# **Enclosed Skirting System**

# Installation, Operation and Maintenance Manual





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

Serial number information can be found on the Serial Number Label included in the Information Packet shipped with the skirting components.

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 our Standard Skirting System for your conveyor system.

This manual will help you to understand the installation, operation, and maintenance 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. In addition, please follow all standard approved safety guidelines when working on your conveyor.

If, however, you have any questions or problems that are not covered, please contact your field representative or our Customer Service Department:

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

#### 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 the Standard Skirting System. While we have tried to make the installation and service tasks as easy and simple as possible, this product does however require correct installation, regular inspection, and maintenance to maintain top working condition.

#### 1.2 User Benefits

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

- Reduced airborne dust
- Reduced conveyor downtime
- Reduced man-hour labor
- Lower maintenance budget costs

### **1.3 Installation and Service Option**

The Standard Skirting System is designed to be easily installed and serviced by your on-site personnel. However, if you would prefer complete turn-key factory service, please contact your local Flexco Field Engineer or your Flexco Distributor.

# Section 1 - Important Information

# 1.4 Skirting System Spec Sheet

#### **Enclosed Skirting System Spec Sheet**

#### **CUSTOMER INFO:**

Company Name:		
Address:		Date:
		Phone #:
Contact Name:		Fax #:
Title/Position:		e-Mail:
Converyor Name:	PO #:	Distributor:

#### DIMENSIONS

Value	Units	Dim	Description
		Α	Belt width
		В	Top of structure to underside belt
		С	Outside structure dimensions
		D	Trough angle
		E	Widest inlet component
		1	Idler Roll Length
		2	Idler Roll Length
		3	Idler Roll Length
			Material
			Material Density
			Belt speed / velocity
			Tonnage / Throughput
			Length of load-zone

Please return completed form to info@flexco.com.





Before installing and operating the Standard Skirting System, 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
- Skirt Material Adjustments
  Cleaning

## **A** DANGER

It is imperative that all local regulations and codes related to working on conveyors including adherence to lock out/tag out (LOTO) procedures prior to undertaking any work on the conveyor or skirting system. Failure to adhere to safety standards including LOTO exposes workers to uncontrolled behavior of the Standard Skirting System caused by movement of the conveyor belt. Severe injury or death can result.

# **A** WARNING

• Repairs

Close quarters and heavy components create a worksite that compromises a worker's safety. It is important to perform a proper job hazard assessment and determine the appropriate personal protective equipment to safely install and maintain equipment.

#### Before working:

- Lockout/Tagout the conveyor power source
- Clear the conveyor belt in the area to be skirted

#### 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 conveyor is an in-running nip hazard. Never touch or prod an operating Standard Skirting System. Conveyor hazards cause instantaneous amputation and entrapment.

## A WARNING

Conveyor chutes contain projectile hazards. Stay as far from the Standard Skirting System as practical and use safety eyewear and headgear. Projectiles launched from a conveyor can inflict serious injury.

Never adjust anything on an operating conveyor. Unforeseeable materials falling into the chute can cause violent movements of the Standard Skirting System structure. Falling hardware can cause serious injury or death.

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# 3.1 Checklist

- Installation should only be done by qualified conveyor mechanics.
- Check the Standard Skirting System to be sure all the parts are included in the shipment.
- Check for properly tracked belts before installing Flexco's Standard Skirting System. An improperly tracked belt will result in potential disengagement of the tangential seal skirting material which will then result in potential damage to the skirting material.
- Skirting material durometer should be softer than that of the conveyor belt to avoid any potential of the skirting material damaging the conveyor belt.
- Prepare the conveyor site:
  - Inspect the conveyor structure for damage or misalignment. Make adjustments as necessary
  - Verify existing ancillary equipment will not be affected by the installation of the skirting system
  - Determine optimal skirt leg locations and prep areas for mounting
  - If existing equipment must be adjusted or re-located to assist in installing the skirting system, care should be taken to insure all affected equipment will remain fully functional after the installation of the skirting



4.1 Standard Skirting System





#### Standard Skirting System (cont.) 4.1

1. If applicable, remove existing conveyor belt skirting. Clearing existing stringer for mount leg clamps.



2. Determine locations for skirt legs and weld or bolt skirting mount leg clamps to stringer. Skirt walls have locations for mount cross brace every 24" Cross brace spanners are available for infinite leg locations. Mount legs are required every 96".



## 4.1 Standard Skirting System (cont.)

3. Place mount leg pipes onto mount leg clamps to the highest position, tightening set screws and jam nuts.



4. Connect mount cross brace to skirt legs using slip-on pipe connectors. Place diagonal brace on cross arms as appliable.



5. Install the preassembled skirt wall to the slip on pipe connectors located on the cross brace spanners.



# 4.1 Standard Skirting System (cont.)

6. Install the rear seal to tail skirt wall (if applicable).

7. Install interior dust curtains to skirt walls (if applicable).



8. Center the skirt walls to the conveyor belt and adjust skirt width per CEMA standard dimensions (see table).

CEMA SI	kirt Width
Belt Width	Skirt Width
24"	16"
30"	20"
36"	24"
42"	28"
48"	32"
54"	36"
60"	40"
66"	44"
72"	48"
84"	56"
96"	64"

9 If multiple sections are installed sequentially, repeat previous steps and loosely assemble skirt walls to each other at attached ends, hand-tightening all hardware.
 Hint: installing dust curtains and some of the covers as the work progresses helps to keep the skirt system square and stable.



# 4.1 Standard Skirting System (cont.)

- 10. Adjust legs down to achieve between a 1/8" to 1/2" gap between the skirt wall liner and the conveyor belt.
- 11. Tighten all hardware connecting the skirt wall section, skirt legs connects and skirt covers.



12. Install the stabilizer bracket to the last skirt wall. If no rear seal is used (skirting system that has material feeding through) install stabilizer bracket to the tail skirt wall as well.

13. Install the skirt covers.





## 4.1 Standard Skirting System (cont.)

14. Loosen all skirt liners and lower them to be 1/8" away from the conveyor belt. Tighten skirt liner hardware.



 Modify the skirt covers for specific requirements (Dust collection/suppression/chute penetrations/fire suppression/etc.)



16. After all final adjustments have been made, threadlock, such as Loctite 242 blue, may be applied to all liner adjustment connections.





#### 4.1 Standard Skirting System (cont.)

17. A hole is provided to install a self tapping screw in the leg mount bracket to prevent acidental loosening of the set screws and potential damage to the belt from a skirt wall settling.



18. Caulk all joints and gaps as necessary. Caulk not provided.

19. Insert and position skirt material, such as Flexco Standard or Dual Seal Polyurethane, into the skirt clamps. Lock all skirt clamp pins using hammer or mallot.

## 5.1 Pre-Op Checklist

- Check that all fasteners are tightened
- Check that the empty belt to skirt board clearance is 1/8" minimum at the tail end and no more than 1/2" at the discharge end; it is critical that the skirt liner clearance to the belt is constant or grows in the direction of belt travel.
- Check that skirting material is lying free on the conveyor belt and not binding the conveyor belt in any area
- Be sure that all installation materials and tools have been removed from the belt and conveyor area

#### 5.2 Test Run the Conveyor

- Run the conveyor for at least 15 minutes and confirm that the skirt material is properly sealing the transfer point
- Adjust skirt material as needed
- Ensure material is laying free on the conveyor and not binding in any areas
- Confirm that the belt is tracking properly after any skirting adjustment



Flexco's Standard Skirting Systems are designed to operate with minimal maintenance. However, to maintain superior performance some service is required. When the Flexco's Standard Skirting System is installed, a regular maintenance program should be set up. This program will insure that the skirting solution operates at optimal efficiency. With a good maintenance program, problems can be identified and fixed before any damage is done to the conveyor belt, structures, or components.

All safety procedures for inspection of equipment (stationary or operating) must be observed. Flexco's Standard Skirting Solution operates over a moving conveyor belt. Only visual observations can be made while the conveyor belt is running. Tasks must be done by qualified individuals only when the conveyor belt is stopped and workers have observed the correct lockout and tag-out procedures.

### 6.1 New Installation Inspection

After the skirting solution has been in service for a few days a visual inspection should be made to ensure the skirting is performing properly. Make adjustments as needed.

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

A visual inspection of the skirting solution can determine:

- If the skirt material is adequately keeping the chute area sealed
- If there is excessive material building up around the skirting area

• If there is damage to the skirting, conveyor belt, or other conveyor components

If any of the above conditions exist, the conveyor should be stopped for maintenance.

## 6.3 Routine Physical Inspection (Every 6-8 weeks)

When the conveyor is not in operation and properly locked and tagged-out, a physical inspection of the skirting system can be made to perform the following tasks:

- Clean material buildup around the skirting system and conveyor structure
- Closely inspect each skirt liner for wear and damage, replace if needed
- Check the skirting system for damage
- Inspect all fasteners for tightness and wear; tighten or replace as needed
- Inspect skirt material and adjust or replace as needed
- When maintenance tasks are completed, test run the conveyor to ensure the skirting system is performing properly

### 6.4 Liner Replacement Instructions

When the conveyor is not in operation and properly locked and tagged-out, skirt liner replacement of the skirting system can be made by performing the following tasks:

- Remove skirt material per the 6.5 Skirt Material Replacement directions
- Remove nuts that hold liner to be replaced in place
- Unfasten and remove skirt liner and, if applicable, tangential skirt piece from the stationary skirt piece
- If applicable, unbolt tangential skirt piece from old skirt liner and bolt it to new skirt liner
- Set in place new skirt liner and, if applicable, tangential skirt piece
- Fasten skirt liner and, if applicable, tangential skirt piece to stationary skirt piece
- Verify new skirt liner to belt clearance is 1/8" minimum and adjust if necessary
- Reposition skirt material per the **6.5 Skirt Material Replacement** directions
- Test run conveyor and inspect belt to liner area for proper clearances

# **Section 6 - Maintenance**

## 6.5 Skirt Material Replacement

When the conveyor is not in operation and properly locked and tagged-out, the skirt material can be replaced by performing the following tasks:

- Use a hammer to loosen the RMC1 clamp pins
- Remove RMC1 clamp plates and material clamps bars
- Remove the old skirt material
- Position the new skirt material as shown in the following diagram:





# **Section 6 - Maintenance**

## 6.5 Skirt Material Replacement (cont.)

- The skirt material should not go under the skirt boards
- Relocate RMC1 clamp plates and material clamp bars
- Use a hammer to tighten the RMC1 skirt clamps
- Ensure the skirt material is lying free on the top of belt and not pinched to the belt; pinched skirt material will adversely impact conveyor belt and skirting solution performance and wear
- Test run the conveyor and inspect conveyor belt and skirt material for proper sealing



# 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:		



# **Section 6 - Maintenance**

# 6.7 Standard Skirting System Maintenance Checklist

Site:			Inspected	by:	++++	Date:
Beltline Informa	ation:					
Beltline Number	r:		Belt Cond	dition:		
Beltline Speed:			Belt Thic	kness:		
Transition Dista	nce (C/I	of tail pulley to fire	t full troughi	ng idler frame:		
Belt Width: □ 6 (	600mm 24")	□ 750mm □ 900m (30") (36")	ım 🗆 1050mı (42")	m □ 1200mm (48")	□ 1350mm □ 1500mm □ 18 (54") (60") (7	800mm 🗆 2100mm 🗆 2400mm 72") (84") (96")
Vertical distanc	e betw	een liner and belt:				
Minimum Meas	ured:				Maximum Measured:	
Liner Life:						
Date Liners Inst	alled:				Date Liners Inspected:	
Date Liners Inst	alled:				Date Liners Inspected:	
Overall Skirting	Condit	ion: 🗆	Good	🗆 Bent	□ Rusted	
Overall RBP1 Po	erforma	nce: (F	late the follo	wing 1 - 5, 1=v	ery poor - 5= very good )	
Appearance:		Comments:				
Location:		Comments:				
Maintenance:		Comments:				
Performance:		Comments:				
Other Comment	s:					

Problem	Possible Cause	Possible Solutions
	Daltia miatra alcia a	Correct tracking
Skirt material is disengaging belt	beit is mistracking	Install a Flexco Belt Tracker
	Skirt material is worn out and too short	Replace skirt material
	Skirt material is not installed correctly	Install skirt material correctly
	Skirt material is worn out and too short	Replace skirt material
Material is leaking out of skirting	Liner inserts are worn out	Replace liners
	Skirting is not set to the proper height off the belt	Correct tracking      Install a Flexco Belt Tracker      and too short    Replace skirt material      ed correctly    Install skirt material correctly      and too short    Replace skirt material      replace skirt material    Replace liners      oper height off    Set skirting to the proper height      nissing    Install new dust curtains      too severely in the    Install Flexco Impact Beds      Consider a Complete Flexco Engineering
	Internal dust curtains are missing	Install new dust curtains
Excessive dust is coming out of the end of the skirting	Material is immediate holt to a secondaria the	Install Flexco Impact Beds
	load zone	Consider a Complete Flexco Engineering Chute system



# 8.1 CAD Drawing - 4' (1.2 M) Standard Base Unit







ITEM CODE	BELT WIDTH (in)	A (in)	B (in)	C (in)	D (in)
91664	24	16	21.9	45.8	38.5
91665	30	20	25.9	51.8	38.5
91666	36	24	29.9	57.8	38.5
91667	42	28	33.9	63.8	41.5
91668	48	32	37.9	69.8	41.5
91669	54	36	41.9	75.8	41.5
91670	09	40	45.9	81.8	44.5
91671	99	44	49.9	87.8	44.5
91672	72	48	53.9	93.8	44.5
91673	84	56	57.9	105.8	47.5
91674	96	64	61.9	117.8	50.5

# 8.2 CAD Drawing - 4' (1.2 M) Tangential Base Unit



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# **Section 8 - Specs and CAD Drawings**

8.3 CAD Drawing - 8' (2.4 M) Standard Base Unit



41.5 41.5

44.5 44.5 44.5 47.5 50.5

91710

# 8.4 CAD Drawing - 8' (2.4 M) Tangential Base Unit



ITEM CODE	BELT WIDTH (in)	A (in)	B (in)	C (in)	D (in)
91718	48	32	41.5	69.8	41.5
91719	54	36	45.5	75.8	41.5
91720	09	40	49.5	81.8	44.5
91721	99	44	53.5	87.8	44.5
91722	72	48	57.5	93.8	44.5
91723	84	56	65.5	105.8	47.5
91724	96	64	73.5	117.8	50.5



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#### **Replacement Parts**

REF	DESCRIPTION			WT.
	24" (600 mm) Cover	SKC-24	91751	41.8
	30" (750 mm) Cover	SKC-24	01752	/0.5
	26" (900 mm) Cover	SKC-30	01752	43.3
	42" (1050 mm) Cover	SKC-30	01754	57.5
	42 (1050 mm) Cover	SKC-42	01755	72.2
1	40 (1200 mm) Cover		91700	01.0
	54 (1550 mm) Cover	SKC-04	91730	01.0
	60 (1500 mm) Cover	SKC-60	91/5/	88.8
	66" (1650 mm) Cover	SKC-bb	91/58	96.5
	72" (1800 mm) Cover	SKC-72	91759	104.6
	84" (2100 mm) Cover	SKC-84	91760	120.0
	96" (2400 mm) Cover	SKC-96	91761	135.8
2	Standard AR400 Wear Plate*	SL-48	91841	45.4
2	Tangential AR400 Wear Plate*	TL-48	91842	45.6
	24" (600 mm) Leg Kit**	LA-24	91762	36.0
	30" (750 mm) Leg Kit**	LA-30	91763	37.4
	36" (900 mm) Leg Kit**	LA-36	91764	38.7
	42" (1050 mm) Leg Kit**	LA-42	91765	41.4
	48" (1200 mm) Leg Kit**	LA-48	91766	42.7
3	54" (1350 mm) Leg Kit**	LA-54	91835	44.0
	60" (1500 mm) Leg Kit**	LA-60	91836	46.7
	66" (1650 mm) Leg Kit**	LA-66	91837	48.0
	72" (1800 mm) Leg Kit**	LA-72	91838	49.4
	84" (2100 mm) Leg Kit**	LA-84	91839	53.4
	96" (2400 mm) Leg Kit**	LA-96	91840	57.4

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. LBS.
4	24" (600 mm) Dust Curtain Replacement Rubber	DCRR-24	92159	4.1
	30" (750 mm) Dust Curtain Replacement Rubber	DCRR-30	92160	4.8
	36" (900 mm) Dust Curtain Replacement Rubber	DCRR-36	92161	5.4
	42" (1050 mm) Dust Curtain Replacement Rubber	DCRR-42	92162	6.0
	48" (1200 mm) Dust Curtain Replacement Rubber	DCRR-48	92163	6.8
	54" (1350 mm) Dust Curtain Replacement Rubber	DCRR-54	92164	7.2
	60" (1500 mm) Dust Curtain Replacement Rubber	DCRR-60	92165	7.7
	66" (1650 mm) Dust Curtain Replacement Rubber	DCRR-66	92166	8.3
	72" (1800 mm) Dust Curtain Replacement Rubber	DCRR-72	92167	8.6
	84" (2100 mm) Dust Curtain Replacement Rubber	DCRR-84	92168	8.5
	96" (2400 mm) Dust Curtain Replacement Rubber	DCRR-96	92169	10.0
5	24" (600 mm) Rear Seal Replacement Rubber	RSRR-24	92170	3.6
	30" (750 mm) Rear Seal Replacement Rubber	RSRR-30	92171	4.2
	36" (900 mm) Rear Seal Replacement Rubber	RSRR-36	92172	5.0
	42" (1050 mm) Rear Seal Replacement Rubber	RSRR-42	92173	5.7
	48" (1200 mm) Rear Seal Replacement Rubber	RSRR-48	92174	6.5
	54" (1350 mm) Rear Seal Replacement Rubber	RSRR-54	92175	7.3
	60" (1500 mm) Rear Seal Replacement Rubber	RSRR-60	92176	8.1
	66" (1650 mm) Rear Seal Replacement Rubber	RSRR-66	92177	8.9
	72" (1800 mm) Rear Seal Replacement Rubber	RSRR-72	92178	9.8
	84" (2100 mm) Rear Seal Replacement Rubber	RSRR-84	92179	11.7
	96" (2400 mm) Rear Seal Replacement Rubber	RSRR-96	92180	13.8

Hardware Included

\*Item is single plate; two plates are required for every 4' (1200 mm) base unit and four plates are required for every 8' (2400 mm) base unit

\*\*Kit includes 2 vertical legs, 1 crossmember, joints/mounts, and hardware

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

#### **Rockline® EZP1 Precleaner**



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

#### Rockline® EZS2 Secondary Cleaner



- Long-wearing tungsten carbide blades for superior cleaning efficiency
- Patented PowerFlex<sup>™</sup> 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

#### **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

#### Flex-Lok<sup>™</sup> Skirt Clamps



- Eliminates transfer zone spillage
- Interlocking design for easy installation and one person maintenance
- Unique wedge pin holds rubber securely in place and is easy to adjust
- · Available in various models and in stainless steel

#### PT Max<sup>™</sup> Belt Trainer



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



- 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





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