO RELEASE SHIMS: The rail brake can be emergency released by three methods: Hydraulic hand pump in the HPU, by load removal screws and shoe removal, or by Enerpac and screws. Load removal screws can also be used for caging.
- Compact design fits most existing locations, even those with drop pins. Low height allows retrofitting with adapter flanges.
- Proximity switch for release indication.
- Brake shoes easily removed and replaced.
- Consistent spring stroke for longer spring life.
- Fabricated from high quality structural steel.

BENEFITS

Two step braking ensures that shoe is in contact with the rail before full spring force applies. This allows for brake to compensate ±19 mm rail deviation still providing rated braking capacity. Due to the unique design, spring stroke is small and consistent which guaranties long spring life expectancy.

Serrated shoes are fully protected from hitting the top of the rail contributing to less wear and tear.

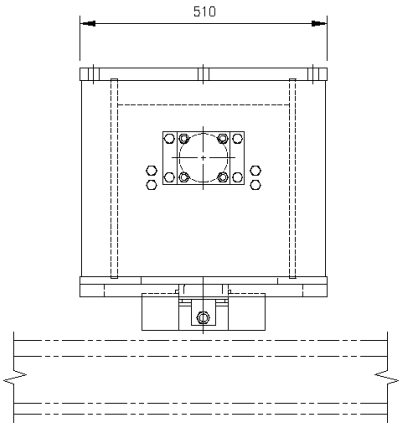


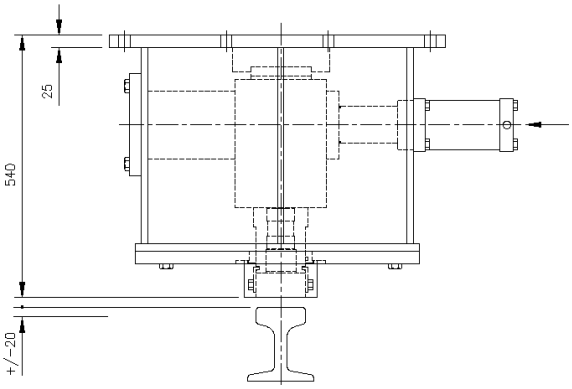
SELF ADJUSTING MECHANISM
(Patent Pending)

Vertical Deviation/Applied Force

-19	440kN
0	440kN
+19	440kN

AVAILABLE SIZES:
Static Braking SRB: 150kN & 220kN.
Dynamic Braking DRB: 120kN & 180kN





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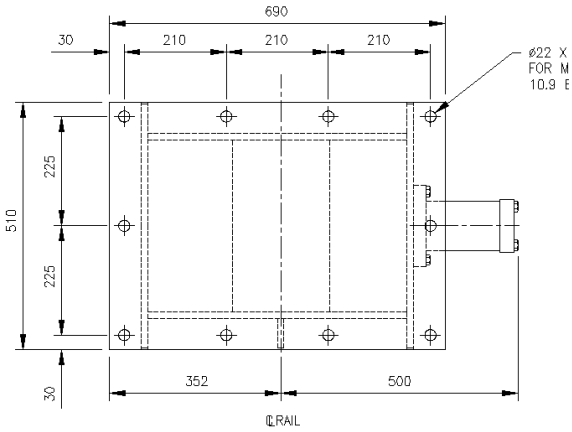

Dimensions and capacities subject to change without notification.

QUALITY

Reliability through Quality and Innovation

All products are quality inspected as per BRELX standard quality policy. Our brakes are hydraulic proof-tested before shipment. Standard 12 / 18 months warranty applies for all braking systems.

PERFORMANCE TEST

Brelx provides functional test for all sizes of Rail Brake Systems at our factory.

Self adjusting rail brake applied force testing is available upon request.
Please contact us for more details.