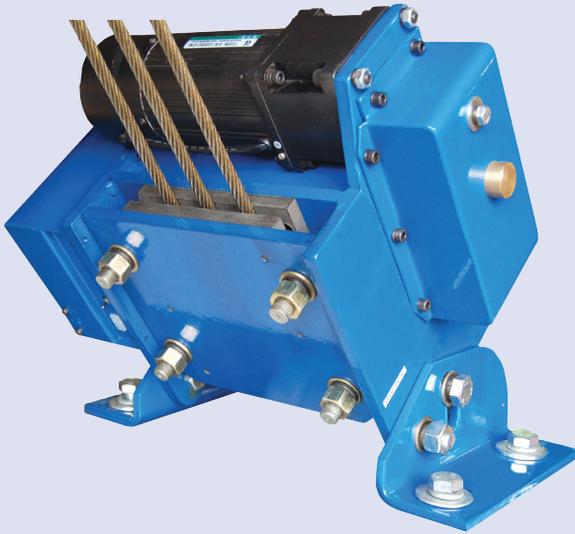


# Sure-Stop™ RB500/RB625 Rope Brake

## INSTALLATION AND MAINTENANCE MANUAL



**RB500 IS FOR 3/8" TO 1/2" ROPES**  
**RB625 IS FOR 1/2" TO 5/8" ROPES**

VERSION 1.6 - NOV 2015

PART NUMBER RB-JSQ-MANUAL

**KEEP THIS MANUAL IN THE EQUIPMENT ROOM**  
**DO NOT DISCARD!**



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# Introduction and Operational Overview

Thank you for purchasing the Sure-Stop™ Rope Brake from Draka. When properly installed and maintained, this product will provide years of reliable service.

The patented Sure-Stop Rope Brake offers clear improvements in rope brake safety and operation:

- It's a single-piece design; no separate hydraulic unit is required for operation

- Its compact footprint (16.3 in x 9.2 in for the RB500, 18.0 in x 9.2 in for the RB625) and height (13.2 in for the RB500 and 13.6 for the RB625) installs easily in tight spaces

- A simple five-wire hookup (two for power, two for controller, one for ground) eases installation

- Certified to CSA B44.1-04 and ASME-A17.5-2004 (cCSAus)

- Complies with all ASME A17.1-2007 code requirements

Please follow the instructions throughout this manual to ensure the safety of passengers and all installation/maintenance personnel.

## Certifications

Sure-Stop Rope Brakes are certified to CSA B44.1/ASME A17.5 and has been verified to meet all relevant ASME A17.1 code requirements. It has also been tested and certified by NETEC (National Elevator Inspection and Testing Center) report number T3-F35-09-009.

Sure Stop Rope Brakes are covered under US patent 8,256,579 B2.

# Technical Specifications

Specifications	RB500	RB625
Rope Diameter	3/8 in to 1/2 in • 9.5 to 12.7 mm	1/2 in to 5/8 in • 12.7 to 16 mm
Brake Pad Width	6 in • 152 mm	7.75 in • 197 mm
Maximum Rope Spread	5.25 in • 145 mm	7.75 in • 197 mm
External dimensions	16.25 x 8.625 x 13.2 in 413 x 219 x 335 mm	18.0 x 9.125 x 13.2 in 457 x 232 x 335 mm
Mounting hole dimensions	13.5 x 5.6 in • 344 x 142 mm	15.375 x 6.0 in • 391 x 152.4 mm
Weight	120 lbs • 55 kg	160 lbs • 72.7 kg
Rotation angle	up to 45 degrees	up to 45 degrees
Motor	120W/180W, 220VAC +/-10%, 6A, 50/60 Hz	120W/180W, 220VAC +/-10%, 6A, 50/60 Hz
Reduction rate	1:25, 1:30, 1:36	1:25, 1:30, 1:36
Torque of output shaft (max)	300 kg-cm	300 kg-cm
Electromagnetic brake parameter	24V, 0.5A	24V, 0.5A

Operating Limits	RB500	RB625
1:1 Roping Rated Speed	500 ft/min • 2.5 m/sec	1,200 ft/min • 6.0 m/sec
1:1 Rated Load (max)	5,500 lbs • 2,500 kg	7,500 lbs • 3410 kg
1:1 Rated Load (min)	440 lbs • 200 kg	1,900 lbs • 863 kg
1:1 Total System Mass (max)	16,000 lbs • 7,250 kg	30,000 lbs • 13636 kg
1:1 Total System Mass (min)	1,985 lbs • 900 kg	5,500 lbs • 2,500 kg
2:1 Roping Rated Speed	350 ft/min • 1.75 m/sec	600 ft/min • 3 m/sec
2:1 Rated Load (max)	11,000 lbs • 5,000 kg	15,000 lbs • 6818 kg
2:1 Rated Load (min)	880 lbs • 400 kg	4,000 lbs • 1818 kg
2:1 Total System Mass (max)	28,400 lbs • 12,900 kg	61,000 lbs • 27727 kg
2:1 Total System Mass (min)	2,820 lbs • 1,280 kg	11,000 lbs • 5000 kg

# Prior to installation

## Inspection

Inspect the shipping container and contents upon receipt.  
DO NOT install the brake if you suspect it has been damaged during shipping.

## Packing List

The Sure Stop rope brake kit includes the following:

Part Number	Description
RB-JSQ8 or RB-JSQ9	Sure-Stop Rope Brake - RB-JSQ8 is the RB500, RB-JSQ9 is the RB625
RB-JSQ-CABLE	Power/Signal Cable
RB-JSQ-MANUAL	Installation Manual

## Required Tools and Hardware (not included)

24 mm wrench

Wire strippers

Flathead screwdriver

Mounting bolts - Four (4) M16 x 2 Class 10.9 or 5/8 in Grade 8 bolts are required for mounting the rope brake to the machine frame. Observe all recommended torque requirements:

M16 x 2 Class 10.9 bolts - 310 n-m

5/8 in Grade 8 bolts - 220 ft-lbs

## Safety Considerations

Ensure that all power has been disconnected prior to installation of this device; all lockout/tag-out procedures should be observed.

Observe all safety instructions contained in this manual during the installation of this product.



DO NOT put your fingers between the plates - severe injury may result.

## Installation Considerations

Draka Sure Stop Rope Brakes may be mounted in any position as long as the installation requirements in the mechanical installation section are met. Wherever you choose to install the unit, make certain there is access to manually open it. There will need to be a minimum clearance of 9 in • 228 mm at the side of the unit where the power wire plugs in.

# Mechanical installation

Prior to installation, confirm that the structure to which the rope brakes are to be mounted can withstand the pull force generated by an event. For the RB500, the pull force is 4600 lbs - for the RB625, the pull force is 5800 lbs.

## Step 1

Use the dimensions provided on the template on page 10 to mark the mounting hole locations on the machine frame for the rope brake. It may be helpful to temporarily place the rope brake in position. Drill four mounting holes to accommodate the selected fastener.

## Step 2 >

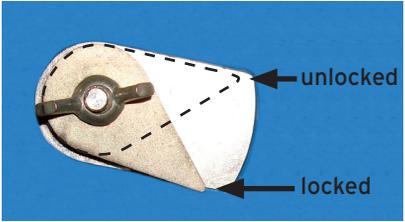
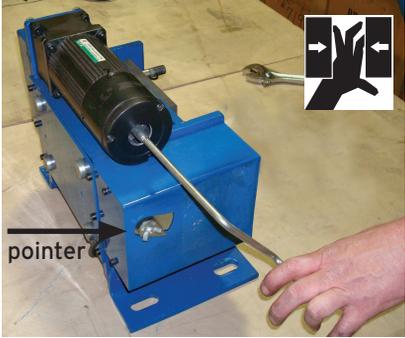
The rope brake is shipped in the 'unlocked' (closed) position. To open the brake, remove the end cap of the motor and insert the supplied crank (attached to the back of the rope brake).

**DO NOT put your fingers between the plates - severe injury may result.**

Pull the pointer out. Push it toward the 'locked' position as far as you can while keeping light pressure on it. FIRMLY turn the crank handle in the direction shown by the arrow on the motor housing.

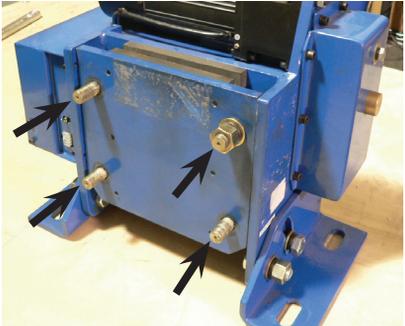
As the motor is being wound by the hand crank, you will feel the pointer lock into position.

Keep your hand on the crank and let it unwind gently until it stops. The brake (and pointer) are now set in the locked (open) position.



## Step 3 >

Loosen and remove the four (4) M16 x 1.5 nuts and washers that secure the outer (moving) plate. Remove the outer plate.



# Mechanical installation continued

### Step 4 >

Loosen but do not remove the four (4) bolts connecting the right and left support legs to the brake assembly. This will allow you to tilt the rope brake to match the angle of the ropes as they pass through the plates.



### Step 5 >

Place the rope brake assembly on the machine frame where you have drilled the mounting holes. Tilt the brake so that the inner (fixed) plate matches the angle of the ropes.

NOTE: The ropes must be parallel to each other. If necessary, use a rope block to move the ropes.



### Step 6 >

Using the hardware specified in the “Required Tools and Hardware” section, loosely attach the rope brake to the machine frame.



# Mechanical installation continued

## Step 7 >

Angle the rope brake assembly so that the inner (fixed) plate lightly touches the ropes for its entire length. (You may need to shift the position of the rope brake on the machine frame to permit full and correct contact.)

## Step 8

Tighten the bolts that tilt the rope brake (loosened in Step 4) to a torque of 149 N-m • 110 ft-lb. Secure the rope brake assembly to the machine frame (attached in Step 6) to the torques listed on page 4.



## Step 9 >

Replace the outer (moving) plate removed in Step 2. Evenly tighten the bolts until the plate lightly touches the ropes.

## Step 10

At slow speed, run the car up and down the hoistway. Grooves will begin to form on both brake plates. DO NOT attempt to adjust the brake while ropes are in motion, or allow any part of your body or clothing to come in contact with moving ropes.



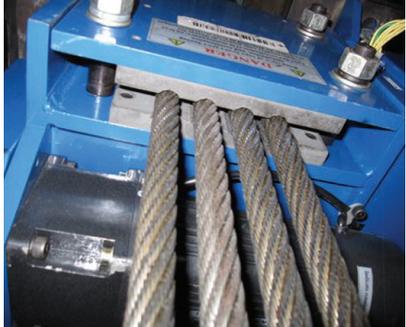
## Step 11

Tighten the four bolts holding the outer plate 1 - 2 turns, keeping their torque equal. Again run the car up and down the hoistway at slow speed to deepen the grooves.

## Step 12 >

Repeat Step 11 until all four outer plate bolts are tightened to a torque of 110 ft-lb • 149 N-m. It is typical for one pad to have slightly deeper grooves than the other. The pads and ropes should look like this. >

Note: Replace the pads when the pad depth (measured from the groove crown to the back of the plate) measures 0.10 in • 2.5 mm. Pad wear varies depending on rope size, car speed, and total system mass. If the rope brake is ever activated, inspect the pads for wear.



# Electrical installation

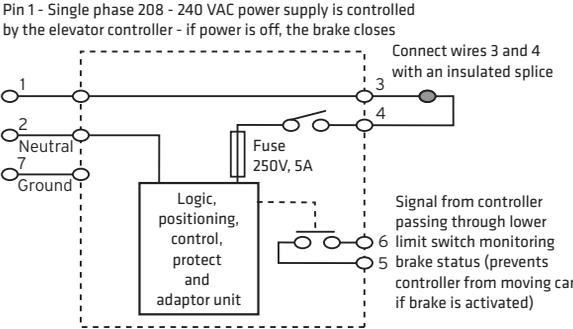
## Step 1

Make sure that all power has been disconnected and all circuitry locked-out.

## Step 2

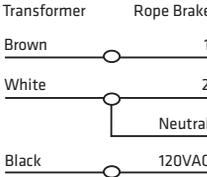
Connect the power/signal harness to the elevator controller. If 220VAC power is not available, use a 120/240VAC step-up transformer as shown in Optional Transformer Wiring below:

Conductor No.	Remark
1	Power
2	Neutral
3 and 4	Securely connect wires 3 and 4
5 and 6	Signal from controller passing through lower limit switch monitoring brake status
7	Ground



### Optional Transformer Wiring

If 220VAC is not available to power the rope brake, attach a 120VAC/240VAC transformer (p/n AZ85618) as shown in this diagram.



NOTE: If your controller is not equipped for a rope brake controller, contact Draka support.

## Step 3

Connect the other end of the power/signal harness to the rope brake.

## Step 4 >

Power up the rope brake. If the rope brake has been installed properly, the brake will be in the open position with the switch on and in the closed position with the switch off.

Depending on the diameter of the hoist ropes used, the limit switch located at the bottom of the brake may require adjustment. The limit switch contacts are closed when the brake jaws are opened.

To adjust the limit switch, allow the brake to close on the hoist ropes and adjust the set screw inward until the limit switch opens.



# Maintenance

## Manual Release

In certain instances, it may be necessary to open the brake manually.

After confirming that the unit is powered off, follow Step 2 on page 5.

## Spare Parts

Contact Draka customer service for pricing and availability of spare parts.

The toll-free number in the US and Canada is 1-877-DRAKA-EP (1-877-372-5237).

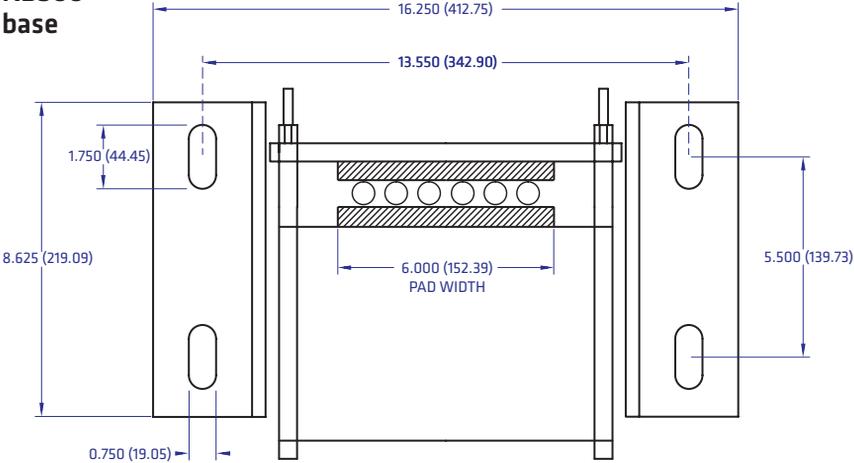
## Warranty

The Sure-Stop rope brake carries a one-year warranty against defects in material and workmanship. Warranty is limited to US and Canadian customers only. A valid proof of purchase from Draka is required for any warranty claims.

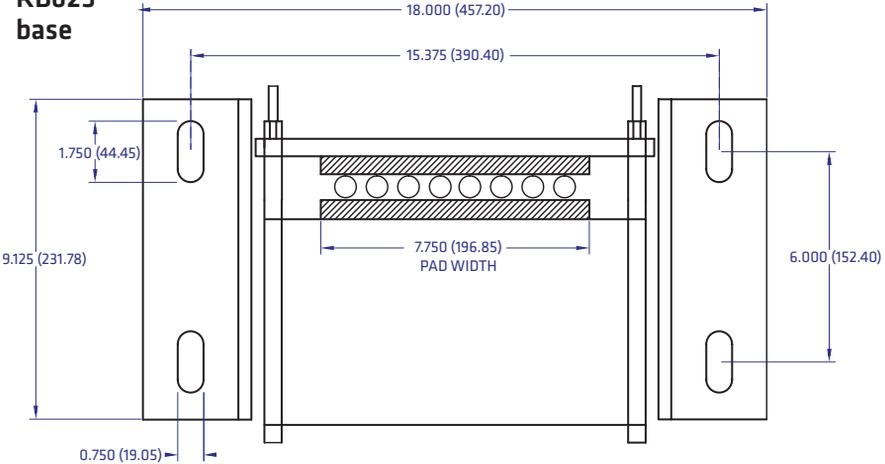
Failure to comply with any of the instructions or warnings outlined in this installation and maintenance manual will void all warranty claims

# Rope Brake Footprints

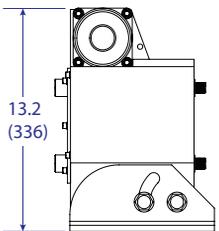
**RB500  
base**



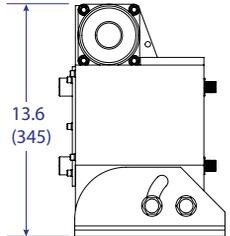
**RB625  
base**



**RB500  
side**



**RB625  
side**



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