

3 separate IOMs for each region

- Unique country item code
- Unique certifications
- Australian & global version English spellings and syntax

Cover

- FLEXCO ELEVATE™ Belt Cleaner i3
- Installation, Operation and Maintenance Manual



image source location for MarCom:

https://flexcoonline.sharepoint.com/:f:/s/IoT1.0/EvdUR8HtYw5KtxR_u0mMS0gBypU8I4soIGR2PMBNg63cqW?e=FkZW5d



- For product models 91600, 91601, 91602

Product Registration

- Device Number:
- Purchase Date:
- Purchased From:
- Installation Date:
- Installation Location, Conveyor #:
- The device name is found in the mobile application when Bluetooth® wireless communication connected to the device.
- This information will be helpful for any future inquiries or questions about device replacement parts, specifications or troubleshooting.

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Section 1 – Important Information

1.1 General Introduction

- We at Flexco are very pleased that you have selected a FLEXCO ELEVATE™ Belt Cleaner i3 device for your conveyor system.
- This manual will help you to understand the installation, operation and maintenance of this product and assist you in making it work up to its maximum efficiency over its lifetime of service.
- It is essential for safe and efficient operation that the information and guidelines presented be properly understood and implemented. This manual will provide safety precautions, installation instructions, maintenance procedures and troubleshooting tips. In addition, please follow all standard, approved safety guidelines when working on your conveyor.

- If, however, you have any questions or problems that are not covered, please visit our web site or contact our Customer Service Department:
- Customer Service: USA & Canada 1-800-541-8028, UK 44-1274-600-942, Australia 61-2-8818-2000
- Visit www.flexco.com for other Flexco locations and products.
- Please read this manual thoroughly and pass it on to any others who will be directly responsible for installation, operation and maintenance of this device and its tools. While we have tried to make the installation and service tasks as easy and simple as possible, this product does however require correct installation and regular inspection and maintenance to maintain top working condition.

1.2 User Benefits

- “i3” stands for “Information, Intelligence & Insights”. Information is collected as the foundational layer for insights. Then, through analytical, science-driven, intelligent augmentation of the information, meaningful, action-oriented insights are delivered.
- The industry is increasingly becoming insights driven to improve safety measures, increase productivity and reduce costs. To realize these advantages, Belt Cleaner i3 provides these key benefits:
 - Remotely monitor multiple assets
 - View current and historical performance of your assets, systems
 - Digital record of asset information and service
 - Minimize the number of physical inspections required
 - Use insights to predict when and where problems may surface
 - Proactively schedule maintenance

1.3 Appropriate Applications

- Environment and Location Requirements

| Description | Requirement |
|---|--|
| Temperature range | -30°C to +65°C (-20°C to +40°C in explosive environments) |
| Cellular coverage | United States: AT&T Australia: Telstra Europe & Canada: roaming between in-country providers |
| Regulatory, Certifications, Standards, Explosive Environments | United States: FCC, IP66, RoHS, MSHA (coming spring 2020) Australia: RCM, IP66, RoHS, IECEx Europe & Canada: CE, ISED, IP66, RoHS, ATEX (coming winter 2019) |

- Cleaner Requirements

| Description | Requirement |
|-------------------|---|
| Flexco cleaners | Attach only to Flexco branded cleaners |
| Precleaner | EZP1, MSP, MMP, MHCP, MHP, H-type |
| Secondary Cleaner | EZS2, Y-type, R/P-type, FMS, MHS, U-type, MDWS |
| Tensioner | Compatible with all Flexco provided tension systems |

| | |
|--|---|
| Pole Diameter | 2-7/8" (73mm) or 2-3/8" (60mm) with adapter |
| < 3-1/2" (90mm) of pole outside of the tensioner | Requires pole extender for short poles |

- User Requirements

| Description | Requirement |
|--------------------------|---|
| Smartphone or tablet use | Android or iOS with Bluetooth® wireless communication |
| Browser | Any (optimized for Google Chrome) |
| Language | English (US) |

Section 2 – Safety consideration and precautions

2.1 Stationary or Operating Conveyors

- Before installing and operating **BRAND NAME**, it is important to review and understand the following safety information. Setup, maintenance and operational activities for the **BRAND NAME** device can be performed on operating or stationary conveyors. Please reference the appropriate cleaner manual before performing any work on the cleaner.
- Five tasks that can be performed while the conveyor is running [or stationary]:
 - Installation
 - De-installation
 - Powering device on/off
 - Establish Bluetooth® wireless communication connection for service documentation
 - Diagnostic status check
- Battery replacement can NOT be performed on an operating conveyor. De-install the entire device from the cleaner pole before replacing the battery.

DANGER

- Every belt conveyor is an in-running nip hazard. Conveyor hazards cause instantaneous amputation and entrapment.

WARNING

- Conveyors contain moving hazards. Stay as far from the conveyor as practical and use Personal Protective Equipment (PPE):
 - Safety eyewear
 - Hardhats
 - Safety footwear
- Handle screws and tools with care as these items may become projectiles if coming into contact with moving conveyor components.

2.2 Equipment Shipping

- Shipping of devices and spare batteries must be performed by an authorized shipper. Flexco and its manufacturing partners are authorized to ship devices and batteries.
- To become an authorized shipper, please reference your region's compliance requirements to pursue appropriate training. This training resource provides additional information: <https://dgtraining.com/program-catalog/lithium-batteries-training/>
- It is advised to have devices and spare batteries shipped to a location where they may be ground transported as needed to their final destination to avoid transit overhead.

2.3 Battery Storage and Handling

- Battery packs may be replaced by the customer
- This product contains a 3.6V, non-rechargeable, lithium metal thionyl chloride (Li/SOCl₂) cell battery. The battery cells are hermetically sealed units which are not hazardous when used as recommended in this operating manual.
- Recommended storage is in a room temperature (+25°C, +/-5°C), dry (relative humidity below 80%) and ventilated area that is subject to little temperature change for optimal life. Do not place the battery near heating equipment. Do not expose the battery to direct sunlight or store in high humidity environments for long periods. Do not store batteries where any liquids may spill onto the batteries or packaging.
- Keep replacement batteries in original packaging until ready to use.
- Do not puncture, crush or immerse the battery in any liquids.
- Batteries should be activated in a device within two years after receiving when properly stored.
- If devices are stored for an extended period of time (over 3 months) with batteries installed, then disconnect the battery plug from the jack to prevent a potential short circuit.
- Storing batteries for longer than two years in ideal storage conditions may result in loss of operable life once installed.
- Additional safety information can be found here (reference battery cell TL-5930 by Tadiran): [http://www.tadiranbat.com/assets/tadiran-batteries-msds\(1\).pdf](http://www.tadiranbat.com/assets/tadiran-batteries-msds(1).pdf)



WARNING

- Do not replace battery when an explosive atmosphere is present.
- Do not leave an expended/discharged battery in a device for more than one year.
- Never attempt to disassemble, machine or otherwise alter the battery as personal injury or environmental harm may result.
- **Do not attempt** to recharge the battery as this causes a risk of fire or explosion.

2.4 Battery Recycling

- Do not crush or incinerate batteries as this may cause cells to rupture and increase the risk of fire.
- Battery recycling and disposal guidelines constantly evolve and regulations change from country to country. Battery recycling should be done in authorized facilities through licensed waste management organizations. Please consult with your country's environmental or recycling services governing body for more information and recycling locations.
- Any used batteries may be returned to a Flexco facility.
- The following regions may wish to consider these sources to identify a recycling location:
 - US and Canadian customers: Retriev Technologies <https://www.retrievtech.com>
 - EU and UK customers: European Recycling Platform <https://erp-recycling.org>
 - Australia customers: BusinessRecycling <https://businessrecycling.com.au>
- Batteries do not contain mercury, lead, manganese or cadmium.

2.5 Pole Extenders

- 2-3/8" (60mm) and 2-7/8" (73mm) pole extenders (item code #91596 and #91595, respectively) are NOT intended to be a replacement for pole extender kits (item code #77423 and #76024).
- #91596 and #91595 pole extenders are only available for use with the digital cleaner devices.
- Cleaner devices may be attached to #77423 and #76024 pole extender kits, and an additional #91596 or #91595 pole extender may be affixed to a pole extender kit.

Section 3 – Pre-Installation Checks and Options

3.1 Checklist


- Necessary tools: T40 and T20 6-lobe (Torx) drive bits or wrench, Android or iOS smartphone or tablet with Bluetooth® wireless communication, installed **BRAND NAME** mobile application
- Necessary preparation data: site name, conveyor names, belt speed, material being conveyed, tonnage, splice type (mechanical or vulcanized) and number of splices
- If possible, discard packaging before going to the installation location (peripheral packaging on site is a safety hazard)
- Ensure that the correct device model was received—regions are specified by the following part numbers on the back panel label:

Support: 1-800-541-8028
Part Number: EC-123-ATX
Manufacturing Date: 08/01/19

Part numbers assigned to the region of installation

- United States: 91600
- Australia: 91602
- Europe & Canada: 91601
- Check the device for damage and missing parts
- Prepare the device for installation:
 - Loosen the screws so the top cap is loosely connected to the body
 - Remove the cellophane wrap over the keypad
- Identify and note where the devices will be installed
- Prepare the conveyor site:
 - Adjust the spring, bolt or air tensioner to its recommended tension level
 - Clean the end of the pole to remove dirt and debris

3.2 Device Setup

- Before going to the installation site, power on each device to ensure it connects to the local cellular provider (you must be in the same country as the installation site)
- Power on each device and wait for the Connectivity LED to display solid green 
- In the event that the Connectivity LED turns red, then turn off/on the device for a second attempt, after which refer to section 7.
- Power off the device when finished

3.3 Mobile Application Setup

- The mobile application setup process will be initiated and managed by Flexco. Flexco will request email addresses for authorized application users, and each mobile application user will receive a unique download link with setup instructions.
- The mobile application is only available via unique link emailed to the authorized users. Downloads are not available through the Apple App or Google Play stores.
- The mobile application requires Android or iOS operating system and Bluetooth® wireless communication capability.

3.4 Optional Installation Accessories

- If the application uses a 2-3/8" (60mm) diameter pole, then an adapter will be required for installation. The adapter will slide onto the 2-3/8" (60mm) pole to increase the outside diameter to 2-7/8" (73mm). The adapter is a compression fitting that clamps to the pole as the device



tightens around the adapter.

- If the application uses a pole that has been shortened or cut off allowing less than 3-1/2" (90mm) of exposed pole, then an extender will be required during installation. Clean the burrs off the inside diameter of the pole if necessary. The extender draws a wedge outward against the inside diameter of the pole as the set screw is turned. The extender may require assembly.



- Customers that have applications using Wi-Fi® must contact their service partner or Flexco customer service for setup procedures.

Section 4 – Installation Instructions – **BRAND NAME**



image source location for MarCom:

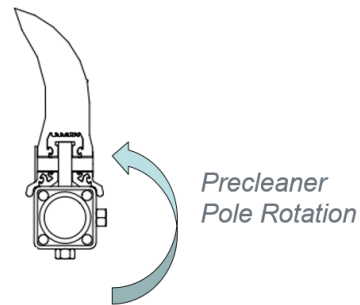
https://flexcoonline.sharepoint.com/:f:/s/loT1.0/EvdUR8HtYw5KtxR_u0mMS0gBypU8I4solIGR2PMBNg63cqW?e=FkZW5d

1. Rubber boot on top cap protects screws
2. Rubber covers on the back panel protects screws and power switch
3. Back panel: Power switch
4. Back panel: regulatory information label
5. Keypad: Bluetooth® wireless communication connectivity button
6. Keypad: Information button

ADVISORY: Devices should not be stored in extreme temperatures prior to installation. Prolonged exposure to extreme temperature may shorten the battery life. Please reference section 2.3 for proper storage requirements.

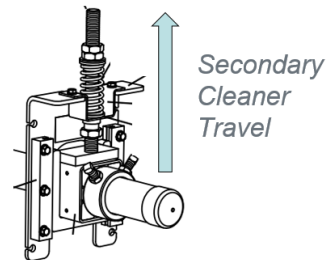
- **Before You Begin:**
 - Plan on a 5- to 10-minute installation per device if all cleaner profile information is known and the cleaner is easily accessible
 - Ensure that the cleaner will not jolt or twist suddenly which may cause injury (it may be advantageous to back the cleaner away from an operating belt to minimize vibration and decrease the chance of a sudden movement)
- **Tools Needed:**
 - Device/s (it is advised to bring an extra device with you in case an issue arises)
 - T40 and T20 6-lobe (Torx) driver
 - Android or iOS smartphone or tablet with Bluetooth® wireless communication
 - **BRAND NAME** mobile application
 - Optional tools depending on application and availability of information for the cleaner profile:
 - Brush or rag to clean the pole
 - Hammer (fitting the pole extender)
 - ½" (13mm) socket wrench (fitting the pole extender)
 - Headlamp
 - Tape measure

- Belt speed reader
- Conveyor Site Preparation:
 - Identify where the device will be installed
 - The device requires 3-1/2" (90mm) of clearance on the pole
 - Placement outside OR inside the tensioner on the pole is acceptable, but it is advised to add a pole extender to the pole before placing the device inside a tensioner
 - If using a pole extender, then use care that it does not cause an undue tripping or safety hazard on a catwalk
 - Placement inside a chute wall is NOT acceptable due to increased risk of damage to the device and inaccessibility for maintenance
 - Place the device where it can be serviced
 - On precleaners, make sure you attach the device so it has enough room to turn



as the blade wears and the pole rotates

- On secondary cleaners, make sure you attach the device so it has enough



vertical space to travel as the tips wear

- Download the **BRAND NAME** mobile application
1. **Prepare the pole (optional).** If using a pole extender, then push/hammer the extender into the pole and turn the draw bolt to 80 in-lbs (9.0 Nm). If using a pole adapter, then slide the adapter over the pole.
 2. **Affix the device.**
 - a. Depending on the location of the device on the pole, slide the device onto the pole or remove the top cap completely and reattach around the pole so the keypad faces forward. Do not affix the device so the keypad faces the conveyor as this will inhibit your ability to use the Bluetooth® wireless communication button, information button and LEDs for routine maintenance.



Caption: Device mounted facing forward on the pole



Caption: Device mounted facing forward inside the tensioner


- b. If using a pole adapter (replacement part 91597) or pole extender (replacement part 91595 or 91596), then affix the device so the body clamps only to the adapter or extender. The device body cannot sit half on a pole extender and half on the cleaner pole.
- c. Using a T40 6-lobe (Torx) driver, tighten one screw on opposite sides of the top cap, and then tighten the remaining screws. Do not exceed 72 in-lbs (8.1 Nm) torque.

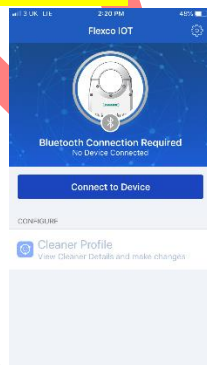


- d. Maintain an equal gap between the device body and the top on each side of the pole.



Caption: equal space between device body and top

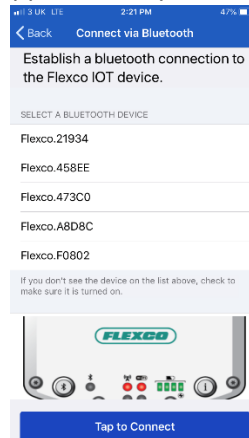
- cap on either side of the pole
- e. Place the rubber boot over the screw heads when finished.
- f. Replace the rubber pole end cap.
3. **Connect to the device.** Power on the device. Wait for the Connectivity LED to turn green.
- a. While standing next to the device, press the left Bluetooth® wireless communication button.
-  The LED light will blink yellow as the device prepares to connect to the mobile application.
- b. When the LED begins to blink blue, then the device is ready to connect. The device will be in a 'prepared to connect' state for 1 minute after which point you will need to press the button again. Do not press the Bluetooth® wireless communication button on more than one device at a time before you are ready to connect it to the mobile application. Enabling the wireless communication on multiple devices at the same time may cause interference in the mobile application.
- c. To ensure uninterrupted connectivity between the mobile application and the device, turn off and on Bluetooth® wireless communication on your smartphone or tablet before connecting to a new device.
- d. Open the **BRAND NAME** mobile application and tap the "Connect to Device" button on the



home screen.
will exist

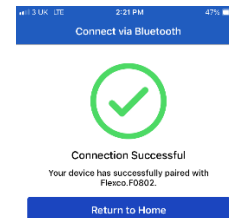
Caption: variations between Android, iOS and tablet visuals

- e. All available devices within range (approximately 10 meters) will appear on the screen.



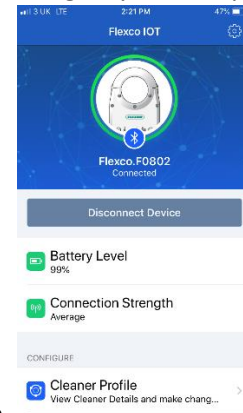
Connect to the appropriate device.

- i. The application will automatically find the device as long as the LED light on the device is blinking blue.
 - ii. The device name is predefined by the manufacturer. This name is only used to identify the device for Bluetooth® wireless communication connection. The device will be renamed in the online dashboard once conveyor information is entered through the mobile application.
 - iii. The initial name of the device in the mobile application will have the same last 5 digits as the serial number printed in the battery compartment of the device.
 - iv. Because you will not know the serial number of each device, this is why it is recommended to press the Bluetooth® wireless communication button on one device at a time.
- f. Once the device is paired, the device's Bluetooth® wireless communication LED will change

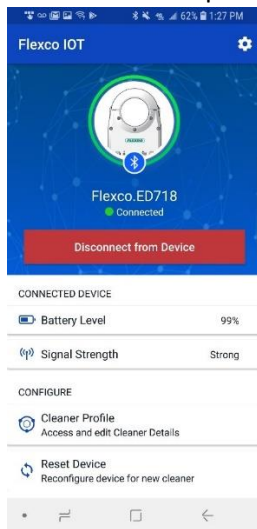


to solid blue, and you will receive a connection confirmation.

- g. Tap the “Return to Home” button, and the mobile application will now give you the option



to enter cleaner profile information or disconnect from the device.



4. Enter conveyor and cleaner information.

- In the mobile application, tap the “Conveyor Information” button.
- Type in or select from the dropdown fields your responses to each question.
- Tap the “Save” button at the bottom of the screen once all information is entered.
- Use the table below as a reference sheet to collect and write in all conveyor and cleaner information.

| DESCRIPTION | SELECTION OPTION | RESPONSE |
|--------------------|------------------|----------|
| Customer Name | Text response | |
| Site/Location Name | Text response | |
| Plant Name | Text response | |
| Conveyor Name | Text response | |
| Belt Speed | 0 fpm | |
| | 201-400 fpm | |
| | 401-600 fpm | |
| | 601-800 fpm | |
| | 801-1000 fpm | |
| | 1001-1200 fpm | |
| | 1201-1400 fpm | |
| | 1401-1600 fpm | |

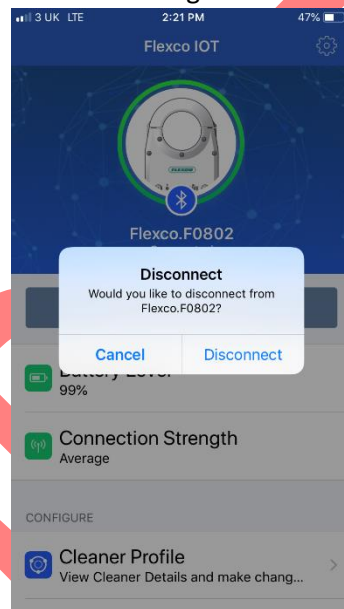
| | | |
|--------------------|-----------------------|--|
| | 1601-1800 fpm | |
| | 1801-2000 fpm | |
| | >2000 fpm | |
| Material Conveyed | Coal | |
| | Sand & Gravel | |
| | Iron Ore | |
| | Limestone | |
| | Cement | |
| | Clinker | |
| | Copper | |
| | Silver | |
| | Nickel | |
| | Platinum | |
| | Asphalt | |
| | Granite | |
| | Wood | |
| | Sugar | |
| | Metal/Recycling | |
| | Glass | |
| Tonnage | 0 tons/hour | |
| | 0-100 tons/hour | |
| | 101-200 tons/hour | |
| | 201-300 tons/hour | |
| | 301-400 tons/hour | |
| | 401-500 tons/hour | |
| | 501-600 tons/hour | |
| | 601-700 tons/hour | |
| | 701-800 tons/hour | |
| | 801-900 tons/hour | |
| | 901-1000 tons/hour | |
| | 1001-2000 tons/hour | |
| | 2001-3000 tons/hour | |
| | 3001-4000 tons/hour | |
| | 4001-5000 tons/hour | |
| | 5001-6000 tons/hour | |
| | 6001-7000 tons/hour | |
| | 7001-8000 tons/hour | |
| | 8001-9000 tons/hour | |
| | 9001-10,000 tons/hour | |
| | >10,000 tons/hour | |
| Material Frequency | Continuous | |
| | Intermittent | |
| Splice Type | Vulcanized | |
| | MBF | |
| | Both | |
| Splice Number | 1 | |

| | | |
|--|---|--|
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| | 10 | |
| Material Path | -2 in | |
| | 0 in | |
| | 4 in | |
| | 6 in | |
| | 8 in | |
| | 10 in | |
| | 12 in | |
| | 14 in | |
| Cleaner Position | Precleaner 1 | |
| | Precleaner 2 | |
| | Secondary 1 | |
| | Secondary 2 | |
| | Secondary 3 | |
| | Secondary 4 | |
| Basic Cleaner Type* | CBS | |
| | EZP1 | |
| *cleaner type determined by the cushions used | EZS2 | |
| | FMS | |
| | H-type | |
| | MDWS | |
| | MHCP | |
| | MHP | |
| | MHS | |
| | MMP | |
| | MSP | |
| | P-type | |
| | R-type | |
| | U-type | |
| | Y-type | |
| Blade Material | Polyurethane | |
| | Carbide | |
| Blade Type | Food/Chem Resistant Urethane (White) | |
| | High Temp Urethane (Yellow) | |
| | Standard Urethane (Purple) | |
| | Ultra High Temp Urethane (Red) | |

| | | |
|----------------------|---------------------------|--|
| | ATEX/FRAS Urethane (Blue) | |
| | Drywipe Urethane (Black) | |
| | C-tip | |
| | V-tip | |
| | V-tip Protected Carbide | |
| Belt Width | 12 in / 300 mm | |
| | 16 in / 400 mm | |
| | 18 in / 450 mm | |
| | 20 in / 500 mm | |
| | 24 in / 600 mm | |
| | 26 in / 650 mm | |
| | 30 in / 750 mm | |
| | 32 in / 800 mm | |
| | 36 in / 900 mm | |
| | 38 in / 950 mm | |
| | 40 in / 1000 mm | |
| | 42 in / 1050 mm | |
| | 46 in / 1150 mm | |
| | 48 in / 1200 mm | |
| | 54 in / 1350 mm | |
| | 56 in / 1400 mm | |
| Blade Coverage | 8 in / 200 mm | |
| | 10 in / 250 mm | |
| | 12 in / 300 mm | |
| | 14 in / 350 mm | |
| | 16 in / 400 mm | |
| | 18 in / 450 mm | |
| | 20 in / 500 mm | |
| | 22 in / 550 mm | |
| | 24 in / 600 mm | |
| | 26 in / 650 mm | |
| | 28 in / 700 mm | |
| | 30 in / 750 mm | |
| | 32 in / 800 mm | |
| | 34 in / 850 mm | |
| | 36 in / 900 mm | |
| | 38 in / 950 mm | |
| Cleaner Tension Type | Cradle/Bolt | |
| | Spring (Compression) | |
| | Spring (J-bolt) | |
| | Air | |
| Pole Style or Type | 1 piece | |
| | 3 piece | |
| | Cartridge | |
| | Curved | |

| | | |
|----------------------|-------------------------------------|--|
| Inspected | Yes/No (timestamped upon selection) | |
| Tensioned | Yes/No (timestamped upon selection) | |
| Blade Replaced | Yes/No (timestamped upon selection) | |
| Manually Disengaged | Yes/No (timestamped upon selection) | |
| Remaining Blade Life | Yes/No (timestamped upon selection) | |

5. **Disconnect mobile application.** Once all information is entered and saved, disconnect the mobile application from the device by tapping the “Disconnect Device” button on the home screen and turn off/on Bluetooth® wireless communication on your smartphone or tablet. Wait at least 30 seconds before restarting the cleaner device to allow the cleaner profile information



to save in the cloud.

Section 5 – Dashboard Setup

- The dashboard account creation process will be initiated and managed by Flexco. Flexco will request email addresses for authorized dashboard users, and each user will receive a unique invitation email with account setup instructions.
- Each authorized user will be required to accept the terms of use and privacy policy when logging into the dashboard for the first time. Please review the Privacy Policy in section 10.2.
- View the online dashboard on any internet enabled device using any browser. The recommended browser is Google Chrome for optimal performance.

Section 6 – Maintenance

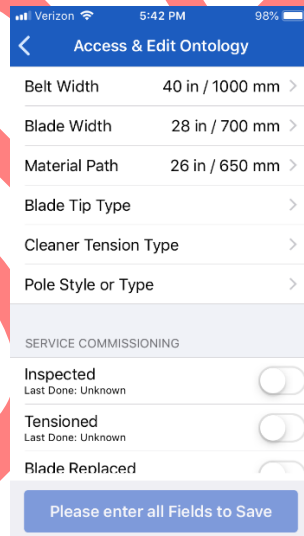
All installation safety procedures (section 2.1) must be observed for inspection of equipment.

6.1 Routine Inspection

- A visual inspection of the cleaner can indicate underlying issues with the device. Reference the appropriate cleaner maintenance manual to correct all operating abnormalities.
- Inspect the devices for cracks, missing screws or deformities as these situations can impact the collection of data or short circuit the entire device.
- Press the right information button on the keypad. The Connectivity LED will light green if it is connected to cellular service; the Wrench icon will light green if the conveyor information has been entered; and the battery LED will indicate approximate remaining battery life.



- Connect to the device via Bluetooth® wireless communication and view the same battery life and cellular connectivity information on the mobile application. Note in the application that you



performed an inspection.

- Mobile application may take 2-3 minutes to populate previously entered cleaner profile information in the mobile application depending on cellular service strength. If the Wrench LED is green, then the device has cleaner profile information.
- Use the dashboard to remotely monitor the status of the device and the cleaner.

6.2 Battery Replacement

Batteries must be routinely replaced to power the device. Battery life is highly dependent on the temperature and can range between 3 months to 12 months with Flexco recommended configuration.

Leave the replacement battery in its original packaging until ready to use. Please reference the battery storage guidelines (section 2.3). Only use replacement batteries supplied by Flexco. Keep batteries in original packaging until ready to replace.

- **Remove the device.** Completely remove the device from the cleaner to change the battery. DO NOT attempt to open the back panel of the device while the device is attached to the cleaner. Use a T40 6-lobe (Torx) driver on the top cap screws.
- **Power down the device.** Power down the device using the power switch behind the center rubber shield on the back of the device.
- **Prepare your workspace.** Changing the battery requires opening the device body and therefore exposing the device to dust, water and more. Minimize the exposure of electronic components to potentially harmful agents as much as possible. While the internal device components have a second protection barrier, it is still advised to shield the internal housing. Suggestion: return the device to a vehicle or shop before opening the back panel. Suggestion: swap one device for a spare device to avoid battery changes in the field (follow section 4 to pair the new device to the cleaner).
- **Open the back panel.** Clean the device to remove excess dirt and debris. On the back panel,



- **Replace the battery.** Unpackage the spare battery. Clip the lead into the appropriate terminal.



- **Wait.** Once the battery is plugged in, wait at least 30 seconds before powering on the device. Failure to wait may result in a false, low-battery warning.
- **Power on the device.** Before closing the device, turn the power on to ensure the device is functioning as expected. The battery LED will display 4 green bars.



- **Replace the back panel.** Place the battery pack in the housing. Position the back panel on the body so the edges are flush. Tighten the back panel screws and cover the screw heads with the rubber covers.
- **Replace the device.** Place the device back on the cleaner.
- **Inspect the application.** Adjust cleaner tension and inspect the application as needed. Connect to the device via Bluetooth® wireless communication and make a note in the mobile application that an inspection was made. If the entire device was replaced, then the new cleaner profile information entered will act as a cleaner inspection.

6.3 Remove a Device

- Whether you are removing a device from a cleaner forever or replacing a battery, the exact device does not need to be reassigned to the same cleaner. Although, to maintain data integrity, the removed device and the replacement device (if not new) must be reset.
- After connecting to the device with the mobile application (section 4, step 3), tap the “Reset Device” button on the main screen. A warning will appear to ensure you want to reset the information associated with the device. Historical data associated to that cleaner will not be deleted.
- Follow section 4 instructions to reinstall the device on a new cleaner.

6.4 Remote Device Software Updates

- On occasion, Flexco will push software updates to the device for bug fixes, security enhancements or feature upgrades. No action is necessary by the customer, nor will the updates interrupt the feed of insights to the online dashboard.

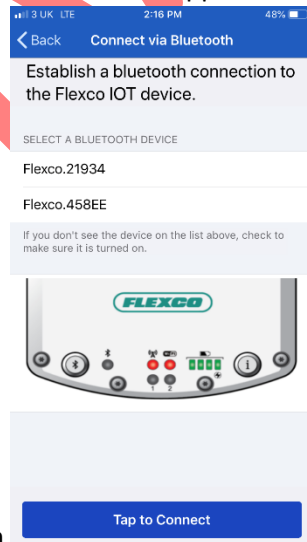
6.5 Dashboard and Mobile Application Updates

- On occasion, Flexco will push software updates to the online dashboard and mobile application for bug fixes, security enhancements or feature upgrades. Customers may experience minor inaccessibility to the digital tools during update periods, but notice about the update will be communicated. At times, the mobile application may require a new version to be downloaded through a unique link. While service to insight visualizations may be briefly interrupted, insights will continue to feed from the devices.

Section 7 – Troubleshooting

In the event of issues with the device, mobile application or dashboard, please reference the troubleshooting guide below. If the issue is not resolved by the corrective actions below, then contact your service partner or local Flexco customer service team at [1-800-541-8028](tel:1-800-541-8028). Please reference section 10.1 for accompanying warranty information. Before contacting customer service, please locate one of the following so we may locate the device:

1. Partial product serial number found in the mobile application when connecting to the device via



Bluetooth® wireless communication

2. Full product serial number found inside the device cavity and under the battery pack.



3. Unique product look-up number on a sticker at the bottom of the device and below the







barcode.

7.1 Device LED Alerts



| LIGHT / ALERT | LIGHT COLOR & PATTERN | DESCRIPTION |
|---------------|-----------------------|-------------|
|---------------|-----------------------|-------------|

| | | |
|---|-----------------|---|
| Battery LED  | Green | Green battery LED indicates approximate remaining battery life. The LED will display 2, 3 or 4 green bars. |
| | Red | Critical battery state. At this stage, the device will only have enough power to light the LED and establish a Bluetooth® wireless communication connection. No data will be transmitted. |
| Connectivity LED  | Green | Green connectivity LED indicates that the device is connected to cellular or Wi-Fi® service and data can be transmitted to the platform. |
| | Flashing yellow | Shown when the device has been recently powered on and the device is searching for a cell signal (proper connectivity may take up to 5 minutes) |
| | Red | No cellular or Wi-Fi® service was found, or the device cannot send data to the platform. |
| Wrench LED  | Green | Green wrench LED indicates that the cleaner profile information has been entered and saved in the mobile application. |
| | Flashing yellow | Shown when the device has been recently powered on and the device is attempting to fetch previously entered cleaner profile information. |
| | Red | No cleaner profile information has been assigned to the device. |
| Bluetooth® wireless communication LED  | Blue | Blue Bluetooth® wireless communication LED indicates that someone has connected to the device with the mobile application. |
| | Flashing blue | Shown when the device is ready to connect via Bluetooth® wireless communication connection |

| | | |
|---|---------------------|---|
| | Flashing yellow | Shown when the Bluetooth® wireless communication button has been recently pushed and the device is preparing to accept a Bluetooth® wireless communication connection |
| Diagnostic LED under Bluetooth® wireless communication button | Slow flashing green | This alert indicates an alternative program on the device. Power down the device and turn back on to reset the device and suppress this alert. |

7.2 Device Troubleshooting

As a possible solution, replacing parts or entire devices may be the outcome. Contact your service partner or local Flexco representative for warranty information.

| PROBLEM | POSSIBLE CAUSE | POSSIBLE SOLUTION |
|--|-------------------------------------|---|
| Device does not fit or screws will not tighten | Wrong size pole or non-Flexco pole | Attach the device to a 2-7/8" (73mm) Flexco cleaner pole or use a pole adapter for a 2-3/8" (60mm) pole. |
| | Wrong screws | Replace screws (replacement part 91604) |
| | Compacted debris in the screw holes | Use a screwdriver, needle or small tool to clean out the hole |
| | Stripped threads | The device can hold with as few as 2 screws until a new device is purchased. Make sure the screws are on opposite sides of the pole opening and in line with one another (both in the front or both in the back). THIS IS A TEMPORARY SOLUTION. Over time, there is increased risk that the device will shift if secured by less than all 4 screws. Replacing the device is the permanent solution. |
| | Cracked top cap | Replace top cap (replacement part 91608) |
| Battery plug cannot be removed from the jack | Broken battery plug spring | Use a small plastic object (the clip end of a pen cap will work) to wedge in between the broken plug and the jack wall; push the plastic wedge in as you pull the plug out |

| | | |
|--|---|---|
| Device will not power on | Missing or dead battery | Replace battery (replacement part 91605) |
| | Malfunctioning LEDs | Press the Bluetooth® wireless communication button (left button) on the device and attempt to connect to the device with the mobile application. If the connection is successful, then the LEDs may be malfunctioning, but the functionality of the device is not compromised. You can also check the approximate remaining battery life in the mobile application. |
| | Broken power switch or electronics failure | Replace device |
| Battery LED shows low battery life when I just changed the battery | Battery LED is reading the last battery life status | Power off and on the device to reset the lights (correct status may take 2-3 minutes to appear) |
| | Battery removed without powering off the device | Power off and on the device to reset the lights (correct status may take 2-3 minutes to appear) |
| Device will not connect to cellular | Service team removed or powered off the device | Re-install or turn on the device. |
| | Missing or dead battery | Replace battery (replacement part 91605) |
| | Malfunctioning LEDs | Connect to the device through the mobile application to see the connectivity status. If the application shows connectivity, then the LEDs are malfunctioning. If the application shows no connectivity, then the issue may be addressed below. |
| | Device searching for cell tower | Clean off the device and move it to the end of the pole. Power the device off and on again. A green connectivity light means the device is operating as expected. If the device was recently powered on, then leave it alone for 5 minutes as it may be searching for a signal. |

| | | |
|--|---|---|
| | | Check the AT&T (US and global devices) or Telstra (Australian devices) cellular providers for system outages in your area. AT&T: https://www.att.com/outages/ . Telstra: https://outages.telstra.com.au/ . |
| | Wrong device for the country of installation | Check the back panel label to verify the correct part number. 91600 is for US only; 91602 is for Australia only; 91601 is for every other country not the US or Australia. Replace device. |
| | Device was not provisioned during manufacturing | Replace device |
| | Material covering device due to spillage or material backup | Clean off the device |

7.3 Mobile Application Troubleshooting

| PROBLEM | POSSIBLE CAUSE | POSSIBLE SOLUTION |
|--|---|---|
| Cannot access the application | No permission | Contact the authorized representative from your company to approve you for access to the mobile application |
| | Lost the download link | Contact Flexco customer service to resend your unique download link |
| | Forgot password | Follow the on screen password reset directions |
| Cannot connect via Bluetooth® wireless communication | Delayed connectivity | Wait ~1 minute for the Bluetooth® wireless communication connection to establish. Power the device off and on again. |
| | Bluetooth® wireless communication failure on smartphone or tablet | Perform a smartphone check. Check the mobile application for software updates. Make sure your Bluetooth® wireless communication is enabled. Try connecting the smartphone to another Bluetooth® wireless communication enable device (headphones, car, etc.). Try connecting to a different device. If issues persist, then call Flexco customer service. |

| | | |
|--|--|---|
| | Bluetooth® wireless communication failure on device | Test Bluetooth® wireless communication connectivity to the device using another individual's smartphone and mobile application. If issues persist, then call Flexco customer service. |
| Cannot save conveyor and cleaner information | All required fields not completed | Fill in all required fields |
| No previously entered cleaner profile information is showing | Previous cleaner profile information not saved | Re-enter cleaner profile information and wait for a "save" confirmation |
| | Previous turned off before cleaner profile information was saved to the device | Re-enter and save cleaner profile information and wait for 30 seconds before shutting down the device |
| | Slow cellular service | Wait 2-3 minutes so the cleaner profile information can populate the previously entered information |
| | User entered cleaner profile information on the wrong cleaner | To prevent errors, only enable Bluetooth® wireless communication for one device at a time. Re-enter and save cleaner profile information. |

7.4 Dashboard Troubleshooting

| PROBLEM | POSSIBLE CAUSE | POSSIBLE SOLUTION |
|---------------------------|----------------------------|---|
| No new data is populating | Dead battery | Check the battery status for your devices in the dashboard. Replace battery (replacement part 91605) |
| | Overloaded cache | Clear browser cache and history |
| | Mislabeled information | Connect to the device via Bluetooth® wireless communication in the field to ensure the data entered in the mobile application is as expected in the dashboard. Common errors include mislabeled conveyor names or mislabeled cleaner types. |
| | Lost cellular connectivity | Check the AT&T (US and global devices) or Telstra (Australian devices) cellular providers for system outages in your area. AT&T: |

| | | |
|-------------------------------------|-------------------------------|---|
| | | https://www.att.com/outages/ . Telstra: https://outages.telstra.com.au/ . |
| Cannot access the dashboard | No permission | Contact the authorized representative from your company to approve you for access to the dashboard |
| | Incompatible browser | While any browser can be used, the online dashboard is optimized for Google Chrome. Due to the rapid updates and expansion of available browsers across the globe, the online dashboard may not perform optimally without Google Chrome. |
| Slow or misaligned webpage elements | Overloaded cache | Clear browser cache and history |
| | Browser or device limitations | The ideal dashboard viewing experience is using Google Chrome browser on a desktop. While other browsers may display data, the experience may be interrupted. The dashboard is not optimized for mobile viewing, and tablet users should view the dashboard in a landscape orientation. |

Section 8 – Specifications

8.1 Device Specifications

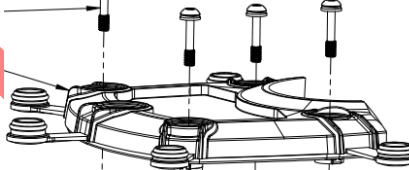
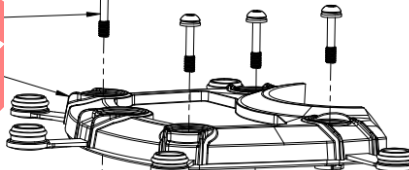
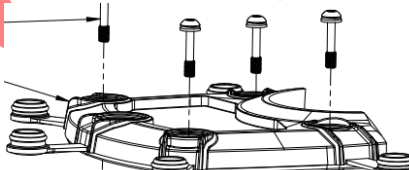

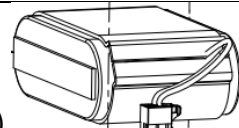
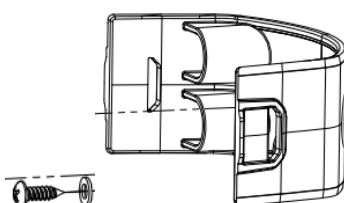
- Color: grey
- Body material: non-metallic, nylon resin
- Dimensions LxWxD: 7-7/8" (200mm) x 6-3/8" (165mm) x 3-1/2" (90mm)
- Manufacturing Location: United States
- Compatible Pole Diameters: 2-3/8" (60mm) or 2-7/8" (73mm)
- Compatible Precleaner Types: EZP1, H-Type, MHCP, MHP, MMP, MSP
- Compatible Secondary Cleaner Types: CBS, EZS2, FMS, MDWS, MHS, P/R-Type, U-type, Y-Type
- Electrical: 3.6V DC, 340 mA
- Battery Pack & Replacement Battery Pack: non-rechargeable, lithium metal thionyl chloride (Li/SOCl₂)
- Operating Temperature Range: -30°C to +65°C (-20°C to +40°C in explosive environments)
- Wireless Communication: Bluetooth® wireless communication low energy up to 10m range
- Cellular Communication: LTE CAT-M1 on AT&T (item #91600 US); LTE CAT-M1 on Telstra (device #91602 Australia), 2G/3G on AT&T (item #91601 global)
- Security: data encryption layer in OS and in transit


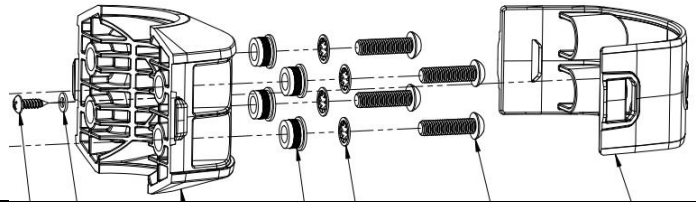



- Regulatory: FCC (item #91600 US); RCM (device #91602 Australia); CE, ISED (item #91601 global)
- Certifications, Standards: IP66, RoHS (all device models)
- Explosive Environments: MSHA coming spring 2020 (item #91600 US); IECEx (device #91602 Australia); ATEX coming winter 2019 (item #91601 global)

8.2 Digital Tools Specifications

- Mobile application compatibility: Android, iOS
- Mobile application Security: permission based
- Online Dashboard: Optimized for Google Chrome, but accessible via preferred browser
- Online Dashboard Security: permission based
- Languages: English (US)
- Units: Imperial/Metric

Section 9 – Replacement Parts

| Item Code | Ordering # | Description |
|-----------|----------------|--|
| 91598 | DVCR-CLR-BC1US | Cleaner device back cover kit, US* (1 ea.)  |
| 91599 | DVCR-CLR-BC1G | Cleaner device back cover kit, global* (1 ea.)  |
| 91603 | DVCR-CLR-BC1AU | Cleaner device back cover kit, Australia* (1 ea.)  |
| 91604 | DVCR-CLR-BC2 | Cleaner device back cover screw pack (4 screws)  |
| 91605 | DVCR-CLR-BTR1 | Cleaner device battery (1 ea.)  |
| 91606 | DVCR-CLR-TC2 | Cleaner device top cap rubber boot* (1 ea. Incl. screw & washer)  |

| | | |
|-------|---------------|--|
| 91607 | DVCR-CLR-TC3 | Cleaner device top cap screw pack (4 screws, 4 washers)  |
| 91608 | DVCR-CLR-TC1 | Cleaner device top cap kit* (incl. top cap & 1 ea. Items 4, 5)  |
| 91597 | DVCR-CLR-ADT | Cleaner device 2-3/8", 60mm pole adapter (1 ea.)  |
| 91595 | DVCR-CLR-EXT | Cleaner device 73mm pole extender* (1 ea.)  |
| 91596 | DVCR-CLR-EXT6 | Cleaner device 60mm pole extender* (1 ea.)  |

Section 10 – Warranty & Privacy Policy

10.1 Warranty

- Flexco warrants that the product will function substantially as described in this document for 12 months. In the event of product failure or defects in materials, software, or workmanship, Flexco will upon its discretion, use commercially reasonable efforts to remedy the issue as requested and described by the client. The Warranty does NOT apply to damages due to improper use or normal wear. Flexco makes no representation of any kind that the software or system will be provided error-free, virus-free, or uninterrupted.

10.2 Privacy Policy

- Please view the Flexco Data Privacy Policy here: [LINK—need public live link](#)

Section 11 – Regulatory Statements

11.1 United States (device #91600)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made to this device that are not expressly approved by Flexible Lacing Company could void the user's authority to operate the equipment.

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

11.2 Europe and Canada (device #91601)

EU Regulatory Statements

- Hereby, Flexible Lacing Company declares that the radio equipment type [TBD] is in compliance with Directive 2014/53/EU.
- The full text of the EU declaration of conformity is available at the following internet address [TBD].

ISED Regulatory Statements

This device complies with the ISED Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference
2. This device must accept any interference received, including interference that may cause undesired operation

This Class A digital apparatus complies with Canadian ICES-003

Changes or modifications made to this device that are not expressly approved by Flexible Lacing Company could void the user's authority to operate the equipment.

1. To comply with the Canadian RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.
2. To comply with RSS 102 RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement

Cet appareil numérique de classe A est conforme à la norme NMB-003.

Tout changement ou modification non expressément approuvé par Flexible Lacing Company peut annuler le droit d'utiliser l'équipement.

1. Pour se conformer aux exigences de conformité RF canadienne l'exposition, cet appareil et son antenne ne doivent pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.
2. Pour se conformer aux exigences de conformité CNR 102 RF exposition, une distance de séparation d'au moins 20 cm doit être maintenue entre l'antenne de cet appareil et toutes les personnes.

ATEX/IECEx Statements



USE ONLY REPLACEABLE BATTERY PACK: Flexco 91605

WARNING - DO NOT OPEN WHEN AN EXPLOSIVE ENVIRONMENT IS PRESENT

WARNING - POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS

Ex Veritas 19 ATEX 0517 X

IECEx EXV 19.0043 X

I M1 Ex ia I -20 °C ≤ Ta ≤ 40 °C Ma IP20

II 1G Ex ia IIC T4 -30 °C ≤ Ta ≤ 55°C Ga IP20

II 1D Ex ia IIIC T135°C -30 °C ≤ Ta ≤ 55°C Da IP20

NOTE: While the device is rated to IP66 for general applications, for explosive environments it is rated to IP20.

Section 12 – Other Flexco Cleaner Replacement Parts

Flexco provides many conveyor products and replacement parts that help your conveyors to run more efficiently and safely. Here is a quick overview of replacement cleaner blades and tips that your **BRAND** **NAME** device may be monitoring:

- ConShear™



- Polyurethane replacement blade for EZP and MSP precleaners
- The ConShear™ blade has a faceted profile that renews the cleaning edge as it wears
- TuffShear™



- Polyurethane replacement blade for MMP precleaners
- The TuffShear™ blade is made of special long-wearing polyurethane
- MegaShear™



-
- Polyurethane replacement blade for MHP pre-cleaners
- The MegaShear™ blade features quick blade replacement: pull one pin, remove the old blade and slide the new one in

- V-Tips



-
- Carbide replacement tips for H-Type and HV2 pre-cleaners, and P-Type, R-Type, FMS and MHS secondary cleaners
- Long-life tungsten carbide tips for vulcanized belts

- C-Tips



-
- Carbide replacement tips for EZS2, P-Type, R-Type, FMS and MHS secondary cleaners
- Impact resistant tungsten carbide tips for mechanically fastened belts

- Other applications

- Flexco provides replacement blades, tips and cartridges for all cleaners
- Accommodate tight spaces, high temperatures, reversing belts, food grade applications, non-Flexco cleaners and more