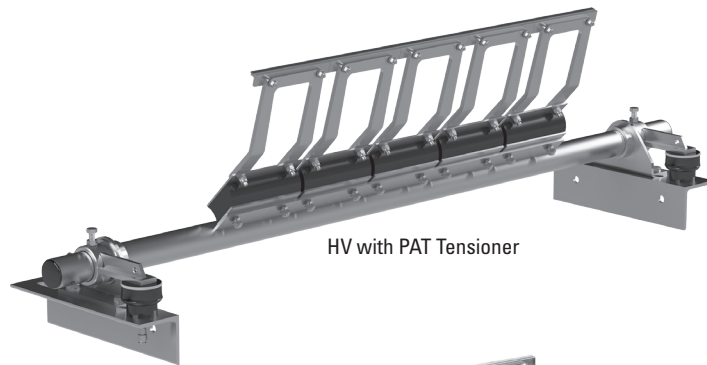
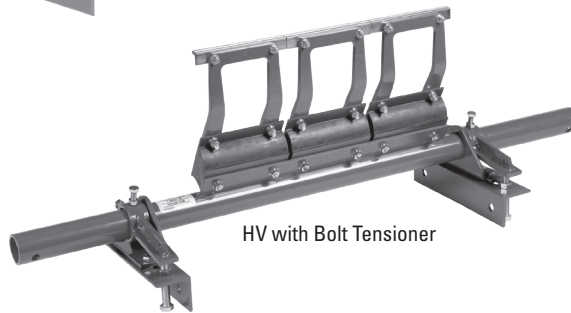


H-Type[®] Primary Cleaner with V-Tips

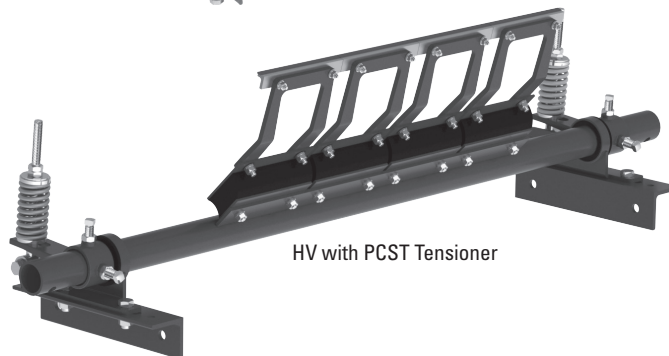
Installation, Operation and Maintenance Manual



HV with PAT Tensioner



HV with Bolt Tensioner



HV with PCST Tensioner

H-Type® Primary Cleaner with V-Tips

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.

Table of Contents

Section 1 – Important Information	4
1.1 General Introduction	4
1.2 User Benefits.....	4
1.3 Service Option.....	4
Section 2 – Safety Considerations and Precautions	5
2.1 Stationary Conveyors	5
2.2 Operating Conveyors	5
Section 3 – Pre-Installation Checks and Options.....	6
3.1 Checklist	6
Section 4 – Installation Instructions.....	7
4.1 H-Type® with V-Tips	7
4.1a H-Type® with V-Tips - Chute Mounting	8
4.1b H-Type® with V-Tips - Open Head Mounting.....	10
4.2 H-Type® with V-Tips - Bolt Tensioner	12
4.3 H-Type® with V-Tips - PCST Tensioner	13
4.4 H-Type® with V-Tips - PAT Tensiner	14
4.4a H-Type® with V-Tips - PAT Tensiner - Air Tank & Control Panel	15
4.4b H-Type® with V-Tips - PAT Tensiner - Isolation Procedure.....	17
Section 5 – Cleaner Pole Location Charts	18
5.1 Pole Location Charts	18
Section 6 – Pre-Operation Checklist and Testing.....	19
6.1 Pre-Op Checklist	19
6.2 Test Run the Conveyor.....	19
Section 7 – Maintenance	20
7.1 New Installation Inspection	20
7.2 Routine Visual Inspection	20
7.3 Routine Physical Inspection.....	20
7.4 Blade Replacement Instructions.....	21
7.5 Maintenance Log	23
7.6 Cleaner Maintenance Checklist	24
Section 8 – Troubleshooting	25
Section 9 – Specs and CAD Drawings.....	26
9.1 Specifications and Guidelines	26
Section 10 – Replacement Parts List	31
10.1 Replacement Parts - H-Type® with V-Tips.....	31
10.2 Replacement Parts - PCST Tensioner	32
10.3 Replacement Parts - PAT Tensiner	33
Section 11 – Other Flexco Conveyor Products	34

Section 1 – Important Information

1.1 General Introduction

We at Flexco are very pleased that you have selected an H-Type® Primary Cleaner with V-Tips for your conveyor system.

This manual will help you to understand the operation of this product and assist you in making it work up to its maximum efficiency over its lifetime of service.

It is essential for safe and efficient operation that the information and guidelines presented be properly understood and implemented. This manual will provide safety precautions, installation instructions, maintenance procedures and troubleshooting tips.

If, however, you have any questions or problems that are not covered, please visit our web site or contact our Customer Service Department.

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

Please read this manual thoroughly and pass it on to any others who will be directly responsible for installation, operation and maintenance of this cleaner. While we have tried to make the installation and service tasks as easy and simple as possible, **it does however require correct installation and regular inspections and adjustments to maintain top working condition.**

1.2 User Benefits

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

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

1.3 Service Option

The H-Type Primary Cleaner with V-Tips 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 H-Type® Primary Cleaner with V-Tips, 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 behavior of the belt cleaner caused by movement of the conveyor belt. Severe injury or death can result.

Before working:

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

WARNING

Use Personal Protective Equipment (PPE):

- Safety eyewear
- Hardhats
- Safety footwear

Close quarters, springs and heavy components create a worksite that compromises a worker's eyes, feet and skull.

PPE must be worn to control the foreseeable hazards associated with conveyor belt cleaners. Serious injuries can be avoided.

2.2 Operating Conveyors

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

- Inspection of the cleaning performance
- Dynamic troubleshooting

DANGER

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

WARNING

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.

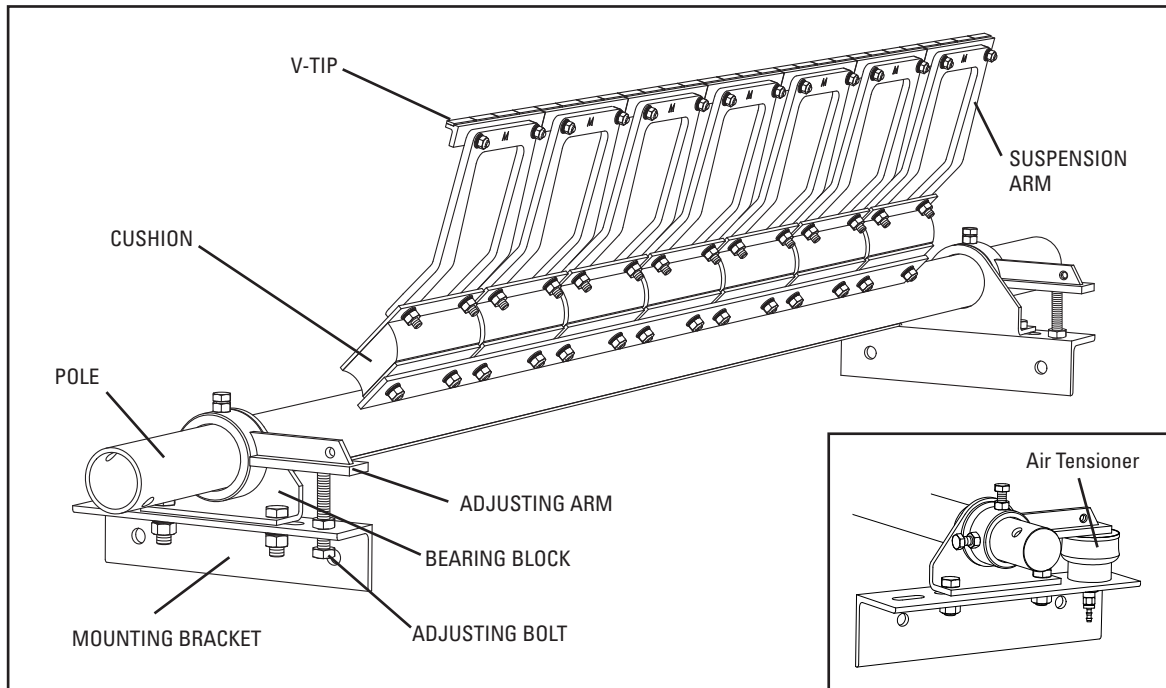
Section 3 – Pre-installation Checks and Options

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
 - Are there obstructions that may require cleaner location adjustments

Section 4 – Installation Instructions

4.1 H-Type® with V-Tips



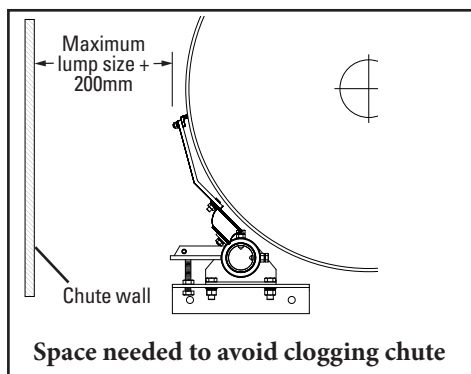
PHYSICALLY LOCK OUT AND TAG THE CONVEYOR AT THE POWER SOURCE BEFORE YOU BEGIN CLEANER INSTALLATION.

Before You Begin:

- Installation specs and instructions are based on the assumption that the conveyor is in its working position (angle). If the conveyor angle will be different, the cleaner should be installed per the final position.
- Choose instructions for chute mounting or open head mounting. For chute mounting it may be necessary to cut an access hole to allow for installation and inspections. (See dimensions in Step 7 under Chute Mounting.)
- Follow all safety precautions when using a cutting torch.
- If welding, protect all fastener threads from weld spatter.

Tools Needed:

- Tape Measure
- 19mm Wrench
- Ratchet With 19mm Socket
- Adjustable Wrench
- Cutting Torch and/or Welder
- (2) 150mm C-Clamps (for temporary positioning of mounting brackets)
- 600mm Level
- Marking Pen



V-Tip Size	Pulley Diameter + Belt and Lagging
SS	up to 499mm
S	500-799mm
M	800-999mm
L	1000-1199mm
LL	1200-1700mm

Section 4 – Installation Instructions

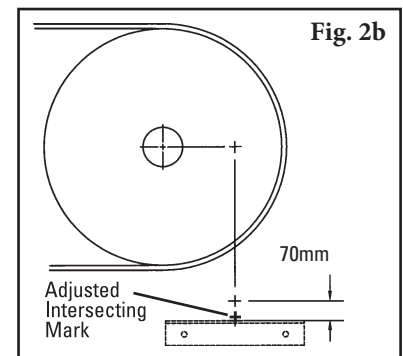
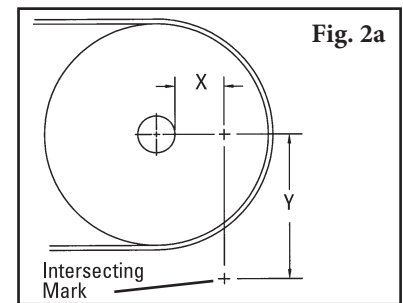
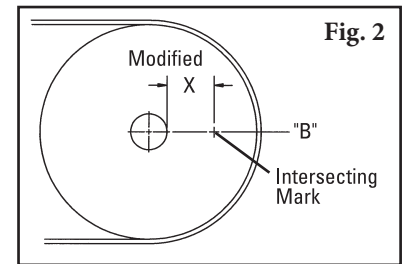
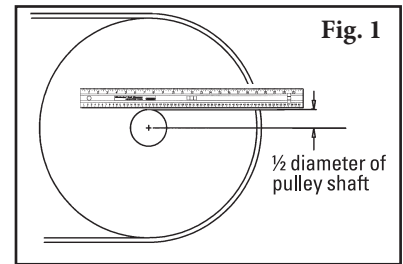
4.1a H-Type® with V-Tips - Chute Mounting

- 1. Find X and Y measurements.** Find the X and Y measurement specifications for the pulley diameter. See charts on page 18. The pulley diameter measurement should include lagging and belt.

Pulley Dia. _____ mm; X = _____ mm; Y = _____ mm

Using the correct X and Y coordinates will position the cleaner at 15° below the horizontal plane on the head pulley.

- 2a. Measure head pulley shaft.** Determine the diameter of the pulley shaft and divide by 2.
- 2b. Put a level on top of the pulley shaft and draw a horizontal line A.** Measure down from Line A half the diameter of the pulley shaft and draw Line B parallel from the pulley shaft (Fig. 1).
- 3a. Mark X dimension.** Subtract the above dimension (Step 2a) from the selected X dimension to establish the modified X dimension. With this new X dimension measure horizontally from the front of the pulley shaft forward on Line B and mark on the chute (Fig. 2).
- 3b. Determine Y dimension.** From the horizontal X mark, drop a line vertically down to the selected Y dimension and draw an intersecting mark (Fig. 2a). This is the correct position of the centre of the pole.
- 4. Locate the mounting bracket position (horizontal position).** To locate the position of the cleaner mounting bracket, add 70mm to the intersecting mark (Fig. 2b). This mark indicates the top centre of the mounting bracket.

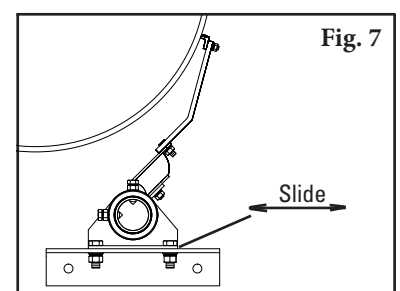
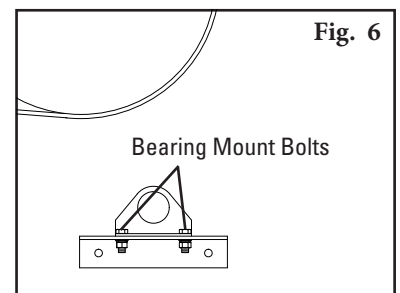
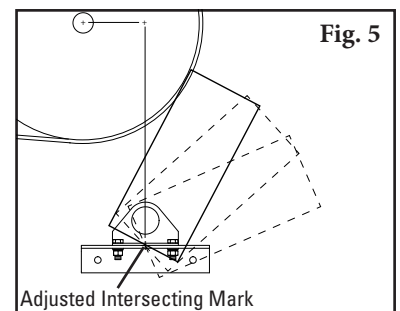
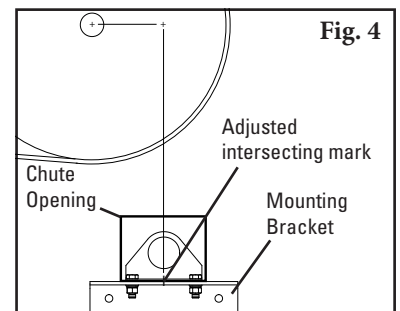
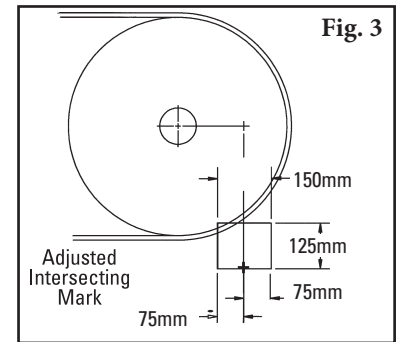


Section 4 – Installation Instructions

4.1a H-Type® with V-Tips - Chute Mounting

- 5. Cut chute opening.** Using the adjusted intersecting mark (“+”) established in Step 4, layout and cut the required opening 125x150mm on the chute (Fig. 3). If access hole is required, see Step 7.
- 6. Install the mounting brackets.** Centre the mounting bracket on the bottom of the opening. Bolt or weld in position (Fig 4). Repeat process on opposite side.
- 7. Cutting the access hole.** Cut an access hole, centring the bottom edge on the adjusted intersecting mark (“+”) established in Step 4. Width of hole should be 175mm; height should be 325mm (extra small arms), 375mm (small arms), 420mm (medium arms), 450mm (large arms), or 555mm (extra large arms). The access hole may be oriented within the range shown (Fig. 5), provided the bottom edge is still centred as described above.
- 8. Install the pole.** Remove the two bearing mount bolts from one of the bearing mounts (Fig. 6). (If chute mount, remove from the side with access hole.) Slide the pole across the pulley and into the bearing mount on other side and allow tips to hang down. Install the removed bearing mount on the pole and reattach to the mounting bracket. Do not tighten; leave finger tight.
- 9. Position the pole.** Rotate the pole upward to bring tips into contact with head pulley (Fig. 7). Centre the tips across the belt. While applying light pressure on the centre tip, shift the loosened bearing mount until the tips are contacting the belt evenly across the full width. Lock the cleaner into this position by tightening the bearing mount bolts.

For step-by-step instructions on installing the spring tensioner, refer to page 13.



Section 4 – Installation Instructions

4.1b H-Type® with V-Tips - Open Head Mounting

- Find X and Y measurements.** Find the X and Y measurement specifications for the pulley diameter. See charts on page 18. The pulley diameter measurement should include lagging and belt.

Pulley Dia. _____ mm X _____ mm Y _____ mm

Using the correct X and Y coordinates will position the cleaner at 15° below the horizontal plane on the head pulley.

- Locate Y location.** Determine the diameter of the pulley shaft and divide by 2.

- Put a level on top of the pulley shaft and mark A at the structure.** Measure down from Mark A half the diameter of the pulley shaft and mark B, locating the shaft centreline (Fig. 1).

- Measure down the given Y dimension plus 70mm and make a mark (Fig. 2).** This mark indicates the top location of support material to be added for installing the cleaner mounting brackets.

- Locate X location.**

- Measure from the back of the pulley shaft to the support structure (Fig. 3).
- Pulley shaft diameter divided by 2.
- Add dimensions from a and b. This dimension is the pulley shaft centreline to the support structure.
- Add the given X dimension to c. The sum indicates the distance from the centre of the pole to the support structure.
- Add 175mm (half the length of the mounting bracket). The sum is the total length of support material needed to correctly locate the mounting brackets.

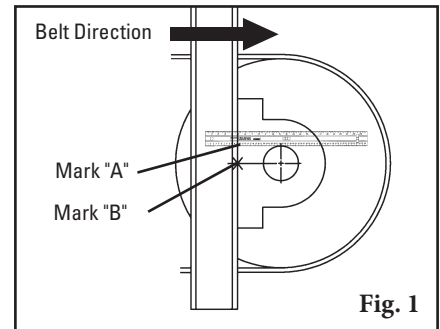


Fig. 1

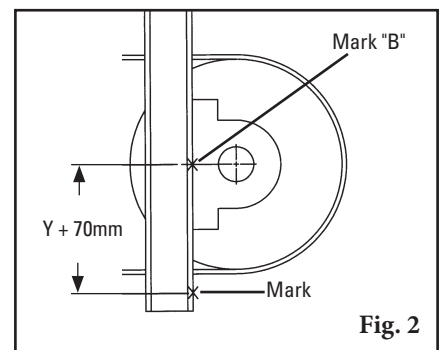


Fig. 2

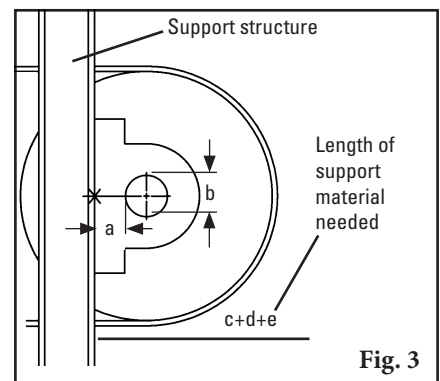


Fig. 3

- Secure mounting support pieces to the support structure.** Weld support pieces to the support structure. 75x75mm angle works well for these support pieces.
- Prepare the support pieces for the cleaner mounting brackets.** Clamp the mounting bracket on the support piece. Mark and drill holes for mounting or weld.

a) shaft to structure	_____	
b) pulley shaft diameter _____ ÷ 2	_____	+
c) pulley shaft centre line to structure	= _____	
d) add X measurement from chart	_____	+
centre of pole from structure	= _____	
e) add 175mm (half length of mounting bracket)	175mm	+
length of support material needed	= _____	

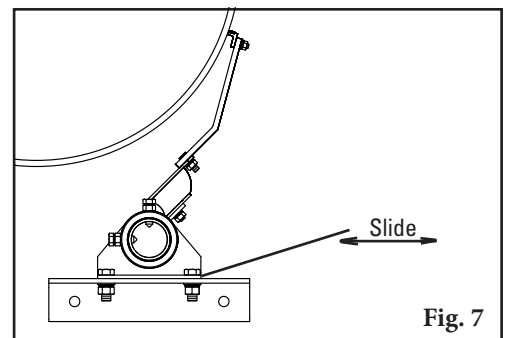
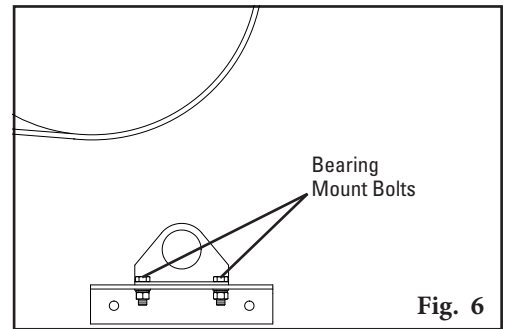
Section 4 – Installation Instructions

4.1b H-Type® with V-Tips - Open Head Mounting

- 6. Install the pole.** Remove the two bearing mount bolts from one of the bearing mounts (Fig. 6). (If chute mount, remove from the side with access hole.) Slide the pole across the pulley and into the bearing mount on other side and allow tips to hang down. Install the removed bearing mount on the pole and reattach to the mounting bracket.

NOTE: Do not tighten; leave finger tight.

- 7. Position the pole.** Rotate the pole upward to bring the tips into contact with the head pulley (Fig. 7). Centre the tips across the belt. While applying light pressure on the centre tip, shift the loosened bearing mount until the tips are contacting the belt evenly across the full width. Lock the cleaner into this position by tightening the bearing mount bolts.



Section 4 – Installation Instructions

4.2 H-Type® with V-Tips - Bolt Tensioner

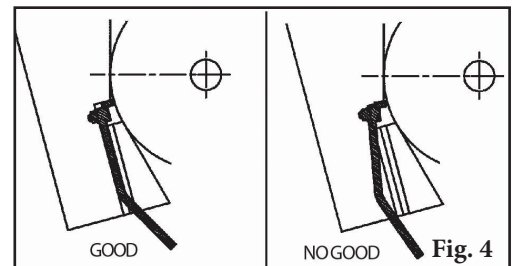
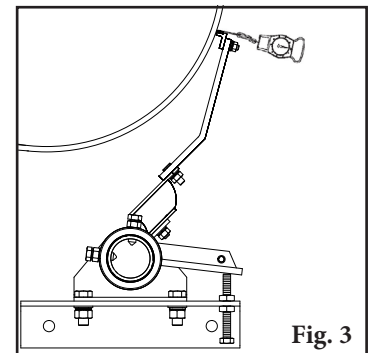
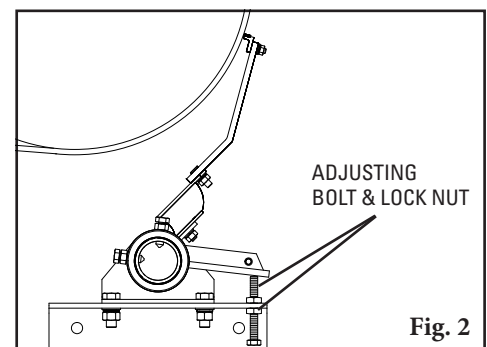
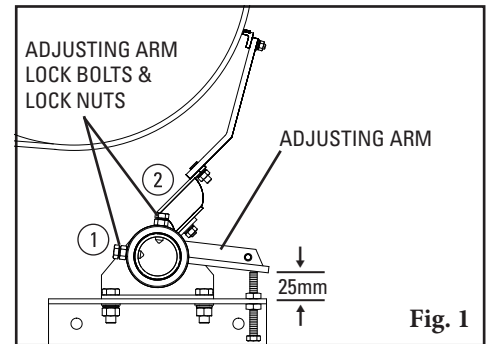
1. Install adjusting arms.

NOTE: If using optional spring or air tensioner, go to separate instructions included in packet.

- Screw adjusting bolts into the welded nut on each mounting bracket (about 25mm above the mounting bracket).
- With pole rotated up, so that all tips contact the head pulley, slide the adjusting arm onto pole, tight against bearing block, resting on the adjusting bolt, pointed away from the head pulley. Tighten both adjusting arm lock bolts and lock nuts (in the order shown in Fig. 1).

Repeat on the opposite side.

- Set tip tension.** Apply the following tension: 1-1/2 turns. Lock both adjusting bolt lock nuts (Fig. 2).
- Check for correct tip tension.** Place a Tip Tension Gauge between the tip and the belt on the centre tip (or tips) (Fig. 3). While pulling in a straight motion, read the tension required to break contact between the tip and belt. 8kg is recommended. Also check tension on both outer tips. Make tension adjustments if needed.
- Check tip alignment with gauge provided.** Align the gauge against the head pulley and move down until the gauge contacts the top of the blade. The suspension arm should align with lines marked on gauge (Fig. 4). If the alignment is not correct, loosen both bearing block bolts and slide pole to gain correct alignment. Correct one side at a time. Tighten bolts and repeat Step 5.
- Test run cleaner and inspect operation.** If vibration occurs or more cleaning efficiency is desired, increase tip tension by making a 1/2 turn on each adjustment bolt.



Section 4 – Installation Instructions

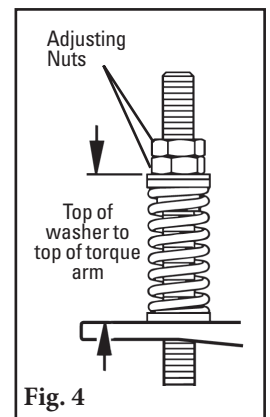
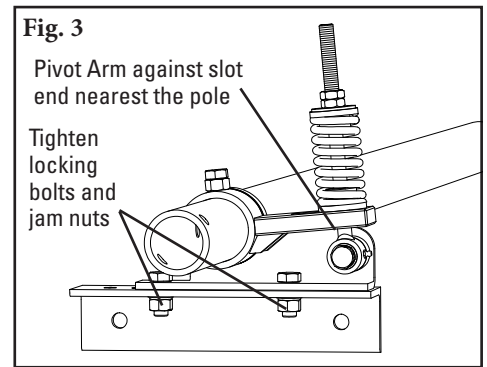
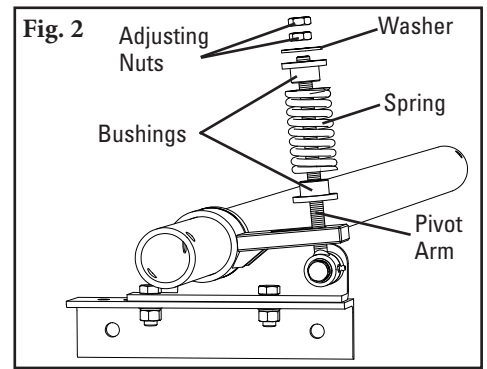
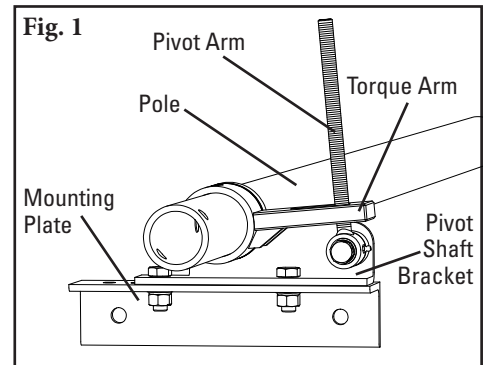
4.3 H-Type® with V-Tips - PCST Tensioner

- 1. Install the compression spring tensioner.** Remove the adjusting nuts, bushings and spring from the pivot rod. Insert the pivot arm through the slot in the torque arm. Slide the torque arm onto the pole end (be sure the rotation of the arm is correct to tension the blade).
- 2. Reassemble the spring assembly.** Slide the spring, washer and bushings onto the pivot arm and turn the two adjusting nuts so about 6mm of the pivot arm is exposed above the nuts (Fig. 2).
- 3. Verify your “C” dimension to insure the pole is in the correct position.**
- 4. Tension the blades to the belt.** Rotate the blades until they contact the belt. While holding the spring bushing flat on the torque arm, rotate the torque arm until the pivot arm is against the end of the slot nearest the pole. Tighten the locking bolts and jam nuts on the torque arm (Fig. 3).

NOTE: The torque arm should be against the mounting plate.

- 5. Set the correct blade tension.** Refer to the charts below for the spring length required for the belt width. Lightly pull the pivot arm toward the end of the torque arm slot nearest the pole and turn the adjusting nuts until the required spring length is achieved (Fig. 4). Lock the top adjusting nut.

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



HV Black Spring Length Chart

Belt Width	SS	S	M	L	LL
600	112	111	110	109	107
800	110	109	107	107	104
1000	108	106	105	104	100
1200	106	104	102	101	97
1400	105	102	100	98	93
1600	103	100	97	96	90
1800	101	97	95	93	–

Shading indicates preferred spring option.

HV Silver Spring Length Chart

Belt Width	SS	S	M	L	LL
2200	–	–	158	157	154
2400	–	158	157	156	152
2600	–	157	156	155	151
2800	–	156	155	154	150
3000	158	155	154	152	148
3200	157	155	153	151	147

Shading indicates preferred spring option.

HV Gold Spring Length Chart

Belt Width	SS	S	M	L	LL
1400	–	108	106	106	103
1600	108	106	105	104	100
1800	107	105	103	102	98
2000	106	104	102	100	96
2200	105	102	100	99	94
2400	104	101	99	97	–
2600	102	99	97	95	–
2800	101	98	95	94	–
3000	100	97	94	–	–
3200	99	95	92	–	–

Shading indicates preferred spring option.

Section 4 – Installation Instructions

4.4 H-Type® with V-Tips - PAT Tensioner

1. **Insert the air cushion in the slotted hole** in the support bracket and tighten the lock nut on the underside. (Fig. 1).
2. **Install the connector and push-in fitting to the air cushion.**

CAUTION: Do not over tighten as it may cause damage to the air cushion stem (Fig. 2).

3. **This to be the same as step 1.**
4. **Check for correct tip tension.** Place a Tip Tension Gauge between the tip and the belt on the centre tip (or tips) (Fig. 3). While pulling in a straight motion, read the tension required to break contact between the tip and belt. 8kg is recommended. Also check tension on both outer tips. Make tension adjustments if needed.
5. **Check tip alignment with gauge provided.** Align the gauge against the head pulley and move down until the gauge contacts the top of the blade. The suspension arm should align with lines marked on gauge (Fig. 4). If the alignment is not correct, loosen both bearing block bolts and slide pole to gain correct alignment. Correct one side at a time. Tighten bolts and repeat.
6. **Test run cleaner and inspect operation.** If vibration occurs or more cleaning efficiency is desired, increase tip tension by making a 1/2 turn on each adjustment bolt.

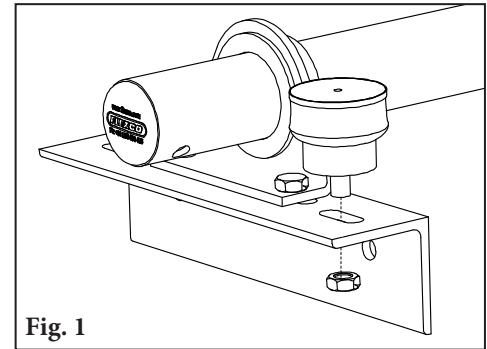


Fig. 1

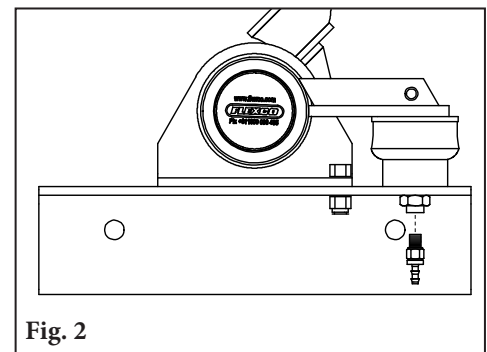


Fig. 2

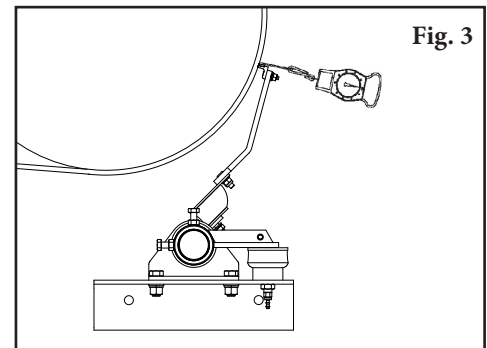


Fig. 3

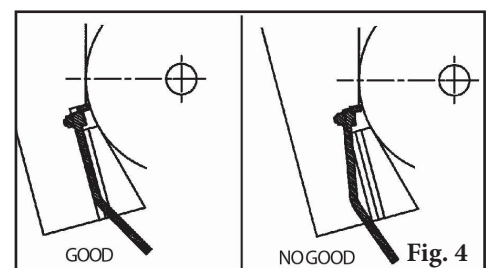


Fig. 4

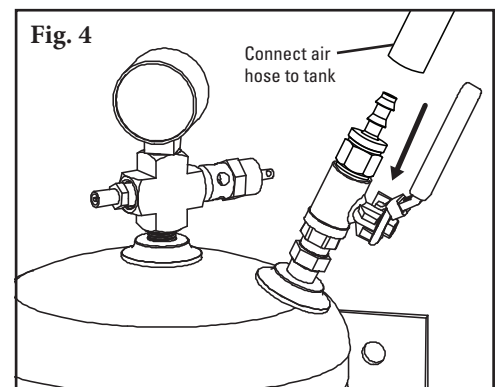
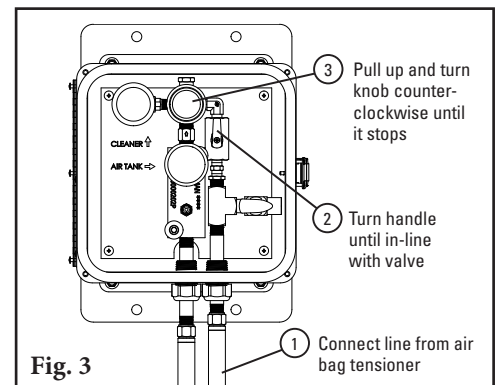
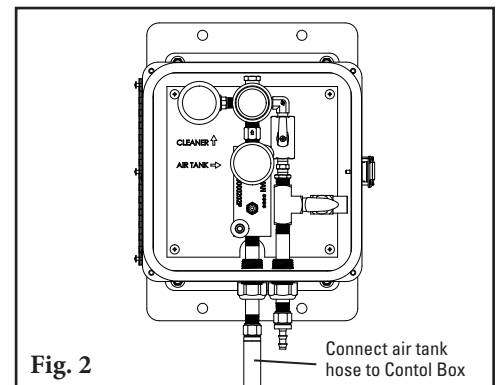
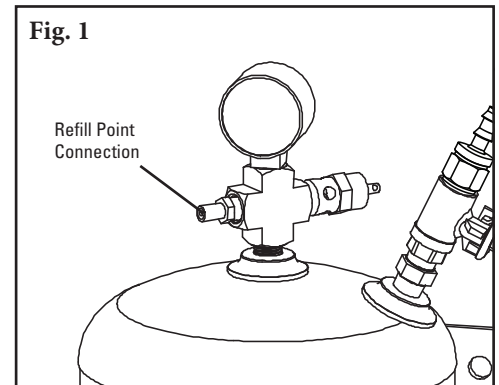
HV with 10mm tips PAT Chart

Belt Width	SS	S	M	L	LL
	kPa	kPa	kPa	kPa	kPa
450	45	55	60	65	80
600	65	80	90	95	120
750	65	80	90	95	120
900	85	105	115	125	155
1050	105	130	145	155	195
1200	125	155	175	185	235
1500	145	180	200	220	275
1600	170	205	230	250	310
1800	185	225	255	275	345
2100	205	250	285	305	385
2400	245	300	340	365	460
2600	265	325	370	395	500
3000	305	370	425	455	575

Section 4 – Installation Instructions

4.4a H-Type® with V-Tips - PAT Tensioner - Air Tank & Control Panel

- 1. Mount the Air Tank.** Find a sturdy/durable location to mount the tank near the Control Box within reach of provided 3m hose. Mount the air tank with the mounting template and provided hardware, preferably with the gauge/fittings on the top for easier access and maintenance.
- 2. Charge the Air Tank.** Using an air compressor or shop air, charge the tank to approximately 690 kPa through the connection on the top of the tank (Fig. 1). Ensure the tank does not exceed 1,035 kPa during this process by monitoring the pressure gauge.
- 3. Connect provided hose with the Control Box.** With the hose provided with the PAT Air Tank, connect one end into the Control Box (Fig. 2).
- 4. Ready the Control Box.** First, if not already complete, use the hose provided with the cleaner or air tensioner system to connect the line from the cleaner air bag(s) to the Control Box. A t-fitting may be used to split the lines for dual air bags. Next, turn on the valve by rotating it until the handle is in line with the valve. Lastly, pull up on the regulator knob and turn counterclockwise until it stops, push the knob in to lock it (Fig. 3).
- 5. Connect Control Box to PAT Air Tank.** Keep hands clear of the blade and pinch-points before connecting all air lines. With the hose already connected to the control box, route the other end and connect to the tank (Fig. 4). Once complete, open valve from tank by turning until the handle is in line with the valve.



Section 4 – Installation Instructions

4.4a H-Type® with V-Tips - PAT Tensioner - Air Tank & Control Panel

6. Check the pressure reading on the gauge in the control box.

Keep hands clear of the blade and pinch-points before pressurizing the air bags. Pull up on the regulator knob and turn clockwise until pressure increases to the appropriate setting for the belt cleaner and blade width (refer to cleaner instructions or pressure label in control box). If the pressure is too high, turn the knob one turn counterclockwise and turn the valve off for one second before turning back open. This relieves the downstream air bag pressure. Reset the pressure to the correct setting, then push the knob back down to lock it.

7. First Time Charging the PAT Air Tank. Isolate the PAT Air Tank by closing the isolation valve. Using an air compressor or other site supply compressed air supply, set to a pressure of approximately 965 kPa. Connect the hose to the tanks refill point (Schrader Valve). Monitor the tank pressure gauge to ensure that pressure does not rise above 1,035 kPa during the filling process. Once fill disconnect from the refill point and open the isolation valve.

8. First-Time Pressurizing Tensioners. Refer to the specific cleaner instruction manual to reference the required tension pressure. Open the tensioner isolation valves to full open position. Slowly open the regulator handle in a clockwise direction and monitor the pressure until the required pressure is achieved. Allow the system to rest for 5 minutes and check, if additional pressure is required the regulator until the desired pressure is reached.

9. Check all air connections. Using soapy-water solution, spray all connections and look for bubbles. If present, secure the connection until no leak is visible.

10. Test run the conveyor. Close the control box cover and latch it. A hole is provided to accept a padlock if desired. Test run the belt and observe the cleaner performance. Confirm pressure settings are still correct. Make adjustments as necessary. Recharge the air tank if the pressure is below 550 kPa.

HV with 10mm tips PAT Chart

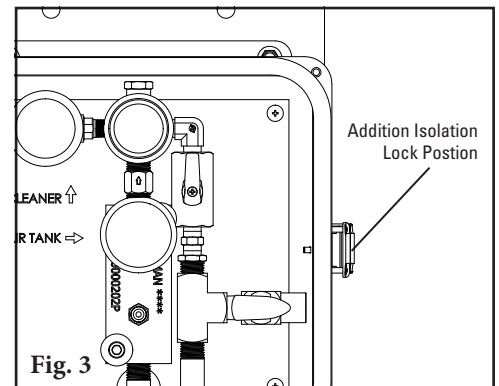
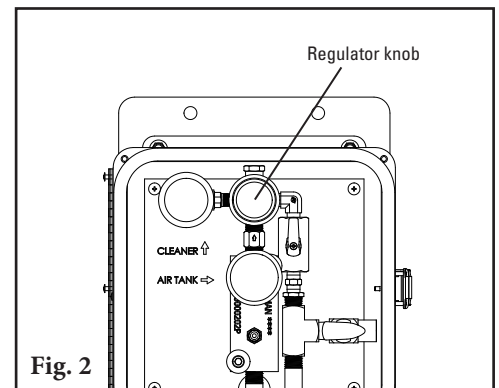
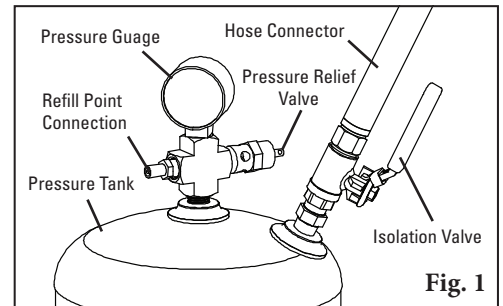
Belt Width	SS	S	M	L	LL
	kPa	kPa	kPa	kPa	kPa
450	45	55	60	65	80
600	65	80	90	95	120
750	65	80	90	95	120
900	85	105	115	125	155
1050	105	130	145	155	195
1200	125	155	175	185	235
1500	145	180	200	220	275
1600	170	205	230	250	310
1800	185	225	255	275	345
2100	205	250	285	305	385
2400	245	300	340	365	460
2600	265	325	370	395	500
3000	305	370	425	455	575

Section 4 – Installation Instructions

4.4b H-Type® with V-Tips - PAT Tensioner - Isolation Procedure

The following steps-by-step process is recommended for de-pressurization and isolation of the PAT air system. This document is not intended to supersede any site isolation or lock out regulations which are too followed at all times.

1. **Isolate PAT Air Tank Supply.** Where the PAT Air tank is connected to an external supply sort of pressure, isolate the supply to the tank
2. **Isolate the PAT Air Tank** by closing the isolation valve connected to the top of the tank (Fig. 1) by rotating 90°. Lock the valve in the closed position with either personal or group isolation locks.
3. **Remove Air Circuit pressure.** Pull out the PAT Control Panel regulator knob (Fig. 2) and turn counter-clockwise until stop, exhaust gases should be audible. Confirm that the pressure gauge reads 0 kPa. Re-open the regulator to by turning the regulator knob clockwise so residue air in the line between the PAT Air Tank and PAT Control panel is drawn into the circuit. Re-close the regulator as before to exhaust residue air. Complete this 2-3 times to ensure that air pressure is exhausted from the system. Push in the regulator knob to isolate the regulator mechanism.
4. **Additional Lockout Point.** The PAT Control Panel box can have additional isolation protection by and option to use personal or group isolation locks on the side of the control box itself (Fig. 3).



Section 5 – Cleaner Pole Location Charts

5.1 Pole Location Charts

Extra Small (SS) V-Arms

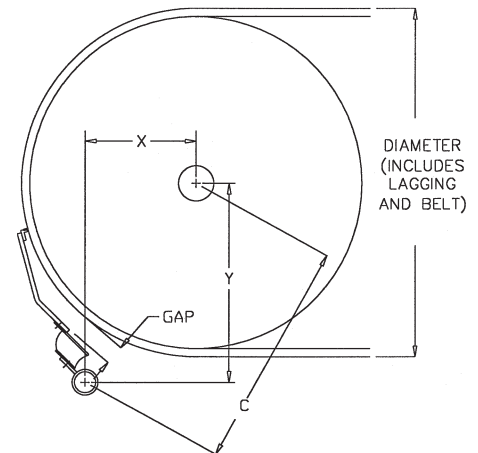
(for head pulley diameters up to 499mm)

Diameter (incl. belt)	X	Y	C	Gap
mm	mm	mm	mm	mm
250	28	292	294	56
275	40	295	298	51
300	52	299	303	46
325	64	302	309	43
350	76	305	315	39
375	88	308	321	36
400	100	312	327	33
425	113	315	334	30
450	125	318	342	28
475	137	321	349	25
500	149	325	357	23
525	161	328	365	22
550	173	331	373	20
575	185	334	382	18

Small (S) V-Arms

(for head pulley diameters 500–799mm)

Diameter (incl. belt)	X	Y	C	Gap
mm	mm	mm	mm	mm
350	50	361	365	78
375	62	365	370	73
400	74	368	375	68
425	86	371	381	64
450	98	374	387	60
475	110	377	393	56
500	122	381	400	52
525	134	384	407	49
550	146	387	414	46
575	158	390	421	43
600	171	394	429	40
625	183	397	437	38
650	195	400	445	36
675	207	403	453	33
700	219	407	462	31
725	231	410	470	29
750	243	413	479	27
775	255	416	488	26
800	267	420	497	24
825	279	423	507	23
850	291	426	516	21
875	303	429	526	20
900	315	432	535	18



Medium (M) V-Arms

(for head pulley diameters 800–999mm)

Diameter (incl. belt)	X	Y	C	Gap
mm	mm	mm	mm	mm
650	180	445	480	63
675	192	449	488	60
700	204	452	496	57
725	216	455	504	54
750	228	458	512	54
775	240	462	520	50
800	252	465	529	47
825	264	468	538	45
850	277	471	546	43
875	289	475	555	41
900	301	478	565	39
925	313	481	574	37
950	325	484	583	36
975	337	487	593	34
1000	349	491	602	32
1025	361	494	612	31
1050	373	497	622	29
1075	385	500	632	28
1100	397	504	641	27
1125	409	507	652	26

Large (L) V-Arms

(for head pulley diameters 1000–1199mm)

Diameter (incl. belt)	X	Y	C	Gap
mm	mm	mm	mm	mm
850	253	494	556	46
875	265	498	564	43
900	278	501	573	41
925	290	504	581	39
950	302	507	590	37
975	314	511	599	35
1000	326	514	608	33
1025	338	517	618	31
1050	350	520	627	29
1075	362	524	637	27
1100	374	527	646	26
1125	386	530	656	24
1150	398	533	666	22
1175	410	537	675	21
1200	422	540	685	20

Extra Large (XL) V-Arms

(for head pulley diameters 1200–1700mm)

Diameter (incl. belt)	X	Y	C	Gap
mm	mm	mm	mm	mm
1200	414	650	771	79
1225	426	653	780	76
1250	438	657	789	74
1275	450	660	799	72
1300	462	663	808	70
1325	474	666	818	68
1350	486	670	827	66
1375	498	673	837	64
1400	510	676	847	62
1425	522	679	857	60
1450	534	683	867	59
1475	546	686	877	57
1500	558	689	887	55
1525	570	692	897	54
1550	583	695	907	52
1575	595	699	917	51
1600	607	702	928	49
1625	619	705	938	48
1650	631	708	949	47
1675	643	712	959	45
1700	655	715	970	44

Section 6 – Pre-Operation Checklist and Testing

6.1 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.

6.2 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 7 – 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 H-Type® 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 by observing the correct lockout/tagout procedures.

7.1 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.¹

7.2 Routine Visual Inspection (every 2-4 weeks)

A visual inspection of the cleaner and belt can determine:

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

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

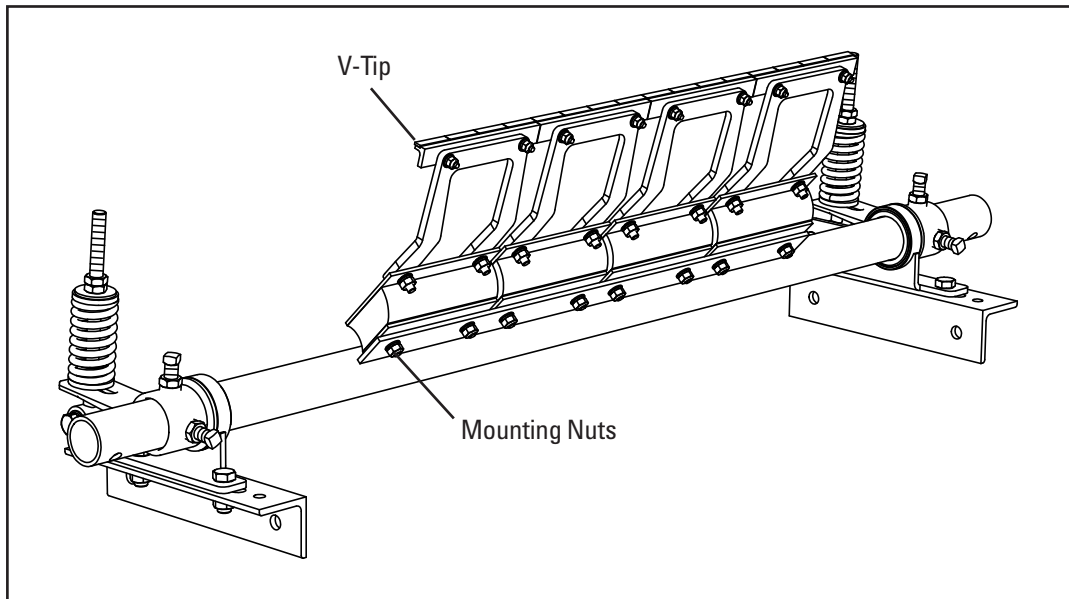
7.3 Routine Physical Inspection (every 6-8 weeks)

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

Section 7 – Maintenance

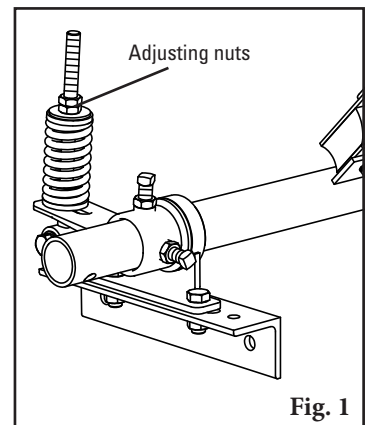
7.4 Blade Replacement Instructions



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

Tools Needed:

- Tape measure
- (2) 38mm wrenches or crescent wrenches
- (1) 17mm wrench
- Wire brush (for cleaning pole)
- Small putty knife (for cleaning pole)

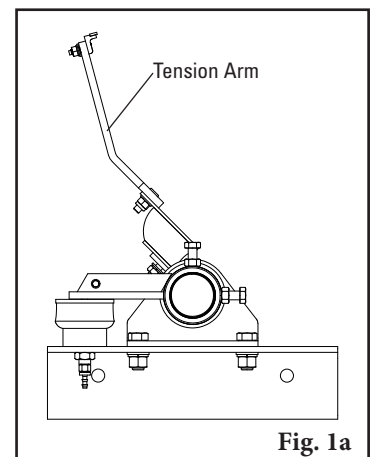


1. **For Bolt/PCST Tensioning:** Remove the tension. Loosen the adjusting nuts on the mounting bracket/PCST assembly to remove tension from the arm (Fig. 1). This releases the tension of the blade on the belt.

For PAT Tensioning: Remove the tension. Using the Air Control panel, remove isolate the incoming air support and using the pressure control value release all pressure from the Air Cushions.

Refer to the Air Control Instruction and Operations Manual for detailed instructions.

Remove the tension arm (Fig. 1a), this releases the tension of the blade on the belt.



Section 7 – Maintenance

7.4 Blade Replacement Instructions

2. **Remove the worn tips.** Remove the nuts on each tip and remove the tips from the cushion (Fig. 2). Clean all fugitive material from the pole.

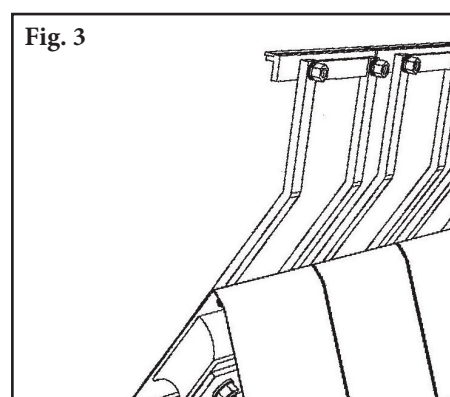
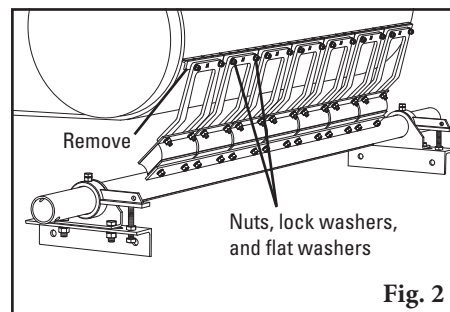
NOTE: If tips are hard to remove use a screwdriver or hammer to loosen it and then remove.

3. **Install the new tips.** Locate each tip on each suspension arm, then install the hardware to fasten the tip to the suspension arm (Fig. 3).
4. **Reset the correct blade tension.**

For Bolt/PCST Tensioning: Refer to pages 12 or 13.

For PAT Tensioning: Refer to page 14.

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



Section 7 – Maintenance

7.5 Maintenance Log

Conveyor Name/No. _____

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

Activity: _____

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

Activity: _____

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

Activity: _____

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

Activity: _____

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

Activity: _____

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

Activity: _____

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

Activity: _____

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

Activity: _____

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

Activity: _____



Section 7 – Maintenance

7.6 Cleaner Maintenance Checklist

Site: _____ Inspected by: _____ Date: _____

Belt Cleaner: _____ Serial Number: _____

Beltline Information:

Beltline Number: _____ Belt Condition: _____

Belt Width: 450mm 600mm 750mm 900mm 1050mm 1200mm 1350mm 1500mm 1800mm

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 wear: Left _____ Middle _____ Right _____

Blade condition: Good Grooved Smiled Not contacting belt Damaged

Measurement of spring: Required _____ Currently _____

Was Cleaner Adjusted: Yes No

Pole Condition: Good Bent Worn

Lagging: Side 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 8 – Troubleshooting

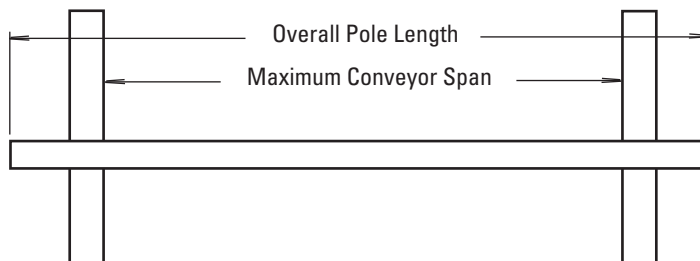
Problem	Possible Cause	Possible Solutions
Poor cleaning performance	Cleaner under-tensioned	Adjust to correct tension – see spring length chart
	Cleaner over-tensioned	Adjust to correct tension – see spring length chart
	Cleaner installed in wrong location	Verify "C" dimension, relocate to correct dimension
	Cleaner blade worn or damaged	Replace cleaner blade
Rapid Blade Wear	Tension on cleaner too high/low	Adjust to correct tension – see guidelines for tension type
	Cleaner not located correctly	Check cleaner location for correct dimensions
	Blade attack angle incorrect	Check cleaner location for correct dimensions
	Material too abrasive for blade	Option: switch to alternate cleaner with metal blades
	Mechanical splice damaging blade	Repair, skive or replace splice
Centre wear on blade (smile effect)	Blade wider than material path	Replace blade with width to match material path
	Tension on cleaner too high/low	Adjust to correct tension – see guidelines for tension type
Unusual wear or damage to blade	Mechanical splice damaging blade	Repair, skive or replace splice
	Belt damaged or ripped	Repair or replace belt
	Cleaner not correctly located	Verify "C" dimension, relocate to correct dimension
	Damage to pulley or pulley lagging	Repair or replace pulley
Vibration or noise	Cleaner not located correctly	Verify "C" dimension, relocate to correct dimension
	Blade attack angle incorrect	Verify "C" dimension, relocate to correct dimension
	Cleaner running on empty belt	Use a spray pole when the belt is empty
	Cleaner tension too high/low	Adjust to correct tension or slight adjust to diminish
	Cleaner locking bolts not secure	Check and tighten all bolts and nuts
	Cleaner not square to head pulley	Verify "C" dimension, relocate to correct dimension
	Material buildup in chute	Clean up build-up on cleaner and in chute
Cleaner being pushed away from pulley	Cleaner tension not set correctly	Ensure correct tension/increase tension slightly
	Sticky material is overburdening cleaner	Increase tension; replace with cleaner with metal tips; replace with larger size cleaner
	Cleaner not set up correctly	Confirm location dimensions are equal on both sides
Loss of Tank Pressure	Leaking Fittings	Using soapy water spray all connections for evidence of bubbles
	Faulty connection hoses	Depressurize the air upstream of the tank isolation valve and replace fault hose section
	Incorrectly install connection hoses	
Loss of Tension Pressure	Leaking Fittings	Using soapy water spray all connections for evidence of bubbles
	Faulty connection hoses	Depressurize the air upstream of the tank isolation valve and replace fault hose section
	Incorrectly install connection hoses	
	Faulty or damage air bag	Inspect the airbag for indications of damage.
Inadequate tensioner pressure	Incorrect Pressure setting	Check control panel pressure gauge for set pressure correct as required
	Faulty or damage air bag	Inspect the airbag for indications of damage.

Section 9 – Specs and CAD Drawings

9.1 Specifications and Guidelines

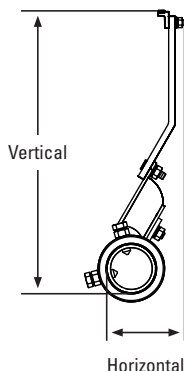
Pole Length Specifications

DESCRIPTION	BELT WIDTH mm	POLE LENGTH mm	MAX. CONVEYOR SPAN mm
H-Type Pole Standard 60mm Pole Diameter	450	1250	1000
	600	1350	1100
	750	1500	1250
	900	1650	1400
	1050	1800	1550
	1200	1950	1700
H-Type Pole Standard 73mm Pole Diameter	1500	2350	2100
	1600	2450	2200
H-Type Pole Heavy-Duty 73mm Pole Diameter Braced and Gussetted	1800	2650	2400
	2100	2950	2700
	2400	3250	3000
	2600	3450	3200
	3000	3850	3600



Clearance Guidelines for Installation

SUSPENSION ARM SIZE	HORIZONTAL CLEARANCE REQUIRED	VERTICAL CLEARANCE REQUIRED
	mm	mm
SS	175	325
S	175	375
M	175	420
L	175	450
LL	175	555

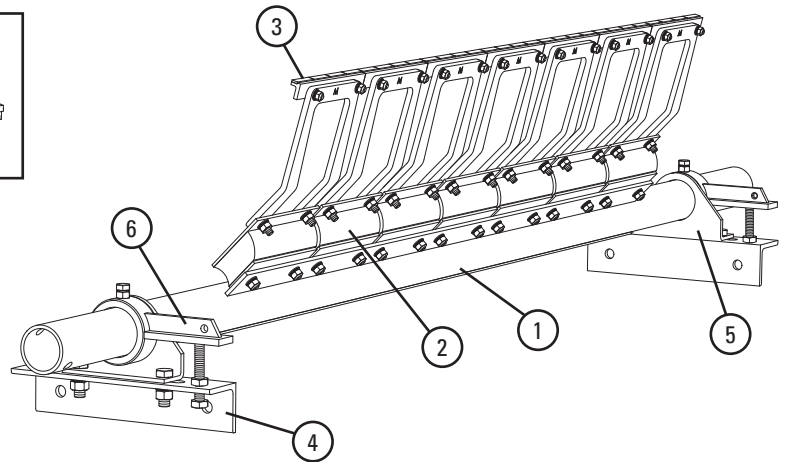
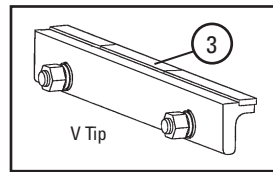


Specifications:

- Maximum Belt Speed5m/s
- Temperature Rating-35°C to 204°C
- Usable Blade Wear Length9mm
- Blade Material.....Long Life Tungsten Carbide (for vulcanized belts only)
- Available for Belt Widths.....450 to 1200mm. Other sizes available upon request.
- CEMA Cleaner Rating.....Class 4

Section 10 – Replacement Parts List

10.1 Replacement Parts - H-Type® with V-Tips



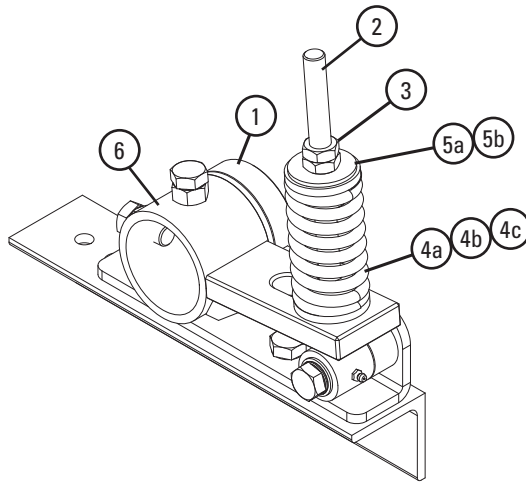
Replacement Parts

REF	DESCRIPTION	BELT WIDTH mm	POLE LENGTH mm	MILD STEEL		STAINLESS STEEL		WT. KG
				ORDERING NUMBER	ITEM CODE	ORDERING NUMBER	ITEM CODE	
1	H-Type Pole Standard - 60mm Pole Diameter	450	1250	HP450	73027	HP450-S/S	75373	10.0
		600	1350	HP600	73029	HP600-S/S	75374	11.0
		750	1500	HP750	73031	HP750-S/S	75375	13.0
		900	1650	HP900	73033	HP900-S/S	75376	15.0
		1050	1800	HP1050	73035	HP1050-S/S	75377	20.0
	H-Type Pole Standard - 73mm Pole Diameter	1200	1950	HP1200	73037	HP1200-S/S	75378	22.0
		1500	2350	HP1500	73066	HP1500-S/S	75379	24.0
		1600	2450	HP1600	73739	HP1600-S/S	75380	27.0
		1800	2650	HPHD1800	74601	HPHD1800-S/S	A2063	34.0
H-Type Pole Heavy-Duty - 73mm Pole Diameter (braced and gusseted)	2100	2950	HPHD2100	74547	HPHD2100-S/S	A1783	39.0	
	2400	3250	HPHD2400	74548	HPHD2400-S/S	A2590	43.5	
2	Cushion			HSA	73486	HVC-S/S	73494	2.0
	Heavy-Duty Cushion			HSHD	73483	HSHS-S/S	76467	2.0
-	H Polyshield (not shown)			HPS8	73050	HSTSS	61173	1.0
3	V-Tip			HSA200	73489	HVT8-S/S	75419	0.5
	HVPT Tip					HVPT-S/S	73631	0.6
SIDE MOUNTING ASSEMBLY COMPONENTS (60mm)								
4	H Mounting Bracket			HDMRK	74582	HDMRK-S/S	76245	2.0
5	H Bearing			HBRK	73068	HBRK-S/S	75422	1.5
6	H Adjusting Arm			HARK	73069	HARK-S/S	75423	1.5
SIDE MOUNTING ASSEMBLY COMPONENTS (73mm)								
4	H Mounting Bracket			HDMRK	74582	HDMRK-S/S	76245	3.0
5	H Bearing			HBRKX	74549	HBRKX-S/S	76246	2.0
6	H Adjusting Arm			HDARK	74550	HDARK-S/S	76247	2.0

Shaded items are made to order.
Contact for lead time.

Section 10 – Replacement Parts List

10.2 Replacement Parts - PCST Tensioner



Replacement Parts - PCST (60mm)

REF	DESCRIPTION	MILD STEEL			STAINLESS STEEL		
		ORDERING NUMBER	ITEM CODE	WT. KG	ORDERING NUMBER	ITEM CODE	WT. KG
1	H Bearing Bush - 60mm	HCSBB-60	62513	0.1	HCSBB-60	62513	0.1
2	Acme Pivot Rod Kit	ACME-PRK	62496	0.6	ACME-PRK	62496	0.6
3	Acme Nut	ACME-N	62591	0.1	ACME-N	62591	0.1
4a	Black Spring (1600mm belt width max)	STS-B	75844	0.5	STS-B-S/S	77632	0.5
4b	Gold Spring (2400mm belt width max)	STS-G	78142	0.5	STS-G-S/S	79057	0.5
5	Spring Bushing Kit (Black/Gold)	HCSSB-B/G	62589	0.1	HCSSB-B/G	62589	0.1
6	Torque Arm Kit - 60mm	ESTAK-EST	76406	1.6	ESTAK-EST-S/S	78849	1.6
-	Black - 60mm, Compression Spring Side Assembly (1600mm belt width max)	H60CSK-B	62747	11.0	H60CSK-B-S/S	62748	17.3
-	Gold - 60mm, Compression Spring Side Assembly (2400mm belt width max)	H60CSK-G	62741	11.0	H60CSK-G-S/S	62742	17.3

Replacement Parts - PCST (73 mm)

REF	DESCRIPTION	MILD STEEL			STAINLESS STEEL		
		ORDERING NUMBER	ITEM CODE	WT. KG	ORDERING NUMBER	ITEM CODE	WT. KG
1	H Bearing Bush - 73mm	HCSBB-73	62514	2.0	HCSBB-73	62514	2.0
2	Acme Pivot Rod Kit	ACME-PRK	62496	0.6	ACME-PRK	62496	0.6
3	Acme Nut	ACME-N	62591	0.1	ACME-N	62591	0.1
4a	Black Spring (1600mm belt width max)	STS-B	75844	0.5	STS-B-S/S	77632	0.5
4b	Gold Spring (2400mm belt width max)	STS-G	78142	0.5	STS-G-S/S	79057	0.5
4c	Silver Spring (2400mm belt width min)	PSTS-S	75899	0.5	PSTS-S-S/S	79056	0.5
5a	Spring Bushing Kit (Black/Gold)	HCSSB-B/G	62589	0.1	HCSSB-B/G	62589	0.1
5b	Spring Bushing Kit (Silver)	HCSSB-S	62590	0.2	HCSSB-S	62590	0.2
6	Torque Arm Kit - 73mm	HCSTAK	62494	1.6	HCSTAK-S/S	62495	1.6
-	Black - 73mm, Compression Spring Side Assembly (1600mm belt width max)	H73CSK-B	62749	17.8	H73CSK-B-S/S	62750	18.3
-	Gold - 73mm, Compression Spring Side Assembly (2400mm belt width max)	H73CSK-G	62743	17.8	H73CSK-G-S/S	62744	18.3
-	Silver - 73mm, Compression Spring Side Assembly (2400mm belt width min)	H73CSK-S	62745	18.0	H73CSK-S-S/S	62746	18.4

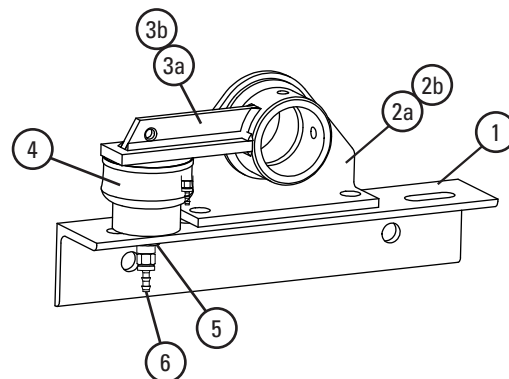
Section 10 – Replacement Parts List

10.3 Replacement Parts - PAT Tensioner

Replacement Parts

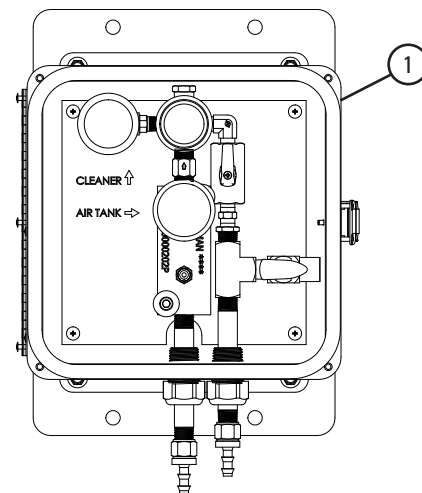
REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. KG
1	Air Primary Mount Bracket Stainless Steel	AIR HDMRK S/S	62034	2.0
2a	Bearing Repair Kit 60mm	HBRK-S/S-60	75422	1.5
2b	Bearing Repair Kit 73mm	HBRK-S/S-73	76246	2.0
3a	Air Primary Adjust Arm 60mm	AIR HARK-S/S-60	62035	1.5
3b	Air Primary Adjust Arm 73mm	AIR HARK-S/S-73	64175	2.0
4	Air Bag Primary	AIR BAG P	62036	0.5
5	Hex Nut	HEX NUT	G1211	0.1
6	Air Line Adapter	ATV-NIP	62037	0.1
-	Primary Air Tension Kit 60mm (incl. (2) ea. items 1, 2a, 3a, 4, 5, 6)	HATDMK-S/S	63861	11.0
-	Primary Air Tension Kit 73mm (incl. (2) ea. items 1, 2b, 3b, 4, 5, 6)	HDATDMK-S/S	63862	14.0

Shaded items are made to order.
Contact for lead time.



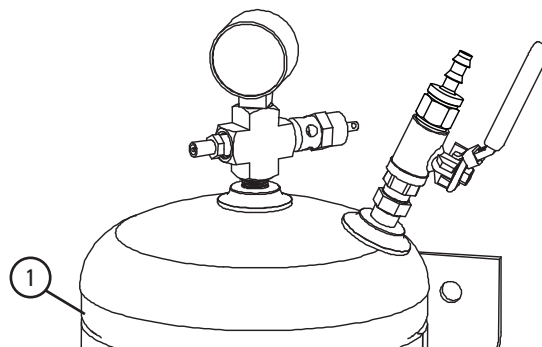
Replacement Parts - PAT Control Panel

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. KG
1	PAT Control Panel	PACB2-100	108229	5.0



Replacement Parts - PAT Air Tank

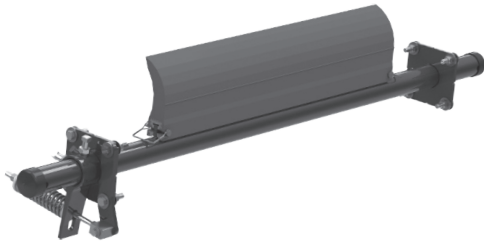
REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. KG
1	PAT Air Tank	PAT1	65571	5.9



Section 11 – 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:

Rockline® EZP1 Primary Cleaner



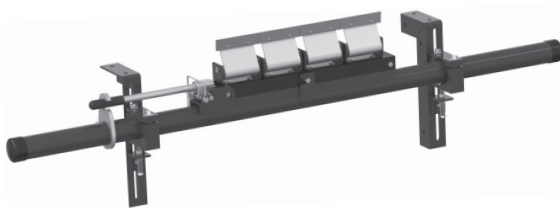
- Patented ConShear™ blade renews its cleaning edge as it wears
- Visual Tension Check™ for optimal blade tensioning and simple retensioning
- Quick and easy one-pin blade replacement Material Path Option™ for optimal cleaning and reduced maintenance

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

MHS SAC Secondary Cleaner



- Long-wearing tungsten carbide blades for superior cleaning efficiency
- Patented PowerFlex™ cushions, the proven design found on our industry-leading MHS Secondary Cleaner
- Service Advantage Cartridge can be easily removed and replaced, even in the dirtiest conditions
- Works with Flexco mechanical belt splices

PT Max™ Belt Trainer



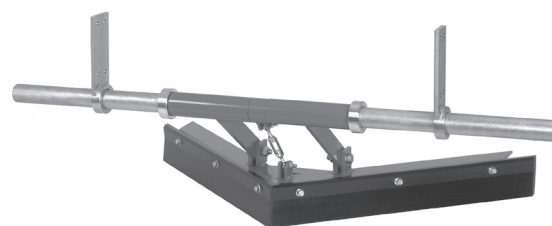
- Patented “pivot & tilt” design for superior training action
- Dual sensor rollers on each side to minimise belt damage
- Pivot point guaranteed not to freeze or seize up
- Available for topside and return side belts

Flexco Specialty Belt Cleaners



- “Limited space” cleaners for tight conveyor applications
- 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

Visit www.flexco.com for other Flexco locations and products, or to find an authorised distributor.

©2020 Flexible Steel Lacing Company. 10-21-24. W2037

