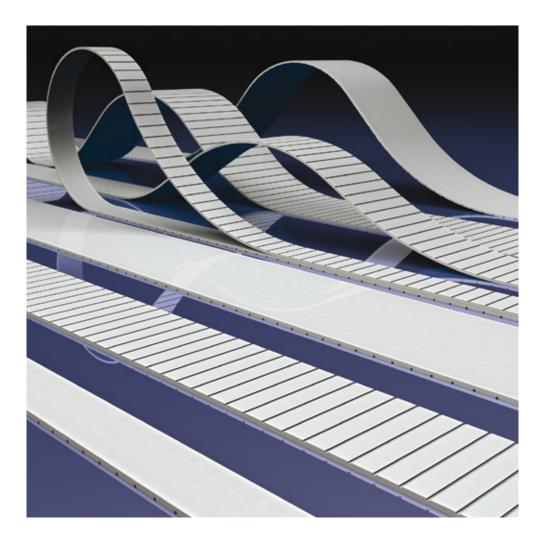
# **BRECO®**, **BRECOFLEX®** flat belts







updated version





## **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.

The same applies to BRECO®- and BRECOFLEX® polyurethane flat belts. Like the timing belts, they cover a very broad spectrum of different areas of use. As an alternative to chains and cable control systems they provide the user with a maintenancefree as well as cost and space-saving solution for the application in question.

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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## **BRECOFLEX®** flat belts

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## **BRECO®** flat belts

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### Flat belts made of polyurethane

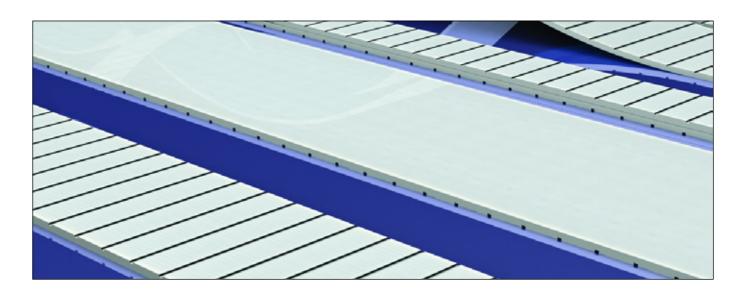
In this combination high-flexible steel cords of high tensile strength, embedded in wear resistant polyurethane as flat belts are a maintenance-free, low noise and space and cost saving alternative to chains and cable tension systems. These characteristics favour the increasing range of applications of the BRECO<sup>®</sup> flat belt.

Fitness stations, lifting tables, elevator systems and car wash stations are only some of the numerous application possibilities, where the BRECO<sup>®</sup> flat belt quality convinces.

Our delivery range of standard flat belts offers solutions for the majority of application areas. Individually adapted designs are also possible.

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
- Low temperature range from -30°C to +5°C
- High temperaure range from +20°C to +110°C
- Use in low aggressive environment



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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, flat belts with very high flexible tension members (E) resp. with reinforced tension members could be produced.

## Please contact our distribution partner for this type of application.

## **Properties:**

- Low noise
- Low maintenance
- Highly flexible
- Wear resistant
- Small build sizes
- Low elongation
- Constant length
- Hydrolysis resistant
- Temperature resistant
- Resistant against simple oils, fats and petrol
- Resistant to some acids and lyes

The flat 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.

The thinner the single wire, the more flexible the overall Application informations: For intended application under tension member! This interrelation led us to develop extreme conditions please contact our technical department BRECO® and BRECOFLEX® flat belts with E tension members. for advise.

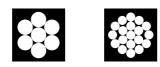
In the E tension member the tension member cross- Steel cord tension members example: section is distributed to a lot more thinner individual wires and, therefore, the bending fatigues are markedly lower in the individual wires. The advantage of the E tension members is a higher flexibility.

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

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

### Summary:

- Thinner individual wires in the steel cord
- Higher dynamic capabilities
- Extremely high bonding and bending fatigue strength
- Smaller pulley and tension roller diameter



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

### Materials for the standard application area Selectable tension Name of material Co member • steel cord TPUST1 white • VA cord steel cord TPUST2 transpar VA cord

Approved materials	Approved materials by contact with food											
Name of material	Selectable tension member	Color	Hardness	Temperature range								
TPUFD1	VA-cord	transparent	92 Shore A	0°C bis +80°C								

Materials for the use	Materials for the use in areas with low aggressive environment												
Name of material	Selectable tension member	Color	Hardness	Temperature range									
TPUAU1	• VA-cord	transparent	92 Shore A	0°C bis +50°C									

Materials for the use	Materials for the use in areas with high ambient temperature										
Name of material	Selectable tension member	Color	Hardness	Temperature range							
TPUWB1	<ul><li>steel cord</li><li>VA cord</li></ul>	white	94 Shore A	+20°C bis +110°C							

Materials for the use	Materials for the use in areas with high ambient temperature										
Name of material	Selectable tension member	Color	Hardness	Temperature range							
TPUWB1	<ul><li>steel cord</li><li>VA cord</li></ul>	white	94 Shore A	+20°C bis +110°C							

Materials for the use	Materials for the use in areas with low ambient temperature											
Name of material	Selectable tension member	Color	Hardness	Temperature range								
TPUKF1	<ul><li>steel cord</li><li>VA cord</li></ul>	transparent	85 Shore A	-25°C bis +5°C								

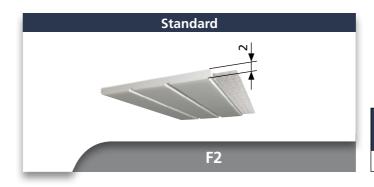
Materials with ele	ctrically discha	arge properties

Materials with elect	Materials with electrically discharge properties													
Name of material	Selectable tension member	Color	Hardness	Temperature range										
TPUAS1	<ul><li>steel cord</li><li>VA cord</li></ul>	grey-transparent	92 Shore A	0°C bis +80°C										

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

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or	Hardness	Temperature range
te	92 Shore A	0°C bis +80°C
arent	85 Shore A	+5°C bis +50°C



BFX F2	BFX F2 Available versions and lengths		Standard lengths [mm]		
Standard lengths	see table on the right	Length	Length		
Length graduation from groove to groove (in 10 mm stages)	1500 mm up to 20000 mm	1500	1900		
Under 1500 mm	on request	1550	1950		
Intermediate lengths	0	1600	2000		
Over 20000 mm	on request	1650	2100		
Standard material	TPUST1 <sup>1)</sup>	1700	2500		
Steel tension member (standard)	x	1750			
E tension member	0	1750	3000		
VA tension member	0	1800	4000		
PAZ (groove side)	x	1850	5000		

BRECOFLEX <sup>®</sup> F2 Admissible tensile force of the belt F <sub>adm</sub> / Belt weight								
Belt width         b [mm]         16         25         32         50         75         1					100			
E / Steel tension member F <sub>adm</sub>		1000	1800	2300	3800	5800	7800	
VA tension member F <sub>adm</sub>		F <sub>adm</sub>	800	1440	1840	3040	4640	6240
Belt weight	Standard	[kg/m]	0,050	0,078	0,100	0,157	0,235	0,313

BRECOFLEX <sup>®</sup> F2	COFLEX® F2 Flexibility (minimum diameter)							
			Steel tension member	E tension member	VA tension member			
			Standard	Standard	Standard			
d <sub>min</sub>	Without contra- flexure	d <sub>min</sub> [mm]	30	25	60			
d <sub>min</sub>	With	d <sub>min</sub> [mm]	60	50	130			
d <sub>min Sp</sub>	contra- flexure	d <sub>min Sp</sub> [mm]	60	50	130			

- x available, Standard lengths (see table) without minimum purchase
- o minimum purchase amount on request
- not available
- <sup>1)</sup>) further materials on request

## BRECOFLEX® manufacturing process

The BRECOFLEX<sup>®</sup> flat belt is produced in continuous lengths without tension carrier interruptions. The tension carrier is wound in the form of a thread. Continuous flat belts are available in standard lengths and widths as shown in the tables. The BRECOFLEX<sup>®</sup> manufacturing process enables intermediate lengths up to a maximum continuous length of 20,000 mm to be supplied.

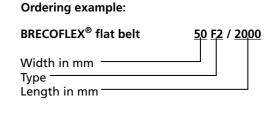
## BRECO<sup>®</sup> manufacturing process

The BRECO<sup>®</sup> flat belt is produced by the metre (M). The tension carriers are always arranged in an edge-parallel manner. All the tension carriers are involved in the force flow.

The by-the-metre product can be combined to produce continuous welded BRECO<sup>®</sup> flat belts (V) of any length. At the connection point only half the number of tension carriers is involved in the force flow.



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



BRECO<sup>®</sup> F1

Standard

F2

F2 (M/V)

Standard delivery length (M)

Cuts / Lengths > 100m Length graduation from groove to groove (in 10 mm stages)

Steel tension member (standard)

PAZ (groove side)

Available versions and

lengths

rolls of 50 or 100 m

on request

880 TPUST1<sup>1)</sup>

> х 0 0

> х



F1 (M)	Available versions and lengths		
Standard delivery length (M)	rolls of 100 m		
Cuts / Lengths > 100m Length graduation from groove to groove (in 10 mm stages)	on request		
Minimum lenght joined (V)	-		
Standard material	TPUST1 <sup>1)</sup>		
Steel tension member (standard)	x		
E tension member	0		
VA tension member	0		
PAZ (groove side)	-		

Belt widths b [mm] (in-between belt widths on request)						
8	10	15	20			

BRE	CO® F1 (M)		Α	Admissible tension cord strength F <sub>Tadm</sub> / Specific elasticity / Belt weight				
Belt	width		b [mm]	8	10	15	20	
	E / Steel tensio	n member	F <sub>Tadm</sub> [N]	300	360	510	720	
	Tensile strength	ו (E- / steel tension member)	F <sub>break</sub> [N]	1200	1440	2040	2880	
м	Specific elasticity	/ (E- / steel tension member)	C <sub>spec</sub> [N]	7,5·10 <sup>4</sup>	9,0·10 <sup>4</sup>	12,8·10 <sup>4</sup>	18,0·10 <sup>4</sup>	
IVI	VA tension me	mber	F <sub>Tadm</sub> [N]	230	275	390	550	
	Tensile strength	ı (VA tension member)	F <sub>break</sub> [N]	920	1100	1560	2200	
	Specific elasticity (VA tension member)		C <sub>spec</sub> [N]	7,5·10 <sup>4</sup>	9,0·10 <sup>4</sup>	12,8·10 <sup>4</sup>	18,0·10 <sup>4</sup>	
V	E / Steel tension member		F <sub>Tadm</sub> [N]	-	-	-	-	
V			F <sub>Tadm</sub> [N]	-	-	-	-	
Belt	weight	Standard	[kg/m]	0,012	0,015	0,023	0,030	

BRECO <sup>®</sup> F1 (M)	Flexibility (minimum diameter)						
			Steel tension member	E tension member	VA tension member		
			Standard	Standard	Standard		
d <sub>min</sub>	Without contra- flexure	d <sub>min</sub> [mm]	16	12	30		
d <sub>min</sub>	With	d <sub>min</sub> [mm]	30	18	60		
d <sub>min Sp</sub>	contra- flexure	d <sub>min Sp</sub> [mm]	30	18	60		

x available, Standard lengths (see table) without minimum purchase

o minimum purchase amount on request

- not available

<sup>1)</sup> further materials on request

BRE	CO® F2 (M/V	<i>(</i> )	A	dmissible tensi	on cord strengt	th F <sub>Tadm</sub> / Specifi	c elasticity / Be	lt weight
Belt	width		b [mm]	25	32	50	75	100
	E / Steel tensio	n member	F <sub>Tadm</sub> [N]	2200	2600	4400	6600	8800
	Tensile strengtl	h (E- / steel tension member)	F <sub>break</sub> [N]	8800	10400	17600	26400	35200
	Specific elasticity	y (E- / steel tension member)	C <sub>spec</sub> [N]	5,5·10⁵	6,5·10⁵	1,1·10 <sup>6</sup>	1,65·10 <sup>6</sup>	2,20·10 <sup>6</sup>
Μ	VA tension me	mber	F <sub>Tadm</sub> [N]	1760	2080	3520	5280	7040
	Tensile strengt	h (VA tension member)	F <sub>break</sub> [N]	7040	8320	14080	21120	28160
	Specific elastic	ity (VA tension member)	C <sub>spec</sub> [N]	5,5·10⁵	6,5·10⁵	1,1·10 <sup>6</sup>	1,65·10 <sup>6</sup>	2,20·10 <sup>6</sup>
v	E / Steel tensio	n member	F <sub>Tadm</sub> [N]	1100	1300	2200	3300	4400
V	VA tension me	mber	F <sub>Tadm</sub> [N]	880	1040	1760	2640	3520
Belt	weight	Standard	[kg/m]	0,081	0,101	0,161	0,241	0,322

BRECO <sup>®</sup> F2 (M/V)	Flexibility (minimum diameter)					
		Steel tension member	E tension member	VA tension member		
			Standard	Standard	Standard	
d <sub>min</sub>	Without contra- flexure	d <sub>min</sub> [mm]	30	25	60	
d <sub>min</sub>	With	d <sub>min</sub> [mm]	60	50	130	
d <sub>min Sp</sub>	contra- flexure	d <sub>min Sp</sub> [mm]	60	50	130	

x available, Standard lengths (see table) without minimum purchase

o minimum purchase amount on request

- not available

<sup>1)</sup>) further materials on request

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



F2.2 (M/V)	Available versions and lengths		
Standard delivery length (M)	rolls of 50 or 100 m		
Cuts / Lengths > 100m Length graduation from groove to groove (in 10 mm stages)	on request		
Minimum lenght joined (V)	880		
Standard material	TPUST1 <sup>1)</sup>		
Steel tension member (standard)	x		
E tension member	0		
VA tension member	0		
PAZ (groove side)	х		

Belt widths b [mm] (in-between belt widths on request)								
20 25 30 32 40 50 75 100								

BRE	BRECO® F2.2 (M/V) Admissible tension cord strength F <sub>Tadm</sub> / Specific elasticity / Belt weight										
Belt	width		b [mm]	20	25	30	32	40	50	75	100
	E / Steel tensio	n member	F <sub>Tadm</sub> [N]	2500	3500	4500	5000	5500	7000	10000	14000
	Tensile strengt	ו (E- / steel tension member)	F <sub>break</sub> [N]	10000	14000	18000	20000	22000	28000	40000	56000
M	Specific elasticity (E-/steel tension member)		C <sub>spec</sub> [N]	6,25·10⁵	8,75∙10⁵	1,13·10 <sup>6</sup>	1,25·10 <sup>6</sup>	1,38·10 <sup>6</sup>	1,75·10 <sup>6</sup>	2,50·10 <sup>6</sup>	3,50·10 <sup>6</sup>
IVI	VA tension me	mber	F <sub>Tadm</sub> [N]	1875	2625	3375	3750	4125	5250	7500	10500
	Tensile strengt	ו (VA tension member)	F <sub>break</sub> [N]	7500	10500	13500	15000	16500	21000	30000	42000
	Specific elasticity (VA tension member)		C <sub>spec</sub> [N]	6,25·10⁵	8,75∙10⁵	1,13·10 <sup>6</sup>	1,25·10 <sup>6</sup>	1,38·10 <sup>6</sup>	1,75·10 <sup>6</sup>	2,50·10 <sup>6</sup>	3,50·10 <sup>6</sup>
			F <sub>Tadm</sub> [N]	1250	1750	2250	2500	2750	3500	5000	7000
V			F <sub>Tadm</sub> [N]	940	1315	1685	1875	2060	2625	3750	5250
Belt	weight	Standard	[kg/m]	0,071	0,092	0,120	0,130	0,146	0,213	0,309	0,366

BRECO <sup>®</sup> F2.2 (M/V) Flexibility (minimum diameter)						
			Steel tension member	E tension member	VA tension member	
			Standard	Standard	Standard	
d <sub>min</sub>	Without contra- flexure	d <sub>min</sub> [mm]	60	40	80	
d <sub>min</sub>	With	d <sub>min</sub> [mm]	120	70	130	
d <sub>min Sp</sub>	contra- flexure	d <sub>min Sp</sub> [mm]	120	70	130	

x available, Standard lengths (see table) without minimum purchase

o minimum purchase amount on request

- not available

<sup>1)</sup> further materials on request

Standard
2,5
F2.5

F2.5 (M/V)	
Standard delivery length (M)	rolls of 50 or 100 m
Cuts / Lengths > 100m Length graduation from groove to groove (in 10 mm stages)	on request
Minimum lenght joined (V)	880
Standard material	TPUST1 <sup>1)</sup>
Steel tension member (standard)	x
E tension member	0
VA tension member	0
PAZ (groove side)	х

BRE	ECO® F2.5 (M/	/V)	A	dmissible tension cord strength $F_{_{Tadm}}$ / Specific elasticity / Belt weight		
Belt	Belt width b [mm]			50	100	
	E / Steel tensio	n member	F <sub>Tadm</sub> [N]	11200	22400	
	Tensile strength	ı (E- / steel tension member)	F <sub>break</sub> [N]	44800	89600	
м	Specific elasticity	v (E- / steel tension member)	C <sub>spec</sub> [N]	2,8·10 <sup>6</sup>	5,6·10 <sup>6</sup>	
101	VA tension member		F <sub>Tadm</sub> [N]	8960	17920	
	Tensile strength	(VA tension member)	F <sub>break</sub> [N]	35840	71680	
	Specific elasticity (VA tension member)		C <sub>spec</sub> [N]	2,8·10 <sup>6</sup>	5,6·10 <sup>6</sup>	
V	E / Steel tension member		F <sub>Tadm</sub> [N]	5600	11200	
V			F <sub>Tadm</sub> [N]	4480	8960	
Belt	Belt weight Standard		[kg/m]	0,263	0,526	

BRECO <sup>®</sup> F2.5 (M/V)		Flexibility (minimum diameter)						
		Steel tension member E tension member		VA tension member				
				Standard	Standard			
d <sub>min</sub>	Without contra- flexure	d <sub>min</sub> [mm]	80	60	100			
d <sub>min</sub>	With	d <sub>min</sub> [mm]	120	80	160			
d <sub>min Sp</sub>	contra- flexure	d <sub>min sp</sub> [mm]	120	80	160			

x available, Standard lengths (see table) without minimum purchase

o minimum purchase amount on request

- not available

<sup>1)</sup>) further materials on request

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

Available versions and

lengths

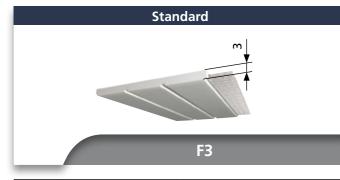
rolls of 50 or 100 m

F6

F6 (M/V)

Standard delivery length (M)

Standard



F3 (M/V)	Available versions and lengths
Standard delivery length (M)	rolls of 50 or 100 m
Cuts / Lengths > 100m Length graduation from groove to groove (in 10 mm stages)	on request
Minimum lenght joined (V)	880
Standard material	TPUST1 <sup>1)</sup>
Steel tension member (standard)	x
E tension member	-
VA tension member	0
PAZ (groove side)	х

Belt widths b (in-between l	[mm] belt widths on	request)					
30	30 50 75 100						

BRE	CO® F3 (M/\	/)	A	dmissible tension cord strength ${\sf F}_{{\scriptscriptstyle Tadm}}$ / Specific elasticity / Belt weight				
Belt width			b [mm]	30	50	75	100	
	E / Steel tensio	n member	F <sub>Tadm</sub> [N]	8400	14700	23800	30800	
	Tensile strength (E-/steel tension m		F <sub>break</sub> [N]	33600	58800	95200	123200	
М	Specific elasticity	/ (E- / steel tension member)	C <sub>spec</sub> [N]	2,10·10 <sup>6</sup>	3,68·10 <sup>6</sup>	5,96·10 <sup>6</sup>	7,70·10 <sup>6</sup>	
	VA tension me	mber	F <sub>Tadm</sub> [N]	6720	11760	19400	24640	
	Tensile strengt	ו (VA tension member)	F <sub>break</sub> [N]	26880	47040	76160	98560	
	Specific elastic	ity (VA tension member)	C <sub>spec</sub> [N]	2,10·10 <sup>6</sup>	3,68·10 <sup>6</sup>	5,96·10 <sup>6</sup>	7,70·10 <sup>6</sup>	
V	E / Steel tension member		F <sub>Tadm</sub> [N]	4200	7350	11900	15400	
V	VA tension me	mber	F <sub>Tadm</sub> [N]	3360	5880	9520	12320	
Belt	weight	Standard	[kg/m]	0,197	0,343	0,518	0,686	

BRECO <sup>®</sup> F3 (M/V)			Flexibility (minimum diam	neter)		
		Steel tension member	E tension member	VA tension member		
			Standard	Standard	Standard	
d <sub>min</sub>	Without contra- flexure	d <sub>min</sub> [mm]	120	-	180	
d <sub>min</sub>	With	d <sub>min</sub> [mm]	150	-	300	
d <sub>min Sp</sub>	contra- flexure	d <sub>min sp</sub> [mm]	150	-	300	

14

x available, Standard lengths (see table) without minimum purchase

o minimum purchase amount on request

- not available

<sup>1)</sup> further materials on request

Cuts / Lengths > 100m Length graduation from groove to groove (in 10 mm stages)	on request			
Minimum lenght joined (V)	880			
Standard material		TPUST	1 <sup>1)</sup>	
Steel tension member (standard)		x		
E tension member	-			
VA tension member	0			
PAZ (groove side)	x			
BRECO <sup>®</sup> F6 (M/V)		A	dmissible ten	sion co
Belt width	b [mm]			
E / Steel tension member	F <sub>Tadm</sub> [N]			
Tensile strength (E- / steel tensior	F <sub>break</sub> [N]			
Specific elasticity (E- / steel tension	Specific elasticity (E- / steel tension member)			

BRECO <sup>®</sup> F6 (M/V)		Admissible tension cord strength ${\sf F}_{{}_{{\sf Tadm}}}$ / Specific elasticity / Belt weight			
Belt	width		b [mm]	30	
	E / Steel tension	n member	F <sub>Tadm</sub> [N]	1800	
	Tensile strength	ı (E- / steel tension member)	F <sub>break</sub> [N]	7200	
м	Specific elasticity (E- / steel tension member)		C <sub>spec</sub> [N]	4,0·10 <sup>5</sup>	
IVI	VA tension me	mber	F <sub>Tadm</sub> [N]	1440	
	Tensile strength (VA tension member)		F <sub>break</sub> [N]	5760	
	Specific elasticity (VA tension member)		ecific elasticity (VA tension member) C <sub>spec</sub> [N] 4,0·10 <sup>5</sup>		
V	E / Steel tension member		F <sub>Tadm</sub> [N]	900	
VA tension member		F <sub>Tadm</sub> [N]	720		
Belt weight Standard		[kg/m]	0,232		

BRECO <sup>®</sup> F6 (M/V)	Flexibility (minimum diameter)				
			Steel tension member Standard	E tension member Standard	VA tension member Standard
d <sub>min</sub>	Without contra- flexure	d <sub>min</sub> [mm]	90	-	90
d <sub>min</sub>	With	d <sub>min</sub> [mm]	90	-	130
d <sub>min Sp</sub>	contra- flexure	d <sub>min sp</sub> [mm]	90	-	130

x available, Standard lengths (see table) without minimum purchase

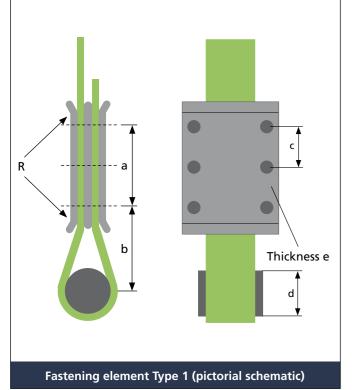
o minimum purchase amount on request

- not available

<sup>1)</sup> further materials on request

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

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Technical						
Туре 1	F1	F2	F2.2	F2.5	F3	
a <sub>min</sub> [mm]	40	50	60	80	125	
b <sub>min</sub> [mm]	25	30	45	50	75	
c [mm] approx.	20	25	20	20	25	
Ø d <sub>min</sub> [mm]	16	25	30	30	50	
e <sub>min</sub> [mm]	3	3	4	5	5	
Radius R <sub>min</sub>	10	12	15	15	25	
Thread (min)	M5	M6	M6	M6	M8	

Technical					
Type 2	F1	F2	F2.2	F2.5	F3
Ø [mm] (min)	40	50	60	80	100

For the purposes of safety, at least two complete windings must remain on the end attachment in the unwound state.

## Information relating to the storage and use of BRECO® and BRECOFLEX® flat belts (original instructions for use)

The flat belts must be stored in a dry, cool and dark environment (max. 60% relative humidity, temperature range +5°C to +35°C).

By observing the geometries, loadings and ambient conditions indicated in the accompanying catalogue and in the data sheets the flat belts can be operated without maintenance. All the elements involved must be arranged so that sideways running of the belts, more particularly running off the pulleys, is avoided.

The end attachments must be rigid enough (recommendation for flat belt end attachments on page 16) that practically uniform pressure (= uniform conveying) is guaranteed over the entire width of the belt.

Twice as many inspections should take place per year as the number of stress cycles per minute. For example: two stress cycles per minute result in four inspections per year. As a rule, a simple visual inspection is sufficient. The following should be checked:

Firm seating of the end attachments and any displacement of the belt therein (marks on the flat belt and end attachments may be helpful).

Cleanliness of the running surfaces of flat belts and pulleys. Dust, oil and grease residues reduce the friction. Dirt can result in diagonal tension and uneven carrying. Cleaning can be carried out using normal household washing and soap solutions, or cleaning solvents, followed by immediate drying of the flat belt.

Damage to the belt running surface. Small areas of damage are generally not critical. In the case of damage to the lateral edge extending to the tension carriers, the belt must always be replaced.

It is imperative to ensure that the flat belt drives are only started up when the entire assembly, i.e. the finished machine with all protective systems, is in operation and meets the machine guidelines. An assessment of all possible remaining risks has been carried out in line with the Machinery Directive. If you are interested, please request the detailed contents from your sales partners.

The type 1 and type 2 end attachments depicted in the basic diagrams are suggestions of potential solutions and do not hold any type approval certificates. At the same time, the indicated values are only guidelines and must, in individual cases, be adapted to potential special circumstances. In addition, the functional reliability of the end attachments must be checked. Potential procurement sources can be requested from us.

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## Information of BRECO® and BRECOFLEX® flat belts

## Assembly instructions for BRECO® and BRECOFLEX® flat belts

The flat belts must be fastened at both belt ends in a suitable manner. The recommended flat belt end attachments can be used for fastening. The specified values and instructions must be observed. The flat belts must be guided in a suitable manner on the drive and deflecting pulleys. In the case of cylindrical pulleys, flanged pulleys or, as the case may be, convex pulleys can be used for guiding. In the case of convex pulleys please observe DIN 111. Depending on the selected convexity, any necessary oblique setting of the pulley and/or shaft must be checked. Due to the high tensile strength of BRECO® and BRECOFLEX® flat belts and the uneven force distribution as a result of wearing of convex pulleys, deductions are necessary for the permissible tensile force of the flat belts. In individual cases, these deductions may have to be determined by experiment.

To guarantee full operational function, the belts must be free of grease and residues after assembly.

When setting up several flat belts running in parallel to each other and jointly driven, they should be taken from one manufacturing batch with minimal thickness tolerances between them.

### Replacement stage / duration of use

The use of the BRECO® and BRECOFLEX® flat belts covers a very broad spectrum of applications. In doing so, belts are only one part of the entire system of many different individual components. Because of this, the loads actually acting on the flat belts are often only partially known, which makes it impossible to make definitive statements about the anticipated service life. As a rule, if all the specifications in the product catalogue are observed, a life span of up to approximately three million reverse bending cycles distributed over 10 years can be expected. In order to achieve this, the following points must be taken into account and observed:

Observation of the details set out in the BRECO® and BRECOFLEX® flat belts catalogue (including permitted loads, keeping to the minimum pulley diameters, information relating to end attachments and their assembly, ambient conditions such as temperature and media influences), torsion resistant and dimensionally accurate overall assembly (parallel axles and shafts, "rigid" axle distances, flush pulleys), low-friction and wear-resistant belt guiding, force-free assembly of the belts and pulleys in accordance with the assembly instructions for BRECO® and BRECOFLEX® flat belts, as well as observation of the instructions for storing and operating the BRECO® and BRECOFLEX® flat belts.

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EC declaration of conformity (here as part of the original operating instructions)

The manufacturer,

BRECO Antriebstechnik Breher GmbH & Co. KG Kleiststrasse 53 D-32457 Porta Westfalica,

hereby declares that the BRECO® and BRECOFLEX® flat belts

conform to the provisions of EC guideline 2006/42/EC.

Porta Westfalica, January 1st 2011

Steinert

Thieme

Dr Steinert Managing Director

OMB



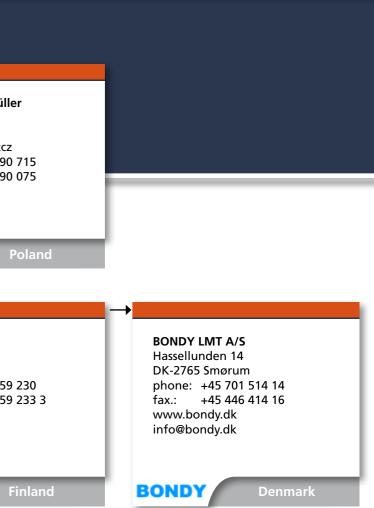
# Distribution partner

# Distribution partner

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Hilger u. Kern Antrietetscherk Germany	HABERKORN Austria	DiNAMica Spain	BRECO FIEX CI., LLC. USA
THE POWER OF A WELL-MESHED GROUP	<b>Binder Magnetic</b> 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	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	BRECO insists on high quality not only in its manufacturing proc everything to do with polyurethane timing belt technology. Ou themselves offer first-class customer service. BRECO is a member of Mulco Europe EWIV, a European Economi are considered pioneers in the field of polyurethane timing belt and the intensive cooperation have been and will continue to be mechanical engineering in general.
Distribution partner	<b>BINDER</b> France / Belgium	Great Britain	BRECO <sup>®</sup> and BRECOFLEX <sup>®</sup> timing belts - staying safely on t





rocesses but also in the standard of its advice and service in Our distribution partners are all specialists in this field who

mic Interest Grouping (EEIG). All the members of this group elt technology. The trust which has evolved over many years be the basis for innovative power transmission solutions in

n the move.

Available product catalogues - for every application the right product

## **BRECO®** and **BRECOFLEX®** timing belts

- General information (application and calculation notes)
- Endless timing belts (BRECOFLEX®)
- Open length timing belts (BRECO<sup>®</sup> M)
- Endless joined timing belts (BRECO® V)
- Timing belt lock for AT10, T10

## ATN-System - BRECO<sup>®</sup> timing belts for transport technology

- General information about the ATN system (application information and notes on calculations)
- ATN timing belts
- ATN timing belt lock
- ATN standard profile connection
- ATN profiles
- ATN components

## **BRECO® and BRECOFLEX® flat belts**

- General information
- Endless flat belts (BRECOFLEX®)
- Open length timing belts (BRECO<sup>®</sup> M)
- Open length flat belts (BRECO<sup>®</sup> M)
- Endless joined flat belts (BRECO<sup>®</sup> V)
- Fastening elements

## Finishing of timing belts

- Coatings for polyurethane timing belts
- Mechanical rework of coatings
- Mechanical rework of timing belts
- High strength profile connection
- Welded-on profiles

## Components

- General information
- Timing pulleys
- Synchronising shafts
- Synchronising pulleys with tensioners
- Tension rollers
- BRECO® fix-clamping elements

## BRECObasic®-timing belts

- Product range
- Coatings for BRECObasic® timing belts

## **BRECO**protect®-timing belts

- Product range

## **Further information about:**

- Sales partners
- New products and developments
- Available catalogues can be found at www.breco.de

### Warranty

All information has been compiled with the utmost care and attention and reflects the current state of knowledge. However, we would like to particularly draw your attention to the fact that all technical data is guoted subject to tolerances and must not be interpreted as a guaranteed delivery specifi cation. We reserve the right to make technical changes as part of our continuous product development process.



BRECO Antriebstechnik Breher GmbH & Co. KG.

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