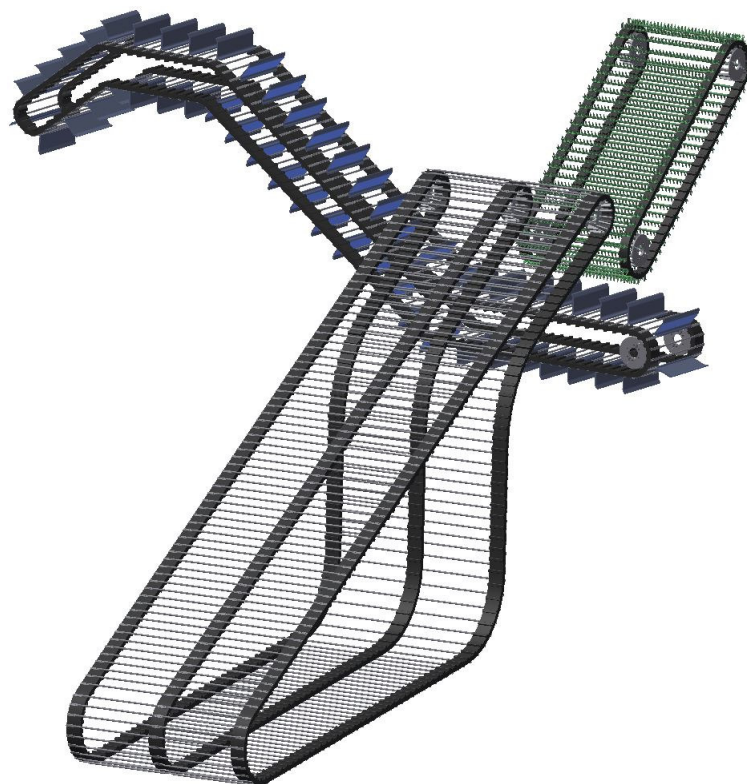


Agricultural Technology

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.

EA Broekema BV

Box 70
9640 AB Veendam
Niederlande
De Zwaaiikom 1
9641 KV Veendam
Niederlande

Tel.: +31.598.696464
Fax: +31.598.615537
E-Mail: info@broekema.nl
Website: www.broekema.nl

Broekema Beltway USA, Inc

1108 Holstein Drive N.E.
Pine City, Minnesota 55063
USA

Phone: toll free North America: (800) 654-2711
Phone: +1 (320) 629-3900
Fax: +1 (320) 629-4900
E-Mail: info@broekema.us
Website: www.broekema-usa.com

Broekema Beltway California

460 N. Pioneer Ave. Ste. 100
Woodland, CA 95776
USA

Phone: +1 (530) 668-8500
Fax: +1 (530) 668-8558
E-Mail: info@broekema.us
Website: www.broekema-usa.com

Artemis Kautschuk- und Kunststoff-Technik GmbH

Rothwiese 4
30559 Hannover (Anderten)
Deutschland
Postfach 73 04 51
30553 Hannover
Deutschland

Tel.: +49.511.95928-0
Fax: +49.511.95928-55
E-Mail: info@artemis-kautschuk.de
Website: www.artemis-kautschuk.de

Windgassen GmbH

Einsteinstr. 5
33104 Paderborn
Deutschland

Tel.: +49.5254.990930
Fax: +49.5254.990939
E-Mail: info@wg-siebketten.de
Website: www.wg-siebketten.de

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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/mm). 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/mm (2650 pounds/cm)
- 4 layers of TN 1600/4 fabric offers 1600 N/mm (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.

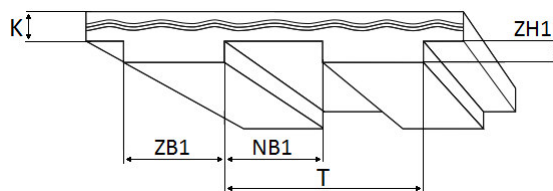
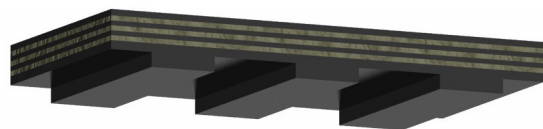
Technical details of the standard traction belts

Construction:	Tensile strength:
TN630/2	630 N/mm
TN900/3	900 N/mm
TN1200/3	1.200 N/mm
TN1600/4	1.600 N/mm
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:

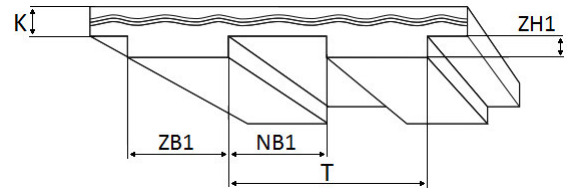
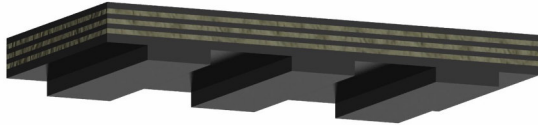
Construction:	Tensile strength
Hydrobelt-type	900 N/mm
Breaking elongation	14% - 18%
Rubber hardness	60 + / 5° Shore A
Pitch tolerance	± 0,4%
Tolerance beltwidth:	± 1 mm
Rubber (Abrasion)::	< 110 mm ³
Moisture absorption:	none

EN-Low profile, type 900



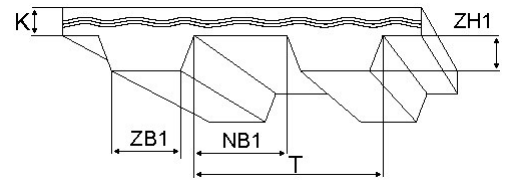
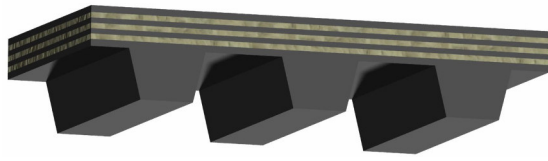
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
	*	20	5	15	3
EN 200300		22,5	7,5	15	3
EN 250300	*	25	5	20	3
EN 280300		28	10	18	3
EN 320300		32	14	18	3
EN 330300		33	15	18	3
EN 360300		36	16	20	3
EN 370300	*	37	17	20	3
EN 400300		40	20	20	3
EN 420300		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



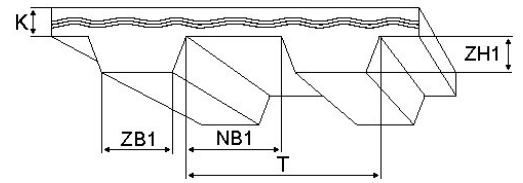
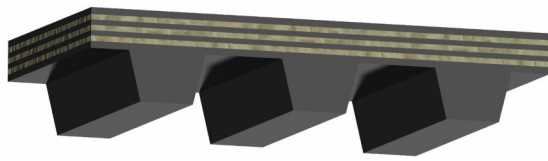
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
	*	20	5	15	3
EN 200300	*	22,5	7,5	15	3
EN 250300	*	25	5	20	3
EN 280300	*	28	10	18	3
EN 280300	*	28	12	16	3
EN 320300	*	32	14	18	3
EN 320300	*	32	16	16	3
EN 330300	*	33	15	18	3
EN 360300	*	36	16	20	3
EN 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



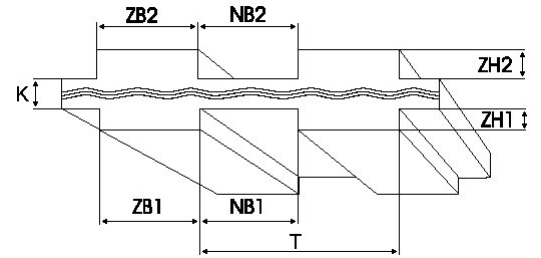
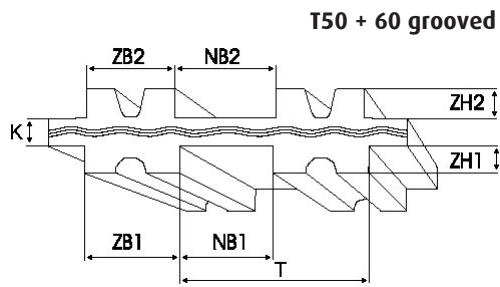
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 280900		28	9	14	9,5
EN 300900	*	30	10,3	15	9,5
EN 350900		35	15,3	15	9,5
EN 400900		40	16,3	19	9,5
EN 430900	*	43	16,2	21,5	9,5
EN 440900		44	17,1	21,5	9,5
EN 500900		50	19,7	25	9,5
EN 600900	*	60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

EN-High profile, type 1200



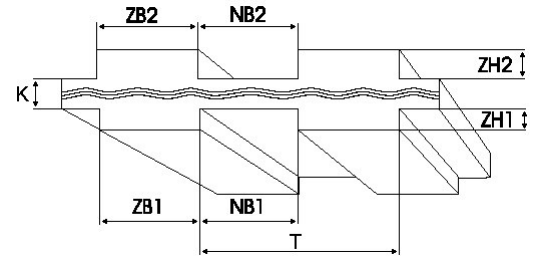
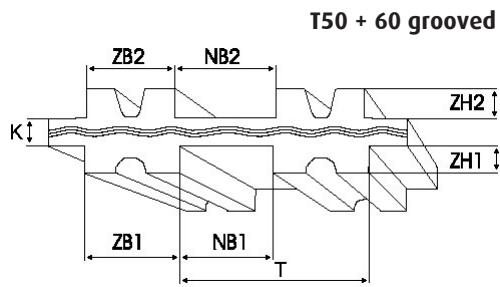
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 350900	*	35	15,3	15	9,5
EN 400900		40	16,3	19	9,5
EN 430900	*	43	16,2	21,5	9,5
EN 440900	*	44	17,1	21,5	9,5
EN 500900		50	19,7	25	9,5
EN 600900	*	60	27,5	27	9,5

DN-Low profile, type 900



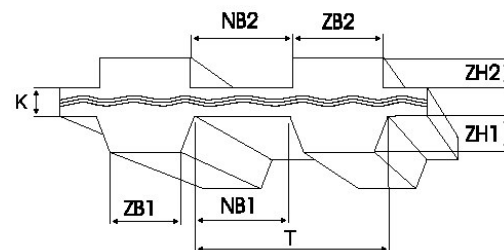
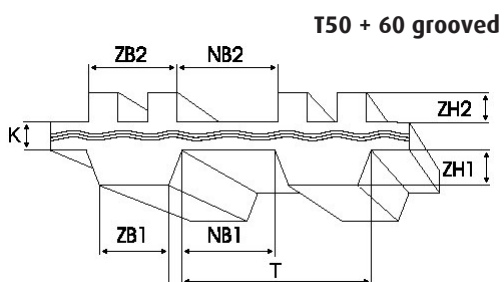
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 280309	*	28	10	7	18	21	3	9
DN 320309		32	14	11	18	21	3	9
DN 360309		36	16	10	20	26	3	9
DN 400309		40	20	14	20	26	3	9
DN 420309		42	22	16	20	26	3	9
DN 440309	*	44	24	18	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	35	25	25	3	9

DN-Low profile, type 1200



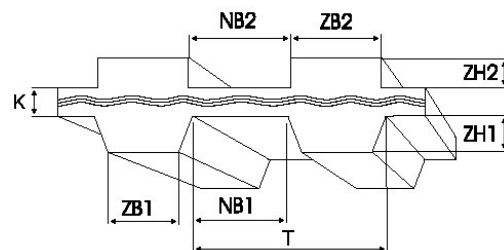
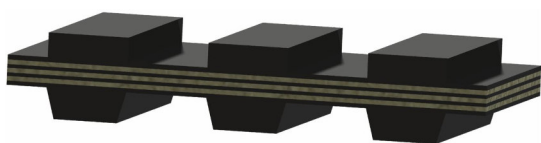
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 320309	*	32	14	11	18	21	3	9
DN 360309	*	36	16	10	20	26	3	9
DN 400309	*	40	20	14	20	26	3	9
DN 420309	*	42	22	16	20	26	3	9
DN 450309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

DN-High profile, type 900



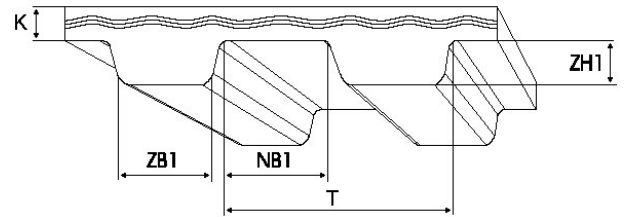
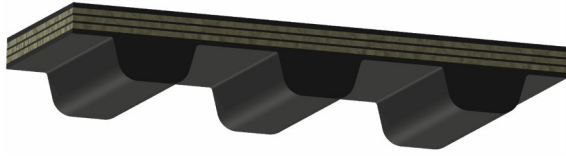
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 280909	*	28	8	7	15	20	9,5	9
DN 350909		35	15,3	14	15	21,5	9,5	9
DN 400909		40	16,3	14	19	26	9,5	9
DN 430909	*	43	16,2	18	21,5	26	9,5	9
DN 440909		44	17,1	18	21,5	26	9,5	9
DN 500909	*	50	19,7	25	25	25	9,5	9
DN 600907	*	60	27,5	33	27	27	9,5	7,5
DN 600909	*	60	27,5	33	27	27	9,5	9

DN-High profile, type 1200



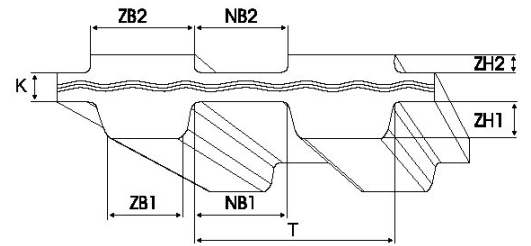
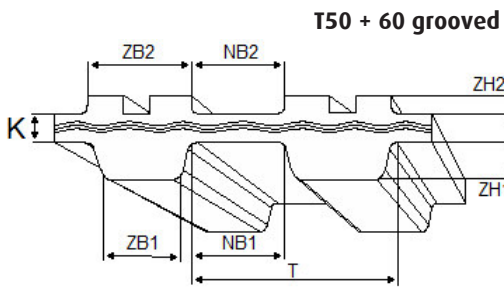
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 350907		35	15,3	13,5	15	21,5	9,5	7,5
DN 400907		40	16,3	18,5	19	21,5	9,5	7,5
DN 430907	*	43	16,2	18	21,5	25	9,5	7,5
DN 440907	*	44	17,1	22,5	21,5	21,5	9,5	7,5
DN 490907		49,5	19,2	24,5	25	25	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



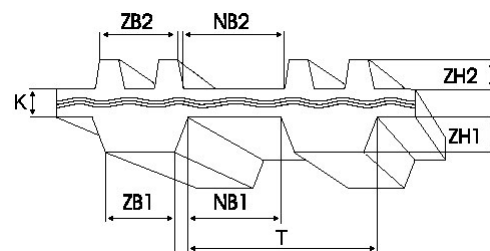
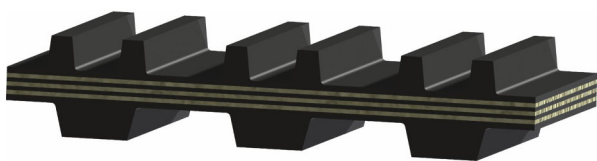
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EN 501200P	*	50	19	24,5	12	60

DN-High profile parabolic, type 511.5/3



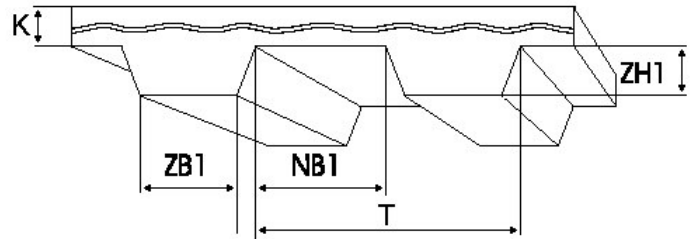
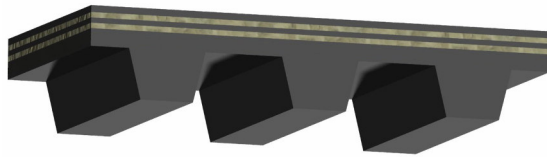
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
DN 401209P	*	40	14,5	15	19	25	12	9
DN 501209P	*	50	19	25	24,5	25,5	12	9
DN 601209P	*	60	24	35	29,5	25	12	9

DN-High profile, type 900 notched



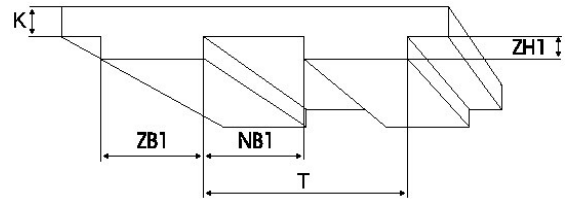
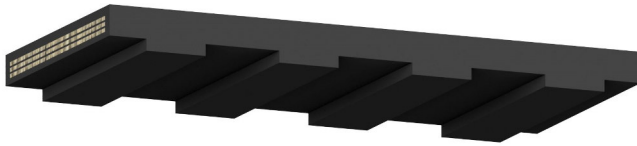
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Tooth width ZB2 [mm]	Recess width NB1 [mm]	Recess width NB2 [mm]	Profile height ZH1 [mm]	Profile height ZH2 [mm]
G 320505	*	32	13	14	15	18	8	8
G 350505		35	16	14,7	15	18,5	8	8
G 400505		40	17,3	18,6	19	19,5	8	8
G 440505		44	16	24,5	24	19,5	8	8
G 450505	*	45	16,7	23,5	24	19,5	8	8
G 500505		50	16	28,6	30	19,5	8	8

EN-High profile, type 630/2



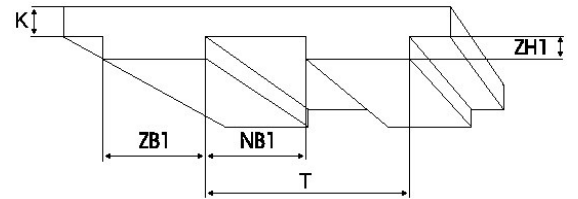
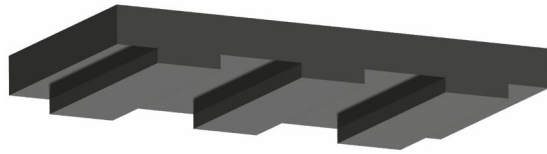
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EN 280900		28	9	14	9,5

EN-Low profile, type 900 (Hydro belt)



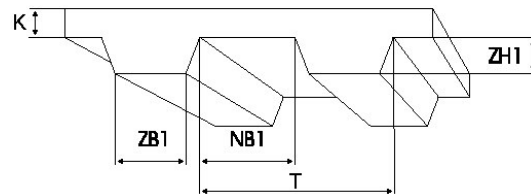
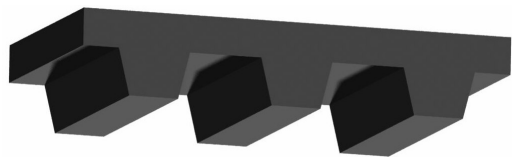
Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]
EN 280300	*	28	10	18	3
EN 320300	*	32	14	18	3
EN 360300	*	36	16	20	3
EN 400300	*	40	20	20	3

EN-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

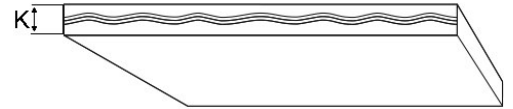
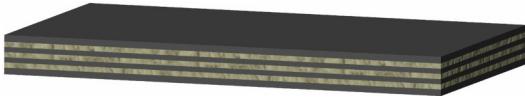
EN-High profile, type 900 (Solar Belt)



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

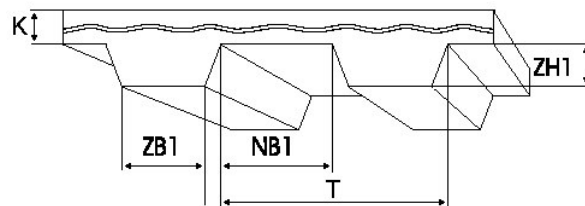
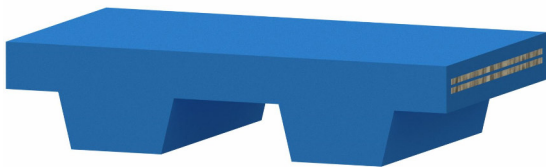
Non profile belting., EP 630/3

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



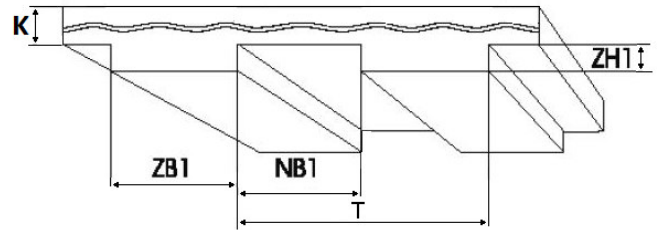
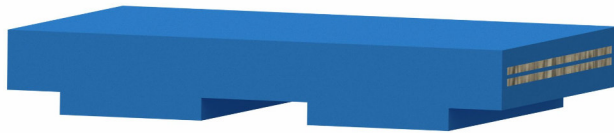
Description	Optional	Pitch T [mm]	Belt thickness BD [mm]
Non profile belt		All pitches	7

EN-High profile, type EP 1000/2 (foodgrade)



Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]	Width B [mm]
EN 280900		28	9	14	9	60
EN 350900		36	15,3	15	9	60

EN-Low profile, type EP 1000/2 (foodgrade)



Description	Optional	Pitch T [mm]	Tooth width ZB1 [mm]	Recess width NB1 [mm]	Profile height ZH1 [mm]	Width B [mm]
EN 280300		28	10	18	3	60
EN 360300		36	16	20	3	60

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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.

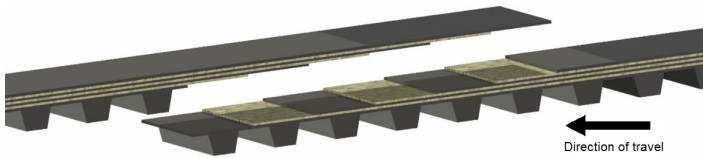
For reverse drive systems or 'S' drives and their end rollers double-pivot belt connectors are required: A metal (pitch related) extension piece is fitted between two female joining clips, using two joining rods, to offer a flexible and smooth running of the double pivot joint over drive elements.

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:

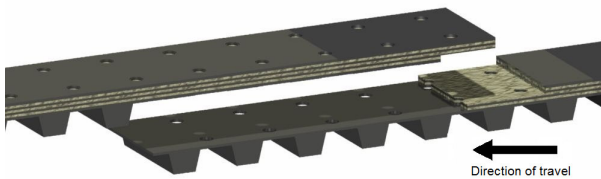
- The tear-out resistance of any joint remains the conveyor's weakest point!
- Any conveyor's drive must include an overload slip clutch to help prevent joint tear out.
- Use largest drive wheel option and reduce crop fall damage by means of a good rod covering.
- A tightly run conveyor increases rod, 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

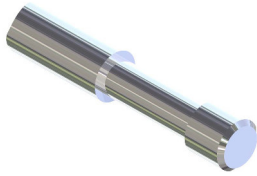


Recommended for heavy duty applications when an endless vulcanized joint is impractical.

- 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]	Articleno.
4 AB 28-20		40	28	20	5	11	M 112000003 W 112000004
4 AB 28-24		40	28	24	5	11	M 112000005 W 112000006
4 AB 32-20		40	32	20	5	11	M 112000007 W 112000008
4 AB 36-20		40	36	20	5	11	M 112000009 W 112000010
4 AB 50-20		40	50	20	5	11	M 112000011 W 112000012
5 AB 28-20		50	28	20	5	11	M 112000033 W 112000034
5 AB 36-20		50	36	20	5	11	M 112000039 W 112000040
5 AB 40-20		50	40	20	5	11	M 112000041 W 112000042
5 AB 42-24		50	42	24	5	11	M 112000047 W 112000048
5 AB 45-20		50	45	20	5	11	M 112000049 W 112000050
5 AB 50-20		50	50	20	5	11	M 112000051 W 112000052
6 AB 28-32		60	28	32	5	11	M 112000796 W 112000797
6 AB 32-32		60	32	32	5	11	M 112000781 W 112000782
6 AB 36-20		60	36	20	5	11	M 112000109 W 112000110
6 AB 36-30		60	36	30	5	11	M 112000111 W 112000112
6 AB 36-32		60	36	32	5	11	M 112000785 W 112000786
6 AB 40-30		60	40	30	5	11	M 112000115 W 112000116
6 AB 42-30		60	42	30	5	11	M 112000121 W 112000122
6 AB 42-32		60	42	32	5	11	M 112000789 W 112000790
6 AB 45-32		60	45	32	5	11	M 112000798 W 112000799

Joining clips, type AF

Design joining rod

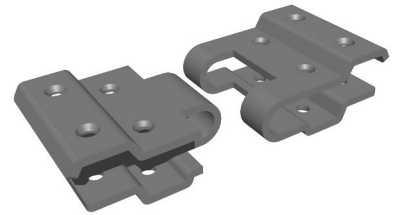
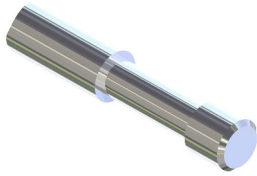


Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]	Articleno.
5 AF 28-20		50	28	20	5	10	112000053
5 AF 28-24		50	28	24	5,0	10	112000948
5 AF 32-20		50	32	20	5	10	112000054
5 AF 36-20		50	36	20	5	11	112000055
5 AF 40-20		50	40	20	5	11	112000056
5 AF 40-24		50	40	24	5	11	112000946
5 AF 42-20		50	42	20	5	11	112000057
5 AF 42-24		50	42	24	5	10	112000047
5 AF 45-20		50	45	20	5	11	112000058
5 AF 50-20		50	50	20	5	11	112000059
5 AF 56-20		50	56	20	5	11	112000060
6 AF 28-32		60	28	32	5	12	112000838
6 AF 28-30		60	28	30	5	12	112000942
6 AF 32-32		60	32	32	5,0 / 5,5	12	112000131
6 AF 36-30		60	36	30	5,0	12	112000940
6 AF 36-32		60	36	32	5,0 / 5,5	12	112000840
6 AF 40-32		60	40	32	5,0 / 5,5	12	112000841
6 AF 42-32		60	42	32	5,0 / 5,5	12	112000842
6 AF 45-32		60	45	32	5,0 / 5,5	12	112000843
6 AF 50-32		60	50	32	5,0 / 5,5	12	112000844
6 AF 56-32		60	56	32	5,0 / 5,5	12	112000143
6 AAF 28-32		60	28	32	5	11	112000103
6 AAF 32-32		60	32	32	5	11	112000104

* also with 12mm joining rod

Joining clips, type BC

Design joining rod



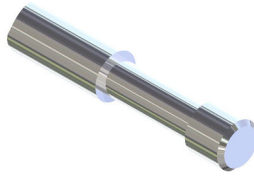
Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]	Articleno.
6 BC 35-20		60	35	20	5	11	M 112000145 W 112000146
6 BC 35-30		60	35	30	5	11	M 112000147 W 112000148
6 BC 35-32		60	35	32	5	11	M 112000149 W 112000151
6 BC 40-30		60	40	30	5	11	M 112000153 W 112000154
6 BC 40-32		60	40	32	5	11	M 112000155 W 112000157
6 BC 44-32		60	44	32	5	11	M 112000159 W 112000160
6 BC 50-32		60	50	32	5	11	M 112000161 W 112000162

Joining clips, type E

4-hole joining clip plate



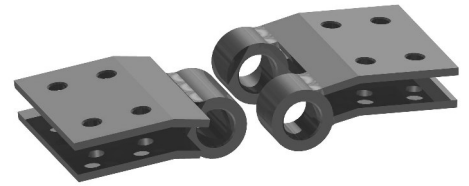
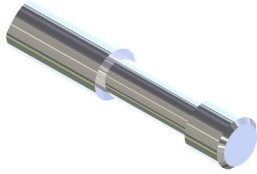
Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]	Articleno.
6 E 42-32		60	42	32	6	11	M 112000176 U 112000325 W 112000178

Joining clips, type G

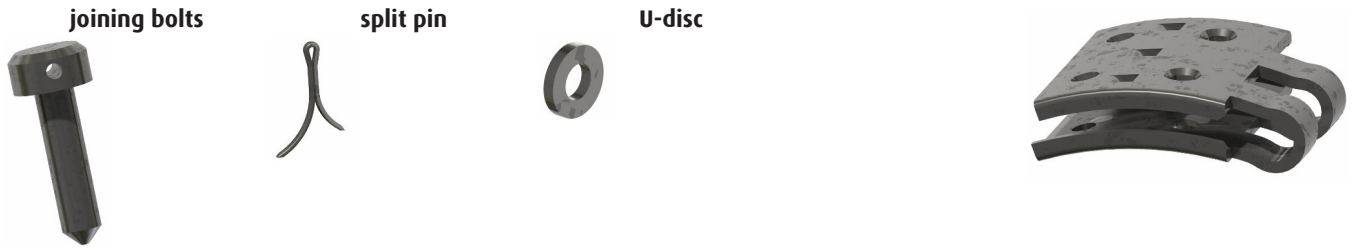
Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]	Articleno.
2 G 28-0		20	28	-	5	11	112000965
2 G 32-0		20	32	-	5	11	112000982
2 G 40-0		20	40	-	5	11	112000822
3 G 32-0		30	32	-	5	11	M 112000887 W 112000888
3 G 35-0		30	35	-	5	11	M 112000890 W 112000891
3 G 42-0		30	42	-	5	11	112000828
3 G 45-0		30	45	-	5	11	M 112000001 W 112000002
4 G 28-20		40	28	20	5	11	M 112000963 W 112000964
4 G 40-20		40	40	20	5	11	M 112000899 W 112000900
5 G 22-20		50	22	20	5	11	M 112000878 W 112000879
5 G 28-20		50	28	20	5	11	M 112000013 W 112000014
5 G 32-20 A	*	50	32	20	5	11	M 112000015 W 112000016
5 G 36-20		50	36	20	5	11	M 112000017 W 112000017
5 G 36-20 A	*	50	36	20	5	11	M 112000018 W 112000020
5 G 40-20		50	40	20	5	11	M 112000021 W 112000023
5 G 42-20		50	42	20	5	11	M 112000025 W 112000027
5 G 42-20 A	*	50	42	20	5	11	M 112000026 W 112000028
5 G 45-20		50	45	20	5	11	M 112000031 W 112000032
5 G 50-20		50	50	20	5	11	M 112000061 W 112000062
6 G 22-32		60	22	32	5	11	M 112000804 W 112000806
6 G 28-32		60	28	32	5	11	M 112000063 W 112000065
6 G 32-30		60	32	30	5	11	M 112000067 W 112000068
6 G 32-32		60	32	32	5	11	M 112000069 W 112000071
6 G 35-30		60	35	30	5	11	M 112000073 W 112000074
6 G 35-32		60	35	32	5	11	M 112000075 W 112000076
6 G 36-20		60	36	20	5	11	M 112000077 W 112000078
6 G 36-30		60	36	30	5	11	M 112000079 W 112000080

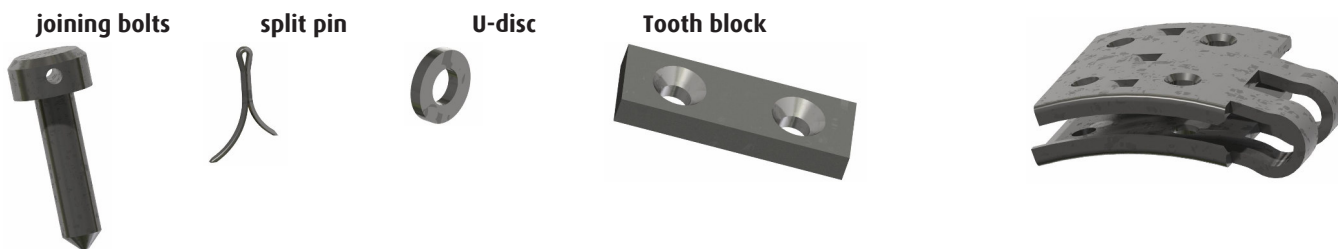
Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]	Articleno.
6 G 36-32		60	36	32	5	11	M 112000081 W 112000083
6 G 40-20		60	40	20	5	11	M 112000085 W 112000086
6 G 40-30		60	40	30	5	11	M 112000087 W 112000088
6 G 40-32		60	40	32	5	11	M 112000089 W 112000090
6 G 42-32		60	42	32	5	11	M 112000093 W 112000094
6 G 45-30		60	45	30	5	11	M 112000095 W 112000096
6 G 45-32		60	45	32	5	11	M 112000097 W 112000098
6 G 50-30		60	50	30	5	11	M 112000957 W 112000958
6 G 50-32		60	50	32	5	11	M 112000099 W 112000101

Joining clips, type LW
(Low-profile)



Description	Optional	Hole Distance LA [mm]	Max. bolt \emptyset BD [mm]	Articleno.
5 LW 28-24 FZ		24	8	112000795
5 LW 32-24 FZ		24	8	
5 LW 33-24 FZ		24	8	
5 LW 36-24 FZ		24	8	112000355
5 LW 40-24 FZ		24	8	112000356
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	112000826
6 LW 40-30/32 FZ		30 / 32	10	112000889
6 LW 42-30/32 FZ		30 / 32	10	112000846
6 LW 50-30/32 FZ		30 / 32	10	112000827

Joining clips, type LW
(High-profile)

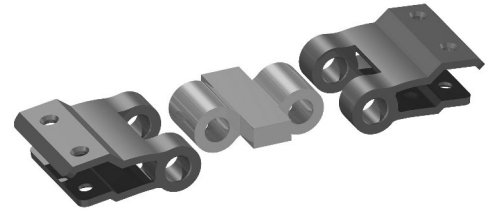
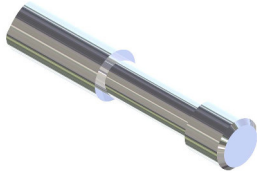


Description	Optional	Hole Distance LA [mm]	Max. bolt \emptyset BD [mm]	Articleno.
5 LW 28-24 HZ		24	8	
5 LW 35-24 HZ		24	8	
5 LW 40-24 HZ		24	8	
5 LW 43-24 HZ		24	8	
5 LW 44-24 HZ		24	8	
5 LW 50-24 HZ		24	8	
6 LW 35-30/32 HZ		30 / 32	10	112000825
6 LW 40-30/32 HZ		30 / 32	10	112000359
6 LW 50-30/32 HZ		30 / 32	10	112000360

Double Pivot, joining

'Double Pivot, joining

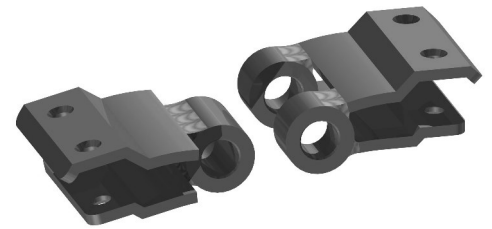
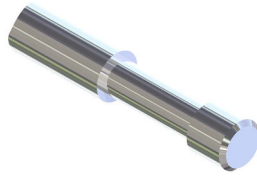
Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Max. rod Ø [mm]	Articleno.
DP28GAB		60	28	12	112000250
DP32GAB		60	32	12	112000251
DP35GAB		60	35	12	112000254
DP36GAB		60	36	12	112000255
DP40GAB		60	40	12	112000256
DP42GAB		60	42	12	112000257
DP44GAB		60	44	12	112000258
DP45GAB		60	45	12	112000259
DP50GAB		60	50	12	112000260
DP28-50		50	28	12	112000249
DP28-60		60	28	12	112000248
DP35-50		50	35	12	112000253
DP35-60		60	35	12	112000252

Joining clips, type GAB

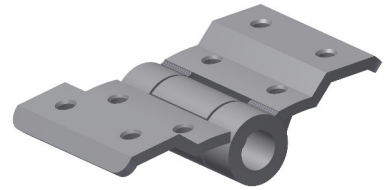
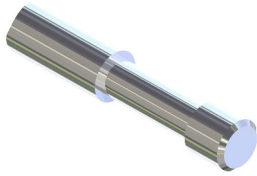
Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]	Articleno.
5 GAB 32-20		50	32	20	6	12	M 112000885 W 112000886
6 GAB 28-20		60	28	20	6	12	M 112001151 W 112001152
6 GAB 28-30		60	28	30	6	12	M 112001153 W 112001154
6 GAB 28-32		60	28	32	6	12	M 112000197 W 112000198
6 GAB 32-32		60	32	32	6	12	M 112000199 W 112000200
6 GAB 36-20		60	36	20	6	12	M 112001005 W 112001006
6 GAB 36-30		60	36	30	6	12	M 112001003 W 112001004
6 GAB 36-32		60	36	32	6	12	M 112000201 W 112000202
6 GAB 40-20		60	40	20	6	12	M 112001135 W 112001136
6 GAB 40-30		60	40	30	6	12	M 112001137 W 112001138
6 GAB 40-32		60	40	32	6	12	M 112000203 W 112000204
6 GAB 42-32		60	42	32	6	12	M 112000205 W 112000206
6 GAB 44-20		60	44	20	6	12	M 112001001 W 112001002
6 GAB 44-30		60	44	30	6	12	M 112000999 W 112001000
6 GAB 45-32		60	45	32	6	12	M 112000207 W 112000208
6 GAB 50-20		60	50	20	6	12	M 112001009 W 112001010
6 GAB 50-30		60	50	30	6	12	M 112001007 W 112001008
6 GAB 50-32		60	50	32	6	12	M 112000209 W 112000210

Joining clips, type GABL

Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Max. rod Ø [mm]	Articleno.
6 GABL 36-32		60	36	32	6	12	M 112001066 U 112001072 W 112001067
6 GABL 42-32		60	42	32	6	12	M 112001068 U 112001073 W 112001069

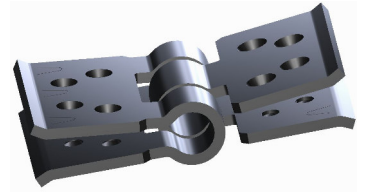
Joining clips, type BS

Design joining rod



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Bolts	Max. rod Ø [mm]	Articleno.
5 BS 30-24		50	30	24	M6	10	112001053
6 BS 28-32		60	28	32	M6	10	W 12001255 M 12001254
6 BS 32-32		60	32	32	M6	10	M 12001257 W 12001256
6 BS 35-32		60	35	32	M6	10	M 12001258 W 12001259
6 BS 40-32		60	40	32	M6	10	W 12001261 M 12001260
6 BS 42-32		60	42	32	M6	10	M 12001262 W 12001263
6 BS 45-32		60	45	32	M6	10	W 12001265 M 12001264
6 BS 50-32		60	50	32	M6	10	M 12001266 W 12001267
75 BS 35-55		75	35	55	M6	10	112001056

Joining clips, type BSV



Description	Optional	Belting width [mm]	Pitch [mm]	Hole distance [mm]	Rivet Ø [mm]	Articleno.
6 BSV 35-30		60	35	30	5	112001054
6 BSV 40-30		60	40	30	5	112001055

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
centre clamp	4-14

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:

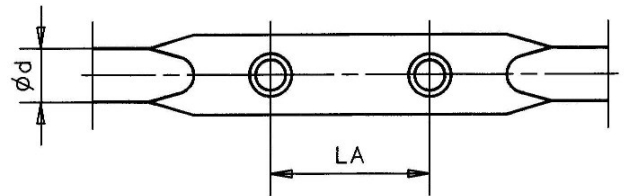
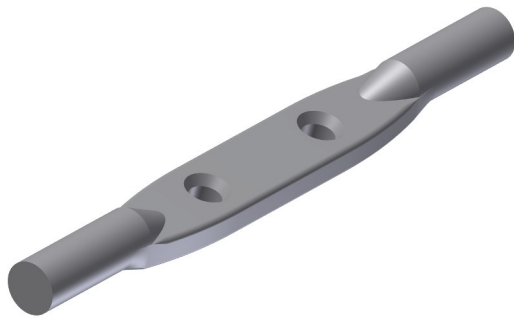
NOS-2	The rod-center is heated & flattened for two rivet holes.
NOS-1	The rod-center is heated & flattened for one rivet hole.
Superflex	Specially reinforced (wider)central rod-forging, flattened with two rivet holes.
Highflex	Specially reinforced (wider & thicker) central rod-forging,flattened with 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.

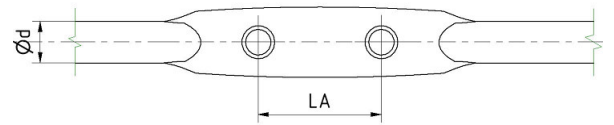
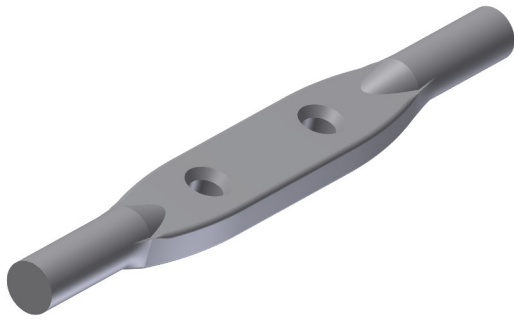
NOS

NOS also possible with 1 hole



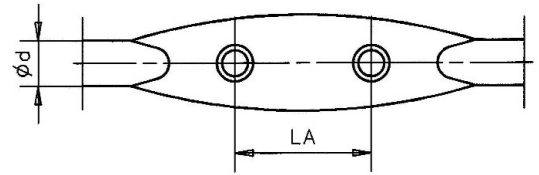
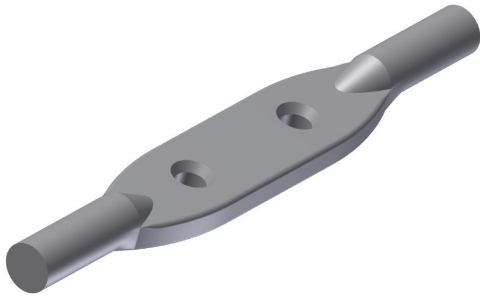
Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Rod ϕ d [mm]	Rivet ϕ [mm]
NOS-2		40 50 60 75	20-24-30-32	8	5,0
NOS-2		40 50 60 75	20-24-30-32	9	5,0
NOS-2		40 50 60 75	20-24-30-32	10	5,0 / 5,5
NOS-2		40 50 60 75	20-24-30-32	11	5,0 / 5,5 / 6,0
NOS-2		40 50 60 75	20-24-30-32	12	5,0 / 5,5 /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



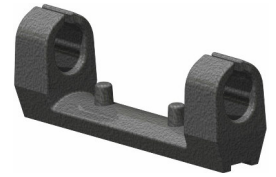
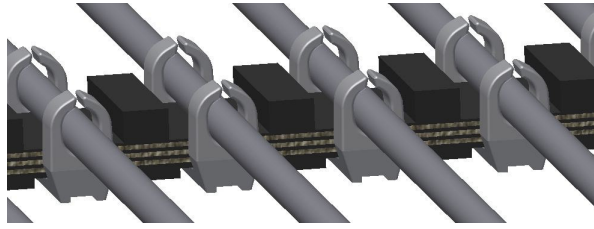
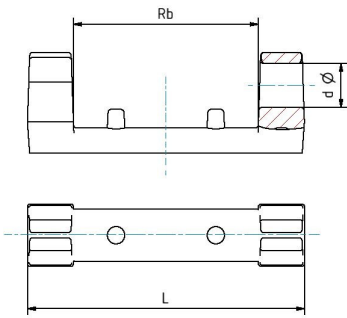
Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Rod \varnothing d [mm]	Rivet \varnothing [mm]
Highflex		40 50 60 75	20-24-30-32	9	5
Highflex		40 50 60 75	20-24-30-32	10	5,0 / 5,5
Highflex		40 50 60 75	20-24-30-32	11	5,0 / 5,5 / 6,0
Highflex		40 50 60 75	20-24-30-32	12	5,0 / 5,5 / 6,0
Highflex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



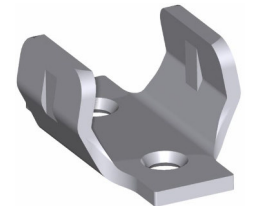
Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Rod \varnothing d [mm]	Rivet \varnothing [mm]
Superflex		40 50 60 75	20-24-30-32	9	5
Superflex		40 50 60 75	20-24-30-32	10	5,0 / 5,5
Superflex		40 50 60 75	20-24-30-32	11	5,0 / 5,5 / 6,0
Superflex		40 50 60 75	20-24-30-32	12	5,0 / 5,5 / 6,0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



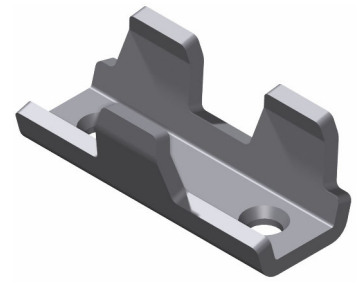
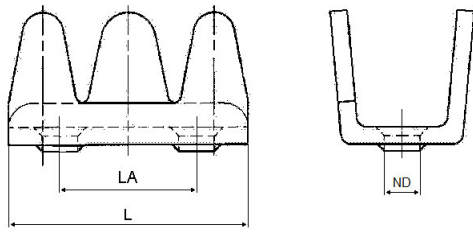
Description	Optional	Belting width Rb [mm]	Width of the bracket L [mm]	Rod \varnothing d [mm]	Articleno.
KS 10		60	90	10	113000010
KS 11		60	90	11	113000011
KS 12		60	90	12	113000012

Haulm web clamp



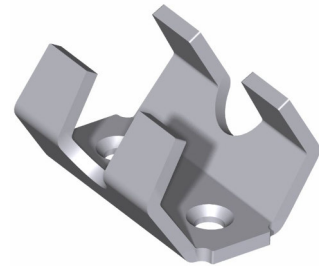
Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod Ø d [mm]	Rivet Ø ND [mm]	Articleno.
Haulm web clamp		30	24	8-10	5	113000039

Haulm web 3-lips clamp



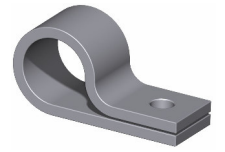
Description	Optional	Width of the bracket L [mm]	Belting width [mm]	Hole Distance LA [mm]	Rod Ø d [mm]	Rivet Ø [mm]	Articleno.
3 lip clamp		35	40 - 50	20	V-pintle rod	5	113000015
3 lip clamp		35	25 - 50	central, 1Hole	V-pintle rod	5	113000034
3 lip clamp			40 - 50	24	V-pintle rod	5	113000024
3 lip clamp VKB-3x			60	30-32	V-pintle rod	5	113000054

Haulm web 4-lips clamp



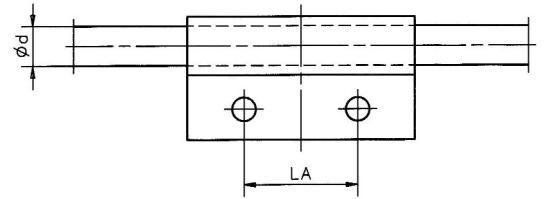
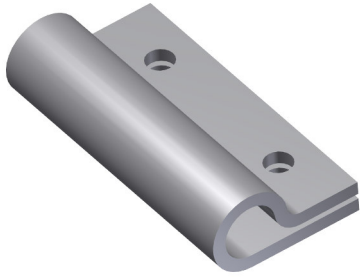
Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod Ø d [mm]	Rivet Ø ND [mm]	Articleno.
4-lips clamp		50 – 60	20	12 x 6 (flat)	5	113000013
4-lips clamp		50 – 60	32	12 x 6 (flat)	5	113000014

P-clip



Description	Optional	Belting width [mm]	Rod \emptyset d [mm]	Rivet \emptyset [mm]	Articleno.
P-clip		20	8	5	113000002
P-clip		20	10	5	113000005
P-clip		20	11	5	113000008
P-clip		30	11	5	113000061
P-clip		20	12	5	113000023

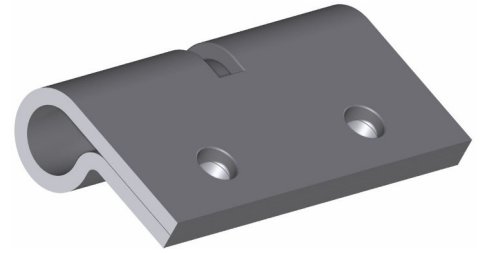
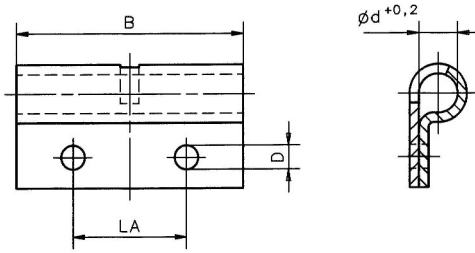
WB-type clip



Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Rod \varnothing d [mm]	Rivet \varnothing [mm]	Articleno.
WB-Type clip		50	20	8	5	113000001
WB-Type clip		60 - 75	32	10	5	113000004
WB-Type clip		60 - 75	30	11	5	113000021
WB-Type clip		60 - 75	30	11	6	113000006
WB-Type clip		60 - 75	32	11	6	113000007
WB-Type clip		60 - 75	32	12	6	113000009

Centre clip (for a complete rod)

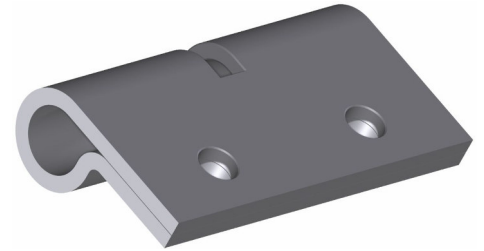
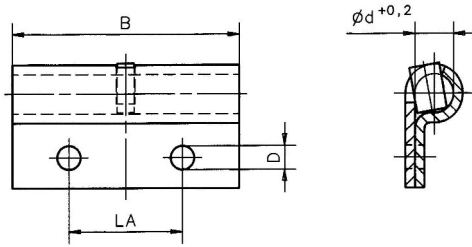
standard: not hardened



Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod \varnothing d [mm]	Rivet \varnothing ND [mm]	Articleno.
Centre clip/21		50	24	10	6	113000042
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	113000047
Centre clip/30	*	60	24	10	6	-
Centre clip/32	*	60	24	11	6	113000046
Centre clip/33	*	60	24	12	6	-
Centre clip/34	*	60	24	12.5	6	-
Centre clip/01		60	30	10	6	113000030
Centre clip/03		60	30	11	6	113000031
Centre clip/04		60	30	12	6	113000032
Centre clip/05		60	30	12.5	6	113000033
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	113000041
Centre clip/40		75	55	11	6	113000035
Centre clip/41	*	75	55	12	6	-

Centre clip (for half a rod)

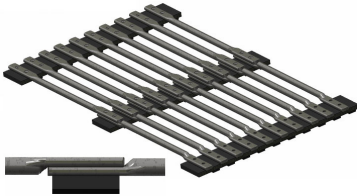
standard: not hardened



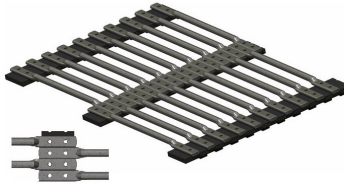
Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod ϕ d [mm]	Rivet ϕ ND [mm]	Articleno.
Centre clip/21		50	24	10	6	113000045
Centre clip/23	*	50	24	11	6	-
Centre clip/24	*	50	24	12	6	-
Centre clip/25	*	50	24	12.5	6	-
Centre clip/35	*	60	24	10	5.5	113000056
Centre clip/30	*	60	24	10	6	-
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	113000029
Centre clip/03		60	30	11	6	113000036
Centre clip/04		60	30	12	6	-
Centre clip/05		60	30	12.5	6	113000037
Centre clip/11	*	60	32	10	6	113000051
Centre clip/13	*	60	32	11	6	113000049
Centre clip/14	*	60	32	12	6	-
Centre clip/36	*	60	32	12.5	5.5	-
Centre clip/15	*	60	32	12.5	6	113000048
Centre clip/40		75	55	11	6	113000038

Further centre belt constructions

overlapped riveted



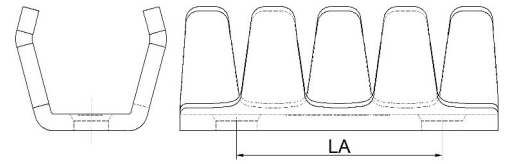
Off-set riveted



Off-set riveted 4-belts



centre clamp



Description	Optional	Width of the bracket L [mm]	Belting width [mm]	Hole Distance LA [mm]	Rod \varnothing d [mm]	Rivet \varnothing ND [mm]	Articleno.
HKB / 3X		48	50 - 75	central,3X		5	113000066

General information	5- 1
Hole distance	5- 2
Rod ends	5- 3
Cranked rods	5- 4
Rod material	5- 5
Twin-rods	5- 6
Welded twin rod	5- 7
Belt assemblies with square mesh design	5- 8
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:

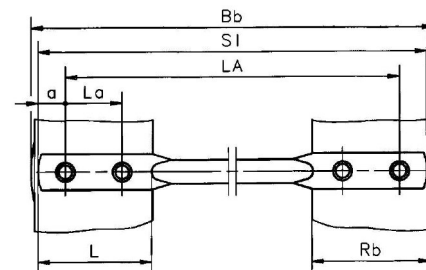
- Spring steel: This steel quality is cold drawn and available in classes B, C or S. It offers a very high hardness & wear resistance. Subject to rod pitch & rod stress loading, these steels are suitable in many normal to heavy applications.
- Hot rolled steel 55Si7 & Boron alloyed steel are suited to 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.

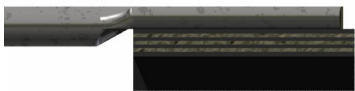

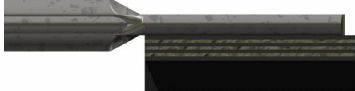
Twin rods divides the belt pitch over 2 rods, offering narrow rod clearances which can be further reduced by means of rod coverings. To avoid Twin-rod wear, special Twin-rod conveyors are usually friction or cam driven.

Hole distance

possible design

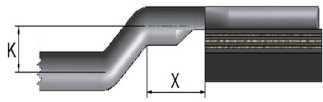
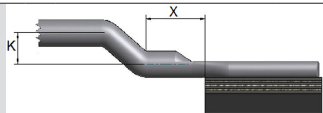


Description	Optional	Belting width Rb [mm]	Standard	Hole Distance La [mm]	Hole Distance LA [mm]	Rod Ø d [mm]	Distance a [mm]	Width B [mm]
Rod		50	X	24			11,5	
Rod		60	X	30			13,5	
Rod		60	X	32			12,5	
Rod		75	X	30			21	
Rod		75	X	32			20	
Rod			X			8		13
Rod			X			9		15
Rod			X			10		17
Rod			X			11		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			

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

Cranked rods

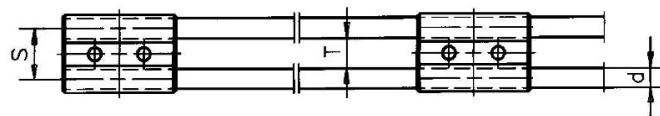
possible design

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)

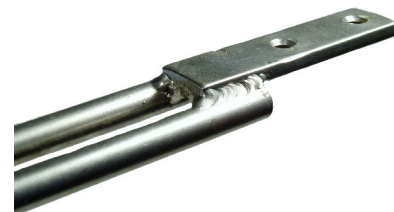
Description	Optional	Raw material Nr.	Rod Ø d [mm]	Possible design not hardened	Possible design hardened	Articleno.
Steel		1.7223	5	X		114000033
Steel		1.7223	6	X		114000034
Steel		1.7223	7	X		114000035
Steel		1.7223	8	X		114000036
Steel		1.7223	9	X		114000037
Steel		1.7223	10	X		
Steel		1.7223	8	X		
Steel		1.7223	9	X		
Steel		1.7223	10	X		114000039
Steel		1.7223	11	X		114000040
Steel		1.7223	12	X		114000041
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	114000028
Steel		1.0904	11	X	X	114000029
Steel		1.0904	12	X	X	114000030
Steel		1.0904	13	X	X	114000031
Steel		1.0904	15	X	X	114000032
Steel		SB27M12CB	10		X	114000001
Steel		SB27M12CB	11		X	114000002
Steel		SB27M12CB	12		X	114000003
Steel		SB27M12CB	13		X	114000004
Stainless Steel		304	6			114000020
Stainless Steel	*	304	7			114000021
Stainless Steel	*	304	8			114000022
Stainless Steel	*	304	9			114000023
Stainless Steel	*	304	10			114000024
Stainless Steel	*	304	11			114000026
Stainless Steel	*	304	12			114000027
Stainless Steel	*	304	13			G01RVS13
Fibreglass			6			116000001
Fibreglass			8			116000002
Fibreglass			10			116000003

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		

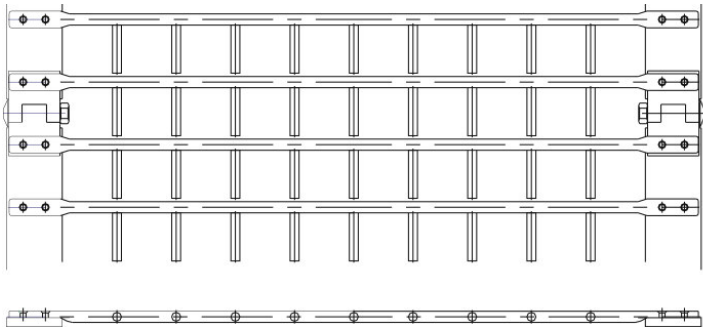
Welded twin rod



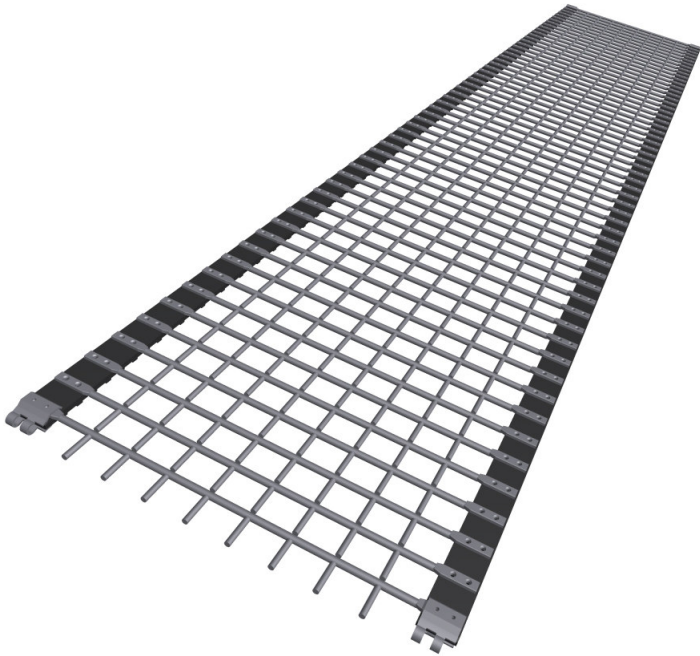
Description	Optional	Rod Ø d [mm]	Boron	Stainless Steel
Welded twin rod		8	X	X
Welded twin rod		9		X
Welded twin rod		10	X	X
Welded twin rod		11	X	X
Welded twin rod		12	X	X

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

Belt assemblies with square mesh design



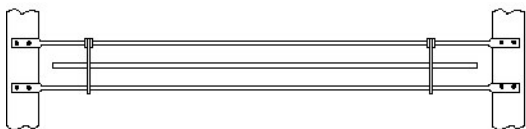
- standard
- optional
- optional



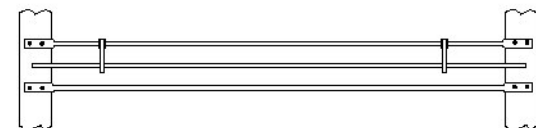
Droplink

possible design

Design of belt with two traction belts

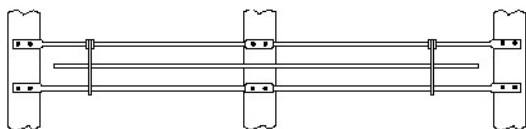


standard

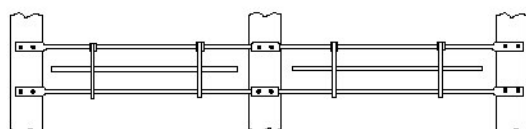


optional

Design of belt with three traction belts

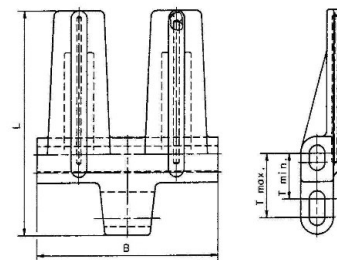


standard



optional

Element droplink



Description	Optional	Raw material Nr.	Max. rod \emptyset Sdmax [mm]	Length L [mm]	Min. Pitch Tmin [mm]	Max. pitch Tmax [mm]	Width B [mm]	Articleno.
droplink	*	rubber	13	195	40	50	160	-
droplink		PU	13	195	40	50	160	-
droplink		PU	13	200	40	40	160	115008413

General information	6- 1
Pintle rod, 1 row	6- 2
Pintle rods, 1-row	6- 3
Pintle rods, 1-row_finger outside	6- 4
Pintle rod, 2 row	6- 5
Pintle rod, 2 row	6- 6
Pintle rod, 4 row	6- 7
Pintle plate rods	6- 8
V-pintle rod	6- 9
Pintle rod, V-profile	6-10
Pintle rod, V-profilel 2 row	6-11
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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.

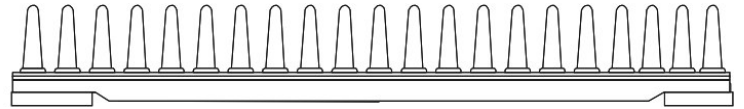
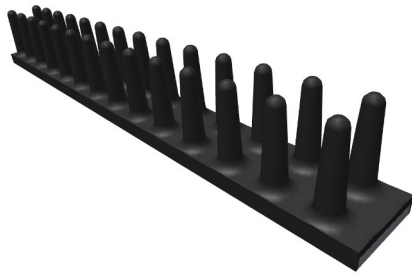
Pintle rods on flat steel (30x4) can be cut off at each required width.

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.

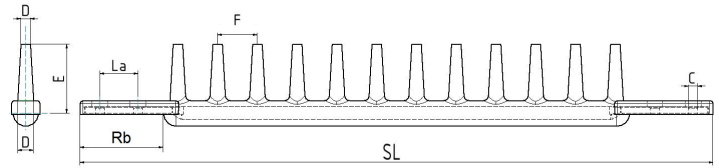
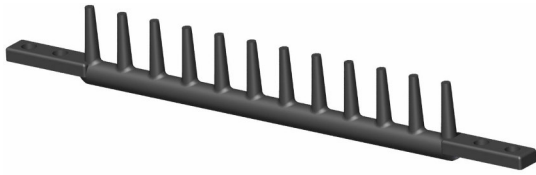
We develop new mixtures and have access to our own mixing installation for new or further development of your products.

Pintle rod, 1 row



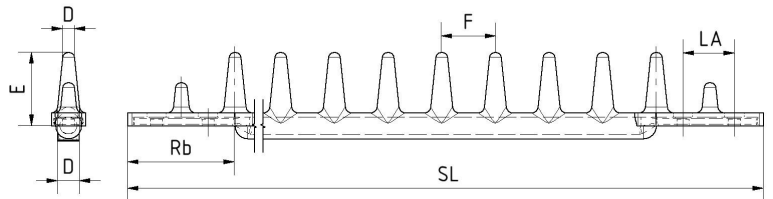
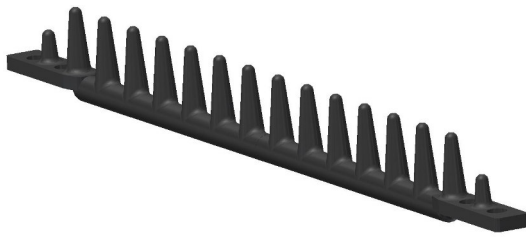
Description	Optional	Rod	Steel quality	Rod width [mm]	Pintleheight [mm]	Pintle distance	Belt width Bb [mm]
Pintle rod on a flat strip		30x4 (flat)	C 60	30	32	20	< 2000
Pintle rod on a round rod		10	Class C	30	32	20	> 456 - 1496 <Interval = 20 mm

Pintle rods, 1-row



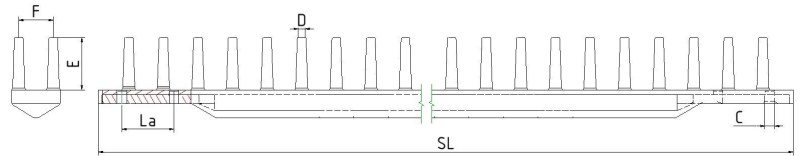
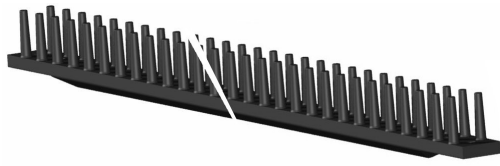
Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]	Articleno.
Pintle rod	*	50	24	394	5,7	6/10	35	25	117000816
Pintle rod	*	50	24	691	5,2	5,8/8,0	18	20,5	117000788
Pintle rod	*	50	24	735	5,2	5,8/8,0	18	20,5	117000789
Pintle rod	*	60	32	842	5,7	8/12	37	21,5	117000792

Pintle rods, 1-row_finger outside



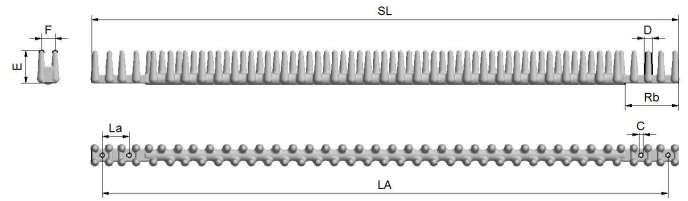
Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]	Articleno.
Pintle rod		60	20	298	5,2	6/10	35	25	117000125
Pintle rod		60	20	348	5,2	6/10	35	25	117000119
Pintle rod		50	24	594	5,2	7	35	25	117000139
Pintle rod		60	20	673	5,2	6/10	35	25	117000118
Pintle rod		60	20	673	5,2	6/10	35	25	117000118
Pintle rod		60	20	698	5,2	6/10	35	25	117000124
Pintle rod		50	24	748	5,2	5/12	31	21,5	117000111
Pintle rod		50	24	748	5,7	5/12	31	21,5	117000779
Pintle rod		50	24	996	5,7	5/9	34	25	117000759

Pintle rod, 2 row



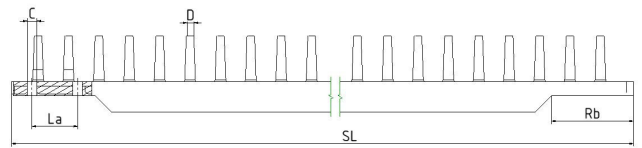
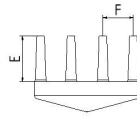
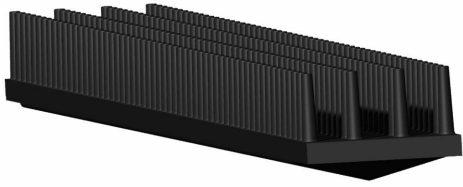
Description	Optional	Belting width Rb [mm]	Hole Distance La [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]	Articleno.
Pintle rod		50	24	440	6,2	7	30	20	117000012
Pintle rod		50	24	480	5,7	6	30	20	117000784
Pintle rod		60	30	480	6,2	6	30	20	117000013
Pintle rod		50	24	481	5,7	8,5	32	20	117000014
Pintle rod		60	30	604	5,7	6	30	20	117000015
Pintle rod	*	60	32	650	5,7	6	30	20	117000016
Pintle rod		60	30	680	6,2	6	30	20	117000017
Pintle rod	*	60	32	848	6,2	6	30	20	117000793
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, 2 row



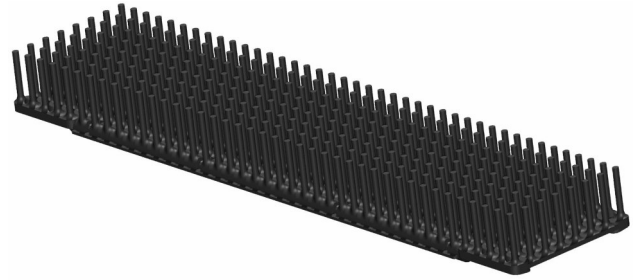
Description	Optional	Belting width Rb [mm]	Hole Distance La [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]	Articleno.
Pintle rod		50	32	440	6,2	7	30	20	117000012

Pintle rod, 4 row



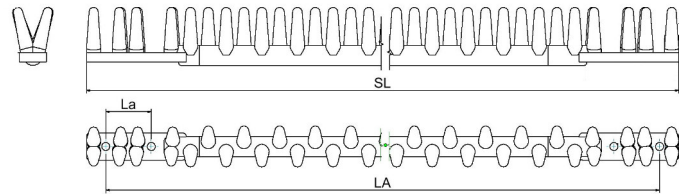
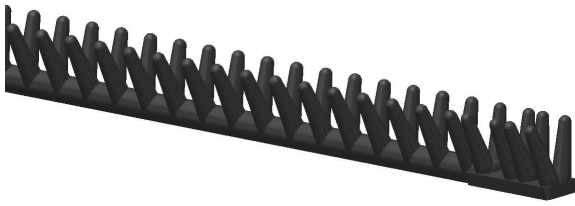
Description	Optional	Belting width Rb [mm]	Hole Distance La [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]	Articleno.
Pintle rod	*	60	35	648	6,5	4	45	11,7	117000801

Pintle plate rods



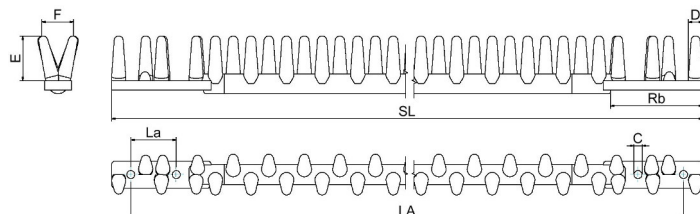
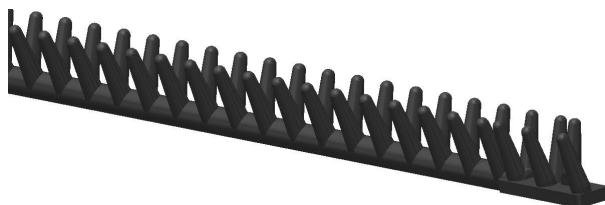
Description	Optional	Fill-ring [mm]	Hole Distance LA [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Articleno.
Pintle plate rods		509	24	5,7	6	32	117000044
Pintle plate rods	*	509	24	5,7	4,5	52	Keine Form
Pintle plate rods		646,5	24	5,7	6	35	117000045
Pintle plate rods		646,5	24	5,7	4,5	38	117000047

V-pintle rod



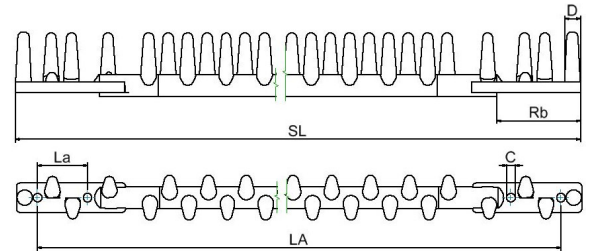
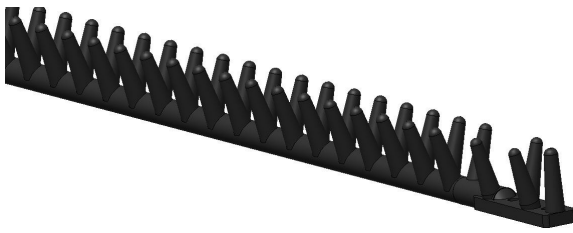
Description	Optional	Hole Distance La [mm]	Hole Distance LA [mm]	Belt width Bb [mm]
Rod		32	219 - 2269	255 - 2305
Rod		30	219 - 2269	255 - 2305
Rubber finger	*			

Pintle rod, V-profile



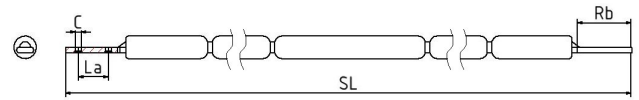
Description	Optional	Belting width Rb [mm]	Hole Distance La [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]	Articleno.
Pintle rod	*	60	32	796	5,7	cone	33,5	28	117000037
Pintle rod	*	60	32	842	5,7	cone	33,5	28	117000804
Pintle rod	*	60	32	879	5,7	cone	33,5	28	117000020
Pintle rod	*	60	32	879	5,7	cone	33,5	28	117000021
Pintle rod	*	60	32	996	5,7	cone	33,5	28	117000039
Pintle rod	*	60	32	996	5,7	cone	33,5	28	-
Pintle rod	*	60	30	1196	5,7	cone	33,5	28	117000021
Pintle rod	*	60	30	1196	5,7	cone	33,5	28	117000776
Pintle rod	*	60	32	1246	5,7	cone	33,5	28	117000022
Pintle rod	*	60	32	1246	5,7	cone	33,5	28	117000023
Pintle rod	*	60	32	1451	5,7	cone	33,5	28	117000025
Pintle rod	*	60	32	1451	5,7	cone	33,5	28	117000024
Pintle rod	*	60	32	1621	5,7	cone	33,5	28	117000026
Pintle rod	*	60	32	1621	5,7	cone	33,5	28	117000027
Pintle rod	*	60	32	1646	5,7	cone	33,5	28	117000029
Pintle rod	*	60	32	1646	5,7	cone	33,5	28	117000021
Pintle rod	*	60	32	1676	5,7	cone	33,5	28	117000030
Pintle rod	*	60	32	1676	5,7	cone	33,5	28	117000031
Pintle rod	*	60	32	1696	5,7	cone	33,5	28	117000033
Pintle rod	*	60	32	1696	5,7	cone	33,5	28	117000032

Pintle rod, V-profile 2 row



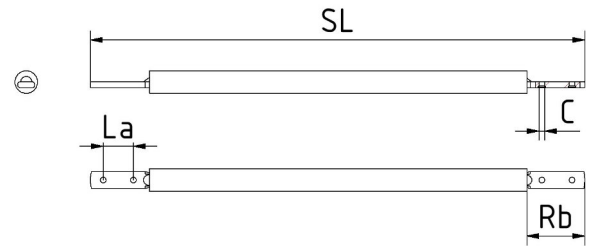
Description	Optional	Belting width Rb [mm]	Hole Distance La [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pintle Ø D [mm]	Pintle height E [mm]	Pintle distance F [mm]	Articleno.
Pintle rod	*	60	30	610	5,7	5,5	26	17	117000799
Pintle rod	*	60	32	696	5,7	6	28	17	117000606
Pintle rod		60	30	605	5,2	7-9cone	30	23	
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	Articleno.
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	117000786
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	117000143
Rod	*	60	30	794	5,7	19	637	-
Rod		75	30	794	6,2	19	607	117000790
Rod	*	75	30	794	M6	19	607	117000791
Rod		60	30	814	5,7	19	657	-
Rod	*	75	32	839	6,2	19	652	117000107
Rod		60	30	894	6,2	19	737	117000142 / 794
Rod		75	30	894	6,2	19	707	117000795
Rod	*	60	32	894	6,2	19	737	117000796
Rod		75	30	994	6,2	19	807	117000797
Rod	*	75	32	994	6,2	19	807	-
Rod	*	60	30	794	6,2	19	637	-
Rod	*	60	30	994	6,2	19	807	117001002
Rod	*	60	32	745	5,2	16	750	-
Rod	*	60	32	831	6,2	19	672	117000106

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	Articleno.
Rod		60	30	637	5,7	14	510	117000800
Rod		60	30	586	5,7	14	430	117000798
Rod		60	30	687	5,7	14	560	117000813

C-Flex



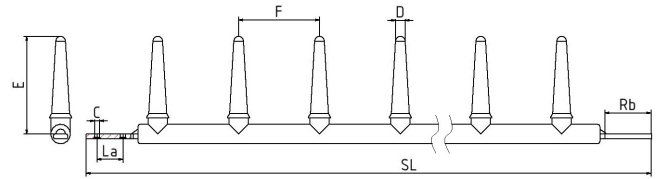
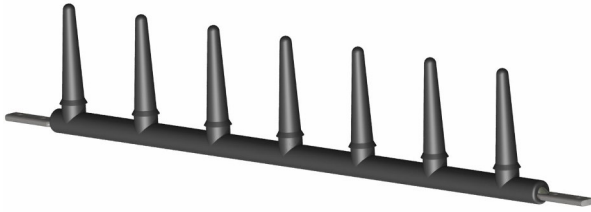
Description	Optional	Belt width Bb [mm]	Rod Ø d [mm]	Design straight with wings	Design cranked with wings	Articleno.
		620 [24,5 inches]	11	X		
		760 [30 inches]	11	X	X	
		785 [31 inches]	11	X	X	
		835 [33 inches]	11	X	X	
		885 [35 inches]	11	X	X	
		900 [35,5 inches]	11	X		
		910 [36 inches]	11	X	X	
		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	Articleno.
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	117000762
Rod		2	985 [39 inches]	11	X			
Rod		1005	2	1020 [40 inches]	11	X	7	117000760
Rod		1030	2	1045 [41 inches]	11	X		
Rod		1055	2	1070 [42 inches]	11	X	8	117000761
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			

PES Elavatorweb



Description	Optional	Belting width Rb [mm]	Hole Distance LA [mm]	Rod length SL [mm]	Hole Ø C [mm]	Pinstle Ø D [mm]	Pinstle height E [mm]	Pinstle distance F [mm]	Articleno.
*		60	32	517	5,7	-	-	50	117000084
*		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	117000095
*		60	32	992	5,7	-	-	50	117000089
*		60	32	992	5,7	-	-	100	117000091
*		60	32	1034	5,7	-	-	50	F233C
*		60	32	1062	5,7	-	-	50	-
*		60	32	1092	5,7	-	-	100	117000094
*		60	32	589	5,7	-	-	50	117000085
*		60	32	689	5,7	-	-	100	117000096

General information	7- 1
PVC covering - Split	7- 2
PVC covering - Pillow-Cushion	7- 3
PVC covering - Star	7- 4
Soft PVC	7- 5
PVC covering - Full	7- 6
Rubber covering - Star	7- 7
Rubber covering - Full	7- 8
Rubber profile	7- 9
C-Flex	7-10

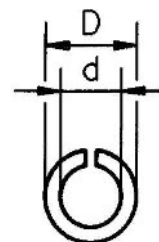
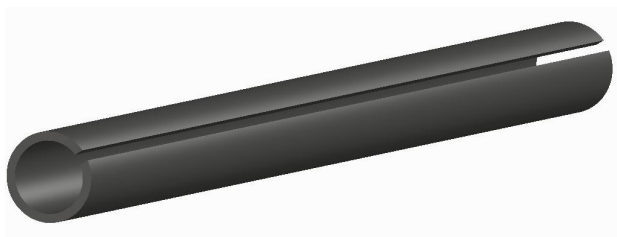
General information

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.

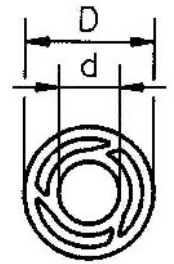
Note: 35 mm wide sprocket runs required for tooth drives of the types HS, RT, Z, NC, and 3TB. Rod covering may be full width between traction belting for types FR, FRD, KW and N. Rod clearance is determined by deducting external diameter from the rod pitch.

PVC covering - Split



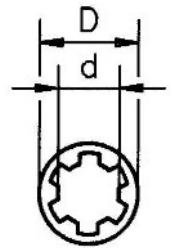
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material	Articleno.
Split PVC		6	9	LDPE	118000024
Split PVC		8	11	LDPE	118000025
Split PVC		9	12	LDPE	118000026
Split PVC		9	13	LDPE	118000027
Split PVC		10	14	LDPE	118000028
Split PVC		10	16	LDPE	118000029
Split PVC		10	20	LDPE	118000035
Split PVC		11	16	LDPE	118000030
Split PVC		12	16	LDPE	118000032
Split PVC		13	17	LDPE	118000033

PVC covering - Pillow-Cushion



Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material	Articleno.
Pillow Cushion		9,3	21,5	PVC	118000115 / 095
Pillow Cushion	*	10,4	23,6	PVC	
Pillow Cushion		11,4	25,2	PVC	
Pillow Cushion		11,5	24	PVC	118000013
Pillow Cushion	*	15	27	PVC	118000014

PVC covering - Star



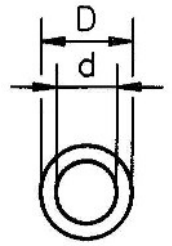
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material	Articleno.
Star PVC		7,7	14	PVC	118000015
Star PVC		8,5	14	PVC	118000016
Star PVC		9,5	16	PVC	118000017
Star PVC		9,5	19	PVC	118000023
Star PVC		10,5	16	PVC	118000018
Star PVC		10,5	20	PVC	118000329
Star PVC		11,5	16	PVC	118000020
Star PVC		11,5	19	PVC	118000218
Star PVC		13	20	PVC	118000021

Soft PVC



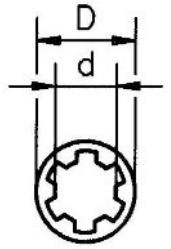
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material	Articleno.
Soft PVC		6,5	9	PVC	11800092

PVC covering - Full



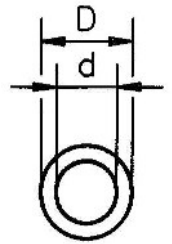
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material	Articleno.
covering		14	19	PVC	
covering		16	20	HDPE	

Rubber covering - Star



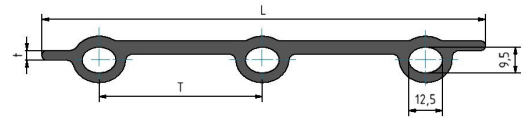
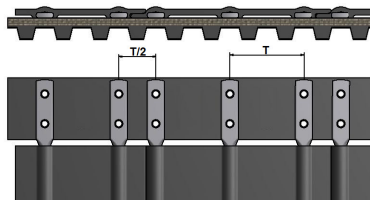
Description	Optional	Inner Ø d [mm]	Outside Ø D [mm]	Material	Articleno.
Star rubber		10,7	18	rubber	118000012

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]	Articleno.
T30/60		60	163	8 - 10	3,8	118000207
T40/80		80	216	8 - 10	3,8	118000036
T50/100		100	271	8 -10	3,8	118000037

C-Flex



Description	Optional	Outside Ø D [mm]	Rod Ø d [mm]	Height H [mm]	Articleno.
C-Flex		16	11	32	18000237
C-Flex		18	12	32	118000238
C-Flex		24	15		118000239

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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.

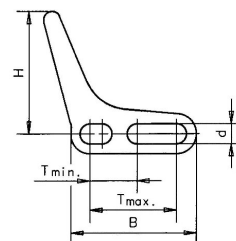
Types BR 75 and BR 77 are sugar beet harvester designs with the load stress spread over two hardened rivet rods. The vertical finger or loops are welded to an oversized tube, relative to rod diameter and can be of almost any length, diameter or shape. Whilst our drawings only illustrate one means of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

Two versions of the BR-type flight are available:


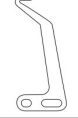



- The BR 75 type's position is retained by means of a hollow clamping pin being passed through the base tube, between central rod ends. This flight is fitted at the time of manufacture unless you specify that the pivot rod is to be secured by nuts and bolts, or bolts with threaded plates.
- The BR 77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

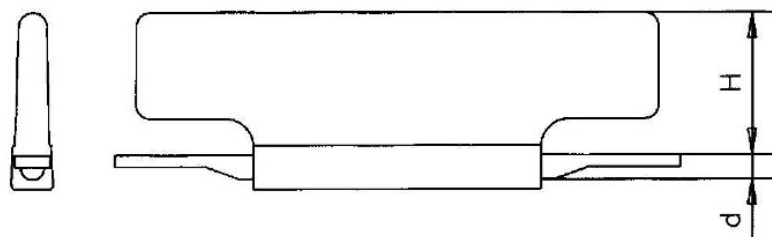
RFL-series



Description	Optional Picture	Height H [mm]	Max. rod Ø Sdmax [mm]	Min. Pitch Tmin [mm]	Max. pitch Tmax [mm]	Width B [mm]	Articleno.
RFL 20		26,5	12 x 6 (flat)			25	119000004
RFL 30		38	12	28	45	63	119000005
RFL 45		45	11	28	50	84	119000006
RFL 50		58,5	12	28	50	72	119000007
RFL 50 LF		56	11	28	45	65	119000009
RFL 60		66	12	40	50	80	119000010
RFL 75		80	12	28	50	83	119000013
RFL 75 LF		81	12	28	50	78	119000014
RFL 100 LF		106	11	28	50	78	119000015
RFL 125 LF		137	12	28	50	76	119000017
RFL 140 LF		146	30 x 4 (flat)	28	50	68	119000018

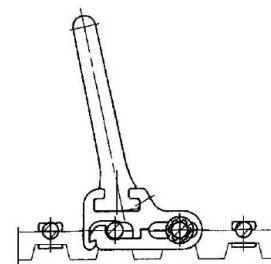
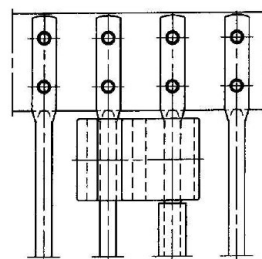
Description	Optional	Picture	Height H [mm]	Max. rod Ø Sdmax [mm]	Min. Pitch Tmin [mm]	Max. pitch Tmax [mm]	Width B [mm]	Articleno.
RFL 150 net			152,5	30 x 4 (flat)	44	88	83	119000021
RFL 150 LF			157,5	12	28	50	78	119000022
RFL 160 LF			166	12	28	50	76	119000023
E Profile 2 lips			26,5	12 x 6 strip	-	-	25	119000002
CPP 36			50	20x6	40	-	36	119001538

MRF-series



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

Removable flight / Snap on flight



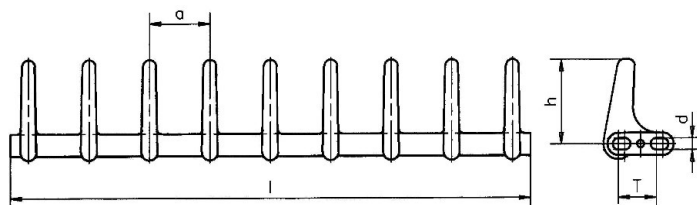
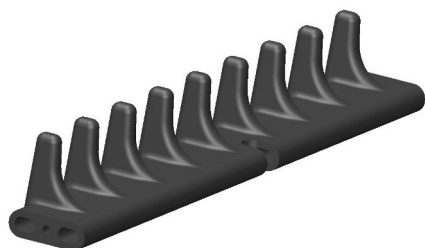
Description	Optional	Height H [mm]	Max. rod Ø Sdmax [mm]	Min. Pitch Tmin [mm]	Max. pitch Tmax [mm]	Width B [mm]	Articleno.
Flight foot				32	42	50	119000041

Standard synthetic flight



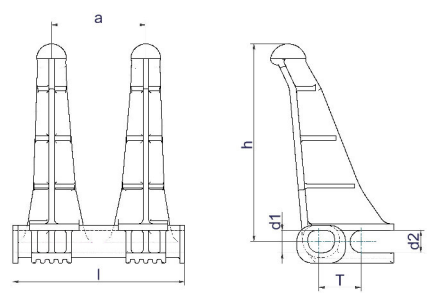
Description	Optional	Length l [mm]	Height H [mm]	Finger distance a [mm]	Pitch T [mm]	Rod Ø d1 [mm]	Rod Ø d2 [mm]	Articleno.
Flight		325	96,5	66	50	14	14	119001475
Flight		366	96,5	74	50	14	14	119001476
Flight		770	110	70	12	50	12,5	119001229
Flight		770	110	70	12	50	12,5	119001308

Standard synthetic flight



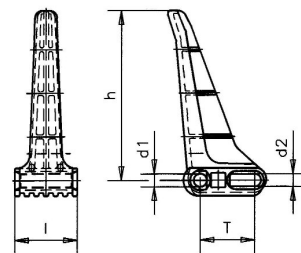
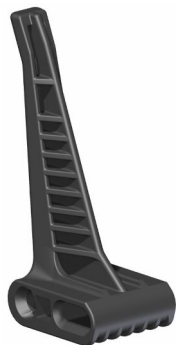
Description	Optional	Length l [mm]	Height H [mm]	Finger distance a [mm]	Number of finger	Pitch T [mm]	Rod Ø d [mm]	Articleno.
Flight		645	103,5	75	9	50	12,5	119000030
Flight		550	84	75	8	50	12,5	119001228
Flight		548	140	74	8	50	12,5	119001230
Flight		640	80	70	9	50	12,5	119001231
Flight		645	110	70	9	50	12,5	119001232
Flight		644	100	77,5	9	50	12,5	119001309
Flight		745	110	70	11	50	12,5	119001992

Synthetic Element flights 155



Description	Optional	Length l [mm]	Height H [mm]	Finger distance a [mm]	Pitch T [mm]	Rod Ø d1 [mm]	Rod Ø d2 [mm]	Articleno.
Flight		155	175	85	40 - 50	19	19	119001418

Standard synthetic flights 65 / Distance keeper



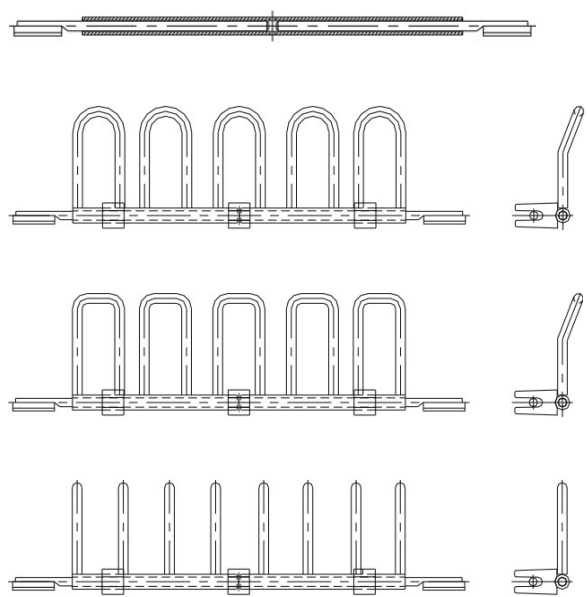
Description	Optional	Length l [mm]	Height H [mm]	Pitch T [mm]	Rod Ø d1 [mm]	Rod Ø d2 [mm]	Articleno.
Flight		65	175	50	13	13	119000474
Distance keeper 5		5		50	13	13	119001237
Distance keeper 10		10		50	13	13	119000475
Distance keeper 20		20		50	13	13	

Steel flight BR-Typ

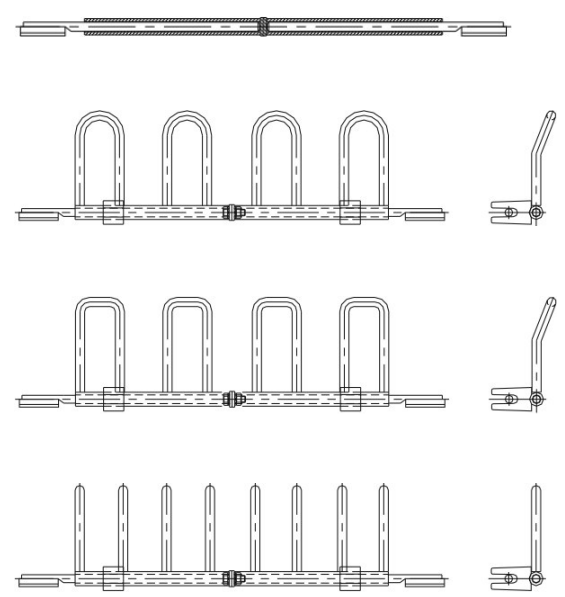
BR 75 Typ: One tube with a tightening screw in the middle

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

Design BR 75 type
(other designs upon request)

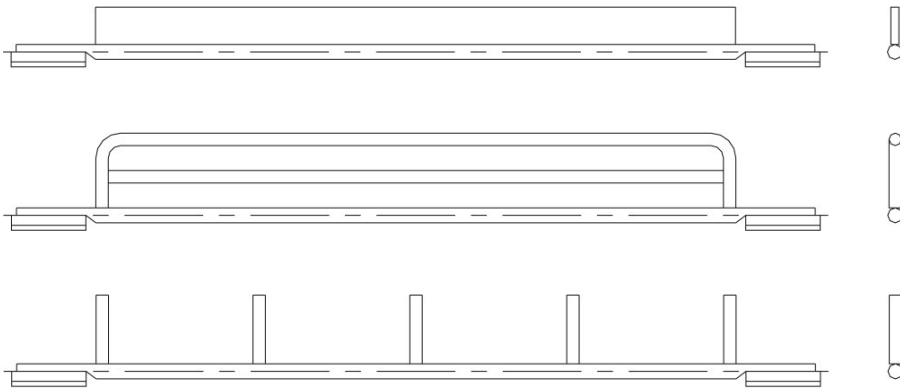


Design BR 77 type
(other designs upon request)



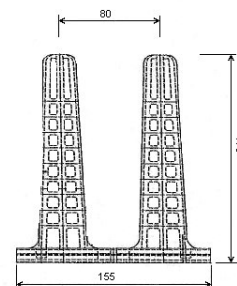
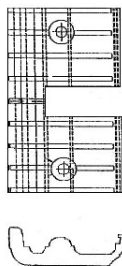
Steel flight

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



Bolt-on flight

Bottom part



Description	Optional	Length l [mm]	Height H [mm]	Finger distance a [mm]	Pitch T [mm]	Articleno.
Flights *		155	175	80	40 - 50	119001255

* with screw M8

General information	9- 1
Friction Wheel, HS-Type	9- 2
Friction Wheel, RT-Type	9- 3
Friction Wheel, N-Type	9- 4
Friction Wheel, NC-Type	9- 5
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Friction Wheel, KW-Type	9-11
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Friction-driving wheel, FRD-Type	9-13
Hubs	9-14
Hubs	9-15

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.

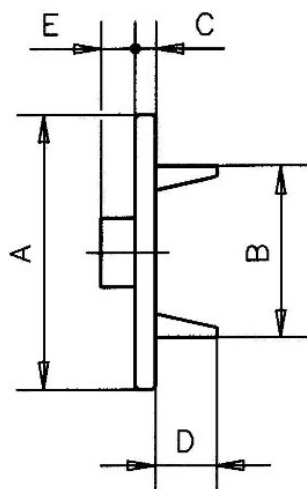
Friction drive types FR, FRD and KW can be used with any belt type and pitch.

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>

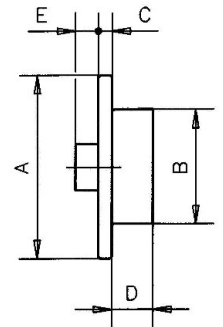
Friction Wheel, HS-Type



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. 9-14	Articleno.
HS 28-14		28	14	146	108	18	48	2 - 4	12000001/ 02
HS 28-16		28	16	165	124	18	48	2	120000003
HS 28-22		28	22	220	180	19	48	2 - 4	120000006/ 05
HS 32-12		32	12	145	105	22	50	2	120000008
HS 32-18		32	18	202	162	27	50	2 - 3	120000011/ 12
HS33-16 CU *		33	16	200	150	24	55	-	120000013
HS 36-10		36	10	135	100	18	50	2	120000014
HS 36-12		36	12	168	118	23	50	2	120000016
HS 36-14		36	14	190	140	18	50	2-3	120000018/ 19
HS 36-16		36	16	210	166	24	48	2-3	120000020/ 21
HS 36-18		36	18	245	191		80		120000022
HS 36-18		36	18	235	187	25	50	2-3	120000022/ 23
HS 40-10		40	10	160	110	21	50	1	120000024
HS 40-14 WM *		40	14	220	167	35	50	3	120000142
HS 40-16		40	16	229	185	25	50	2	120000026
HS 42-10		42	10	163	113	21	50	2 - 4	120000029/ 28
HS 42-12		42	12	190	140	27	48	2 - 3	120000030/ 31
HS 42-14		42	14	218	173	26	48	2-3-4	120000033/ 34/32
HS 45- 9		45	9	160	110	21	50	4	120000039
HS 45-12		45	12	200	153	25	50	2-3	120000041/ 42
HS 45-14		45	14	230	180	25	50	2-3	120000043/ 44
HS 50- 8		50	8	150	109	25	50	2-4	120000045/ 46
HS 50-10		50	10	195	142	26	50	2	120000047
HS 50-12		50	12	220	173	30	50	3	120000048

WM special drawing
CU Convexity up

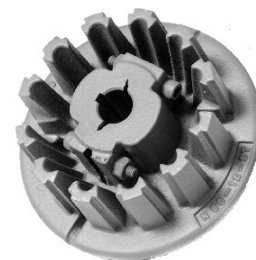
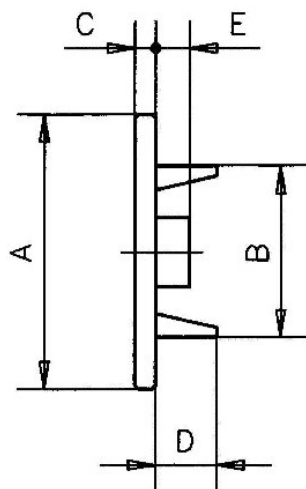
Friction Wheel, RT-Type



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. 9-14	Articleno.
RT 33-12 CU		33	12	164	110	22	50		120000095
RTN 35-17 CU		35	17	234	177	16	50		120000102
RT 42-12		42	12	192	144	24	60	3	120000096
RT 45-14		45	14	254	184	25	60	3	120000097
RT 50-10		50	10	205	144	25	60		120000098
RT 50-14		50	14	264	204	30	65	3	120000099
RT 50-14		50	14	270	208		70		
RT 56-10		56	10	230	165	30	60	3	120000100

CU Convexity up
RT for low profile
RTN for high profile

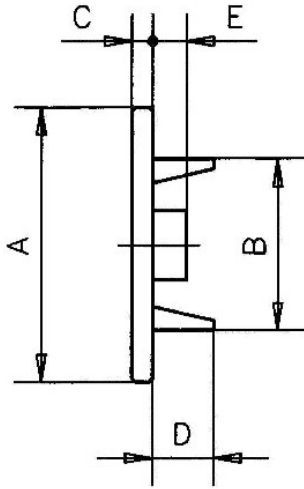
Friction Wheel, N-Type



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. 9-14	Articleno.
N 28-24-12 ST		28	12	243	200	10	50		120000071
N 35-17		35	17	215	175	10	65	2	120000072
N 35-27		35	27	325	288	11	80	1	120000073
N 40-10		40	10	150	115	9	63		120000074
N 40-14 (*)		40	14	215	166	8	60	2	120000075
N 40-15		40	15	223	175	5	70	2	120000076
N 40-16-8		40	8	225	194	10	75	2	120000077
N 40-18-9		40	9	252	217	10	75	2	120000078
N 40-18 *	*	40	18	260	217	8	65	5	120001781
N 40-18 (***)	*	40	18	260	216	8	75		
N 40-18 *	*	40	18	260	242		< l		
N 50-12		50	12	220	176	8	65	2	120000081
N 50-12 (IT)	*	50	12	-	-		< l		120000082
N 50-12 (STH)		50	12	219	178	9	65		120000083
N 50-14 (***)	*	50	14	255	209.5	8	80		-
N 50-14		50	14	258	210	10	60	4	120000084
N 50-14 (STH)		50	14	243	209	9	65		120000085
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

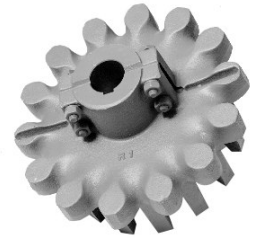
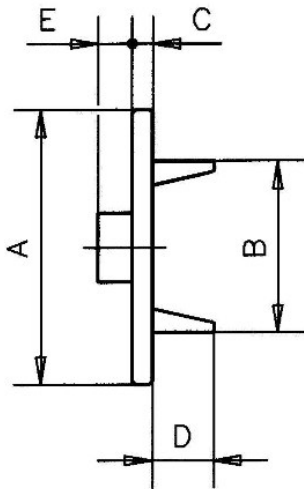
Friction Wheel, NC-Type



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. 9-14	Articleno.
NC 35-20		35	20	252	210	25	70	3	120000087
NC 44-16 (*)		44	16	265	207	20	50	3	120000088
NC 50-12		50	12	243	178	30	75	3	120000089
NC 50-14		50	14	260	210	15	75	4	120000090
NC 50-14 V (*)		50	14	270	210	30	75	3	120000091
NC 50-16 V (*)		50	16	300	240	30	75	3	120000092

* 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. 9-14	Articleno.
HS 36-16 3TB		36	16	213	162	30	64	3	120000058
HS 36-18 3TB		36	18	246	189	26	50	3	120000059
HS 42-14 3TB		42	14	226	169	26	60	3	120000060
HS 42-16 3TB		42	16	252	194	26	50	2-3	120000061/ 62
HS 45-14 3TB		45	14	237	182	26	50	3	120000063
HS 50-14 3TB		50	14	273	208	30	50	3	120000064
RT 50-14 3TB		50	14	279	205	29	65	3	120000067
RT 50-14 3TBW		50	14	289	205	29	65	3	120000068
NC 40-18-9 3TB		40	9	260	215	25	60	3	120000065 / 66

Friction Wheel, Z-Type



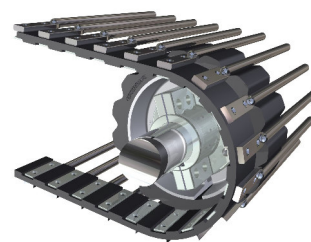
Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Flange A [mm]	Toothwidth C [mm]	Hub no. Kap. 9-14	Articleno.
Z 28-14		28	14	150	22	2	120000103

Friction Wheel, ZP-Type



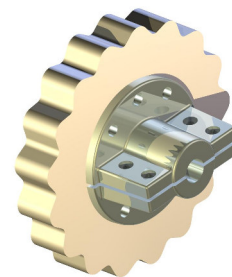
Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Diameter [mm]	Width B [mm]	Articleno.
ZP 32-12 complete 30 mm bore		32	12	157	22	120001296
ZP 32-14 complete 30 mm bore		32	14	157	22	120001318

Friction Wheel, GW-Type



Description	Optional	Pitch T [mm]	Number of teeth [Stk]	Diameter [mm]	Width B [mm]	Articleno.
GW 32-16 PU		32	16	183	80	120001652
GW 35-17 PU		35	17	210	80	120001654
GW 36-14 PU		36	14	181	80	120001719
GW 36-16 PU		36	16	204	80	120001713
GW 40-15 PU		40	15	210	80	120002258
GW 45-13 PU		45	13	202	80	120001835
GW 50-10 PU		50	10	180	80	120001648

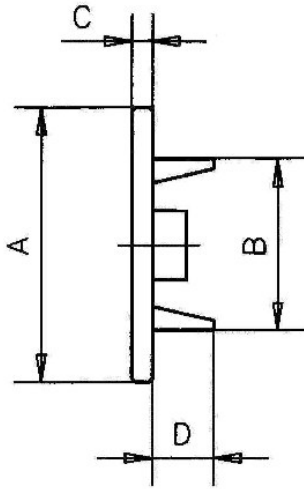
Duratec drive wheel



Description	Optional	Pitch [mm]	Number of teeth [Stk]	Diameter [mm]	Width B [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

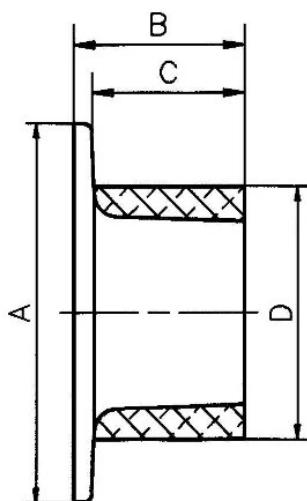
Friction Wheel, KW-Type



Description	Optional	Flange A [mm]	Cage diameter B [mm]	Toothwidth C [mm]	Finger length D [mm]	Diameter K [mm]	Articleno.
KW 80		125	80	10	45	20-25	120000107
KW 100		150	100	10	60	20-30	120000108
KW 115		165	115	10	60	20-30	120000109
KW 160 (*)		215	160	10	60	25-40	120000110

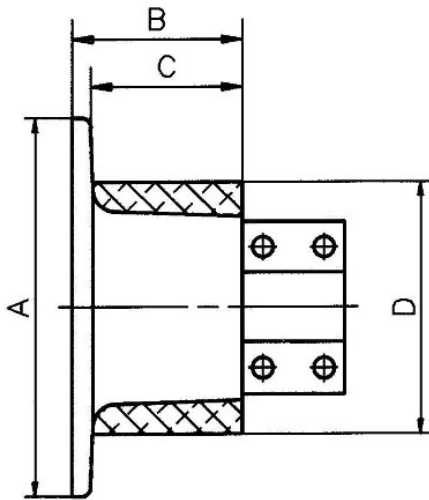
* splittable for easy mounting

Friction-driving wheel, HS-Type



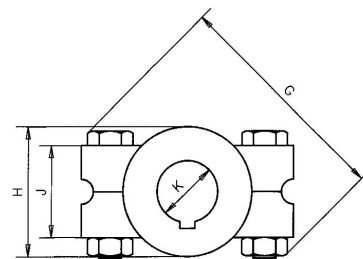
Description	Optional	diameter \emptyset D [mm]	Flange A [mm]	Width B [mm]	Support width C [mm]	Bore \emptyset min.-max. [mm]	Articleno.
HS 11 R		110	148	62	53.5	25 - 50	121000112
HS 11 RZ		110		62	62	25 - 50	121000113
HS 14 R		140	180	67	56.5	25 - 50	121000114
HS 14 RZ		140		67	67	25 - 45	121000115
HS 18		180	240	65	65	25 - 50	121000116
HS 18 R		180	248	67	57	25 - 45	121000117
HS 18 Z		180		65	65	25 - 50	121000119
HS 18 RZ		180		67	67	25 - 50	121000118
HS 21		210	300	70	58,5	25 - 50	121000120
HS 21 R		210	240	75	65	25 - 50	121000121
HS 21 RZ		210		65	65	25 - 50	121000122
HS 24 R		240	300	70	58.5	25 - 50	121000123
HS 24 RZ		240		65	65	25 - 50	121000124
HS 41 R		410	448	89	63.5	25 - 50	121000125

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]	Articleno.
FRD 14 R		140	180	125	56	25 - 45	12000601
FRD 14 RZ		140		125	64	25 - 45	120001000
FRD 18 R		180	220	131	60	25 - 50	120000127
FRD 18 RZ		180		131	68	25 - 50	120000838
FRD 20 R		200	260	155	80	25 - 50	120000128

Hubs



Description	Optional	Hub no. Kap. 9-14	Hub lenght E [mm]	Height G [mm]	Height H [mm]	Height J [mm]	Diameter K [mm]	Articleno.
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.

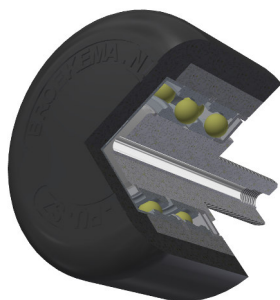
Centrally mounted pairs of shakers need to be mounted with long, high tensile strength bolts which must be capable of high shock stresses.

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.

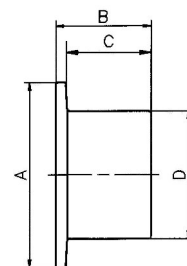
Conveyor agitation should not be located at any change in angle, e.g. a pivot point, because any extra belt tautness would create an undesired 'dampening' effect.

Light weight rollers



Description	Optional	Position	diameter Ø D [mm]	Width B [mm]	Material	Design ball-bearing	Articleno.
VRR 7537		2	75	37	rubber	with	121000104
HS G1			65	30	cast iron	with / without	121000102
HS G1 R			75	30	cast iron & rubber	with / without	121000893
KR 9 SZ			90	29	Nylon/rubber	with / without	121000731
PA 10	*		106	27	Plastic / Synthetic	with	
HS 8 PUSZ			80	43,5	Polyurethan	with	121000978

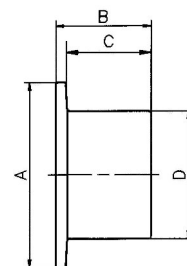
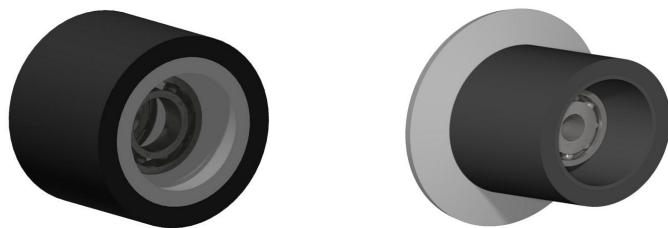
PVC rollers, NP



Description	Optional	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Support width C [mm]	Design ball- bearing	Articleno.	Weight [Kg]
NPK 75 NF		75	115	61,5	50	6005 2RS1	121000106	0,48
NPK 75 Z		75	75	61,5	61,5	6005 2RS1	121000107	0,48
NPK 90 NF		90	130	61,5	50	6005 2RS1	121000949	0,61
NPK 90 Z		90		61,5	61,5	6005 2RS1	121000950	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

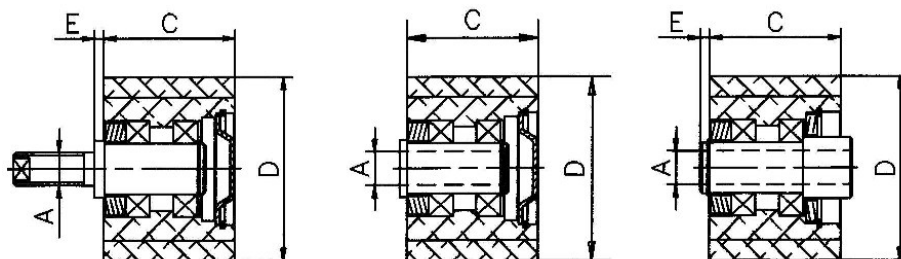


Description	Optional	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Support width C [mm]	Articleno.
PA 60 ZL 60		60		60	60	121000117
PA 100 ZL 60		100		60	60	121000119
PA 9 R		90	132	65	56	
PA 9 RZ		90		65	65	
PA 9 RH		90	132	65	56	
PA 9 RZH		90		65	65	
PA 9 RM		90	132	65	56	

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

Nylon roller without flange

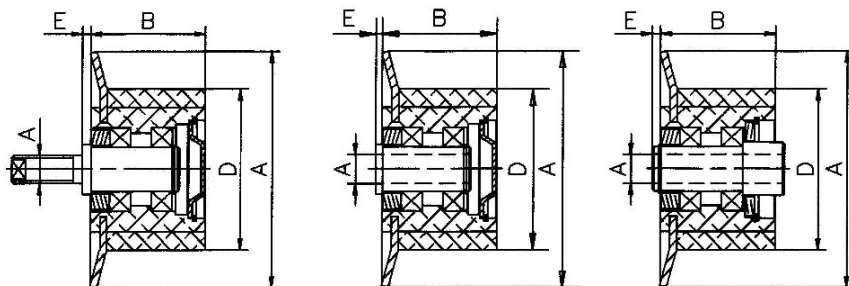
(possible design)



Description	Optional	Position	diameter Ø D [mm]	Support width C [mm]	Distance E [mm]	F F	Articleno.
Rollers	*	1	90	65	4,5	M16 x 60	121001147
Rollers	*	1	90	65	4,5	M16 x 40	121001106
Rollers	*	1	90	65	4,5	M16 x 60	121001107
Rollers		2	90	65	4	Ø 16,5	121000855
Rollers		2	90	65	4,5	Ø 16,5	121000004
Rollers		3	90	65	4	Ø 16,5	121000896
Rollers	*	3	90	65	-	Ø 16,5	-
Rollers	*	3	90	65	-	-	-
Rollers	*	2	90	89	4,5	-	121001418

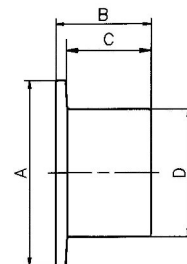
Nylon roller with flange

(possible design)



Description	Optional	Position	diameter \emptyset D [mm]	Flange \emptyset A [mm]	Width B [mm]	Distance E [mm]	F F	Articleno.
Rollers		2	90	132	65	4	\emptyset 16,5	121000854
Rollers		3	90	132	65	4	\emptyset 16,5	121001096
Rollers		3	90	132	65	4	\emptyset 16,5	121001097
Rollers		3	90	132	65			121000866
Rollers		2	90	132	65	4,5	\emptyset 16,5	121001100
Rollers		1	90	132	65	4,5	M16 x 40	121000870
Rollers		1	90	132	65	4,5	M16 x 60	121001105
Rollers	*	2	90	132	65	4,5	\emptyset 16,5	77010000638
Rollers	*	-	90	132	89		\emptyset 16,5	121001101

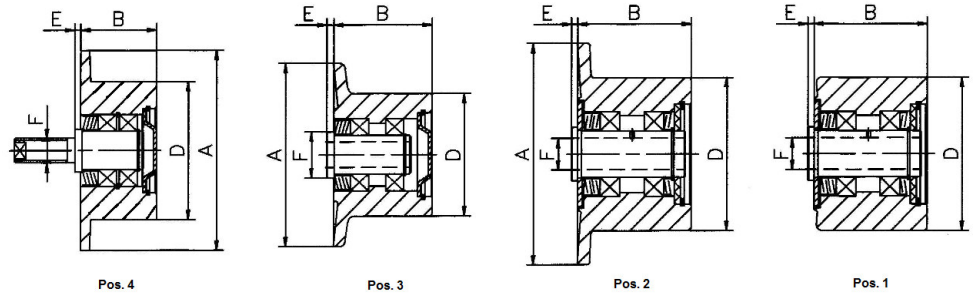
Cast iron rollers, HS-type



Description	Optional	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Support width C [mm]	Articleno.
HS 6		62	100	61,5	53	121000063
HS 6 Z		62		61,5	61,5	121000065
HS 6 SZ		62		43,5	43,5	121000064
HS 8		80	120	61,5	52	121000066
HS 8		80	120	65		
HS 8 Z		80		61,5	61,5	121000070
HS 9 WBR	*	90	130	90	70	121000076
HS 10		100	136	75	63	
HS 10		100	135	75	63	121000078 / 79
HS 10 Z		100		75	75	121000083 / 84
HS 10 H		100	180	61,5	50	121000077
HS 10 WDR		100	150	61,5	46	121000082
HS 11		110	150	67	54	121000086 / 87
HS 11 Z	*	110		67	67	
HS 15		150	250	67	60	121000096
HS 15 Z	*	150		67	67	
HS 18		180	220	61,5	50	121000097 / 98
HS 18 Z	*	180		61,5	61,5	

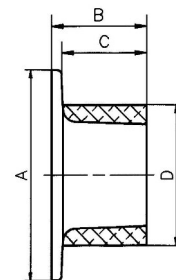
H = high flange
S = small support width
Z = without flange

Cast iron roller
(possible design)



Description	Optional	Position	diameter \emptyset D [mm]	Flange \emptyset A [mm]	Width B [mm]	Distance E [mm]	F F	Articleno.
Rollers	*	4	90	126	75	4	M24 x 40	
Rollers		2	100	136	75	4	\emptyset 20,5	121001098
Rollers		2	100	136	75	4	\emptyset 16,5	121001094

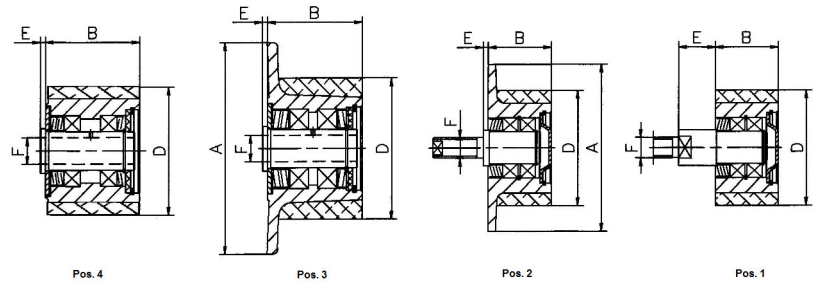
Cast iron rollers vulcanized, HS-type



Description	Optional	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Support width C [mm]	Articleno.
HS 8 R		80	118	56,5	50	121000068
HS 8 RZ		80		61,5	61,5	121000069
HS 9 R	*	90	130	50		
HS 9 R		90	130	61,5	54	121000071
HS 9 RZ		90		61,5	61,5	121000075
HS 9 RSZ		90		43,5	43,5	121000074
HS 9 RS		90	130	43,5	35	121000073
HS 9 RH		90	200	67	59	121000072
HS 10 R		100	140	67	55	121000080
HS 10 RZ		100		67	67	121000081
HS 11 R		110	148	62	53,5	121000088/801
HS 11 R		110	150	75		
HS 11 R		110	165	75		
HS 11 RS		110	148	46,5	42,5	121000089
HS 11 RZ		110		62	62	121000091/92
HS 14 R		140	180	67	56,5	121000093
HS 14 RZ		140		67	67	121000094/95
HS 18 R		180	248	67	57	121000099
HS 18 RZ		180		67	67	121000100
HS 21 R		210	240	75	65	121000101

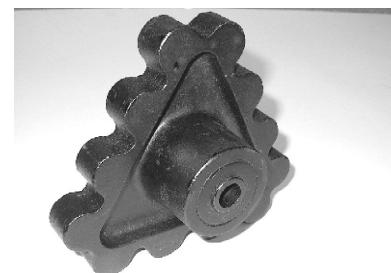
H = high flange
 Z = without flange
 S = small support width
 R = rubber-covering

Cast iron roller vulcanized
(possible design)



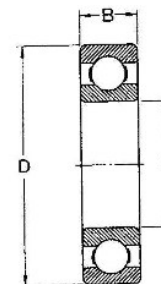
Description	Optional	Position	diameter Ø D [mm]	Flange Ø A [mm]	Width B [mm]	Distance E [mm]	F F	Articleno.
Rollers	*	2	90	130	50	11	M16 x 52	121000699
Rollers		1	110	150	75	4	Ø 20,5	121000862
Rollers		1	110	165	75	4	Ø 20,5	121000748
Rollers		4	100	-	66	4	Ø 16,5	121001269
Rollers		1	110	165	86	4	Ø 20,5	121000916

Shaker/Agitator



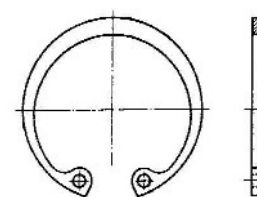
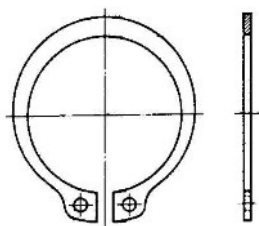
Description	Optional	Pitch T [mm]	diameter Ø D [mm]	Eccentricity	Width B [mm]	Articleno.
HSA 28		28	190	32	61,5	121000125
HSA 32		32 / 33	190	32	61,5	121000126
HSA 36		36	170	37	61,5	121000127
HSA 42		42	195	35	61,5	121000128
USS 45		45	212	40	61,5	121000130
USS 50		50	232	42	61,5	121000131
Universal Shaker/Agitator		All pitches	175	30	61,5	121000124/129

Ball-bearings (Parts)



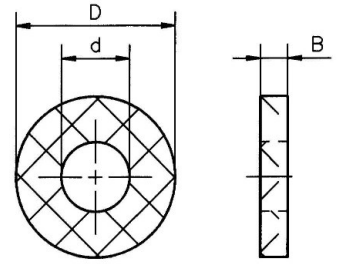
Description	Optional	Outside Ø D [mm]	Inner Ø d [mm]	Width B [mm]	Articleno.
6005		47	25	12	121001139
6005-Z		47	25	12	121000188
6005-2RS		47	25	12	121000187/757
6005-2RS-Stainless		47	25	12	121000654
6205-2RS-BING-ABEC		47	25	12	121001317
6006 1RS	*	55	30	13	-
6206	*	62	30	16	-
6206 1RS		62	30	16	121001034
6206-2RS		62	30	16	121000189/759
6308-2RS		90	40	23	121000760
6005-1RS		47	25	1	121001033

Securing ring (Parts)



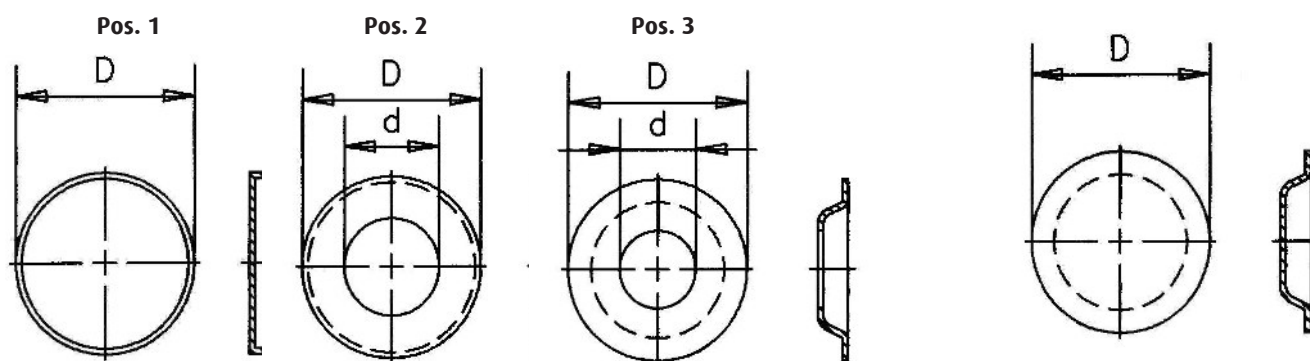
Description	Optional	Position	Outside Ø D [mm]	Thickness material [mm]	Norm	Articleno.
A 25 x 1,2		1	25	1,2	DIN 471	121000152
A 30 x 1,5		1	30	1,5	DIN 471	121000153
A35		1	35	1,5	DIN 471	121001041
J47		2	47	1,75	DIN 472	121000154
J55		2	55	2	DIN 472	121000857
J62		2	62	2	DIN 472	121001037
J65		2	65	2,5	DIN 472	121001043
J78		2	78	2,5	DIN 472	121001042/1039
J72		2	72	2,5	DIN 472	121001038
J80		2	80	2,5	DIN 472	121001040

Felt rings (Parts)



Description	Optional	Outside Ø D [mm]	Inner Ø d [mm]	Width B [mm]	Articleno.
Felt ring		44	24	7,5	121000179
Felt ring		44	24	4,5	121000178
Felt ring		44	30	7,5	121000180
Felt ring		58	30	6	121000181

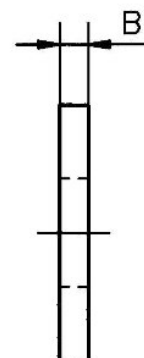
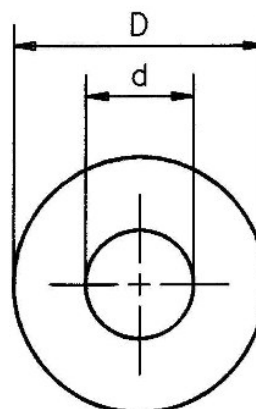
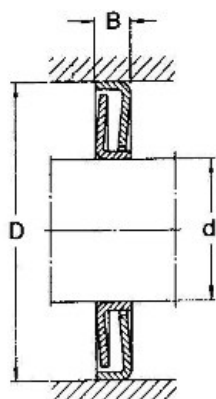
Dustcaps (Parts)



Description	Optional	Position	Outside Ø D [mm]	Inner Ø d [mm]	Thickness material [mm]	Articleno.
Closed metal dust cap		1	47			121000169
Closed metal dust cap		1	62			121000170
Open centre metal dust cap		2	47	25		121000174
Open centre metal dust cap		2	47	30		121000175
Open centre metal dust cap		2	62	30		121000176
Metal convex ring		3	47	25	1,5	121000155
Metal convex cap		4	47		1,5	121000156
Metal filling ring			47			121000182

Seals and filling rings

(Parts)



Description	Optional	Position	Outside Ø D [mm]	Inner Ø d [mm]	Width B [mm]	Articleno.
Seal		2	65,5	30	4	121001044
Seal		2				121001069
Seal		2	70	31	3	121001035
Seal		2				121001068
Seal		2				121001067
Fill-ring		2	72	56	2,0	121001070
Seal Z 005		1	47	25	5	121000841
Seal Z 005 F			47	25	5	121000183
Seal Z 006		1	55	30	5	121000849
Seal Z 206		1	62	30	6	121000837
Seal Z 206 F			62	30	6	121000879
Seal Z 207			72	35	6	121000838
Seal Z 207 F			72	35	6	121000185
Seal Z 210 F			90	50	6	121000186
Fill-ring		2	65	52	1,6	121001049
Fill-ring		2	42	30	1,5	121001050
Seal		2				121001064
Fill-ring		2	45	35	0,3	121001046
Fill-ring		2	45	35	1,5	121001047
Fill-ring		2	45	35	2,5	121001048
Oil seal			47	30	7	121001399

General information	11- 1
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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.

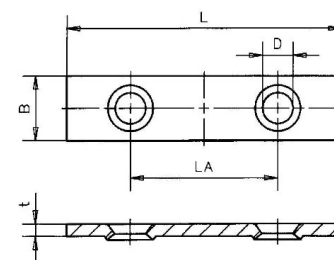
Large flat headed rivets, conforming to the German DIN 675 steel standard, perform very well in light duty conveyors. Rivet retaining plates are not needed with this kind of rivet. They can be used with any kind of belting also in higher load applications!

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.

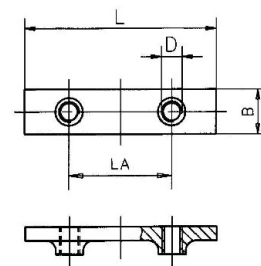
Rivet retaining plates



Description	Optional	Hole Distance LA [mm]	Length L [mm]	Width B [mm]	Thickness t [mm]	Hole Ø D [mm]	Rivet Ø ND [mm]	Articleno.
Rivet retaining plate		-	26	13	2,5	5,4	5,0	123000001
Rivet retaining plate		-	26	13	2,5	6,4	6,0	123000002
Rivet retaining plate		20	37	13	2,5	5,4	5,0	123000003
Rivet retaining plate		20	37	13	2,5	6,4	6,0	123000067
Rivet retaining plate stainless		20	37	13	2,5	5,4	5,0	123000062
Rivet retaining plate		20	46	15	3	6,4	6	123000011
Rivet retaining plate		20	46	13	2,5	5,4	5,0	123000005
Rivet retaining plate		20	46	15	2,5	6,4	6	123000007
Rivet retaining plate stainless		20	46	13	2,5	5,4	5,0	123000006
Rivet retaining plate		20	46	13	2,5	6,4	6,0	123000068
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	123000073
Rivet retaining plate		24	37	13	2,5	5,4	5,0	123000004
Rivet retaining plate		24	45	13	2,5	6,0	5,5	123000084
Rivet retaining plate		24	46	13	2,5	6,4	6,0	123000069
Rivet retaining plate		24	46	13	2,5	5,4	5,0	123000008
Rivet retaining plate		24	46	13	2,5	6,4	6,0	123000069
Rivet retaining plate		24	46	13	2,5	6,0	5,5	123000084
Rivet retaining plate		30	56	15	3	6,4	6	123000011
Rivet retaining plate		30	56	13	2,5	6,4	6,0	123000037
Rivet retaining plate		30	56	13	2,5	6,0	5,5	123000010
Rivet retaining plate		30	56	13	2,5	6,4	6,0	123000037
Rivet retaining plate		30	56	13	2,5	5,4	5,0	123000009
Rivet retaining plate		30	56	15	3	6,4	6	123000011
Rivet retaining plate stainless		32	56	13	2,5	6,0	5,5	123000015

Description	Optional	Hole Distance LA [mm]	Length L [mm]	Width B [mm]	Thickness t [mm]	Hole Ø D [mm]	Rivet Ø ND [mm]	Articleno.
Rivet retaining plate stainless		32	56	13	2,5	5,4	5,0	123000013
Rivet retaining plate		32	56	15	3	6,4	6,0	123000016
Rivet retaining plate		32	56	13	2,5	6,0	5,5	123000014
Rivet retaining plate		32	56	20	2,5	11		123000116
Rivet retaining plate		32	56	13	2,5	5,4	5,0	123000012
Rivet retaining plate		32	56	13	2,5	6,4	6,0	123000017
Rivet retaining plate		32	62	15	3	6,4	6	123000018

Threaded plates



Description	Optional	Belting width [mm]	Hole Distance LA [mm]	Length L [mm]	Width B [mm]	Thread D	Articleno.
20 M5		40	20	37	14	M5	123000053
20 M5		50	20	46	14	M5	123000020
20 M6		40	20	37	14	M6	123000054
20 M6		50	20	46	14	M6	123000022
20 M6		60	20	56	14	M6	123000021
24 M5		50	24	46	14	M5	123000023
30 M5		60	30	56	14	M5	123000024
32 M5		60	32	56	14	M5	123000027
30 M6		60	30	56	15	M6	123000025
32 M6		60	32	56	15	M6	123000028
32 M8		60	32	56	15	M8	123000030
UNF 12/28		60	32	56	14	UNF 12/28	123000060

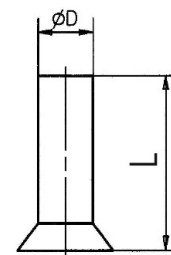
Set for lapjoint



Description	Optional	Belting width [mm]	Hole distance [mm]	Thread [mm]	Number of plates	Number of bolts	Articleno.
20 M5		40	20	M5	6	12	123000055
20 M5		50	20	M5	6	12	123000034
32 M5		60	32	M5	6	12	123000038
32 M6		60	32	M6	6	12	123000035
20 M5		50	20	M5	7	14	123000146
20 M6		50	20	M6	7	14	123000148
30 M5		60	30	M5	7	14	123000147
30 M6		60	30	M6	7	14	123000149

Rivets according to DIN 661

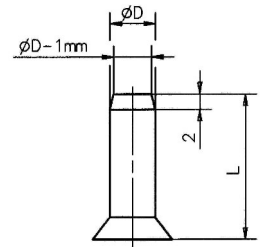
(Ø 4,0 / 5,0 / 5,5 / 6,0)



Description	Optional	Diameter D [mm]	Length L [mm]	Articleno.
Rivet		4	16	122000259
Rivet		4	19	122000260
Rivet		5	14	122000261
Rivet		5	21	122000264
Rivet		5	22	122000265
Rivet		5	33	122000014
Rivet		5	34	122000015
Rivet		5	35	122000016
Rivet		5,5	25	122000266
Rivet		5,5	27	122000025
Rivet		5,5	29	122000267
Rivet		5,5	31	122000268
Rivet		6	17	122000269
Rivet		6	18	122000270
Rivet		6	19	122000271
Rivet		6	28	122000273

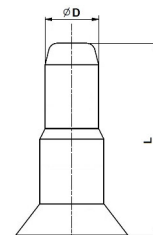
Rivets with tapered ends

(Ø 5,0 / 5,5 / 6,0)



Description	Optional	Diameter D [mm]	Length L [mm]	Articleno.
Rivet		5	18	122000032
Rivet		5	19	122000033
Rivet		5	20	122000034
Rivet		5	21	122000035
Rivet		5	22	122000036
Rivet		5	23	122000037
Rivet		5	24	122000038
Rivet		5	25	122000039
Rivet		5	26	122000040
Rivet		5	28	122000042
Rivet		5	30	122000043
Rivet		5	32	122000044
Rivet		5,5	18	122000285
Rivet		5,5	21	122000286
Rivet		5,5	22	122000287
Rivet		5,5	24	122000050
Rivet		5,5	26	122000051
Rivet		5,5	28	122000052
Rivet		5,5	30	122000053
Rivet		5,5	32	122000054
Rivet		6	20	122000130
Rivet		6	21	122000055
Rivet		6	22	122000056
Rivet		6	23	122000057
Rivet		6	24	122000058
Rivet		6	25	122000059
Rivet		6	26	
Rivet		6	23	122000293
Rivet		6	28	122000295
Rivet		6	29	122000142
Rivet		6	30	122000061

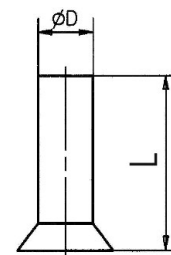
2-phase rivets



Description	Optional	Diameter D [mm]	Length L [mm]	Articleno.
2-phase rivet		5	17	122000180
2-phase rivet		5	18	122000181
2-phase rivet		5	19	122000182
2-phase rivet		5	20	122000183
2-phase rivet		5	21	122000184
2-phase rivet		5	22	122000185
2-phase rivet		5	23	122000186
2-phase rivet		5	24	122000187
2-phase rivet		5	25	122000188
2-phase rivet		5	26	122000189
2-phase rivet		5	27	122000190
2-phase rivet		5	28	122000191
2-phase rivet		5	30	122000192
2-phase rivet		5	32	122000193
2-phase rivet		5	33	122000194
2-phase rivet		5	34	122000195
2-phase rivet		5	35	122000196
2-phase rivet		5,5	18	122000197
2-phase rivet		5,5	20	122000198
2-phase rivet		5,5	21	122000199
2-phase rivet		5,5	22	122000200
2-phase rivet		5,5	23	122000201
2-phase rivet		5,5	24	122000202
2-phase rivet		5,5	25	122000203
2-phase rivet		5,5	26	122000204
2-phase rivet		5,5	27	122000205
2-phase rivet		5,5	28	122000206
2-phase rivet		5,5	30	122000207
2-phase rivet		5,5	32	122000208

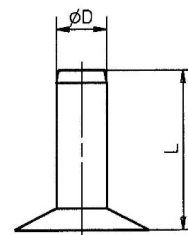
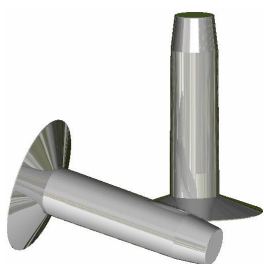
Rivets according to DIN 661

(Ø 5,0 / 6,0) in stainless steel



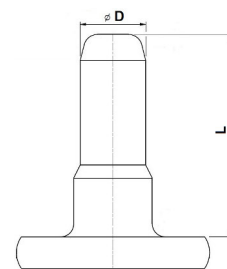
Description	Optional	Diameter D [mm]	Length L [mm]	Articleno.
Rivet		5	16	122000002
Rivet		5	18	122000005
Rivet		5	19	122000006
Rivet		5	20	122000007
Rivet		5	21	122000008
Rivet		5	22	122000009
Rivet		5	25	122000012
Rivet		6	19	122000272

Flat headed rivets DIN 675



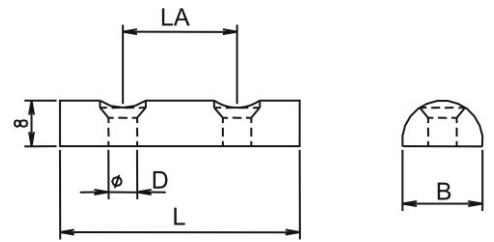
Description	Optional	Diameter D [mm]	Length L [mm]	Articleno.
Rivet		5	15	122000062
Rivet		5	18	122000064
Rivet		5	21	122000434
Rivet		5	25	122000066
Rivet		5	30	122000157
Rivet		5,5	15	122000274
Rivet		5,5	17	122000275
Rivet		5,5	20	122000276
Rivet		5,5	22	122000364
Rivet		5,5	30	122000157
Rivet		6	17	122000277
Rivet		6	20	122000278
Rivet		6	22	122000246

Flat headed 2-phase rivets



Description	Optional	Diameter D [mm]	Length L [mm]	Articleno.
Flat headed rivet 2-phase		5	15	122000233
Flat headed rivet 2-phase		5	16	122000224
Flat headed rivet 2-phase		5	18	122000225
Flat headed rivet 2-phase		5	20	122000226
Flat headed rivet 2-phase		5	22	122000234
Flat headed rivet 2-phase		5,5	18	122000427

Half round cylindrical block



Description	Optional	Hole Distance LA [mm]	Length L [mm]	Width B [mm]	Rivet \emptyset ND [mm]	Articleno.
Half round cylindrical block		20	14	14	5	116000005

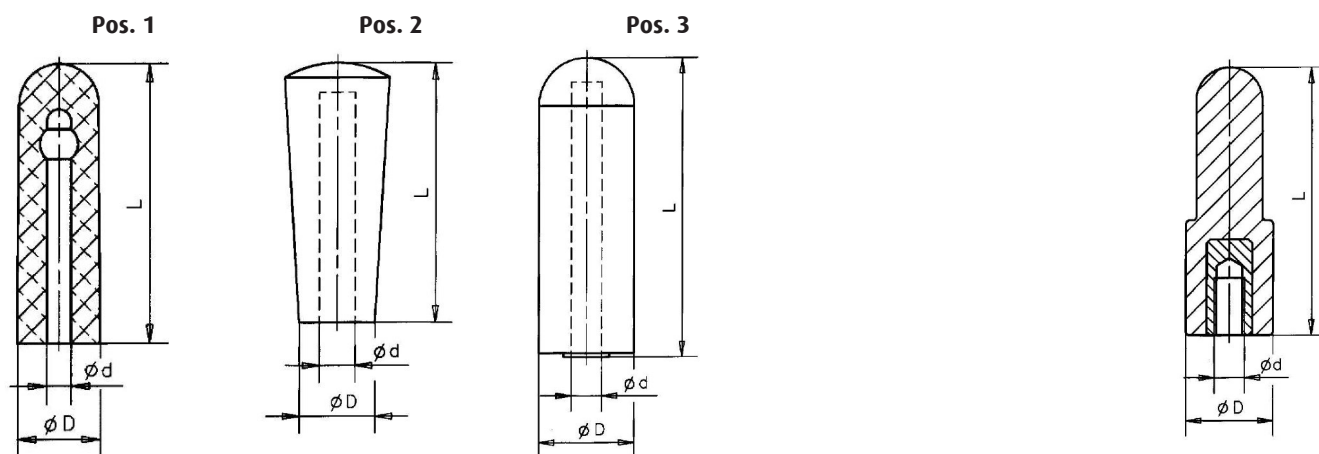
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Haulmspring	12- 3
Sorting disk	12- 4
Flights	12- 5
Stars	12- 6
Distance keeper for Stars	12- 7

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.

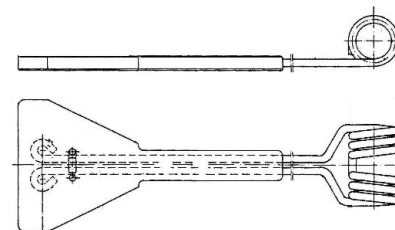
- Rubber and plastic vine finger covers for vine/trash separation belts. The protective caps slip over vertical metal fingers mounted/welded onto the rivet rods.
- Spring load flow resistance paddle for removing vine/trash
- Disc type elements for sizing/grading spools
- Star type elements for sizing/grading 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	Articleno.
Rubber finger		1	24	8	80	SBR / BR	129000003
Rubber finger		1	24	8	110	SBR / BR	129000006
Rubber finger		2	25	8	78		129000004
Rubber finger		4	23 / 17,5	M8	70		129000009
Rubber finger			24	8	117		
Rubber finger			30 / 17	M10	93		129000089

Haulmspring



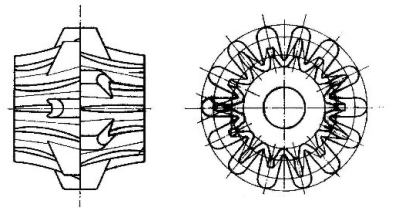
Description	Optional	Width B [mm]	Length L [mm]	Material	Articleno.
Haulmspring		60	296	NR / SBR	129000001
Haulmspring		110	296	NR / SBR	129000002
Haulmspring		110	296	NR / SBR	129000209

Sorting disk



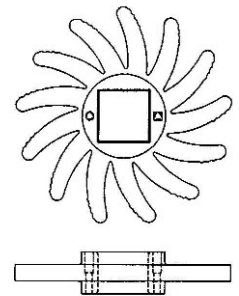
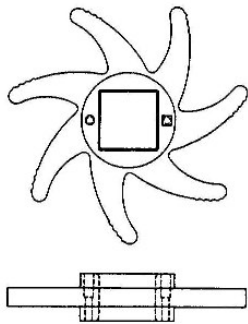
Description	Optional	Position	Outside Ø D [mm]	Width d [mm]	Width B [mm]	Width s [mm]	Material	Articleno.
Sorting disk		2	98	21		8	NR / SBR	129000118
Sorting disk		1	98	16	20	8	NR / SBR	121000143
Sorting disk		1	98	19	20	8	NR / SBR	121000144
Sorting disk		1	98	21	20	8	NR / SBR	121000145
Sorting disk		1	98	26	20	8	NR / SBR	121000146
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	Articleno.
Flight		98	25	77	NR / SBR	

Stars



Description	Optional Number of finger	Outside Ø D [mm]	Square [mm]	Height s [mm]	Material	Articleno.
Stars	6	162	24	38,5	NR / SBR	121000135
Stars	6	162	29	38,5	NR / SBR	121000136
Stars	6	162	32	38,5	NR / SBR	121000137
Stars	13	164		32		
Stars	7	164	32			
Stars	7	164	38			
Stars	13	164	1-1/4"	32	NR / SBR	121000142
Stars	13	164	1-1/2"	32	NR / SBR	121001198
Stars	10	260	40	40	PU	121000872
Stars	10	260	40	40	PU	121000872
Stars	6	230	40	80	PU	121001130
Stars	13	170	30	32	PU	121000963
Stars	13	170	32	32	PU	
Stars	13	170	38	32	PU	
Stars	13	168	30	32		121000840

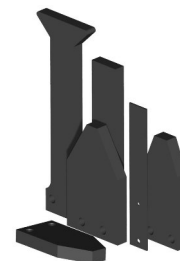
Distance keeper for Stars



Description	Optional	mould	Width d [mm]	Width B [mm]	Articleno.
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"	

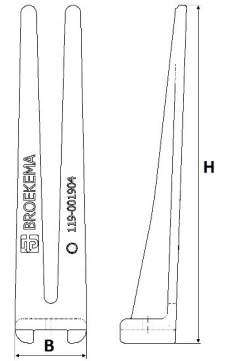
rubber cleaner 13- 1
Side protection 13- 2

rubber cleaner



Description	Optional	Width B [mm]	Length L [mm]	textile layers	Hole Ø C [mm]	holes
rubber cleaner		40	260	4	10	1
rubber cleaner		40	260	10	10	1
rubber cleaner		40	225	10	10	1
rubber cleaner		40	300	10	10	2
rubber cleaner		60	80	10	12	1
rubber cleaner		80	255	10	12	2
rubber cleaner		80	255	10	12	2
rubber cleaner		80	255	10	12	2
rubber cleaner		80	270	15	10,5	2
rubber cleaner		80	360	15	10,5	2
rubber cleaner		80	175	15	7,5	2
rubber cleaner		80	185	15	10,5	2
rubber cleaner		30	190	0	9	2
rubber cleaner		30	328	smooth 1,5:1,5		4
rubber cleaner		60	100	10	10	2
rubber cleaner		40	250	0	9/6	2
rubber cleaner		40	260		10	2
rubber cleaner		40	250		9/6	2
rubber cleaner		40	220		9/6	2
rubber cleaner	*	125	188	8	10	2
rubber cleaner	*	135	200	8	10	2
rubber cleaner	*	150	200	8	10	2
rubber cleaner	*	110	190	8	10	2
rubber cleaner		150	200	15	11	2
rubber cleaner	*	60/105	240	8	10,5	2
rubber cleaner		80	165	15	15	
rubber cleaner		56	270	15	15	
rubber cleaner		80	210	15	15	2
rubber cleaner		120	200		17	2
rubber cleaner		40	153,9	15		
rubber cleaner			145			
rubber cleaner		30	120	5		
rubber cleaner		80	240	15	15	2
rubber cleaner		80	240	8	15	2
rubber cleaner		50	515	3		
rubber cleaner		80	185	15		2
rubber cleaner		150	200	15		2
rubber cleaner		40	260	1		2
rubber cleaner		120	235	15	9/6	2

Side protection



Description	Optional	Height H [mm]	Width B [mm]	Articleno.
side protection		153	32	119001904