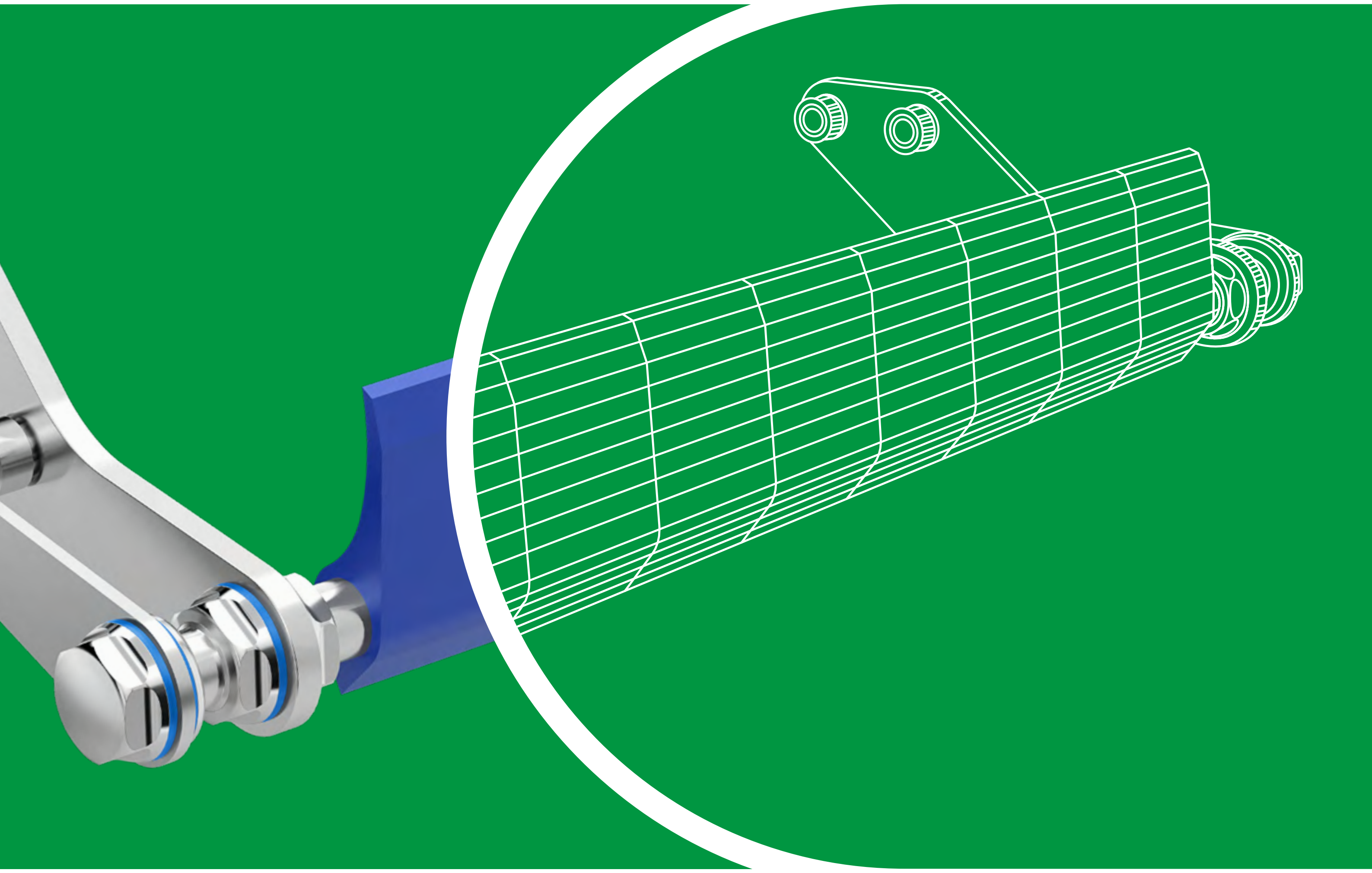
Habasit – Solutions in motion

Hygienic Scraper Unit Installation guide

Type SBPX



Hygienic Belt Scraper

Our hygienic scraper offers versatile configurations for seamless integration with any conveyor system:

Element Descriptions

Scraper Type:

- SBNX: Hygienic Scraper Blade
- SBIX: Hygienic Scraper Blade Inside Release Arm
- SBOX: Hygienic Scraper Blade Outside Release Arm
- SBCX: Hygienic Scraper Blade Counter Weight
- SBPX: Hygienic Scraper Blade Plunger
- SBAPX: Hygienic Scraper Blade Adjustable Plunger

Mounting & Adjustment:

- C: Concentric Mounting
- Empty: Eccentric Mounting Nut Used
- B: Non-Quick Release Brackets
- Q: Quick Release Brackets

Orientation:

- LH: Left-Hand Oriented
- RH: Right-Hand Oriented

Scraper Blade Width:
The distance from the centerline of the tube to the end of the blade, measured in millimeters.

Scraper Blade Size:
Blade size in millimeters.

Scraper Tube Length:
Total length of the scraper tube in millimeters.

Scraper Tube Size:
Dimensions of the scraper tube, e.g., Ø25.4 x 1.6.

Material:
Material composition, e.g., Blue PUR.

Excess Scraper Tube on LH Side:
Excess tube length on the left-hand side, denoted as L_"x" (where "x" is the length).

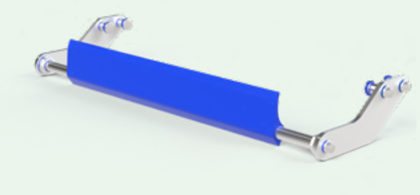
Notes:

- All widths and lengths are displayed in millimeters (mm).
- Scraper tubes must be manufactured with a length that ensures 1mm of play to fit properly.

Example:

- SBAPX-B-LH-650-80-823-Ø25.4x1.6-Blue PUR-L_100-R_100
- SBAPX: Hygienic Scraper Blade Adjustable Plunger
- B: Non-Quick Release Brackets
- LH: Left-Hand Oriented
- 650: Scraper Blade Width (mm)
- 80: Scraper Blade Size (mm)
- 823: Scraper Tube Length (mm)
- Ø25.4x1.6: Scraper Tube Size
- Blue PUR: Material
- L_100-R_100: Excess tube lengths on Left-Hand (100mm) and Right-Hand (100mm) sides

This naming convention ensures precision and ease of identification for various scraper configurations.



Configuration 1: Simple Manual Release with Adjustable Pressure - Model SBNX

Configuration 2: Angle-Adjustable Manual Release with Adjustable Pressure - Model SBIX

Configuration 3: Angle-Adjustable Manual Release with External Adjustable Pressure - Model SBOX

Hygienic Belt Scraper

Scraper Naming Scheme

The naming scheme for scrapers is designed to clearly and systematically identify key characteristics of each scraper. The full name of a scraper is composed of elements separated by a hyphen ("-"), with each element describing a specific attribute.

Example:
SBAPX-B-LH-650-80-823-Ø25.4x1.6-Blue PUR-L_100-R_100

- **SBAPX:** Hygienic Scraper Blade Adjustable Plunger
- **B:** Non-Quick Release Brackets
- **LH:** Left-Hand Oriented
- **650:** Scraper Blade Width (mm)
- **80:** Scraper Blade Size (mm)
- **823:** Scraper Tube Length (mm)
- **Ø25.4x1.6:** Scraper Tube Size
- **Blue PUR:** Material
- **L_100-R_100:** Excess tube lengths on Left-Hand (100mm) and Right-Hand (100mm) sides

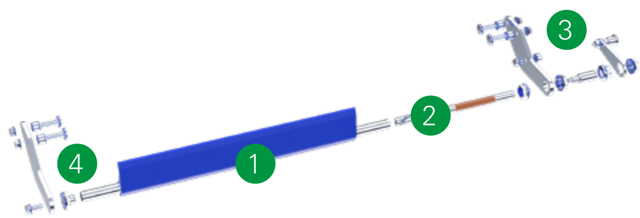
This naming convention ensures precision and ease of identification for various scraper configurations.

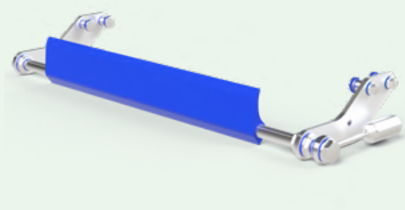
Naming Format:
[Scraper Type] - [Mounting & Adjustment] - [Orientation] - [Scraper Blade Width] - [Scraper Blade Size] - [Scraper Tube Length] - [Scraper Tube Size] - [Material] - [Excess Scraper Tube on LH Side].

Our SBPX hygienic scraper consists of:

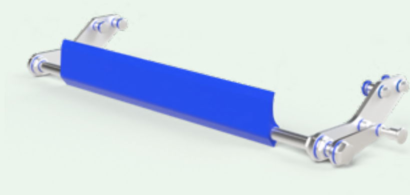
1. Scraper Blade
2. Torsion Spring with rectangular key.
3. Axle lock screw for adjustment of spring pressure
4. Escentric shaft mount with sliding sleeve

Each model comes with mounting fittings included, except for the release arm, which is sold separately as an additional accessory

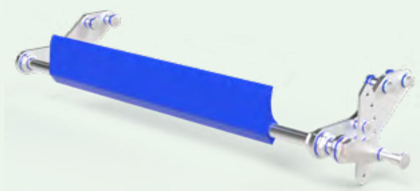




Configuration 4: Scraper with Angle- and Pressure-Adjustable Weight Arm (External) - Model SBCX

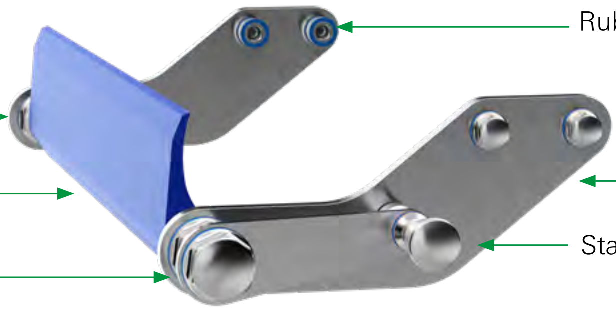


Configuration 5: Adjustable Pressure with Quick Pressure Release - Model SBPX



Configuration 6: Adjustable Pressure with Multiple Fixed Intervals and Pressure Release - Model SBAPX

Hygienic Belt Scraper



Cleaning

1. Rinse with water (maximum temperature ~40°C on proteins).
2. Distribute and cover all surfaces with foaming alkaline detergent for minimum 10 minutes. All standard products within the industry can be used. Follow supplier recommendations for temperature (maximum 100°C) and concentration depending on foaming detergent.
3. Rinse with hot water (maximum 100°C) with low-medium pressure (approximately 8-12 bar) until it is visibly clean.
4. Be careful not to damage the sealings if high pressure cleaning is used. Keep nozzle at minimum 200-300 mm distance.
5. Mechanical cleaning may be necessary if the scraper is severely soiled. Cleaning must be executed with a soft brush or soft plastic scraper together with a more direct pointing nozzle spray. Steel scraper, steel brush or other sharp metallic tools are strictly prohibited, since the sealings can be severely damaged and the steel surfaces will be scratched.

Maintenance

If any part of the Hygienic Belt scraper is damaged, it must be replaced. Always use genuine spare parts from Habasit.

Safety

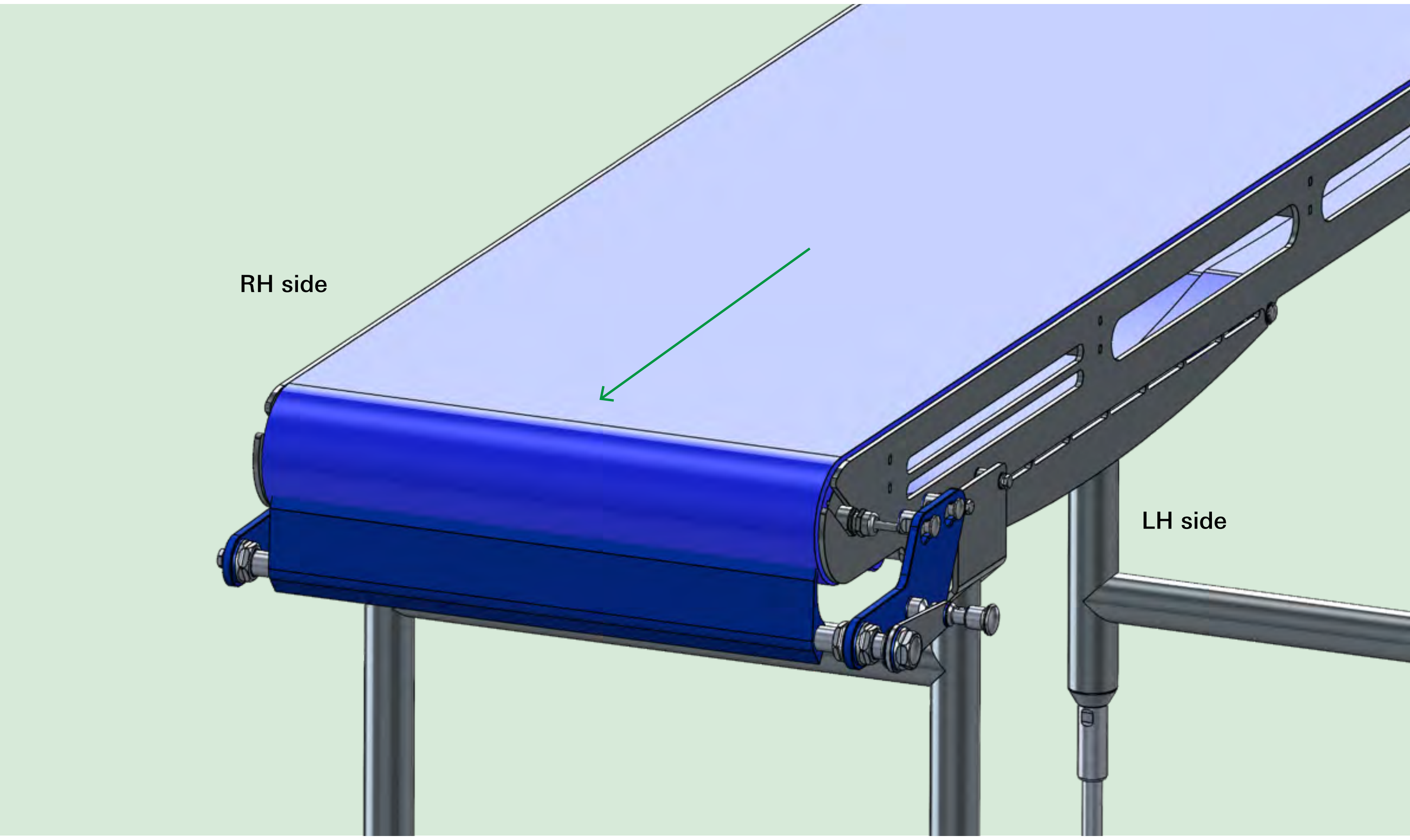
- Ensure all components are securely installed and properly aligned during assembly and adjustment.
- The scraper is under tension from a torsion spring - handle with care.
- Never place hands between the scraper blade and belt when the plunger is locked and the spring is loaded.
- Always turn off the conveyor before cleaning.

SBPX Installation guide

General Notes

1. Orientation (important):
This manual assumes the perspective of the installer while standing behind the conveyor, facing the direction of material flow:

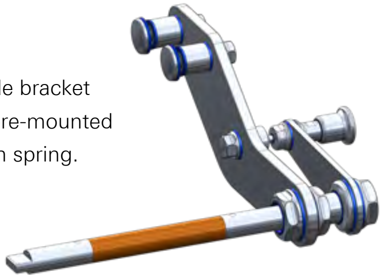
- **Left-Hand (LH):** Refers to components on the left side from this perspective.
- **Right-Hand (RH):** Refers to components on the right side from this perspective. For RH-oriented scrapers, follow the same steps but reverse all left and right references accordingly.



Package contents

SBPX-B
See page 8

LH side bracket with pre-mounted torsion spring.



RH side bracket with eccentric mounting nut (for alignment of the scraper blade).

Scraper blade.

Mounting tool for the quill assembly and required hex key.

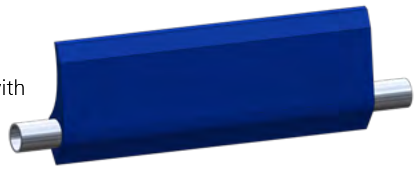
The Quill is pre-mounted in the scraper upon delivery, the tool is only needed for reassembly, should there be a need for disassembly.

SBPX-Q
See page 12

LH side quick-release bracket with torsion spring.

RH side quick-release bracket with eccentric mounting nut.

Scraper blade.



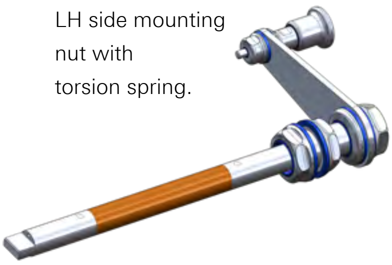
Mounting tool for the quill assembly and required hex key.

The Quill is pre-mounted in the scraper upon delivery, the tool is only needed for reassembly, should there be a need for disassembly.

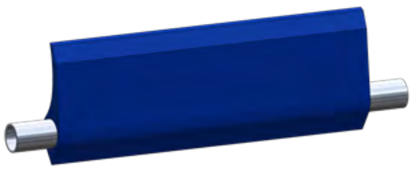
SBPX-C
See page 16

RH side eccentric or concentric mounting nut (with pre-mounted BXH M12 bolt).

LH side mounting nut with torsion spring.



Scraper blade.



Pin lock for index plunger pin.

Mounting tool for the quill assembly and required hex key.

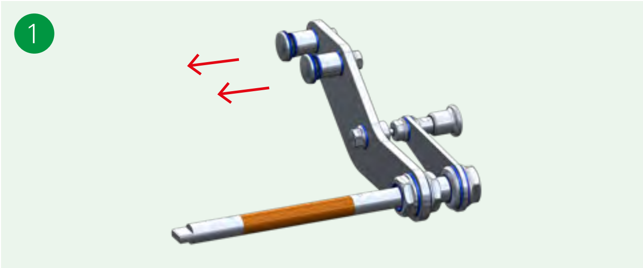
The Quill is pre-mounted in the scraper upon delivery, the tool is only needed for reassembly, should there be a need for disassembly.

Instructions for SBPX-B Models

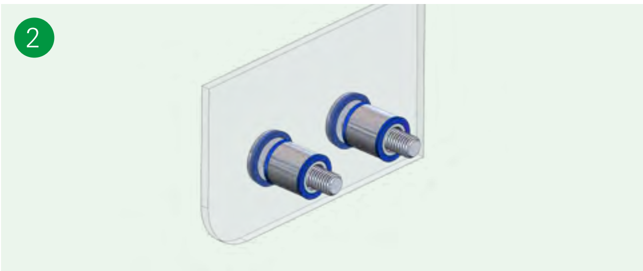
It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

LH Side Bracket Installation

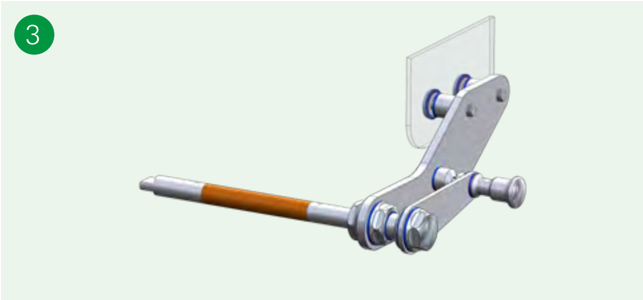
1. Disassemble carriage bolts, spacers, and nuts from the LH-side bracket.



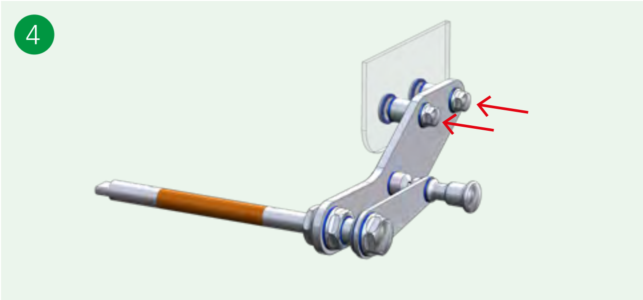
2. Insert carriage bolts through pre-drilled holes on the inner side of the conveyor wall.
   Place spacers over the bolts on the outside.



3. Slide the LH bracket onto the bolts.

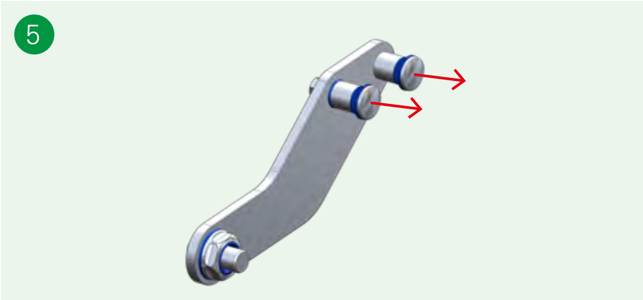


4. Secure using NLXH hygienic nuts.



RH Side Bracket Installation

5. Disassemble carriage bolts, spacers, and nuts from the RH-side bracket.

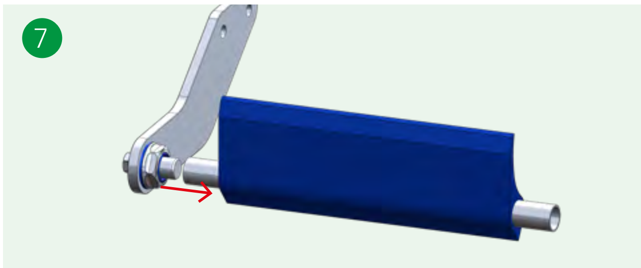


Instructions for SBPX-B Models

It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

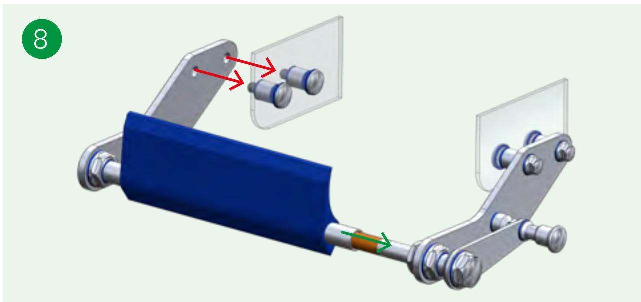
6. Insert carriage bolts through pre-drilled holes on the inner side of the conveyor wall. Place spacers over the bolts on the outside.

7. Slide the scraper blade into the mounting nut on the RH bracket.

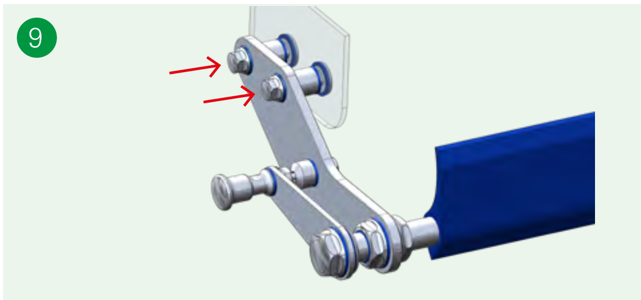


8. Align the torsion spring with the scraper tube. Ensure the Ø12 holes on the RH side bracket align with the exposed thread. Slide the scraper over the torsion spring, rotating it until the internal tap engages and drops fully into the quill inside the scraper blade.

Caution: Avoid damaging the scraper sealing during insertion.

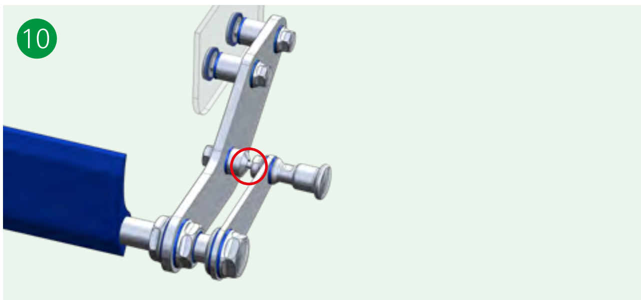


9. Secure the RH bracket using NLXH hygienic nuts.



Adjusting Preload

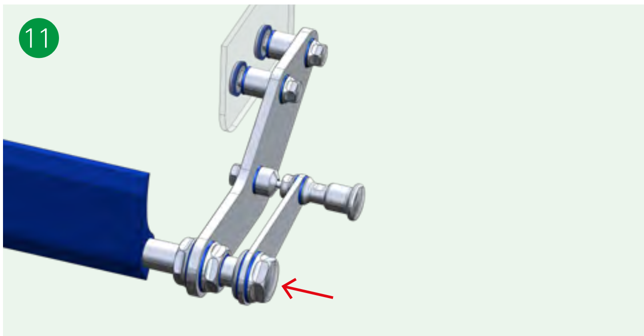
10. To set the desired blade pressure exerted on the belt surface, start locking the indexed plunger pin into the IPX lock nut.



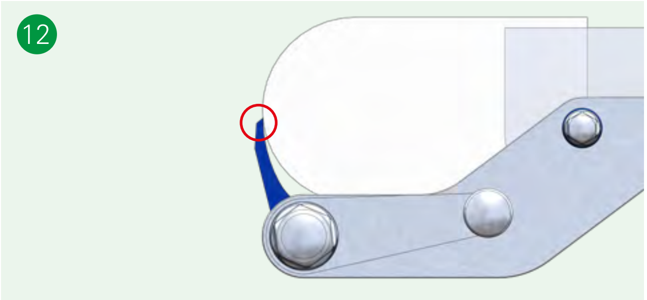
Instructions for SBPX-B Models

It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

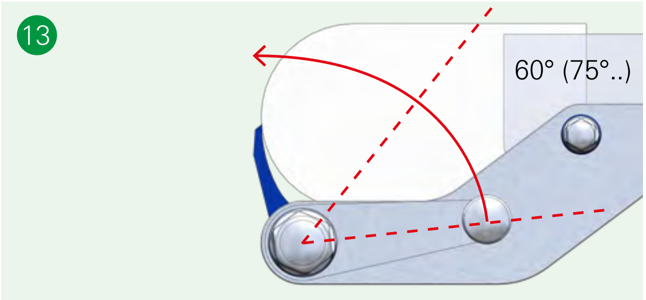
11. Loosen the preload adjustment nut securing the index plunger lever: this allows the index plunger lever to rotate freely with reference to the blade (allowing to change the angle between the lever and the blade).



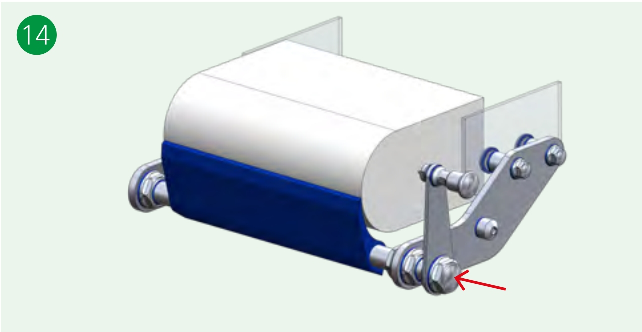
12. Manually rotate the scraper blade until the edge is in contact with the conveyor belt.



13. Unlock the release arm from the plunger and rotate it counterclockwise until the desired position is set. The more you rotate the lever the higher the pressure on the belt surface will be. Excessive blade pressure on the belt must be avoided as it can result in damages to the blade and the belt, without any benefit for the scraping action. The optimal blade pressure is the minimum pressure that allows the desired scraping action, visually assessed. This optimal pressure varies greatly upon the type of belt, the conveyor speed, and the conveyed food product. In order to avoid excessive pressure, rotate the lever for 45°, lock it as described in points 14 and 15, then test the scraping function. If the result is not satisfying, repeat actions 13, 14, 15 increasing the rotation adding 15° each time (60°, 75°, 90°, …), until the pressure is optimal.



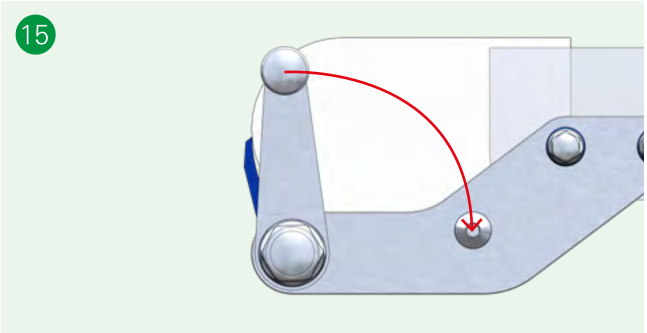
14. Tighten back the preload adjustment nut to lock the position of the lever relative to the blade: hold the release arm in place while using the ratchet to tighten the nut.



Instructions for SBPX-B Models

It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

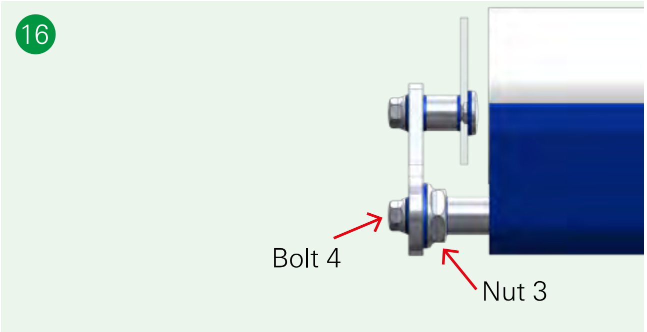
15. Rotate the lever clockwise: this applies the pressure. Engage the plunger to keep the position.



Blade-to-Belt Alignment

16. To compensate for any small misalignments between the scraper blade and the belt surface, due to small inaccuracies in the conveyor construction, to ensure uniform pressure along the belt.

- Loosen Bolt 4 to release the eccentric nut.
- Rotate nut 3 to change the angle of the scraper blade so that it adheres to the belt surface along its entire length, thus ensuring uniform pressure along the belt.
- Tighten Bolt 4 to secure the eccentric nut in the desired position.

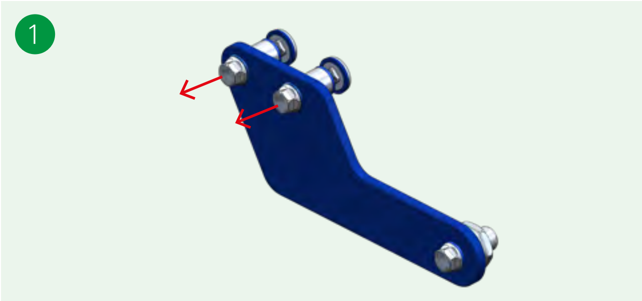


Instructions for SBPX-Q Models

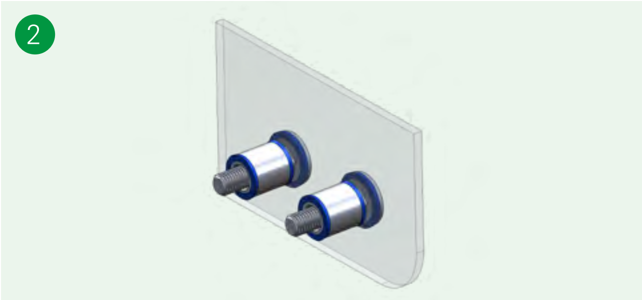
It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

RH Side Bracket Installation

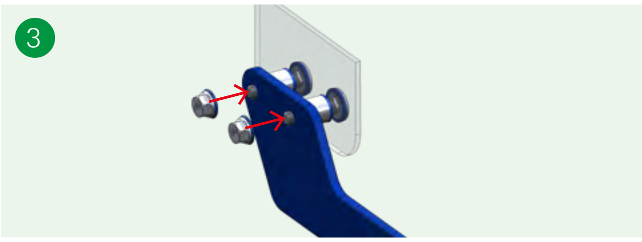
1. Disassemble RH-side bracket.



2. Insert carriage bolts into the RH conveyor wall from the inside. Place spacers over the exposed thread on the outside.

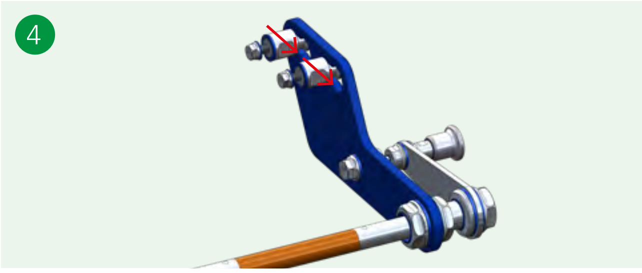


3. Slide the bracket back onto the exposed threads and fasten it with the NLXH hygienic nuts.

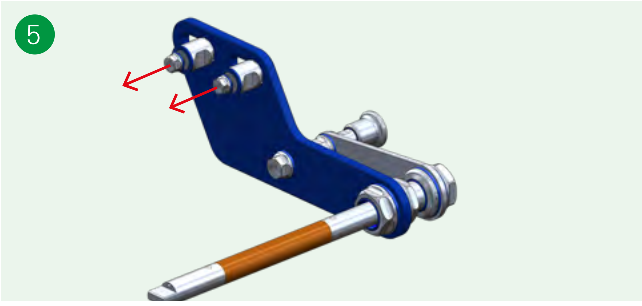


LH Side Quick-Release Installation

4. Slide the release knobs on the LH side bracket towards the torsion spring.



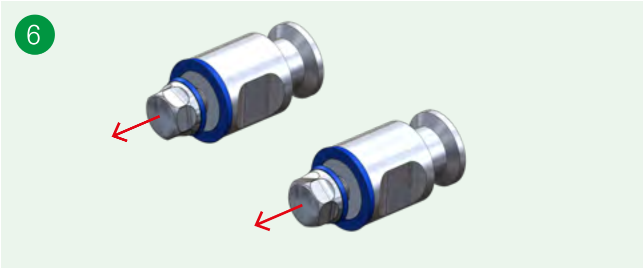
5. Pull the release knobs out of the LH side bracket.



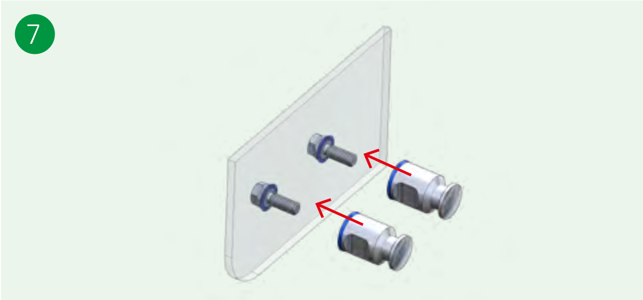
Instructions for SBPX-Q Models

It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

6. Unscrew the BXH bolts from the release knobs.



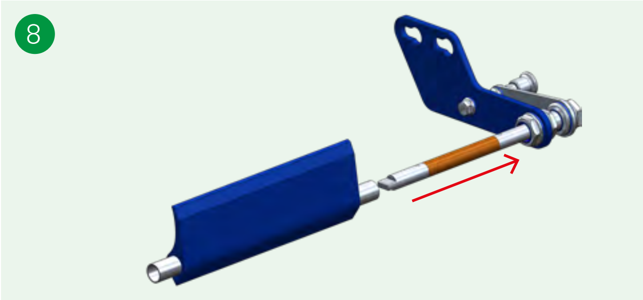
7. Slot the BXH hygienic bolts into the LH side conveyor wall and fasten the release knobs onto the conveyor wall.



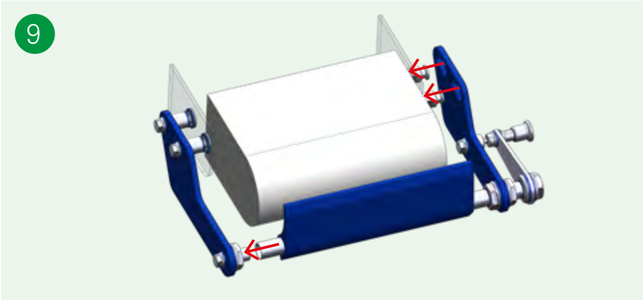
Scraper Blade Installation

8. Slide scraper blade over torsion spring ensuring:

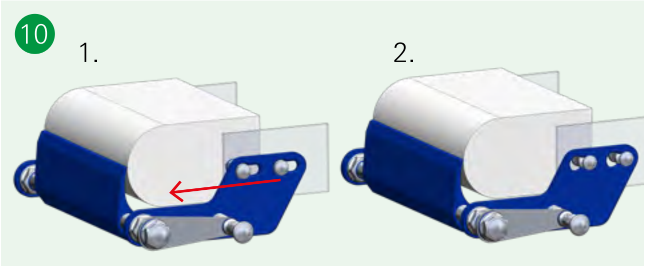
- Rectangular key aligns with quill groove.
- Rotation builds tension.



9. Insert the opposite end into RH shaft mount. Align keyhole slots with release knobs and slide into position.



10. Pull the quick-release bracket towards the blade to lock.

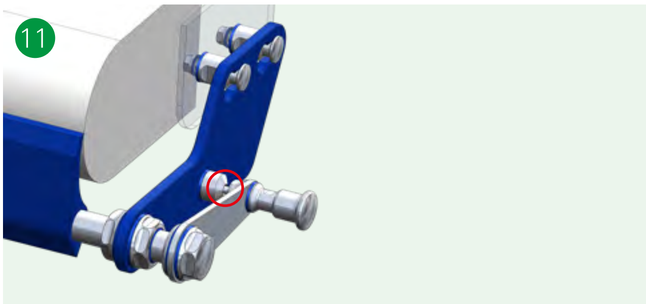


Instructions for SBPX-Q Models

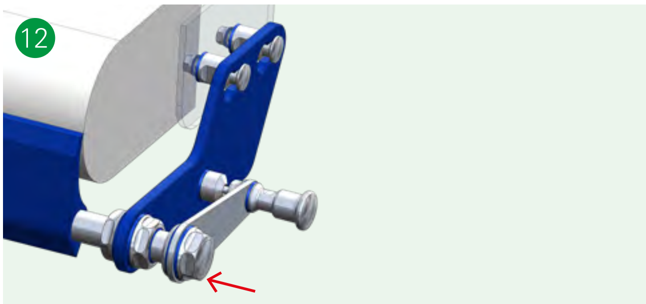
It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

Adjusting Preload

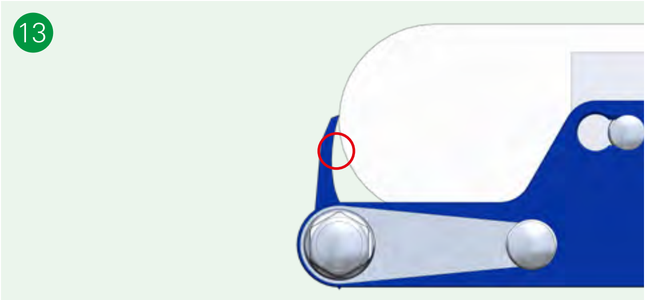
11. To set the desired blade pressure exerted on the belt surface, start locking the indexed plunger pin into the IPX lock nut.



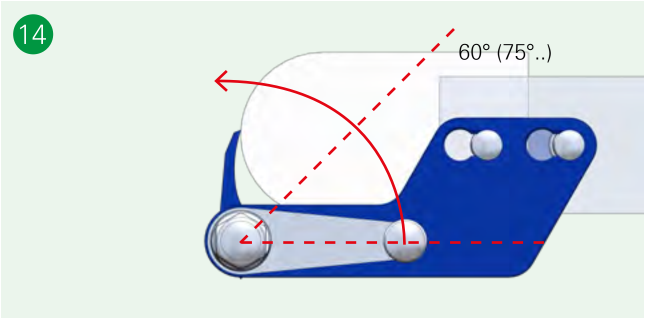
12. Loosen the preload adjustment nut securing the index plunger lever: this allows the index plunger lever to rotate freely with reference to the blade (allowing to change the angle between the lever
and the blade).



13. Manually rotate the scraper blade until the edge is in contact with the conveyor belt.



14. Unlock the release arm from the plunger and rotate it counterclockwise until the desired position is set. The more you rotate the lever the higher the pressure on the belt surface will be. Excessive blade pressure on the belt must be avoided as it can result in damages to the blade and the belt, without any benefit for the scraping action. The optimal blade pressure is the minimum pressure that allows the desired scraping action, visually assessed. This optimal pressure varies greatly upon the type of belt, the conveyor speed, and the conveyed food product.

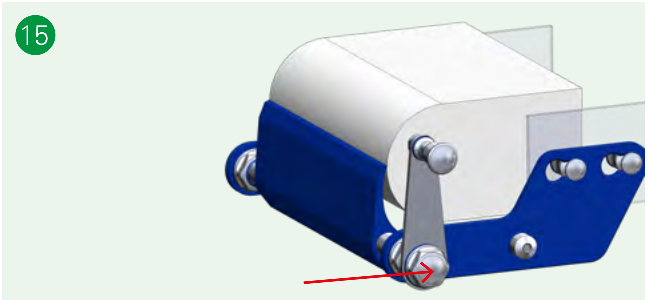


Instructions for SBPX-Q Models

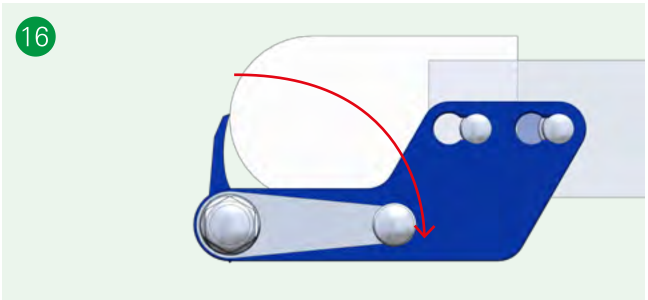
It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

In order to avoid excessive pressure, rotate the lever for 45°, lock it as described in points 15 and 16, then test the scraping function. If the result is not satisfying, repeat actions 14, 15, 16 increasing the rotation adding 15° each time (60°, 75°, 90°, …), until the pressure is optimal.

15. Tighten back the preload adjustment nut to lock the position of the lever relative to the blade: hold the release arm in place while using the ratchet to tighten the nut.



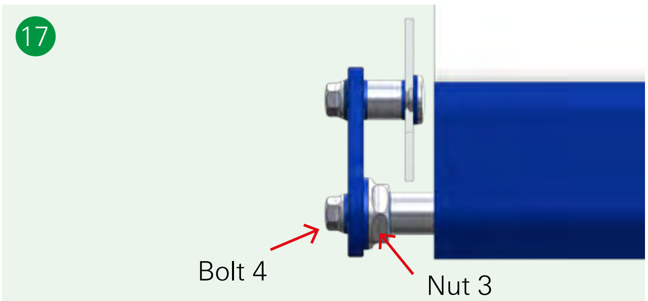
16. Rotate the lever clockwise: this applies the pressure. Engage the plunger to keep the position.



Blade-to-Belt Alignment

17. To compensate for any small misalignments between the scraper blade and the belt surface, due to small inaccuracies in the conveyor construction, to ensure uniform pressure along the belt.

- Loosen Bolt 4 to release the eccentric nut.
- Rotate nut 3 to change the angle of the scraper blade so that it adheres to the belt surface along its entire length, thus ensuring uniform pressure along the belt.
- Tighten Bolt 4 to secure the eccentric nut in the desired position.

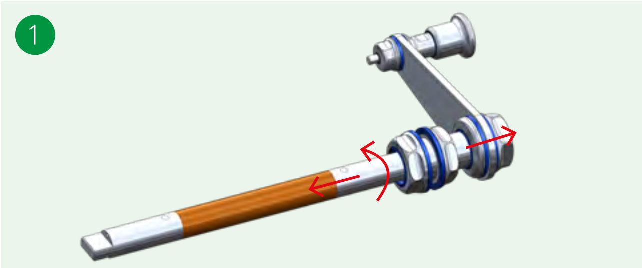


Instructions for SBPX-C Models

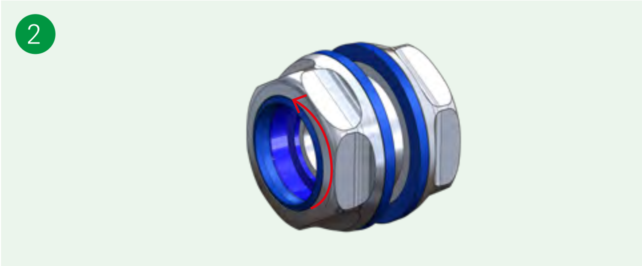
It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

Installing LH-side shaft mount

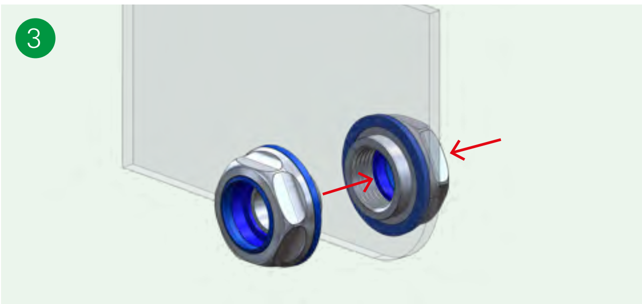
1. Disassemble the torsion spring and axle extension from the shaft mount.



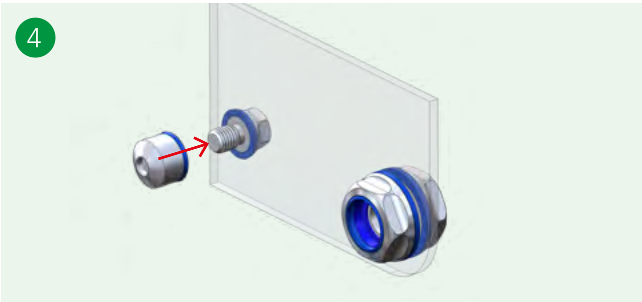
2. Disassemble the shaft mount.



3. Assemble the shaft mount on the LH side conveyor wall with the male threaded part on the inside.

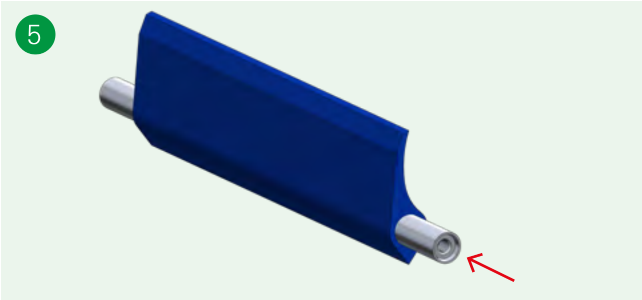


4. Assemble the index plunger pin lock on the LH side conveyor wall.



Preparation for the scraper blade

5. Insert the torsion spring in the scraper blade and rotate until it drops into place.
   The torsion spring is in place when the torsion spring does not stick out of the tube.

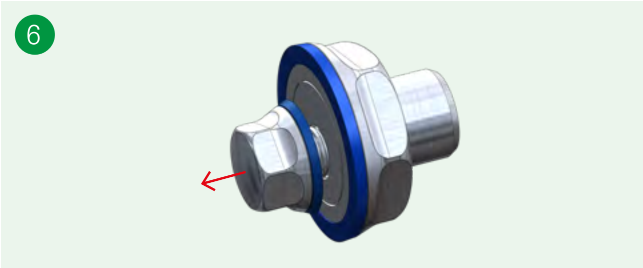


Instructions for SBPX-C Models

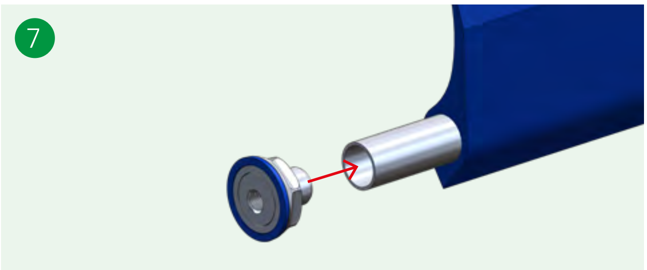
It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

Installing RH side shaft mount

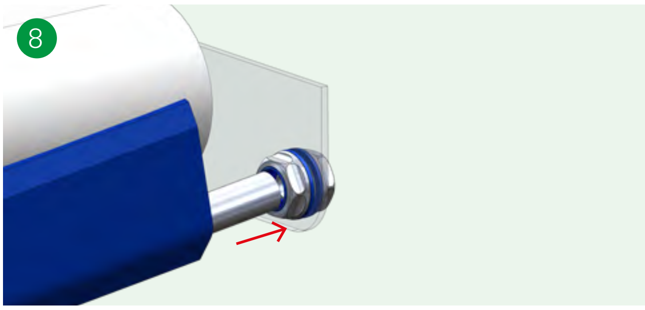
6. Remove the BXH M12 Hygienic bolt from the RH side shaft mount.



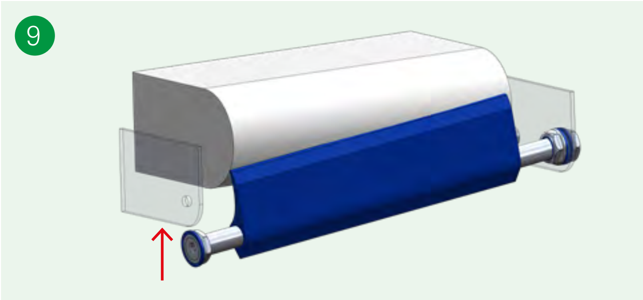
7. Insert RH side shaft mount in the scraper blade tube.



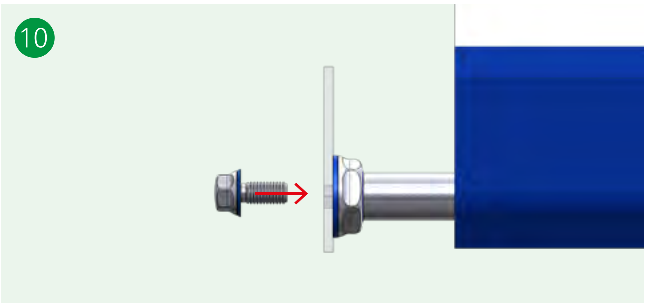
8. nsert the LH side of the scraper tube in the LH side shaft mount with a slight angle.



9. Lift the RH side shaft mount into position.



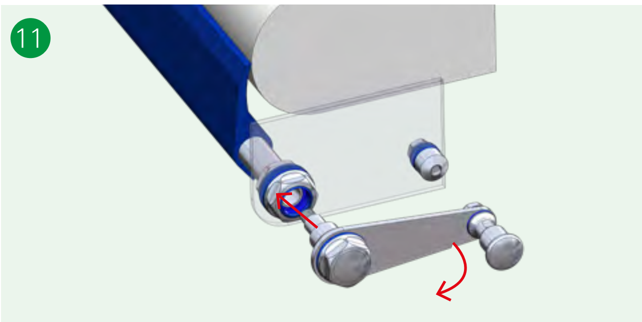
10. Bolt the RH side shaft mount to the conveyor wall with the BXH hygienic bolt.



Instructions for SBPX-C Models

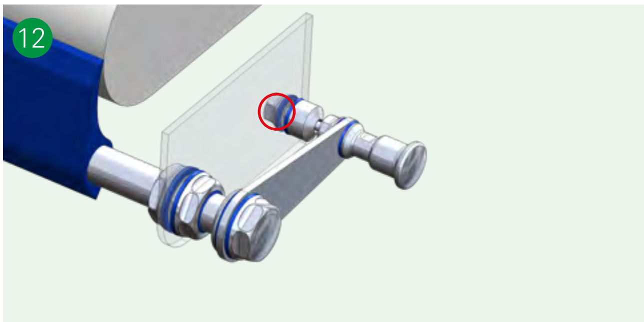
It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

11. Insert the shaft extension in the LH side shaft mount and thread it into the torsion spring.
    Note: The index plunger pin will drop in the pin lock each turn.

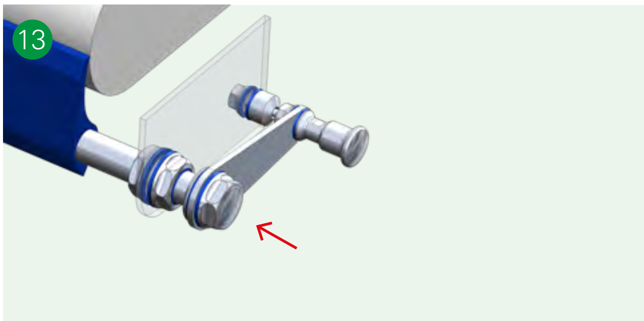


Adjusting Preload

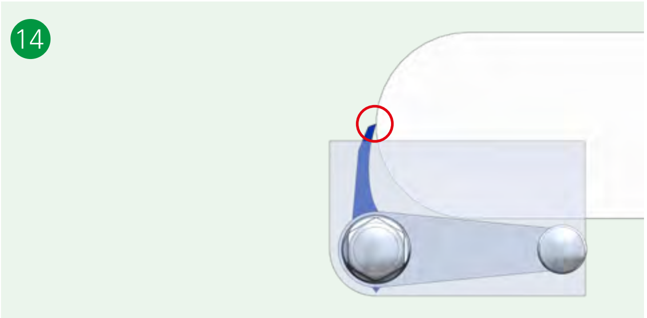
12. To set the desired blade pressure exerted on the belt surface, start locking the indexed plunger pin into the IPX lock nut.



13. Loosen the preload adjustment nut securing the index plunger lever: this allows the index plunger lever to rotate freely with reference to the blade (allowing to change the angle between the lever and the blade).



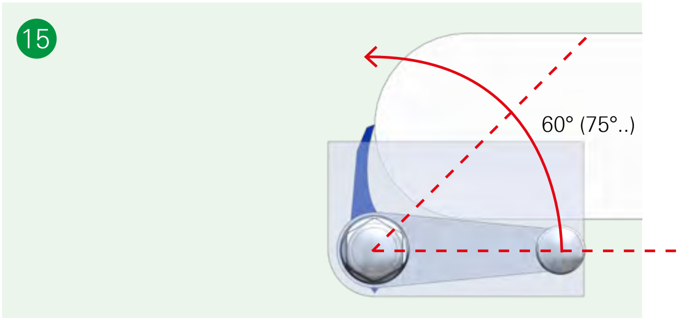
14. Manually rotate the scraper blade until the edge is in contact with the conveyor belt.



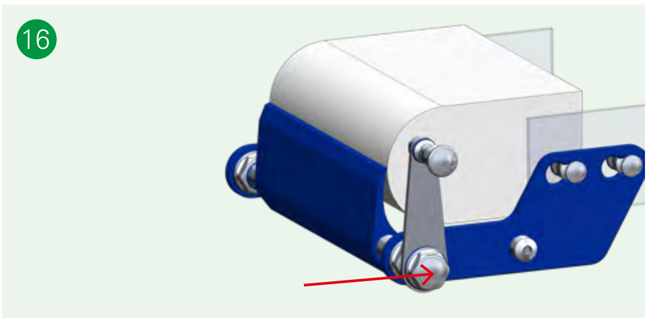
Instructions for SBPX-C Models

It is important to follow these instructions in order to ensure the hygienic design and functionality.
This documentation is enclosed with the Hygienic Scraper and should always be handed over to the end-user.

15. Unlock the release arm from the plunger and rotate it counterclockwise until the desired position is set. The more you rotate the lever the higher the pressure on the belt surface will be. Excessive blade pressure on the belt must be avoided as it can result in damages to the blade and the belt, without any benefit for the scraping action. The optimal blade pressure is the minimum pressure that allows the desired scraping action, visually assessed. This optimal pressure varies greatly upon the type of belt, the conveyor speed, and the conveyed food product.
In order to avoid excessive pressure, rotate the lever for 45°, lock it as described in points 16 and 17, then test the scraping function.
If the result is not satisfying, repeat actions 15, 16, 17 increasing the rotation adding 15° each time (60°, 75°, 90°, …), until the pressure is optimal.

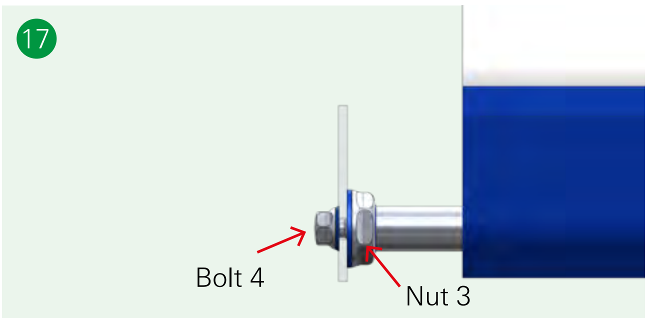


16. Tighten back the preload adjustment nut to lock the position of the lever relative to the blade: hold the release arm in place while using the ratchet to tighten the nut.



Blade-to-Belt Alignment
17. To compensate for any small misalignments between the scraper blade and the belt surface, due to small inaccuracies in the conveyor construction, to ensure uniform pressure along the belt.

- Loosen Bolt 4 to release the eccentric nut.
- Rotate nut 3 to change the angle of the scraper blade so that it adheres to the belt surface along its entire length, thus ensuring uniform pressure along the belt.
- Tighten Bolt 4 to secure the eccentric nut in the desired position.



Adjusting Torsion Spring Engagement

Required Tools: DEDICATED 6,0 x 350mm hex key / Depth tool (LH thread)
The dedicated tool for adjusting the torsion spring engagement must be ordered together with the scraper. The tool is supplied together with the scraper at special conditions depending on the supply. Please contact your sales representative for any orders of additional tools.
Note: The depth tool has a left-handed thread (details explained below).

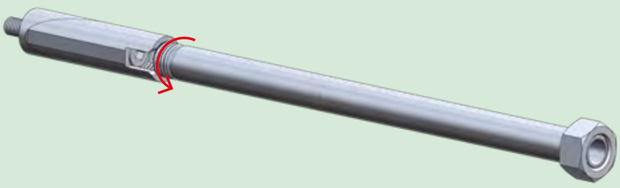
Steps for Adjustment

1. Removing the Quill

- Detach depth tool from assembly.
- Insert the hex key into the scraper tube, specifically on the side where the spring was previously installed.
- Loosen the bolt securing the quill in place (right-handed thread) using the hex key.
- Once loosened, allow the quill to slide out of the scraper tube.

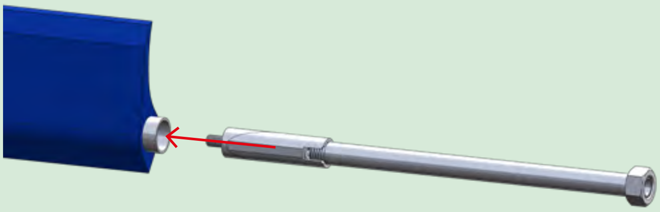
2. Attaching the Depth Tool to the Quill

- Securely mount the depth tool to the quill as shown in the image below.



3. Inserting and Adjusting the Quill

- Insert the quill (with the attached depth tool) into the scraper tube from the desired side, depending on the adjustment location.
- Use the hex key to tighten the bolt inside the quill through the depth tool's tube.



4. Removing the Depth Tool

- Once the adjustment is complete, carefully remove the depth tool from the quill.
- Important: The depth tool uses a left-handed thread, so turn it clockwise to loosen.


NGI

Habasit International AG
Römerstrasse 1
CH-4153 Reinach, Switzerland
+41 61 715 15 15
+41 61 715 15 55
habasit.com

Need local support?
Scan now

4262INS.ACC-en0725HQR