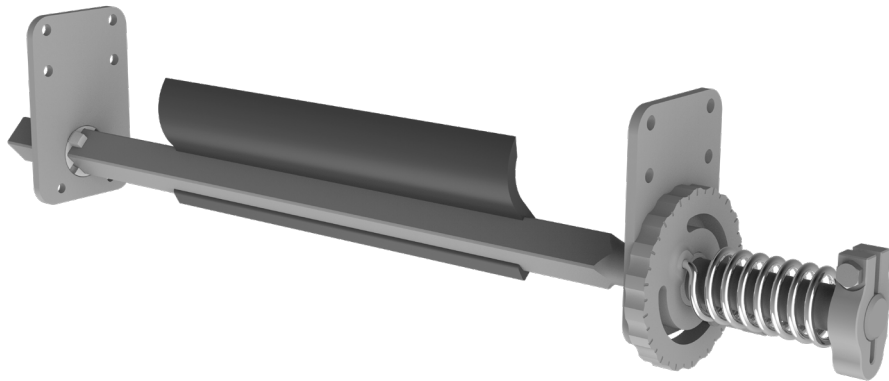


# **FGP-ES Food Grade Primary Cleaner External Spring**

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## **Installation, Operation & Maintenance Manual**

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*Patents: [www.flexco.com/patents](http://www.flexco.com/patents)*

# FGP-ES Food Grade Primary Cleaner

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Ordering Number:	_____
Serial Number:	_____
Purchase Date:	_____
Purchased From:	_____
Installation Date:	_____

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

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# Section 1 - Important Information

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## 1.1 Introduction

We at Flexco are very pleased that you have selected the FGP-ES Primary Cleaner 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 here be properly understood and implemented. This manual will provide safety precautions, installation instructions, maintenance procedures and troubleshooting tips.

If you have any questions or problems that are not covered in this manual, please visit our web site or contact our Customer Service Department:

**Customer Service: 1-800-541-8028**

**Visit [www.flexco.com](http://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 simple as possible, it does require correct installation and regular inspections and adjustments to maintain top performance.

## 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 costs
- Increased service life for the belt cleaner and other conveyor components

## 1.3 Service Option

The FGP-ES Primary Cleaner 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

### 2.1 Stationary Conveyors

Before installing and operating the FGP-ES Primary Cleaner, 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.

The following activities are performed on stationary conveyors:

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

#### **DANGER**

It is imperative that OSHA 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 can cause instantaneous amputation and entrapment.

#### **WARNING**

Belt cleaners can become projectile hazards. Stay as far from the cleaner as practical and use safety eyewear and headgear. Missiles can inflict serious injury.

#### **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.

## Section 3 - Pre-installation Checks and Options

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### 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
- Inspect the belt and splice(s) for damage (tears, gouges, raised splices, etc.) that may interfere with the cleaner blade.
- Primary mounted belt cleaners are not generally recommended for use on impression cover, textured or cleated belts.
- Check the conveyor site:
  - Will the cleaner be installed on a chute?
  - Is the install on an open head pulley requiring mounting structure?
  - Are there obstructions that may require cleaner location adjustments?



**CAUTION:** All parts of the FGP-ES Food Grade Primary Cleaner must be cleaned and sanitized in compliance with your company’s policies and any applicable legal or regulatory requirements prior to installation and use.

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

### 3.2 Conveyor Mounting Structure

The first step in installing your FGP-ES Food Grade Primary Cleaner is to verify that there is adequate structure at the head pulley for mounting the cleaner.

1. Measure pulley diameter (A), including lagging and belt (Fig. 1).
2. Locate the overall pulley diameter that most closely matches yours on chart A, and use the corresponding X, Y, & C dimensions to locate the position of the center of the cleaner bar (Fig. 1).

Chart A: Bar Location

A		X		Y		C	
in.	mm	in.	mm	in.	mm	in.	mm
2.0	51	0.95	24	2.98	76	3.13	80
2.5	64	1.19	30	3.03	77	3.25	83
3.0	76	1.44	37	3.08	78	3.39	86
3.5	89	1.68	43	3.12	79	3.55	90
4.0	102	1.93	49	3.17	81	3.71	94
4.5	114	2.18	55	3.22	82	3.88	99
5.0	127	2.42	61	3.27	83	4.06	103
5.5	140	2.67	68	3.31	84	4.25	108
6.0	152	2.91	74	3.36	85	4.45	113
6.5	165	3.16	80	3.41	87	4.64	118
7.0	178	3.40	86	3.46	88	4.85	123
7.5	191	3.65	93	3.51	89	5.06	129
8.0	203	3.89	99	3.55	90	5.27	134
8.5	216	4.14	105	3.60	91	5.48	139
9.0	229	4.38	111	3.65	93	5.70	145
9.5	241	4.63	118	3.70	94	5.92	150
10.0	254	4.88	124	3.74	95	6.14	156

A = Diameter of pulley + lagging thickness + belt thickness

C = Centerline of pulley to centerline of cleaner bar.

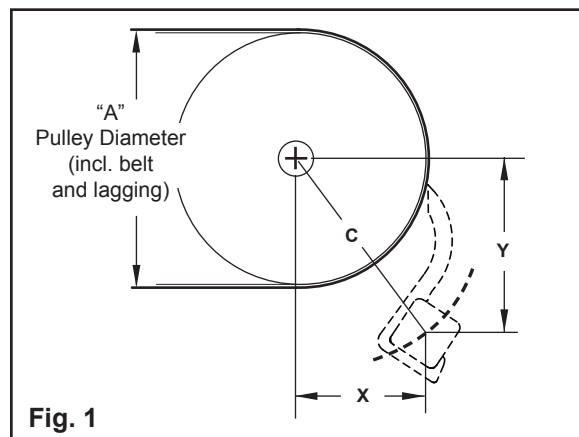


Fig. 1

3. Trial fit the FGP-ES with the blade positioned per Fig. 1. Establish acceptable mounting plate positions on each side of the conveyor, clamp in place if necessary, and mark holes for drilling. A minimum of 3 mounting bolts is required for each mounting plate. Drill mounting holes and assemble FGP-ES in position as described in Section 4 - Installation Instructions.

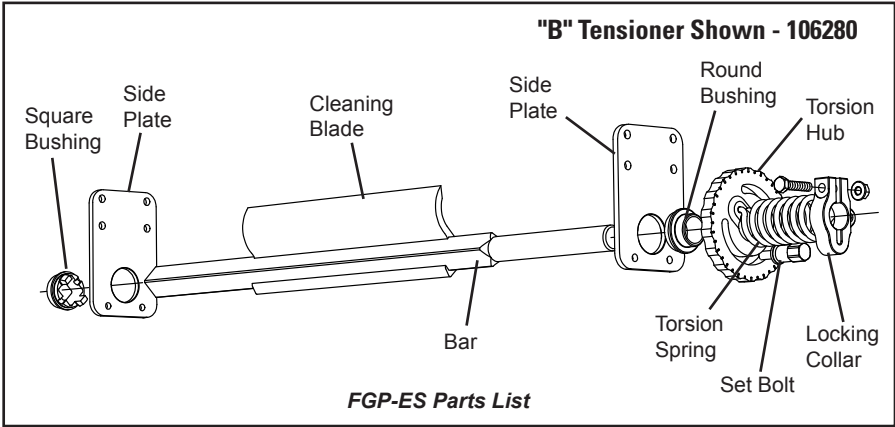
# Section 4 - Installation Instructions - FGP-ES

## 4.1 FGP-ES Food Grade Primary Cleaner Installation Instructions

**CAUTION:** Product may be adversely affected by contamination from the use of this belt cleaner. It is the user's responsibility to take the steps necessary to ensure use of product is maintained in accordance with internal Hazard Analysis and Critical Control Points plan (HACCP).

### Tools Required

- Tape measure
- ½" (13 mm) combination wrench
- 5/8" (16 mm) combination wrench
- Ratchet with ½" (13 mm) socket
- Marking pen or soapstone
- 1" (26 mm) wrench
- Cutting torch or 1.75" (44 mm) diameter hole saw
- Welder (optional)



**⚠ DANGER: PHYSICALLY LOCK OUT AND TAG THE CONVEYOR AT THE POWER SOURCE BEFORE YOU BEGIN CLEANER INSTALLATION.**

### Pre-Installation

- Unpack belt cleaner from packaging
- Disassemble belt cleaner (see Parts List drawing above)
- Verify that correct size cleaner has been ordered
- Verify that all parts are included

### Installation Instructions

1. Measure outside structure width where cleaner will be mounted.
2. Measure belt cleaner bar length. Minimum bar length is structure width + 7" (180 mm) (Chart B).
3. From center of pulley shaft measure down the distance of Y dimension and place a mark on structure (Fig. 1).
4. From Y location mark, measure away from the pulley the distance of X dimension and mark this position. This will be the location of center of bar (Fig. 1). Measure the C dimension to verify that it is correct.
5. Using the same X, Y, C dimensions repeat steps 2-4 on opposite side.

Chart B: Bar Lengths

Bar Length		Standard Blade Length		Minimum Blade Length		Minimum Conveyor Width at Cleaner Mounting Location		Maximum Conveyor Width at Cleaner Mounting Location	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
24	610	12	305	9	229	11	279	22	556
30	813	18	457	9	229	14	356	28	708
36	965	24	610	9	229	20	508	34	861
42	1067	30	813	18	457	26	660	40	1013
48	1219	36	965	18	457	32	813	46	1165
54	1372	42	1067	18	457	38	965	52	1318
60	1524	48	1219	18	457	44	1118	58	1470
66	1676	54	1372	18	457	50	1270	64	1623
72	1829	60	1524	18	457	56	1422	70	1775

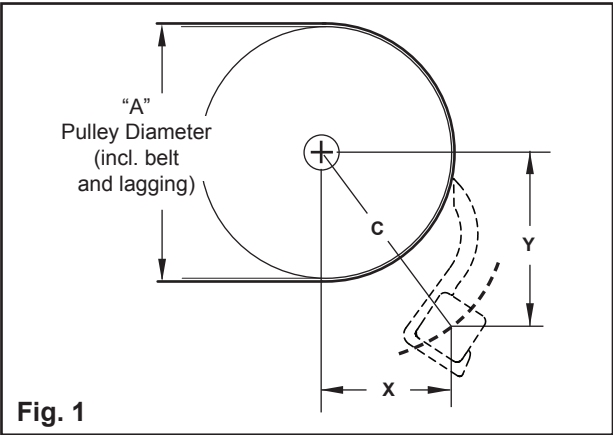


Fig. 1



## Section 4 – Installation Instructions (cont.)

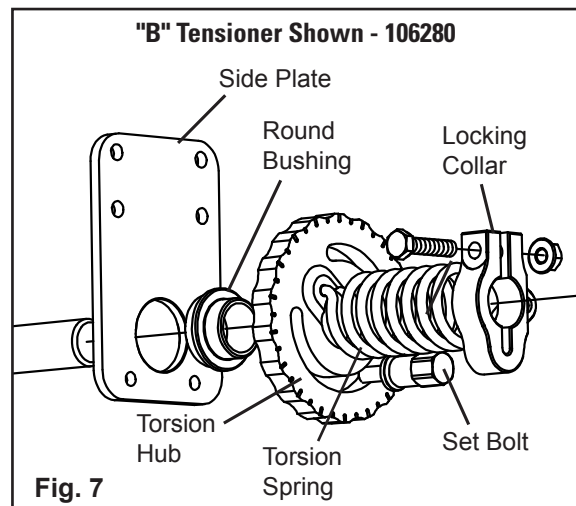
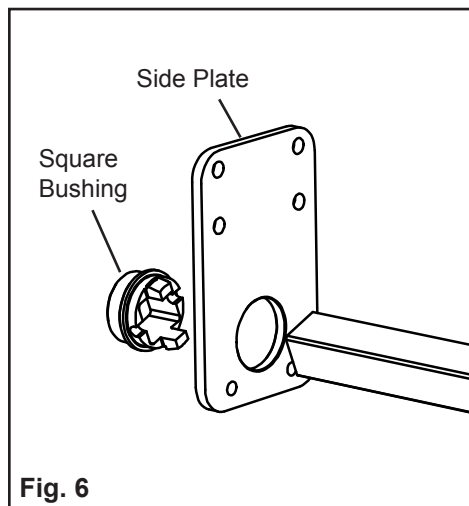
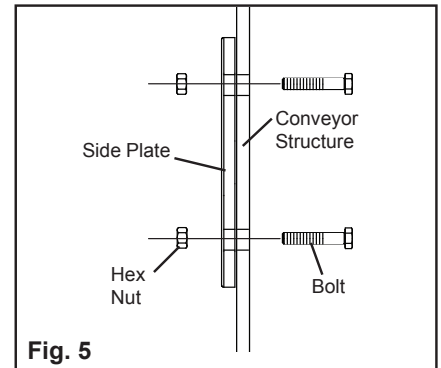
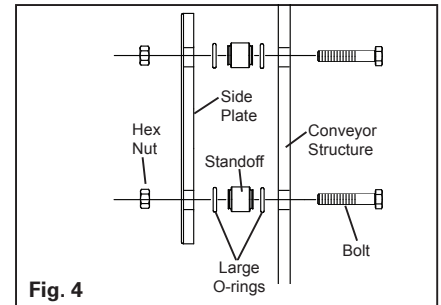
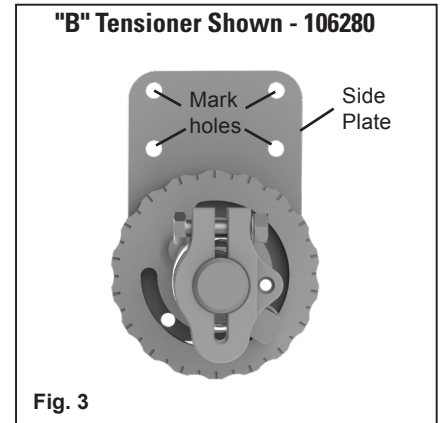
6. If mounting cleaner with supplied bolts, mark location of at least three bolt holes using side plate as a template (Fig. 3). For ease of installation or as conditions require, bolt hole positions may be rotated about the bar centerline.
7. On each side of the conveyor structure, if required to provide blade holder bar clearance, cut a 1.75" (44 mm) diameter hole around the marks that locate the center of the bar.
8. Determine which side of the conveyor has sufficient clearance to insert the cleaner bar. A horizontal distance of bar length + 7" (180 mm) is required. Attach the Torsion Spring to the outside of the conveyor structure using one of the following options:
  - a. With standoff hardware (Fig. 4).
  - b. Without standoff hardware – flush mount (Fig. 5).
  - c. Welded per local food application guidelines.

**NOTE:** If using flush mount method, food grade silicone should be applied between the side plate and the conveyor structure (Fig. 5).

9. If mounting cleaner using supplied bolts, drill a minimum of three 5/16" (8 mm) bolt holes in the pattern of the side plate bolt holes (Fig. 3).
10. Clean up or remove any metal shavings or burrs created during the cutting/drilling of the bar and mounting bolt holes.
11. Attach opposite side mounting plate per the option selected above.

**⚠ CAUTION:** It is the responsibility of the user to ensure that the mounting method is in compliance with your company's policies and any applicable legal or regulatory requirements.

12. Install square bushing in mounting plate on the side opposite the planned tensioner location (Fig. 6).
13. Position bar through both side plates including the installed square bushing side (Fig. 6), and the tensioner side including round bushing and tensioner (Fig. 7).



## Section 4 – Installation Instructions (cont.)

14. Use included C-Dimension verification gauge to check for proper bar location (Fig. 8; Chart C).
  - a. Snap gauge onto bar at one end of head pulley so that outside edge of gauge is as close to belt as possible without touching the belt.
  - b. Rotate bar toward head pulley until gauge makes contact with belt.
  - c. The point on gauge where contact is made with belt indicates the measurement for gap between bar centerline and face of the belt/pulley. (The gap dimension is equal to C dimension minus radius of pulley.)
  - d. Verify that measured gap dimension is equal to gap dimension in Chart C for your pulley size.
  - e. Repeat measurement at other end of head pulley. Adjust position of bar as necessary to get required C dimension.

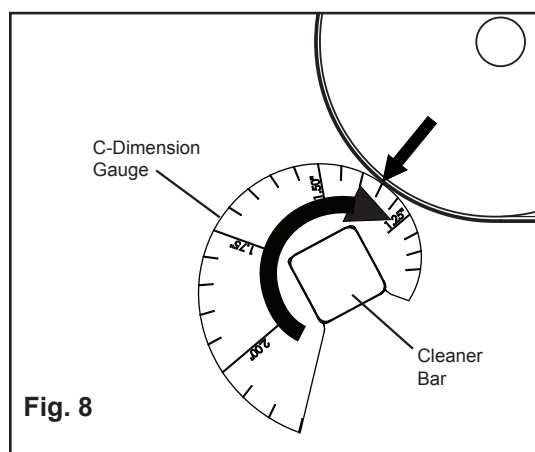
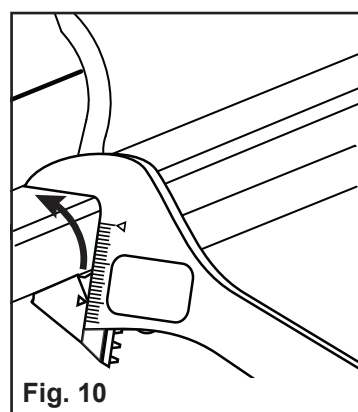
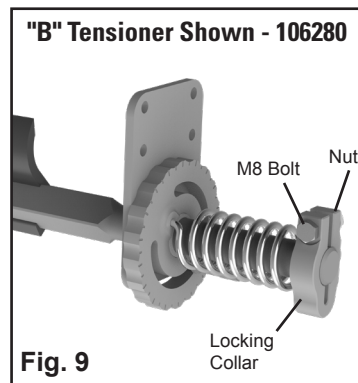


Chart C: Gap

Pulley Diameter (Inches)		Gap Dimension (C-Dim Gauge)		Pulley Diameter (Inches)		Gap Dimension (C-Dim Gauge)	
in.	mm	in.	mm	in.	mm	in.	mm
2.0	51	2.13	54	6.5	165	1.39	35
2.5	64	2.00	51	7.0	178	1.35	34
3.0	76	1.89	48	7.5	191	1.31	33
3.5	89	1.80	46	8.0	203	1.27	32
4.0	102	1.71	43	8.5	216	1.23	31
4.5	114	1.63	41	9.0	229	1.20	30
5.0	127	1.56	40	9.5	241	1.17	30
5.5	140	1.50	38	10.0	254	1.14	29
6.0	152	1.45	37	10.5	267	1.12	28

15. Tighten M8 collar bolt and nut to affix the tensioner system to the shaft (Fig. 9).
16. Using a band saw or circular saw, cut Cleaning Blade to desired width. Deburr cut edge of blade as necessary.
  - a. For general purpose cleaner Flexco recommendation is belt width minus 1" (25 mm).
  - b. For cleaning abrasive materials such as sugar and frosting, Flexco recommends material path width + 3" (75 mm) for total blade length.
17. Attach Cleaning Blade (Fig. 10).
  - a. Center and locate blade so that bottom lip engages with bar.
  - b. Using an adjustable wrench, rotate bar in the direction of the head pulley. Do not rotate the torsion hub as this may damage the spring.
  - c. Use hand to help snap blade to bar while rotating bar.

**NOTE:** When installing longer blades, it may be helpful to attach the blade starting at one end and work down the bar, engaging small lengths as you go.



## Section 4 – Installation Instructions (cont.)

18. Tension Cleaning Blade to conveyor belt by rotating the Torsion Hub towards the head pulley until blade is making contact with belt and light tension is felt in Torsion Hub (Fig. 12).
19. Rotate the Torsion Hub farther to the desired number of notches for tension pre-set. One to three notches is a typical pre-set tension (Fig. 13). While holding Torsion Hub in tension pre-set position, tighten set bolt (Fig. 13). Do not exceed 30 degrees of tensioner rotation (3 notches on the Torsion Hub).
20. Test run conveyor.

### NOTICE:

Cleaner has not been sanitized and must be cleaned and sanitized prior to use.

**NOTE:** The Food Grade Primary (FGP-ES) cleaner will come fully assembled. Verify that the out of the box configuration is the right one for your application (Fig. A & B). The appropriate tensioner should have been pre-determined for each specific application. The tensioning system requires that the torsion spring operate in the coil "tightening" direction when applying blade force against the belt.

**CAUTION:** Do not tension the spring backwards, when tensioning a spring you must confirm that you are tightening the spring. Failure to do so will cause premature product failure or reduce product performance.

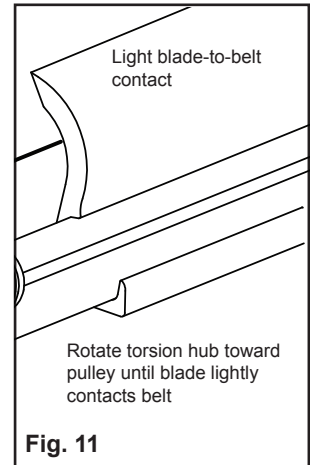
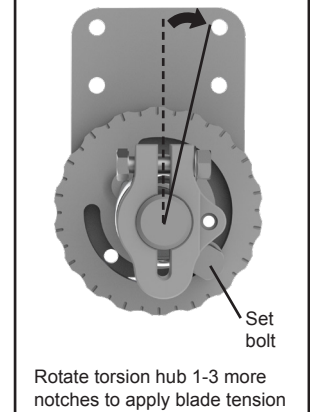
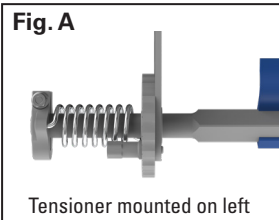
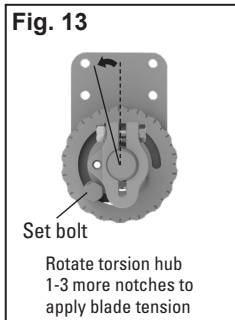


Fig. 11

Fig. 12 "B" Tensioner Shown - 106280



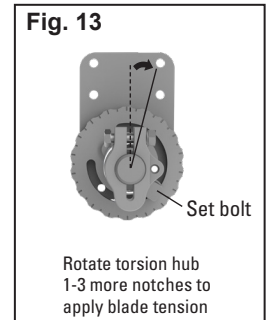
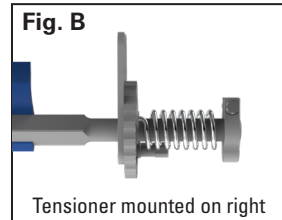
"A" Tensioner Shown - 106279



HEAD PULLEY IN FRONT OF YOU  
PRODUCT COMING TOWARDS YOU



"B" Tensioner Shown - 106280



## Section 5 - Pre-Operation Checklist and Testing

---

### 5.1 Pre-Op Checklist

- Recheck that all fasteners are tightened properly.
- 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.
- If performance is inadequate, loosen set bolt.
- Rotate Torsion Hub to adjust tension as is required for application. Do not over tension the spring.
- Tighten set bolt.

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

## 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 FGP-ES Primary Cleaner 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 the correct lockout/tagout procedures observed.

### 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.

To ensure optimal cleaner performance, keep blade and bar free of product buildup.

### 6.2 Routine Visual Inspection (every 2-4 weeks)

A visual inspection of the cleaner and belt can determine:

- 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.
- 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 is properly locked and tagged out, conduct a physical inspection of the cleaner to perform the following tasks:

- Clean material buildup off of the cleaner blade and bar.
- Closely inspect the blade for wear and any damage. Replace if needed.
- Ensure full blade to belt contact.
- Inspect the cleaner bar for damage.
- Inspect all fasteners for tightness and wear. Tighten or replace as needed.
- Replace any worn or damaged components.
- If blade flash occurs remove as needed.
- Check the tension of the cleaner blade to the belt. Adjust the tension if necessary. Do not over tension the spring. Rotate the hub no more than 7 notches for cleaners up to 30" and 8 notches for cleaners over 30".
- When maintenance tasks are completed, test run the conveyor to ensure the cleaner is performing properly.

## Section 6 - Maintenance (cont.)

### 6.4 Cleaning Instructions

Remove cleaner blade, set bolt and jam nut, torsion hub and spring, bar and bar mounting bushings. Clean and sanitize as required. Reassemble. Reset tension.

### 6.5 Blade Wear Inspection

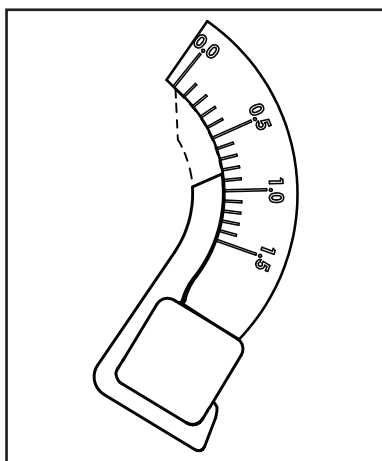
**NOTE:** Belt type, belt speed, material being conveyed, installation and other application factors will affect blade wear.

#### LARGE BLADE

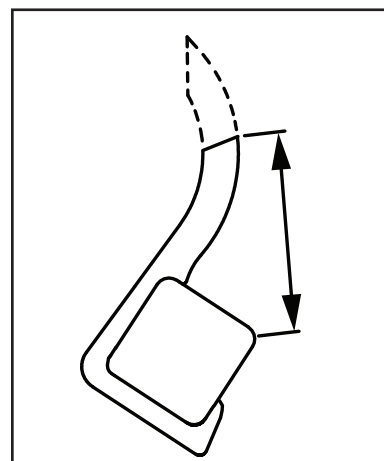
Pulley Diameter		Max Wear Measurement on Gauge	Blade Tip to Square Bar Corner Measurement	
in.	mm		in.	mm
2	51	0.41	2.27	58
2.5	64	0.49	2.18	55
3	76	0.56	2.10	53
3.5	89	0.62	2.04	52
4	102	0.68	1.98	50
4.5	114	0.73	1.92	49
5	127	0.77	1.88	48
5.5	140	0.81	1.84	47
6	152	0.84	1.80	46
6.5	165	0.88	1.76	45
7	178	0.90	1.74	44
7.5	191	0.93	1.71	43
8	203	0.95	1.69	43
8.5	216	0.98	1.66	42
9	229	0.99	1.64	42
9.5	241	1.01	1.62	41
10	254	1.03	1.60	41
10.5	267	1.04	1.59	40
11	279	1.06	1.58	40

**Note:** Maximum wear for dual durometer blade is 0.75 gauge measurement or 1.90" (48 mm) from blade tip to square bar corner.

Blade wear can be measured either by using a tape measure to determine the dimension from the tip of the blade to the corner of the bar, or by using the blade wear gauge (at left) by placing the end opposite the "0" mark on the flat surface of the bar and laying the gauge along the outside curve of the blade. Gauge can be copied and cut out for use.

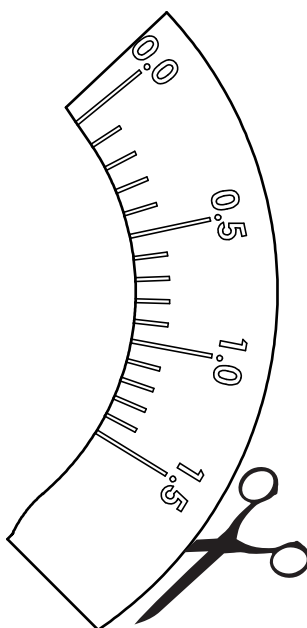


Blade Wear Measurement Using Gauge (see below) - Blade tip to top surface of bar



Blade Wear Measurement Using Tape Measure - Blade tip to corner of bar

#### Blade Wear Indicator Gauge Copy and cut out for use

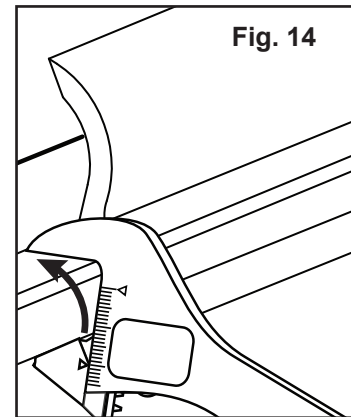


## Section 6 - Maintenance (cont.)

### 6.6 Blade Replacement Instructions

#### Removal of Cleaning Blade

1. Release the tension on the bar by unlocking the set bolt and turning the set bolt counterclockwise until it is free from the tension hub.
2. Place the adjustable wrench on the bar and rotate bar until blade makes contact with head pulley/belt (Fig. 14).
3. Place hand on blade, pressing blade against pulley (Fig. 15).
4. Rotate bar back while holding blade against pulley (Fig. 15).
5. Blade should snap free from belt cleaner bar.
6. Remove blade.

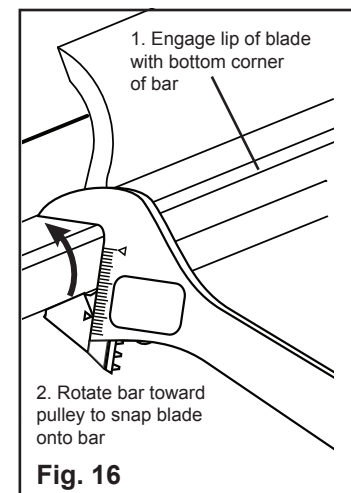
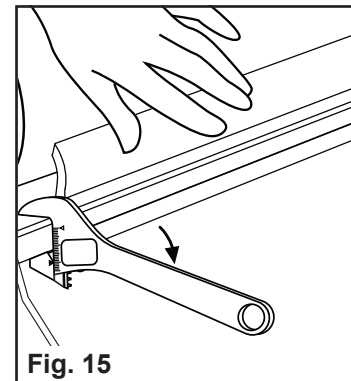


#### Installation of Cleaning Blade

1. Insert blade up through gap between cleaner bar and head pulley/belt.
2. Center blade on belt.
3. Catch bottom lip of blade on lower front edge of belt cleaner bar (Fig. 16).
4. Rotate belt cleaner bar towards head pulley.
5. Continue to rotate bar until cleaning blade snaps onto bar.

**NOTE:** On wider belts it may be necessary to assist the blade snapping with free hand while rotating the bar towards the pulley.

6. With blade rotated against face of head pulley/belt, rotate tensioning hub in the direction of the head pulley until the hub indicator has moved the appropriate number of notches on the hub housing. Do not exceed 30 degrees of tensioner rotation (3 notches on the Torsion Hub).
7. Turn set bolt until fully seated.
8. Tighten set bolt.
9. Test run conveyor and adjust cleaner tension as required.



## Section 6 - Maintenance (cont.)

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### 6.7 Maintenance Log

Conveyor Name/No. \_\_\_\_\_

Date: \_\_\_\_\_ Work done by: \_\_\_\_\_ Service Quote #: \_\_\_\_\_

Activity: \_\_\_\_\_

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Date: \_\_\_\_\_ Work done by: \_\_\_\_\_ Service Quote #: \_\_\_\_\_

Activity: \_\_\_\_\_

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Date: \_\_\_\_\_ Work done by: \_\_\_\_\_ Service Quote #: \_\_\_\_\_

Activity: \_\_\_\_\_

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Date: \_\_\_\_\_ Work done by: \_\_\_\_\_ Service Quote #: \_\_\_\_\_

Activity: \_\_\_\_\_

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Date: \_\_\_\_\_ Work done by: \_\_\_\_\_ Service Quote #: \_\_\_\_\_

Activity: \_\_\_\_\_

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Date: \_\_\_\_\_ – \_\_\_\_\_ Work done by: \_\_\_\_\_ Service Quote #: \_\_\_\_\_

Activity: \_\_\_\_\_

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Date: \_\_\_\_\_ – \_\_\_\_\_ Work done by: \_\_\_\_\_ Service Quote #: \_\_\_\_\_

Activity: \_\_\_\_\_

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## Section 6 - Maintenance (cont.)

### 6.8 Cleaner Maintenance Checklist

**FGP-ES Belt Cleaner:** \_\_\_\_\_ **Ordering Number:** \_\_\_\_\_

Blade Width: ☐ Belt minus 1" (25 mm) ☐ Material path plus 3" (75 mm).

**Conveyor Information:**

Conveyor Number: \_\_\_\_\_ Belt Condition: \_\_\_\_\_

Belt Width: ☐ 12" (300 mm) ☐ 18" (450 mm) ☐ 24" (600 mm) ☐ 30" (750 mm) ☐ 36" (900 mm) ☐ 42" (1050 mm) ☐ 48" (1200 mm)

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

Blade height: Left \_\_\_\_\_ Middle \_\_\_\_\_ Right \_\_\_\_\_

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

**Was Cleaner Adjusted:** ☐ Yes ☐ No

**Bar 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:** \_\_\_\_\_

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## Section 7 - Troubleshooting

Problem	Possible Cause	Possible Solutions
Poor cleaning performance	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Cleaner over-tensioned	Decrease tension incrementally and reevaluate
	Cleaner installed in wrong location	Verify “C” dimension, relocate to correct dimension
	Cleaner blade worn or damaged	Replace cleaner blade
Rapid Blade Wear	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Cleaner over-tensioned	Decrease tension incrementally and reevaluate
	Cleaner installed in wrong location	Verify “C” dimension, relocate to correct dimension
	Excessively abrasive material	More frequent blade adjustment and replacement may be necessary
	Mechanical splice damaging blade	Repair, skive or replace splice
Excessive center wear on blade (smile effect)	Blade wider than material path	Replace blade with width appropriate for material path
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Cleaner over-tensioned	Decrease tension incrementally and reevaluate
Unusual wear, flash or damage to blade	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup
	Mechanical splice damaging blade	Repair, skive or replace splice
	Belt damaged or ripped	Repair or replace belt
	Cleaner installed in wrong location	Verify “C” dimension, relocate to correct dimension
	Damage to pulley or pulley lagging	Repair or replace pulley or lagging
Vibration or noise	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup
	Cleaner installed in wrong location	Verify “C” dimension, relocate to correct dimension
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Cleaner over-tensioned	Decrease tension incrementally and reevaluate
	Cleaner mounting not secure	Check and tighten all bolts and nuts
	Cleaner not square to head pulley	Verify “C” dimension, relocate to correct dimension
	Material build-up in chute	Remove build-up on cleaner and in chute
	Using dual durometer blade on dry belt	Change to UHMW blade
Cleaner being pushed away from pulley	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Cleaner over-tensioned	Decrease tension incrementally and reevaluate
	Sticky material is overburdening cleaner	Increase tension incrementally and reevaluate
	Cleaner not set up correctly	Confirm location dimensions are equal on both sides

# Section 8 - Specifications

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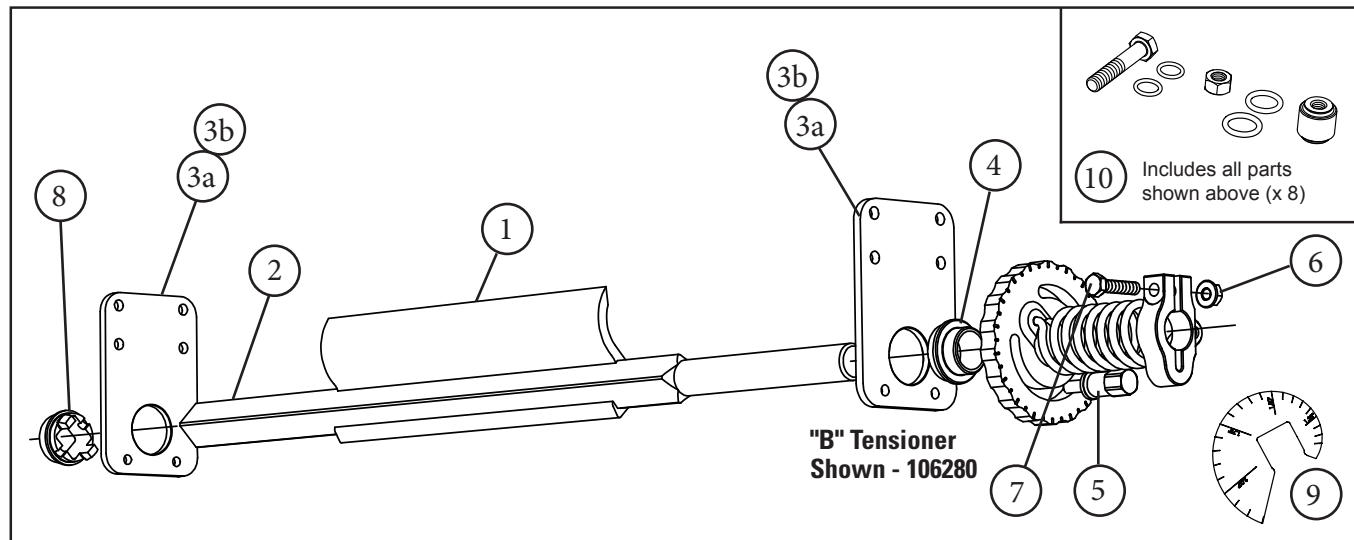
## Specifications

- Temperature Range ..... UHMW: -20°F to 140°F (-29°C to 60°C)  
Dual Durometer: +32°F to 140°F (0°C to 60°C);
- Pulley Diameter Range ..... 2" (50 mm) to 10.5" (267 mm)
- Blade Height ..... 3.0" (76 mm)
- Usable Blade Wear Length (pulley size dependent)..... 2" - 2.6" (50-66 mm)
- Blade Width Range..... 4" - 60" (102-1524 mm)
- Blade Material ..... Food-grade UHMW, UHMW with Stainless Steel, or Urethane with PVC
- Blade Hardness ..... UHMW: 63D Shore Hardness  
Urethane: 85A Shore Hardness
- Bar/Mounting Material ..... 304 Stainless Steel



## Section 9 - Replacement Parts

### Replacement Parts List



### FGP FOOD GRADE PRIMARY CLEANER EXTERNAL SPRING REPLACEMENT PARTS

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. LBS.
1	Blade (See Replacement Blade table)			
2	28" (711 mm) Shaft	FG-SQSB-28/711	103328	7.9
	34" (863 mm) Shaft	FG-SQSB-34/863	103329	9.6
	40" (1016 mm) Shaft	FG-SQSB-40/1016	103330	11.3
	46" (1168 mm) Shaft	FG-SQSB-46/1168	103331	13.0
	52" (1320 mm) Shaft	FG-SQSB-52/1320	103332	14.7
	58" (1473 mm) Shaft	FG-SQSB-58/1473	103333	16.4
	64" (1625 mm) Shaft	FG-SQSB-64/1625	103334	18.1
3a	End Plate - Europe	FGS-FGPES-PM-EU MNTG PLT	57251	0.6
3b	End Plate	FGS-FGPES-PM BLANK MNTG PLT	57258	0.8
4	Plastic Bushing (Round)	FGPS-BSG-RNG	103335	0.1
5	Set Bolt	BOLT POSITIONING FGS.SLDPR	57252	0.1
6	Nut - Stainless	NUT FLANGED M8-1.25 SS	GT207	0.1
7	Screw Stainless 1.25x35	SCRW HEX HEAD M8-1.25 X 35 SS	GT208	0.1
8	Plastic Bushing (Square)	FGPS-BSG-SQ	103336	0.1
9	C" Dimension Gauge	FG-C-GAUGE	56568	0.1
10	Hardware kit	FGPSHWKIT RPL HARDWARE KIT	103687	1.1



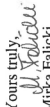

### FGS FOOD GRADE CLEANER TENSIONERS



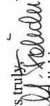

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE
-	"A" Tensioner - Left	FGTC-TWA TENSIONER WELDMENT A	106279
-	"B" Tensioner - Right	FGTC-TWB TENSIONER WELDMENT B	106280

### FGP FOOD GRADE PRIMARY CLEANER EXTERNAL SPRING REPLACEMENT BLADES

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. LBS.
1	12" (305 mm) Blue Blade	FGB-BL3-12/305	56531	0.5
	18" (457 mm) Blue Blade	FGB-BL3-18/457	56532	0.7
	24" (610 mm) Blue Blade	FGB-BL3-24/610	56533	0.9
	30" (762 mm) Blue Blade	FGB-BL3-30/762	56534	1.2
	36" (914 mm) Blue Blade	FGB-BL3-36/914	56535	1.4
	42" (1067 mm) Blue Blade	FGB-BL3-42/1067	56536	1.6
	48" (1219 mm) Blue Blade	FGB-BL3-48/1219	56537	1.8
	12" (305 mm) White Blade	FGB-WV3-12/305	56540	0.5
	18" (457 mm) White Blade	FGB-WV3-18/457	56541	0.7
	24" (610 mm) White Blade	FGB-WV3-24/610	56542	0.9
	30" (762 mm) White Blade	FGB-WV3-30/762	56543	1.2
	36" (914 mm) White Blade	FGB-WV3-36/914	56544	1.4
	42" (1067 mm) White Blade	FGB-WV3-42/1067	56545	1.6
	48" (1219 mm) White Blade	FGB-WV3-48/1219	56546	1.8
	12" (305 mm) Metal Detectable Blade	FGB-MD3-12/305	56558	0.5
	18" (457 mm) Metal Detectable Blade	FGB-MD3-18/457	56559	0.7
	24" (610 mm) Metal Detectable Blade	FGB-MD3-24/610	56560	0.9
	30" (762 mm) Metal Detectable Blade	FGB-MD3-30/762	56561	1.2
	36" (914 mm) Metal Detectable Blade	FGB-MD3-36/914	56562	1.4
	42" (1067 mm) Metal Detectable Blade	FGB-MD3-42/1067	56563	1.6
	48" (1219 mm) Metal Detectable Blade	FGB-MD3-48/1219	56564	1.8
	12" (305 mm) Dual Durometer Blade	FGB-MDDD3-12/305	56549	0.5
	18" (457 mm) Dual Durometer Blade	FGB-MDDD3-18/457	56550	0.7
	24" (610 mm) Dual Durometer Blade	FGB-MDDD3-24/610	56551	0.9
	30" (762 mm) Dual Durometer Blade	FGB-MDDD3-30/762	56552	1.2
	36" (914 mm) Dual Durometer Blade	FGB-MDDD3-36/914	56553	1.4
	42" (1067 mm) Dual Durometer Blade	FGB-MDDD3-42/1067	56554	1.6
	48" (1219 mm) Dual Durometer Blade	FGB-MDDD3-48/1219	56555	1.8

## Section 10 - Certificates and Declaration of Compliance

 Health Canada	 Santé Canada
Health Products and Food Branch	Direction générale des produits de santé et des aliments
Bureau of Chemical Safety Food Directorate Health Canada 251 Sir Frederick Banting Drwy. Postal Locator: 2201C Ottawa, ON K1A 0K9 Canada	
February 6, 2017	
Our File: KP15080703	
Jim McKee Flexco <a href="mailto:jmckee@flexco.com">jmckee@flexco.com</a>	
Dear Mr. McKee,	
<b>RE: FGP Food Grade Precleaner (with blades GA075 and GA076)</b>	
This is in response to your email of January 4, 2017, wherein you requested the status of the subject product.	
The subject scraper will be used on conveyor belts carrying meat, poultry and dairy products at a maximum temperature of 60°C.	
Based on the information submitted, we can advise that we see no reason to object to the use of the subject products as intended, provided they are technically suitable for the proposed end-uses.	
Yours truly,  Mirka Falicki Senior Scientific Evaluator Food Packaging and Incidental Additives Section Bureau of Chemical Safety Food Directorate Health Canada	
	

 Health Canada	 Santé Canada
Health Products and Food Branch	Direction générale des produits de santé et des aliments
Bureau of Chemical Safety Food Directorate Health Canada 251 Sir Frederick Banting Drwy. Postal Locator: 2201C Ottawa, ON K1A 0K9 Canada	
March 15, 2017	
Our File: KP15080703	
Jim McKee Flexco <a href="mailto:jmckee@flexco.com">jmckee@flexco.com</a>	
Dear Mr. McKee,	
<b>RE: FGP Food Grade Precleaner (with blade GA077)</b>	
This is in response to your email of March 2, 2017, wherein you provided additional information for the subject product.	
The subject scraper will be used on conveyor belts carrying meat, poultry and dairy products at a maximum temperature of 60°C.	
Based on the information submitted, we can advise that we see no reason to object to the use of the subject products as intended, provided they are technically suitable for the proposed end-uses.	
Yours truly,  Mirka Falicki Senior Scientific Evaluator Food Packaging and Incidental Additives Section Bureau of Chemical Safety Food Directorate Health Canada	
	

**Note:** Units equipped with the dual durometer blade are not compliant with Health Canada.

## Section 10 - Certificates and Declaration of Compliance

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*Partners in Productivity*

### EU Declaration of Compliance Statement

**Product:** FGPES Primary External Spring Belt pre-cleaners (white, blue and metal detectable blue versions), with UHMWPE Blades –

Assembly

106400 through 106441

Blades

56531 through 56539

56540 through 56548

56558 through 56566

Blue UHMWPE

White UHMWPE

Blue Metal Detectable UHMWPE

**Intended applications:** For use in contact with all food types, up to 60C

**Framework regulation (EC) No. 1935/2004: (Applicable to all food contact materials)**

The above FGP-ES belt pre-cleaners comply with the applicable requirements of Regulation (EC) no.1935/2004 on Materials and Articles intended to come into contact with food including Article 3 (General Requirements) and Article 17 (Traceability).

**Good Manufacturing Practice Regulation (EC) No. 2023/2006: (Applicable to all food contact materials)**

The above products are manufactured under a quality assurance system which meets the requirements of Regulation (EC) no. 2023/2006 on Good Manufacturing Practice for materials and articles intended to come into contact with food.

**Commission regulation (EU) No.10/2011 on plastic materials intended to come into contact with food:**

UHMWPE plastic blades used with the primary external spring belt pre-cleaners are in compositional compliance with EU Regulation 10/2011, including its updates to the date of this statement (Regulations 1282/2011, 1183/2012, 202/2014, 174/2015, 2016/1416, 2017/752, 2018/79, 2018/213, 2018/831, 2019/37 and 2019/1338.) The metal detectable additive used in the blue blade is also listed. Colorants are suitable for use in food contact plastics.

When used as intended, levels of overall migration and specific migration of any substances subject to restriction will not exceed the legal limits (calculated as 6 dm<sup>2</sup> blade per 1kg of food).

This compliance statement is based on information received from material suppliers, migration testing as below undertaken according to Regulation 10/2011, migration modelling and quality control systems in place at Flexco. Supporting documents are available and can be disclosed to the competent authority on request.

## Section 10 - Certificates and Declaration of Compliance



*Partners in Productivity*

Test Simulants	Food Types	Testing Condition
A (10% ethanol), B (3% acetic acid), D2 (Vegetable oil screening substitute isooctane) of Regulation No.10,2011 for Plastic Materials and Articles in contact with food	All dry, aqueous, acidic and fatty foods	OM5 2 hours at 100°C or equivalent

### Dual use food additives:

No migratory dual use food additives or authorised food flavourings covered respectively by Regulation (EC) No. 1333/2008 or Regulation (EC) No. 1334/2008 or their implementing measures are understood to be used in the manufacture of the primary external spring belt pre-cleaners.

### Stainless Steel Components

In use of the belt pre-cleaner, the specific metal release limits of the Council of Europe (COE) Resolution CM/Res (2013) 9 on metals and alloys used in food contact materials will not be exceeded.

### US FDA Compliance

The blade materials complies with US FDA 21 CFR part 177.1520 "Olefin Polymers, Specifications 2.1 and 2.2 and is suitable for use with all types of food, all conditions of use as detailed in Tables 1 and 2 of 21 CFR Part 176.170

### Additional Information

**This Declaration is for the product specified above. An updated statement will be provided if the information on which the declaration is based changes or regulatory requirements impact on its validity.**

Date 12/6/2022

DocuSigned by:  
  
93E63710BA02481...  
Signed –Flexco





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