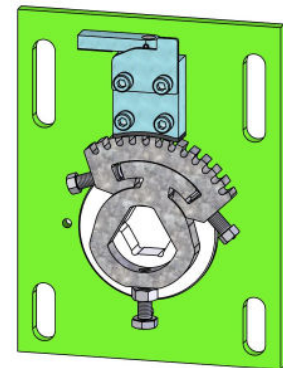
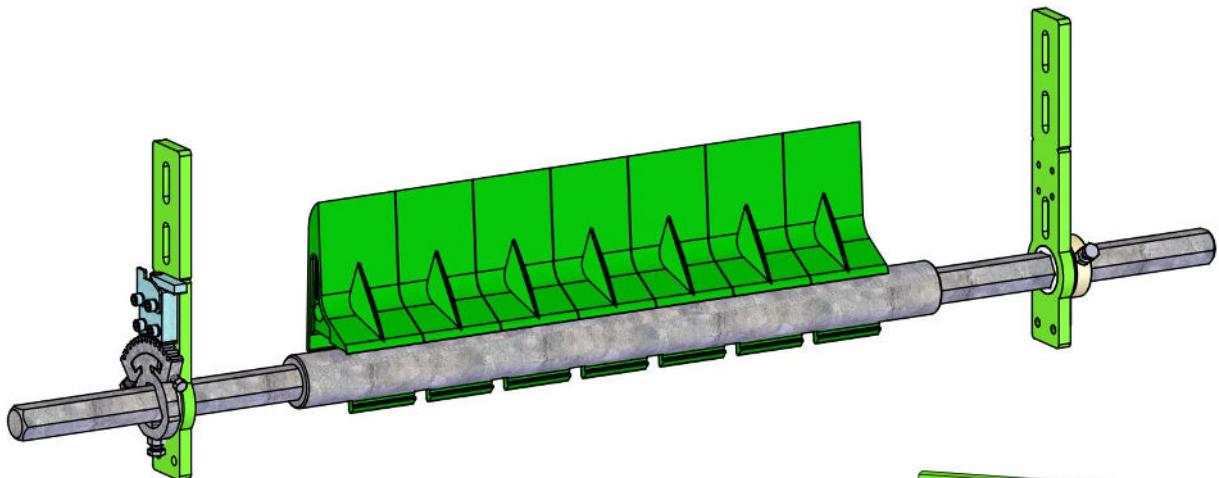


Installation and Operating Instructions

STARCLEAN® conveyor belt scraper Types 830, 832 and 834

**with snap-action tensioning device
for cleaning conveyor belts at the pulley and below the belt**



Alternative mountingplate
SPV-840

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1 Important safety information and instructions

1.1 Manufacturer, Copyright

Manufacturer:

Schulte Strathaus GmbH & Co. KG
Runtestraße 42
D-59457 Werl

Tel.: 0049 (0) 2922 9775 0
E-Mail: info@schulte-strathaus.de

Copyright:

Reprinting, reproduction and distribution of this installation and operating manual to third parties, including storage and use on optical and electronic storage media, except for internal use for training and operation, are prohibited without written consent of the manufacturer

1.2 Scope of installation and operating manual

This installation and operating manual (item No.: 92-MA-830-...) applies to all **conveyor belt scraper systems** in lines 830, 832 and 834, regardless of which of the line's components described below are being used (scraper blade types and number, blade-base types and lengths, or installation equipment).

Keep this installation and operating manual together with the machine documentation for future reference, and make them accessible to the installation and operating personnel!

1.3 Key: (Meanings of symbols)



Warns of a hazard point / Pay special attention or read.



Do not switch on / Make sure that the band system is not turned on during installation



Warning: potentially explosive atmosphere

1.4 General safety instructions

- This operating manual is intended for technical personnel trained by the manufacturer because – due to their training, experience, instruction and knowledge of the relevant standard, guidelines, accident prevention regulations and operating conditions – these people are able to perform the required activities while at the same time recognising potential hazards and preventing them.
- To maintain the warranty, installation and start-up should be carried out by the manufacturer's technical personnel.
- The instructions in the operating manual must be followed without exception. The manufacturer shall bear no liability for damages to persons or machines due to non-compliance.



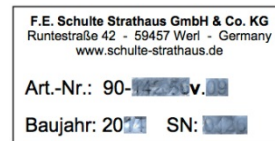
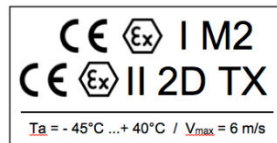
- Because the conveyor belt scrapers are generally installed into conveyor belt systems, the manufacturers of these systems or the operator who has installed the scrapers must comply with the provisions of the applicable machine guidelines.
- Schulte Strathaus conveyor belt scrapers must be used only in keeping with intended use for cleaning conveyor belts at the positions provided for this.
- In order to ensure the guaranteed functions, only replacement parts from the manufacturer are to be used.
- During all work, the applicable local regulations and legislation must be observed.
- There is no claim that these safety instructions are complete. If there are questions or problems, please contact the manufacturer.
- STARCLEAN^l conveyor belt scraper type 830 / 832 and 834 reflects the state of the art at the time of delivery.
- It must be installed and operated only in perfect condition, and installation by the operator of the system must be configured safely according to the relevant accident prevention regulations.
- Retrofitting, modification and conversion are completely prohibited because these may affect worker safety.

1.5 Instructions for use / for use in potentially explosive environments



- The conditions under which the conveyor-belt cleaner is to work (e.g. underground, potential explosive areas, etc.) shall be clarified with the operator.
- STARCLEAN® conveyor-belt cleaner systems for use in potentially explosive areas are equipped with special scraper blades and scraper bars. These always have the color black and are labeled as „v“. They are made from approved for underground coal mines plastics and have a maximum surface resistance of 108 Ω.**

Suitable for installation in potentially explosive areas Starclean® conveyor-belt cleaner systems are marked with the following specification plates.



Further Requirements:



- The conveyor-belt cleaning systems of **group I category M2** may only be used with the **above-mentioned specific scraper blades and scraper-bars (Labeled „v“)** at belt conveyors that can be deactivated in the presence of an explosive atmosphere.

The relative speed of the conveyor belt may not exceed 19,6 fps (6 m/s).
 A surface temperature of 302°F (150°C) must not be exceeded.
 The operating temperature of the conveyor belt cleaners is between – 49°F (-45°C) and + 104°F (40°C)
 Label = CE Ex I M2



- The conveyor-belt cleaner systems of **group II category 2 D** may only be used with the **above-mentioned specific scraper blades and scraper bars (labeled „v“)** at belt conveyors.

The relative speed of the conveyor belt may not exceed 19,6 fps (6 m/s).
 A surface temperature of 302°F (150°C) must not be exceeded.
 The operating temperature of the conveyor belt cleaners is between – 49°F (-45°C) and + 104°F (40°C)
 Label = CE Ex II 2D TX

- All conductive parts of the conveyor-belt cleaner system must be grounded with an earth bleeder resistance of less than 106 Ω.**
Use the supplied grounding kit (Part.-No. 95-SKE-001)
- It is only allowed to put the machine into operating, when the operator ascertained, that the machine, where the STARCLEAN® belt-conveyor cleaner was install, achieves the basic requirements as the guideline.
- Use original spare parts only!

1.6 Special safety instructions



- Before any work begins on STARCLEAN[®] conveyor belt scrapers, the belt conveyor's voltage supply must be switched off **and** secured against unauthorised activation.
- Before welding and cutting work begins, approval for this work must be obtained from the operator of the belt system!



- When the STARCLEAN[®] conveyor belt scraper is installed before use of a welding torch and/or other welding equipment, inspection must be made to ensure compliance with legal regulations (explosion protection, firedamp protection, etc.).



- During welding and cutting work, heat-sensitive components, such as the conveyor belt, must be covered. If necessary, a fire watch is required.

2 Description of the STARCLEAN® conveyor belt scraper

2.1 Purpose and tasks (intended use)

The STARCLEAN® - conveyor belt scraper type 830/832/834 is intended primarily for use in scraping material residue from the conveyor belt directly at the discharge pulley as a primary scraper. For this, scraper blades / scraper blades are pressed by a snap-action tensioning device to the surface of the conveyor belt to carefully scrape off material remaining or adhering to the belt.

Depending on the width of the belt and the consistency of the conveyed material, various combinations of scraper blades and blade-bases may be necessary to achieve optimal scraping results.

When used with the segments of type 50,53,53S, 56,56,56K, 256 and 256K
a reversing operation is not possible without an optionally available pivoting device or without manually swivelling the segments!

When used with the polyurethane segments of types 18,81,82 and 281,282 and 283 as well as the carbide-tipped segments 85,85L, 285 and 285L
Reverse operation is possible!

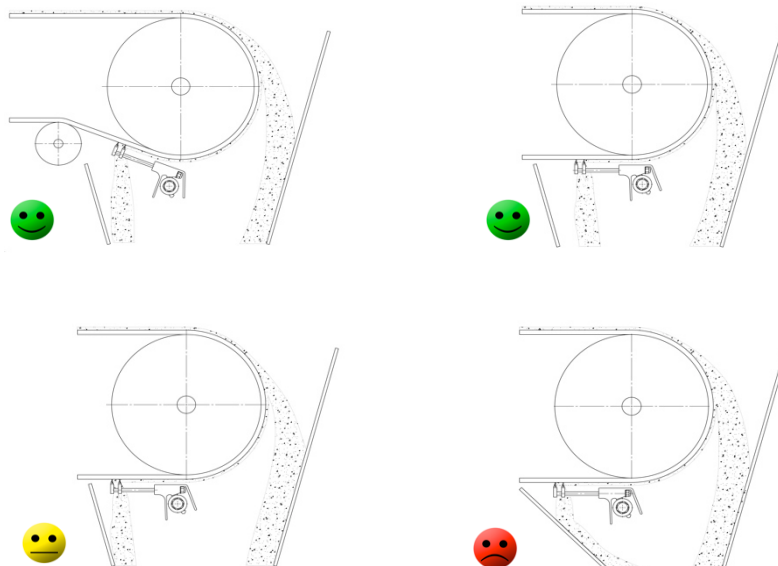
In certain cases, this Scraper may also be used together with secondary blades "below the belt". This is particularly recommended for materials that tend to stick to the belt. requiring regular hinging out and cleaning of the conveyor-belt Scraper.

By loosening the locking mechanism on the snap-action tensioning device, the scraper can easily be relaxed and the scraper blades hinged away.

2.1.1 Information on selecting and positioning the scraper on the conveyor

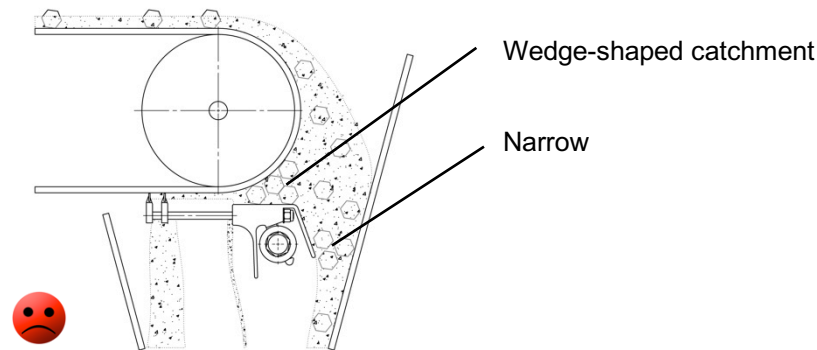
When selecting the scraper blades and its installation point on the conveyor system, the following points must be considered because they have significant effects on the scraper's functionality, the scraping results and the system's functional safety.

- Conveyed material (coarse, fine, dry, wet, abrasive)
- Belt speed
- Belt tension
- Condition of belt, belt joints
- Pulley diameter
- Chute geometry (Width, incline of outlet slide)



2.1.1.1 Conveyed material

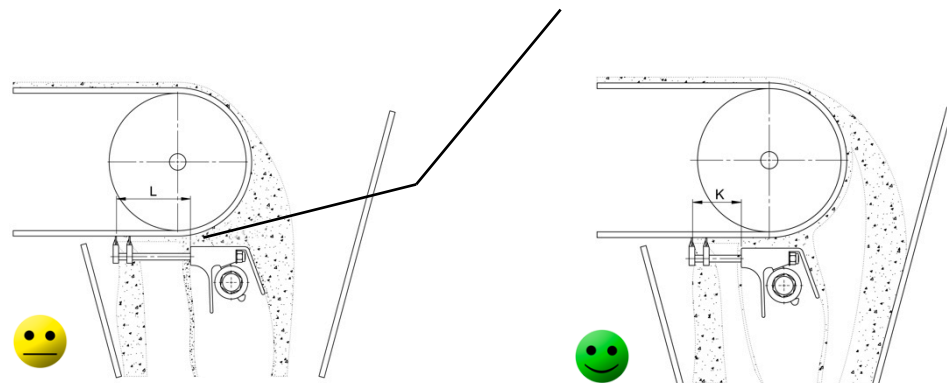
With **coarse material**, the **secondary scraper's** segment foot must be placed far enough below the discharge pulley that no **wedge-shaped catchment area** is formed in which pieces of the conveyed material stick and damage the belt.



With fine material and/or small chutes, a short blade (K) must be used. It can be installed behind the 6 o'clock position in the track direction. In so doing, make sure that, when tensed, the blade moves 1 to 2 cm in the direction of the blade-base.

Scraped off, strongly adhering material should fall as freely as possible.

In any case, the material must be finer than the gap between the segment foot and the belt.



Primary scrapers should always be mounted in the "shadow" of the discharge pulley. Depending on the blade type and blade-base type, the distance between blade-base axis and conveyor-belt must be maintained as exactly as possible (s. Table 2).

2.1.1.2 Condition of the belt / Condition of belt joints

If the belt and its joints are in bad condition, usable segment types and the degree of pre-tension must be selected carefully. With older systems, it is best to get the scraper manufacturer's advice.

2.1.1.3 Belt tension

When installing the secondary scraper on the track, the pre-tension of the scraper blade is achieved through the spring effect of the foot and the counterforce of the conveyor belt. If the scraper blade's pre-tension deflects the belt by more than 2 cm, the belt tension must be increased, and or a counter-pressure roller installed.

2.1.2 Information on selecting and positioning the scraper on the conveyor

We recommend a clearance (L1) of > 80 mm between primary and secondary scraper
The clearance (L2) between scraper blade of the secondary scraper and the rear panel of the chute should be > 80mm.

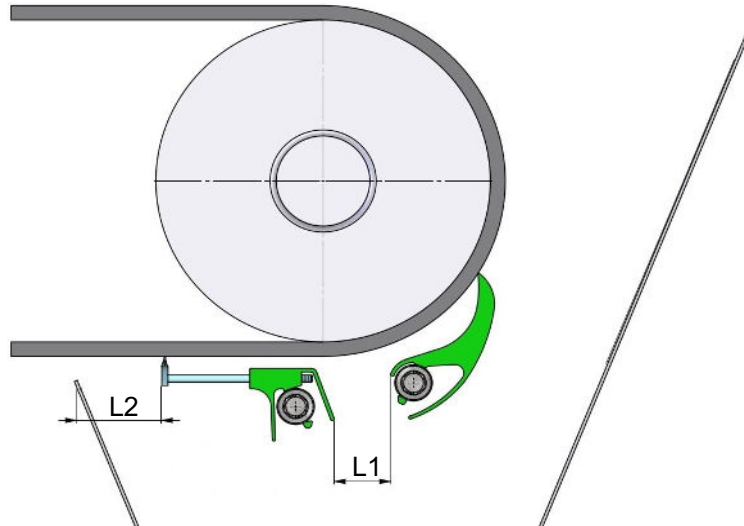


Figure 1

2.1.3 Installation options of the Tensioning device

The mounting plate with snap action tensioning device as well as the mounting plate with pivot bearing could be installed in different ways on the belt conveyor. Here is an overview of the most common installation options.

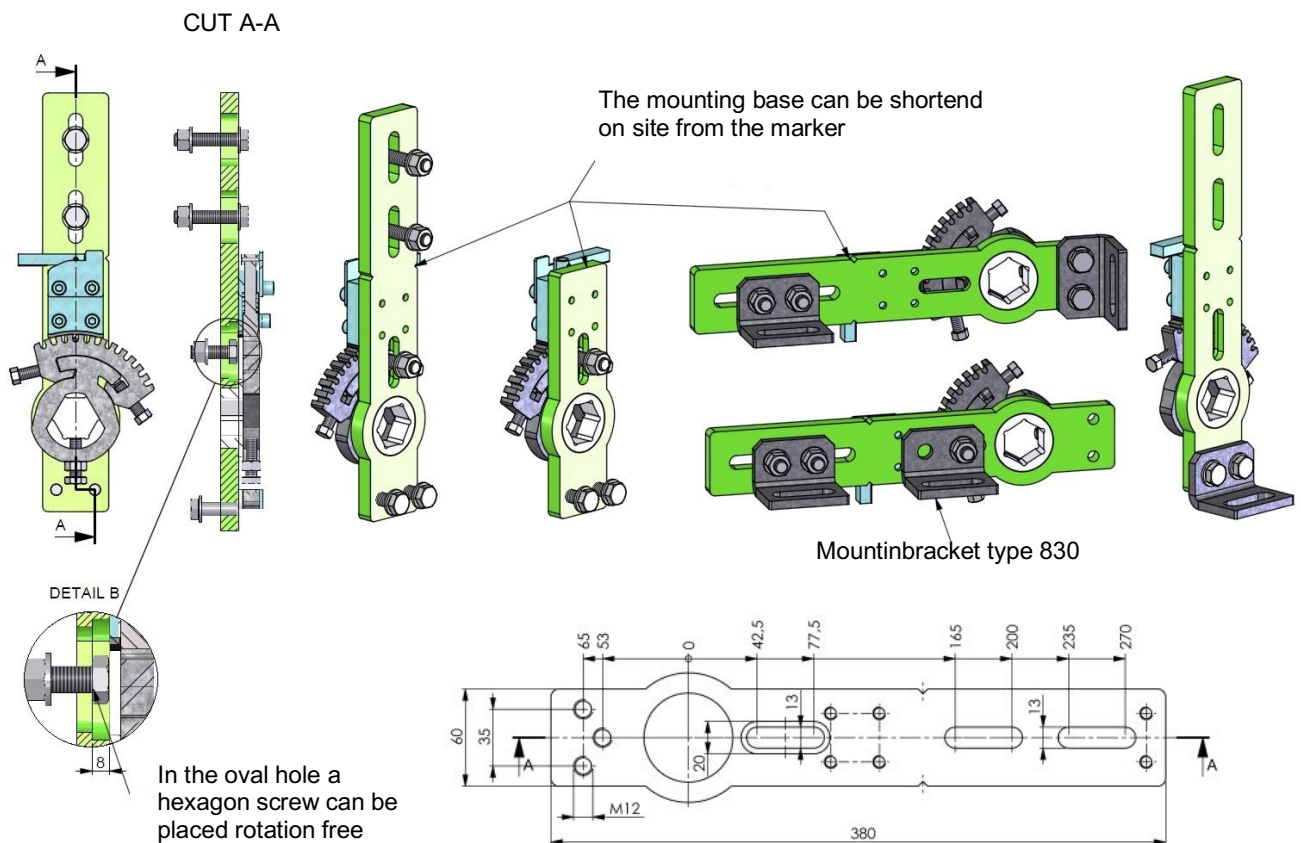


Figure 2

2.2 Description of STARCLEAN® Type 83x components

Pos. 1	Scraper blade bar
Pos. 1.1	Scraper blades (here type 81)
Pos. 1.1.1	Scraper blades (here type 56)
Pos. 1.2	Blade-base types 0, 2 or 4 (here type 2)
Pos. 2	Mounting base with snap-action tensioning device and pivot bearing
Pos. 2.1	Locking mechanism
Pos. 2.2	Locking gear
Pos. 2.2.1	Blade-base actuator
Pos. 2.2.2	Snap-in element
Pos. 2.2.3	Locking screw with counter nut
Pos. 2.2.4	fine adjustment screw
Pos. 3	Mounting base with pivot bearing
Pos. 3.1	Collar
Pos. 3.2	Locking screw
Pos. 3.3	Pivot bearing 3.3.1 from plastic for standard use or
Pos. 3.3	Pivot bearing 3.3.2 from steel for use in potentially explosive environments

For STARCLEAN® versions type 832 D and 834 D (recommended for 15 pockets and more), item 2 "Mounting base with tensioning device" is installed instead of item 3 "Mounting base with pivot bearing"

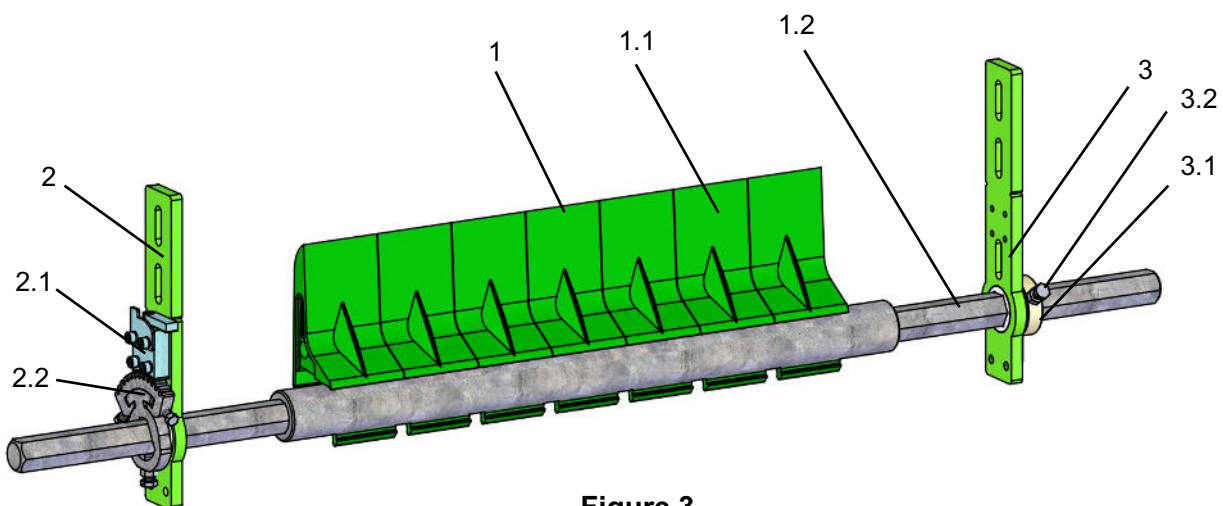


Figure 3

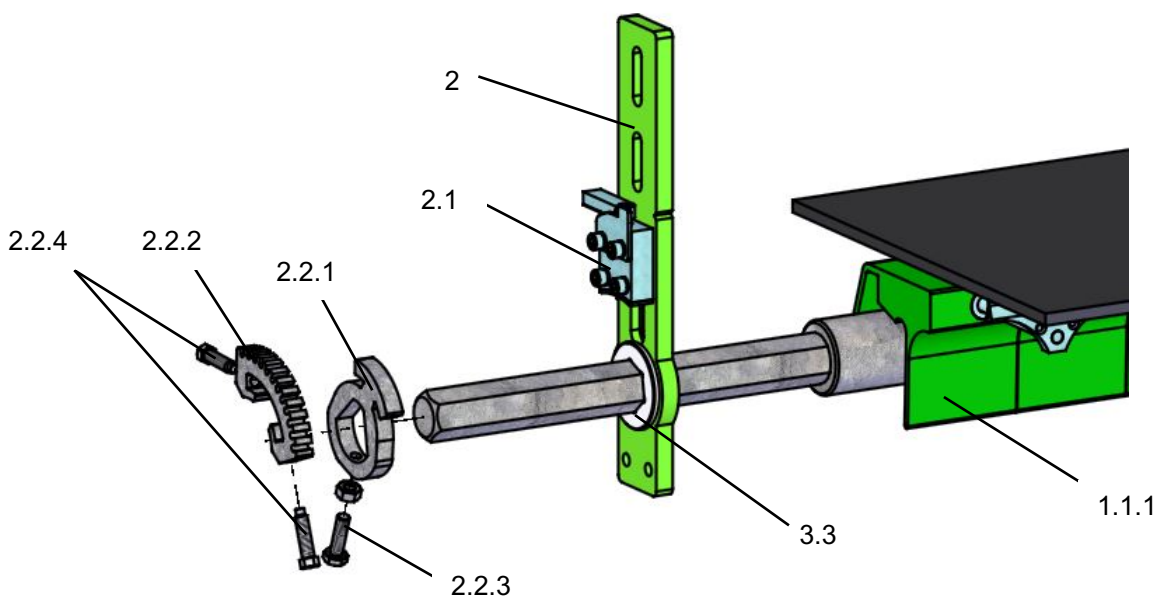


Figure 4

Pos. 4 Secondary scraper blade type 56 (with description of main components)

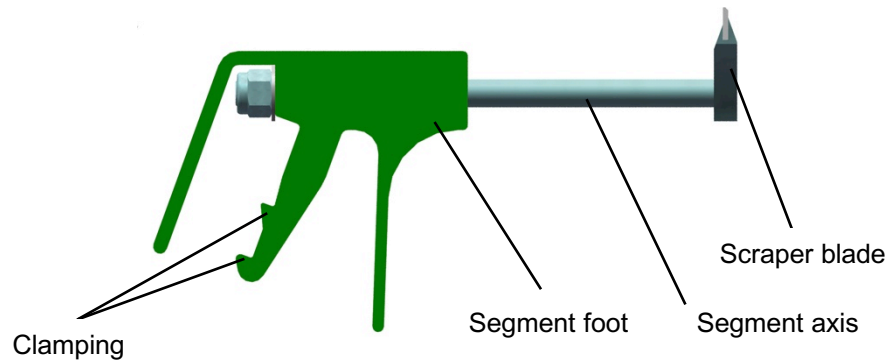
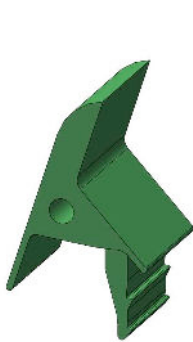


Figure 5

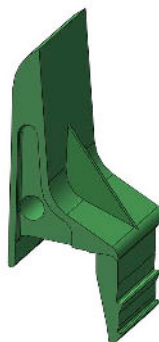
2.2.1 Scraper-blades for use as Primary Scraper:

- **Scraper blades of Types 18, 81, 82 as well as 281, 282 and 283** made of highly wear-resistant polyurethane.

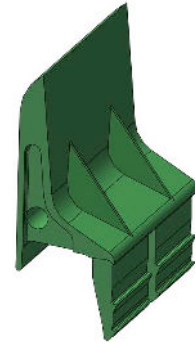
The scraper blades for general industrial use are green in colour and are labelled "n".



Type 18



Type 81



Type 82



Type 281



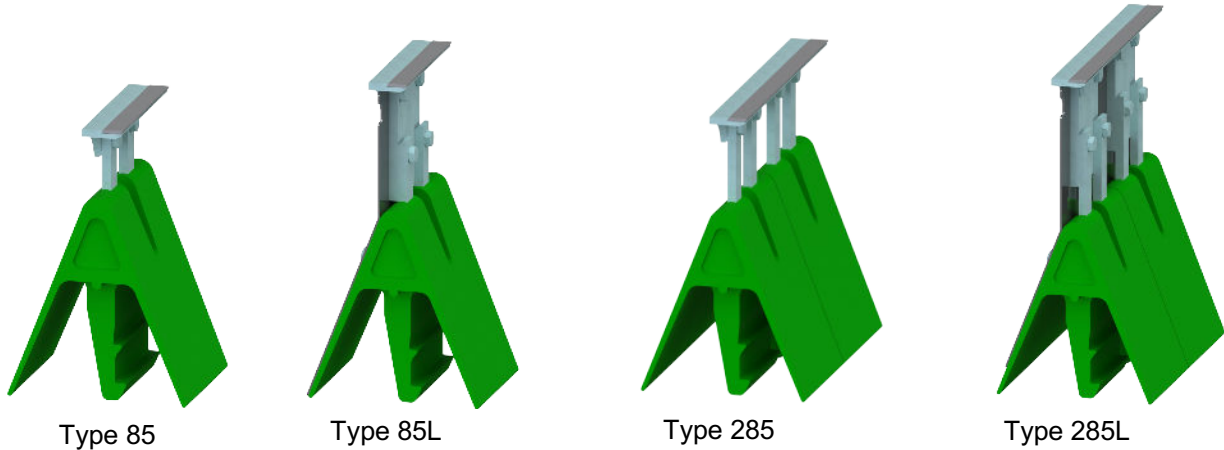
Type 282



Type 283

- **Scraper blades Type 85, 285**

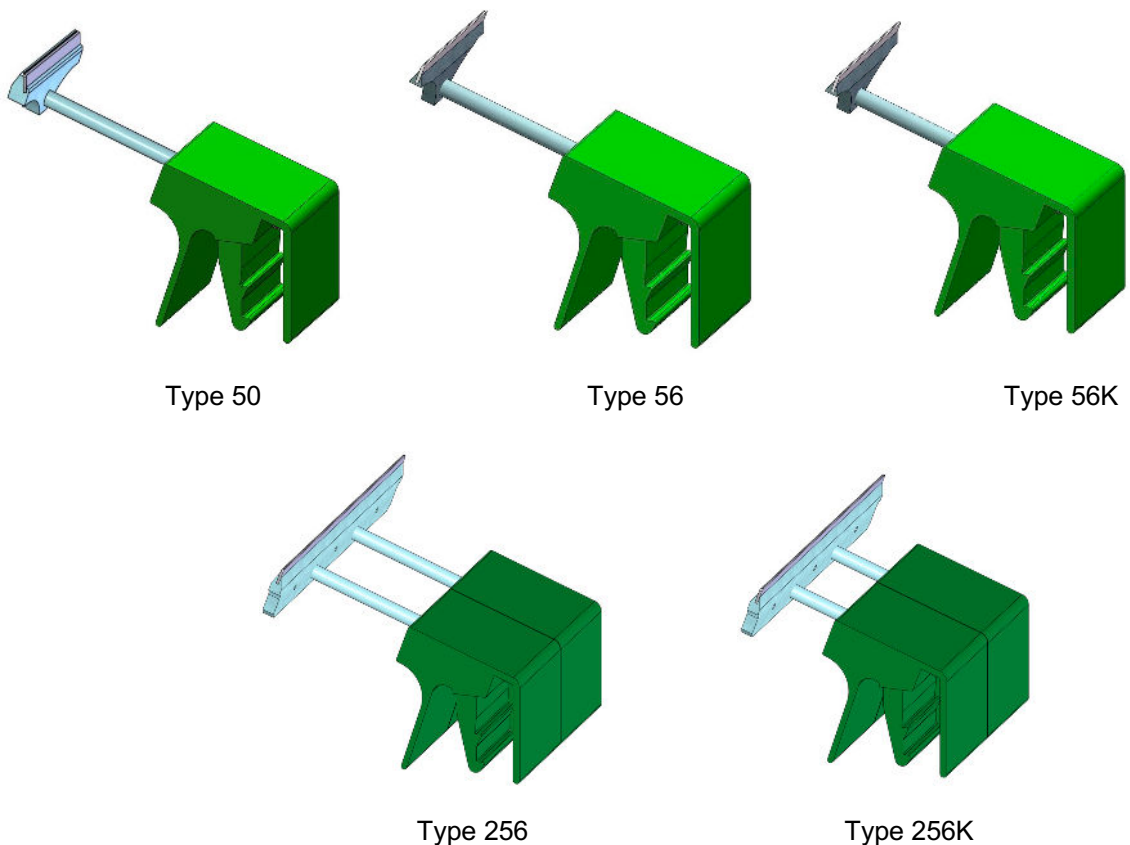
This type consists of a polyurethane footing with an integrated tungsten carbide blade. It is not allowed to use the segments type 85,285 when the belt connection is made with mechanical fasteners or when the belt is damaged. We recommend to use no segments on belt stampings.



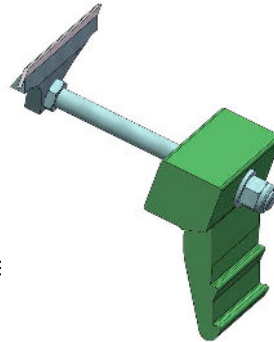
2.2.2 Scraper blades for use as Secondary Scraper:

- Segments of type 50, 53, 53S, 56, 56k, 256 und 256k with polyurethane segment feet and scraper blades made of highly resistant steel or carbide.

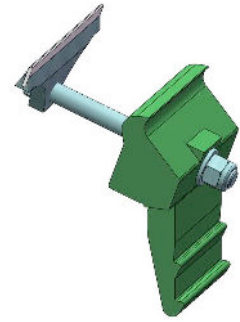
The type 50 segments can be used with mechanical joints. It is not allowed to use the segments type 53, 53s, 56, 56k, 256 und 256k when the belt connection is made with mechanical fasteners or when the belt is damaged. We recommend to use no segments on belt stampings.



Type 53 and 53S segments are specially suited for small drum diameters and conveyed materials that require low pre-tensioning force.



Type 53

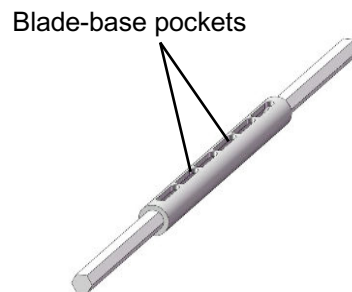


Type 53S

2.2.3 Blade-bases Types 0, 2 and 4



**Standard blade-base
Type 0 (SKN)**



**Tubular blade-base
Type 2 (SKV)**



**Reinforced tubular blade-base
Type 4 (SKX)**

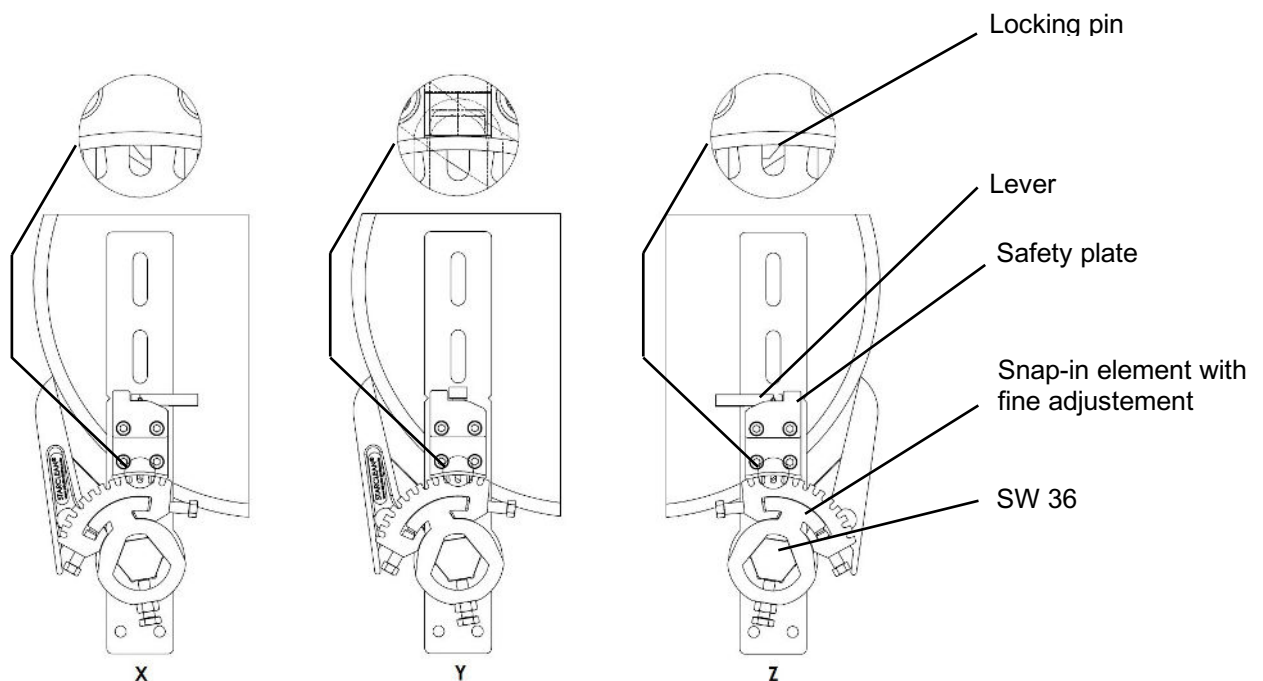
2.2.4 Snap-action tensioning device

The snap-action tensioning device serves to produce the right contact pressure of the scraper-blades. Pre-tension is achieved by twisting the blade-base together with the scrapers and the locking gear.

The locking gear has to be mounted in that way, as the vertical side of the notches shows in the direction of the scraper segment

The snap-action tensioning device **can only be pretensioned in the lever direction** of the locking gear.

a) Positions of the lever



X Position "Right" → Pre-tensioning can be performed clockwise only.

Y Position "0" → Installation and maintenance position. No pretension can be generated

Z Position "Left" → Pre-tensioning can be performed counterclockwise only.
If necessary the safety plate has to be mounted in the opposite way. Loosen the two M8 hexagon socket screws, and turn the Safety Plate around. Tighten the screws again thoroughly.

Attention!

Pre-tensioning in opposite direction can damage the tensioning mechanism.

b) Releasing the pre-tensioned Snap-action Tensioning Device

1. Turn the blade-base with a wrench WS 36 slightly in direction of the lever.
2. Lift lever up and shift to "0" position. Now the device is not locked and the scraper can be twisted in any direction.

2.3 Technical data and recommended pre-tensioning

2.3.1 Primary Scrapers

The scraping width and number of scraper blades depend on the width of the conveyor belt. For Types 18, 81 and 281, the scraper blade width is 100 mm, for Types 82 and 281 the scraper blade width is 200 mm and for Type 283 the scraper blade width is 300 mm.

2.3.2 Secondary Scrapers

The scraping width and number of scraper blades depend on the width of the conveyor belt. For types 50, 53, 53S, 56, 56K, 256 and 256K each segment foots are 100 mm wide.

The scraper blades must be used alternately in short and long versions in the blade-base pockets. The blade-bases have a pocket division (pitch) of 100 mm, and the scraper blades have a working width of 120 mm, so that the blades always overlap

The scraper segments type 256 consist of two feet and the segment scraper blade has a working width of 300 mm.

For belt widths from 1200 mm on, the use of two tensioning devices is recommended, depending on the consistency of the material to be cleaned off. The part number includes the additional identification "D".

3 Start-up



3.1 General

Installation and especially start-up must be performed only by suitably trained technical personnel in compliance with applicable regulations. The manufacturer shall bear no liability for damages to persons or machines or any consequential damages due to non-compliance.

3.2 Transport

Types 830, 832, 834 are only delivered as assemblies:

- a) Mounting base with snap-action tensioning device
- b) Mounting base with pivot bearing (alternatively: second snap-action tensioning device)
- c) Blade-base of type 0, 2 or 4
- d) Scraper blades



- During transport, all damage and external forces must be completely prevented. Damaged components must not be installed – risk of injury!

3.3 Installation / start-up



Before installation make absolutely certain that power to the belt system has been switched off and cannot be reactivated by third parties.

If changes have been made to the product – especially during installation, deinstallation, part replacement, installation of new parts or changes to installed parts – and these are not approved by the manufacturer, the warranty is void for defects occurring thereafter.

The locking pin/lever of the snap-action tensioning device must be turned to position „0“!



It is absolutely necessary to examine and evaluate the condition of the belt, and especially of the belt connections. When in doubt, contact the manufacturer to judge the suitability of the type of scraper chosen.

You need:

- Wrench size WS 36 to turn the blade--base in order to pre-tensioning the scraper blades
- Wrench size WS 17
- Wrench size WS 13
- Hexagon socket wrench WS 6

3.3.1 Assembly Steps (A: Primary Scraper, B: Secondary Scraper)

A: Primary Scraper: The distance Lsk1 or Lsk2 between the blade-base and the belt surface must be maintained as accurately as possible for all primary scrapers (see figures 7, 8, 9, 10). The distances depend on the type of the scraper blade, the pulley-diameters including belt and the blade-base type. For measurements please refer to table 1 (page 19).

If necessary, the belt scrapers can be installed in rotation around the axis of the pulley in the distance Lsk1/ Lsk2.

Ideally, the belt scraper is installed in the "shadow" of the pulley. Depending on the situation on-site, other positions are possible. In case of doubt contact the manufacturer.

When using scraper blades of Type 85/285, please observe the special notes under item 3.3.2

B: Secondary Scraper: For all secondary scrapers, the distance Ly of the blade-base to the belt surface must be maintained as accurately as possible (see figures 11 - 16). This is particularly important when using scraper blades of type 53S. If the distance is correct, the blade axis runs parallel to the conveyor belt. For measurements please refer to table 2 (page 22). The scraper blades must preferably be positioned directly underneath the discharge pulley or a counter pressure cylinder, whereby the blade of the short blade is positioned directly underneath the pulley. If the belt is sufficiently thick and/or when used in connection with a primary scraper, secondary may also be installed below the belt. In this case, the pre-tension must not be set too high in order to prevent excessive lifting of the belt.

1st Mounting and positioning of the mounting base with snap-action tensioning device according to specifications (primary scraper: figures 7-10, secondary scraper: figures 11-16). If needed, the mounting base may be installed in rotation around the axis of the blade-base.

2nd Installation and alignment of the mounting base with end support.

Note! The scraper blades must be mounted parallel to the discharge pulley of belt.

If needed, the mounting base may be installed in rotation around the axis of the blade-base.

3rd Mounting and positioning of the blade-base.

When mounting the blade-base, ensure that the scraper blades used are positioned centred on the conveyor belt. It may be necessary to shorten the ends of the blade-bases to achieve the correct fit.

4th Installation of the blade-base actuator 2.2.1 with the snap-in element 2.2.2 so that the fine adjustment screw 2.2.4 fits with the countersink in the blade base actuator 2.2.1. Aligns snap-in

element 2.2.2 that it is positioned centrally on the blade-base actuator 2.2.1. Tighten the screws 2.2.4 firmly.

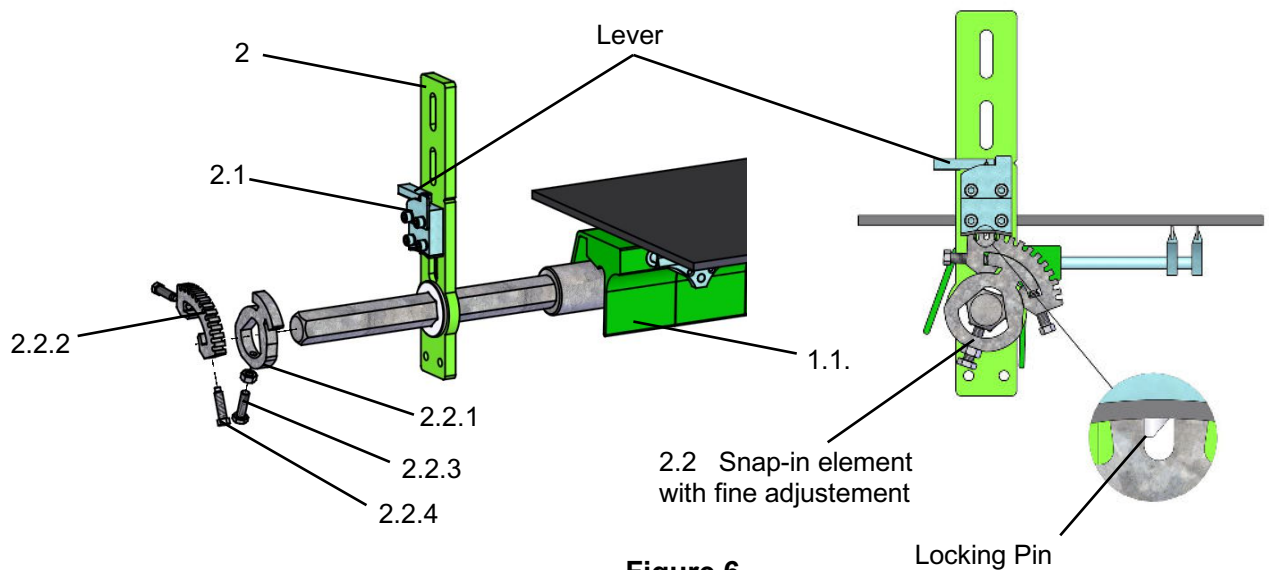


Figure 6

- 5th Insertion of the scraper blades into the blade-base. Please make sure that the secondary scrapers and the primary scrapers of type 85 / 285 are inserted alternating short and long versions, respectively. (85 / 285 start on the outside with a long scraper blade; secondary scrapers start on the outside with the short scraper blade). Tighten all screwed joints.
- 6th Position the scraper blades on the conveyor belt by twisting the snap-action tensioning device.
- 7th Turn the lever in tensioning direction.
- 8th Place the snap-in element with fine adjustment 2.2 on the blade-base, looking that the locking pin fits into the first or second notch.
- 9th Tighten the locking screw 2.2.3 and counter with the nut.
- 10th Tighten the screw sorowly.
- 11th Pre-tensioning and test run:
Pre-tension the blades slightly while turning the blade-base with help off the wrench WS 36.
Make sure that increasing the tension with scrapers type 85/285 is done very carefully!

Start the test run. Make sure that no persons are at risk. Observe the cleaning level for a few minutes.
If residues remain on the belt surface, increase the pre-tension. If this is not sufficient, further increase the pre-tension.
- 12th Fine-adjustment is practicable by loosen one of the fine adjustment screw 2.2.4 while tighten the second fine adjustment screw. At this, the snap-in element 2.2.2 and the blade-base actuator 2.2.1 turn relativ to each other. Tighten both fine adjustment screws 2.2.4.

Using snap-action tensioning devices on both sides, make sure that the locking pin fits perfect into the notches on both locking gears.
- 13th If necessary shorten the overlapping ends of the blade-base. Do leave enough space to be able to place the wrench WS 36 for further action.

Watch the wear of the conveyor belt, in particular when using tungsten carbide scraper blades.

Carefully observe the effectiveness of the scraper during the first days of operation. The surface of the conveyor belt must align with the tungsten carbide, and the scraper blades must align with the conveyor belt.

If afterwards the pre-tension of the snap-action tensioning device should be insufficient, please contact the manufacturer.

3.3.2 Assembly and Notes for Conveyor Belt Scrapers with Type 85 and 285 Scraper Blades

For Type 85 and 285 blades, follow the installation steps as described in chapter 3.3.1. Take special care to ensure sufficient clearance of the blade-base axis and parallelism to the pulley!

It is imperative that the blade-base axis be parallel to the pulley axis!

The scraper blade bar should be installed at the pulley in such manner that the blades of the scraper blades Types 85 and 285 are located in the „shadow“ of the pulley (in the examples between 8:30 and 6 o'clock position) and the scraper blades are protected from falling materials during start-up and shut-down of the belt system.

Depending on the situation on-site, other positions are possible. In case of doubt, these positions should be clarified with the manufacturer.

When installing the scraper blades, please note that the snap-in footings of the scraper blades are always on the same side as the pulley; otherwise they will not work.

Short and long scraper blades must be installed alternately in the blade-base. The separation between scraper blades is 100 mm, and the blades are 110 mm resp. 210 mm wide, resulting in the fact that the blades always overlap.

For belt widths greater 900 mm, the first and last blades are installed at double width of 210 mm (Type 285). This provision was made to prevent a 110 mm wide scraper blade (Type 85) from bouncing onto the pulley if the conveyor should be misaligned.

Figure 10 illustrates the blade blades.

Type 85 and 285 blades can be used until the tungsten carbide inserts are worn off completely. We recommend that the scraper blade and the polyurethane blade footing be replaced.

3.3.3 Retraction points and openings



Attention! Secure all openings and snagging points between the scraper and conveyor belt against reaching and catching according to the accident prevention regulations.



Attention! For installation in existing belt conveyor systems, the provisions of the machine guidelines for belt conveyor systems must be observed.

3.3.4 Start-up

1. Turn the belt system on and check the default values and scraper behaviour.
2. If necessary, readjust the pre-tension, i.e. increase or decrease it in **compliance with accident prevention regulations**.
For special cleaning problems please contact the manufacturer.

3.3.5 Mounting Distance

3.3.5.1 Illustration of Distances Lsk1 and Lsk2 (Blade-base Axis / Conveyor-belt Surface) for Primary Scrapers

**Figure 7
Type 18
Scraper**

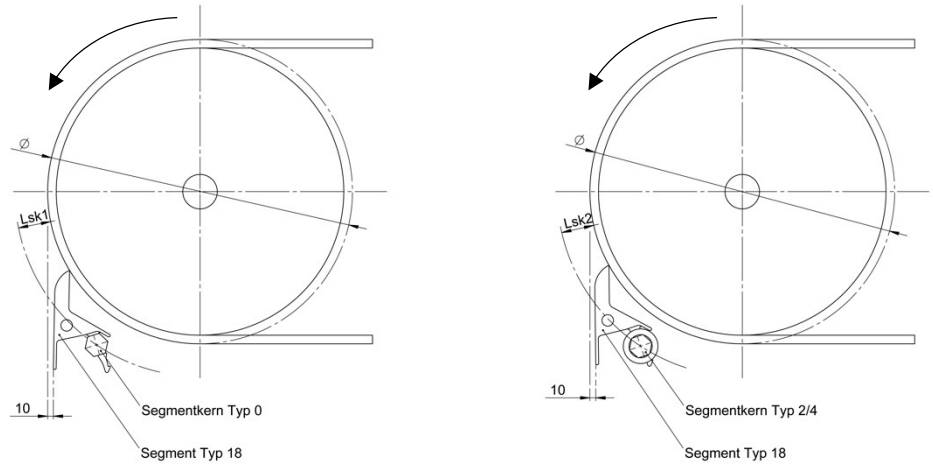


**Figure 8
Type 81 / 82
Scraper**

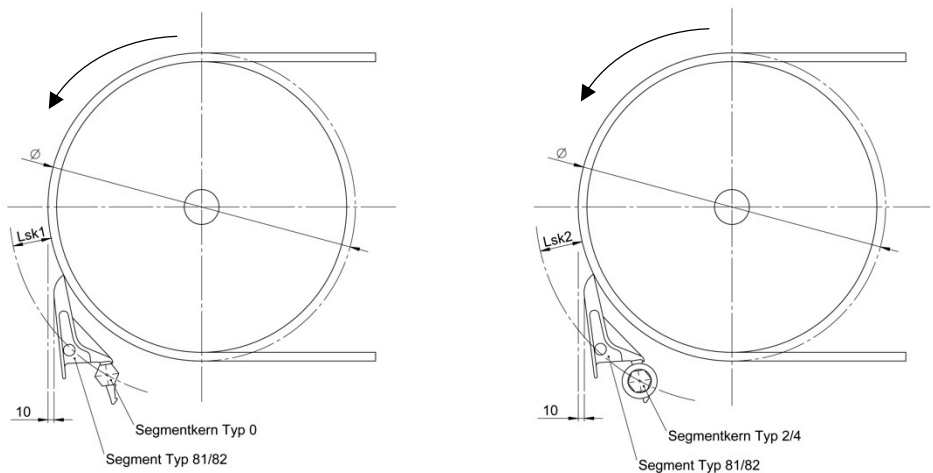


**Figure 9
Type 281 / 282 / 283
Scraper**

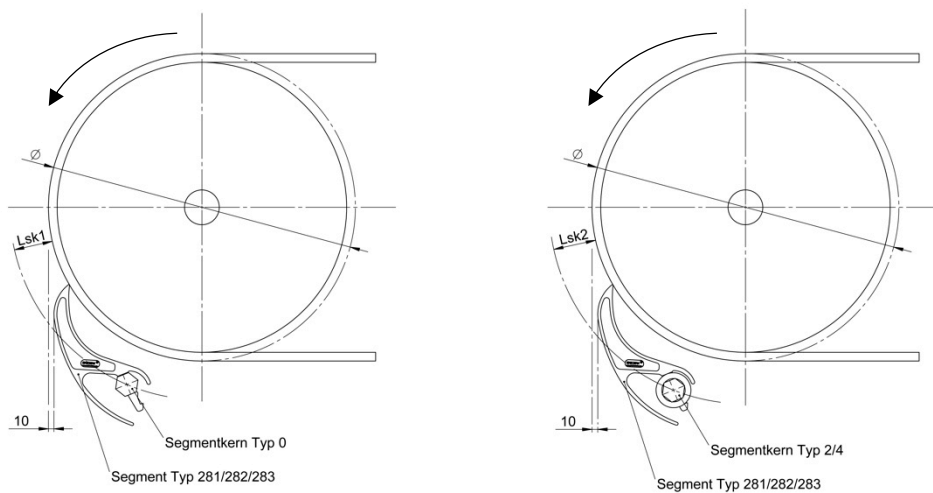


Figure 10
Typ 85 / 285
Scraper

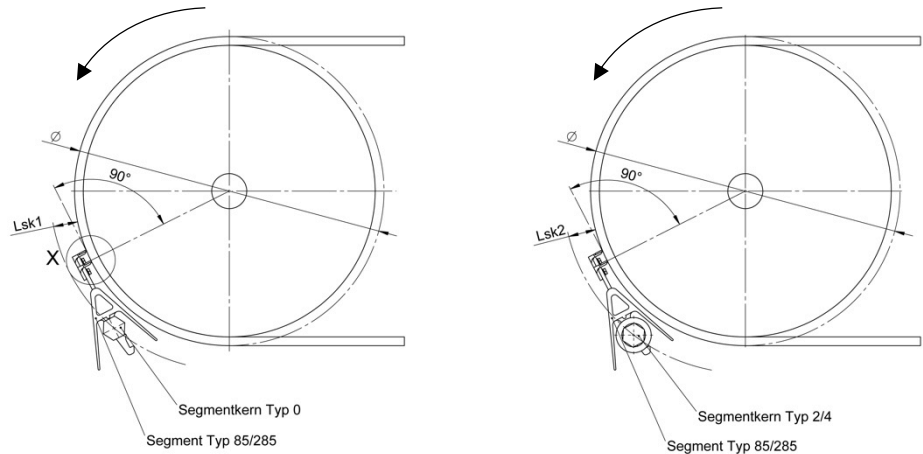


Table 1: Distance Lsk1 / Lsk2 (Bladebase axis / conveyor-belt-surface)
[mm]

Scraper-type	18		81 / 82		281 / 282 / 283		85 / 285		85L / 285L	
Pulley diameter [mm]	Bladebase		Bladebase		Bladebase		Bladebase		Bladebase	
	Typ 0	Typ 2 Typ 4	Typ 0	Typ 2 Typ 4	Typ 0	Typ 2 Typ 4	Typ 0	Typ 2 Typ 4	Typ 0	Typ 2 Typ 4
	Lsk1	Lsk2	Lsk1	Lsk2	Lsk1	Lsk2	Lsk1	Lsk2	Lsk1	Lsk2
160	69						73			
200	63						67			
250	57						61			
300	53	62					56	64		
350	46	54					52	59		
400	40	45	63	74 / 80*	63	74 / 80*	49	55	63	74
500			67	74 / 80*	67	74 / 80*	43	49	67	74
630			67	74 / 80*	67	74 / 80*	40	44	67	74
800				74 / 80*		74 / 80*	40	40		65
1000				74 / 80*		74 / 80*				59
1200				74 / 80*		74 / 80*				59
Notes				* for viscous, sticky material		* for viscous, sticky material	For damaged belts or in case of heavier strain on the scraper blades, the distance may be reduced.			
	Intermediate values must be interpolated!									

3.3.5.2 Illustration of Maximum Distances Lx and Ly (Blade-base Axis / Conveyor-belt Surface) for Secondary Scrapers

**Figure 11
Type 50
Scraper**

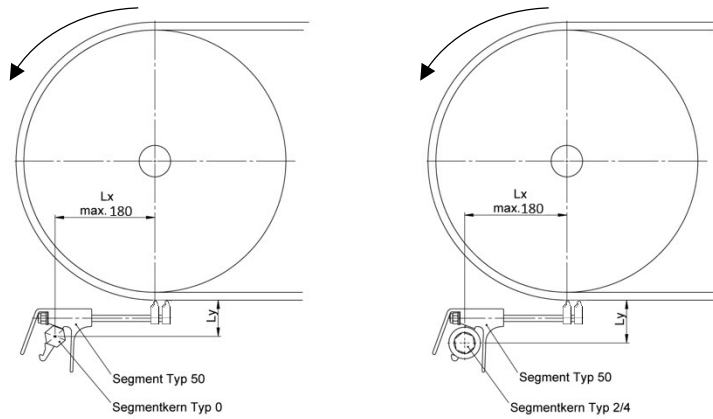


**Figure 12
Type 50K
Scraper**

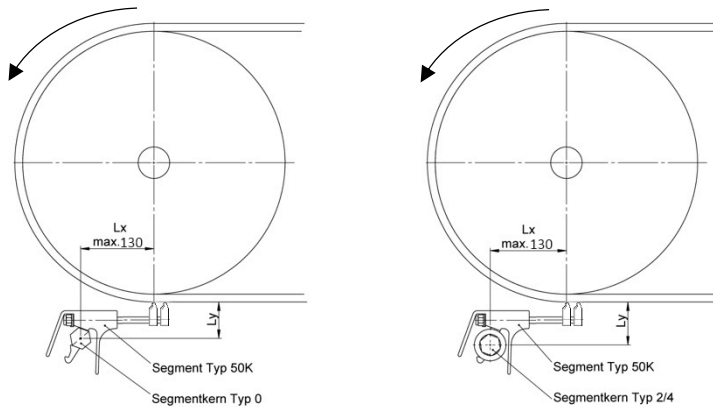


**Figure 13
Type 53
Scraper**

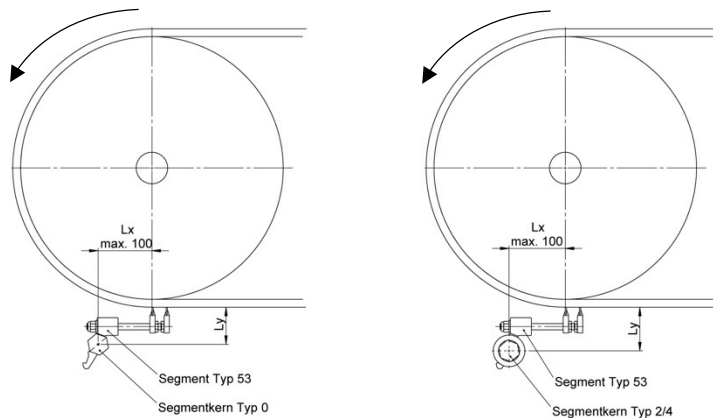


Figure 14
Type 53S
Scraper

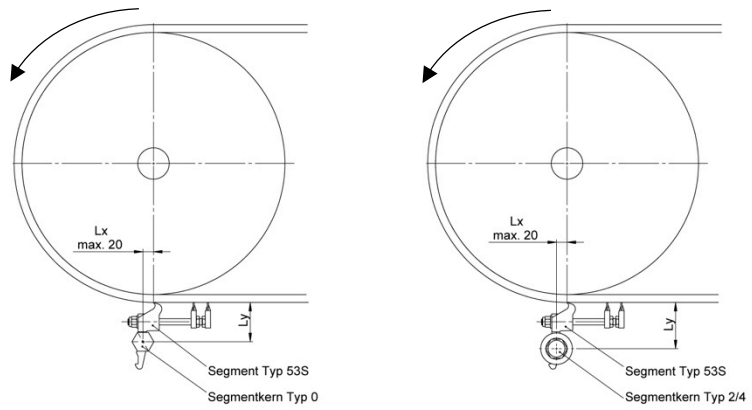


Figure 15
Typ 56K / 256K
Scraper

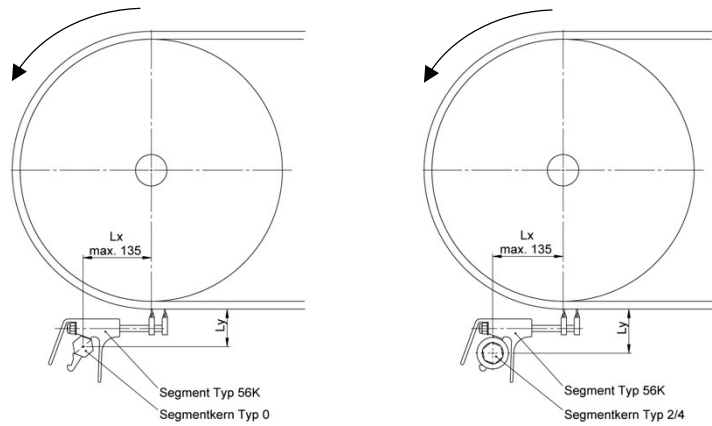


Figure 16
Typ 56 / 256
Scraper

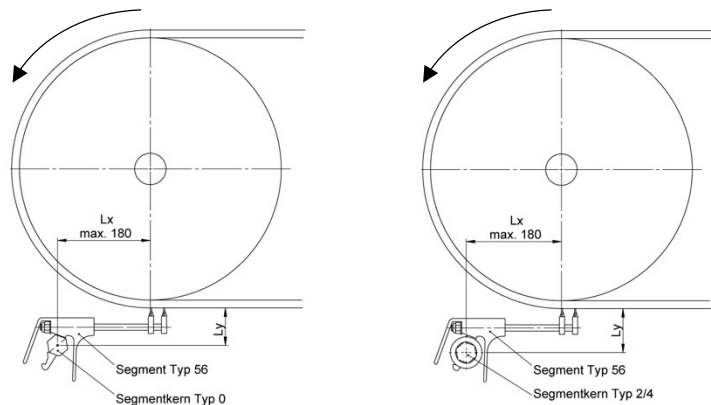
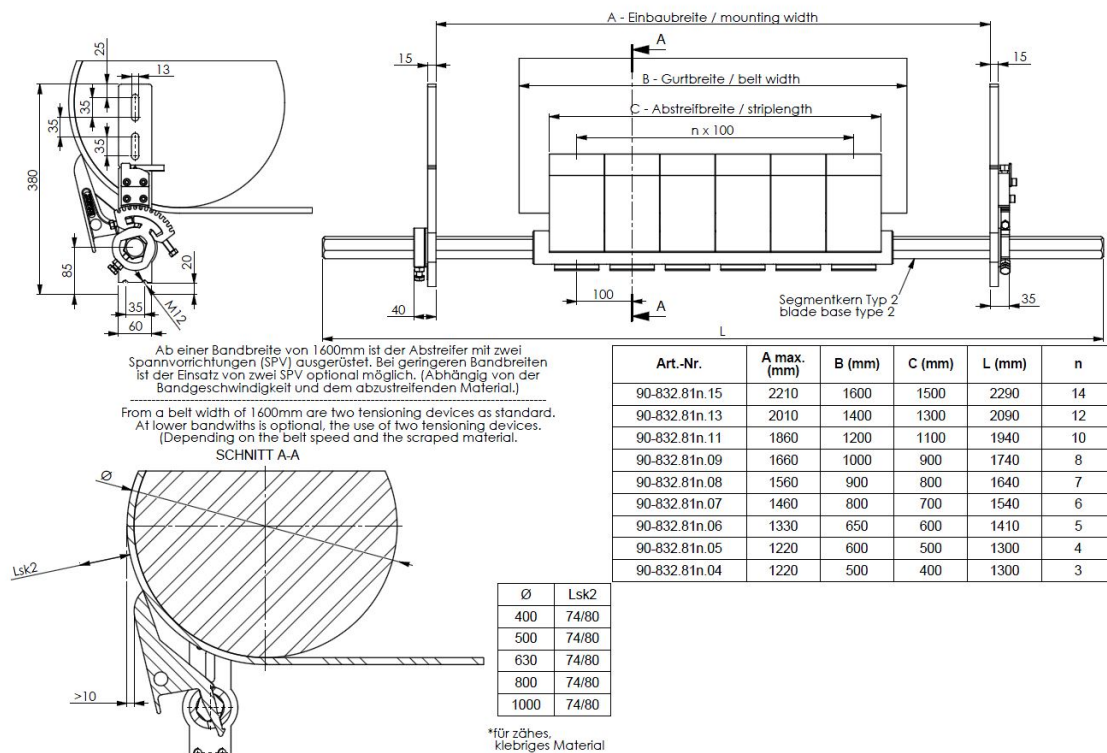


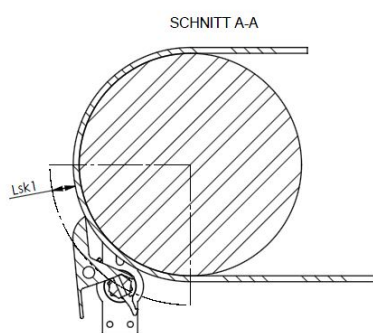
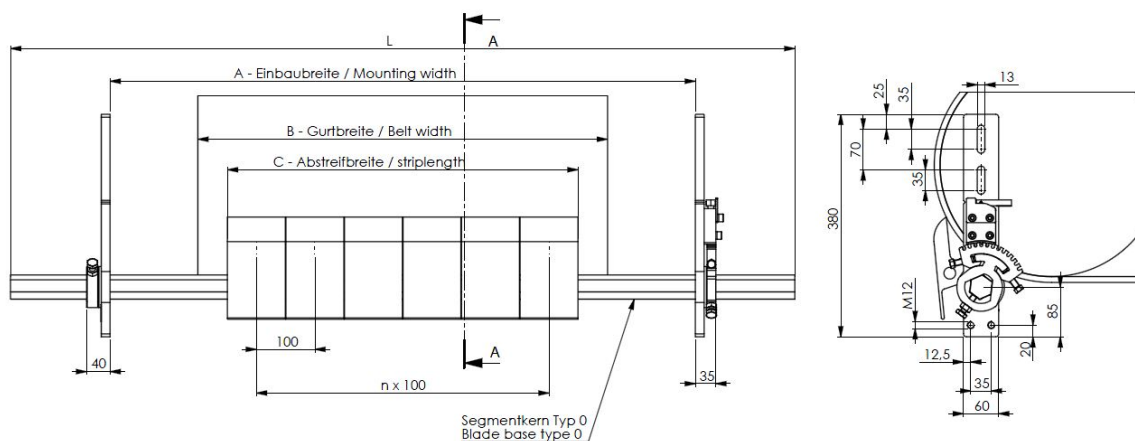
Table 2: (Clearance $L_{x\max}$ and L_y (Blade-basis Axis / conveyor-belt surface) [mm]			
Blade-type	$L_{x\max}$	Blade-base	
		Typ 0	Typ 2 Typ 4
		L_y	L_y
50	180	69	81
50K	130	69	81
53	100	71	83
53S	20	71	83
56K	135	71	83
56	180	71	83
256K	135	71	83
256	180	71	83
Notes			

3.3.6 Examples for Positioning

3.3.6.1 Example for Positioning Item No.: 90-832.81n.?? (Figure 17)



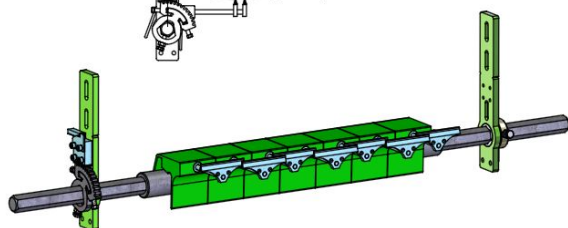
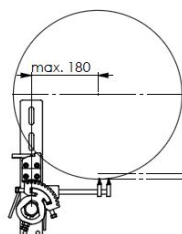
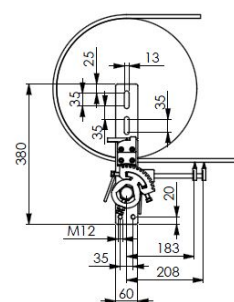
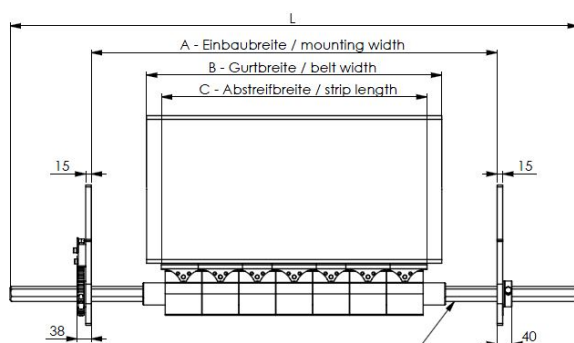
3.3.6.2 Example for Positioning Item No.: 90-830.18n.?? (Figure 18)



Trommel Ø	Typ 0 Lsk1
160	69
200	63
250	57
300	53
350	46
400	40

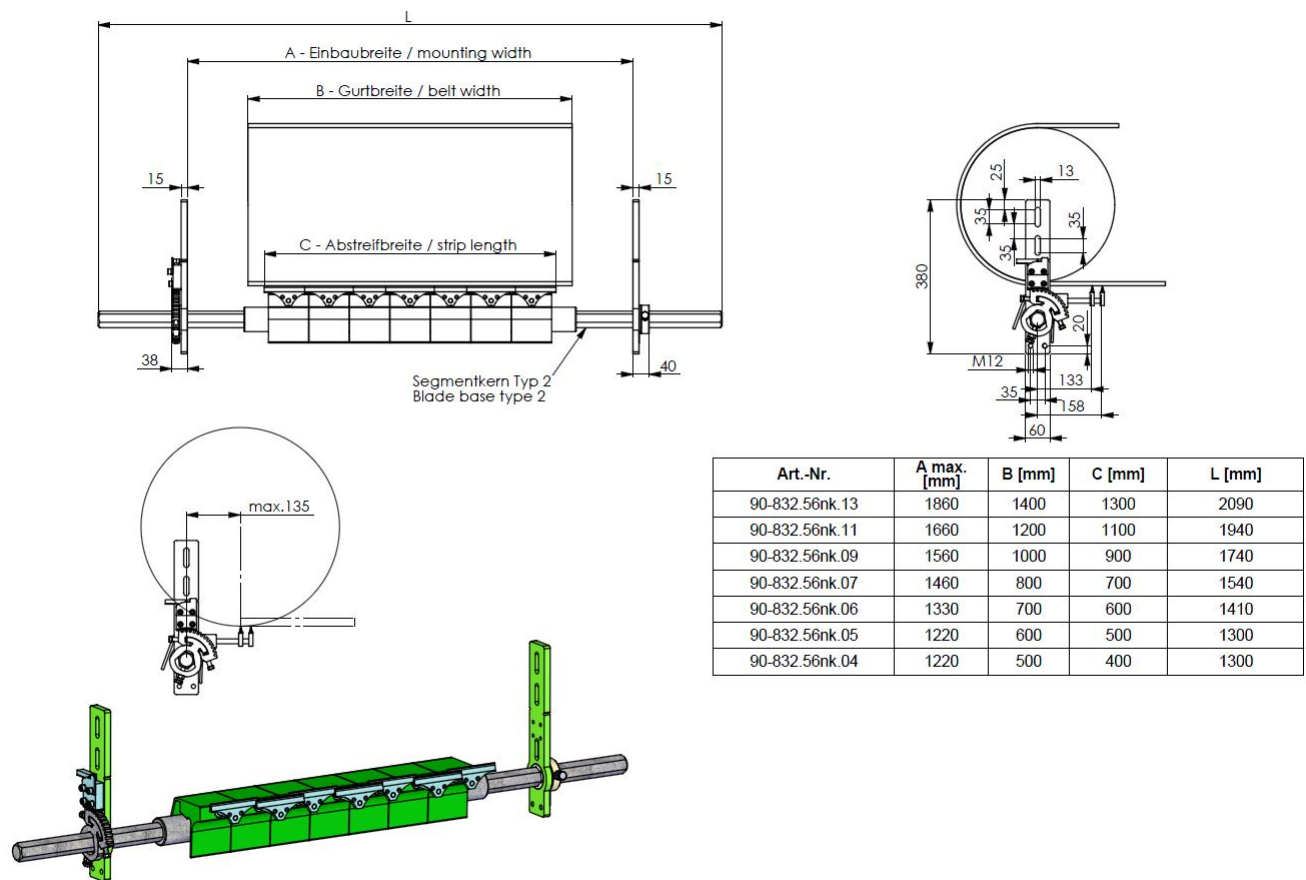
Art.-Nr.	A max. (mm)	B (mm)	C (mm)	L (mm)	n
90-830.18n.06	1260	650	600	1340	5
90-830.18n.05	1220	600	500	1300	4
90-830.18n.04	1220	500	400	1300	3
90-830.18n.03	920	400	300	1000	2

3.3.6.3 Example for Positioning Item No.: 90-832.56n.?? (Figure 19)

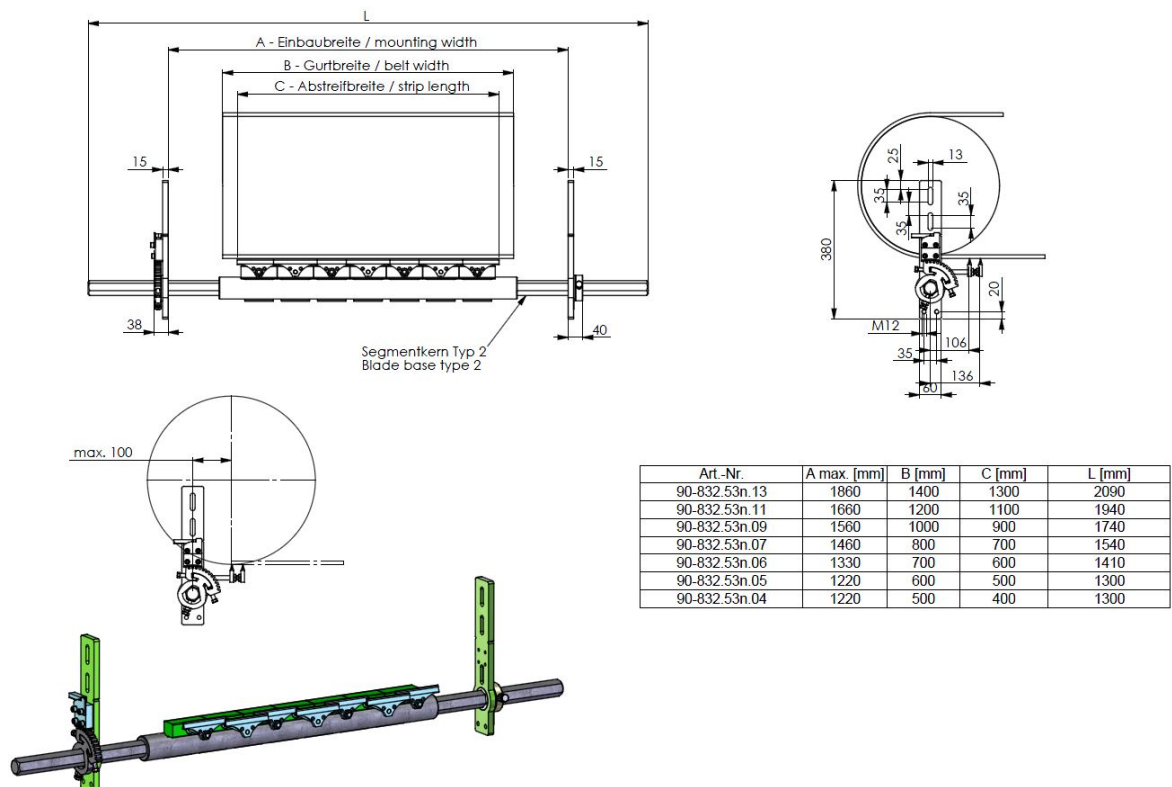


Art.-Nr.	A max. [mm]	B [mm]	C [mm]	L [mm]
90-832.56n.13	1860	1400	1300	2090
90-832.56n.11	1660	1200	1100	1940
90-832.56n.09	1560	1000	900	1740
90-832.56n.07	1460	800	700	1540
90-832.56n.06	1330	700	600	1410
90-832.56n.05	1220	600	500	1300
90-832.56n.04	1220	500	400	1300

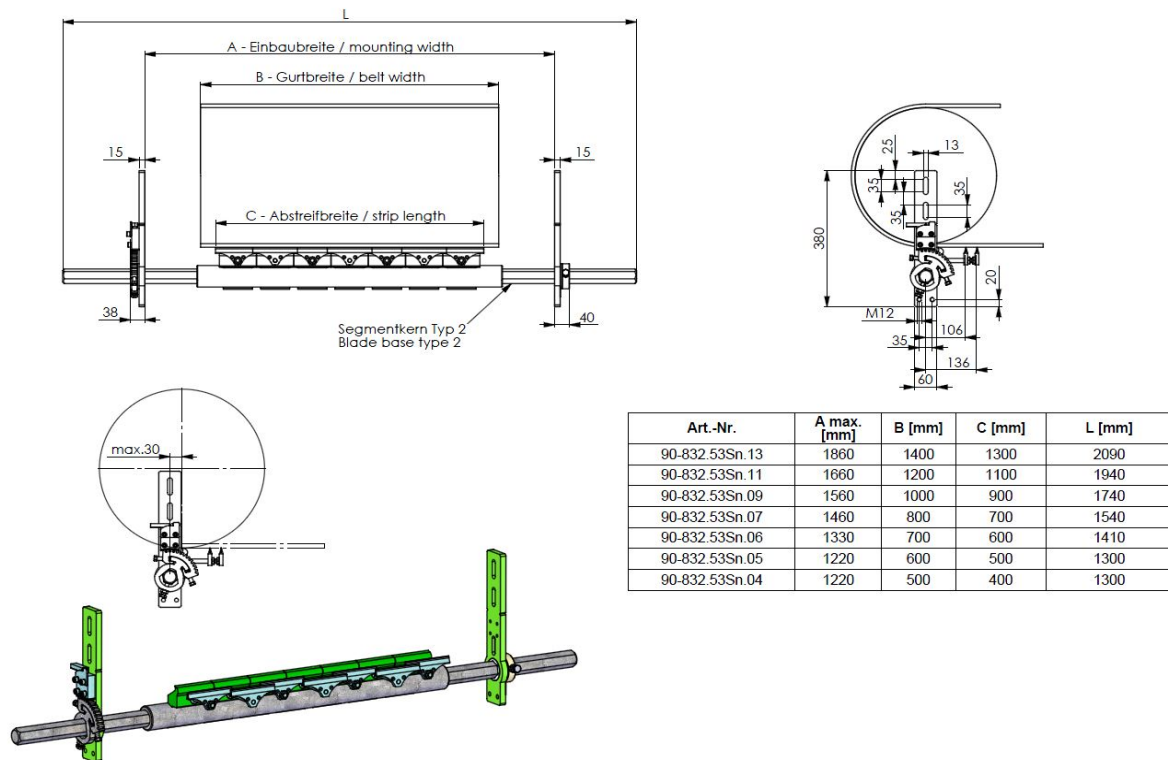
3.3.6.4 Example for Positioning Item No.: 90-830.56nk.?? (Figure 20)



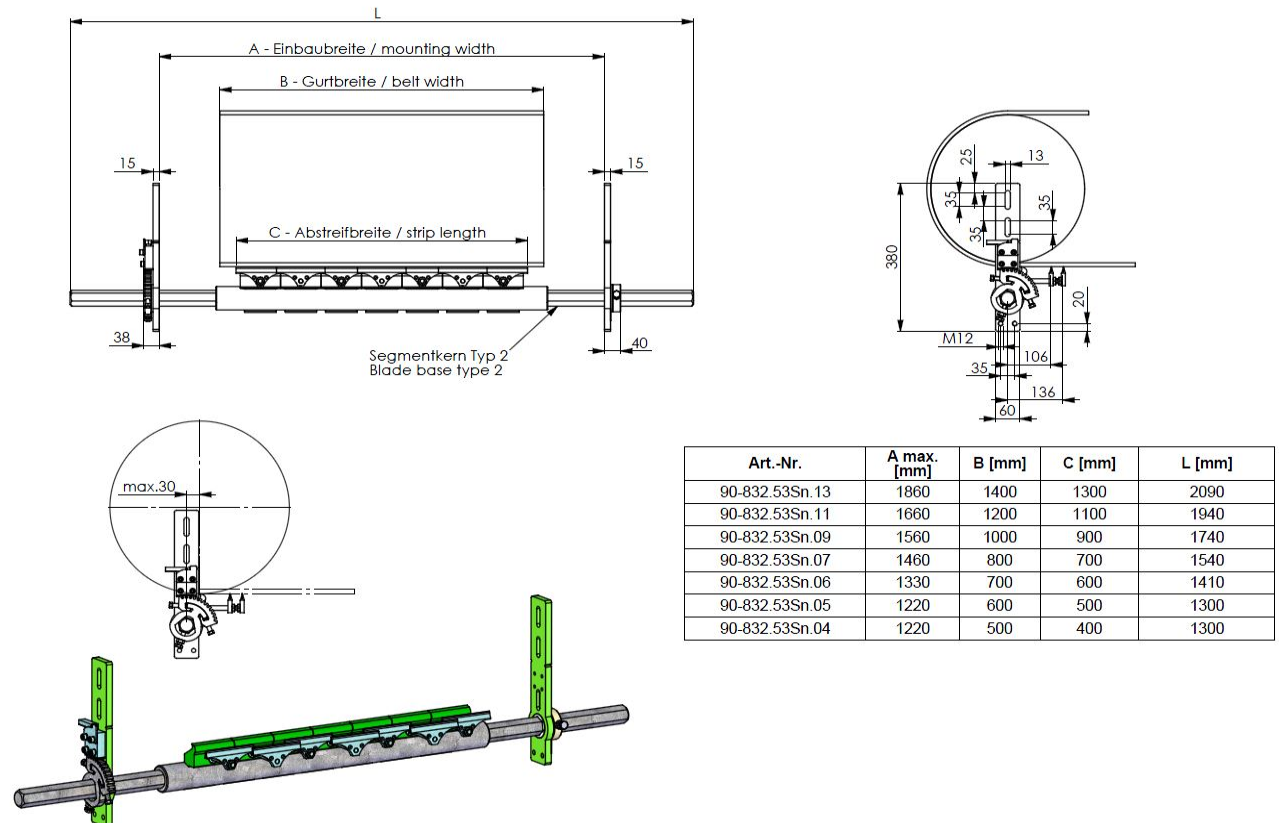
3.3.6.5 Example for Positioning Item No.: 90-832.53n.?? (Figure 21)



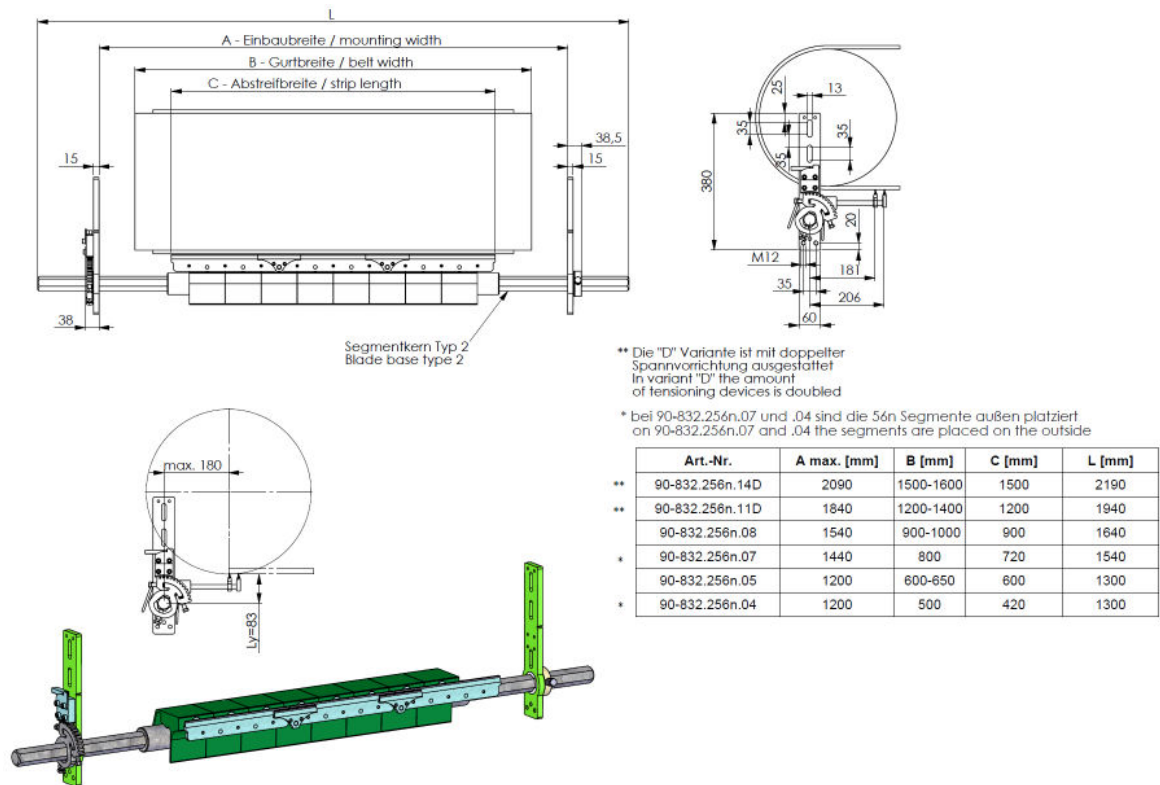
3.3.6.6 Example for Positioning Item No.: 90-834.53Sn.?? (Figure 22)



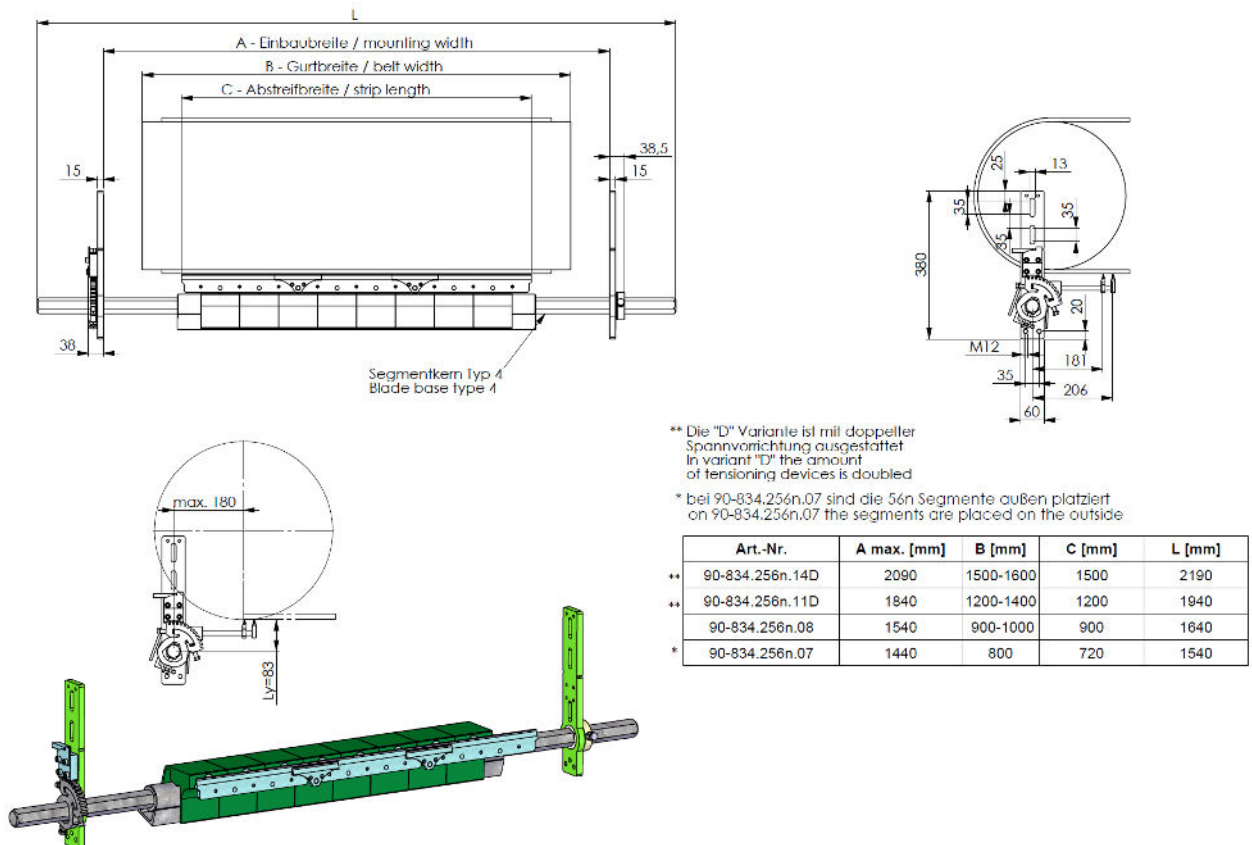
3.3.6.7 Example for Positioning Item No.: 90-832.85n.?? (Figure 23)



3.3.6.8 Example for Positioning Item No.: 90-832.256n.?? (Figure 24)

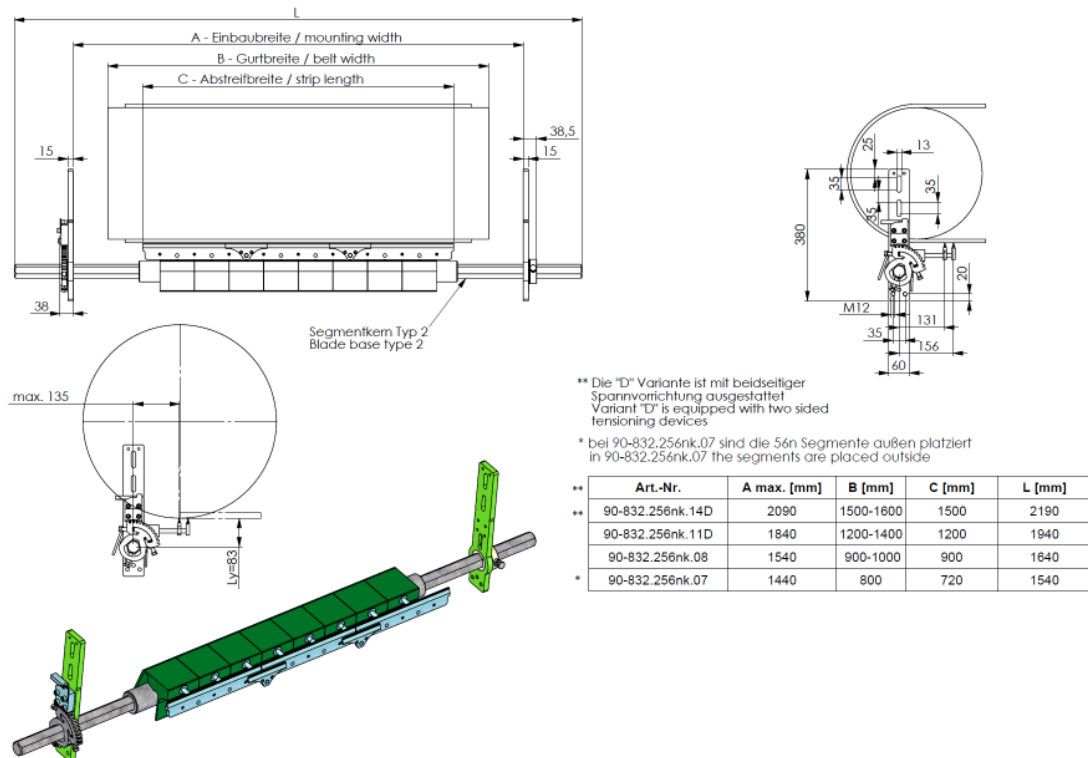


3.3.6.9 Example for Positioning Item No.: 90-834.256n.?? (Figure 25)

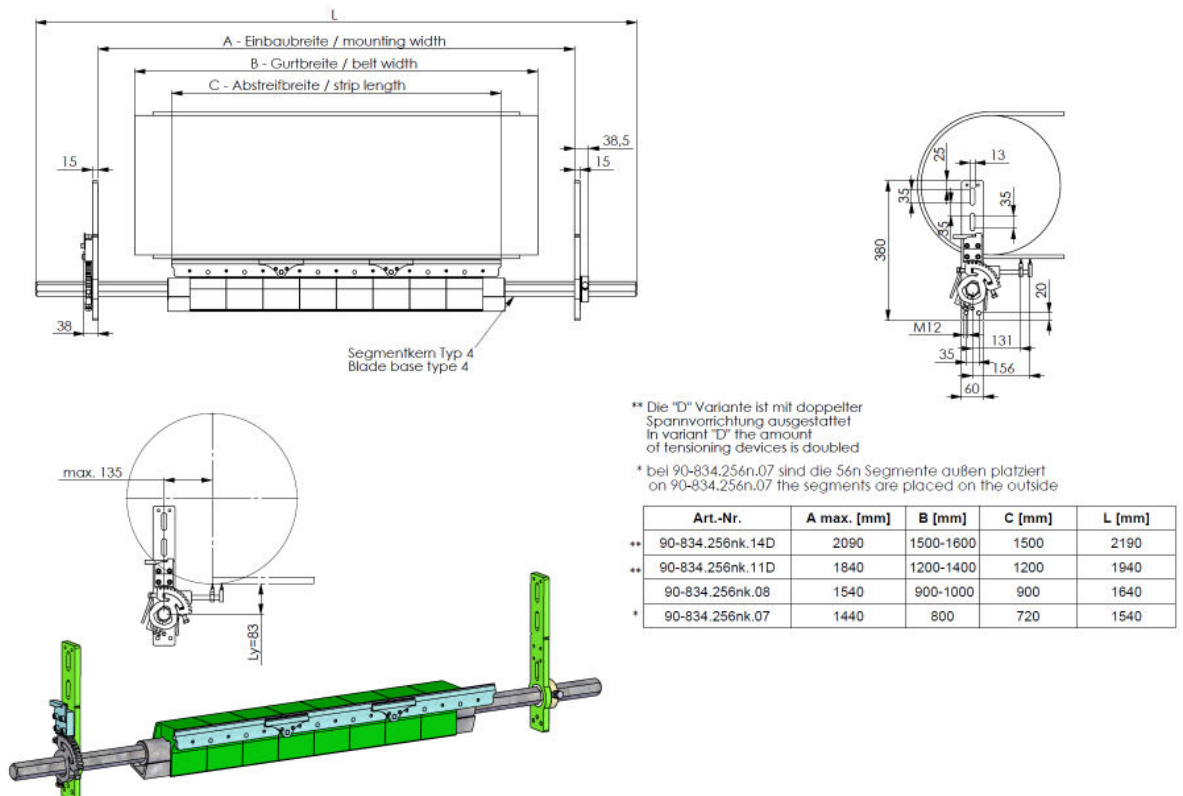




3.3.6.10 Example for Positioning Item No.: 90-832.256nk.?? (Figure 26)



3.3.6.11 Example for Positioning Item No.: 90-834.256nk.?? (Figure 27)



4 Maintenance / disposal

4.1 General

Only maintenance according to the applicable maintenance guidelines can ensure the scraper's optimal cleaning behaviour and long service life.

4.2 Maintenance instructions



Attention!

The scraper blades must be replaced only when the belt system is switched off and secured. Accident prevention regulations must be observed.

Although the scraper is very low-maintenance, the following points should be checked regularly:

1. Are the scraper blades free of build-up? Clean, if necessary.
2. Is the pre-tension correct? Correct, if necessary.
3. Are the screws all tight? Tighten, if necessary.
- 4th Do the scraper blades lie perfectly against the belt? Check the segment axis movement, if necessary.
- 5th Are the scraper blades too worn to use?
If the segments are worn, they must be replaced to prevent belt damage!
- 6th Are the scraper blades damaged? Replace the segments, if necessary.
7. Can the blade-base still freely turn for tensioning? Clean, if necessary.

4.3 Maintenance inspection / maintenance intervals / special maintenance

The maintenance required depends on many factors, such as the material conveyed, the condition of the belt, etc., and can vary. Following installation the actual maintenance effort is to be determined and organised accordingly. The following are reference values:



- Every week – in 3-shift operation
- Every 2 weeks – in 2-shift operation
- Every 3 weeks – in 1-shift operation

In wintertime, the scraper systems must be maintained with special care (and more often than indicated). This prevents damage to the conveyor belt the next time the belt is turned on, such as due to frozen material.

The manufacturer assumes no liability for damages due to improper installation, deficient maintenance and material deposits.

In wintertime, it is essential to remove any ice or snow from the scraper and check it's proper function before starting the conveyor. (Risk of belt damages)

A similar procedure must also be used with materials such as gypsum and clay. After the belt system has stopped, conveyed materials have a tendency to become so hard that after the system is restarted the conveyor belt surfaces grip may cause damage.

In belt systems running with mechanical connections, the scraper systems should be inspected daily. These inspections are to ensure that damaged mechanical connections do not in turn damage the scraper system.

It should be noted that mechanical joints influence the lifespan of the scraper blades used and may cause them to wear out prematurely. Therefore it must be ensured that the mechanical connections can also get into the cover plate on the running side. This will significantly extend the life of the scraper blades.

4.4 Troubleshooting

If the scraper system malfunctions, follow the instructions below:

“Poor cleaning results“	
Causes	Resolution
The scraper blades do not lie against the belt.	Check installation against the operating manual.
Scraper blades are defective or worn.	Replace the scraper blades.
Scraper blade bar or scraper blades are dirty.	Clean the scraper blade bar and scraper.
Scraper blades do not lie uniformly on the conveyor belt.	Check the mobility of the scraper blade bar and the blade-base. Check installation against the operating manual.

4.5 Replacing a scraper blade

- 1st Stop the belt system according to accident prevention regulations.
- 2nd Loosen the pre-tensed scraper blades:
 - Turn the blade-base slightly towards the locking lever, using a 36 w.s. wrench.
 - Lift the locking lever and set to position “0”. The locking mechanism is now disengaged, and the scraper blades may be twisted at will.
- 3rd Release the tension of the scraper blade bar.
- 4th Move the segment foot’s clamping hook against the clamping hook’s indentation.
- 5th Pull the segment out of the blade-base.
- 6th Insert a new segment until the clamping hook clicks in.
7. Described further at 3.3.1.

After the segments have worn, we recommend always replacing all scraper blades in the scraper blade bar!

4.6 Disposal

The polyurethane segments cannot be disposed of with household waste. Please contact your local waste disposal company or the manufacturer. All other components can be taken for metal recycling.

5 Order numbers / ordering replacement parts

5.1 Sample order for scraper systems

Example: Item No. 90-830.85n.07 = STARCLEAN® scraper system

- with snap-action tensioning device type 830
- with blade-base type 0 (standard blade-base SW 36)
- with scraper blades type 85n (n = industrial quality)
- with 7 segment receiving pockets in the blade-base for belts 800 mm wide

Example: Item No. 90-832.81n.09 = STARCLEAN® scraper system

- with snap-action tensioning device type 832
- with blade-base type 2 (tube blade-base Ø 60 mm)
- with scraper blades type 81n (n = industrial quality)
- with 9 segment receiving pockets in the blade-base for belts 1000 mm wide

Example: Item No. 90-834.283n.15 D = STARCLEAN® scraper system

- with two snap-action tensioning devices type 830
- with blade-base type 4 (reinforced tube blade-base Ø 60mm)
- with scraper blades type 283n (n = industrial quality)
- with 15 segment receiving pockets in the blade-base for belts 1600 mm wide

5.2 Sample order for replacement parts

Original order XYZ from

STARCLEAN® 90-834.85n-13

1. Replacement blades type 85n for scraper with 13 pockets
2. Replacement blade-base type 4 with 13 pockets

6 Declaration of Incorporation

Einbauerklärung Im Sinne der Maschinenrichtlinie 2006/42/EG, Anhang II B

Declaration of Incorporation according to Machinery Directive 2006/42/EC, Appendix II B

Schulte Strathaus GmbH & Co. KG
Runtestraße 42, 59457 Werl / Germany

erklärt in alleiniger Verantwortung, dass die
Fördergurt-Reinigungssysteme Typ STARCLEAN®
der Baureihen

*declares in sole responsibility, that the Conveyor-
Belt-Cleaning-Systems Type STARCLEAN® of our
product lines*

140, 142, 144, 150, 150-08, 240, 262, 264, 320, 321, 322, 323, 324, 420, 422, 424, 511, 513, 521, 523, 565,
620, 622, 624, 627, 628, 629, 630, 720, 722, 724, 727, 728, 729, 830, 831, 832, 833, 834, 940, 942, 944, 950,
952, 954, 960, 962, 964, 970, 972, 974, 980, 982, 984 und 995

auf die sich diese Erklärung bezieht mit der Maschinenrichtlinie 2006/42/EG übereinstimmen.

that are subject to this declaration are meeting the requirements set forth in the Machinery Directive 2006/42/EC

Angewandte Normen:

Applicable standards:

für die Richtlinie 2006/42/EG: EN 349, EN ISO 12100, EN ISO 13857, EN ISO 14118-1
for the Directive 2006/42/EC:

Zusätzliche Angaben:

Additional information:

Die unvollständige Maschine darf erst in Betrieb genommen werden, wenn festgestellt wurde, dass die Maschine, in die die unvollständige Maschine eingebaut werden soll, den grundlegenden Anforderungen der Maschinenrichtlinie entspricht.

The partly completed machinery must not be put into service until it has been established that the machinery into which the partly completed machinery is to be incorporated complies with the essential requirements of the Machinery Directive.

Die speziellen technischen Unterlagen gemäß Anhang VII- Teil B und die Montageanleitung gemäß Anhang VI der Richtlinie 2006/42/EG wurden erstellt.

The specific technical documentation referred to in Annex VII, Part B and the assembly instructions referred to in Annex VI of Directive 2006/42/EC have been prepared.

Bevollmächtigter der Fa. Schulte Strathaus GmbH & Co. KG
für die Zusammenstellung aller technischer Unterlagen:

*Authorised representative of the company Schulte Strathaus
GmbH & Co. KG for compiling all technical documentation:*

Herr H. - J. Kröning
Name

Werl, den 25.2.2019
Schulte Strathaus GmbH & Co. KG

Geschäftsführer / *Managing Director:* Dr. M. Schulte Strathaus



Unterschrift / Signature

7 Declaration of Conformity

EU Konformitätserklärung / EC Declaration of Conformity

- **Im Sinne der ATEX-Richtlinien 2014/34/EU, Anhang VIII, Kategorie I M2 und II 2D**
According to ATEX-Directives 2014/34/EU, Appendix VIII, Category I M2 und II 2D

(gilt nur im Zusammenhang der unter Pkt. 1.5 auf Seite 5 genannten Einschränkungen)
(applies only in context to the restrictions mentioned under item 1.5 on page 5)
- **Im Sinne der Maschinenrichtlinie 2006/42/EG, Anhang II B**
according to Machinery Directive 2006/42/EC, Appendix II B

Schulte Strathaus GmbH & Co. KG

**erklärt in alleiniger Verantwortung, dass die Fördergurt-Reinigungssysteme
Typ STARCLEAN® der Baureihen**

*declares in sole responsibility that the Conveyor-Belt-Cleaning Systems
Type STARCLEAN® of our productline*

140, 142, 144, 150, 150-08, 240, 262, 264, 320, 322, 324, 420, 422, 424, 511, 513, 521, 523, 565, 620, 622,
624, 627, 628, 629, 630, 720, 722, 724, 727, 728, 729, 820, 822, 824, 830, 832, 834, 940, 942, 944, 950, 952,
954, 960, 962, 964, 970, 972, 974, 980, 982, 984 und 995

**auf die sich diese Erklärung bezieht mit der
Richtlinie 2014/34/EU (ATEX) und der Maschinenrichtlinie 2006/42/EG übereinstimmen**
*that are subject to this declaration are meeting the requirements set forth
in Directive 2014/34/EU (ATEX) and the Machinery Directive 2006/42/EC*

Angewandte Normen:

für die Richtlinie 2014/34/EU (ATEX): EN 1127-1, EN 1127-2, DIN ISO 80079-36
für die Richtlinie 2006/42/EG: EN 349, EN ISO 12100, EN ISO 13857, EN ISO 14118-1

Applicable standards:

for the Directive 2014/34/EU (ATEX): EN 1127-1, EN 1127-2, DIN ISO 80079-36
for the Directive 2006/42/EC: EN 349, EN ISO 12100, EN ISO 13857, EN ISO 14118-1

Schulte Strathaus GmbH & Co. KG hinterlegt die gemäß 2014/34/EU, Anhang VIII (ATEX) geforderten Unterlagen bei benannter Stelle:

Schulte Strathaus GmbH & Co. KG will archive the documents required according to 2014/34/EU (ATEX), Appendix VIII at the following location:

EXAM GmbH, Bochum, EU-Code 0158

Bevollmächtigter der Fa. Schulte Strathaus GmbH & Co. KG
für die Zusammenstellung aller technischer Unterlagen:
*Authorized representative of Schulte Strathaus GmbH & Co. KG
for the compilation of all technical documentation:*

Herr H.-J. Kröning
Name

Werl, den 25.2.2019

Schulte Strathaus GmbH & Co. KG

Geschäftsführer



Angabe zum Unterzeichner

Unterschrift