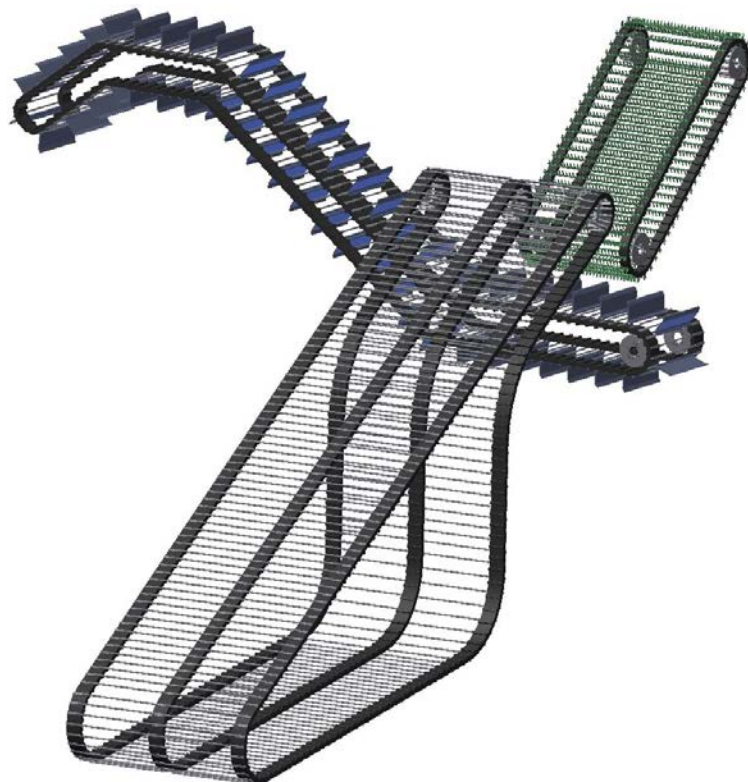


Agricultural Technology

Delivery Program

Crop conveyor belts,
Transport and sorting systems,
Rubber and synthetic components for the
agricultural machinery industry



Introduction

This is the first catalogue integrating the product lines of the three Jäger-Group companies

Artemis Kautschuk- und Kunststoff-Technik GmbH, Hannover, Germany,

EA Broekema BV, Veendam, The Netherlands,

Broekema Beltway USA Inc., Pine City, Minnesota, USA,

which all make conveyor belts and components for agricultural machines.

The catalogue is available in 6 languages: English, French, Italian, Spanish, Dutch and German.

The indexed, loose leaf page system will help to simplify later updating.

This catalogue is designed to assist our customers in designing their increasingly more complex conveyor belt & drive variations. Please contact us if your problem does not seem represented, since by receiving problem solving inquiries new products are often created.

All three Companies have state-of-the-art manufacturing facilities under an overall ISO 9001 quality control policy, which assures consistency in production & supply from any of our factories.

We continually invest in the development of new products for the agricultural industry and in the improvement of our manufacturing technology to maintain a position of quality- and cost-leadership in the marketplace.

All manufacturers are assured of high volume quality, delivered to their needs with the highest levels of operational life, planning confidence & advice confidentiality.

All three Companies have helped to pioneer the belted system for root crop harvesting & in-store needs, also for nuts, fruit & fish, pre & post grading, washing & drying, etc.. Product and product size may vary from beet to cocktail onions, with 'treat like eggs' damage protection levels achieved by our conveyor components.

Thank for the many years of support. We intend serving you even better in the future.

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General information

Our crop conveyor belts are generally made as follows:

- The round steel rod is cut to length according to the conveyor width, the rod ends are heated, forged/flattened & rivet holes punched at the ends.
- Rivet retaining plates are placed between the traction belt's underside profile and rivets inserted into plates & belting.
- Rods are then fitted onto rivets, whose length relates to rod diameter/forged thickness.
- These components are then riveted into a consistent compression package, the rivet head is absorbed into the countersunk retaining plate and a smooth head formed over the rod's counter sunk upper surface.

Conveyor assemblies are manufactured to order by overall width & length, using traction belting pitches & widths standards (see chapter 2, traction belting). Options relating to steel rod diameter, rod convexity, cranking etc. see Chapter 5, rivet rods.

Joining clips, lapjoint or endless vulcanization are commonly used to join the ends of a belt (see chapter 3, belt joints & joining clips).

There are multiple rods covering options (see chapter 6 and 7 rod coverings).

If no sprocket run clear ways are required (e.g. friction or cam drives), the rod covering is retained from side movement by the traction belting, the internal diameter may then be the same or oversize to that of the rod.

Sprocket tooth driven conveyors require tooth clear ways. A slightly undersized (friction fit) rod covering is used. Alternatively a covering may be glued-on/bonded or fully vulcanized to the rod.

Conveyors for crop elevation (see chapter 7, flights) are often fitted with flights/risers applied to the rods at the desired rod/pitch interval. Optionally, the rods between such flights may be straight or cranked. Such rods increase the effective flight height (see chapter 5, rivet rods). Alternatively a low profile 'rod pocket system' is possible using a sequence of down & straight or up cranked rods.

We also create special conveyors (see chapter 5, rivet rods):

- Porcupine/pintle rod profiles for trash extraction
- Twin-rod system for small rod gap applications
- Rods of fibreglass, aluminium or stainless steel for light weight/salt water applications
- Square mesh type work surface for special crops & sizing
- Conveyors for sorting/grading/dewatering

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General information

Traction belting generally consists of 3 layers of fabric reinforcement, compression-vulcanized between layers of high wear and weather resistance rubber. Belting is available cut to length or at maximum length of 100 meters.

Our traction belting is especially designed for the requirements of harvesting applications featuring::

- High tensile strength
- High traction power capacity
- High rubber tear resistance
- Weather compatibility of the rubber compounds
- High drive cam or rod pitch accuracy with good shock load absorption and recovery

3 layers of TN 900/3 type textile forms our 'Standard' belting, which offers 900 N (1984 pounds) load strain per cm of belt width (900 N/cm). Such 'Standard' belting is normally used in all but the most extreme applications.

The following belting types are especially developed for high-load applications:

- 3 layers of TN 1200/3 fabric offers 1200 N/cm (2650 pounds/cm)
- 4 layers of TN 1600/4 fabric offers 1600 N/cm (3537 pounds/cm)

Deduct 10-12 mm from overall belt width due to rivet hole punching when calculating total load strain capacity.

Load strain capacity also relates to guidelines per joint type.

The equipment's transmission must have a drive clutch protection to prevent over loading to the conveyors joints.

Each belt profile type relates directly to the drive type (see chapter 8, drive systems and sprockets). Belting with an upper profile (double profile belting) recesses the rod ends, reducing crop damage and rivet head wear. Furthermore this guarantees a smoother running of the conveyor. Subject to rod diameter which influences overall rod end thickness, return/carry back rollers may be lower cost metal surface type.

'Hydrobelt' is especially manufactured for partial or total water submersion applications. It totally encloses the reinforcement carcass, to reduce working environment water or additive absorption, which may otherwise reduce the conveyor's potential work life.

'Solar Belt' is a product line of traction belting, resistant to Ozone (and UV) with modified recipes of the rubber covers to better withstand the degrading influence of Ozone and UV. Solar Belt has been developed for exterior applications in area's with regular elevated Ozone concentrations. Testing according to DIN Standards has proven Solar Belt to show approximately 10% or less of the degradations due to the influence of Ozone, compared to competitive products.

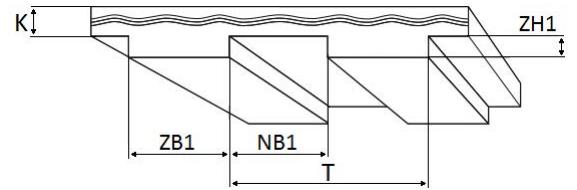
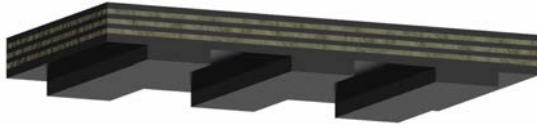
Technical details of the standard traction belts

Construction:	Tensile strength:
TN630/2	630 N/cm
TN900/3	900 N/cm
TN1200/3	1.200 N/cm
TN1600/4	1.600 N/cm
Rubber hardness:	60 ± 5 Shore A
Pitch tolerance:	± 0,4%
Tolerance beltwidth:	± 1 mm
Rubber (Abrasion): DIN53516	= 130 mm ³
Moisture absorption:	= 0,5%

Technical details Hydrobelt-type:

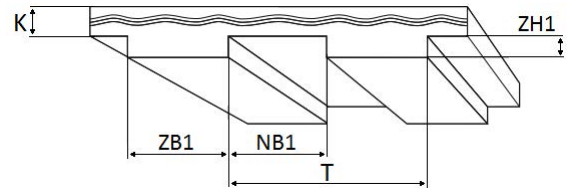
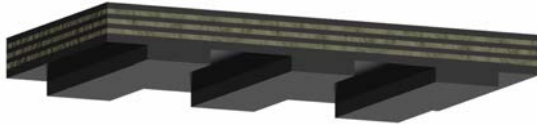
Construction:	Tensile strength
Hydrobelt-type	900 N/cm
Breaking elongation	14% - 18%
Rubber hardness	60 + / 5° Shore A
Pitch tolerance	± 0,4%
Tolerance beltwidth:	± 1 mm
Rubber (Abrasion)::	< 110 mm ³
Moisture absorption:	none

EN-Low profile, type 900



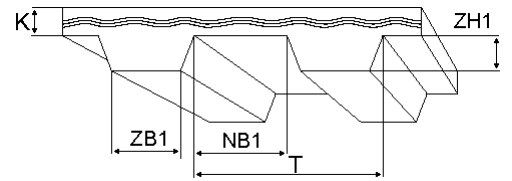
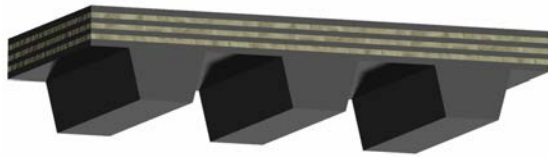
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 200300	*	20	5	15	3
EN 220300		22,5	7,5	15	3
EN 250300	*	25	5	20	3
EN 280300		28	10	18	3
EN 320300		32	14	18	3
EN 330300		33	15	18	3
EN 340300	*	34	16	18	3
EN 360300		36	16	20	3
EN 370300	*	37	17	20	3
EN 400300		40	20	20	3
EN 420300		42	22	20	3
EN 430300	*	43	23	20	3
EN 440300	*	44	24	20	3
EN 450300		45	25	20	3
EN 500300		50	30	20	3
EN 560300	*	56	31	25	3
EN 600300	*	60	35	25	3

EN-Low profile, type 1200



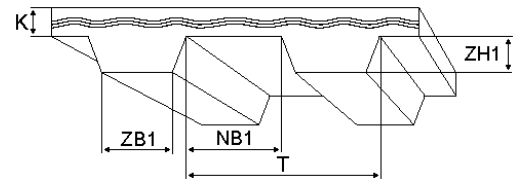
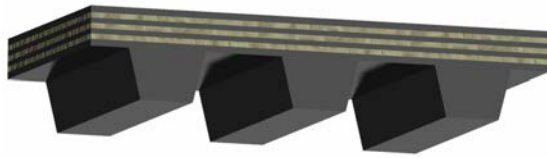
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 200300	*	20	5	15	3
EN 220300	*	22,5	7,5	15	3
EN 250300	*	25	5	20	3
EN 280300	*	28	10	18	3
EN 280300	*	28	12	16	3
EN 320300	*	32	14	18	3
EN 320300	*	32	16	16	3
EN 330300	*	33	15	18	3
EN 360300	*	36	16	20	3
EN 360300	*	36	20	16	3
EN 370300	*	37	17	20	3
EN 400300	*	40	20	20	3
EN 420300	*	42	22	20	3
EN 420300	*	42	26	16	3
EN 430300	*	43	23	20	3
EN 450300	*	45	25	20	3
EN 480300	*	48	32	16	3
EN 500300	*	50	30	20	3
EN 560300	*	56	31	25	3
EN 600300	*	60	35	25	3

EN-High profile, type 900



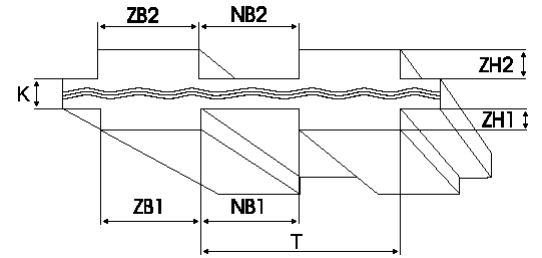
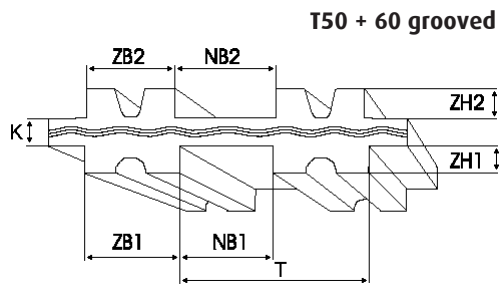
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 280900		28	9	14	9,5
EN 300900	*	30	10,3	15	9,5
EN 350900		35	15,3	15	9,5
EN 400900		40	16,3	19	9,5
EN 430900	*	43	16,2	21,5	9,5
EN 440900		44	17,1	21,5	9,5
EN 500900		50	19,7	25	9,5
EN 600900	*	60	27,5	27	9,5

EN-High profile, type 1200



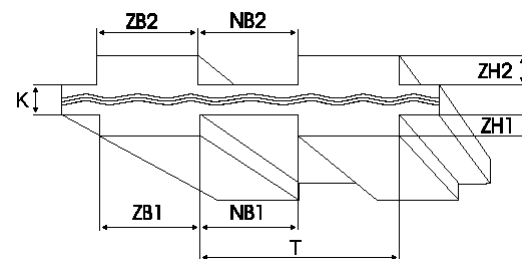
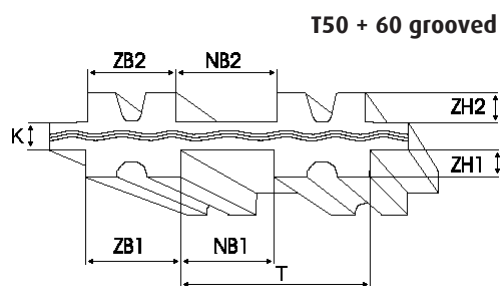
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 350900	*	35	15,3	15	9,5
EN 400900		40	16,3	19	9,5
EN 430900	*	43	16,2	21,5	9,5
EN 440900	*	44	17,1	21,5	9,5
EN 500900		50	19,7	25	9,5
EN 600900	*	60	27,5	27	9,5

DN-Low profile, type 900



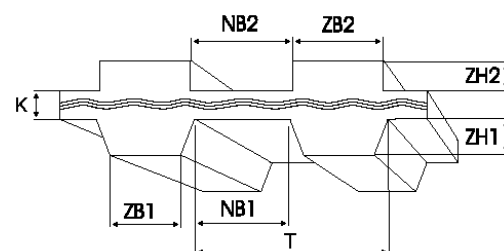
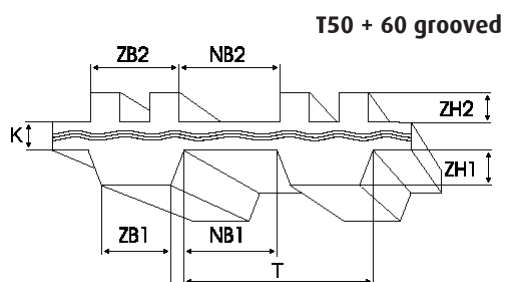
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 280309	*	28	10	7	18	21	3	9
DN 320309		32	14	11	18	21	3	9
DN 360309		36	16	10	20	26	3	9
DN 400309		40	20	14	20	26	3	9
DN 420309		42	22	16	20	26	3	9
DN 450309		45	25	19	20	26	3	9
DN 500309	*	50	30	25	20	25	3	9
DN 600309	*	60	35	34	25	26	3	9

DN-Low profile, type 1200



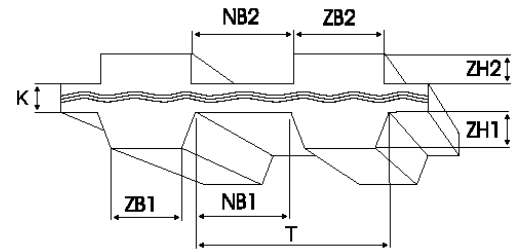
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 320309	*	32	14	11	18	21	3	9
DN 360309	*	36	16	10	20	26	3	9
DN 400309	*	40	20	14	20	26	3	9
DN 420309	*	42	22	16	20	26	3	9
DN 450309	*	45	25	19	20	26	3	9
DN 500309		50	30	25	20	25	3	9
DN 600309		60	35	34	25	26	3	9

DN-High profile, type 900



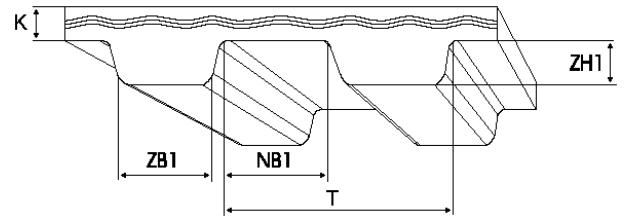
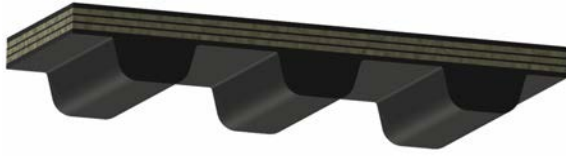
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 280909	*	28	9	9	14	19	9,5	9
DN 350909		35	15,3	14	15	21	9,5	9
DN 400909		40	16,3	14	19	26	9,5	9
DN 430909	*	43	16,2	17	21,5	26	9,5	9
DN 440909		44	17,1	18	21,5	26	9,5	9
DN 500909	*	50	19,7	24	25	26	9,5	9
DN 600907	*	60	27,5	33	27	27	9,5	7,5
DN 600909	*	60	27,5	34	27	26	9,5	9

DN-High profile, type 1200



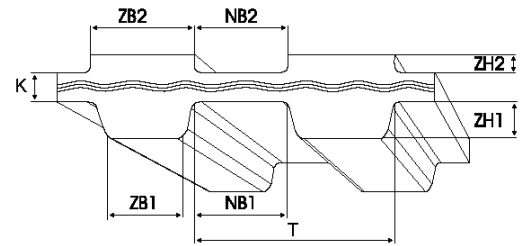
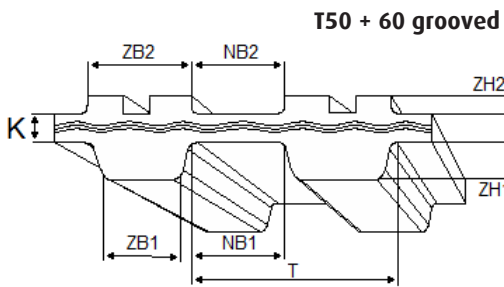
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 350907		35	15,3	13,5	15	21,5	9,5	7,5
DN 400907		40	16,3	18,5	19	21,5	9,5	7,5
DN 430907	*	43	16,2	18	21,5	25	9,5	7,5
DN 440907	*	44	17,1	18	21,5	26	9,5	7,5
DN 500907		50	19,7	25	25	25	9,5	7,5
DN 600907	*	60	27,5	33	27	27	9,5	7,5

EN-High profile parabolic, type 1200/3



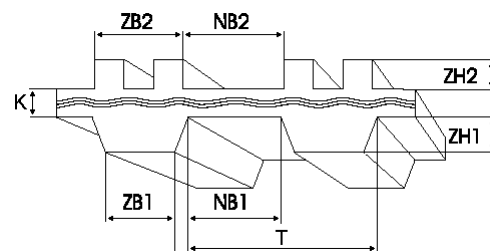
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 501200P	*	50	19	24,5	12

DN-High profile parabolic, type 511.5/3



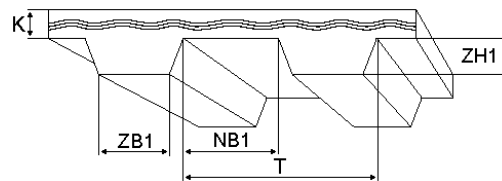
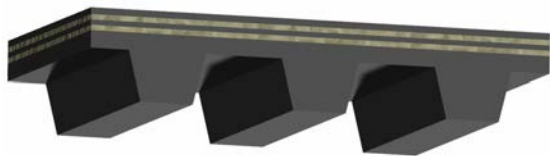
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 401209P	*	40	14,5	15	19	25	12	9
DN 501209P	*	50	19	25	24,5	25	12	9
DN 601209P	*	60	24	35	29,5	25	12	9

DN-High profile, type 900 notched



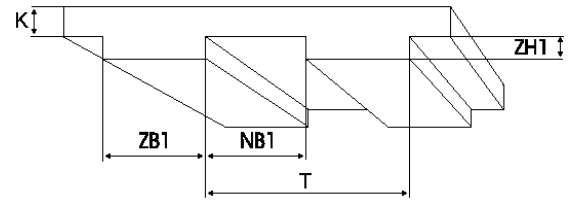
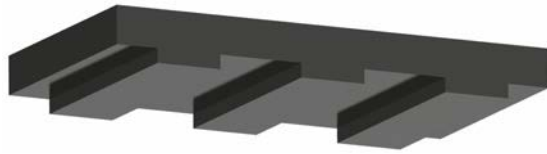
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
320505	*	32	13	14	15	18	8	8
G 350505		35	16	14,7	15	18,5	8	8
G 400505		40	17,3	18,6	19	19,5	8	8
G 440505		44	16	22,6	24	19,5	8	8
G 500505		50	16	28,6	30	19,5	8	8

EN-High profile, type 630/2



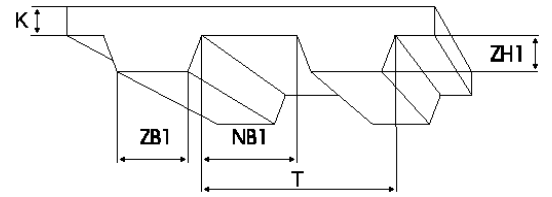
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 280900		28	9	14	9,5

EN-Low profile, type 900 (Hydro belt)



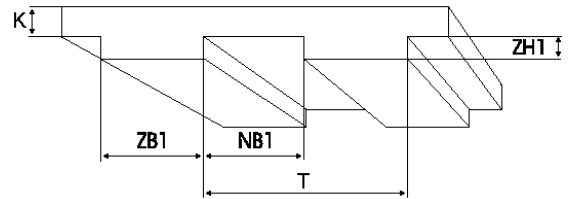
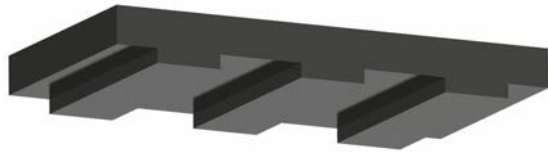
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 280300	*	28	10	18	3
EN 320300	*	32	14	18	3
EN 360300	*	36	16	20	3
EN 400300	*	40	20	20	3

EN-High profile, type 900 (Hydro belt)



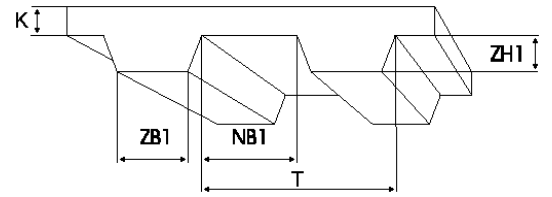
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 350900	*	35	15,3	15	9,5
EN 400900		40	16,3	19	9,5

EN-Low profile, type 900 (Solar Belt)



Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 280300	*	28	10	18	3
EN 320300	*	32	14	18	3
EN 360300	*	36	16	20	3
EN 420300	*	42	22	20	3
EN 450300	*	45	25	20	3
EN 500300	*	50	30	20	3
EN 560300	*	56	31	25	3

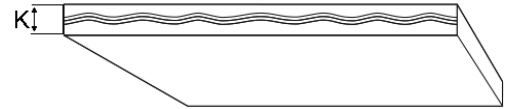
EN-High profile, type 900 (Solar Belt)



Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 350900	*	35	15,3	15	9,5
EN 400900	*	40	16,3	19	9,5

Non profile belting., EP 630/3

Belting width 60, to be cut back to 20, 30, 40, 50 mm



Description	Optional	Pitch T [mm]	Belt thickness BD [mm]
Non profile belt		All pitches	7

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Joining clips, type AB	3- 4
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Double Pivot, joining	3-11
Joining clips, type GAB	3-12
Joining clips, type GABL	3-13
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Joining clips, type BSV	3-15

General information

Three basic types of belt joints are offered, listed here in order of increasing joint strength:

- Hardened joining clips: Riveted to the belting and linked via a connector rod.
- Lapjoint: Layered over several pitches, the belt ends may consist of two or three layering steps. The ends are secured with screws and bolts. Please ask about our overlap joint options, which can include the use of threaded plates rather than nuts and bolts.
- Endlessly vulcanized joint: After the ends have been layered over several pitches, this type of joint offers the greatest degree of strength and flexibility.

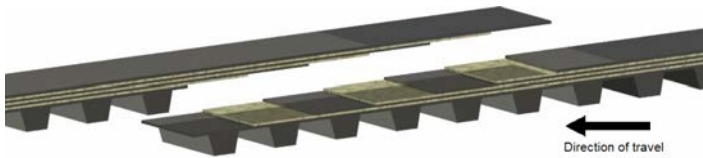
For reverse drive systems or 'S' drives and their end rollers double-pivot belt connectors are required: A metal (pitch related) extension piece is fitted between two female joining clips, using two joining rods, to offer a flexible and smooth running of the double pivot joint over drive elements.

This metal link can also be used as a length extension repair piece, if the joining clip of one traction belting tears out.

To increase operational reliability keep the following points in mind:

- The tear-out resistance of any joint remains the conveyor's weakest point!
- Any conveyor's drive must include an overload slip clutch to help prevent joint tear out.
- Use largest drive wheel option and reduce crop fall damage by means of a good rod covering.
- A tightly run conveyor increases rod, belt and joint stress, therefore more rapid wear.
- If tear-out is experienced, a good belt slack allows the fitting of a new joining clip on the next good belt pitch, without creating undue belt tension.
- Routinely check good support roller rotation to avoid undue belt stress.
- Allow for good belt slackness in the return/underside section. This improves any belt agitation system and shock load absorption and allows rocks to pass more freely between belt and end rollers.
- Because soil compaction on end rollers increases tightness of the belt, fit these with a scraper and under rocky conditions incorporate a rubber rock deflector.

Endless joints



- An endless vulcanized joint has the highest tensile of all joints. It offers about 70 percent of the traction belting's tensile strength.
- Offers an uninterrupted belt profile, which is especially helpful for high profile cam drive.
- Always preferred if the machine's design makes this a practical option. One side of the machine must be detachable for belt replacement purposes, or the frame's central cross member must be detachable.
- Subject to belt pitch, the belt ends are overlapped over 5 to 8 pitches, in three layers.
- A decal with arrow indicates direction of travel.
- This joint remains flexible for good rotation around small rollers. We do not recommend a roller diameter smaller than 90 mm.
- 1200 mm (47 inches) is the shortest possible length.

OVERLAP JOINT

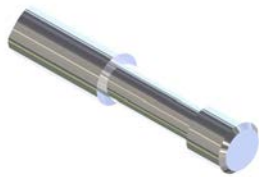


Recommended for heavy duty applications when an endless vulcanized joint is impractical.

- Offers 50 percent of the traction belting's tensile strength.
- Offers an uninterrupted belt profile, especially helpful for high profile cam drive.
- Retains similar dynamic advantages to an endlessly vulcanized joint.
- The belt ends are stepped in either two or three layers.
- Minimum end roller diameter 110 mm (4 1/4") for 2 step layered joint type.
- Minimum end roller diameter 90 mm (3 1/2") for 3 step layered joint type.
- Rivet rods are supplied loose with the conveyor.
- The users can assemble or disassemble themselves, but extra care is needed to ensure that securing bolts are well tightened and rechecked one or twice per season.
- Securing options: Compressing the rods and belt ends can either be with M6 nuts and bolts or with M6 socket head screws using threaded plates. An M6 socket head screw will require a 4 mm hexagon key.

Joining clips, type AB

Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]
4 AB 28-20		40	28	20	5	11
4 AB 28-24		40	28	24	5	11
4 AB 32-20		40	32	20	5	11
4 AB 36-20		40	36	20	5	11
4 AB 50-20		40	50	20	5	11
5 AB 28-20		50	28	20	5	11
5 AB 36-20		50	36	20	5	11
5 AB 40-20		50	40	20	5	11
5 AB 42-24		50	42	24	5	11
5 AB 45-20		50	45	20	5	11
5 AB 50-20		50	50	20	5	11
6 AB 28-32		60	28	32	5	11
6 AB 32-32		60	32	32	5	11
6 AB 36-20		60	36	20	5	11
6 AB 36-30		60	36	30	5	11
6 AB 36-32		60	36	32	5	11
6 AB 40-30		60	40	30	5	11
6 AB 42-30		60	42	30	5	11
6 AB 42-32		60	42	32	5	11
6 AB 45-32		60	45	32	5	11

Joining clips, type AF

Design joining rod

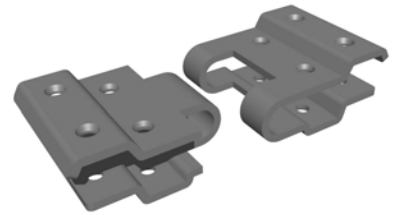
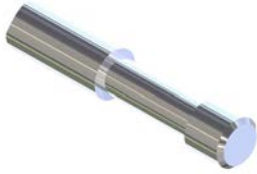


Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]
5 AF 28-20		50	28	20	5	10
5 AF 28-24		50	28	24	5,0	10
5 AF 32-20		50	32	20	5	10
5 AF 36-20		50	36	20	5	11
5 AF 40-20		50	40	20	5	11
5 AF 40-24		50	40	24	5	11
5 AF 42-20		50	42	20	5	11
5 AF 42-24		50	42	24	5	10
5 AF 45-20		50	45	20	5	11
5 AF 50-20		50	50	20	5	11
5 AF 56-20		50	56	20	5	11
6 AF 28-32		60	28	32	5	12
6 AF 28-30		60	28	30	5	12
6 AF 32-32		60	32	32	5,0 / 5,5	12
6 AF 36-30		60	36	30	5,0	12
6 AF 36-32		60	36	32	5,0 / 5,5	12
6 AF 40-32		60	40	32	5,0 / 5,5	12
6 AF 42-32		60	42	32	5,0 / 5,5	12
6 AF 45-32		60	45	32	5,0 / 5,5	12
6 AF 50-32		60	50	32	5,0 / 5,5	12
6 AF 56-32		60	56	32	5,0 / 5,5	12
6 AAF 28-32		60	28	32	5	11
6 AAF 32-32		60	32	32	5	11

* also with 12mm joining rod

Joining clips, type BC

Design joining rod



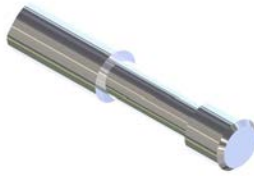
Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]
6 BC 35-20		60	35	20	5	11
6 BC 35-30		60	35	30	5	11
6 BC 35-32		60	35	32	5	11
6 BC 40-30		60	40	30	5	11
6 BC 40-32		60	40	32	5	11
6 BC 44-32		60	44	32	5	11
6 BC 50-32		60	50	32	5	11

Joining clips, type E

4-hole joining clip plate



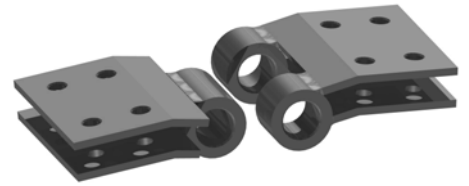
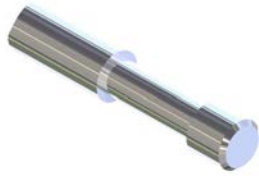
Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]
6 E 42-32		60	42	32	6	11
6 E 45-32		60	45	32	5	11
6 E 45-32		60	45	32	6	11
6 E 50-32		60	50	32	5	11
6 E 50-32		60	50	32	6	11

Joining clips, type G

Design joining rod



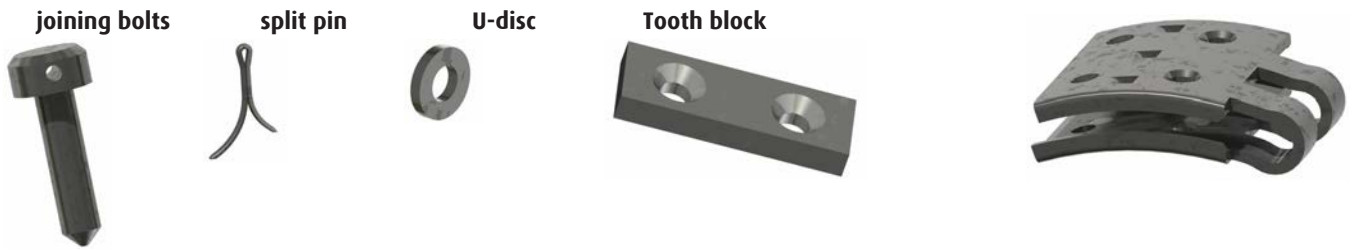
Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]
2 G 28-0		20	28	-	5	11
2 G 32-0		20	32	-	5	11
2 G 40-0		20	40	-	5	11
3 G 32-0		30	32	-	5	11
3 G 35-0		30	35	-	5	11
3 G 42-0		30	42	-	5	11
3 G 45-0		30	45	-	5	11
4 G 28-20		40	28	20	5	11
4 G 40-20		40	40	20	5	11
5 G 22-20		50	22	20	5	11
5 G 28-20		50	28	20	5	11
5 G 32-20 A	*	50	32	20	5	11
5 G 36-20		50	36	20	5	11
5 G 36-20 A	*	50	36	20	5	11
5 G 40-20		50	40	20	5	11
5 G 42-20		50	42	20	5	11
5 G 42-20 A	*	50	42	20	5	11
5 G 45-20		50	45	20	5	11
5 G 50-20		50	50	20	5	11
6 G 22-32		60	22	32	5	11
6 G 28-32		60	28	32	5	11
6 G 32-30		60	32	30	5	11
6 G 32-32		60	32	32	5	11
6 G 35-30		60	35	30	5	11
6 G 35-32		60	35	32	5	11
6 G 36-20		60	36	20	5	11
6 G 36-30		60	36	30	5	11
6 G 36-32		60	36	32	5	11
6 G 40-20		60	40	20	5	11
6 G 40-30		60	40	30	5	11
6 G 40-32		60	40	32	5	11
6 G 42-32		60	42	32	5	11
6 G 45-30		60	45	30	5	11
6 G 45-32		60	45	32	5	11
6 G 50-30		60	50	30	5	11
6 G 50-32		60	50	32	5	11

Joining clips, type LW
(Low-profile)



Description	Optional	Hole Distance LA [mm]	Max. bolt Ø BD [mm]
5 LW 28-24 FZ		24	8
5 LW 32-24 FZ		24	8
5 LW 33-24 FZ		24	8
5 LW 36-24 FZ		24	8
5 LW 40-24 FZ		24	8
5 LW 42-24 FZ		24	8
5 LW 43-24 FZ		24	8
5 LW 44-24 FZ		24	8
5 LW 45-24 FZ		24	8
5 LW 50-24 FZ		24	8
6 LW 36-30/32 FZ		30 / 32	10
6 LW 40-30/32 FZ		30 / 32	10
6 LW 42-30/32 FZ		30 / 32	10
6 LW 50-30/32 FZ		30 / 32	10

Joining clips, type LW
(High-profile)

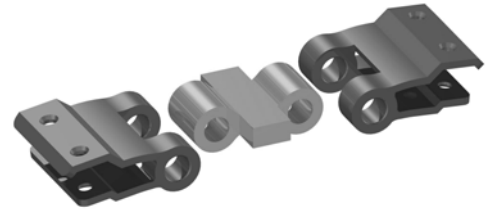
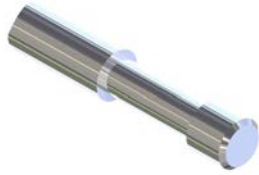


Description	Optional	Hole Distance LA [mm]	Max. bolt Ø BD [mm]
5 LW 28-24 HZ		24	8
5 LW 35-24 HZ		24	8
5 LW 40-24 HZ		24	8
5 LW 43-24 HZ		24	8
5 LW 44-24 HZ		24	8
5 LW 50-24 HZ		24	8
6 LW 35-30/32 HZ		30 / 32	10
6 LW 40-30/32 HZ		30 / 32	10
6 LW 50-30/32 HZ		30 / 32	10

Double Pivot, joining

'Double Pivot, joining

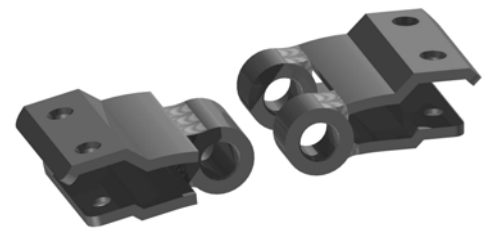
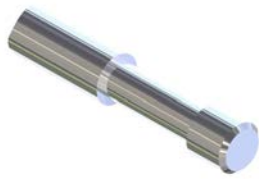
Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Max. rod Ø [mm]
DP28GAB		60	28	12
DP32GAB		60	32	12
DP35GAB		60	35	12
DP36GAB		60	36	12
DP40GAB		60	40	12
DP42GAB		60	42	12
DP44GAB		60	44	12
DP45GAB		60	45	12
DP50GAB		60	50	12
DP28-50		50	28	12
DP28-60		60	28	12
DP35-50		50	35	12
DP35-60		60	35	12

Joining clips, type GAB

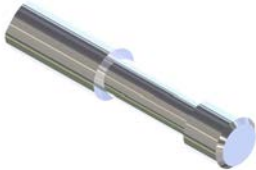
Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]
5 GAB 32-20		50	32	20	6	12
6 GAB 28-20		60	28	20	6	12
6 GAB 28-30		60	28	30	6	12
6 GAB 28-32		60	28	32	6	12
6 GAB 32-32		60	32	32	6	12
6 GAB 36-20		60	36	20	6	12
6 GAB 36-30		60	36	30	6	12
6 GAB 36-32		60	36	32	6	12
6 GAB 40-20		60	40	20	6	12
6 GAB 40-30		60	40	30	6	12
6 GAB 40-32		60	40	32	6	12
6 GAB 42-32		60	42	32	6	12
6 GAB 44-20		60	44	20	6	12
6 GAB 44-30		60	44	30	6	12
6 GAB 45-32		60	45	32	6	12
6 GAB 50-20		60	50	20	6	12
6 GAB 50-30		60	50	30	6	12
6 GAB 50-32		60	50	32	6	12

Joining clips, type GABL

Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]
6 GABL 36-32		60	36	32	6	12
6 GABL 42-32		60	42	32	6	12

Joining clips, type BS

Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Bolts	Max. rod Ø [mm]
5 BS 30-24		50	30	24	M6	10
6 BS 35-30		60	35	30	M6	10
6 BS 35-32		60	35	32	M6	10
75 BS 35-55		75	35	55	M6	10

Joining clips, type BSV



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]
6 BSV 35-30		60	35	30	5
6 BSV 40-30		60	40	30	5

General information	4- 1
NOS	4- 2
Highflex	4- 3
Superflex	4- 4
KS-centre clamp	4- 5
Haulm web clamp	4- 6
Haulm web 3-lips clamp	4- 7
Haulm web 4-lips clamp	4- 8
P-clip	4- 9
WB-type clip	4-10
Centre clip (for a complete rod)	4-11
Centre clip (for half a rod)	4-12
Further centre belt constructions	4-13

General information

Wide conveyor belts are often fitted with one or more center belts, the rod securing method can be completed in various ways, but there are two main methods:

1. Riveting the rod in the center: Such rods are usually supplied rod with convexity down. Up convexity is optional. We offer the following designs:

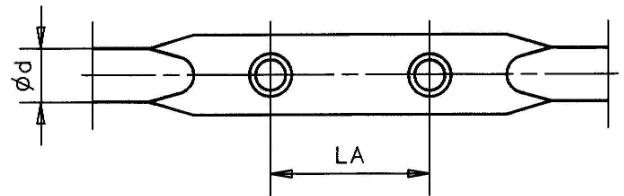
NOS-2	The rod-center is heated & flattened for two rivet holes.
NOS-1	The rod-center is heated & flattened for one rivet hole.
Superflex	Specially reinforced (wider)central rod-forging, flattened with two rivet holes.
Highflex	Specially reinforced (wider & thicker) central rod-forging,flattened with two rivet holes.
Off-set	2 belt rod riveted to every other central center belt pitch.

2. Securing the rod with a clamp: Normally supplied with rod convexity up. The round rod lays on top of the belting. Therefore special 3TB tooth drive sprockets are needed (see chapter 8, sprockets & drive wheels). Down convexity forging can only be created to the rod ends. The WB-clip is internationally also referred to as P-clip.

WB-clamp	Sheet metal with 2 rivet holes. Fits around rod.
P-clamp	Sheet metal clamp with 1 rivet hole. Fits around rod
KS-clamp	Malleable cast clamp. Fits in and under belt profile. Is crimped around rod on either side of belting.
2 lip clamp (Haulmweb clip)	U-type sheet metal clamp with 2 vertical lips crimped around rod.
3 lip clamp	U-type sheet metal clamp with 3 vertical lips crimped around rod.
4 lip clamp	U-type sheet clamp with 4 vertical lips crimped around rod.

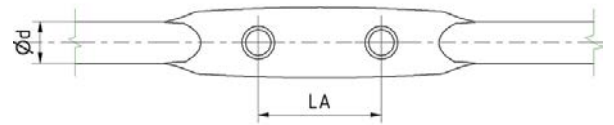
NOS

NOS also possible with 1 hole



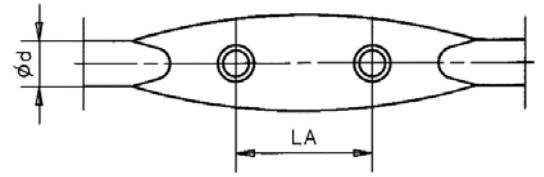
Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Rod ϕ d [mm]	Rivet ϕ [mm]
NOS-2		40 50 60 75	20-24-30-32	8	5,0
NOS-2		40 50 60 75	20-24-30-32	9	5,0
NOS-2		40 50 60 75	20-24-30-32	10	5,0 / 5,5
NOS-2		40 50 60 75	20-24-30-32	11	5,0 / 5,5 / 6,0
NOS-2		40 50 60 75	20-24-30-32	12	5,0 / 5,5 / 6,0
NOS-2		40 50 60 75	20-24-30-32	13	5,0 / 5,5 / 6,0
NOS-2		40 50 60 75	20-24-30-32	15	5,0 / 5,5 / 6,0
NOS-1		20 30 40 50 60	-	8	5,0
NOS-1		20 30 40 50 60	-	9	5,0
NOS-1		20 30 40 50 60	-	10	5,0 / 5,5
NOS-1		20 30 40 50 60	-	11	5,0 / 5,5 / 6,0
NOS-1		20 30 40 50 60	-	12	5,0 / 5,5 / 6,0
NOS-1		20 30 40 50 60	-	13	5,0 / 5,5 / 6,0
NOS-1		20 30 40 50 60	-	15	5,0 / 5,5 / 6,0

Highflex



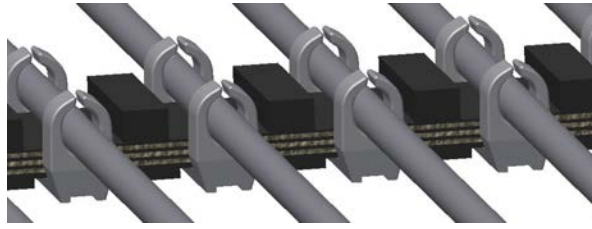
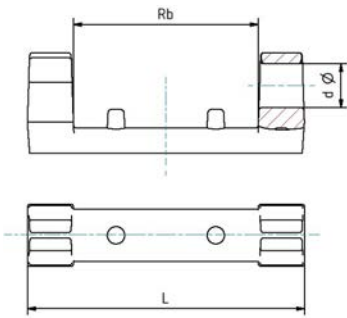
Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Rod $\varnothing d$ [mm]	Rivet \varnothing [mm]
Highflex		40 50 60 75	20-24-30-32	9	5
Highflex		40 50 60 75	20-24-30-32	10	5,0 / 5,5
Highflex		40 50 60 75	20-24-30-32	11	5,0 / 5,5 / 6,0
Highflex		40 50 60 75	20-24-30-32	12	5,0 / 5,5 / 6,0
Highflex		40 50 60 75	20-24-30-32	13	5,0 / 5,5 / 6,0
Highflex		40 50 60 75	20-24-30-32	15	5,0 / 5,5 / 6,0

Superflex



Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Rod Ø d [mm]	Rivet Ø [mm]
Superflex		40 50 60 75	20-24-30-32	9	5
Superflex		40 50 60 75	20-24-30-32	10	5,0 / 5,5
Superflex		40 50 60 75	20-24-30-32	11	5,0 / 5,5 / 6,0
Superflex		40 50 60 75	20-24-30-32	12	5,0 / 5,5 / 6,0
Superflex		40 50 60 75	20-24-30-32	13	5,0 / 5,5 / 6,0
Superflex		40 50 60 75	20-24-30-32	15	5,0 / 5,5 / 6,0

KS-centre clamp



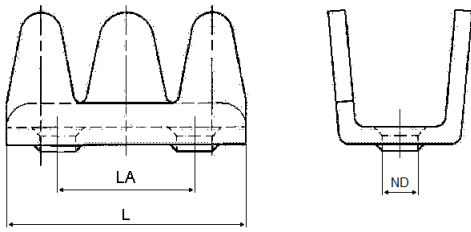
Description	Optional	Belting width R_b [mm]	Width of the bracket L [mm]	Rod \varnothing d [mm]
KS 10		60	90	10
KS 11		60	90	11
KS 12		60	90	12

Haulm web clamp



Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod Ø d [mm]	Rivet Ø ND [mm]
Haulm web clamp		50	24	8 - 10	5
Haulm web clamp		30	central	8 - 10	5

Haulm web 3-lips clamp



Description	Optional	Width of the bracket L [mm]	Belting width [mm]	Hole Distance LA [mm]	Rod Ø d [mm]	Rivet Ø [mm]
3 lip clamp		35	40 - 50	20	V-pintle rod	5
3 lip clamp		35	25 - 50	central, 1Hole	V-pintle rod	5
3 lip clamp			40 - 50	24	V-pintle rod	5
3 lip clamp VKB-3x			60	30-32	V-pintle rod	5

Haulm web 4-lips clamp



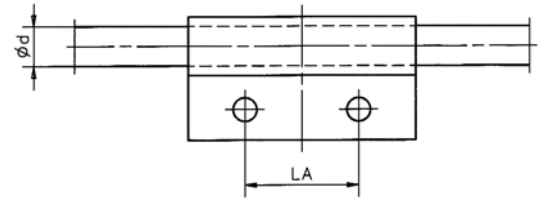
Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod Ø d [mm]	Rivet Ø ND [mm]
4-lips clamp		50 – 60	20	12 x 6 (flat)	5
4-lips clamp		50 – 60	32	12 x 6 (flat)	5

P-clip



Description	Optional	Belting width [mm]	Rod Ø d [mm]	Rivet Ø [mm]
P-clip		20	8	5
P-clip		20	10	5
P-clip		20	11	5
P-clip		30	11	5
P-clip		20	12	5

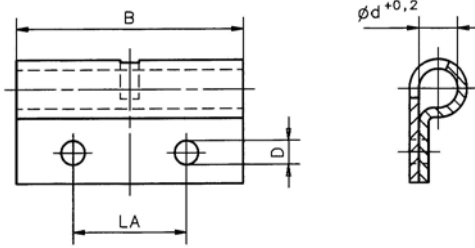
WB-type clip



Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Rod ϕ d [mm]	Rivet ϕ [mm]
WB-Type clip		50	20	8	5
WB-Type clip		60 - 75	32	10	5
WB-Type clip		60 - 75	30	11	5
WB-Type clip		60 - 75	30	11	6
WB-Type clip		60 - 75	32	11	6
WB-Type clip		60 - 75	32	12	6

Centre clip (for a complete rod)

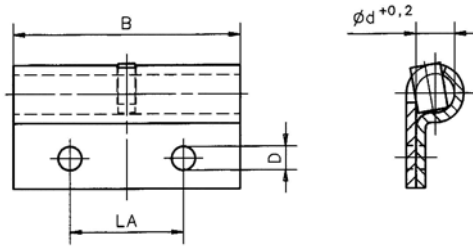
standard: not hardened



Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod ϕ d [mm]	Rivet ϕ ND [mm]
Centre clip/21		50	24	10	6
Centre clip/23	*	50	24	11	6
Centre clip/24	*	50	24	12	6
Centre clip/25	*	50	24	12.5	6
Centre clip/35	*	60	24	10	5.5
Centre clip/30	*	60	24	10	6
Centre clip/32	*	60	24	11	6
Centre clip/33	*	60	24	12	6
Centre clip/34	*	60	24	12.5	6
Centre clip/01		60	30	10	6
Centre clip/03		60	30	11	6
Centre clip/04		60	30	12	6
Centre clip/05		60	30	12.5	6
Centre clip/06	*	60	30	14	6
Centre clip/11	*	60	32	10	6
Centre clip/13	*	60	32	11	6
Centre clip/14	*	60	32	12	6
Centre clip/36	*	60	32	12.5	5.5
Centre clip/15	*	60	32	12.5	6
Centre clip/40		75	55	11	6
Centre clip/41	*	75	55	12	6

Centre clip (for half a rod)

standard: not hardened



Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod ϕ d [mm]	Rivet ϕ ND [mm]
Centre clip/21		50	24	10	6
Centre clip/23	*	50	24	11	6
Centre clip/24	*	50	24	12	6
Centre clip/25	*	50	24	12.5	6
Centre clip/35	*	60	24	10	5.5
Centre clip/30	*	60	24	10	6
Centre clip/32	*	60	24	11	6
Centre clip/33	*	60	24	12	6
Centre clip/34	*	60	24	12.5	6
Centre clip/01		60	30	10	6
Centre clip/03		60	30	11	6
Centre clip/04		60	30	12	6
Centre clip/05		60	30	12.5	6
Centre clip/11	*	60	32	10	6
Centre clip/13	*	60	32	11	6
Centre clip/14	*	60	32	12	6
Centre clip/36	*	60	32	12.5	5.5
Centre clip/15	*	60	32	12.5	6
Centre clip/40		75	55	11	6

Further centre belt constructions

overlapped riveted



Off-set riveted



Off-set riveted 4-belts



General information	5- 1
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Cranked rods	5- 4
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Welded twin rod	5- 7
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Element-droplink	5- 9
Element droplink	5-10

General information

The manufacturing process of a rivet rod is comprised of various operations:

- The round steel is cut to length in relationship to the conveyor's width specification.
- If the rod's centre is to be secured to one or more central traction beltings by rivets, those areas are heated, forged/flattened and punched. For Super-Flex ® and High-Flex centres the heated rod is subjected to compression which forms a hot bulbous mass at the belting attachment areas.
- These hot areas are formed into the shape of our proprietary Super-Flex ® and High-Flex centres which give the rod an increased cross-section in its weakest spot, the attachment area/rivet holes of the centre beltings.
- No central area heat treatment takes place if the rod is to be secured to the belting by means of central retaining clamps/clips.
- The rod ends are then heated prior to the forge/flattening process, which also forms the rod's convexity and, if applicable, the rod is cranked, then punched with optionally spaced rivet holes.
- If required with heavy duty applications, the rod can be hardened and stress relieved to maintain consistent material properties over its full length.

The centre to centre distance between a rod's outer rivet holes is called the 'Stickmark' or 'Stokmaat' which for Broekema Holland & Broekema U.S.A. determines a steel rod length for production purposes to arrive at a total beltwidth.

Artemis Germany requires a rod's overall length measurement (rod width) to determine the conveyor's overall width. It is very important to refer to either the stickmark or the rod width when ordering replacement rods.

Steel qualities:

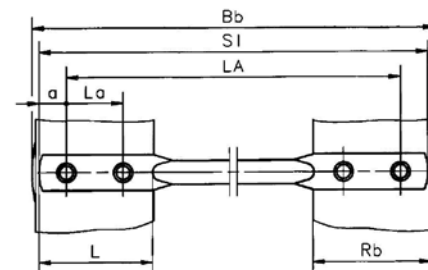
- Spring steel: This steel quality is cold drawn and available in classes B, C or S. It offers a very high hardness & wear resistance. Subject to rod pitch & rod stress loading, these steels are suitable in many normal to heavy applications.
- Hot rolled steel 55Si7 & Boron alloyed steel are suited to post hardening and a stress relief process. They are good for extreme load applications. The Boron-alloyed steel is well suited to applications which involves welding-on metal pins, steel risers/flights, etc.. Whilst heat treating & forge flattening reduces the base material's strength, the rod's strength will be consistent over its total length, if the rod is hardened & stress relieved.
- Stainless steel rods are available in 305 quality for belt-assemblies which run into salt- or underwater conditions in order not to effect rusting.

Weight saving is possible by using aluminum or fiberglass rods. Their ends are enclosed in special end pieces which allow riveting to the belting.

Twin rods divides the belt pitch over 2 rods, offering narrow rod clearances which can be further reduced by means of rod coverings. To avoid Twin-rod wear, special Twin-rod conveyors are usually friction or cam driven.




Hole distance

possible design



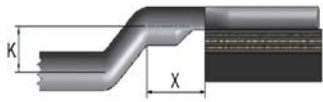

Description	Optional	Belting width Rb [mm]	Standard	Hole Distance La [mm]	Hole Distance LA [mm]	Rod Ø d [mm]	Distance a [mm]	Width B [mm]
Rod		50	X	24			11,5	
Rod		60	X	30			13,5	
Rod		60	X	32			12,5	
Rod		75	X	30			21	
Rod		75	X	32			20	
Rod			X			8		13
Rod			X			9		15
Rod			X			10		17
Rod			X			11		19
Rod			X			12		17
Rod			X			12,5		18
Rod			X			7		10
Rod			X			8		12
Rod			X			9		14
Rod			X			10		15
Rod			X			11		16
Rod			X			12		17
Rod			X			13		19
Rod			X			15		22
Rod		40	X	20	belt width- 23			
Rod		45		20	belt width- 28			
Rod		50	X	20	belt width- 33			
Rod		50		24	belt width- 29			
Rod		60		30	belt width- 35			
Rod		60	X	32	belt width- 31			
Rod		75		30	belt width- 40			
Rod		75	X	32	belt width- 46			
Rod		75		38	belt width- 40			

Rod ends
possible design

Description	Optional	Picture	Convexity
Convexity Down			Convexity down
Convexity Up			Convexity up
Central Convexity	*		Central convexity

Cranked rods

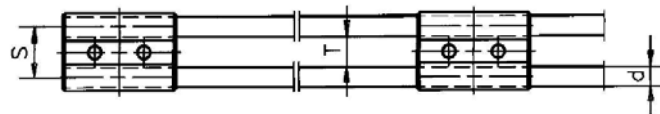
possible design

Description	Optional Picture	Max. cranked K	Broekema min. X	Artemis min. X	Broekema standard K
Ro		-70	0		intervals from 5 mm
Ru		+70	0		intervals from 5 mm

Rod material (technical details)

Description	Optional	Raw material Nr.	Rod Ø d [mm]	Possible design not hardened	Possible design hardened
Steel		1.7223	5	X	
Steel		1.7223	6	X	
Steel		1.7223	7	X	
Steel		1.7223	8	X	
Steel		1.7223	9	X	
Steel		1.7223	10	X	
Steel		1.7223	8	X	
Steel		1.7223	9	X	
Steel		1.7223	10	X	
Steel		1.7223	11	X	
Steel		1.7223	12	X	
Steel	*	1.7223	13,5	X	
Steel			10	X	
Steel			11	X	
Steel			12	X	
Steel			12,5	X	
Steel		1.0904	10	X	X
Steel		1.0904	11	X	X
Steel		1.0904	12	X	X
Steel		1.0904	13	X	X
Steel		1.0904	15	X	X
Steel		SB27M12CB	10		X
Steel		SB27M12CB	11		X
Steel		SB27M12CB	12		X
Steel		SB27M12CB	13		X
Stainless Steel		304	6		
Stainless Steel	*	304	7		
Stainless Steel	*	304	8		
Stainless Steel	*	304	9		
Stainless Steel	*	304	10		
Stainless Steel	*	304	11		
Stainless Steel	*	304	12		
Stainless Steel	*	304	13		
Fibreglass			6		
Fibreglass			8		
Fibreglass			10		

Twin-rods



Description	Optional	Pitch [mm]	Rod pitch	Rod Ø d [mm]	Gap between rods [mm]	Steel	Stainless Steel	GFK
Twin-rods		28	14	5	9	X	X	
Twin-rods		28	14	6	8	X	X	
Twin-rods		32	16	5	11	X		
Twin-rods		32	16	6	10	X		
Twin-rods		32	16	7	9	X		
Twin-rods		32	16	8	8	X	X	X
Twin-rods		35	17.5	5	12.5	X		
Twin-rods		35	17.5	6	11.5	X		
Twin-rods		35	17.5	7	10.5	X	X	
Twin-rods		35	17.5	8	9.5	X	X	X
Twin-rods		35	17.5	9	8.5	X		
Twin-rods		36	18	5	13	X		
Twin-rods		36	18	6	12	X	X	
Twin-rods		36	18	7	11	X	X	
Twin-rods		36	18	8	10	X	X	X
Twin-rods		36	18	10	8	X	X	X
Twin-rods		40	20	5	15	X		
Twin-rods		40	20	6	14	X	X	
Twin-rods		40	20	7	13	X	X	
Twin-rods		40	20	8	12	X		X
Twin-rods		40	20	9	11	X		
Twin-rods		40	20	10	10	X	X	X
Twin-rods		42	21	5	16	X	X	
Twin-rods		42	21	6	15	X		
Twin-rods		42	21	7	14	X	X	
Twin-rods		42	21	8	13	X		X
Twin-rods		44	22	5	17	X		
Twin-rods		44	22	6	16	X	X	
Twin-rods		44	22	7	15	X		
Twin-rods		44	22	8	14	X	X	X
Twin-rods		45	22.5	5	17.5	X		
Twin-rods		45	22.5	6	16.5	X	X	
Twin-rods		45	22.5	7	15.5	X		
Twin-rods		45	22.5	8	14.5	X	X	X
Twin-rods		50	25	5	20	X		
Twin-rods		50	25	6	19	X		
Twin-rods		50	25	7	18	X	X	
Twin-rods		50	25	8	17	X		X
Twin-rods		50	25	9	16	X	X	
Twin-rods		56	28	5	23	X		
Twin-rods		56	28	7	21	X		

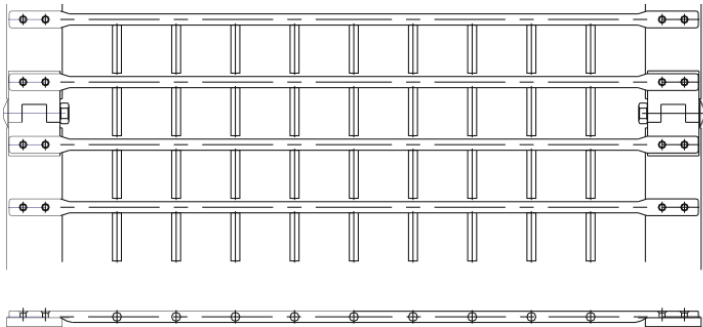
Welded twin rod



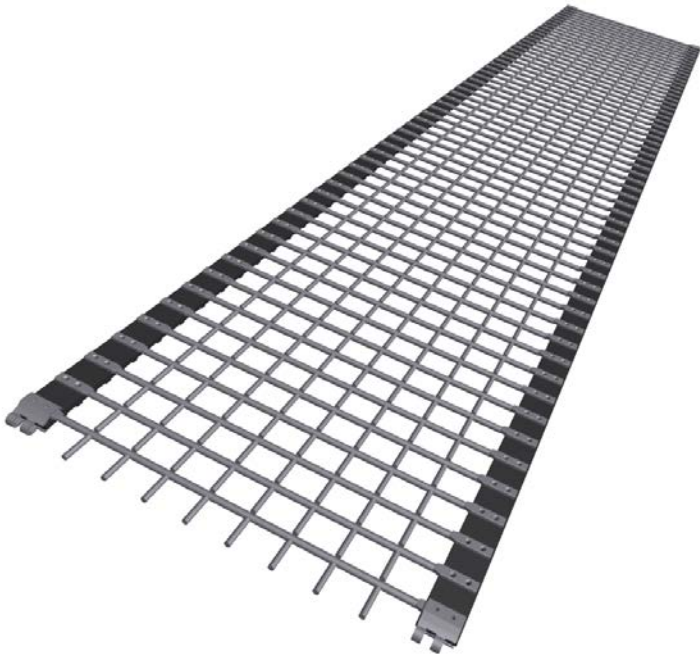
Description	Optional	Rod Ø d [mm]	Boron	Stainless Steel
Welded twin rod		8	X	X
Welded twin rod		9		X
Welded twin rod		10	X	X
Welded twin rod		11	X	X
Welded twin rod		12	X	X

This rod type is available in many versions. Ask our technical department for the possibilities.

Belt assemblies with square mesh design



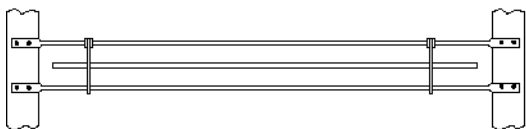
- standard
- optional
- optional



Droplink

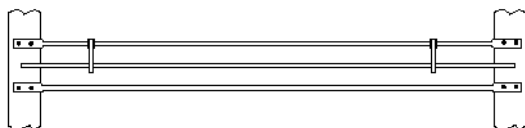
possible design

Design of belt with two traction belts

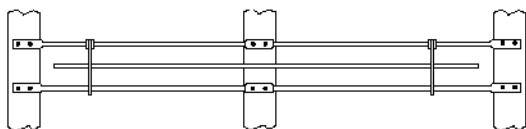


standard

optional

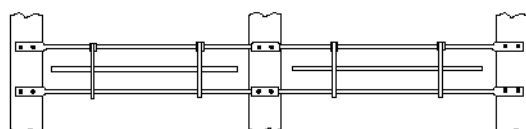


Design of belt with three traction belts

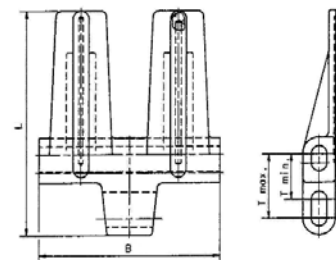


standard

optional



Element droplink



Description	Optional	Raw material Nr.	Max. rod Ø Sdmax [mm]	Length L [mm]	Min. Pitch Tmin [mm]	Max. pitch Tmax [mm]	Width B [mm]
droplink	*	rubber	13	195	40	50	160
droplink		PU	13	195	40	50	160
droplink		PU	13	200	40	40	160

General information	6- 1
Pintle rod, 1 row	6- 2
Pintle rods, 1-row	6- 3
Pintle rod, 2 row	6- 4
Pintle rod, 4 row	6- 5
Pintle rod, V-profile	6- 6
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Rivet rods for flights	6- 8
Rubber covered rod (bonded)	6- 9
C-Flex	6-10
PEG-link	6-11
Pintle plate rods	6-12
PES Elavatorweb	6-13
V-pintle rod	6-14

General information

Vulcanized rods are used in many harvesting machines. We can offer these rods for different applications, such as:

- 1-Row pintle rods to be used as flight
- Carefully clean and sieve with V-profile pintle rods
- Transporting and cleaning with H-pintle rods and pintle plates
- Wear and noise protection for flights and droplinks
- C-Flex for bruise protection and to be used as flight
- Rods for wide mesh haulm webs

We have extensive possibilities to offer vulcanized rods for many widths and designs.

We can supply V-profile pintle rods for webs with one or more center belts, with the possible use of 3-lip clamps to secure the rods on to the belting.

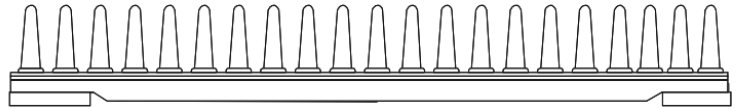
Pintle rods on flat steel (30x4) can be cut off at each required width.

Rubber compounds with different hardnesses, tailored to your application are available, thus harvesting your fragile crop carefully. High wear resistance will guarantee a long durability.

Our products are characterized by a particularly high bond strength between rubber and metal, where our laboratory ensures a high level quality.

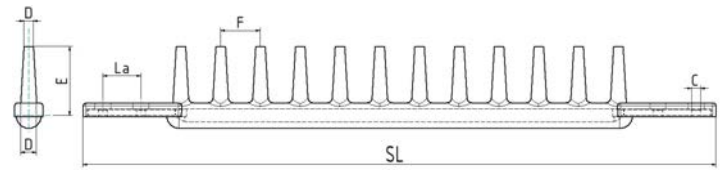
We develop new mixtures and have access to our own mixing installation for new or further development of your products.

Pintle rod, 1 row



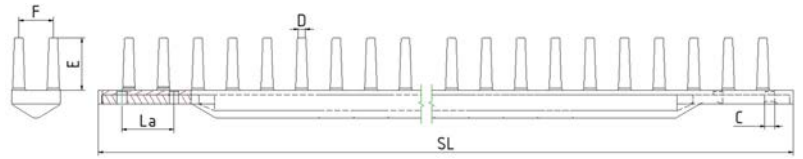
Description	Optional	Rod	Steel quality	Rod width [mm]	Pintleheight [mm]	Pintle distance	Belt width Bb [mm]
Pintle rod on a flat strip		30x4 (flat)	C 60	30	32	20	< 2000
Pintle rod on a round rod		10	Class C	30	32	20	> 456 - 1496 <Interval = 20 mm

Pintle rods, 1-row



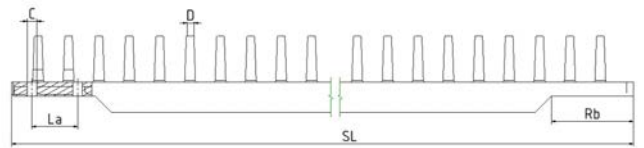
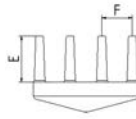
Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]
Pintle rod	*	60	20	298	5,2	6/10	35	25
Pintle rod	*	60	20	348	5,2	6/10	35	25
Pintle rod	*	50	24	394	5,7	6/10	35	25
Pintle rod	*	50	24	594	5,2	7	35	25
Pintle rod	*	60	20	673	5,2	6/10	35	25
Pintle rod	*	50	24	691	5,2	5,8/8,0	18	20,5
Pintle rod	*	60	20	698	5,2	6/10	35	25
Pintle rod	*	50	24	735	5,2	5,8/8,0	18	20,5
Pintle rod	*	50	24	748	5,2	5/12	31	21,5
Pintle rod	*	50	24	748	5,7	5/12	31	21,5
Pintle rod	*	60	32	842	5,7	8/12	37	21,5

Pintle rod, 2 row



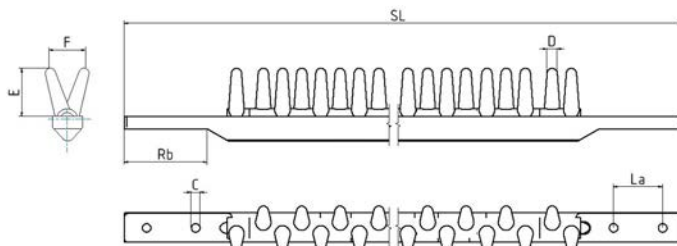
Description	Optional	Belting width Rb [mm]	Hole Distance La [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]
Pintle rod		50	24	440	6,2	7	30	20
Pintle rod		50	24	480	5,7	6	30	20
Pintle rod		60	30	480	6,2	6	30	20
Pintle rod		50	24	481	5,7	8,5	32	20
Pintle rod		60	30	604	5,7	6	30	20
Pintle rod		60	32	650	5,7	6	30	20
Pintle rod		60	30	680	6,2	6	30	20
Pintle rod		60	32	848	6,2	6	30	20
Pintle rod		60	30	895	5,2	7	30	20
Pintle rod		60	30	795	5,2	7	30	20
Pintle rod		60	30	725	5,2	6	30	20

Pintle rod, 4 row



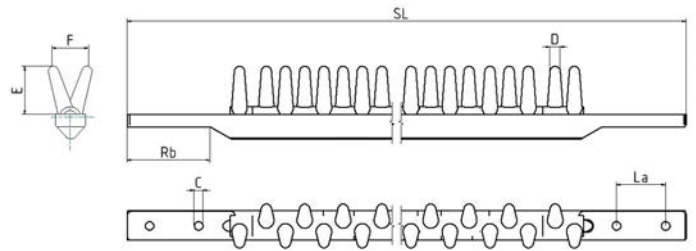
Description	Optional	Belting width Rb [mm]	Hole Distance La [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]
Pintle rod	*	60	35	648	6,5	4	45	11,7

Pintle rod, V-profile



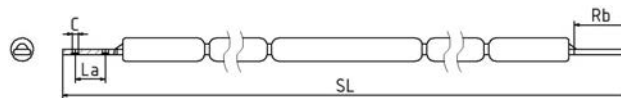
Description	Optional	Belting width Rb [mm]	Hole Distance La [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]
Pintle rod		60	32	796	5,7	cone	33,5	28
Pintle rod		60	32	842	5,7	cone	33,5	28
Pintle rod		60	32	879	5,7	cone	33,5	28
Pintle rod		60	32	879	5,7	cone	33,5	28
Pintle rod		60	32	996	5,7	cone	33,5	28
Pintle rod		60	32	996	5,7	cone	33,5	28
Pintle rod		60	30	1196	5,7	cone	33,5	28
Pintle rod		60	30	1196	5,7	cone	33,5	28
Pintle rod		60	32	1246	5,7	cone	33,5	28
Pintle rod		60	32	1246	5,7	cone	33,5	28
Pintle rod		60	32	1451	5,7	cone	33,5	28
Pintle rod		60	32	1451	5,7	cone	33,5	28
Pintle rod		60	32	1621	5,7	cone	33,5	28
Pintle rod		60	32	1621	5,7	cone	33,5	28
Pintle rod		60	32	1646	5,7	cone	33,5	28
Pintle rod		60	32	1646	5,7	cone	33,5	28
Pintle rod		60	32	1676	5,7	cone	33,5	28
Pintle rod		60	32	1676	5,7	cone	33,5	28
Pintle rod		60	32	1696	5,7	cone	33,5	28
Pintle rod		60	32	1696	5,7	cone	33,5	28

Pintle rod, V-profile 2 row



Description	Optional	Belting width Rb [mm]	Hole Distance La [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]
Pintle rod		60	30	610	5,7	5,5	26	17
Pintle rod		60	32	696	5,7	6	28	17
Pintle rod		60	30	605	5,2	7-9cone	30	23
Pintle rod		60	32	696	5,7	7-9cone	30	25
Pintle rod		60	30	725	5,2	7-9cone	30	23
Pintle rod		60	30	855	5,2	7-9cone	30	20
Pintle rod		60	30	895	5,2	7-9cone	30	23
Pintle rod		60	30	996	5,2	7-9cone	30	23

Rivet rods for flights



Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod length SL [mm]	Hole Ø C [mm]	Rod vulcanized	Vulcanized length
Rod	*	60	32	442	6,2	19	363,5
Rod	*	60	32	442	6,2	19	363,5
Rod		75	30	482	6,2	19	388.5
Rod	*	75	30	612,5	6,2	14	425
Rod	*	75	30	612,5	6,2	14	425
Rod	*	75	30	612,5	6,2	14	425
Rod		60	30	794	6,2	19	637
Rod	*	60	30	794	5,7	19	637
Rod		75	30	794	6,2	19	607
Rod	*	75	30	794	M6	19	607
Rod		60	30	814	5,7	19	657
Rod	*	75	32	839	6,2	19	652
Rod		60	30	894	6,2	19	737
Rod		75	30	894	6,2	19	707
Rod	*	60	32	894	6,2	19	737
Rod		75	30	994	6,2	19	807
Rod	*	75	32	994	6,2	19	807
Rod	*	60	30	794	6,2	19	637
Rod	*	60	30	994	6,2	19	807
Rod	*	60	32	745	5,2	16	750
Rod	*	60	32	831	6,2	19	672

Rubber covered rod (bonded)



Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod length SL [mm]	Hole Ø C [mm]	Rod vulcanized	Vulcanized length
Rod		60	30	637	5,7	14	510
Rod		60	30	586	5,7	14	430
Rod		60	30	687	5,7	14	560

C-Flex



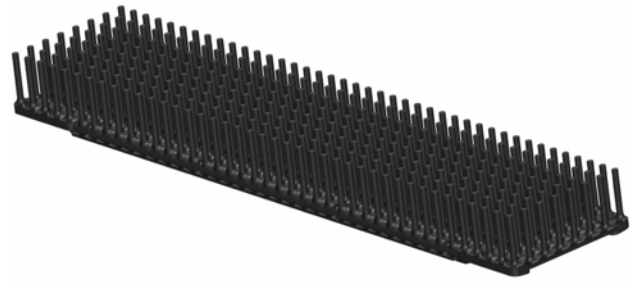
Description	Optional	Belt width Bb [mm]	Rod Ø d [mm]	Design straight with wings	Design cranked with wings
		620 [24,5 inches]	11	X	
		760 [30 inches]	11	X	X
		785 [31 inches]	11	X	X
		835 [33 inches]	11	X	X
		885 [35 inches]	11	X	X
		900 [35,5 inches]	11	X	
		910 [36 inches]	11	X	X
		985 [39 inches]	11	X	
		1015 [40 inches]	11	X	X
		1065 [42 inches]	11	X	X
		1520 [60 inches]	11	X	
		1560 [61,5 inches]	11	X	
		1570 [62 inches]	11		X
		1585 [62,5 inches]	11		X
		1610 [63,5 inches]	11	X	X
		1650 [65 inches]	11		X
		1725 [68 inches]	11	X	X
		1750 [69 inches]	11	X	X
		1775 [70 inches]	11	X	

PEG-link



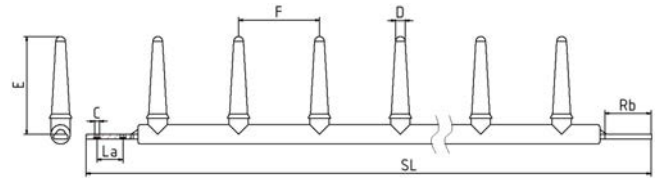
Description	Optional	Rod width [mm]	Number of traction belts	Belt width Bb [mm]	Rod Ø d [mm]	Straight rod S	Number of finger
Rod			2	740 [29 inches]	11	X	
Rod			2	765 [30 inches]	11	X	
Rod			2	790 [31 inches]	11	X	
Rod			2	815 [32 inches]	11	X	
Rod			2	840 [33 inches]	11	X	
Rod			2	890 [35 inches]	11	X	
Rod		900	2	915 [36 inches]	11	X	6
Rod		2	985 [39 inches]	11	X		
Rod		1005	2	1020 [40 inches]	11	X	7
Rod		1030	2	1045 [41 inches]	11	X	
Rod		1055	2	1070 [42 inches]	11	X	8
Rod		2	1115 [44 inches]	11	X		
Rod			3	1525 [60 inches]	11	X	
Rod			3	1575 [62 inches]	11	X	
Rod			3	1590 [62,5 inches]	11	X	
Rod			3	1615 [66,5 inches]	11	X	
Rod			3	1655 [65 inches]	11	X	
Rod			3	1730 [68 inches]	11	X	
Rod			3	1755 [69 inches]	11	X	
Rod		3	1775 [70 inches]	11	X		
Rod		3	1825 [72 inches]	11	X		

Pintle plate rods



Description	Optional	Fill-ring [mm]	Hole Distance LA [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]
Pintle plate rods		509	24	5,7	6	32
Pintle plate rods	*	509	24	5,7	4,5	52
Pintle plate rods		646,5	24	5,7	6	35
Pintle plate rods		646,5	24	5,7	4,5	2

PES Elavatorweb



Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]
	*	60	32	517	5,7	-	-	50
	*	60	32	605	5,7	-	-	50
	*	60	32	717	5,7	-	120	100
	*	60	32	817	5,7	-	120	100
	*	60	32	917	5,7	-	120	100
	*	60	32	992	5,7	-	-	50
	*	60	32	992	5,7	-	-	100
	*	60	32	1034	5,7	-	-	50
	*	60	32	1062	5,7	-	-	50
	*	60	32	1092	5,7	-	-	100
	*	60	32	589	5,7	-	-	50
	*	60	32	689	5,7	-	-	100

V-pintle rod



Description	Optional	Hole Distance LA [mm]	Belt width Bb [mm]
Rod		219 - 1044	255 - 1080

General information	7- 1
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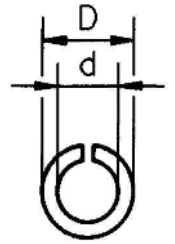
General information

Rivet rods & connector rods may be covered to reduce crop damage, or to increase rod diameter and so reduce rod gap clearance. Options are listed below in order of increased crop protection:

- **Hard black LDPE tubing:** Offers no crop cushioning protection, mainly used to increase rod diameter/reducing rod clearance.
- **"Split type" LDPE:** This is a lengthwise cut tubing, so may be fitted or removed later. Its friction fit permits a second layer of larger diameter. May be ordered cut to length or in coils.
- **Rubber 'cushion' tubing:** Fitted at time of manufacture. Undersized friction fit with a bonding agent if sprocket run clearways are needed. Without such clearways covering may be at, or greater than rod diameter. The latter increases cushioning effect. For covering joining rods, order cut to length or in coils.
- **Plastic internal star profile:** Fitted at time of manufacture. A soft plastic tube with goods cushioning effect, which improves when internal diameter need not be a friction fit on rods. For covering joining rods, order cut to length or coils.
- **Rubber internal star profile:** Same observations as for plastic type.
- **PVC 'Pillow Cushion' tubing:** Fitted at time of manufacture. Available either with friction fit to rods or with bonding agent. Internal cavities offer good crop drop protection, ideal for conveyors without sprocket run clearways. If they are needed, select a rod pitch & covering diameter combination representing an acceptable bare rod sprocket run clearance. Available cut to length or in coils.
- **Bonded or vulcanized C-flex covering:** Made at time of manufacture. Offers the highest possible level of crop drop & change of direction protection. The highly flexible upper C-profile remain clean of soil with good tear resistance. The bonded type is not subject to mold size, rod length, or rod crank limitations. An 11 mm rod is used for the vulcanized type in two or more traction belt applications. Some mold sizes also offer 'Side Ear' protection, which keep the crop from scrubbing against the machine's stationary sides.
- **Flexible rubber cover profile:** Used for completely closed belts without gaps between the rods. Designed for high profile belt pitches or other profile types at 40 or 50 mm pitch, where no sprocket clearways are needed. These sections bridge over two pitches, reducing rod quantity and conveyor weight.

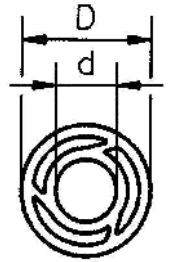
Note: 35 mm wide sprocket runs required for tooth drives of the types HS, RT, Z, NC, and 3TB. Rod covering may be full width between traction belting for types FR, FRD, KW and N. Rod clearance is determined by deducting external diameter from the rod pitch.

PVC covering - Split



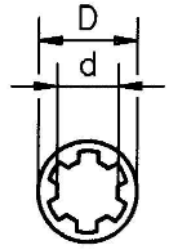
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material
Split PVC		6	9	LDPE
Split PVC		8	11	LDPE
Split PVC		9	12	LDPE
Split PVC		9	13	LDPE
Split PVC		10	14	LDPE
Split PVC		10	16	LDPE
Split PVC		10	20	LDPE
Split PVC		11	16	LDPE
Split PVC		12	16	LDPE
Split PVC		13	17	LDPE

PVC covering - Pillow-Cushion



Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material
Pillow Cushion		9,3	21,5	PVC
Pillow Cushion	*	10,4	23,6	PVC
Pillow Cushion		11,4	25,2	PVC
Pillow Cushion		11,5	24	PVC
Pillow Cushion	*	15	27	PVC

PVC covering - Star



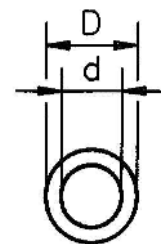
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material
Star PVC		7,7	14	PVC
Star PVC		8,5	14	PVC
Star PVC		9,5	16	PVC
Star PVC		9,5	19	PVC
Star PVC		10,5	16	PVC
Star PVC		10,5	20	PVC
Star PVC		11,5	16	PVC
Star PVC		11,5	19	PVC
Star PVC		13	20	PVC

Soft PVC



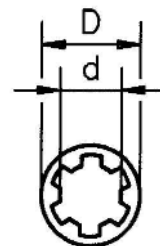
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material
Soft PVC		6,5	9	PVC

PVC covering - Full



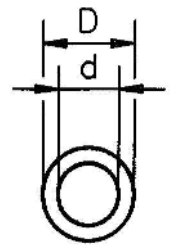
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material
covering		14	19	PVC
covering		16	20	HDPE

Rubber covering - Star



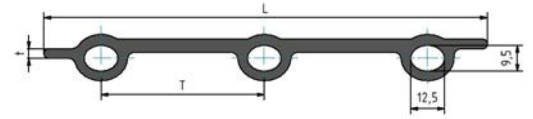
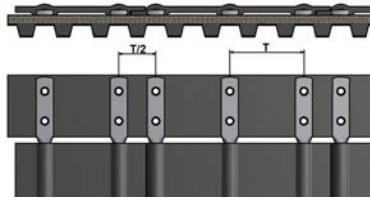
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material
Star rubber		10,7	18	rubber

Rubber covering - Full



Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material
Rubber		9	13	rubber
Rubber		9,3	16	rubber
Rubber		12	16	rubber
Rubber		13	23	rubber
Rubber		15	30	rubber
Rubber		19	29	rubber

Rubber profile



Description	Optional	Pitch T [mm]	Length L [mm]	Rod Ø d [mm]	Thickness t [mm]
T30/60		60	163	8 - 10	3,8
T40/80		80	216	8 - 10	3,8
T50/100		100	271	8 - 10	3,8

C-Flex



Description	Optional	Outside Ø D [mm]	Rod Ø d [mm]	Height H [mm]
C-Flex		16	11	32
C-Flex		18	12	32
C-Flex		24	15	

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General information

Our range of flights can be subdivided into five categories:

RFL flights

Extruded rubber flights. Order reference includes height above bare rod. When LF is added to order reference, flight top incorporates a soft lip to improve crop fall protection.

These extruded profiles are cut to length either straight or with wing shaped ends. Top length is determined by the clearance between the return rollers. Base length may be the distance between the traction belting, if friction or cam drive is used.

Toothed sprockets require sprocket run recess clearances to be cut into the base length. Sideway drifting of the flight is prevented by cutting away a central recess, into which a cable clamp is placed & secured around the flight's trailing support rod.

High stress loads may require the incorporation of hardened rods under the flight. If the flights are heavily loaded, run at steep elevation angle and small 9-10 mm diameter rods are used, then the support rods may require a rod covering to reduce the degree of flight-on-rod tilting.

MRF type flights

60 or 80 mm high rubber flights (as measured from the top of a bare rod) vulcanized to an 8 mm or 10 mm rod. Incorporates fixed end wing to base length sections, centre is adjustable in 25 mm stages.

Removable flight / Snap-on flight

An extruded 145 mm high flight profile (5 ¾ inches above bare rod) slides into & is retained by the upper section of injection moulded plastic segments.

The underside of the plastic segments fits rod pitches between 32 to 42 mm and snaps onto the rods after the belts is made.

Rubber flight profiles renewal is simplified, flights can also be easily repositioned & can be supplied loose with the belt.

Plastic flights

These flights are made in injection moulds from very durable plastic in fixed length and resists high bending & impact forces.

Flight type RM 645 (9 Fingers and length of 645 mm) can be cut to length.

Type PM 460 is recommended for the sugar beet bunker discharge conveyor (7 fingers and length of 460 mm). It offers in relation to the width and number of traction belting the following overall belt widths:

belting	belt width	quantity of flights
2 x 60 mm	580 mm	1
2 x 75 mm	610 mm	1
3 x 60 mm	1.100 mm	2
3 x 75 mm	1.145 mm	2

Greater belt width variations can be obtained with the element type plastic flights. These are mounted next to each other over two rods. The types 65 and 155 are often used in sugar beet ring type elevators.

Type 155 incorporates 2 fingers at 85 mm spacing. Type 65 has one finger and 65 mm finger to finger spacing. The spacing of the fingers can be increased by spacer elements.

The weight reduction offered by plastic flights reduce centrifugal force influences associated with steel flights.

Steel flights

We manufacture flights to your needs & illustrate here only a small number of popular types. Hardening of pivot & support rods is highly recommended.

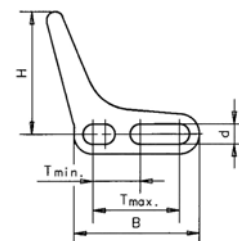
Types BR 75 and BR 77 are sugar beet harvester designs with the load stress spread over two hardened rivet rods. The vertical finger or loops are welded to an oversized tube, relative to rod diameter and can be of almost any length, diameter or shape. Whilst our drawings only illustrate one means of capturing support from the trailing rivet rod, other support design options are also possible.






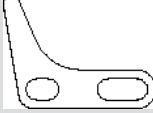
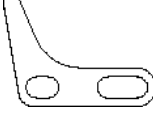
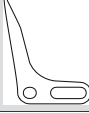



Two versions of the BR-type flight are available:







- The BR 75 type's position is retained by means of a hollow clamping pin being passed through the base tube, between central rod ends. This flight is fitted at the time of manufacture unless you specify that the pivot rod is to be secured by nuts and bolts, or bolts with threaded plates.
- The BR 77 type consists of two half sections bolted together in the centre.

A rod covering can be fitted to the pivot rod to reduce the tolerances between tube & rod, thus reducing wear & movement.

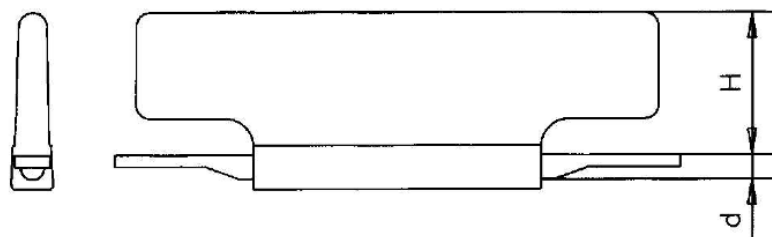
RFL-series



Description	Optional	Picture	Max. rod Ø Sdmax [mm]	Height H [mm]	Min. Pitch Tmin [mm]	Max. pitch Tmax [mm]	Width B [mm]
RFL 20			12 x 6 (flat)	26,5			25
RFL 30			12	38	28	45	63
RFL 45			11	45	28	50	84
RFL 50			12	58,5	28	50	72
RFL 50 LF			11	56	28	45	65
RFL 60			12	66	40	50	80
RFL 75			12	80	28	50	83
RFL 75 LF			12	81	28	50	78
RFL 100 LF			11	106	28	50	78
RFL 125 LF			12	137	28	50	76
RFL 140 LF			30 x 4 (flat)	146	28	50	68

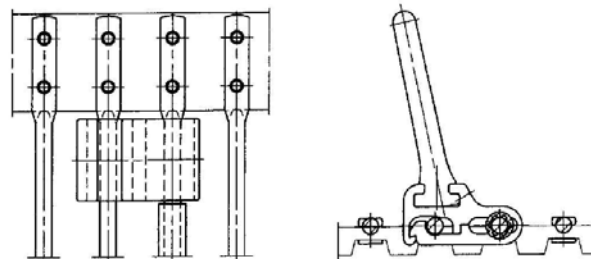
Description	Optional	Picture	Max. rod Ø Sdmax [mm]	Height H [mm]	Min. Pitch Tmin [mm]	Max. pitch Tmax [mm]	Width B [mm]
RFL 145 LF			11	163	28	50	78
RFL 150 net			30 x 4 (flat)	152,5	44	88	83
RFL 150 LF			12	157,5	28	50	78
RFL 160 LF			12	166	28	50	76
E Profile 2 lips			12 x 6 strip	26,5	-	-	25
CPP 36			20x6	50	40	-	36

MRF-series



Description	Optional	Rod Ø d [mm]	Height H [mm]	Min. length upperside [mm]	Min. length downside [mm]	Max. length upperside [mm]	Max. length downside [mm]
MRF 60	*	8 + 10	60	300	170	1750	1620
MRF 80	*	8 + 10	80	300	195	1750	1645

Removable flight / Snap on flight



Description	Optional	Max. rod Ø Sdmax [mm]	Height H [mm]	Min. Pitch Tmin [mm]	Max. pitch Tmax [mm]	Width B [mm]
Flight foot				32	42	50

Standard synthetic flight 325



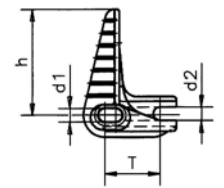
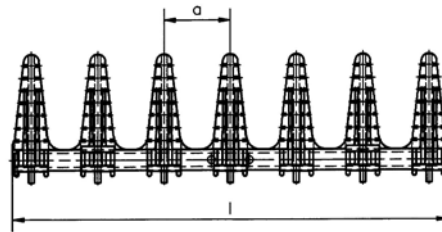
Description	Optional	Finger distance a [mm]	Length l [mm]	Height H [mm]	Rod Ø d1 [mm]	Rod Ø d2 [mm]	Pitch T [mm]
Flight		66	325	96,5	14	14	50

Standard synthetic flight 366



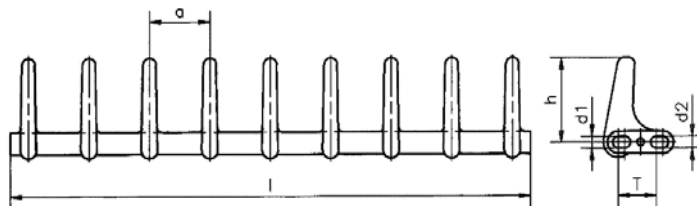
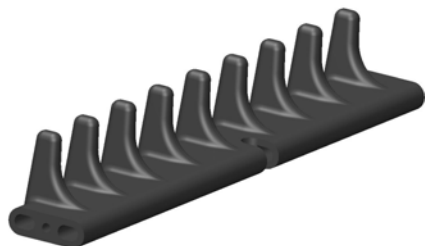
Description	Optional	Finger distance a [mm]	Length l [mm]	Height H [mm]	Rod Ø d1 [mm]	Rod Ø d2 [mm]	Pitch T [mm]
Flight		74	366	96,5	14	14	50

Standard synthetic flights 460



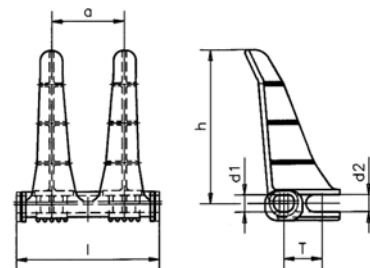
Description	Optional	Finger distance a [mm]	Length l [mm]	Height H [mm]	Rod Ø d1 [mm]	Rod Ø d2 [mm]	Pitch T [mm]
Flight		70	460	110	14	14	50

PU-flight 645



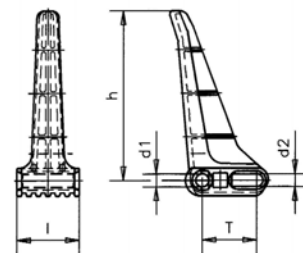
Description	Optional	Finger distance a [mm]	Length l [mm]	Height H [mm]	Rod Ø d1 [mm]	Rod Ø d2 [mm]	Pitch T [mm]
Flight		75 x9	645	103,5	14	14	50
Flight		75 x8	550	84	14	14	50
Flight		70 x12	770	110	14	14	50
Flight		70 x8	548	140	14	14	50
Flight		70 x9	640	80	14	14	50
Flight		70	645	110	14	14	50
Flight		77,5 x9	644	100	14	14	50
Flight		70 x12	770	110	12,5	12,5	50

Synthetic Element flights 155



Description	Optional	Finger distance a [mm]	Length l [mm]	Height H [mm]	Rod Ø d1 [mm]	Rod Ø d2 [mm]	Pitch T [mm]
Flight		85	155	175	19	19	40 - 50

Standard synthetic flights 65 / Distance keeper



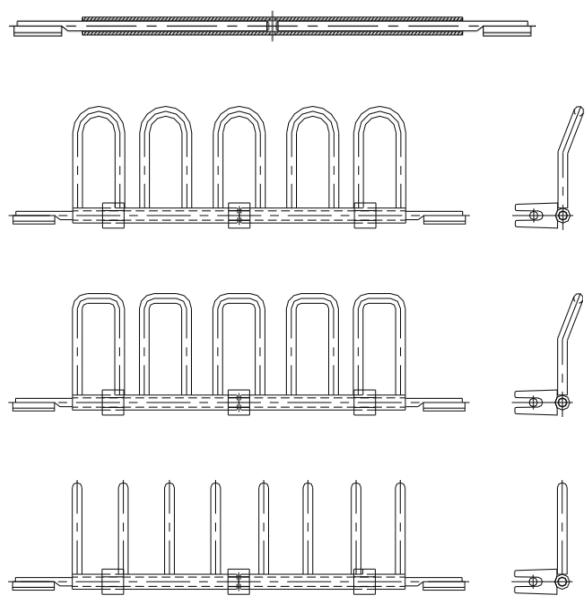
Description	Optional	Length l [mm]	Height H [mm]	Rod Ø d1 [mm]	Rod Ø d2 [mm]	Pitch T [mm]
Flight		65	175	13	13	50
Distance keeper 5		5		13	13	50
Distance keeper 10		10		13	13	50
Distance keeper 20		20		13	13	50

Steel flight BR-Typ

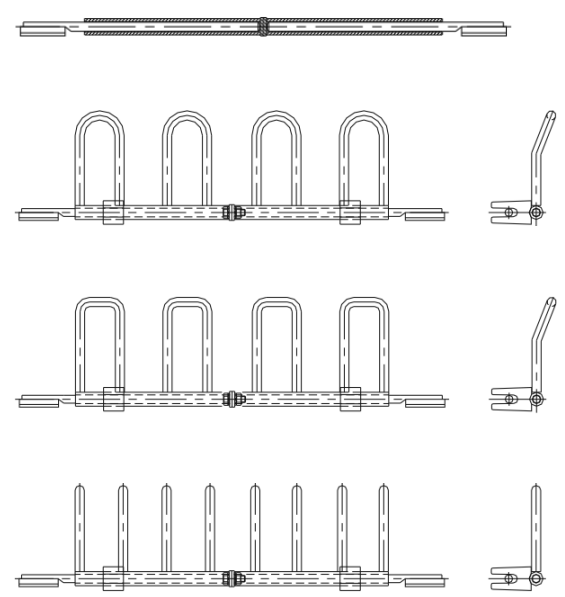
BR 75 Typ: One tube with a tightening screw in the middle

BR 77 Typ: Divided tube with a screwed joining in the middle

Design BR 75 type
(other designs upon request)

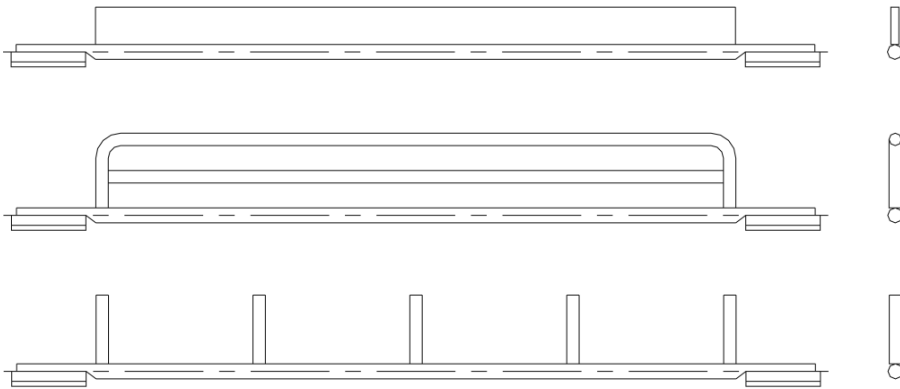


Design BR 77 type
(other designs upon request)



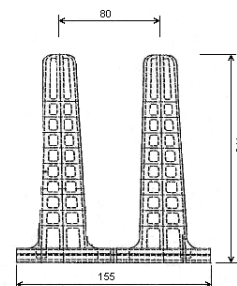
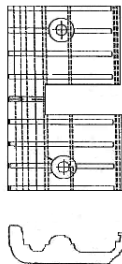
Steel flight

Designs with welded strips or pins
 (other designs upon request)



Bolt-on flight

Bottom part



Description	Optional	Finger distance a [mm]	Length l [mm]	Height H [mm]	Pitch T [mm]
Flights *		80	155	175	40 - 50

* with screw M8

General information	9- 1
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Friction Wheel, Z-Type	9- 7
Friction Wheel, ZP-Type	9- 8
Friction Wheel, GW-Type	9- 9
Duratec drive wheel	9-10
Friction Wheel, KW-Type	9-11
Friction-driving wheel, HS-Type	9-12
Friction-driving wheel, FRD-Type	9-13
Hubs	9-14

General information

We manufacture a complete product line of drive wheels for any kind of belt drive designs which are common in harvesting applications.

It is important that the belting's operational characteristics and the type of belt drive are matched for optimum conveyor reliability and rod life.

The drive wheels can be subdivided into 4 driving methods:

Driving method	Belting profile	Type of drive wheel
Via the rods	Low profiles, double profiles	HS, RT and Z
Via under belt cams	High profiles, double profiles	N
Via rods and cams	High profiles, double profiles	NC
Friction drive	All profiles	FR, FRD, HS and KW

Cast iron forms the heart of all drive options. Most sprockets and drive wheels are splittable to facilitate mounting & replacement. Wheel halves are matching pairs and must not be mixed.

Our drive wheels are supplied bored & keyed to your specification and as required, with one set screw over the key way, optionally also at 90 degrees. We can also supply a 'raw bore' to be machined by yourself.

Clamp fit: Only possible with splittable types. Hub is slightly under bored, plus 1 or 2 optional set screws. Practical when drive shafts are of reasonable close tolerance.

Keyway types and sizes are cut to German DIN (metric) or imperial standards.

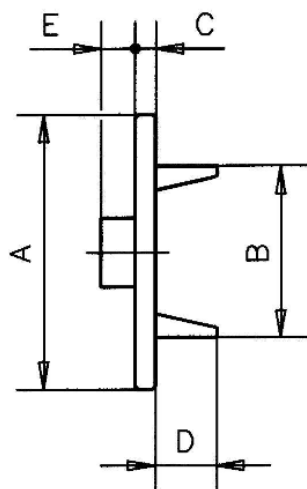
Friction drive types FR, FRD and KW can be used with any belt type and pitch.

Minimum-maximum bore size is indicated in each type's data sheet. Ideally relate to the most popular standard hub types. Alternative hub types may also be possible.

HS type sprockets	Drive teeth operate directly against down convexity rivet rods. The traction belting is supported by the side cage fingers to prevent wear in the tooth root, and to ensure life long constant pitch circle diameter. Base length of flights or rod covering will require sprocket clear ways. On request tips of teeth can be machined down to avoid crop damage. Upon special (volume related) request a 'VN' hub extension is also possible, extending the bore/keyway length into the finger cage area. By adding a Z to the order code (HSZ) you will obtain a unit without cage support fingers, applicable when two are needed on either side of a central traction belt.
3TB type sprockets	Drive teeth operate directly against up convexity rivet rods. They are frequently used in conveyors with 1 or more centre belts, to which the rods are attached by clips or clamps (see chapter 4, centre belt construction). The rod with a centre clamp is mostly positioned higher and therefore demands a larger pitch circle diameter. 3 TB drive wheels are found among drive types HS, RT, NC and Z. Base length of flights or rod covering requires sprocket run clear ways.
RT type sprockets	Similar to the tooth drive HS type but with solid side ring support flange. A scraper is needed to keep the ring's work surface clean. RT units offer perfect pitch circle diameter for severest load applications. They are very popular in sugar beet harvester applications.
Z type sprockets	Toothed drive wheel without under belt. Therefore tooth & rod wear rate will be higher than with HS or RT type drive wheels. Well suited for light duty applications, or when HS or RT type belt support is impractical. Sometimes fitted in place of an end idler roller when soil compaction or rock is a problem. Base length of flights or rod covering requires sprocket run clear ways.
NC type drive wheels	Designed for a cam profile belting drive in combination with a tooth drive of the rod. Primary drive via cage fingers engaging under the cam profile of the belting. Designed to prevent cam drive slip under severe load situations. Then drive teeth engage rods. Base length of flights or rod covering requires sprocket run clear ways. Endless, overlap, BC or E joining clips needed to retain cam profile joint.
N type drive wheels	Designed for cam profile belting.

	<p>Drive via cage fingers engaging under the cam profile of the belting. To obtain best working characteristics select largest operational diameter possible.</p> <p>Types with the codes ST or STH indicate, cage fingers do not contact the rivet retaining plates.</p> <p>Belt guidance offered via the external flange.</p> <p>The securing hub is incorporated inside the support cage area.</p> <p>The base length of flights or rod covering is the distance between the internal belting edges.</p> <p>Endless, overlap, BC or E joining clips needed to retain cam profile joint.</p> <p>Low wear rate, no metal to metal contact. Silent running.</p>
FR type drive wheels	<p>Non-splittable friction drive wheels with rubber lining.</p> <p>Bored & keyed to your specification, requiring at least one set screw over the key way. Optionally with another set screw at 90 degrees.</p> <p>May be used to drive conveyors of any belt pitch or belt profile.</p> <p>The rubber surface offers high rubber to rubber traction, but may require a scraper to be fitted under severe soil compaction conditions. The thick rubber layer minimizes soil compaction via its flexing operating surface.</p> <p>To obtain best working characteristics select largest operational diameter possible.</p> <p>Provide a 'snug' roller at 7 o'clock position for maximum degree of belt wrap.</p> <p>Low wear rate, no metal to metal contact. Silent running.</p>
FRD type drive wheels	<p>Splittable friction drive wheels with rubber lining to reduce fitting time</p> <p>Other features see FR type drive wheels.</p>
KW type drive wheels	<p>A splittable all cast iron range of friction drive wheels. Usage as idler wheel also possible.</p> <p>Under belt cage system is independent of belt pitch.</p> <p>Normally used in conjunction with a low profile type traction belting.</p> <p>Provides a 'snug' roller at 7 o'clock position for maximum degree of belt wrap.</p> <p>Bored & keyed to your specification, requiring at least one set screw over the key way. Optionally with another set screw at 90 degrees.</p> <p>Low wear rate. Silent running.</p>

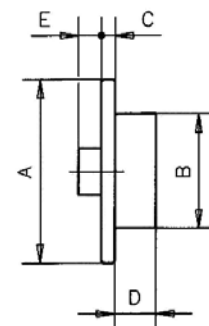
Friction Wheel, HS-Type



Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Flange A [mm]	Cage diameter B [mm]	Toothwidth C [mm]	Finger length D [mm]	Hub no. Kap. 8-11
HS 28-14		28	14	146	108	18	48	2 - 4
HS 28-16		28	16	165	124	18	48	2
HS 28-22		28	22	220	180	19	48	2 - 4
HS 32-12		32	12	145	105	22	50	2
HS 32-18		32	18	202	162	27	50	2 - 3
HS33-16 CU	*	33	16	200	150	24	55	-
HS 36-10		36	10	135	100	18	50	2
HS 36-12		36	12	168	118	23	50	2
HS 36-14		36	14	190	140	18	50	2-3
HS 36-16		36	16	210	166	24	48	2-3
HS 36-18		36	18	245	191		80	
HS 36-18		36	18	235	187	25	50	2-3
HS 40-10		40	10	160	110	21	50	1
HS 40-14 WM	*	40	14	220	167	35	50	3
HS 40-16		40	16	229	185	25	50	2
HS 42-10		42	10	163	113	21	50	2 - 4
HS 42-12		42	12	190	140	27	48	2 - 3
HS 42-14		42	14	218	173	26	48	2-3-4
HS 42-18		42	18	285	225	20	48	2-3
HS 45- 9		45	9	160	110	21	50	4
HS 45-12		45	12	200	153	25	50	2-3
HS 45-14		45	14	230	180	25	50	2-3
HS 50- 8		50	8	150	109	25	50	2-4
HS 50-10		50	10	195	142	26	50	2
HS 50-12		50	12	220	173	30	50	3

WM special drawing
CU Convexity up

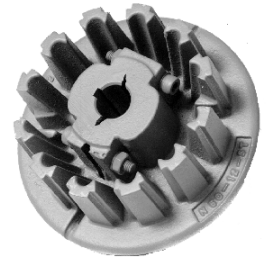
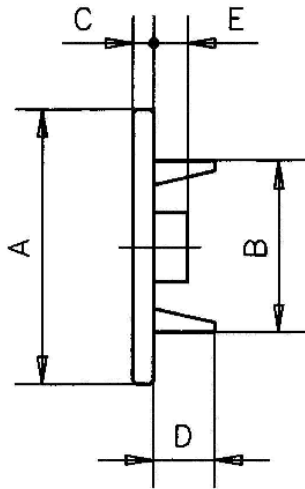
Friction Wheel, RT-Type



Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Flange A [mm]	Cage diameter B [mm]	Ringwidth C [mm]	Finger length D [mm]	Hub no. Kap. 8-11
RT 33-12 CU		33	12	164	110	22	50	
RTN 35-17 CU		35	17	234	177	16	50	
RT 42-12		42	12	192	144	24	60	3
RT 45-14		45	14	254	184	25	60	3
RT 50-10		50	10	205	144	25	60	
RT 50-14		50	14	264	204	30	65	3
RT 50-14		50	14	270	208		70	
RT 56-10		56	10	230	165	30	60	3

CU Convexity up
RT for low profile
RTN for high profile

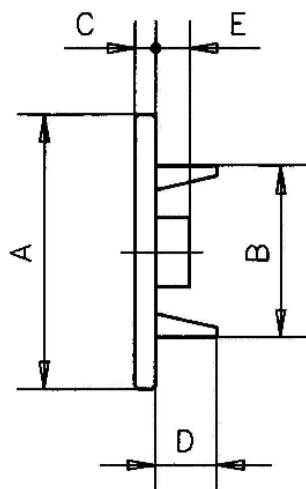
Friction Wheel, N-Type



Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Flange A [mm]	Cage diameter B [mm]	Toothwidth C [mm]	Finger length D [mm]	Hub no. Kap. 8-11
N 28-24-12 ST		28	12	243	200	10	50	
N 35-17		35	17	215	175	10	65	2
N 35-27		35	27	325	288	11	80	1
N 40-10		40	10	150	115	9	63	
N 40-14 (*)		40	14	215	166	8	60	2
N 40-15		40	15	223	175	5	70	2
N 40-16-8		40	8	225	194	10	75	2
N 40-18-9		40	9	252	217	10	75	2
N 40-18	*	40	18	260	217	8	65	5
N 40-18 (***)	*	40	18	260	216	8	75	
N 40-18	*	40	18	260	242		<	
N 50-12		50	12	220	176	8	65	2
N 50-12 (IT)	*	50	12	-	-		<	
N 50-12 (STH)		50	12	219	178	9	65	
N 50-14 (***)	*	50	14	255	209.5	8	80	
N 50-14		50	14	258	210	10	60	4
N 50-14 (STH)		50	14	243	209	9	65	
N 60-12 (***)	*	60	12	260	216	8	80	

- * not splittable
 ** without flange, hub is on the outside
 *** without hub
 IT FMC Italy without hub
 ST special tooth shape
 STH special tooth height

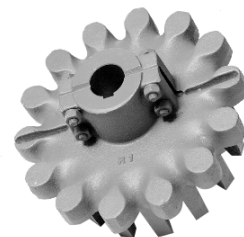
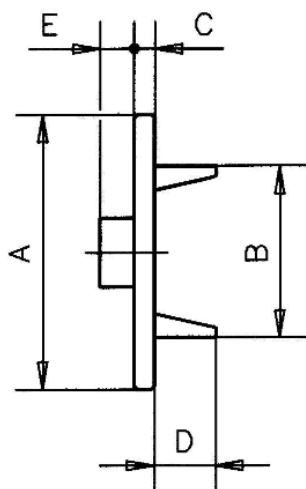
Friction Wheel, NC-Type



Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Flange A [mm]	Cage diameter B [mm]	Toothwidth C [mm]	Finger length D [mm]	Hub no. Kap. 8-11
NC 35-20		35	20	252	210	25	70	3
NC 44-16 (*)		44	16	265	207	20	50	3
NC 50-12		50	12	243	178	30	75	3
NC 50-14		50	14	260	210	15	75	4
NC 50-14 V (*)		50	14	270	210	30	75	3
NC 50-16 V (*)		50	16	300	240	30	75	3

* hub is on the outside

Friction Wheel, 3TB-Type



Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Flange A [mm]	Cage diameter B [mm]	Toothwidth C [mm]	Finger length D [mm]	Hub no. Kap. 8-11
HS 36-16 3TB		36	16	213	162	30	64	3
HS 36-18 3TB		36	18	246	189	26	50	3
HS 42-14 3TB		42	14	226	169	26	60	3
HS 42-16 3TB		42	16	252	194	26	50	2-3
HS 45-14 3TB		45	14	237	182	26	50	3
HS 50-14 3TB		50	14	273	208	30	50	3
RT 50-14 3TB		50	14	279	205	29	65	3
RT 50-14 3TBW		50	14	289	205	29	65	3
NC 40-18-9 3TB		40	9	260	215	25	60	3

Friction Wheel, Z-Type



Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Flange A [mm]	Toothwidth C [mm]	Hub no. Kap. 8-11
Z 28-14		28	14	150	22	2

Friction Wheel, ZP-Type



Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Diameter [mm]	Width [mm]
ZP 32-12 complete 30 mm bore		32	12	157	22
ZP 32-14 complete 30 mm bore		32	14	157	22

Friction Wheel, GW-Type



Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Diameter [mm]	Width [mm]
GW 32-16 PU		32	16	183	80
GW 35-17 PU		35	17	210	80
GW 36-14 PU		36	14	181	80
GW 36-16 PU		36	16	204	80
GW 40-15 PU		40	15	210	80
GW 45-13 PU		45	13	202	80
GW 50-10 PU		50	10	180	80

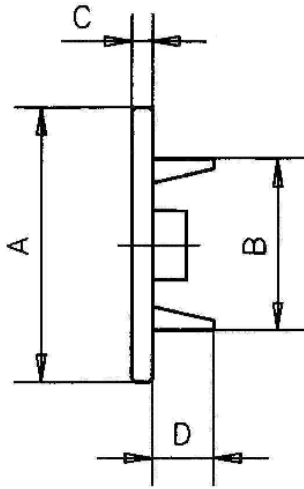
Duratec drive wheel



Description	Optional	Pitch [mm]	Number of teeth [Stk]	Diameter [mm]	Width [mm]
Duratec 22.5-28		22,5	28	192,4	20
Duratec 36-16		36	16	207,1	30
Duratec 50-13		50	13	258,8	30
Duratec 56-14		56	14	289	30

Duratec wheel is modular. More versions possible, please ask our technical department

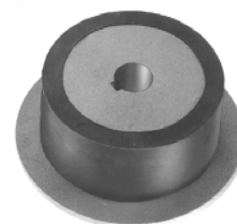
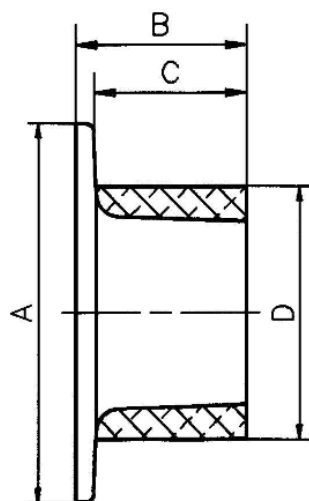
Friction Wheel, KW-Type



Description	Optional	Flange A [mm]	Cage diameter B [mm]	Toothwidth C [mm]	Finger length D [mm]	Diameter K [mm]
KW 80		125	80	10	45	20-25
KW 100		150	100	10	60	20-30
KW 115		165	115	10	60	20-30
KW 160 (*)		215	160	10	60	25-40

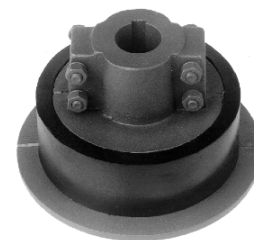
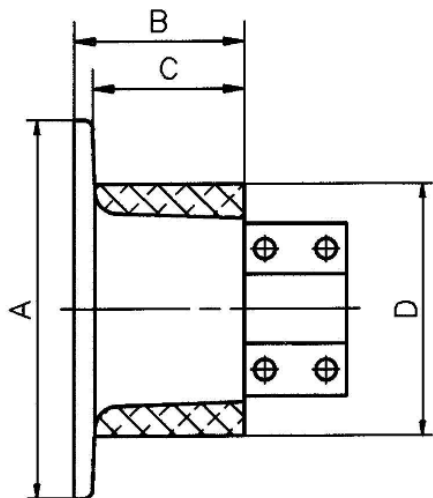
* splittable for easy mounting

Friction-driving wheel, HS-Type



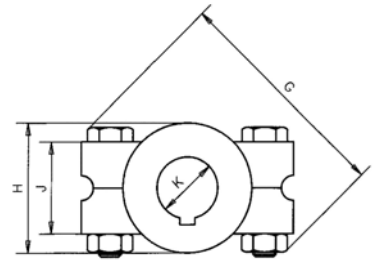
Description	Optional	diameter Ø D [mm]	Flange A [mm]	Width B [mm]	Support width C [mm]	Bore Ø min.-max. [mm]
HS 11 R		110	148	62	53.5	25 - 50
HS 11 RZ		110		62	62	25 - 50
HS 14 R		140	180	67	56.5	25 - 50
HS 14 RZ		140		67	67	25 - 45
HS 18		180	240	65	65	25 - 50
HS 18 R		180	248	67	57	25 - 45
HS 18 Z		180		65	65	25 - 50
HS 18 RZ		180		67	67	25 - 50
HS 21		210	300	70	58,5	25 - 50
HS 21 R		210	240	75	65	25 - 50
HS 21 RZ		210		65	65	25 - 50
HS 24 R		240	300	70	58.5	25 - 50
HS 24 RZ		240		65	65	25 - 50
HS 41 R		410	448	89	63.5	25 - 50

Friction-driving wheel, FRD-Type



Description	Optional	diameter \emptyset D [mm]	Flange A [mm]	Width B [mm]	Support width C [mm]	Bore \emptyset min.-max. [mm]
FRD 14 R		140	180	125	56	25 - 45
FRD 14 RZ		140		125	64	25 - 45
FRD 18 R		180	220	131	60	25 - 50
FRD 18 RZ		180		131	68	25 - 50
FRD 20 R		200	260	155	80	25 - 50

Hubs



Description	Optional	Hub no. Kap. 8-11	Hub lenght E [mm]	Height G [mm]	Height H [mm]	Height J [mm]	Diameter K [mm]
Hubs		1	63	90	58	33	25-40
Hubs		2	60	100	65	40	25-40
Hubs		3	61	120	85	43	35-60
Hubs		4	30	100	60	40	25-40
Hubs		5	60	130	80	40	35-60

General information	10- 1
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General information: Belt support rollers

We offer a wide range of support rollers suited for any kind of conveyor application. Please ask, if you are looking for a roller not included here.

A roller's surface may be plain base material like nylon, urethane or cast metal. It can also be lined with rubber.

An axle's shoulder length can be specified to position the roller under the rods or to compensate for distance variation from the securing point.

Roller types with a vulcanized rubber layer are usually placed in return/carry back positions to prevent rivet head and rod end wear.

A light duty roller can be defined as without bearing or with a single bearing. It must not be confused with light weight rollers. Its functioning is usually only satisfactory if a dual bearing roller types are fitted at all conveyor angle or directional changes.

Cast iron is used as core/hub material of the HS roller line.

A triple seal system is incorporated in the HS roller line: An outer metal cover seal, an oiled felt filler ring and 2 bearings sealed on both sides. Optionally e.g. for beet & tomato juice compatibility or similar fluids you may specify Vulkolan or ZZ oil seal types. Highest quality 6005 2RS and 6206 2RS ball bearings are used in the HS-line as standard.

Our heavy duty, light weight rollers of the PA-roller line are completely grease filled for lifetime and sealed off with multiple labyrinth type seals. They have been very successfully used in heavy duty harvesting applications for many years.

Flanged and non-flanged versions of the HS-and PA-roller lines are available.

An S type roller is narrower for elevators with flights, allowing maximum flight length. Bolt head intrusion is avoided if you specify a threaded axle.

Greasable roller versions: Only possible with threaded spindle/axle and nut & lock washer. Axle length can vary to your specification. Contains open sided bearings with internal grease chamber reservoir. A metal seal cap covers one end and the open flange side cap allows excess grease to escape. Greasable rollers are fitted with Nilos type seals and the steel caps are retained by expanding snap rings. They are suited to hand or auto-lube applications.

Threaded axles: Standard thread size M16 (5/8"), M18 (11/16") or M20 (25 mm spindle O.D.) are optional.

Open bore axles: Standard thread size M16 (5/8"), M18 (11/16") or M20 (25 mm spindle O.D.) are optional.

General information: Shakers/agitation systems

Shakers are available in cast iron and rubber.

The triangular shape offers a good eccentricity effect. The peripheral speed of the shaker is relative to the belt speed.

Cast iron shaker types are designed to be rod driven. They are therefore rod pitch related and need positioning in the sprocket run area. Careful alignment is needed if the rods of a belt are cranked.

The rubber type shakers are positioned under the belting. They are pitch independent.

Belt width determines the axle stand-off/shoulder length. Please specify when ordering.

All types contain dual bearings with our standard triple seal system as in HS type rollers, only the axle length differs. Shakers are usually ordered as open bore for a M16 or M18 bolt.

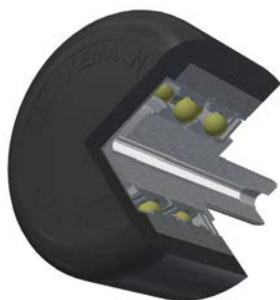
Centrally mounted pairs of shakers need to be mounted with long, high tensile strength bolts which must be capable of high shock stresses.

High frequency agitation with less vertical movement can also be achieved by mounting a pair of non flanged, rubber covered rollers under the conveyor's sprocket run area. They may be fitted to height adjustable arms for variable effect, or in a fixed position. The degree of movement is regulated by the roller diameter, rod diameter and rod pitch. These rollers may also be incorporated in a power driven shaker system where they are mounted onto arms with a reciprocating vertical motion relative to the conveyor's moving plane.

Half round nylon blocks (at your specified distance) instead of rivet retaining plates can be fitted to the conveyor. This is another (fixed frequency) agitation method. They are usually used with low profile belting, exposing only 4 mm of their 8 mm thickness. Such conveyors are best supported by rubber covered rollers.

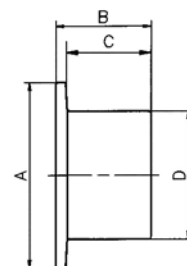
Conveyor agitation should not be located at any change in angle, e.g. a pivot point, because any extra belt tautness would create an undesired 'dampening' effect.

Light weight rollers



Description	Optional	Position	diameter Ø D [mm]	Width B [mm]	Material	Design ball-bearing
VRR 7537		2	75	37	rubber	with
HS G1			65	30	cast iron	with
HS G1 R			75	30	cast iron & rubber	with
KR 9 SZ			90	29	Nylon/rubber	with / without
PA 10	*		106	27	Plastic / Synthetic	with
HS 8 PUSZ			80	43,5	Polyurethan	with

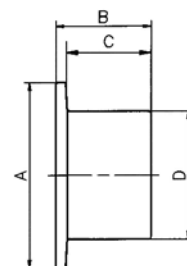
PVC rollers, NP



Description	Optional	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Support width C [mm]	Design ball-bearing	Weight [Kg]
NPK 75 NF		75	115	61,5	50	6005 2RS1	0,48
NPK 75 Z		75	75	61,5	61,5	6005 2RS1	0,48
NPK 90 NF		90	130	61,5	50	6005 2RS1	0,61
NPK 90 Z		90		61,5	61,5	6005 2RS1	0,58

SF = Steel flange
 NF = Nylon flange
 Z = without flange
 NPK = Nylon body covered with PU, carved
 NP = Nylon body covered with PU

PVC rollers

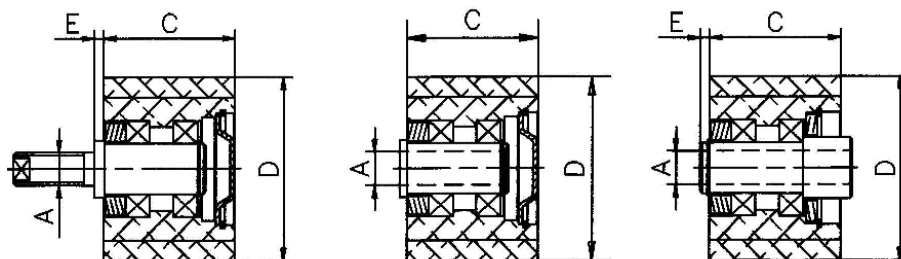


Description	Optional	diameter \emptyset D [mm]	Flange \emptyset A [mm]	Width B [mm]	Support width C [mm]
PA 60 ZL 60		60		60	60
PA 100 ZL 60		100		60	60
PA 9 R		90	132	65	56
PA 9 RZ		90		65	65
PA 9 RH		90	132	65	56
PA 9 RZH		90		65	65
PA 9 RM		90	132	65	56

M = with threaded axle
H = Thorough open bore
Z = without flange
R = rubber-covering

Nylon roller without flange

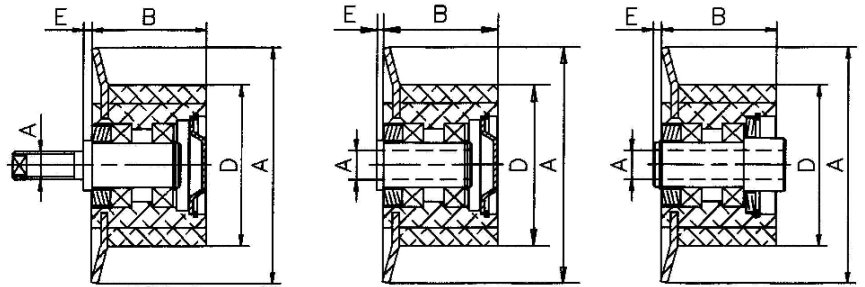
(possible design)



Description	Optional	Position	diameter \emptyset D [mm]	Support width C [mm]	Distance E [mm]	F F
Rollers	*	1	90	65	4,5	M16 x 60
Rollers	*	1	90	65	4,5	M16 x 40
Rollers	*	1	90	65	4,5	M16 x 60
Rollers		2	90	65	4	\emptyset 16,5
Rollers		2	90	65	4,5	\emptyset 16,5
Rollers		3	90	65	4	\emptyset 16,5
Rollers	*	3	90	65	-	\emptyset 16,5
Rollers	*	3	90	65	-	
Rollers	*	2	90	89	4,5	

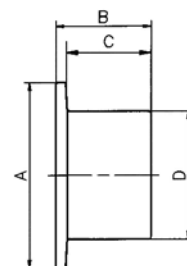
Nylon roller with flange

(possible design)



Description	Optional	Position	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Distance E [mm]	F F
Rollers		2	90	132	65	4	Ø 16,5
Rollers		3	90	132	65	4	Ø 16,5
Rollers		3	90	132	65	4	Ø 16,5
Rollers		3	90	132	65		
Rollers		2	90	132	65	4,5	Ø 16,5
Rollers		1	90	132	65	4,5	M16 x 40
Rollers		1	90	132	65	4,5	M16 x 60
Rollers	*	2	90	132	65	4,5	Ø16,5
Rollers	*	-	90	132	89		Ø 16,5

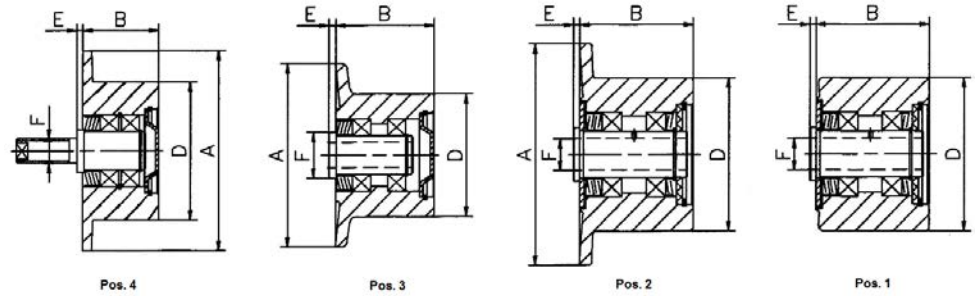
Cast iron rollers, HS-type



Description	Optional	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Support width C [mm]
HS 6		62	100	61,5	53
HS 6 Z		62		61,5	61,5
HS 6 SZ		62		43,5	43,5
HS 8		80	120	61,5	52
HS 8		80	120	65	
HS 8 Z		80		61,5	61,5
HS 9 WBR	*	90	130	90	70
HS 10		100	130	75	
HS 10		100	135	75	63
HS 10		100	135	75	63
HS 10 Z		100		75	75
HS 10 H		100	180	61,5	50
HS 10 WDR		100	150	61,5	46
HS 11		110	150	67	54
HS 11 Z	*	110		67	67
HS 15		150	250	67	60
HS 15 Z	*	150		67	67
HS 18		180	220	61,5	50
HS 18 Z	*	180		61,5	61,5

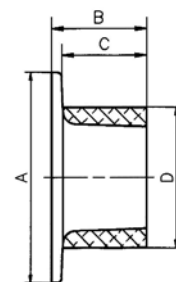
H = high flange
S = small support width
Z = without flange

Cast iron roller
(possible design)



Description	Optional	Position	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Distance E [mm]	F F
Rollers	*	4	90	126	75	4	M24 x 40
Rollers		2	100	136	75	4	Ø 20,5
Rollers		2	100	136	75	4	Ø16,5

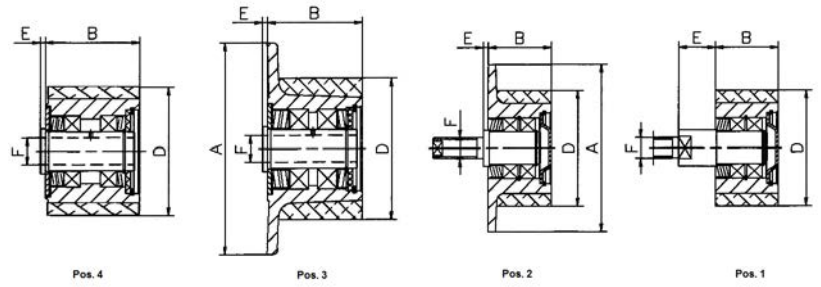
Cast iron rollers vulcanized, HS-type



Description	Optional	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Support width C [mm]
HS 8 R		80	118	56,5	50
HS 8 RZ		80		61,5	61,5
HS 9 R	*	90	130	50	
HS 9 R		90	130	61,5	54
HS 9 RZ		90		61,5	61,5
HS 9 RSZ		90		43,5	43,5
HS 9 RS		90	130	43,5	35
HS 9 RH		90	200	67	59
HS 10 R		100	140	67	55
HS 10 RZ		100		67	67
HS 11 R		110	148	62	53,5
HS 11 R		110	150	75	
HS 11 R		110	165	75	
HS 11 RS		110	148	46,5	42,5
HS 11 RZ		110		62	62
HS 14 R		140	180	67	56,5
HS 14 RZ		140		67	67
HS 18 R		180	248	67	57
HS 18 RZ		180		67	67
HS 21 R		210	240	75	65

H = high flange
 Z = without flange
 S = small support width
 R = rubber-covering

Cast iron roller vulcanized
(possible design)



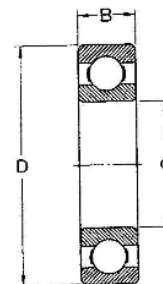
Description	Optional	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Distance E [mm]	F F	Design ball-bearing
Rollers	*	90	130	50	11	M16 x 52	2
Rollers		110	150	75	4	Ø 20,5	1
Rollers		110	165	75	4	Ø 20,5	1
Rollers		100	-	66	4	Ø 16,5	4
Rollers		110	165	86	4	Ø 20,5	1

Shaker/Agitator



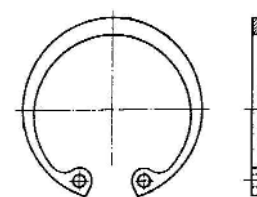
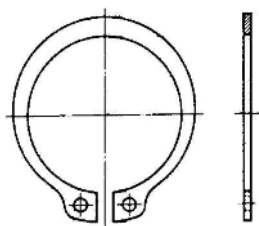
Description	Optional	Pitch T [mm]	diameter Ø D [mm]	Eccentricity	Width B [mm]
HSA 28		28	190	32	61,5
HSA 32		32 / 33	190	32	61,5
HSA 36		36	170	37	61,5
HSA 42		42	195	35	61,5
USS 45		45	212	40	61,5
USS 50		50	232	42	61,5
Universal Shaker/Agitator		All pitches	175	30	61,5

Ball-bearings (Parts)



Description	Optional	Outside Ø D [mm]	Inner Ø d [mm]	Width B [mm]
6005		47	25	12
6005-Z		47	25	12
6005-2RS		47	25	12
6005-2RS-Stainless		47	25	12
6205-2RS-BING-ABEC		47	25	12
6006 1RS	*	55	30	13
6206	*	62	30	16
6206 1RS		62	30	16
6206-2RS		62	30	16
6308-2RS		90	40	23
6005-1RS		47	25	1

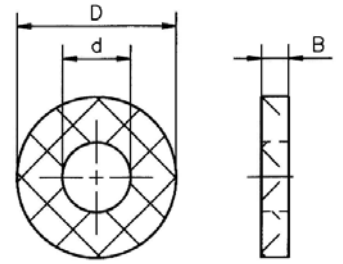
Securing ring (Parts)



Description	Optional	Position	Outside \emptyset D [mm]	Thickness material [mm]	Norm
A 25 x 1,2		1	25	1,2	DIN 471
A 30 x 1,5		1	30	1,5	DIN 471
A35		1	35	1,5	DIN 471
J47		2	47	1,75	DIN 472
J55		2	55	2	DIN 472
J62		2	62	2	DIN 472
J65		2	65	2,5	DIN 472
J78		2	78	2,5	DIN 472
J72		2	72	2,5	DIN 472
J80		2	80	2,5	DIN 472

Felt rings

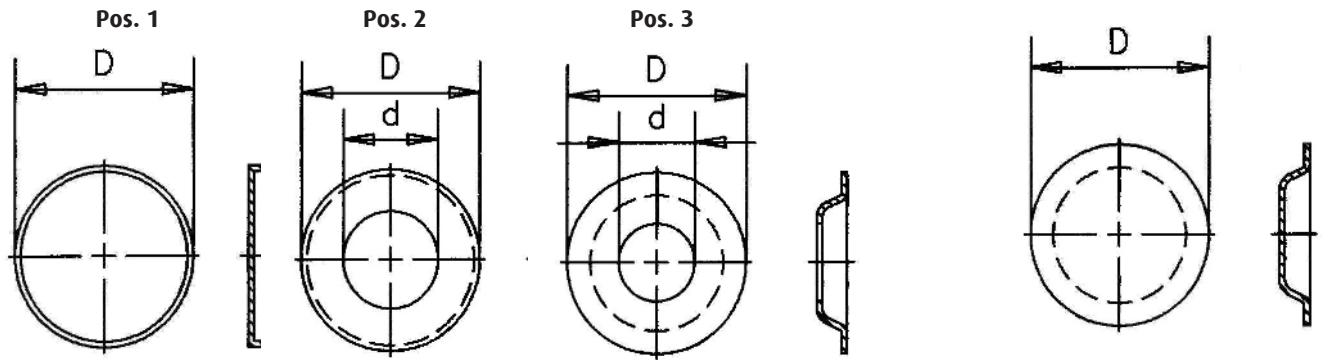
(Parts)



Description	Optional	Outside Ø D [mm]	Inner Ø d [mm]	Width B [mm]
Felt ring		44	24	7,5
Felt ring		44	24	4,5
Felt ring		44	30	7,5
Felt ring		58	30	6

Dustcaps

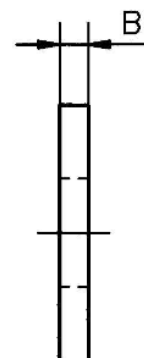
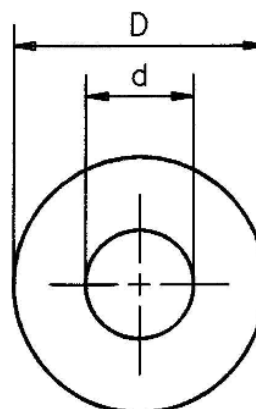
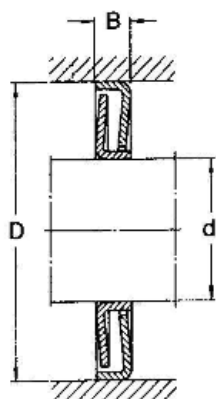
(Parts)



Description	Optional	Position	Outside Ø D [mm]	Inner Ø d [mm]	Thickness material [mm]
Closed metal dust cap		1	47		
Closed metal dust cap		1	62		
Open centre metal dust cap		2	47	25	
Open centre metal dust cap		2	47	30	
Open centre metal dust cap		2	62	30	
Metal convex ring		3	47	25	1,5
Metal convex cap		4	47		1,5
Metal filling ring			47		

Seals and filling rings

(Parts)



Description	Optional	Position	Outside Ø D [mm]	Inner Ø d [mm]	Width B [mm]
Seal		2	65,5	30	4
Seal		2			
Seal		2	70	31	3
Seal		2			
Seal		2			
Fill-ring		2	72	56	2,0
Seal Z 005		1	47	25	5
Seal Z 005 F			47	25	5
Seal Z 006		1	55	30	5
Seal Z 206		1	62	30	6
Seal Z 206 F			62	30	6
Seal Z 207			72	35	6
Seal Z 207 F			72	35	6
Seal Z 210 F			90	50	6
Fill-ring		2	65	52	1,6
Fill-ring		2	42	30	1,5
Seal		2			
Fill-ring		2	45	35	0,3
Fill-ring		2	45	35	1,5
Fill-ring		2	45	35	2,5
Oil seal			47	30	7

General information	11- 1
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Half round cylindrical block	11-11

General information

Rivets are formed to fit into the countersunk holes of the rivet retaining plates & rivet rods. They conform to the German DIN 661 steel standard. Their length differs in relationship to the combined thickness of the plate, belt and rod.

Our tapered rivets facilitate rod mounting tremendously.

Rivet retaining plates help to create the maximum sandwich compression effect of the belting and underside area of the rivet rod, yet designed to preserve belt flexibility. All our types are galvanization plated with a stamp coding. The first code number is the centre to centre distance of the rivet holes in millimeters, the second is the rivet diameter in millimeters, (e.g. 32-5.5). All rivet retaining plate holes are countersunk to accept the rivet head.

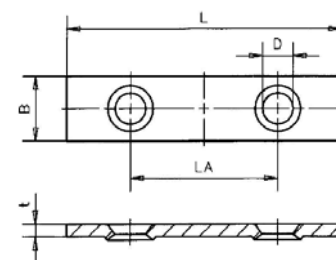
Large flat headed rivets, conforming to the German DIN 675 steel standard, perform very well in light duty conveyors. Rivet retaining plates are not needed with this kind of rivet. They can be used with any kind of belting also in higher load applications!

Threaded plates are used in conjunction with M5 or M6 securing screws. They are used as an alternative fastening method using small 'Nylon' self securing nuts. The screw's head locates into the countersunk holes in the upper rod surface, the screw passes through the rod & belt and threads into the threaded plate. The head has a socket wrench recess for screw tightening purposes. Excess screw length must be cut away or ground down so as not to conflict with the fingers of cage drive systems and roller surfaces.

Lapjoints fitted with threaded plates is a good joint combination. Such threaded plates may also be used when replacing rivet rods or on certain rods for a new belt assembly, e.g. where to retrofit flights etc.. Threaded plates reduce crop damage compared to the nut and bolt securing method.

Half round nylon blocks may be fitted at the time of manufacture under a low profile belting type conveyor in place of rivet retaining plates. Their spacing controls agitation frequency. They lay 4 mm above the level of low profile belting. Normally they are only fitted to light duty sieving conveyors with 50 mm wide belting.

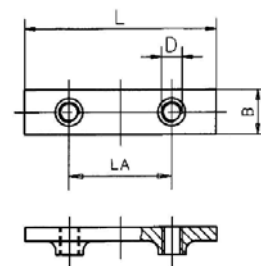
Rivet retaining plates



Description	Optional	Hole Distance LA [mm]	Length L [mm]	Width B [mm]	Thickness t [mm]	Hole Ø D [mm]	Rivet Ø ND [mm]
Rivet retaining plate		-	26	13	2,5	5,4	5,0
Rivet retaining plate		-	26	13	2,5	6,4	6,0
Rivet retaining plate		20	37	13	2,5	5,4	5,0
Rivet retaining plate		20	37	13	2,5	6,4	6,0
Rivet retaining plate stainless		20	37	13	2,5	5,4	5,0
Rivet retaining plate		20	46	15	3	6,4	6
Rivet retaining plate		20	46	13	2,5	5,4	5,0
Rivet retaining plate		20	46	15	2,5	6,4	6
Rivet retaining plate stainless		20	46	13	2,5	5,4	5,0
Rivet retaining plate		20	46	13	2,5	6,4	6,0
Rivet retaining plate		24	34,5	13	2,5	6,0	5,5
Rivet retaining plate		24	37	13	2,5	6,4	6,0
Rivet retaining plate		24	37	13	2,5	5,4	5,0
Rivet retaining plate		24	45	13	2,5	6,0	5,5
Rivet retaining plate		24	46	13	2,5	6,4	6,0
Rivet retaining plate		24	46	13	2,5	5,4	5,0
Rivet retaining plate		24	46	13	2,5	6,4	6,0
Rivet retaining plate		24	46	13	2,5	6,0	5,5
Rivet retaining plate		30	56	15	3	6,4	6
Rivet retaining plate		30	56	13	2,5	6,4	6,0
Rivet retaining plate		30	56	13	2,5	6,0	5,5
Rivet retaining plate		30	56	13	2,5	6,4	6,0
Rivet retaining plate		30	56	13	2,5	5,4	5,0
Rivet retaining plate		30	56	15	3	6,4	6
Rivet retaining plate stainless		32	56	13	2,5	6,0	5,5

Description	Optional	Hole Distance LA [mm]	Length L [mm]	Width B [mm]	Thickness t [mm]	Hole Ø D [mm]	Rivet Ø ND [mm]
Rivet retaining plate stainless		32	56	13	2,5	5,4	5,0
Rivet retaining plate		32	56	15	3	6,4	6,0
Rivet retaining plate		32	56	13	2,5	6,0	5,5
Rivet retaining plate		32	56	20	2,5	11	
Rivet retaining plate		32	56	13	2,5	5,4	5,0
Rivet retaining plate		32	56	13	2,5	6,4	6,0
Rivet retaining plate		32	62	15	3	6,4	6

Threaded plates



Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Length L [mm]	Width B [mm]	Thread D
20 M5		40	20	37	14	M5
20 M5		50	20	46	14	M5
20 M6		40	20	37	14	M6
20 M6		50	20	46	14	M6
20 M6		60	20	56	14	M6
24 M5		50	24	46	14	M5
30 M5		60	30	56	14	M5
32 M5		60	32	56	14	M5
30 M6		60	30	56	15	M6
32 M6		60	32	56	15	M6
32 M8		60	32	56	15	M8
UNF 12/28		60	32	56	14	UNF 12/28

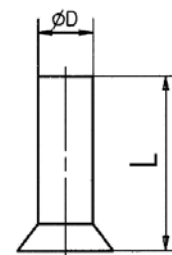
Set for lapjoint



Description	Optional	Belting width [mm]	Hole distance [mm]	Thread [mm]	Number of plates	Number of bolts
20 M5		40	20	M5	6	12
20 M5		50	20	M5	6	12
32 M5		60	32	M5	6	12
32 M6		60	32	M6	6	12
20 M5		50	20	M5	7	14
20 M6		50	20	M6	7	14
30 M5		60	30	M5	7	14
30 M6		60	30	M6	7	14

Rivets according to DIN 661

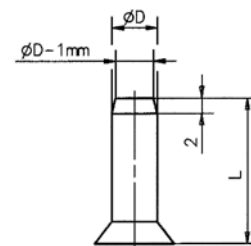
(Ø 4,0 / 5,0 / 5,5 / 6,0)



Description	Optional	Diameter D [mm]	Length L [mm]
Rivet		4	16
Rivet		4	19
Rivet		5	14
Rivet		5	21
Rivet		5	22
Rivet		5	33
Rivet		5	34
Rivet		5	35
Rivet		5,5	25
Rivet		5,5	27
Rivet		5,5	29
Rivet		5,5	31
Rivet		6	17
Rivet		6	18
Rivet		6	19
Rivet		6	28

Rivets with tapered ends

(Ø 5,0 / 5,5 / 6,0)



Description	Optional	Diameter D [mm]	Length L [mm]
Rivet		5	18
Rivet		5	19
Rivet		5	20
Rivet		5	21
Rivet		5	22
Rivet		5	23
Rivet		5	24
Rivet		5	25
Rivet		5	26
Rivet		5	28
Rivet		5	30
Rivet		5	32
Rivet		5,5	18
Rivet		5,5	21
Rivet		5,5	22
Rivet		5,5	24
Rivet		5,5	26
Rivet		5,5	28
Rivet		5,5	30
Rivet		5,5	32
Rivet		6	20
Rivet		6	21
Rivet		6	22
Rivet		6	23
Rivet		6	24
Rivet		6	25
Rivet		6	26
Rivet		6	23
Rivet		6	28
Rivet		6	29
Rivet		6	30

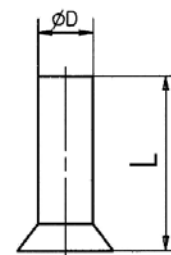
2-phase rivets



Description	Optional	Diameter D [mm]	Length L [mm]
2-phase rivet		5	17
2-phase rivet		5	18
2-phase rivet		5	19
2-phase rivet		5	20
2-phase rivet		5	21
2-phase rivet		5	22
2-phase rivet		5	23
2-phase rivet		5	24
2-phase rivet		5	25
2-phase rivet		5	26
2-phase rivet		5	27
2-phase rivet		5	28
2-phase rivet		5	30
2-phase rivet		5	32
2-phase rivet		5	33
2-phase rivet		5	34
2-phase rivet		5	35
2-phase rivet		5,5	18
2-phase rivet		5,5	20
2-phase rivet		5,5	21
2-phase rivet		5,5	22
2-phase rivet		5,5	23
2-phase rivet		5,5	24
2-phase rivet		5,5	25
2-phase rivet		5,5	26
2-phase rivet		5,5	27
2-phase rivet		5,5	28
2-phase rivet		5,5	30
2-phase rivet		5,5	32

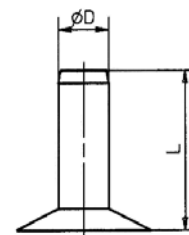
Rivets according to DIN 661

(Ø 5,0 / 6,0) in stainless steel



Description	Optional	Diameter D [mm]	Length L [mm]
Rivet		5	16
Rivet		5	18
Rivet		5	19
Rivet		5	20
Rivet		5	21
Rivet		5	22
Rivet		5	25
Rivet		6	19

Flat headed rivets DIN 675



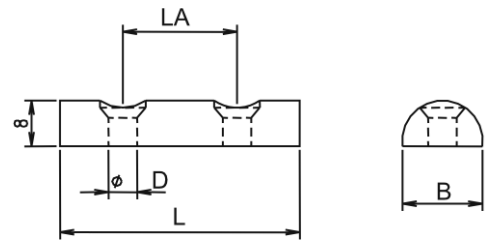
Description	Optional	Diameter D [mm]	Length L [mm]
Rivet		5	15
Rivet		5	18
Rivet		5	21
Rivet		5	25
Rivet		5	30
Rivet		5,5	15
Rivet		5,5	17
Rivet		5,5	20
Rivet		5,5	22
Rivet		5,5	30
Rivet		6	17
Rivet		6	20
Rivet		6	22

Flat headed 2-phase rivets



Description	Optional	Diameter D [mm]	Length L [mm]
Flat headed rivet 2-phase		5	15
Flat headed rivet 2-phase		5	16
Flat headed rivet 2-phase		5	18
Flat headed rivet 2-phase		5	20
Flat headed rivet 2-phase		5	22
Flat headed rivet 2-phase		5,5	18

Half round cylindrical block



Description	Optional	Hole Distance LA [mm]	Length L [mm]	Width B [mm]	Rivet \emptyset ND [mm]
Half round cylindrical block		20	14	14	5

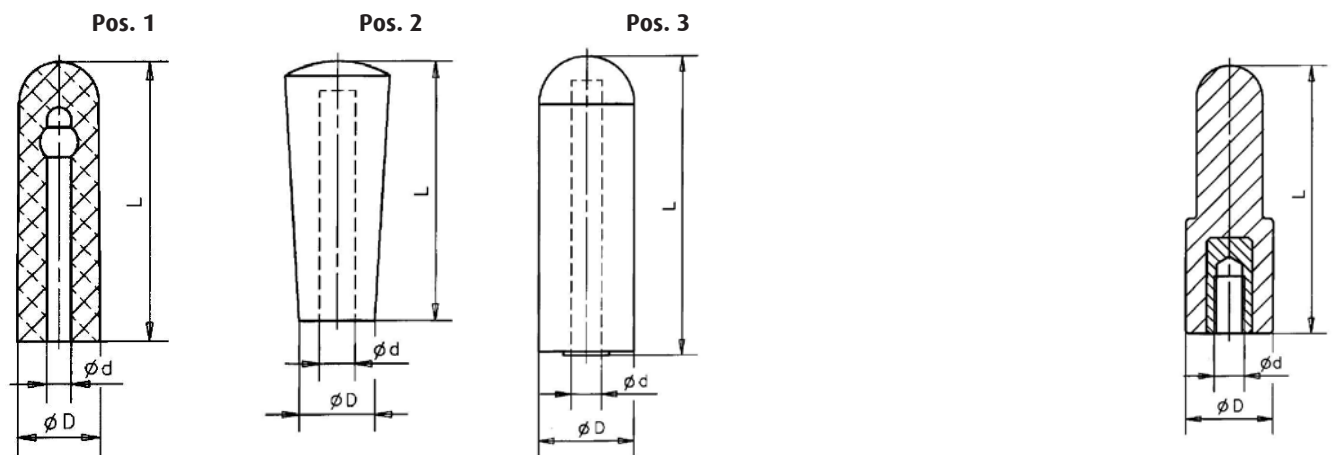
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Haulmspring	12- 3
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Distance keeper for Stars	12- 7

General information

This chapter gives you an overview of our plastic and rubber components which are especially designed for harvesting, cleaning, sorting and grading applications.

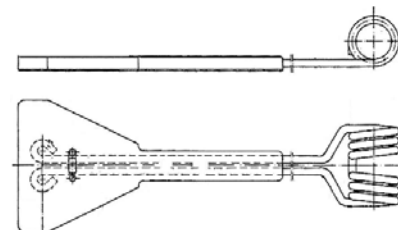
- Rubber and plastic vine finger covers for vine/trash separation belts. The protective caps slip over vertical metal fingers mounted/welded onto the rivet rods.
- Spring load flow resistance paddle for removing vine/trash
- Disc type elements for sizing/grading spools
- Star type elements for sizing/grading spools
- 1-STAR® cleaning/trash removal elements for star rollers

Rubber finger



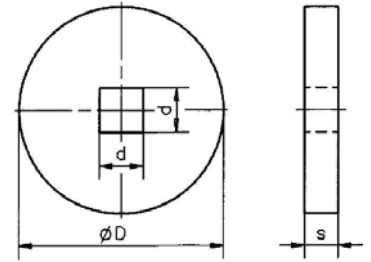
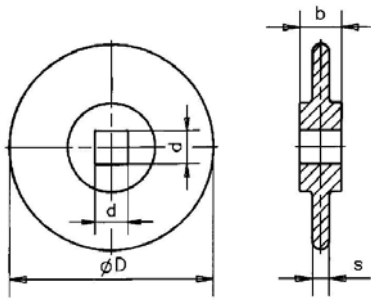
Description	Optional	Position	Outside Ø D [mm]	Inner Ø d [mm]	Length L [mm]	Material
Rubber finger		1	24	8	80	SBR / BR
Rubber finger		1	24	8	110	SBR / BR
Rubber finger		2	25	8	78	
Rubber finger		4	23 / 17,5	M8	70	
Rubber finger			24	8	117	
Rubber finger			30 / 17	M10	93	

Haulmspring



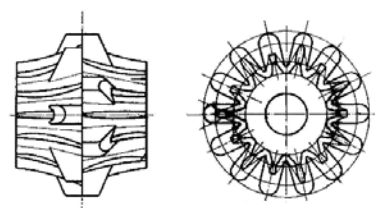
Description	Optional	Width B [mm]	Length L [mm]	Material
Haulmspring		60	296	NR / SBR
Haulmspring		110	296	NR / SBR
Haulmspring		110	296	NR / SBR

Sorting disk



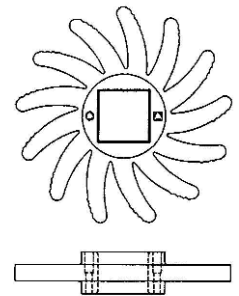
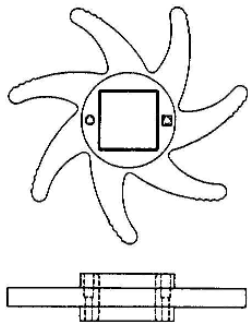
Description	Optional	Position	Outside \varnothing D [mm]	Width d [mm]	Width B [mm]	Width s [mm]	Material
Sorting disk		2	98	21		8	NR / SBR
Sorting disk		1	98	16	20	8	NR / SBR
Sorting disk		1	98	19	20	8	NR / SBR
Sorting disk		1	98	21	20	8	NR / SBR
Sorting disk		1	98	26	20	8	NR / SBR
Sorting disk		2	100	15,5		10	NR / SBR
Sorting disk		2	120	21		8	NR / SBR

Flights



Description	Optional	Outside Ø D [mm]	Inner Ø d [mm]	Height s [mm]	Material
Flight		98	25	77	NR / SBR

Stars



Description	Optional	Number of finger	Outside Ø D [mm]	Square [mm]	Height s [mm]	Material
Stars		6	162	24	38,5	NR / SBR
Stars		6	162	29	38,5	NR / SBR
Stars		6	162	32	38,5	NR / SBR
Stars		13	164		32	
Stars		7	164	32		
Stars		7	164	38		
Stars		13	164	1-1/4"	32	NR / SBR
Stars		13	164	1-1/2"	32	NR / SBR
Stars		10	260	40	40	PU
Stars		10	260	40	40	PU
Stars		6	230	40	80	PU
Stars		13	170	30	32	PU
Stars		13	170	32	32	PU
Stars		13	170	38	32	PU
Stars		13	168	30	32	

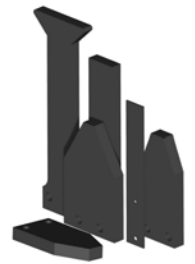
Distance keeper for Stars



Description	Optional	mould	Width d [mm]	Width B [mm]
Distance keeper		square	32	1/4"
Distance keeper		square	32	3/8"
Distance keeper		square	32	7/16"
Distance keeper		square	32	1/2"
Distance keeper		square	32	5/8"
Distance keeper		square	38	1/4"
Distance keeper		square	38	3/8"
Distance keeper		square	38	7/16"
Distance keeper		square	38	1/2"
Distance keeper		square	38	5/8"

rubber cleaner 13- 1

rubber cleaner



Description	Optional	Width B [mm]	Length L [mm]	textile layers	Hole Ø C [mm]	holes	Drawing Artemis
rubber cleaner		40	260	4	10	1	Zg. 91-4-5126
rubber cleaner		40	260	10	10	1	Zg. 91-4-5127
rubber cleaner		40	225	10	10	1	Zg. 91-4-5128
rubber cleaner		40	300	10	10	2	Zg. C 14467-4-03
rubber cleaner		60	80	10	12	1	Zg. 91-4-5842
rubber cleaner		80	255	10	12	2	Zg. 91-4-5125
rubber cleaner		80	255	10	12	2	Zg. 92-4-5872
rubber cleaner		80	255	10	12	2	Zg. 92-4-5873
rubber cleaner		80	270	15	10,5	2	Zg. C 13613-3-95
rubber cleaner		80	360	15	10,5	2	Zg. C 13614-3-95
rubber cleaner		80	175	15	7,5	2	Zg. C 13839-4-97
rubber cleaner		80	185	15	10,5	2	Zg. C 14026-4-98
rubber cleaner		30	190	0	9	2	Zg. C 13838-4-97
rubber cleaner		30	328	smooth1,5:1,5		4	Zg. Y1-15-04-02
rubber cleaner		60	100	10	10	2	Zg. SKH 311-4-03
rubber cleaner		40	250	0	9/6	2	Zg. 12589-4-91
rubber cleaner		40	260		10	2	Zg. 08-28-07-4
rubber cleaner		40	250		9/6	2	Zg. 3249-4-77
rubber cleaner		40	220		9/6	2	Zg. SKF 00-28-08
rubber cleaner	*	125	188	8	10	2	Zg. C 14488-3-04
rubber cleaner	*	135	200	8	10	2	Zg. C 14489-3-04
rubber cleaner	*	150	200	8	10	2	Zg. C 14492-3-04
rubber cleaner	*	110	190	8	10	2	Zg. C 14501-3-04
rubber cleaner		150	200	15	11	2	Zg. C 14502-3-04
rubber cleaner	*	60/105	240	8	10,5	2	Zg. C 14506-3-04
rubber cleaner		80	165	15	15		Zg. ART-0001974
rubber cleaner		56	270	15	15		Zg. ART-0001976
rubber cleaner		80	210	15	15	2	Zg. ART-0004013
rubber cleaner		120	200		17	2	Zg. ART-0005230
rubber cleaner		40	153,9	15			Zg. ART-0001978
rubber cleaner			145				Zg. C13031-3-93
rubber cleaner		30	120	5			Zg 13907-3-97
rubber cleaner		80	240	15	15	2	Zg. ART-0004261
rubber cleaner		80	240	8	15	2	Zg. ART-0004263
rubber cleaner		50	515	3			
rubber cleaner		80	185	15		2	Zg. C14026-4-98
rubber cleaner		150	200	15		2	Zg. C 14502-3-04
rubber cleaner		40	260	1		2	Zg. ART-0009267
rubber cleaner		120	235	15	9/6	2	Zg. ART-0009716