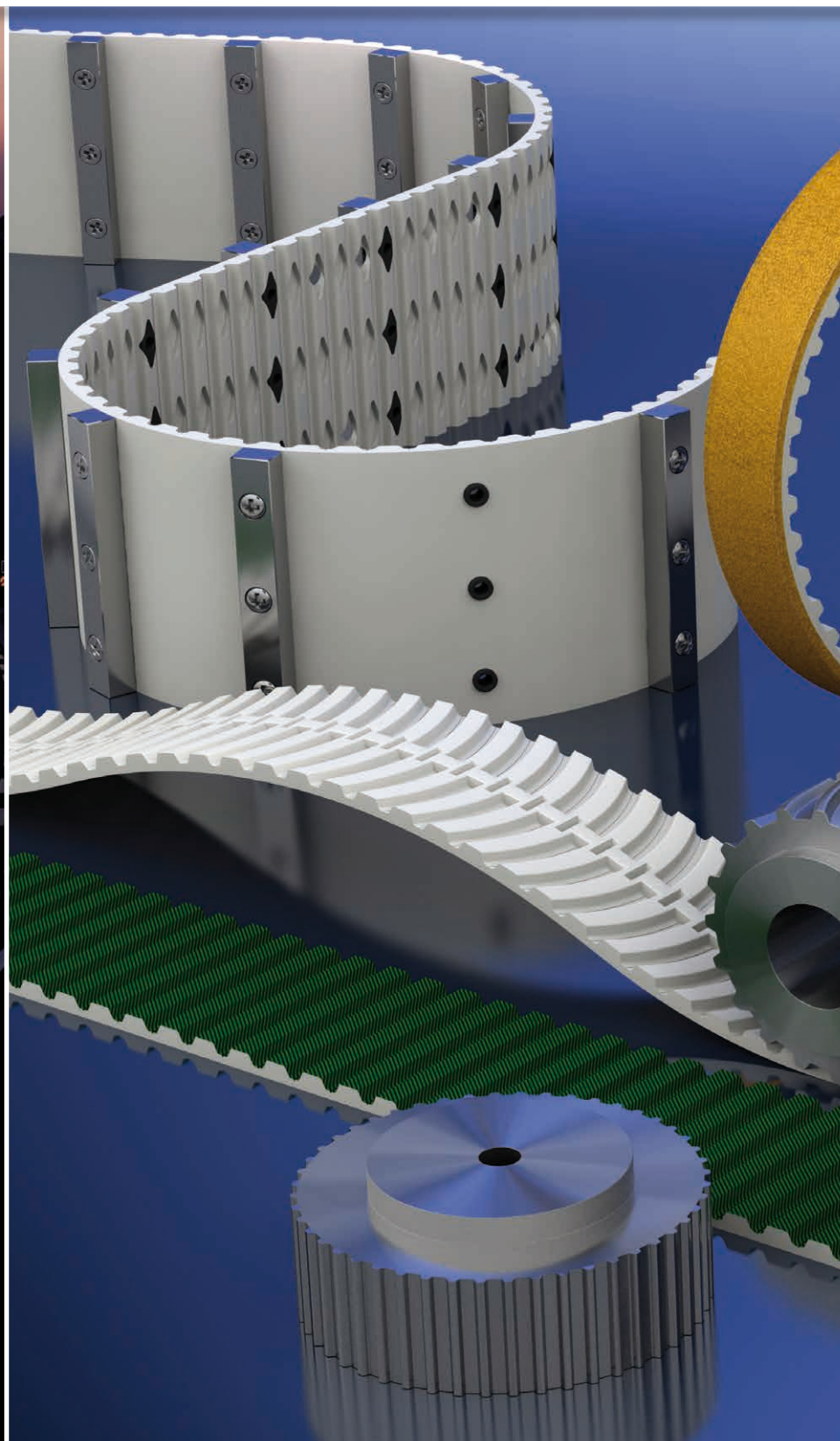


BRECO[®], BRECOFLEX[®] timing belts





Keeping things moving!

Innovation is our drive - this principle marks BRECO Antriebstechnik Breher GmbH & Co., manufacturer of BRECO® and BRECOFLEX® timing belts as the most innovative producer in the field of polyurethane timing belt technology worldwide. The basis for a high-quality and reliable product is provided by wear resistant polyurethane for the belt body and high tensile steel cord tension members.

The name BRECO became the synonym for polyurethane timing belts resulting from years of experience in the field of thermoplastic polyurethane, the development of BRECO® and BRECOFLEX® manufacturing processes and their further development. The BRECO® and BRECOFLEX® timing belts, the pulleys designed to match them perfectly, and other components supplied by BRECO reflect the breadth of experience gathered over decades by countless people who have used the products. We maintain a consistently high level of quality through our exclusive use of high-quality materials and by listening to feedback from our suppliers about the needs of our customers.

One strong point is the development and production of special belts for various application fields. The large number of belt coatings and the most varied shape of flights open up an extremely broad application field for BRECO® and BRECOFLEX® timing belts. We stock a broad range of belt and tension cord materials to cater for applications in very cold or very hot environments.

In simple applications too, BRECO® timing belts offer all the advantages and quality expected of a high-end branded product. Safety, durability, accuracy and availability are some of the benefits which ultimately have a positive impact on costs.

All our products conform to the European RoHS Directive which restricts the use of hazardous substances.

Staying safely on the move.

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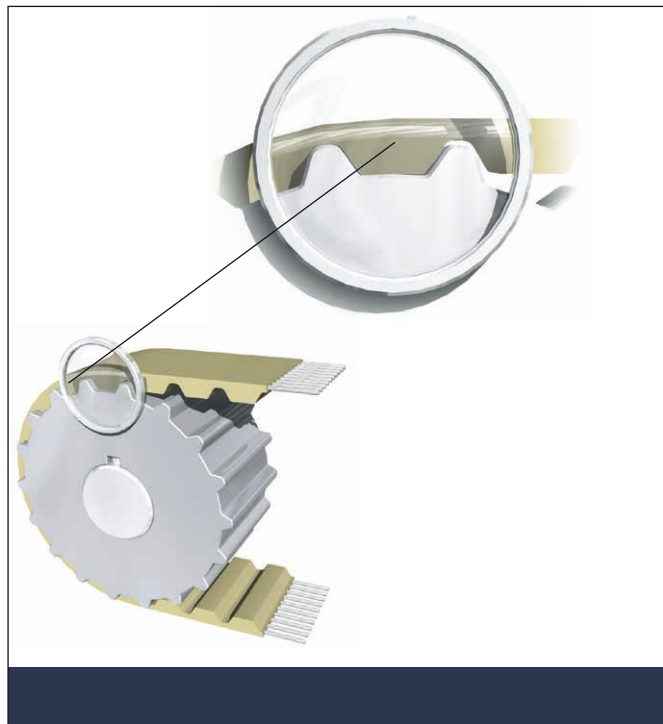
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Construction

BRECO®, BRECOFLEX® timing belts are manufactured of wear resistant polyurethane and high tensile steel cord tension members. Both high quality materials combined form the basis for dimensionally stable and high resistance polyurethane timing belts. Polyurethane timing belts have a very high span rigidity. No post-elongation of the tension members is to be expected in continuous operation. Only under extreme load and after a short run-in time, the pre-tension of the belts might slightly reduce by the tension members settling, making a once-only re-tensioning of the timing belt unavoidable.

The timing belts are temperature resistant with ambient temperatures from -30°C to +80°C. Applications close to the limit temperatures (<-10°C and >50°C), however, might require adapted dimensioning. For specific temperature ranges various belt materials are available. Please contact our distribution partner for this type of application.

The production methods according to which BRECO®, BRECOFLEX® timing belts are produced, allow keeping within tight tolerances which guarantee a uniform load distribution during power transmission. These polyurethane timing belts are suitable for the transmission of high torques as well as the precise positioning and transport of various goods.

Properties

Mechanical

- Positive fit, synchronous run
- Constant length, no post-elongation
- Low noise
- Wear resistant
- Low-maintenance
- Highly flexible
- Positional and angular accuracy
- Can be crossed (see chapter „Angular drives“)
- Fatigue resistant, low extension steel cord tension members
- Beltspeed up to 80 ms⁻¹
- Small build sizes
- Favourable power-to-weight ratio
- Low pre-tension
- Low bearing load
- Permits large centre distances
- Permits large transmission ratios
- High degree of efficiency, max. 98 %

Chemical:

- Hydrolysis resistant
- Resistant to aging
- Temperature resistant from -30° to +80°C (see information in the text „Construction“)
- Tropical climate resistant
- Resistant against simple oils, fats and petrol
- Resistant to some acids and lyes

For special areas of use we can produce all types of timing belts in materials, whose properties make it possible, to use belts in following areas:

- Foodstuff sector (TPUFD)
- Low temperature range from -30°C to +5°C (TPUKF)
- High temperature range from +20°C to +110°C (TPUWB)
- Use in low aggressive environment (TPUAU)

As alternative to the standard steel cord tension members, tension members in stainless steel and aramide are available. In the case of strong bending stress resp. tension load, timing belts with high flexible tension members (E) resp. with reinforced tension members could be produced.

For further information about the resistance of polyurethane timing belts and available belt materials as well as alternatively tension member materials please contact our distribution partner.

AT high capacity profile

Further development of the T profile resulted in the AT profile. This type of belt is characterised by the larger tooth shear strength resulting from the larger tooth volume and the stronger tension members.

Further advantages:

- Favourable tooth mesh
- Strengthened tension members for constant pitch
- Improved performance up to 50 % as compared to the T profile
- Precise transmission of movement in conjunction with synchronous pulleys with reduced or zero backlash
- Reduction of meshing impacts or shocks



AT

AT in DL version

The DL timing belt (the belt is double-sided) is applied in the power transmission and transport technology. Multiple-shaft drives with different rotational directions can be realised with this timing belt. Full loadability on both tooth sides.



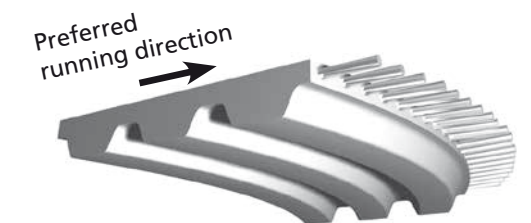
AT-DL

Curved teeth

As a logical consequence of the demand for reducing running noise, a profile was developed which does without the conventional polygon effect. In addition to smooth running, the profile has, in comparison to the AT, a larger tooth face and is self-guiding in the preferred running direction.

Preferred use:

- Special demands regarding smooth running properties and transmission precision
- Tight assembly dimensions
- Transport and transmission tasks



BAT

Curved teeth with guiding track

The BATK has ensued from the BAT. The timing belt is self-tracking in both running directions due to the integrated guiding track.

Preferred use:

- Special demands regarding smooth running properties and transmission precision
- Applications in the field of the linear and power transmission technology
- Tight assembly dimensions



BATK

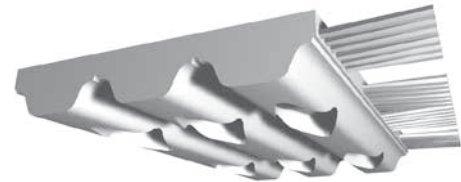


ATP

ATP high capacity profile

Further increased performance, noise reduction and extension of the belts useful life led to the development of the ATP timing belt. The basic concept of the ATP profile provides the division of the trapezoidal tooth into two individual and load bearing teeth. Performance increase up to 60 %, running noise reduced by up to 10 db(A) and an increased longevity by:

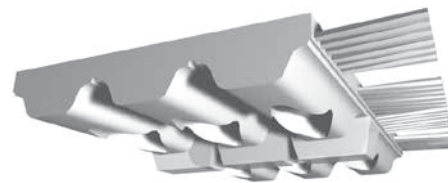
- *Tooth surface area increased by 70 %*
- *Uniform load/tension distribution*
- *Improved power dispersion*
- *Reduced polygon effect*
- *Small construction width*
- *Optimised tooth mesh*



ATN

ATN

The ATN timing belt is especially designed for the application in the transport technology. The flight fastening system in the belt tooth permits fast fitting and replacement of the flights individually manufactured for the conveying application concerned.



ATN with V-groove

ATN with V-groove

The ATN timing belt is especially designed for the application in the transport technology and applied where no flanges on the pulleys and other guiding elements are possible for constructional reasons.



SFAT

Offset teeth

AT performance profile with two toothed tracks with a belt designed as SFAT. These toothed tracks are offset by half a tooth pitch in relation to each other. In combination with the accompanying synchronous pulleys, the SFAT is self-guiding. No flanges are required.

Preferred use:

- *Running on synchronous pulleys without flanges*
- *Where low noise is of the essence (reduced polygon effect)*

Self-tracking belts

Self-tracking belts are a combined construction of synchronous belts and V-belts with straight running characteristics. The performance range is that of the standard T or AT profiles minus the non toothed belt width.

Preferred use:

- *Where large lateral forces apply*
- *Running on synchronous pulleys without flanges*

(Also available in TK-version)



ATK

Standard profile

The timing belt with a trapezoidal profile according to DIN 7721 is regarded as the classical standard timing belt.

Preferred use:

- *For standard drive tasks*
- *For high bending stress*

(Also available in DL-version)



T

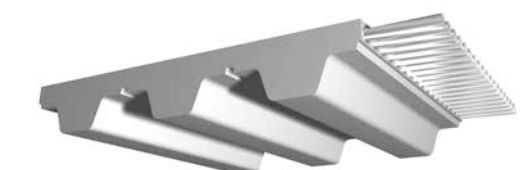
Imperial profile

Imperial pitches according to DIN/ISO 5296 are available in the following sizes:

- XL = 5,000 mm
- L = 9,000 mm
- H = 12,000 mm
- XH = 22,000 mm

Preferred use:

- *Applications in imperial units*



Imperial

Available versions



Version Standard

Standard version, single-sided

The standard version of the BRECO® and BRECOFLEX® timing belt is a combined construction of the two materials: wear resistant polyurethane and high tensile steel cord tension members. The standard version is universal applicable for all tasks in the drive and conveying technology.

Ordering code: without

Available for all pitches



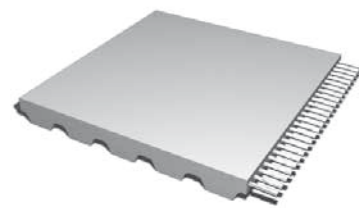
Version DL

Standard version, double-sided

The standard version of the double-sided BRECO® and BRECOFLEX® timing belts is a combined construction of the two materials: wear resistant polyurethane and high tensile steel cord tension members. Full loadability on both tooth sides. The standard version of the DL timing belts are universal applicable for all tasks in the drive and conveying technology.

Ordering code: DL

Available for:
AT5-DL only BRECOFLEX®, AT10-DL only BRECOFLEX®, T5-DL, T10-DL, T20-DL, H-DL only BRECOFLEX®, ATK10K6-DL only BRECOFLEX®, AT20DL only BRECOFLEX®



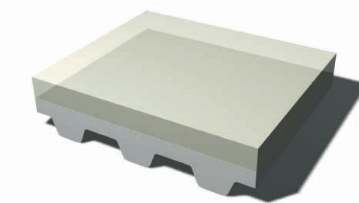
Version DR

Standard version with reinforced belt back

The timing belt in version DR has in comparison with the standard version a thicker belt back.

Ordering code: DR

Available belt types see product range



Version T

Standard version with transport coating

The timing belt in version T has in comparison with the standard version a transport coating, thickness 1.5 mm (T5, AT5) resp. 2 mm (T10, T20, AT10 AT20, Imperial timing belts), which is extruded on the belt back. The timing belt in version T is universal applicable for all tasks in the conveying technology.

Ordering code: version T

Available belt types see product range

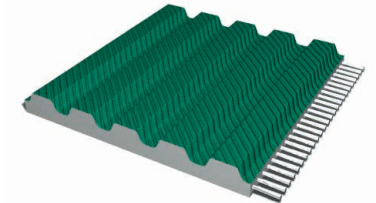
Available versions

Nylon tooth facing

The belt base corresponds the standard version. An additional nylon tooth facing causes a lower friction coefficient, lightens the tooth mesh in the pulley and reduces noise. Transport belts on bed plates running easier and are wear resistant.

Ordering code: PAZ

Available for all pitches but T2,5



Version PAZ

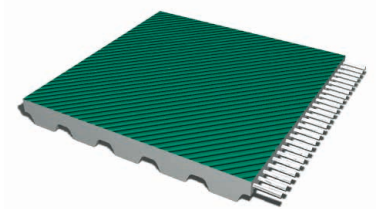
Nylon facing on the back of the belt

The belt base corresponds the standard version. An additional nylon tooth facing causes a lower friction coefficient. Application area in the conveying technology: e.g. for accumulation conveyor (back of the belt runs easier and is wear resistant).

Ordering code: PAR

Ordering code: PAZ-PAR (both sides coated)

Available for all pitches, only BRECO M and V, but AT3 and T2,5



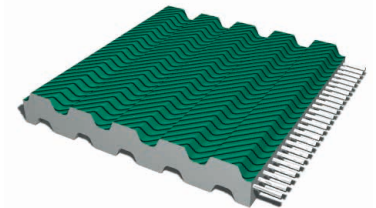
Version PAR

Nylon facing on double-sided belts

The belt base corresponds the double-sided standard version. An additional nylon tooth facing causes a lower friction coefficient, lightens the tooth mesh in the pulley and reduces noise. Transport belts on bed plates running easier and are wear resistant.

Ordering code: PAZ (coating only possible on inner side)

Available for
AT5-DL only BRECOFLEX®, AT10-DL only BRECOFLEX®, T5-DL, T10-DL, T20-DL, T1/2"-DL only BRECOFLEX®



Version DL-PAZ

Materials for the standard application area

Name of material	Selectable tension member	Timing belt types	Color	Hardness	Temperature range
TPUST1	- steel cord - stainless steel cord	all standard types, not for BRECOFLEX® belts up to 720 mm	white	92 Shore A	0°C up to +80°C
TPUST2	- steel cord - stainless steel cord	all standard types, not for BRECOFLEX® belts up to 720 mm	transparent	85 Shore A	+5°C up to +50°C
TPUST3	- steel cord - stainless steel cord	BRECOFLEX® belts up to 720 mm	transparent	92 Shore A	0°C up to +80°C

Approved materials by contact with food

Name of material	Selectable tension member	Timing belt types	Color	Hardness	Temperature range
TPUFD1	temperature range	all standard types	transparent	92 Shore A	0°C up to +80°C

Materials for the use in areas with low aggressive environment

Name of material	Selectable tension member	Timing belt types	Color	Hardness	Temperature range
TPUAU1	stainless steel cord	all standard types, not for BRECOFLEX® belts up to 720 mm	transparent	92 Shore A	0°C up to +50°C

Materials for the use in areas with high ambient temperature

Name of material	Selectable tension member	Timing belt types	Color	Hardness	Temperature range
TPUWB1	- steel cord - stainless steel cord	all standard types, not for BRECOFLEX® belts up to 720 mm	white	94 Shore A	+20°C up to +110°C

Materials for the use in areas with low ambient temperature

Name of material	Selectable tension member	Timing belt types	Color	Hardness	Temperature range
TPUKF1	- steel cord - stainless steel cord	all standard types, not for BRECOFLEX® belts up to 720 mm	transparent	85 Shore A	-25°C up to +5°C

Materials with electrically discharge properties

Name of material	Selectable tension member	Timing belt types	Color	Hardness	Temperature range
TPUAS1	- steel cord - stainless steel cord	all standard types, not for BRECOFLEX® belts up to 720 mm	grey-transparent	92 Shore A	0°C up to +80°C

For further information about the resistance of polyurethane timing belts and available belt materials as well as alternative tension member materials please contact our distribution partner.

Highly flexible tension inserts - the E steel cord tension member

The thinner the single wire, the more flexible the overall tension member! This interrelation led us to develop BRECO® and BRECOFLEX® timing belts with E tension members.

In the E tension member the tension member cross-section is distributed to a lot more thin individual wires and, therefore, the bending fatigues are markedly lower in the individual wires. The advantage of the E tension members is a higher flexibility.

This is especially important, when smaller mounting dimensions for pulleys and tension rollers are required. The minimum number of teeth and/or minimum diameter of the pulleys can be fallen below up to 30% compared with standard tension members.

Timing belts with E tension members are recommended for multi-shaft drive with frequent bends.

Application informations: For intended application under extreme conditions please contact our technical department for advise.

Steel cord tension members (Example):



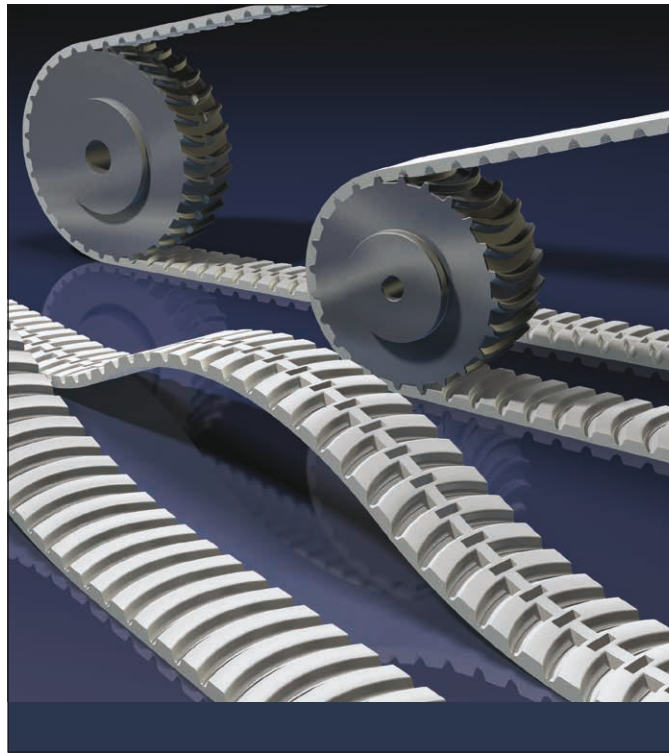
The thinner the individual wire the more flexible the whole timing belt.

Summary:

- Thinner individual wires in the steel cord
- Higher dynamic capabilities
- Extremely high bonding and bending fatigue strength
- Smaller pulley and tension roller diameter
- No correction of the synchronising pulleys are necessary

Notes:

- AT3 (standard), ATL5 (standard)
- Belt lengths respectively to the delivery range
- Synchronising pulleys respectively to the delivery range
- Calculation analog to the standard tension member
- For deliverable types refer to delivery programme



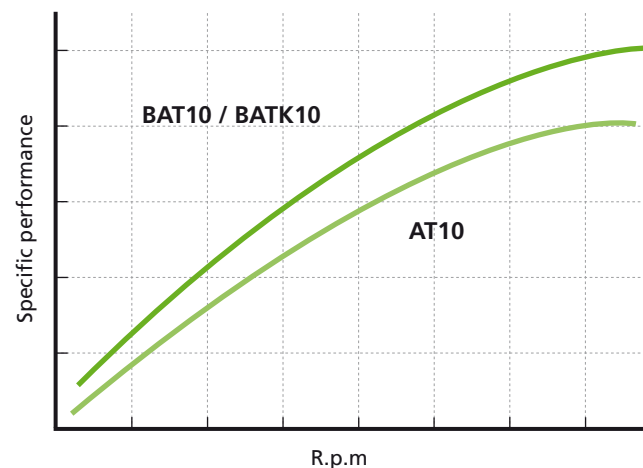
The special characteristics

- Increased tooth load resulting from the tooth curve
- Clearly reduced running noise due to a time elongated tooth mesh
- Higher power transmission precision and lower vibration tendency due to a reduced polygon effect
- The BAT is self-guiding in the preferred running direction, no flanges are required
- The BATK is self-guiding in both running directions due to the integrated guiding track making flanges obsolete
- Length constant belts due to the application of high tensile steel cord tension members

BAT / BATK timing belts

„New profile shapes result in improved performance features“, this comment often describes the development possibilities of polyurethane timing belts. The curved tooth based on the proven AT profile forms the basis for the new BRECO® and BRECOFLEX® timing belts with curved teeth. The unique curved teeth guarantee notably improved transmission and running properties. On the one hand the BAT tooth has an increased load bearing capacity, on the other hand it does not abruptly run into the pulley gap but perfectly timed. Both features combined lead to an increased performance, clearly reduced running noise as well as a higher transmission precision and a lower vibration tendency. The belt centers itself on the pulleys in the stated preferred running direction due to the curved shape of the tooth which produces the self-guiding effect.

The **BATK** timing belt has ensued from the **BAT** timing belt. Compared to the BAT the BATK is provided with a guiding track resulting in a timing belt self-guiding in both running directions.



Timing belt guide of the BAT timing belt

The BRECO® and BRECOFLEX® timing belts with curved teeth have only one preferred running direction. In this direction the convex side of the tooth curve points in running direction of the drive. When observing this running direction the teeth laterally guide the belt also with large span lengths for which reason flanges are not required.

Even if the pulleys, tension and return rollers as well as their axes are perfectly aligned, we recommend a minimum span length of 5 times the belt width (see graphic) between the elements. This results in reduced lateral forces and the respective friction.

If tension and return rollers running on the teeth have a distance to their upstream pulley or roller exceeding 5 times the belt width (b), these rollers should be designed with teeth. If these elements are running on the back of the belt without teeth, flanges must be used (see graphic). Both measures lead to a better belt guidance and result in a high running performance.

BATK timing belts

For the BATK timing belt guidance by flanges is not required due to the teeth design. A wandering-off effect from the pulleys is excluded due to the guiding track.

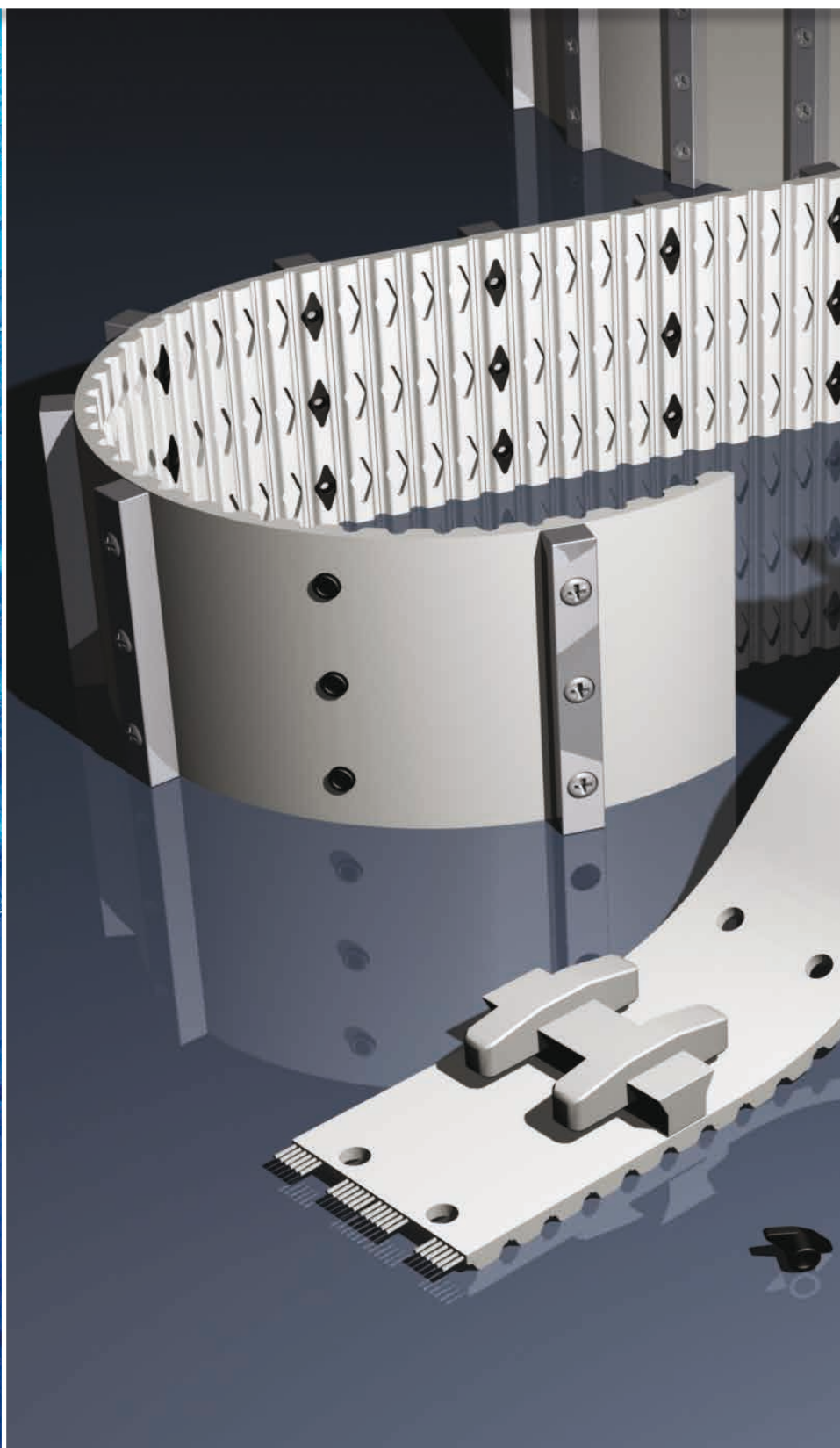
Application fields

The BRECO® and BRECOFLEX® timing belts type **BAT** are suitable for all areas of the power transmission and transport technology, where high transmission precision, low variation tendency, smooth running and only one running direction are required. The BAT timing belt is self-guiding in its preferred running direction, thus, no guiding elements are required.

The **BATK** timing belt is mainly designed for application in the linear and power transmission technology.



BRECOFLEX® timing belts



BRECOFLEX: The BRECOFLEX® timing belt is manufactured in endless lengths without tension member interruption. The tension member is spirally coiled. BRECOFLEX® timing belts are universal applicable for all tasks in the drive technology up to 10000 min⁻¹.

Application areas

Endless timing belts for power transmissions

All drives designed for a high performance should preferably be produced as BRECOFLEX® timing belts with a full length steel cord tension member. They can be subjected to both permanent operation or for a start-brake characteristic. They operate in a rotational speed range of up to 10000 min⁻¹.

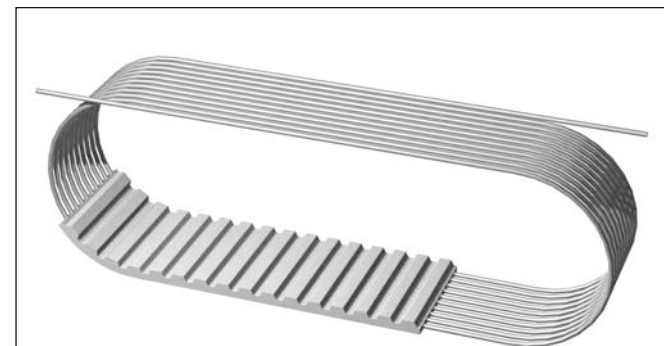
Endless timing belts are available in preferred catalog lengths. Our production range also permits the supply of intermediate lengths up to a maximum endless length of 20000 mm.

StandardPlus - BRECOFLEX® timing belts with improved properties

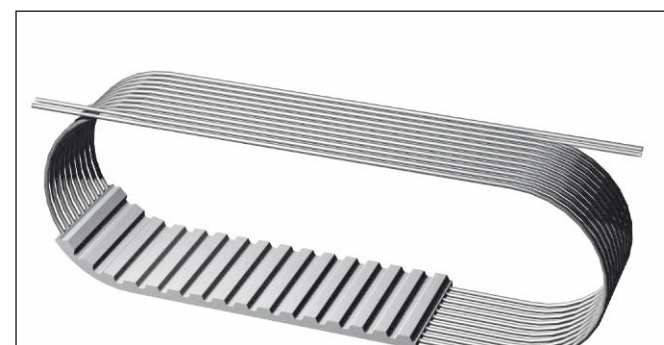
The new generation of BRECOFLEX® timing belts was special developed for high precision positioning applications. The use of the bifilar winding reduces the tendency of the belt to run off. The special way of winding prevents the formation of lateral forces resulting from the tensioned tension members inside the belt, which cause the timing belt to run off. In this manner, the friction forces in the drive are considerably reduced which leads to improve positioning properties.

Additional the new BRECOFLEX® timing belts achieve a notably improved pitch stability. The deviation of the tooth spaces could be further minimized.

With the new generation of BRECOFLEX® timing belts, the user is offered standard products which unite outstanding properties, such as high power transmission, high rigidity, optimized running behaviour and high precision.



Endless timing belt (Standard)
(with a full length tension member)



Endless timing belt (StandardPlus)
(bifilar winding, with a full length tension member)

Materials

BRECO® and BRECOFLEX® timing belts are manufactured according to standard in the material with the designation TPUST1 and steel cord tension members. Other materials e.g. for low or high temperature or for contact with food are possible. Likewise high flexible tension members (E) and tension members in stainless-steel are available. Our distribution partner advises you regarding our possibilities.

AT3	
Power transmission	≤ 5 kW
Rotational speed	approx. 20000 min ⁻¹
Peripheral speed	approx. 80 ms ⁻¹
Synchronous pulley	from z=15
Applications (example)	small power drives, handling technology

ATS15	
Power transmission	≤ 160 kW
Rotational speed	approx. 8000 min ⁻¹
Peripheral speed	approx. 48 ms ⁻¹
Synchronous pulley	from z=25
Applications (example)	power drives, paper-making machines, high-bay storage, lifting equipment

AT20, SFAT20	
Power transmission	possible beyond 200 kW
Rotational speed	approx. 6500 min ⁻¹
Peripheral speed	approx. 40 ms ⁻¹
Synchronous pulley	from z=18
Applications (example)	heavy-duty drives, textile machinery, printing machinery, machine tools

T10, L, H	
Power transmission	≤ 30 kW
Rotational speed	approx. 10000 min ⁻¹
Peripheral speed	approx. 60 ms ⁻¹
Synchronous pulley	from z=12
Applications (example)	machine tools, Main and subsidiary drives, textile machines, printing machinery

AT5	
Power transmission	≤ 15 kW
Rotational speed	approx. 10000 min ⁻¹
Peripheral speed	approx. 80 ms ⁻¹
Synchronous pulley	from z=15
Applications (example)	machine tools, pumps, textile machinery

BAT15, BATK15	
Power transmission	≤ 140 kW
Rotational speed	approx. 8000 min ⁻¹
Peripheral speed	approx. 48 ms ⁻¹
Synchronous pulley	from z=20
Applications (example)	power drives, pumps, sanding machinery

T5, XL	
Power transmission	≤ 5 kW
Rotational speed	approx. 10000 min ⁻¹
Peripheral speed	approx. 80 ms ⁻¹
Synchronous pulley	from z=10
Applications (example)	office machinery, do-It-yourself units, positioning and regulating drives

T20, XH	
Power transmission	up to approx. 100 kW
Rotational speed	approx. 6500 min ⁻¹
Peripheral speed	approx. 40 ms ⁻¹
Synchronous pulley	from z=15
Applications (example)	heavy construction machinery, paper machinery, pumps, compressors, textile machinery

AT10, BAT10, BATK10, SFAT10, ATK10K6	
Power transmission	≤ 70 kW
Rotational speed	ca. 10000 min ⁻¹
Peripheral speed	ca. 60 ms ⁻¹
Synchronous pulley	ab z=15
Applications (example)	construction machines, pumps, paper-making machines, compressors, textile machines, roller-table drives

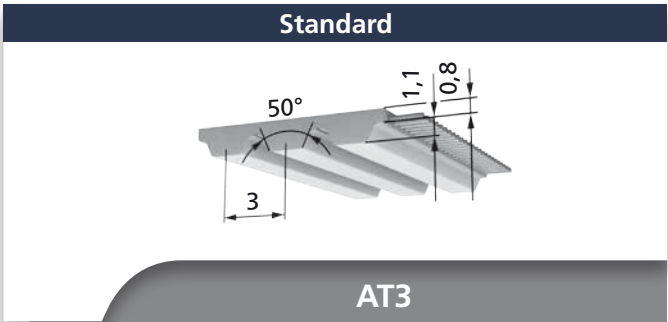
ATP10	
Power transmission	≤ 100 kW
Rotational speed	approx. 10000 min ⁻¹
Peripheral speed	approx. 60 ms ⁻¹
Synchronous pulley	from z=15
Applications (example)	sanding machinery, power drives, machine tools

Remark:

Special timing belt designs allow the rpm and peripheral speed parameters to be increased.

SFAT15	
Power transmission	≤ 135 kW
Rotational speed	approx. 8000 min ⁻¹
Peripheral speed	approx. 48 ms ⁻¹
Synchronous pulley	from z=20
Applications (example)	construction machines, pumps, paper-making machines, compressors

ATP15	
Power transmission	possible beyond 200 kW
Rotational speed	approx. 10000 min ⁻¹
Peripheral speed	approx. 50 ms ⁻¹
Synchronous pulley	from z=20
Applications (example)	power drives, Machine tools



Belt widths b [mm] (in-between belt widths on request)				
6	10	16	25	32

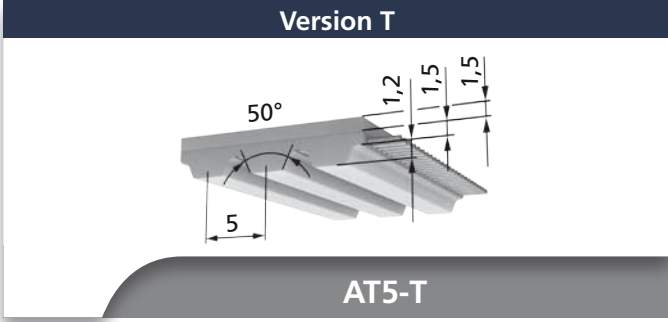
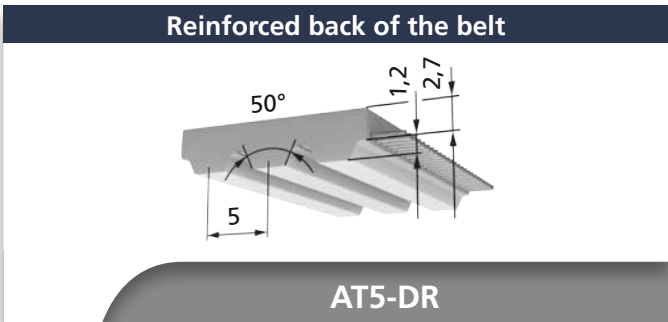
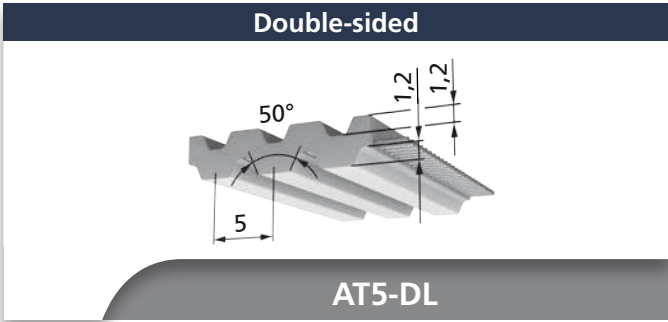
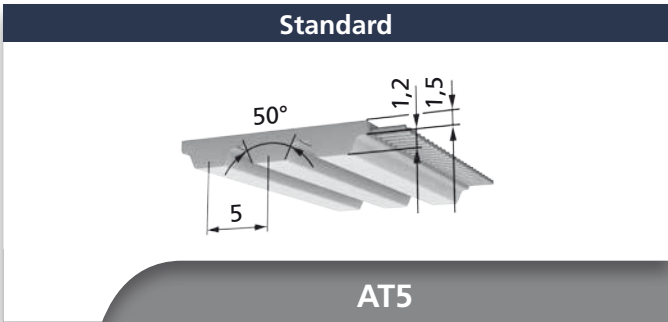
BFX AT3	Available length and versions
Standard lengths	-
Any number of teeth available from	720 mm up to 1701 mm
StandardPlus version	720 mm up to 1701 mm
Minimum purchase amount	1 sleeve (b=100 mm)
Standard material	TPUST1 ¹⁾
Steel tension member	-
E tension member (Standard)	x
Stainless steel tension member	o
PAZ	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available, minimum purchase amount 1 sleeve
o minimum purchase amount on request
- not available
1) further materials on request

BRECOFLEX® AT3 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	38,50	1,839	0,000	2000	24,76	1,183	2,477
20	38,10	1,820	0,038	2200	24,17	1,155	2,660
40	37,72	1,802	0,075	2400	23,63	1,129	2,837
60	37,36	1,785	0,112	2600	23,12	1,105	3,007
80	37,02	1,768	0,148	2800	22,65	1,082	3,172
100	36,69	1,753	0,184	3000	22,21	1,061	3,332
200	35,24	1,683	0,353	3200	21,79	1,041	3,488
300	34,03	1,626	0,511	3400	21,39	1,022	3,638
400	33,00	1,577	0,660	3600	21,02	1,004	3,785
500	32,10	1,533	0,803	3800	20,66	0,987	3,927
600	31,30	1,495	0,939	4000	20,32	0,971	4,066
700	30,58	1,461	1,071	4500	19,54	0,933	4,398
800	29,92	1,429	1,197	5000	18,83	0,899	4,709
900	29,32	1,401	1,320	5500	18,18	0,869	5,003
1000	28,76	1,374	1,439	6000	17,59	0,840	5,280
1100	28,25	1,349	1,554	6500	17,05	0,814	5,542
1200	27,77	1,326	1,667	7000	16,54	0,790	5,791
1300	27,31	1,305	1,776	7500	16,06	0,767	6,026
1400	26,89	1,285	1,883	8000	15,62	0,746	6,250
1500	26,49	1,265	1,988	8500	15,20	0,726	6,462
1600	26,11	1,247	2,090	9000	14,80	0,707	6,664
1700	25,75	1,230	2,190	9500	14,43	0,689	6,855
1800	25,41	1,214	2,287	10000	14,07	0,672	7,037
1900	25,08	1,198	2,383				

BRECOFLEX® AT3 Admissible tensile force of the belt F _{adm} / Belt weight						
Belt width	b [mm]	6	10	16	25	32
E / Steel tension member	F _{adm} [N]	190	380	645	1100	1400
Stainless steel tension member (E)	F _{adm} [N]	165	335	565	970	1230
Belt weight	Standard	[kg/m]	0,014	0,023	0,037	0,058
	DL	[kg/m]	-	-	-	-
	DR	[kg/m]	-	-	-	-
	T	[kg/m]	-	-	-	-

BRECOFLEX® AT3 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E steel tension member				Stainless steel tension member (E)			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	-	-	-	15	-	-	-	20	-	-	-
		d _{min} [mm]	-	-	-	20	-	-	-	30	-	-	-
	With contra-flexure	z _{min}	-	-	-	20	-	-	-	30	-	-	-
		d _{min} [mm]	-	-	-	20	-	-	-	40	-	-	-



x available, standard lengths from 720 mm (see table) without minimum purchase amount
o minimum purchase amount on request
- not available
1) further materials on request
2) only inner side can be coated

Belt widths b [mm] (in-between belt widths on request)						
10	16	25	32	50	75	100

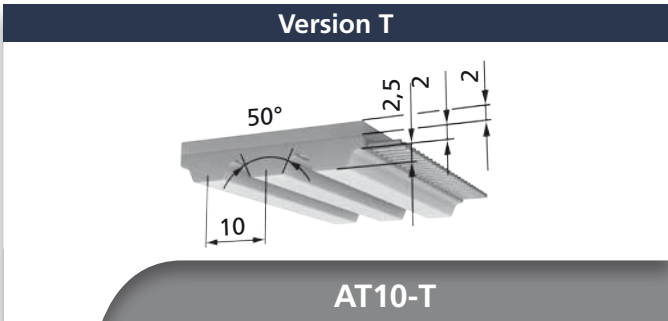
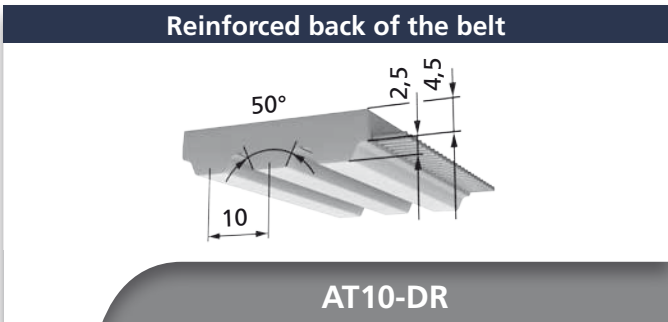
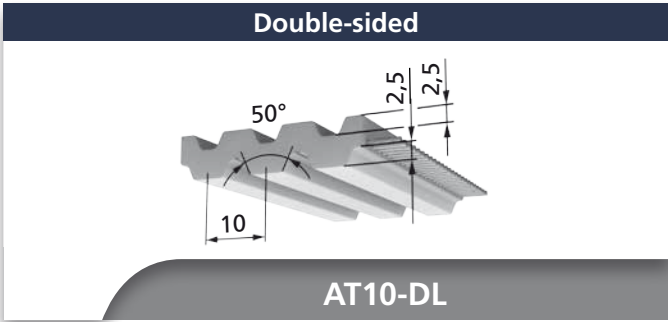
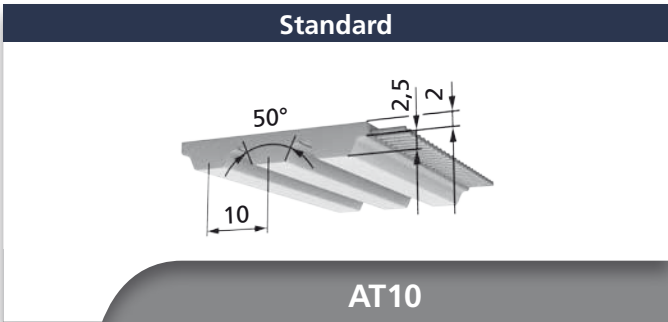
BFX AT5	Available lengths and versions	
Standard lengths	see table on the right	
Minimum purchase amount	up to 660 mm	1 sleeve (b= 100 mm)
Any number of teeth available from	720 mm up to 15000 mm	
Intermediate lengths	from 720 mm	o
Version StandardPlus	720 mm up to 15000 mm	
Over 15000 mm	on request	
Standard material	up to 660 mm	TPUST3
	from 720 mm	TPUST1 ¹⁾
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member (E)	o	
PAZ	x	
DL / DL-PAZ	from 900 mm	o ²⁾
DR / DR-PAZ	from 900 mm	o
T / T-PAZ	o	

Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
225	45	1005	201	3000	600
255	51	1020	204	3150	630
280	56	1075	215	3350	670
305	61	1100	220	3550	710
340	68	1215	243	3750	750
390	78	1380	276	4000	800
420	84	1400	280	4250	850
455	91	1500	300	4500	900
500	100	1600	320	4750	950
545	109	1700	340	5000	1000
610	122	1800	360	5300	1060
660	132	1900	380	5600	1120
720	144	2000	400	6000	1200
780	156	2120	424	6300	1260
840	168	2240	448	6700	1340
855	171	2360	472	7100	1420
875	175	2500	500	7500	1500
960	192	2650	530		
990	198	2800	560		

BRECOFLEX® AT5 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{U spec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{U spec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	42,00	3,344	0,000	2000	26,05	2,074	4,344
20	41,52	3,306	0,069	2200	25,38	2,020	4,654
40	41,07	3,270	0,137	2400	24,75	1,971	4,953
60	40,64	3,236	0,203	2600	24,18	1,925	5,241
80	40,23	3,203	0,268	2800	23,64	1,882	5,518
100	39,85	3,172	0,332	3000	23,13	1,842	5,785
200	38,14	3,037	0,636	3200	22,65	1,804	6,044
300	36,73	2,925	0,919	3400	22,20	1,768	6,294
400	35,53	2,829	1,185	3600	21,78	1,734	6,536
500	34,48	2,745	1,437	3800	21,37	1,701	6,770
600	33,55	2,672	1,678	4000	20,98	1,671	6,997
700	32,72	2,605	1,910	4500	20,09	1,599	7,537
800	31,96	2,545	2,132	5000	19,28	1,535	8,038
900	31,27	2,490	2,346	5500	18,55	1,477	8,506
1000	30,63	2,439	2,554	6000	17,88	1,423	8,942
1100	30,04	2,392	2,755	6500	17,26	1,374	9,351
1200	29,49	2,348	2,950	7000	16,68	1,328	9,733
1300	28,97	2,307	3,140	7500	16,14	1,285	10,090
1400	28,48	2,268	3,325	8000	15,63	1,245	10,425
1500	28,02	2,231	3,505	8500	15,15	1,207	10,739
1600	27,59	2,197	3,680	9000	14,70	1,171	11,033
1700	27,18	2,164	3,852	9500	14,28	1,137	11,307
1800	26,78	2,132	4,019	10000	13,87	1,104	11,564
1900	26,41	2,103	4,183				

BRECOFLEX® AT5 Admissible tensile force of the belt F _{adm} / Belt weight								
Belt width	b [mm]	10	16	25	32	50	75	100
E / Steel tension member	F _{adm} [N]	700	1260	2030	2660	4200	6370	8610
Stainless steel tension member (E)	F _{adm} [N]	455	820	1320	1730	2730	4140	5597
Belt weight	Standard	[kg/m]	0,031	0,052	0,085	0,105	0,164	0,328
	DL	[kg/m]	0,040	0,064	0,101	0,130	0,204	0,410
	DR	[kg/m]	0,045	0,073	0,115	0,148	0,231	0,464
	T	[kg/m]	0,053	0,084	0,132	0,169	0,264	0,528

BRECOFLEX® AT5 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member (E)			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	z _{min}	15	25	25	25	12	20	25	25	22	-	-	25
	d _{min} [mm]	25	60	60	60	18	20	60	60	35	-	-	60
	z _{min}	25	25	25	25	20	20	25	25	30	-	-	30
	d _{min} [mm]	60	60	60	60	50	50	60	60	60	-	-	60



- x available, standard lengths from 720 mm (see table) without minimum purchase amount
o minimum purchase amount on request
- not available
1) 150 mm belt width available from 1500 mm up to 15000 mm
2) further materials on request
3) only inner side can be coated

Belt widths b [mm] (in-between belt widths on request)					
25	32	50	75	100	150 ¹⁾

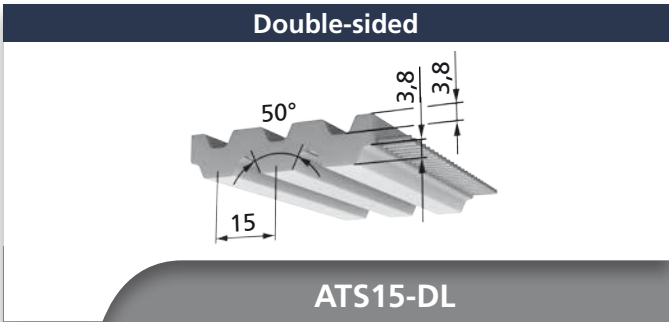
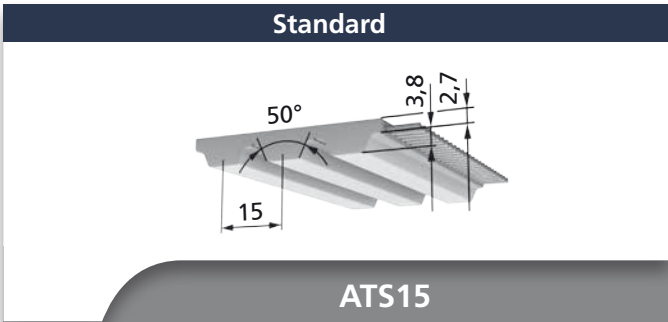
BFX AT10		Available lengths and versions	
Standard lengths		see table on the right	
Minimum purchase amount		up to 700 mm	1 sleeve (b= 100 mm)
Any number of teeth available from		720 mm up to 22000 mm	
Under 1500 mm		b _{max} = 100	
Intermediate lengths		from 720 mm	o
StandardPlus version		720 mm up to 22000 mm	
Over 22000 mm		on request	
Standard material		up to 700 mm	TPUST3
		from 700 mm	TPUST1 ²⁾
Steel tension member (Standard)		x	
E tension member		o	
Stainless steel tension member		o	
PAZ		x	
DL / DL-PAZ	b _{max} = 100	from 900 mm	o ³⁾
DR / DR-PAZ	b _{max} = 100	from 900 mm	o
T / T-PAZ	b _{max} = 100	from 1080 mm	o

Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
400	40	1010	101	3000	300
500	50	1080	108	3150	315
530	53	1150	115	3350	335
560	56	1210	121	3550	355
610	61	1240	124	3750	375
630	63	1250	125	4000	400
660	66	1320	132	4250	425
700	70	1400	140	4500	450
720	72	1500	150	4750	475
780	78	1600	160	5000	500
800	80	1700	170	5300	530
810	81	1800	180	5600	560
840	84	1900	190	6000	600
850	85	2000	200	6300	630
880	88	2120	212	6700	670
890	89	2240	224	7100	710
920	92	2360	236	7500	750
960	96	2500	250	8000	800
970	97	2650	265	9000	900
980	98	2800	280		

BRECOFLEX® AT10 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	87,50	13,933	0,000	2000	48,01	7,644	16,009
20	86,22	13,729	0,288	2200	46,41	7,391	17,025
40	85,01	13,537	0,567	2400	44,94	7,156	17,985
60	83,88	13,357	0,839	2600	43,58	6,939	18,892
80	82,81	13,187	1,105	2800	42,30	6,736	19,751
100	81,80	13,026	1,364	3000	41,11	6,546	20,565
200	77,43	12,329	2,582	3200	39,99	6,368	21,337
300	73,87	11,763	3,695	3400	38,93	6,199	22,069
400	70,88	11,286	4,727	3600	37,93	6,039	22,765
500	68,29	10,874	5,693	3800	36,97	5,887	23,426
600	66,02	10,512	6,604	4000	36,06	5,743	24,053
700	63,98	10,189	7,468	4500	33,97	5,409	25,486
800	62,15	9,896	8,290	5000	32,08	5,108	26,744
900	60,47	9,630	9,075	5500	30,36	4,835	27,844
1000	58,94	9,385	9,827	6000	28,79	4,584	28,800
1100	57,51	9,158	10,549	6500	27,33	4,352	29,623
1200	56,19	8,947	11,243	7000	25,98	4,137	30,326
1300	54,95	8,750	11,912	7500	24,72	3,936	30,915
1400	53,79	8,565	12,557	8000	23,54	3,748	31,398
1500	52,70	8,391	13,180	8500	22,43	3,571	31,783
1600	51,66	8,226	13,782	9000	21,37	3,403	32,074
1700	50,68	8,070	14,365	9500	20,38	3,245	32,278
1800	49,75	7,921	14,930	10000	19,43	3,094	32,398
1900	48,86	7,780	15,478				

BRECOFLEX® AT10 Admissible tensile force of the belt F _{adm} / Belt weight							
Belt width	b [mm]	25	32	50	75	100	150
E / Steel tension member	F _{adm} [N]	3500	4750	7750	12000	16000	24500
Stainless steel tension member	F _{adm} [N]	2520	3420	5580	8640	11520	17640
Belt weight	Standard	[kg/m]	0,138	0,180	0,290	0,436	0,581
	DL	[kg/m]	0,184	0,233	0,375	0,566	0,755
	DR	[kg/m]	0,213	0,275	0,433	0,653	0,871
	T	[kg/m]	0,198	0,256	0,404	0,609	0,812

BRECOFLEX® AT10			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	15	25	25	25	12	20	-	-	25	40	-	-
		d _{min} [mm]	50	80	80	80	50	80	-	-	80	120	-	-
	With contra- flexure	z _{min}	25	25	25	25	20	20	-	-	40	40	-	-
		d _{min} [mm]	120	120	120	120	80	80	-	-	120	120	-	-



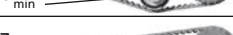
Belt widths b [mm] (in-between belt widths on request)				
25	32	50	75	100

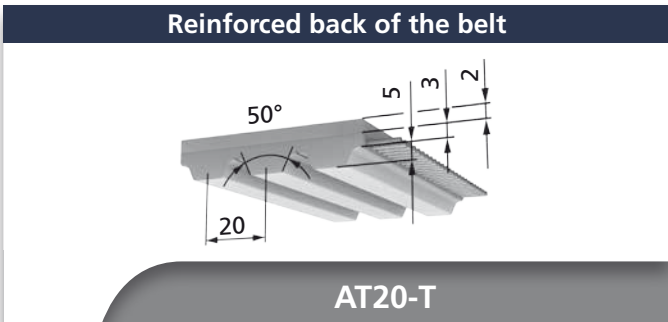
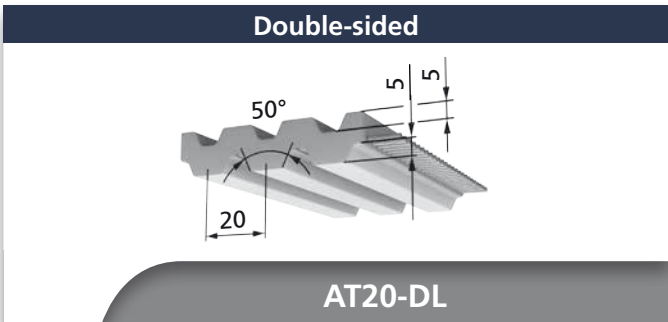
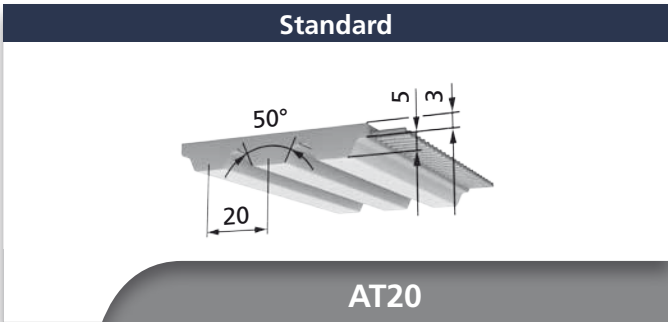
BFX ATS15	Available length and versions
Standard lengths	-
Any number of teeth available from	1500 mm up to 22000 mm
StandardPlus version	1500 mm up to 22000 mm
Over 22000 mm	on request
Minimum purchase amount	1 sleeve (b=100mm)
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
DL / DL-PAZ ²⁾	o ²⁾
DR / DR-PAZ	-
T / T-PAZ	-

x available, minimum purchase amount 1 sleeve
o minimum purchase amount on request
- not available
1) further materials on request
2) only inner side can be coated

BRECOFLEX® ATS15 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	168,00	40,127	0,000	1600	92,93	22,196	37,187
20	165,24	39,469	0,827	1700	90,90	21,712	38,649
40	162,67	38,854	1,627	1800	88,97	21,251	40,055
60	160,26	38,278	2,405	1900	87,14	20,813	41,407
80	157,98	37,734	3,161	2000	85,38	20,394	42,709
100	155,83	37,221	3,898	2200	82,09	19,608	45,171
200	146,57	35,010	7,332	2400	79,06	18,884	47,458
300	139,10	33,224	10,437	2600	76,25	18,213	49,584
400	132,83	31,726	13,288	2800	73,63	17,586	51,561
500	127,43	30,436	15,935	3000	71,17	16,999	53,399
600	122,68	29,304	18,411	3200	68,86	16,447	55,109
700	118,46	28,294	20,739	3400	66,67	15,925	56,697
800	114,64	27,383	22,939	3600	64,61	15,432	58,171
900	111,17	26,553	25,024	3800	62,64	14,963	59,538
1000	107,98	25,792	27,007	4000	60,78	14,516	60,802
1100	105,03	25,087	28,897	4500	56,46	13,486	63,547
1200	102,29	24,433	30,701	5000	52,58	12,558	65,751
1300	99,73	23,821	32,427	5500	49,05	11,715	67,468
1400	97,33	23,247	34,080	6000	45,81	10,942	68,743
1500	95,07	22,707	35,665	6500	42,82	10,227	69,611

BRECOFLEX® ATS15 Admissible tensile force of the belt F _{adm} / Belt weight						
Belt width	b [mm]	25	32	50	75	100
E / Steel tension member	F _{adm} [N]	6150	7995	12915	19680	26445
Stainless steel tension member	F _{adm} [N]	4900	6370	10290	15680	21070
Belt weight	Standard	[kg/m]	0,219	0,280	0,438	0,656
	DL	[kg/m]	0,294	0,377	0,589	0,883
	DR	[kg/m]	-	-	-	-
	T	[kg/m]	-	-	-	-

BRECOFLEX® ATS15			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	25	40	-	-	-	-	-	-	30	60	-	-
		d _{min} [mm]	120	250	-	-	-	-	-	-	180	300	-	-
	With contra- flexure	z _{min}	40	40	-	-	-	-	-	-	60	60	-	-
		d _{min} [mm]	250	250	-	-	-	-	-	-	300	300	-	-



Belt widths b [mm] (in-between belt widths on request)				
32	50	75	100	150 ¹⁾

BFX AT20		Available lengths and versions	
Standard lengths		see table on the right	
Any number of teeth available from		1100 mm up to 22000 mm	
Under 1100 mm		-	
Intermediate lengths		from 1100 mm	o
StandardPlus version		1500 mm up to 22000 mm	
Over 22000 mm		on request	
Standard material		TPUST1 ²⁾	
Steel tension member (Standard)		x	
E tension member		o	
Stainless steel tension member		o	
PAZ		x	
DL / DL-PAZ	b _{max} = 100	o ³⁾	
DR / DR-PAZ	b _{max} = 100	-	
T / T-PAZ	b _{max} = 100	o	

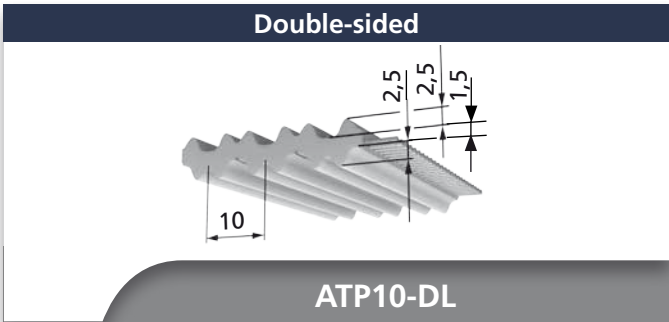
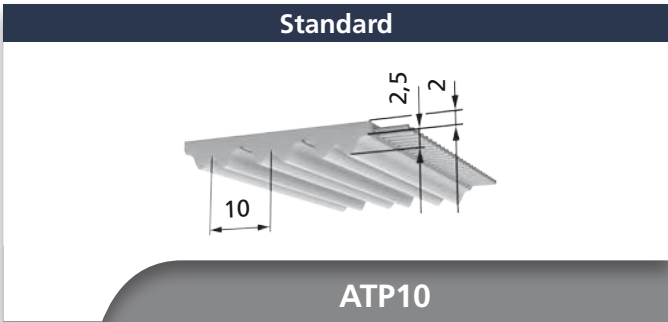
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1500	75	2800	140	5300	265
1600	80	3000	150	5600	280
1700	85	3160	158	6000	300
1800	90	3360	168	6300	315
1900	95	3560	178	6700	335
2000	100	3760	188	7100	355
2120	106	4000	200	7500	375
2240	112	4260	213	8000	400
2360	118	4500	225	8500	425
2500	125	4760	238	9000	450
2660	133	5000	250		

x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) 150 mm belt width available from 1500 mm up to 15000 mm
2) further materials on request
3) only inner side can be coated

BRECOFLEX® AT20 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{U spec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{U spec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	175,00	55,732	0,000	1600	88,26	28,110	47,095
20	171,73	54,692	1,145	1700	85,96	27,374	48,729
40	168,69	53,724	2,250	1800	83,76	26,676	50,279
60	165,85	52,818	3,318	1900	81,67	26,010	51,748
80	163,17	51,966	4,353	2000	79,68	25,375	53,142
100	160,66	51,164	5,357	2200	75,94	24,185	55,713
200	149,85	47,723	9,994	2400	72,49	23,087	58,021
300	141,18	44,961	14,124	2600	69,30	22,070	60,085
400	133,94	42,655	17,866	2800	66,32	21,121	61,925
500	127,72	40,674	21,295	3000	63,53	20,232	63,556
600	122,27	38,939	24,464	3200	60,90	19,396	64,992
700	117,42	37,395	27,410	3400	58,43	18,607	66,245
800	113,05	36,004	30,160	3600	56,08	17,860	67,327
900	109,08	34,738	32,737	3800	53,85	17,151	68,245
1000	105,43	33,577	35,159	4000	51,73	16,476	69,010
1100	102,07	32,505	37,440	4500	46,84	14,918	70,294
1200	98,94	31,509	39,592	5000	42,44	13,516	70,764
1300	96,02	30,579	41,626	5500	38,44	12,241	70,498
1400	93,28	29,707	43,549	6000	34,77	11,072	69,565
1500	90,70	28,885	45,370	6500	31,38	9,994	68,020

BRECOFLEX® AT20 Admissible tensile force of the belt F _{adm} / Belt weight						
Belt width	b [mm]	32	50	75	100	150
E / Steel tension member	F _{adm} [N]	6000	10000	15600	21200	32400
Stainless steel tension member	F _{adm} [N]	4800	8000	12480	16960	25920
Belt weight	Standard	[kg/m]	0,307	0,480	0,720	1,423
	DL	[kg/m]	0,365	0,570	0,855	-
	DR	[kg/m]	-	-	-	-
	T	[kg/m]	0,372	0,588	0,888	-

BRECOFLEX® AT20 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	z _{min}	18	25	-	25	15	-	-	-	32	60	-	32
	d _{min} [mm]	120	180	-	120	100	-	-	-	200	380	-	200
	z _{min}	25	25	-	25	22	-	-	-	40	40	-	60
	d _{min} [mm]	180	180	-	180	150	-	-	-	300	300	-	380



Belt widths b [mm] (in-between belt widths on request)					
16	25	32	50	75	100

BFX ATP10	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	1100 mm up to 12000 mm	
Intermediate lengths	from 1100 mm	o
StandardPlus version	1100 mm up to 12000 mm	
Over 12000 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	-	
DL	o	
DR / DR-PAZ	-	
T / T-PAZ	-	

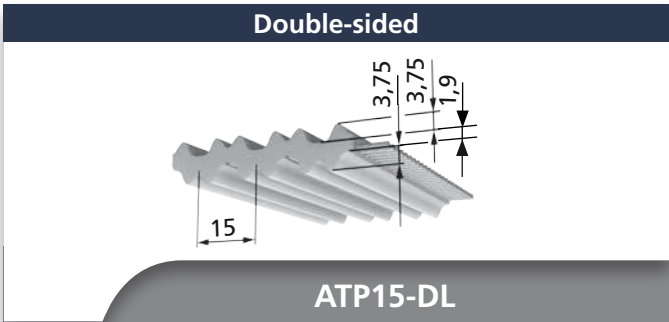
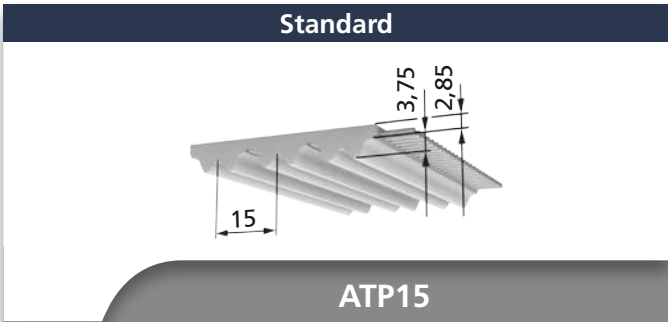
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1500	150	2650	265	4500	450
1600	160	2800	280	4750	475
1700	170	3000	300	5000	500
1900	190	3150	315	5300	530
2000	200	3350	335	5600	560
2120	212	3550	355	6000	600
2240	224	3750	375	6300	630
2360	236	4000	400		
2500	250	4250	425		

x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

BRECOFLEX® ATP10 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	95,500	15,199	0,000	1900	53,323	8,487	16,884
20	94,098	14,976	0,314	2000	52,396	8,339	17,464
40	92,785	14,767	0,619	2200	50,656	8,062	18,572
60	91,551	14,571	0,915	2400	49,052	7,807	19,619
80	90,385	14,385	1,205	2600	47,562	7,570	20,609
100	89,282	14,210	1,488	2800	46,173	7,349	21,546
150	86,756	13,808	2,169	2880	45,642	7,264	21,907
200	84,505	13,449	2,817	3000	44,871	7,141	22,434
300	80,642	12,835	4,032	3200	43,645	6,946	23,276
400	77,357	12,312	5,157	3400	42,488	6,762	24,075
500	74,535	11,863	6,211	3600	41,393	6,588	24,834
600	72,052	11,467	7,205	3800	40,352	6,422	25,554
700	69,834	11,114	8,147	4000	39,361	6,264	26,239
730	69,212	11,015	8,420	4500	37,073	5,900	27,803
800	67,831	10,796	9,043	5000	35,012	5,572	29,175
900	66,004	10,505	9,900	5500	33,138	5,274	30,374
1000	64,325	10,238	10,720	6000	31,419	5,000	31,417
1100	62,772	9,990	11,507	6500	29,832	4,748	32,316
1200	61,328	9,761	12,265	7000	28,358	4,513	33,082
1300	59,977	9,546	12,994	7500	26,981	4,294	33,724
1400	58,709	9,344	13,698	8000	25,691	4,089	34,252
1460	57,984	9,228	14,108	8500	24,475	3,895	34,670
1500	57,514	9,154	14,377	9000	23,328	3,713	34,989
1600	56,348	8,968	15,025	9500	22,240	3,540	35,211
1700	55,313	8,803	15,671	10000	21,207	3,375	35,342
1800	54,294	8,641	16,287				

BRECOFLEX® ATP10		Admissible tensile force of the belt F _{adm} / Belt weight						
Belt width		b [mm]	16	25	32	50	75	100
E / Steel tension member		F _{adm} [N]	2000	3500	4750	7750	12000	16000
Stainless steel tension member		F _{adm} [N]	-	-	-	-	-	-
Belt weight	Standard	[kg/m]	0,096	0,150	0,192	0,300	0,450	0,600
	DL	[kg/m]	0,097	0,154	0,200	0,316	0,477	0,636

BRECOFLEX® ATP10 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	15	25	-	-	12	20	-	-	-	-	-
		d _{min} [mm]	50	80	-	-	50	60	-	-	-	-	-
	With contra- flexure	z _{min}	25	25	-	-	20	20	-	-	-	-	-
		d _{min} [mm]	120	120	-	-	80	100	-	-	-	-	-



Belt widths b [mm] (in-between belt widths on request)					
25	32	50	75	100	150

BFX ATP15		Available lengths and versions
Standard lengths		see table on the right
Any number of teeth available from		1500 mm up to 12000 mm
Intermediate lengths		from 1500 mm o
StandardPlus version		1500 mm up to 12000 mm
Over 12000 mm		on request
Standard material		TPUST1 ¹⁾
Steel tension member (Standard)		x
E tension member		o
Stainless steel tension member		-
DL	b _{max} = 100	o
DR / DR-PAZ		-
T / T-PAZ		-

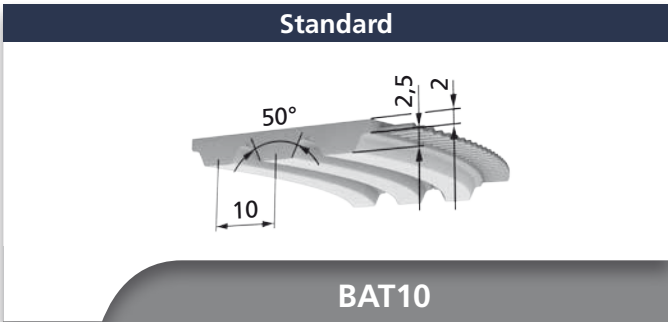
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1740	116	2805	187	4500	300
1965	131	3000	200	4875	325
2100	140	3225	215	5250	350
2250	150	3450	230	5625	375
2385	159	3675	245	6000	400
2520	168	3900	260		
2670	178	4125	275		

x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

BRECOFLEX® ATP15 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	143,325	34,216	0,000	1900	73,494	17,545	34,910
20	140,945	33,648	0,705	2000	71,980	17,184	35,990
40	138,722	33,117	1,387	2200	69,141	16,506	38,027
60	136,637	32,620	2,050	2400	66,523	15,881	39,914
80	134,674	32,151	2,693	2600	64,094	15,301	41,661
100	132,818	31,708	3,320	2800	61,828	14,760	43,280
150	128,584	30,697	4,822	3000	59,706	14,254	44,779
200	124,832	29,799	6,241	3200	57,709	13,777	46,167
300	118,367	28,258	8,877	3400	55,824	13,327	47,451
400	112,952	26,965	11,295	3600	54,040	12,901	48,636
500	108,288	25,852	13,536	3800	52,345	12,496	49,727
600	104,193	24,874	15,629	4000	50,731	12,111	50,731
700	100,542	24,003	17,595	4500	47,006	11,222	52,881
800	97,249	23,216	19,450	5000	43,652	10,421	54,565
900	94,249	22,500	21,206	5500	40,602	9,693	55,828
1000	91,495	21,843	22,874	6000	37,806	9,026	56,709
1100	88,949	21,235	24,461	6500	35,225	8,409	57,240
1200	86,583	20,670	25,975	7000	32,827	7,837	57,447
1300	84,372	20,142	27,421	7500	30,589	7,303	57,354
1400	82,297	19,647	28,804	8000	28,490	6,802	56,980
1500	80,343	19,180	30,128	8500	26,515	6,330	56,344
1600	78,495	18,739	31,398	9000	24,649	5,884	55,460
1700	76,745	18,321	32,616	9500	22,881	5,462	54,342
1800	75,080	17,924	33,786	10000	21,201	5,061	53,003

BRECOFLEX® ATP15 Admissible tensile force of the belt F _{adm} / Belt weight							
Belt width	b [mm]	25	32	50	75	100	150
E / Steel tension member	F _{adm} [N]	4950	6750	11250	17550	23850	36450
Stainless steel tension member	F _{adm} [N]	-	-	-	-	-	-
Belt weight	Standard	[kg/m]	0,200	0,256	0,400	0,600	0,800
	DL	[kg/m]	0,210	0,272	0,432	0,654	0,876

BRECOFLEX® ATP15 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra-flexure	z _{min}	20	25	-	-	18	20	-	-	-	-	-
		d _{min} [mm]	100	120	-	-	80	100	-	-	-	-	-
	With contra-flexure	z _{min}	30	30	-	-	25	25	-	-	-	-	-
		d _{min} [mm]	160	160	-	-	120	140	-	-	-	-	-



Belt widths b [mm]			
32	50	75	100

BFX BAT10	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	b= 50 mm: from 720 mm 1100 mm up to 22000 mm	
Intermediate lengths	from 1100 mm ¹⁾	o
StandardPlus version	1100 mm up to 22000 mm ¹⁾	
Over 22000 mm	on request	
Standard material	TPUST1 ²⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

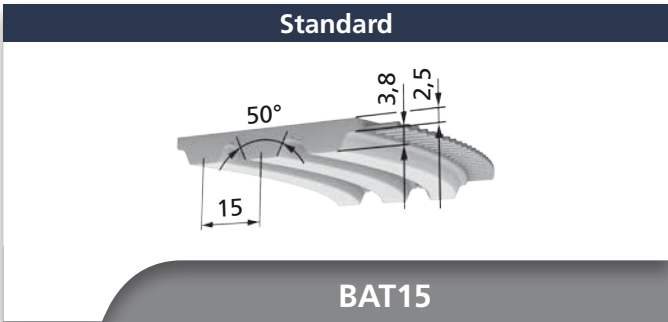
- x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) b= 50 mm: from 720 mm
2) further materials on request

Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1100	110	1700	170	4000	400
1150	115	1800	180	4500	450
1210	121	1900	190	5000	500
1240	124	2000	200	5600	560
1250	125	2240	224	6000	600
1320	132	2500	250	6700	670
1400	140	2800	280	7100	710
1500	150	3000	300	7500	750
1600	160	3550	355		

BRECOFLEX® BAT10 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	92,75	14,769	0,000	2000	50,89	8,103	16,970
20	91,39	14,552	0,305	2200	49,20	7,834	18,047
40	90,11	14,349	0,601	2400	47,64	7,586	19,064
60	88,91	14,158	0,890	2600	46,19	7,356	20,026
80	87,78	13,978	1,171	2800	44,84	7,141	20,936
100	86,71	13,807	1,446	3000	43,58	6,939	21,799
200	82,07	13,069	2,737	3200	42,39	6,750	22,617
300	78,30	12,469	3,917	3400	41,26	6,571	23,394
400	75,13	11,963	5,011	3600	40,20	6,401	24,131
500	72,39	11,527	6,035	3800	39,19	6,240	24,831
600	69,98	11,143	7,001	4000	38,23	6,087	25,496
700	67,82	10,800	7,916	4500	36,01	5,733	27,016
800	65,88	10,490	8,787	5000	34,00	5,415	28,349
900	64,10	10,208	9,620	5500	32,18	5,125	29,514
1000	62,47	9,948	10,417	6000	30,51	4,859	30,528
1100	60,96	9,708	11,182	6500	28,97	4,614	31,401
1200	59,56	9,484	11,917	7000	27,54	4,386	32,145
1300	58,25	9,275	12,626	7500	26,20	4,173	32,770
1400	57,02	9,079	13,310	8000	24,95	3,973	33,282
1500	55,86	8,895	13,971	8500	23,77	3,785	33,690
1600	54,76	8,720	14,609	9000	22,66	3,608	33,999
1700	53,72	8,554	15,227	9500	21,60	3,439	34,214
1800	52,73	8,397	15,826	10000	20,60	3,280	34,342
1900	51,79	8,246	16,407				

BRECOFLEX® BAT10 Admissible tensile force of the belt F _{adm} / Belt weight					
Belt width	b [mm]	32	50	75	100
E / Steel tension member	F _{adm} [N]	4750	7750	12000	16000
Stainless steel tension member	F _{adm} [N]	3420	5580	8640	11520
Belt weight	Standard	[kg/m]	0,180	0,290	0,436
	DL	[kg/m]	-	-	-
	DR	[kg/m]	-	-	-
	T	[kg/m]	-	-	-

BRECOFLEX® BAT10 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	20	-	-	-	18	-	-	-	25	-	-
		d _{min} [mm]	60	-	-	-	50	-	-	-	80	-	-
	With contra- flexure	z _{min}	25	-	-	-	20	-	-	-	40	-	-
		d _{min} [mm]	120	-	-	-	80	-	-	-	130	-	-



Belt widths b [mm]		
50	75	100

BFX BAT15	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	1500 mm up to 21990 mm	
Intermediate lengths	from 1500 mm	o
StandardPlus version	1500 mm up to 21990 mm	
Over 21990 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

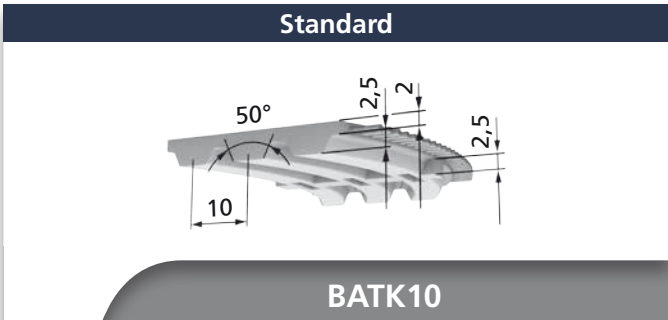
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1500	100	2790	186	5595	373
1590	106	3000	200	6000	400
1710	114	3495	233	6300	420
1800	120	3750	250	6705	447
1905	127	4005	267	7095	473
1995	133	4500	300	7500	500
2250	150	4995	333		
2505	167	5295	353		

x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

BRECOFLEX® BAT15 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	140,00	33,439	0,000	1600	77,44	18,497	30,989
20	137,70	32,891	0,689	1700	75,75	18,093	32,207
40	135,56	32,379	1,356	1800	74,14	17,709	33,379
60	133,55	31,898	2,004	1900	72,61	17,344	34,506
80	131,65	31,445	2,634	2000	71,15	16,995	35,591
100	129,86	31,018	3,248	2200	68,41	16,340	37,643
200	122,15	29,175	6,110	2400	65,89	15,737	39,548
300	115,92	27,687	8,697	2600	63,54	15,177	41,320
400	110,69	26,439	11,074	2800	61,36	14,655	42,967
500	106,19	25,364	13,279	3000	59,31	14,166	44,500
600	102,24	24,420	15,342	3200	57,38	13,705	45,924
700	98,71	23,578	17,282	3400	55,56	13,271	47,248
800	95,54	22,819	19,116	3600	53,84	12,860	48,476
900	92,64	22,128	20,853	3800	52,20	12,469	49,615
1000	89,98	21,493	22,506	4000	50,65	12,097	50,668
1100	87,53	20,906	24,080	4500	47,05	11,238	52,956
1200	85,24	20,361	25,584	5000	43,82	10,465	54,793
1300	83,11	19,851	27,022	5500	40,87	9,762	56,224
1400	81,11	19,373	28,400	6000	38,17	9,118	57,286
1500	79,22	18,922	29,721	6500	35,68	8,523	58,009

BRECOFLEX® BAT15 Admissible tensile force of the belt F _{adm} / Belt weight				
Belt width	b [mm]	50	75	100
E / Steel tension member	F _{adm} [N]	10400	16000	21600
Stainless steel tension member	F _{adm} [N]	8300	12800	17300
Belt weight	Standard	[kg/m]	0,420	0,629
	DL	[kg/m]	-	-
	DR	[kg/m]	-	-
	T	[kg/m]	-	-

BRECOFLEX® BAT15			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	20	-	-	-	15	-	-	-	25	-	-	-
		d _{min} [mm]	100	-	-	-	70	-	-	-	120	-	-	-
	With contra- flexure	z _{min}	30	-	-	-	25	-	-	-	35	-	-	-
		d _{min} [mm]	150	-	-	-	120	-	-	-	180	-	-	-



Belt widths b [mm]			
32	50	75	100

BFX BATK10	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	1100 mm up to 22000 mm	
Intermediate lengths	from 1100 mm	o
StandardPlus version	1100 mm up to 22000 mm	
Over 22000 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

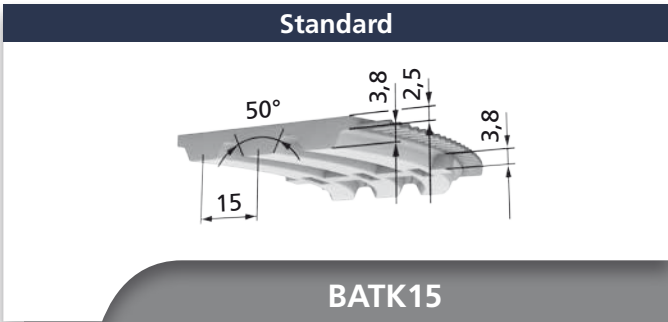
x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1100	110	1700	170	4000	400
1150	115	1800	180	4500	450
1210	121	1900	190	5000	500
1240	124	2000	200	5600	560
1250	125	2240	224	6000	600
1320	132	2500	250	6700	670
1400	140	2800	280	7100	710
1500	150	3000	300	7500	750
1600	160	3550	355		

BRECOFLEX® BATK10 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	92,75	14,769	0,000	2000	50,89	8,103	16,970
20	91,39	14,552	0,305	2200	49,20	7,834	18,047
40	90,11	14,349	0,601	2400	47,64	7,586	19,064
60	88,91	14,158	0,890	2600	46,19	7,356	20,026
80	87,78	13,978	1,171	2800	44,84	7,141	20,936
100	86,71	13,807	1,446	3000	43,58	6,939	21,799
200	82,07	13,069	2,737	3200	42,39	6,750	22,617
300	78,30	12,469	3,917	3400	41,26	6,571	23,394
400	75,13	11,963	5,011	3600	40,20	6,401	24,131
500	72,39	11,527	6,035	3800	39,19	6,240	24,831
600	69,98	11,143	7,001	4000	38,23	6,087	25,496
700	67,82	10,800	7,916	4500	36,01	5,733	27,016
800	65,88	10,490	8,787	5000	34,00	5,415	28,349
900	64,10	10,208	9,620	5500	32,18	5,125	29,514
1000	62,47	9,948	10,417	6000	30,51	4,859	30,528
1100	60,96	9,708	11,182	6500	28,97	4,614	31,401
1200	59,56	9,484	11,917	7000	27,54	4,386	32,145
1300	58,25	9,275	12,626	7500	26,20	4,173	32,770
1400	57,02	9,079	13,310	8000	24,95	3,973	33,282
1500	55,86	8,895	13,971	8500	23,77	3,785	33,690
1600	54,76	8,720	14,609	9000	22,66	3,608	33,999
1700	53,72	8,554	15,227	9500	21,60	3,439	34,214
1800	52,73	8,397	15,826	10000	20,60	3,280	34,342
1900	51,79	8,246	16,407				

BRECOFLEX® BATK10 Admissible tensile force of the belt F _{adm} / Belt weight					
Belt width	b [mm]	32	50	75	100
E / Steel tension member	F _{adm} [N]	4750	7750	12000	16000
Stainless steel tension member	F _{adm} [N]	3420	5580	8640	11520
Belt weight	Standard	[kg/m]	0,192	0,300	0,450
	DL	[kg/m]	-	-	-
	DR	[kg/m]	-	-	-
	T	[kg/m]	-	-	-

BRECOFLEX® BATK10 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	20	-	-	-	18	-	-	-	25	-	-
		d _{min} [mm]	60	-	-	-	50	-	-	-	80	-	-
	With contra- flexure	z _{min}	25	-	-	-	20	-	-	-	40	-	-
		d _{min} [mm]	120	-	-	-	80	-	-	-	130	-	-



Belt widths b [mm]		
50	75	100

BFX BATK15	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	1500 mm up to 21990 mm	
Intermediate lengths	from 1500 mm	o
StandardPlus version	1500 mm up to 21990 mm	
Over 21990 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

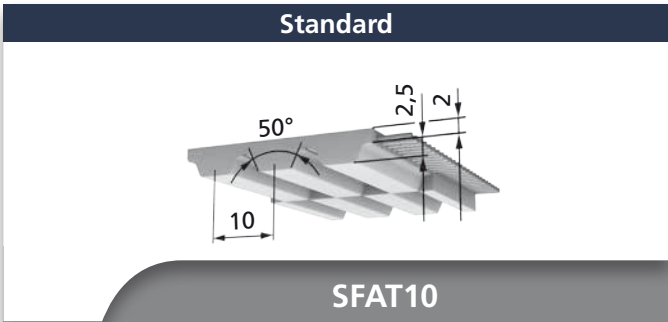
- x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1500	100	2790	186	5595	373
1590	106	3000	200	6000	400
1710	114	3495	233	6300	420
1800	120	3750	250	6705	447
1905	127	4005	267	7095	473
1995	133	4500	300	7500	500
2250	150	4995	333		
2505	167	5295	353		

BRECOFLEX® BATK15 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	140,00	33,439	0,000	1600	77,44	18,497	30,989
20	137,70	32,891	0,689	1700	75,75	18,093	32,207
40	135,56	32,379	1,356	1800	74,14	17,709	33,379
60	133,55	31,898	2,004	1900	72,61	17,344	34,506
80	131,65	31,445	2,634	2000	71,15	16,995	35,591
100	129,86	31,018	3,248	2200	68,41	16,340	37,643
200	122,15	29,175	6,110	2400	65,89	15,737	39,548
300	115,92	27,687	8,697	2600	63,54	15,177	41,320
400	110,69	26,439	11,074	2800	61,36	14,655	42,967
500	106,19	25,364	13,279	3000	59,31	14,166	44,500
600	102,24	24,420	15,342	3200	57,38	13,705	45,924
700	98,71	23,578	17,282	3400	55,56	13,271	47,248
800	95,54	22,819	19,116	3600	53,84	12,860	48,476
900	92,64	22,128	20,853	3800	52,20	12,469	49,615
1000	89,98	21,493	22,506	4000	50,65	12,097	50,668
1100	87,53	20,906	24,080	4500	47,05	11,238	52,956
1200	85,24	20,361	25,584	5000	43,82	10,465	54,793
1300	83,11	19,851	27,022	5500	40,87	9,762	56,224
1400	81,11	19,373	28,400	6000	38,17	9,118	57,286
1500	79,22	18,922	29,721	6500	35,68	8,523	58,009

BRECOFLEX® BATK15 Admissible tensile force of the belt F _{adm} / Belt weight				
Belt width	b [mm]	50	75	100
E / Steel tension member	F _{adm} [N]	10400	16000	21600
Stainless steel tension member	F _{adm} [N]	8300	12800	17300
Belt weight	Standard	[kg/m]	0,420	0,629
	DL	[kg/m]	-	-
	DR	[kg/m]	-	-
	T	[kg/m]	-	-

BRECOFLEX® BATK15 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}		d _{min} [mm]		z _{min}		d _{min} [mm]		z _{min}		d _{min} [mm]	
		20	-	-	-	15	-	-	-	25	-	-	-
	With contra- flexure	z _{min}		d _{min} [mm]		z _{min}		d _{min} [mm]		z _{min}		d _{min} [mm]	
		30	-	-	-	25	-	-	-	35	-	-	-
		150	-	-	-	120	-	-	-	180	-	-	-



Belt widths b [mm]		
50	75	100

BFX SFAT10	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	1100 mm up to 22000 mm	
Intermediate lengths	from 1100 mm	o
StandardPlus version	1100 mm up to 22000 mm	
Over 22000 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

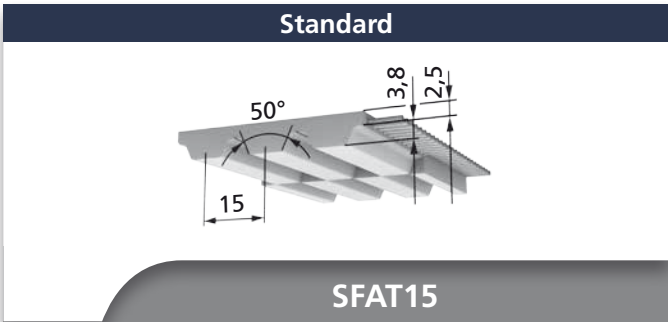
x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1100	110	1900	190	4500	450
1200	120	2000	200	5000	500
1300	130	2240	224	5600	560
1400	140	2500	250	6000	600
1500	150	2800	280	6700	670
1600	160	3000	300	7100	710
1700	170	3550	355	7500	750
1800	180	4000	400		

BRECOFLEX® SFAT10 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	87,50	13,933	0,000	2000	48,01	7,644	16,009
20	86,22	13,729	0,288	2200	46,41	7,391	17,025
40	85,01	13,537	0,567	2400	44,94	7,156	17,985
60	83,88	13,357	0,839	2600	43,58	6,939	18,892
80	82,81	13,187	1,105	2800	42,30	6,736	19,751
100	81,80	13,026	1,364	3000	41,11	6,546	20,565
200	77,43	12,329	2,582	3200	39,99	6,368	21,337
300	73,87	11,763	3,695	3400	38,93	6,199	22,069
400	70,88	11,286	4,727	3600	37,93	6,039	22,765
500	68,29	10,874	5,693	3800	36,97	5,887	23,426
600	66,02	10,512	6,604	4000	36,06	5,743	24,053
700	63,98	10,189	7,468	4500	33,97	5,409	25,486
800	62,15	9,896	8,290	5000	32,08	5,108	26,744
900	60,47	9,630	9,075	5500	30,36	4,835	27,844
1000	58,94	9,385	9,827	6000	28,79	4,584	28,800
1100	57,51	9,158	10,549	6500	27,33	4,352	29,623
1200	56,19	8,947	11,243	7000	25,98	4,137	30,326
1300	54,95	8,750	11,912	7500	24,72	3,936	30,915
1400	53,79	8,565	12,557	8000	23,54	3,748	31,398
1500	52,70	8,391	13,180	8500	22,43	3,571	31,783
1600	51,66	8,226	13,782	9000	21,37	3,403	32,074
1700	50,68	8,070	14,365	9500	20,38	3,245	32,278
1800	49,75	7,921	14,930	10000	19,43	3,094	32,398
1900	48,86	7,780	15,478				

BRECOFLEX® SFAT10 Admissible tensile force of the belt F _{adm} / Belt weight				
Belt width	b [mm]	50	75	100
E / Steel tension member	F _{adm} [N]	7750	12000	16000
Stainless steel tension member	F _{adm} [N]	5580	8640	11520
Belt weight	Standard	[kg/m]	0,290	0,436
	DL	[kg/m]	-	-
	DR	[kg/m]	-	-
	T	[kg/m]	-	-

BRECOFLEX® SFAT10			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	15	-	-	-	12	-	-	-	25	-	-	-
		d _{min} [mm]	50	-	-	-	50	-	-	-	80	-	-	-
	With contra- flexure	z _{min}	25	-	-	-	20	-	-	-	40	-	-	-
		d _{min} [mm]	120	-	-	-	80	-	-	-	130	-	-	-



Belt widths b [mm]		
50	75	100

BFX SFAT15	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	1500 mm up to 21990 mm	
Intermediate lengths	from 1500 mm	o
StandardPlus version	1500 mm up to 21990 mm	
Over 21990 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

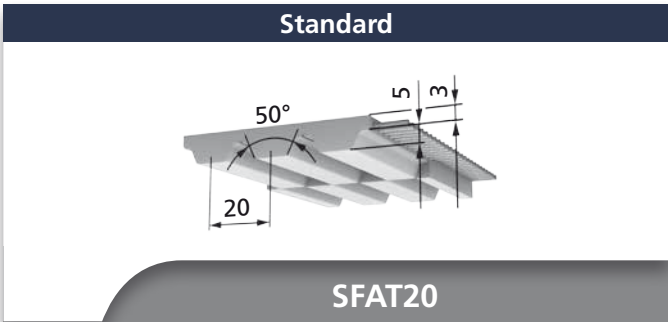
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1500	100	2790	186	5595	373
1590	106	3000	200	6000	400
1710	114	3495	233	6300	420
1800	120	3750	250	6705	447
1905	127	4005	267	7095	473
1995	133	4500	300	7500	500
2250	150	4995	333		
2505	167	5295	353		

x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

BRECOFLEX® SFAT15 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	133,00	31,768	0,000	2000	67,59	16,145	33,812
20	130,82	31,246	0,654	2200	64,99	15,523	35,761
40	128,78	30,760	1,288	2400	62,59	14,950	37,571
60	126,87	30,303	1,904	2600	60,36	14,418	39,254
80	125,07	29,873	2,502	2800	58,29	13,922	40,819
100	123,37	29,467	3,086	3000	56,34	13,457	42,275
200	116,04	27,716	5,804	3200	54,51	13,020	43,628
300	110,12	26,302	8,263	3400	52,78	12,607	44,885
400	105,15	25,117	10,520	3600	51,15	12,217	46,052
500	100,88	24,095	12,615	3800	49,59	11,846	47,134
600	97,13	23,199	14,575	4000	48,11	11,492	48,135
700	93,78	22,399	16,418	4500	44,70	10,676	50,308
800	90,76	21,678	18,160	5000	41,62	9,942	52,053
900	88,01	21,021	19,811	5500	38,83	9,274	53,412
1000	85,48	20,418	21,380	6000	36,27	8,662	54,421
1100	83,15	19,861	22,876	6500	33,90	8,097	55,109
1200	80,98	19,343	24,305	7000	31,70	7,572	55,500
1300	78,95	18,858	25,671	7500	29,65	7,082	55,615
1400	77,05	18,404	26,980	8000	27,72	6,622	55,473
1500	75,26	17,976	28,235	8500	25,91	6,190	55,090
1600	73,57	17,572	29,440	9000	24,20	5,781	54,480
1700	71,96	17,188	30,597	9500	22,58	5,394	53,656
1800	70,44	16,824	31,710	10000	21,04	5,026	52,629
1900	68,98	16,477	32,781				

BRECOFLEX® SFAT15 Admissible tensile force of the belt F _{adm} / Belt weight				
Belt width	b [mm]	50	75	100
E / Steel tension member	F _{adm} [N]	10000	15600	21200
Stainless steel tension member	F _{adm} [N]	8000	12480	16960
Belt weight	Standard	[kg/m]	0,440	0,660
	DL	[kg/m]	-	-
	DR	[kg/m]	-	-
	T	[kg/m]	-	-

BRECOFLEX® SFAT15			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	20	-	-	-	15	-	-	-	25	-	-	-
		d _{min} [mm]	100	-	-	-	70	-	-	-	120	-	-	-
	With contra- flexure	z _{min}	25	-	-	-	25	-	-	-	35	-	-	-
		d _{min} [mm]	150	-	-	-	120	-	-	-	180	-	-	-



Belt widths b [mm]		
50	75	100

BFX SFAT20	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	1500 mm up to 22000 mm	
Intermediate lengths	from 1500 mm	o
StandardPlus version	1500 mm up to 22000 mm	
Over 22000 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

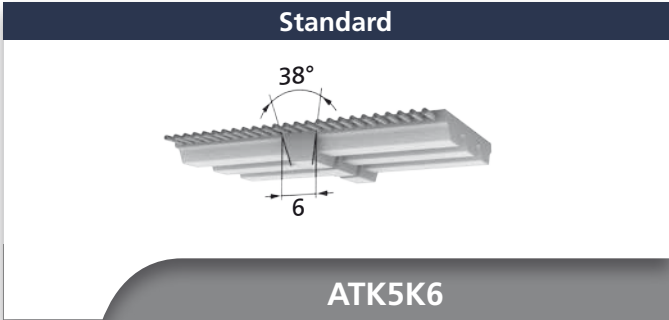
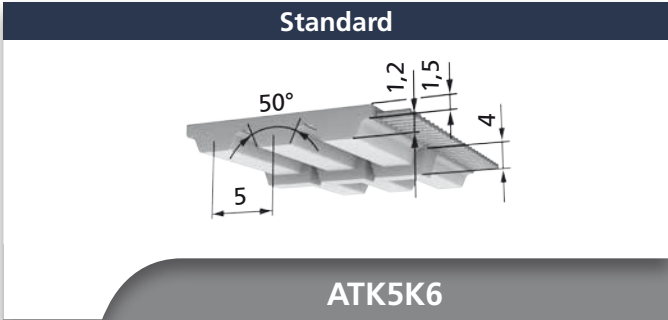
x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1500	75	2500	125	5000	250
1600	80	2800	140	5600	280
1700	85	3000	150	6000	300
1800	90	3560	178	6700	335
1900	95	3760	188	7100	355
2000	100	4000	200	7500	375
2240	112	4500	225		

BRECOFLEX® SFAT20 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	175,00	55,732	0,000	1600	88,26	28,110	47,095
20	171,73	54,692	1,145	1700	85,96	27,374	48,729
40	168,69	53,724	2,250	1800	83,76	26,676	50,279
60	165,85	52,818	3,318	1900	81,67	26,010	51,748
80	163,17	51,966	4,353	2000	79,68	25,375	53,142
100	160,66	51,164	5,357	2200	75,94	24,185	55,713
200	149,85	47,723	9,994	2400	72,49	23,087	58,021
300	141,18	44,961	14,124	2600	69,30	22,070	60,085
400	133,94	42,655	17,866	2800	66,32	21,121	61,925
500	127,72	40,674	21,295	3000	63,53	20,232	63,556
600	122,27	38,939	24,464	3200	60,90	19,396	64,992
700	117,42	37,395	27,410	3400	58,43	18,607	66,245
800	113,05	36,004	30,160	3600	56,08	17,860	67,327
900	109,08	34,738	32,737	3800	53,85	17,151	68,245
1000	105,43	33,577	35,159	4000	51,73	16,476	69,010
1100	102,07	32,505	37,440	4500	46,84	14,918	70,294
1200	98,94	31,509	39,592	5000	42,44	13,516	70,764
1300	96,02	30,579	41,626	5500	38,44	12,241	70,498
1400	93,28	29,707	43,549	6000	34,77	11,072	69,565
1500	90,70	28,885	45,370	6500	31,38	9,994	68,020

BRECOFLEX® SFAT20 Admissible tensile force of the belt F _{adm} / Belt weight				
Belt width	b [mm]	50	75	100
E / Steel tension member	F _{adm} [N]	10000	15600	21200
Stainless steel tension member	F _{adm} [N]	8000	12480	16960
Belt weight	Standard	[kg/m]	0,480	0,720
	DL	[kg/m]	-	-
	DR	[kg/m]	-	-
	T	[kg/m]	-	-

BRECOFLEX® SFAT20 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	z _{min}	18	-	-	-	15	-	-	-	32	-	-	-
	d _{min} [mm]	120	-	-	-	100	-	-	-	200	-	-	-
	z _{min}	25	-	-	-	22	-	-	-	40	-	-	-
	d _{min} [mm]	180	-	-	-	150	-	-	-	300	-	-	-



Belt widths b [mm] (in-between belt widths on request)	
50	100

BFX ATK5K6	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	1075 mm up to 15000 mm	
Intermediate lengths	from 1075 mm	o
StandardPlus version	1075 mm up to 15000 mm	
Over 15000 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member (E)	o	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

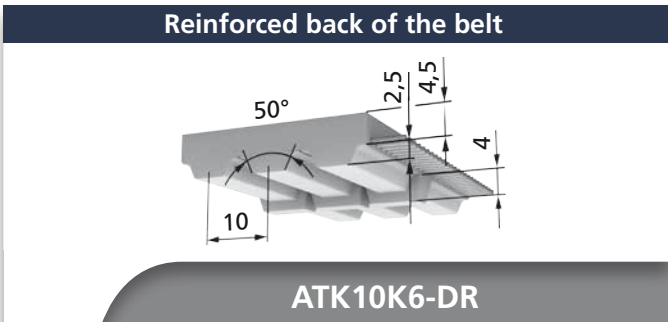
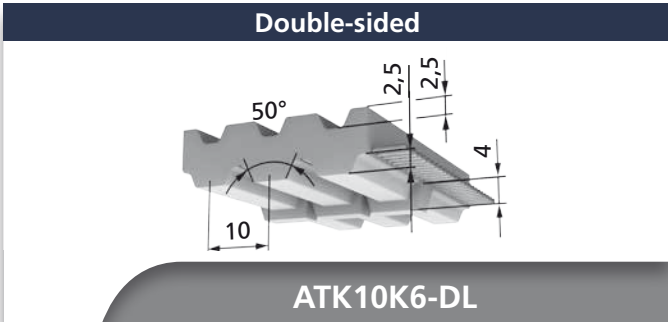
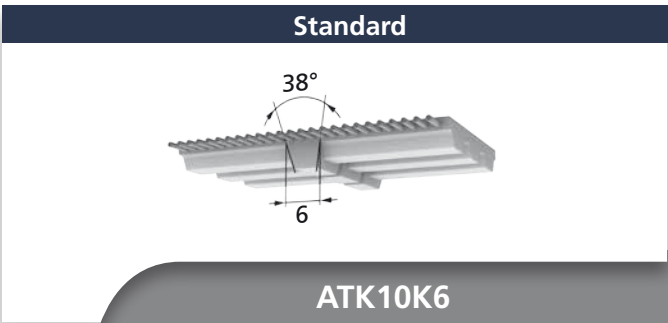
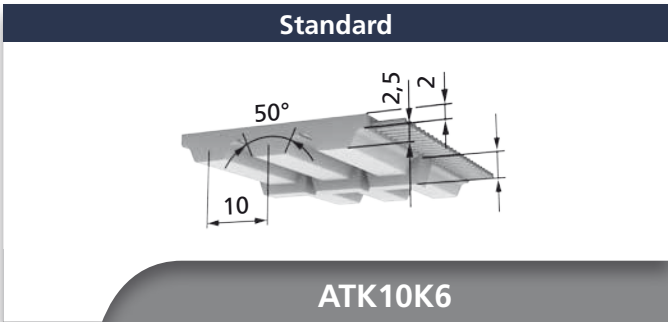
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1075	215	2240	448	4500	900
1100	220	2360	472	4750	950
1215	243	2500	500	5000	1000
1380	276	2650	530	5300	1060
1400	280	2800	560	5600	1120
1500	300	3000	600	6000	1200
1600	320	3150	630	6300	1260
1700	340	3350	670	6700	1340
1800	360	3550	710	7100	1420
1900	380	3750	750	7500	1500
2000	400	4000	800		
2120	424	4250	850		

x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

BRECOFLEX® ATK5K6				Tooth shear strength (specific belt tooth load bearing)			
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	42,00	3,344	0,000	2000	26,05	2,074	4,344
20	41,52	3,306	0,069	2200	25,38	2,020	4,654
40	41,07	3,270	0,137	2400	24,75	1,971	4,953
60	40,64	3,236	0,203	2600	24,18	1,925	5,241
80	40,23	3,203	0,268	2800	23,64	1,882	5,518
100	39,85	3,172	0,332	3000	23,13	1,842	5,785
200	38,14	3,037	0,636	3200	22,65	1,804	6,044
300	36,73	2,925	0,919	3400	22,20	1,768	6,294
400	35,53	2,829	1,185	3600	21,78	1,734	6,536
500	34,48	2,745	1,437	3800	21,37	1,701	6,770
600	33,55	2,672	1,678	4000	20,98	1,671	6,997
700	32,72	2,605	1,910	4500	20,09	1,599	7,537
800	31,96	2,545	2,132	5000	19,28	1,535	8,038
900	31,27	2,490	2,346	5500	18,55	1,477	8,506
1000	30,63	2,439	2,554	6000	17,88	1,423	8,942
1100	30,04	2,392	2,755	6500	17,26	1,374	9,351
1200	29,49	2,348	2,950	7000	16,68	1,328	9,733
1300	28,97	2,307	3,140	7500	16,14	1,285	10,090
1400	28,48	2,268	3,325	8000	15,63	1,245	10,425
1500	28,02	2,231	3,505	8500	15,15	1,207	10,739
1600	27,59	2,197	3,680	9000	14,70	1,171	11,033
1700	27,18	2,164	3,852	9500	14,28	1,137	11,307
1800	26,78	2,132	4,019	10000	13,87	1,104	11,564
1900	26,41	2,103	4,183				

BRECOFLEX® ATK5K6		Admissible tensile force of the belt F _{adm} / Belt weight		
Belt width	b [mm]	50	100	
E / Steel tension member	F _{adm} [N]	4200	8610	
Stainless steel tension member (E)	F _{adm} [N]	2730	5597	
Belt weight	Standard	[kg/m]	0,167	0,334
	DL	[kg/m]	-	-
	DR	[kg/m]	-	-
	T	[kg/m]	-	-

BRECOFLEX® ATK5K6		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member (E)			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	25	-	-	25	-	-	-	25	-	-	-
		d _{min} [mm]	40	-	-	40	-	-	-	40	-	-	-
	With contra-flexure	z _{min}	25	-	-	25	-	-	-	30	-	-	-
		d _{min} [mm]	80	-	-	80	-	-	-	80	-	-	-



x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

Belt widths b [mm]
(in-between belt widths on request)

50	100
----	-----

BFX ATK10K6	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	b= 50 mm	from 720 mm
	1080 mm	up to 22000 mm
Intermediate lengths	b= 50 mm	from 720 mm
	b= 100 mm	up to 1080 mm
StandardPlus version	b=50 mm: from 720 mm	
	1080 mm up to 22000 mm	
Over 22000 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	from 1500 mm	x
DL / DL-PAZ	o	
DR / DR-PAZ	o	
T / T-PAZ	-	

Standard lengths [mm] / Number of teeth

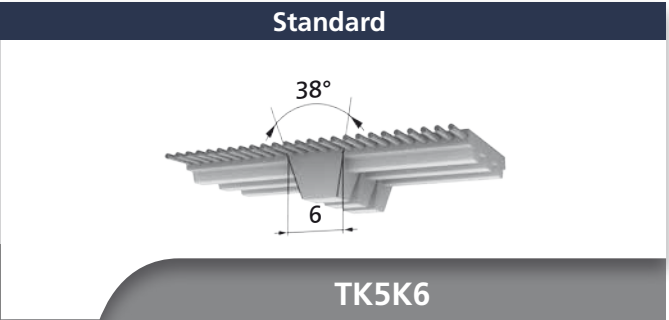
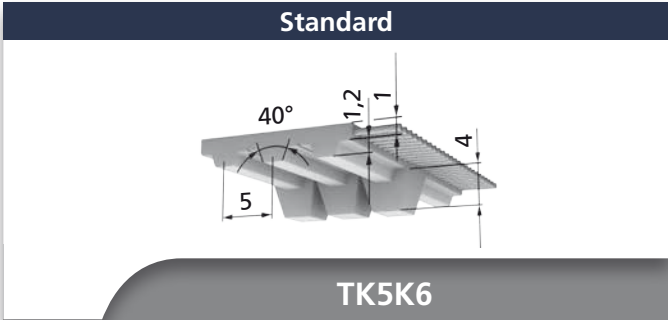
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1500	150	2650	265	4750	475
1600	160	2800	280	5000	500
1700	170	3000	300	5300	530
1800	180	3150	315	5600	560
1900	190	3350	335	6000	600
2000	200	3550	355	6300	630
2120	212	3750	375	6700	670
2240	224	4000	400	7100	710
2360	236	4250	425	7500	750
2500	250	4500	450	8000	800

BRECOFLEX® ATK10K6				Tooth shear strength (specific belt tooth load bearing)			
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	87,50	13,933	0,000	2000	48,01	7,644	16,009
20	86,22	13,729	0,288	2200	46,41	7,391	17,025
40	85,01	13,537	0,567	2400	44,94	7,156	17,985
60	83,88	13,357	0,839	2600	43,58	6,939	18,892
80	82,81	13,187	1,105	2800	42,30	6,736	19,751
100	81,80	13,026	1,364	3000	41,11	6,546	20,565
200	77,43	12,329	2,582	3200	39,99	6,368	21,337
300	73,87	11,763	3,695	3400	38,93	6,199	22,069
400	70,88	11,286	4,727	3600	37,93	6,039	22,765
500	68,29	10,874	5,693	3800	36,97	5,887	23,426
600	66,02	10,512	6,604	4000	36,06	5,743	24,053
700	63,98	10,189	7,468	4500	33,97	5,409	25,486
800	62,15	9,896	8,290	5000	32,08	5,108	26,744
900	60,47	9,630	9,075	5500	30,36	4,835	27,844
1000	58,94	9,385	9,827	6000	28,79	4,584	28,800
1100	57,51	9,158	10,549	6500	27,33	4,352	29,623
1200	56,19	8,947	11,243	7000	25,98	4,137	30,326
1300	54,95	8,750	11,912	7500	24,72	3,936	30,915
1400	53,79	8,565	12,557	8000	23,54	3,748	31,398
1500	52,70	8,391	13,180	8500	22,43	3,571	31,783
1600	51,66	8,226	13,782	9000	21,37	3,403	32,074
1700	50,68	8,070	14,365	9500	20,38	3,245	32,278
1800	49,75	7,921	14,930	10000	19,43	3,094	32,398
1900	48,86	7,780	15,478				

BRECOFLEX® ATK10K6		Admissible tensile force of the belt F _{adm} / Belt weight	
Belt width	b [mm]	50	100
E / Steel tension member	F _{adm} [N]	7750	16000
Stainless steel tension member	F _{adm} [N]	5600	11200
Belt weight	Standard	[kg/m]	0,290
	DL	[kg/m]	0,386
	DR	[kg/m]	0,445
	T	[kg/m]	-

BRECOFLEX® ATK10K6			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	20	25	25*	-	18	20	-	-	25	40	25	-
		d _{min} [mm]	80	80	80	-	60	80	-	-	80	120	80	-
	With contra-flexure	z _{min}	25	25	25	-	20	22	-	-	40	40	40	-
		d _{min} [mm]	120	120	120	-	80	100	-	-	120	120	120	-

*Speed limitation



Belt widths b [mm] (in-between belt widths on request)	
50	100

BFX TK5K6	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	b= 50 mm	from 720 mm
	1075 mm up to 15000 mm	
Intermediate lengths	b= 50 mm	from 720 mm
	b= 100 mm	from 1075 mm
StandardPlus version	b= 50 mm: from 720 mm	
	1075 mm up to 15000 mm	
Over 15000 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	from 1075 mm	x
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

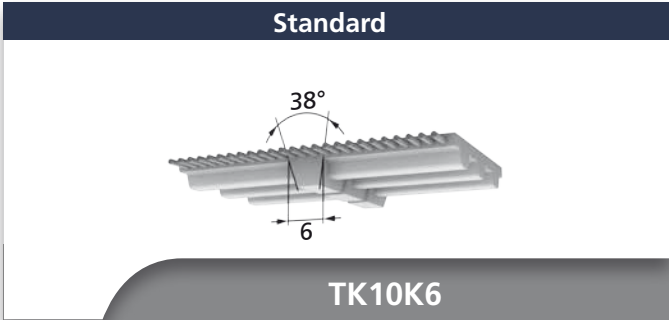
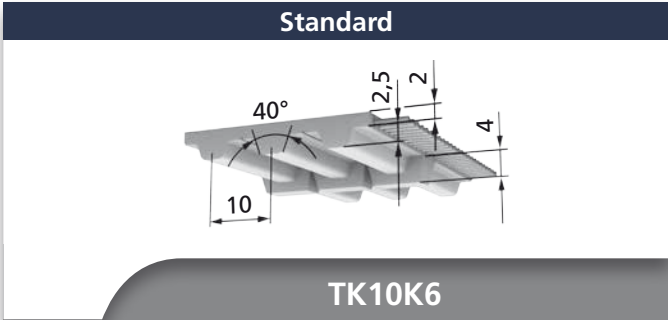
- x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1075	215	2240	448	4500	900
1100	220	2360	472	4750	950
1215	243	2500	500	5000	1000
1380	276	2650	530	5300	1060
1400	280	2800	560	5600	1120
1500	300	3000	600	6000	1200
1600	320	3150	630	6300	1260
1700	340	3350	670	6700	1340
1800	360	3550	710	7100	1420
1900	380	3750	750	7500	1500
2000	400	4000	800		
2120	424	4250	850		

BRECOFLEX® TK5K6 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	24,00	1,910	0,000	2000	13,69	1,089	2,280
20	23,40	1,861	0,039	2200	13,38	1,065	2,450
40	22,90	1,819	0,076	2400	13,10	1,042	2,620
60	22,40	1,783	0,112	2600	12,84	1,021	2,780
80	22,00	1,751	0,147	2800	12,59	1,002	2,940
100	21,70	1,723	0,180	3000	12,37	0,984	3,090
200	20,30	1,614	0,338	3200	12,16	0,967	3,240
300	19,30	1,536	0,483	3400	11,96	0,951	3,390
400	18,55	1,476	0,618	3600	11,77	0,936	3,530
500	17,93	1,427	0,747	3800	11,59	0,922	3,670
600	17,41	1,385	0,870	4000	11,42	0,909	3,810
700	16,96	1,349	0,989	4500	11,03	0,878	4,140
800	16,56	1,318	1,104	5000	10,68	0,850	4,450
900	16,20	1,289	1,215	5500	10,36	0,825	4,750
1000	15,88	1,263	1,323	6000	10,07	0,802	5,040
1100	15,58	1,240	1,428	6500	9,81	0,780	5,310
1200	15,31	1,218	1,531	7000	9,56	0,761	5,580
1300	15,06	1,198	1,632	7500	9,33	0,742	5,830
1400	14,83	1,180	1,730	8000	9,11	0,725	6,080
1500	14,61	1,162	1,826	8500	8,91	0,709	6,310
1600	14,40	1,146	1,920	9000	8,72	0,694	6,540
1700	14,21	1,131	2,010	9500	8,54	0,679	6,760
1800	14,03	1,116	2,100	10000	8,37	0,666	6,970
1900	13,85	1,102	2,190				

BRECOFLEX® TK5K6 Admissible tensile force of the belt F _{adm} / Belt weight			
Belt width	b [mm]	50	100
E / Steel tension member	F _{adm} [N]	1920	3930
Stainless steel tension member	F _{adm} [N]	1460	2990
Belt weight	Standard	[kg/m]	0,123
	DL	[kg/m]	-
	DR	[kg/m]	-
	T	[kg/m]	-

BRECOFLEX® TK5K6 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min} d _{min} [mm]	25	-	-	25	-	-	-	25	-	-	-
			40	-	-	40	-	-	-	40	-	-	-
	With contra- flexure	z _{min} d _{min} [mm]	25	-	-	25	-	-	-	36	-	-	-
			60	-	-	60	-	-	-	60	-	-	-



Belt widths b [mm] (in-between belt widths on request)	
50	100

BFX TK10K6	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	720 mm up to 22000 mm	
Intermediate lengths	from 720 mm	o
StandardPlus version	720 mm up to 22000 mm	
Over 22000 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	from 1080 mm	x
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

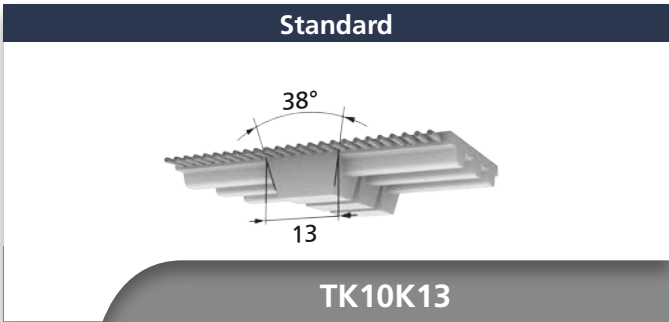
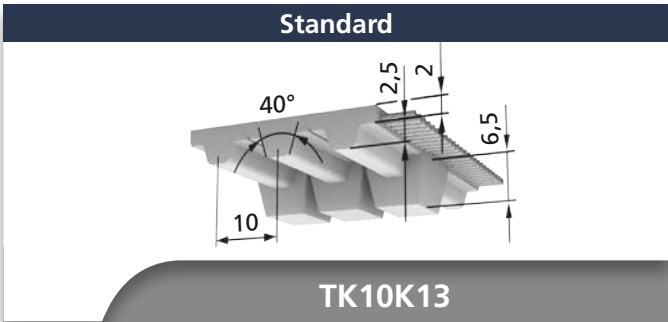
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1080	108	1750	175	4000	400
1150	115	1780	178	4250	425
1210	121	1880	188	4500	450
1240	124	1960	196	4750	475
1250	125	2250	225	5000	500
1320	132	2360	236	5300	530
1350	135	2500	250	5600	560
1390	139	2650	265	6000	600
1400	140	2800	280	6300	630
1420	142	3000	300	6700	670
1460	146	3100	310	7100	710
1500	150	3150	315	7500	750
1560	156	3350	335	8000	800
1610	161	3750	375	9000	900

x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

BRECOFLEX® TK10K6 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	50,50	8,040	0,000	2000	25,40	4,040	8,460
20	49,00	7,800	0,163	2200	24,60	3,920	9,030
40	47,70	7,600	0,318	2400	23,90	3,810	9,580
60	46,60	7,420	0,466	2600	23,30	3,710	10,100
80	45,70	7,270	0,609	2800	22,70	3,620	10,600
100	44,80	7,130	0,746	3000	22,20	3,530	11,080
200	41,40	6,600	1,381	3200	21,70	3,450	11,550
300	39,10	6,220	1,953	3400	21,20	3,360	11,990
400	37,20	5,920	2,480	3600	20,70	3,300	12,420
500	35,70	5,680	2,980	3800	20,30	3,230	12,840
600	34,40	5,480	3,440	4000	19,86	3,160	13,240
700	33,30	5,310	3,890	4500	18,91	3,010	14,180
800	32,40	5,150	4,320	5000	18,06	2,870	15,050
900	31,50	5,010	4,730	5500	17,28	2,750	15,840
1000	30,70	4,890	5,120	6000	16,58	2,640	16,580
1100	30,00	4,770	5,500	6500	15,93	2,540	17,260
1200	29,30	4,670	5,870	7000	15,33	2,440	17,880
1300	28,70	4,570	6,220	7500	14,76	2,350	18,460
1400	28,20	4,480	6,570	8000	14,24	2,270	18,990
1500	27,60	4,400	6,910	8500	13,74	2,180	19,470
1600	27,10	4,320	7,230	9000	13,28	2,110	19,920
1700	26,70	4,240	7,550	9500	12,84	2,040	20,300
1800	26,20	4,170	7,860	10000	12,42	1,976	20,700
1900	25,80	4,100	8,160				

BRECOFLEX® TK10K6 Admissible tensile force of the belt F _{adm} / Belt weight			
Belt width	b [mm]	50	100
E / Steel tension member	F _{adm} [N]	3800	7800
Stainless steel tension member	F _{adm} [N]	3040	6240
Belt weight	Standard	[kg/m]	0,235
	DL	[kg/m]	-
	DR	[kg/m]	-
	T	[kg/m]	-

BRECOFLEX® TK10K6			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	20	-	-	-	20	-	-	-	25	-	-	-
		d _{min} [mm]	60	-	-	-	60	-	-	-	80	-	-	-
	With contra- flexure	z _{min}	25	-	-	-	25	-	-	-	40	-	-	-
		d _{min} [mm]	80	-	-	-	80	-	-	-	130	-	-	-



Belt widths b [mm] (in-between belt widths on request)
50

BFX TK10K13	Available lengths and versions
Standard lengths	see table on the right
Any number of teeth available from	1200 mm up to 22000 mm
Intermediate lengths	from 1200 mm o
StandardPlus version	1200 mm up to 22000 mm
Over 22000 mm	on request
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	o
Stainless steel tension member	o
PAZ	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

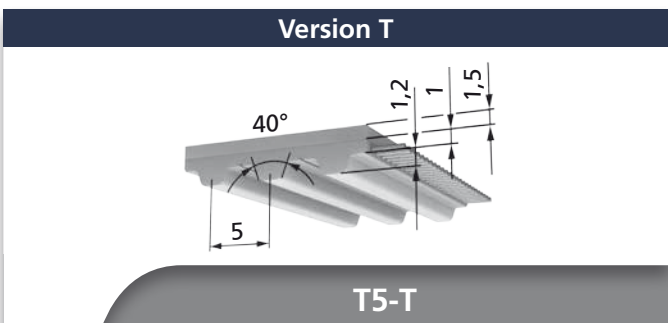
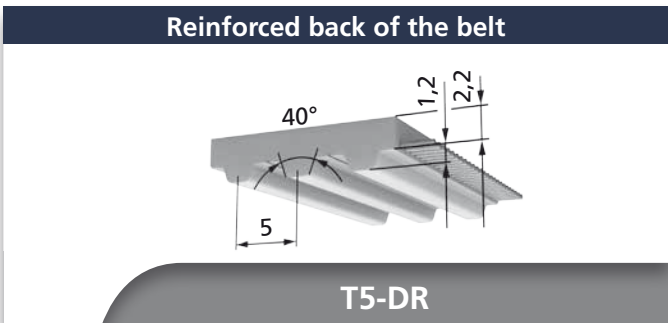
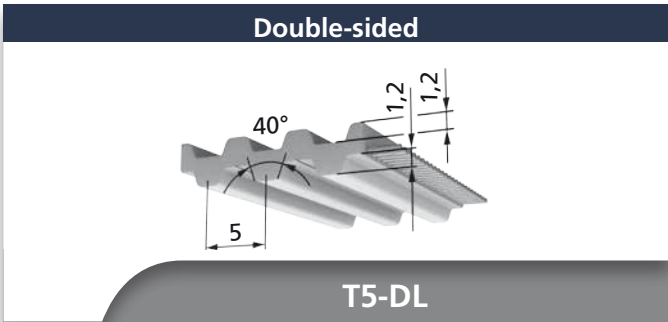
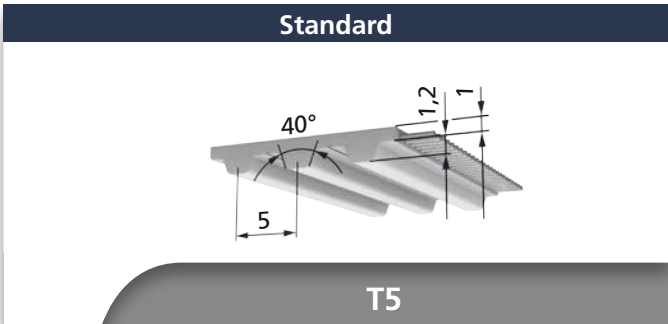
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1500	150	2650	265	5300	530
1560	156	3000	300	5600	560
1610	161	3100	310	6000	600
1750	175	3150	315	6300	630
1780	178	3350	335	6700	670
1880	188	3750	375	7100	710
1960	196	4000	400	7500	750
2250	225	4250	425	8000	800
2360	236	4500	450	9000	900
2500	250	4750	475		
2800	280	5000	500		

x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

BRECOFLEX® TK10K13 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	50,50	8,04	0,000	2000	25,40	4,040	8,460
20	49,00	7,80	0,163	2200	24,60	3,920	9,030
40	47,70	7,60	0,318	2400	23,90	3,810	9,580
60	46,60	7,42	0,466	2600	23,30	3,710	10,100
80	45,70	7,27	0,609	2800	22,70	3,620	10,600
100	44,80	7,13	0,746	3000	22,20	3,530	11,080
200	41,40	6,60	1,381	3200	21,70	3,450	11,550
300	39,10	6,22	1,953	3400	21,20	3,360	11,990
400	37,20	5,92	2,480	3600	20,70	3,300	12,420
500	35,70	5,68	2,980	3800	20,30	3,230	12,840
600	34,40	5,48	3,440	4000	19,86	3,160	13,240
700	33,30	5,31	3,890	4500	18,91	3,010	14,180
800	32,40	5,15	4,320	5000	18,06	2,870	15,050
900	31,50	5,01	4,730	5500	17,28	2,750	15,840
1000	30,70	4,89	5,120	6000	16,58	2,640	16,580
1100	30,00	4,77	5,500	6500	15,93	2,540	17,260
1200	29,30	4,67	5,870	7000	15,33	2,440	17,880
1300	28,70	4,57	6,220	7500	14,76	2,350	18,460
1400	28,20	4,48	6,570	8000	14,24	2,270	18,990
1500	27,60	4,40	6,910	8500	13,74	2,180	19,470
1600	27,10	4,32	7,230	9000	13,28	2,110	19,920
1700	26,70	4,24	7,550	9500	12,84	2,040	20,300
1800	26,20	4,17	7,860	10000	12,42	1,976	20,700
1900	25,80	4,10	8,160				

BRECOFLEX® TK10K13 Admissible tensile force of the belt F _{adm} / Belt weight			
Belt width	b [mm]	50	
E / Steel tension member	F _{adm} [N]	3800	
Stainless steel tension member	F _{adm} [N]	3040	
Belt weight	Standard	[kg/m]	0,283
	DL	[kg/m]	-
	DR	[kg/m]	-
	T	[kg/m]	-

BRECOFLEX® TK10K13			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
 z _{min} d _{min}	Without contra- flexure	z _{min}	25	-	-	-	25	-	-	-	25	-	-	-
		d _{min} [mm]	80	-	-	-	80	-	-	-	80	-	-	-
 z _{min} d _{min}	With contra- flexure	z _{min}	25	-	-	-	25	-	-	-	40	-	-	-
		d _{min} [mm]	120	-	-	-	120	-	-	-	130	-	-	-



Belt widths b [mm] (in-between belt widths on request)							
10	16	25	32	50	75	100	

- x available, standard lengths (see table) without minimum purchase
- o minimum purchase amount on request
- not available
- 1) further materials on request

BFX T5	Available lengths and versions	
Standard lengths	see table	
Minimum purchase amount	up to 690 mm	1 sleeve (b= 100 mm)
Any number of teeth available from	720 mm up to 15000 mm	
Intermediate lengths	from 720 mm	o
StandardPlus version	720 mm up to 15000 mm	
Over 15000 mm	on request	
Standard material	up to 690 mm	TPUST3
	from 720 mm	TPUST1 ¹⁾
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	x	
DL / DL-PAZ	from 900 mm	o
DR / DR-PAZ	from 900 mm	o
T / T-PAZ	o	

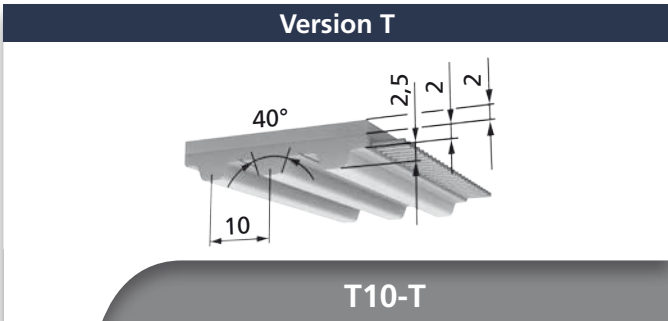
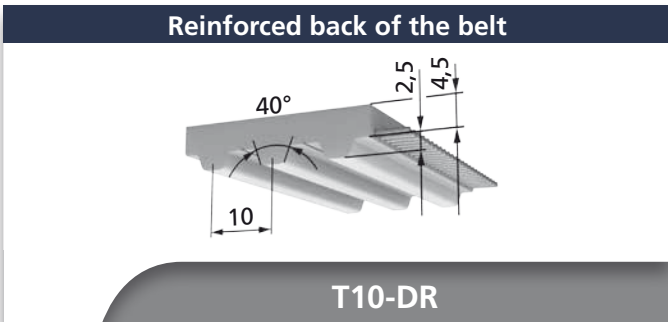
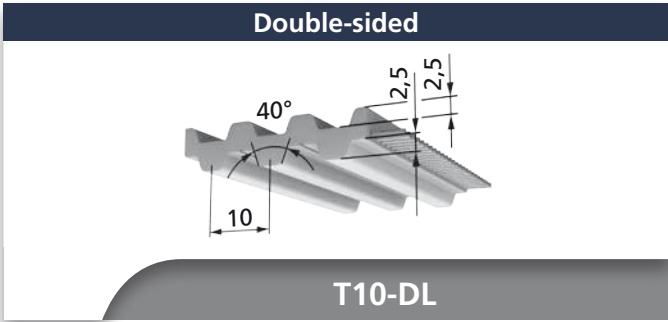
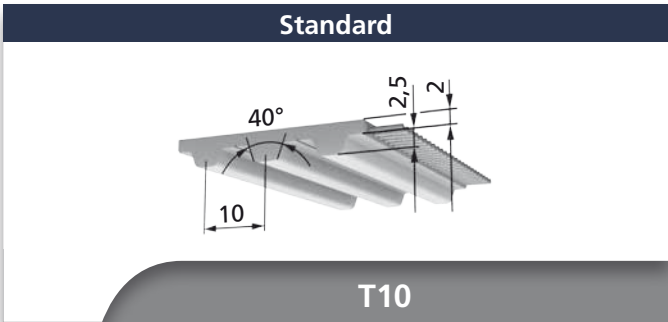
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
200	40	560	112	1800	360
215	43	575	115	1900	380
220	44	610	122	2000	400
225	45	620	124	2120	424
240	48	630	126	2240	448
245	49	660	132	2360	472
255	51	690	138	2500	500
260	52	720	144	2650	530
270	54	750	150	2800	560
280	56	755	151	3000	600
295	59	780	156	3150	630
305	61	800	160	3350	670
330	66	815	163	3550	710
340	68	840	168	3750	750
355	71	850	170	4000	800
365	73	860	172	4250	850
370	74	900	180	4500	900
390	78	945	189	4750	950
400	80	990	198	5000	1000
410	82	1040	208	5300	1060
420	84	1075	215	5600	1120
435	87	1100	220	6000	1200
455	91	1215	243	6300	1260
480	96	1380	276	6700	1340
500	100	1400	280	7100	1420
510	102	1500	300	7500	1500
525	105	1600	320		
545	109	1700	340		

BRECOFLEX® T5 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	24,00	1,910	0,000	2000	13,69	1,089	2,280
20	23,40	1,861	0,039	2200	13,38	1,065	2,450
40	22,90	1,819	0,076	2400	13,10	1,042	2,620
60	22,40	1,783	0,112	2600	12,84	1,021	2,780
80	22,00	1,751	0,147	2800	12,59	1,002	2,940
100	21,70	1,723	0,180	3000	12,37	0,984	3,090
200	20,30	1,614	0,338	3200	12,16	0,967	3,240
300	19,30	1,536	0,483	3400	11,96	0,951	3,390
400	18,55	1,476	0,618	3600	11,77	0,936	3,530
500	17,93	1,427	0,747	3800	11,59	0,922	3,670
600	17,41	1,385	0,870	4000	11,42	0,909	3,810
700	16,96	1,349	0,989	4500	11,03	0,878	4,140
800	16,56	1,318	1,104	5000	10,68	0,850	4,450
900	16,20	1,289	1,215	5500	10,36	0,825	4,750
1000	15,88	1,263	1,323	6000	10,07	0,802	5,040
1100	15,58	1,240	1,428	6500	9,81	0,780	5,310
1200	15,31	1,218	1,531	7000	9,56	0,761	5,580
1300	15,06	1,198	1,632	7500	9,33	0,742	5,830
1400	14,83	1,180	1,730	8000	9,11	0,725	6,080
1500	14,61	1,162	1,826	8500	8,91	0,709	6,310
1600	14,40	1,146	1,920	9000	8,72	0,694	6,540
1700	14,21	1,131	2,010	9500	8,54	0,679	6,760
1800	14,03	1,116	2,100	10000	8,37	0,666	6,970
1900	13,85	1,102	2,190				

BRECOFLEX® T5 Admissible tensile force of the belt F _{adm} / Belt weight								
Belt width	b [mm]	10	16	25	32	50	75	100
E / Steel tension member	F _{adm} [N]	330	570	930	1200	1920	2940	3930
Stainless steel tension member	F _{adm} [N]	250	435	710	910	1460	2235	2990
Belt weight	Standard	[kg/m]	0,022	0,034	0,052	0,067	0,105	0,210
	DL	[kg/m]	0,028	0,045	0,072	0,099	0,141	0,283
	DR	[kg/m]	0,036	0,057	0,090	0,115	0,180	0,362
	T	[kg/m]	0,041	0,065	0,101	0,130	0,203	0,405

BRECOFLEX® T5 Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}				z _{min}				z _{min}			
		10	15	20*	20	10	12	-	-	18	36	20	20
	With contra- flexure	d _{min} [mm]				d _{min} [mm]				d _{min} [mm]			
		30	30	30	30	18	30	-	-	30	60	30	30
	Without contra- flexure	z _{min}				z _{min}				z _{min}			
		15	15	20*	20	12	12	-	-	36	36	36	36
	With contra- flexure	d _{min} [mm]				d _{min} [mm]				d _{min} [mm]			
		30	30	60	60	18	30	-	-	60	60	60	60

*Speed limitation



x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

Belt widths b [mm] (in-between belt widths on request)					
16	25	32	50	75	100

BFX T10	Available lengths and versions	
Standard lengths	see table	
Minimum purchase amount	up to 700 mm	1 sleeve (b= 100 mm)
Any number of teeth available from	720 mm up to 22000 mm	
Intermediate lengths	from 720 mm	o
StandardPlus version	720 mm up to 22000 mm	
Over 22000 mm	on request	
Standard material	up to 700 mm	TPUST3
	from 720 mm	TPUST1 ¹⁾
Steel tension member (Standard)	x	
E tension member	o	
Stainless steel tension member	o	
PAZ	x	
DL / DL-PAZ	from 900 mm	o
DR / DR-PAZ	from 900 mm	o
T / T-PAZ	o	

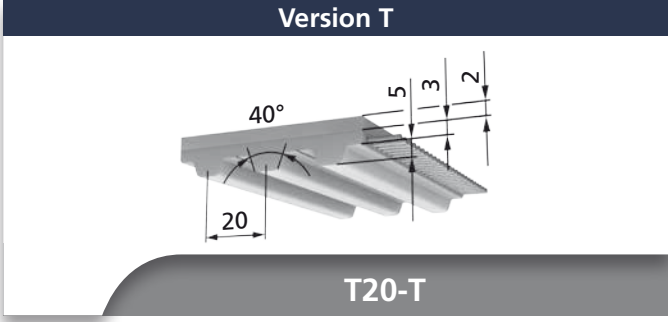
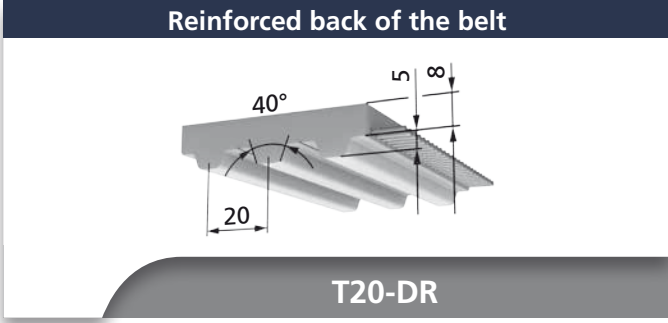
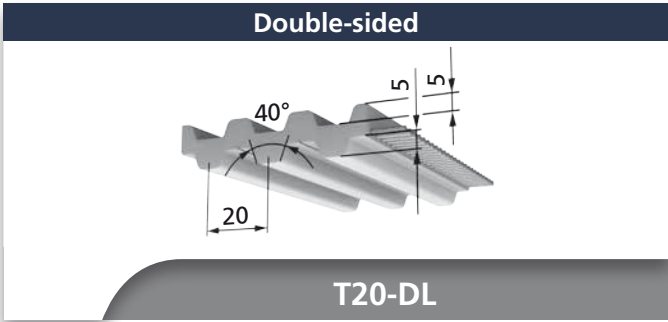
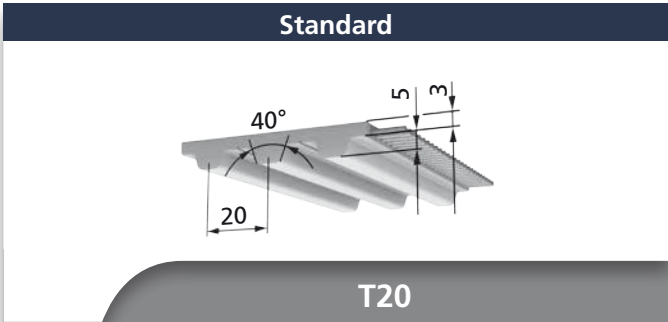
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
500	50	1080	108	2650	265
530	53	1150	115	2800	280
560	56	1210	121	3000	300
600	60	1240	124	3100	310
610	61	1250	125	3150	315
630	63	1320	132	3350	335
660	66	1350	135	3750	375
690	69	1390	139	4000	400
700	70	1400	140	4250	425
720	72	1420	142	4500	450
780	78	1460	146	4750	475
810	81	1500	150	5000	500
840	84	1560	156	5300	530
880	88	1610	161	5600	560
890	89	1750	175	6000	600
920	92	1780	178	6300	630
960	96	1880	188	6700	670
970	97	1960	196	7100	710
980	98	2250	225	7500	750
990	99	2360	236	8000	800
1010	101	2500	250	9000	900

BRECOFLEX® T10 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	50,50	8,040	0,000	2000	25,40	4,040	8,460
20	49,00	7,800	0,163	2200	24,60	3,920	9,030
40	47,70	7,600	0,318	2400	23,90	3,810	9,580
60	46,60	7,420	0,466	2600	23,30	3,710	10,100
80	45,70	7,270	0,609	2800	22,70	3,620	10,600
100	44,80	7,130	0,746	3000	22,20	3,530	11,080
200	41,40	6,600	1,381	3200	21,70	3,450	11,550
300	39,10	6,220	1,953	3400	21,20	3,360	11,990
400	37,20	5,920	2,480	3600	20,70	3,300	12,420
500	35,70	5,680	2,980	3800	20,30	3,230	12,840
600	34,40	5,480	3,440	4000	19,86	3,160	13,240
700	33,30	5,310	3,890	4500	18,91	3,010	14,180
800	32,40	5,150	4,320	5000	18,06	2,870	15,050
900	31,50	5,010	4,730	5500	17,28	2,750	15,840
1000	30,70	4,890	5,120	6000	16,58	2,640	16,580
1100	30,00	4,770	5,500	6500	15,93	2,540	17,260
1200	29,30	4,670	5,870	7000	15,33	2,440	17,880
1300	28,70	4,570	6,220	7500	14,76	2,350	18,460
1400	28,20	4,480	6,570	8000	14,24	2,270	18,990
1500	27,60	4,400	6,910	8500	13,74	2,180	19,470
1600	27,10	4,320	7,230	9000	13,28	2,110	19,920
1700	26,70	4,240	7,550	9500	12,84	2,040	20,300
1800	26,20	4,170	7,860	10000	12,42	1,976	20,700
1900	25,80	4,100	8,160				

BRECOFLEX® T10 Admissible tensile force of the belt F _{adm} / Belt weight							
Belt width	b [mm]	16	25	32	50	75	100
E / Steel tension member	F _{adm} [N]	1000	1800	2300	3800	5800	7800
Stainless steel tension member	F _{adm} [N]	800	1440	1840	3040	4640	6240
Belt weight	Standard	[kg/m]	0,068	0,14	0,145	0,227	0,341
	DL	[kg/m]	0,090	0,143	0,183	0,228	0,377
	DR	[kg/m]	0,119	0,185	0,237	0,372	0,558
	T	[kg/m]	0,107	0,170	0,217	0,342	0,513

BRECOFLEX® T10			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	12	20	20	20*	10	15	20	20	25	40	25	25
		d _{min} [mm]	60	60	60	60	50	50	60	60	80	130	80	80
	With contra- flexure	z _{min}	20	20	20	20	15	15	20	20	40	40	40	40
		d _{min} [mm]	60	60	80	80	50	50	80	80	130	130	130	130

*Speed limitation



Belt widths b [mm] (in-between belt widths on request)				
32	50	75	100	150

BFX T20		Available lengths and versions	
Standard lengths		see table on the right	
Any number of teeth available from		1100 mm up to 22000 mm	
Width b=150 mm		1500 mm up to 15000 mm	
Intermediate lengths		from 1100 mm	o
StandardPlus version		1500 mm up to 22000 mm	
Over 22000 mm		on request	
Standard material		TPUST1 ¹⁾	
Steel tension member (Standard)		x	
E tension member		o	
Stainless steel tension member		o	
PAZ		x	
DL / DL-PAZ	b _{max} = 100 mm	from 1100 mm	o
DR / DR-PAZ	b _{max} = 100 mm	from 1100 mm	o
T / T-PAZ	b _{max} = 100 mm	o	

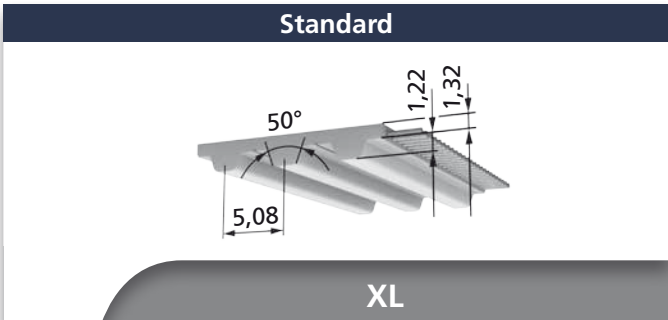
Standard lengths [mm] / Number of teeth					
Length	Number of teeth	Length	Number of teeth	Length	Number of teeth
1500	75	2800	140	5300	265
1600	80	3000	150	5600	280
1700	85	3160	158	6000	300
1800	90	3360	168	6300	315
1900	95	3560	178	6700	335
2000	100	3760	188	7100	355
2120	106	4000	200	7500	375
2240	12	4260	213	8000	400
2360	118	4500	225	8500	425
2500	125	4760	238	9000	450
2660	133	5000	250		

x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

BRECOFLEX® T20 Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	101,50	32,30	0,000	1600	49,20	15,66	26,200
20	98,10	31,20	0,654	1700	48,20	15,33	27,300
40	95,30	30,30	1,271	1800	47,20	15,01	28,300
60	92,80	29,50	1,856	1900	46,20	14,71	29,300
80	90,70	28,90	2,420	2000	45,30	14,42	30,200
100	88,70	28,20	2,960	2200	43,60	13,89	32,000
200	81,20	25,90	5,420	2400	42,10	13,40	33,700
300	75,90	24,20	7,590	2600	40,70	12,95	35,200
400	71,80	22,90	9,570	2800	39,40	12,53	36,700
500	68,40	21,80	11,410	3000	38,10	12,13	38,100
600	65,60	20,90	13,110	3200	37,00	11,77	39,400
700	63,10	20,10	14,730	3400	35,90	11,42	40,700
800	60,90	19,40	16,250	3600	34,90	11,09	41,800
900	59,00	18,78	17,700	3800	33,90	10,78	42,900
1000	57,20	18,22	19,080	4000	33,00	10,49	43,900
1100	55,60	17,71	20,400	4500	30,80	9,81	46,200
1200	54,20	17,24	21,700	5000	28,90	9,21	48,200
1300	52,80	16,80	22,900	5500	27,20	8,66	49,900
1400	51,50	16,40	24,000	6000	25,60	8,16	51,200
1500	50,30	16,02	25,200	6500	24,20	7,69	52,400

BRECOFLEX® T20		Admissible tensile force of the belt F _{adm} / Belt weight					
Belt width		b [mm]	32	50	75	100	150
E / Steel tension member		F _{adm} [N]	4750	7750	12000	16000	24500
Stainless steel tension member		F _{adm} [N]	3420	5580	8640	11520	17640
Belt weight	Standard	[kg/m]	0,236	0,368	0,552	0,736	1,095
	DL	[kg/m]	0,319	0,499	0,753	1,004	-
	DR	[kg/m]	0,430	0,675	1,016	1,354	-
	T	[kg/m]	0,315	0,495	0,746	0,994	-

BRECOFLEX® T20			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra- flexure	z _{min}	15	25	25	25	12	25	25	25	20	30	25	25
		d _{min} [mm]	120	120	150	120	100	120	150	120	130	180	150	130
	With contra- flexure	z _{min}	25	25	25	25	22	25	25	25	30	30	30	30
		d _{min} [mm]	120	120	180	120	120	120	180	120	180	180	180	180



Belt widths b [mm] (in-between belt widths on request)					
6,35	7,94	9,53	12,7	19,1	25,4
Imperial code					
025	031	037	050	075	100

1/5" = 5,08 mm

BFX XL	Available lengths and versions
Standard lengths	see table on the right
Minimum purchase amount	1 sleeve (b= 101,6 mm)
Further lengths	on request
Standard material	TPUST3
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	-
PAZ	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

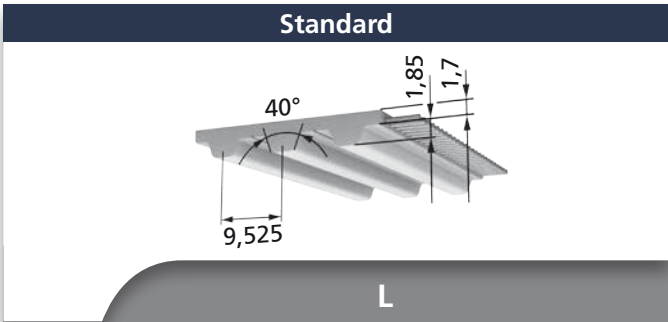
- x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

Length code / Standard lengths [mm] / Number of teeth					
Length code	Length [mm]	Number of teeth	Length code	Length [mm]	Number of teeth
60	152,40	30	170	431,80	85
70	177,80	35	180	457,20	90
80	203,20	40	190	482,60	95
90	228,60	45	200	508,00	100
100	254,00	50	210	533,40	105
110	279,40	55	220	558,80	110
120	304,80	60	230	584,20	115
130	330,20	65	240	609,60	120
140	355,60	70	250	635,00	125
150	381,00	75	260	660,40	130
160	406,40	80			

BRECOFLEX® XL Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	24,40	1,973	0,000	2000	13,91	1,125	2,360
20	23,80	1,922	0,040	2200	13,60	1,100	2,530
40	23,20	1,879	0,079	2400	13,31	1,076	2,710
60	22,80	1,842	0,116	2600	13,05	1,055	2,870
80	22,40	1,809	0,152	2800	12,80	1,035	3,060
100	22,00	1,780	0,186	3000	12,57	1,017	3,190
200	20,60	1,667	0,349	3200	12,36	0,999	3,350
300	19,63	1,587	0,498	3400	12,16	0,983	3,500
400	18,86	1,525	0,639	3600	11,96	0,967	3,650
500	18,23	1,474	0,772	3800	11,78	0,953	3,790
600	17,70	1,431	0,899	4000	11,61	0,939	3,930
700	17,24	1,394	1,022	4500	11,21	0,907	4,270
800	16,83	1,361	1,140	5000	10,86	0,878	4,600
900	16,47	1,332	1,255	5500	10,54	0,852	4,910
1000	16,14	1,305	1,367	6000	10,24	0,828	5,200
1100	15,84	1,281	1,475	6500	9,97	0,806	5,490
1200	15,57	1,259	1,582	7000	9,72	0,786	5,760
1300	15,31	1,238	1,685	7500	9,49	0,767	6,020
1400	15,07	1,219	1,787	8000	9,27	0,749	6,280
1500	14,85	1,201	1,886	8500	9,06	0,732	6,520
1600	14,64	1,184	1,984	9000	8,86	0,717	6,760
1700	14,45	1,168	2,080	9500	8,68	0,702	6,980
1800	14,26	1,153	2,170	10000	8,51	0,688	7,200
1900	14,08	1,139	2,270				

BRECOFLEX® XL Admissible tensile force of the belt F _{adm} / Belt weight							
Belt width	b [mm]	6,35	7,94	9,53	12,7	19,1	25,4
E / Steel tension member	F _{adm} [N]	180	240	300	420	690	930
Stainless steel tension member	F _{adm} [N]	-	-	-	-	-	-
Belt weight	Standard	[kg/m]	0,016	0,020	0,024	0,030	0,038
	DL	[kg/m]	-	-	-	-	-
	DR	[kg/m]	-	-	-	-	-
	T	[kg/m]	-	-	-	-	-

BRECOFLEX® XL Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra-flexure	z _{min}	10	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	30	-	-	-	-	-	-	-	-	-	-
	With contra-flexure	z _{min}	15	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	30	-	-	-	-	-	-	-	-	-	-



Belt widths b [mm] (in-between belt widths on request)					
9,53	12,7	19,1	25,4	50,8	101,6
Imperial code					
037	050	075	100	200	400

3/8" = 9,525 mm

BFX L	Available lengths and versions	
Standard lengths	see table on the right	
Minimum purchase amount	up to 685,8 mm	1 sleeve (b= 101,6 mm)
Any number of teeth available from	723,9 mm up to 14992,35 mm	
Intermediate lengths	from 723,9 mm	o
StandardPlus version	723,9 mm up to 14992,35 mm	
Over 14992,35 mm	on request	
Standard material	up to 685,8 mm	TPUST3
	from 723,9 mm	TPUST1 ¹⁾
Steel tension member (Standard)	x	
E tension member	-	
Stainless steel tension member	-	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

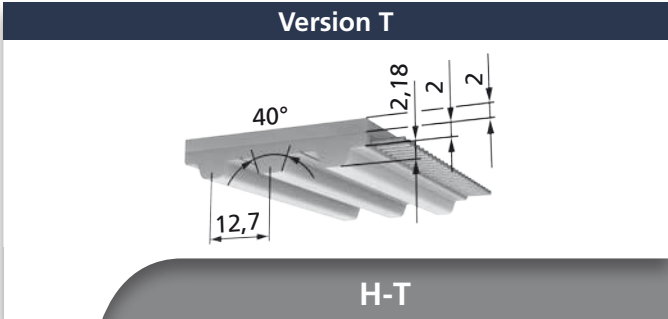
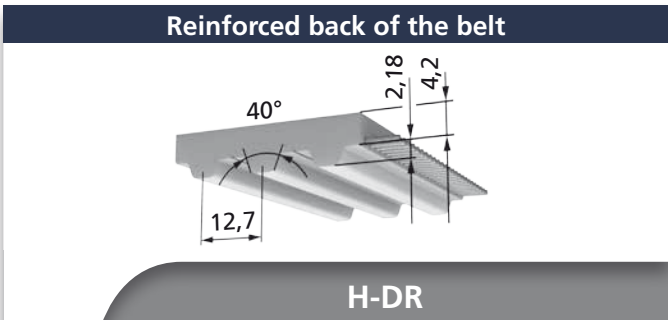
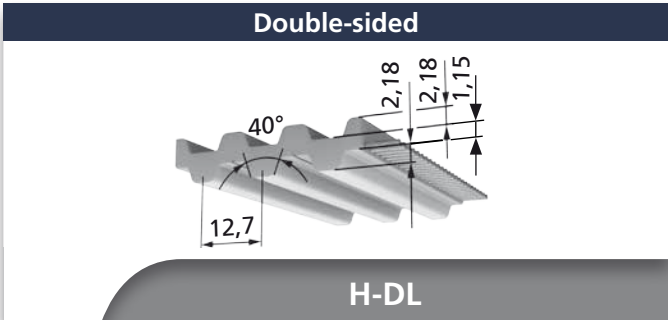
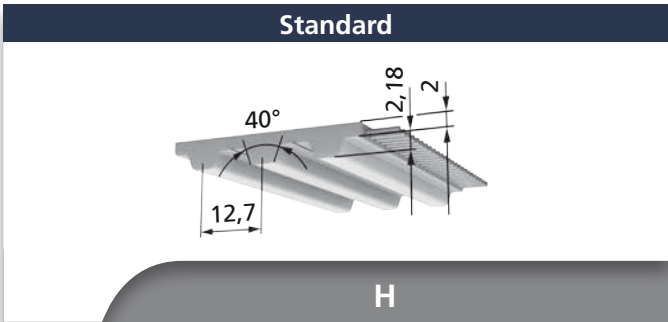
- x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

Length code / Standard lengths [mm] / Number of teeth					
Length code	Length [mm]	Number of teeth	Length code	Length [mm]	Number of teeth
124	314,33	33	367	933,45	98
150	381,00	40	390	990,60	104
187	476,25	50	420	1066,80	112
202	514,35	54	450	1143,00	120
210	533,40	56	480	1219,20	128
225	571,50	60	540	1371,60	144
240	609,60	64	570	1447,80	152
255	647,70	68	600	1524,00	160
270	685,80	72	630	1600,20	168
285	723,90	76	660	1676,40	176
300	762,00	80	705	1790,70	188
322	819,15	86	750	1905,00	200
345	876,30	92			

BRECOFLEX® L Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	37,40	5,670	0,000	2000	18,78	2,850	5,960
20	36,30	5,500	0,115	2200	18,22	2,760	6,370
40	35,30	5,350	0,224	2400	17,71	2,690	6,750
60	34,50	5,230	0,329	2600	17,25	2,610	7,120
80	33,80	5,120	0,429	2800	16,81	2,550	7,470
100	33,10	5,020	0,526	3000	16,40	2,490	7,810
200	30,70	4,650	0,974	3200	16,02	2,430	8,140
300	28,90	4,380	1,377	3400	15,66	2,370	8,450
400	27,50	4,180	1,749	3600	15,32	2,320	8,760
500	26,40	4,010	2,100	3800	15,00	2,270	9,050
600	25,50	3,860	2,430	4000	14,69	2,230	9,330
700	24,70	3,740	2,740	4500	13,99	2,120	9,990
800	24,00	3,630	3,040	5000	13,36	2,030	10,610
900	23,30	3,530	3,330	5500	12,79	1,939	11,170
1000	22,70	3,450	3,610	6000	12,27	1,860	11,690
1100	22,20	3,370	3,880	6500	11,79	1,787	12,160
1200	21,70	3,290	4,140	7000	11,34	1,719	12,600
1300	21,30	3,220	4,390	7500	10,93	1,656	13,010
1400	20,80	3,160	4,630	8000	10,54	1,597	13,380
1500	20,40	3,100	4,870	8500	10,17	1,542	13,720
1600	20,10	3,040	5,100	9000	9,83	1,490	14,040
1700	19,72	2,990	5,320	9500	9,50	1,440	14,330
1800	19,39	2,940	5,540	10000	9,19	1,393	14,590
1900	19,08	2,890	5,750				

BRECOFLEX® L Admissible tensile force of the belt F _{adm} / Belt weight							
Belt width	b [mm]	9,53	12,7	19,1	25,4	50,8	101,6
E / Steel tension member	F _{adm} [N]	630	910	1470	2030	4270	8750
Stainless steel tension member	F _{adm} [N]	-	-	-	-	-	-
Belt weight	Standard	[kg/m]	0,038	0,044	0,066	0,088	0,178
	DL	[kg/m]	-	-	-	-	-
	DR	[kg/m]	-	-	-	-	-
	T	[kg/m]	-	-	-	-	-

BRECOFLEX® L Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	15	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	60	-	-	-	-	-	-	-	-	-	-
	With contra- flexure	z _{min}	20	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	60	-	-	-	-	-	-	-	-	-	-



- x available, standard lengths (see table) without minimum purchase
- o minimum purchase amount on request
- not available
- 1) further materials on request

Belt widths b [mm] (in-between belt widths on request)						
12,7	19,1	25,4	38,1	50,8	76,2	101,6
Imperial code						
050	075	100	150	200	300	400

1/2" = 12,7 mm

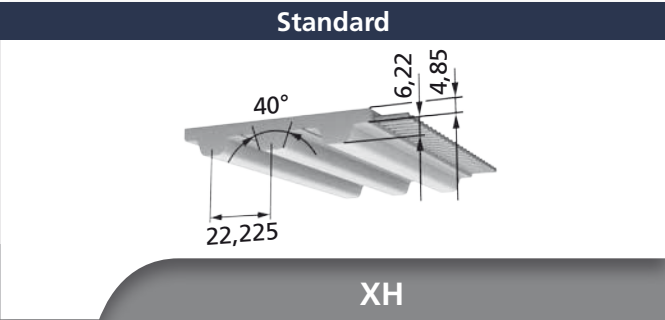
BFX H	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	723,9 mm up to 16002 mm	
Intermediate lengths	from 723,9 mm	o
StandardPlus version	723,9 mm up to 16002 mm	
Over 16002 mm	on request	
Standard material	from 723,9 mm	TPUST1 ¹⁾
Steel tension member (Standard)	x	
E tension member	-	
Stainless steel tension member	-	
PAZ	x	
DL / DL-PAZ	from 901,7 mm	o
DR / DR-PAZ	from 901,7 mm	o
T / T-PAZ	o	

Length code / Standard lengths [mm] / Number of teeth					
Length code	Length [mm]	Number of teeth	Length code	Length [mm]	Number of teeth
420	1066,80	84	850	2159,00	170
450	1143,00	90	900	2286,00	180
480	1219,20	96	1000	2540,00	200
510	1295,40	102	1100	2794,00	220
540	1371,60	108	1250	3175,00	250
570	1447,80	114	1400	3556,00	280
600	1524,00	120	1700	4318,00	340
630	1600,20	126	2000	5080,00	400
660	1676,40	132	2300	5842,00	460
700	1778,00	140	2600	6604,00	520
750	1905,00	150	3000	7620,00	600
800	2032,00	160			

BRECOFLEX® H Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{U spec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{U spec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	44,00	8,90	0,000	2000	22,10	4,47	9,370
20	42,70	8,64	0,181	2200	21,50	4,34	10,000
40	41,60	8,41	0,352	2400	20,90	4,22	10,600
60	40,70	8,22	0,516	2600	20,30	4,11	11,180
80	39,80	8,05	0,674	2800	19,81	4,00	11,740
100	39,10	7,89	0,827	3000	19,33	3,91	12,270
200	36,10	7,30	1,530	3200	18,88	3,82	12,790
300	34,10	6,89	2,160	3400	18,45	3,73	13,280
400	32,50	6,56	2,750	3600	18,05	3,65	13,760
500	31,10	6,30	3,300	3800	17,68	3,57	14,220
600	30,00	6,07	3,810	4000	17,32	3,50	14,660
700	29,10	5,88	4,310	4500	16,49	3,33	15,700
800	28,20	5,71	4,780	5000	15,74	3,18	16,660
900	27,50	5,55	5,230	5500	15,07	3,05	17,550
1000	26,80	5,41	5,670	6000	14,46	2,92	18,360
1100	26,20	5,29	6,090	6500	13,89	2,81	19,110
1200	25,60	5,17	6,500	7000	13,36	2,70	19,800
1300	25,10	5,06	6,890	7500	12,87	2,60	20,400
1400	24,60	4,96	7,280	8000	12,42	2,51	21,000
1500	24,10	4,87	7,650	8500	11,99	2,42	21,600
1600	23,70	4,78	8,010	9000	11,58	2,34	22,100
1700	23,20	4,70	8,360	9500	11,19	2,26	22,500
1800	22,90	4,62	8,710	10000	10,83	2,19	22,900
1900	22,50	4,54	9,040				

BRECOFLEX® H Admissible tensile force of the belt F _{adm} / Belt weight								
Belt width	b [mm]	12,7	19,1	25,4	38,1	50,8	76,2	101,6
E / Steel tension member	F _{adm} [N]	800	1300	1800	2800	3800	5800	7900
Stainless steel tension member	F _{adm} [N]	-	-	-	-	-	-	-
Belt weight	Standard	[kg/m]	0,053	0,079	0,108	0,161	0,216	0,324
	DL	[kg/m]	0,064	0,097	0,130	0,196	0,262	0,394
	DR	[kg/m]	0,085	0,128	0,171	0,258	0,345	0,518
	T	[kg/m]	0,082	0,124	0,165	0,249	0,333	0,499

BRECOFLEX® H Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}				-				-			
		d _{min} [mm]				-				-			
	With contra- flexure	z _{min}				-				-			
		d _{min} [mm]				-				-			



Belt widths b [mm] (in-between belt widths on request)		
50,8	76,2	101,6
Imperial code		
200	300	400

7/8" = 22,225 mm

BFX XH	Available lengths and versions	
Standard lengths	see table on the right	
Any number of teeth available from	1422,4 mm up to 16002 mm	
Intermediate lengths	from 1422,4 mm	o
StandardPlus version	1422,4 mm up to 16002 mm	
Over 16002 mm	on request	
Standard material	TPUST1 ¹⁾	
Steel tension member (Standard)	x	
E tension member	-	
Stainless steel tension member	-	
PAZ	x	
DL / DL-PAZ	-	
DR / DR-PAZ	-	
T / T-PAZ	-	

- x available, standard lengths (see table) without minimum purchase
o minimum purchase amount on request
- not available
1) further materials on request

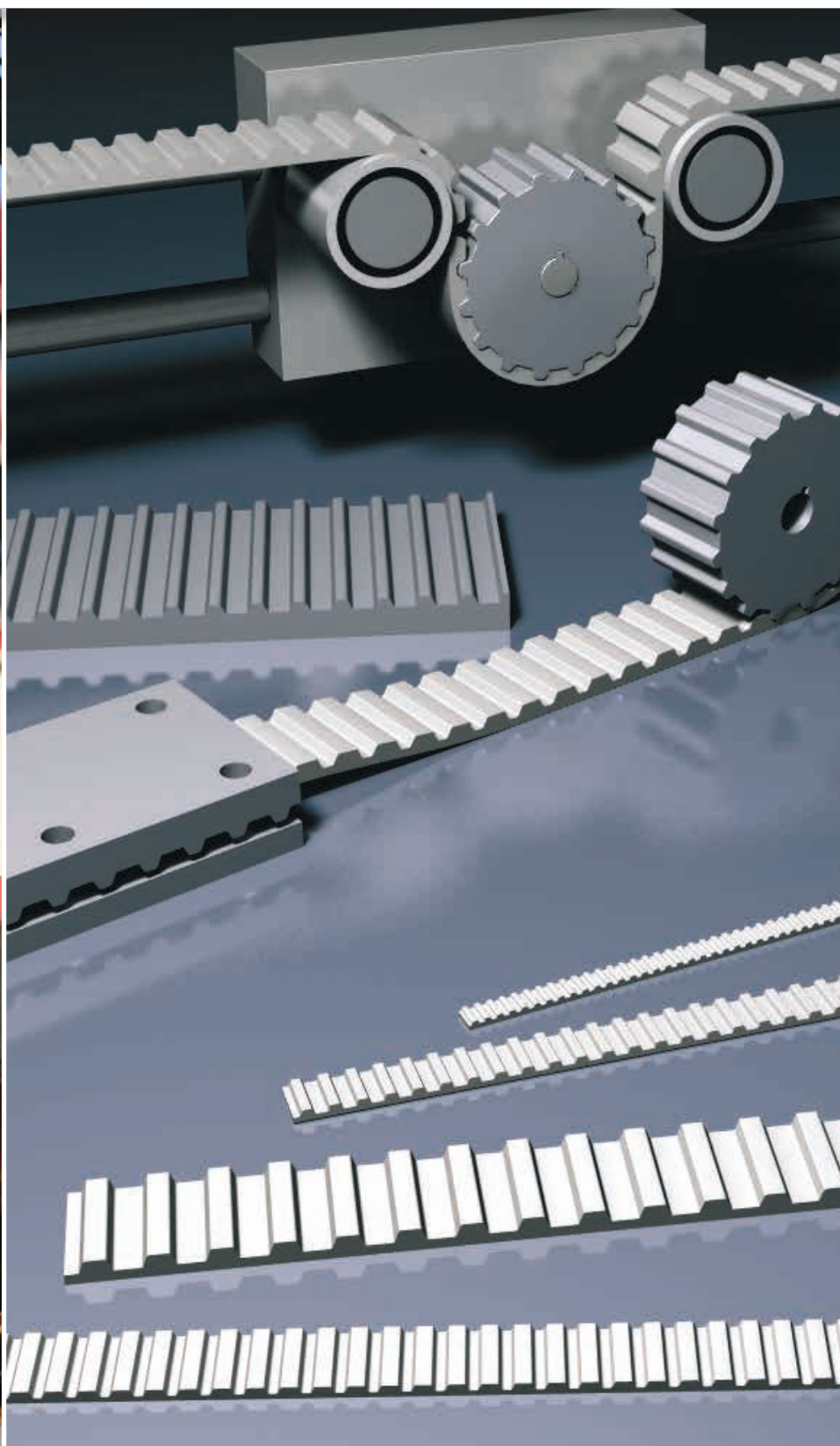
Length code / Standard lengths [mm] / Number of teeth					
Length code	Length [mm]	Number of teeth	Length code	Length [mm]	Number of teeth
560	1422,40	64	1400	3556,00	160
630	1600,20	72	1540	3911,60	176
700	1778,00	80	1750	4445,00	200
770	1955,80	88	1960	4978,40	224
840	2133,60	96	2275	5778,50	260
980	2489,20	112	2450	6223,00	280
1120	2844,80	128	3500	8890,00	400
1260	3200,40	144			

BRECOFLEX® XH Tooth shear strength (specific belt tooth load bearing)							
R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]	R.p.m. n [min ⁻¹]	F _{Uspec} [N/cm]	M _{spec} [Ncm/cm]	P _{spec} [W/cm]
0	91,35	29,070	0,000	1400	46,35	14,760	21,600
20	88,29	28,080	0,589	1500	45,27	14,418	22,680
40	85,77	27,270	1,144	1600	44,28	14,094	23,580
60	83,52	26,550	1,670	1700	43,38	13,797	24,570
80	81,63	26,010	2,178	1800	42,48	13,509	25,470
100	79,83	25,380	2,664	1900	41,58	13,239	26,370
200	73,08	23,310	4,878	2000	40,77	12,978	27,180
300	68,31	21,780	6,831	2200	39,24	12,501	28,800
400	64,62	20,610	8,613	2400	37,89	12,060	30,330
500	61,56	19,620	10,269	2600	36,63	11,665	31,680
600	59,04	18,810	11,799	2800	35,46	11,277	33,030
700	56,79	18,090	13,257	3000	34,29	10,917	34,290
800	54,81	17,460	14,625	3200	33,30	10,593	35,460
900	53,10	16,902	15,930	3400	32,31	10,278	36,630
1000	51,48	16,398	17,172	3600	31,41	9,981	37,620
1100	50,04	15,939	18,360	3800	30,51	9,702	38,610
1200	48,78	15,516	19,530	4000	29,70	9,441	39,510
1300	47,52	15,120	20,610	4500	27,72	8,829	41,580

BRECOFLEX® XH Admissible tensile force of the belt F _{adm} / Belt weight				
Belt width	b [mm]	50,8	76,2	101,6
E / Steel tension member	F _{adm} [N]	7750	12000	16250
Stainless steel tension member	F _{adm} [N]	-	-	-
Belt weight	Standard	[kg/m]	0,530	0,795
	DL	[kg/m]	-	-
	DR	[kg/m]	-	-
	T	[kg/m]	-	-

BRECOFLEX® XH Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Stan- dard	DL	DR	T	Stan- dard	DL	DR	T	Stan- dard	DL	DR	T
	Without contra- flexure	z _{min}	18	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	150	-	-	-	-	-	-	-	-	-	-
	With contra- flexure	z _{min}	25	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	180	-	-	-	-	-	-	-	-	-	-

BRECO® timing belts (BRECO M: Open length / BRECO V: Joined belts)



BRECO M: The BRECO® timing belt is manufactured in open length. The tension members are always arranged with parallel edges. Open length is required e.g. in linear transmissions. All tension members assume part of the load.

BRECO V: BRECO® timing belts are manufactured from open length material welded to endless belts. In the join area the half number of tension members assume part of the load. The use of endless joined BRECO® timing belts is preferred in the conveying technology to handle any centre distance.

Application areas

Open length for linear transmissions

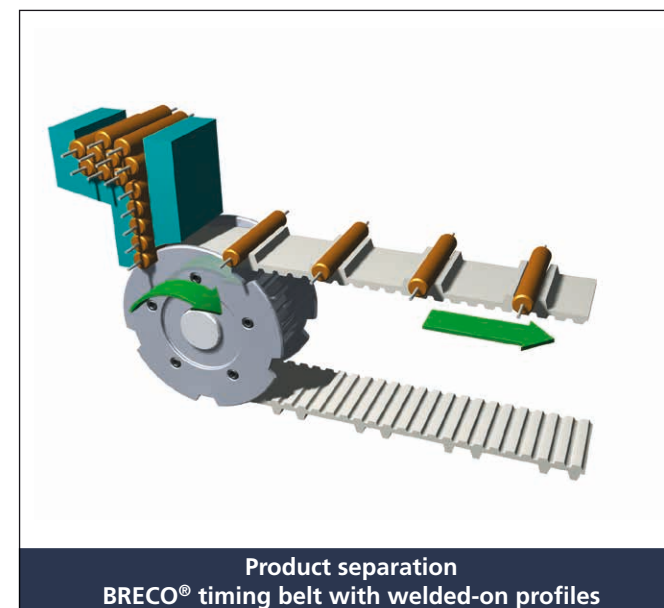
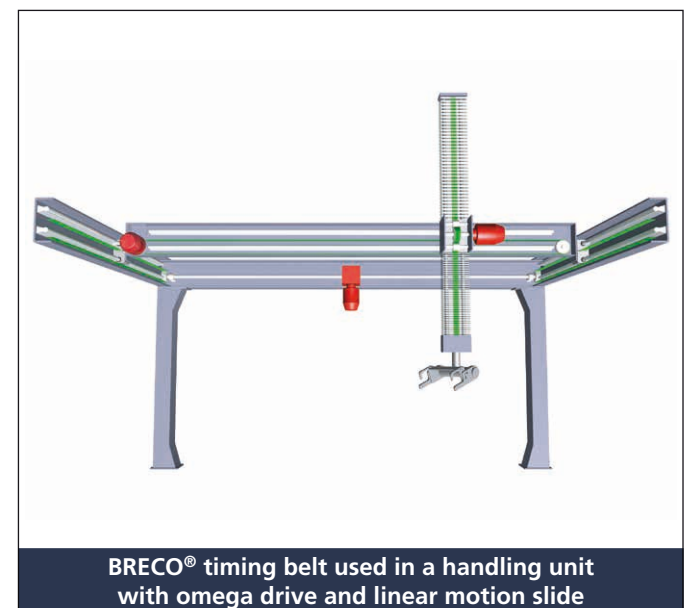
Rotary movements are converted into linear movements by linear transmissions. The BRECO® timing belt in its open length delivery form is preferably fitted to the machine part to be moved.

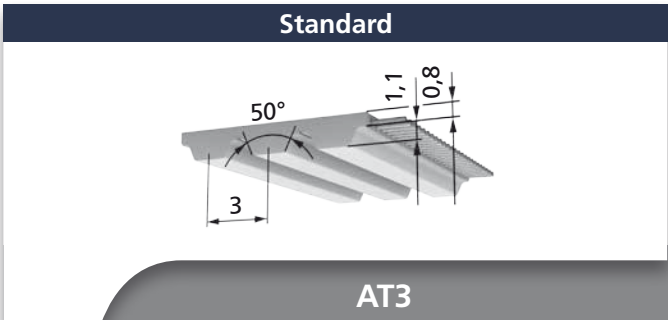
Joined belts for conveying drives

Endless joined timing belts without length limitation are available. The minimum length for various belt profiles, however, is to be taken into consideration. For special requirements in transportation timing belts are coated or manufactured with flights/profiles.



Joined BRECO® timing belt

Product separation
BRECO® timing belt with welded-on profilesBRECO® timing belt used in a handling unit
with omega drive and linear motion slide



Belt widths b [mm] (in-between belt widths on request)			
8	10	20	25

AT3 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	880 mm
Standard material	TPUST11)
Steel tension member	-
E tension member (Standard)	x
Stainless steel tension member	o
PAZ	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

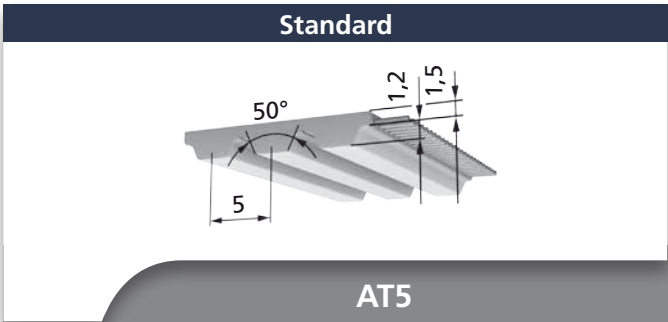
x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® AT3 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	38,50	800	29,92	2000	24,76	5000	18,83
20	38,10	900	29,32	2200	24,17	5500	18,18
40	37,72	1000	28,76	2400	23,63	6000	17,59
60	37,36	1100	28,25	2600	23,12	6500	17,05
80	37,02	1200	27,77	2800	22,65	7000	16,54
100	36,69	1300	27,31	3000	22,21	7500	16,06
200	35,24	1400	26,89	3200	21,79	8000	15,62
300	34,03	1500	26,49	3400	21,39	8500	15,20
400	33,00	1600	26,11	3600	21,02	9000	14,80
500	32,10	1700	25,75	3800	20,66	9500	14,43
600	31,30	1800	25,41	4000	20,32	10000	14,07
700	30,58	1900	25,08	4500	19,54		

BRECO® AT3 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight				
Belt width		b [mm]	8	10	20	25
M	E / Steel tension member	F _{Tadm} [N]	320	400	800	1000
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	8,0·10 ⁴	10,0·10 ⁴	20,0·10 ⁴	25,0·10 ⁴
	Stainless steel tension member (E)	F _{Tadm} [N]	240	300	600	750
	Specific elasticity (stainless steel tension member (E))	C _{spec} [N]	8,0·10 ⁴	10,0·10 ⁴	20,0·10 ⁴	25,0·10 ⁴
V	E / Steel tension member	F _{Tadm} [N]	160	200	400	500
	Stainless steel tension member (E)	F _{Tadm} [N]	120	150	300	375
Belt weight	Standard	[kg/m]	0,018	0,022	0,044	0,054
	DL	[kg/m]	-	-	-	-
	DR	[kg/m]	-	-	-	-
	T	[kg/m]	-	-	-	-

BRECO® AT3 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member (E)			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	-	-	-	15	-	-	-	20	-	-	-
		d _{min} [mm]	-	-	-	30 (20)	-	-	-	30	-	-	-
	With contra-flexure	z _{min}	-	-	-	25 (20)	-	-	-	30	-	-	-
		d _{min} [mm]	-	-	-	30 (20)	-	-	-	40	-	-	-

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm] (in-between belt widths on request)						
10	16	25	32	50	75	100

AT5 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	880 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	o
Stainless steel tension member (E)	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

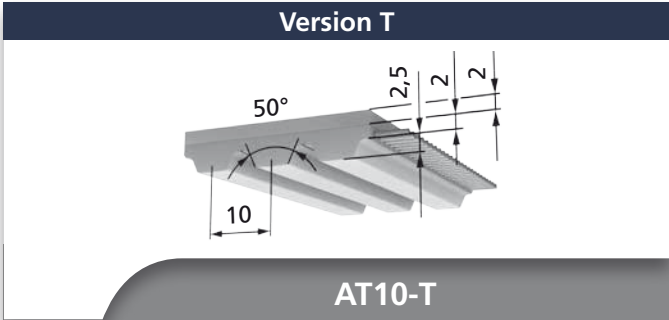
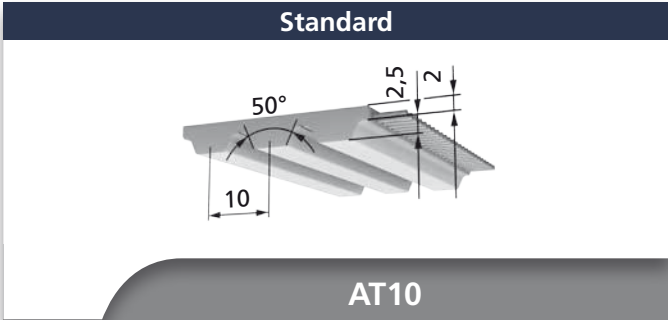
x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® AT5 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	42,00	800	31,96	2000	26,05	5000	19,28
20	41,52	900	31,27	2200	25,38	5500	18,55
40	41,07	1000	30,63	2400	24,75	6000	17,88
60	40,64	1100	30,04	2600	24,18	6500	17,26
80	40,23	1200	29,49	2800	23,64	7000	16,68
100	39,85	1300	28,97	3000	23,13	7500	16,14
200	38,14	1400	28,48	3200	22,65	8000	15,63
300	36,73	1500	28,02	3400	22,20	8500	15,15
400	35,53	1600	27,59	3600	21,78	9000	14,70
500	34,48	1700	27,18	3800	21,37	9500	14,28
600	33,55	1800	26,78	4000	20,98	10000	13,87
700	32,72	1900	26,41	4500	20,09		

BRECO® AT5 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight							
Belt width		b [mm]	10	16	25	32	50	75	100
M	E / Steel tension member	F _{Tadm} [N]	700	1120	1750	2240	3500	5250	7000
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	0,175·10 ⁶	0,280·10 ⁶	0,440·10 ⁶	0,560·10 ⁶	0,875·10 ⁶	1,310·10 ⁶	1,75·10 ⁶
	Stainless steel tension member (E)	F _{Tadm} [N]	455	730	1140	1460	2280	3420	4500
	Specific elasticity (stainless steel tension member (E))	C _{spec} [N]	0,175·10 ⁶	0,280·10 ⁶	0,440·10 ⁶	0,560·10 ⁶	0,875·10 ⁶	1,310·10 ⁶	1,75·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	350	560	910	1120	1750	2380	3500
	Stainless steel tension member (E)	F _{Tadm} [N]	230	365	570	730	1140	1710	2250
Belt weight		Standard	[kg/m]	0,033	0,052	0,082	0,105	0,164	0,245
		DL	[kg/m]	-	-	-	-	-	-
		DR	[kg/m]	-	-	-	-	-	-
		T	[kg/m]	-	-	-	-	-	-

BRECO® AT5 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member (E)			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	18 (15)	-	-	-	15 (12)	-	-	-	22 (18)	-	-
		d _{min} [mm]	30 (25)	-	-	-	25 (18)	-	-	-	35 (30)	-	-
	With contra-flexure	z _{min}	25	-	-	-	20	-	-	-	30 (25)	-	-
		d _{min} [mm]	60	-	-	-	50	-	-	-	60 (50)	-	-

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm] (in-between belt widths on request)					
25	32	50	75	100	150

AT10 (M/V)		Available lengths and versions	
Standard delivery lengths (M)		rolls of 50 or 100 m	
Cut to lengths / lengths > 100 m		on request	
Minimum length joined (V)	b≤100	880 mm	
	b>100	1000 mm	
Standard material		TPUST1 ¹⁾	
Steel tension member (Standard)		x	
E tension member		o	
Stainless steel tension member		o	
PAZ		x	
PAR		x	
PAZ-PAR		x	
DL / DL-PAZ		-	
DR / DR-PAZ		-	
T / T-PAZ	b _{max} = 100	o	

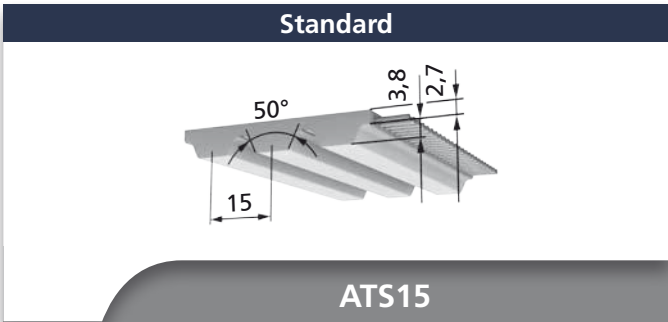
x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® AT10 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	87,50	800	62,15	2000	48,01	5000	32,08
20	86,22	900	60,47	2200	46,41	5500	30,36
40	85,01	1000	58,94	2400	44,94	6000	28,79
60	83,88	1100	57,51	2600	43,58	6500	27,33
80	82,81	1200	56,19	2800	42,30	7000	25,98
100	81,80	1300	54,95	3000	41,11	7500	24,72
200	77,43	1400	53,79	3200	39,99	8000	23,54
300	73,87	1500	52,70	3400	38,93	8500	22,43
400	70,88	1600	51,66	3600	37,93	9000	21,37
500	68,29	1700	50,68	3800	36,97	9500	20,38
600	66,02	1800	49,75	4000	36,06	10000	19,43
700	63,98	1900	48,86	4500	33,97		

BRECO® AT10 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight						
Belt width		b [mm]	25	32	50	75	100	150
M	E / Steel tension member	F _{Tadm} [N]	4250	5500	8500	12750	17000	22000
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	1,06·10 ⁶	1,37·10 ⁶	2,12·10 ⁶	3,18·10 ⁶	4,25·10 ⁶	5,5·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	3190	4125	6375	9560	12750	19125
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	1,06·10 ⁶	1,37·10 ⁶	2,12·10 ⁶	3,18·10 ⁶	4,25·10 ⁶	5,5·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	2125	2750	4250	6375	8500	11000
	Stainless steel tension member	F _{Tadm} [N]	1595	2065	3190	4780	6375	9565
Belt weight	Standard	[kg/m]	0,158	0,186	0,290	0,436	0,581	0,839
	DL	[kg/m]	-	-	-	-	-	-
	DR	[kg/m]	-	-	-	-	-	-
	T	[kg/m]	0,205	0,263	0,410	0,616	0,821	-

BRECO® AT10 (M/V)			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra- flexure	z _{min}	15	-	-	25	12	-	-	25	25 (20)	-	-	25
		d _{min} [mm]	50	-	-	80	50	-	-	80	80 (70)	-	-	80
	With contra- flexure	z _{min}	25	-	-	25	20	-	-	25	40 (30)	-	-	40
		d _{min} [mm]	120	-	-	120	80	-	-	120	130 (100)	-	-	130

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm] (in-between belt widths on request)					
25	50	75	100	150	

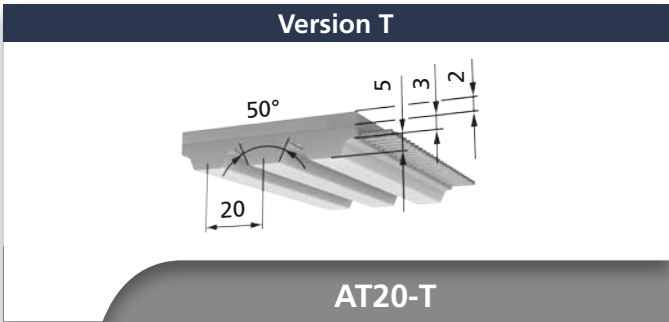
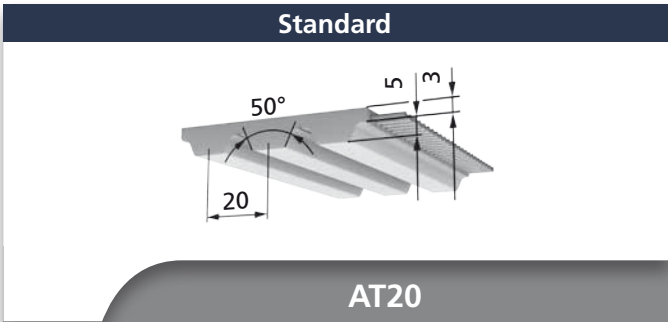
ATS15 (M)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	-
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	-
PAZ-PAR	-
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® ATS15 (M)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	168,00	800	114,64	2000	85,38	5000	52,58
20	165,24	900	111,17	2200	82,09	5500	49,05
40	162,67	1000	107,98	2400	79,06	6000	45,81
60	160,26	1100	105,03	2600	76,25	6500	42,82
80	157,98	1200	102,29	2800	73,63		
100	155,83	1300	99,73	3000	71,17		
200	146,57	1400	97,33	3200	68,86		
300	139,10	1500	95,07	3400	66,67		
400	132,83	1600	92,93	3600	64,61		
500	127,43	1700	90,90	3800	62,64		
600	122,68	1800	88,97	4000	60,78		
700	118,46	1900	87,14	4500	56,46		

BRECO® ATS15 (M)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight					
Belt width		b [mm]	25	50	75	100	150
M	E / Steel tension member	F _{Tadm} [N]	6765	13530	20295	27080	40590
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	1,72·10 ⁶	3,43·10 ⁶	5,15·10 ⁶	6,86·10 ⁶	1,03·10 ⁷
	Stainless steel tension member	F _{Tadm} [N]	5390	10780	16170	21560	32340
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	1,72·10 ⁶	3,43·10 ⁶	5,15·10 ⁶	6,86·10 ⁶	1,03·10 ⁷
V	E / Steel tension member	F _{Tadm} [N]	-	-	-	-	-
	Stainless steel tension member	F _{Tadm} [N]	-	-	-	-	-
Belt weight	Standard	[kg/m]	0,250	0,500	0,750	1,000	1,500
	DL	[kg/m]	-	-	-	-	-
	DR	[kg/m]	-	-	-	-	-
	T	[kg/m]	-	-	-	-	-

BRECO® ATS15 (M)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	25	-	-	-	-	-	-	30	-	-	-
		d _{min} [mm]	120	-	-	-	-	-	-	180	-	-	-
	With contra-flexure	z _{min}	40	-	-	-	-	-	-	60	-	-	-
		d _{min} [mm]	250	-	-	-	-	-	-	300	-	-	-



Belt widths b [mm]
(in-between belt widths on request)

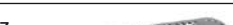
32	50	75	100	150
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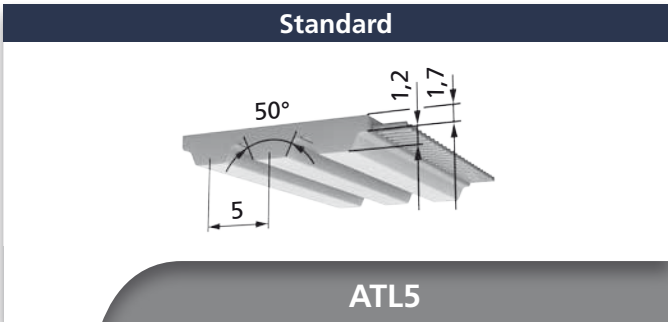
AT20 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 m
Cut to lengths / lengths > 50 m	on request
Minimum length joined (V)	1000 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	o

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® AT20 (M/V)		Specific tooth force		BRECO® AT20 (M/V)		Specific tooth force	
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	175,00	800	113,05	2000	79,68	5000	42,44
20	171,73	900	109,08	2200	75,94	5500	38,44
40	168,69	1000	105,43	2400	72,49	6000	34,77
60	165,85	1100	102,07	2600	69,30	6500	31,38
80	163,17	1200	98,94	2800	66,32		
100	160,66	1300	96,02	3000	63,53		
200	149,85	1400	93,28	3200	60,90		
300	141,18	1500	90,70	3400	58,43		
400	133,94	1600	88,26	3600	56,08		
500	127,72	1700	85,96	3800	53,85		
600	122,27	1800	83,76	4000	51,73		
700	117,42	1900	81,67	4500	46,84		

BRECO® AT20 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight						
Belt width		b [mm]	32	50	75	100	150	
M	E / Steel tension member	F _{Tadm} [N]	7200	11200	16800	22400	32000	
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	1,80·10 ⁶	2,80·10 ⁶	4,20·10 ⁶	5,60·10 ⁶	8,00·10 ⁷	
	Stainless steel tension member	F _{Tadm} [N]	5760	8960	13440	17920	25600	
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	1,80·10 ⁶	2,80·10 ⁶	4,20·10 ⁶	5,60·10 ⁶	8,00·10 ⁷	
V	E / Steel tension member	F _{Tadm} [N]	3600	5600	8400	11200	16000	
	Stainless steel tension member	F _{Tadm} [N]	2880	4480	6720	8960	12800	
Belt weight		Standard	[kg/m]	0,307	0,480	0,720	0,960	1,423
		DL	[kg/m]	-	-	-	-	-
		DR	[kg/m]	-	-	-	-	-
		T	[kg/m]	0,384	0,600	0,900	1,200	-

BRECO® AT20 (M/V)			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra- flexure	z _{min}	18	-	-	25	-	-	-	-	25	-	-	-
		d _{min} [mm]	120	-	-	120	-	-	-	-	200	-	-	-
	With contra- flexure	z _{min}	25	-	-	25	-	-	-	-	40	-	-	-
		d _{min} [mm]	180	-	-	180	-	-	-	-	380	-	-	-



Belt widths b [mm] (in-between belt widths on request)			
16	25	32	50

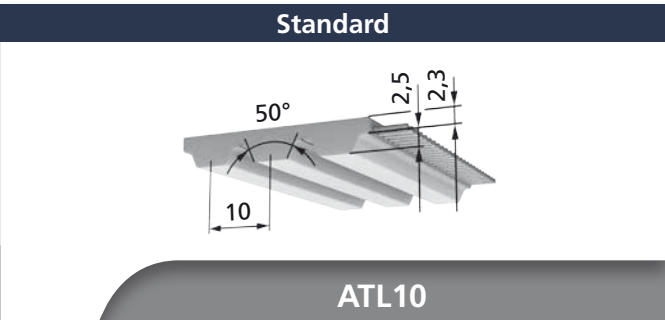
ATL5 (M)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	-
Standard material	TPUST1 ¹⁾
Steel tension member	-
E tension member (Standard)	x
Stainless steel tension member	-
PAZ	x
PAR	-
PAZ-PAR	-
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® ATL5 (M)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	42,00	800	31,96	2000	26,05	5000	19,28
20	41,52	900	31,27	2200	25,38	5500	18,55
40	41,07	1000	30,63	2400	24,75	6000	17,88
60	40,64	1100	30,04	2600	24,18	6500	17,26
80	40,23	1200	29,49	2800	23,64	7000	16,68
100	39,85	1300	28,97	3000	23,13	7500	16,14
200	38,14	1400	28,48	3200	22,65	8000	15,63
300	36,73	1500	28,02	3400	22,20	8500	15,15
400	35,53	1600	27,59	3600	21,78	9000	14,70
500	34,48	1700	27,18	3800	21,37	9500	14,28
600	33,55	1800	26,78	4000	20,98	10000	13,87
700	32,72	1900	26,41	4500	20,09		

BRECO® ATL5 (M)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight				
Belt width		b [mm]	16	25	32	50
M	E / Steel tension member	F _{Tadm} [N]	1300	2000	2800	4200
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	0,33·10 ⁶	0,50·10 ⁶	0,65·10 ⁶	1,05·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	-	-	-	-
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	-	-	-	-
V	E / Steel tension member	F _{Tadm} [N]	-	-	-	-
	Stainless steel tension member	F _{Tadm} [N]	-	-	-	-
Belt weight	Standard	[kg/m]	0,059	0,090	0,119	0,187
	DL	[kg/m]	-	-	-	-
	DR	[kg/m]	-	-	-	-
	T	[kg/m]	-	-	-	-

BRECO® ATL5 (M)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	-	-	-	25	-	-	-	-	-	-	-
		d _{min} [mm]	-	-	-	40	-	-	-	-	-	-	-
	With contra-flexure	z _{min}	-	-	-	25	-	-	-	-	-	-	-
		d _{min} [mm]	-	-	-	60	-	-	-	-	-	-	-



Belt widths b [mm] (in-between belt widths on request)				
32	50	75	100	150

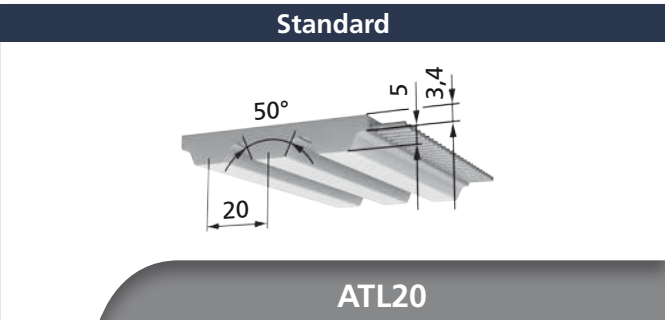
ATL10 (M)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	-
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	-
PAZ-PAR	-
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® ATL10 (M)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	87,50	800	62,15	2000	48,01	5000	32,08
20	86,22	900	60,47	2200	46,41	5500	30,36
40	85,01	1000	58,94	2400	44,94	6000	28,79
60	83,88	1100	57,51	2600	43,58	6500	27,33
80	82,81	1200	56,19	2800	42,30	7000	25,98
100	81,80	1300	54,95	3000	41,11	7500	24,72
200	77,43	1400	53,79	3200	39,99	8000	23,54
300	73,87	1500	52,70	3400	38,93	8500	22,43
400	70,88	1600	51,66	3600	37,93	9000	21,37
500	68,29	1700	50,68	3800	36,97	9500	20,38
600	66,02	1800	49,75	4000	36,06	10000	19,43
700	63,98	1900	48,86	4500	33,97		

BRECO® ATL10 (M)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight					
Belt width		b [mm]	32	50	75	100	150
M	E / Steel tension member	F _{Tadm} [N]	7200	11200	16800	22400	36000
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	1,8·10 ⁶	2,8·10 ⁶	4,2·10 ⁶	5,6·10 ⁶	9,0·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	5760	8960	13440	17920	28800
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	1,8·10 ⁶	2,8·10 ⁶	4,2·10 ⁶	5,6·10 ⁶	9,0·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	-	-	-	-	-
	Stainless steel tension member	F _{Tadm} [N]	-	-	-	-	-
Belt weight	Standard	[kg/m]	0,220	0,340	0,510	0,680	1,020
	DL	[kg/m]	-	-	-	-	-
	DR	[kg/m]	-	-	-	-	-
	T	[kg/m]	-	-	-	-	-

BRECO® ATL10 (M)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	25	-	-	-	-	-	-	40	-	-	-
		d _{min} [mm]	80	-	-	-	-	-	-	120	-	-	-
	With contra-flexure	z _{min}	25	-	-	-	-	-	-	50	-	-	-
		d _{min} [mm]	150	-	-	-	-	-	-	180	-	-	-



Belt widths b [mm] (in-between belt widths on request)			
32	50	75	100

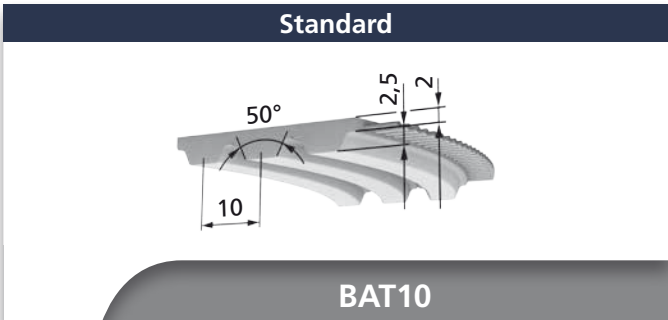
ATL20 (M)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	-
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	-
PAZ-PAR	-
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® ATL20 (M)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	175,00	800	113,05	2000	79,68	5000	42,44
20	171,73	900	109,08	2200	75,94	5500	38,44
40	168,69	1000	105,43	2400	72,49	6000	34,77
60	165,85	1100	102,07	2600	69,30	6500	31,38
80	163,17	1200	98,94	2800	66,32		
100	160,66	1300	96,02	3000	63,53		
200	149,85	1400	93,28	3200	60,90		
300	141,18	1500	90,70	3400	58,43		
400	133,94	1600	88,26	3600	56,08		
500	127,72	1700	85,96	3800	53,85		
600	122,27	1800	83,76	4000	51,73		
700	117,42	1900	81,67	4500	46,84		

BRECO® ATL20 (M)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight				
Belt width		b [mm]	32	50	75	100
M	E / Steel tension member	F _{Tadm} [N]	9800	15400	23800	31500
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	2,45·10 ⁶	3,85·10 ⁶	5,95·10 ⁶	7,88·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	7840	12320	19040	25200
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	2,45·10 ⁶	3,85·10 ⁶	5,95·10 ⁶	7,88·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	-	-	-	-
	Stainless steel tension member	F _{Tadm} [N]	-	-	-	-
Belt weight	Standard	[kg/m]	0,350	0,550	0,840	1,110
	DL	[kg/m]	-	-	-	-
	DR	[kg/m]	-	-	-	-
	T	[kg/m]	-	-	-	-

BRECO® ATL20 (M)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	25	-	-	-	-	-	-	25	-	-	-
		d _{min} [mm]	160	-	-	-	-	-	-	180	-	-	-
	With contra-flexure	z _{min}	25	-	-	-	-	-	-	30	-	-	-
		d _{min} [mm]	250	-	-	-	-	-	-	300	-	-	-



Belt widths b [mm]				
25	32	50	75	100

BAT10 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	880 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

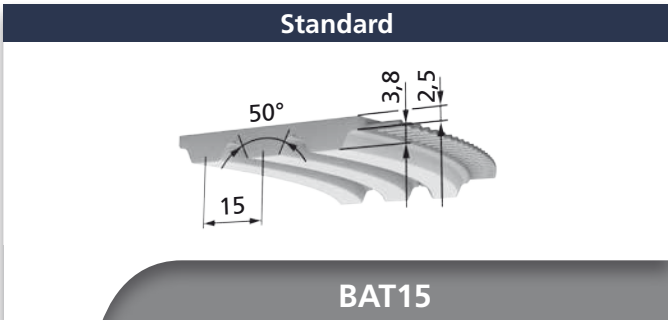
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o minimum purchase amount on request
- not available
1) further materials on request

BRECO® BAT10 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	92,75	800	65,88	2000	50,89	5000	34,00
20	91,39	900	64,10	2200	49,20	5500	32,18
40	90,11	1000	62,47	2400	47,64	6000	30,51
60	88,91	1100	60,96	2600	46,19	6500	28,97
80	87,78	1200	59,56	2800	44,84	7000	27,54
100	86,71	1300	58,25	3000	43,58	7500	26,20
200	82,07	1400	57,02	3200	42,39	8000	24,95
300	78,30	1500	55,86	3400	41,26	8500	23,77
400	75,13	1600	54,76	3600	40,20	9000	22,66
500	72,39	1700	53,72	3800	39,19	9500	21,60
600	69,98	1800	52,73	4000	38,23	10000	20,60
700	67,82	1900	51,79	4500	36,01		

BRECO® BAT10 (M/V)			Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight						
Belt width			b [mm]	25	32	50	75	100	
M	E / Steel tension member		F _{Tadm} [N]	3750	5000	7500	12000	17000	
	Specific elasticity (E / Steel tension member)		C _{spec} [N]	1,06·10 ⁶	1,37·10 ⁶	2,12·10 ⁶	3,18·10 ⁶	4,25·10 ⁶	
	Stainless steel tension member		F _{Tadm} [N]	3000	4000	6000	9000	12000	
	Specific elasticity (stainless steel tension member)		C _{spec} [N]	1,06·10 ⁶	1,37·10 ⁶	2,12·10 ⁶	3,18·10 ⁶	4,25·10 ⁶	
V	E / Steel tension member		F _{Tadm} [N]	1875	2500	3750	6000	8500	
	Stainless steel tension member		F _{Tadm} [N]	1500	2000	3000	4500	6000	
Belt weight			Standard	[kg/m]	0,158	0,180	0,290	0,436	0,581
			DL	[kg/m]	-	-	-	-	-
			DR	[kg/m]	-	-	-	-	-
			T	[kg/m]	-	-	-	-	-

BRECO® BAT10 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	20 (25)	-	-	-	-	-	-	25	-	-	-
		d _{min} [mm]	60 (80)	-	-	-	-	-	-	80	-	-	-
	With contra-flexure	z _{min}	25	-	-	-	-	-	-	40	-	-	-
		d _{min} [mm]	120	-	-	-	-	-	-	130	-	-	-

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm]		
50	75	100

BAT15 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	960 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

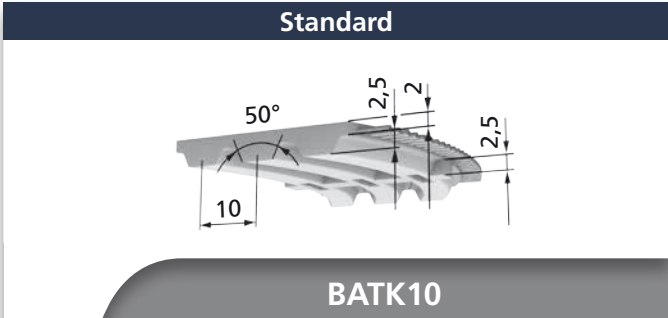
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o minimum purchase amount on request
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1) further materials on request

BRECO® BAT15 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	140,00	800	95,54	2000	71,15	5000	43,82
20	137,70	900	92,64	2200	68,41	5500	40,87
40	135,56	1000	89,98	2400	65,89	6000	38,17
60	133,55	1100	87,53	2600	63,54	6500	35,68
80	131,65	1200	85,24	2800	61,36		
100	129,86	1300	83,11	3000	59,31		
200	122,15	1400	81,11	3200	57,38		
300	115,92	1500	79,22	3400	55,56		
400	110,69	1600	77,44	3600	53,84		
500	106,19	1700	75,75	3800	52,20		
600	102,24	1800	74,14	4000	50,65		
700	98,71	1900	72,61	4500	47,05		

BRECO® BAT15 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight			
Belt width		b [mm]	50	75	100
M	E / Steel tension member	F _{Tadm} [N]	11200	16800	22400
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	2,80·10 ⁶	4,20·10 ⁶	5,60·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	9000	13500	18000
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	2,80·10 ⁶	4,20·10 ⁶	5,60·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	5600	8400	11200
	Stainless steel tension member	F _{Tadm} [N]	4500	6750	9000
Belt weight	Standard	[kg/m]	0,428	0,642	0,856
	DL	[kg/m]	-	-	-
	DR	[kg/m]	-	-	-
	T	[kg/m]	-	-	-

BRECO® BAT15 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	20 (25)	-	-	-	-	-	-	25	-	-	-
		d _{min} [mm]	100 (120)	-	-	-	-	-	-	120	-	-	-
	With contra-flexure	z _{min}	30 (35)	-	-	-	-	-	-	35 (40)	-	-	-
		d _{min} [mm]	150 (180)	-	-	-	-	-	-	180 (190)	-	-	-

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm]			
32	50	75	100

BATK10 (M/V)		Available lengths and versions
Standard delivery lengths (M)		rolls of 50 or 100 m
Cut to lengths / lengths > 100 m		on request
Minimum length joined (V)		880 mm
Standard material		TPUST1 ¹⁾
Steel tension member (Standard)		x
E tension member		-
Stainless steel tension member		o
PAZ	Color: white	x
PAR	Color: green	x
PAZ-PAR	Color: white-green	x
DL / DL-PAZ		-
DR / DR-PAZ		-
T / T-PAZ		-

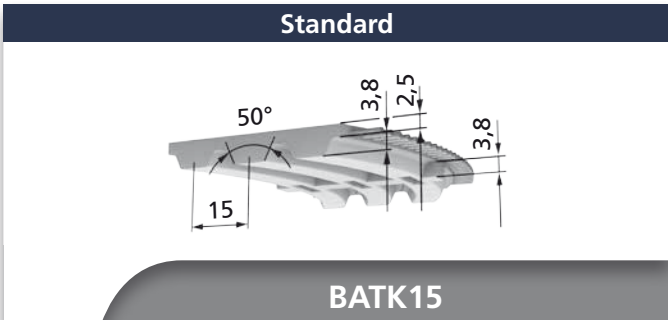
x available
o minimum purchase amount on request
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1) further materials on request

BRECO® BATK10 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	92,75	800	65,88	2000	50,89	5000	34,00
20	91,39	900	64,10	2200	49,20	5500	32,18
40	90,11	1000	62,47	2400	47,64	6000	30,51
60	88,91	1100	60,96	2600	46,19	6500	28,97
80	87,78	1200	59,56	2800	44,84	7000	27,54
100	86,71	1300	58,25	3000	43,58	7500	26,20
200	82,07	1400	57,02	3200	42,39	8000	24,95
300	78,30	1500	55,86	3400	41,26	8500	23,77
400	75,13	1600	54,76	3600	40,20	9000	22,66
500	72,39	1700	53,72	3800	39,19	9500	21,60
600	69,98	1800	52,73	4000	38,23	10000	20,60
700	67,82	1900	51,79	4500	36,01		

BRECO® BATK10 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight					
Belt width		b [mm]	32	50	75	100	
M	E / Steel tension member	F _{Tadm} [N]	5000	7500	12000	17000	
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	1,37·10 ⁶	2,12·10 ⁶	3,18·10 ⁶	4,25·10 ⁶	
	Stainless steel tension member	F _{Tadm} [N]	4000	6000	9000	12000	
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	1,37·10 ⁶	2,12·10 ⁶	3,18·10 ⁶	4,25·10 ⁶	
V	E / Steel tension member	F _{Tadm} [N]	2500	3750	6000	8500	
	Stainless steel tension member	F _{Tadm} [N]	2000	3000	4500	6000	
Belt weight		Standard	[kg/m]	0,192	0,300	0,450	0,600
		DL	[kg/m]	-	-	-	-
		DR	[kg/m]	-	-	-	-
		T	[kg/m]	-	-	-	-

BRECO® BATK10 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
 z _{min} d _{min}	Without contra-flexure	z _{min}	20 (25)	-	-	-	-	-	-	25	-	-	-
		d _{min} [mm]	60 (80)	-	-	-	-	-	-	80	-	-	-
 z _{min} d _{min}	With contra-flexure	z _{min}	25	-	-	-	-	-	-	40	-	-	-
		d _{min} [mm]	120	-	-	-	-	-	-	130	-	-	-

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm]		
50	75	100

BATK15 (M/V)		Available lengths and versions
Standard delivery lengths (M)		rolls of 50 or 100 m
Cut to lengths / lengths > 100 m		on request
Minimum length joined (V)		960 mm
Standard material		TPUST1 ¹⁾
Steel tension member (Standard)		x
E tension member		-
Stainless steel tension member		o
PAZ	Color: white	x
PAR	Color: green	x
PAZ-PAR	Color: white-green	x
DL / DL-PAZ		-
DR / DR-PAZ		-
T / T-PAZ		-

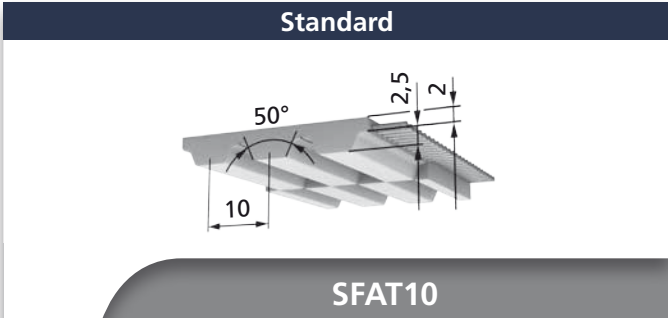
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1) further materials on request

BRECO® BATK15 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	140,00	800	95,54	2000	71,15	5000	43,82
20	137,70	900	92,64	2200	68,41	5500	40,87
40	135,56	1000	89,98	2400	65,89	6000	38,17
60	133,55	1100	87,53	2600	63,54	6500	35,68
80	131,65	1200	85,24	2800	61,36		
100	129,86	1300	83,11	3000	59,31		
200	122,15	1400	81,11	3200	57,38		
300	115,92	1500	79,22	3400	55,56		
400	110,69	1600	77,44	3600	53,84		
500	106,19	1700	75,75	3800	52,20		
600	102,24	1800	74,14	4000	50,65		
700	98,71	1900	72,61	4500	47,05		

BRECO® BATK15 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight			
Belt width		b [mm]	50	75	100
M	E / Steel tension member	F _{Tadm} [N]	11200	16800	22400
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	2,80·10 ⁶	4,20·10 ⁶	5,60·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	9000	13500	18000
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	2,80·10 ⁶	4,20·10 ⁶	5,60·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	5600	8400	11200
	Stainless steel tension member	F _{Tadm} [N]	4500	6750	9000
Belt weight	Standard	[kg/m]	0,428	0,642	0,856
	DL	[kg/m]	-	-	-
	DR	[kg/m]	-	-	-
	T	[kg/m]	-	-	-

BRECO® BATK15 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	20 (25)	-	-	-	-	-	-	25	-	-	-
		d _{min} [mm]	100 (120)	-	-	-	-	-	-	120	-	-	-
	With contra-flexure	z _{min}	30 (35)	-	-	-	-	-	-	35 (40)	-	-	-
		d _{min} [mm]	150 (180)	-	-	-	-	-	-	180 (190)	-	-	-

(Deviate values in brackets apply to joined timing belts.)



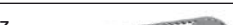
Belt widths b [mm] (in-between belt widths on request)		
50	75	100

SFAT10 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	880 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	o
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

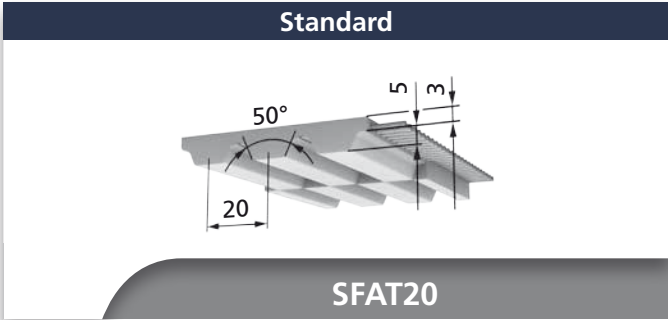
x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® SFAT10 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	87,50	800	62,15	2000	48,01	5000	32,08
20	86,22	900	60,47	2200	46,41	5500	30,36
40	85,01	1000	58,94	2400	44,94	6000	28,79
60	83,88	1100	57,51	2600	43,58	6500	27,33
80	82,81	1200	56,19	2800	42,30	7000	25,98
100	81,80	1300	54,95	3000	41,11	7500	24,72
200	77,43	1400	53,79	3200	39,99	8000	23,54
300	73,87	1500	52,70	3400	38,93	8500	22,43
400	70,88	1600	51,66	3600	37,93	9000	21,37
500	68,29	1700	50,68	3800	36,97	9500	20,38
600	66,02	1800	49,75	4000	36,06	10000	19,43
700	63,98	1900	48,86	4500	33,97		

BRECO® SFAT10 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight			
Belt width		b [mm]	50	75	100
M	E / Steel tension member	F _{Tadm} [N]	7500	10500	16000
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	1,87·10 ⁶	2,62·10 ⁶	4,00·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	5625	7875	12000
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	1,87·10 ⁶	2,62·10 ⁶	4,00·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	3750	5250	8000
	Stainless steel tension member	F _{Tadm} [N]	2810	3940	6000
Belt weight	Standard	[kg/m]	0,290	0,436	0,581
	DL	[kg/m]	-	-	-
	DR	[kg/m]	-	-	-
	T	[kg/m]	-	-	-

BRECO® SFAT10 (M/V)			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	15 (25)	-	-	-	12	-	-	-	25	-	-	-
		d _{min} [mm]	50 (80)	-	-	-	50	-	-	-	80	-	-	-
	With contra-flexure	z _{min}	25	-	-	-	20	-	-	-	40	-	-	-
		d _{min} [mm]	120	-	-	-	80	-	-	-	130	-	-	-

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm] (in-between belt widths on request)		
50	75	100

SFAT20 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 m
Cut to lengths / lengths > 50 m	on request
Minimum length joined (V)	1500 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

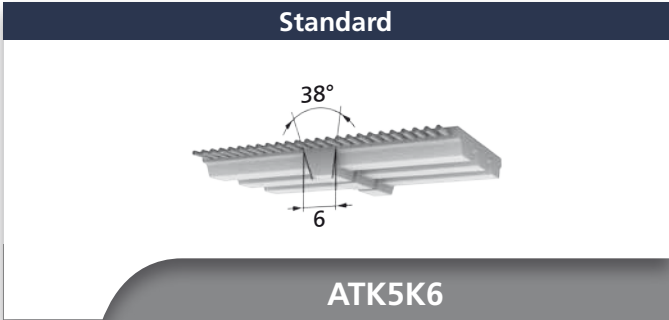
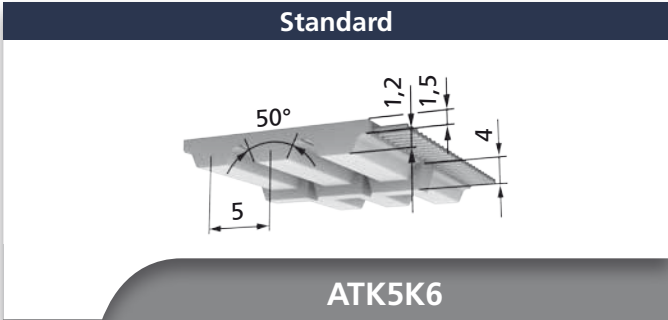
x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® SFAT20 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	175,00	800	113,05	2000	79,68	5000	42,44
20	171,73	900	109,08	2200	75,94	5500	38,44
40	168,69	1000	105,43	2400	72,49	6000	34,77
60	165,85	1100	102,07	2600	69,30	6500	31,38
80	163,17	1200	98,94	2800	66,32		
100	160,66	1300	96,02	3000	63,53		
200	149,85	1400	93,28	3200	60,90		
300	141,18	1500	90,70	3400	58,43		
400	133,94	1600	88,26	3600	56,08		
500	127,72	1700	85,96	3800	53,85		
600	122,27	1800	83,76	4000	51,73		
700	117,42	1900	81,67	4500	46,84		

BRECO® SFAT20 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight			
Belt width		b [mm]	50	75	100
M	E / Steel tension member	F _{Tadm} [N]	11200	16800	22400
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	2,80·10 ⁶	4,20·10 ⁶	5,60·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	8960	13440	17920
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	2,80·10 ⁶	4,20·10 ⁶	5,60·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	5600	8400	11200
	Stainless steel tension member	F _{Tadm} [N]	4480	6720	8960
Belt weight	Standard	[kg/m]	0,480	0,720	0,960
	DL	[kg/m]	-	-	-
	DR	[kg/m]	-	-	-
	T	[kg/m]	-	-	-

BRECO® SFAT20 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	18 (20)	-	-	-	-	-	-	32	-	-	-
		d _{min} [mm]	120	-	-	-	-	-	-	200	-	-	-
	With contra-flexure	z _{min}	25	-	-	-	-	-	-	60	-	-	-
		d _{min} [mm]	180	-	-	-	-	-	-	380	-	-	-

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm] (in-between belt widths on request)	
32	50

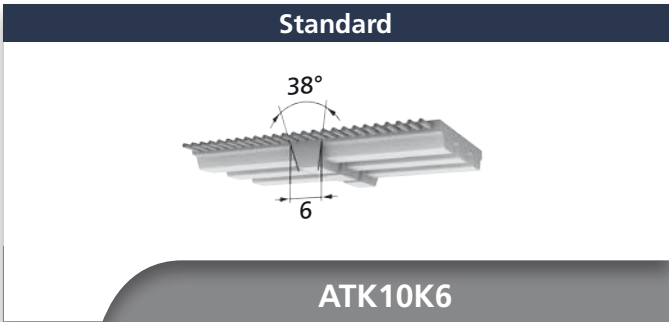
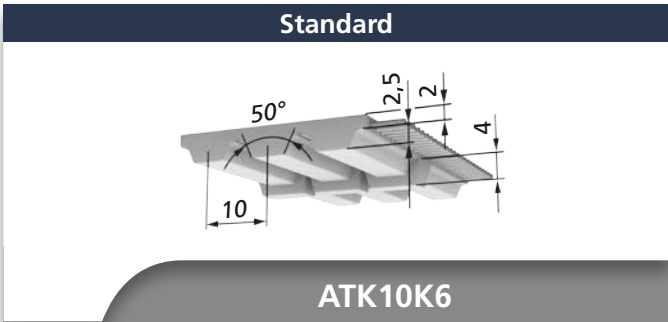
ATK5K6 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	1000 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	o
Stainless steel tension member (E)	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® ATK5K6 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	42,00	800	31,96	2000	26,05	5000	19,28
20	41,52	900	31,27	2200	25,38	5500	18,55
40	41,07	1000	30,63	2400	24,75	6000	17,88
60	40,64	1100	30,04	2600	24,18	6500	17,26
80	40,23	1200	29,49	2800	23,64	7000	16,68
100	39,85	1300	28,97	3000	23,13	7500	16,14
200	38,14	1400	28,48	3200	22,65	8000	15,63
300	36,73	1500	28,02	3400	22,20	8500	15,15
400	35,53	1600	27,59	3600	21,78	9000	14,70
500	34,48	1700	27,18	3800	21,37	9500	14,28
600	33,55	1800	26,78	4000	20,98	10000	13,87
700	32,72	1900	26,41	4500	20,09		

BRECO® ATK5K6 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight			
Belt width		b [mm]	32	50	
M	E / Steel tension member	F _{Tadm} [N]	2240	3500	
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	0,560·10 ⁶	0,875·10 ⁶	
	Stainless steel tension member (E)	F _{Tadm} [N]	1460	2280	
	Specific elasticity (stainless steel tension member (E))	C _{spec} [N]	0,560·10 ⁶	0,875·10 ⁶	
V	E / Steel tension member	F _{Tadm} [N]	1120	1750	
	Stainless steel tension member (E)	F _{Tadm} [N]	730	1140	
Belt weight	Standard	[kg/m]	0,118	0,117	
	DL	[kg/m]	-	-	
	DR	[kg/m]	-	-	
	T	[kg/m]	-	-	

BRECO® ATK5K6 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member (E)			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	25	-	-	25	-	-	-	25	-	-	-
		d _{min} [mm]	60	-	-	60	-	-	-	60	-	-	-
	With contra-flexure	z _{min}	25	-	-	25	-	-	-	30	-	-	-
		d _{min} [mm]	60	-	-	60	-	-	-	60	-	-	-



Belt widths b [mm] (further belt widths on request)
50

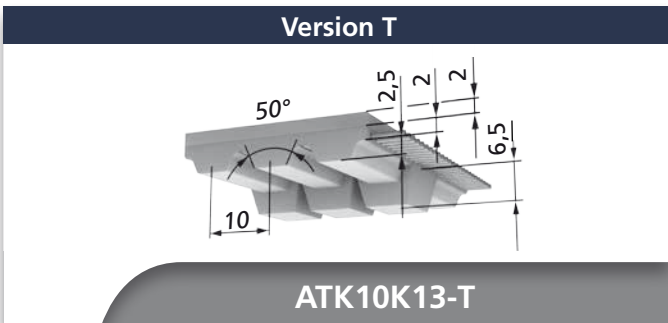
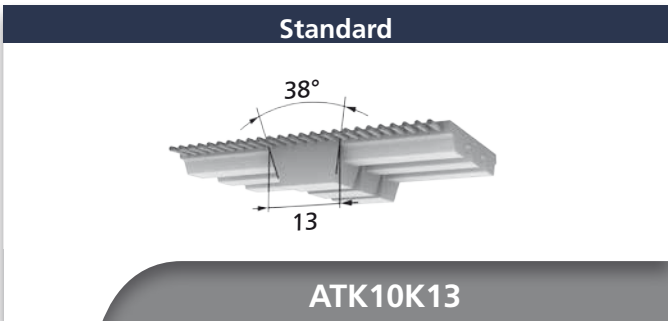
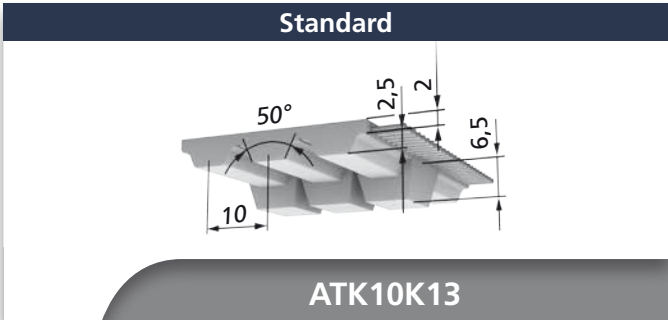
ATK10K6 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	1000 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® ATK10K6 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	87,50	800	62,15	2000	48,01	5000	32,08
20	86,22	900	60,47	2200	46,41	5500	30,36
40	85,01	1000	58,94	2400	44,94	6000	28,79
60	83,88	1100	57,51	2600	43,58	6500	27,33
80	82,81	1200	56,19	2800	42,30	7000	25,98
100	81,80	1300	54,95	3000	41,11	7500	24,72
200	77,43	1400	53,79	3200	39,99	8000	23,54
300	73,87	1500	52,70	3400	38,93	8500	22,43
400	70,88	1600	51,66	3600	37,93	9000	21,37
500	68,29	1700	50,68	3800	36,97	9500	20,38
600	66,02	1800	49,75	4000	36,06	10000	19,43
700	63,98	1900	48,86	4500	33,97		

BRECO® ATK10K6 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight	
Belt width		b [mm]	50
M	E / Steel tension member	F _{Tadm} [N]	7500
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	1,87·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	5625
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	1,87·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	3750
	Stainless steel tension member	F _{Tadm} [N]	2815
Belt weight	Standard	[kg/m]	0,302
	DL	[kg/m]	-
	DR	[kg/m]	-
	T	[kg/m]	-

BRECO® ATK10K6 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	20	-	-	-	-	-	-	25	-	-	-
	d _{min} [mm]	60	-	-	-	-	-	-	-	80	-	-	-
	Without contra-flexure	z _{min}	25	-	-	-	-	-	-	40	-	-	-
	d _{min} [mm]	120	-	-	-	-	-	-	-	130	-	-	-



Belt widths b [mm] (in-between belt widths on request)				
32	50	75	100	150

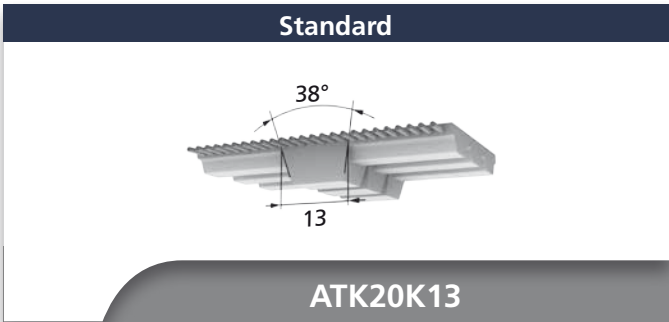
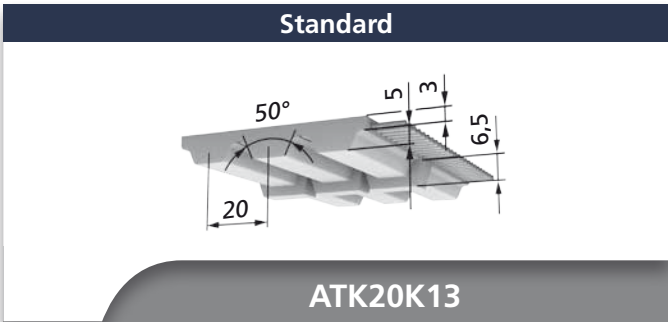
ATK10K13 (M/V)		Available lengths and versions
Standard delivery lengths (M)		rolls of 50 m
Cut to lengths / lengths > 50 m		on request
Minimum length joined (V)		1000 mm
Standard material		TPUST1 ¹⁾
Steel tension member (Standard)		x
E tension member		-
Stainless steel tension member		o
PAZ		x
PAR		x
PAZ-PAR		x
DL / DL-PAZ		-
DR / DR-PAZ		-
T / T-PAZ		o
		b _{max} = 100

BRECO® ATK10K13 (M/V)				Specific tooth force			
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	87,50	800	62,15	2000	48,01	5000	32,08
20	86,22	900	60,47	2200	46,41	5500	30,36
40	85,01	1000	58,94	2400	44,94	6000	28,79
60	83,88	1100	57,51	2600	43,58	6500	27,33
80	82,81	1200	56,19	2800	42,30	7000	25,98
100	81,80	1300	54,95	3000	41,11	7500	24,72
200	77,43	1400	53,79	3200	39,99	8000	23,54
300	73,87	1500	52,70	3400	38,93	8500	22,43
400	70,88	1600	51,66	3600	37,93	9000	21,37
500	68,29	1700	50,68	3800	36,97	9500	20,38
600	66,02	1800	49,75	4000	36,06	10000	19,43
700	63,98	1900	48,86	4500	33,97		

BRECO® ATK10K13 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight					
Belt width		b [mm]	32	50	75	100	150
M	E / Steel tension member	F _{Tadm} [N]	4500	7500	10500	16000	22000
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	1,20·10 ⁶	1,87·10 ⁶	2,80·10 ⁶	3,74·10 ⁶	5,61·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	3375	5625	7875	12000	16500
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	1,20·10 ⁶	1,87·10 ⁶	2,80·10 ⁶	3,74·10 ⁶	5,61·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	2250	3750	5250	8000	11000
	Stainless steel tension member	F _{Tadm} [N]	1690	2815	3940	6000	8250
Belt weight	Standard	[kg/m]	0,227	0,331	0,465	0,621	0,889
	DL	[kg/m]	-	-	-	-	-
	DR	[kg/m]	-	-	-	-	-
	T	[kg/m]	0,303	0,451	0,645	0,861	-

BRECO® ATK10K13 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
 z _{min} d _{min}	Without contra-flexure	z _{min}	20	-	-	25	-	-	-	25	-	-	25
		d _{min} [mm]	60	-	-	80	-	-	-	80	-	-	80
 z _{min} d _{min}	With contra-flexure	z _{min}	25	-	-	25	-	-	-	40	-	-	40
		d _{min} [mm]	120	-	-	120	-	-	-	130	-	-	130

x available
o minimum purchase amount on request
- not available
1) further materials on request



Belt widths b [mm] (in-between belt widths on request)	
75	100

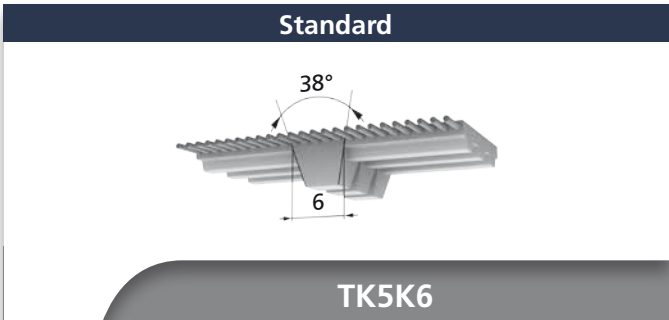
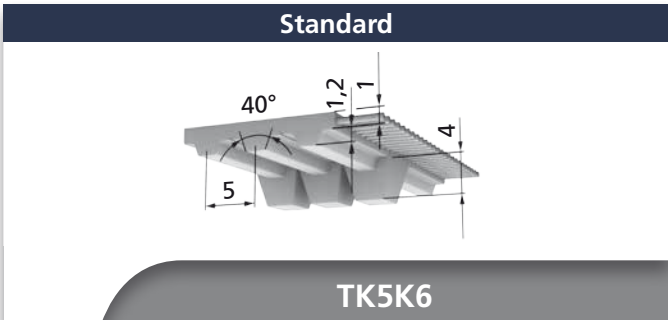
ATK20K13 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 m
Cut to lengths / lengths > 50 m	on request
Minimum length joined (V)	1000 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	-
PAZ-PAR	-
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® ATK20K13 (M/V)		Specific tooth force		BRECO® ATK20K13 (M/V)		Specific tooth force	
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	175,00	800	113,05	2000	79,68	5000	42,44
20	171,73	900	109,08	2200	75,94	5500	38,44
40	168,69	1000	105,43	2400	72,49	6000	34,77
60	165,85	1100	102,07	2600	69,30	6500	31,38
80	163,17	1200	98,94	2800	66,32		
100	160,66	1300	96,02	3000	63,53		
200	149,85	1400	93,28	3200	60,90		
300	141,18	1500	90,70	3400	58,43		
400	133,94	1600	88,26	3600	56,08		
500	127,72	1700	85,96	3800	53,85		
600	122,27	1800	83,76	4000	51,73		
700	117,42	1900	81,67	4500	46,84		

BRECO® ATK20K13 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight		
Belt width		b [mm]	75	100
M	E / Steel tension member	F _{Tadm} [N]	16800	22400
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	4,20·10 ⁶	5,60·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	13440	17920
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	4,20·10 ⁶	5,60·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	8400	11200
	Stainless steel tension member	F _{Tadm} [N]	6720	8960
Belt weight	Standard	[kg/m]	0,730	0,995
	DL	[kg/m]	-	-
	DR	[kg/m]	-	-
	T	[kg/m]	-	-

BRECO® ATK20K13 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	20	-	-	-	-	-	-	32	-	-	-
		d _{min} [mm]	120	-	-	-	-	-	-	200	-	-	-
	With contra-flexure	z _{min}	25	-	-	-	-	-	-	60	-	-	-
		d _{min} [mm]	180	-	-	-	-	-	-	380	-	-	-



Belt widths b [mm] (in-between belt widths on request)		
25	32	50

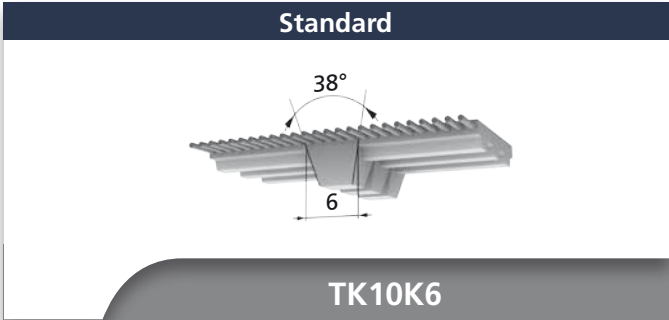
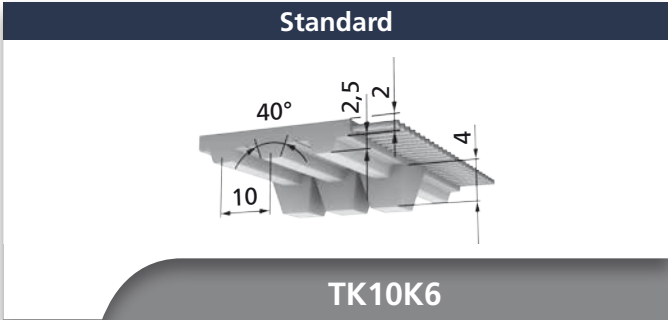
TK5K6 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	1000 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® TK5K6 (M/V)		Specific tooth force		BRECO® TK5K6 (M/V)		Specific tooth force	
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	24,00	800	16,56	2000	13,69	5000	10,68
20	23,40	900	16,20	2200	13,38	5500	10,36
40	22,90	1000	15,88	2400	13,10	6000	10,07
60	22,40	1100	15,58	2600	12,84	6500	9,81
80	22,00	1200	15,31	2800	12,59	7000	9,56
100	21,70	1300	15,06	3000	12,37	7500	9,33
200	20,30	1400	14,83	3200	12,16	8000	9,11
300	19,30	1500	14,61	3400	11,96	8500	8,91
400	18,55	1600	14,40	3600	11,77	9000	8,72
500	17,93	1700	14,21	3800	11,59	9500	8,54
600	17,41	1800	14,03	4000	11,42	10000	8,37
700	16,96	1900	13,85	4500	11,03		

BRECO® TK5K6 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight			
Belt width		b [mm]	25	32	50
M	E / Steel tension member	F _{Tadm} [N]	840	1080	1680
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	21,0·10 ⁴	27,0·10 ⁴	42,0·10 ⁴
	Stainless steel tension member	F _{Tadm} [N]	640	820	1280
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	21,0·10 ⁴	27,0·10 ⁴	42,0·10 ⁴
V	E / Steel tension member	F _{Tadm} [N]	420	540	840
	Stainless steel tension member	F _{Tadm} [N]	320	410	640
Belt weight	Standard	[kg/m]	0,067	0,082	0,119
	DL	[kg/m]	-	-	-
	DR	[kg/m]	-	-	-
	T	[kg/m]	-	-	-

BRECO® TK5K6 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	25	-	-	-	-	-	-	25	-	-	-
		d _{min} [mm]	60	-	-	-	-	-	-	60	-	-	-
	With contra-flexure	z _{min}	25	-	-	-	-	-	-	36	-	-	-
		d _{min} [mm]	80	-	-	-	-	-	-	80	-	-	-



Belt widths b [mm]
(in-between belt widths on request)

25	50
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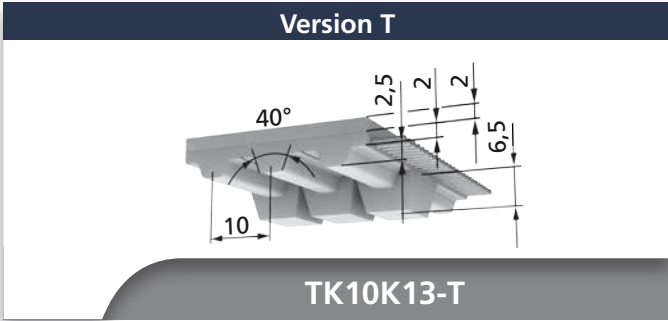
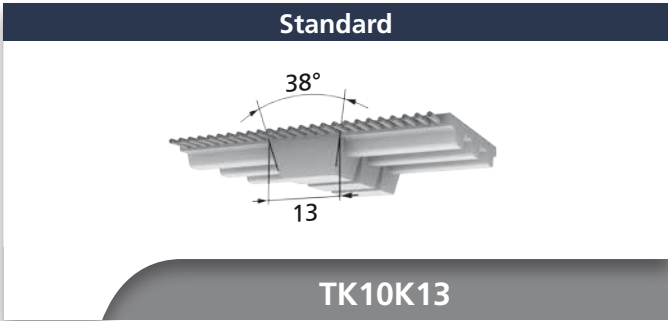
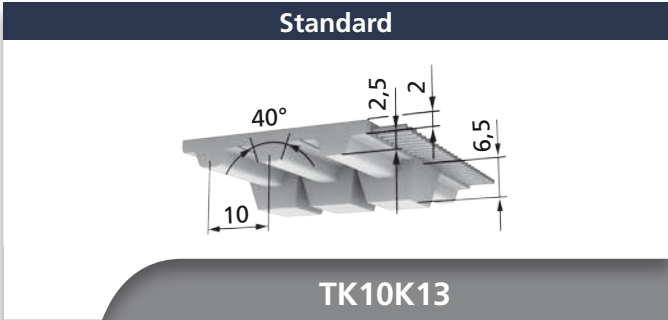
TK10K6 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	1000 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® TK10K6 (M/V)		Specific tooth force		BRECO® TK10K6 (M/V)		Specific tooth force	
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	50,50	800	32,40	2000	25,40	5000	18,06
20	49,00	900	31,50	2200	24,60	5500	17,28
40	47,70	1000	30,70	2400	23,90	6000	16,58
60	46,60	1100	30,00	2600	23,30	6500	15,93
80	45,70	1200	29,30	2800	22,70	7000	15,33
100	44,80	1300	28,70	3000	22,20	7500	14,76
200	41,40	1400	28,20	3200	21,70	8000	14,24
300	39,10	1500	27,60	3400	21,20	8500	13,74
400	37,20	1600	27,10	3600	20,70	9000	13,28
500	35,70	1700	26,70	3800	20,30	9500	12,84
600	34,40	1800	26,20	4000	19,86	10000	12,42
700	33,30	1900	25,80	4500	18,91		

BRECO® TK10K6 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight		
Belt width		b [mm]	25	50
M	E / Steel tension member	F _{Tadm} [N]	2400	4200
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	5,5·10 ⁵	11,0·10 ⁵
	Stainless steel tension member	F _{Tadm} [N]	1920	3360
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	5,5·10 ⁵	11,0·10 ⁵
V	E / Steel tension member	F _{Tadm} [N]	1200	2100
	Stainless steel tension member	F _{Tadm} [N]	960	1680
Belt weight	Standard	[kg/m]	0,129	0,239
	DL	[kg/m]	-	-
	DR	[kg/m]	-	-
	T	[kg/m]	-	-

BRECO® TK10K6 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	20	-	-	-	-	-	-	25	-	-	-
		d _{min} [mm]	60	-	-	-	-	-	-	80	-	-	-
	With contra-flexure	z _{min}	25	-	-	-	-	-	-	40	-	-	-
		d _{min} [mm]	80	-	-	-	-	-	-	130	-	-	-



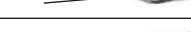
Belt widths b [mm] (in-between belt widths on request)			
32	50	75	100

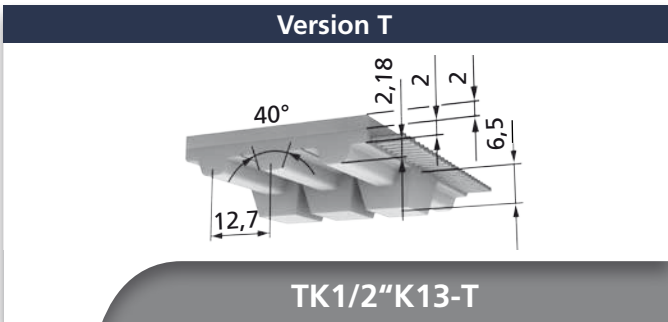
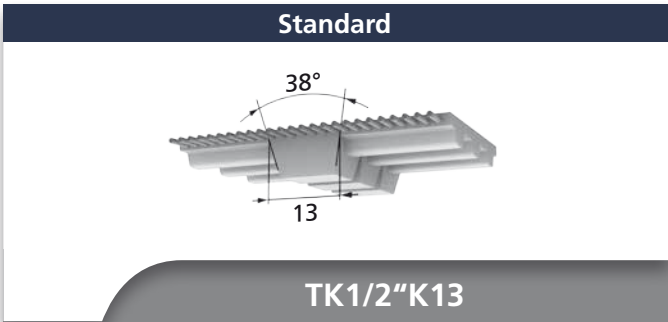
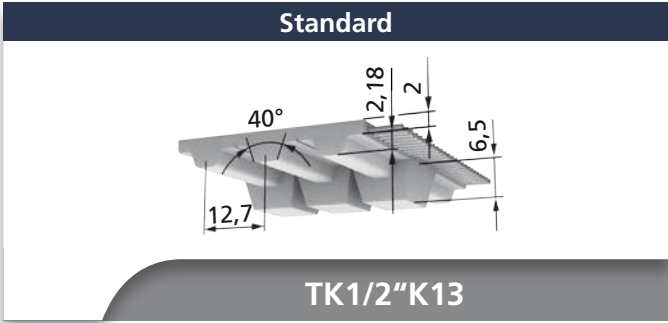
TK10K13 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	1000 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	o

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® TK10K13 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	50,50	800	32,40	2000	25,40	5000	18,06
20	49,00	900	31,50	2200	24,60	5500	17,28
40	47,70	1000	30,70	2400	23,90	6000	16,58
60	46,60	1100	30,00	2600	23,30	6500	15,93
80	45,70	1200	29,30	2800	22,70	7000	15,33
100	44,80	1300	28,70	3000	22,20	7500	14,76
200	41,40	1400	28,20	3200	21,70	8000	14,24
300	39,10	1500	27,60	3400	21,20	8500	13,74
400	37,20	1600	27,10	3600	20,70	9000	13,28
500	35,70	1700	26,70	3800	20,30	9500	12,84
600	34,40	1800	26,20	4000	19,86	10000	12,42
700	33,30	1900	25,80	4500	18,91		

BRECO® TK10K13 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight				
Belt width		b [mm]	32	50	75	100
M	E / Steel tension member	F _{Tadm} [N]	2600	4200	5200	8400
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	7,0·10 ⁵	11,0·10 ⁵	16,5·10 ⁵	22,0·10 ⁵
	Stainless steel tension member	F _{Tadm} [N]	2080	3360	4160	6720
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	7,0·10 ⁵	11,0·10 ⁵	16,5·10 ⁵	22,0·10 ⁵
V	E / Steel tension member	F _{Tadm} [N]	1300	2100	2600	3300
	Stainless steel tension member	F _{Tadm} [N]	1040	1680	2080	3360
Belt weight	Standard	[kg/m]	0,282	0,407	0,569	0,735
	DL	[kg/m]	-	-	-	-
	DR	[kg/m]	-	-	-	-
	T	[kg/m]	-	-	-	-

BRECO® TK10K13 (M/V)			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
 z _{min} d _{min}	Without contra- flexure	z _{min}	25	-	-	25	-	-	-	-	25	-	-	25
		d _{min} [mm]	80	-	-	80	-	-	-	-	80	-	-	80
 z _{min} d _{min}	With contra- flexure	z _{min}	25	-	-	25	-	-	-	-	40	-	-	40
		d _{min} [mm]	80	-	-	80	-	-	-	-	130	-	-	130



Belt widths b [mm] (in-between belt widths on request)			
38,1	50,8	76,2	101,6

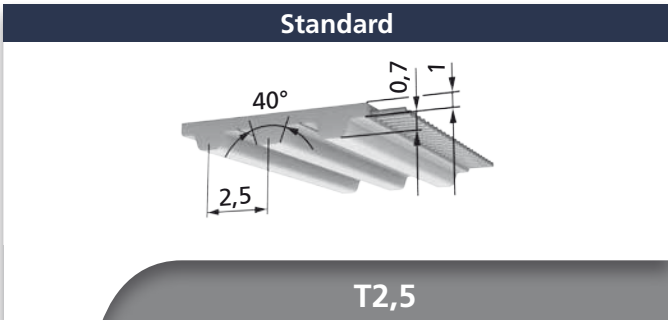
TK1/2"K13 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	1000 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	o
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	o

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® TK1/2"K13 (M/V) Specific tooth force							
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	44,00	800	28,20	2000	22,10	5000	15,74
20	42,70	900	27,50	2200	21,50	5500	15,07
40	41,60	1000	26,80	2400	20,90	6000	14,46
60	40,70	1100	26,20	2600	20,30	6500	13,89
80	39,80	1200	25,60	2800	19,81	7000	13,36
100	39,10	1300	25,10	3000	19,33	7500	12,87
200	36,10	1400	24,60	3200	18,88	8000	12,42
300	34,10	1500	24,10	3400	18,45	8500	11,99
400	32,50	1600	23,70	3600	18,05	9000	11,58
500	31,10	1700	23,20	3800	17,68	9500	11,19
600	30,00	1800	22,90	4000	17,32	10000	10,83
700	29,10	1900	22,50	4500	16,49		

BRECO® TK1/2"K13 (M/V)			Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight				
Belt width		b [mm]	38,1	50,8	76,2	101,6	
M	E / Steel tension member	F _{Tadm} [N]	3200	4200	4800	6200	
	Specific elasticity (E- / Steel tension member)	C _{spec} [N]	0,80·10 ⁶	1,10·10 ⁶	1,65·10 ⁶	2,20·10 ⁶	
	Stainless steel tension member	F _{Tadm} [N]	2560	3360	3840	4960	
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	0,80·10 ⁶	1,10·10 ⁶	1,65·10 ⁶	2,20·10 ⁶	
V	E / Steel tension member	F _{Tadm} [N]	1600	2100	2400	3100	
	Stainless steel tension member	F _{Tadm} [N]	1280	1680	1920	2480	
Belt weight		Standard	[kg/m]	0,222	0,275	0,368	0,469
		DL	[kg/m]	-	-	-	-
		DR	[kg/m]	-	-	-	-
		T	[kg/m]	0,253	0,338	0,507	0,676

BRECO® TK1/2"K13 (M/V)			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
 z _{min} d _{min}	Without contra- flexure	z _{min}	18	-	-	20	-	-	-	-	22	-	-	22
		d _{min} [mm]	80	-	-	80	-	-	-	-	80	-	-	80
 z _{min} d _{min}	With contra- flexure	z _{min}	20	-	-	20	-	-	-	-	32	-	-	32
		d _{min} [mm]	120	-	-	120	-	-	-	-	130	-	-	130



Belt widths b [mm] (in-between belt widths on request)		
8	10	20

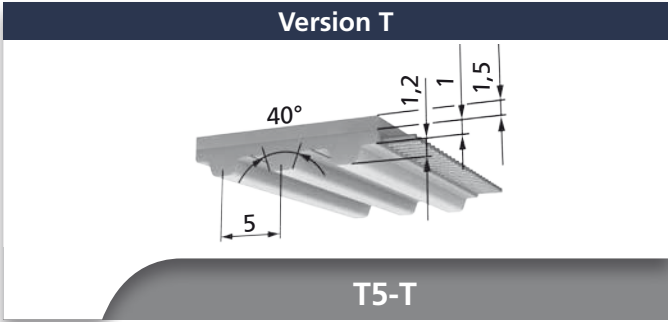
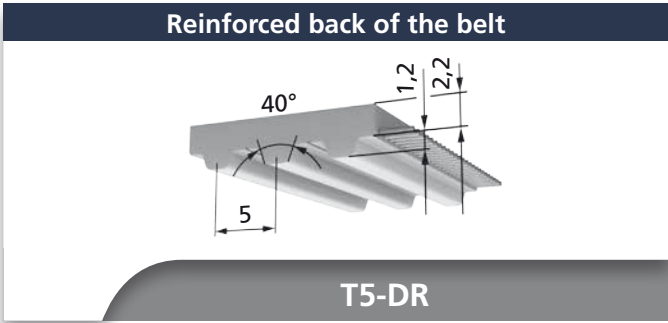
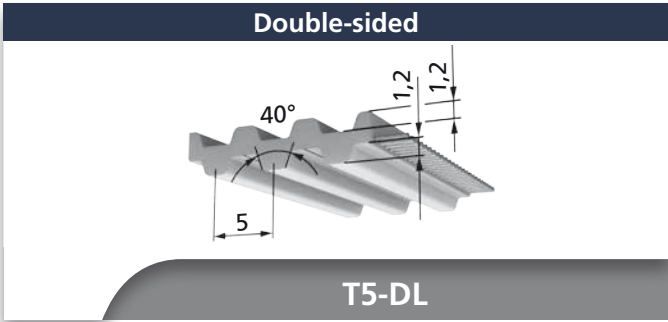
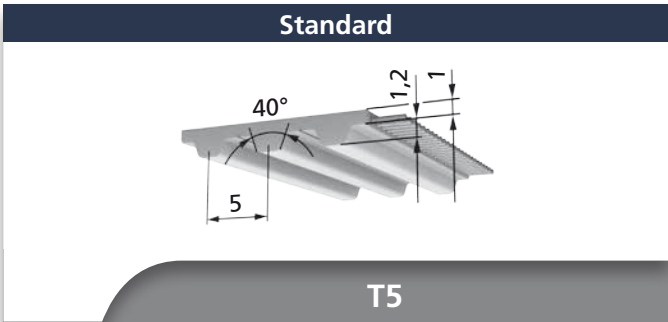
T2,5 (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	350 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	-
PAZ	-
PAR	-
PAZ-PAR	-
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® T2,5 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	9,03	800	5,97	2000	4,91	5000	4,09
20	8,72	900	5,83	2200	4,80	5500	3,95
40	8,48	1000	5,71	2400	4,70	6000	3,82
60	8,28	1100	5,61	2600	4,65	6500	3,71
80	8,10	1200	5,51	2800	4,60	7000	3,60
100	7,95	1300	5,41	3000	4,51	7500	3,51
200	7,39	1400	5,33	3200	4,48	8000	3,42
300	7,01	1500	5,25	3400	4,43	8500	3,33
400	6,71	1600	5,17	3600	4,36	9000	3,26
500	6,48	1700	5,10	3800	4,28	9500	3,18
600	6,28	1800	5,04	4000	4,22	10000	3,05
700	6,11	1900	4,97	4500	4,15		

BRECO® T2,5 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight			
Belt width		b [mm]	8	10	20
M	E / Steel tension member	F _{Tadm} [N]	77	98	196
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	1,93·10 ⁴	2,45·10 ⁴	4,90·10 ⁴
	Stainless steel tension member	F _{Tadm} [N]	-	-	-
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	-	-	-
V	E / Steel tension member	F _{Tadm} [N]	38	49	98
	Stainless steel tension member	F _{Tadm} [N]	-	-	-
Belt weight	Standard	[kg/m]	0,010	0,015	0,030
	DL	[kg/m]	-	-	-
	DR	[kg/m]	-	-	-
	T	[kg/m]	-	-	-

BRECO® T2,5 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	15	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	15	-	-	-	-	-	-	-	-	-	-
	With contra-flexure	z _{min}	18	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	18	-	-	-	-	-	-	-	-	-	-



x available
o minimum purchase amount on request
- not available
1) further materials on request

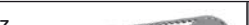
Belt widths b [mm] (in-between belt widths on request)							
6*	10	16	25	32	50	75	100

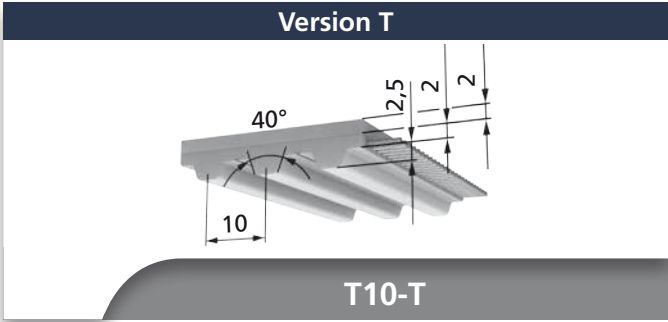
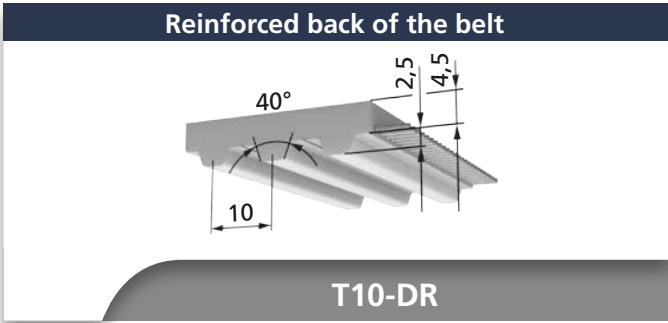
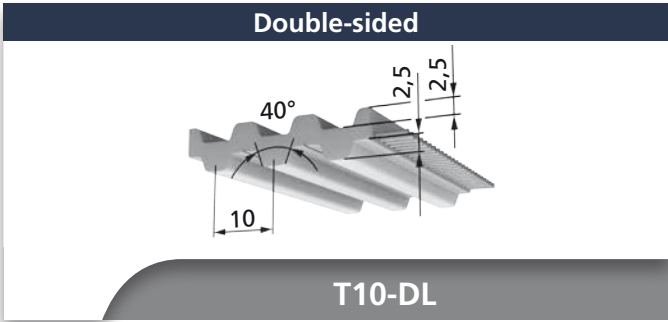
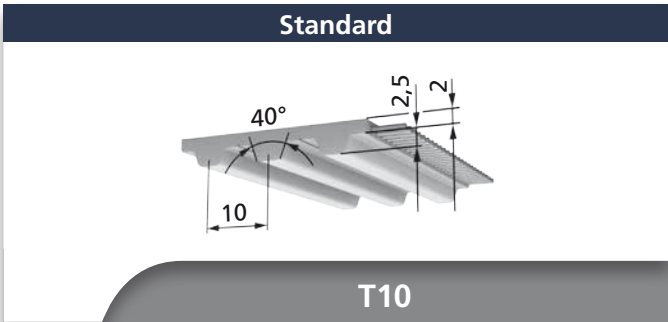
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T5 (M/V)		Available lengths and versions
Standard delivery lengths (M)		rolls of 50 or 100 m
Cut to lengths / lengths > 100 m		on request
Minimum length joined (V)	b _{min} =10	880 mm
	DL	1000 mm
Standard material		TPUST1 ¹⁾
Steel tension member (Standard)		x
E tension member		o
Stainless steel tension member		o
PAZ		x
PAR		x
PAZ-PAR		x
DL / DL-PAZ		o
DR / DR-PAZ		o
T / T-PAZ		o

BRECO® T5 (M/V)				Specific tooth force			
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	24,00	800	16,56	2000	13,69	5000	10,68
20	23,40	900	16,20	2200	13,38	5500	10,36
40	22,90	1000	15,88	2400	13,10	6000	10,07
60	22,40	1100	15,58	2600	12,84	6500	9,81
80	22,00	1200	15,31	2800	12,59	7000	9,56
100	21,70	1300	15,06	3000	12,37	7500	9,33
200	20,30	1400	14,83	3200	12,16	8000	9,11
300	19,30	1500	14,61	3400	11,96	8500	8,91
400	18,55	1600	14,40	3600	11,77	9000	8,72
500	17,93	1700	14,21	3800	11,59	9500	8,54
600	17,41	1800	14,03	4000	11,42	10000	8,37
700	16,96	1900	13,85	4500	11,03		

BRECO® T5 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight								
Belt width		b [mm]	6	10	16	25	32	50	75	100
M	E / Steel tension member	F _{Tadm} [N]	180	300	540	840	1080	1680	2520	3360
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	4,5·10 ⁴	7,5·10 ⁴	13,5·10 ⁴	21,0·10 ⁴	27,0·10 ⁴	42,0·10 ⁴	63,0·10 ⁴	84,0·10 ⁴
	Stainless steel tension member	F _{Tadm} [N]	135	230	410	640	820	1280	1915	2580
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	4,5·10 ⁴	7,5·10 ⁴	13,5·10 ⁴	21,0·10 ⁴	27,0·10 ⁴	42,0·10 ⁴	63,0·10 ⁴	84,0·10 ⁴
V	E / Steel tension member	F _{Tadm} [N]	-	150	270	420	540	840	1260	1680
	Stainless steel tension member	F _{Tadm} [N]	-	115	205	320	420	640	960	1290
Belt weight	Standard	[kg/m]	0,013	0,021	0,034	0,053	0,068	0,106	0,160	0,233
	DL	[kg/m]	-	0,030	0,044	0,070	0,090	0,139	0,208	0,280
	DR	[kg/m]	-	0,039	0,063	0,098	0,126	0,196	0,294	0,378
	T	[kg/m]	-	0,039	0,063	0,098	0,126	0,196	0,294	0,392

BRECO® T5 (M/V)			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra- flexure	z _{min}	10	15	20	20	10	10	-	-	18	18	20	20
		d _{min} [mm]	30	30	30	30	18	18	-	-	30	30	30	30
	With contra- flexure	z _{min}	15	15	20	20	12	12	-	-	36	36	36	36
		d _{min} [mm]	30	30	60	60	18	18	-	-	60	60	60	60



x available
o minimum purchase amount on request
- not available
1) further materials on request

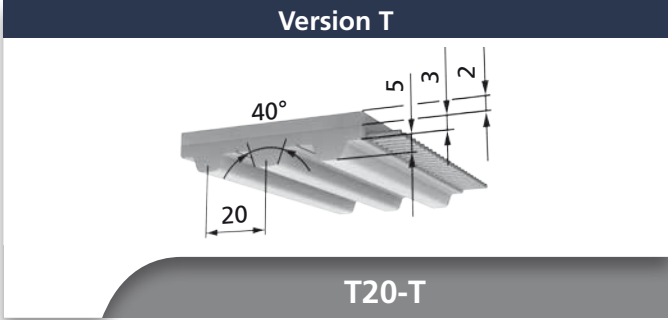
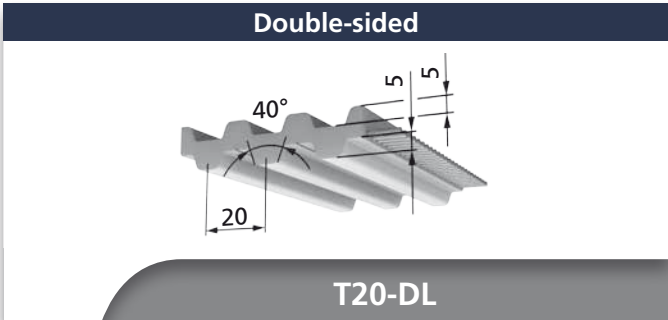
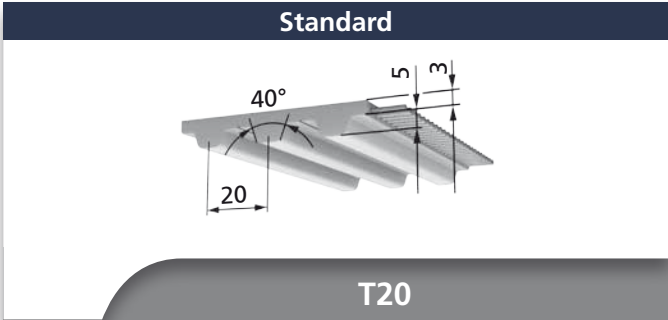
Belt widths b [mm] (in-between belt widths on request)						
16	25	32	50	75	100	150

T10 (M/V)		Available lengths and versions
Standard delivery lengths (M)		rolls of 50 or 100 m
Cut to lengths / lengths > 100 m		on request
Minimum length joined (V)	Standard	880 mm
	DL, DR, T, b=150	1000 mm
Standard material		TPUST1 ¹⁾
Steel tension member (Standard)		x
E tension member		o
Stainless steel tension member		o
PAZ		x
PAR		x
PAZ-PAR		x
DL / DL-PAZ	b _{max} =100	o
DR / DR-PAZ	b _{max} =100	o
T / T-PAZ	b _{max} =100	o

BRECO® T10 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	50,50	800	32,40	2000	25,40	5000	18,06
20	49,00	900	31,50	2200	24,60	5500	17,28
40	47,70	1000	30,70	2400	23,90	6000	16,58
60	46,60	1100	30,00	2600	23,30	6500	15,93
80	45,70	1200	29,30	2800	22,70	7000	15,33
100	44,80	1300	28,70	3000	22,20	7500	14,76
200	41,40	1400	28,20	3200	21,70	8000	14,24
300	39,10	1500	27,60	3400	21,20	8500	13,74
400	37,20	1600	27,10	3600	20,70	9000	13,28
500	35,70	1700	26,70	3800	20,30	9500	12,84
600	34,40	1800	26,20	4000	19,86	10000	12,42
700	33,30	1900	25,80	4500	18,91		

BRECO® T10 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight							
Belt width		b [mm]	16	25	32	50	75	100	150
M	E / Steel tension member	F _{Tadm} [N]	1400	2200	2800	4400	6600	8800	13200
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	3,5·10 ⁵	5,5·10 ⁵	7,0·10 ⁵	11,0·10 ⁵	16,5·10 ⁵	22,0·10 ⁵	33,0·10 ⁵
	Stainless steel tension member	F _{Tadm} [N]	1120	1760	2240	3520	5280	7040	10560
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	3,5·10 ⁵	5,5·10 ⁵	7,0·10 ⁵	11,0·10 ⁵	16,5·10 ⁵	22,0·10 ⁵	33,0·10 ⁵
V	E / Steel tension member	F _{Tadm} [N]	700	1100	1400	2200	3300	4400	6600
	Stainless steel tension member	F _{Tadm} [N]	560	880	1120	1760	2640	3520	5280
Belt weight	Standard	[kg/m]	0,073	0,114	0,145	0,227	0,341	0,454	0,681
	DL	[kg/m]	0,094	0,147	0,188	0,293	0,440	0,586	-
	DR	[kg/m]	0,109	0,171	0,218	0,341	0,512	0,682	-
	T	[kg/m]	0,109	0,171	0,218	0,341	0,512	0,682	-

BRECO® T10 (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	12	20	20	20	10	10	20	20	25	25	25
		d _{min} [mm]	60	60	60	60	50	50	60	60	80	80	80
	With contra-flexure	z _{min}	20	20	20	20	15	15	20	20	40	40	40
		d _{min} [mm]	60	60	80	80	50	50	80	80	130	130	130



Belt widths b [mm] (in-between belt widths on request)					
25	32	50	75	100	150

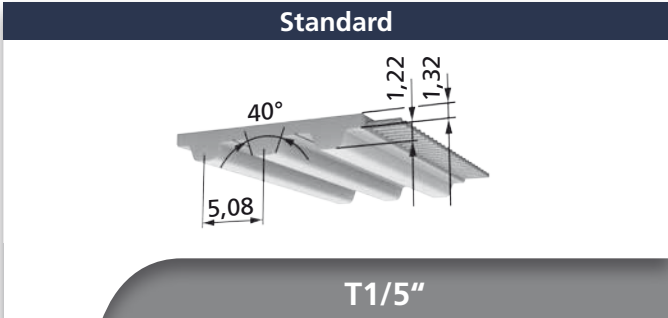
T20 (M/V)		Available lengths and versions
Standard delivery lengths (M)		rolls of 50 m
Cut to lengths / lengths > 50 m		on request
Minimum length joined (V)	Standard	1000 mm
	DL, T, b=150	1200 mm
Standard material		TPUST1 ¹⁾
Steel tension member (Standard)		x
E tension member		o
Stainless steel tension member		o
PAZ		x
PAR		x
PAZ-PAR		x
DL / DL-PAZ	b _{max} = 100	o
DR / DR-PAZ		-
T / T-PAZ	b _{max} = 100	o

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® T20 (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	101,50	800	60,90	2000	45,30	5000	28,90
20	98,10	900	59,00	2200	43,60	5500	27,20
40	95,30	1000	57,20	2400	42,10	6000	25,60
60	92,80	1100	55,60	2600	40,70	6500	24,20
80	90,70	1200	54,20	2800	39,40		
100	88,70	1300	52,80	3000	38,10		
200	81,20	1400	51,50	3200	37,00		
300	75,90	1500	50,30	3400	35,90		
400	71,80	1600	49,20	3600	34,90		
500	68,40	1700	48,20	3800	33,90		
600	65,60	1800	47,20	4000	33,00		
700	63,10	1900	46,20	4500	30,80		

BRECO® T20 (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight						
Belt width		b [mm]	25	32	50	75	100	150
M	E / Steel tension member	F _{Tadm} [N]	3500	4500	7000	10500	14000	20000
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	0,87·10 ⁶	1,13·10 ⁶	1,75·10 ⁶	2,63·10 ⁶	3,5·10 ⁶	5,0·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	2520	3240	5040	7560	10080	14400
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	0,87·10 ⁶	1,13·10 ⁶	1,75·10 ⁶	2,63·10 ⁶	3,5·10 ⁶	5,0·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	1750	2250	3500	5250	7000	10000
	Stainless steel tension member	F _{Tadm} [N]	1260	1620	2520	3780	5040	7200
Belt weight	Standard	[kg/m]	0,184	0,236	0,368	0,552	0,736	1,095
	DL	[kg/m]	0,247	0,316	0,493	0,793	0,986	-
	DR	[kg/m]	-	-	-	-	-	-
	T	[kg/m]	0,244	0,313	0,488	0,732	0,976	-

BRECO® T20 (M/V)			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra- flexure	z _{min}	15	25	-	25	12	25	-	25	20	30	-	30
		d _{min} [mm]	120	150	-	120	100	150	-	120	130	150	-	150
	With contra- flexure	z _{min}	25	25	-	25	22	25	-	25	30	30	-	30
		d _{min} [mm]	120	180	-	180	120	180	-	180	180	180	-	180



Belt widths b [mm] (in-between belt widths on request)					
6,35*	7,94	9,53	12,7	19,1	25,4

*only M

T1/5" (M/V)		Available lengths and versions
Standard delivery lengths (M)		rolls of 50 or 100 m
Cut to lengths / lengths > 100 m		on request
Minimum length joined (V)	b _{min} = 7,94	880 mm
Standard material		TPUST1 ¹⁾
Steel tension member (Standard)		x
E tension member		-
Stainless steel tension member		-
PAZ		x
PAR		x
PAZ-PAR		x
DL / DL-PAZ		-
DR / DR-PAZ		-
T / T-PAZ		-

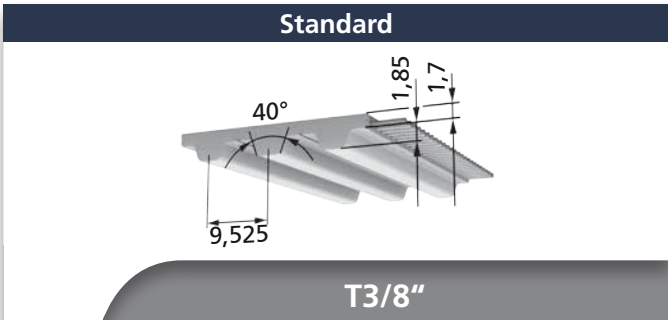
x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® T1/5" (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	24,40	800	16,83	2000	13,91	5000	10,86
20	23,80	900	16,47	2200	13,60	5500	10,54
40	23,20	1000	16,14	2400	13,31	6000	10,24
60	22,80	1100	15,84	2600	13,05	6500	9,97
80	22,40	1200	15,57	2800	12,80	7000	9,72
100	22,00	1300	15,31	3000	12,57	7500	9,49
200	20,60	1400	15,07	3200	12,36	8000	9,27
300	19,63	1500	14,85	3400	12,16	8500	9,06
400	18,86	1600	14,64	3600	11,96	9000	8,86
500	18,23	1700	14,45	3800	11,78	9500	8,68
600	17,70	1800	14,26	4000	11,61	10000	8,51
700	17,24	1900	14,08	4500	11,21		

BRECO® T1/5" (M/V)		Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight						
Belt width		b [mm]	6,35	7,94	9,53	12,7	19,1	25,4
M	E / Steel tension member	F _{Tadm} [N]	210	240	330	390	660	840
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	5,25·10 ⁴	6,0·10 ⁴	8,25·10 ⁴	9,75·10 ⁴	16,5·10 ⁴	21,0·10 ⁴
	Stainless steel tension member	F _{Tadm} [N]	-	-	-	-	-	-
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	-	-	-	-	-	-
V	E / Steel tension member	F _{Tadm} [N]	-	120	165	195	330	420
	Stainless steel tension member	F _{Tadm} [N]	-	-	-	-	-	-
Belt weight		Standard	[kg/m]	0,015	0,019	0,023	0,03	0,046
		DL	[kg/m]	-	-	-	-	-
		DR	[kg/m]	-	-	-	-	-
		T	[kg/m]	-	-	-	-	-

BRECO® T1/5" (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	10 (25)	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	30 (60)	-	-	-	-	-	-	-	-	-	-
	With contra-flexure	z _{min}	15 (25)	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	30 (60)	-	-	-	-	-	-	-	-	-	-

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm] (in-between belt widths on request)							
9,53	12,7	19,1	25,4	38,1	50,8	76,2	

T3/8" (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 or 100 m
Cut to lengths / lengths > 100 m	on request
Minimum length joined (V)	880 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	-
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

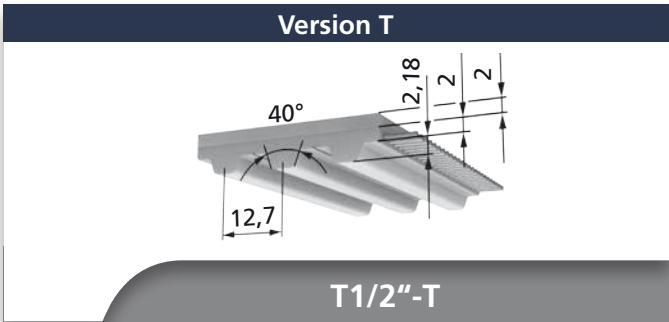
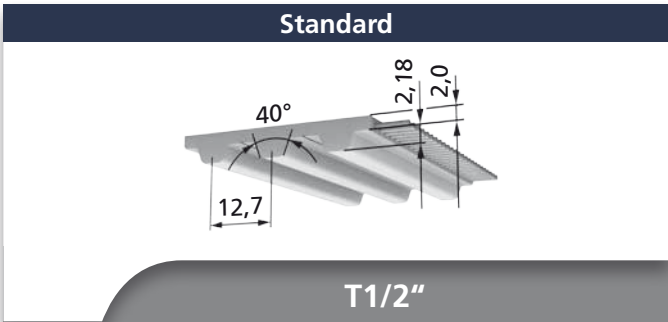
x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® T3/8" (M/V) Specific tooth force							
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	37,40	800	24,00	2000	18,78	5000	13,36
20	36,30	900	23,30	2200	18,22	5500	12,79
40	35,50	1000	22,70	2400	17,71	6000	12,27
60	34,50	1100	22,20	2600	17,25	6500	11,79
80	33,80	1200	21,70	2800	16,81	7000	11,34
100	33,10	1300	21,30	3000	16,40	7500	10,93
200	30,70	1400	20,80	3200	16,02	8000	10,54
300	28,90	1500	20,40	3400	15,66	8500	10,17
400	27,50	1600	20,10	3600	15,32	9000	9,83
500	26,40	1700	19,72	3800	15,00	9500	9,50
600	25,50	1800	19,39	4000	14,69	10000	9,19
700	24,70	1900	19,08	4500	13,99		

BRECO® T3/8" (M/V) Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight									
Belt width		b [mm]	9,53	12,7	19,1	25,4	38,1	50,8	76,2
M	E / Steel tension member	F _{Tadm} [N]	630	840	1260	1680	2520	3500	5040
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	15,8·10 ⁴	21,0·10 ⁴	31,5·10 ⁴	42,0·10 ⁴	63,0·10 ⁴	87,0·10 ⁴	1,26·10 ⁵
	Stainless steel tension member	F _{Tadm} [N]	-	-	-	-	-	-	-
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	-	-	-	-	-	-	-
V	E / Steel tension member	F _{Tadm} [N]	315	420	630	840	1260	1750	2520
	Stainless steel tension member	F _{Tadm} [N]	-	-	-	-	-	-	-
Belt weight	Standard	[kg/m]	0,033	0,044	0,066	0,08	0,133	0,178	0,266
	DL	[kg/m]	-	-	-	-	-	-	-
	DR	[kg/m]	-	-	-	-	-	-	-
	T	[kg/m]	-	-	-	-	-	-	-

BRECO® T3/8" (M/V) Flexibility (minimum number of teeth / minimum diameter)													
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	15 (20)	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	60	-	-	-	-	-	-	-	-	-	-
	With contra-flexure	z _{min}	20 (25)	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	60 (80)	-	-	-	-	-	-	-	-	-	-

(Deviate values in brackets apply to joined timing belts.)



Belt widths b [mm] (in-between belt widths on request)							
12,7	19,1	25,4	38,1	50,8	76,2	101,6	152,4

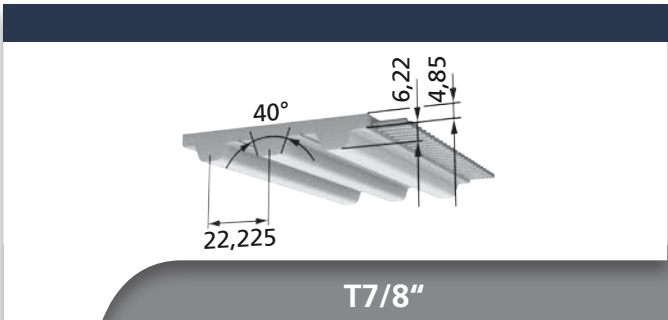
T1/2" (M/V)		Available lengths and versions
Standard delivery lengths (M)		rolls of 50 or 100 m
Cut to lengths / lengths > 100 m		on request
Minimum length joined (V)	Standard	880 mm
	b=152,4	1000 mm
Standard material		TPUST1 ¹⁾
Steel tension member (Standard)		x
E tension member		-
Stainless steel tension member		o
PAZ		x
PAR		x
PAZ-PAR		x
DL / DL-PAZ		-
DR / DR-PAZ		-
T / T-PAZ	b _{max} =101,6	o

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® T1/2" (M/V) Specific tooth force							
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	44,00	800	28,20	2000	22,10	5000	15,74
20	42,70	900	27,50	2200	21,50	5500	15,07
40	41,60	1000	26,80	2400	20,90	6000	14,46
60	40,70	1100	26,20	2600	20,30	6500	13,89
80	39,80	1200	25,60	2800	19,81	7000	13,36
100	39,10	1300	25,10	3000	19,33	7500	12,87
200	36,10	1400	24,60	3200	18,88	8000	12,42
300	34,10	1500	24,10	3400	18,45	8500	11,99
400	32,50	1600	23,70	3600	18,05	9000	11,58
500	31,10	1700	23,20	3800	17,68	9500	11,19
600	30,00	1800	22,90	4000	17,32	10000	10,83
700	29,10	1900	22,50	4500	16,49		

BRECO® T1/2" (M/V) Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight										
Belt width		b [mm]	12,7	19,1	25,4	38,1	50,8	76,2	101,6	152,4
M	E / Steel tension member	F _{Tadm} [N]	1000	1600	2200	3200	4400	6600	8800	13200
	Specific elasticity (E / Steel tension member)	C _{spec} [N]	0,25·10 ⁶	0,4·10 ⁶	0,55·10 ⁶	0,80·10 ⁶	1,1·10 ⁶	1,65·10 ⁶	2,2·10 ⁶	3,3·10 ⁶
	Stainless steel tension member	F _{Tadm} [N]	800	1280	1760	2560	3520	5280	7040	10560
	Specific elasticity (stainless steel tension member)	C _{spec} [N]	0,25·10 ⁶	0,4·10 ⁶	0,55·10 ⁶	0,80·10 ⁶	1,1·10 ⁶	1,65·10 ⁶	2,2·10 ⁶	3,3·10 ⁶
V	E / Steel tension member	F _{Tadm} [N]	500	800	1100	1600	2200	3300	4400	6600
	Stainless steel tension member	F _{Tadm} [N]	400	640	880	1280	1760	2640	3520	5280
Belt weight	Standard	[kg/m]	0,053	0,081	0,108	0,161	0,216	0,324	0,432	0,648
	DL	[kg/m]	-	-	-	-	-	-	-	-
	DR	[kg/m]	-	-	-	-	-	-	-	-
	T	[kg/m]	0,084	0,127	0,169	0,253	0,338	0,507	0,676	-

BRECO® T1/2" (M/V)			Flexibility (minimum number of teeth / minimum diameter)											
			Steel tension member				E tension member				Stainless steel tension member			
			Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra- flexure	z _{min}	14	-	-	20	-	-	-	-	25	-	-	25
		d _{min} [mm]	60	-	-	80	-	-	-	-	100	-	-	100
	With contra- flexure	z _{min}	20	-	-	20	-	-	-	-	40	-	-	40
		d _{min} [mm]	80	-	-	80	-	-	-	-	160	-	-	160



Belt widths b [mm] (in-between belt widths on request)		
50,8	76,2	101,6

T7/8" (M/V)	Available lengths and versions
Standard delivery lengths (M)	rolls of 50 m
Cut to lengths / lengths > 50 m	on request
Minimum length joined (V)	880 mm
Standard material	TPUST1 ¹⁾
Steel tension member (Standard)	x
E tension member	-
Stainless steel tension member	-
PAZ	x
PAR	x
PAZ-PAR	x
DL / DL-PAZ	-
DR / DR-PAZ	-
T / T-PAZ	-

x available
o minimum purchase amount on request
- not available
1) further materials on request

BRECO® T7/8" (M/V)		Specific tooth force					
R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]	R.p.m. n [min ⁻¹]	F _{tspec} [N/cm]
0	91,35	800	54,81	2000	40,77	5000	26,01
20	88,29	900	53,10	2200	39,24	5500	24,48
40	85,77	1000	51,48	2400	37,89	6000	23,04
60	83,52	1100	50,04	2600	36,63	6500	21,78
80	81,63	1200	48,78	2800	35,46		
100	79,83	1300	47,52	3000	34,29		
200	73,08	1400	46,35	3200	33,30		
300	68,31	1500	45,27	3400	32,31		
400	64,62	1600	44,28	3600	31,41		
500	61,56	1700	43,38	3800	30,51		
600	59,04	1800	42,48	4000	29,70		
700	56,79	1900	41,58	4500	27,72		

BRECO® T7/8" (M/V)			Admissible tension cord strength F _{Tadm} / Specific elasticity / Belt weight			
Belt width			b [mm]	50,8	76,2	101,6
M	E / Steel tension member		F _{Tadm} [N]	7000	10500	14000
	Specific elasticity (E / Steel tension member)		C _{spec} [N]	1,75·10 ⁶	2,63·10 ⁶	3,5·10 ⁶
	Stainless steel tension member		F _{Tadm} [N]	-	-	-
	Specific elasticity (stainless steel tension member)		C _{spec} [N]	-	-	-
V	E / Steel tension member		F _{Tadm} [N]	3500	5250	7000
	Stainless steel tension member		F _{Tadm} [N]	-	-	-
Belt weight		Standard	[kg/m]	0,530	0,795	1,059
		DL	[kg/m]	-	-	-
		DR	[kg/m]	-	-	-
		T	[kg/m]	-	-	-

BRECO® T7/8" (M/V)		Flexibility (minimum number of teeth / minimum diameter)											
		Steel tension member				E tension member				Stainless steel tension member			
		Standard	DL	DR	T	Standard	DL	DR	T	Standard	DL	DR	T
	Without contra-flexure	z _{min}	18	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	150	-	-	-	-	-	-	-	-	-	-
	With contra-flexure	z _{min}	20 (25)	-	-	-	-	-	-	-	-	-	-
		d _{min} [mm]	180	-	-	-	-	-	-	-	-	-	-

(Deviate values in brackets apply to joined timing belts.)



Timing belt lock for BRECO® timing belt

The BRECO® timing belt lock for the timing belt types AT10 DC and T10 DC is mainly used for low load drives but extensive assembly work. The lock offers substantial savings in work and costs where, for design purposes, the timing belt can only be joint to an endless belt after being inserted in the machine. It can also be used as an „Emergency belt“ to bridge downtimes as a result of malfunctions and belt failures. When using the lock for timing belts with flighted profiles, take a minimum profile spacing of 100 mm into account.

Technical data

Material of lock elements	Carbon fiber reinforced polyamide
Length of the lock (tooth center to tooth center)	90 mm
Number of connecting elements	10
Width of connecting plates	8 mm
Thickness of the timing belt (version DC)	5,5 mm
Minimum number of teeth of the pulley (use only normal gap)	25

Timing belt lock AT10 DC / T10 DC				
Available belt width [mm]	32	50	75	100
Admissible tensile force [N]	550	750	1000	1500

Ordering information

The lock elements on the belt rear are countersunk so that the elements are flush with the belt top edge. For this reason, the timing belt used must be thicker than the standard BRECO® AT10 or T10 timing belt. **Ensure that you specify the version as „DC“ when ordering an „AT10“ or „T10“ belt.**

Ordering examples

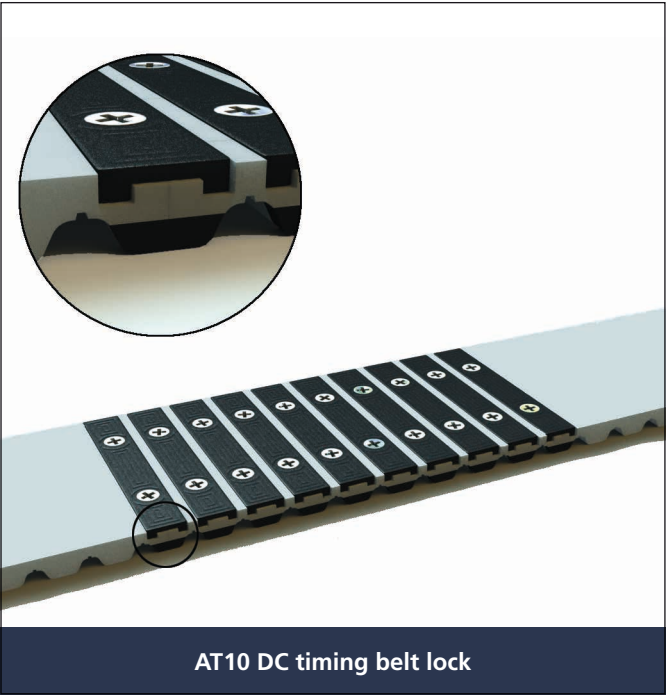
Ordering example for timing belts prepared for belt lock (belt-lock isn't assembled)
75 AT10 / 8400 DC oder 100 T10 / 6000 DC

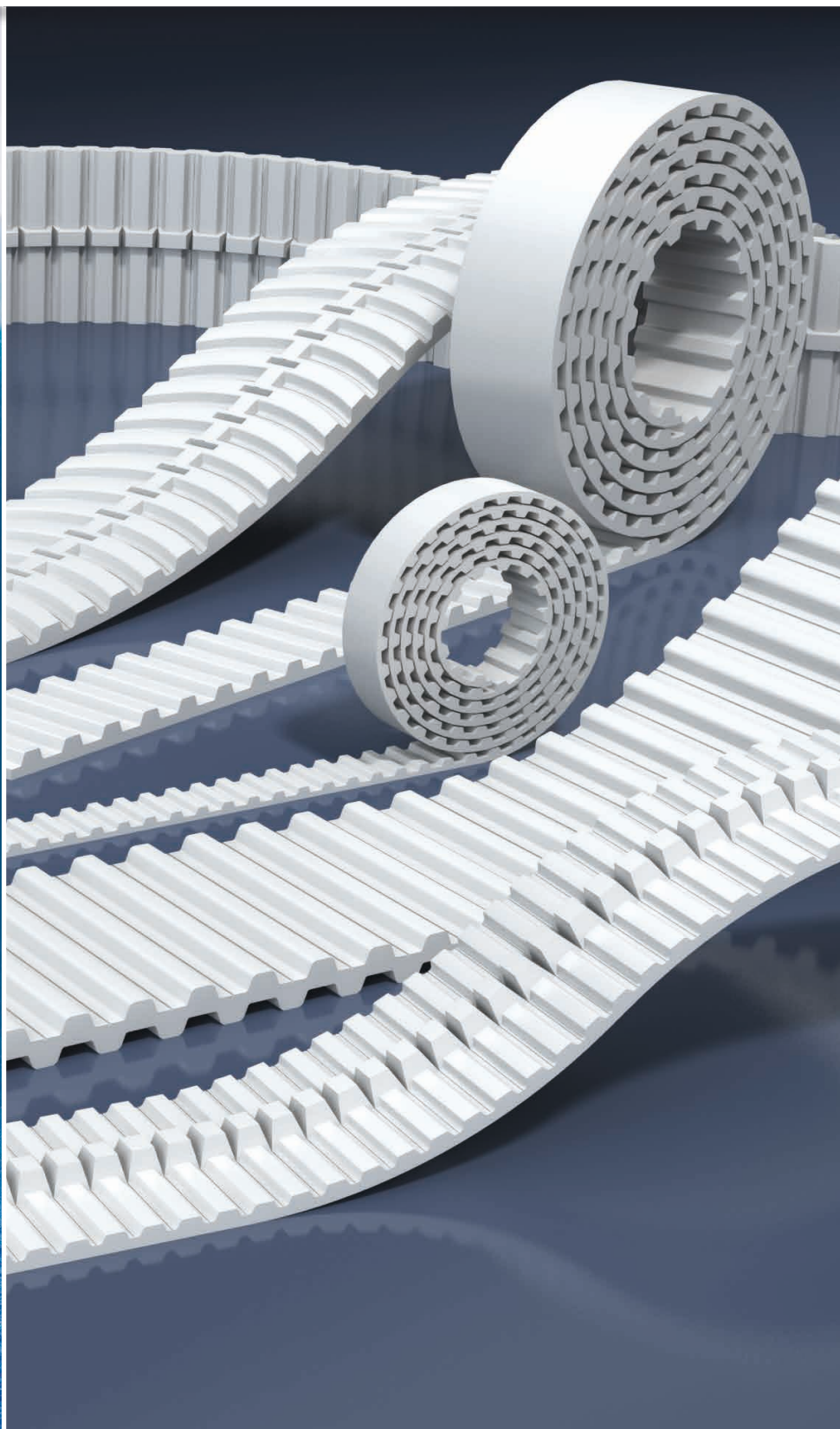
Ordering example for timing belt lock (belt-lock is preassembled)
75 AT10 DC oder 100 T10 DC

Ordering example for timing belt with lock (belt lock is preassembled)
50 AT10 / 5400 DC assembled
50 AT10 DC assembled

Annotation:

Specify the two respective designations when ordering the timing belt and the lock. If only the timing belt designation is specified, only the timing belt will be supplied with the respective preparation for the lock.





Appendix

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Timing belt guidance by flanges

Timing belts must be guiding to eliminate the lateral wandering-off effect. This is normally done by flanges.

Minimum lateral forces and low frictional losses can be resulted by the optimum arrangement of the belt guidance.

For this purpose, the following possibilities are available:

- *Timing belt guidance downstream of a large free span length (infeed length (a) should not remain under 5 times belt width)*
- *Guidance at the drive pulley (to prefer for two shaft drives with short axis distance)*
- *Guidance of the pulleys with low power transmission (to prefer for multi shaft drives)*
- *Guidance on the tension rollers*
 - *Tension roller arrangement in the slack span side*
 - *With arrangement on the flush belt side: consider minimum diameter with contraflexure*
 - *With arrangement on the meshed belt side: Length of angle of wrap, min. 3 teeth*
 - *With changing rotational direction preferable in the span length centre*
- *Condition: Minimum span length (a) between tension roller and pulley should not remain under 5 times belt width*
- *Ensure high axis parallelity and flush alignment of all pulleys to achieve optimum guiding features.*
- *For cost reasons it is possible to fit flanges also to the smaller pulley taking the functional reliability into consideration.*



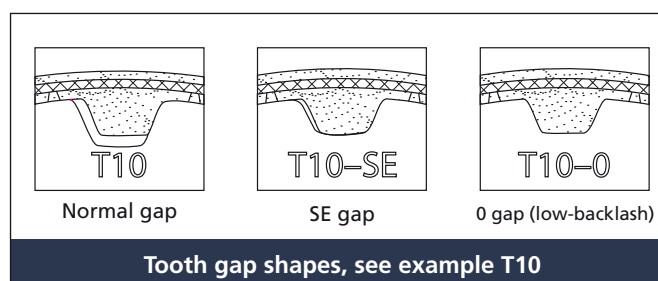
The utilisation of BRECO® and BRECOFLEX® timing belts with bifilar tension member arrangements is the ideal prerequisite for an optimal belt guide.

Tooth gap shapes

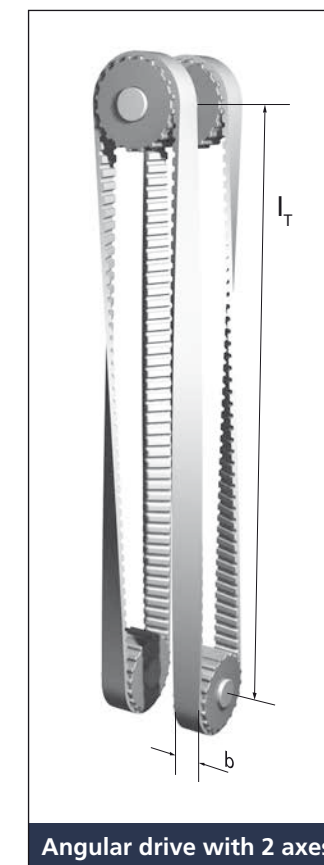
Timing belts are positive fitted drive elements. They work slippage-free with the respective synchronising pulleys. BRECO® and BRECOFLEX® timing belt drives can be optimised additionally for a movement transmission with a low flank backlash.

For some profiles and pitches, the SE or zero gap can be used for especially high requirements on the precision of the movement transmission. Please contact us for technical advice.

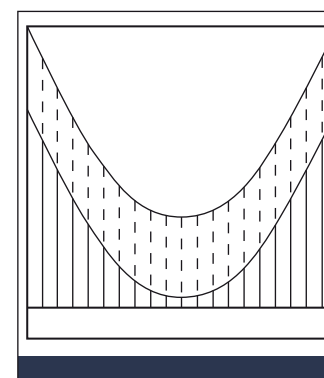
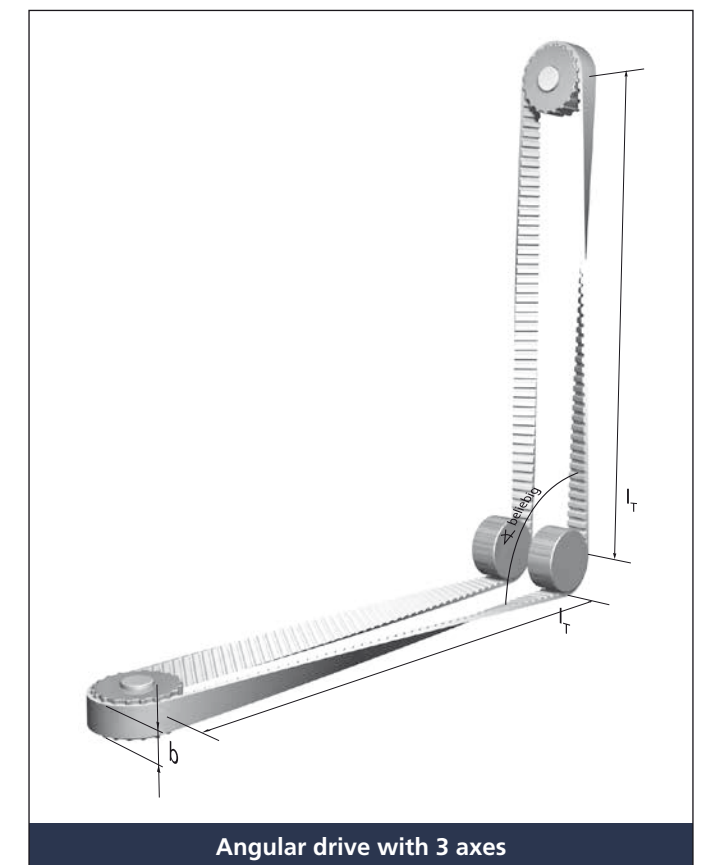
- *Prerequisites for the application:*
Pitch matching between timing belts and pulley.
- *Influencing factors of the pitch matching:*
 - *Pre-tension force*
 - *Meshing distance (z_e)*
 - *Load rate (rotational speed, dynamic behaviour...)*
 - *Manufacturing tolerances*



BRECOFLEX® timing belts can be applied as angular drives. Take into consideration that the timing belt can only be crossed (twisted). Eliminate the wandering-off effect.



$$\begin{aligned} L_T/b &\geq 20 \\ b &= \text{Belt width} \\ L_T &= \text{span length} \end{aligned}$$



$$\begin{aligned} F_{adm} &: \text{Admissible tensile force} \\ F_U &: \text{For the drive remaining circumferential force} \\ F_S &: \text{Tensile force due to crossing} \end{aligned}$$

With crossed timing belt applications the outer tension members suffer a higher elongation as the inner ones. Due to the larger elongation in the edge zone the permitted proportional circumferential force for the belt in the tension members is reduced.

No power reductions or constructive special means are necessary at a ratio of $L_T / b \geq 20$. At a required ratio of $L_T / b < 20$ please contact our technical department for advice.

Safety factors

The width of a timing belt is correct when the permissible values for tooth shear strength, tension cord strength and flexibility are not exceeded under unfavourable operating conditions. In our catalog, load limits are stated which have been reliably proven and confirmed by bench tests and results obtained in practice. A safety factor is only required for drives with transmission into higher speed.

It is important, that the unfavourable load types occurring in the drive are known resp. correctly estimated by the engineer. With a positive fit transmission, even short-period overloads act via the timing belt being the drive member. Some instructions to this issue:

Rated operation

Design timing belts for the operating condition of the rated load. The rated load is the operating condition at which the drive should transmit the torque or the power at rated speeds under normal conditions.

Start-up characteristics

- Drive side: The max. torque of the drive machine under start-up conditions is to be taken into consideration. The start-up torque, e.g. for three-phase squirrel cage motors amounts to 2 to 2.5 times the rated value.
- On the drive side: If necessary, „initial torques“ affective to the drive part timing belt are to be taken into consideration under start-up characteristics.

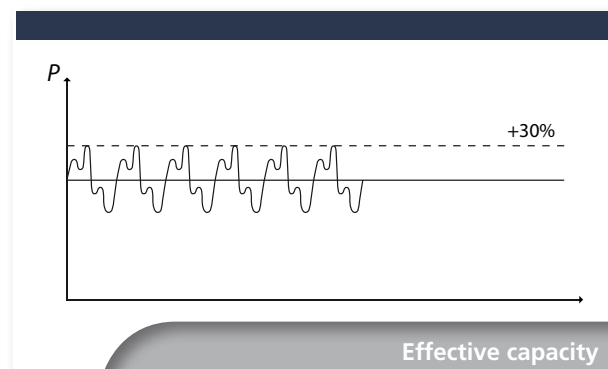
Check load case a) or b) with rotational speed $n=0$.

Brakes

It might have to be defined whether braking leads to loads which fully act via the timing belt and possibly exceed the type of load produced by the rated operation or the start-up characteristics. In the braking operation the torque reversal is to be taken into consideration.

Unevennesses (variations, impact shocks)

In addition to the rated load, superimposed vibration and impact shocks could act on the timing belt as the transmission member. For the illustrated example, increase the calculated belt width by the factor of 1.3.



Moments of inertia

Moments of inertia and/or centrifugal masses in the drives generally create a uniform running behaviour. Depending on the acceleration and deceleration characteristic it has to be differentiated and checked whether the moments of inertia create an additional load on the timing belt.

Step-up transmission

The following safety factors are to be applied for step-up transmissions:

$i = 0,66$ to $1,00$	$S = 1,1$
$i = 0,40$ to $0,66$	$S = 1,2$
$i < 0,40$	$S = 1,3$

In the braking operation may occur a torque reversal and the reduction can change into a step-up transmission.

Length tolerances for BRECOFLEX® timing belts Stated dimensions in mm, referred to the belt length

Belt length [mm]	Length tolerance [mm]	Belt length [mm]	Length tolerance [mm]
300	± 0,41	3550	± 1,91
500	± 0,53	3750	± 2,03
700	± 0,64	4000	± 2,11
900	± 0,75	4250	± 2,24
1100	± 0,85	4500	± 2,32
1300	± 0,95	4750	± 2,40
1500	± 1,04	5000	± 2,52
1900	± 1,13	5300	± 2,64
2120	± 1,22	5600	± 2,72
2240	± 1,31	6000	± 2,92
2360	± 1,36	6300	± 3,04
2500	± 1,44	6700	± 3,19
2650	± 1,49	7100	± 3,35
2800	± 1,57	7500	± 3,51
3000	± 1,61	8000	± 3,70
3150	± 1,74	9000	± 4,09
3350	± 1,82		

Length tolerances for BRECO® timing belts* *except for ATL timing belts

± 0,8 mm/m

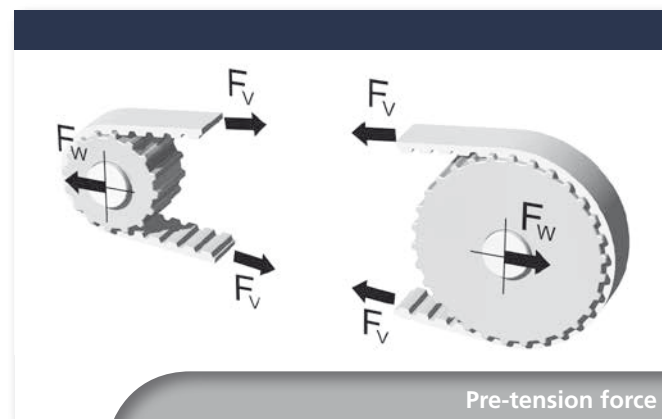
Width tolerance for BRECO® and BRECOFLEX® timing belts M/V

Belt type Pitch	Tolerance	Belt type Pitch	Tolerance
T2,5	± 0,5	ATS15 / SFAT15 / BAT15 / BATK15	± 1,0
T5 / TK5	± 0,5	AT20 / ATK20 / ATL20 / ATN20 / SFAT20	± 1,0
T10 / TK10	± 0,5	ATP10	± 0,5
T20	± 1,0	ATP15	± 1,0
AT3	± 0,5	XL	± 0,5
AT5 / ATK5 / ATL5	± 0,5	L	± 0,5
AT10 / ATK10 / ATL10 / ATN10 / SFAT10 / BAT10 / BATK10	± 0,5	H	± 0,5
ATN12,7	± 0,5	XH	± 1,0

Pre-tension force

Pre-tension is intended to guarantee a minimum tensioning force at the slack span side to ensure smooth tooth meshing into the driven pulley.

Generally, the pre-tension should only be set as high as necessary. The necessary pretension force of the spans F_V depends on the max. circumferential force F_U , the belt length L_B (number of teeth z_B) and the drive configuration.



The recommendations shown in the table refer to the pre-tension force setting per span.

Drive configuration		Pre-tension force of each individual span
Two-shaft drive	$z_B < 60$	$F_V = 1/3 F_U$
	$60 \leq z_B < 150$	$F_V = 1/2 F_U$
	$z_B > 150$	$F_V = 2/3 F_U$
Multiple-shaft drive	$l_{\text{Load span}} \leq l_{\text{Slack span}}$	$F_V = F_U$
	$l_{\text{Load span}} > l_{\text{Slack span}}$	$F_V > F_U$
Linear drive		$F_V \geq F_U$

In every case, the tension cord strength is the top limit of the span load. Take into consideration that especially with multiple-shaft and linear drives, an addition of the pre-tension force and the circumferential force in relation to the load span force is to be expected.

Influence variables

Stiffness of the belt

Friction forces created by the interaction of the tooth mesh (especially at the slack span) intensify the span forces, which in turn increase the degree of elongation. This influence may lead to the slack span tooth mesh butting against the driven pulley, thereby causing the belt to jump. Elongation being directly depending on the belt stiffness, the high stiffness of the steel cord tension members permits a comparably low pre-tension.

Circumferential force

The circumferential force acts in proportion to the elongation of the load span, i.e. excessive slackening of the slack span can be counteracted by a pre-tension matched to the circumferential force.

Belt length

Belt elongation resulting from the effect of the circumferential force and the friction forces is also approximately in proportion to the belt length. Therefore, the tendency of running up or jumping is considerably influenced by the belt length. Even under high circumferential forces with the resulting friction forces, a very short timing belt will elongate to only a small degree, so that even when subject to low pre-tension forces there will be no danger of running up or jumping of teeth. On the contrary, with short timing belts circumferential deviations of the pulleys could cause heavy pre-tension fluctuations and, as a result, extreme peak values.

Proportion of the span lengths

Especially with multiple-shaft drives the load span is often markedly longer than the slack span side. For this reason, a slight elongation of the load span results in a very unfavourable slack on the span side. Therefore, the pre-tension force of spans of such gearings should be higher than the circumferential force.

Precise transmission of movement

There is a high transmission accuracy possible in the reverse operation with BRECO® and BRECOFLEX® timing belts, when the span pre-tension forces are selected in the same size of the circumferential force.

Consequences of faulty pre-tension setting:

Too low pre-tension

- *The teeth of the slack span side run up on or override the teeth of the driven pulley*
- *Wear on the faces caused by the friction force during meshing*
- *Forced breakage by excessive elongation due to full overriding*

Excessive pre-tension

- *High bearing load of the shafts*
- *Reduction of the transmissible power*
- *Wear and tear at the belt tooth*

General information

Design

- *In the transmission configuration, design at least one adjustable axis, plan one adjustable tension roller (not spring-loaded) for fix centre distances*
- *The bearing has to be absolutely rigid*
- *Note the importance of a parallel run and flush alignment of the synchronising pulleys*

Transport/storing

- *Upon receipt, unpack the timing belt immediately and store in circular position in a dry place at room temperature*
- *Do not bend*

Measuring with frequency measuring meter

The intrinsic frequency of a vibrating belt span can be measured by means of various Mulco belt tension measuring meters. The pre-tension force of the span can be calculated from the measured intrinsic frequency:

$$F_V = 4 \cdot m \cdot l_T^2 \cdot f^2$$

The corresponding intrinsic frequency can be calculated, if the pre-tension is preset:

$$f = \sqrt{\frac{F_V}{4 \cdot m \cdot l_T^2}}$$

f: Frequency of the variations in hertz:

m: Mass of the belt per meter length in kg/m

l: Drum span length subject to vibration in m

FV: Span force in N

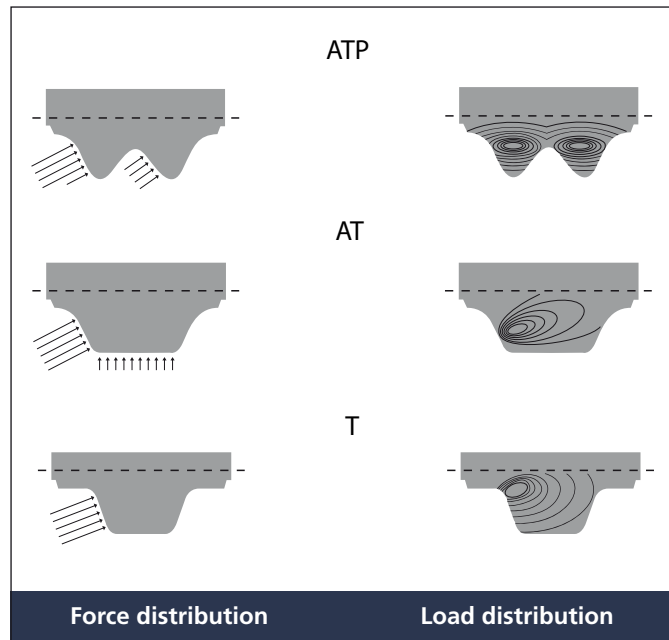
Please contact our distribution partner for the various measuring meters. (e.g. BRECO® TSM alpha 1)

Mounting

- *Fit timing belts on the pulleys when slack without exerting any force*
- *Exert no force when fitting with fix centre distances if necessary, fit together with synchronising pulleys*
- *Apply pre-tensioning force according to the chapter „Pre-tension“*
- *Secure adjustable axis against sliding*
- *Do not clamp the timing belt between the flanges*

Operation

- *Protect the drives against dust, dirt, hot surrounding media as well as acids and lyes*
- *Take into consideration the ambient temperatures (see characteristics of polyurethane timing belts)*



Providing the following conditions of tooth strength (1st), tension member tensile strength (2nd) and flexibility (3rd) are met, then a maintenance-free timing belt operation can be expected.

1. Tooth shear strength

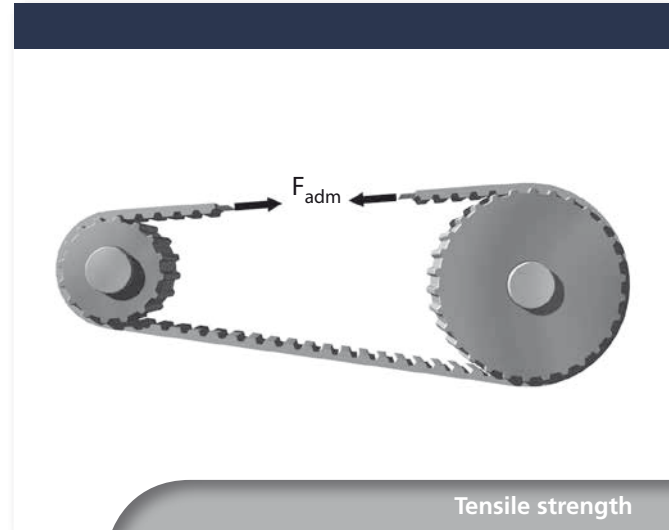
Specific tooth shear strength

The specific tooth shear strength depends on the rotational speed. The maximum specific tooth shear strength is the limit load the belt tooth can bear in continuous operation. The values are stated in tables for each timing belt type. The timing belt drive is correctly designed, when not exceeding the admissible tooth shear strength. Generally, a special safety surplus is not necessary, see chapter „Safety factors“.

The high specific tooth shear strength of the ATP profile, for example, is achieved by the optimised force and load distribution. The effective force is distributed to two tooth faces.

The working loads can be distributed the more effective the more belt teeth are meshing in the pulley. Maximum number of teeth in mesh (BRECOFLEX® timing belts): $z_{\text{emax}} = 12$

Due to the high pitch accuracy of BRECOFLEX® timing belts generally, it can be calculated with 12 belt teeth in mesh, should the number of teeth in mesh be respectively high enough.



2. Tension cord tensile strength

Admissible tensile load on belt cross section

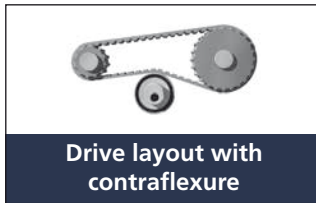
The timing belt is designed correctly, when the maximum admissible tensile load in the steel cord tension members is not exceeded under operation conditions. The table values for F_{adm} refer to the constant loading.

3. Flexibility

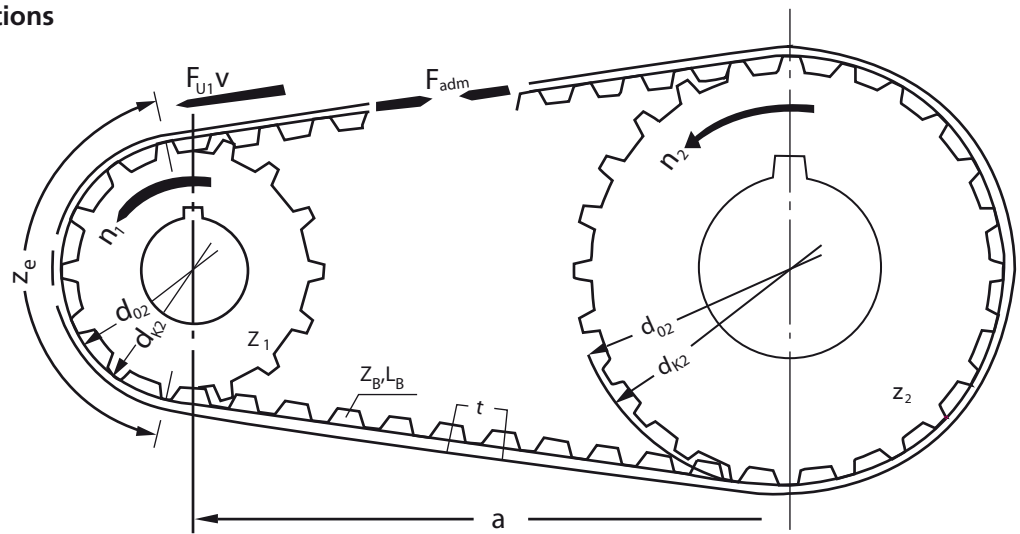
Minimum number of teeth, minimum pulley diameter

The recommended minimum number of teeth and/or the minimum diameter for a malfunction-free operation depends on the selected belt type. Take especially into consideration that the minimum number of teeth and/or the minimum diameter is higher when using a belt arrangement „with contraflexure“ (e.g. due to a tension roller).

The selection of the minimum number of teeth and/or minimum diameter of the pulleys as well as tension and return rollers is based on a large number of different parameters. In the applications of the belt is to taken into consideration the belt versions and the flexibility of the tension members.



Terms, definitions



Circumferential force	F_U	[N]	Centre distance	a	[mm]
specific tooth force	$F_{U\text{spec}}$	[N/cm]	Belt length	L_B	[mm]
admissible tensile load	F_{adm}	[N]	Belt width	b	[mm]
Pre-tension force	F_v	[N]	Pulley width	B	[mm]
Shaft force	F_w	[N]	Bore, pulley	d	[mm]
Torque	M	[Nm]	Pitch circle diameter	d_o	[mm]
Acceleration torque	M_B	[Nm]	Crown diameter	d_k	[mm]
specific torque	M_{spec}	[Ncm/cm]	Span length	L_T	[mm]
Power	P	[kW]	Pitch	t	[mm]
specific power	P_{spec}	[W/cm]	Number of belt teeth	z_B	
Load bearing torque	J	[kgm ²]	Number of teeth with $i = 1$	z	
Load	m	[kg]	Number of teeth in mesh	z_e	
Density	ρ	[kg/dm ³]	No. of teeth, small pulley	z_1	
Speed	v	[m/s]	No. of teeth, large pulley	z_2	
Rotational speed	n	[min ⁻¹]	Transmission	i	
Angular speed	ω	[s ⁻¹]	Acceleration time	t_B	[s]
Frequency	f_e	[s ⁻¹]			

$$F_U = \frac{2 \cdot 10^3 \cdot M}{d_o}$$

$$= \frac{19.1 \cdot 10^6 \cdot P}{n \cdot d_o}$$

$$= \frac{10^3 \cdot P}{v}$$

Circumferential force

$$M = \frac{d_o \cdot F_U}{2 \cdot 10^3}$$

$$= \frac{9.55 \cdot 10^3 \cdot P}{n}$$

$$= \frac{d_o \cdot P}{2 \cdot v}$$

Torque

$$P = \frac{M \cdot n}{9.55 \cdot 10^3}$$

$$= \frac{F_U \cdot d_o \cdot n}{19.1 \cdot 10^6}$$

$$= \frac{F_U \cdot v}{10^3}$$

Power

$$L_B = 2a + \pi \cdot d_o$$

$$= 2a + z \cdot t$$

Belt length for $i = 1$

$$d_o = \frac{z \cdot t}{\pi}$$

Pitch circle diameter

$$\omega = \frac{\pi \cdot n}{30}$$

Angular speed

$$n = \frac{19.1 \cdot 10^3 \cdot v}{d_o}$$

Rotational speed

$$v = \frac{d_o \cdot n}{19.1 \cdot 10^3}$$

Peripheral speed

$$M_B = \frac{J \cdot \Delta n}{9.55 \cdot t_B}$$

Acceleration torque

$$J = 98.2 \cdot 10^{-15} \cdot B \cdot \rho \cdot (d_k^4 - d^4)$$

Load bearing torque

Apply all equations with the dimensions mentioned here.

Calculation power transmission

Task: A roll table drive must be designed for heavy conveying duties. Under start-up conditions the 2.5 times the running torque is exerted on the timing belt.

The application conditions are:

Given: Power $P = 10 \text{ kW}$
 Nominal speed $n = 800 \text{ min}^{-1}$
 Start-up torque $M = 300 \text{ Nm}$
 Transmission, number of teeth $i = 1, z = z_1 = z_2 = 25$
 Centre distance $a = 625 \text{ mm}$

Required: The timing belt pitch is to be determined and the belt width is to be designed.

Formulae:

$$b = \frac{100 \cdot M}{z_1 \cdot z_e \cdot M_{\text{spec}}} \quad M[\text{Nm}]$$

$$b = \frac{1000 \cdot P}{z_1 \cdot z_e \cdot P_{\text{spec}}} \quad P[\text{kW}]$$

$$F_u = \frac{2 \cdot 10^3 \cdot M}{d_0} \quad F_u [\text{N}]$$

$$d_0 = \frac{z \cdot t}{\pi} \quad [\text{mm}]$$

$$L = 2 \cdot a + z \cdot t \quad [\text{mm}]$$

How to proceed

Belt length: Profile preselection: AT10. Calculation of the belt length with formula:

$$\begin{aligned} L &= 2 \cdot a + z \cdot t \\ &= 2 \cdot 625 + 25 \cdot 10 \\ &= 1500 \text{ mm} \end{aligned}$$

Calculation of the belt width: **1. Tooth shear strength**
 In the calculation it will be used $z_e = 12$ (see basis of calculation).
 Calculation of the belt width with the nominal speed of the power equations.

$$\begin{aligned} b &= \frac{1000 \cdot P}{z_1 \cdot z_e \cdot P_{\text{spec}}} \\ &= \frac{1000 \cdot 10}{25 \cdot 12 \cdot 6,96} \\ &= 4,79 \text{ cm} = 47,9 \text{ mm} \end{aligned}$$

Calculation of the belt width under start-up torque when rotational speed $n = 0$.

$$\begin{aligned} b &= \frac{100 \cdot M}{z_1 \cdot z_e \cdot M_{\text{spec}}} \\ &= \frac{100 \cdot 300}{25 \cdot 12 \cdot 11,70} \\ &= 8,54 \text{ cm} = 85,4 \text{ mm} \end{aligned}$$

The belt width is to be determined from the least favourable load conditions.
 Selected: the next larger standard belt width $b = 100 \text{ mm}$.

2. Tension cord strength
 The corresponding circumferential force can be calculated from the general data supplied:

$$\begin{aligned} F_u &= \frac{2 \cdot 10^3 \cdot M}{d_0} \\ &= \frac{2 \cdot 10^3 \cdot M}{79,58} \\ &= 7539 \text{ N} < 16000 \text{ N} \end{aligned}$$

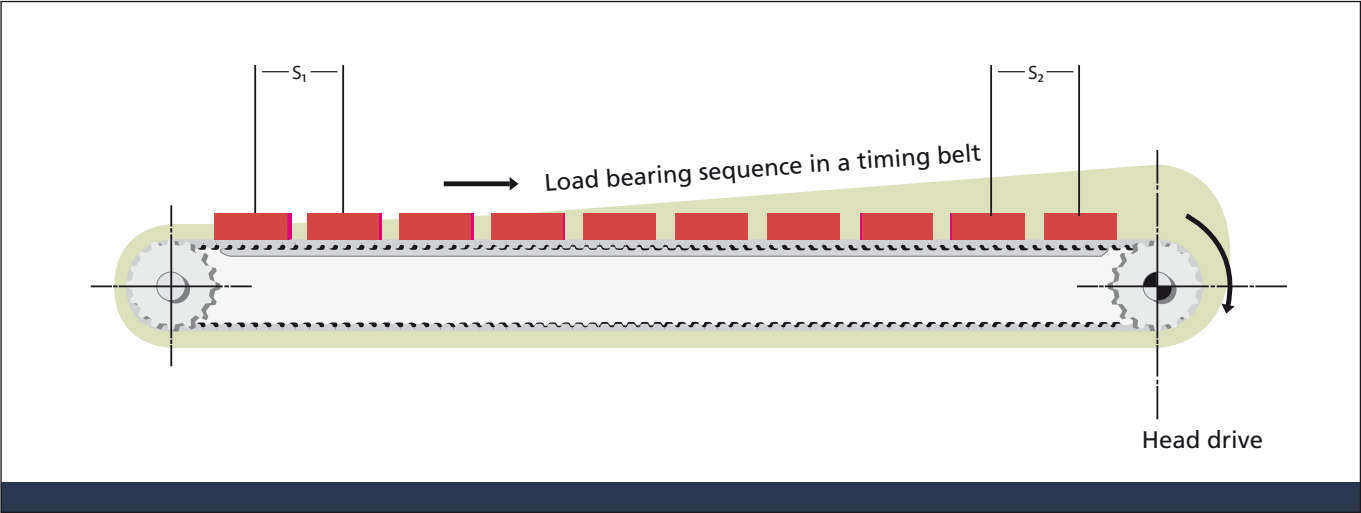
The tabular value F_{adm} for AT 10 with 100 mm belt width is 16000 N. Thus, there is a sufficient tension member safety factor.

3. Flexibility
 The design is a drive „without contraflexure“. The minimum number of teeth according to the table is adhered to.

Result: The drive is correctly designed with a belt width of 100 mm. A maintenance-free operation can be expected.
 Ordering code: BRECOFLEX® timing belt 100 AT 10 / 1500

BRECO® and BRECOFLEX® timing belts used for transportation

Transport timing belts are to be designed preferably as head drive. The goods to be transported can consist of one or more individual loads. A lot of individual loads can be seen as line load.



Calculation of the circumferential force F_U

From the overall transport load, the required haul-off force or the circumferential force F_U for the drive pulley assemblies can be derived:

$$F_U = 9,81 \cdot m \cdot \mu$$

Circumferential force in the drive pulley station	F_U [N]
Mass of the items to be transported	m [kg]
Friction factor of the timing belt in relation to the bed plate	μ

As friction factor μ (slide friction), the following values can be assumed:

Steel/PUR 92 Shore A	0,6 - 0,7
Steel/PAZ	0,2 - 0,4
PE/PUR	0,3 - 0,4

In general, friction factors show large ranges. Trials should be carried out, if necessary.
Information without obligation.

Information on the force/elongation behaviour

The grid surface in the picture shows the force/elongation behaviour in the timing belt under operating conditions. The individual spacing between the transported products increase towards to the drive pulley assembly.

$$\text{Space } s_1 < s_2$$

Pre-tension force

We recommend to set the pre-tension force in the transport timing belt such that a residual pre-tension force is always maintained on the slack span side under operating conditions. The following pre-tension force is required:

$$F_V > 0,5 \cdot F_U$$

Calculation of the belt width b

$$b = \frac{F_U}{z_e \cdot F_{U\text{spec}}} \quad F_U[\text{N}]$$

- F_U : Circumferential force (calculated)
- $F_{U\text{spec}}$: Specific load of the belt teeth
- z_e : Number of teeth in mesh
- z_{emax} : Maximum number of teeth in mesh for endless joined BRECO timing belts (V): $z_{\text{emax}} = 6$

Construction and properties

The most common output movement of electro-mechanical drives is the rotational movement. For the technical designer is the timing belt an ideal link in the kinematics. The timing belt transmits reliable, fast and directly rotational movements into linear motions. Travel speeds up to 10 m/s and any centre distances are possible. Within linear motions low position deviations are often required, e.g. in the handling technology (high precision of repeatability). We recommend our product range of BRECO® timing belts with the profiles AT and ATL. These polyurethane timing belts are designed and optimised for linear drives. They stand out for dimensionally stable teeth and stiffness of the belt spans.

Under extreme load and after a short run-in time, the pre-tension of the belts might slightly reduce by the tension members settling, making a once-only re-tensioning of the timing belt unavoidable. No post-elongation of the tension members is to be expected in continuous operation.

The timing belts are temperature resistant with ambient temperatures from -30°C to +80°C. **Applications close to the limit temperatures (<-10°C and >50°C), however, might require adapted dimensioning. In this case please contact your distribution partner.**

This catalog has been compiled to especially meet designers requirements. In this catalog you will find both the delivery range and all technical data required for the dimensioning linear drives.

Take into consideration corrections to the admissible load values, in case of deviations from the standard.

Construction

BRECO® timing belts are constructed of wear resistant polyurethane and high tensile steel cord tension members. Both materials combined form the basis for dimensionally stable and reliable BRECO® timing belts. An additional nylon tooth facing results in a low-friction timing belt with high performance.

The BRECO® timing belts is manufactured without length limitation. The steel cord tension members are arranged with parallel edges. The preferred delivery form is in rolls of 50 m or 100 m.

Properties

- Positive fit, synchronous run
- High loadability, length stable
- High degree of efficiency, max. 98 %
- Wear resistant in continuous operation
- Precision of repeatability of positioning in the linear system
- Pitch accuracy in the rotational to linear translation of movement
- Low mass, suitable for stepper drives
- Hydrolysis resistant, resistant against ozone and sun light
- Temperature resistant from -30° to + 80°C, temporarily higher
- Resistant to petrol, simple fats and oils

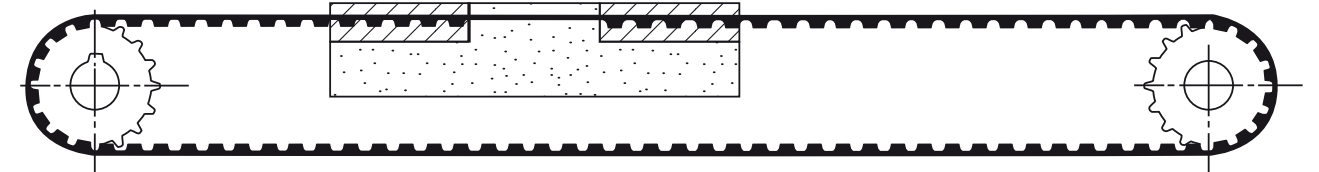
Construction features

Surrounding structure

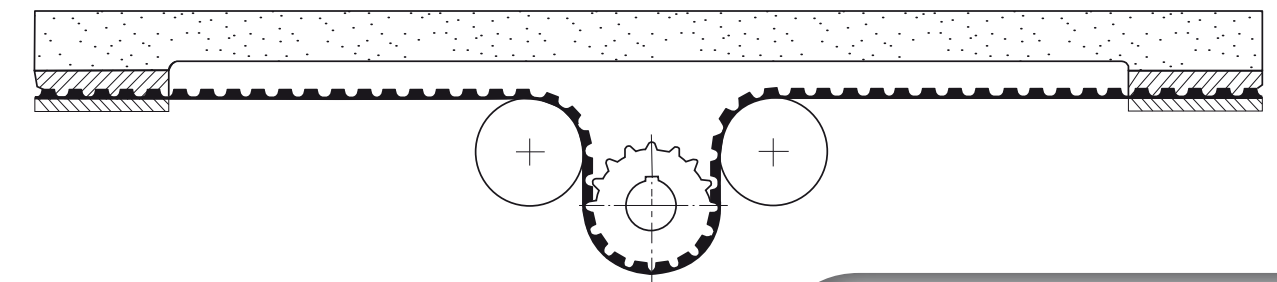
Low friction and low dead weight is to be aspired for all assembly modules assuming part of the movement. The surrounding structure is to design dimensionally stable. Generally, BRECO® AT and ATL timing belts as open length are to be clamped on the moving linear technology using clamp plates.

BRECO® AT and ATL timing belts permit a rotational to linear translation of movement with continuous accuracy.

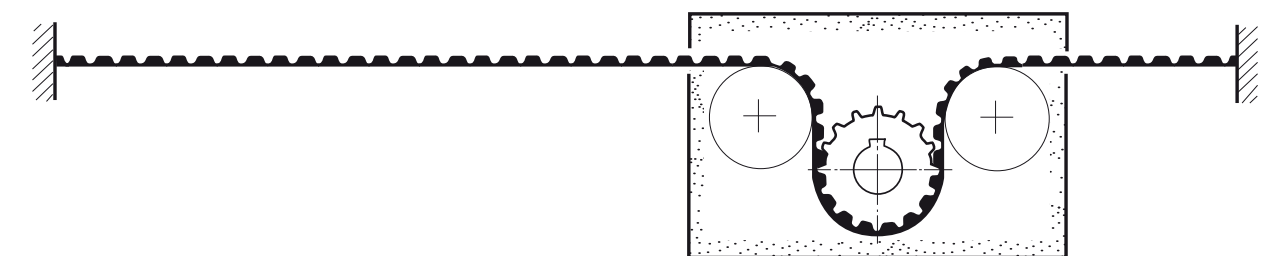
Due to the high pitch accuracy between belt and pulley meshing the load distribution is distributed equally to the tooth faces in mesh on the drive assembly pulley and that produces a high performance and accuracy. The choice of materials for the belt and pulley is especially suitable for bi-directional drives. The distance of travel per pulley revolution is defined with the selection of the pitch and the number of teeth of the drive assembly pulley. For the linear drives are three design versions available. (Please note chapter „Belt guidance“)



Linear slide



Linear table

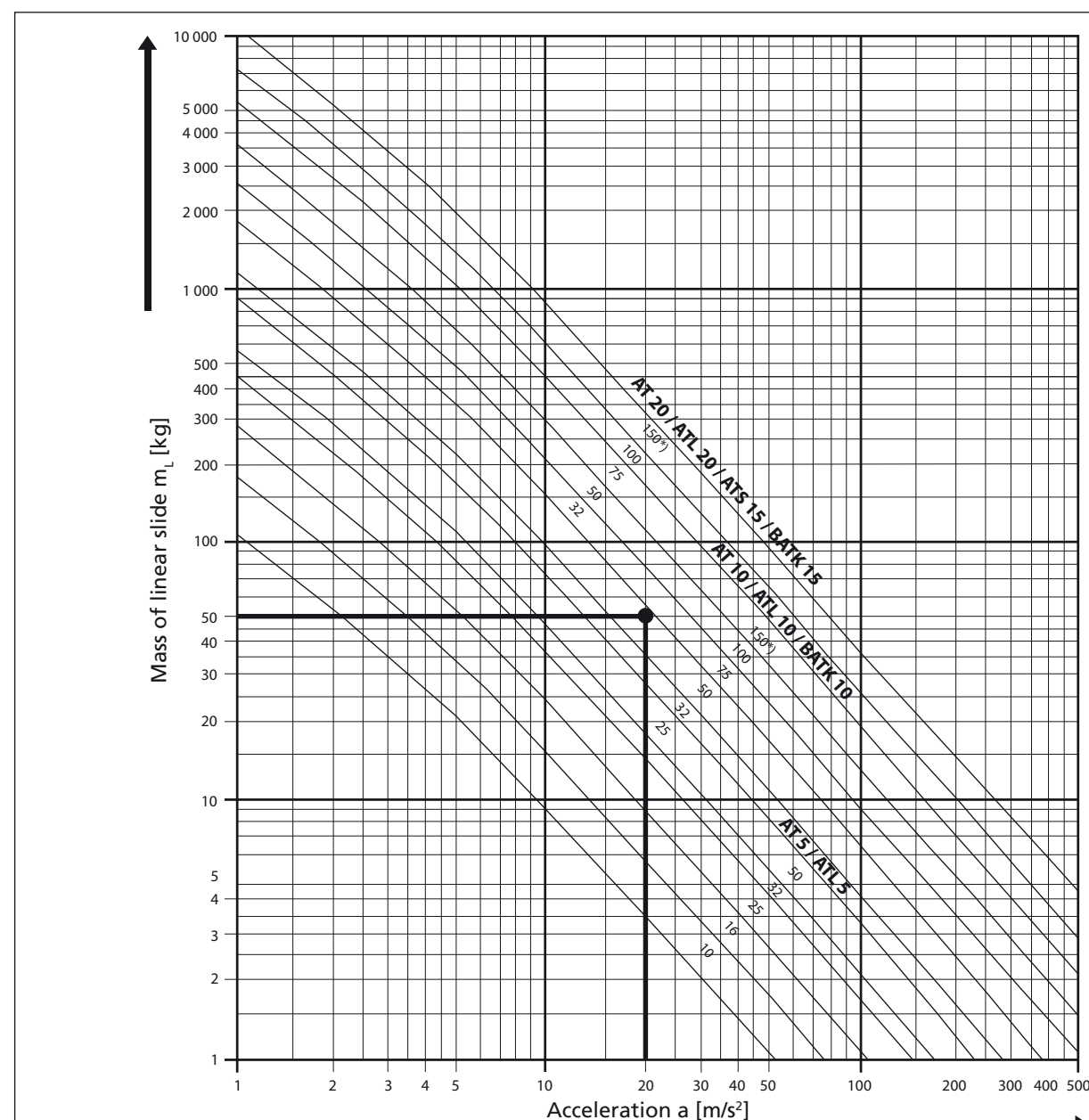


Linear trolley

A dimensionally stable surrounding structure is to consider.

Coarse design

Determination of belt type and belt width



Example for the coarse design:

Mass of linear slide $m_L = 50$ kg
Max. acceleration (w/o delay) $a = 20$ m/s²

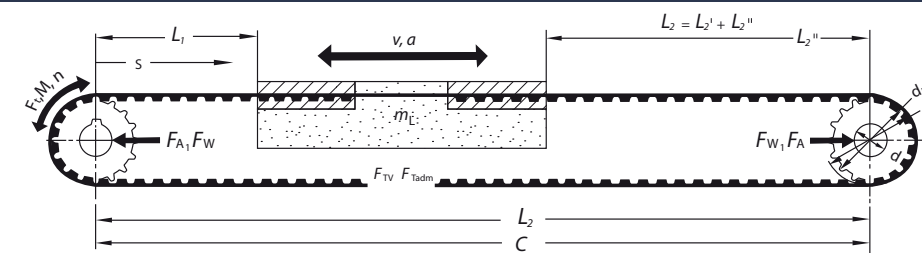
In the graph intersection point can be read:

BRECO® timing belt: AT 10 / ATL 10, 50 mm wide
Alternatively: AT 20 / ATL 20, 32 mm wide

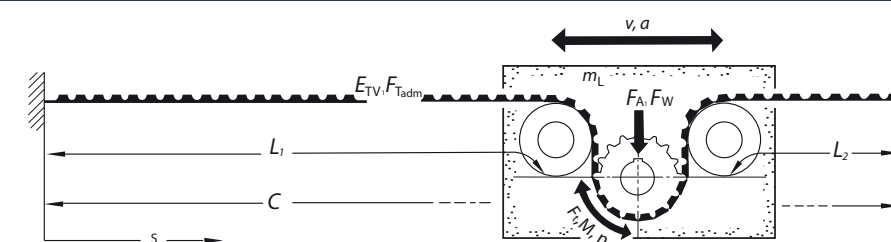
Recommendation:

The corresponding pulley of the drive pulley assembly should have 20 teeth (ATL=25) or more. With a pulley with less than 20 teeth (AT), select the next larger belt width.

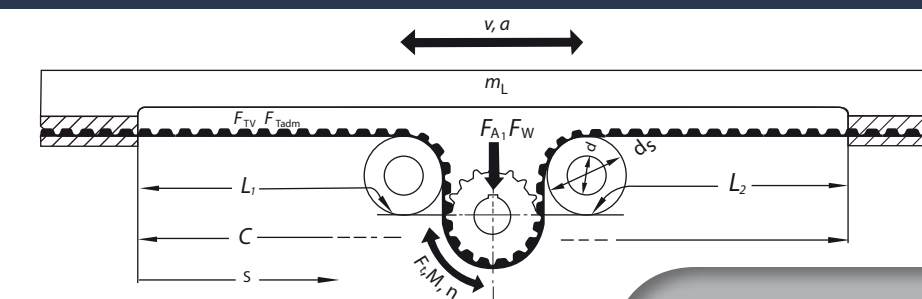
List of formulae, terms, definitions



Linear slide



Linear trolley



Linear table

Circumferential force	F_U [N]	Tangential force	F_t [N]	Pre-tension distance	Δl [mm]
Torque	M [Nm]	Specific tooth force	F_{tspec} [N]	Specific elasticity	c_{spec} [N]
Power	P [W]	Admissible tensile load	F_{tadm} [N]	Elasticity	c [N/mm]
Mass to be moved	m [kg]	Pre-tension force	F_{TV} [N]	Positioning deviation	Δs [mm]
Mass of linear slide	m_L [kg]	max. span force	F_{Tmax} [N]	Positioning range	P_s [mm]
Mass of timing belt	m_B [kg]	Centre load	F_A [N]	Acceleration distance	s_B [mm]
Mass of pulley	m_Z [kg]	Shaft force	F_W [N]	Braking distance	s'_B [mm]
Mass of tension roller	m_S [kg]	Frictional force	F_R [N]	Inherent frequency	f_e [s ⁻¹]
reduced mass	m_{red} [kg]	Lifting force	F_H [N]	Excitation frequency	f_0 [s ⁻¹]
specific weight	ρ [kg/dm ³]	Belt length	L_B [mm]	Travel time with	t_v [s]
Acceleration	a [m/s ²]	Span length	L_1, L_2 [mm]	Overall time	t_{tot} [s]
Acceleration due to gravity	g [m/s ²]	Number of belt teeth	z_B	Overall distance	s_{tot}
Speed	v [m/s]	Number of pulley teeth	z		
Rotational speed	n [min ⁻¹]	Number of meshing teeth	z_e		
Angular speed	ω [s ⁻¹]	Pitch circle diameter	d_o [mm]		
Centre distance	s_A [mm]	Crown diameter	d_k [mm]		
Useful linear distance	s_L [mm]	Tension roller diameter	d_s [mm]		
total distance of travel	s_{tot} [mm]	Bore	d [mm]		
		Belt width	b [mm]		

Apply all equations with the dimensions mentioned here.

List of formulae, terms, definitions

Calculation

Belt width (formula 1)

$$b = \frac{F_t}{F_{tspez} \cdot z_e}$$

Torque

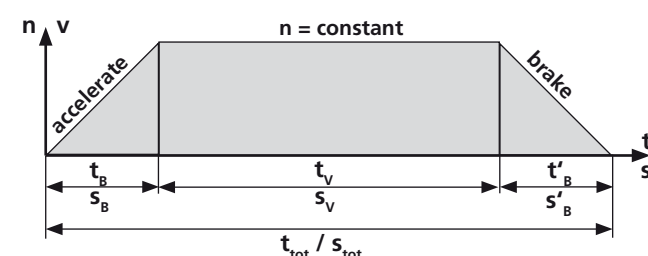
$$M = \frac{d_0 \cdot F_t}{2 \cdot 10^3}$$

Power

$$P = \frac{M \cdot n}{9,55 \cdot 10^3}$$

Circumferential force (formula 2)

$$F_t = \frac{2 \cdot 10^3 \cdot M}{d_0}$$



Calculation value

Tangential force F_t [N]
Torque M [Nm]
Power P [kW]
Diameter d_0 [mm]
Belt width b [cm]

Maximum number of teeth in mesh for BRECO® timing belts (M): $z_{emax}=12$

Angular speed

$$\omega = \frac{\pi \cdot n}{30}$$

Linear and rotary motion

Rotational speed

$$n = \frac{19,1 \cdot 10^3 \cdot v}{d_0}$$

Travel time when $v = \text{const.}$

$$t_v = \frac{s_v}{v \cdot 10^3}$$

Travel distance when $v = \text{const.}$

$$s_v = v \cdot t_v \cdot 10^3$$

Overall time

$$t_{tot} = t_B + t_v + t'_B$$

Overall distance

$$s_{tot} = s_B + s_v + s'_B$$

(formula 3)

Speed / peripheral speed

$$v = \frac{d_0 \cdot n}{19,1 \cdot 10^3} = \sqrt{\frac{2 \cdot s_B \cdot a}{1000}}$$

Acceleration time (braking time)

$$t_B = \frac{v}{a} = \sqrt{\frac{2 \cdot s_B}{a \cdot 1000}}$$

Acceleration distance (braking time)

$$s_B = \frac{a \cdot t_B^2 \cdot 10^3}{2} = \frac{v^2 \cdot 10^3}{2 \cdot a}$$

$$F_t = \text{Acceleration force (1st)} + \text{Lifting force (2nd)} + \text{Frictional force (3rd)}$$

$$= m \cdot a + m \cdot g + m \cdot \mu \cdot g$$

Required tangential force at the pulley F_t [N]

- (1.) The acceleration force F_B is necessary to accelerate the linear drive with mass m e.g. from the stand still to the limit speed v .
- (2.) The lifting force F_H is necessary with a movement direction opposite to the acceleration due to gravity. With horizontal linear - movement is $F_H = 0$.
- (3.) A friction force is required when opposite to the moving direction a force is taking effect, e.g. friction force. Can the frictional drags be neglected is $F_R = 0$.

(formula 4)

List of formulae, terms, definitions

Berechnung

m_L [kg] Mass of the linear slide to be moved
 m_B [kg] Mass of the timing belt (belt weight, see technical data)
 m_{zred} [kg] Reduced mass of the pulley(s)
 m_{sred} [kg] Reduced mass of the tension roller(s)

$$m = m_L + m_B + m_{zred} + m_{sred}$$

(formula 5)

The mass of a pulley and/or tension roller is calculated in relation to:

$$m_z = \frac{(d_K^2 - d^2) \cdot \pi \cdot B \cdot \rho}{4 \cdot 10^6}$$

$$m_s = \frac{(d_s^2 - d^2) \cdot \pi \cdot B \cdot \rho}{4 \cdot 10^6}$$

Mass of the pulley m_z [kg]

Mass of the tension roller m_s [kg]

The reduced mass m_{zred} of a pulley and/or tension roller is an equivalent mass with equal load bearing to the effective line of the timing belt, the same as the rotational solid to the rotational axis.

Reduced mass of the pulley m_{zred} [kg]
Reduced Mass of the tension roller m_{sred} [kg]

$$m_{zred} = \frac{m_z}{2} \left[1 + \frac{d^2}{d_K^2} \right]$$

$$m_{sred} = \frac{m_s}{2} \left[1 + \frac{d^2}{d_s^2} \right]$$

(formula 6)

A linear drive is pre-tensioned correctly, when under maximum effective tangential force F_{tmax} (from acceleration and braking) the slack span side of the belt stays tight. A minimum pre-tension force is to be considered:

Pre-tension force F_{TV} [N]

$$F_{TV} \geq F_t$$

(formula 7)

The highest span forces F_{Tmax} are to be expected within the tight span side, when both pre-tension force F_{TV} (static) and tangential force F_t (dynamic) acting together.

Maximum span force in the belt F_{Tmax} [N]

$$F_{Tmax} = F_{TV} + F_t$$

(formula 8)

The admissible tensile load F_{Tadm} has to show always safety factors to the max. occurring span force F_{Tmax} in the timing belt. (F_{Tadm} see Technical Data)

Admissible span force F_{Tadm} [N]

$$F_{Tadm} \geq F_{Tmax}$$

(formula 9)

The static centre/axis load F_{Astat} act within the stand still or under no-load conditions. F_{Adyn} is a value depending on the effective circumferential force.

Centre force [N]

$$F_{Astat} = 2 \cdot F_{TV}$$

(formula 10)

List of formulae, terms, definitions

List of formulae, terms, definitions

$\Delta l = \frac{F_{TV} \cdot L_B}{2 \cdot c_{spec}}$	Linear slide
$\Delta l = \frac{F_{TV} \cdot L_B}{c_{spec}}$	Linear trolley
$\Delta l = \frac{F_{TV} \cdot L_B}{c_{spec}}$	Linear table

The tensioning station can be mounted at any position on the timing belt. Values for c_{spec} see technical data.

$c = \frac{L_B}{L_1 \cdot L_2} \cdot c_{spec}$	$L_B = L_1 + L_2$
--	-------------------

Linear systems show a variable elasticity. The elasticity behaviour of the linear slide and/or linear bed depends on the length proportion L_1 and L_2 .
That means: Each individual position of the linear bed has its own elasticity.
The elasticity shows a minimum c_{min} , when L_1 and L_2 are equal in length.
For this case the following relation is valid:

$$c_{min} = \frac{4 \cdot c_{spec}}{L_B} \text{ bei } L_1 = L_2$$

Is an external force acting on a linear slide a positioning deviation s results Δs from the relation:

$$\Delta s = \frac{F}{c}$$

Under the effect of a triggered force, a mass connected to the timing belt (elasticity/mass system) assumes a damped natural vibration.

$$f_e = \frac{1}{2\pi} \sqrt{\frac{c \cdot 1000}{m_L}}$$

If necessary, check linear drives with regard to the occurrence of excitation frequencies f_0 in the drive pulley assembly which are close to the natural frequency f_e .
For technical structures, avoid compatibility of $f_e = f_0$ (resonance).
Note: In linear drives, the natural frequency f_e is in general considerably higher than the excitation frequency f_0 of the drive, in which case no resonance is to be expected.
We recommend a special examination, if necessary, where stepping motors are used.
Measures in the event of resonance: Increase the stiffness of the timing belt by choosing a larger belt width.

Calculation value

Pre-tension distance
 Δl [mm]

Elasticity c [N/mm]

(formula 11)

(formula 12)

Positioning deviation
 Δs [mm]

(formula 13)

Inherent frequency
 f_e [s^{-1}]

(formula 14)

Excitation frequency
 f_0 [s^{-1}]

List of formulae, terms, definitions

How to proceed

The above mentioned equations can be used to comprehensively compute BRECO® linear drives. The type of the individual examinations depends on the task. If necessary, request technical support from our sales outlets.

General kinematics

If the movement sequence of the linear drive has to be timed, we recommend to proceed in accordance with the linear movement values of the equations (3).

Coarse design
according to mass and
acceleration

Generally, the mass of the linear slide m_L and the acceleration a represent the decisive values for the design of linear drives. On page 152 the belt type and timing belt width can be determined, based on mass and acceleration after the selection diagram.
In conjunction with the coarse design, we recommend to adopt the pulley dimensions (as a provisional measure). Note the permissible minimum number of teeth or minimum diameters.

The drive station

The required tangential force F_t in the drive pulley assembly has to be determined according to equation (4). By provisionally assuming the pulley size, it is possible to calculate the attendant drive torque M according to equation (2) for the drive pulley assembly. In how far the calculated torque M can be harmonised with the torque sequence of the motor, depends on the type and selection of the drive motor. The selection of the motor also depends on the desired servo and positioning tasks. Once the drive motor has been decided upon, the actual torque sequence of the motor has to be taken into consideration for the further precise design of the timing belt.

List of formulae, definitions

Belt width calculation
Precise design to tooth
shear strength

For the calculation of the belt width the actual torque characteristic of the drive motor - from drive or brake - is to be used. At first the maximum motor torque according to formula (2) is to be converted to the respective circumferencial force F_t . From the calculated tangential force the minimum width of the timing belt, according to formula (1) can be calculated.

$$b = \frac{F_t}{F_{tspec} \cdot z_e} \quad [\text{cm}]$$

The result of the calculated belt width (b in cm) is the required belt width for transmit the tangential force F_t via the meshing teeth from the pulley to the belt (or reverse). The calculated belt width is to be rounded-up to the next larger standard belt width.

Check of tensile load

Check the tensile loads for the calculated belt width, which become effective due to the pre-tension force F_{TV} according to formula (7) and the overlapping tangential force F_t according to formula (8). The max. permitted tensile loads according to formula (9) must not be exceeded. If necessary, select the next larger belt width.

Safety factors

Special additional safety factors are not necessary for the BRECO® timing belt. When, however, in addition to the maximum tangential force F_{tmax} are to be expected unevennesses, variations or impact shocks, which are not yet cosidered in the design, any additional safety factors can be added to the belt width.

Accuracy
in the rotational to linear
translation of movement

The BRECO® timing belt transmits rotational movements into the corresponding linear motions via the pulley of the drive station. The procedure can be repeated as often as required and is a continous operation with BRECO® timing belts. Deviation from the linear line can occur due to different forces and tolerances. The following is a description of causes and measures to be taken.

**1. Precision of
repeatability**

The term repeatability of a linear drive implies the capability of regaining a position once accessed under the same conditions. In linear systems, repeatabilities of notably less than +/- 0.1 mm per metre of path travelled can be achieved with BRECO® AT timing belts. Prerequisite for a consistent repeatability is the retaining of the minimum pre-tension force according to the equation (7).

2. Positioning precision

The term positioning precision of a linear drive is the capability to convert the turning angle of the pulley into the attendant setpoint linear path via the timing belt. The achievable actual linear path depends on the active forces and of the tolerances of all assembly groups involved in the sequence of movement. Measures: Individual measures according to the following points 3 - 8 are to be applied, depending on the dominating values.

**3. Stiffness / force-
extension behaviour**

If varying forces act on the linear unit, a correspondingly different elongation becomes effective. The corresponding "specific elasticities" are indicated in the Technical Data for steel cord tension members.
Measures: Plan a wider timing belt to keep the elongation small. The positioning deviation resulting from the elongation behaviour can be calculated with the equations (12) and (13). A dimensionally stable surrounding structure is to consider.

List of formulae, definitions

4. Inverse fault

When a linear position is moved to from a different direction, an inverse fault could occur in relation to the desired position. In other words: If the forces acting on the linear unit inverse, an inverse fault could occur.
Measures: Design linear guides and the entire system such that low friction occurs. Design the pulley of the drive pulley assembly with a narrower tooth gap or with a „0“ tooth gap. Normal requirements with regard to the positioning precision are reached with the standard tooth gap. For the use of special tooth gaps, please ask for our technical support.

**5. Length tolerance
Pitch deviation**

A length tolerance in the timing belt leads to a pitch deviation. In this case, all pitches remain identical in relation to each other. Once installed, amongst others, a length tolerance/pitch deviation depends on the pre-tension applied. The length tolerance/pitch deviation is available in pre-defined ranges, due to the production method.
Measures: Use BRECO® timing belts in the minus tolerance range, and pre-tension to the setpoint dimension once installed. Ask for our specialist support.

6. Pitch faults

The term pitch faults defines irregularities of neighbouring pitches. Pitch faults have no cumulative effect within one belt section.
Measures: Design the pulley of the drive pulley assembly as large as possible. The larger the number of teeth meshing in the pulley, the more efficient pitch errors are suppressed.

**7. Eccentricity fault
Centre offset**

The eccentricity fault and/or centre offset of at least one pulley or tension roller involved can lead to an irregular movement in the linear system. This type of fault should be assumed when sinusoidal movements occur in the linear movement sequence.
Measures: Check the concentric precision and the centre offset.
Reduce the tolerance range, if necessary.

**8. Ambient temperature
Elongation under heat**

The linear elongation under heat of the BRECO® timing belt with steel cord tension members shows the same values as the linear elongation under heat of a surrounding steel structure. No change of the pre-tension force is then to be expected. In the case of a surrounding aluminium structure and a rise of the ambient temperature, a slight increase of the pre-tension can be expected. The attendant linear path changes with the linear elongation behaviour under heat of the surrounding structure.
Measures: The influence of elongation under heat in the belt and also in the surrounding structure are minor. Temperature influences only need to be taken into account in exceptional cases.

User information

Part of the offered formulae contain simplified assumptions.
E.g. calculation of the positioning deviation according to equations (12) and (13): The elongation behaviour of the tension member is also taken into account in the area of the pulley angle of wrap. However, the elasticity of the belt tooth has been neglected.
E.g. the vibration behaviour according to equation (14):
Only the vibrating mass m of the linear slide m_L is taken into account. The vibrating mass of the timing belt, the pulleys as well as the retroaction of the elasticity to the surrounding structure have not been taken into consideration.

For this reason, we point out that corresponding deviations have to be expected, depending on the drive geometry selected.

Information

Ordering a standard size by way of a code guarantees the delivery of a product meeting the ensured properties.

All information contained in our product range refers to the standard types.

Please contact your competent distribution partner for further information regarding technical data, tolerances, calculations and special purpose belts.

Available worldwide around the clock.

Quality products, first-class advice and individual service are part of the standard package for all members of Mulco Europe EWIV. This standard is constantly being upgraded and adapted to the needs of the customers.

The „belt pilot“ is an online tool which allows design engineers all over the world to work round the clock on design solutions for timing belt drives. They can carry out geometric calculations to configure the belt drive, decide on the number of teeth, plan the belt width or calculate the pulley diameter, save the configured drive or open calculations already saved, or use the performance calculation to check the possibility of using the selected timing belt with the load data - the „belt pilot“ has the versatility and wide range of calculation options to help them find the right solution quickly.

The CAD download facility enables users to transfer timing belts and components to their own CAD system as CAD drawings. 2D or 3D CAD drawings in a wide and diverse range of file formats are user-definable and can be copied directly into CAD programs.

To find the „belt pilot“ visit www.mulco.de



Ordering examples

BRECOFLEX® timing belt

50 BAT10 / 2000

Width in mm _____
Type / Pitch _____
Length in mm _____

BRECOFLEX® timing belt

110 XL 037 PAZ

Length code _____
Type / Pitch _____
Width code _____
Nylon facing on the tooth side _____

BRECOFLEX® timing belt

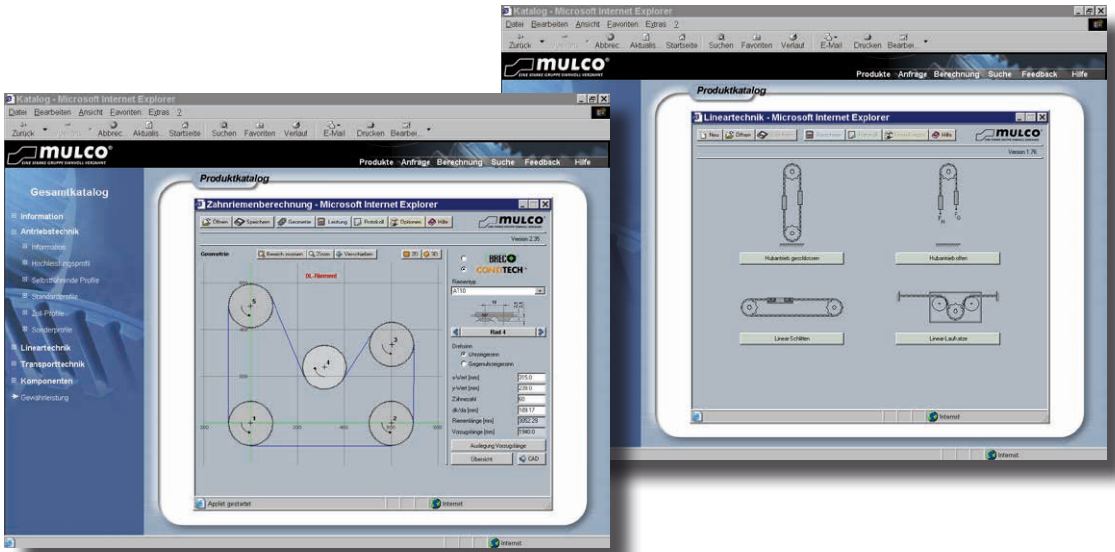
50 AT10 / 8000 V - PAZ

Width in mm _____
Type / Pitch _____
Length in mm _____
Endless joined (V) _____
Nylon facing on the tooth side _____

BRECO® timing belt

50 AT10 / 50000 - M

Belt width in mm _____
Type / Pitch _____
Length in mm _____
Open length _____



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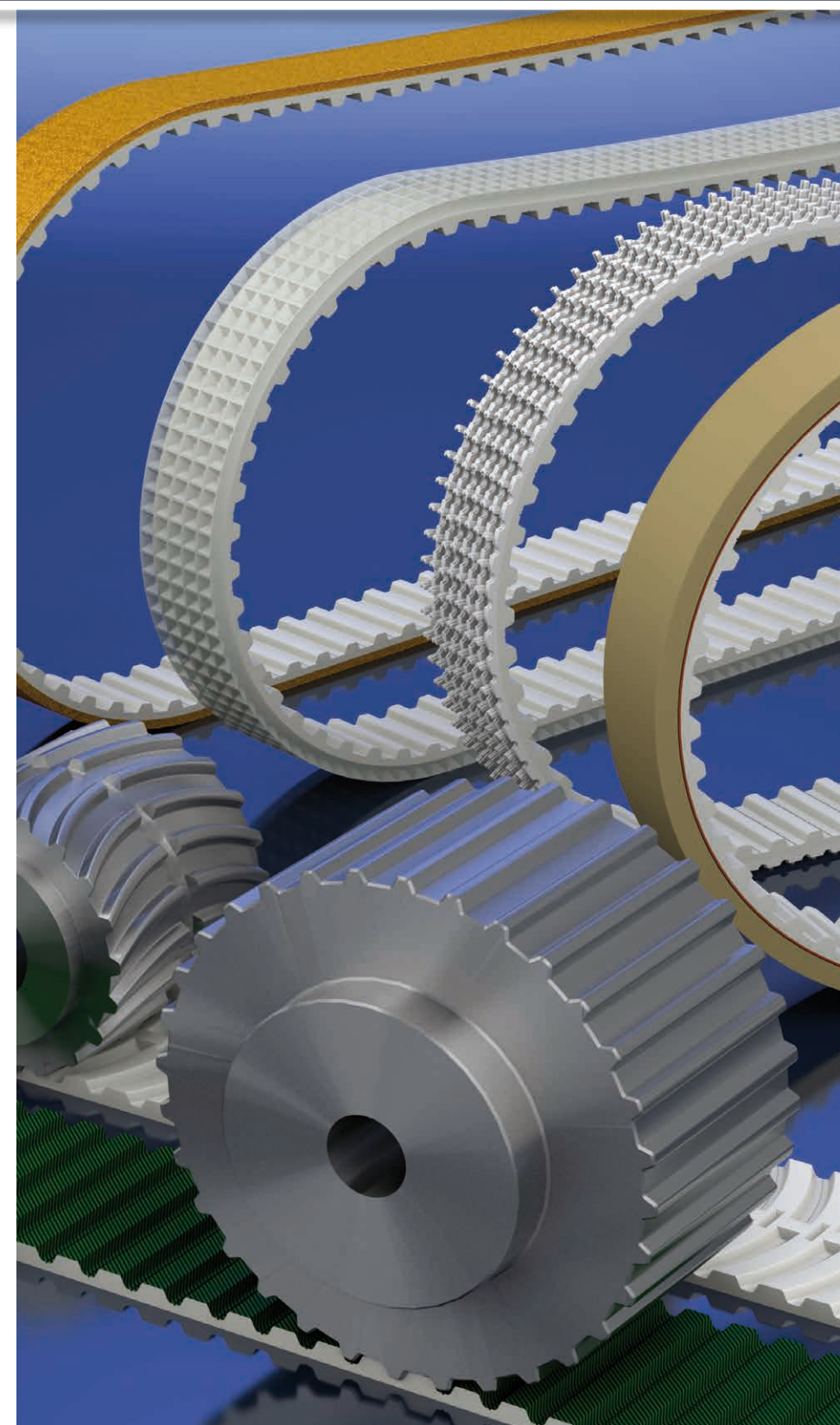
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Anton Klocke
Antriebstechnik GmbH
 Senner Straße 151
 D-33659 Bielefeld
 phone: +49 521 950 05-01
 fax: +49 521 950 05-11
 www.klocke-antrieb.de
 info@klocke-antrieb.de



Germany

REIFF Technische Produkte GmbH
 Tübinger Straße 2-6
 D-72762 Reutlingen
 phone: +49 712 132 3-0
 fax: +49 712 132 3-318
 www.reiff-tp.de
 zahnriemen@reiff-gmbh.de



Germany

Wilhelm Herm. Müller GmbH & Co. KG
 Heinrich-Nordhoff-Ring 14
 D-30826 Garbsen
 phone: +49 513 145 22-0
 fax: +49 513 145 22-110
 www.whm.net
 info@whm.net



Germany

W. H. MÜLLER s.r.o.
 Pražákova 39
 CZ-61900 Brno
 phone: +420 543 211 008
 phone: +420 543 212 343
 fax: +420 541 217 468
 www.whm.cz
 whm@whm.cz



Czech Republic

Wilhelm Herm. Müller
 Polska Sp. z o.o.
 ul. Solna 20
 PL-85-862 Bydgoszcz
 phone: +48 523 490 715
 fax: +48 523 490 075
 www.whm.pl
 whm@whm.pl



Poland

Walter Rothermundt GmbH & Co. KG
 Am Tannenbaum 2
 D-41066 Mönchengladbach
 phone: +49 216 169 462-0
 fax: +49 216 166 446 9
 www.rothermundt.de
 info@rothermundt.de



Germany

Roth GmbH & Co. KG
 Andernacher Straße 14
 D-90411 Nürnberg
 phone: +49 911 995 21-0
 fax: +49 911 995 21-70
 www.roth-ing.de
 info@roth-ing.de



Germany

Aratron AB
 Smidesvägen 4-8
 SE-17141 Solna
 phone: +46 840 416 00
 fax: +46 898 428 1
 www.aratron.se
 info@aratron.se



Sweden

ARATRON AS
 Postboks 214 Holmlia
 N-1204 Oslo
 phone: +47 231 916 60
 fax: +47 231 916 61
 www.aratron.no
 firmapost@aratron.no



Norway

Movetec Oy
 Hannuksentie 1
 FIN-02270 Espoo
 phone: +35 895 259 230
 fax: +35 895 259 233 3
 www.movetec.fi
 info@movetec.fi



Finland

BONDY LMT A/S
 Hassellunden 14
 DK-2765 Smørum
 phone: +45 701 514 14
 fax: +45 446 414 16
 www.bondy.dk
 info@bondy.dk



Denmark

Hilger u. Kern GmbH
Antriebstechnik
 Käfertaler Straße 253
 D-68167 Mannheim
 phone: +49 621 370 5-0
 fax: +49 621 370 5-403
 www.hilger-kern.com
 antriebstechnik@hilger-kern.de



Germany

Haberkorn GmbH
 Modecenterstraße 7
 A-1030 Wien
 phone: +43 174 074-0
 fax: +43 174 074-99
 www.haberkorn.com
 info.wien@haberkorn.com



Austria

Dinámica Distribuciones S.A.
 Ctra. No. II, km 592,6
 E-08740 S. Andreu de la Barca
 phone: +34 936 533 500
 fax: +34 936 533 508
 www.dinamica.net
 dinamica@dinamica.net



Spain

BRECOflex Co., L.L.C.
 222 Industrial Way West
 USA-Eatontown, NJ 07724
 phone: +1 732 460-9 500
 fax: +1 732 542-6 725
 www.brecoflex.com
 info@brecoflex.com



USA

MULCO®
 THE POWER OF A WELL-MESHED GROUP.

Distribution partner

Binder Magnetic
 1, Allee des Barbanniers
 F-92632 Gennevilliers-Cedex
 phone: +33 146 138 080
 fax: +33 146 138 099
 www.binder-magnetic.com
 info@binder-magnetic.fr



France / Belgium

Transmission Developments Co. (G.B.) LTD
 Dawkins Road, Hamworthy
 GB-Poole Dorset BH15 4HF
 phone: +44 120 267 555 5
 fax: +44 120 267 746 6
 www.transdev.co.uk
 sales@transdev.co.uk



Great Britain

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- ATN profiles
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