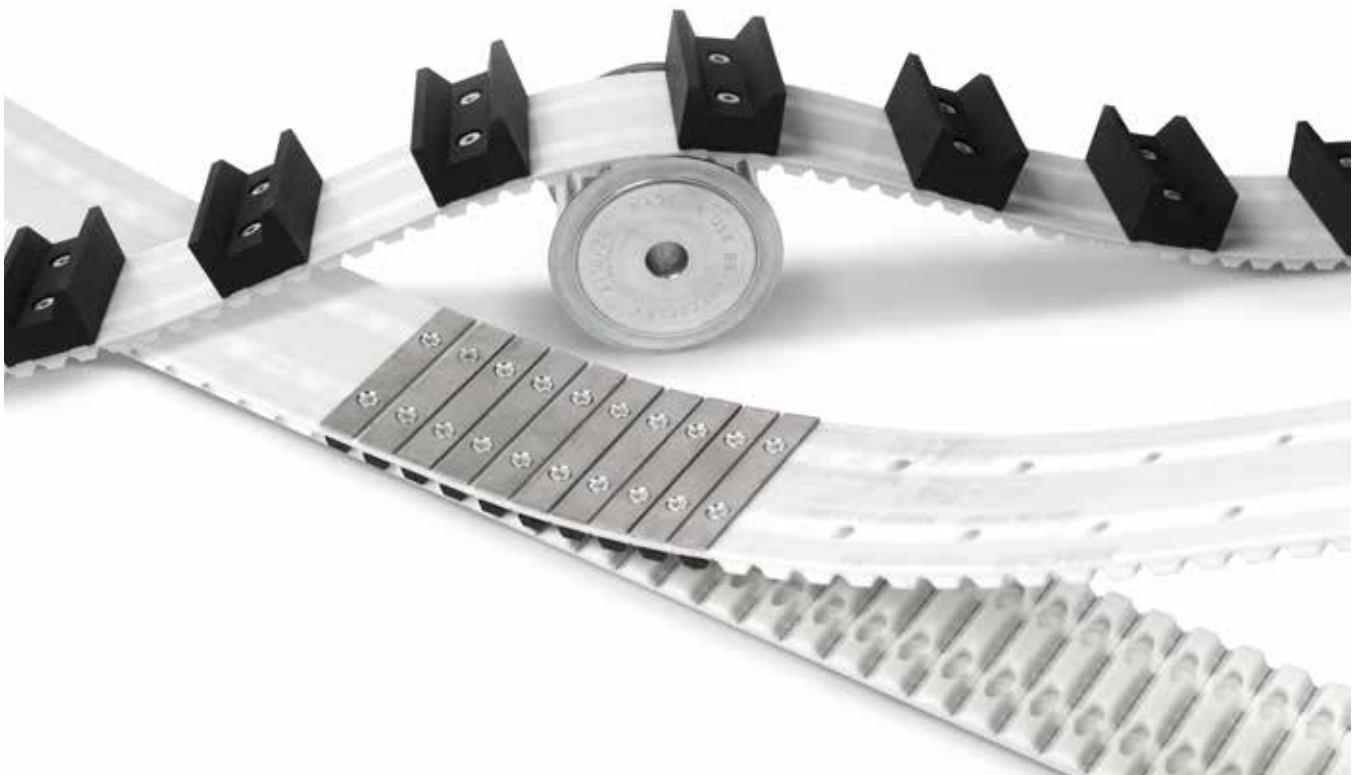


# BRECOflex CO., L.L.C.

High Precision Drive Components

The World Leader In Polyurethane Timing Belts

## ATN® Convertible Timing Belt System



# ATN® CONVERTIBLE TIMING BELTS

## The Solution for Variable Conveyor Systems

BRECOflex CO., L.L.C., the world leader in the polyurethane timing belt industry continually sets the highest standards with their state-of-the-art drive components. BRECOflex CO., L.L.C. proudly offers the ATN® convertible profile system as a versatile and convenient timing belt solution.

This technology provides for rapid and easy configuration of profiles with simple hand tools. By changing the profile location, different sized goods can be handled with the same base timing belt. You can attach, convert, interchange, or reconfigure profiles on the same base timing belt, either in-house or in the field. ATN® technology combines flexibility, strength, and accuracy with high precision profile positioning. The profiles are fastened to the timing belt by means of polyamide, brass or stainless inserts. Mounting holes (cavities) for the inserts are extruded into every tooth of the timing belt, which guarantees accurate profile placement.

BRECOflex CO., L.L.C. designs and offers convertible profiles to suit the customer's specific applications. Users can create and assemble their own profiles for their specific needs.

It is the intention of BRECOflex CO., L.L.C. to provide customers with outstanding products and technical support to meet their expectations. BRECOflex CO., L.L.C. has developed many patented processes for producing a wide array of sophisticated high precision timing belts. Worldwide, more OEMs specify BRECOflex CO., L.L.C. timing belts and drive components than any other brand.

### ATN® Advantages

- The timing belt is part of a modular system
- Variable profile pitch
- Different profile materials can be utilized
- No belt disassembly is necessary to change profiles
- Alternative to chain with the advantages of a timing belt
- Standard timing belt pulleys can be used\*
- High shear strength
- Quick and easy profile change
- Profile spacing is extremely precise
- Self-positioning of profiles
- Master profiles accept customer attachments
- No profile welding beads
- Standard AT tooth profiles
- Service friendly
- Reduced downtime

\* For ATN12.7, see chart on page 4, ATN® Tooth Pitches and Tooth Profiles

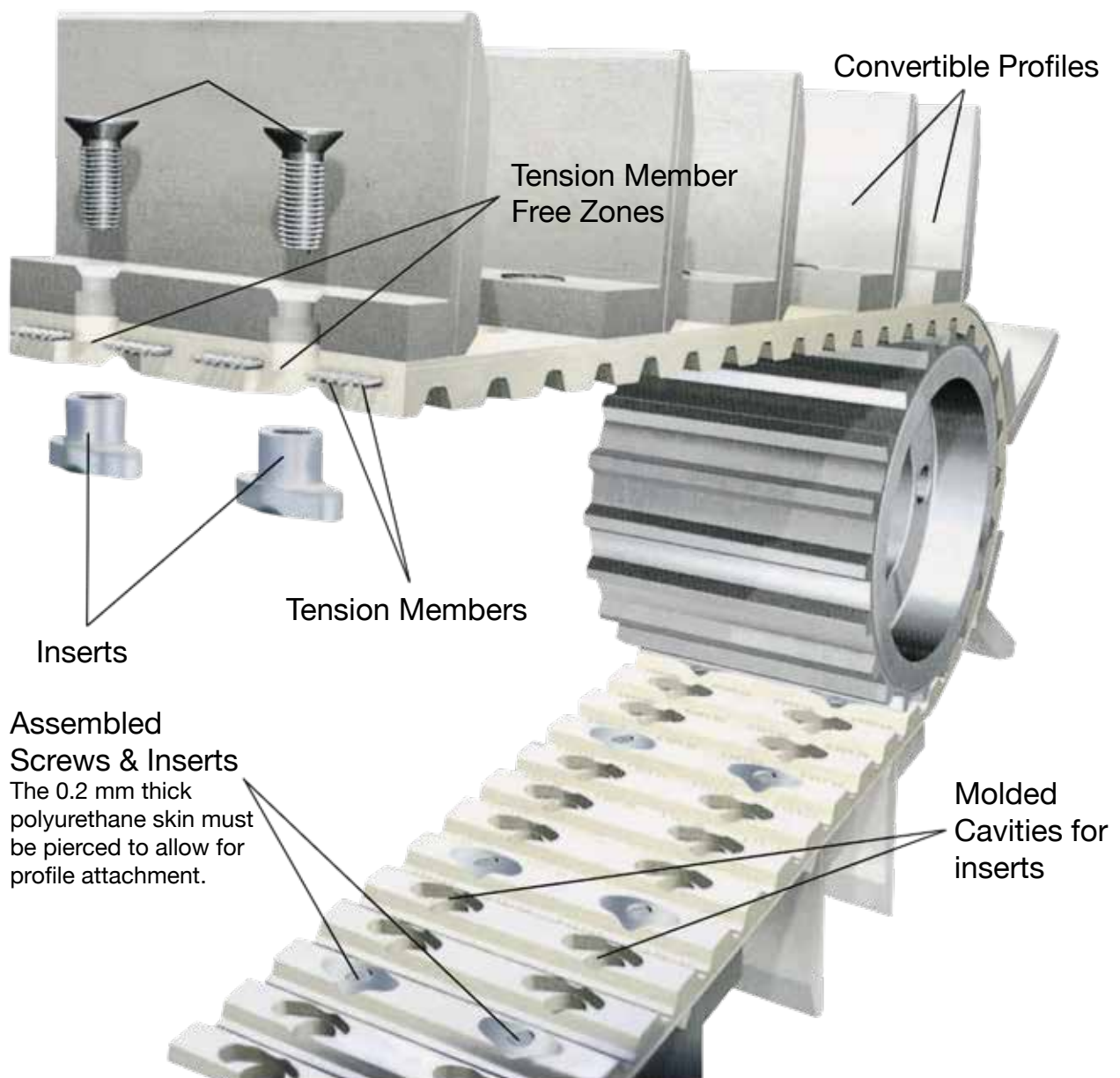
# ATN® CONVERTIBLE TIMING BELTS

## The Solution for Variable Conveyor Systems

### ATN® System

ATN® timing belts are available as open-ended or welded endless belts. They are constructed of abrasion resistant polyurethane (Standard: 92 Shore A) and high strength steel or stainless steel tension members. Food grade, high ambient temperature, and cold-flexible polyurethane materials are available in all base belt versions. ATN® timing belts are universally suitable for various positioning and conveying applications.

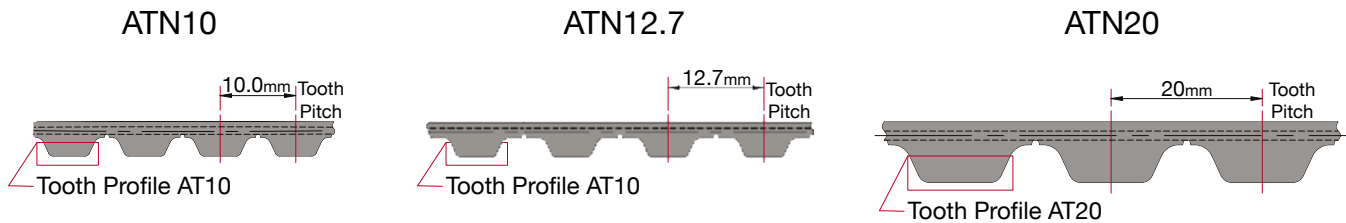
### Characteristics



# ATN® CONVERTIBLE TIMING BELTS

## Product Range

### ATN® Tooth Pitches and Tooth Profiles



Standard ATN® Timing Belt Versions

Belt Type	Tooth Profile	Pitch (mm)	Available Belt Width (mm)			
ATN10	AT	10	25	50	75	100
ATN12.7	AT	12.7	25	50	75	100
ATN20	AT	20	-	50	75	100
No. of inserts per tooth			1	2	3	4

### Self-Tracking ATN® Timing Belt Versions (Tracking Guide-K)

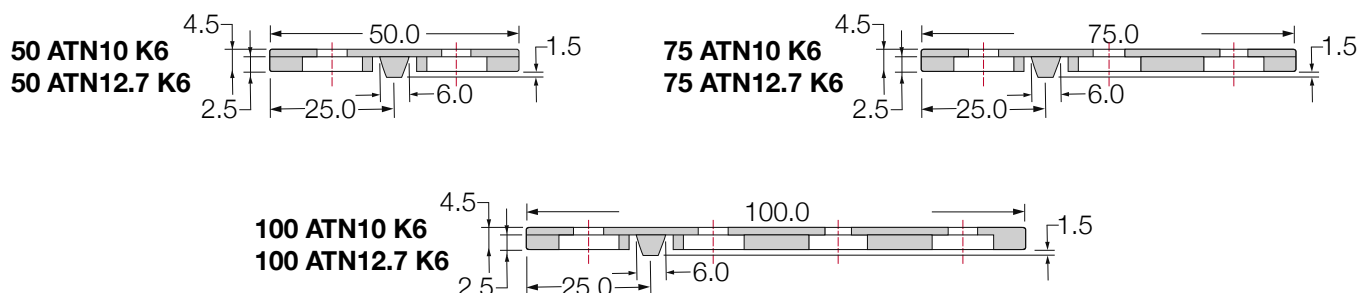
Available in ATN10 K6 and ATN12.7 K6



Timing Belt Widths and Self-Tracking Guide Positions

Belt Type	50 mm	75 mm	100 mm
ATN10 K6 - Tracking Guide Position	Symmetric	Asymmetric	Asymmetric
ATN12.7 K6 - Tracking Guide Position	Symmetric	Asymmetric	Asymmetric

### Measurements - ATN10 K6 / ATN12.7 K6



# ATN® CONVERTIBLE TIMING BELTS

## Product Range

### Open-Ended and Welded Endless Base Timing Belts



Open Ended (to be clamped) - code M



Welded Endless - code V

#### Belt Lengths for Open-Ended (M) and Welded Endless (V)

Belt Type	Open-Ended (M)	Welded Endless (V)
ATN10 / ATN12.7	Standard: 50 meter rolls Cut to length sizes available	Minimum length: 880mm
ATN20	Standard: 50 meter rolls Cut to length sizes available	Minimum length: 1000mm

#### Available Belt Materials

Materials	TPU - ST1 Standard	TPU - ST2 Flexible at low temperature	TPU - KF1 Flexible at cold temperature	TPU - FDA1 Food Grade	TPU - WB High Temperature
Temperature Range	0°C to 80°C 32°F to 176°F	5°C to 50°C 41°F to 122°F	-25°C to 5°C -13°F to 41°F	0°C to 80°C 32°F to 176°F	20°C to 110°C 68°F to 230°F
Durometer - Shore A	92	85	85	92	94

#### Mass in kg per Meter of Belt Length

	Standard Version				Self-Tracking – K Version		
Belt Type	25mm	50mm	75mm	100mm	50mm	75mm	100mm
ATN10	0.120	0.240	0.360	0.480	0.255	0.375	0.495
ATN12.7	0.111	0.222	0.333	0.444	0.237	0.348	0.459
ATN20	-	0.403	0.604	0.806	-	-	-

Note: Mass shown without inserts and screws

### Available Nylon Facings

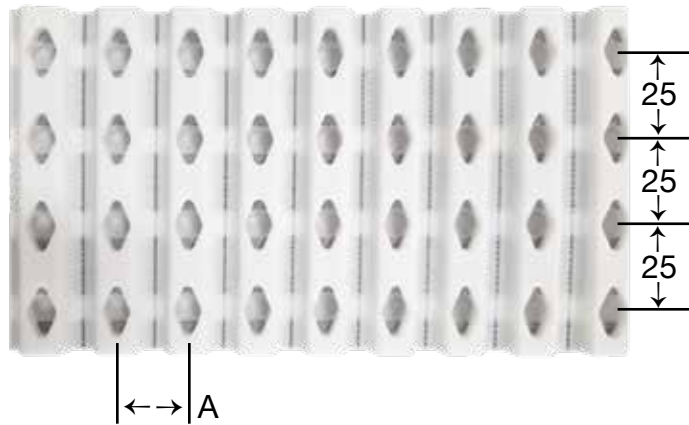
Tooth Side (PAZ), Belt Back (PAR), Both Sides (PAZ-PAR)

# ATN® CONVERTIBLE TIMING BELTS

## Cavities

Spacing of Molded Cavities for Inserts - Standard Version

Pitch	Distance A between cavities along belt length (every tooth)	Distance between cavities across belt width
ATN10	10mm	25mm
ATN12.7	12.7mm	25mm
ATN20	20mm	25mm
ATN10 K6	10mm	25mm
ATN12.7 K6	12.7mm	25mm



## Ordering Example

Ordering Example: Polyurethane Timing Belt

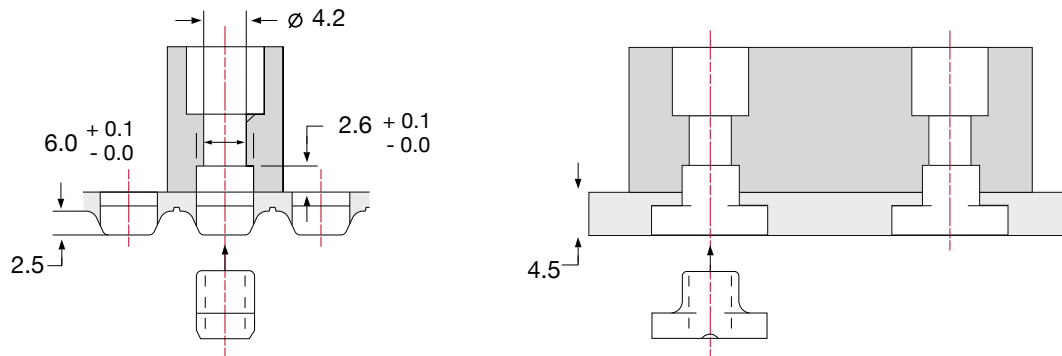
[WIDTH] [PITCH] / [LENGTH] [CONSTRUCTION]  
**50** **ATN10** / **5000** **V**



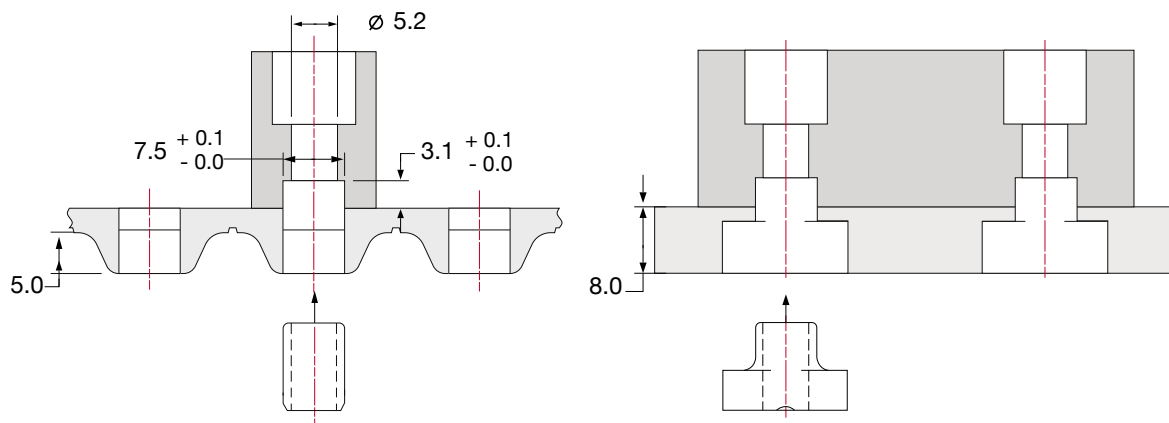
# ATN® CONVERTIBLE TIMING BELTS

## Inserts

### Fastening Measurements - ATN10 / ATN12.7



### Fastening Measurements - ATN20

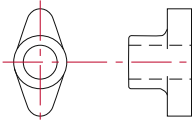
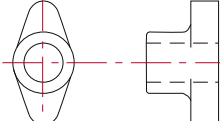
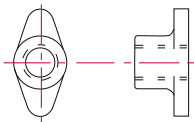
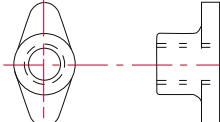
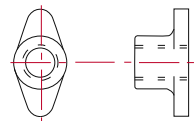
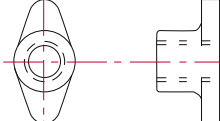


#### Insert Versions / Applications

Type	Material	Applications
Plastic	Polyamide	<ul style="list-style-type: none"> <li>- Small loads</li> <li>- Normal temperatures</li> <li>- Low dynamic loads</li> </ul>
Brass	MS 58 F 36	<ul style="list-style-type: none"> <li>- Medium and large loads</li> <li>- Low / high temperatures</li> <li>- Higher dynamic loads</li> </ul>
Stainless Steel	Stainless Steel	<ul style="list-style-type: none"> <li>- Medium and large loads</li> <li>- Higher dynamic loads</li> <li>- FDA approved</li> </ul>

# ATN® CONVERTIBLE TIMING BELTS

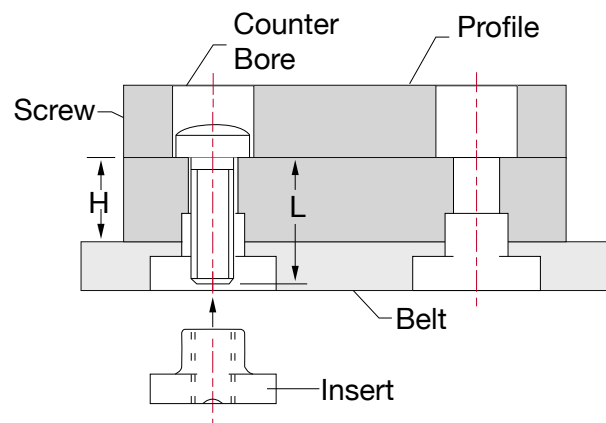
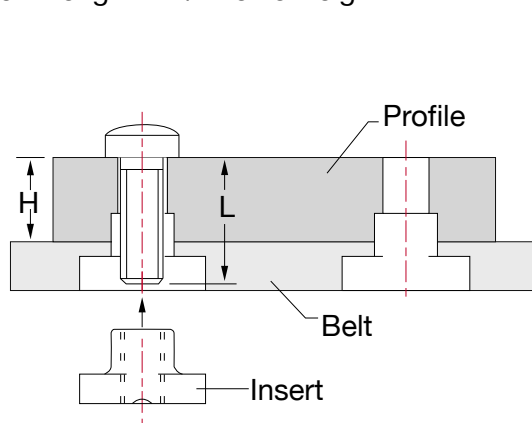
## Inserts

Insert Versions / Belt Pitch				
Type	ATN10 / 12.7		ATN20	
Plastic		Order # BB4800001H per bag of 100 pcs.		Order # BB4800003H per bag of 100 pcs.
Brass		Order # BB4800002H per bag of 100 pcs.		Order # BB4800004H per bag of 100 pcs.
Stainless Steel		Order # BB480030H per bag of 100 pcs.		Order # BB4800031H per bag of 100 pcs.

Maximum Screw Tightening Torque in Ncm				
Insert Version	Belt Pitch	Profile Material		
		TPU 790	Polyamide	Metal
Plastic	ATN10 / ATN12.7 ATN20	50 Ncm 80 Ncm	70 Ncm 100 Ncm	70 Ncm 100 Ncm
Brass	ATN10 / ATN12.7 ATN20	-	100 Ncm 150 Ncm	100 Ncm 150 Ncm
Stainless Steel	ATN10 / ATN12.7 ATN20	-	100 Ncm 150 Ncm	100 Ncm 150 Ncm

## Screws

Screw Length - L / Profile Height - H



**Note: Screws should not protrude beyond the inserts when assembled!**



# ATN® CONVERTIBLE TIMING BELTS

## Screws

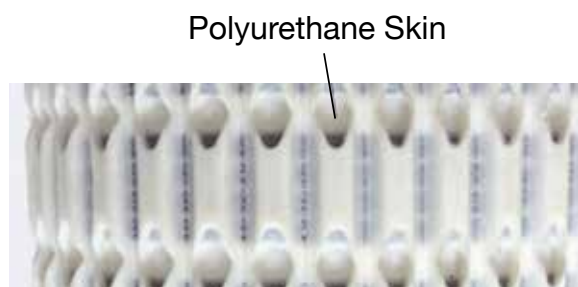
ATN® Mounting Screws - Steel Zinc Plated								
Insert Version	ATN10 / ATN12.7				ATN20			
Plastic	Thread Forming				Thread Forming			
	Screw Type	Screw Length - L	Profile Height - H	Order Number*	Screw Type	Screw Length - L	Profile Height - H	Order Number*
	Z 40 x 8	8mm	4mm	BB4800006H	Z 50 x 12	12mm	5mm	BB4800009H
	Z 40 x 12	12mm	8mm	BB4800007H	Z 50 x 16	16mm	9mm	BB4800010H
	Z 40 x 16	16mm	12mm	BB4800008H	Z 50 x 20	20mm	13mm	BB4800011H
	*Per bag of 100 pcs				*Per bag of 100 pcs			
Brass	Threaded				Threaded			
	Screw Type	Screw Length - L	Profile Height - H	Order Number*	Screw Type	Screw Length - L	Profile Height - H	Order Number*
	M 4 x 8	8mm	4mm	BB4800013H	M 5 x 12	12mm	5mm	BB4800016H
	M 4 x 12	12mm	8mm	BB4800014H	M 5 x 16	16mm	9mm	BB4800017H
	M 4 x 16	16mm	12mm	BB4800015H	M 5 x 20	20mm	13mm	BB4800018H
	*Per bag of 100 pcs				*Per bag of 100 pcs			
Stainless Steel	Threaded				Threaded			
	Screw Type	Screw Length - L	Profile Height - H	Order Number*	Screw Type	Screw Length - L	Profile Height - H	Order Number*
	M 4 x 12	12mm	8mm	BB4800057H	M 5 x 16	16mm	9mm	BB4800061H
	*Per bag of 100 pcs				*Per bag of 100 pcs			

## Hand Piercing Tools

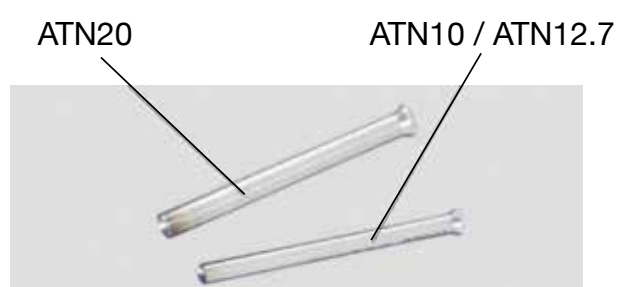
The base timing belt is extruded with a 0.2mm thick polyurethane skin across the cavities. This skin must be pierced through to allow for profile attachment. ATN® timing belts can be ordered from BRECOflex CO., L.L.C. with pierced holes (hole pattern must be specified). In order to pierce holes at the customer site, the following tools are available.

Piercing Tools		
Belt Pitch	Punch Tool Version	Order Number
ATN10 / ATN12.7	6mm	BB4800020H
ATN20	7.5mm	BB4800021H

## Base Timing Belt



## Piercing Tools



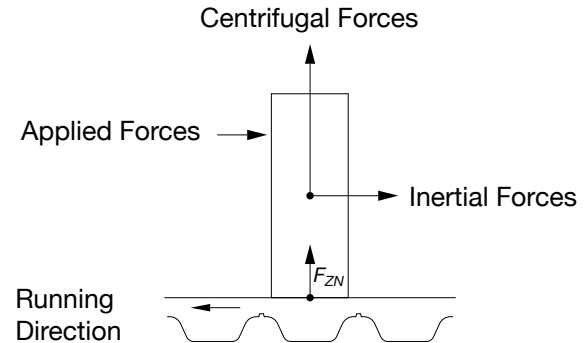
# ATN® CONVERTIBLE TIMING BELTS

## Strength Calculation

### Profile Connection

$$F_{ZN} \leq F_{ZN\ zul}$$

$F_{ZN}$  is the sum of all forces acting on each insert including applied, inertial, and centrifugal forces. These forces must be converted to equivalent normal forces (perpendicular to the belt surface) and added in order to compare against the values in the following table. (Allowable Force ( $F_{ZN\ zul}$ ) per insert in N).



Allowable Force ( $F_{ZN\ zul}$ ) per Insert in N (Perpendicular to Belt Surface)			
Type		Material	
Version	Pitch	Polyamide	Metal
<b>Plastic</b>	ATN10 / ATN12.7 ATN20	100N	100N
		160N	160N
<b>Brass</b>	ATN10 / ATN12.7 ATN20	170N	320N
		240N	490N
<b>Stainless Steel</b>	ATN10 / ATN12.7 ATN20	170N	320N
		240N	490N

### Centrifugal Forces

Centrifugal forces are normal to the belt surface during circular motion as a result of centripetal acceleration. This force is dependent upon the profile and attachment mass, the path radius at the profile center of mass, and pulley RPM.

### Applied Forces

Applied forces are external forces on the profile due to the force from accelerating or supporting transported goods. Acceleration forces are dependent upon the mass of the goods and the magnitude of the acceleration. An example of an applied force is the force due to the weight of goods in vertical transport applications.

### Inertial Forces

Inertial forces are the resistive forces exerted by the profile and attachments under acceleration and deceleration.

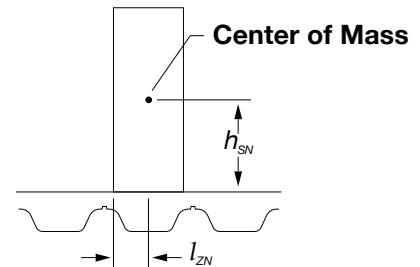
# ATN® CONVERTIBLE TIMING BELTS

## Strength Calculation

### Strength Calculation Method for Profile Design

1. For precise strength calculation, please call BRECOflex Applications Engineering.
2. For basic, approximate strength calculation, use the following method:

#### 2.1 Defining the profile center mass height ( $h_{SN}$ )

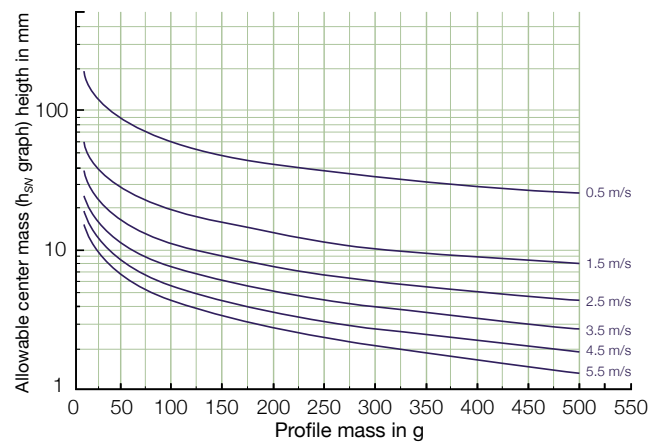


Graph 1: Pulley Pitch Diameter  $d_O = 79.58\text{mm}$

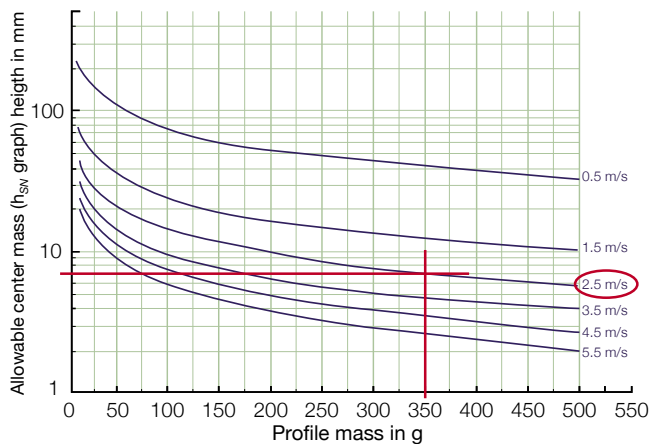
- 2.2 Graphs 1, 2 and 3 show the allowable center mass height of the profile for a given drive speed, profile mass, and pulley diameter. Select the particular graph based on the closest pulley pitch diameter of the smallest pulley in the drive set-up. Interpolate graph results for more accuracy.

#### 2.3 Graphs are based on the following parameters:

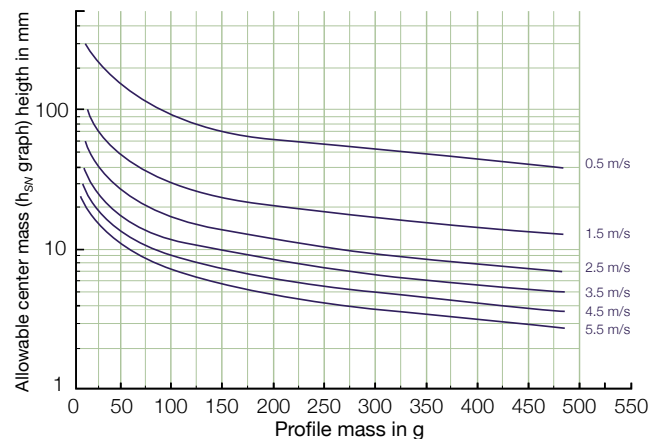
- Belt version = 50 ATN10 /ATN12.7
- Symmetric profile support with  $l_{ZN} = 10\text{mm}$
- Plastic inserts with polyamide or metal profiles



Graph 2: Pulley Pitch Diameter  $d_O = 127.32\text{mm}$



Graph 3: Pulley Pitch Diameter  $d_O = 190.99\text{mm}$



# ATN® CONVERTIBLE TIMING BELTS

## Strength Calculation

### Strength Calculation Method for Profile Design

#### 2.4 Calculation Example (no correction factors necessary)

##### 2.4.1 Parameters

- Belt version = 50 ATN10
- Profile mass  $m_N = 350g$
- Pulley pitch diameter  $d_O = 127.32mm$
- Profile support with  $l_{ZN} = 10mm$
- Drive speed  $v = 2.5m/s$
- Insert / profile material = polyamide / metal

Solution:

Use Graph 2 (see page 11) to obtain allowable profile mass height ( $h_{SN\ graph} = \text{approx. } 7mm$ )

Note:

For this example, no correction factors are necessary, therefore,  $h_{SN\ graph} = h_{SN\ zul}$

$$h_{SN\ zul} = 7mm$$

Allowable profile center of mass height ( $h_{SN\ zul}$ ) 7mm should not be exceeded.

#### 2.5 Correction factors B, $N_s$ , and M defined to calculate $h_{SN\ zul}$ for other configurations:

$$h_{SN\ zul} = h_{SN\ graph} (B \cdot N_s \cdot M)$$

##### 2.5.1 Belt Width Factor (B)

Belt Width Factor (B)	
Belt Width	Correction Factor B
25mm	0.7
50mm	1.0
75mm	1.2
100mm	1.4

##### 2.5.2 Symmetric Profile Support Width Factor ( $N_s$ )

$$N_s = \sqrt{\frac{0.1 \cdot l_{ZN} mm}{mm}}$$

##### 2.5.3 Insert - Profile Material Factor (M)

Insert - Profile Material factor (M)			
	Insert Material	Profile Material	Correction Factor (M)
ATN10 ATN12.7	Polyamide	TPU 790	0.6
	Polyamide	Polyamide / Metal	1.0
	Brass	Polyamide	1.3
	Brass	Metal	1.8
	Stainless Steel	Polyamide	1.3
	Stainless Steel	Metal	1.8
ATN20	Polyamide	Polyamide / Metal	1.3
	Brass	Polyamide	1.5
	Brass	Metal	2.2
	Stainless Steel	Polyamide	1.5
	Stainless Steel	Metal	2.2

## Strength Calculation

### 2.6 Calculation Example (correction factors necessary)

#### 2.6.1 Parameters

- Belt version = 75 ATN10
- Pulley pitch diameter  $d_O = 134\text{mm}$
- Drive speed  $v = 2.5 \text{ m/s}$
- Profile mass  $m_N = 350\text{g}$
- Profile support width  $l_{ZN} = 15\text{mm}$
- Insert / profile material = brass / metal

Solution:

Use Graph 2 (see page 11) to obtain allowable profile mass height ( $h_{SN \text{ graph}}$ ).

Determine correction factors B,  $N_S$  and M to calculate  $h_{SN \text{ zul}}$

$$h_{SN \text{ zul}} = h_{SN \text{ graph}} (B \cdot N_S \cdot M)$$

$$h_{SN \text{ zul}} = 7\text{mm} \left( 1.2 \cdot \sqrt{\frac{0.1 \cdot 15\text{mm}}{\text{mm}}} \cdot 1.8 \right)$$

$$h_{SN \text{ zul}} = 18.5\text{mm}$$

Allowable profile center of mass height ( $h_{SN \text{ zul}}$ ) 18.5mm should not be exceeded.



# ATN® CONVERTIBLE TIMING BELTS

## Strength Calculation

### Tooth shear strength

#### Peripheral Force Calculation

The peripheral force ( $F_U$ ) is based on the specific peripheral force ( $F_{U\text{spez}}$ ) and the number of teeth in mesh ( $Z_e$ ) on the drive pulley.  $Z_e \text{ max} = 12$  teeth for open-ended belts.  $Z_e \text{ max} = 6$  teeth for welded endless belts.

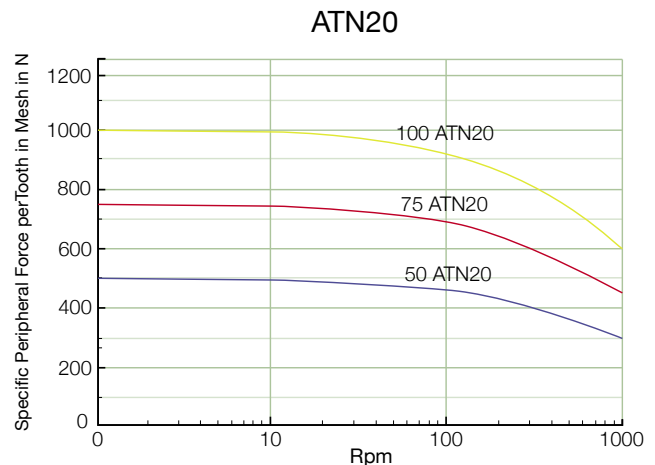
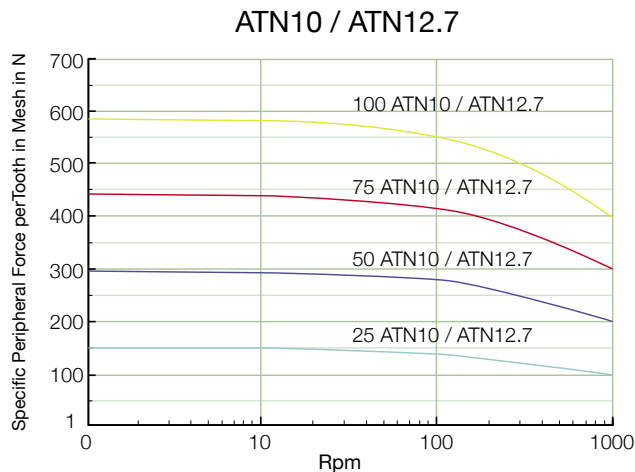
$$F_U = F_{U\text{spez}} \cdot Z_e \quad F_U = \text{Peripheral Force in N}$$

$$F_{U\text{spez}} = \frac{F_U}{Z_e} \quad F_{U\text{spez}} = \text{Specific Peripheral Force in N per Tooth in Mesh}$$

(Charts below show the different values for each belt width.)

$$Z_e = \frac{F_U}{F_{U\text{spez}}} \quad Z_e = \text{Number of Teeth in Mesh}$$

### Specific Peripheral Force ( $F_{U\text{spez}}$ ) Per One Tooth in Mesh in N



### Self - Tracking ATN® Timing Belt Versions (Tracking Guide - K)

Comparison - Specific Peripheral Force per Tooth in Mesh	
Self-Tracking Versions	$F_{U\text{spez}}$ compared to standard ATN10 / ATN12.7
50 ATN10 K6 / ATN12.7 K6	- 20%
75 ATN10 K6 / ATN12.7 K6	- 13%
100 ATN10 K6 / ATN12.7 K6	- 10%

# ATN® CONVERTIBLE TIMING BELTS

## Tensile Strength

### Open-Ended ATN® Timing Belts - M

Allowable Tensile Load of Belt Cross Section, $F_{zul}$ in N				
Belt Type	25mm	50mm	75mm	100mm
ATN10	3000	6000	9000	12000
ATN12.7	3000	6000	9000	12000
ATN20	-	8000	12000	16000

### Spliced and Welded ATN® Timing Belts - V

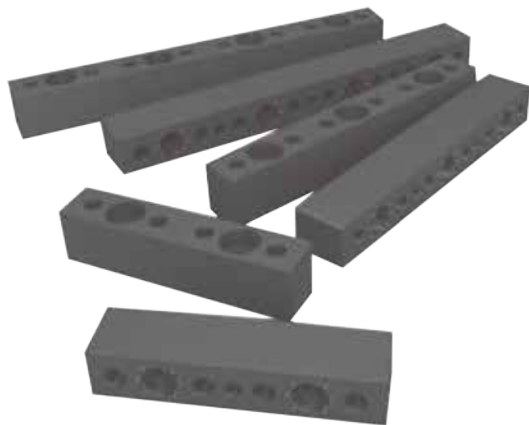
Allowable Tensile Load of Belt Cross Section, $F_{zul}$ in N				
Belt Type	25mm	50mm	75mm	100mm
ATN10	1000	2000	3000	4000
ATN12.7	1000	2000	3000	4000
ATN20	-	2700	4000	5400



# ATN® CONVERTIBLE TIMING BELTS

## Standard Profiles

### ATN® - Standard Adapter Profiles

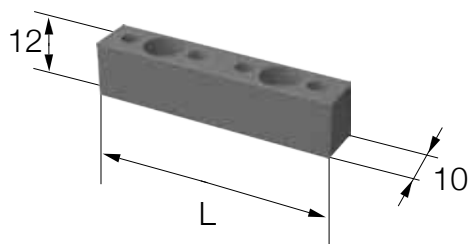


Attaching profiles to the ATN® Timing Belt can be accomplished in two ways. Profiles can either be screwed onto an adapter profile or screwed directly to the belt. Using an adapter is necessary when it is not possible to screw the profile directly to the belt.

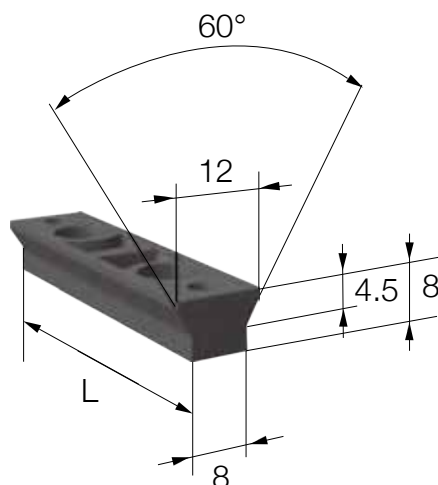
The adapters shown provide a secure attachment for profiles to be either screwed on or slid on (e.g. T-Slot, dovetail). That way, a quick and easy way to replace or change profiles is possible.

The adapters do not have to be replaced when changing profiles.

R-Profile



Y-Profile



Profile Type	Profile Length L	Profile Number
R-Profile	50mm	1.001.008
R-Profile	75mm	1.001.009
R-Profile	100mm	1.001.010

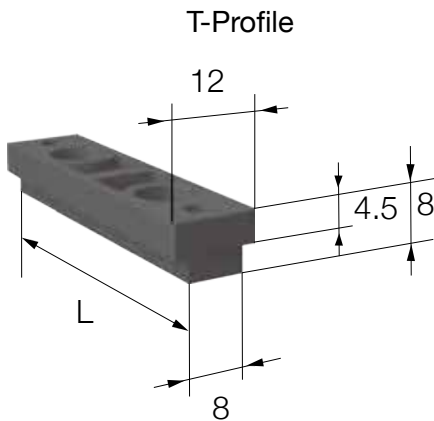
Profile Type	Profile Length L	Profile Number
Y-Profile	50mm	1.001.002
Y-Profile	75mm	1.001.003
Y-Profile	100mm	1.001.004

Note: ATN® profiles are made only for ATN10 and ATN12.7.



# ATN® CONVERTIBLE TIMING BELTS

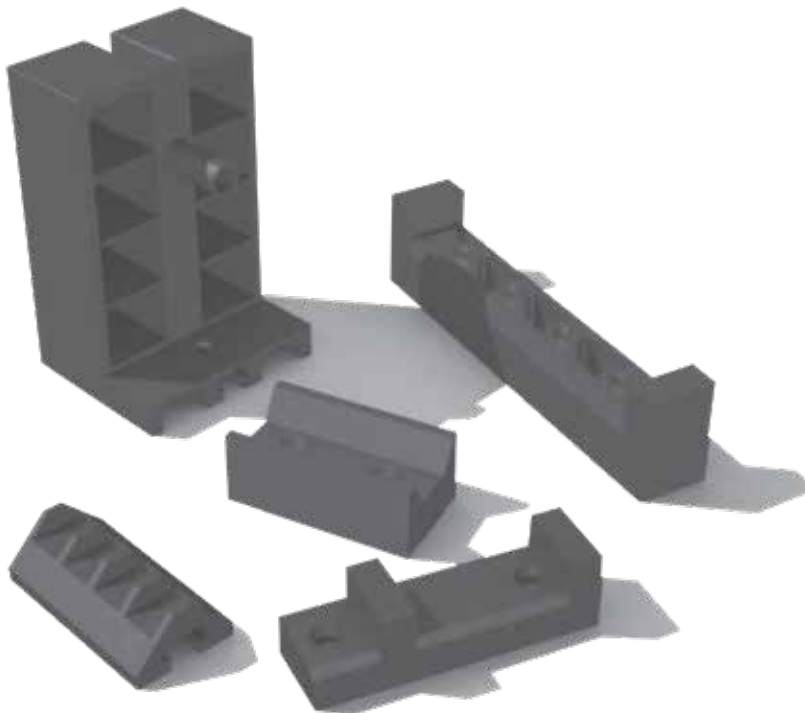
## Standard Profiles



Profile Type	Profile Length L	Profile Number
T-Profile	50mm	1.001.005
T-Profile	75mm	1.001.006
T-Profile	100mm	1.001.007

Note: ATN® profiles are made only for ATN10 and ATN12.7.

## ATN® - Custom Profile Examples



The profiles shown are a few examples of already existing custom ATN® profiles.

BRECOflex CO., L.L.C. has the know-how and technical capabilities to provide the perfect profile solution for your conveying application.

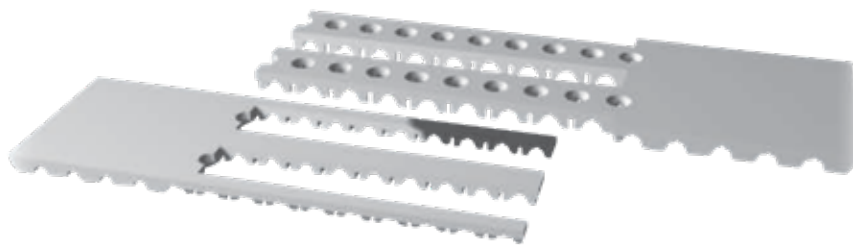
Please contact Applications Engineering for custom ATN® profiles.

# ATN® CONVERTIBLE TIMING BELTS

## ATN® - Connecting Kit for Field Assembly

This optional mechanical connection is designed for rapid belt assembly and disassembly in the field directly on the drive system. The finger spliced ends of the timing belt are prepared to be clamped together with special clamping hardware. The hardware consists of high strength polyamide inserts, high grade steel plates, and the requisite screws. This connection technology allows ATN® profiles to be attached even in the joined area. Profiles for the joined area may have to be modified.

### *Prepared Finger Spliced Timing Belt Ends*



### *Assembly - Connection Method*



### *Completed Connection (Endless Belt)*



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## ATN® - Connecting Kit for Field Assembly

### Connection Parts: Features / Specifications

Number of connection  
elements per connection: 10

Insert material: High strength polyamide

Connection plates: High grade steel,  
hardened and polished

Connection plate thickness: 0.9mm

Mounting screws: M 2.5



Note: Customized belt version with recessed connection plates for level conveying surface available.

Allowable Tensile Load ( $F_{zul}$ in N )			
Belt Type	50mm	75mm	100mm
ATN10 / ATN10K6	750 N	1150 N	1500 N
ATN12.7 / ATN12.7K6	750 N	1150 N	1500 N
ATN20	1000 N	1500 N	2000 N

Minimum Number of Pulley Teeth Required (for clamped belts)	
Belt Pitch	Z min
ATN10 ATN10K6	25
ATN12.7 ATN12.7K6	20

# ATN® CONVERTIBLE TIMING BELTS

## ATN Connecting Kit Versions

### *Version “C” (standard)*

- Available for ATN10, ATN12.7, ATN10K6 and ATN12.7K6
- Belt thickness (without self-tracking guide):  
4.5mm (standard thickness)
- Number of connection elements per connection: 10
- Not suitable for mounting of profiles in connecting kit area



### *Version “DC” (deep connection)*

- Available for ATN10, ATN12.7, ATN20, ATN10K6 and ATN12.7K6
- Belt thickness (without self-tracking guide):  
5.4mm (ATN10, ATN12.7), 8mm (ATN20)
- Number of connection elements per connection:  
10 (ATN10, ATN12.7), 9 (ATN20)
- Not suitable for mounting of profiles in connecting kit area



### *Version “DC-PRO” (deep connection for profiles)*

- Available for ATN10, ATN12.7, ATN20, ATN10K6 and ATN12.7K6
- Belt thickness (without self-tracking guide):  
5.4mm (ATN10, ATN12.7), 8mm (ATN20)
- Number of connection elements per connection:  
10 (ATN10, ATN12.7), 9 (ATN20)
- Suitable for mounting of profiles in connecting kit area



# POLYURETHANE TIMING BELTS

## Tooth Bar Inserts

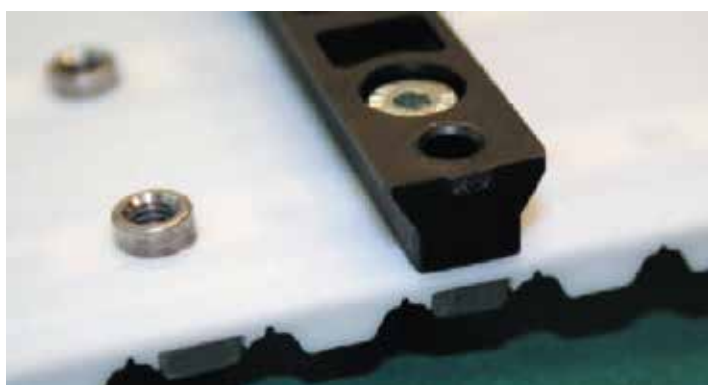
Brass or stainless tooth bars offer increased allowable profile loading options over the standard ATN® inserts during loading. The bolted profile is support by a bar that spans across the entire tooth of the timing belt thereby sandwiching the belts' steel cords between the insert and the profile. The metal tooth connection technology may be useful in instances where the standard solutions are not strong enough, particularly for loading in the normal direction (perpendicular to the belt back surface.)

### Advantages:

- Increased profile loading possible
- Wider product range
- Truly endless belts
- More belt materials
- Same flexibility

### Pitch and Width Availability

Width (mm)	Number of Screws Across Belt Width	Belt Pitches				
		ATN10	ATN12.7	ATN20	AT10	AT20
50	2	☑	☑	☑	☑	☑
75	3	☑	☑	☑	☑	☑
100	4	☑	☑	☑	☑	☑
150	6	-	-	-	☑	☑



# ATN® CONVERTIBLE TIMING BELTS

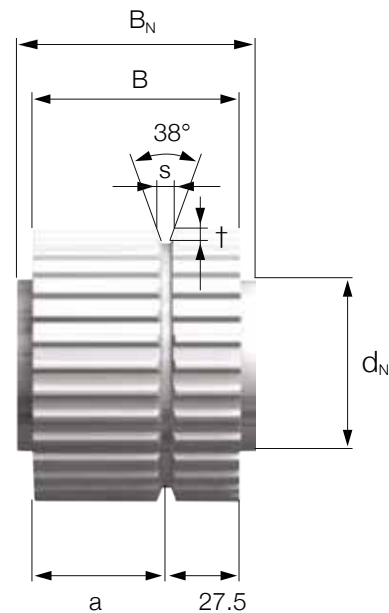
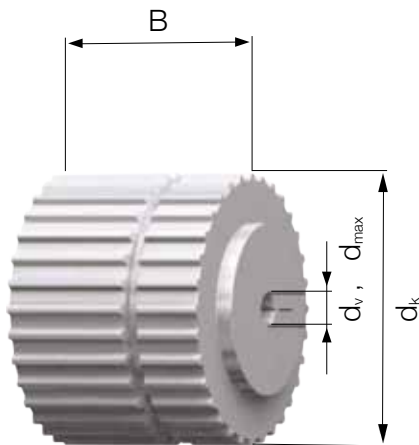
## ATN® Connecting Kit Versions

### Availability

Connecting Kits Version	ATN10	ATN12.7	ATN20	ATN10K6	ATN12.7K6
C	•	•	-	•	•
DC	•	•	•	•	•
DC-PRO	•	•	•	•	•

Connecting Kits for Belt Widths	ATN10	ATN12.7	ATN20	ATN10K6	ATN12.7K6
25	-	-	-	-	-
50	•	•	•	•	•
75	•	•	•	•	•
100	•	•	•	•	•

### Self-Tracking Pulleys

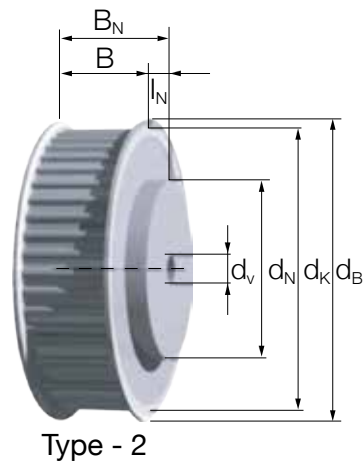
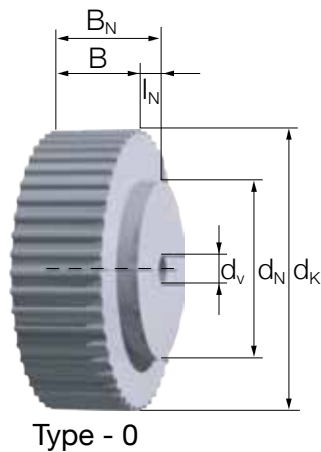


Self-Tracking Pulleys for ATN10K6 and ATN12.7K6

Belt Pitch	b [mm]	50	75	100
Pulley Face Width	B [mm]	55	80	105
Pulley Width over Hub	B <sub>N</sub> [mm]	65	90	115
Toothed Width	a [mm]	27.5	52.5	77.5
Groove Width	s [mm]	6.5	6.5	6.5
Groove Depth	† [mm]	5	5	5

# ATN® CONVERTIBLE TIMING BELTS

## Aluminum Stock Pulleys



Aluminum Stock Pulleys

Tooth Type	# of Teeth	Outside Diameter	Pitch Diameter	Flange Diameter	Face Width	Pulley Width	Pilot Bore	Hub Size	Part Number
ATN10	z	d <sub>K</sub>	d <sub>O</sub>	d <sub>B</sub>	B	B <sub>N</sub>	d <sub>V</sub>	d <sub>N</sub> X l <sub>N</sub>	
Belt Width = 25mm	25	77.75	79.58	82	32	42	12H7	60 X 10	LS 42 AT10/25-2 HUB 60X10
	27	84.10	85.95	90	32	42	12H7	60 X 10	LS 42 AT10/27-2 HUB 60X10
	30	93.65	95.49	99	32	42	12H7	60 X 10	LS 42 AT10/30-2 HUB 60X10
	32	100.00	101.86	105	32	42	12H7	65 X 10	LS 42 AT10/32-2 HUB 65X10
	36	112.75	114.59	118	32	42	16H7	70 X 10	LS 42 AT10/36-2 HUB 70X10
	40	125.45	127.32	131	32	42	16H7	80 X 10	LS 42 AT10/40-2 HUB 80X10
	44	138.20	140.05	144	32	42	16H7	90 X 10	LS 42 AT10/44-2 HUB 90X10
	48	150.95	152.78	-	32	42	16H7	95 X 10	LS 42 AT10/48-0 HUB 95X10
	60	189.10	190.98	-	32	42	16H7	110 X 10	LS 42 AT10/60-0 HUB 110X10
Belt Width = 50mm	25	77.75	79.58	82	60	70	12H7	60 X 10	LS 70 AT10/25-2 HUB 60X10
	27	84.10	85.95	90	60	70	12H7	60 X 10	LS 70 AT10/27-2 HUB 60X10
	30	93.65	95.49	99	60	70	12H7	60 X 10	LS 70 AT10/30-2 HUB 60X10
	32	100.00	101.86	105	60	70	12H7	65 X 10	LS 70 AT10/32-2 HUB 65X10
	36	112.75	114.59	118	60	70	16H7	70 X 10	LS 70 AT10/36-2 HUB 70X10
	40	125.45	127.32	131	60	70	16H7	80 X 10	LS 70 AT10/40-2 HUB 80X10
	44	138.20	140.05	144	60	70	16H7	90 X 10	LS 70 AT10/44-2 HUB 90X10
	48	150.95	152.78	-	60	70	16H7	95 X 10	LS 70 AT10/48-0 HUB 95X10
	60	189.10	190.98	-	60	70	16H7	110 X 10	LS 70 AT10/60-0 HUB 110X10
ATN12.7	Custom - Please call for technical assistance								
ATN20	Custom - Please call for technical assistance								

Note: H (T1/2") pitched pulleys are not compatible with ATN12.7 belts. See page 4 for drawings of ATN® tooth pitches and tooth profiles

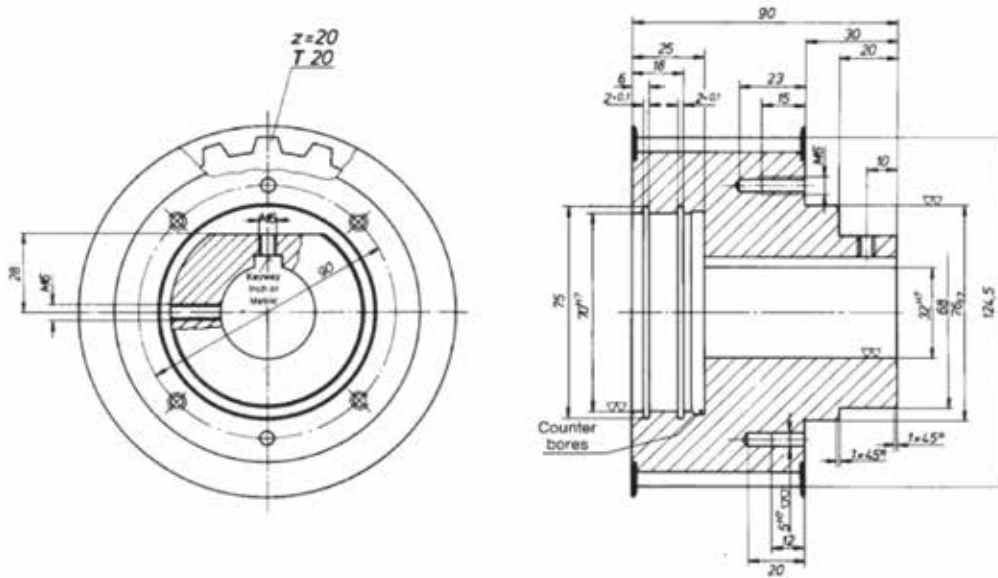
### Aluminum Bar Stock



# ATN® CONVERTIBLE TIMING BELTS

## Aluminum Custom Pulleys

BRECOflex CO., L.L.C. has the proficiency and technical capabilities to supply practically any pulley design that is required for the most intricate applications. If it is technically feasible, BRECOflex CO., L.L.C. will be able to supply it no matter what size, material or detail is desired. A drawing of a custom pulley is shown with additional machining operations.



Minimum Pulley Sizes

Belt Pitch	Minimum Number of Teeth - $z_{min}$
ATN10	25
ATN12.7	20
ATN20	20

Belt Drive with Flat Idler Running on Tooth Side

Belt Pitch	Minimum Diameter
ATN10	80mm
ATN12.7	80mm
ATN20	130mm



# BRECOflex CO., L.L.C.

## High Precision Drive Components

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