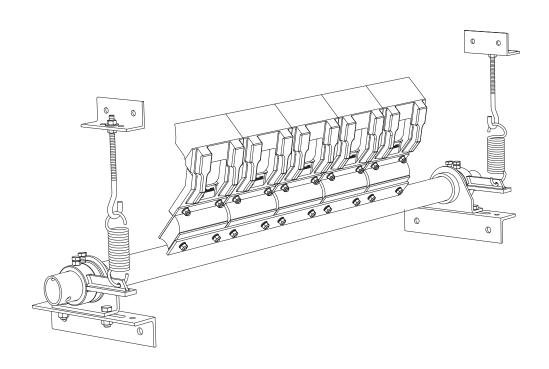
HXF Primary Cleaner

Installation, Operation and Maintenance Manual





H-Type® Primary Cleaner with HXF

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 an H-Type® Primary Cleaner with HXF 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 labour
- 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 HXF 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 HXF, 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

A 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
- Clear the conveyor belt or clamp securely in place

A 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

A DANGER

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

A 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.

A 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. Failing 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? (see 3.2 Cleaner Location Adjustments)

Section 3 - Pre-Installation Checks and Options

3.2 Cleaner Location Adjustments

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

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

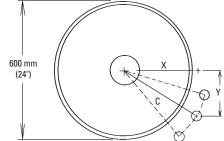
Conveyor situation:

Pulley Diameter: 600 mm (24")

X = 321 mm (12-5/8")

Y = 300 mm (12'')

C = 441 mm (17-3/8")



- 1. Determine the given location dimensions and define the change needed. After laying out the given X & Y dimensions, determine the distance of the modification required for adequate clearance of the pole and tensioning system. (In the example we decide to lower the pole 50 mm (2") to clear the support structure).
- **2. Write down known dimensions.** We can now determine two of the three required dimension which will allow us to find the third. We know we cannot alter the "C" dimension, so this will remain the same. Also we are required to lower the unit in the "Y" dimension 50 mm (2"), so we add 50 mm (2") to the given "Y" dimension.

$$X = ? mm (?")$$

$$Y = 300 + 50 = 350 \text{ mm} (12 + 2 = 14'')$$

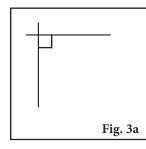
$$C = 441 \text{ mm} (17-3/8")$$

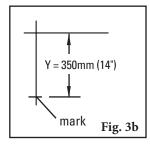
3. Determine final dimension. On a flat vertical surface, using a level, draw one horizontal line and one vertical line creating a right triangle (Fig 3a). Measure down from the intersection the determined "Y" dimension and mark (Fig 3b). With the tape measure starting at the modified "Y" mark, swing the tape across the "X" line and mark at the "C" dimension where it crosses the "X" line (Fig 3c). Measure from the intersection to the "C" intersection and this will be your new "X" dimension (Fig. 3d).

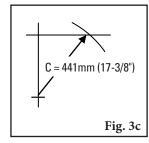
$$X = 254 \text{ mm} (10-1/4")$$

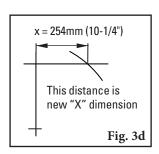
$$Y = 350 \text{ mm} (14'')$$

$$C = 441 \text{ mm} (17-3/8")$$



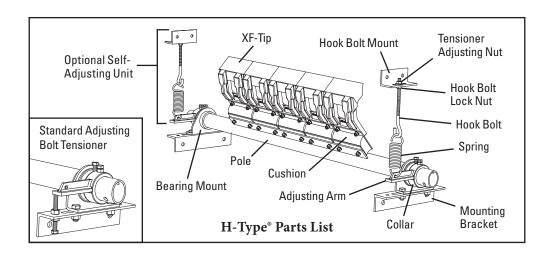








4.1 H-Type® with XF Tips and J-Bolt Tensioner



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.

XF-Tip Size	Pulley Diameter + Belt and Lagging
S	450-799 mm (18-32")
M	800–999 mm (32–40")
L	1000–1200 mm (40–48")

Tools Needed:

- Tape Measure
- 19 mm (3/4") Spanner
- Ratchet with 19 mm (3/4") Socket
- Adjustable Spanner
- Cutting Torch and/or Welder
- (2) 150 mm (6") C-Clamps (For Temporary Positioning of Mounting Brackets)
- 600 mm (24") Level
- Marking Pen

4.2 H-Type® with XF Tips and J-Bolt Tensioner - Chute Mounting

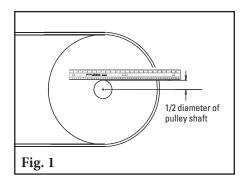
For Chute Mounting:

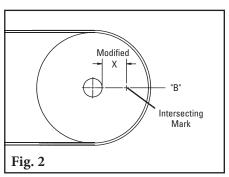
1. **Find X and Y measurements.** Find the X and Y measurement specifications for the pulley diameter. See charts on Page 16. The pulley diameter measurement should include lagging and belt.

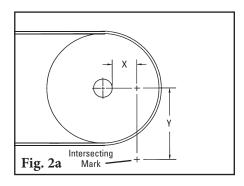
Pulley Diameter _____mm; X = ____mm; Y = ____mm

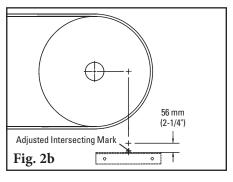
Using the correct X and Y coordinates will position the cleaner at 15° below the horizontal plane on the head pulley.

- **2. Measure head pulley shaft.** Determine the diameter of the pulley shaft and divide by 2.
- 3. Using a level on top of the pulley shaft, 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).
- 4. Mark X dimension. Subtract the above dimension (Step 2) 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).
- **5. 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.
- 6. Locate mounting bracket position (horizontal position). To locate the position of the cleaner mounting bracket, add 56 mm (2-1/4") to the intersecting mark (Fig. 2b). This mark indicates the top centre of the mounting bracket.







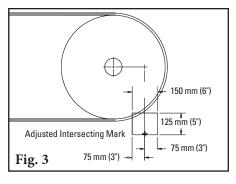


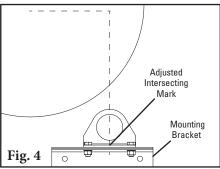


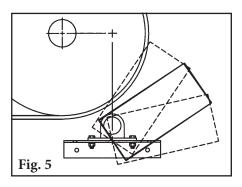
4.2 H-Type® with XF Tips and J-Bolt Tensioner - Chute Mounting

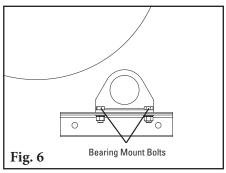
- 7. **Cut chute opening.** Using the adjusted intersecting mark ("+") established in Step 6, layout and cut the required opening 125 x 150 mm (5 x 6") on the chute (Fig. 3). If an access hole is required, see Step 7.
- **8. Install the mounting brackets.** Centre the mounting bracket on the bottom of the opening. Bolt or weld in position (Fig 4). Repeat process on opposite side.
- 9. Cutting the access hole. Cut an access hole by centreing the bottom edge on the adjusted intersecting mark ("+") established in Step 6. The width of the hole should be 175 mm (7"); the height should be 380 mm (15") for extra small tips, 440 mm (17") for small tips or 485 mm (19") for medium tips, and 515 mm (20") for large tips. The access hole may be oriented within the range shown (Fig. 5), provided that the bottom edge is still centred as described above.
- 10. 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.
- 11. Position the pole. Rotate 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 loosened bearing mount until tips are contacting belt evenly across full width. Lock cleaner into this position by tightening bearing mount bolts.

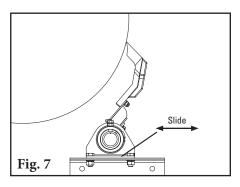
For step-by-step instructions on installing the spring tensioner, refer to Page 13.











4.3 H-Type® with XF Tips and J-Bolt Tensioner - Open Head Mounting

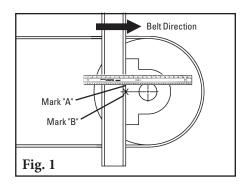
Open Head Mounting

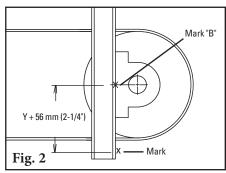
1. Find X and Y measurements. Find the X and Y measurement specifications for the pulley diameter. See charts on Page 16. The pulley diameter measurement should include lagging and belt.

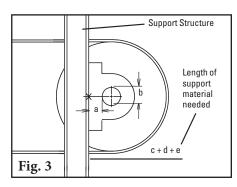
Pulle	y Diameter	mm; X = _	mm; Y =	mm
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Using the correct X and Y coordinates will position the cleaner at 15° below the horizontal plane on the head pulley.

- **2. Locate Y location.** Determine the diameter of the pulley shaft and divide by 2.
- 3. Put a level on top of the pulley shaft and make a mark (A) on the structure. Measure down from Mark A half the diameter of the pulley shaft and make another mark (B), locating the shaft's centreline (Fig. 1).
- 4. Measure down the given Y dimension plus 56 mm (2-1/4") and make a mark (Fig. 2). This mark indicates the top location of support material to be added for installing the cleaner mounting brackets.
- 5. Locate the X location.
 - **a.)** Measure from the back of the pulley shaft to the support structure (Fig. 3).
 - **b.)** Divide the pulley shaft's diameter by 2.
 - **c.)** Add dimensions from Step 5a and b. This dimension is the pulley shaft's centreline to the support structure.
 - **d.**) Add the given X dimension to Step 5c. This sum indicates the distance from the centre of the pole to the support structure.
 - **e.**) Next, add 175 mm (7") (half of the length of the mounting bracket). This new sum is the total length of the support material needed to correctly locate the mounting brackets.
- 6. Secure the mounting support pieces to the support structure. Weld the support pieces to the support structure. A 75 x 75 mm (3 x 3") angle works well for these support pieces.
- 7. Prepare the support pieces for the cleaner mounting brackets. Clamp the mounting bracket on the support piece. Mark and drill, or weld, holes for mounting.







a.) Shaft to structure.	
b) 1/2 pulley shaft diameter. (÷ 2) =
c) Pulley shaft centre line to the structure.	=
d) Add X measurement from chart centre of pole from the structure.	=
e) Add 175 mm (7") (half the length of mounting bracket).	175 mm (7") +
Final length of support material needed.	=

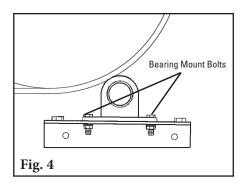


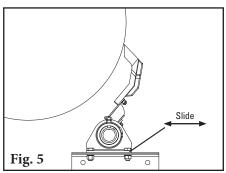
4.3 H-Type® with XF Tips and J-Bolt Tensioner - Open Head Mounting

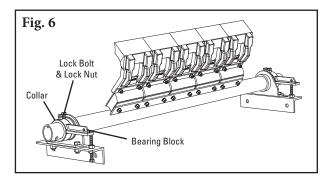
8. Install the pole. Remove the two bearing mount bolts from one of the bearing mounts (Fig. 4). (For chute mounting, remove the bolts from the same side as the access hole.) Slide the pole across the pulley and into the bearing mount on the other side, allowing the tips to hang down. Install the removed bearing mount on the pole and reattach it to the mounting bracket.

NOTE: Do not over tighten; leave finger tight.

- 9. Position the pole. Rotate the pole upward to bring the tips into contact with the head pulley (Fig. 5). Then centre the tips across the belt. While applying light pressure on the centre tip, shift the loosened bearing mount until tips are contacting the belt evenly across the full width. Lock the cleaner into this position by tightening the bearing mount bolts.
- **10. Install the Tensioning System.** With the pole rotated up so that all the tips contact the head pulley, slide a collar on each end of the pole. Position the collars tight against the bearing mounts and tighten the lock bolt and jam nut on each collar (Fig. 6).







4.4 H-Type® with XF Tips and J-Bolt Tensioner - Spring Tension

Spring Tension Mounting Kit

1. Assemble the tension spring and the J bolt mount to an adjusting arm (Fig. 1).

IMPORTANT: Allow for at least 100–125 mm (4–5") for upward movement on the J bolt for future blade tip adjustments.

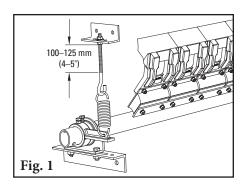
2. Install an adjusting arm onto pole end. Rotate the tensioner around the pole until the optimum mounting position is located. The J bolt mount can be located in any position 360° around the pole. The only requirement is that the J bolt and spring remain perpendicular to the adjusting arm (Fig. 2 & 2a).

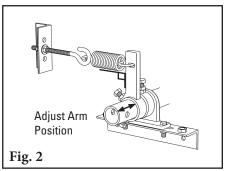
NOTE: The adjusting arm can be located any place along the end of the pole to align with J bolt mount.

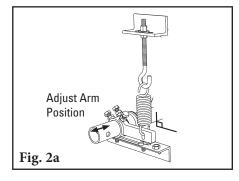
- 3. Clamp the J bolt mount in place and weld or bolt in position.
- **4. With the adjusting arm positioned perpendicular to the J bolt mount,** tighten the adjusting arm lock bolts and jam nuts (for optimum hold, tighten the back bolt first and then the top bolt).
- 5. The 900, 1050, and 1200 mm (36, 42 and 48") size cleaners require a dual tensioner. Repeat Steps 1–4 on the other side of the cleaner.
- **6. Set the Spring Tension.** Loosen the J bolt jam nut and turn the tensioner adjusting nut until the coil is 150 mm (6") long. Measure the length of the compressed part of the spring (Fig. 3) Complete on both sides of the cleaner if required.

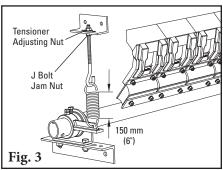
NOTE: This given spring length is only a starting point. The actual length for the correct cleaner blade tensioning may vary depending on the cleaner's width. Determine the exact spring measurement length in Step 8.

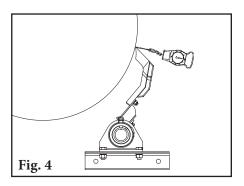
- 7. Check for correct blade tip tension. Place the Tip Tension Gauge between the blade tip and the belt on the centre tip (or tips) (Fig. 4). While pulling in a straight motion, read the tension required to break contact between the tip and belt, 8 kg (17-1/2 lbs.) is recommended. Be sure to check the tension on both outer tips. Make tension adjustments if needed.
- 8. Measure the spring length and affix the label. After the correct spring tension has been confirmed, measure the compressed part of the spring. Using a ballpoint pen mark the spring length on the Spring Length label provided in the packet. Affix the label on the conveyor structure near the spring for future reference for tensioning or re-tensioning the blades.











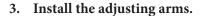


4.5 H-Type® with XF Tips and Bolt-Up Tensioner

1. Install the pole. Remove the two bearing mount bolts from one of the bearing mounts (Fig. 1). (For chute mounting, remove the bolts from the same side as the access hole.) Slide the pole across the pulley and into the bearing mount on other side and allow the tips to hang down. Install the removed bearing mount on the pole and reattach it to the mounting bracket.

NOTE: Do not over tighten; leave finger tight.

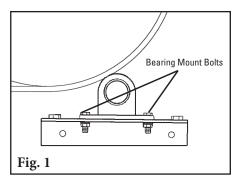
2. Position the pole. Rotate the pole upward to bring the tips into contact with the head pulley (Fig. 2). Then centre the tips across the belt. While applying light pressure on the centre tip, shift the loosened bearing mount until the tips are contacting the belt evenly across the full width. Lock the cleaner into this position by tightening the bearing mount bolts.

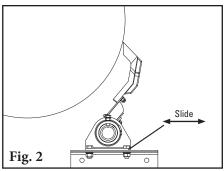


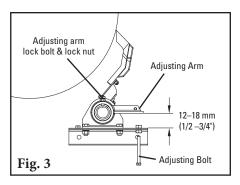
- **a)** Screw the adjusting bolts into the nuts on each mounting bracket (about 25 mm (1") above the mounting bracket).
- b) With the pole rotated upward, so that all tips contact the head pulley, slide the adjusting arm onto the pole tight against the bearing mount, resting on the adjusting bolt, pointed away from the head pulley. Tighten both of the adjusting arm lock bolts and lock nuts (Fig. 3).

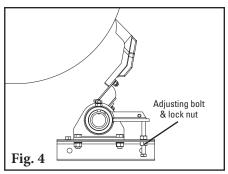
Repeat on opposite side.

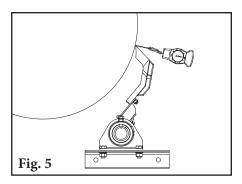
- **4. Set tip tension.** Apply the following tension: HXF 6 turns. Lock both of the adjusting bolt lock nuts (Fig. 4).
- 5. Check for correct blade tip tension. Place the Tip Tension Gauge between the blade tip and the belt on the centre tip (or tips) (Fig. 5). While pulling in a straight motion, read the tension required to break contact between the tip and belt, 10 kg (22 lbs.) is recommended. Be sure to check the tension on both outer tips. Make tension adjustments if needed.
- **6. Test run the cleaner and inspect the operation.** If vibration occurs or more cleaning efficiency is desired, increase the tip tension by making a 1/2 turn on each adjustment bolt.











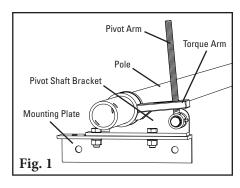
4.6 H-Type® and PCST Tensioner

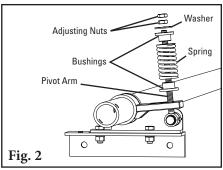
- 1. Install the compression spring tensioner. Remove the adjusting nuts, bushings and spring from the pivot rod. Insert the pivot arm through the slot in the torque arm. Slide the torque arm onto the pole end (be sure that the rotation of the arm is correct to tension the blade).
- 2. Reassemble the spring assembly. Slide the spring, washer and bushings onto the pivot arm and turn the two adjusting nuts so about 6 mm (1/4") of the pivot arm is exposed above the nuts (Fig. 2).
- 3. Verify your "C" dimension to insure that 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).

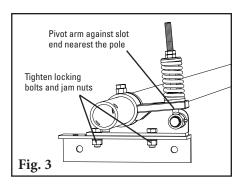
NOTE: The torque arm should be up against the mounting plate.

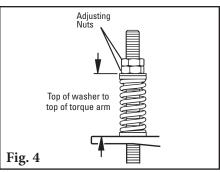
5. Set the correct blade tension. Refer to the charts below for the spring length required for the belt width. Lightly pull the pivot arm toward the end of the torque arm slot nearest the pole and turn the adjusting nuts until the required spring length is achieved (Fig. 4). Lock the top adjusting nut.

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 Gold Spring Length Chart

Belt Width	SS	S	М	L	ш	
mm						
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 length.

HV Silver Spring Length Chart

o opg _og o						
Belt Width mm	SS	s	М	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 length.

HV Black Spring Length Chart

p						
Belt Width mm	SS	S	М	L	ш	
1111111						
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 length.



Section 5 – Cleaner Pole Location Charts

5.1 Pole Location Charts

Extra Small (SS) XF Tips Head Pulley Diameters: 250–475 mm

	_			
Diameter (incl. belt)	х	Υ	С	Gap
250	48	301	305	61
275	60	304	310	57
300	72	308	316	53
325	84	311	322	50
350	96	314	329	47
375	108	317	335	45
400	120	321	342	42
425	132	324	350	40
450	144	327	358	38
475	157	330	366	36
500	169	334	374	35
525	181	337	382	33
550	193	340	391	32
575	205	343	400	30
600	217	347	409	29
625	229	350	418	28

Small (S) XF Tips Head Pulley Diameters: 500–775 mm

Diameter (incl. belt)	Х	Υ	С	Gap
350	67	369	375	79
375	79	372	381	75
400	91	376	387	71
425	103	379	393	67
450	115	382	399	63
475	127	385	406	60
500	140	389	413	56
525	152	392	420	54
550	164	395	428	51
575	176	398	435	48
600	188	402	443	46
625	200	405	452	44
650	212	408	460	42
675	224	411	468	40
700	236	415	477	38
725	248	418	486	36
750	260	421	495	35
775	272	424	504	33
800	284	427	513	32
825	297	431	523	30
850	309	434	533	29
875	321	437	542	28
900	333	440	552	26
925	345	444	562	25

Medium (M) XF Tips Head Pulley Diameters: 800–975 mm

Diameter				
(incl. belt)	Х	Y	С	Gap
650	201	450	493	64
675	213	453	501	62
700	226	456	509	59
725	238	459	517	57
750	250	463	526	54
775	262	466	534	52
800	274	469	543	50
825	286	472	552	48
850	298	476	561	47
875	310	479	570	45
900	322	482	580	43
925	334	485	589	42
950	346	489	599	40
975	358	492	609	39
1000	370	495	618	37
1025	383	498	528	36
1050	395	502	638	35
1075	407	505	648	34
1100	419	508	658	32
1125	431	511	669	31

Large (L) XF Tips

Head Pulley Diameters: 1000–1175 mm

•					
Diameter (incl. belt)	х	Y	С	Gap	
850	293	509	587	60	
875	305	512	596	58	
900	317	515	605	56	
925	329	519	614	54	
950	341	522	624	52	
975	354	525	633	50	
1000	366	528	642	49	
1025	378	532	652	47	
1050	390	535	662	45	
1075	402	538	672	44	
1100	414	541	681	42	
1125	426	544	691	41	
1150	438	548	701	40	
1175	450	451	711	38	
1200	462	554	722	37	
1225	474	557	732	36	
1250	486	561	742	35	
1275	498	564	753	34	
1300	511	567	763	32	
1325	523	570	774	31	

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.



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.

7.2 Routine Visual Inspection (every 2-4 weeks)

A visual inspection of the cleaner and belt can determine:

- If the belt looks clean or if there are areas that are dirty.
- If the blade is worn out and needs to be replaced.
- If there is damage to the blade or other cleaner components.
- If fugitive material is built up on the cleaner 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.

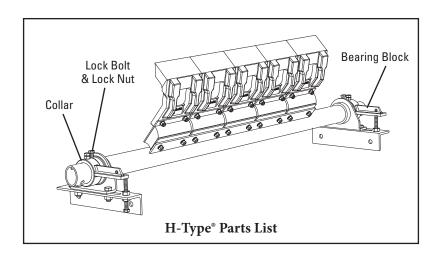
If any of the above conditions exist, a determination should be made on when the conveyor can be stopped for cleaner maintenance.

7.3 Routine Physical Inspection (every 6-8 weeks)

When the conveyor is not in operation and properly locked and tagged out, conduct 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
- 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 performining properly.

7.4 Blade Replacement Instructions



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

Tools Needed:

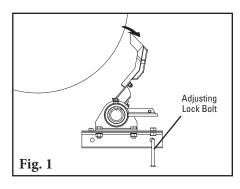
- Tape Measure
- (2) 38 mm (1-1/2") Spanner/Crescent Spanner
- 17 mm (11/16") Spanner
- Wire brush (for cleaning pole)
- Small putty knife (for cleaning pole)

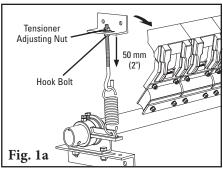


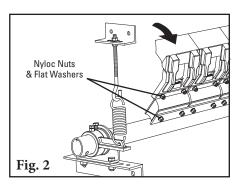
For adjusting bolt tensioners. Loosen the adjusting bolt lock nuts and lower the adjusting bolts 25 mm (1") to allow the tips to move away from the belt (Fig. 1).

For spring tensioners. Loosen the hook bolt lock nuts and back off the tensioner adjusting nuts 50 mm (2") to allow the tips to move away from the belt (Fig. 1a).

2. Remove the worn blades. Remove the Nyloc nuts and flat washers from the bottom of each tip at the top of the cushion. Remove the tips by pulling back and downward (Fig. 2).









7.4 Blade Replacement Instructions

- 3. Install the new tips. With the tip tipped back slightly, align the studs with the holes in the top of the cushion plate and insert. Tilt the tip forward while holding the bottom of the tip tight against the cushion. With the tip aligned with the cushion, install a flat washer and Nyloc nut on each stud. Finger tighten only, but do not tighten (this will be done once all tips are installed) (Fig. 3). Continue across pole.
- **4. Align the tips.** Position each tip to allow for a 1-2 mm (0.04-0.08") space between them to prevent any binding. Tighten all Nyloc nuts (Fig. 4).
- **5. Tension the new blades.** Apply light pressure to the centre tip until contact is made with the belt.

For adjusting bolt tensioners. Turn the adjusting bolts up until they touch the adjusting arms (Fig. 5). Add an additional six turns on both sides.

For spring tensioners. Turn the tensioner adjusting nuts until the spring length matches the length marked on the Spring Length Label or structure (Fig.5a). Confirm the tip tension is correct in Step 6.

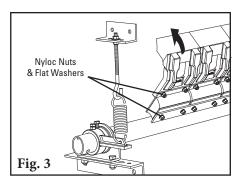
NOTE: If no measurement has been previously noted, adjust the spring length to 125 mm (5") for a single spring tensioner or 150 mm (6") for dual (Fig. 5a).

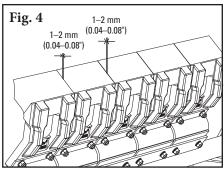
NOTE: These measurements are a starting point only. The actual length for correct tip tensioning may vary between cleaner width.

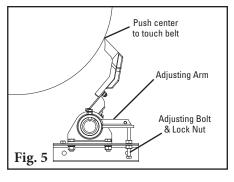
Determine the correct spring length measurement for the cleaner in Step 6. Then note the confirmed spring length on the structure for future use.

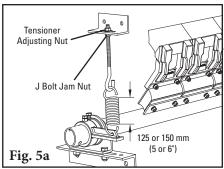
6. Preform a pull test to check for correct tension. Insert the Tip Tension Gauge, centred on the outer tip, between the tip and the belt (Fig. 6). Read tension required to break the contact of the tip to the belt (10 kg (22 lbs.) recommended for HF Tips, 8 kg (17-1/2 lbs.) for HXF Tips). Check both end tips. Make adjustments as needed and tighten both adjusting bolt lock nuts. If spring length adjustments were required, note the dimension for future adjustment.

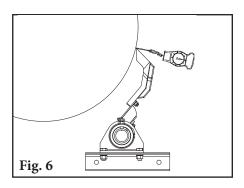
Test run the cleaner. Run the conveyor for at least 15 minutes and inspect the cleaning performance. Check the spring length for proper tensioning. Make adjustments as necessary.











7.5 Maintenance Log

Conveyor Name/No)	
Date:	Work done by:	Service Quote #:
		Service Quote #:
Activity:		
	Work done by:	Service Quote #:
	Work done by:	Service Quote #:
Activity:		
Date:	Work done by:	Service Quote #:
		Service Quote #:
Activity:		
Date:	Work done by:	Service Quote #:
Activity:		
Date:	Work done by:	Service Quote #:
Activity:		
Date:	Work done by:	Service Quote #:
Activity:		



7.6 Cleaner Maintenance Checklist

Site:	Inspected b	ру:	Date:
Belt Cleaner:		Serial Number:	
Blade Width:	☐ Belt minus 50mm (2")	☐ Belt minus 200mm (8") ☐ Belt n	ninus 350mm (14")
Beltline Information: Beltline Number:	Belt Cond	ition:	
Belt ☐ 450mm ☐ Width: (18")		1 □ 1050mm □ 1200mm □ 1350mm □ 1 (42") (48") (54")	1500mm □ 1800mm (60") (72")
Head Pulley Diameter (B	Belt & Lagging):	Belt Speed:fpm	Belt Thickness:
Belt Splice:	Condition of Splice:	Number of Splices: □ Ski	ived 🗆 Unskived
Material conveyed:			
Days per week run:	Hours per day	run:	
Blade Life: Date blade installed:	Date blade inspect	ted: Estimated blade life:	
Is blade making complet	e contact with belt?	□ Yes □ No	
Distance from wear line:	Left	Middle	Right
Blade condition:	□ Good □ Grooved	I □ Smiled □ Not contactin	ng belt □ Damaged
Measurement of spring:	Required	Currently	
Was Cleaner Adjusted:	□ Yes □ No		
Pole Condition:	□ Good □ Bent	□Worn	
Lagging:	Side Lag □ Ceramic	□ Rubber □ Other □ No	one
Condition of lagging:	□ Good □ Bad	□ Other	
Cleaner's Overall Perfor	rmance: (Rate the fo	ollowing 1 - 5, 1= very poor - 5 = very good	
Appearance:	Comments:		
Location:	Comments:		
Maintenance: □	Comments:		
Performance:	Comments:		
Other comments:			

${\bf Section~8-Trouble shooting}$

Problem	Possible Cause	Possible Solutions		
Poor cleaning performance Cleaner over-tensioned Cleaner over-tensioned Cleaner over-tensioned Cleaner installed in wrong location Cleaner blade worn or damaged Replace cleaner or the cleaner too high/low Cleaner not located correctly Check cleaner located correctly Material too abrasive for blade (smile effect) Centre wear on blade (smile effect) Mechanical splice damaging blade Centre wear on blade (smile offect) Mechanical splice damaging blade Repair, skive or in the company of the correct or the company of the correct or the company of the correct or the corre	Adjust to correct tension – see spring length chart			
Poor cleaning	Cleaner over-tensioned	Adjust to correct tension – see spring length chart Adjust to correct tension – see spring length chart g location Verify "C" dimension, relocate to correct dimension maged Replace cleaner blade gh/low Adjust to correct tension – see spring length chart ctly Check cleaner location for correct dimensions Check cleaner location for correct dimensions Check cleaner location for correct dimensions Option: switch to alternate cleaner with metal blades ing blade Repair, skive or replace splice Replace blade with width to match material path gh/low Adjust to correct tension – see spring length chart ing blade Repair, skive or replace splice Repair or replace belt Verify "C" dimension, relocate to correct dimension extly Verify "C" dimension, relocate to correct dimension ty belt Use a spray pole when the belt is empty Adjust to correct tension or slight adjust to diminish secure Check and tighten all bolts and nuts d pulley Verify "C" dimension, relocate to correct dimension Clean up build-up on cleaner and in chute Ensure correct tension/increase tension slightly Increase tanging, replace with cleaner with metal tipe.		
	Cleaner installed in wrong location	Verify "C" dimension, relocate to correct dimension		
	Cleaner blade worn or damaged	Adjust to correct tension – see spring length chart sioned Adjust to correct tension – see spring length chart Verify "C" dimension, relocate to correct dimension or or or damaged Replace cleaner blade Adjust to correct tension – see spring length chart tension or or damaged Replace cleaner blade Adjust to correct tension – see spring length chart tension or correct dimensions Check cleaner location for correct dimensions Check cleaner location for correct dimensions Check cleaner location for correct dimensions Assive for blade Option: switch to alternate cleaner with metal blade Repair, skive or replace splice Replace blade with width to match material path Adjust to correct tension – see spring length chart Repair, skive or replace splice Repair or replace belt Repair or replace belt Repair or replace belt Repair or replace pulley Verify "C" dimension, relocate to correct dimension Repair or replace pulley Repair or replace belt to correct dimension Repair or replace pulley Repair or replace pulley Repair or replace blate to correct dimension Repair or replace pulley Repair or replace blate to correct dimension Repair or replace pulley Repair or replace pulley Repair or replace blate to correct dimension Repair or replace pulley Repair or replace blate to correct dimension Repair or replace pulley Repair or replace blate to correct dimension Repair or replace pulley Repair or replace blate to correct dimension Repair or replace to correct dimension Repair or replace blate to correct dimension Repair or replace blate to correct dimension Repair or replace to correct dimension Repair or replace blate to correct d		
	Tension on cleaner too high/low	Adjust to correct tension – see spring length chart		
	Cleaner not located correctly	Check cleaner location for correct dimensions		
Rapid Blade Wear	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	Adjust to correct tension – see spring length chart Adjust to correct tension – see spring length chart Verify "C" dimension, relocate to correct dimension Replace cleaner blade Adjust to correct tension – see spring length chart Check cleaner location for correct dimensions Check cleaner location for correct dimensions Option: switch to alternate cleaner with metal blades Repair, skive or replace splice Replace blade with width to match material path Adjust to correct tension – see spring length chart Repair, skive or replace splice Repair or replace belt Verify "C" dimension, relocate to correct dimension Repair or replace pulley Verify "C" dimension, relocate to correct dimension Use a spray pole when the belt is empty Adjust to correct tension or slight adjust to diminish Check and tighten all bolts and nuts Verify "C" dimension, relocate to correct dimension Clean up build-up on cleaner and in chute Ensure correct tension/increase tension slightly Increase tension; replace with cleaner with metal tips;		
Centre wear on blade	Blade wider than material path	Adjust to correct tension – see spring length chart Adjust to correct tension – see spring length chart Verify "C" dimension, relocate to correct dimension damaged Replace cleaner blade high/low Adjust to correct tension – see spring length chart Check cleaner location for correct dimensions Check cleaner location for correct dimensions Check cleaner location for correct dimensions Option: switch to alternate cleaner with metal blades aging blade Repair, skive or replace splice Replace blade with width to match material path high/low Adjust to correct tension – see spring length chart Repair or replace belt Verify "C" dimension, relocate to correct dimension Repair or replace pulley Verify "C" dimension, relocate to correct dimension Verify "C" dimension, relocate to correct dimension verify "C" dimension, relocate to correct dimension Trect Verify "C" dimension, relocate to correct dimension Adjust to correct tension or slight adjust to diminish ot secure Check and tighten all bolts and nuts Verify "C" dimension, relocate to correct dimension Clean up build-up on cleaner and in chute Clean up build-up on cleaner and in chute Ensure correct tension/increase tension slightly Increase tension; replace with cleaner with metal tips; replace with larger size cleaner		
(smile effect)	Tension on cleaner too high/low			
	Mechanical splice damaging blade	Repair, skive or replace splice		
Unusual wear or	Belt damaged or ripped	Repair or replace belt		
(smile effect) Unusual wear or	Cleaner not correctly located	Verify "C" dimension, relocate to correct dimension		
	Damage to pulley or pulley lagging	Repair or replace pulley		
	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		
Vibration or noise	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 tension not set correctly	Ensure correct tension/increase tension slightly		
	Sticky material is overburdening cleaner			
	Cleaner not set up correctly	Confirm location dimensions are equal on both sides		



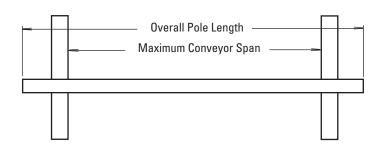
Section 9-Specs and CAD Drawings

9.1 Specifications and Guidelines

Pole Length Specifications*

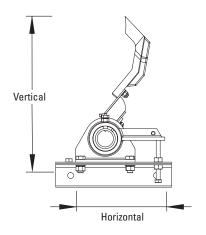
		•				
CLEAN	CLEANER SIZE		ENGTH	MAXIMUM CONVEYOR SPAN		
mm	in.	mm in.		mm	in.	
450	18	1650	66	1400	56	
600	24	1800	72	1550	62	
750	30	1950	78	1700	68	
900	36	2100	84	1850	74	
1050	42	2250	90	2000	80	
1200	48	2400	96	2150	86	

^{*}For special extra long pole length requirements a Pole Extender Kit is available. Pole Diameter - 60 mm (2-3/5")



Clearance Guidelines for Installation

SUSPENSION ARM SIZE	CLEAF	ONTAL RANCE JIRED	VERTICAL CLEARANCE REQUIRED		
	mm	in.	mm	in.	
SS	175	7	229	9	
S	175	7	279	11	
M	175	7	318	12-1/2	

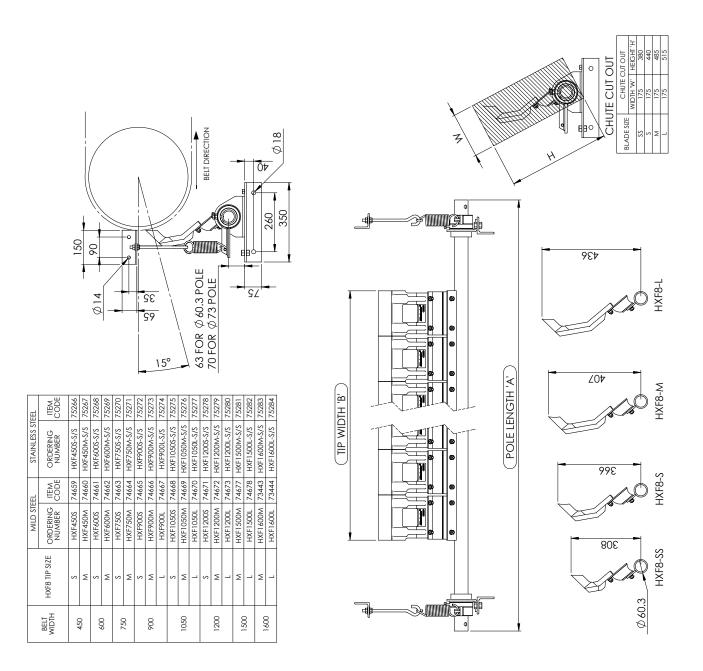


Blade Specifications

BLADE TYPE	HXF8-PURPLE	HXF8-BLUE	HXF2-PURPLE
Temperature Rating	-35 to 82°C (-30 to 180°F)	-35 to 82°C (-30 to 180°F)	-35 to 82°C (-30 to 180°F)
Urethane	Yes	Yes	Yes
Durometer	84	84	84
Tungsten Carbide	No	No	No
Compatible with Mechanical Fasteners	Yes	Yes	Yes
FRAS	No	Yes	No

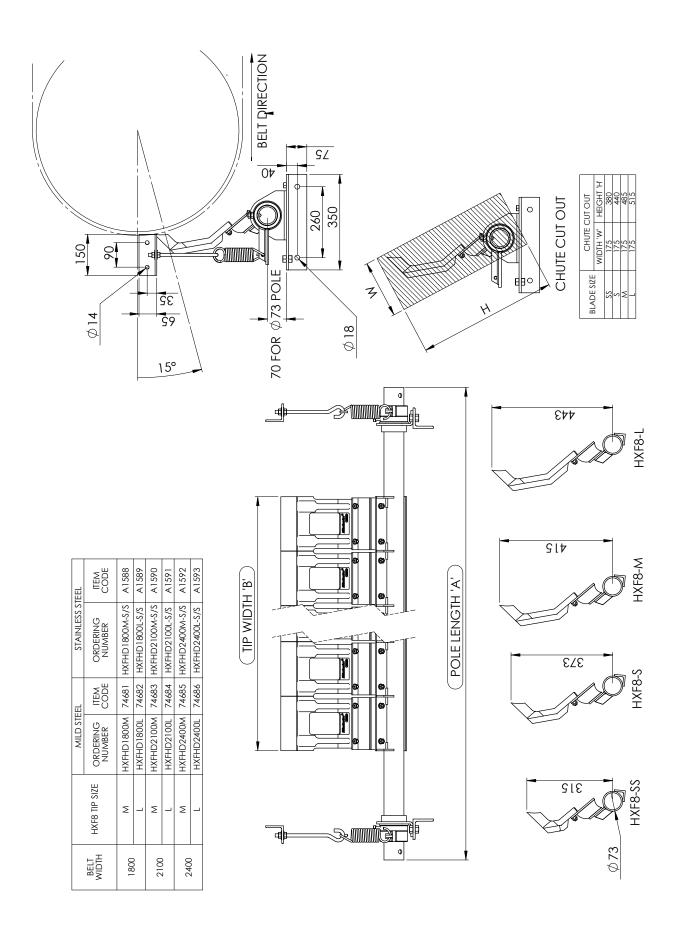
Section 9 – Specs and CAD Drawings

9.2 CAD Drawing - H-Type® with XF Tips



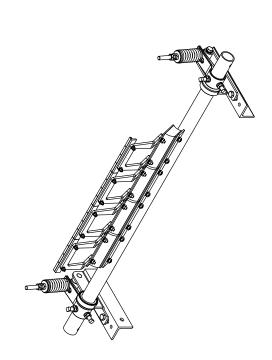
Section 9 – Specs and CAD Drawings

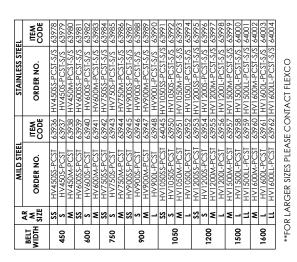
9.3 CAD Drawing - H-Type® HD with XF Tips

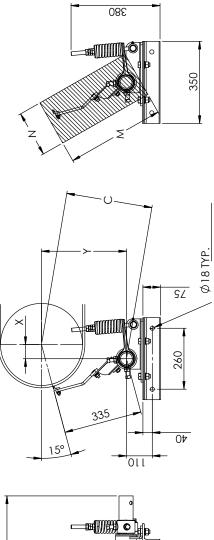


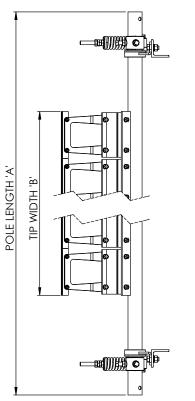
Section 9 – Specs and CAD Drawings

9.4 CAD Drawing - H-Type® with PCST Tensioner











Section 10 – Replacement Parts List

10.1 Replacement Parts List - XF Tips

XF2-Non-FRAS Tips

SIZE	ORDERING NUMBER	COLOUR	ITEM CODE	WT. KG
SS	HXF2-SS	Purple	75979	1.5
S	HXF2-S	Purple	75980	1.5
M	HXF2-M	Purple	75981	1.5
L	HXF2-L	Purple	75982	2.0



Specially formulated, long-wearing urethane blade tip. Impact resistant, reinforced nylon base for rigidity and minimal deflection.

XF8-FRAS Tips

SIZE	ORDERING NUMBER	COLOUR	ITEM CODE	WT. KG
SS	HXF8SS-Blue	Blue & Black	77518	2.0
S	HXF8S-Blue	Blue & Black	77519	2.0
M	HXF8M-Blue	Blue & Black	77520	2.0
L	HXF8L-Blue	Blue & Black	77521	2.5



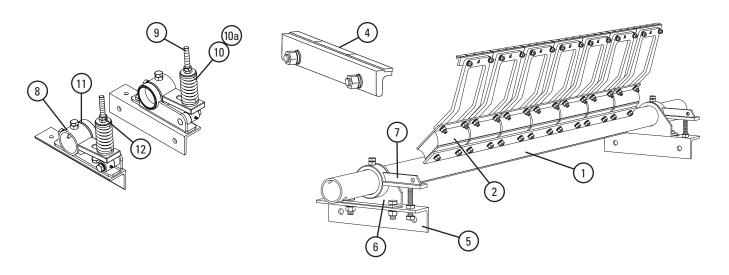
XF8-Non-FRAS Tips

SIZE	ORDERING NUMBER	COLOUR	ITEM CODE	WT. KG
SS	HXF8SS	Purple	74307	1.5
S	HXF8S	Purple	74689	1.7
M	HXF8M	Purple	74690	1.8
L	HXF8L	Purple	74691	2.0



Section 10 – Replacement Parts List

10.2 Replacement Parts List - H-Type®



Repl	eplacement Parts					POWDER COATED			STAINLESS STEEL	
	BELT WIDTH			POLE L	ENGTH	ORDERING ITEM WT.		ORDERING	ITEM	
REF	DESCRIPTION	mm	in.	mm	in.	NUMBER	CODE	KG	NUMBER	CODE
	H-Type Pole Standard - 60 mm (2-3/8") Pole Diameter	450	18	1250	50	HP450	73027	10.0	HP450-S/S	75373
		600	24	1350	54	HP600	73029	11.0	HP600-S/S	75374
		750	30	1500	60	HP750	73031	13.0	HP750-S/S	75375
		900	36	1650	66	HP900	73033	15.0	HP900-S/S	75376
		1050	42	1800	72	HP1050	73035	20.0	HP1050-S/S	75377
1		1200	48	1950	78	HP1200	73037	22.0	HP1200-S/S	75378
	H-Type Pole Standard -	1500	60	2350	94	HP1500	73066	24.0	HP1500-S/S	75379
	73 mm (2-7/8") Pole Diameter	1600	64	2450	98	HP1600	73739	27.0	HP1600-S/S	75380
	H-Type Pole Heavy-Duty -	1800	72	2650	106	HPHD1800	74601	34.0	HPHD1800-S/S	A2063
	73 mm (2-7/8") Pole Diameter	2100	84	2950	118	HPHD2100	74547	39.0	HPHD2100-S/S	A1783
	(braced and gussetted)	2400	96	3250	130	HPHD2400	74548	43.5	HPHD2400-S/S	A2958
2	Cushion			•		HSA	73486	2.0	HVC-S/S	73494
2	Heavy-Duty Cushion					HSHD	73483	2.0	HSHS-S/S	76467
3	H Polyshield (Not shown)					HPS8	73050	1.0	HSTSS	74771
	V.T			110 4 200	72400	0.5	HVT8-S/S	75419		
4	V-Tip		HSA200	73489	0.5	HVPT-S/S	73631			
	SIDE	MOUNTI	NG ASS	EMBLY C	OMPON	ENTS - TO SUIT 60	mm (2-3/8	3")		
5	H Mounting Bracket					HDMRK	74582	2.0	HDMRK-S/S	76245
6	H Bearing					HBRK	73068	1.5	HBRK-S/S	75422
7	H Adjusting Arm					HARK	73069	1.5	HARK-S/S	75423
8	Torque Arm Kit					ESTAK-EST	76406	2.0	ESTAK-EST-S/S	78849
9	Acme Pivot Rod Kit					ACME-PRK	62496	1.5	ACME-PRK	62496
10	Spring Bush Kit - Black and Gold	t				HCSSB-B/G	62589	0.1	HCSSB-B/G	62589
11	Pole Bearing Bush					HCBB-60	62513	0.1	HCBB-60	62513
12	Acme Nut					ACME-N	62591	0.1	ACME-N	62591
	SIDE	MOUNTI	NG ASS	EMBLY C	OMPON	ENTS - TO SUIT 73	8 mm (2-7/8	B")		
5	H Mounting Bracket					HDMRK	74582	3.0	HDMRK-S/S	76245
6	H Bearing					HBRKX	74549	2.0	HBRKX-S/S	76246
7	H Adjusting Arm					HDARK	74550	2.0	HDARK-S/S	76247
8	Torque Arm Kit					HCSTAK	62494	2.0	HCSTAK-S/S	62495
9	Acme Pivot Rod Kit					ACME-PRK	62496	1.5	ACME-PRK	62496
10	Spring Bush Kit - Black and Gold				HCSSB-B/G	62589	0.1	HCSSB-B/G	62589	
10a	Spring Bush Kit - Silver					HCSSB-S	62590	0.1	HCSSB-S	62590
11	Pole Bearing Bush					HCBB-73	62514	0.1	HCBB-73	62514
12	Acme Nut					ACME-N	62591	0.1	ACME-N	62591

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



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:

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 Secondary Cleaner



- Long-wearing tungsten carbide blades for superior cleaning efficiency.
- Patented FormFlex[™] cushions independently tension each blade to the belt for consistent, constant cleaning power.
- Easy to install, simple to service.
- 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.



