MSP Precleaner (ATEX)

Installation, Operation and Maintenance Manual

FLEXCO

Serial Number: _____

Purchase Date:_____

Purchased From: _____

Installation Date:_____

Serial number information can be found on the Serial Number Label included in the Information Packet found in the cleaner carton.

This information will be helpful for any future inquiries or questions about belt cleaner replacement parts, specifications or troubleshooting.

Table of Contents

Section 1 - Important Information

1.1 General Introduction

We at Flexco are very pleased that you have selected a Flexco precleaner for your conveyor system.

This manual will help you to understand the operation 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.

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: 1-800-541-8028

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 cleaner. While we have tried to make the installation and service tasks as easy and simple as possible, it does however require correct installation and regular inspections and adjustments to maintain top working condition.

1.2 User Benefits

Correct installation and regular maintenance will provide the following benefits for your operation:

- Reduced conveyor downtime
- Reduced man-hour labor
- Lower maintenance budget costs
- Increased service life for the belt cleaner and other conveyor components

1.3 Service Option

The MSP Precleaner is designed to be easily installed and serviced by your on-site personnel. However, if you would prefer complete turn-key factory service, please contact your local Flexco Field Engineer or your Flexco Distributor.

Section 2 - Safety Considerations and Precautions

Before installing and operating the MSP Precleaner, it is important to review and understand the following safety information.

There are set-up, maintenance and operational activities involving both stationary and operating conveyors. Each case has a safety protocol.

2.1 Stationary Conveyors

The following activities are performed on stationary conveyors:

- Installation
- Tension adjustments
- Blade replacement
- Cleaning
- Repairs

⚠ DANGER

It is imperative that OSHA/MSHA Lockout/Tagout (LOTO) regulations, 29 CFR 1910.147, be followed before undertaking the preceding activities. Failure to use LOTO exposes workers to uncontrolled behavior of the belt cleaner caused by movement of the conveyor belt. Severe injury or death can result.

Before working:

- Lockout/Tagout the conveyor power source
- Disengage any takeups
- Clear the conveyor belt or clamp securely in place

⚠ WARNING

Use Personal Protective Equipment (PPE):

- Safety eyewear
- Hardhats
- Safety footwear

Close quarters, springs and heavy components create a worksite that compromises a worker's eyes, feet and skull.
PPE must be worn to control the foreseeable hazards associated with conveyor belt cleaners. Serious injuries can be avoided.

2.2 Operating Conveyors

There are two routine tasks that must be performed while the conveyor is running:

- Inspection of the cleaning performance
- Dynamic troubleshooting

⚠ DANGER

Every belt cleaner is an in-running nip hazard. Never touch or prod an operating cleaner. Cleaner hazards cause instantaneous amputation and entrapment.

⚠ WARNING

Never adjust anything on an operating cleaner. Unforseeable belt projections and tears can catch on cleaners and cause violent movements of the cleaner structure. Flailing hardware can cause serious injury or death.

⚠ WARNING

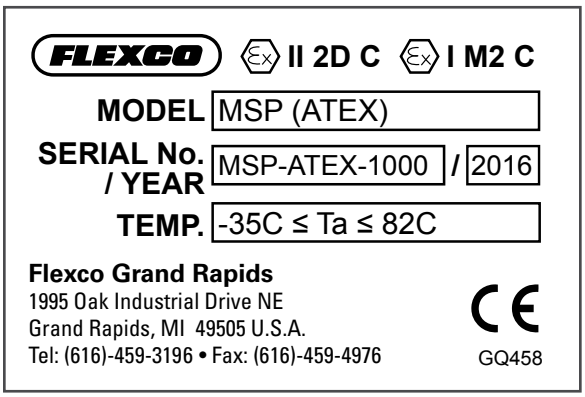
Conveyor chutes contain projectile hazards. Stay as far from the cleaner as practical and use safety eyewear and headgear. Missiles can inflict serious injury.

Section 2 – Safety Considerations and Precautions

2.3 ATEX Safety Info

The ATEX version of the MSP Belt Cleaner has been designed to conform to the safety standards per Directive 94/9/EC.

Marking example:



Safety Considerations:

- Welding and grinding that takes place during the installation or maintenance of the MSP should only be done when explosive atmospheres are not present. Follow mine/industrial site safety regulations when welding or grinding.

- Attach the MSP to a grounded conveyor structure. The product itself is made of conductive materials. To ensure a connection, attach grounding wire between torque arm casting and mounting plate. Use the provided lock washers to mount cleaner to the structure or weld mounting plate to structure. Testing to ensure the grounded connection is advised in applications with potential for static buildup on the cleaner.

Section 3 - Pre-installation Checks and Options

3.1 Checklist

- Check that the cleaner size is correct for the beltline width
- Check the belt cleaner carton and make sure all the parts are included
- Review the "Tools Needed" list on the top of the installation instructions
- Check the conveyor site:
  - Will the cleaner be installed on a chute
  - Is the install on an open head pulley requiring mounting structure (see 3.3 - Optional Installation Accessories)
  - Are there obstructions that may require cleaner location adjustments (see 3.2 - Cleaner Location Adjustments)

Section 3 - Pre-installation Checks and Options (cont.)

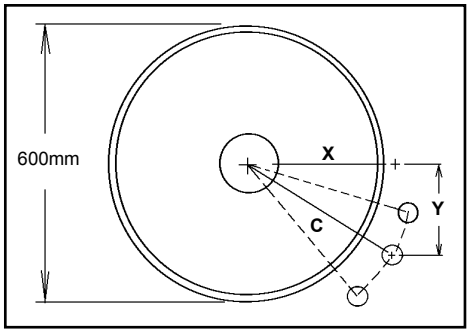
3.2 Cleaner Location Adjustments

In certain applications it is necessary to modify the location of the precleaner pole due to permanent obstacles that obstruct the desired location. Relocating the pole location can be done easily and does not hinder the performance of the cleaner as long as the "C" dimension is maintained.

NOTE: In the following example we will be lowering the pole location in the "Y" direction, but the same method could also be applied in the "X" direction.

Conveyor situation:

Pulley Diameter: 600mm
X=300mm
Y=225mm
C=375mm



1. **Determine the given location dimensions and define the change needed. After laying out the** given X & Y dimensions, determine the distance of the modification required for adequate clearance of the pole and tensioning system. (In the example we decide to lower the pole 50mm to clear the support structure).
2. **Write down known dimensions.** We can now determine two of the three required dimension which will allow us to find the third. We know we cannot alter the "C" dimension, so this will remain the same. Also we are required to lower the unit in the "Y" dimension 50mm, so we add 50mm to the given "Y" dimension.
   X = ?"
   Y = 225 + 50 = 275mm
   C = 375mm
3. **Determine final dimension.** On a flat vertical surface, using a level, draw one horizontal line and one vertical line creating a right triangle (Fig 3a). Measure down from the intersection the determined "Y" dimension and mark (Fig 3b). With the tape measure starting at the modified "Y" mark, swing the tape across the "X" line and mark at the "C" dimension where it crosses the "X" line (Fig 3c). Measure from the intersection to the "C" intersection and this will be your new "X" dimension (Fig. 3d).
   X = 255mm
   Y = 275mm
   C = 375mm

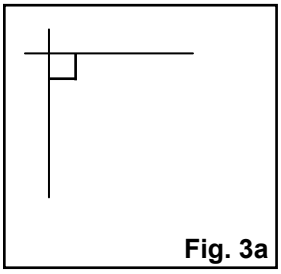


Fig. 3a

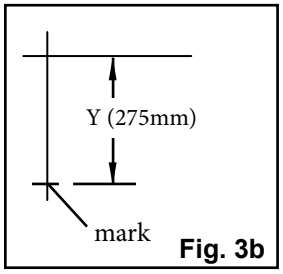


Fig. 3b

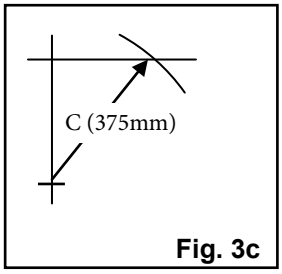


Fig. 3c

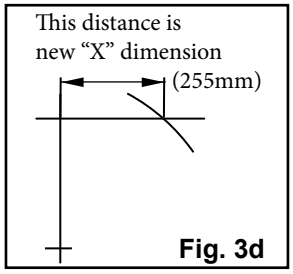


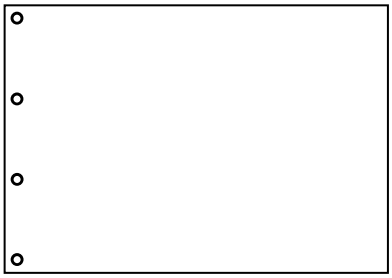
Fig. 3d

Section 3 - Pre-Installation Checks and Options (cont.)

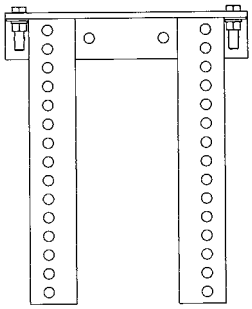
3.3 Optional Installation Accessories

Versatile, adjustable brackets and plates that can be mounted on the conveyor structure so precleaners and secondary cleaners can be easily and quickly bolted into place.

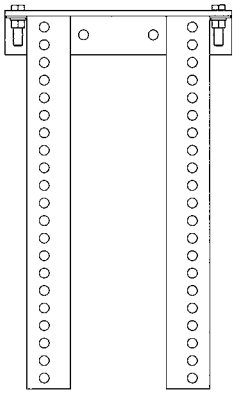
75830
Optional Mounting Bar Kit
(with bolts, nuts and washers)
- For mounting precleaners on open head pulleys.
- Weld on both sides of pulley and bolt on steel plates.
- 38mm W x 406mm L with (4) 5/8-11 tapped holes



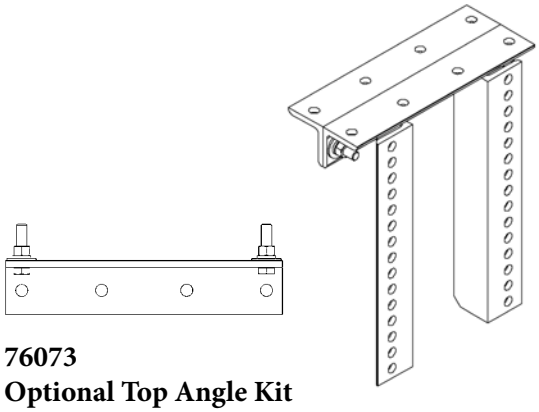
76537
Mounting Plate Kit (incl. 2 plates)
- For use with Mounting Bars to mount cleaners on open head pulleys.
- 406mm x 812mm with (4) 5/8" holes



76071
Standard Mounting Bracket Kit
- For most secondary cleaner installs.
- 330mm W x 394mm L



76072
Long Mounting Bracket Kit
- For installations that require extra length legs.
- 330mm W x 546mm L



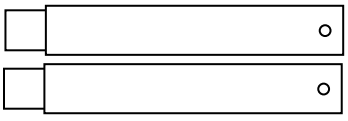
76073
Optional Top Angle Kit
- Used with both standard and long mounting bracket kits for additional mounting options.
- 330mm L

Optional Mounting Kits (incl. 2 brackets/bars)			
DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. Kg
Standard Mounting Bracket Kit *	SSTSMB	76071	15.6
Long Mounting Bracket Kit *	SSTLMB	76072	19.7
Optional Top Angle Kit *	SSTOTA	76073	4.8
Optional Mounting Bar Kit *	MMBK	75830	8.9
Mounting Plate Kit (incl. 2 plates)	MMPK	76537	63.5

*Hardware Included
Lead time: 1 working day

Pole Extender Kit (incl. 2 extenders)			
DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. Kg
Pole Extender Kit	MAPEK	76024	9.9

Provides 750mm of extended pole length.
Lead time: 1 working day



Section 3 - Pre-Installation Checks and Options (cont.)

3.4 Correct Blade Installation and Tensioning

For optimal cleaning efficiency and long wear life, the ConShear™ blade must be located and tensioned correctly on the belt head pulley. If the cleaner pole is in the wrong location the performance of the new blade may be adversely affected. See "Possible Problems" below. For tensioning, please follow these instructions.

Correct Location:
When blade contact is made against the head pulley (prior to tensioning) there should be a 1.5mm-3mm gap at the bottom of the blade face (Fig. 1).

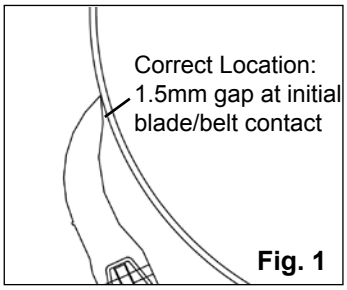


Fig. 1

Possible Problems:

- Pole location too far out - The initial blade/belt contact gap will be larger than 1.5mm (Fig. 2). If the blade is correctly tensioned it may flip through before it is fully worn. If tensioned too lightly, it will develop the "smile effect" quickly and not clean properly.
- Pole location too far in - If there is no gap at the initial blade/belt contact (Fig. 3), the tip of the blade may not be touching the belt. In this case, the blade will push away and lose its shearing (cleaning) effect. The blade may also develop a flap at the tip which may trap material.

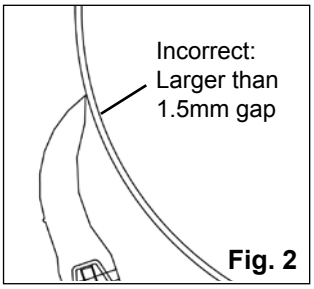


Fig. 2

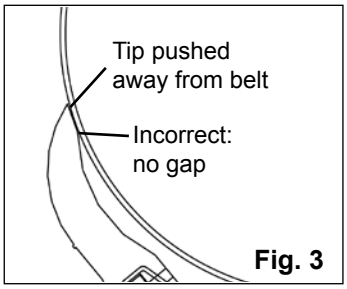


Fig. 3

Correct Tensioning:

The blade should be tensioned until the gap is gone (Fig. 4).

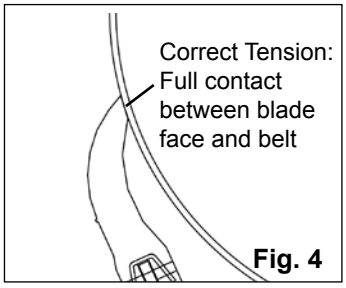
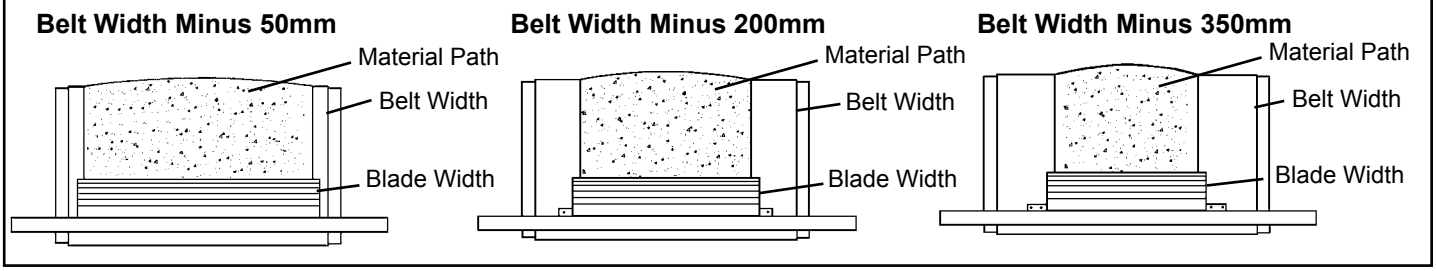


Fig. 4

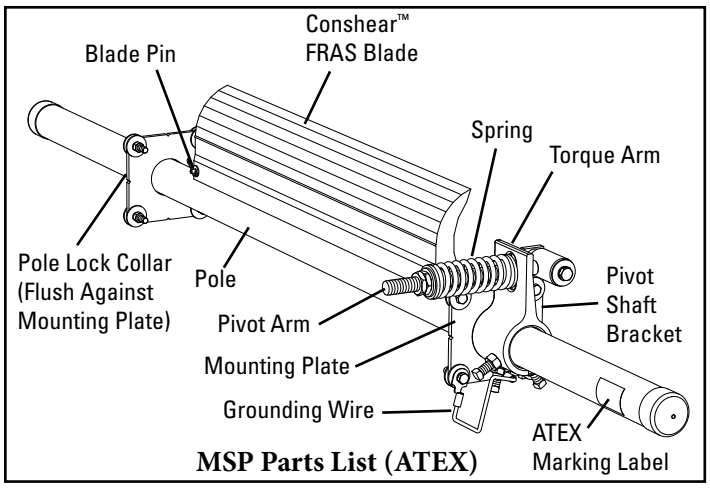
The "Material Path" Option

For optimal cleaning and reduced blade retensioning, the cleaner blade width should be sized to fit the material path of the belt. The material path is typically the center 2/3 of the belt width. Choosing a blade only slightly wider than the material path can decrease differential blade wear which reduces blade retensioning maintenance, as well as reducing the frequency of blade replacement.

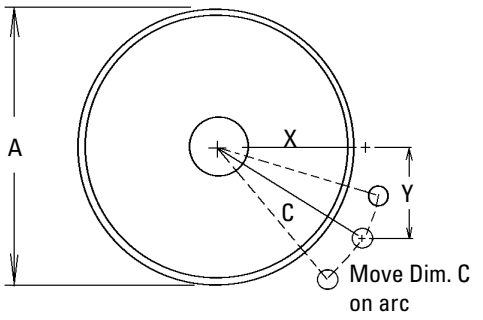
Match blade width to belt's material path



Section 4 - Installation Instructions - MSP Precleaner (ATEX)



MSP Parts List (ATEX)



A = Pulley Diameter + Lagging and Belt
C = Critical Spec to move location if necessary

Pole Location Specs

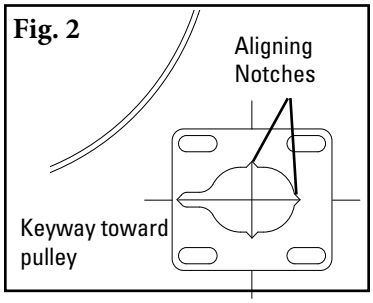
Physically lock out and tag the conveyor at the power source before you begin cleaner installation.

Before installation, place ATEX marking label (as shown on page 6) on cleaner pole.

1. **Locate the correct pole position.** Measure and determine Dimension A (see instructions above). Find Dimension A on the Pole Location Chart at right and determine Dimensions X, Y and C. Measure out horizontally from the center of the pulley shaft Dim X and mark. From that mark, draw a long vertical line down, then measure and mark Dim Y. This indicates the location of the center of the cleaner pole. Measure and mark both sides. NOTE: If the location is obstructed, use Dim. C and move on an arc from the center of the pulley shaft to find an open position. Dim. C must remain constant to correctly locate the pole (see drawing above). NOTE: For open head installs, first add mounting support materials to the structure.

2. **Mark and cut the mounting plate holes.** Using the mounting plate template provided in the instruction packet, position the large pole access hole on the chute, aligning the hole notches with the layout lines. Position the keyway toward the pulley. Trace the pole cutout and mounting holes (Fig. 2). Cut the holes on both sides of the chute. NOTE: Hole cutouts are slotted for later adjustment if needed.

Fig. 2



Pole Location Chart			
A	X	Y	C
400	179	230	291
425	195	230	301
450	207	230	309
475	223	230	320
500	235	230	329
525	249	230	339
550	266	230	352
575	283	230	365
600	299	230	377
625	314	230	390
650	330	230	402
675	346	230	415
700	360	230	427
725	374	230	439
750	389	230	452
775	403	230	464
800	417	230	477
825	432	230	489
850	446	230	501
875	460	230	514
900	474	230	526
925	488	230	539
950	502	230	552
975	516	230	565
1000	529	230	576
1025	542	230	589
1050	557	230	602

Section 4 - Installation Instructions

3. **Install the mounting plates.** Bolt the mounting plates to the chute with bolts provided. Center plates on the slotted holes and tighten bolts (Fig. 3).

Fig. 3

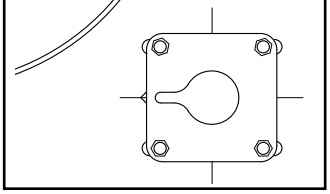
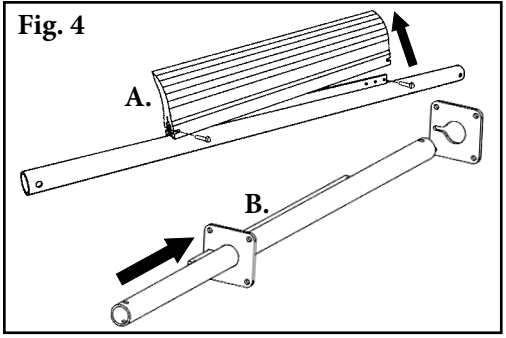


Fig. 4



4. **Install the pole.** Remove both blade pins and blade from the pole and insert the pole in through the mounting plates (Fig. 4).

5. **Center the cleaner on the belt and lock in place.** Reinstall the blade with both blade pins. Center the blade on the belt and install the pole lock collar onto the pole (on the end opposite the end to be used for the tensioner), snugly up to the mounting plate (Fig. 5a). Rotate the blade up to the belt and check to insure that the blade is square to the pulley face. If not, loosen a mounting plate on one side and adjust the plate forward or backward to square the blade to the pulley, and retighten the bolts (Fig. 5b).

Fig. 5a

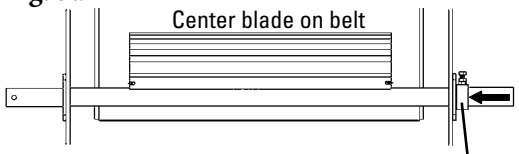


Fig. 5b

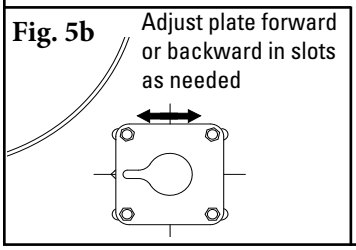
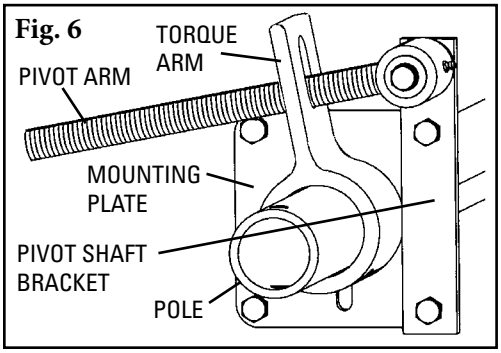
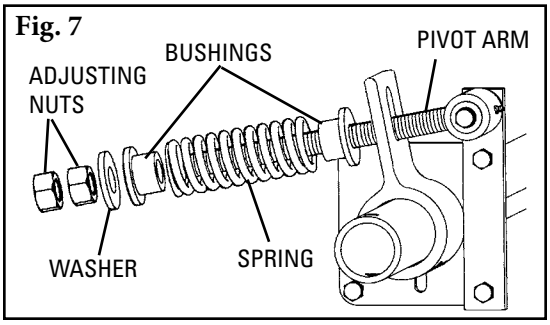


Fig. 6



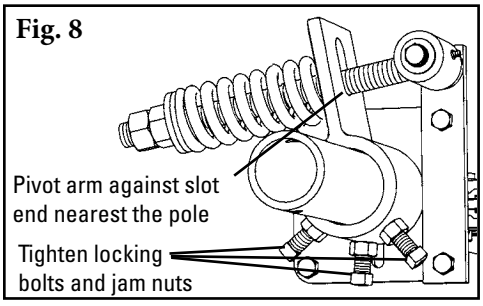
6. **Install the QMT spring tensioner.** Remove the adjusting nuts and springs from the pivot rod. Insert the pivot arm through the slot in the torque arm. Slide the torque arm onto the pole end (be sure the rotation of the arm is correct to tension the blade) and rotate it until the pivot shaft bracket lines up with the desired bolt holes (Fig. 6). Remove bolts, nuts and washers from mounting plate and reinstall through pivot shaft bracket and mounting plate.

Fig. 7



7. **Reassemble the spring assembly.** Slide the spring, washer and bushings onto the pivot arm and turn the two adjusting nuts so about 1/4" of the pivot arm is exposed above the nuts (Fig. 7).

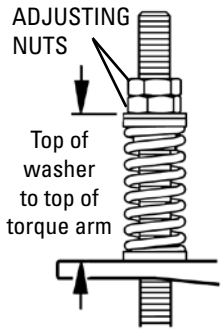
Fig. 8



8. **Tension the blade to the belt.** Rotate the blade until it contacts the belt. While holding the spring bushing flat on the torque arm, rotate the torque arm until the pivot arm is against the end of the slot nearest the pole. Tighten the locking bolts and jam nuts on the torque arm (Fig. 8). NOTE: The torque arm should be up against the mounting plate.

9. **Set the correct blade tension.** Refer to the chart on the pivot shaft bracket for the spring length required for the blade width. Lightly pull the pivot arm toward the end of the torque arm slot nearest the pole and turn the adjusting nuts until the required spring length is achieved (Fig. 9). Tighten jam nut.

Fig. 9

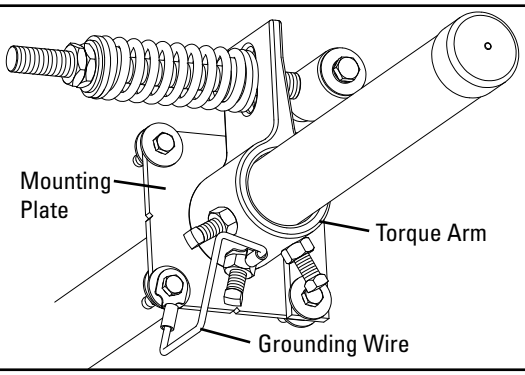


Spring Length Chart

Blade Width	Purple Spring	White Spring
450mm	125mm	N/A
600mm	115mm	N/A
750mm	100mm	N/A
800mm	N/A	147mm
950mm	N/A	144mm
1000mm	N/A	142mm
1150mm	N/A	138mm
1200mm	N/A	137mm
1350mm	N/A	133mm
1400mm	N/A	132mm
1550mm	N/A	128mm
1600mm	N/A	127mm

10. **Add grounding wire.** To ensure ground connection, attach grounding wire between setscrew on torque arm and a bolt on mounting plate (Fig. 10).

Fig. 10



11. **Confirm correct pole location.** After the cleaner is installed, slide the Pole Location Gauge (provided in the instruction packet) between the cleaner pole and the pulley, until it stops at a step (Fig. 8a). Read the flat area where the pole is resting (Fig. 8b). This diameter should be equal to Dim A used in Step 1. NOTE: If the diameter reading on the Pole Location Gauge does not read the same as in Step 1, check the "C" dimension and correct accordingly.

Fig. 11a

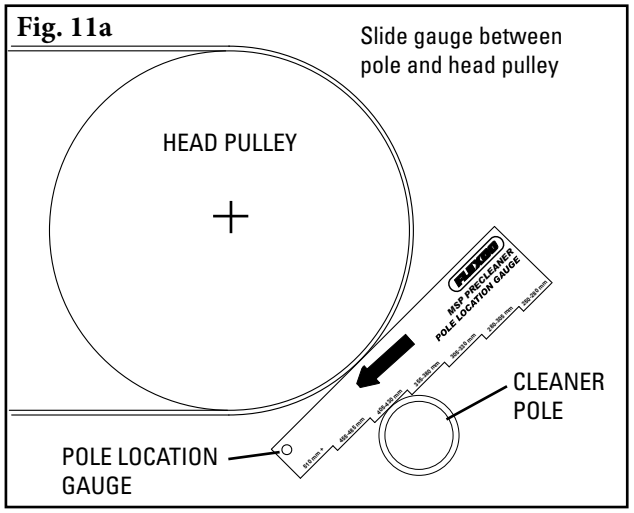
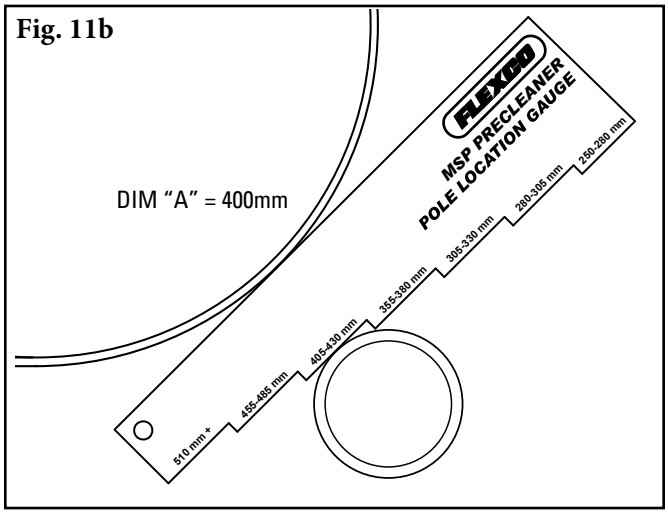


Fig. 11b



Test run the cleaner. Run the conveyor for at least 15 minutes and inspect the cleaning performance. Check the spring length for proper tensioning. Make adjustments as necessary.

Section 5 - Pre-Operation Checklist and Testing

5.1 Pre-Op Checklist

- Recheck that all fasteners are tightened properly
- Add pole caps
- Apply all supplied labels to the cleaner
- Check the blade location on the belt
- Be sure that all installation materials and tools have been removed from the belt and the conveyor area

5.2 Test Run the Conveyor

- Run the conveyor for at least 15 minutes and inspect the cleaning performance
- Check the tensioner spring for recommended length (proper tensioning)
- Make adjustments as necessary

NOTE: Observing the cleaner when it is running and performing properly will help to detect problems or when adjustments are needed later.

Section 6 - Maintenance

Flexco belt cleaners are designed to operate with minimum maintenance. However, to maintain superior performance some service is required. When the cleaner is installed a regular maintenance program should be set up. This program will ensure that the cleaner operates at optimal efficiency and problems can be identified and fixed before the cleaner stops working.

All safety procedures for inspection of equipment (stationary or operating) must be observed. The MSP Precleaner operates at the discharge end of the conveyor and is in direct contact with the moving belt. Only visual observations can be made while the belt is running. Service tasks can be done only with the conveyor stopped and by observing the correct lockout/tagout procedures.

6.1 New Installation Inspection

After the new cleaner has run for a few days a visual inspection should be made to ensure the cleaner is performing properly. Make adjustments as needed.

6.2 Routine Visual Inspection (every 2-4 weeks)

A visual inspection of the cleaner and belt can determine:

- If the spring length is the correct length for optimal tensioning
- If the belt looks clean or if there are areas that are dirty
- If the blade is worn out and needs to be replaced
- If there is damage to the blade or other cleaner components
- If fugitive material is built up on the cleaner or in the transfer area
- If there is cover damage to the belt
- If there is vibration or bouncing of the cleaner on the belt
- If a snub pulley is used, a check should be made for material buildup on the pulley

If any of the above conditions exist, a determination should be made on when the conveyor can be stopped for cleaner maintenance.

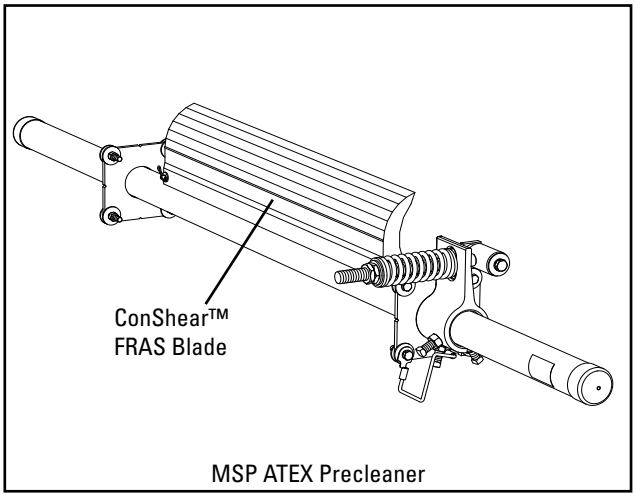
6.3 Routine Physical Inspection (every 6-8 weeks)

When the conveyor is not in operation and properly locked and tagged out a physical inspection of the cleaner to perform the following tasks:

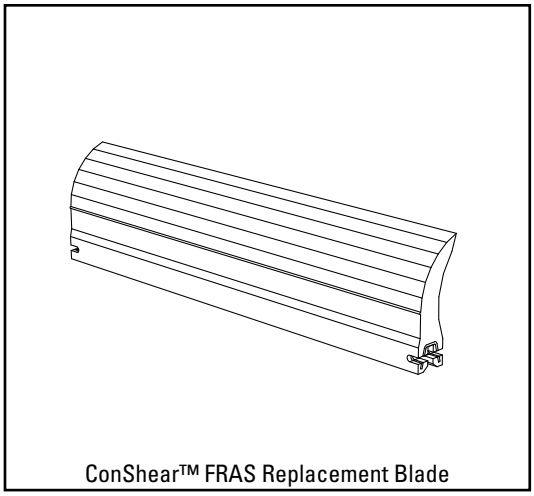
- Clean material buildup off of the cleaner blade and pole
- Closely inspect the blade for wear and any damage. Replace if needed.
- Check both blade pins and retaining clips for proper installation and condition. Replace if needed.
- Ensure full blade to belt contact
- Inspect the cleaner pole for damage
- Inspect all fasteners for tightness and wear. Tighten or replace as needed.
- Replace any worn or damaged components
- Check the tension of the cleaner blade to the belt. Adjust the tension if necessary using the chart on the cleaner or the one on Page 13.
- When maintenance tasks are completed, test run the conveyor to ensure the cleaner is performing properly

Section 6 - Maintenance

6.4 Blade Replacement Instructions



MSP ATEX Precleaner


ConShear™ FRAS Replacement Blade

Physically lock out and tag the conveyor at the power source before you begin cleaner installation.

Tools Needed:
- Tape measure
- (2) 38mm wrenches or crescent wrenches
- Wire brush (for cleaning pole)
- Small putty knife (for cleaning pole)

1. **Remove the tension.** Loosen the adjusting nuts and turn them out until they are flush with the pivot arm (Fig. 1). This releases the tension of the blade on the belt.

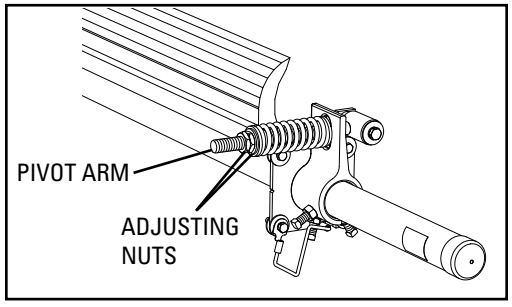


Fig. 1

2. **Remove the worn blade.** Remove one blade pin and remove the blade from the pole (Fig. 2). Clean all fugitive material from the pole.

   NOTE: If blade is hard to remove use a screwdriver or hammer to loosen it and then remove.

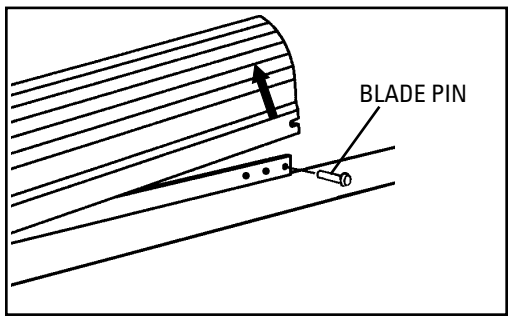
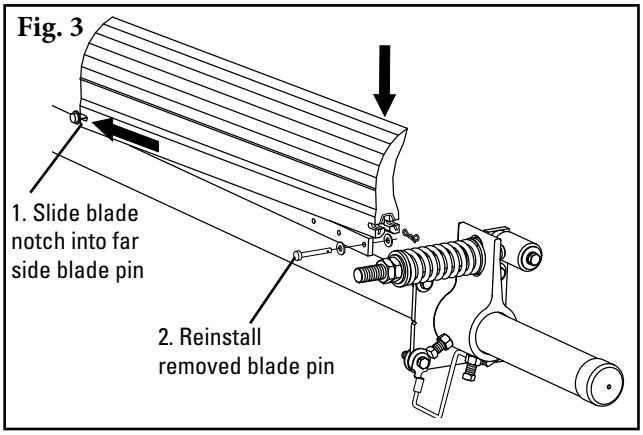


Fig. 2

6.4 Blade Replacement Instructions

3. **Install the new blade.** Slide the new blade onto the pole, locking it into the far blade pin, then reinstall the removed blade pin, washer and clip (Fig. 3).

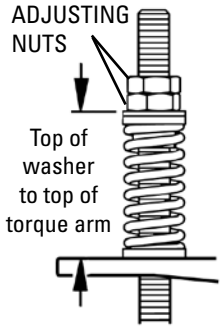
Fig. 3



4. **Reset the correct blade tension.** Refer to the chart for the spring length required for the blade width. Lightly pull the pivot arm toward the end of the torque arm slot nearest the pole and turn the adjusting nut until the required spring length is achieved (Fig. 4). Tighten jam nut.

   NOTE: The chart is also on the cleaner's pivot shaft bracket for future reference for retensioning maintenance.

Fig. 4



Spring Length Chart

Blade Width	Purple Spring	White Spring
450mm	125mm	N/A
600mm	115mm	N/A
750mm	100mm	N/A
800mm	N/A	147mm
950mm	N/A	144mm
1000mm	N/A	142mm
1150mm	N/A	138mm
1200mm	N/A	137mm
1350mm	N/A	133mm
1400mm	N/A	132mm
1550mm	N/A	128mm
1600mm	N/A	127mm

Test run the cleaner. Run the conveyor for at least 15 minutes and inspect the cleaning performance. Check the spring length for proper tensioning. Make adjustments as necessary.

Shading indicates preferred spring option.

Section 6 - Maintenance

6.5 Maintenance Log

Conveyor Name/No. _____

Date: _____ Work done by: _____ Service Quote # _____

Activity: _____

Date: _____ Work done by: _____ Service Quote # _____

Activity: _____

Date: _____ Work done by: _____ Service Quote # _____

Activity: _____

Date: _____ Work done by: _____ Service Quote # _____

Activity: _____

Date: _____ Work done by: _____ Service Quote # _____

Activity: _____

Date: _____ Work done by: _____ Service Quote # _____

Activity: _____

Date: _____ Work done by: _____ Service Quote # _____

Activity: _____

Section 6 - Maintenance (cont.)

6.6 Cleaner Maintenance Checklist

Belt Cleaner: _____ **Serial Number:** _____

Blade Width: ☐ Belt minus 50mm ☐ Belt minus 200mm

Beltline Information:
Beltline Number: _____ Belt Condition: _____

Belt Width: ☐ 650mm ☐ 800mm ☐ 1000mm ☐ 1200mm ☐ 1400mm ☐ 1600mm

Head Pulley Diameter (*Belt & Lagging)*: _____ Belt Speed: _____ fpm Belt Thickness: _____

Belt Splice _____ Condition of Splice _____ Number of splices ___ ☐ Skived ☐ Unskived

Material conveyed _____

Days per week run _____ Hours per day run _____

Blade Life:
Date blade installed: _____ Date blade inspected: _____ Estimated blade life: _____

Is blade making complete contact with belt? ☐ Yes ☐ No

Distance from wear line: LEFT _____ MIDDLE _____ RIGHT _____

Blade condition: ☐ Good ☐ Grooved ☐ Smiled ☐ Not contacting belt ☐ Damaged

Measurement of spring: Required _____ Currently _____

Was Cleaner Adjusted: ☐ Yes ☐ No

Pole Condition: ☐ Good ☐ Bent ☐ Worn

Lagging: ☐ Slide lag ☐ Ceramic ☐ Rubber ☐ Other ☐ None

Condition of lagging: ☐ Good ☐ Bad ☐ Other _____

Cleaner's Overall Performance: (Rate the following 1 - 5, 1 = very poor - 5 = very good)

Appearance: ☐ Comments: _____

Location: ☐ Comments: _____

Maintenance: ☐ Comments: _____

Performance: ☐ Comments: _____

Other Comments: _____

Section 7 - Troubleshooting

Problem	Possible Cause	Possible Solutions
Poor Cleaning Performance	Cleaner under-tensioned	Adjust to correct tension - see chart
	Cleaner over-tensioned	Adjust to correct tension - see chart
	Cleaner installed in wrong location	Verify "C" dimension, relocate to correct dimension
	Cleaner blade worn or damaged	Replace cleaner blade
Rapid Blade Wear	Tension on cleaner too high/low	Adjust to correct tension - see chart
	Cleaner not located correctly	Check cleaner location for correct dimensions
	Blade attack angle incorrect	Check cleaner location for correct dimensions
	Material too abrasive for blade	Option: if vulcanized belt, switch to alternate cleaner with metal blades
	Mechanical splice damaging blade	Repair, skive or replace splice
Center wear on blade (smile effect)	Blade wider than material path	Replace blade with width to match material path
	Tension on cleaner too high/low	Adjust to correct tension - see chart
Unusual wear or damage to blade	Mechanical splice damaging blade	Repair, skive or replace splice
	Belt damaged or ripped	Repair or replace belt
	Cleaner not correctly located	Verify "C" dimension, relocate to correct dimension
	Damage to pulley or pulley lagging	Repair or replace pulley
Vibration or noise	Cleaner not located correctly	Verify "C" dimension, relocate to correct dimension
	Blade attack angle incorrect	Verify "C" dimension, relocate to correct dimension
	Cleaner running on empty belt (dry)	Use a spray pole when the belt is empty
	Cleaner tension too high/low	Adjust to correct tension or slight adjust to diminish
	Cleaner locking bolts not secure	Check and tighten all bolts and nuts
	Cleaner not square to head pulley	Verify "C" dimension, relocate to correct dimension
	Material buildup in chute	Clean up build-up on cleaner and in chute
Cleaner being pushed away from pullety	Cleaner tension not set correctly	Ensure correct tension/increase tension slightly
	Sticky material is overburdening cleaner	Increase tension; replace with cleaner with metal tips; replace with larger size cleaner
	Cleaner not set up correctly	Confirm location dimensions are equal on both sides
	Pole too far out (“C” dimension too large)	Verify “C” dimension, relocate to correct dimension

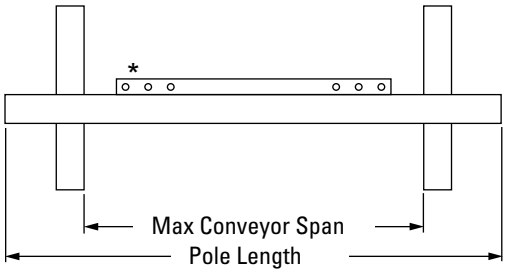
Section 8 - Specs and CAD Drawing

8.1 Specs and Guidelines

Pole Length Specifications*

Cleaner Size	Pole Length	Maximum Conveyor Span
650	2134	1883
800	2286	2036
1000	2438	2188
1200	2591	2340
1400	2896	2645
1600	3048	2804

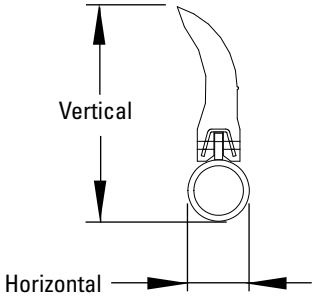
* For special extra long pole length requirements a Pole Extender Kit (#76024) is available that provides 750mm of extended pole length.
Pole Diameter - 73mm

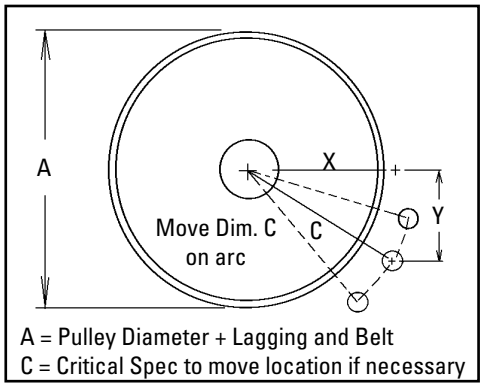


*Each pole size can be used with a blade size either belt width minus 50mm or belt width minus 200mm

Clearance Guidelines for Installation

Horizontal Clearance Required	Vertical Clearance Required
100	250

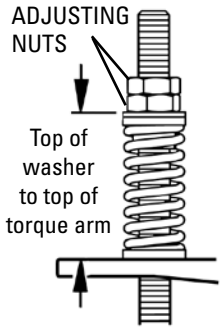




A = Pulley Diameter + Lagging and Belt
C = Critical Spec to move location if necessary

Spring Length Chart

Blade Width	Purple Spring	White Spring
450mm	125mm	N/A
600mm	115mm	N/A
750mm	100mm	N/A
800mm	N/A	147mm
950mm	N/A	144mm
1000mm	N/A	142mm
1150mm	N/A	138mm
1200mm	N/A	137mm
1350mm	N/A	133mm
1400mm	N/A	132mm
1550mm	N/A	128mm
1600mm	N/A	127mm



Pole Location Chart

A	X	Y	C
400	179	230	291
425	195	230	301
450	207	230	309
475	223	230	320
500	235	230	329
525	249	230	339
550	266	230	352
575	283	230	365
600	299	230	377
625	314	230	390
650	330	230	402
675	346	230	415
700	360	230	427
725	374	230	439
750	389	230	452
775	403	230	464
800	417	230	477
825	432	230	489
850	446	230	501
875	460	230	514
900	474	230	526
925	488	230	539
950	502	230	552
975	516	230	565
1000	529	230	576
1025	542	230	589
1050	557	230	602

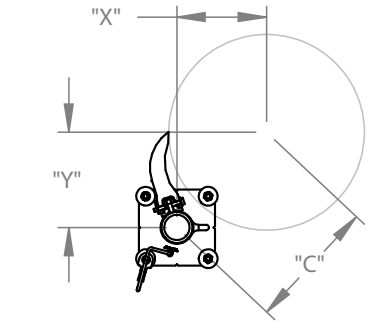
- Maximum Belt Speed.....3.5M/sec
- Temperature Rating.....-35°C to 82°C
- Minimum Pulley Diameter.....250mm
- Blade Height.....185mm
- Usable Blade Wear Length.....100mm
- Blade Material.....Fire Resistant Anti-Static (FRAS) Polyurethane (proprietary blend for abrasion resistance and long wear)
- Available for Belt Widths.....650 to 1600mm Other sizes available upon request.
- CEMA Cleaner Rating.....Class 3

U.S. Patent No. D482,508S

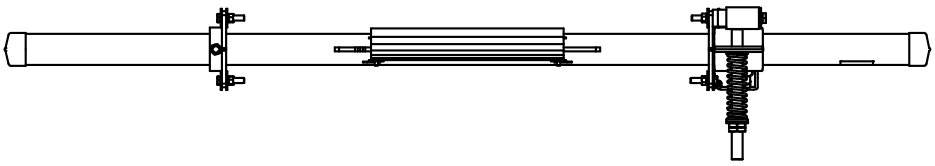
Section 8 - Specs and CAD Drawing (cont.)

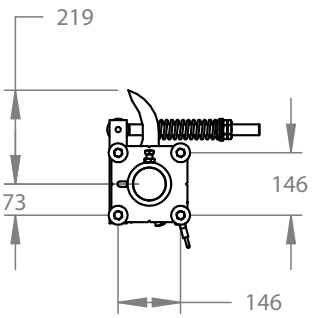
8.2 MSP ATEX Precleaner (Belt width -50mm and -200mm)

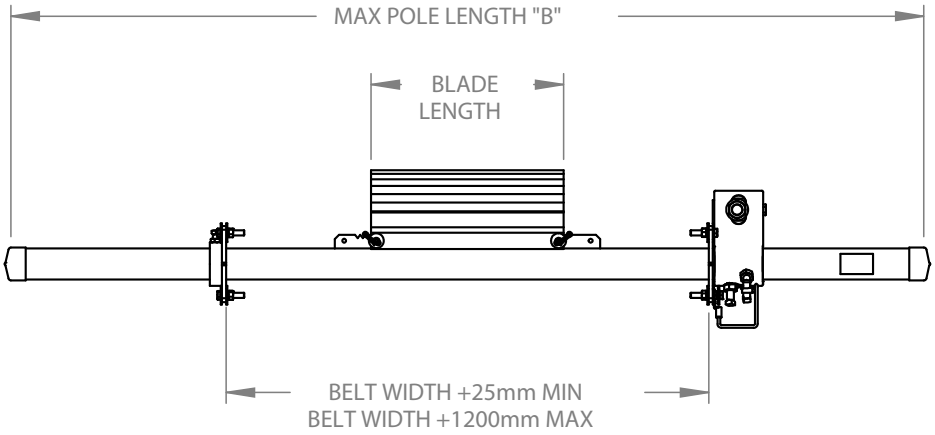
Note: Designed per EU Directive 94/9/EC as Category I,
M2 and Category II, 2D equipment



SOME COMPONENTS
REMOVED FOR CLARITY







MSP ATEX Precleaner - Belt Width Minus 50

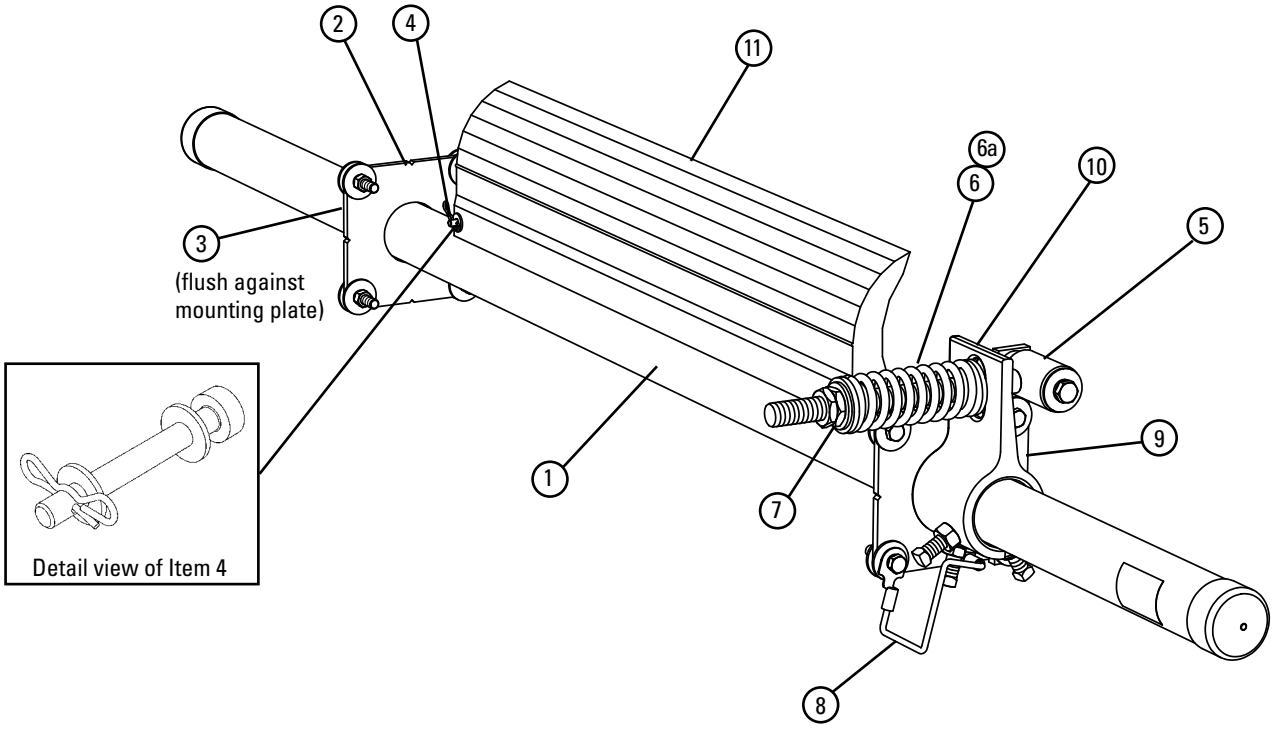
COMPLETE CLEANER	BELT WIDTH	POLE	POLE LENGTH	FRAS POLYURETHANE BLADE	BLADE WIDTH	MOUNTING KIT
90271	650	78301	2134	90116	600	82179
90272	800	78302	2286	90117	750	82179
90273	1000	78303	2438	90119	950	82180
90274	1200	78304	2591	90121	1150	82180
90275	1400	78305	2896	90123	1350	82180
90276	1600	78306	3048	90125	1550	82180

MSP ATEX Precleaner - Belt Width Minus 200

COMPLETE CLEANER	BELT WIDTH	POLE	POLE LENGTH	FRAS POLYURETHANE BLADE	BLADE WIDTH	MOUNTING KIT
90277	650	78301	2134	90115	450	82179
90278	800	78302	2286	90116	600	82179
90279	1000	78303	2438	90118	800	82180
90280	1200	78304	2591	90120	1000	82180
90281	1400	78305	2896	90122	1200	82180
90282	1600	78306	3048	90124	1400	82180

Section 9 - Replacement Parts

9.1 Replacement Parts List



Replacement Parts (MSP ATEX Cleaner)

Ref	Description	Ordering Number	Item Code	Wt. Kg.
1	650mm Pole	MSPP650	78301	19.3
	800mm Pole	MSPP800	78302	20.9
	1000mm Pole	MSPP1000	78303	23.0
	1200mm Pole	MSPP1200	78304	25.2
	1400mm Pole	MSPP1400	78305	27.3
	1600mm Pole	MSPP1600	78306	29.1
2	Mounting Plate Kit* (2 ea.)	MSPMPK-CN	82184	3.8
3	Pole Lock* (1 ea.)	C-MSPPL	81044	0.9
4	Blade Pin Kit* (1 ea.)	MSPBPK	75831	0.1
5	Pivot Arm Kit* (1 ea.)	QMTPAK	76096	2.0
6	Tension Spring - Purple (1 ea.) for blades 450 - 750mm	QMTS-P	75845	0.3
6a	Tension Spring - White (1 ea.) for blades 800 - 1600mm	PSTS-W	75898	0.8
7	Bushing Kit - ATEX (2 ea.)	QMTBK-ATEX	90435	0.1
8	ATEX Grounding Wire Kit (1 ea.)	ATEX-GWK	90263	0.1
9	Pivot Shaft Bracket Kit* (1 ea.)	QMTPSBK	76099	2.0
10	Torsion Arm Kit* (1 ea.)	PSTA	75896	5.2
-	QMT Spring Tensioner* - Purple (incl. 1 ea. Items 5, 6, 7, 9, & 10) for blades 450 - 750mm	QMT-P-CN	82179	9.3
-	QMT Spring Tensioner* - White (incl. 1 ea. Items 5, 6a, 7a, 9, & 10) for blades 800 - 1600mm	QMT-W-CN	82180	9.9

*Hardware Included
Lead Time: 1 working day

Replacement ConShear™ FRAS Blades

Ref	Blade Width (mm)	Ordering Number	Item Code	Wt. Kg.
	450	CRB450F	90115	3.8
	600	CRB600F	90116	5.0
	750	CRB750F	90117	6.3
	800	CRB800F	90118	6.7
	950	CRB950F	90119	8.0
	1000	CRB1000F	90120	8.4
	1150	CRB1150F	90121	9.6
	1200	CRB1200F	90122	10.0
	1350	CRB1350F	90123	11.3
	1400	CRB1400F	90124	11.7
	1550	CRB1550F	90125	13.0

Order blade width for your belt width's material path: Belt Width -50mm or Belt Width -200mm
Lead Time: 1 working day

Spring Tensioner Selection Chart

Cleaner Blade Width	82179 QMT-P-CN	82180 QMT-W-CN
ConShear 400 - 700mm	X	
ConShear 850 - 1600mm		X

U.S. Patent No. D482,508S

Section 10 - Other Flexco Conveyor Products

Flexco provides many conveyor products that help your conveyors to run more efficiently and safely. These components solve typical conveyor problems and improve productivity. Here is a quick overview on just a few of them:

MHS Secondary Cleaner with Service Advantage Cartridge

- An easy slide-out cartridge for service
- Cartridge design to speed up blade-change maintenance
- Patented PowerFlex™ Cushions for superior cleaning performance
- Compatible with Flexco mechanical splices

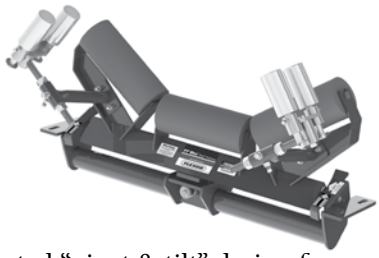
MDWS DryWipe Secondary Cleaner

- Wipes the belt dry as final cleaner in system
- Automatic blade tensioning to the belt
- Easy, visual blade tension check
- Simple, one-pin blade replacement

Flexco Specialty Belt Cleaners

- "Limited space" cleaners for tight conveyor applications
- High Temp cleaners for severe, high heat applications
- A rubber fingered cleaner for chevron and raised rib belts
- Multiple cleaner styles in stainless steel for corrosive applications

PT Max™ Belt Trainer



- Patented "pivot & tilt" design for superior training action
- Dual sensor rollers on each side to minimize belt damage
- Pivot point guaranteed not or freeze up
- Available for topside and return side belts

DRX Impact Beds

- Exclusive Velocity Reduction Technology™ to better protect the belt
- Slide-Out Service™ gives direct access to all impact bars for change-out
- Impact bar supports for longer bar life
- 4 models to custom fit to the application

Belt Plows

- A belt cleaner for the tail pulley
- Exclusive blade design quickly spirals debris off the belt
- Economical and easy to service
- Available in vee or diagonal models

The Flexco Vision

To become the leader in maximising
belt conveyor productivity for our customers worldwide
through superior service and innovation.

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