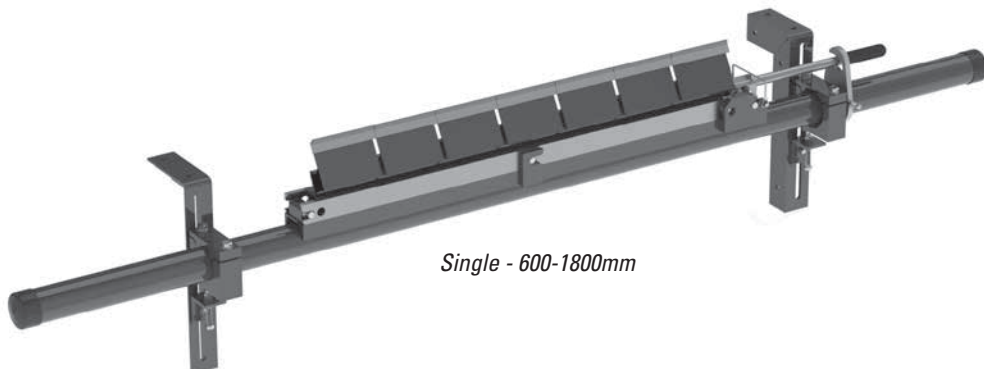
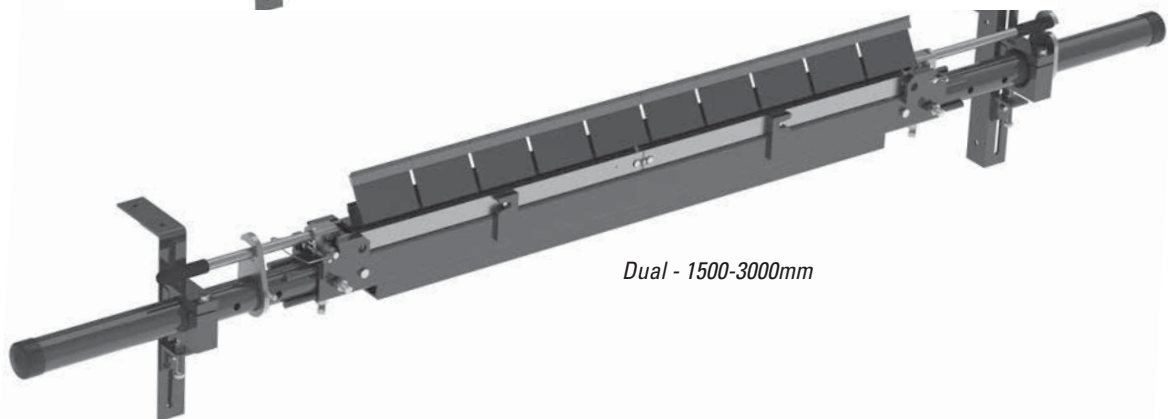


P-Type[®] Enhanced Service Advantage Cartridge Secondary Belt Cleaner

Installation, Operation and Maintenance Manual



Single - 600-1800mm



Dual - 1500-3000mm

M

P-Type® ESAC Secondary Cleaner

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

1.1 General Introduction

We at Flexco are very pleased that you have selected a P-Type® SAC Secondary 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 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 contact your field representative or our Customer Service Department:

Web site: Flexco.com

Customer Service: Australia: 61-2-8818-2000

Chile: 56-2-8967870 • China: 86-21-33528388 • England: 44-1274-600-942

Germany: 49-7428-9406-0 • India: 91-44-4354-2091 • Mexico: 52-55-5674-5326

Singapore: 65-6281-7278 • South Africa: 27-11-608-4180 • USA: 1-800-541-8028

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 P-Type SAC Secondary 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 Representative.

Section 2 - Safety Considerations and Precautions

Before installing and operating the P-Type® SAC Secondary 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.

2.1 Stationary Conveyors

The following activities are performed on stationary conveyors:

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

DANGER

It is imperative that Lockout/Tagout (LOTO) regulations, be followed before undertaking the preceding activities. Failure to use LOTO exposes workers to uncontrolled behaviour 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

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. Unforeseeable belt projections and tears can catch on cleaners and cause violent movements of the cleaner structure. Flailing hardware can cause serious injury or death.

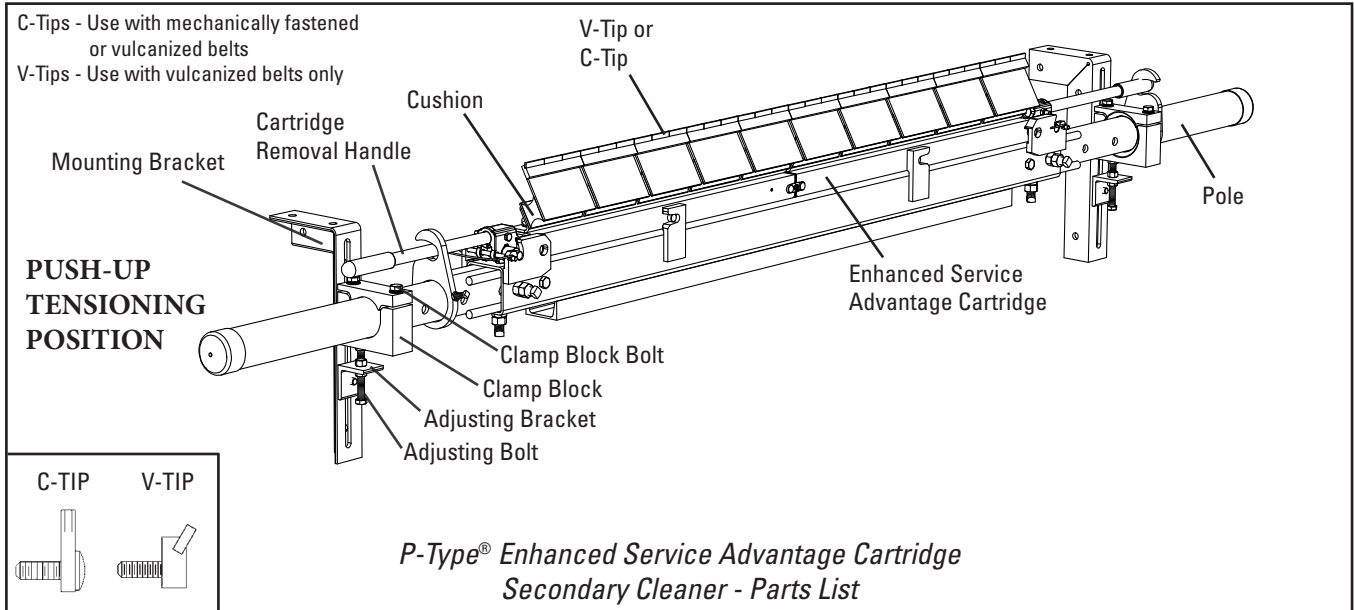
Section 3 - Pre-installation Checks and Options

3.1 Checklist

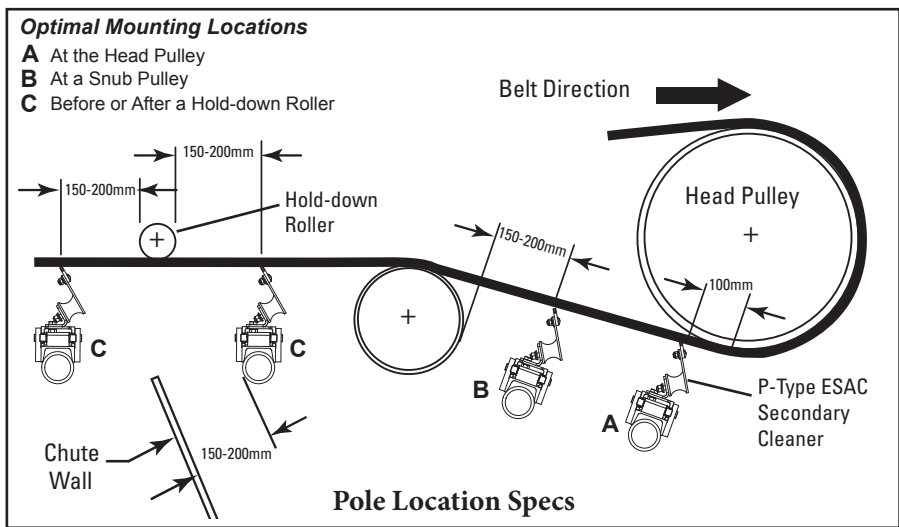
- Check that the cleaner size is correct for the beltline width
- Check the belt cleaner carton and make sure all the parts are included
- Review the “Tools Needed” list on the top of the installation instructions
- Check the conveyor site:
 - Will the cleaner be installed on a chute
 - Is the install on an open head pulley requiring mounting structure (see 3.2 - Optional Installation Accessories)

Section 4.1 - Installation Instructions - Single Cartridge

P-Type® Enhanced Service Advantage Cartridge Secondary Belt Cleaner

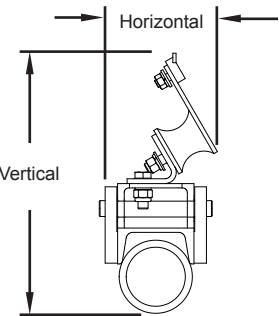


Physically lock out and tag the conveyor at the power source before you begin cleaner installation.



Clearance Requirements for Installation

Vertical	Horizontal
267mm	114mm



BEFORE YOU BEGIN:

- **PHYSICALLY LOCK OUT AND TAG THE CONVEYOR AT THE POWER SOURCE.**
- Double check the tip style needed for your application:
C-Tip - for mechanically spliced and vulcanized belts.
V-Tip - for vulcanized belts only.
- For chute mounting it may be necessary to cut an access hole to allow for installation and inspections. (See dimensions in STEP 2.)
- Follow all safety precautions when using a cutting torch.
- If welding, protect all fastener threads from weld spatter.
- For cleaner clearance requirements see chart above.

TOOLS NEEDED:

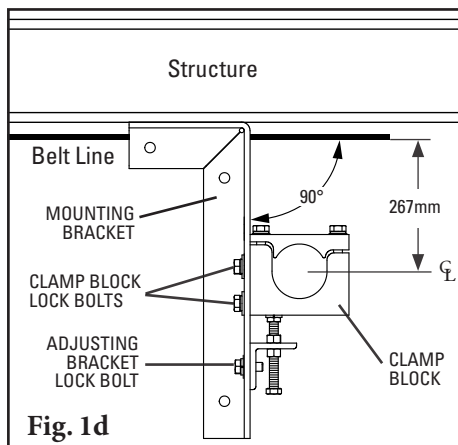
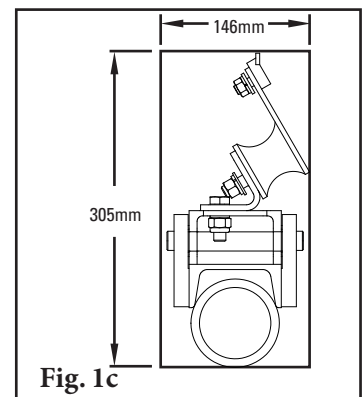
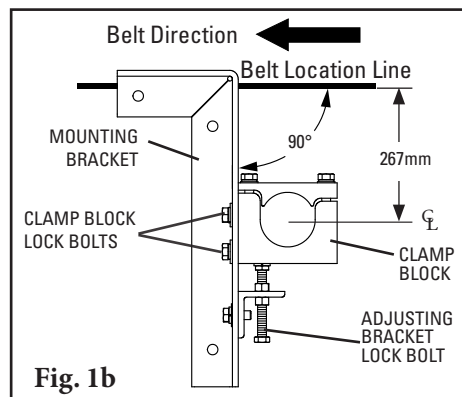
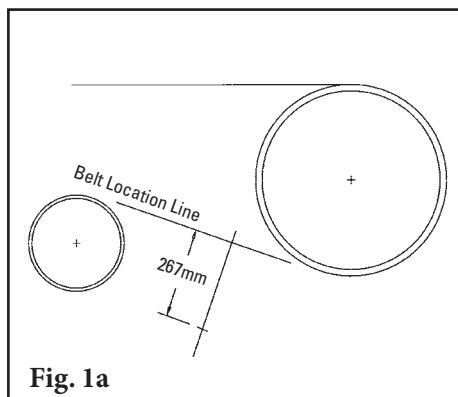
- TAPE MEASURE
- 19mm WRENCH
- Two 13mm WRENCHES
- RATCHET WITH 19mm SOCKET
- Two 150mm C-CLAMPS (for temporary positioning of mounting brackets)
- CUTTING TORCH AND/OR WELDER
- MARKING PEN



Section 4.1 - Installation Instructions - Single Cartridge

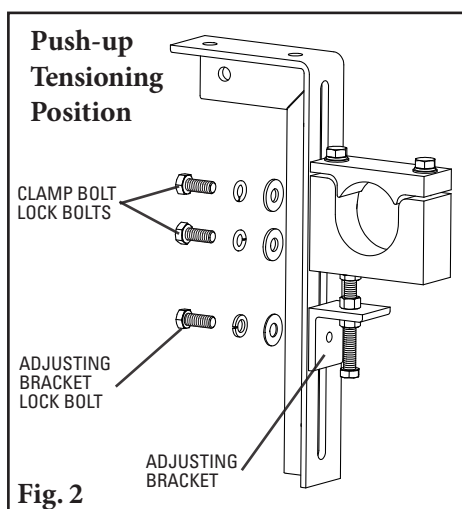
STEP 1. Install mounting brackets.

For chute mounting: For a chute installation a belt location line must first be established. Draw a line on the chute replicating this location. If head pulley and snub pulley are close, it may be necessary to assume an approximate belt line between the two. In the determined location draw a line perpendicular to the belt line. Make a mark on this line 267mm below belt location line (Fig. 1a). Locate a mounting bracket along this line allowing the centreline of the clamp block to align with this 267mm mark (Fig. 1b). To move the clamp blocks, if necessary, loosen the clamp block lock bolts and the adjusting bracket lock bolt and move the clamp block to a position where the centre of the hole is 267mm below the bottom of the belt. Bolt or weld in place. Repeat this step on the opposite side. On one side an access hole may be required (Fig. 1c). **NOTE:** The brackets must be aligned perpendicular to the belt.



For structure mounting: In most applications the standard mounting brackets will have adequate room to fit on the structure with no cutting. Clamp the mounting bracket into position (use 150mm clamps). Move the clamp block to align the centre of the block with a point 267mm below the belt (Fig. 1d). To move the clamp blocks, if necessary, loosen the clamp block lock bolts and the adjusting bracket lock bolt and move the clamp block to a position where the centre of the hole is 267mm below the bottom of the belt. The bracket can now be bolted or welded in place. Locate and install bracket on the opposite side of belt in alignment with the first bracket. **NOTE:** The brackets must be aligned perpendicular to the belt.

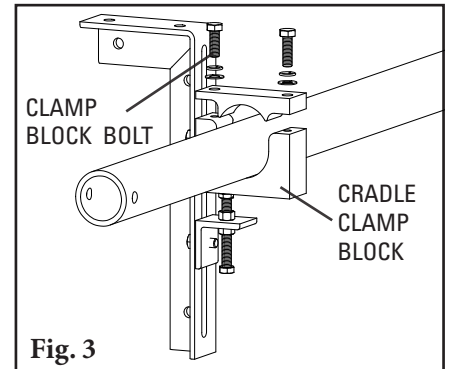
2. **Select Set™ Tensioner Kit:** Tensioner kits are shipped in the push-up tensioning position. (Fig. 2).



Section 4.1 - Installation Instructions - Single Cartridge

3. Install the pole.

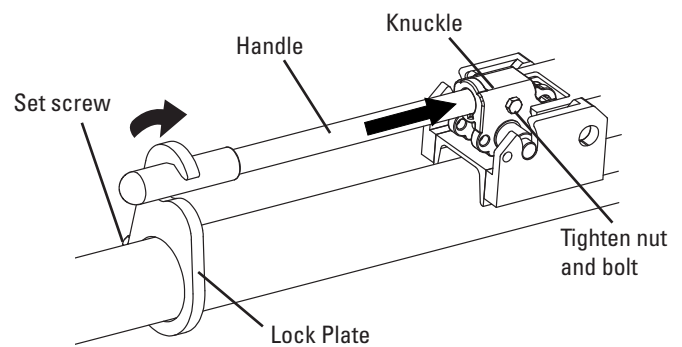
Remove the cartridge from the pole. Remove the clamp block bolt from the access side clamp block and remove the upper half of the clamp block. On the opposite side clamp block, loosen the clamp block bolt enough to allow the pole to slide freely through (Fig. 3). Slide the pole across the belt, through the loosened clamp block, and locate into the cradle clamp block. Position the upper clamp block half over the pole and reinstall the clamp block bolt. Do not fully tighten.



4. Different Cartridge Installation Methods.

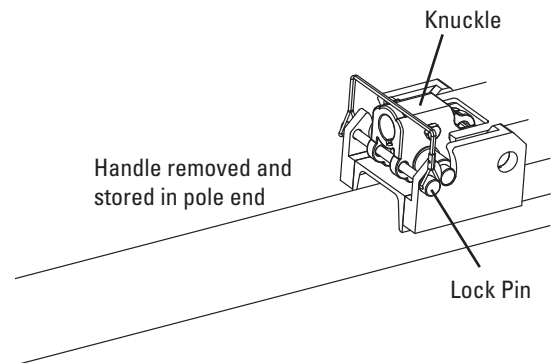
Option A: Handle always on cartridge.

1. Slide the handle into the already installed knuckle, then tighten with supplied bolt/nut hardware.
2. Slide the cartridge onto the pole and lock down the knuckle onto the pole.
3. Slide the lock plate onto the pole, over the handle, then lock with the set screw.



Option B: Handle stored inside pole.

1. Set the cartridge onto the pole, then slide the handle into the already installed knuckle.
2. Lock down the knuckle onto the pole, then remove handle and place into open pole end.
3. Using the lock pins provided, lock the knuckle and the handle in place.



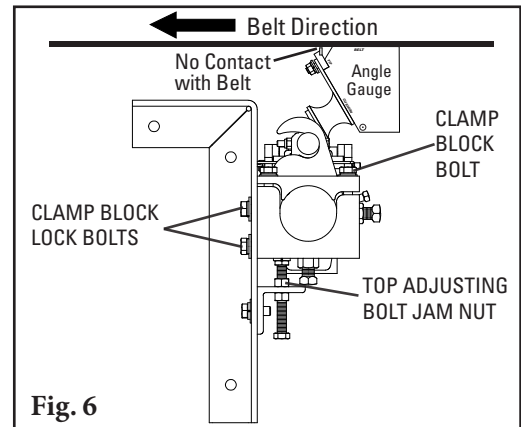
Section 4.1 - Installation Instructions - Single Cartridge

5. Centre tips on the belt.

Once the cartridge is reinstalled, position the pole so the tips are centred on the belt and snug the clamp block bolt on both sides. Do not fully tighten.

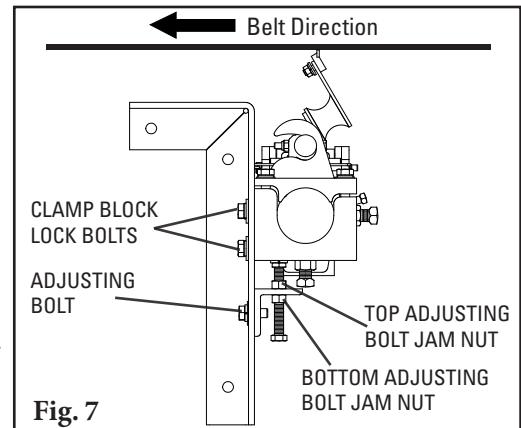
6. Set the tip angle.

With angle gauge provided, rotate the tips to the preset angle (Fig. 6) and lock in place by tightening the clamp block bolts equally. **NOTE:** Make sure there is NO tip-to-belt contact while making this alignment. If contact occurs, lower the pole by loosening the clamp block lock bolts and raising the top adjusting bolt jam nut (Fig. 6). When the tips are not touching the belt, repeat this step.



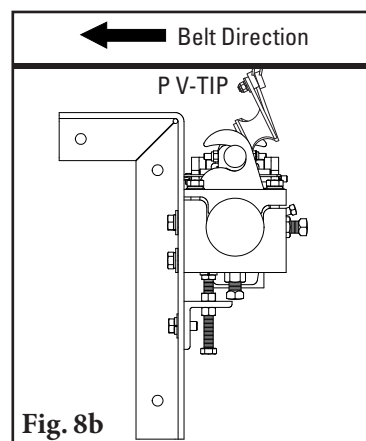
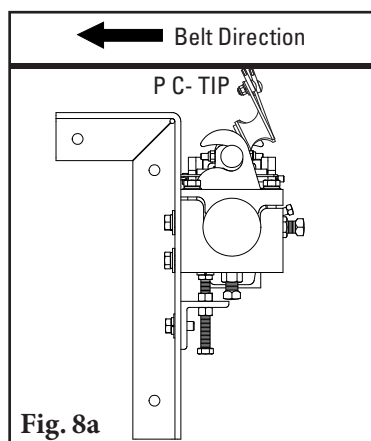
7. Set the tip tension.

With all clamp block lock bolts slightly loosened, back down the bottom adjusting bolt jam nut 5-6 turns on both sides (Fig. 7). Turn the top adjusting bolt jam nuts down until light contact is made between the tips and belt across the entire width of the cleaner. Give an additional 1-1/2 turns to both top adjusting bolt jam nuts and tighten both bottom adjusting bolt jam nuts. Tighten all clamp block lock bolts. Double check that all bolts and nuts on the cleaner are tight.



8. Check the tip tension.

Pull back on the outside tip until the tip-to-belt contact is broken and release. If the cleaner is correctly tensioned the complete blade of the adjacent tip will be visible (Fig. 8a & 8b). If not, add (or reduce) tension by making 1/2 turn adjustments on the adjusting bolt as described in Step 7 until the adjacent tip is visible.

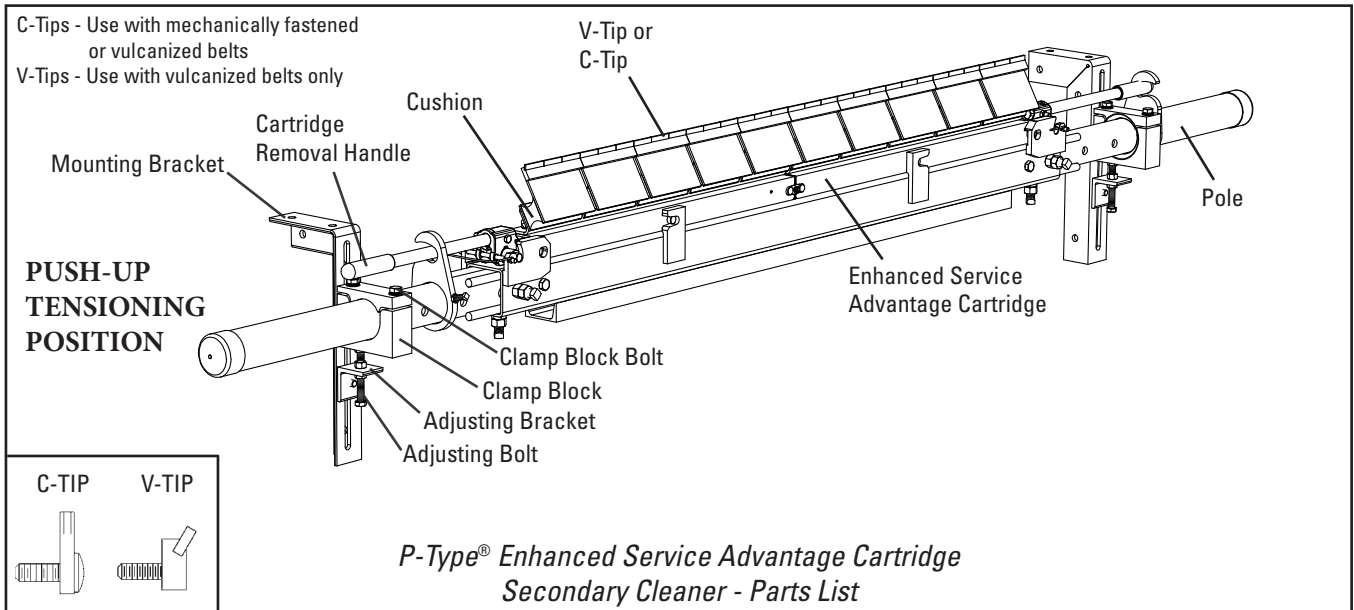


Test run the cleaner and inspect its performance.

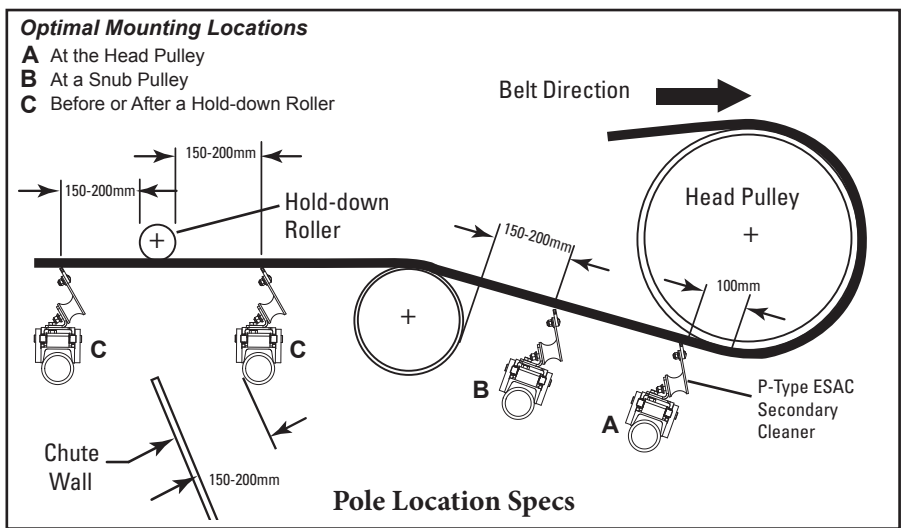
If vibration occurs or more cleaning efficiency is desired, increase the tip tension by making a 1/2 turn adjustment on each adjusting bolt.

Section 4.2 - Installation Instructions - Dual Cartridge

P-Type® Enhanced Service Advantage Cartridge Secondary Belt Cleaner

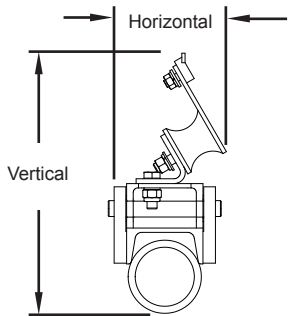


Physically lock out and tag the conveyor at the power source before you begin cleaner installation.



Clearance Requirements for Installation

Vertical	Horizontal
311mm	100mm



BEFORE YOU BEGIN:

- **PHYSICALLY LOCK OUT AND TAG THE CONVEYOR AT THE POWER SOURCE.**
- Double check the tip style needed for your application:
C-Tip - for mechanically spliced and vulcanized belts.
V-Tip - for vulcanized belts only.
- For chute mounting it may be necessary to cut an access hole to allow for installation and inspections. (See dimensions in STEP 2.)
- Follow all safety precautions when using a cutting torch.
- If welding, protect all fastener threads from weld spatter.
- For cleaner clearance requirements see chart above.

TOOLS NEEDED:

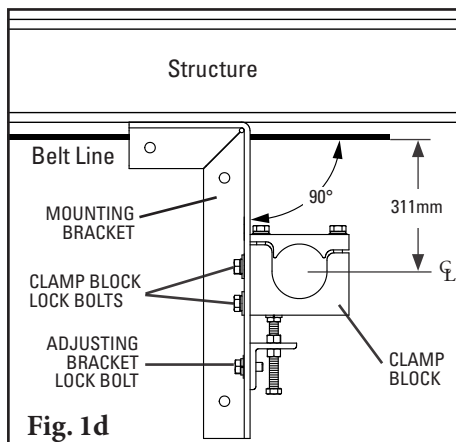
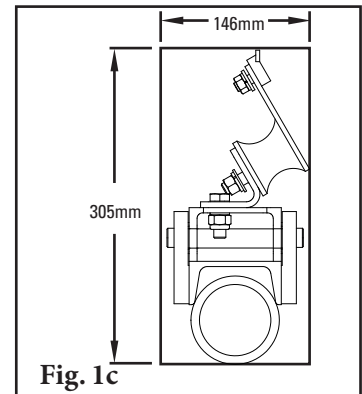
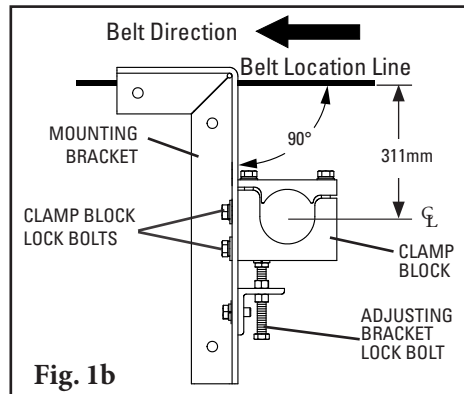
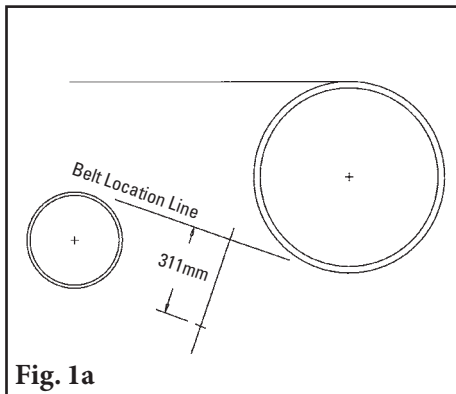
- TAPE MEASURE
- 19mm WRENCH
- Two 13mm WRENCHES
- RATCHET WITH 19mm SOCKET
- Two 150mm C-CLAMPS (for temporary positioning of mounting brackets)
- CUTTING TORCH AND/OR WELDER
- MARKING PEN



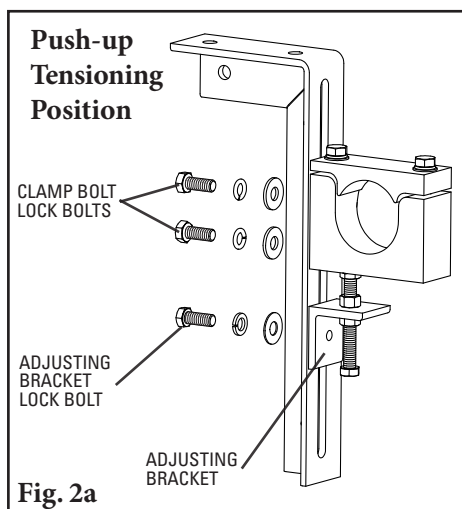
Section 4.2 - Installation Instructions - Dual Cartridge

STEP 1. Install mounting brackets.

For chute mounting: For a chute installation a belt location line must first be established. Draw a line on the chute replicating this location. If head pulley and snub pulley are close, it may be necessary to assume an approximate belt line between the two. In the determined location draw a line perpendicular to the belt line. Make a mark on this line 311mm below belt location line (Fig. 1a). Locate a mounting bracket along this line allowing the centreline of the clamp block to align with this 311mm mark (Fig. 1b). To move the clamp blocks, if necessary, loosen the clamp block lock bolts and the adjusting bracket lock bolt and move the clamp block to a position where the centre of the hole is 311mm below the bottom of the belt. Bolt or weld in place. Repeat this step on the opposite side. On one side an access hole may be required (Fig. 1c). **NOTE:** The brackets must be aligned perpendicular to the belt.



For structure mounting: In most applications the standard mounting brackets will have adequate room to fit on the structure with no cutting. Clamp the mounting bracket into position (use 150mm clamps). Move the clamp block to align the centre of the block with a point 311mm below the belt (Fig. 1d). To move the clamp blocks, if necessary, loosen the clamp block lock bolts and the adjusting bracket lock bolt and move the clamp block to a position where the centre of the hole is 311mm below the bottom of the belt. The bracket can now be bolted or welded in place. Locate and install bracket on the opposite side of belt in alignment with the first bracket. **NOTE:** The brackets must be aligned perpendicular to the belt.

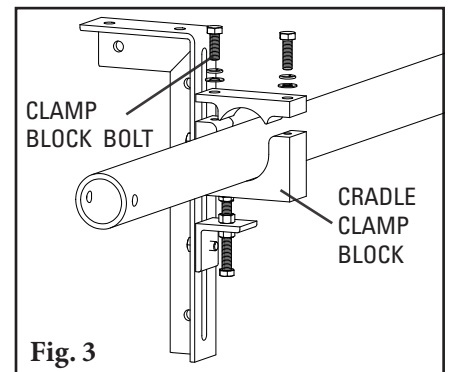


2. **Select Set™ Tensioner Kit:** Tensioner kits are shipped in the push-up tensioning position. (Fig. 2).

Section 4.2 - Installation Instructions - Dual Cartridge

3. Install the pole.

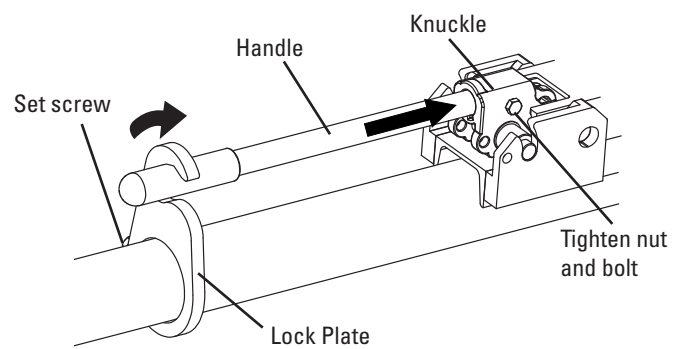
Remove the cartridge from the pole. Remove the clamp block bolt from the access side clamp block and remove the upper half of the clamp block. On the opposite side clamp block, loosen the clamp block bolt enough to allow the pole to slide freely through (Fig. 3). Slide the pole across the belt, through the loosened clamp block, and locate into the cradle clamp block. Position the upper clamp block half over the pole and reinstall the clamp block bolt. Do not fully tighten.



4. Different Cartridge Installation Methods.

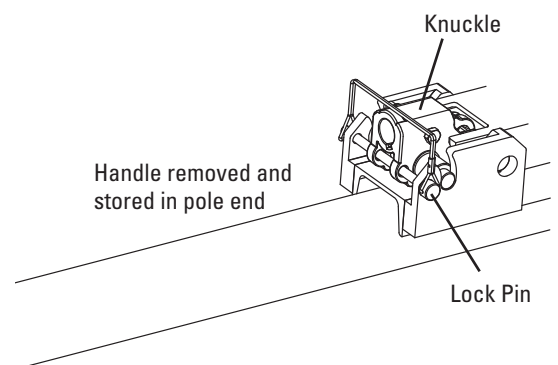
Option A: Handle always on cartridge.

1. Slide the handle into the already installed knuckle, then tighten with supplied bolt/nut hardware.
2. Slide the cartridge onto the pole and lock down the knuckle onto the pole.
3. Slide the lock plate onto the pole, over the handle, then lock with the set screw.
4. Repeat for other side.



Option B: Handle stored inside pole.

1. Set the cartridge onto the pole, then slide the handle into the already installed knuckle.
2. Lock down the knuckle onto the pole, then remove handle and place into open pole end.
3. Using the lock pins provided, lock the knuckle and the handle in place.
4. Repeat for other side.



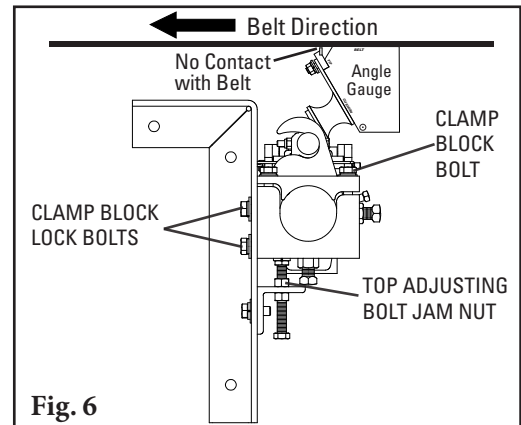
Section 4.2 - Installation Instructions - Dual Cartridge

5. Centre tips on the belt.

Once the cartridge is reinstalled, position the pole so the tips are centred on the belt and snug the clamp block bolts on both sides. Do not fully tighten.

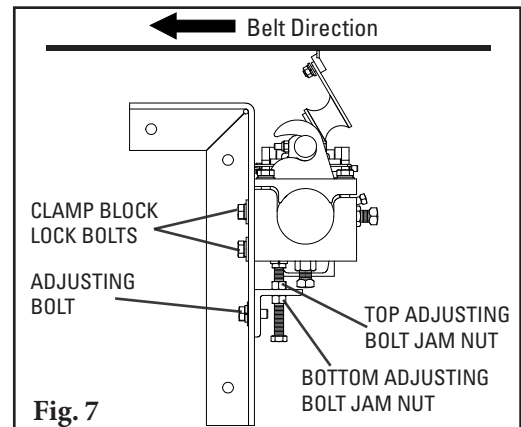
6. Set the tip angle.

With angle gauge provided, rotate the tips to the preset angle (Fig. 6) and lock the pole in place by tightening the clamp block bolts equally. **NOTE:** Make sure there is NO tip-to-belt contact while making this alignment. If contact occurs, lower the pole by loosening the clamp block lock bolts and raising the top adjusting bolt jam nut (Fig. 6). When the tips are not touching the belt, repeat this step.



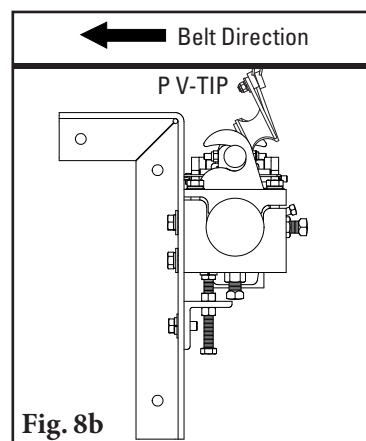
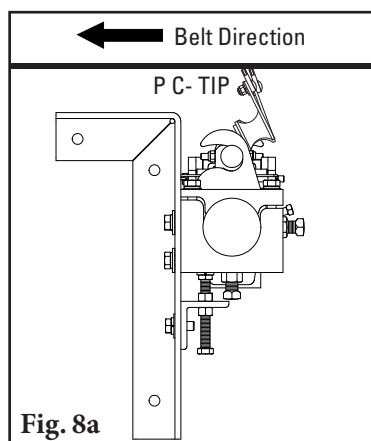
7. Set the tip tension.

With all clamp block lock bolts slightly loosened, back down the bottom adjusting bolt jam nut 5-6 turns on both sides (Fig. 7). Turn the top adjusting bolt jam nuts down until light contact is made between the tips and belt across the entire width of the cleaner. Give an additional 1-1/2 turns to both top adjusting bolt jam nuts and tighten both bottom adjusting bolt jam nuts. Tighten all clamp block lock bolts. Double check that all bolts and nuts on the cleaner are tight.



8. Check the tip tension.

Pull back on the outside tip until the tip-to-belt contact is broken and release. If the cleaner is correctly tensioned the complete blade of the adjacent tip will be visible (Fig. 8a & 8b). If not, add (or reduce) tension by making 1/2 turn adjustments on the adjusting bolt as described in Step 7 until the adjacent tip is visible.



Test run the cleaner and inspect its performance.

If vibration occurs or more cleaning efficiency is desired, increase the tip tension by making a 1/2 turn adjustment on each adjusting bolt.

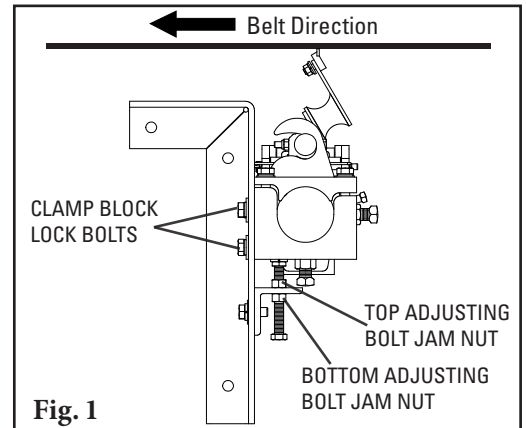
Section 4.3 - Cartridge Replacement Instructions

P-Type® Enhanced Service Advantage Cartridge Secondary Belt Cleaner

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

1. Release the tip tension.

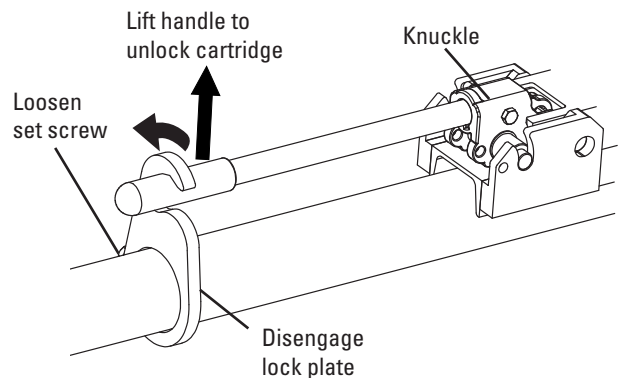
With all clamp block lock bolts slightly loosened, turn the top adjusting bolt jam nuts until contact is broken between the tips and belt across the entire width of the cleaner, and there is enough clearance to remove the cartridge (approx 25mm).



2. Different Cartridge Removal Methods.

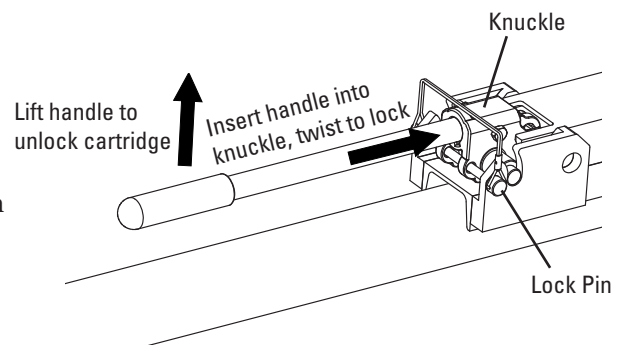
Option A: Handle always on cartridge.

1. Loosen the lock plate set screw and disengage lock plate from handle.
2. Lift the handle to unlock the knuckle and cartridge, then pull cartridge out.
3. If using dual cartridge cleaner, repeat for other side.



Option B: Handle stored inside pole.

1. Remove lock pins holding handle and knuckle in place.
2. Slide the handle into the knuckle and twist to lock.
3. Lift the handle to unlock the knuckle and cartridge, then pull cartridge out.
4. If using dual cartridge cleaner, repeat for other side.

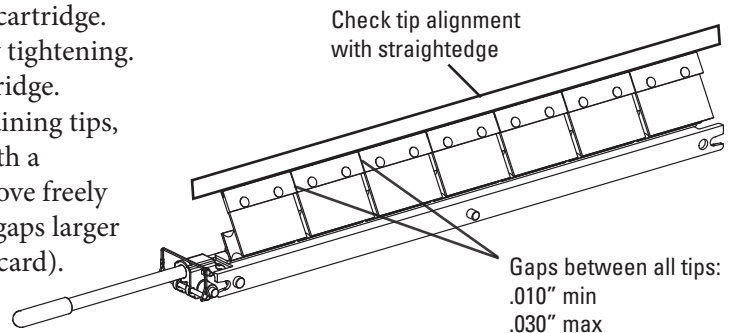


Section 4.3 - Cartridge Replacement Instructions

4. **Replace the worn tips.** **NOTE:** If using a dual cartridge cleaner, please use a Cartridge Tip Alignment Tool to ensure the tips on both cartridges are located at the same height. It is recommended to use a second cartridge with new tips and cushions already installed for a quick change-out. However, new cleaner tips can be installed on the pulled cartridge on-site if needed.

Single Cartridge:

1. Remove all tips with hardware from the used cartridge.
2. Install all new tips and hardware without fully tightening.
3. Tighten one of the tips on one end of the cartridge.
4. Visually align all others while tightening remaining tips, ensuring a flat profile across all tips. Check with a straightedge. When finished, all tips should move freely without catching on the next tip and have no gaps larger than 1mm (approximate thickness of a credit card).



Dual Cartridge:

1. Remove all tips with hardware from the used cartridges.
2. Install all new tips and hardware without fully tightening.
3. On one cartridge, place the Cartridge Tip Alignment Tool on the end with the notch and alignment holes. Using those alignment holes, tighten the tool to the cartridge with wing nut (Fig. 1).
4. Set the tip height gauge on the Cartridge Tip Alignment Tool so that the loosely installed tip can push up into the corner of the tool (Fig. 2).
5. Tighten the first tip while holding it tight to the Cartridge Tip Alignment Tool (Fig. 2).
6. Visually align all others while tightening remaining tips, ensuring a flat profile across all tips. Check with a straightedge. When finished, all tips should move freely without catching on the next tip and have no gaps larger than 1mm (approximate thickness of a credit card).
7. Repeat Steps 3, 5 and 6 for second cartridge, making sure to keep the tip height gauge locked in place so that both cartridges will be aligned when assembled to the pole.

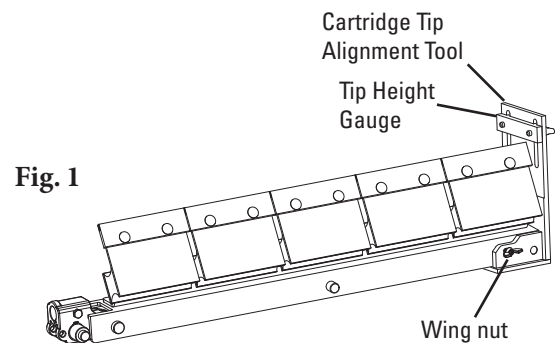


Fig. 1

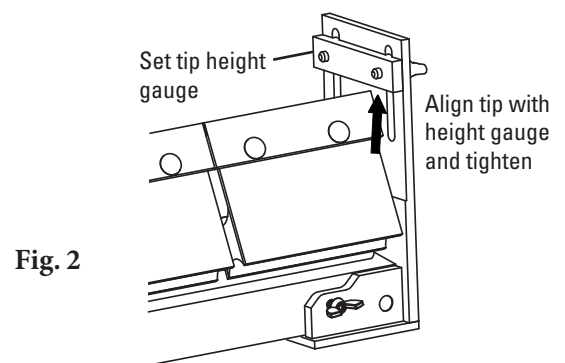


Fig. 2

DO NOT RESET TIP HEIGHT GAUGE WHEN SWITCHING TO SECOND CARTRIDGE

Section 4.3 - Cartridge Replacement Instructions

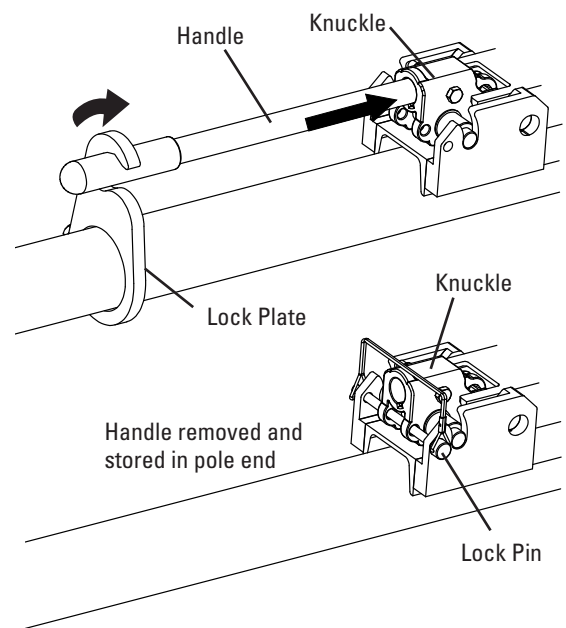
5. Insert the reconditioned or replacement cartridge.

Option A: Handle always on cartridge.

1. Slide the cartridge onto the pole and lock down the knuckle onto the pole.
2. Slide the lock plate onto the pole, over the handle, then lock with the set screw.
3. If using dual cartridge, repeat for other side.

Option B: Handle stored inside pole.

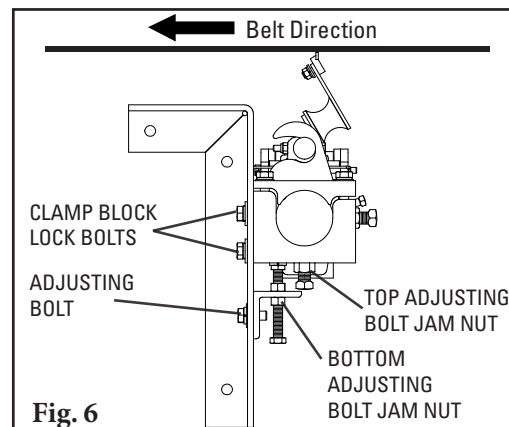
1. Set the cartridge onto the pole, then slide the handle into the already installed knuckle.
2. Lock down the knuckle onto the pole, then remove handle and place into open pole end.
3. Using the lock pins provided, lock the knuckle and the handle in place.
4. If using dual cartridge, repeat for other side.



Section 4.3 - Cartridge Replacement Instructions

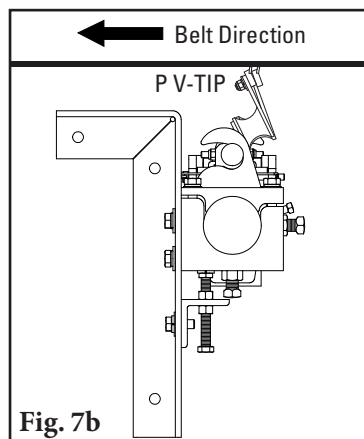
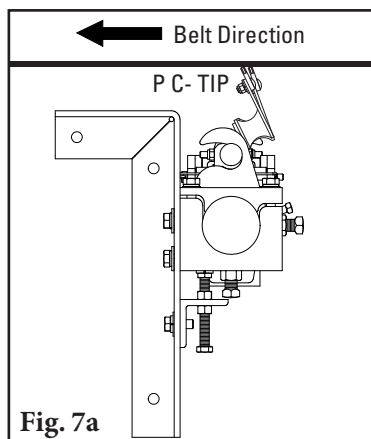
6. Set the tip tension.

With all clamp block lock bolts slightly loosened, back down the bottom adjusting bolt jam nut 5-6 turns on both sides (Fig. 6). Turn the top adjusting bolt jam nuts down until light contact is made between the tips and belt across the entire width of the cleaner. Give an additional 1-1/2 turns to both top adjusting bolt jam nuts and tighten both bottom adjusting bolt jam nuts. Tighten all clamp block lock bolts. Double check that all bolts and nuts on the cleaner are tight.



7. Check the tip tension.

Pull back on the outside tip until the tip-to-belt contact is broken and release. If the cleaner is correctly tensioned the complete blade of the adjacent tip will be visible (Fig. 7a & 7b). If not, add (or reduce) tension by making 1/2 turn adjustments on the adjusting bolt as described in Step 6 until the adjacent tip is visible.



Test run the cleaner and inspect its performance.

If vibration occurs or more cleaning efficiency is desired, increase the tip tension by making a 1/2 turn adjustment on each adjusting bolt.

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 P-Type ESAC Belt 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 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 should look for:

- If adjusting brackets are set correctly for optimal tensioning
- If belt looks clean or if there are areas that are dirty
- If 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 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
- Significant signs of carryback

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.
- 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 steps on Page 15.
- When maintenance tasks are completed, test run the conveyor to ensure the cleaner is performing properly

Section 6 - Maintenance

6.4 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

6.5 Cleaner Maintenance Checklist

Belt Cleaner: _____ Serial Number: _____

Beltline Information:

Beltline Number: _____ Belt Condition: _____

Belt Width: 600mm 750mm 900mm 1050mm 1200mm 1350mm 1500mm 1800mm 2100mm 2400mm 3000mm

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 blades installed: _____ Date blades inspected: _____ Estimated blade life: _____

Are blades making complete contact with belt? Yes No

Blade wear: LEFT _____ MIDDLE _____ RIGHT _____

Blade condition: Good Grooved Smiled Not contacting belt Damaged

Measurement of spring: Required _____ Currently _____

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: _____

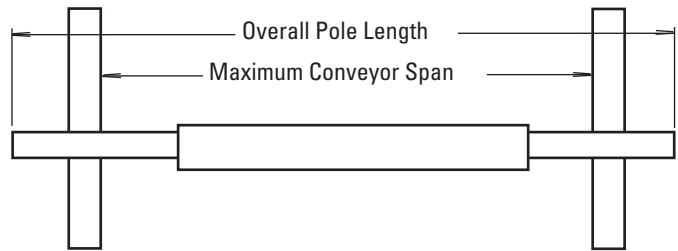
Section 7 - Troubleshooting

Problem	Possible Cause	Possible Solutions
Vibration	Cleaner secure bolts not set	Ensure all locking nuts are tight (Loctite)
	Cleaner not set up correctly	Ensure cleaner set up properly (check tip angle with gauge)
	Belt tension too high	Ensure cleaner can conform to belt, or replace with alternate Flexco secondary cleaner
	Belt flap	Introduce hold-down roller to flatten belt
	Cleaner over-tensioned	Ensure cleaner is correctly tensioned
	Cleaner under-tensioned	Ensure cleaner is correctly tensioned
Material buildup on cleaner	Cleaner not set up correctly	Ensure cleaner set up properly
	Buildup on chute	Ensure cleaner is not located too close to back of chute, allowing buildup
	Cleaner being overburdened	Introduce Flexco precleaner
	Excessive sticky material	Frequently clean unit of buildup
Damaged belt cover	Cleaner over-tensioned	Ensure cleaner is correctly tensioned
	Cleaner blade damage	Check blade for wear, damage and chips, replace where necessary
	Attack angle not correct	Ensure cleaner set up properly (check tip angle with gauge)
	Material buildup in chute	Frequently clean unit of buildup
Cleaner not conforming to belt	Cleaner not set up correctly	Ensure cleaner set up properly (check tip angle with gauge)
	Belt tension too high	Ensure cleaner can conform to belt (introduce hold-down roller), or replace with alternate Flexco secondary cleaner
	Belt flap	Introduce hold-down roller to flatten belt
	Cleaner cannot conform	Ensure cleaner can conform to belt (introduce hold-down roller), or replace with alternate Flexco secondary cleaner
Material passing cleaner	Cleaner not set up correctly	Ensure cleaner set up properly (check tip angle with gauge)
	Cleaner tension too low	Ensure cleaner is correctly tensioned
	Cleaner blades worn/damaged	Check blades for wear, damage and chips, replace where necessary
	Cleaner being overburdened	Introduce Flexco precleaner
	Belt flap	Introduce hold-down roller to flatten belt
	Belt worn or grooved	Introduce water spray pole
	Cleaner cannot conform	Ensure cleaner can conform to belt (introduce hold-down roller), or replace with alternate Flexco secondary cleaner
Damage to mechanical fastener	Incorrect cleaner blade selection	Change blade type to accommodate fastener style (C-Tip or V-Tip)
	Belt not skived correctly	Spot and redo splice correctly, lowering the profile flush or below belt surface
	Blade angle incorrect	Reset with gauge
Missing material in belt centre only	Cupped Belt	Install hold-down roller and reset blade angle with gauge
	Cleaner blade worn/damaged	Check blade for wear, damage and chips, replace where necessary
Missing material on outer edges only	Cupped Belt	Install hold-down roller and reset blade angle with gauge
	Cleaner blade worn/damaged	Check blade for wear, damage and chips, replace where necessary

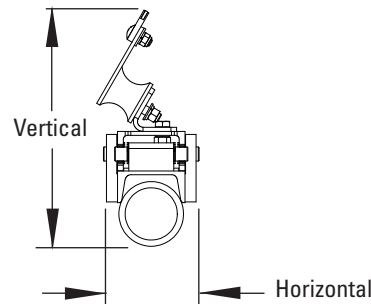
Section 8 - Specs and CAD Drawings

8.1 Specs and Guidelines

Pole Length Specifications*				
VERSION	CLEANER SIZE	BLADE WIDTH	POLE LENGTH	MAXIMUM CONVEYOR SPAN
	mm	mm	mm	mm
Single	600	600	1950	1650
	750	750	2100	1800
	900	900	2250	1950
	1050	1050	2400	2100
	1200	1200	2550	2250
	1350	1350	2700	2400
	1500	1500	2850	2550
	1800	1800	3150	2850
Dual	1500	1500	3000	2700
	1800	1800	3300	3000
	2100	2100	3600	3300
	2400	2400	3900	3600
	3000	3000	4500	4200



Clearance Guidelines for Installation		
VERSION	HORIZONTAL CLEARANCE REQUIRED	VERTICAL CLEARANCE REQUIRED
	mm	mm
Single	114	267
Dual	114	311



Specifications:

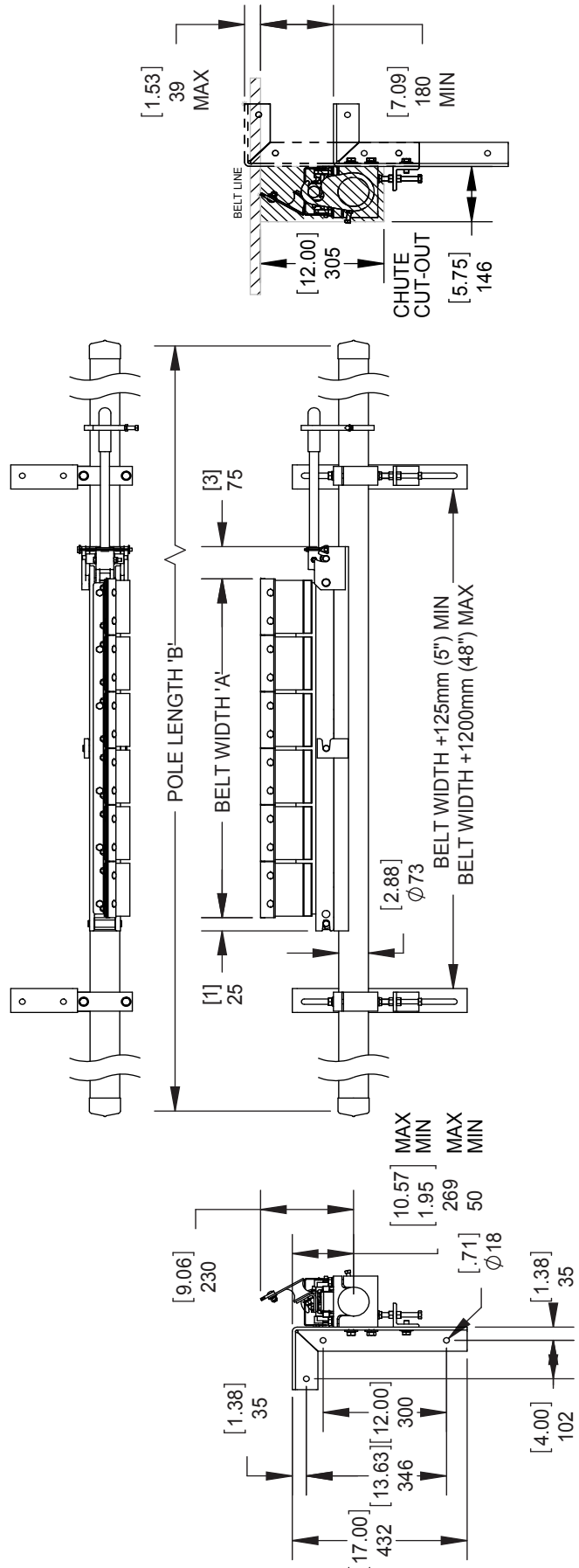
- Maximum Belt SpeedContact Flexco®
- Temperature Rating-35°C to 82°C
- Usable Blade Wear Length9mm
- Blade Materials.....C-Tip: Impact Resistant Tungsten Carbide (works with mechanical fasteners)
V-Tip: Long Life Tungsten Carbide (for vulcanized belts only)
- Available for Belt Widths.....600 to 3000 mm. Other sizes available upon request.

Patent Pending

Section 8 - Specs and CAD Drawings

8.2 CAD Drawing - P-Type® ESAC with C-Tips - Single Cartridge

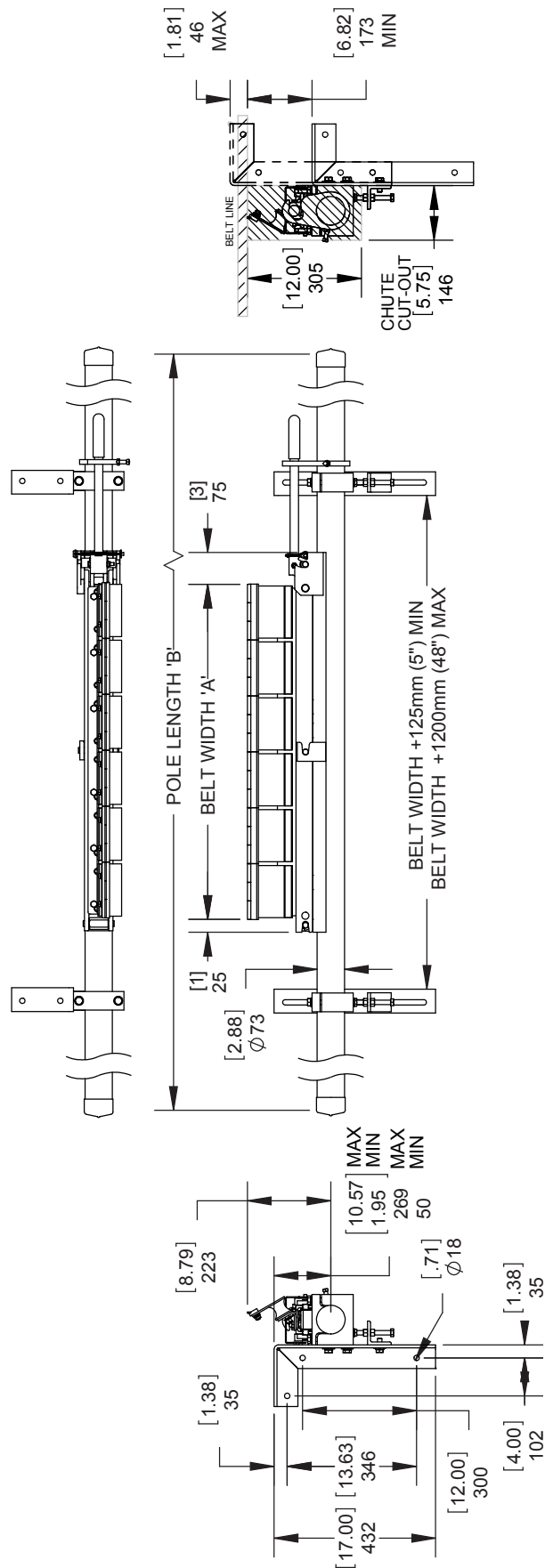
SPECIFICATIONS			SAC PC CLEANER		SA CARTRIDGE POLE		
BELT WIDTH 'A' (mm)	BELT WIDTH 'A' (in)	POLE LENGTH 'B' (mm)	# OF BLADES	ORDER NUMBER	ITEM CODE	ORDER NUMBER	ITEM CODE
600	24	1981	4	PC600-SAC	78046	SACPL-24/600	77887
750	30	2133	5	PC750-SAC	78047	SACPL-30/750	77888
900	36	2286	6	PC900-SAC	78048	SACPL-36/900	77889
1050	42	2438	7	PC1050-SAC	78049	SACPL-42/1050	77890
1200	48	2590	8	PC1200-SAC	78050	SACPL-48/1200	77891
1350	54	2743	9	PC1350-SAC	78051	SACPL-54/1350	77892
1500	60	2895	10	PC1500-SAC	78052	SACPL-60/1500	77893
1800	72	3200	12	PC1800-SAC	78053	SACPL-72/1800	77894



Section 8 - Specs and CAD Drawings

8.2 CAD Drawing - P-Type® ESAC with V-Tips - Single Cartridge

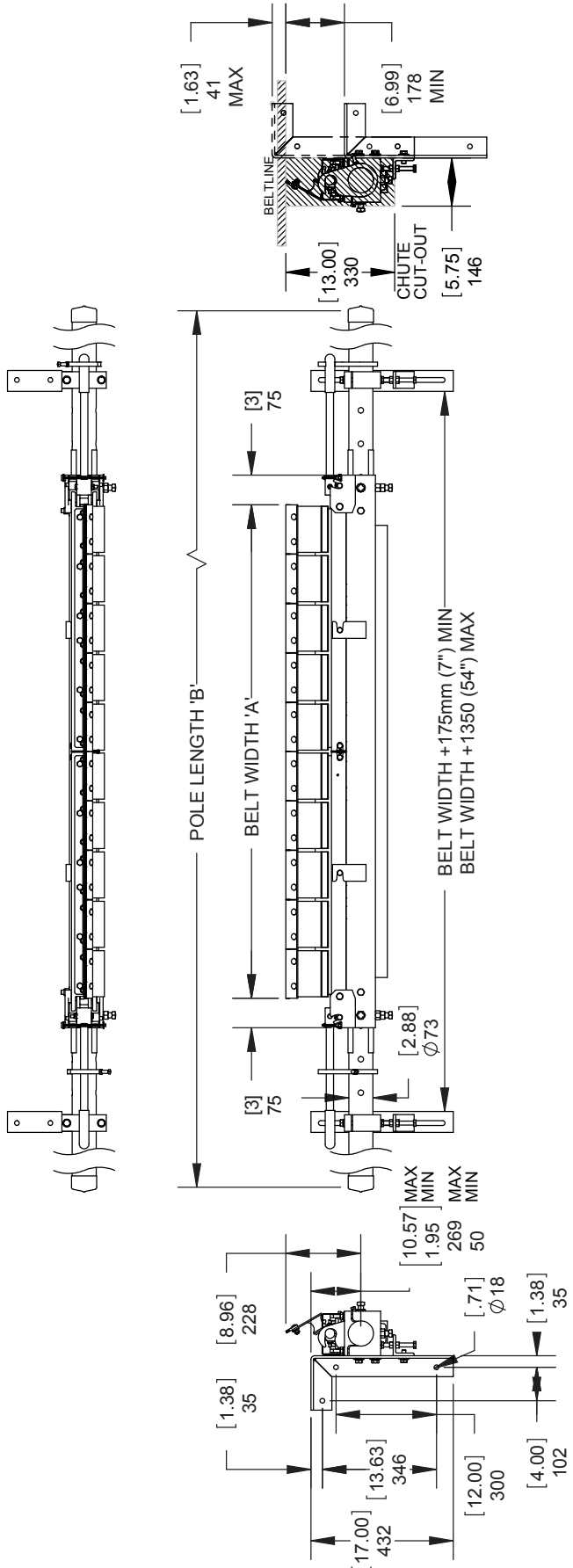
SPECIFICATIONS			SAC PV CLEANER		SA CARTRIDGE POLE	
BELT WIDTH 'A' (mm)	BELT WIDTH 'A' (in)	POLE LENGTH 'B' (mm)	POLE LENGTH 'B' (in)	# OF BLADES	ORDER NUMBER	ITEM CODE
600	24	1981	78	4	PV600-SAC	78020
700	30	2133	84	5	PV750-SAC	78021
900	36	2286	90	6	PV900-SAC	78022
1050	42	2438	96	7	PV1050-SAC	78023
1200	48	2590	102	8	PV1200-SAC	78024
1350	54	2743	108	9	PV1350-SAC	78025
1500	60	2895	114	10	PV1500-SAC	78026
1800	72	3200	126	12	PV1800-SAC	78027



Section 8 - Specs and CAD Drawings

8.2 CAD Drawing - P-Type® ESAC with C-Tips - Dual Cartridge

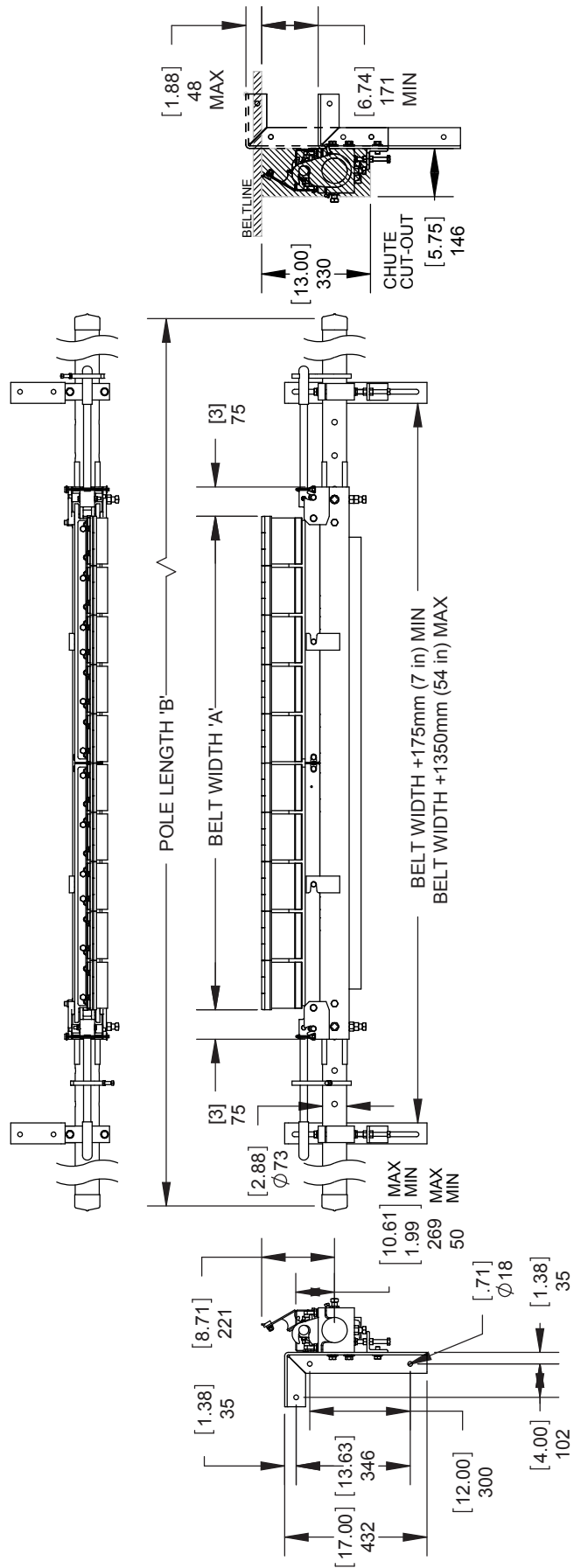
SPECIFICATIONS			SAC P-TYPE C CLEANER		SAC CENTRE POLE		
BELT WIDTH 'A' (mm)	BELT WIDTH 'A' (in)	MAX POLE LENGTH 'B' (mm)	# OF BLADES	ORDER NUMBER	ITEM CODE	ORDER NUMBER	ITEM CODE
1500	60	3000	10	PC1500-2SAC	78054	SACPL2-60/1500	77895
1800	72	3300	12	PC1800-2SAC	78055	SACPL-72/1800	77896
2100	84	3600	14	PC2100-2SAC	78056	SACPL-84/2100	77897
2400	96	3900	16	PC2400-2SAC	78057	SACPL-96/2400	77898
3000	120	4500	20	PC3000-2SAC	78058	SACPL-120/3000	77899



Section 8 - Specs and CAD Drawings

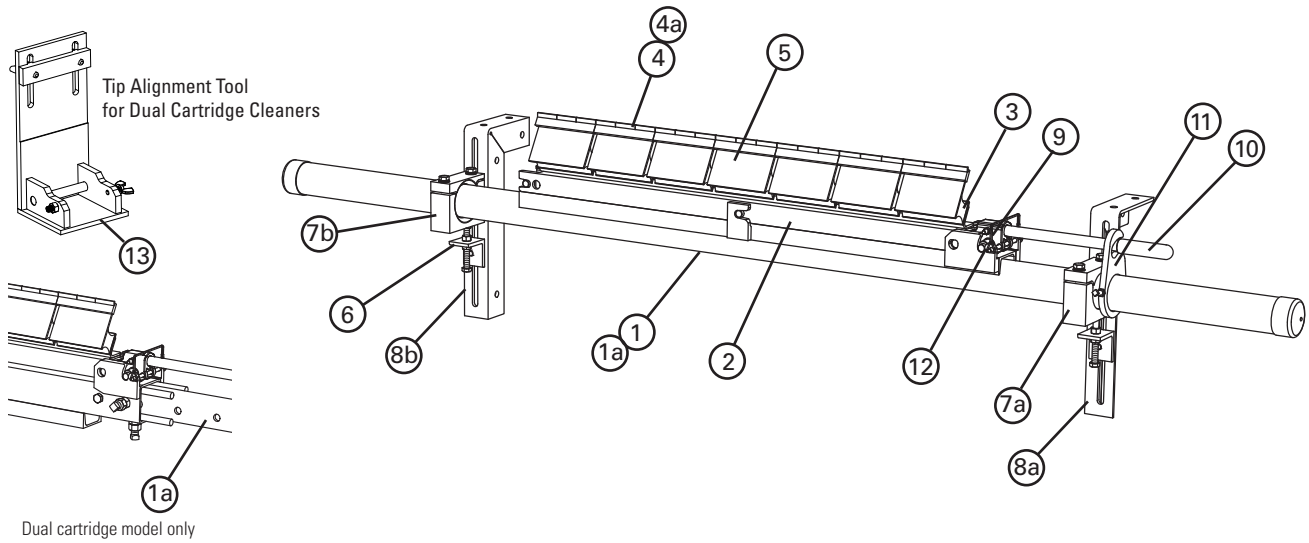
8.2 CAD Drawing - P-Type® ESAC with V-Tips - Dual Cartridge

SPECIFICATIONS			SAC P-TYPE V CLEANER		SAC CENTRE POLE		
BELT WIDTH 'A' (mm)	BELT WIDTH 'A' (in)	MAXPOLE LENGTH 'B' (mm)	# OF BLADES	ORDER NUMBER	ITEM CODE	ORDER NUMBER	ITEM CODE
1500	60	3000	10	PV1500-2SAC	78028	SACPL2-60/1500	77895
1800	72	3300	12	PV1800-2SAC	78029	SACPL-72/1800	77896
2100	84	3600	14	PV2100-2SAC	78030	SACPL-84/2100	77897
2400	96	3900	16	PV2400-2SAC	78031	SACPL-96/2400	77898
3000	120	4500	20	PV3000-2SAC	78032	SACPL-120/3000	77899



Section 9 - Replacement Parts

9.1 Replacement Parts List - P-Type® SAC Secondary, Mild Steel



Replacement Parts

Ref	Description	Ordering Number	Item Code	Wt. kgs.
1	SAC Cartridge Pole 600 mm	SACPL-24/600	77887	29.7
	SAC Cartridge Pole 750 mm	SACPL-30/750	77888	32.3
	SAC Cartridge Pole 900 mm	SACPL-36/900	77889	35.0
	SAC Cartridge Pole 1050 mm	SACPL-42/1050	77890	37.6
	SAC Cartridge Pole 1200 mm	SACPL-48/1200	77891	40.3
	SAC Cartridge Pole 1350 mm	SACPL-54/1350	77892	42.9
	SAC Cartridge Pole 1500 mm	SACPL-60/1500	77893	45.6
	SAC Cartridge Pole 1800 mm	SACPL-72/1800	77894	50.9
	SAC Cartridge Centre Pole 1500 mm (Dual)	SACPL2-60/1500	77895	35.1
	SAC Cartridge Centre Pole 1800 mm (Dual)	SACPL2-72/1800	77896	40.6
	SAC Cartridge Centre Pole 2100 mm (Dual)	SACPL2-84/2100	77897	46.2
	SAC Cartridge Centre Pole 2400 mm (Dual)	SACPL2-96/2400	77898	51.8
	SAC Cartridge Centre Pole 3000 mm (Dual)	SACPL2-120/3000	77899	64.5
	1a	Extender Pole (for use with Dual Cartridge Centre Pole)	MHP-EP	76392
2	SAC Repl Cartridge S/S 600 mm	CART-24/600-S/S	78576	4.5
	SAC Repl Cartridge S/S 750 mm	CART-30/750-S/S	78577	5.6
	SAC Repl Cartridge S/S 900 mm	CART-36/900-S/S	78578	6.7
	SAC Repl Cartridge S/S 1050 mm	CART-42/1050-S/S	78579	7.8
	SAC Repl Cartridge S/S 1200 mm	CART-48/1200-S/S	78580	8.9
	SAC Repl Cartridge S/S 1350 mm	CART-54/1350-S/S	78581	10.0
	SAC Repl Cartridge S/S 1500 mm	CART-60/1500-S/S	78582	11.3
	SAC Repl Cartridge S/S 1800 mm	CART-72/1800-S/S	78583	13.5
	SAC Repl Cartridge S/S 1500 mm (Dual)	CART2-60/1500-S/S	78584	11.2
	SAC Repl Cartridge S/S 1800 mm (Dual)	CART2-72/1800-S/S	78585	13.4
	SAC Repl Cartridge S/S 2100 mm (Dual)	CART2-84/2100-S/S	78586	15.6
	SAC Repl Cartridge S/S 2400 mm (Dual)	CART2-96/2400-S/S	78587	17.8
	SAC Repl Cartridge S/S 3000 mm (Dual)	CART2-120/3000-S/S	78588	22.6
	3	SAC Cartridge P-Type® Adapter Plate 600 mm	PCAP-24/600	77913
SAC Cartridge P-Type Adapter Plate 750 mm §		PCAP-30/750	77914	2.8
SAC Cartridge P-Type Adapter Plate 900 mm §		PCAP-36/900	77915	3.3
SAC Cartridge P-Type Adapter Plate 1050 mm §		PCAP-42/1050	77916	3.9
SAC Cartridge P-Type Adapter Plate 1200 mm §		PCAP-48/1200	77917	4.4
SAC Cartridge P-Type Adapter Plate 1350 mm		PCAP-54/1350	77918	5.0
SAC Cartridge P-Type Adapter Plate 1500 mm §		PCAP-60/1500	77919	5.6
SAC Cartridge P-Type Adapter Plate 1800 mm		PCAP-72/1800	77920	6.7

Ref	Description	Ordering Number	Item Code	Wt. kgs.
4	C-Tip*	CT6	74535	0.4
4a	P V-Tip* (for vulcanised belts only)	PSA150	73156	0.4
5	Cushion*	PHA	73626	1.6
6	P/R Adjusting Bracket	PAB	75513	0.4
7a	Cradle Clamp Block RH	SMR-CCB-R73	A2843	1.2
7b	Cradle Clamp Block LH	SMR-CCB-L73	A2842	1.2
8a	Mounting Bracket Kit, RH	PMBR	75519	3.8
8b	Mounting Bracket Kit, LH	PMBL	75516	3.8
9	SAC Removal Knuckle	SACRKN	77882	1.5
10	SAC Removal Handle	SACRH	77883	1.4
11	SAC Handle Lock Plate	SACRHL	77884	0.8
12	Knuckle Retainer Pin	SACKRP	77885	0.1
-	SAC Removal Kit (includes 1 ea. items 9,10,11,12)	SACRKT	77886	4.1
13	SAC Cartridge Tip Alignment Tool (Dual)	SAC2-TIP-TL	77866	1.1
-	Cradle Clamp Heavy-Duty Mounting Kit (incl. 2 ea. item 6; incl. 1 ea. items 7a, 7b, 8a, 8b)	CRHMK	62400	10.8

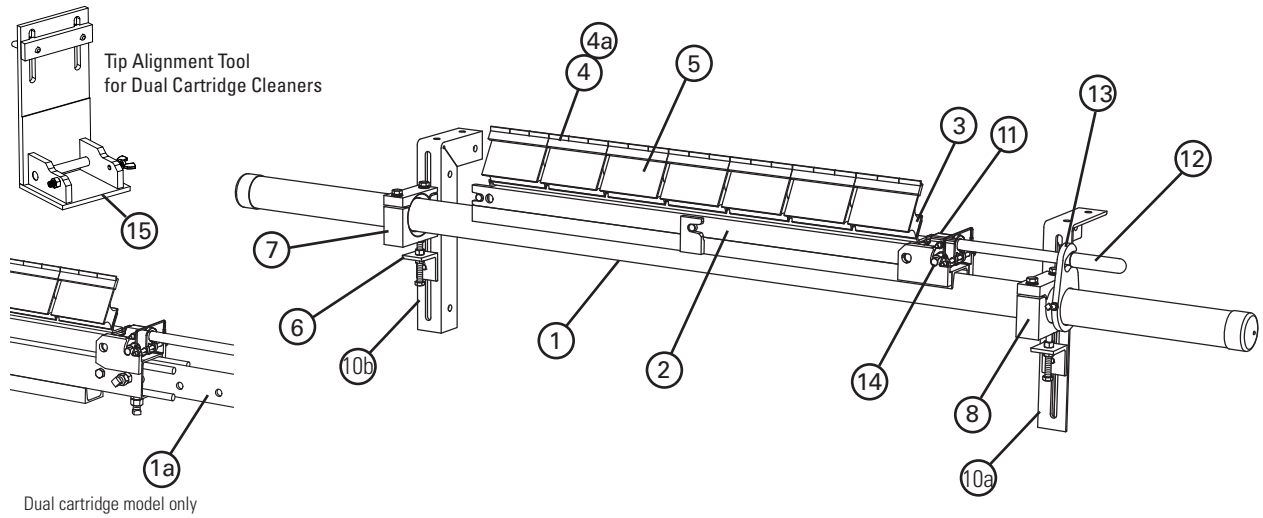
§ If using a dual cartridge, please take the cleaner size and divide by two. That dimension is the size of the brackets needed for conversion to a P-Type cleaner.

*Hardware Included



Section 9 - Replacement Parts

9.1 Replacement Parts List - P-Type® SAC Secondary, Stainless Steel



Replacement Parts

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. KGS.
1	SAC S/S Cartridge Pole 600 mm	SACPL-24/600-S/S	78371	29.7
	SAC S/S Cartridge Pole 750 mm	SACPL-30/750-S/S	78372	32.3
	SAC S/S Cartridge Pole 900 mm	SACPL-36/900-S/S	78373	35.0
	SAC S/S Cartridge Pole 1050 mm	SACPL-42/1050-S/S	78374	37.6
	SAC S/S Cartridge Pole 1200 mm	SACPL-48/1200-S/S	78375	40.3
	SAC S/S Cartridge Pole 1350 mm	SACPL-54/1350-S/S	78376	42.9
	SAC S/S Cartridge Pole 1500 mm	SACPL-60/1500-S/S	78377	45.6
	SAC S/S Cartridge Pole 1800 mm	SACPL-72/1800-S/S	78378	50.9
	SAC S/S Cartridge Centre Pole 1500 mm (Dual)	SACPL2-60/1500-S/S	78379	35.1
	SAC S/S Cartridge Centre Pole 1800 mm (Dual)	SACPL2-72/1800-S/S	78380	40.6
	SAC S/S Cartridge Centre Pole 1950 mm (Dual)	SACPL2-78/1950-S/S	78642	43.9
	SAC S/S Cartridge Centre Pole 2100 mm (Dual)	SACPL2-84/2100-S/S	78381	46.2
	SAC S/S Cartridge Centre Pole 2400 mm (Dual)	SACPL2-96/2400-S/S	78382	51.8
	SAC S/S Cartridge Centre Pole 3000 mm (Dual)	SACPL2-120/3000-S/S	78383	64.5
1a	S/S Extender Pole (for use with S/S Dual Cartridge Centre Pole)	MHP-EP-S/S	77599	24.5
2	SAC Repl Cartridge S/S 600 mm	CART-24/600-S/S	78576	4.5
	SAC Repl Cartridge S/S 750 mm	CART-30/750-S/S	78577	5.6
	SAC Repl Cartridge S/S 900 mm	CART-36/900-S/S	78578	6.7
	SAC Repl Cartridge S/S 1050 mm	CART-42/1050-S/S	78579	7.8
	SAC Repl Cartridge S/S 1200 mm	CART-48/1200-S/S	78580	8.9
	SAC Repl Cartridge S/S 1350 mm	CART-54/1350-S/S	78581	10.0
	SAC Repl Cartridge S/S 1500 mm	CART-60/1500-S/S	78582	11.3
	SAC Repl Cartridge S/S 1800 mm	CART-72/1800-S/S	78583	13.5
	SAC Repl Cartridge S/S 1500 mm (Dual)	CART2-60/1500-S/S	78584	11.2
	SAC Repl Cartridge S/S 1800 mm (Dual)	CART2-72/1800-S/S	78585	13.4
	SAC Repl Cartridge S/S 2100 mm (Dual)	CART2-84/2100-S/S	78586	15.6
	SAC Repl Cartridge S/S 2400 mm (Dual)	CART2-96/2400-S/S	78587	17.8
	SAC Repl Cartridge S/S 3000 mm (Dual)	CART2-120/3000-S/S	78588	22.6
	3	SAC Cartridge P-Type® S/S Adapter Plate 600 mm	PCAP-24/600-S/S	78355
SAC Cartridge P-Type S/S Adapter Plate 750 mm §		PCAP-30/750-S/S	78356	2.8
SAC Cartridge P-Type S/S Adapter Plate 900 mm §		PCAP-36/900-S/S	78357	3.3
SAC Cartridge P-Type S/S Adapter Plate 1050 mm §		PCAP-42/1050-S/S	78358	3.9
SAC Cartridge P-Type S/S Adapter Plate 1200 mm §		PCAP-48/1200-S/S	78359	4.4
SAC Cartridge P-Type S/S Adapter Plate 1350 mm		PCAP-54/1350-S/S	78360	5.0
SAC Cartridge P-Type S/S Adapter Plate 1500 mm §		PCAP-60/1500-S/S	78361	5.6
SAC Cartridge P-Type S/S Adapter Plate 1800 mm		PCAP-72/1800-S/S	78362	6.7

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. KGS.
4	C-Tip	CT6	74535	0.4
4a	S/S P V-Tip	PVT6-S/S	75420	0.4
5	S/S P Cushion*	PHSC-S/S	73433	1.6
6	P/R Adjusting Bracket S/S	PAB-S/S	75515	0.4
7	HD® Pole Clamp Kit S/S Left* (1 ea. for sizes 60" - 72" (1500-1800mm))	SMR-CCB-L73-S/S	A2826	1.2
8	HD Pole Clamp Kit S/S Right* (1 ea. for sizes 60" - 72" (1500-1800mm))	SMR-CCB-R73-S/S	A2825	1.2
10a	Mounting Bracket Kit RH S/S	PMBR-S/S	75521	3.8
10b	Mounting Bracket Kit LH S/S	PMBL-S/S	75518	3.8
11	SAC Removal Knuckle	SACRKN	77882	1.5
12	SAC Removal Handle S/S	SACRH-S/S	78397	1.4
13	SAC Handle Lock Plate S/S	SACRHL-S/S	78398	0.8
14	Knuckle Retainer Pin S/S	SACKRP-S/S	78399	0.1
-	SAC Removal Kit S/S (includes 1 ea. items 9,10,11,12)	SACRKT-S/S	78401	4.1
15	SAC Cartridge Tip Alignment Tool (Dual)	SAC2-TIP-TL	77866	1.1

§ If using a dual cartridge, please take the cleaner size and divide by two. That dimension is the size of the brackets needed for conversion to a P-Type cleaner.

*Hardware Included

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:

MMP Precleaner



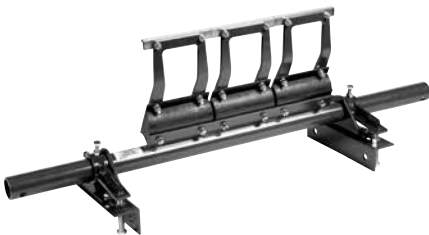
- Extra cleaning power right on the head pulley
- A 250mm TuffShear™ blade provides increased blade tension on the belt to peel off abrasive materials
- The unique Visual Tension Check™ ensures optimal blade tensioning and quick, accurate retensioning
- Easy to install and simple to service

Flexco® Slider/Impact Beds



- Adjusting troughing angles for easy installation and adjustability
- Long-wearing UHMW for sealing the load zone
- Offered in both Light & Medium duty designs to affordably fit your application

H-Type® V-Tip Precleaner



- Tungsten carbide tip provides superior cleaning efficiency (vulcanized belts only)
- Segmented blades work independently
- Visual tension check

PT Max™ Belt Trainer



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

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

Belt Ploughs



- 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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Visit www.flexco.com for other Flexco locations and products.

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