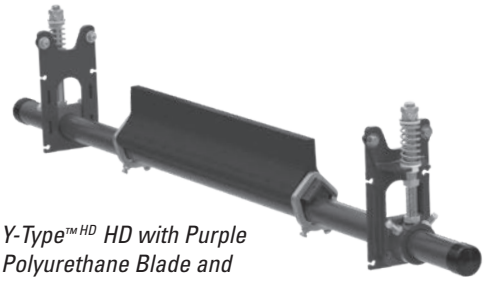
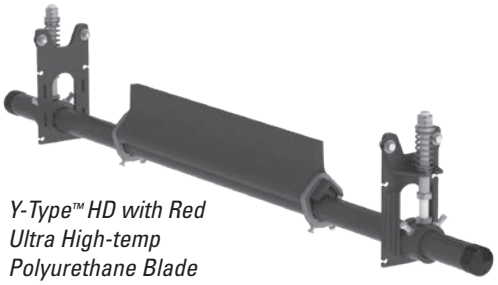
Y-Type™ Heavy-Duty Secondary Belt Cleaner

Installation, Operation and Maintenance Manual

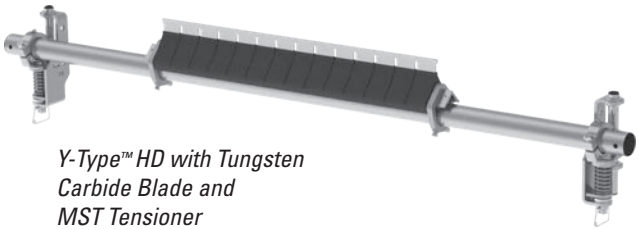


Y-Type™ HD with Purple Polyurethane Blade and YST Tensioner

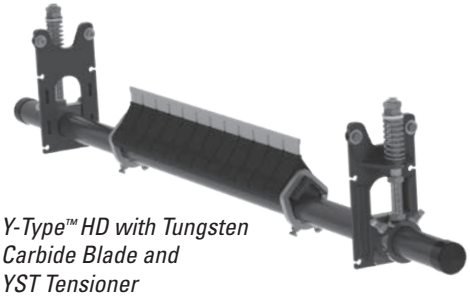
Y-Type™ HD with Purple Polyurethane Blade and MST Tensioner



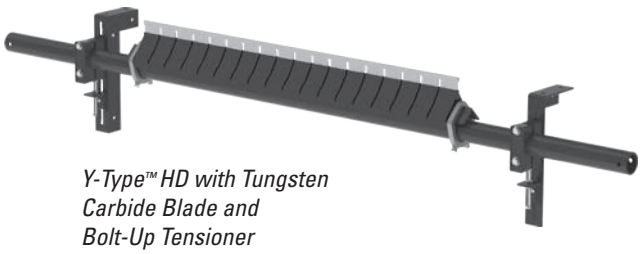
Y-Type™ HD with Red Ultra High-temp Polyurethane Blade and YST Tensioner



Y-Type™ HD with Tungsten Carbide Blade and MST Tensioner



Y-Type™ HD with Tungsten Carbide Blade and YST Tensioner



Y-Type™ HD with Tungsten Carbide Blade and Bolt-Up Tensioner

Table of Contents

Section 1 – Important Information

1.1 General Introduction

We at Flexco are very pleased that you have selected a Y-Type™ Secondary Belt Cleaner for your conveyor system.

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

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

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

Customer Service: 612-8818-2000

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 Y-Type™ Secondary Belt Cleaner is designed to be easily installed and serviced by your on-site personnel. However, if you would prefer complete turn-key factory service, please contact your local Flexco Field Representative.

Section 2 – Safety Considerations and Precautions

Before installing and operating the Y-Type™ Secondary Belt Cleaner, it is important to review and understand the following safety information.

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

2.1 Stationary Conveyors

The following activities are performed on stationary conveyors:

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

⚠ DANGER

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

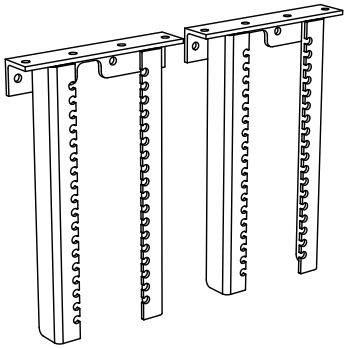
Section 3 – Pre-installation Checks and Options

3.1 Checklist

- Check that the cleaner size is correct for the beltline width
- Check belt cleaner carton and make sure all parts are included
- Review "Tools Needed" list on the top of 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

3.2 Optional Installation Accessories

79850
YST HD Drop Bracket Kit
- Includes 2 drop brackets

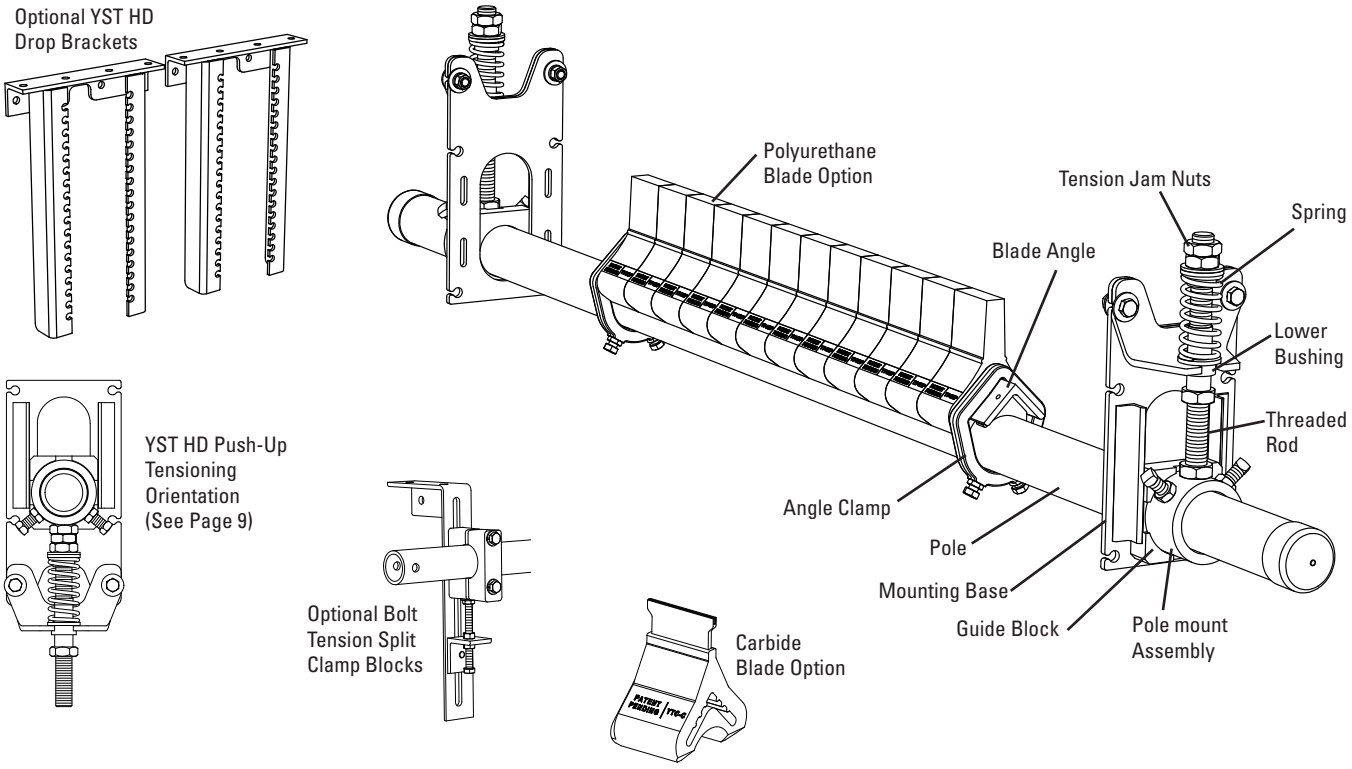


Optional Installation Accessories

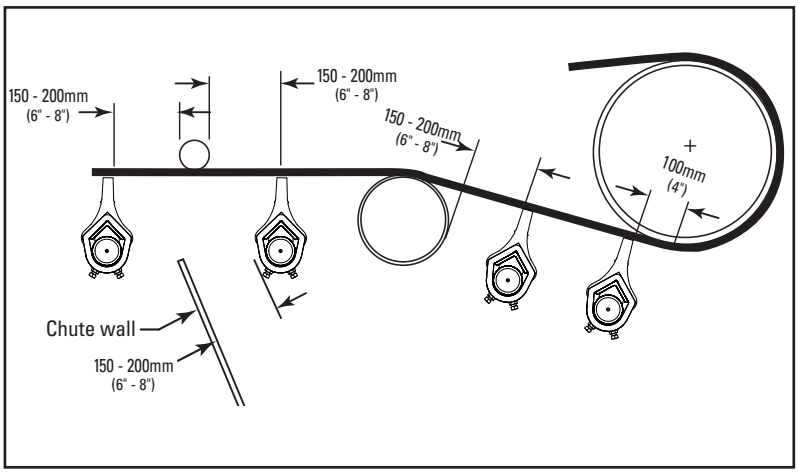
Description	Ordering Number	Item Code	Wt. Kg.
YST HD Drop Bracket Kit	YSTHDDBK	79850	14.0

Section 4 – Installation Instructions

4.1 Y-Type™ Heavy-Duty Secondary Belt Cleaner - Pull-Up Tensioning (Polyurethane or Carbide Option)



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



Tools Needed

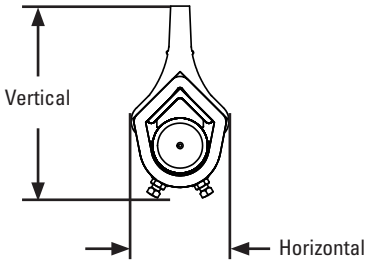
- 24mm (15/16") Wrench
- 19mm (3/4") Wrench
- 38mm (1 1/2") Wrench

OR Large Adjustable Wrench & Channel Locks

- Tape Measure
- Ratchet with 19mm (3/4") Socket
- (2) 152mm (6") C-Clamps (for Temporary Positioning of Mounting Brackets)
- Cutting Torch and/or Welder
- Marking Pen

Clearance Requirements for Installation

	Vertical	Horizontal
Y-Type Polyurethane	248mm (9-3/4")	133mm (5-1/4")
Y-Type Carbide	241mm (9-1/2")	133mm (5-1/4")



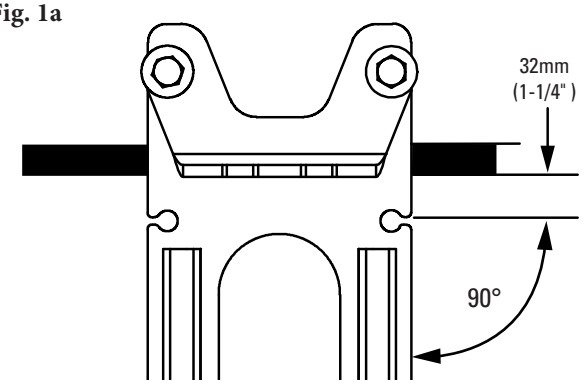
Before You Begin:

- For chute mounting it may be necessary to cut an access hole to allow for installation and inspections. (See dimensions in Step 1.)
- Follow all safety precautions when using a cutting torch.
- If welding, protect all fastener threads from weld spatter.
- For cleaner clearance requirements see chart at right.

Section 4 – Installation Instructions (cont.)

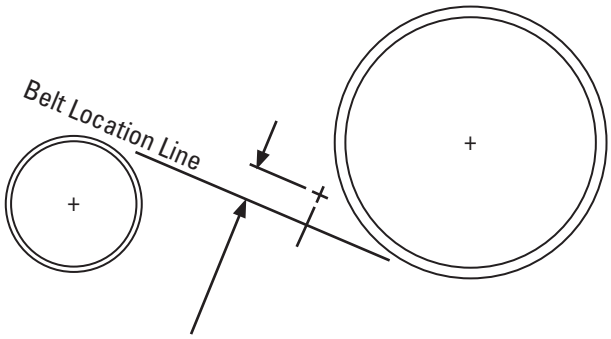
4.1 Y-Type™ Heavy-Duty Secondary Belt Cleaner - Pull-Up Tensioning

Fig. 1a



Top holes of mounting bracket
32mm (1-1/4") below bottom of belt

Fig. 1b (Chute Mounting)



Top holes of mounting bracket
32mm (1-1/4") below bottom of belt

1. **Install spring tensioner mounting bases.(For push-up tensioning refer to additional instructions on Page 8.** Clamp mounting base into position so top flange of base is located the proper distance below bottom of belt (Fig. 1a). With angle bracket positioned as shown in Fig. 1a for pull-up tensioning, bolt first mounting base in place. Locate and mark mounting base position on other side but do not install at this time.

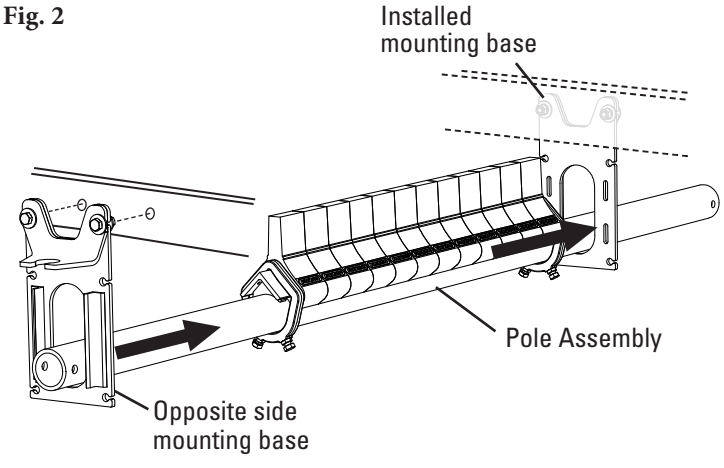
   For chute mounting: For chute installation a belt location line must first be established. Draw a line on chute replicating this location. If head pulley and snub pulley are close, it may be necessary to assume an approximate belt line between the two. In the determined location draw a line perpendicular to belt line. Make a mark at the proper distance below bottom of belt (Fig. 1b).

   Locate a mounting bracket perpendicular to belt location line (Fig. 1b), aligning top mounting bracket flange with mark made in previous step. Bolt bracket in place. Repeat this step on opposite side. Cut access holes using provided mounting template.

   NOTE: The mounting brackets must be aligned perpendicular to the belt.

2. **Install the pole.** Insert pole assembly into installed mounting base from the inside. Then slide opposite side mounting base onto pole and bolt in place (Fig. 2).

Fig. 2



Section 4 – Installation Instructions (cont.)

4.1 Y-Type™ Heavy-Duty Secondary Belt Cleaner - Pull-Up Tensioning

3. **Assemble tensioners.** Slide guide blocks over each end of pole and position in mounting base as shown (Fig. 3a). Slide tensioner assembly over each end of pole and position lower bushing into mounting base (Fig. 3b).

Fig. 3a

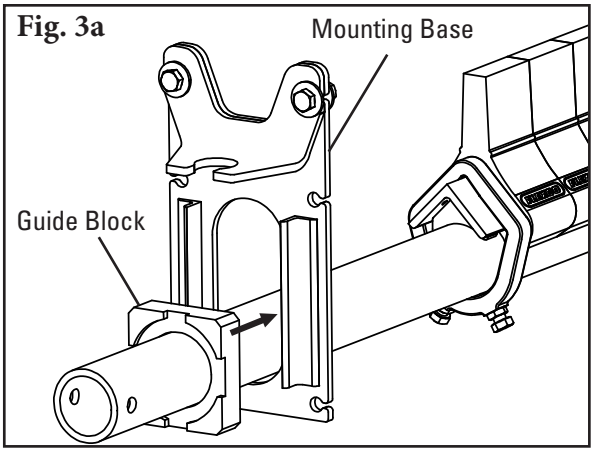
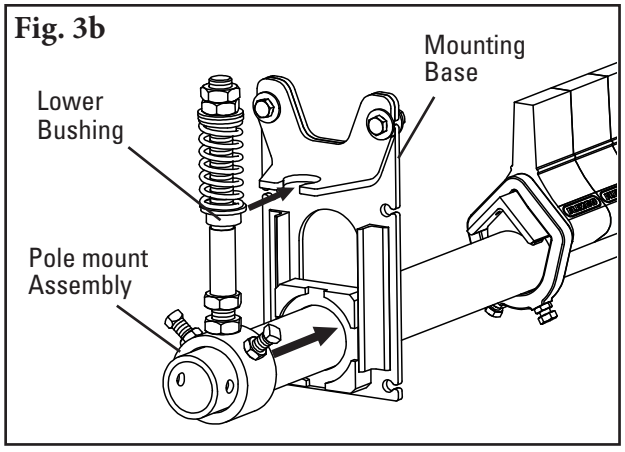


Fig. 3b



4. **Secure pole.** Centre pole/blades on belt and rotate pole until blades are perpendicular to belt. Tighten the two locking bolts and nuts on each tensioner assembly to lock pole in place (Fig. 4).

5. **Set blade tension.** Loosen top tension jam nuts on both sides and turn nuts until correct spring compression is reached (Fig. 5). Spring compression is determined by spring length. See chart below for correct spring length for your specific cleaner (polyurethane or carbide) and belt width.

6. **Set adjusting rod sleeve.** After setting blade tension, screw adjusting rod sleeve up into the UHMW bushing until 38mm (1-1/2") is showing (Fig. 6). Tighten adjusting rod sleeve jam nut.

Fig. 4

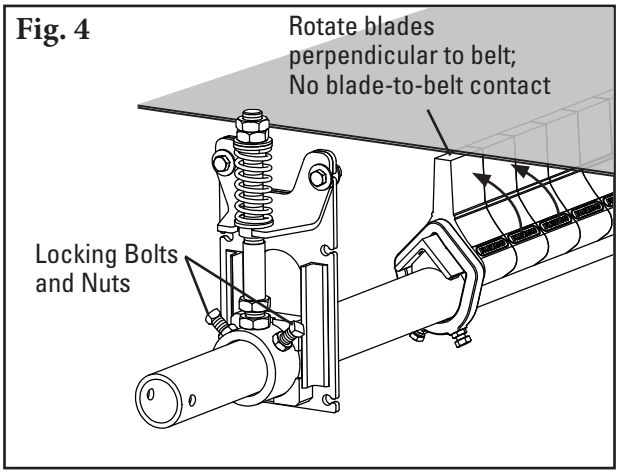
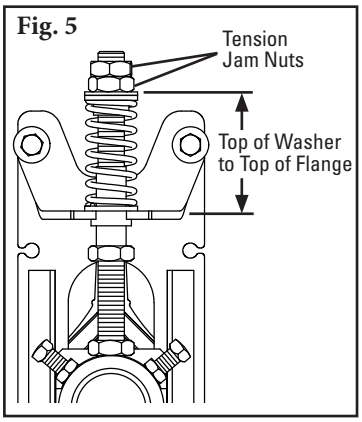


Fig. 5

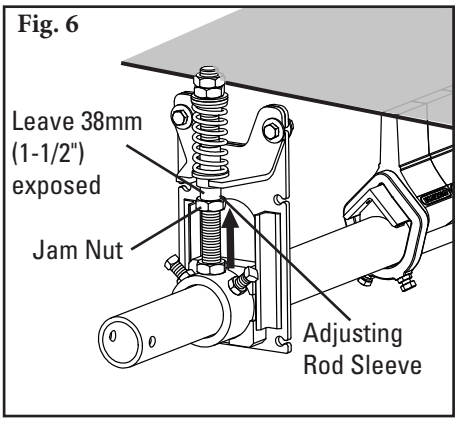


YST HD Tensioner Spring Length Chart

Blade Width		Carbide Tip				Polyurethane Tip			
		Silver Springs		Black Springs		Green Springs		Blue Springs	
mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
900	36	98	3 7/8	102	4	76	3	86	3 3/8
1050	42	95	3 3/4	98	3 7/8	73	2 7/8	83	3 1/4
1200	48	92	3 5/8	95	3 3/4	67	2 5/8	79	3 1/8
1350	54	89	3 1/2	95	3 3/4	64	2 1/2	76	3
1500	60	86	3 3/8	92	3 5/8	NA	NA	73	2 7/8
1800	72	83	3 1/4	89	3 1/2	NA	NA	64	2 1/2

Shading indicates preferred spring option.

Fig. 6



Section 4 – Installation Instructions (cont.)

4.2 Y-Type™ Heavy-Duty Secondary Belt Cleaner - Push-Up Tensioning (Polyurethane or Carbide Option)

Fig. 1a

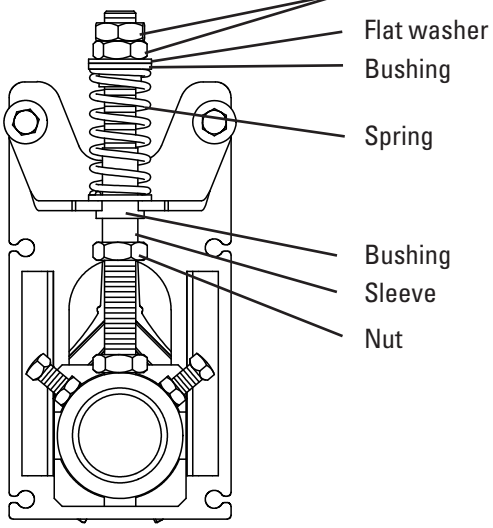
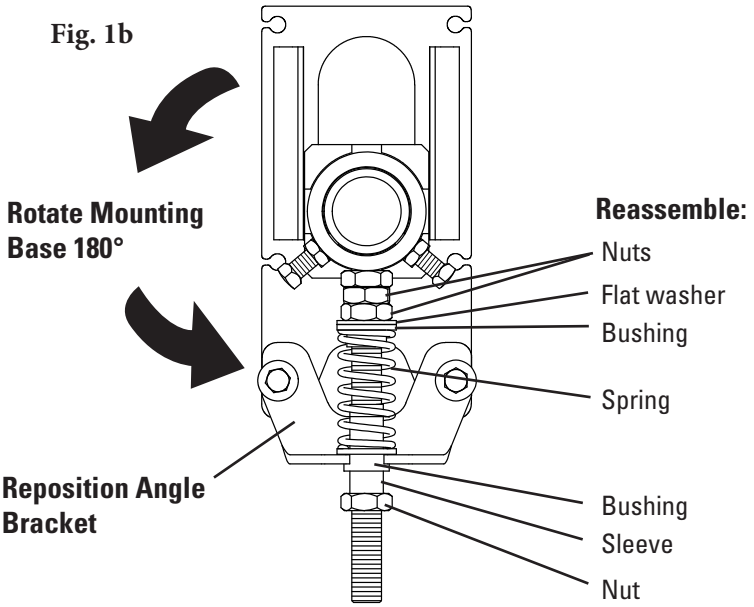


Fig. 1b



1. **Reconfigure the standard pull-up tensioner to the push-up style.** Remove 3 nuts, flat washer, 2 bushings, spring, and sleeve (Fig. 1a). Rotate the mounting base so the two flanges point downward and reposition the angle bracket as shown in Fig. 1b. Reassemble components on threaded rod in the order shown (Fig. 1b).

2. **Install the tensioner mounting bases.** Mount the bases to the structure or chute so that the tops of the bases are aligned with the bottom of the belt (urethane blades) or 14mm (9/16") above the bottom of the belt (carbide blades) (Fig. 2).

3. **Install the cleaner pole and set the blade angle.** Follow installation steps 2-4 from the cleaner instructions on Page 6 and 7. **Note:** be sure the lock bolts on the torsion pole mount have been securely tightened to lock the pole in place before moving to Step 4.

4. **Set the blade tension.** Turn the 2 upper tension nuts until the spring is compressed to the length shown on the Spring Length Chart below. Tighten the 2 tension nuts together to prevent loosening.

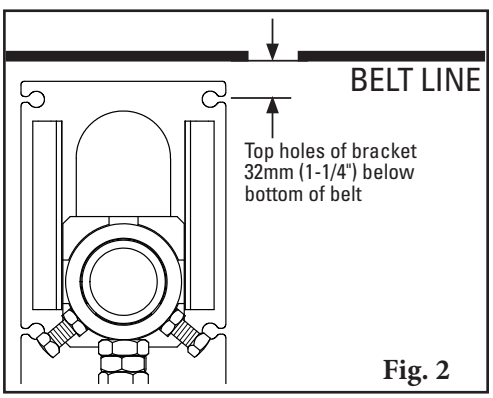
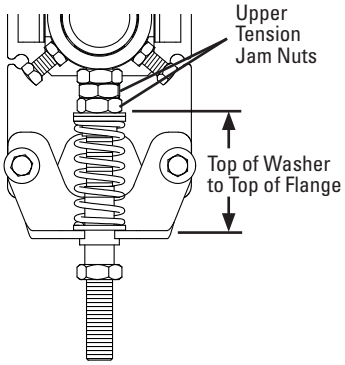


Fig. 2



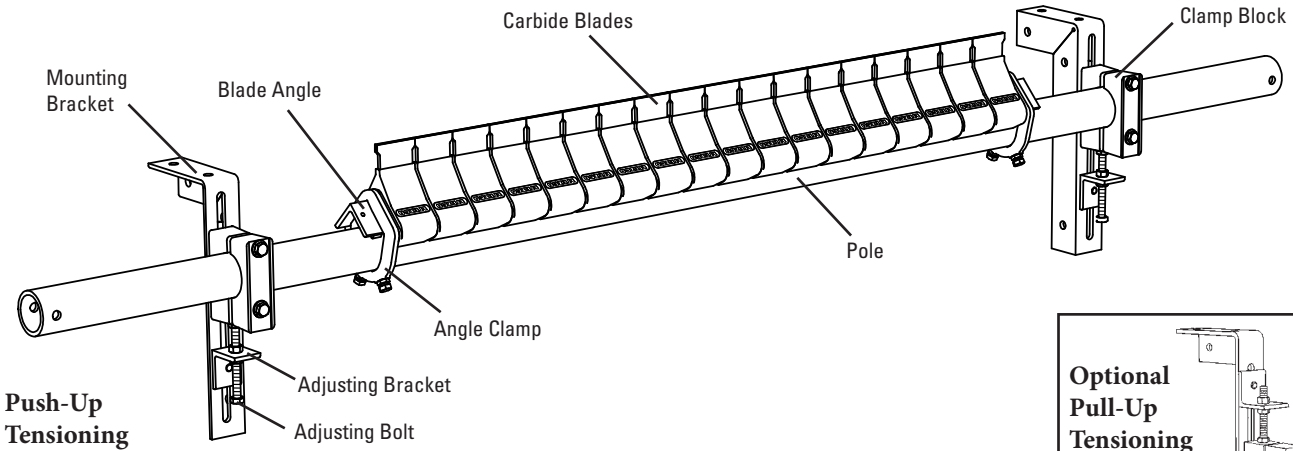
YST HD Tensioner Spring Length Chart

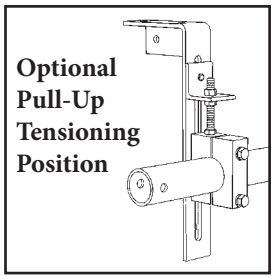
Blade Width		Carbide Tip				Polyurethane Tip			
		Silver Springs		Black Springs		Green Springs		Blue Springs	
mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
900	36	98	3 7/8	102	4	76	3	86	3 3/8
1050	42	95	3 3/4	98	3 7/8	73	2 7/8	83	3 1/4
1200	48	92	3 5/8	95	3 3/4	67	2 5/8	79	3 1/8
1350	54	89	3 1/2	95	3 3/4	64	2 1/2	76	3
1500	60	86	3 3/8	92	3 5/8	NA	NA	73	2 7/8
1800	72	83	3 1/4	89	3 1/2	NA	NA	64	2 1/2

Shading indicates preferred spring option.

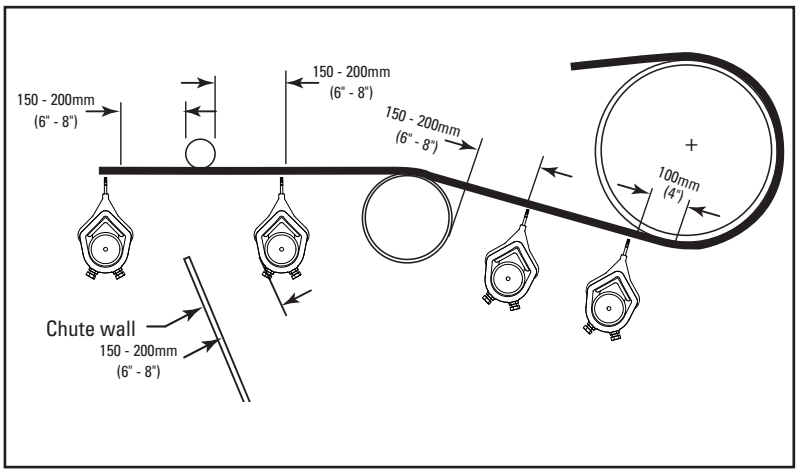
Section 4 – Installation Instructions

4.3 Y-Type™ Heavy-Duty Secondary Belt Cleaner with Bolt-Up Tensioner (Carbide Blades)





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



Tools Needed

- 24mm (15/16") Wrench
- 19mm (3/4") Wrench
- 38mm (1 1/2") Wrench

OR Large Adjustable Wrench & Channel Locks

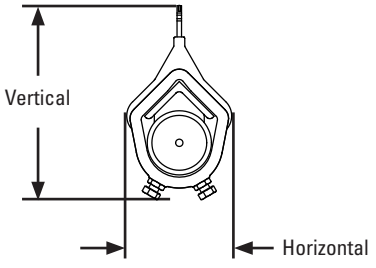
- Tape Measure
- Ratchet with 19mm (3/4") Socket
- (2) 152mm (6") C-Clamps (for Temporary Positioning of Mounting Brackets)
- Cutting Torch and/or Welder
- Marking Pen

Before You Begin:

- For chute mounting it may be necessary to cut an access hole to allow for installation and inspections. (See dimensions in Step 1.)
- Follow all safety precautions when using a cutting torch.
- If welding, protect all fastener threads from weld spatter.
- For cleaner clearance requirements see chart at right.

Clearance Requirements for Installation

	Vertical	Horizontal
Y-Type Carbide	241mm (9-1/2")	133mm (5-1/4")



Section 4 – Installation Instructions (cont.)

4.3 Y-Type™ Heavy-Duty Secondary Belt Cleaner with Bolt-Up Tensioner

1. **Install the mounting brackets.** Position the mounting bracket to locate the cleaner pole centerline 165mm (6-1/2") below the beltline for polyurethane cleaners or 150mm (6") below the beltline for carbide cleaners. The pole must be installed so the blades do not touch the belt. Positioning the brackets perpendicular to the belt is recommended (Fig.1b).

Fig. 1a

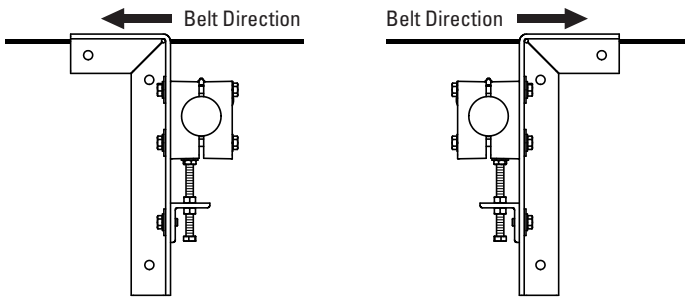


Fig. 1b

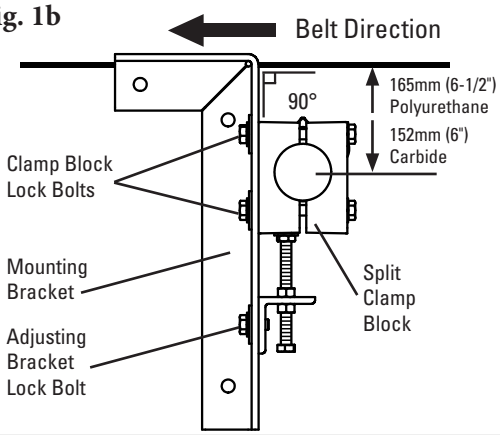
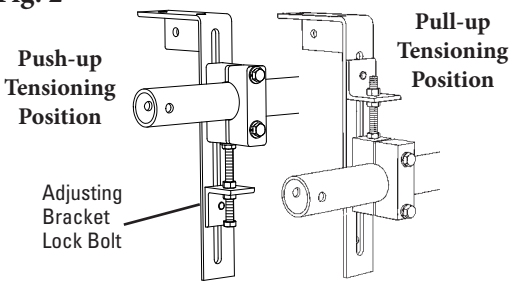
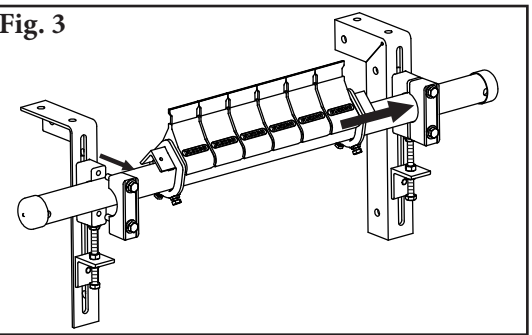


Fig. 2



2. **Choose the tensioner position.** The tensioner is shipped mounted in the push-up position. Depending upon the space constraints of the installation, the tensioner can be optionally mounted in a pull-up position. To do this, loosen the threaded rod lock nut, unscrew the threaded rod and remove adjusting bracket lock bolt. Then move the adjusting bracket and threaded rod to the top of the clamp blocks (Fig. 2) and tighten threaded rod lock nut.

Fig. 3



3. **Install the pole.** Remove the outer half of the clamp block on one side, and on the opposite side, loosen the two clamp block bolts. Slide the pole across and into the loosened clamp block, replace the outer clamp block, center the blades on the belt and tighten all four clamp block bolts finger tight.

Section 4 – Installation Instructions (cont.)

4.3 Y-Type™ Heavy-Duty Secondary Belt Cleaner with Bolt-Up Tensioner

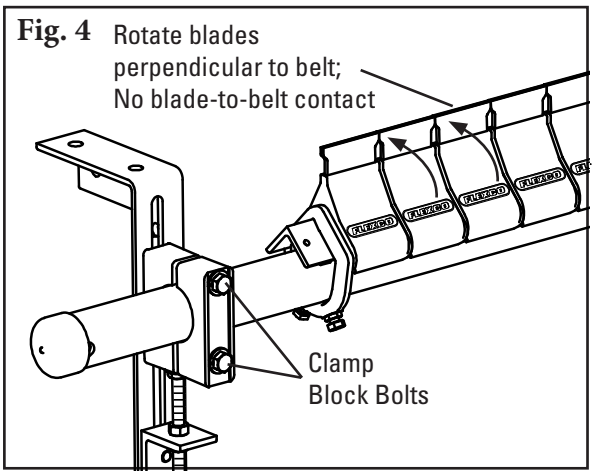


Fig. 4

4. **Secure pole.** Center pole/blades on belt and rotate pole until blades are perpendicular to belt. Tighten clamp block bolts equally on each tensioner assembly to lock pole in place (Fig. 4).

   Note: make sure there is no tip-to-belt contact while making this alignment. If contact occurs, lower the pole by loosening the clamp block lock bolts and raising the top adjusting jam nut (fig.5). When tips are lowered and not touching the belt, repeat this step.

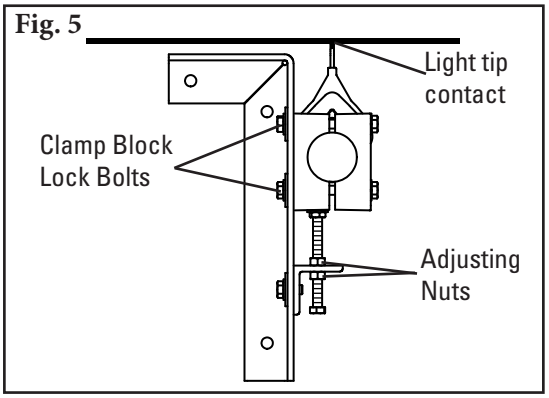


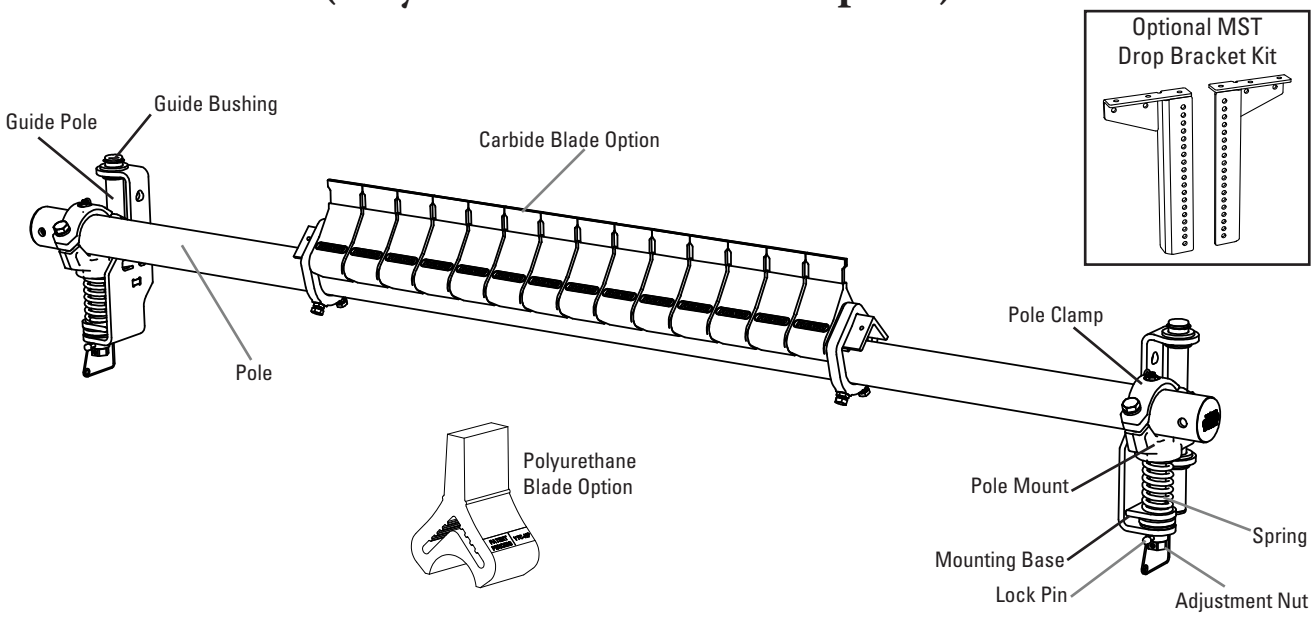
Fig. 5

5. **Set the blade tension.** Loosen the 4 clamp block lock bolts (on the back of the mounting brackets) and turn the top adjusting jam nut on each side until the blades make light contact across the entire width of the belt. Make an additional 5 full turns on the adjusting nuts to tension the blades. Tighten the bottom adjusting nuts and the clamp block bolts (Fig. 5).

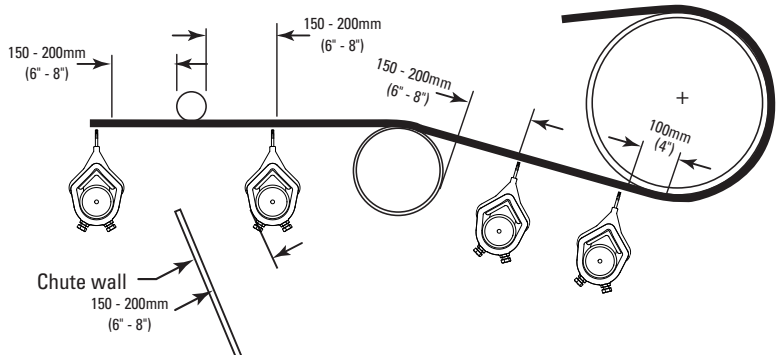
Test run the cleaner and inspect the performance. If more cleaning efficiency is desired, the blade tension can be increased in 1/2 turns on the adjusting nuts (see Step 5).

Section 4 – Installation Instructions

4.4 Y-Type™ Heavy-Duty Secondary Belt Cleaner - MST Tensioning
for belts 900-1800mm (Polyurethane or Carbide Option)



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



Tools Needed

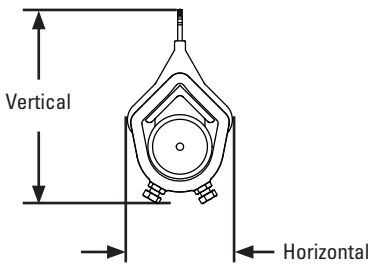
- Tape Measure
- 19mm Spanner
- Ratchet With 19mm (Socket
- (2) 150mm C-Clamps (for Temporary Positioning of Mounting Brackets)
- Cutting Torch and/or Welder
- Marking Pen

Before You Begin:

- Double check the tip style needed for your application:
  C-Tip - for mechanically spliced and vulcanized belts.
  V-Tip - for vulcanized belts only.
- For chute mounting it may be necessary to cut an access hole to allow for installation and inspections. (please see table to the right indicating clearance requirements.)
- Follow all safety precautions when using a cutting torch.
- If welding, protect all fastener threads from weld spatter.
- For cleaner clearance requirements see chart.

Clearance Requirements for Installation

	Vertical	Horizontal
HD Y-Type with MST	260 mm	140 mm



Section 4 – Installation Instructions (cont.)

4.4 Y-Type™ Heavy-Duty Secondary Belt Cleaner - MST Tensioning

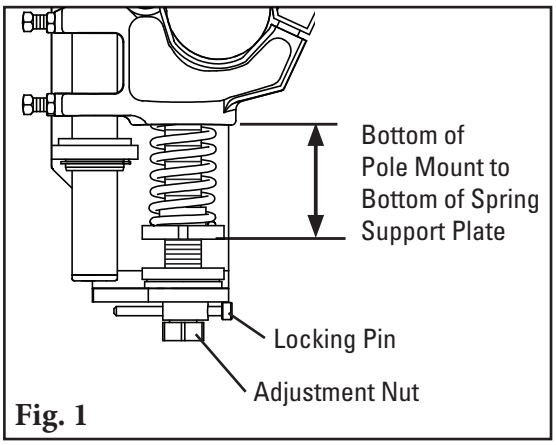


Fig. 1

1. **Ensure the tensioner travels freely.** Pull up and push down on each pole end to ensure the pole mount travels freely on the guide pole. If there is any sign of binding, loosen the bolts on the mounting base and pivot until the tensioner moves freely. Retighten bolts.

2. **Set the plate tension.** Turn the adjustment nuts until the correct spring tension is reached (Fig. 1). Spring compression is determined by the spring length. See the chart below for the correct spring length for your belt width. Replce locking pins.

MST Tensioner
Spring Length Chart

Blade Width	Preferred Spring	2 White Springs	2 Silver Springs	2 Black Springs	2 Gold Springs
mm		mm	mm	mm	mm
900	Silver	53	80	84	89
1050	Silver	N/A	78	81	88
1200	Silver	N/A	75	79	87
1350	Silver	N/A	72	77	85
1500	Black	N/A	70	75	84
1650	Black	N/A	67	73	83
1800	Black	N/A	N/A	71	81

3. **Secure guide poles.** Ensure the ends of the guide pole extend at least 12mm outside top and bottom guide bearings. If adjustment is necessary, loosen guide pole set screws and lock nuts, then tap guide pole up or down. Tighten guide pole set screws and lock nuts (Fig. 2).

4. **Check movement of each tensioner** to ensure they do not bind up. If there are binding concerns, refer to Step 1.

5. **Test run the cleaner and inspect the cleaning performance.** If vibration occurs or more cleaning efficiency is desired, increase the blade tension by making 3.18mm (1/8") compression adjustments on the tension springs.

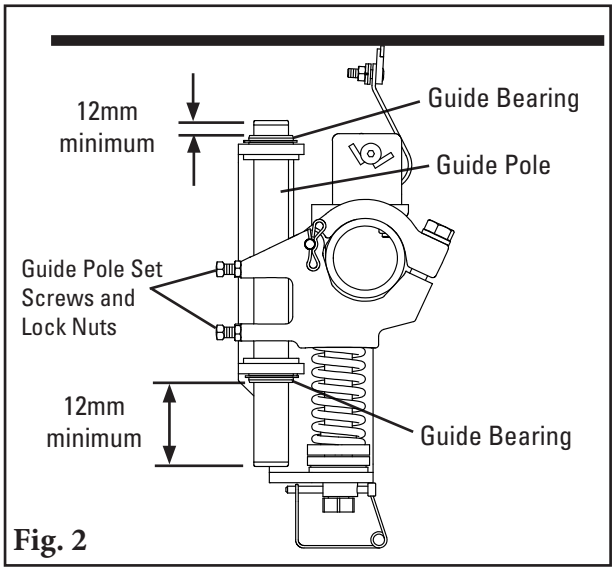


Fig. 2

Section 5 – Pre-Operation Checklist and Testing

5.1 Pre-Op Checklist

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

5.2 Test Run the Conveyor

- Run conveyor for at least 15 minutes and inspect cleaning performance.
- If vibration occurs or more cleaning efficiency is desired, increase blade tension by making 3mm (1/8") compression adjustments on the tension springs.
- Check adjusting brackets and tips for proper tensioning.
- Make adjustments as necessary.

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

Section 6 – Maintenance

Flexco® belt cleaners are designed to operate with minimum maintenance. However, to maintain superior performance some service is required. When the cleaner is installed, a regular maintenance program should be set up. This program will ensure 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 Y-Type™ Secondary Belt Cleaner operates at the discharge end of the conveyor and is in direct contact with the moving belt. Only visual observations can be made while the belt is running. Service tasks can be done only with the conveyor stopped and by observing the correct lockout/tagout procedures.

6.1 New Installation Inspection

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

6.2 Routine Visual Inspection (every 2-4 weeks)

A visual inspection of the cleaner and belt can determine if:

- Spring length is correct length for optimal tensioning.
- Pole can move up and down with no binding of the tensioners.
- Belt looks clean or if there are areas that are dirty.
- Blade is worn out and needs to be replaced.
- There is damage to the blade or other cleaner components.
- Fugitive material is built up on cleaner or in transfer area.
- There is cover damage to the belt.
- There is vibration or bouncing of the cleaner on the belt.
- There is material buildup on snub pulley (if used).
- Significant signs of carryback exist.

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

6.3 Routine Physical Inspection (every 6-8 weeks)

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

- Clean material buildup from cleaner blade and pole.
- Verify pole can move smoothly up and down.
- Closely inspect blade for wear and any damage. Replace if needed.
- Ensure full blade to belt contact.
- Inspect cleaner pole for damage.
- Inspect all fasteners for tightness and wear. Tighten or replace as needed.
- Replace any worn or damaged components.
- Check tension of cleaner blade to belt. Adjust tension if necessary using the steps on page 8, 9 or 14.
- When maintenance tasks are completed, test run conveyor to ensure cleaner is performing properly.

6.4 Blade Replacement Instructions with YST Tensioner (Carbide or Polyurethane)

BEFORE YOU BEGIN:

Physically Lock Out and Tag the Conveyor at the Power Source.

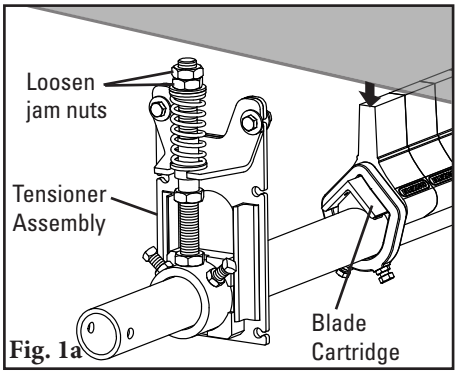


Fig. 1a

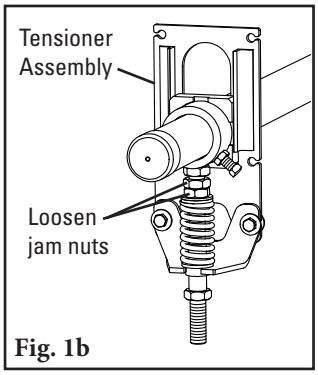


Fig. 1b

1. **Lower cleaner away from belt.** Loosen jam nuts on threaded rods to remove tension and lower the cleaner. (Fig. 1a - Pull-up Tensioning; Fig. 1b - Push-up Tensioning). If mounted on a chute, remove near side tensioner assembly to access blade cartridge (Fig. 1).

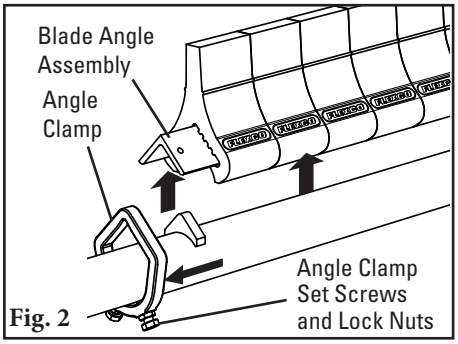


Fig. 2

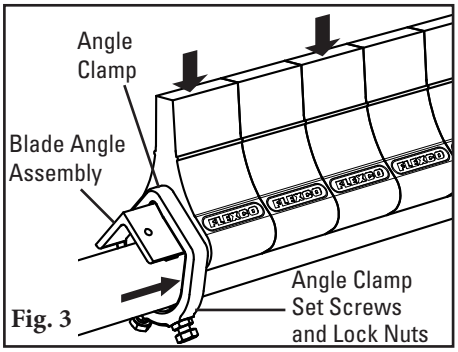


Fig. 3

2. **Remove blade angle from pole.** Loosen angle clamp lock nuts and set screws on both sides of cleaner (Fig. 2). Slide angle clamps off each end of the angle and remove blade angle assembly from pole.
3. **Replace cushions.** Cushions may be removed from angle by sliding them off each end, or entire angle with all cushions may be replaced at once.
4. **Reinstall blade angle.** Set new cushions and angle back on pole and slide angle clamps back onto the angle (Fig. 3). Tighten angle clamp set screws and lock nuts on both sides. Verify blades are centered and perpendicular to belt.
5. **Set blade tension.** Turn adjustment nuts until correct spring compression is reached (Fig 4). Spring compression is determined by spring length. See chart below for correct spring length for your belt width.
6. **Test run cleaner and inspect cleaning performance.** If vibration occurs or more cleaning efficiency is desired, increase blade tension by making 3mm (1/8") compression adjustments on tension springs.

Fig. 4a - Pull-Up Tensioning

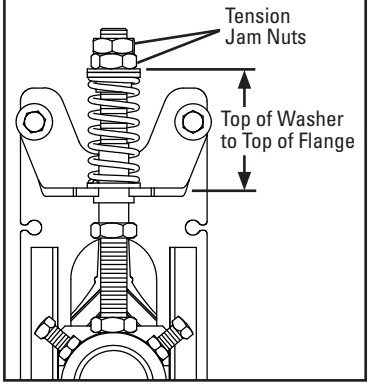
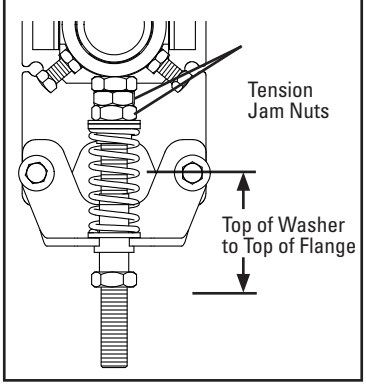


Fig. 4b - Push-Up Tensioning



YST HD Tensioner Spring Length Chart

Blade Width		Carbide Tip				Polyurethane Tip			
		Silver Springs		Black Springs		Green Springs		Blue Springs	
mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
900	36	98	3 7/8	102	4	76	3	86	3 3/8
1050	42	95	3 3/4	98	3 7/8	73	2 7/8	83	3 1/4
1200	48	92	3 5/8	95	3 3/4	67	2 5/8	79	3 1/8
1350	54	89	3 1/2	95	3 3/4	64	2 1/2	76	3
1500	60	86	3 3/8	92	3 5/8	NA	NA	73	2 7/8
1800	72	83	3 1/4	89	3 1/2	NA	NA	64	2 1/2

Shading indicates preferred spring option.

6.5 Blade Replacement Instructions

1. **Release the blade tension and remove worn blade tips.**
   a. Loosen and turn the top adjusting bolt jam nuts 25mm (1") above the tops of the adjusting brackets (Fig. 1a).
   b. Loosen the clamp block lock bolts on both sides and allow the pole to move down and rest on the raised top adjusting bolt jam nuts (Fig. 1b).

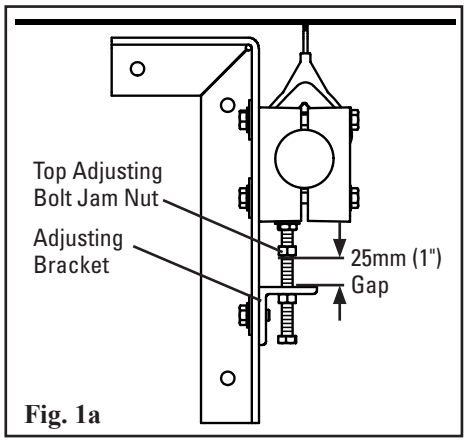


Fig. 1a

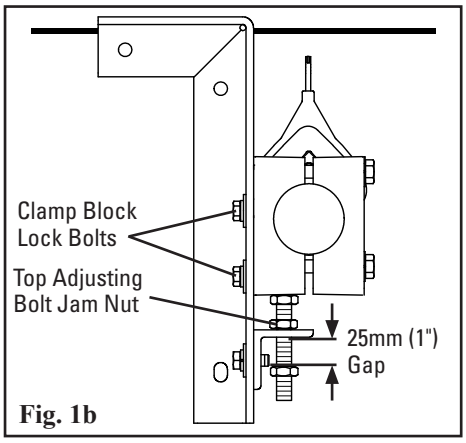


Fig. 1b

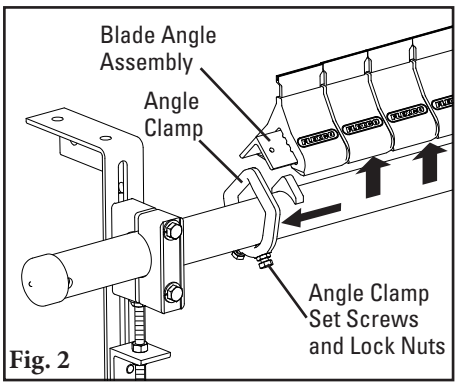


Fig. 2

2. **Remove blade angle from pole.**
   Loosen angle clamp lock nuts and set screws on both sides of cleaner (Fig. 2). Slide angle clamps off each end of angle and remove blade angle assembly from pole.

3. **Replace the cushions.**
   Cushions may be removed from the angle by sliding them off each end, or entire angle with all cushions may be replaced at once.

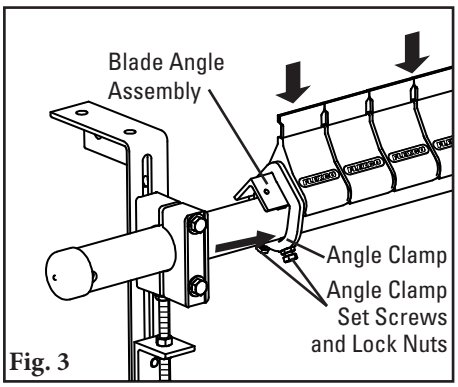


Fig. 3

4. **Reinstall blade angle.**
   Set new cushions and angle back on pole and slide angle clamps back onto the angle (Fig. 3). Tighten angle clamp set screws and lock nuts on both sides. Verify blades are centered and perpendicular to belt.

5. **Set blade tension.** Refer to the previous instruction on how to correctly set the blade tension. For YST tensio, please refer to page 8. For bolt tension, please refer to page 12. For MST Tension, please refer to page 14.

Test run cleaner and inspect cleaning performance. If vibration occurs or more cleaning efficiency is desired, increase blade tension.

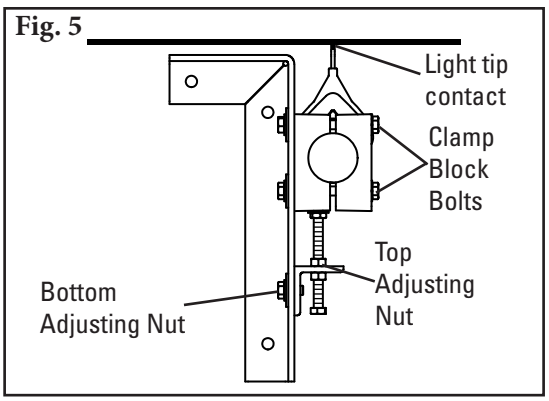


Fig. 5

6.6 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: _____

Section 6 – Maintenance (cont.)

6.7 Cleaner Maintenance Checklist

Site: _____ Inspected by: _____ Date: _____

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

Beltline Information:

Beltline Number: _____ Belt Condition: _____

Belt Width: ☐ 900mm (36") ☐ 1050mm (42") ☐ 1200mm (48") ☐ 1350mm (54") ☐ 1500mm (60") ☐ 1800mm (72")

Head Pulley Diameter (Belt & Lagging): _____

Belt Speed:_____m/s 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: ☐ Slide lag ☐ Ceramic ☐ Rubber ☐ Other ☐ None

Condition of lagging: ☐ Good ☐ Bad ☐ Other _____

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

Appearance: ☐ Comments:_____

Location: ☐ Comments:_____

Maintenance: ☐ Comments:_____

Performance: ☐ Comments:_____

Other Comments: _____

_____

_____

_____

_____

_____

Section 7 – Troubleshooting

Problem	Possible Cause	Possible Solutions
Vibration	Cleaner secure bolts not set	Ensure all locking nuts are tight (Loctite)
	Cleaner not set up correctly	Ensure cleaner set up properly (check tip angle)
	Belt tension too high	Ensure cleaner can conform to belt, or replace with alternate Flexco® secondary cleaner
	Belt flap	Introduce hold-down roller to flatten belt
	Cleaner over-tensioned	Ensure cleaner is correctly tensioned
	Cleaner under-tensioned	Ensure cleaner is correctly tensioned
Material buildup on cleaner	Cleaner not set up correctly	Ensure cleaner set up properly (check tip angle)
	Buildup on chute	Ensure cleaner is not located too close to back of chute, allowing buildup
	Cleaner being overburdened	Introduce Flexco Primary Cleaner
	Excessive sticky material	Frequently clean unit of buildup
Cleaner not conforming to belt	Cleaner not set up correctly	Ensure cleaner set up properly (check tip angle)
	Belt tension too high	Ensure cleaner can conform to belt, introduce hold-down roller, or replace with alternate Flexco secondary cleaner
	Belt flap	Introduce hold-down roller to flatten belt
	Cleaner cannot conform	Ensure cleaner can conform to belt, introduce hold-down roller, or replace with alternate Flexco secondary cleaner
Material passing cleaner	Cleaner not set up correctly	Ensure cleaner set up properly (check tip angle)
	Cleaner tension too low	Ensure cleaner is correctly tensioned
	Cleaner blade worn/damaged	Check blade for wear, damage and chips, replace where necessary
	Cleaner being overburdened	Introduce Flexco Primary Cleaner
	Belt flap	Introduce hold-down roller to flatten belt
	Belt worn or grooved	Introduce water spray pole
	Cleaner cannot conform	Ensure cleaner can conform to belt, introduce hold-down roller, or replace with alternate Flexco secondary cleaner
Missing material in belt centre only	Cupped Belt	Install hold-down roller and reset blade angle
	Cleaner blade worn/damaged	Check blade for wear, damage and chips, replace where necessary
Missing material on outer edges only	Cupped Belt	Install hold-down roller and reset blade angle
	Cleaner blade worn/damaged	Check blade for wear, damage and chips, replace where necessary
Tensioners binding	Tensioners not aligned properly	Adjust mounting bases until tensioners travel without binding

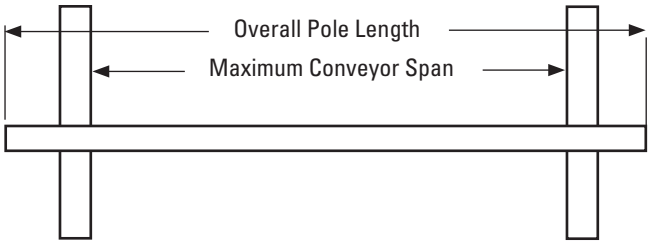
Section 8 – Specifications and CAD Drawings

8.1 Specifications and Guidelines

Pole Length Specifications

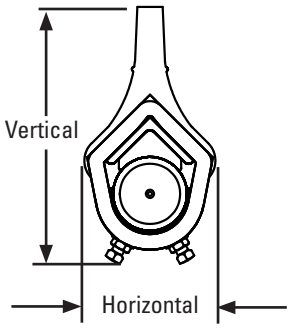
Cleaner Size		Pole Length		Maximum Conveyor Span	
mm	in.	mm	in.	mm	in.
900	36	2286	90	2083	82
1050	42	2438	96	2235	88
1200	48	2590	102	2388	94
1350	54	2743	108	2540	100
1500	60	2895	114	2692	106
1800	72	3200	126	2997	118

Pole Length - Belt +1350mm (54")
Pole Diameter - 73mm (2-7/8")



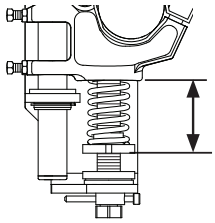
Clearance Guidelines for Installation

Cleaner Type	Belt Width/ Cleaner Size		Horizontal Clearance Required		Vertical Clearance Required	
	mm	in.	mm	in.	mm	in.
Y-Type® HD Polyurethane	900 - 1800	36 - 72	133	5-1/4	241	9-1/2
Y-Type HD Carbide	900 - 1800	36 - 72	133	5-1/4	248	9-3/4



MST Tensioner Spring Length Chart

Blade Width	Preferred Spring	2 White Springs	2 Silver Springs	2 Black Springs	2 Gold Springs
mm		mm	mm	mm	mm
900	Silver	53	80	84	89
1050	Silver	N/A	78	81	88
1200	Silver	N/A	75	79	87
1350	Silver	N/A	72	77	85
1500	Black	N/A	70	75	84
1650	Black	N/A	67	73	83
1800	Black	N/A	N/A	71	81



Bottom of Pole Mount to Bottom of Spring Support Plate

Y-Type Blade Specifications

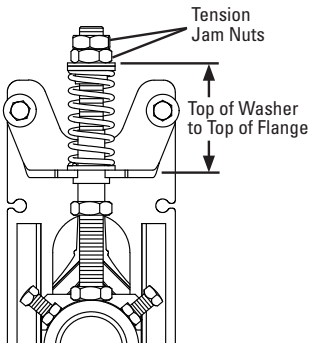
Cushion	Durometer	Temperature Range
Purple (Standard)	86A	-35° to 82° C -30° to 180° F
Red (Ultra High-Temp)	90A	Up to 400° F (200° C) Spikes to 450° F (232° C)
Carbide	n/a	-35° to 82° C -30° to 180° F

‡All ingredients used in the polyurethane formulation of this blade comply with the relevant requirements of 21 CFR (FDA Code of Federal Regulations) for use in repeated bulk dry food applications

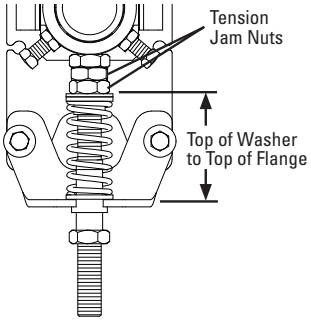
YST HD Tensioner Spring Length Chart

Blade Width		Carbide Tip				Polyurethane Tip			
		Silver Springs		Black Springs		Green Springs		Blue Springs	
mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
900	36	98	3 7/8	102	4	76	3	86	3 3/8
1050	42	95	3 3/4	98	3 7/8	73	2 7/8	83	3 1/4
1200	48	92	3 5/8	95	3 3/4	67	2 5/8	79	3 1/8
1350	54	89	3 1/2	95	3 3/4	64	2 1/2	76	3
1500	60	86	3 3/8	92	3 5/8	NA	NA	73	2 7/8
1800	72	83	3 1/4	89	3 1/2	NA	NA	64	2 1/2

Shading indicates preferred spring option.



Pull-Up Tensioner Configuration (HD)



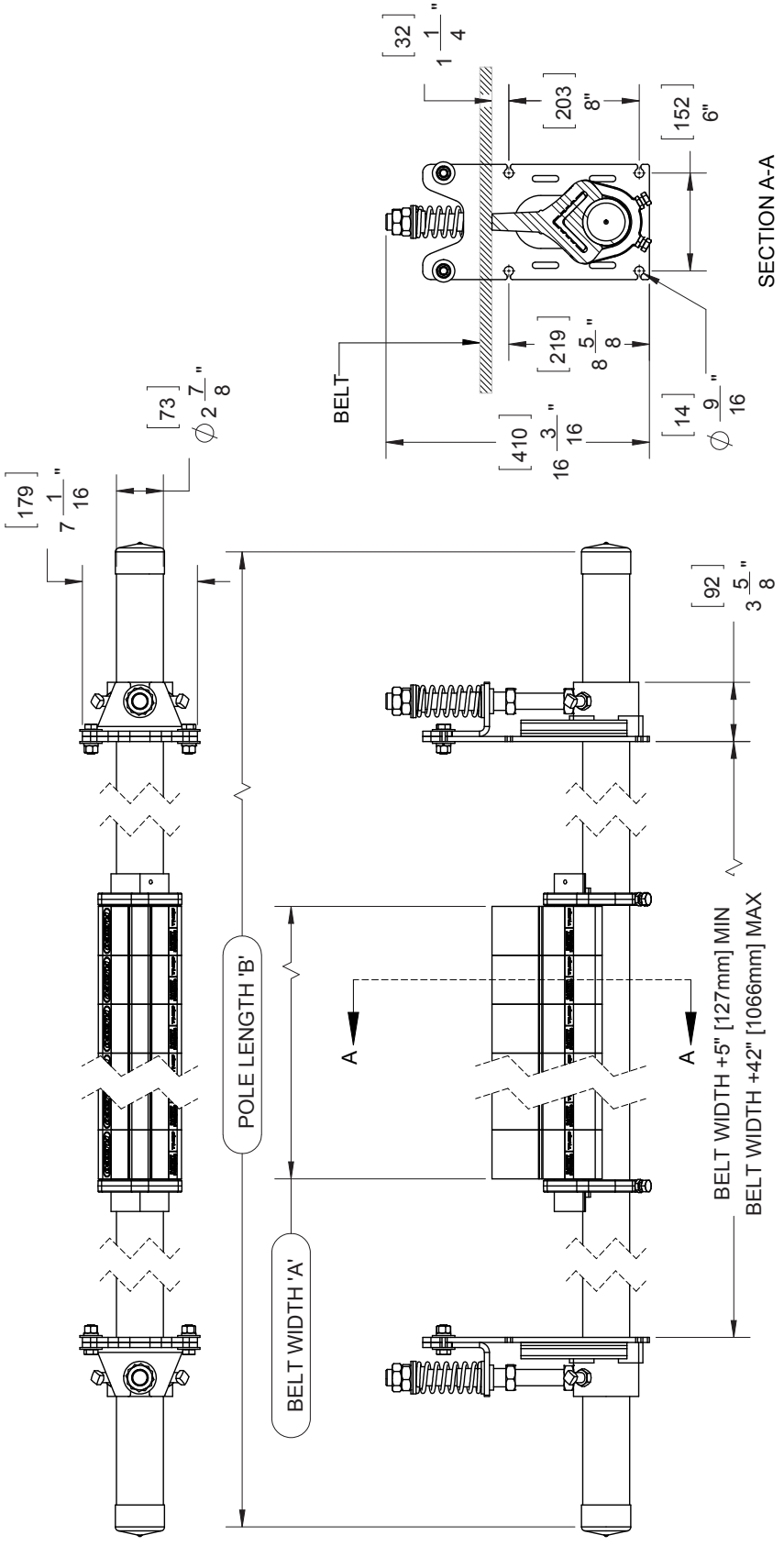
Push-Up Tensioner Configuration (HD)

Specifications:

- Maximum Belt Speed..... 3.8 m/s (750 FPM)
- Temperature Rating..... -35°C to 82°C (-30°F to 180°F)
- Usable Blade Wear Length..... 75mm (3") (Polyurethane)
  10mm (3/8") (Carbide)
- Blade Materials..... **Purple:** Polyurethane (proprietary blend for abrasion resistance and long wear)
  Red: Polyurethane (ultra high-temp)
  Carbide: Tungsten Carbide
- Available for Belt Widths..... 900 to 1800mm (36" to 72"). Other sizes available upon request.
- CEMA Cleaner Rating..... Class 3 (Heavy-duty with polyurethane or carbide blades)

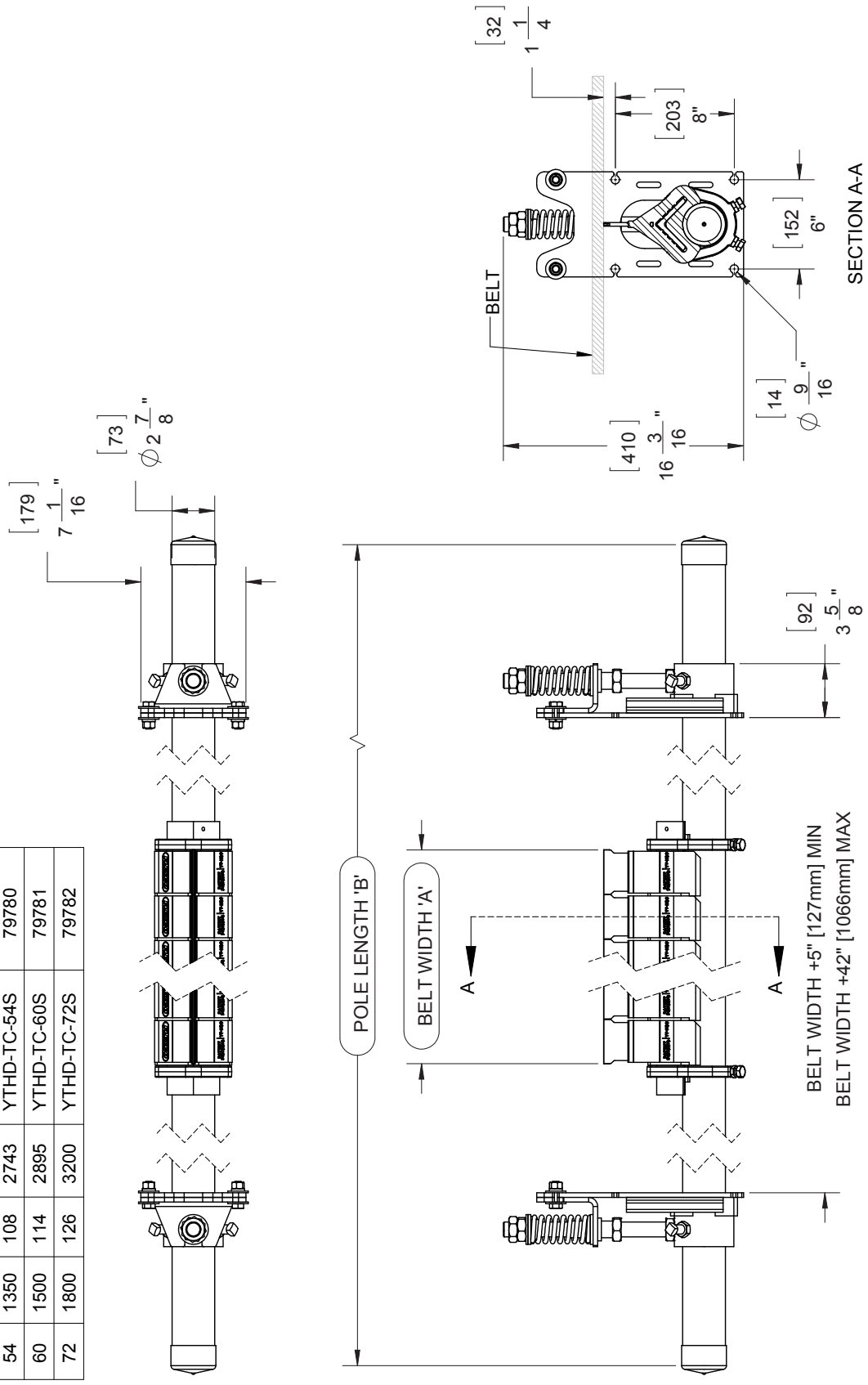
8.2 CAD Drawing – Y-Type™ HD Polyurethane with YST Tensioner

SPECIFICATIONS				PURPLE BLADES		RED BLADES	
BELT WIDTH 'A'		POLE LENGTH 'B'		ORDER NUMBER	ITEM CODE	ORDER NUMBER	ITEM CODE
in	mm	in	mm				
36	900	90	2286	YTHD-36S	79783	YTHDR-36S	91816
42	1050	96	2438	YTHD-42S	79784	YTHDR-42S	91817
48	1200	102	2590	YTHD-48S	79785	YTHDR-48S	91818
54	1350	108	2743	YTHD-54S	79786	YTHDR-54S	91819
60	1500	114	2895	YTHD-60S	79787	YTHDR-60S	91820
72	1800	126	3200	YTHD-72S	79788	YTHDR-72S	91821



Section 8 – Specifications and CAD Drawings (cont.)

8.3 CAD Drawing – Y-Type™ HD Carbide with YST Tensioner

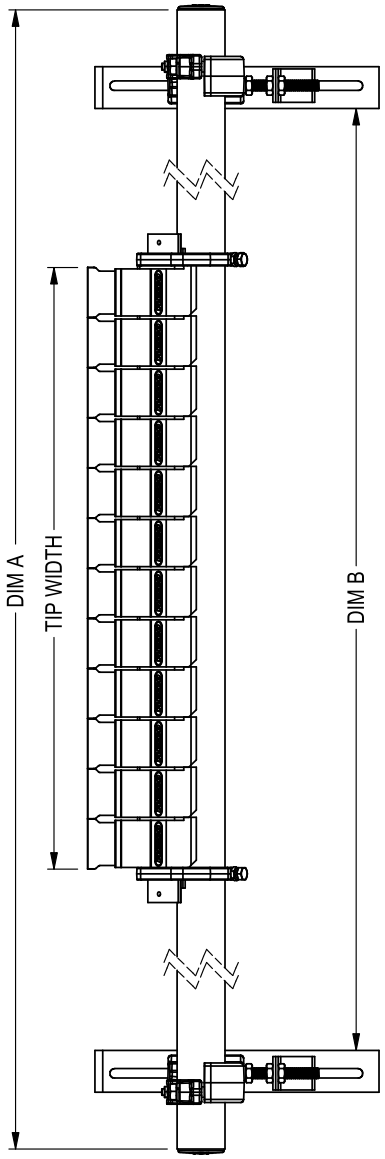


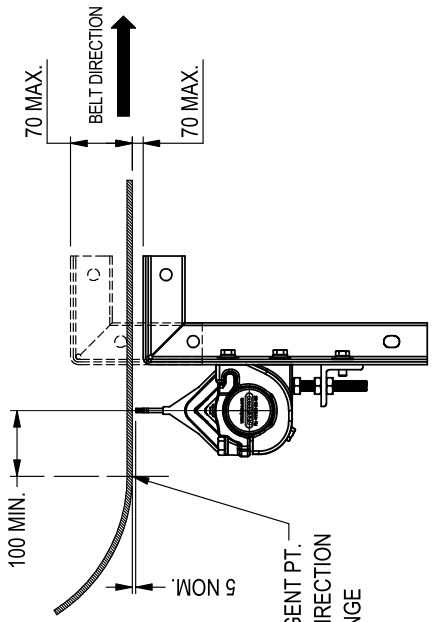
SPECIFICATIONS				ORDER NUMBER	ITEM CODE
BELT WIDTH 'A'		POLE LENGTH 'B'			
(IN)	(mm)	(IN)	(mm)		
36	900	90	2286	YTHD-TC-36S	79777
42	1050	96	2438	YTHD-TC-42S	79778
48	1200	102	2590	YTHD-TC-48S	79779
54	1350	108	2743	YTHD-TC-54S	79780
60	1500	114	2895	YTHD-TC-60S	79781
72	1800	126	3200	YTHD-TC-72S	79782

8.4 CAD Drawing – Y-Type™ HD Carbide with Bolt-Up Tensioner

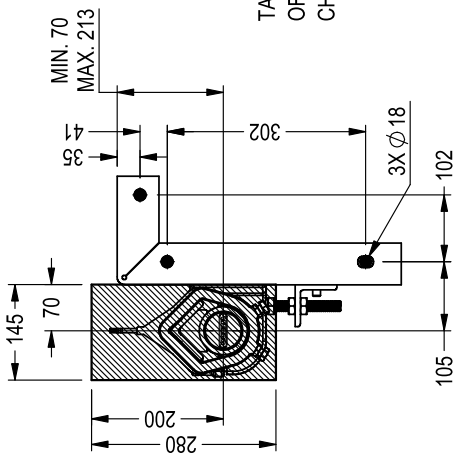
ORDERING INFORMATION & DIMENSIONS

Belt Width		Tip	Steel			Stainless Steel			Tip	DIM 'A'	DIM 'B'	
(mm)	(in)	Width	Order Code	Item Code	Mass	Order Code	Item Code	Mass	Count		Max	Min
900	36	900	YTHDC-900-BT	83099	62.8	YTHDC-900-BT-S/S	67290	64.7	12	2200	1900	1100
1050	42	1050	YTHDC-1050-BT	83100	67.4	YTHDC-1050-BT-S/S	67291	69.3	14	2350	2050	1250
1200	48	1200	YTHDC-1200-BT	83101	73.6	YTHDC-1200-BT-S/S	67292	75.6	16	2650	2350	1400
1350	54	1350	YTHDC-1350-BT	83102	77.0	YTHDC-1350-BT-S/S	67293	79.1	18	2700	2400	1550
1500	60	1500	YTHDC-1500-BT	83103	82.7	YTHDC-1500-BT-S/S	67294	84.8	20	2950	2650	1700
1650	66	1650	YTHDC-1650-BT	83104	87.3	YTHDC-1650-BT-S/S	68157	89.4	22	3100	2800	1850
1800	72	1800	YTHDC-1800-BT	83105	89.0	YTHDC-1800-BT-S/S	67295	91.1	24	3000	2700	2000





SETUP DETAILS



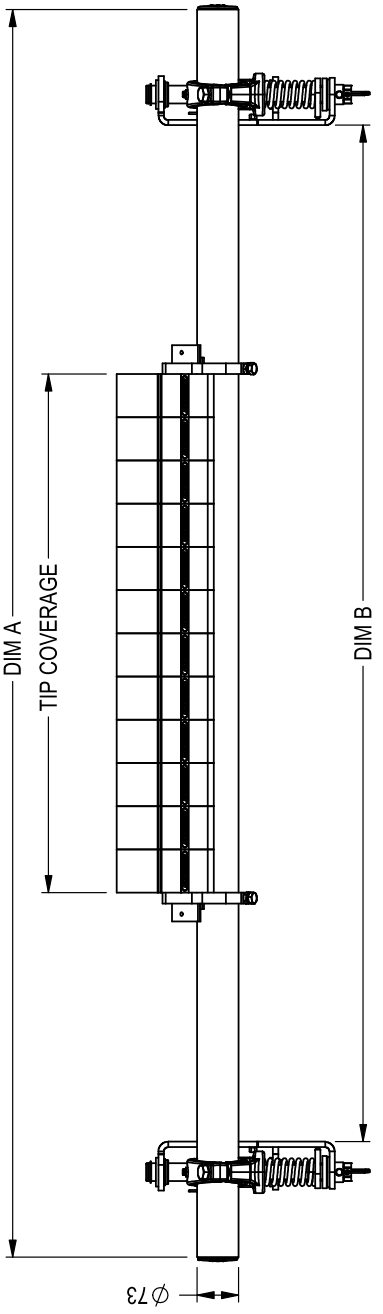
MOUNTING DETAILS

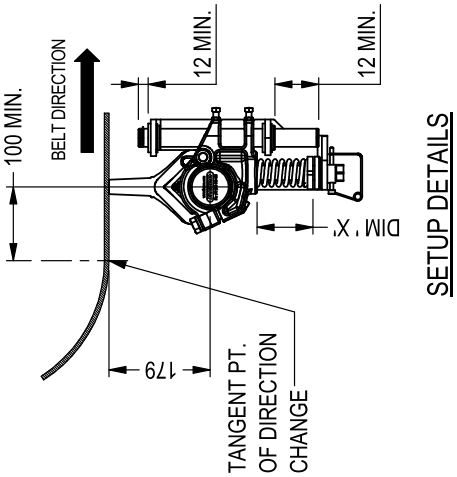
Section 8 – Specifications and CAD Drawings (cont.)

8.5 CAD Drawing – Y-Type™ HD Polyurethane with MST Tensioner

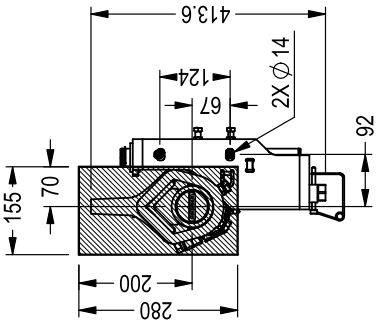
ORDERING INFORMATION & DIMENSIONS

BELT WIDTH		TIP	STEEL			STAINLESS STEEL			TIP	DIM 'A'	DIM 'B'	
(mm)	(in)	COVERAGE	ORDER CODE	ITEM CODE	MASS	ORDER CODE	ITEM CODE	MASS	COUNT		Max	Min
600	36	600	YTHD-600S-MST	68085	45.6	YTHD-600S-MST-S/S	67320	47.7	8	1350	1050	800
750	42	750	YTHD-750S-MST	68086	50.1	YTHD-750S-MST-S/S	67282	52.2	10	1500	1200	900
900	48	900	YTHD-900S-MST	64985	60.7	YTHD-900S-MST-S/S	67314	90.6	12	2200	1900	1600
1050	54	1050	YTHD-1050S-MST	64986	65.1	YTHD-1050S-MST-S/S	67315	67.5	14	2350	2050	1750
1200	60	1200	YTHD-1200S-MST	64987	71.2	YTHD-1200S-MST-S/S	67316	73.7	16	2650	2350	2050
1350	66	1350	YTHD-1350S-MST	64988	74.5	YTHD-1350S-MST-S/S	67317	77.0	18	2700	2400	2100
1500	60	1500	YTHD-1500B-MST	64989	80.3	YTHD-1500B-MST-S/S	67318	80.2	20	2950	2650	2350
1650	66	1650	YTHD-1650B-MST	64990	84.7	YTHD-1650B-MST-S/S	67056	87.4	22	3100	2800	2500
1800	72	1800	YTHD-1800B-MST	64991	86.3	YTHD-1800B-MST-S/S	67319	88.9	24	3000	2700	2400





SETUP DETAILS

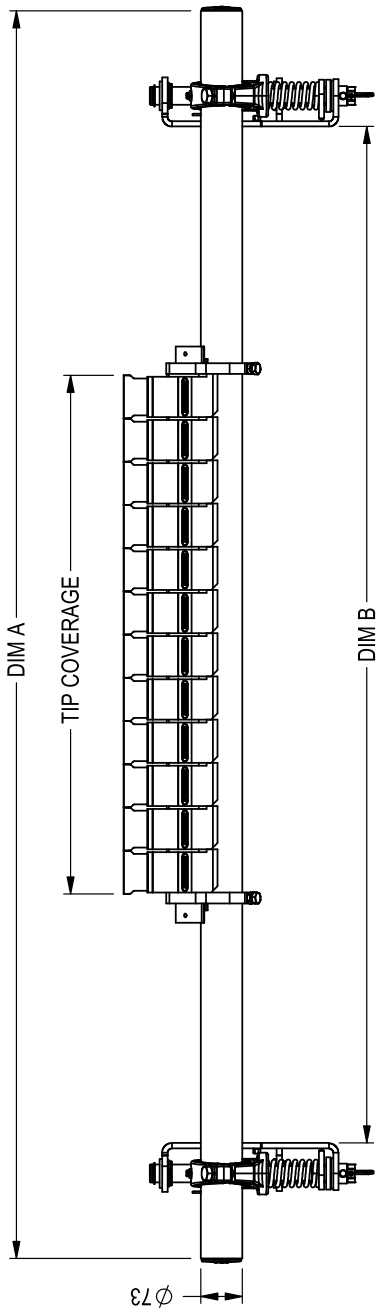


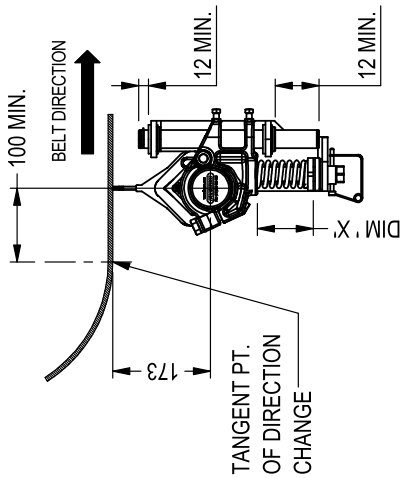
MOUNTING DETAILS

8.6 CAD Drawing – Y-Type™ HD Carbide with MST Tensioner

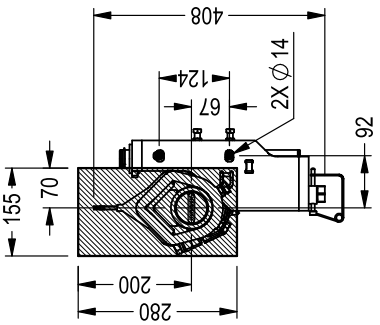
ORDERING INFORMATION & DIMENSIONS

BELT WIDTH		TIP	STEEL			STAINLESS STEEL			TIP	DIM 'A'	DIM 'B'	
(mm)	(in)	COVERAGE	ORDER CODE	ITEM CODE	MASS	ORDER CODE	ITEM CODE	MASS	COUNT		Max	Min
600	36	600	YTCHD-600S-MST	68087	46.2	YTCHD-600S-MST-S/S	68082	48.3	8	1350	1050	800
750	42	750	YTCHD-750S-MST	68088	50.8	YTCHD-750S-MST-S/S	68083	52.9	10	1500	1200	900
900	48	900	YTCHD-900S-MST	68089	61.6	YTCHD-900S-MST-S/S	67308	63.9	12	2200	1900	1600
1050	54	1050	YTCHD-1050S-MST	68090	66.1	YTCHD-1050S-MST-S/S	67309	68.5	14	2350	2050	1750
1200	60	1200	YTCHD-1200S-MST	68091	72.4	YTCHD-1200S-MST-S/S	67310	74.8	16	2650	2350	2050
1350	66	1350	YTCHD-1350S-MST	68092	75.8	YTCHD-1350S-MST-S/S	67311	78.3	18	2700	2400	2100
1500	60	1500	YTCHD-1500B-MST	68093	81.8	YTCHD-1500B-MST-S/S	67312	84.3	20	2950	2650	2350
1650	66	1650	YTCHD-1650B-MST	68094	86.3	YTCHD-1650B-MST-S/S	68084	88.9	22	3100	2800	2500
1800	72	1800	YTCHD-1800B-MST	68095	88.0	YTCHD-1800B-MST-S/S	67313	90.6	24	3000	2700	2400





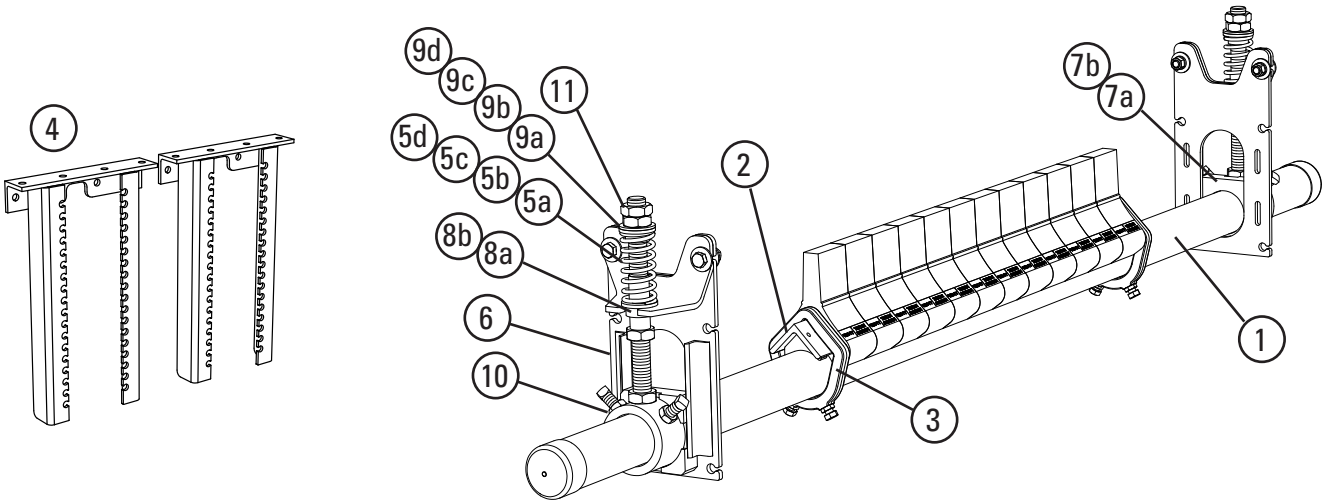
SETUP DETAILS



MOUNTING DETAILS

Section 9 – Replacement Parts List

9.1 Replacement Parts List- Y-Type™ HD Secondary Belt Cleaner



Replacement Parts

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. KG.
1	900mm (36") Y-Type™ HD Pole	YTPHD-36/900	83106	27.3
	1050mm (42") Y-Type HD Pole	YTPHD-42/1050	83107	28.8
	1200mm (48") Y-Type HD Pole	YTPHD-48/1200	83108	30.4
	1350mm (54") Y-Type HD Pole	YTPHD-54/1350	83109	31.9
	1500mm (60") Y-Type HD Pole	YTPHD-60/1500	83110	33.5
	1800mm (72") Y-Type HD Pole	YTPHD-72/1800	83112	35.0
2	900mm (36") Y-Type HD Cushion Angle	YTAHD-36/900	79805	7.5
	1050mm (42") Y-Type HD Cushion Angle	YTAHD-42/1050	79806	8.6
	1200mm (48") Y-Type HD Cushion Angle	YTAHD-48/1200	79807	9.7
	1350mm (54") Y-Type HD Cushion Angle	YTAHD-54/1350	79808	10.9
	1500mm (60") Y-Type HD Cushion Angle	YTAHD-60/1500	79809	12.0
	1800mm (72") Y-Type HD Cushion Angle	YTAHD-72/1800	79810	14.2
3	Y-Type HD Angle Clamp* (2 Clamps)	YTACHD	79835	2.2
4	YST HD Drop Bracket Kit (2 Brackets)	YSTHDDBK	79850	14.6
5a	YST HD Spring, Green	YSTHDS-GR	79797	0.2
5b	SST Spring, Silver	STS-S	75843	0.4
5c	YST HD Spring, Blue (for Y-Type HD Carbide Cleaners)	YSTHDS-BL	79798	0.3
5d	SST Spring, Black (for Y-Type HD Carbide Cleaners)	STS-B	75844	0.5
6	YST HD Mounting Bracket	YSTHDMB	79849	3.0
7a	YST HD Guide Block Kit (Pair)	YSTHDGBK	79851	0.05
7b	YST HD Guide Block Kit UHT (Pair)	YSTHDGBK-R	91829	0.05
8a	YST HD Lower Bushing Kit (Pair)	YSTHDLBK	79852	0.05
8b	YST HD Lower Bushing Kit UHT (Pair)	YSTHDLBK-R	91830	0.05
9a	YST HD Top Bushing Kit White (Pair)	YSTHDBK-W	79853	0.05
9b	YST HD Top Bushing Kit Black (Pair)	YSTHDBK-B	79856	0.05
9c	YST HD Top Bushing Kit Green (Pair)	YSTHDBK-GR-R	91832	0.05
9d	YST HD Top Bushing Kit Blue (Pair)	YSTHDBK-BL-R	91831	0.05
10	YST HD Pole Mount Kit*	YSTPHDMK	79854	3.5
11	YST Adjusting Rod Nut Kit	YSTANK	79858	0.1

*Hardware included

Replacement Parts

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. KG.
-	YST Tensioner w/Silver Spring (Pair) (for belts 900 - 1350 mm w/carbide tips) (incl. 2 ea. item 5b, 6, 10, 11; 1 ea. items 7, 8, 9a)	YSTHD-S	79840	15.2
-	YST Tensioner w/Black Spring (Pair) (for belts 1500 - 1800 mm w/ carbide tips) (incl. 2 ea. item 5d, 6, 10, 11; 1 ea. items 7, 8, 9b)	YSTHD-BK	79842	15.5
-	YST Tensioner w/Green Spring (Pair) (for belts 900 - 1200 mm w/Polyurethane tips) (incl. 2 ea. item 5a, 6, 10, 11; 1 ea. items 7, 8, 9a)	YSTHD-GR	79839	14.9
-	YST Tensioner w/Blue Spring (Pair) (for belts 1350 - 1800 mm w/Polyurethane tips) (incl. 2 ea. item 5c, 6, 10, 11; 1 ea. items 7, 8, 9b)	YSTHD-BL	79841	15.0
-	YST Tensioner w/Green Spring UHT (Pair) (for belts 900 - 1200mm w/ UHTPolyurethane tips) (incl. 2 ea. item 5a, 6, 10, 11; 1 ea. items 7b, 8b, 9c)	YSTHD-GR-R	91833	14.9
-	YST Tensioner w/Blue Spring UHT (Pair) (for belts 1350 - 1800mm w/UHT Polyurethane tips) (incl. 2 ea. item 5c, 6, 10, 11; 1 ea. items 7b, 8b, 9d)	YSTHD-BL-R	91834	15.0
-	P Adjusting Bracket	PAB	75513	1.0
-	P Pole Clamp	PHDCB	75510	4.0
-	P Mounting Bracket Repair Kit	PMBL (left)	75516	3.8
-	(includes left or right mounting bracket)	PMBR (right)	75519	3.8
-	P/R/I Mounting Kit (includes 2 each items PMB, PAB, PHDCB)	PIHMK	73160	14

Blades Required per Cleaner Size

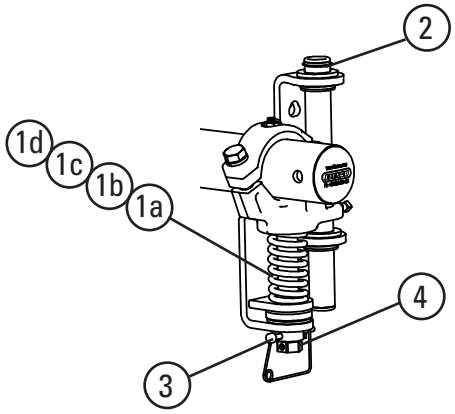
mm	900	1050	1200	1350	1500	1800
in.	36	42	48	54	60	72
Blades Required	12	14	16	18	20	24

Spring Tensioner Selection Chart

Cleaner Blade Width	Silver YSTHD-S	Black YSTHD-BK	Green YSTHD-GR	Blue YSTHD-BL
Carbide 900 - 1350mm (36" - 54")	X			
Carbide 1500 - 1800mm (60" - 72")		X		
Polyurethane 900 - 1200mm (36" - 48")			X	
Polyurethane 1350 - 1800mm (54" - 72")				X

Section 9 – Replacement Parts List

9.1 Replacement Parts List- Y-Type™ HD Secondary Belt Cleaner (cont.)



MST Replacement Parts

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. KG.	ORDERING NUMBER	ITEM CODE	WT. KG.
1a	Tension Spring - White (1 ea.) for belts 450-750mm	STS-W	75846	0.2	STS-W-S/S	77630	0.2
1b	Tension Spring - Silver (1 ea.) for belts 900-1350mm	STS-S	75843	0.4	STS-S-S/S	77631	0.4
1c	Tension Spring - Black (1 ea.) for belts 1500-1800mm	STS-B	75844	0.5	STS-B-S/S	77632	0.5
1d	Tension Spring - Gold (1 ea.) for belts over 2100mm	STS-G	78142	0.5	STS-G-S/S	79057	0.5
2	MST Bushing Kit (incl. 4 bushings)	MSTBBK	63067	0.1	MSTBBK	63067	0.1
3	MST Lock Pin	MSTLP	64930	0.1	MSTLP	64930	0.1
4	MST Adjusting Mechanism	MSTAM	79435	0.5	MSTAM-S/S	64931	0.5
-	MST HD Tensioner w/White Spring	MSTHD-W	79431	16.7	MSTHD-W-S/S	90181	16.7
-	MST HD Tensioner w/Silver Spring	MSTHD-S	79432	17.0	MSTHD-S-S/S	90182	17.0
-	MST HD Tensioner w/Black Spring	MSTHD-B	79433	17.3	MSTHD-B-S/S	90183	17.3
-	MST HD Tensioner w/Gold Spring	MSTHD-G	63020	17.3	MSTHD-G-S/S	90184	17.3

Section 10 – Other Flexco Conveyor Products

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

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 and 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

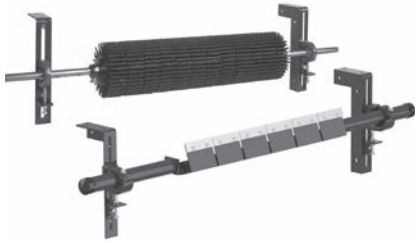
Inspection Door

- Multiple door sizes available for a variety of applications.
- Dust-tight silicone seal between mounting plate and chute wall.
- Latch mechanism is designed to allow easy adjustability to tightness of door seal.
- Optional hinged, bolted screen allows safe visual inspection and does not require removal for authorised workers to access the chute.

PT Smart™ Belt Trainer

- Patented "pivot & tilt" design for superior training action
- Dual sensor rollers on each side to minimise belt damage
- Pivot point guaranteed not to seize or freeze up
- Simple brackets and component construction ensure a quick and easy installation

Flexco Specialty Belt Cleaners



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

Belt Ploughs

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

Flexco (Aust.) Pty. Ltd • 10 Solent Circuit • Baulkham Hills NSW 2153 • Australia
Tel: 612-8818-2000 • Fax: 612-8824-6333 • E-mail: salesau@flexco.com

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