BROEKEMA

Crop Conveyor Belts USA

PRODUCT CATALOG

Introduction

This printing of the Broekema USA catalog is a partial listing of products available and intended to provide the most relevant information for North American customers. For a catalog with the full listing of all products available please contact Broekema USA.

There are three companies within the Jaeger Group which make conveyor belts and related components for agricultural machinery.

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

EA Broekema BV, Veendam, The Netherlands,

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

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

Each company continues to invest in the development of new products for the agricultural industry and in the improvement of their manufacturing technology to maintain a position of quality and cost-leadership in the marketplace.

All customers are assured of the highest quality to meet their needs with the highest levels of operational life.

All three companies have helped to pioneer the belted system for root crop harvesting. Numerous other systems are available with applications for nuts, fruits, fish, pre/post-grading, washing, and drying. Product and product size may vary from beets to cocktail onions, with components that provide the highest protection against crop damage.

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

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BROEKEMA
Crop Conveyor Belts USA

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Rubber Traction Belting

The reinforcement package utilizes polyester fibers in the lengthwise warp and nylon fibers in the widthwise weft. TN or EP is the international standard for this type of carcass textile construction.

Three-ply carcass construction is well proven as the best combination for optimal flexibility and tensile strength.

The textile, its weave and other pre-vulcanization treatments assure pitch retention accuracy during normal use and pitch recovery after abnormal “peak shock” load stresses.

Pitch accuracy of the rivet rods is established and maintained by Broekema’s exclusive precision rivet hole punching process.

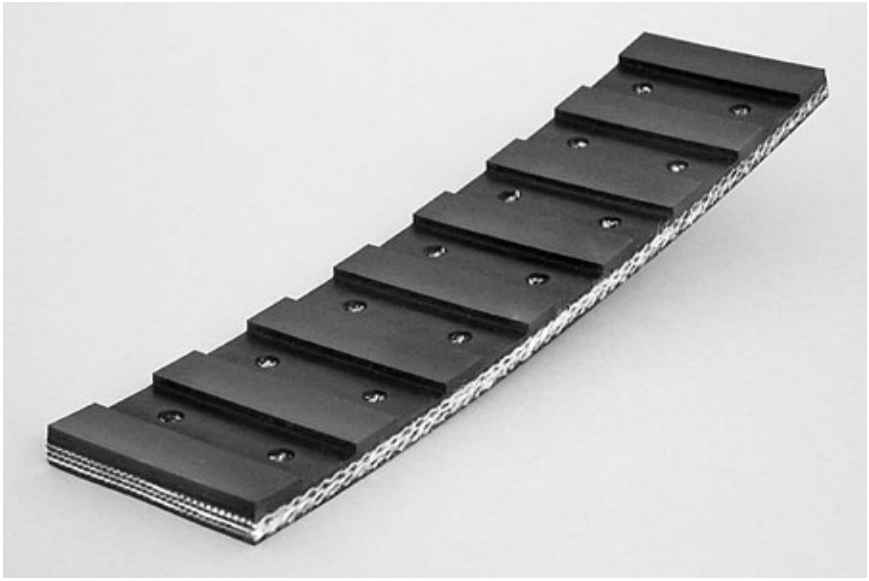
Other standard belting profiles not listed in this catalog and special profiles are offered after consultation with the technical/sales staff at Broekema.

TN 900/3 is Broekema’s standard traction belting specification. Alternative strengths in 900 and 1200 are offered after consultation with the technical/sales staff at Broekema.

Rubber Traction Belting

The connection of the traction belt is the weakest area of a complete web assembly. Available connection joints are described fully on page 22.

During belted chain use, a safety slip clutch or other overload device is required for each conveyor section. It is of primary importance the overload device is adjusted and working properly to insure the web's connection joint does not become the overload device.



Belting Type EN Lo-Profile

Standard pitches as listed, other pitches, profiles, and widths available upon request.

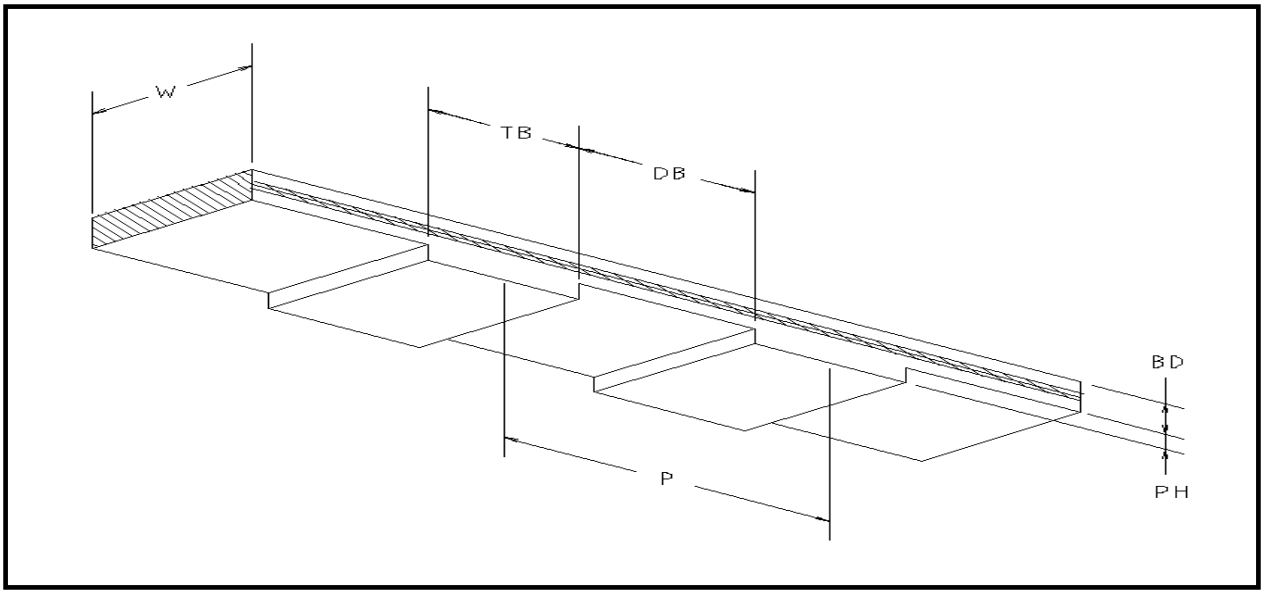
Standard carcass construction is TN 900/3.

Some belting pitches and widths are available in TN 1200/3 upon request.

Belt assembly driven with HS, NC or N type toothed drive sprockets, and KW, HS or FRD type friction drive wheels.

Not all items available from stock and may require additional lead time.

Belting Type EN Lo-Profile

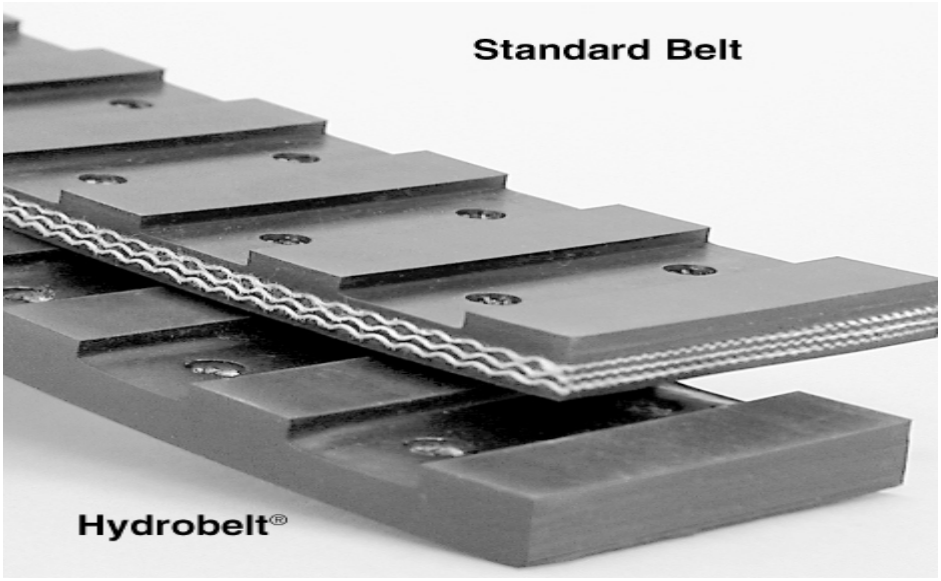


P	W	TB	DB	PH	BD
28	60	10	18	3	7.9
32	60	14	18	3	7.9
36	60	16	20	3	7.9
40	60	20	20	3	7.9
42	60	22	20	3	7.9
45	60 - 120	25	20	3	7.9
50	60 - 120	30	20	3	7.9
56	60 - 120	31	25	3	7.9

Dimensions are in mm (divide by 25.41 to get inches)

P - Pitch **W** - Belting width **TB** - Profile width **DB** -Recess width

PH - Profile height **BD** - Belting thickness



Belting Type EN Lo-Profile Hydrobelt®

Specially made for partial or totally submerged conveyors, this very flexible Hydrobelt® is ideal for crop rinsing and washing applications.

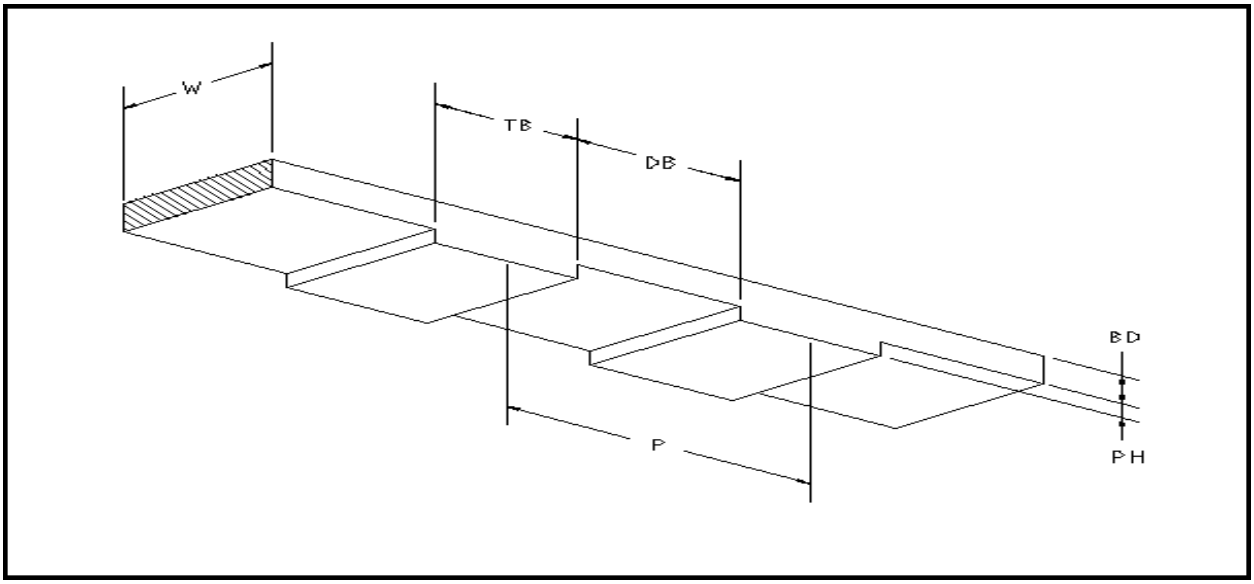
Rubber side walls protect the standard EN900 series (3ply) reinforcement package from life span reducing effects caused by moisture absorption.

Standard pitches as listed, other pitches, profiles, and widths may be available upon request.

Standard carcass construction is TN 900/3.

Not all items available from stock and may require additional lead time.

Belting Type EN Lo-Profile Hydrobelt®



P	W	TB	DB	PH	BD
28	60	10	18	3	7.9
32	60	14	18	3	7.9
36	60	16	20	3	7.9
40	60	20	20	3	7.9

Dimensions are in mm (divide by 25.41 to get inches)

P - Pitch **W** - Belting width **TB** - Profile width **DB** - Recess width

PH - Profile height **BD** - Belting thickness

Belting Type EN Hi-Profile

Standard pitches as listed, other pitches, profiles, and widths available upon request.

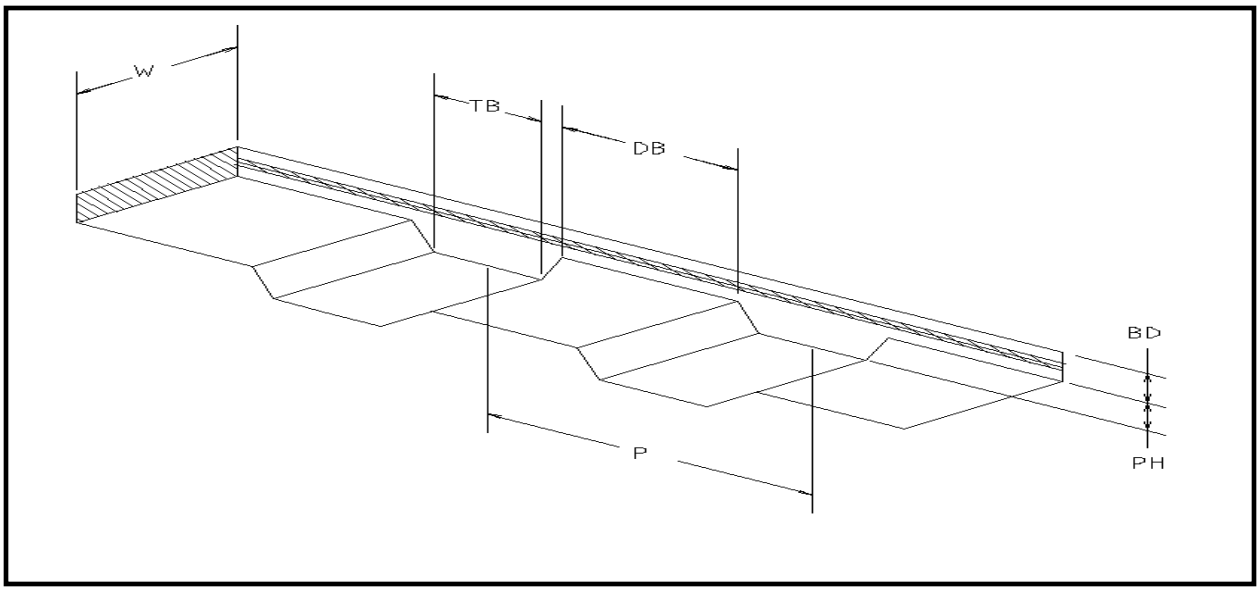
Standard carcass construction is TN 900/3.

Some belting pitches and widths are available in TN 1200/3 upon request.

Belt assembly driven with N or NC type toothed drive sprockets, and KW, HS or FRD type friction drive wheels.

Not all items available from stock and may require additional lead time.

Belting Type EN Hi-Profile



P	W	TB	DB	PH	BD
28	60	9	14	9.5	7.9
35	60	15.3	15	9.5	7.9
40	60	16.3	19	9.5	7.9
44	60	17.1	21.5	9.5	7.9
50	60	19.7	25	9.5	7.9

Dimensions are in mm (divide by 25.41 to get inches)

P - Pitch **W** - Belting width **TB** - Profile width **DB** - Recess width

PH - Profile height **BD** - Belting thickness

Belting Type DN Hi-Profile Notched

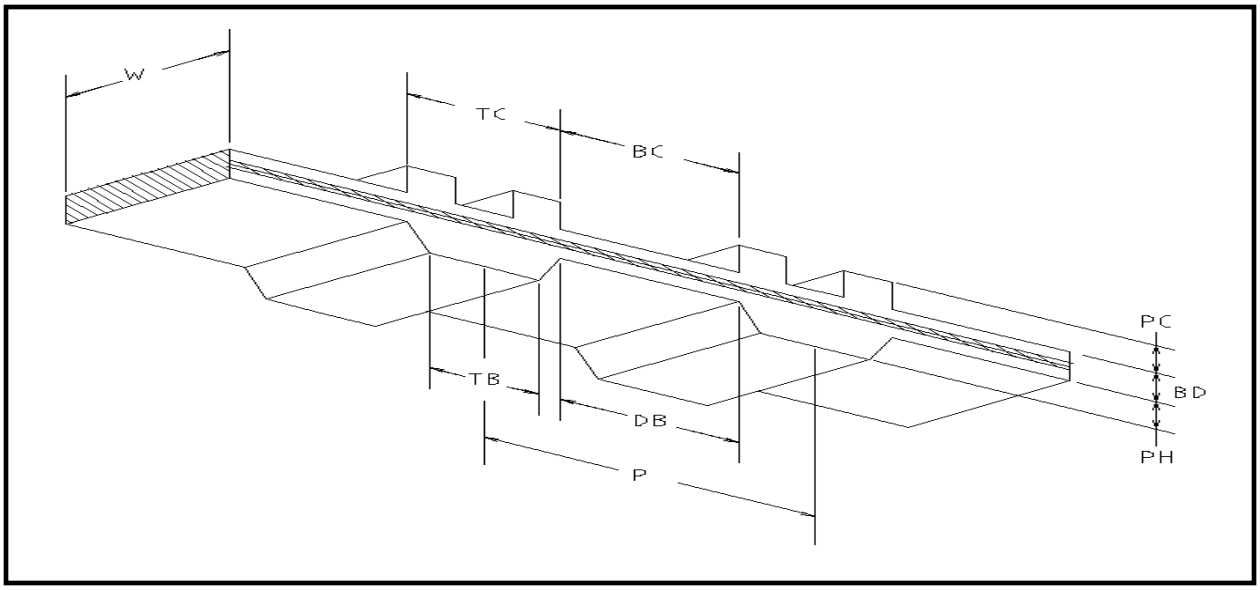
The top profile of the traction belt extends above the rivet rod ends and rivets. This top profile provides additional bruise protection by keeping the crop from making hard contact with the rod ends and rivets.

Standard carcass construction is TN 900/3.

Belt assembly driven with NC or N type toothed drive sprockets, and KW, HS or FRD type friction drive wheels.

Not all items available from stock and may require additional lead time.

Belting Type DN Hi-Profile Notched



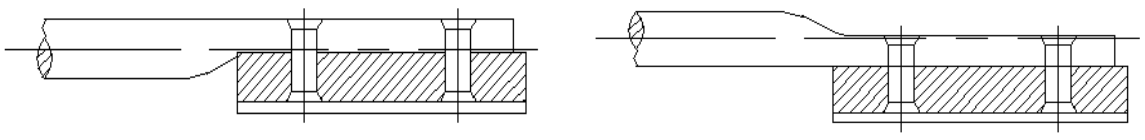
P	W	TB	TC	DB	BC	PH	PC	BD
35	60	16	14.7	15	18.5	8	8	7.9
40	60	17.3	18.6	19	19.5	8	8	7.9
44	60	16	22.6	24	19.5	8	8	7.9
50	60	16	28.6	30	19.5	8	8	7.9

Dimensions are in mm (divide by 25.41 to get inches)

P - Pitch **W** - Belting width **TB** - Profile width bottom **TC** - Profile width top
DB - Recess width bottom **BC** - Recess width top
PH - Profile height bottom **PC** - Profile height top **BD** - Belting thickness

Rod Convexity

Rivet rods for belt assemblies with two traction belts are forged at both ends. For assemblies with three or more traction belts the rivet rods are forged at other positions where required. This type of forging can be done in ways as shown below.



CONVEXITY DOWN

CONVEXITY UP

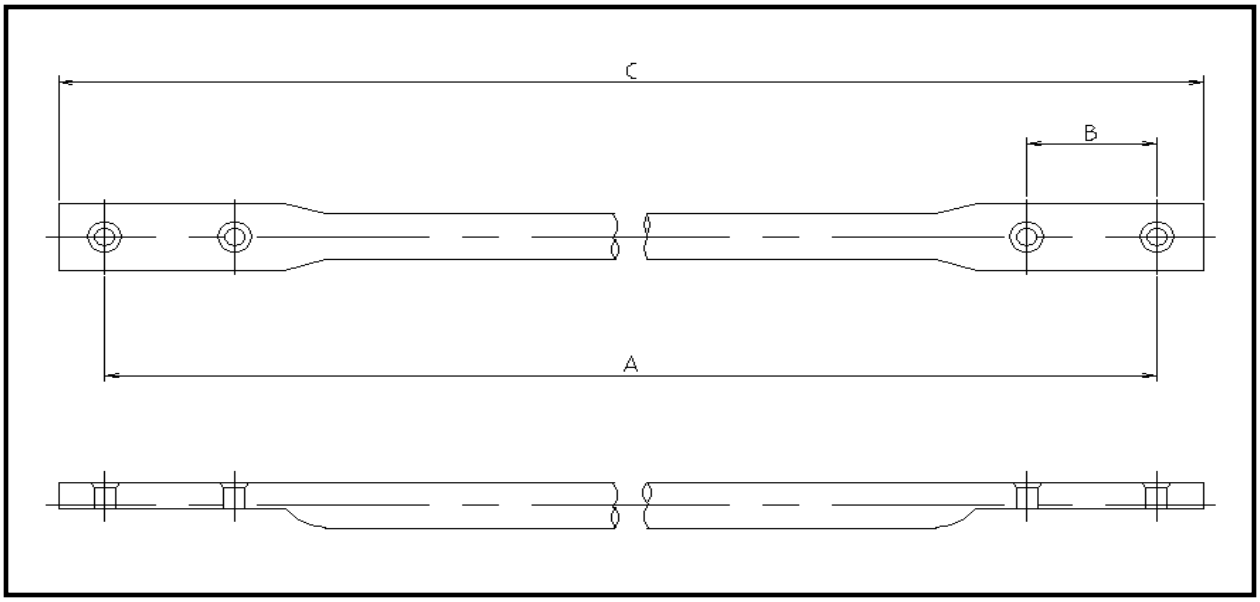
Belt assemblies are supplied as standard with convexity DOWN type rods, unless otherwise specified. Belt assemblies with three or more traction belts are supplied with Super-Flex® type centers unless otherwise specified.

Belt assemblies with three or more traction belts using KS, WB, GK, OGS or other type of clamps are supplied as standard convexity UP type rods, unless otherwise specified.

HS type toothed drive sprockets are normally used to drive convexity DOWN type rod assemblies.

N type drive toothed drive sprockets and FRD or HS type friction drive wheels can be used on either convexity UP or convexity DOWN type rods since the rods are not engaged by toothed sprockets.

“Stickmark” Measuring Standard



The dimensions as shown in illustration above are extremely important.

Dimension A is the “stickmark” dimension (the center distance between the two outermost rivet holes). The stickmark dimension is of particular importance for the standardization of the rod length and replacement ordering.

Dimension B is the center to center distance of the rivet holes (32mm or 20mm).

Dimension C is the total overall length of the rivet rod, not the beltwidth.

Please supply these dimensions when ordering spare parts.

Rivet Rods

Rivet rods used for belted chain assemblies are available in various materials and styles.

Steel Type	DIN No.	Available Diameters
Class C	1.7223	9mm, 10mm, 11mm, 12mm
Hardened	1.0904	11mm, 12mm, 13mm, 15mm
Class B	1.7223	15mm

Rivet Rods

	Description
	Down crank 10mm
	Down crank 15mm
	Up crank 10mm
	Up crank 15mm
	Straight

Center Belt Construction

Wide belt assemblies are usually fitted with three or more rubber traction belts. The fastening of the rivet rods to the center belt(s) can be done in several different ways as shown on the following page.

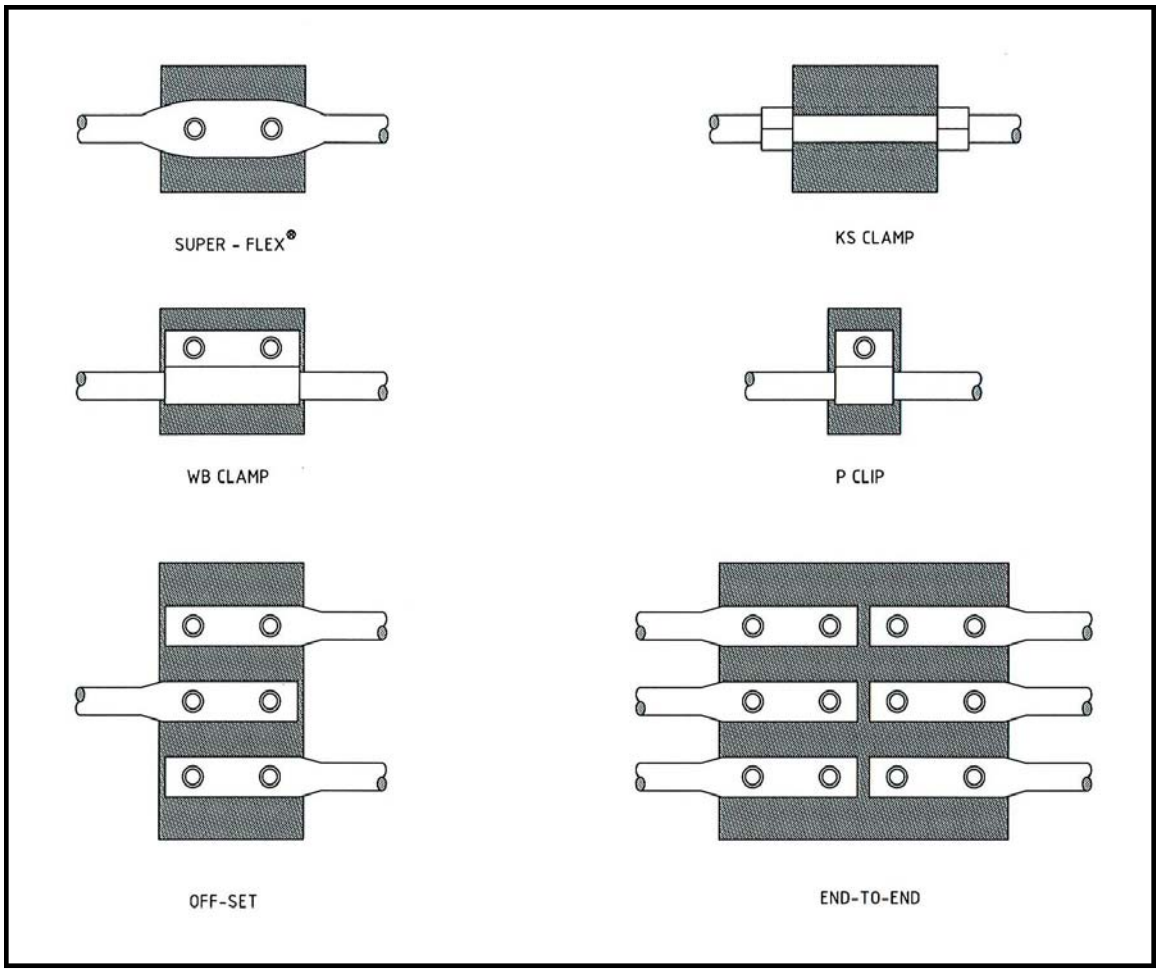
Super-flex® is the standard method for fastening convexity down style rods to the center tractions belt(s). The Super-flex® process adds material around the rivet holes providing a wider footprint at the forged center of the rod for additional strength.

Belt assemblies using KS, P and WB type clamps are supplied as standard with convexity up type rods, unless otherwise specified.

Off-set fastening allows the use of narrow rods and is often used when more than two center traction belts are required to achieve the desired overall width.

End-to-end fastening allows for the use of narrow rods but requires the use of 120mm wide traction belt.

Center Belt Construction



Belt Joints & Joining Clips

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

- **Hardened joining clips:** Riveted or bolted to the belting and linked via a connector rod.
- **Overlap joint**: Layered over several pitches, the belt ends may consist of two or three layering steps. The ends are secured with nuts and bolts. Please ask about our overlap joint options, which can include the use of flow drill 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 or “S” drive systems a double-pivot connection is required which is described fully on page 39.

Hardened Joining Clip

Overlap Joint

Endless Vulcanized Joint

6AF Ultra Clip

For Lo-Profile traction belting

One set of joining clips consists of two identical two-lip sections. Two clips form a two-lip interlocking system.

The clips are made from Boron alloyed hardened steel with an approximate hardness value of Rockwell-C 40 and plated black.

6AF Ultra Clip

Type	Belt Width (mm)	Pitch (mm)	Hole Distance (mm)	Number of Holes	Rivet Diameter (mm)	Joining Rod (mm)
6AF 28-32	60	28	32	2	5.5	11, 12
6AF 32-32	60	32	32	2	5.5	11, 12
6AF 36-32	60	36	32	4	5.5	11, 12
6AF 40-32	60	40	32	4	5.5	11, 12
6AF 42-32	60	42	32	4	5.5	11, 12
6AF 45-32	60	45	32	4	5.5	11, 12
6AF 50-32	60	50	32	4	5.5	11, 12
6AF 56-32	60	56	32	4	5.5	11, 12

6AF Ultra-Gold Clip
(12-28 Thread)

For Lo-Profile traction belting

One set of joining clips consists of two identical two-lip sections. Two clips form a two-lip interlocking system.

The four holes in the lower plate of each clip are threaded 12-28. Assembly is achieved by use of pilot bolts, whose points are easily broken off after installation.

The clips are made from Boron alloyed steel with an approximate hardness value of Rockwell-C 40 and plated gold.

6AF Ultra-Gold Clip

Type	Belt Width (mm)	Pitch (mm)	Hole Distance (mm)	Number of Holes	Pilot Bolts	Joining Rod (mm)
6AF 28-32	60	28	32	2	12-28	11, 12
6AF 32-32	60	32	32	2	12-28	11, 12
6AF 36-32	60	36	32	4	12-28	11, 12
6AF 40-32	60	40	32	4	12-28	11, 12
6AF 42-32	60	42	32	4	12-28	11, 12
6AF 45-32	60	45	32	4	12-28	11, 12
6AF 50-32	60	50	32	4	12-28	11, 12
6AF 56-32	60	56	32	4	12-28	11, 12

6AAF Clip

For Lo-Profile traction belting

One set of joining clips consists of two identical two-lip sections. Two clips form a two-lip interlocking system.

The clips are made from Boron alloyed hardened steel with an approximate hardness value of Rockwell-C 40 and plated black.

6AAF Clip

Type	Belt Width (mm)	Pitch (mm)	Hole Distance (mm)	Number of Holes	Rivet Diameter (mm)	Joining Rod (mm)
6AAF 28-32	60	28	32	5	5	11
6AAF 32-32	60	32	32	5	5	11

6AB Clip

For Lo-Profile traction belting

One set of joining clips consists of a one-lip and a two-lip section. Two clips form a set, male to female interlocking.

The clips are made from Boron alloy hardened steel with an approximate hardness value of Rockwell-C 40 and plated black.

Not all items available from stock and may require additional lead time.

6AB Clip

Type	Belt Width (mm)	Pitch (mm)	Hole Distance (mm)	Number of Holes	Rivet Diameter (mm)	Joining Rod (mm)
6AB 28-32	60	28	32	2	5	11
6AB 32-32	60	32	32	2	5	11
6AB 36-32	60	36	32	4	5	11
6AB 40-32	60	40	32	4	5	11
6AB 42-32	60	42	32	4	5	11
6AB 45-32	60	45	32	4	5	11
6AB 50-32	60	50	32	4	5	11

6GAB Clip

For Lo-Profile traction belting.

One set of joining clips consists of a one-lip and a two-lip section. Two clips form a set, male to female interlocking.

The clips are made from Boron alloy hardened steel with an approximate hardness value of Rockwell-C 40 and plated black.

Not all items available from stock and may require additional lead time.

6GAB Clip

Type	Belt Width (mm)	Pitch (mm)	Hole Distance (mm)	Number of Holes	Rivet Diameter (mm)	Joining Rod (mm)
6GAB 28-32	60	28	32	2	6	11, 12
6GAB 32-32	60	32	32	2	6	11, 12
6GAB 36-32	60	36	32	2	6	11, 12
6GAB 40-32	60	40	32	2	6	11, 12
6GAB 42-32	60	42	32	2	6	11, 12
6GAB 45-32	60	45	32	2	6	11, 12
6GAB 50-32	60	50	32	2	6	11, 12

6BC Clip

For Hi-Profile traction belting

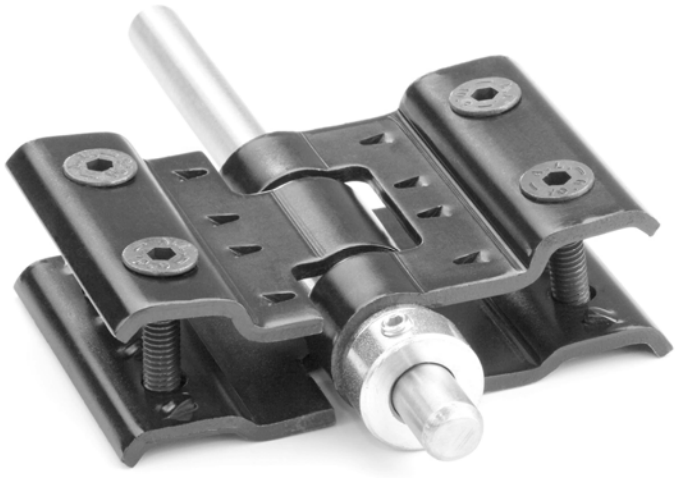
One set of joining clips consists of a one-lip and a two-lip section. Two clips form a set, male to female interlocking.

The clips are made from Boron alloy hardened steel with an approximate hardness value of Rockwell-C 40 and plated black.

Not all items available from stock and may require additional lead time.

6BC Clip

Type	Belt Width (mm)	Pitch (mm)	Hole Distance (mm)	Number of Holes	Rivet Diameter (mm)	Joining Rod (mm)
6BC 35-32	60	35	32	4	5	11
6BC 40-32	60	40	32	4	5	11
6BC 44-32	60	44	32	4	5	11
6BC 50-32	60	50	32	4	5	11



Grimme Clip

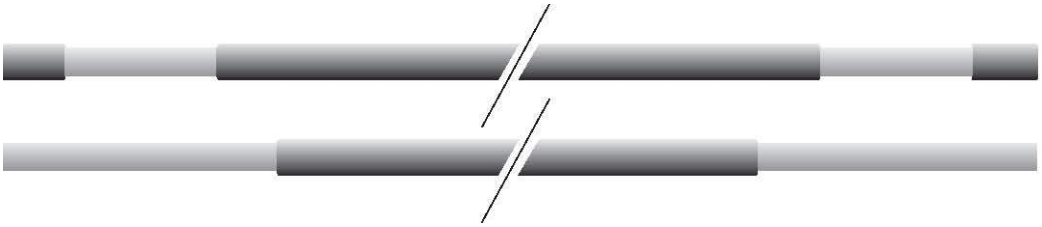
For Hi-Profile traction belting. Available only in 35mm pitch with intended use in Grimme friction drive applications.

One set of joining clips consists of a one-lip and a two-lip section. Two clips form a set, male to female interlocking. Bushings fit into the clip pivot journals as shown and accept a 10mm joining rod. Joining rods are held in place via a set collar as shown.

The clips are made from Boron alloy hardened steel with an approximate hardness value of Rockwell-C 40 and plated black.

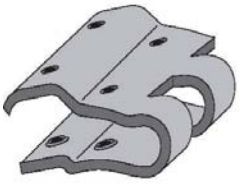
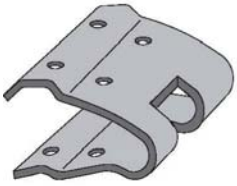
Grimme Clip System

Grimme Clip System consists of:	
1	Grimme Clip Female
1	Grimme Clip Male
2	Grimme Bushing for Female Clip
1	Grimme Bushing for Male Clip
1	10mm Collar
4	12-28 Bolt
4	12-28 Nut



Joining Rods

The following table gives a summary of what can be supplied.

Clip type	Joining rod diameter
 F-type	 11mm, 12mm
 B-type	 11mm

All belts manufactured with covered rods come standard with covered connecting rod.

Tubing is available for all connecting rods.

Double Pivot

For reverse drive or “S” drive systems a double-pivot connection is required. The double-pivot is a metal extension piece that is fitted between two female **6GAB** type joining clips using two joining rods. This offers a flexible and smooth running operation of the connection joint over the drive elements. In addition, this method also divides the bending action over two joints, effectively extending the life of the joint.

The double pivot can also be used as a length extension repair piece if the joining clip of one traction belt tears out.

Double pivot	Beltwidth	Pitch
DP GAB 28	60	28
DP GAB 32	60	32
DP GAB 35	60	35
DP GAB 36	60	36
DP GAB 40	60	40
DP GAB 42	60	42
DP GAB 44	60	44
DP GAB 45	60	45
DP GAB 50	60	50

Not all items available from stock and may require additional lead time.

Glue-on Rubber Coverings

Various glue-on rubber coverings are available for belted chain assemblies.
All glue-on coverings are available in two belt rivet rods, three belt rivet rods, straight rivet rods, down cranked rivet rods, and up cranked rivet rods.

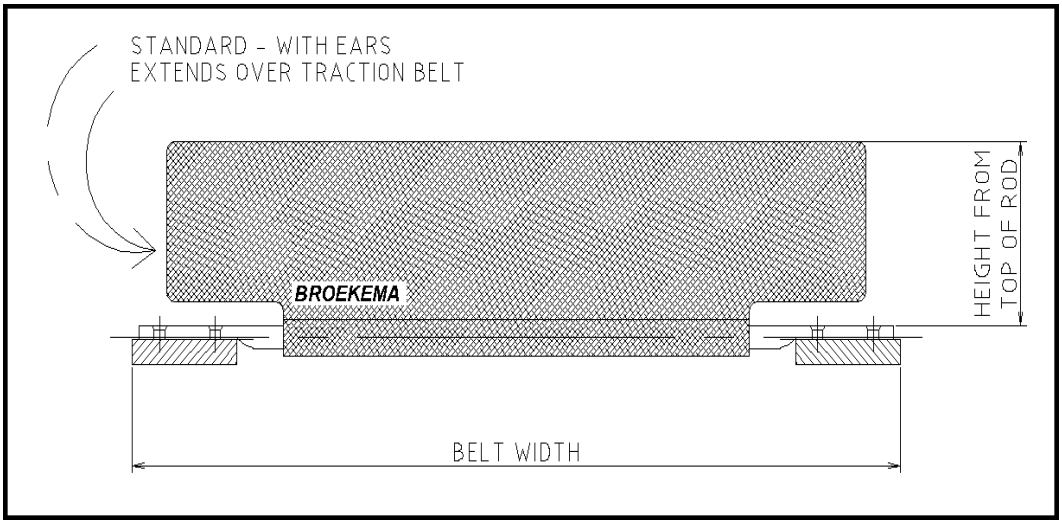
To determine the gap between covered rods, subtract the outside diameter (or OD, see explanation on next page) of the covering from the pitch of the belt. To convert millimeters to inches divide by 25.41. For example, the gap between the rods on a 50mm air cushion belt would be 50mm - 12.5mm = 37.5mm, or 1.48 inches.

Glue-on Rubber Coverings

	Covering Type	Rod Diameter Available	Covering Dimensions
	C-Flex	11mm 12mm	(O.D. and Height) 16mm 18mm 18mm 18mm
	Air Cushion	11mm	12.5mm 10mm
	Cushion	11mm 13mm 15mm	(O.D.) 19 mm 19 mm 25 mm
	Pillow Cushion	11mm 15mm	23mm 30mm
	Turf	10mm 11mm	(O.D. and Width) 14mm 37.5mm 14mm 37.5mm

Height is measured from top of rod to top of covering.

Rod Coverings



Flights

The flight link is a vulcanized rubber molding on a straight 11mm diameter rod. The maximum height of the flight is 3-1/2 inches.

Available height w/out ears		Available height with ears		Available widths 2 x web		Available widths 3 x web	
min	max	min	max	min	max	min	max
3/4"	3-1/2"	1-3/4"	3-1/2"	12"	42"	35"	84"

Peg

The peg link is a vulcanized rubber molding on a straight 11mm diameter rod. The peg link assists with better crop flow up the conveyor, similar to a flight. The peg link comes with ears, which help prevent crop roll back and contact with the conveyor sides. Using two rods, staggered in the belt pattern forms a flexible flight.

Available sizes (beltwidth):

Two belt system:	Three belt system:
29”	60”
30”	62”
31”	62-1/2”
32”	63-1/2”
33”	65”
35”	68”
36”	69”
40”	
41”	
42”	

C-Flex

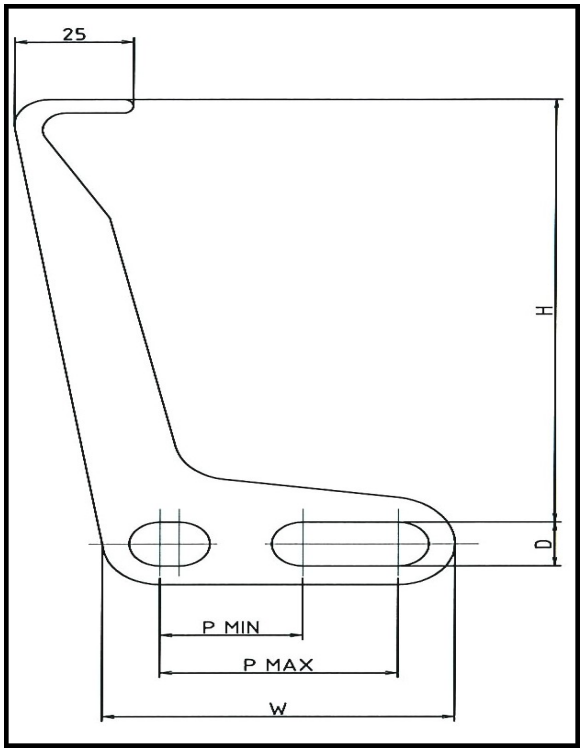
C-Flex is a rubber vulcanization molding on a 11mm diameter rod. The rubber profile has the form of a “C”. The flexible top breaks the impact of the crop onto the conveyor surface, thus preventing it from damage. The open design of the profile and its flexibility prevent the covering from build-up of soil.

The C-Flex profile is available in various sizes with ears. The ears help prevent crop roll back and contact with the conveyor sides.

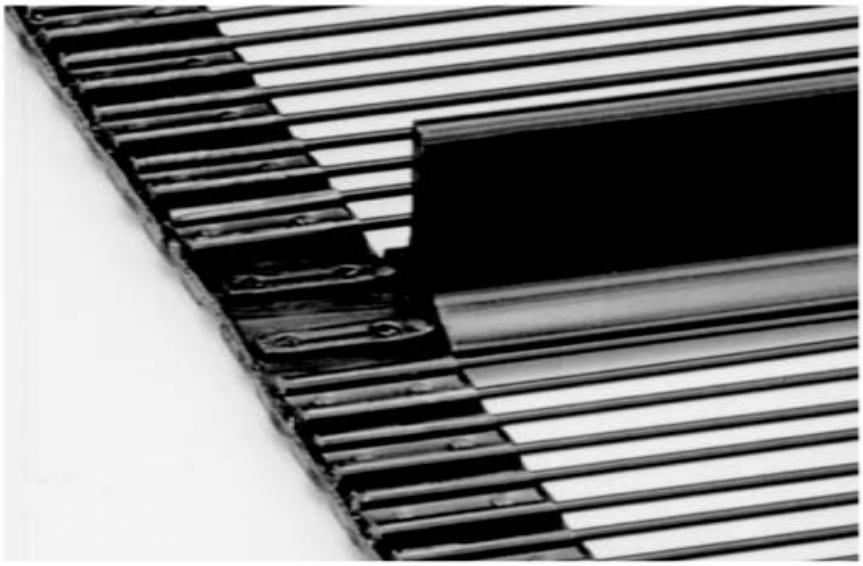
Available sizes (beltwidth):

11 mm diameter down cranked with ears	11 mm diameter straight with ears
30”	
33”	
35”	35”
36”	36”
40”	
42”	
62”	
62-1/2”	
63-1/3”	
68”	68”
69”	69”

RFL Flight



Description	D	H	W	P Min	P Max
RFL 100 LF	12	100	74	28	50
RFL 125 LF	12	125	74	28	50
RFL 145 LF	12	145	74	28	50
RFL 160 LF	12	160	74	28	50



Twin-rod

Twin-rod webs are light duty webs that meet applications requiring a consistent narrow rod gap. This method allows narrow rod clearances to be achieved with great accuracy.

Twin-rod assemblies are made by securing two rods of the same size (5 through-10mm) into pairs by means of a compressed steel clamp. The rod assembly is then riveted to the traction belting in the normal fashion. This makes the rod pitch one half of the traction belt pitch; i.e. 28mm traction belting places the rods at 14mm pitch. In certain cases the rod clearances can be reduced further by use of plastic or rubber covering around each rod or around every other rod.

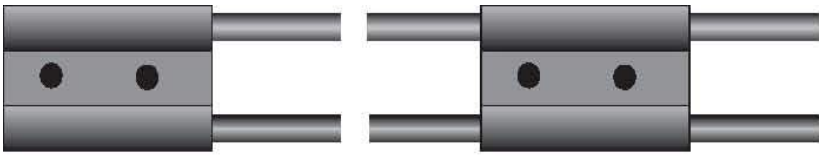
Extra (optional) center rod-strengthening clasp(s) can be added to prevent rod flexing when wider webs are used.

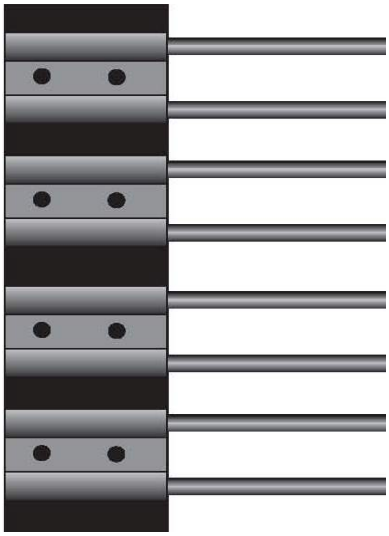
Rubber or plastic covers are available if required for cushioning the crop. Rubber flights can be used by substituting standard rods for the twin-rods at the flight locations.

The rods on twin-rod assemblies are not intended for driving. A friction or cam type drive wheel is required.

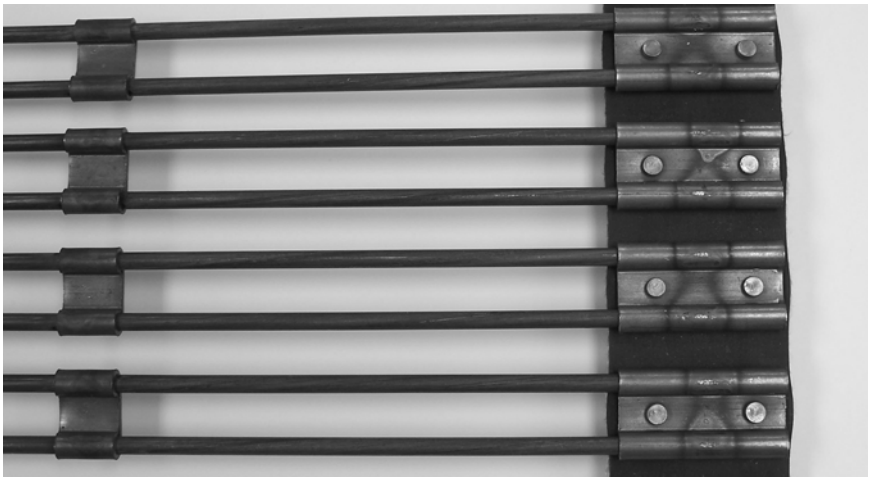
Not all items available from stock and may require additional lead time.

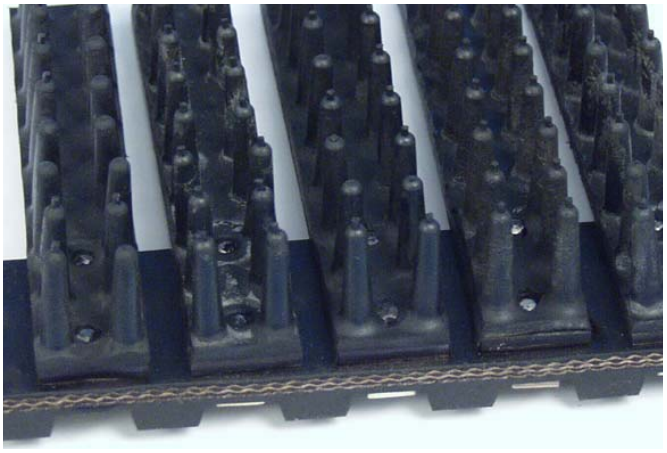
Twin-rod





Twin-rod belt construction





Porcupine (Pintle)

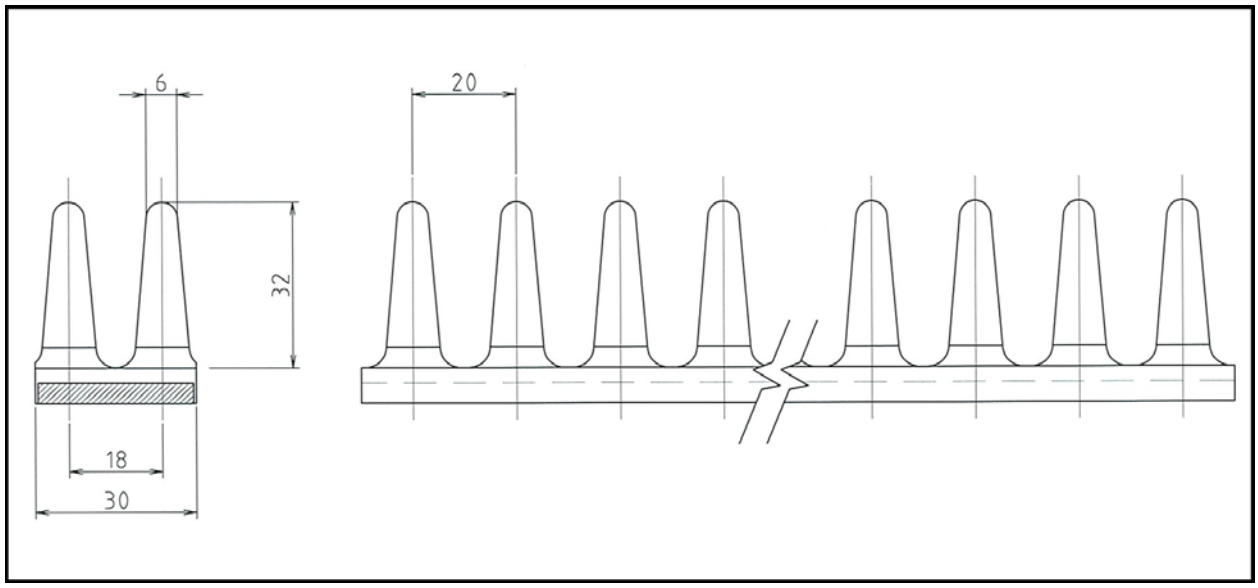
Pintle webs are generally used to clean and remove vines, trash, and sand from the crop.

The pintle profile is two rows of rubber pegs on 20mm centers, vulcanized on a 4x30mm flat steel strip. The total height of the pintle strip is 40mm. The steel strips are riveted to two or more traction belts in the normal fashion.

Pintle webs are available in width increments of 20mm, up to a maximum web width of 2100mm. For wider widths it is recommended to use two or more center traction belts to help reduce the bending of the strips.

The flat strips on pintle assemblies are not intended for driving. A friction or cam type drive wheel is required.

Porcupine (Pintle)



Drive Wheels

Different types of drive wheels are required for the various types of traction belting, or as belt assembly drive options.

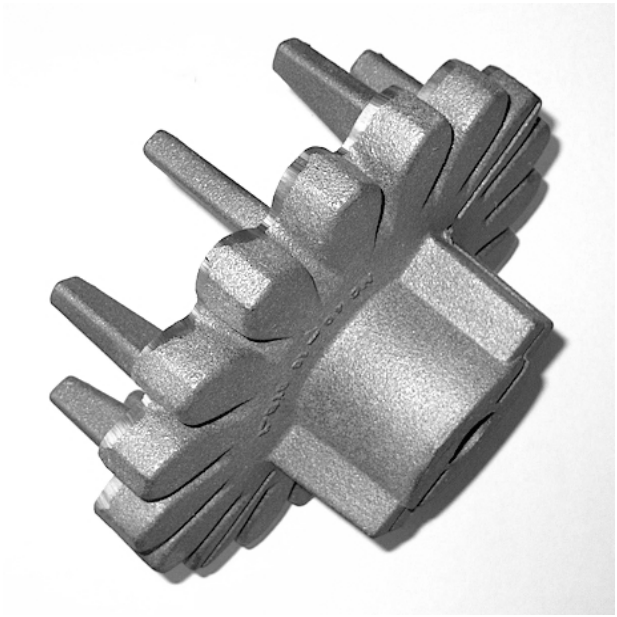
- Driving on the rods - HS, RT, Z type toothed wheels
- Driving on the rubber cams of the traction belting - N type toothed wheels
- Driving on the rods and the rubber cams of the traction belting (combination wheels) - NC type toothed wheels
- Driving on the traction belt with friction rollers - FRD, HS, KW friction drive wheels/rollers

Broekema drive wheels are perfectly matched to suit both belt and rod pitch. They are made of cast iron. Those offering a split casting make the mounting of these to the drive shaft a simple operation.

Always state the required bore and keyway size. Blank castings for later machining by the client are available upon request.

Not all items available from stock and may require additional lead time.

Drive Wheels

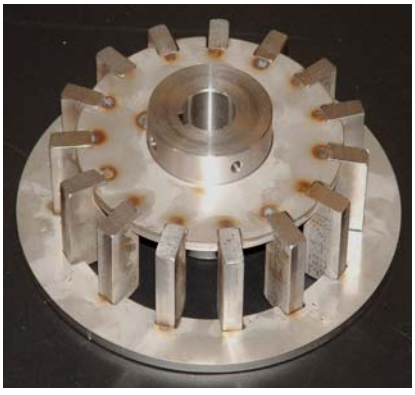


All split type drive wheels are supplied slightly under-bored where a clamp fit to the drive shaft is required.

Upon request, the positioning of a set screw over the keyway or at 90° to the keyway is also offered.

Imperial sizes are standard, metric sizes are optional without extra cost.

Unless otherwise specified with order, the standard hub type we deem suitable for the shaft size will be supplied.



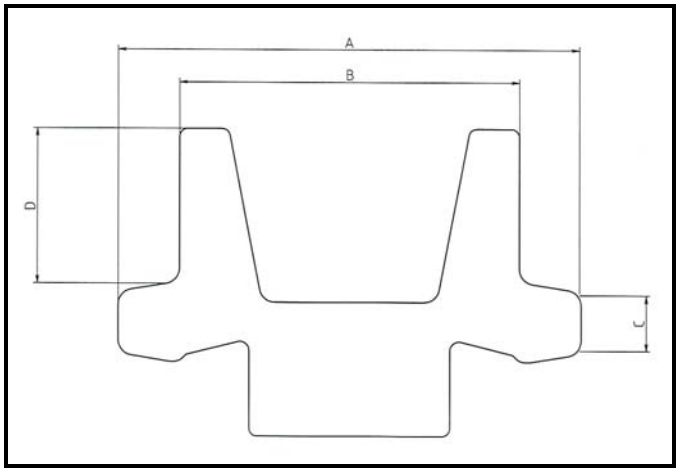
Not all items available from stock and may require additional lead time.

HS-type Cast Sprockets

The HS type drive wheel teeth engage between and against the side of the steel rivet rods of the belt assembly, they are therefore rod pitch critical.

The support fingers form an under belt support cage, offering both drive and pitch circle benefits.

The HS type drive wheels are heavy duty positive drive units.



Not all items available from stock and may require additional lead time.

HS-type Cast Sprockets

T	P	N	A	B	C	D
HS 28-14	28	14	146	108	18	48
HS 28-16	28	16	165	124	18	48
HS 28-22	28	22	220	180	19	48
HS 32-12	32	12	145	105	22	50
HS 32-18	32	18	202	162	27	50
HS 36-10	36	10	135	100	18	50
HS 36-12	36	12	168	118	23	50
HS 36-14	36	14	190	140	18	50
HS 36-16	36	16	210	166	24	48
HS 36-18	36	18	235	187	25	50
HS 40-10	40	10	160	110	21	50
HS 40-14 WM*	40	14	220	167	35	50
HS 40-16	40	16	229	185	25	50
HS 42-10	42	10	163	113	21	50
HS 42-12	42	12	190	140	27	48
HS 42-14	42	14	218	173	26	48
HS 42-16	42	16	240	194	20	45
HS 45-9	45	9	160	110	21	50
HS 45-12	45	12	200	153	25	50
HS 45-14	45	14	230	180	25	50
HS 50-8	50	8	150	109	25	50
HS 50-10	50	10	195	142	26	50
HS 50-12	50	12	220	173	30	50
HS 50-14	50	14	265	205	18	50
HS 50-16	50	16	270	208	30	70
HS 64-10	64	10	243	189	26	50
HS 150-5	150	5	340	213	30	55

*Special Design

T - Type **P** - Pitch **N** - Number of Drive Teeth **A** - Overall Diameter
B -Cage Finger Diameter **C** - Drive Tooth Width **D** - Cage Finger Length

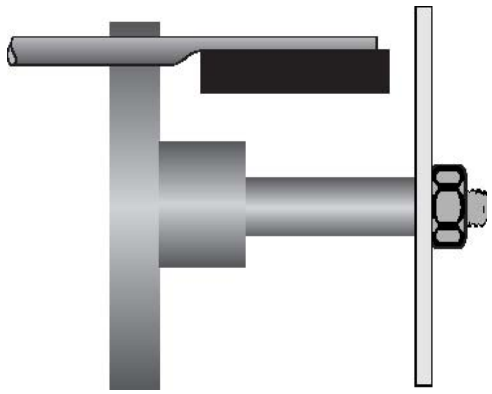
Agitators / Shakers

The cast iron agitator or shaker units are mounted to operate in the sprocket run clearways under the rods of a belt assembly, to help separate soil from the crop. The triangular design units are cast iron, and operate in the rods at the sprocket run area.

The Universal rubber shaker is made of solid rubber and operates under the rubber traction belting and is suitable for light weight applications. This shaker is not belt-pitch related.

All agitators/shakers listed are fitted with two sealed ball bearings and a triple seal system to both sides.

An extended axle length bridges the space under the belting, between the side of the machine and the sprocket run clearway position. When ordering a threaded axle, please specify all dimensions.



Note: High frequency agitation with low eccentricity is obtainable through mounting our HS type of non-flanged (Z) rubber rollers, so that they operate under straight rivet rods.

Not all items available from stock and may require additional lead time.

Agitators / Shakers

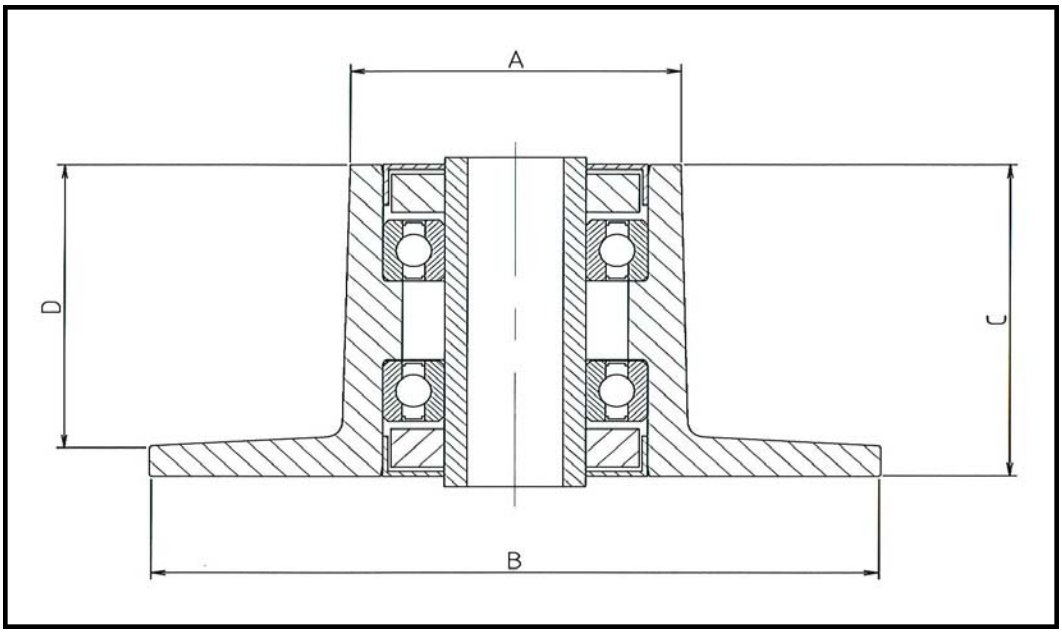
HSA 36

USS 45

USS 50

Universal Rubber Shaker

Description	Pitch (mm)	Width (mm)	Eccentricity (mm)	Diameter (mm)
HSA 36	36	61.5	37	170
USS 45	45	61.5	40	212
USS 50	50	61.5	42	232
Universal	All	61.5	30	175



HS Type Cast Iron Rollers

Solid cast iron rollers, with machined interior containing two sealed ball bearings, and normally protected by an oiled felt ring and outer metal dust cap. Other seal systems or greasable axels are available.

Not all items available from stock and may require additional lead time.

HS Type Cast Iron Rollers

Type	A Operational diameter	B Flange diameter	C Total Width	D Support Width
HS 6	62	100	61.5	53
HS 6Z	62		61.5	61.5
HS 6SZ	62		43.5	43.5
HS 8	80	120	61.5	52
HS 8Z	80		61.5	61.5
HS 9WBR	90	130	90	70
HS 10	100	135	75	63
HS 10Z	100		75	75
HS 10H	100	180	61.5	50
HS 11	110	150	67	54
HS 11Z	110		67	67
HS 15	150	250	67	60
HS 15Z	150		67	67
HS 18	180	220	61.5	50
HS 18Z	180		61.5	61.5

Z - No Flange **S** - Small or Narrow Support Width **H** - High Flange
WDR - Special Type of Support Roller **WBR** - Special Type of Return/Front Roller

HS Type Rubber Faced Rollers

These rollers have an outside surface of rubber which is vulcanized to the cast iron hub, machined interior containing two sealed ball bearings and normally protected by an oiled felt ring and outer metal dust caps. Other seal systems or greasable axels are available.

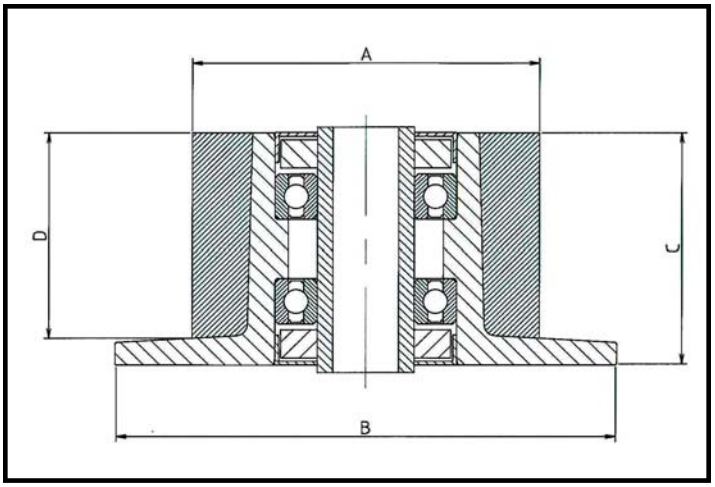
HS9RSZ HS9RS

HS9RZ HS9R

HS9RH HS18R

Not all items available from stock and may require additional lead time.

HS Type Rubber Faced Rollers



Type	A Operational diameter	B Flange diameter	C Total Width	D Support Width
HS 8R	80	118	56.5	50
HS 8RZ	80		61.5	61.5
HS 9R	90	130	61.5	54
HS 9RZ	90		61.5	61.5
HS 9RSZ	90		43.5	43.5
HS 9RS	90	130	43.5	35
HS 9RH	90	200	67	59
HS 10R	100	140	67	55
HS 10RZ	100		67	55
HS 11R	110	148	62	53.5
HS 11RZ	110		62	62
HS 14R	140	180	67	56.5
HS 14RZ	140		67	67
HS 18R	180	248	67	57
HS 18RZ	180		67	67
HS 21R	210	240	75	65

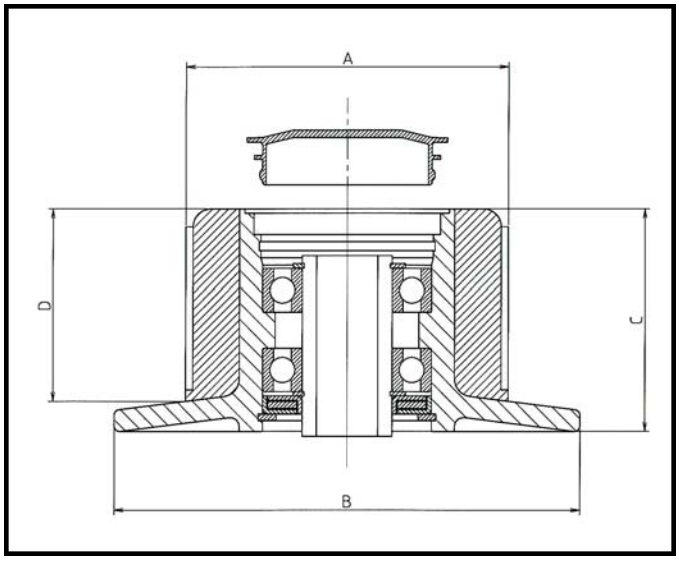
R - Rubber covering **S** - Small or Narrow Support Width **Z** - No Flange
K - Ribbed Rubber Surface Profile **H** - High Flange

NP Type Urethane Faced Rollers

Lightweight, high wear resistant rollers with a ribbed polyurethane surface for better grip. Nylon inner body insures the bearings will stay firmly in place. Countersunk recess for the mounting bolt, with a snap on dust cover for additional protection. Flanges are concave on those types having flanges.

Not all items available from stock and may require additional lead time.

NP Type Urethane Faced Rollers



Type	A Roller diameter	B Flange diameter	C Total Width	D Support Width
NP75	75	115	61.5	52
NP75Z	75		61.5	61.5
NP90	90	130	61.5	52
NP90Z	90		61.5	61.5
NP100	100	140	61.5	52
NP100Z	100		61.5	61.5

Z - No Flange

BROEKEMA
Crop Conveyor Belts USA

Star Wheel Rollers

1-star®

The basis of the 1-Star® roller design is the incorporation of an odd number of fingers making it no longer necessary to use “A” and “B” type rollers to offset the alignment of the star fingers, which is required on rollers with an even number of fingers. This new design concept forms the basis for the trade name 1-Star®.

Roller table assembly is fast and accurate, aided by the markings on the hub of all 1-Star® rollers. One square and one round marking at 180 degrees from one another give a quick visual reference to aid in any star roller alignment combination.

Low profile ribs are incorporated on the outer tip of each finger, helping the crop to pass smoothly over the star table while removing unwanted trash. The flexible fingers are of a self-cleaning design, reducing troublesome soil buildup problems.

Each roller has a reinforcing ring incorporated into both sides of the hub serving two purposes; preventing compression during assembly and preventing the roller from spinning on the shaft.

Fingers	Outer Diameter	Hub Diameter	Finger Width	Hub Width	Duro	Bore Size
7 - 13	164mm 6-1 /2"	64mm 2-1/2"	12mm 1/2"	32mm 1-1/4"	55 - 75	32mm - 38mm 1-1/4” 1-1/2”

Shaft Spacer

Outer Diameter	Bore Size	Width
64mm 2-1/2"	32mm 38mm 1-1/4" 1-1/2"	6mm 10mm 12mm 13mm 15mm 1/4" 3/8" 7/16" 1/2" 5/8"

Large Spacer

Outer Diameter	Inside Diameter	Width
120mm 4-3/4"	66mm 2-5/8"	13mm 1/2"

End Disk

Outer Diameter	Hub Diameter	Width	Hub Width	Duro	Bore Size
162mm 6-3/8"	64mm 2-1/2"	6mm 1/4"	16mm 5/8"	90	32mm 38mm 1-1/4" 1-1/2"

Retaining Plates

Flow-Drill retaining plates have threaded holes that provide quick screw-on fitting of rivet rods and overlap joints.

Length x Width	Belting Width	Hole Distance	Thread Size
56 x 15	60mm	32mm	M6
56 x 15	60mm	32mm	12-28

Spare Parts

Standard retaining plates are zinc plated 3mm thick with hole distance at 20mm or 32mm.

Rivet hole diameters are stamped between the holes for easy identification.

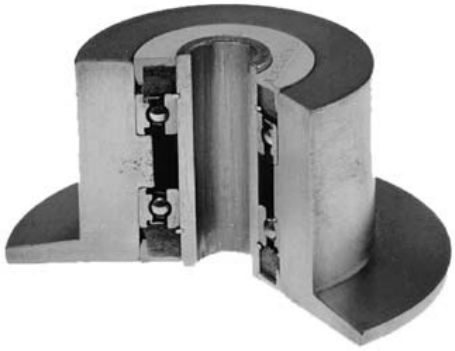
Retaining plates with 20mm hole distance are only available with 5mm rivet diameter.

Flat head rivets with tapered ends.

Rivet Diameter	Rivet Length										
	19	20	21	22	23	24	25	26	28	30	32
5mm	x	x	x	x	x	x	x	x	x	x	x
5.5mm			x	x	x	x	x	x	x	x	
6mm					x	x	x	x		x	

Not all items available from stock and may require additional lead time.

Spare Parts



Open bore axle and threaded stub axle for rollers.
Please state all dimensions at order.

Bearing	Outside diameter	Inside diameter	Width	Description
6005-2RS	47	25	12	2RS= 2 Seal caps
6206-2RS	62	30	16	2RS=2 Seal caps

Seal	Outside diameter D (mm)	Inside diameter d (mm)	Width B (mm)
Z 005	47	25	5
Z 206	62	30	6

Felt Ring	Outside diameter D (mm)	Inside diameter d (mm)	Width B (mm)
44 x 24	44	24	7.5
58 x 30	58	30	6

Not all items available from stock and may require additional lead time.

Spare Parts

Metal Dust Cap	Outside diameter	Inside diameter
Closed	47	-
Closed	62	-
Open center	47	25
Open center	62	30

Snap Ring	Outside diameter (mm)	Thickness (mm)	Description
A 25	25	1.2	DIN 471
A 30	30	1.5	DIN 472
J 62	62	2.0	DIN 472

Not all items available from stock and may require additional lead time.