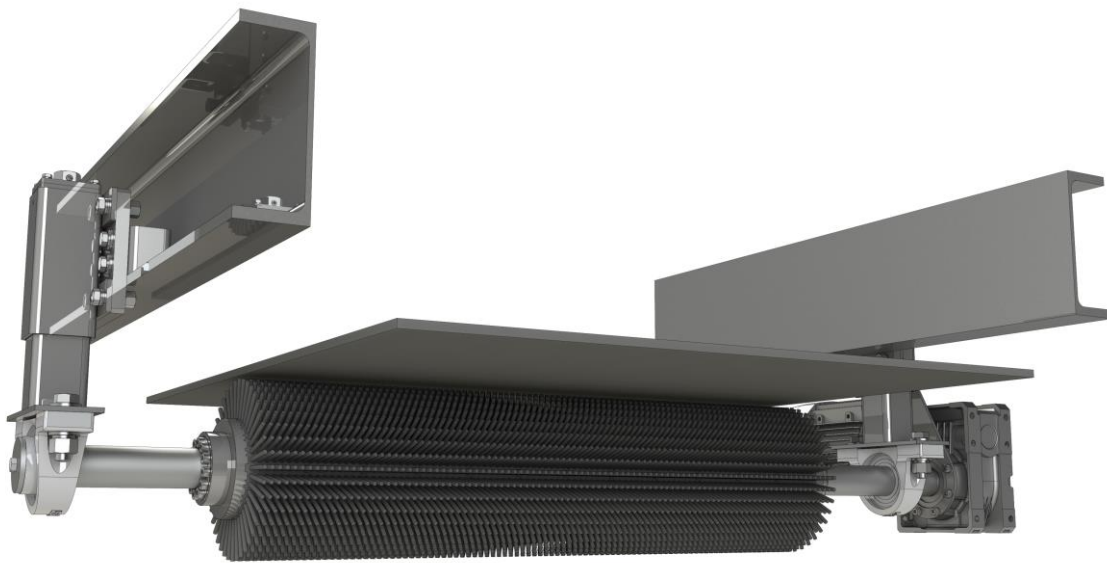


Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

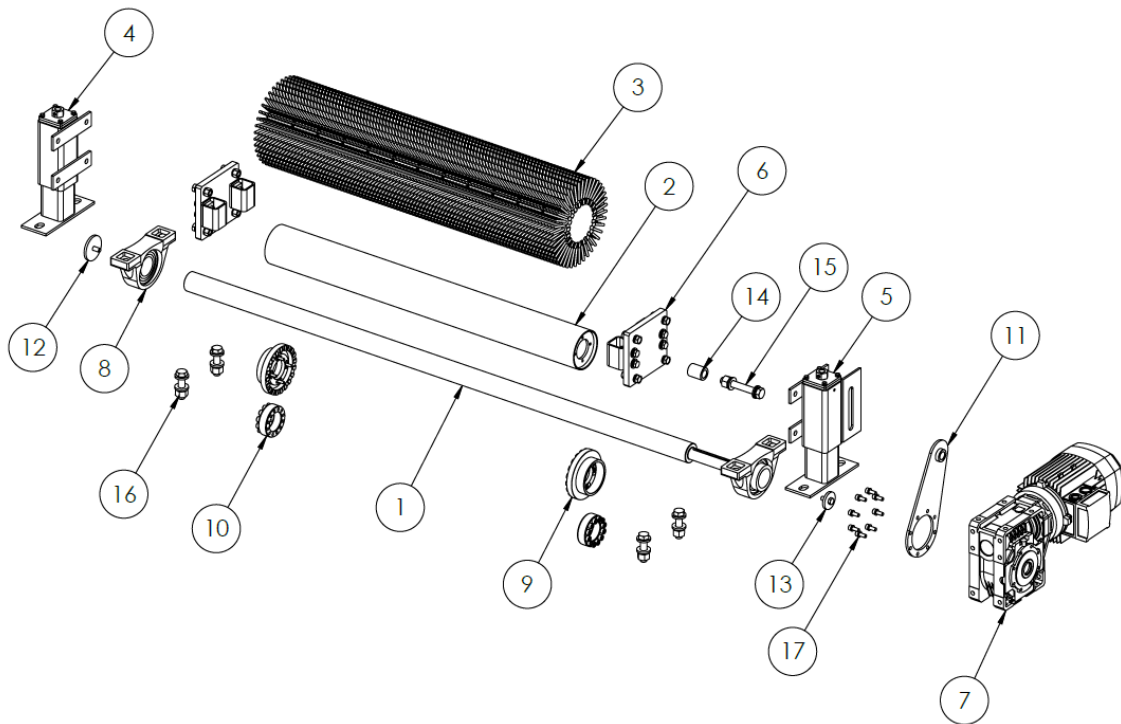
Kinder Australia product:	K-Rotabrush® Conveyor Belt Cleaner RT-50 Series
Product category:	Belt Cleaning System Products
Issue date:	14.07.20



⚠ WARNING ⚠

**Always obey all applicable safety rules.
Be sure all power to the conveyor has been disconnected and controls are
locked out.**

Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)



Number	Part Number	Quantity	Description
1	K-CLE-BRU-SHAFT-KXXXX	1	Brush Cleaner Shaft
2	K-CLE-BRU-CONSH-XXXX*	1	Removable Segment Mount Pipe
3	K-CLE-RM-SEG-230x76x5*	Varies	Rubber Brush Segment
4	K-CLE-BRU-TELE-ADJ†	1	Plain Telescopic Take Up Adjuster
5	K-CLE-BRU-TELE-ADJ†	1	Telescopic Take Up w/ Torque Arm Slot
6	K-CLE-BRU-BASE-PLATE	2	Weld On Mount Adapter Place
7	K-CLE-KBRU-GMOTO-DM	1	Gearbox & Drive Motor
8	K-CLE-KBRU-UCP210	2	Bearing With Pillow Block Housing
9	K-CLE-BRU-RET-CLAMP	2	Retaining Flange
10	K-LOC-SHA-Z2-50X80	2	50 x 80 Shaft Locking Device
11	K-CLE-BRU-TARM-W75	1	Gear Motor Torque Arm Plate
12	K-CLE-KBRU-WSHER1	1	Idle Side Retainer Ø 65 x 6
13	K-CLE-KBRU-WSHER2	1	Motor Side Retainer Ø 45 x 5
14	K-CLE-BRU-TARM-SPACER	1	Gear Motor Torque Arm Spacer
15	K-FAS-M16x110HEXHEAD	1	M16 x 110 Hex Head Bolt w/ Nut & Washers
16	K-FAS-M16x65HEXHEAD	4	M16 x 65 Hex Head Bolt w/ Nut & Washers
17	K-FAS-M8x20-SH-SCREW	8	M8 x 20 Socket Head Screw

* Available as assembly with P/N K-CLE-ROTA-R50-BRU-XXXX-AS

† Supplied as matched pair – One for motor side and one for idle side

Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

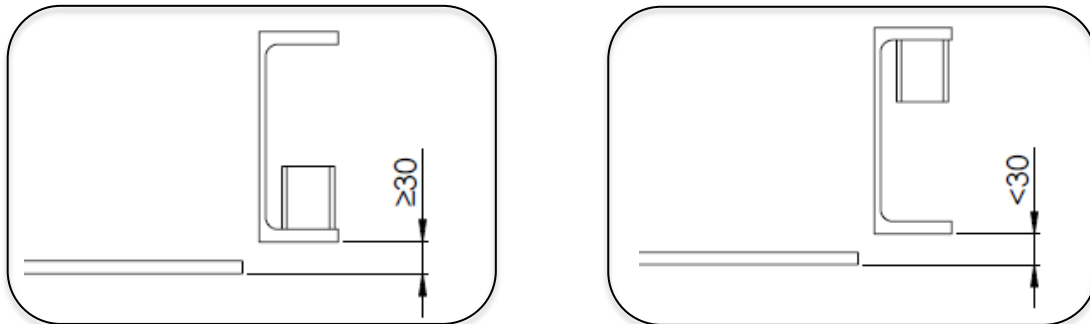
Installation Tools Required

- | | |
|----------------------|-------------------------------|
| -Tape Measure | -Welder or Drill |
| -Level | -18 & 19mm Open Ended Spanner |
| - 5mm & 6mm Hex Keys | -24mm Open Ended Spanner |

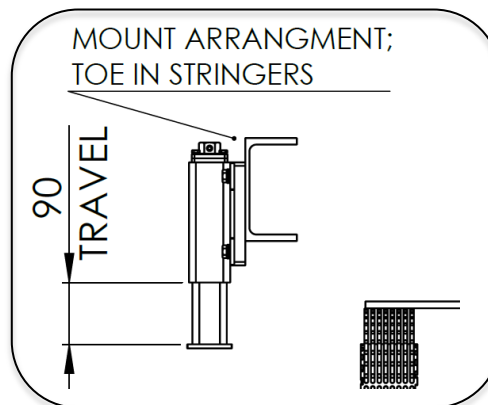
Installation Step One: Layout

The ideal install location will have the K-Rotabrush® conveyor belt cleaner positioned in the material chute but outside of the product stream during cleaning operation. This is to ensure that the material is removed into the material chute without damage coming to the cleaner caused by falling material. If this is not possible then the cleaner can be installed anywhere on the return strand.

The cleaner is designed to be compatible with both toe in and toe out stringers. The below images show the preferred mounting positions for a toe out stringer arrangement considering the distances between the bottom of the belt and stringer. Alternatively, the system can be mounted such that the cleaner contacts the belt with the take up assembly raised no more than halfway up. If available, supplied Kinder drawings should also provide the intended orientation.

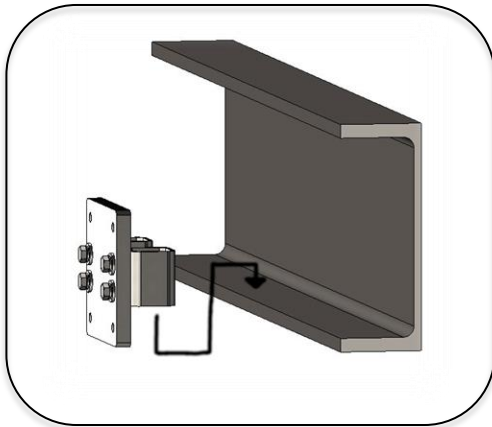


For a toe in stringer arrangement the system can be mounted such that the cleaner contacts the belt with the take up assembly raised no more than halfway up.

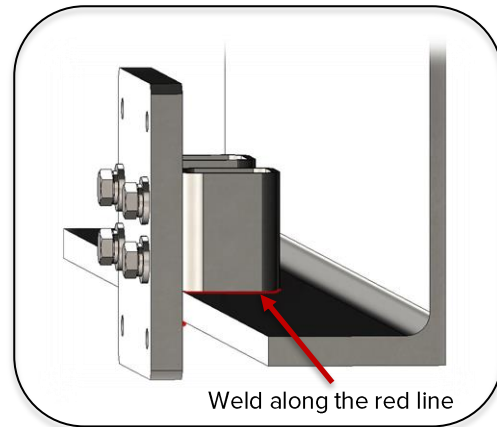


Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

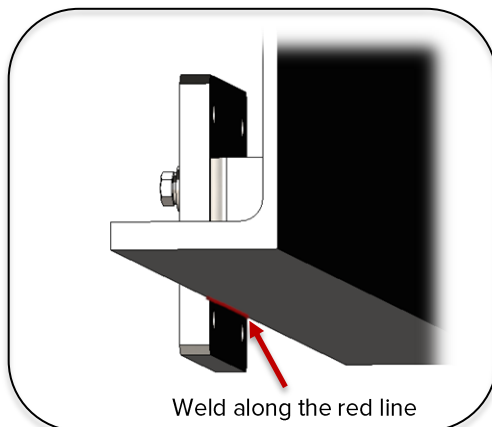
Installation Step Two: K-Tele Adjuster Telescopic Take Up Installation – Toe Out



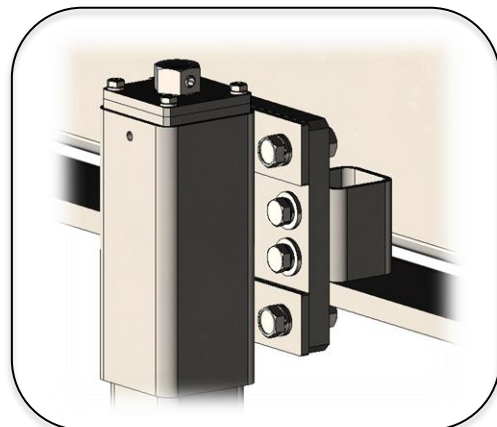
Remove the base plate from the take up assembly. Place the base plate in the position selected in Step One.



Ensure the base plate is flush with the stringer end and weld both SHS to the inside stringer face as depicted above.



Weld the base plate to the outer stringer face as depicted above.



Reattach the take up with supplied M12 x 25 hex head bolts including the M12 flat washer and spring washer.

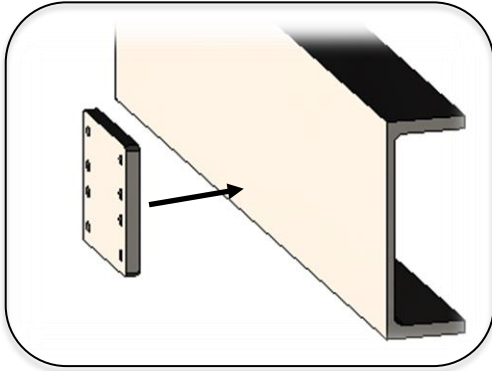
IMPORTANT

Ensure base plates are aligned. Placing the assembled cleaner into the desired position and marking the location with chalk or a scribe can help reduce error.

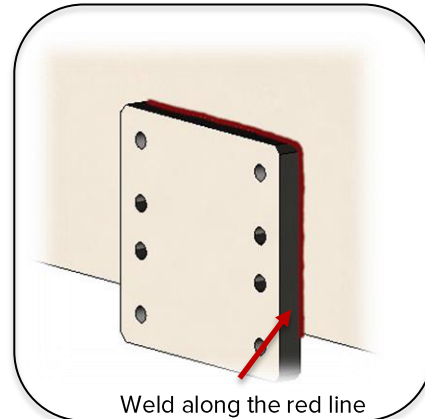
Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

Installation Step Two: K-Tele Adjuster Telescopic Take Up Installation – Toe In

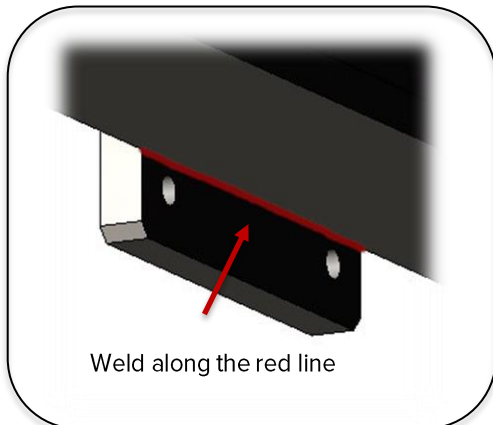
Note: Further instructions may depict a toe out arrangement. These instructions will still be compatible with a toe in arrangement.



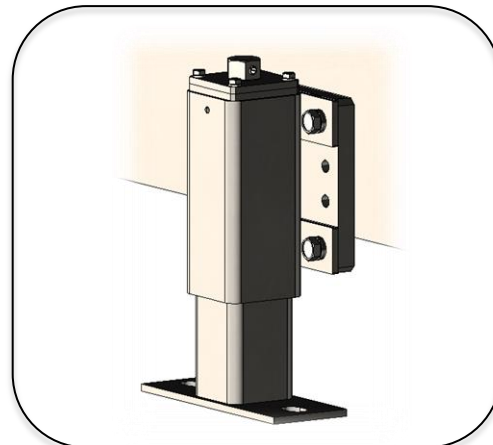
Remove the base plate from the take up assembly. The SHS will need to be removed and can be disposed of as appropriate.



Weld the base plate to the stringer back face as depicted above so that the bottom of the plate is 60mm above the belt bottom.



Weld the base plate to the outer stringer face as depicted above.



Reattach take up with supplied M12 x 25 hex head bolts including the M12 flat washer and spring washer.

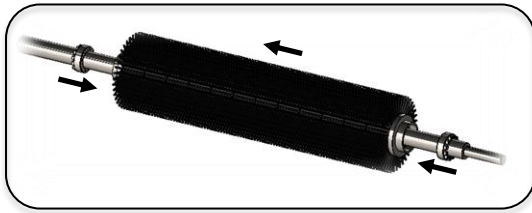
IMPORTANT

Ensure base plates are aligned. Placing assembled cleaner into the desired position and marking the location with chalk or a scribe can help reduce error.

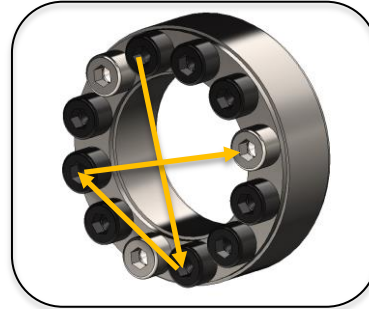
Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

Installation Step Three: Shaft Assembly

Note: The locking element comes with bolts in 2 colours. Silver screws are used to show the location used for locking element separation for maintenance and operate in the same way as the black screws during install.



Slide the segment mount pipe onto the shaft. Fit the shaft locking devices into each end of the pipe.



Tighten the socket head screws in a crosswise pattern until finger tight to prevent movement during installation.



Slide the bearings onto the ends of the shaft in line with where they will be mounted on the take up adjusters.



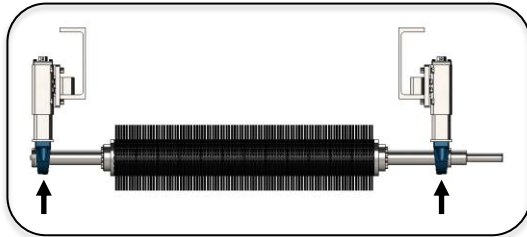
Tighten the grub screws on the bearings with the 5mm hex key so that they do not move around during installation.

IMPORTANT

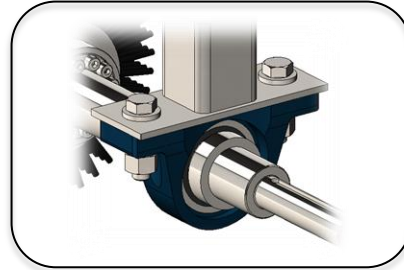
When tightening screws check to ensure that the items are properly secured such that they will not move and cause a shift in the balance of the system during installation.

Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

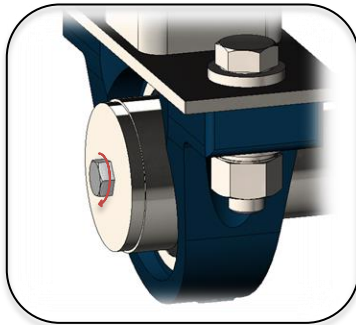
Installation Step Four: Shaft Installation



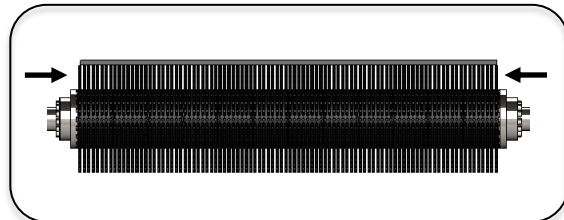
Lift the assembled shaft up to the take up units. Ensure the motor side take up is on the drive side of the shaft.



Ensure that the bearings are properly aligned and bolt them to the take up assembly.



Bolt in the idle side retaining washer and ensure that the shaft is positioned so that the bearing is contacting the washer. Fully tighten the grub screws.



Arrange the brush segment so that it is centred across the belt and tighten the set screws on the locking element with the 6mm hex key once again in a crosswise pattern.

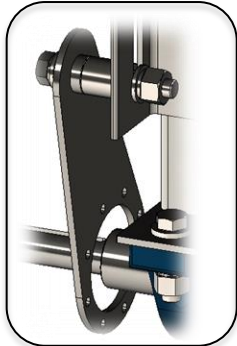
IMPORTANT

The Torque settings for the locking element is outlined in the table below. Failure to follow the recommended torque settings will cause structural damage to shaft.

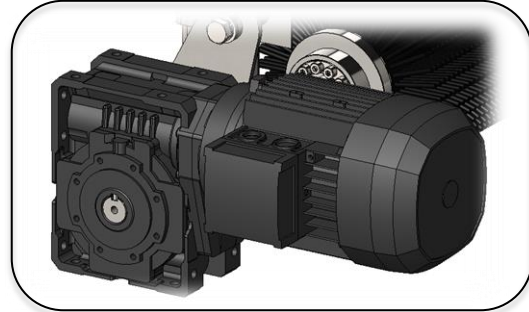
Lock P/N	Screw		
	Size	Qty	Max Bolt Torque (Nm)
50x80	M8x22	12	40

Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

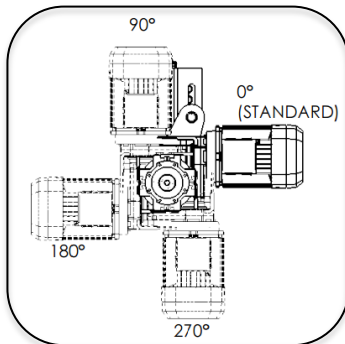
Installation Step Five: Motor Installation



Position the torque arm and spacer on the motor side and loosely secure both with the M16 x 110 bolt assembly.



Rotate the shaft so that the key will be aligned with the motor. Raise the motor into position and slide it on to the shaft. Secure it in place with the motor side washer.



Gearmotor orientation is important as different orientations require different quantities of lubrication. Standard should be used unless otherwise stated.



Secure the motor in the desired orientation using the M8 x 20 socket screws. Tighten in a crosswise pattern.



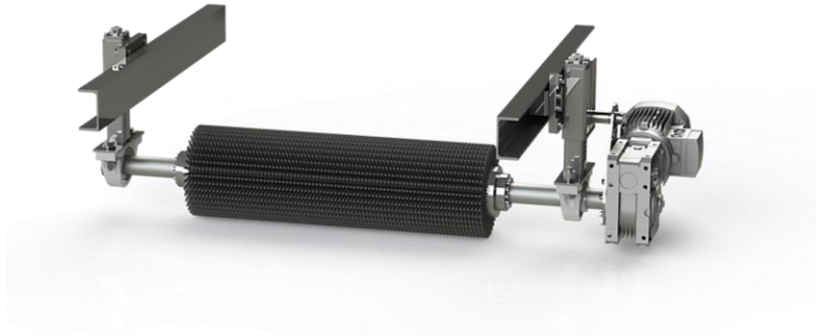
Prior to putting the gearbox into service, the blank plug must be replaced by the breather plug that is supplied with each unit.

IMPORTANT

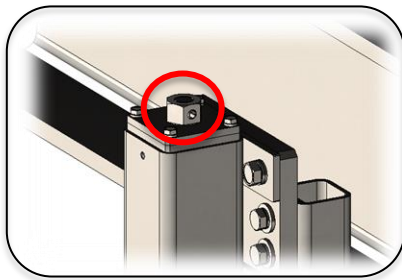
The wiring of the motor must be carried out by a licenced electrician. Failure to comply may result in electrocution or damage to the motor. Ensure the motor is wired to run against the direction of the belt.

Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

Example of an assembled K-Rotabrush® Belt Cleaner (RT-50)



Setup: Brush Contact Settings



Loosen the take up adjuster locking nuts and raise the cleaner so that the brush bristles just touch the belt. The torque arm bolt will need to be loosened during adjustments.

The cleaner only needs just enough pressure to properly remove product. To determine level of contact required between the belt and the cleaner evaluate the type of material that is to be conveyed and start with an appropriate recommendation from below:

Dry Material

Begin by raising the cleaner so that there is about 1mm of compression between the top of the highest bristles and the belt. Adjust as necessary if cleaning is not sufficient.

Further changes in height may be required due to cleaner wear and ambient weather changes, particularly during transitions from drier summer conditions to wetter winter conditions.

Wet Material

Begin by raising the cleaner so that there is about 5mm of compression between the top of the highest bristles and the belt. If cleaning is sufficient, cleaner can be backed off until just before proper cleaning ceases.

IMPORTANT

Chevron belts will require less pressure to be used than regular belts would to ensure that no damage is caused to the chevrons.

Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

Setup: Cleaner Rotation

Cleaner rotation speed is fixed at 280RPM. This speed is compatible with belts that operate at speeds lower than 3m/s. If the belt operates at speeds higher than 3m/s contact Kinder for advice about VSDs and other solutions.

ATTENTION

The Conveyor belt and brush cleaner must be turned on at the same time. Observe to make sure nothing is stuck in belt and it moves freely.

Maintenance:

The Rubber Telescopic brush cleaner's optimal performance is dependent on regular visual and physical checks.

Troubleshooting Guide

Problem	Cause	Suggested Solution
Gearmotor leaking oil	Faulty seals	Test and replace faulty seals.
Gearbox and motor moving while brush is in operation	Torque arm not fully secured	Retighten gearbox bolts and torque arm securing bolt.
Poor cleaning performance	Cleaner too low	Raise the cleaner to the point where it properly removes material.
	Bristles overly worn	Raise the cleaner to the point where it cleans properly.
	Build-up in between bristles	Occasionally check for excessive build-up and clear as needed.
Bristles worn too far	Extensive usage	Replace worn bristle segments with new.
Bristles ripped from cleaner	Cleaner pressure too high	Lower belt cleaner to recommended position from pg. 9.
	Speed too high	Check belt speed is less than 3m/s.
Material spillage outside of chute	Cleaner facing wrong direction	Remove shaft and reinstall in correct orientation as per steps 4 & 5.

Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

Gearmotor Oil Maintenance

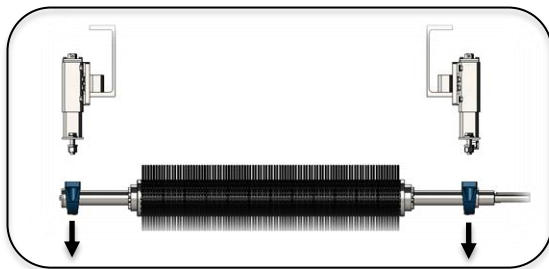
To ensure bearing life is prolonged and to prevent gearbox failure, the gearbox is required to be filled with a specific oil quantity before operation. This has been completed prior to being shipped to you. The motors are oil sealed units and will not need checks.

Removal of Locking Assembly

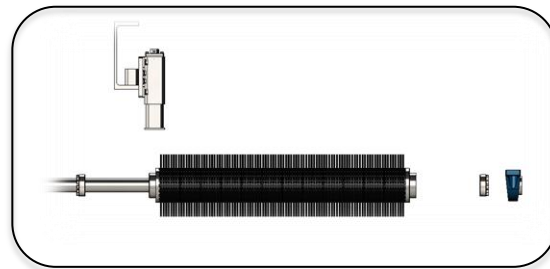
When removing the locking assembly make sure to loosen the socket head screws in a crosswise pattern. Remove the 3 silver separation screws and replace them with M10 screws. Tighten these screws evenly until the locking element is sufficiently loosened and can be removed. Afterwards the silver screws can be returned to the locking element.

Replacing Worn Brush Segments

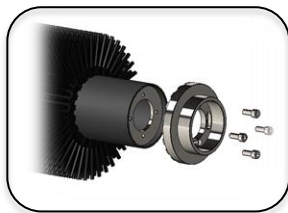
When brush segments need replacement then you can organise with Kinder for a change over service.



When looking to replace brush segments on your cleaner detach the cleaner shaft from the take up assembly.



Loosen and remove the bearing from one side of the shaft and then loosen and remove the brush pipe segment.



Remove the locking bolts from the locking flanges and remove the flanges as well.

Once the flanges have been removed send the brush pipe segment to Kinder for refurbishment or replacement.

Installation, Operation & Maintenance - K-Rotabrush® Belt Cleaner (RT)

Bolt and Socket Screw Torque Guide

Bolt/Screw Diameter	Recommended Tightening Torque (Nm)
M8 (Gearmotor)	25.5
M8 (Locking Element)	40
M10	44
M12	77
M16	190