

# BRECO<sup>®</sup> Components for Polyurethane Timing Belts



updated version





## Keeping things moving!

BRECO has been a market leader in terms of innovation and quality in the field of polyurethane timing belt technology for over 40 years. Our 250 employees produce timing belts and toothed pulleys at our main plant in Porta Westfalica.

Our longstanding experience combined with the consistent use of only high-quality materials has established the reputation of BRECO products throughout the world. Not only the quality but also the service via select sales partners and the joint development of our individual solutions are an important reason for many users to opt for the brand BRECO.

Synchronising pulleys, synchronising shafts, tension rollers, clamping elements and tensioners, optimised to BRECO®- and BRECOFLEX® polyurethane timing belts offer customers the functional reliability they wish for their application. A wide range of standard products for simple and complex applications and the range of individually adapted synchronising pulleys for special requirements with regard to function and quality provide the right solution for almost all drive tasks. Special surface coatings, for example hard coating, anodising, galvanising or browning, ensure better corrosion and wear performance.

BRECO GmbH & Co. Zahnscheiben KG sets great store by innovative creativity, not only in the area of manufacturing high-quality products but also when it comes to using materials with ecology in mind.

After the Waste Electrical and Electronic Equipment Directive 2002/95/EC came into effect in Germany, BRECO converted its entire material programme to materials compliant with this directive. In particular, we - in contrast to most other timing belt manufacturers - no longer use the previous standard material AlCuMgPb (DIN 1725) because this contains the elements lead (Pb), cadmium (Cd), mercury (Hg) and hexavalent chromium (Cr (VI)). This material has been replaced by lead-free AlCu4MgSi (EN AW-2017A), whose strength even surpasses that of the material used previously.

### Quality and service life - your price benefit

The quality of a timing belt pulley is crucial for the functioning, fault-free running and service life of the timing belt drive.

Timing belt drives have become increasingly important in almost all areas of mechanical engineering, plant and vehicle construction in the past few decades. The following advantages over chain drives and positive-fit belt drives (flat and V-belt) are the reason for this:

- Greater positioning and transmission accuracy
- Low-friction operation
- Less moving mass (lower moments of inertia, better dynamics)
- No need for maintenance

The significance of timing belt drives will continue to grow due to the rising demands for environmental compatibility and precision.

It is the aim of every design engineer to design power transmission belts so that the tribological loss parameters of friction and wear remain as low as possible. In the case of timing belts drives, this calls for an optimum interplay of belt and pulley (precisely coordinated transmission performance in terms of kinematics) and a high degree of precision in the manufacturing process with respect to dimensional accuracy, concentric running, balance and surface quality. We therefore recommend combining BRECO® timing belts with BRECO® toothed pulleys – as this will ensure the best possible transmission performance.



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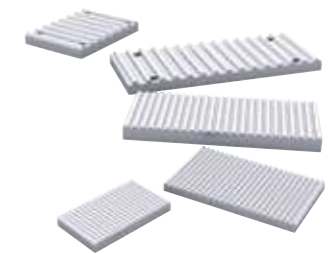
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Synchronising pulleys



Clamp plates



Self-tracking pulleys



Tension plates



Synchronising shafts



Tension rollers



Tensioners



Belt tension measuring device  
BRECO® TSM alpha 1

**Materials for synchronising pulleys**

BRECO provides various materials for diverse areas of application for synchronising pulleys. We only use pressed and drawn semi-finished products so that the technical properties of our products are retained over the entire area of application, thus ensuring functional reliability.

Standard materials					
Material	Material no., Abbreviation as per DIN EN	Tensile strength [N/mm <sup>2</sup> ]	Yield strength R <sub>p0,2</sub> [N/m <sup>2</sup> ]	Dimensions and use	Coatings, Special features
AlCuMg1 AlCu4MgSi(A)	3.1325 EN AW-2017A	360-400	220-250	Up to ø 250 mm components subject to high and vibration stress, compliant with the Waste Electrical and Electronic Equipment Directive	Good anodising capacity
AlMgSi1 (F30) AlSiMgMn	3.2315.72 EN AW-6082	310-350	240-320	Up to ø 400 mm good welding capacity, very good corrosion resistance, compliant with the Waste Electrical and Electronic Equipment Directive	Colourless anodising, hard anodising
AlZnMgCu 0,5 (F45) AlZn5Mg3Cu	3.4345.71 EN AW-7022	410-450	330-370	High-strength aluminium alloy for components subject to high stress, capable of being welded and eroded, compliant with the Waste Electrical and Electronic Equipment Directive	Natural and coloured anodising, hard coating
AlMg3 (F19) AlMg3	3.3535.07 EN AW-5754	190-240	90-120	Up to ø 250 mm and flat material seawater resistant, compliant with the Waste Electrical and Electronic Equipment Directive	Natural and coloured anodising, hard coating
AlMg4,5Mn (F27) AlMg4,5Mn0,7	3.3547.10 EN AW-5083	275	110-125	Flat material for clamp connectors, good welding capacity, suitable for low temperature ranges, seawater resistant, compliant with the Waste Electrical and Electronic Equipment Directive	Natural and coloured anodising, hard coating

Material recommendation for synchronising pulleys made from steel				
Material / Material no.	Use	Tensile strength [N/mm <sup>2</sup> ]	Strain limit / Yield strength [N/mm <sup>2</sup> ]	Hardenability
11SMn30 / 1.0715	Standard material up to ø 160 mm, parts for low to medium stress	380 - 570	min. 245	-----
16MnCrS5+FP / 1.7131	Application steel – available up to ø 380 mm, parts for low to medium stress	780 -1080	440	41-49 HRC
C45 / 1.0503	Quenched and tempered steel, parts for low to medium stress	580	305 - 370	55-62 HRC
42CrMo4 / 1.7225	Components with high stress	100 - 1200	650-900	53-62 HRC

Material recommendation for synchronising pulleys made from stainless steel			
Material / Material no.	Use	Tensile strength [N/mm <sup>2</sup> ]	Yield strength R <sub>p0,2</sub> [N/mm <sup>2</sup> ]
X5CrNi 1810 / VA 1.4301	Good corrosion resistance, welding capacity, suitable for food	550 - 750	235
X6CrNiMoTi 17-12-2 / VA 1.4571	Corrosion resistant (also in welded state), Suitable for the food and beverage industry, Chemical industry	540 - 690	240

Surface refinement for synchronising pulleys made from aluminium		
Surface treatment	Use	Brief description
Anodising	Decorative corrosion protection for the surface  The layer hardness is in the range 250-350 HV, the oxide layer resulting from anodising ensures very good resistance to wear and prevents corrosion symptoms.  Anodised components exhibit tremendous abrasion strength and can be provided with special glide properties for particular applications so that the adhesive abrasion is virtually zero. The aluminium oxide layers are very temperature resistant and can be heated to 2,000°C.	Layer thickness to max. 20µm  Available in the versions: natural black uncoloured (silver)
Hard anodising  Hard anodising or hard coating	Wear protection  Optional: + PTFE Wear protection  The layer hardness is in the range up to 550 HV The hard anodising (hard coatings) means significantly harder (up to 550 Vickers), denser and also thicker oxide layers than with normal anodising.	Layer thickness 30 -80µm  Teflon coating for improved glide properties
Easy Glide	A Teflon-based low-friction paint coating for noise reduction and optimisation of the glide properties in the run-in area. Suitable for all aluminium and steel toothed pulleys in the application range from -40°C to +180°C	Layer thickness 10- 30µm

Surface refinement for synchronising pulleys made from steel		
Surface treatment	Use	Brief description
Galvanize	Corrosion protection for all steel alloys	Layer thickness 5 to 8µm Toothed pulleys washers are coated including fits.
Browning	Corrosion protection for all steel alloys	Decorative: Colour black  Corrosion protection for dry internal areas
Chemical Nickel plating	Corrosion protection	All steel and aluminium alloys  Contour-true layer structure, hence also suitable for threads and complex geometries
Plasma nitriding	Wear protection	All steels containing carbon Low-distortion surface hardness method
Easy Glide	A Teflon-based low-friction paint coating for noise reduction and optimisation of the glide properties in the run-in area. Suitable for all aluminium and steel toothed pulleys in the application range from -40°C to +180°C.	All steels containing carbon Improved glide properties Layer thickness 30µm

Surface refinement for synchronising pulleys made from VA (material no. 1.4301)		
Surface treatment	Use	Brief description
Electrochemical pickling and polishing	Food industry	Smoothing the surface roughness makes cleaning easier and helps prevent germs.

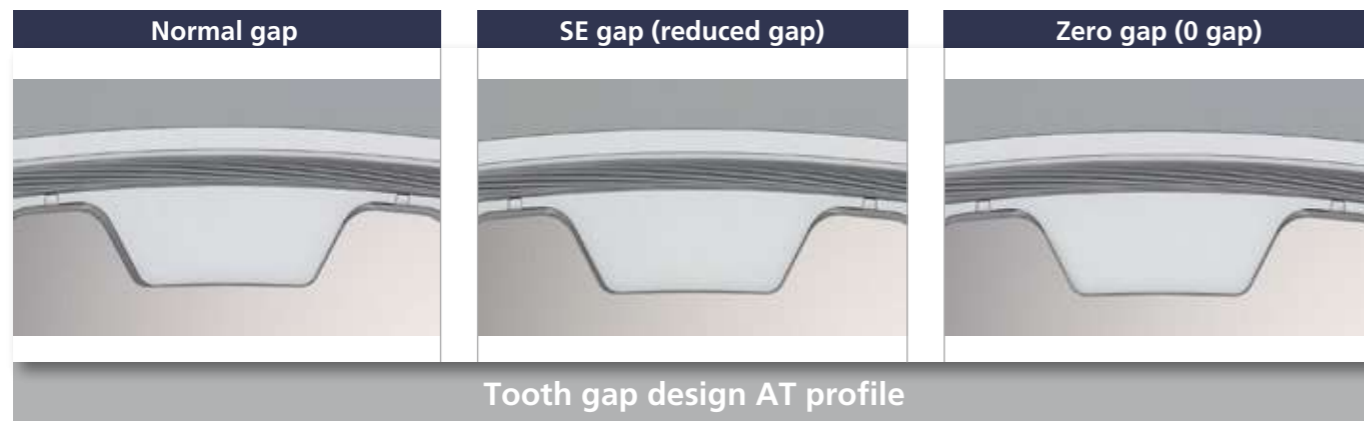
### Machining/Special geometries according to customer requirements

The ever-increasing requirements for low-friction, low-noise and precise drive elements continually present us with new challenges. Thanks to modern production technology, BRECO can offer its customers extensive machining options as well as special geometries for individual adaptation of the synchronising pulleys to the relevant application. The combination with the optimised BRECO® or BRECOFLEX® timing belts results in drive elements that ensure a very high degree of functional reliability.



### Tooth gap forms

Timing belts are positive fitting drive elements. They work slip-free with the associated synchronising pulleys. BRECO- and BRECOFLEX- timing belt drives can also be optimised to motion transmission that is low in flank play. For especially high requirements with respect to the accuracy of the motion transmission, the SE or zero gap can be used for some profiles and divisions in compliance with certain prerequisites. Our sales partners will be pleased to help with the technical design of your drive.



Overview of the available tooth gaps				
Tooth gap design	Synchronising pulley T profile and AT20		Synchronising pulley AT profile (without AT20)	Imperial profile
	Number of teeth ≤ 20	Number of teeth > 20	all teeth	all teeth
Normal gap	-	Standard	Standard	Standard
SE gap	Standard	Optional	Optional	-
Zero gap (0 gap)	Optional	Optional	Optional	-

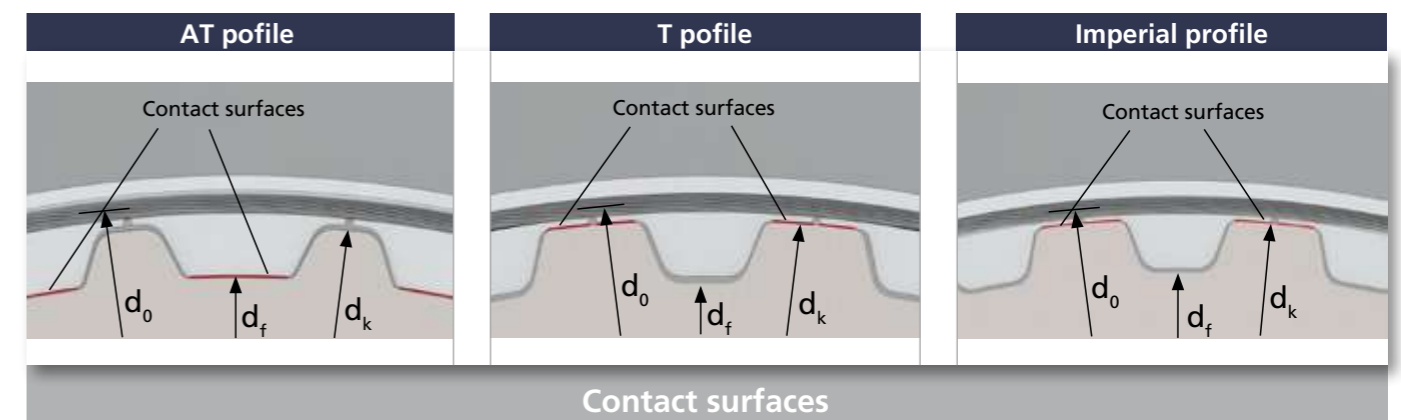
### Ordering information:

The standard gap form for the relevant profiles does not have to be listed separately when ordering. Only the optional gap form has to be indicated when ordering, as shown in the order example.

**Synchronising pulley Al 70 AT10 -SE / 25 - 2 hub 65x6 d=30 H7 with groove**

Material	Al 70
Total width $B_N$	70
Type / pitch	AT10
Tooth gap design	-SE
Number of teeth	25
Number of flanges	2
Hub dimension $d_N \times l_N$	65x6
Bore	d=30 H7
Groove according to DIN 6885	with groove

### Contact surfaces between timing belt and synchronising pulley

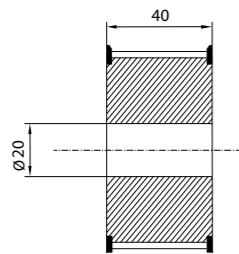


- $d_0$ : Pitch circle diameter
- $d_f$ : Root diameter
- $d_k$ : Pulley outside diameter

When using the standard order text, you will receive a product without a drawing, which matches the timing belt program with respect to function and quality.

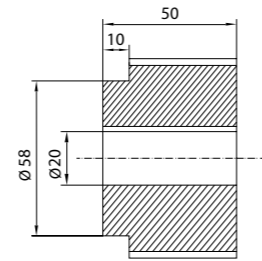
The order texts for various designs are listed in the following representations.

**Synchronising pulley without hub**



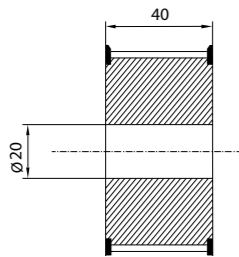
Synchronising pulley AI 40 AT10/24-2 d=20 H7

**Synchronising pulley with hub**



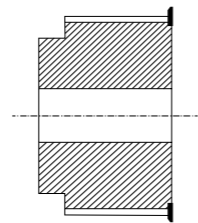
Synchronising pulley AI 50 AT10/24-0 hub Ø58x10 d=20 H7 with groove

**Synchronising pulley with 2 flanges**



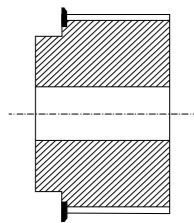
Synchronising pulley AI 40 AT10/24-2 d=20 H7

**Synchronising pulley with 1 flange opposite the hub side**



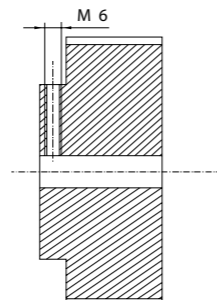
1 flange opposite the hub side: -1g

**Synchronising pulley with 1 flange on the hub side**



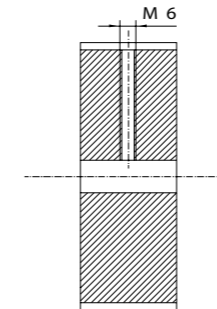
1 flange on the hub side: -1a

**Synchronising pulley with fastening bore**



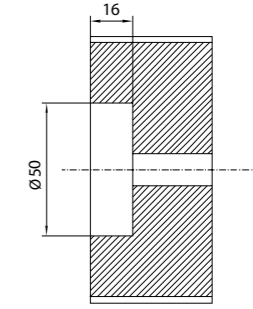
Threaded bore M6, centre, hub

**Synchronising pulley with fastening bore**



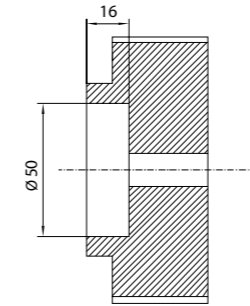
Threaded bore M6, centre tooth

**Synchronising pulley with turned groove**



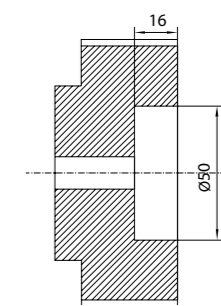
Turned groove Ø50x16 deep

**Synchronising pulley with turned groove**



Turned groove Ø50x16 deep hub side

**Synchronising pulley with turned groove**



Turned groove Ø50x16 deep opposite hub

**Further ordering codes:**

- Thread M4 centre of meshing on groove (opposite groove)
- Thread M4 centre of meshing in tooth gap (on tooth)
- Thread M4 centre of hub, 90° offset to groove
- 2 threads M4 centre of hub, 90° and 180° offset to groove

**Synchronising pulley AI 70 AT10 / 25 - 2 Hub 65x6 d=30 H7 with groove**

Material	AI 70
Total width $B_N$	25
Type / pitch	AT10
Number of teeth	2
Number of flanges	2
Hub dimension $d_N \times l_N$	65x6
Bore	d=30 H7
Groove according to DIN 6885	with groove

**Important information for the user of this catalogue**

Please note that the effective circular diameters  $d_0$  for synchronising pulleys and synchronising shafts represent theoretical values, while actual values form the basis in the online calculation program „belt pilot“.

**Flanges**

Zinc plated steel is used as the standard material. The user is to determine special executions.

Mounting is achieved by flaring or bolding the flange, depending on the tooth profile and number of teeth used.

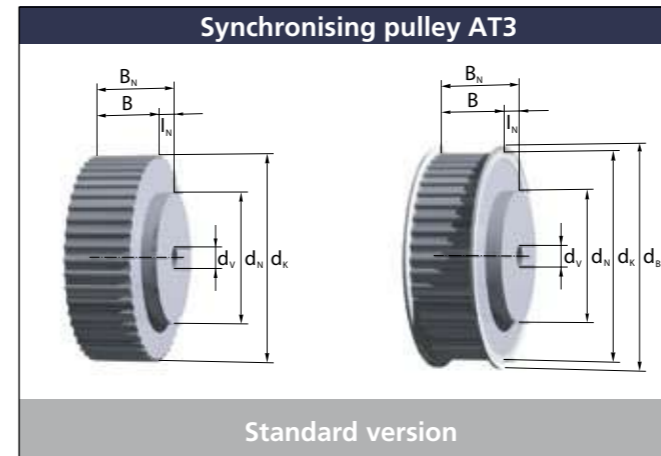
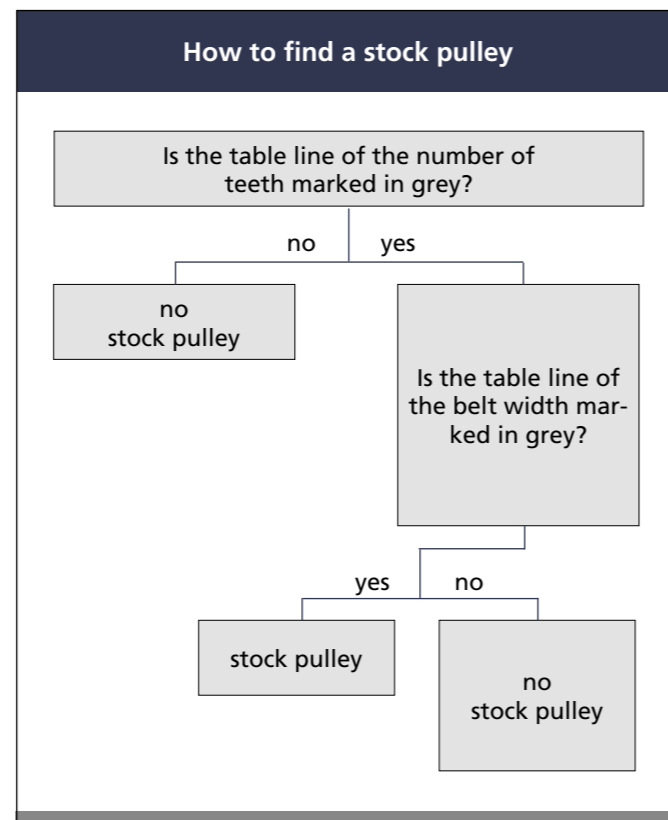
**Tolerances**

The centre borings made in H7, if there are no other requirements.

All not tolerated dimensions are manufactured in the tolerance class „medium“ according to DIN 7168.

**Designation**

- $z$  = Number of teeth
- $d_0$  = Pitch circle diameter
- $d_k$  = Pulley outside diameter
- $d_B$  = Flange diameter
- $d_v$  = Diameter of pre-bore
- $d_{max}$  = max. bore diameter without feather key groove for synchronising pulleys with flanges, with maximum pre-boring, no hub is required



z	$d_k$ [mm]	$d_0$ [mm]	$d_B$	Hub $d_N \times l_N$ [mm]	Pre-bore $d_v$	Bore (max.) $d_{max}$ [mm]
15	13,91	14,32	17	10x6	4H7	4
16	14,87	15,28	18	10x6	4H7	5
17	15,82	16,23	19	10x6	4H7	6
18	16,78	17,19	21	12x6	4H7	7
19	17,73	18,14	23	12x6	4H7	8
20	18,69	19,10	24	14x6	4H7	9
21	19,64	20,05	25	14x6	6H7	10
22	20,60	21,01	26	14x6	6H7	11
23	21,55	21,96	26	14x6	6H7	12
24	22,51	22,92	28	14x6	6H7	13
25	23,46	23,87	30	16x6	6H7	14
26	24,42	24,83	30	16x6	6H7	15
27	25,37	25,78	30	16x6	6H7	15
28	26,33	26,74	32	16x6	6H7	16
29	27,28	27,69	34	16x6	6H7	17
30	28,24	28,65	34	20x6	6H7	18
31	29,19	29,60	35	20x6	6H7	19
32	30,15	30,56	36	20x6	6H7	20
33	31,10	31,51	36	20x6	6H7	21
34	32,06	32,47	37	20x6	6H7	22
35	33,01	33,42	39	20x6	6H7	23
36	33,97	34,38	40	22x6	6H7	24
37	34,92	35,33	40	22x6	6H7	25
38	35,88	36,29	42	22x6	6H7	26
39	36,83	37,24	42	22x6	6H7	27
40	37,79	38,20	43	26x6	6H7	28
41	38,74	39,15	45	26x6	6H7	29
42	39,70	40,11	45	26x6	6H7	30
43	40,65	41,06	47	26x6	6H7	31
44	41,61	42,02	47	30x6	6H7	32
45	42,56	42,97	48	30x6	6H7	33
46	43,52	43,93	50	30x6	6H7	34
47	44,47	44,88	50	30x6	6H7	35
48	45,43	45,84	52	34x6	6H7	36

Type	Belt width b [mm]	Synchronising pulley width B [mm]	Total width $B_N$ [mm]
AT3	6	10	16
	10	15	21
	16	22	28
	25	32	38
	32	40	48

The AT3 stock pulleys are marked in grey. Stock pulleys up to  $z=40$  are supplied with flanges as standard, from  $z=44$  without flanges. Please contact our sales partner if you require intermediate widths, larger widths or other hub dimensions.

z	$d_k$ [mm]	$d_0$ [mm]	$d_B$	Hub $d_N \times l_N$ [mm]	Pre-bore $d_v$	Bore (max.) $d_{max}$ [mm]
49	46,38	46,79	52	34x6	6H7	36
50	47,34	47,75	53	34x6	6H7	37
51	48,29	48,70	53	34x6	6H7	38
52	49,25	49,66	55	34x6	6H7	39
53	50,20	50,61	55	34x6	6H7	40
54	51,16	51,57	56	34x6	6H7	41
55	52,11	52,52	58	34x6	6H7	42
56	53,07	53,48	58	34x6	6H7	43
57	54,02	54,43	60	34x6	6H7	44
58	54,98	55,39	60	34x6	6H7	45
59	55,93	56,34	61	34x6	6H7	46
60	56,89	57,30	62	38x6	6H7	47
61	57,84	58,25	64	38x6	6H7	48
62	58,80	59,21	64	38x6	6H7	49
63	59,75	60,16	66	38x6	6H7	50
64	60,71	61,12	66	38x6	6H7	51
65	61,66	62,07	68	38x6	6H7	52
66	62,62	63,03	68	38x6	6H7	53
67	63,57	63,98	70	38x6	6H7	54
68	64,53	64,94	70	38x6	6H7	55
69	65,48	65,89	72	38x6	6H7	56
70	66,44	66,85	72	38x6	6H7	57
71	67,39	67,80	74	38x6	6H7	58
72	68,34	68,75	74	50x6	6H7	58

**BRECO order example**

**Synchronising pulley AI 38 AT3 / 20 - 2 hub 14x6**

Material

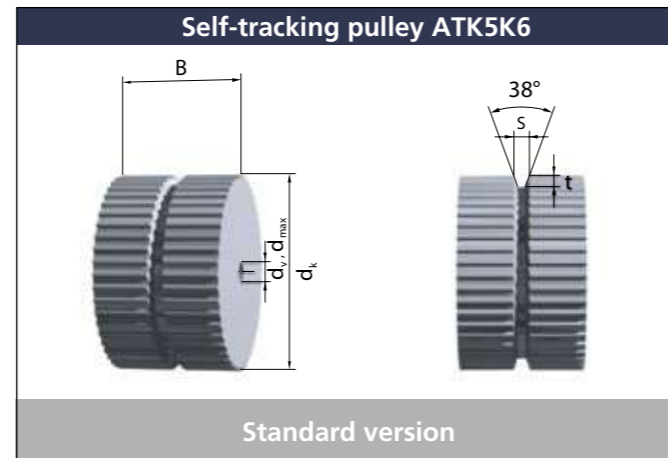
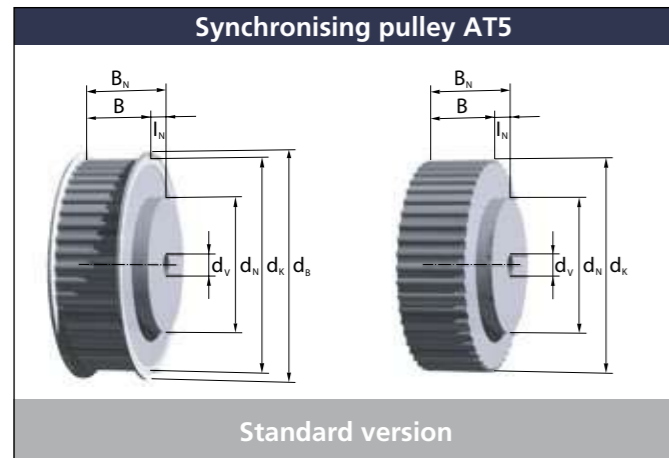
Total width  $B_N$

Type / pitch

Number of teeth

Number of flanges

Hub dimensions  $d_N \times l_N$



Type	Belt width b [mm]	Synchronising pulley width B [mm]	Total width B <sub>N</sub> [mm]
AT5	10	16	22
AT5	16	22	28
AT5	25	32	38
AT5	32	40	46
AT5	50	60	66
AT5	75	85	90
AT5	100	110	115
ATK5K6	32	37	-
ATK5K6	50	55	-
ATK5K6	75	80	-

K6	
s	t
6,5	5

The AT5 stock pulleys are marked in grey. Stock pulleys up to z=44 are supplied with flanges as standard, from z=48 without flanges. Self-tracking pulleys are production goods and only available from z=20.

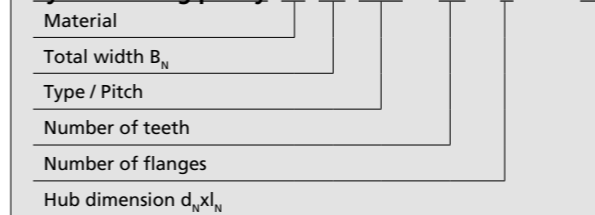
Please contact our sales partner if you require intermediate widths, larger widths or other hub dimensions.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]	
						AT5	ATK5K6
15	22,65	23,87	28	16x6	6H7	10	-
16	24,24	25,46	30	18x6	6H7	12	-
17	25,84	27,06	32	18x6	6H7	14	-
18	27,43	28,65	34	20x6	6H7	16	-
19	29,02	30,24	35	22x6	6H7	16	-
20	30,61	31,83	36	24x6	6H7	18	11
21	32,20	33,42	37	24x6	6H7	20	12
22	33,79	35,01	39	24x6	6H7	22	14
23	35,39	36,61	40	24x6	8H7	24	15
24	36,98	38,20	42	26x6	8H7	24	17
25	38,57	39,79	43	26x6	8H7	25	19
26	40,16	41,38	45	26x6	8H7	25	20
27	41,75	42,97	47	30x6	8H7	27	22
28	43,34	44,56	48	30x6	8H7	29	23
29	44,93	46,15	50	30x6	8H7	31	25
30	46,53	47,75	52	34x6	8H7	33	27
31	48,12	49,34	53	34x6	8H7	35	28
32	49,71	50,93	55	38x6	8H7	37	30
33	51,30	52,52	56	38x6	8H7	39	31
34	52,89	54,11	58	38x6	8H7	39	33
35	54,48	55,70	60	38x6	8H7	40	34
36	56,08	57,30	61	38x6	8H7	42	36
37	57,67	58,89	62	38x6	8H7	43	38
38	59,26	60,48	64	38x6	8H7	45	39
39	60,85	62,07	66	38x6	8H7	45	41
40	62,44	63,66	68	40x6	8H7	47	42
41	64,03	65,25	70	40x6	8H7	48	44
42	65,63	66,85	72	40x6	8H7	50	46

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]	
						AT5	ATK5K6
43	67,22	68,44	72	40x6	8H7	52	47
44	68,81	70,03	74	50x6	8H7	52	49
45	70,40	71,62	75	50x6	8H7	54	50
46	71,99	73,21	76	50x6	8H7	56	52
47	73,58	74,80	78	50x6	8H7	58	54
48	75,17	76,39	80	50x6	8H7	60	55
49	76,77	77,99	82	50x6	8H7	60	57
50	78,36	79,58	84	50x6	8H7	60	58
51	79,95	81,17	86	50x6	8H7	62	60
52	81,54	82,76	86	50x6	8H7	64	62
53	83,13	84,35	88	50x6	8H7	66	63
54	84,72	85,94	90	50x6	8H7	66	65
55	86,32	87,54	91	50x6	8H7	68	66
56	87,91	89,13	93	50x6	8H7	70	68
57	89,50	90,72	94	50x6	8H7	72	69
58	91,09	92,31	96	50x6	8H7	74	71
59	92,68	93,90	99	50x6	8H7	74	73
60	94,27	95,49	99	65x6	8H7	76	74
61	95,86	97,08	100	65x6	8H7	79	76
62	97,46	98,68	102	65x6	8H7	80	77
63	99,05	100,27	104	65x6	8H7	82	79
64	100,64	101,86	104	65x6	8H7	82	81
65	102,23	103,45	107	65x6	8H7	84	82
66	103,82	105,04	109	65x6	8H7	86	84
67	105,41	106,63	112	65x6	8H7	88	85
68	107,01	108,23	112	65x6	8H7	90	87
69	108,60	109,82	115	65x6	8H7	90	89
70	110,19	111,41	115	65x6	8H7	90	90
71	111,78	113,00	117	65x6	8H7	92	92
72	113,37	114,59	118	80x6	8H7	94	93

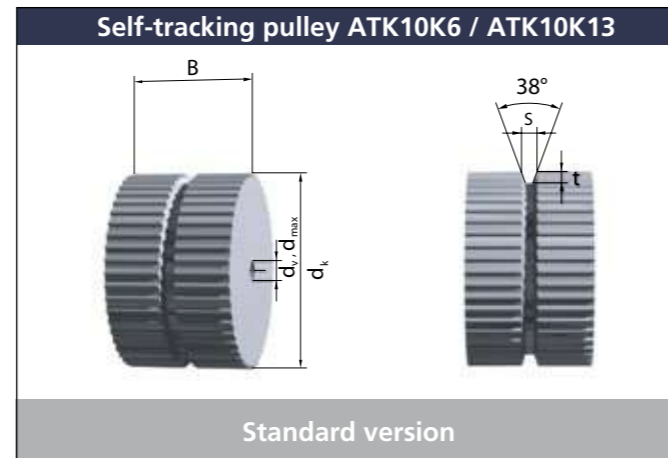
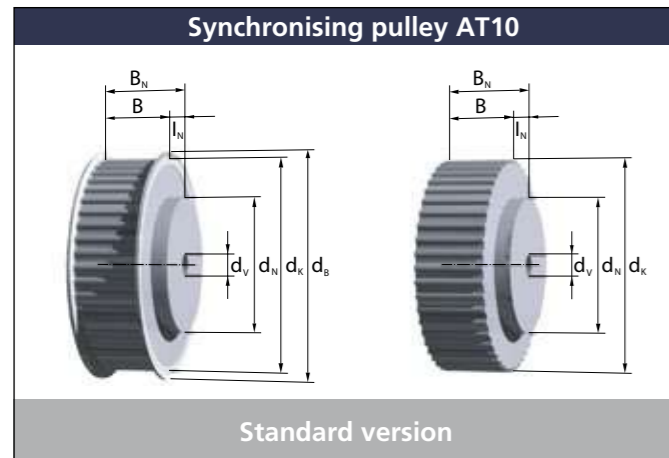
BRECO order example

**Synchronising pulley AI 28 AT5 / 60 - 0 Hub 65x6**



**Self-tracking pulley AI 55 ATK5K6 / 32 - d=15H7**





Type	Belt width b [mm]	Synchronising pulley width B [mm]	Total width B <sub>N</sub> [mm]
AT10	25	32	42
AT10	32	40	50
AT10	50	60	70
AT10	75	85	95
AT10	100	110	120
AT10	150	160	170
ATK10K6	50	55	-
ATK10K6	100	105	-
ATK10K13	32	40	-
ATK10K13	50	55	-
ATK10K13	75	80	-
ATK10K13	100	105	-
ATK10K13	150	155	-

K6		K13	
s	t	s	t
6,5	5	13,5	7,5

The AT10 stock pulleys are marked in grey. Stock pulleys up to z=44 are supplied with flanges as standard, from z=48 without flanges. Self-tracking pulleys are production goods and only available from z=20.

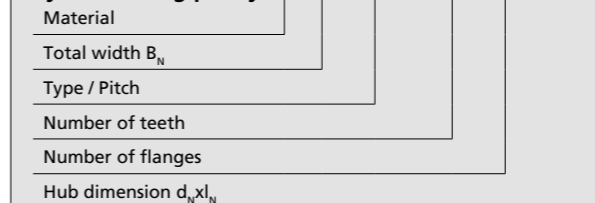
Please contact our sales partner if you require intermediate widths, larger widths or other hub dimensions.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]		
						AT10	ATK10 K6	ATK10 K13
15	45,93	47,75	52	32x10	8H7	34	-	-
16	49,11	50,93	55	35x10	8H7	36	-	-
17	52,29	54,11	58	40x10	8H7	40	-	-
18	55,48	57,30	61	40x10	8H7	44	-	-
19	58,66	60,48	64	44x10	8H7	46	-	-
20	61,84	63,66	68	46x10	12H7	50	42	37
21	65,03	66,85	72	46x10	12H7	52	45	40
22	68,21	70,03	74	50x10	12H7	56	48	43
23	71,39	73,21	76	50x10	12H7	60	51	46
24	74,57	76,39	80	58x10	12H7	62	55	50
25	77,76	79,58	84	60x10	12H7	66	58	53
26	80,94	82,76	86	60x10	12H7	68	61	56
27	84,12	85,94	90	60x10	12H7	72	64	59
28	87,31	89,13	93	60x10	12H7	76	67	62
29	90,49	92,31	96	60x10	12H7	78	70	65
30	93,67	95,49	99	60x10	12H7	82	74	69
31	96,86	98,68	102	60x10	12H7	84	77	72
32	100,04	101,86	106	65x10	12H7	88	80	75
33	103,22	105,04	109	65x10	12H7	88	83	78
34	106,41	108,23	112	65x10	12H7	92	86	81
35	109,59	111,41	115	65x10	12H7	96	90	85
36	112,77	114,59	118	70x10	16H7	98	93	88
37	115,95	117,77	121	70x10	16H7	101	96	91
38	119,14	120,96	125	70x10	16H7	104	99	94
39	122,32	124,14	128	70x10	16H7	106	102	97
40	125,50	127,32	131	80x10	16H7	110	106	101
41	128,69	130,51	134	80x10	16H7	110	109	104
42	131,87	133,69	137	80x10	16H7	112	112	107
43	135,05	136,87	140	80x10	16H7	114	115	110

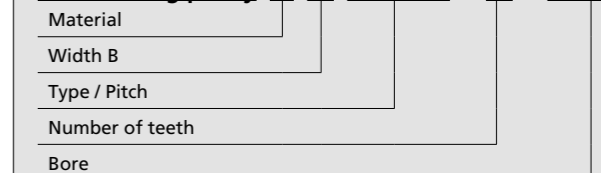
z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]		
						AT10	ATK10 K6	ATK10 K13
44	138,24	140,06	144	90x10	16H7	118	118	113
45	141,42	143,24	147	90x10	16H7	120	121	116
46	144,60	146,42	150	90x10	16H7	122	125	120
47	147,79	149,61	153	90x10	16H7	122	128	123
48	150,97	152,79	156	95x10	16H7	124	131	126
49	154,15	155,97	160	95x10	16H7	126	134	129
50	157,33	159,15	163	95x10	16H7	130	137	132
51	160,52	162,34	166	95x10	16H7	134	141	136
52	163,70	165,52	169	110x10	16H7	136	144	139
53	166,88	168,70	172	110x10	16H7	140	147	142
54	170,07	171,89	176	110x10	16H7	144	150	145
55	173,25	175,07	179	110x10	16H7	146	153	148
56	176,43	178,25	182	110x10	16H7	150	156	151
57	179,62	181,44	185	110x10	16H7	152	160	155
58	182,80	184,62	188	110x10	16H7	156	163	158
59	185,98	187,80	191	110x10	16H7	160	166	161
60	189,17	190,99	195	110x10	16H7	162	169	164
61	192,35	194,17	198	110x10	16H7	164	172	167
62	195,53	197,35	201	110x10	16H7	166	176	171
63	198,72	200,54	204	140x10	16H7	170	179	174
64	201,90	203,72	207	140x10	16H7	171	182	177
65	205,08	206,90	210	140x10	16H7	174	185	180
66	208,26	210,08	214	140x10	16H7	175	188	183
67	211,45	213,27	217	140x10	16H7	177	191	186
68	214,63	216,45	220	140x10	16H7	181	195	190
69	217,81	219,63	223	140x10	16H7	185	198	193
70	221,00	222,82	226	140x10	16H7	187	201	196
71	224,18	226,00	230	140x10	16H7	191	204	199
72	227,36	229,18	233	140x10	20H7	193	207	202

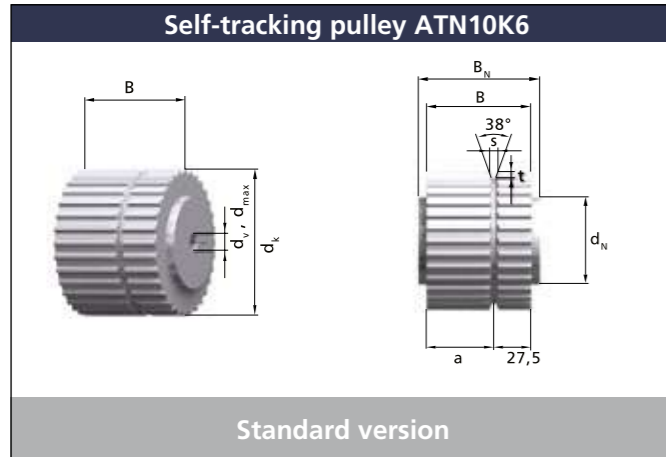
BRECO order example

**Synchronising pulley AI 50 AT10 / 20 - 2 Hub 46x10**



**Self-tracking pulley AI 50 ATK10K6 / 20 - d=15H7**





Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]	Tooth width a [mm]
ATN10K6	50	55	65	27,5
	75	80	90	52,5
	100	105	115	77,5

K6	
s	t
6,5	5

Do you need other hub dimensions?  
If so, feel free to contact our sales partner.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
20	61,84	63,66	46x5	12H7	44
21	65,03	66,85	46x5	12H7	47
22	68,21	70,03	50x5	12H7	51
23	71,39	73,21	50x5	12H7	53
24	74,57	76,39	58x5	12H7	56
25	77,76	79,58	60x5	12H7	59
26	80,94	82,76	60x5	12H7	62
27	84,12	85,94	60x5	12H7	66
28	87,31	89,13	60x5	12H7	69
29	90,49	92,31	60x5	12H7	72
30	93,67	95,49	60x5	12H7	75
31	96,86	98,68	60x5	12H7	78
32	100,04	101,86	65x5	12H7	82
33	103,22	105,04	65x5	12H7	85
34	106,41	108,23	65x5	12H7	88
35	109,59	111,41	65x5	12H7	91
36	112,77	114,59	70x5	16H7	94
37	115,95	117,77	70x5	16H7	98
38	119,14	120,96	70x5	16H7	101
39	122,32	124,14	70x5	16H7	104
40	125,50	127,32	80x5	16H7	109
41	128,69	130,51	80x5	16H7	112
42	131,87	133,69	80x5	16H7	115
43	135,05	136,87	80x5	16H7	118
44	138,24	140,06	90x5	16H7	122
45	141,42	143,24	90x5	16H7	123
46	144,60	146,42	90x5	16H7	126
47	147,79	149,61	90x5	16H7	129
48	150,97	152,79	95x5	16H7	132
49	154,15	155,97	95x5	16H7	136
50	157,33	159,15	95x5	16H7	139
51	160,52	162,34	95x5	16H7	142

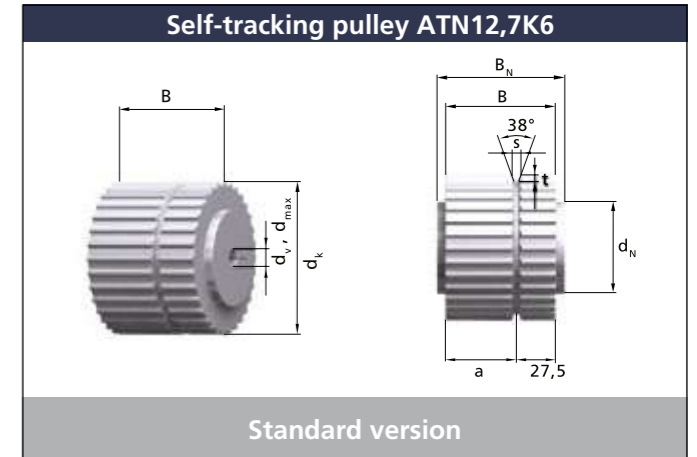
z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
52	163,70	165,52	110x5	16H7	145
53	166,88	168,70	110x5	16H7	148
54	170,07	171,89	110x5	16H7	152
55	173,25	175,07	110x5	16H7	155
56	176,43	178,25	110x5	16H7	158
57	179,62	181,44	110x5	16H7	161
58	182,80	184,62	110x5	16H7	164
59	185,98	187,80	110x5	16H7	167
60	189,17	190,99	110x5	16H7	171
61	192,35	194,17	110x5	16H7	174
62	195,53	197,35	110x5	16H7	177
63	198,72	200,54	140x5	16H7	181
64	201,90	203,72	140x5	16H7	183
65	205,08	206,90	140x5	16H7	187
66	208,26	210,08	140x5	16H7	190
67	211,45	213,27	140x5	16H7	193
68	214,63	216,45	140x5	16H7	196
69	217,81	219,63	140x5	16H7	201
70	221,00	222,82	140x5	16H7	203
71	224,18	226,00	140x5	16H7	206
72	227,36	229,18	140x5	20H7	209

BRECO order example  
**Self-tracking pulley AI 65 ATN10K6 / 32 - d=12H7**  
 Material \_\_\_\_\_  
 Total width B<sub>N</sub> \_\_\_\_\_  
 Type / Pitch \_\_\_\_\_  
 Number of teeth \_\_\_\_\_  
 Bore \_\_\_\_\_

Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]	Tooth width a [mm]
ATN12,7K6	50	55	65	27,5
	75	80	90	52,5
	100	105	115	77,5

K6	
s	t
6,5	5

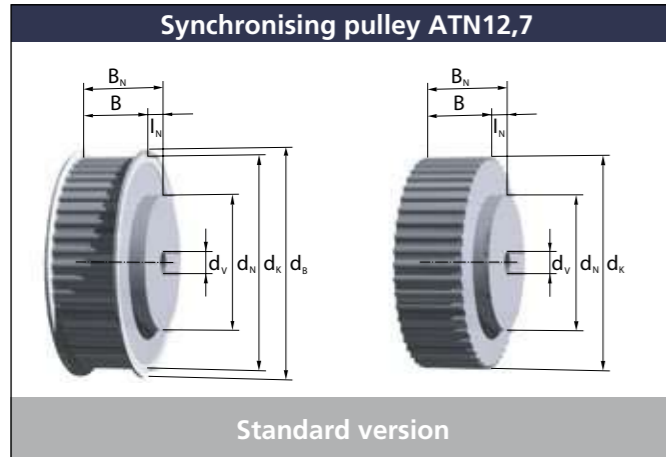
Do you need other hub dimensions?  
If so, feel free to contact our sales partner.



z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
20	79,03	80,85	46x5	12H7	59
21	83,07	84,89	46x5	12H7	63
22	87,12	88,94	46x5	12H7	67
23	91,16	92,98	50x5	12H7	71
24	95,20	97,02	58x5	12H7	75
25	99,24	101,06	58x5	12H7	79
26	103,29	105,11	58x5	12H7	83
27	107,33	109,15	58x5	12H7	87
28	111,37	113,19	60x5	12H7	91
29	115,41	117,23	60x5	12H7	95
30	119,46	121,28	60x5	12H7	99
31	123,50	125,32	60x5	12H7	103
32	127,54	129,36	60x5	12H7	107
33	131,58	133,40	60x5	12H7	111
34	135,63	137,45	60x5	12H7	115
35	139,67	141,49	60x5	12H7	119
36	143,71	145,53	60x5	16H7	123
37	147,75	149,57	60x5	16H7	127
38	151,80	153,62	60x5	16H7	131
39	155,84	157,66	60x5	16H7	135
40	159,88	161,70	60x5	16H7	139
41	163,92	165,74	60x5	16H7	143
42	167,97	169,79	60x5	16H7	147
43	172,01	173,83	60x5	16H7	152
44	176,05	177,87	60x5	16H7	156
45	180,09	181,91	90x5	16H7	160
46	184,14	185,96	90x5	16H7	164
47	188,18	190,00	90x5	16H7	168
48	192,22	194,04	110x5	16H7	172
49	196,26	198,08	110x5	16H7	176
50	200,31	202,13	110x5	16H7	180
51	204,35	206,17	110x5	16H7	184

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
52	208,39	210,21	110x5	16H7	188
53	212,43	214,25	110x5	16H7	192
54	216,48	218,30	110x5	16H7	196
55	220,52	222,34	110x5	16H7	200
56	224,56	226,38	110x5	16H7	204
57	228,60	230,42	110x5	16H7	208
58	232,65	234,47	110x5	16H7	212
59	236,69	238,51	110x5	16H7	216
60	240,73	242,55	110x5	16H7	220
61	244,77	246,59	110x5	16H7	224
62	248,82	250,64	110x5	16H7	228
63	252,86	254,68	110x5	16H7	232
64	256,90	258,72	110x5	16H7	236
65	260,94	262,76	110x5	16H7	240
66	264,99	266,81	110x5	16H7	244
67	269,03	270,85	110x5	16H7	249
68	273,07	274,89	110x5	16H7	253
69	277,11	278,93	110x5	16H7	257
70	281,16	282,98	110x5	16H7	261
71	285,20	287,02	110x5	16H7	265
72	289,24	291,06	110x5	16H7	269

BRECO order example  
**Self-tracking pulley AI 65 ATN12,7K6 / 32 - d=12H7**  
 Material \_\_\_\_\_  
 Total width B<sub>N</sub> \_\_\_\_\_  
 Type / Pitch \_\_\_\_\_  
 Number of teeth \_\_\_\_\_  
 Bore \_\_\_\_\_



Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
ATN12,7	25	32	42
	50	60	70
	75	85	95
	100	110	120

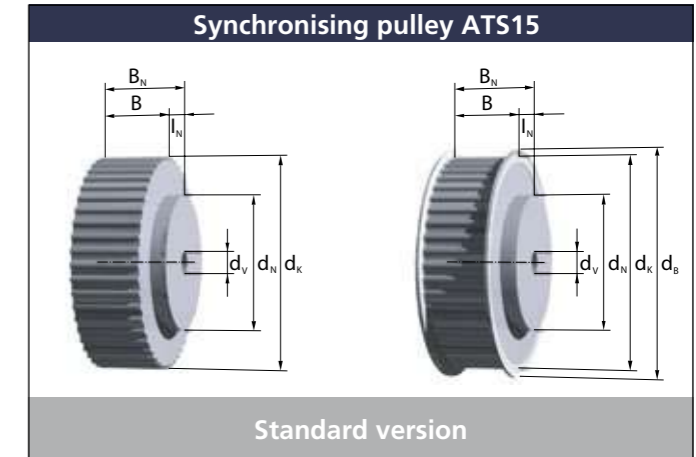
Only for ATN timing belts with pitch 12,7

Please contact us if you need other hub dimensions.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
20	79,03	80,85	86	46x10	12H7	67
21	83,07	84,89	90	46x10	12H7	71
22	87,12	88,94	93	46x10	12H7	75
23	91,16	92,98	96	50x10	12H7	79
24	95,20	97,02	102	58x10	12H7	83
25	99,24	101,06	105	58x10	12H7	87
26	103,29	105,11	110	58x10	12H7	91
27	107,33	109,15	113	58x10	12H7	95
28	111,37	113,19	117	60x10	12H7	99
29	115,41	117,23	121	60x10	12H7	103
30	119,46	121,28	126	60x10	12H7	107
31	123,50	125,32	129	60x10	12H7	111
32	127,54	129,36	134	60x10	12H7	116
33	131,58	133,40	137	60x10	12H7	120
34	135,63	137,45	142	60x10	12H7	124
35	139,67	141,49	145	60x10	12H7	128
36	143,71	145,53	150	60x10	16H7	132
37	147,75	149,57	153	60x10	16H7	134
38	151,80	153,62	158	60x10	16H7	136
39	155,84	157,66	161	60x10	16H7	140
40	159,88	161,70	166	60x10	16H7	146
41	163,92	165,74	171	60x10	16H7	152
42	167,97	169,79	174	60x10	16H7	154
43	172,01	173,83	179	60x10	16H7	158
44	176,05	177,87	182	60x10	16H7	162
45	180,09	181,91	185	90x10	16H7	164
46	184,14	185,96	191	90x10	16H7	170
47	188,18	190,00	195	90x10	16H7	174
48	192,22	194,04	198	110x10	16H7	178
49	196,26	198,08	201	110x10	16H7	180
50	200,31	202,13	207	110x10	16H7	186
51	204,35	206,17	210	110x10	16H7	190

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
52	208,39	210,21	214	110x10	16H7	194
53	212,43	214,25	217	110x10	16H7	196
54	216,48	218,30	223	110x10	16H7	200
55	220,52	222,34	226	110x10	16H7	204
56	224,56	226,38	230	110x10	16H7	208
57	228,60	230,42	236	110x10	16H7	214
58	232,65	234,47	239	110x10	16H7	217
59	236,69	238,51	242	110x10	16H7	220
60	240,73	242,55	245	110x10	16H7	223
61	244,77	246,59	252	110x10	16H7	231
62	248,82	250,64	255	110x10	16H7	233
63	252,86	254,68	258	110x10	16H7	236
64	256,90	258,72	261	110x10	16H7	239
65	260,94	262,76	268	110x10	16H7	246
66	264,99	266,81	271	110x10	16H7	249
67	269,03	270,85	274	110x10	16H7	252
68	273,07	274,89	280	110x10	16H7	258
69	277,11	278,93	284	110x10	16H7	262
70	281,16	282,98	287	110x10	16H7	265
71	285,20	287,02	290	110x10	16H7	268
72	289,24	291,06	296	110x10	16H7	261

**BRECO order example**  
**Synchronising pulley Al 95 ATN12,7 / 30 - 2 Hub 60x10**  
 Material \_\_\_\_\_  
 Total width B<sub>N</sub> \_\_\_\_\_  
 Type / Pitch \_\_\_\_\_  
 Number of teeth \_\_\_\_\_  
 Number of flanges \_\_\_\_\_  
 Hub dimension d<sub>N</sub>xI<sub>N</sub> \_\_\_\_\_

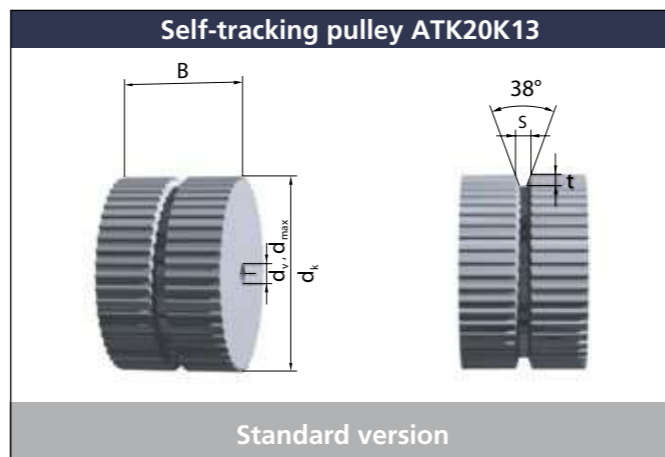
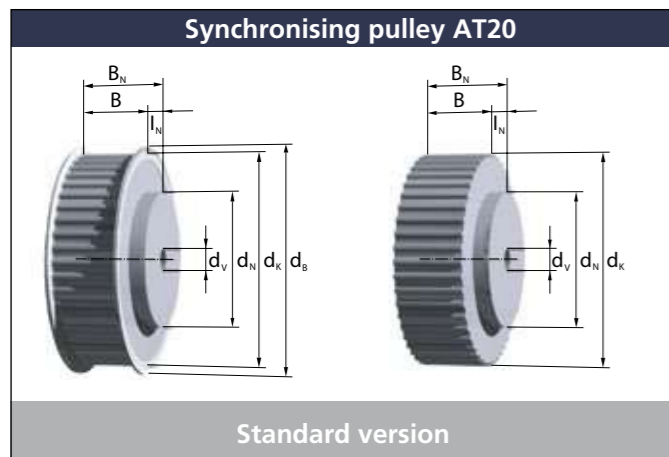


Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
ATS15	25	32	42
	32	40	50
	50	60	70
	75	85	95
	100	110	120
	150	160	170

Do you need other hub dimensions?  
 If so, feel free to contact our sales partner.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
25	116,79	119,37	125	50x10	12H7	90
26	121,56	124,14	128	50x10	12H7	93
27	126,34	128,92	134	50x10	12H7	99
28	131,11	133,69	137	58x10	12H7	102
29	135,88	138,46	144	58x10	12H7	109
30	140,66	143,24	147	60x10	12H7	112
31	145,43	148,01	153	60x10	12H7	118
32	150,21	152,79	156	65x10	12H7	121
33	154,98	157,56	163	65x10	12H7	128
34	159,76	162,34	166	65x10	16H7	131
35	164,53	167,11	172	65x10	16H7	137
36	169,31	171,89	176	70x10	16H7	141
37	174,08	176,66	182	70x10	16H7	147
38	178,86	181,44	185	70x10	16H7	150
39	183,63	186,21	191	70x10	16H7	156
40	188,41	190,99	195	80x10	16H7	160
41	193,18	195,76	201	110x10	16H7	166
42	197,95	200,54	204	110x10	16H7	169
43	202,73	205,31	210	140x10	16H7	176
44	207,50	210,08	214	140x10	16H7	179
45	212,28	214,86	220	140x10	16H7	185
46	217,05	219,63	223	140x10	16H7	188
47	221,83	224,41	230	140x10	16H7	195
48	226,60	229,18	234	140x10	16H7	198
49	231,38	233,96	239	140x10	16H7	204
50	236,15	238,73	242	140x10	16H7	207
51	240,93	243,51	249	140x10	16H7	214
52	245,70	248,28	252	140x10	16H7	217
53	250,48	253,06	258	160x10	20H7	223
54	255,25	257,83	262	160x10	20H7	226
55	260,03	262,61	268	160x10	20H7	233
56	264,80	267,38	271	160x10	20H7	236

**BRECO order example**  
**Synchronising pulley Al 70 ATS15 / 40 - 2 Hub 80x10**  
 Material \_\_\_\_\_  
 Total width B<sub>N</sub> \_\_\_\_\_  
 Type / Pitch \_\_\_\_\_  
 Number of teeth \_\_\_\_\_  
 Number of flanges \_\_\_\_\_  
 Hub dimension d<sub>N</sub>xI<sub>N</sub> \_\_\_\_\_



Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
AT20	32	40	50
AT20	50	60	70
AT20	75	85	95
AT20	100	110	120
ATK20K13	75	80	-
ATK20K13	100	105	-

K13	
s	t
13,5	7,5

Do you need other hub dimensions?  
If so, feel free to contact our sales partner.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]	
						AT20	ATK20 K13
18	111,77	114,59	121	70x10	12H7	86	-
19	118,14	120,96	128	80x10	12H7	93	-
20	124,50	127,32	134	90x10	16H7	100	94
21	130,87	133,69	140	90x10	16H7	105	100
22	137,24	140,06	147	90x10	16H7	112	107
23	143,60	146,42	153	90x10	16H7	118	113
24	149,97	152,79	160	95x10	16H7	125	119
25	156,33	159,15	166	95x10	16H7	131	126
26	162,70	165,52	172	95x10	16H7	137	132
27	169,07	171,89	179	110x10	16H7	144	139
28	175,43	178,25	185	110x10	16H7	150	145
29	181,80	184,62	192	110x10	16H7	156	151
30	188,17	190,99	198	110x10	16H7	163	158
31	194,53	197,35	204	110x10	16H7	169	164
32	200,90	203,72	210	110x10	16H7	175	170
33	207,26	210,08	217	110x10	16H7	182	177
34	213,63	216,45	223	110x10	16H7	188	183
35	220,00	222,82	229	110x10	16H7	195	190
36	226,36	229,18	236	110x10	18H7	201	196
37	232,73	235,55	242	110x10	18H7	207	202
38	239,10	241,92	249	110x10	18H7	214	209
39	245,46	248,28	255	110x10	18H7	220	215
40	251,83	254,65	261	110x10	18H7	226	221
41	258,19	261,01	268	130x10	18H7	233	228
42	264,56	267,38	274	130x10	18H7	239	234
43	270,93	273,75	280	130x10	18H7	245	240
44	277,29	280,11	287	130x10	18H7	252	247
45	283,66	286,48	293	130x10	18H7	258	253

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]	
						AT20	ATK20 K13
46	290,03	292,85	300	130x10	18H7	265	260
47	296,39	299,21	306	130x10	18H7	271	266
48	302,76	305,58	312	130x10	18H7	278	272
49	309,12	311,94	319	140x10	20H7	284	279
50	315,49	318,31	325	140x10	20H7	290	285
51	322,86	324,68	331	140x10	20H7	296	292
52	328,22	331,04	338	140x10	20H7	303	298
53	334,59	337,41	344	140x10	20H7	310	304
54	340,95	343,77	350	140x10	20H7	315	310
55	347,32	350,14	357	140x10	20H7	322	317
56	353,69	356,51	363	140x10	20H7	328	323
57	360,05	362,87	370	140x10	20H7	335	330
58	366,42	369,24	376	140x10	20H7	341	336
59	372,79	375,61	382	140x10	20H7	347	342
60	379,15	381,97	389	140x10	20H7	354	349
61	385,52	388,34	395	140x10	20H7	360	355
62	391,88	394,70	401	140x10	20H7	366	362
63	398,25	401,07	408	140x10	20H7	373	368
64	404,62	407,44	414	140x10	20H7	379	374
65	410,98	413,80	420	140x10	20H7	385	380
66	417,35	420,17	427	140x10	20H7	392	387
67	423,72	426,54	433	140x10	20H7	398	393
68	430,08	432,90	440	140x10	20H7	405	400
69	436,45	439,27	446	140x10	20H7	406	406
70	442,81	445,63	452	140x10	20H7	412	412
71	449,18	452,00	459	140x10	20H7	419	419
72	455,55	458,37	465	140x10	20H7	425	425

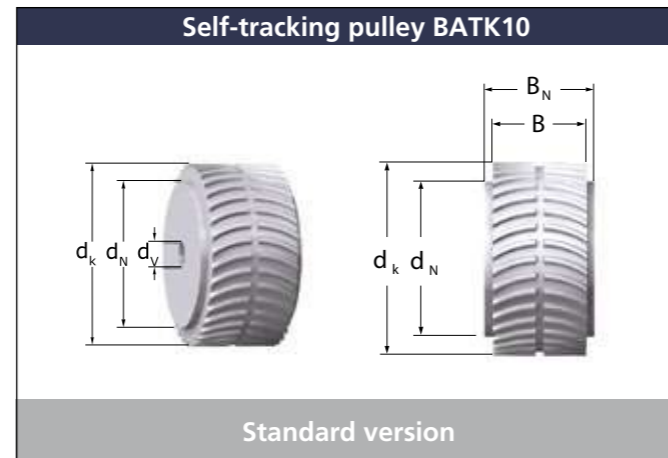
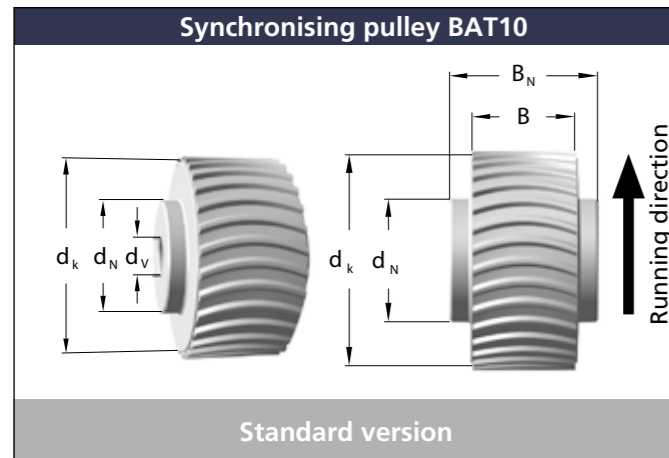
BRECO order example

**Synchronising pulley AI 70 AT20 / 35 - 2 Hub 110x10**

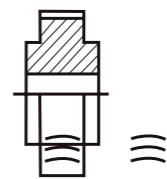
Material	AI 70
Total width B <sub>N</sub>	AT20 / 35
Type / Pitch	- 2
Number of teeth	Hub 110x10
Number of flanges	
Hub dimension d <sub>N</sub> xI <sub>N</sub>	

**Self-tracking pulley AI 80 ATK20K13 / 40 - d=18H7**

Material	AI 80
Width B	ATK20K13 / 40
Type / Pitch	- d=18H7
Number of teeth	
Bore	



Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
BAT10	25	30	40
BAT10	32	35	47
BAT10	50	55	65
BAT10	75	80	90
BAT10	100	105	115
BATK10	32	35	47
BATK10	50	55	65
BATK10	75	80	90
BATK10	100	105	115



Please state curve direction according to sketch in drawings!

Do you need other hub dimensions?  
If so, feel free to contact our sales partner.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
20	61,84	63,66	46x5	12H7	50
21	65,03	66,85	50x5	12H7	52
22	68,21	70,03	53x5	12H7	56
23	71,39	73,21	56x5	12H7	60
24	74,57	76,39	57x5	12H7	62
25	77,76	79,58	59x5	12H7	66
26	80,94	82,76	62x5	12H7	68
27	84,12	85,94	64x5	12H7	72
28	87,31	89,13	67x5	12H7	76
29	90,49	92,31	70x5	12H7	78
30	93,67	95,49	73x5	12H7	82
31	96,86	98,68	77x5	12H7	84
32	100,04	101,86	80x5	12H7	88
33	103,22	105,04	83x5	12H7	88
34	106,41	108,23	86x5	12H7	92
35	109,59	111,41	90x5	16H7	96
36	112,77	114,59	92x5	16H7	98
37	115,95	117,77	95x5	16H7	101
38	119,14	120,96	99x5	16H7	104
39	122,32	124,14	102x5	16H7	106
40	125,50	127,32	105x5	16H7	110
41	128,69	130,51	108x5	16H7	110
42	131,87	133,69	111x5	16H7	112
43	135,05	136,87	115x5	16H7	114
44	138,24	140,06	118x5	16H7	118
45	141,42	143,24	121x5	16H7	120
46	144,60	146,42	124x5	16H7	122
47	147,79	149,61	127x5	16H7	122
48	150,97	152,79	130x5	16H7	124

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
49	154,15	155,97	134x5	20H7	126
50	157,33	159,15	137x5	20H7	130
51	160,52	162,34	140x5	20H7	134
52	163,70	165,52	143x5	20H7	136
53	166,88	168,70	146x5	20H7	140
54	170,07	171,89	150x5	20H7	144
55	173,25	175,07	153x5	20H7	146
56	176,43	178,25	156x5	20H7	150
57	179,62	181,44	159x5	20H7	152
58	182,80	184,62	162x5	20H7	156
59	185,98	187,80	165x5	20H7	160
60	189,17	190,99	169x5	20H7	162
61	192,35	194,17	172x5	20H7	164
62	195,53	197,35	175x5	20H7	166
63	198,72	200,54	178x5	20H7	170
64	201,90	203,72	181x5	20H7	171
65	205,08	206,90	185x5	20H7	174
66	208,26	210,08	188x5	20H7	175
67	211,45	213,27	191x5	20H7	177
68	214,63	216,45	194x5	20H7	181
69	217,81	219,63	197x5	20H7	185
70	221,00	222,82	201x5	20H7	187
71	224,18	226,00	204x5	20H7	191
72	227,36	229,18	207x5	20H7	193

BRECO order example

**Synchronising pulley**

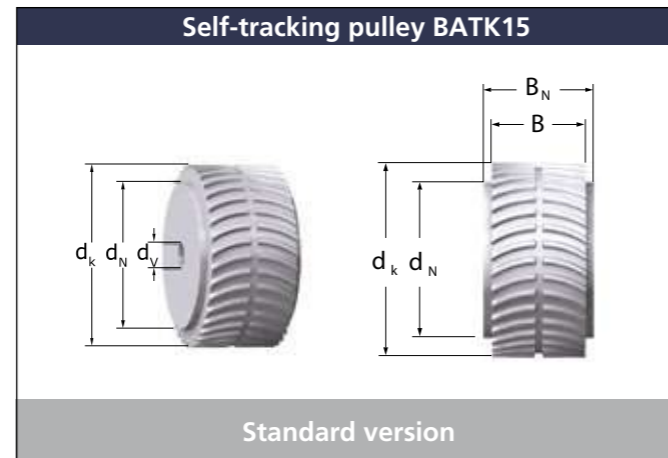
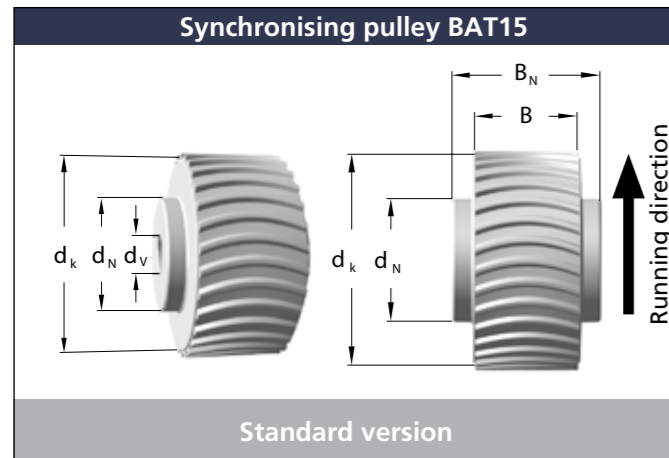
**Al 65 BAT10 / 32 Hub 80x5 d=30H7 with groove**

Material	
Total width B <sub>N</sub>	
Type / Pitch	
Number of teeth	
Hub dimension d <sub>N</sub> xI <sub>N</sub>	
Bore	
Groove according to DIN 6885	

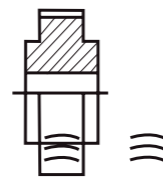
**Self-tracking pulley**

**Al 90 BATK10 / 34 Hub 86x5 d=30H7 with groove**

Material	
Total width B <sub>N</sub>	
Type / Pitch	
Number of teeth	
Hub dimension d <sub>N</sub> xI <sub>N</sub>	
Bore	
Groove according to DIN 6885	



Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
BAT15	50	55	65
BAT15	75	80	90
BAT15	100	105	115
BATK15	50	55	65
BATK15	75	80	90
BATK15	100	105	115



Please state curve direction according to sketch in drawings!

Do you need other hub dimensions?  
If so, feel free to contact our sales partner.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
20	93,01	95,49	60x5	12H7	58
21	97,79	100,27	60x5	12H7	63
22	102,56	105,04	65x5	12H7	68
23	107,34	109,82	65x5	12H7	72
24	112,11	114,59	70x5	16H7	77
25	116,89	119,37	80x5	16H7	82
26	121,66	124,14	80x5	16H7	87
27	126,44	128,92	80x5	16H7	91
28	131,21	133,69	80x5	16H7	96
29	135,98	138,46	80x5	16H7	101
30	140,76	143,24	90x5	16H7	106
31	154,53	148,01	90x5	16H7	111
32	150,31	152,79	95x5	16H7	115
33	155,08	157,56	95x5	16H7	120
34	159,86	162,34	95x5	16H7	125
35	164,63	167,11	95x5	16H7	130
36	169,41	171,89	100x5	16H7	134
37	174,18	176,66	100x5	16H7	139
38	178,96	181,44	100x5	16H7	144
39	183,73	186,21	100x5	16H7	149
40	188,51	190,99	110x5	16H7	154
41	193,28	195,76	110x5	16H7	158
42	198,06	200,53	110x5	16H7	163
43	202,83	205,31	110x5	16H7	168
44	207,60	210,08	110x5	16H7	173
45	212,38	214,86	110x5	16H7	177
46	217,15	219,63	140x5	16H7	182
47	221,93	224,41	140x5	16H7	187
48	226,70	229,18	140x5	16H7	192

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
49	231,48	233,96	140x5	16H7	196
50	236,25	238,73	140x5	16H7	201
51	241,03	243,51	140x5	16H7	206
52	245,80	248,28	140x5	16H7	211
53	250,58	253,06	160x5	16H7	216
54	255,35	257,83	160x5	16H7	220
55	260,13	262,61	160x5	16H7	225
56	264,90	267,36	160x5	16H7	230
57	269,67	272,15	160x5	16H7	235
58	274,45	276,93	160x5	16H7	239
59	279,22	281,70	160x5	16H7	244
60	284,00	286,48	160x5	16H7	249
61	288,77	291,25	160x5	16H7	254
62	293,55	296,03	160x5	16H7	259
63	298,32	300,80	160x5	16H7	263
64	303,10	305,58	160x5	16H7	268
65	307,87	310,35	160x5	16H7	273
66	312,65	315,13	160x5	16H7	278
67	317,42	319,90	160x5	16H7	282
68	322,20	324,68	160x5	16H7	287
69	326,97	329,45	160x5	16H7	292
70	331,75	334,22	160x5	16H7	297
71	336,52	339,00	160x5	16H7	302
72	341,29	343,77	160x5	16H7	306

BRECO order example

**Synchronising pulley**

**Al 75 BAT15 / 32 Hub 95x5 d=30H7 with groove**

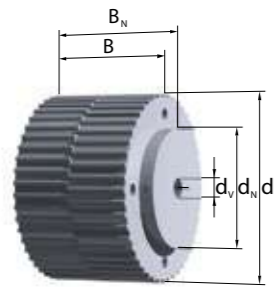
Material	
Total width B <sub>N</sub>	
Type / Pitch	
Number of teeth	
Hub dimension d <sub>N</sub> xl <sub>N</sub>	
Bore	
Groove according to DIN 6885	

**Self-tracking pulley**

**Al 75 BATK15 / 40 Hub 110x5 d=30H7 with groove**

Material	
Total width B <sub>N</sub>	
Type / Pitch	
Number of teeth	
Hub dimension d <sub>N</sub> xl <sub>N</sub>	
Bore	
Groove according to DIN 6885	

Synchronising pulley SFAT10



Standard version

Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
SFAT10	50	55	65
	75	80	90
	100	105	115

Please contact us if you need intermediate or larger widths or other hub dimensions.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
15	45,93	47,75	32x10	8H7	17
16	49,11	50,93	35x10	8H7	20
17	52,29	54,11	40x10	8H7	24
18	55,48	57,30	40x10	10H7	27
19	58,66	60,48	44x10	10H7	30
20	61,84	63,66	46x10	12H7	33
21	65,03	66,85	46x10	12H7	36
22	68,21	70,03	50x10	12H7	40
23	71,39	73,21	50x10	12H7	43
24	74,57	76,39	58x10	12H7	46
25	77,76	79,58	60x10	12H7	49
26	80,94	82,76	60x10	12H7	52
27	84,12	85,94	60x10	12H7	55
28	87,31	89,13	60x10	12H7	59
29	90,49	92,31	60x10	12H7	62
30	93,67	95,49	60x10	12H7	65
31	96,86	98,68	60x10	12H7	68
32	100,04	101,86	65x10	12H7	71
33	103,22	105,04	65x10	12H7	75
34	106,41	108,23	65x10	12H7	78
35	109,59	111,41	65x10	12H7	81
36	112,77	114,59	70x10	16H7	84
37	115,95	117,77	70x10	16H7	87
38	119,14	120,96	70x10	16H7	90
39	122,32	124,14	70x10	16H7	94
40	125,50	127,32	80x10	16H7	97
41	128,69	130,51	80x10	16H7	100
42	131,87	133,69	80x10	16H7	103
43	135,05	136,87	80x10	16H7	106
44	138,24	140,06	90x10	16H7	110
45	141,42	143,24	90x10	16H7	113
46	144,60	146,42	90x10	16H7	116
47	147,79	149,61	90x10	16H7	119

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
48	150,97	152,79	95x10	16H7	122
49	154,15	155,97	95x10	16H7	125
50	157,33	159,15	95x10	16H7	129
51	160,52	162,34	95x10	16H7	132
52	163,70	165,52	110x10	16H7	135
53	166,88	168,70	110x10	16H7	138
54	170,07	171,89	110x10	16H7	141
55	173,25	175,07	110x10	16H7	145
56	176,43	178,25	110x10	16H7	148
57	179,62	181,44	110x10	16H7	151
58	182,80	184,62	110x10	16H7	154
59	185,98	187,80	110x10	16H7	157
60	189,17	190,99	110x10	16H7	160
61	192,35	194,17	110x10	16H7	164
62	195,53	197,35	110x10	16H7	167
63	198,72	200,54	140x10	16H7	170
64	201,90	203,72	140x10	16H7	173
65	205,08	206,90	140x10	16H7	176
66	208,26	210,08	140x10	16H7	180
68	214,63	216,45	140x10	16H7	186
69	217,81	219,63	140x10	16H7	189
70	221,00	222,82	140x10	16H7	192
71	224,18	226,00	140x10	16H7	195
72	227,36	229,18	140x10	16H7	199

BRECO order example

**Synchronising pulley AI 90 SFAT10 / 55 - Hub 110x10**

Material \_\_\_\_\_

Total width B<sub>N</sub> \_\_\_\_\_

Type / Pitch \_\_\_\_\_

Number of teeth \_\_\_\_\_

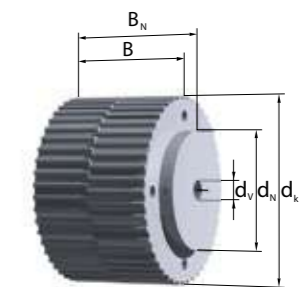
Hub dimension d<sub>N</sub>xI<sub>N</sub> \_\_\_\_\_

Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
SFAT15	50	55	65
	75	80	90
	100	105	115

Please contact us if you need intermediate or larger widths or other hub dimensions.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
20	93,01	95,49	60x10	12H7	58
21	97,79	100,27	60x10	12H7	63
22	102,56	105,04	65x10	12H7	68
23	107,34	109,82	65x10	12H7	72
24	112,11	114,59	70x10	12H7	77
25	116,89	119,37	80x10	12H7	82
26	121,66	124,14	80x10	12H7	87
27	126,44	128,92	80x10	12H7	91
28	131,21	133,69	80x10	12H7	96
29	135,98	138,46	80x10	12H7	101
30	140,76	143,24	90x10	12H7	106
31	145,53	148,01	90x10	12H7	111
32	150,31	152,79	95x10	12H7	115
33	155,08	157,56	95x10	16H7	120
34	159,86	162,34	95x10	16H7	125
35	164,63	167,11	95x10	16H7	130
36	169,41	171,89	100x10	16H7	134
37	174,18	176,66	100x10	16H7	139
38	178,96	181,44	100x10	16H7	144
39	183,73	186,21	100x10	16H7	149
40	188,51	190,99	110x10	16H7	154
41	193,28	195,76	110x10	16H7	158
42	198,05	200,54	110x10	16H7	163
43	202,83	205,31	110x10	16H7	168
44	207,60	210,08	110x10	16H7	173
45	212,38	214,86	110x10	16H7	177
46	217,15	219,63	140x10	16H7	182
47	221,93	224,41	140x10	16H7	187
48	226,70	229,18	140x10	16H7	192
49	231,48	233,96	140x10	16H7	196
50	236,25	238,73	140x10	16H7	201
51	241,03	243,51	140x10	16H7	206
52	245,80	248,28	140x10	16H7	211

Synchronising pulley SFAT15



Standard version

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
53	250,58	253,06	160x10	16H7	216
54	255,35	257,83	160x10	16H7	220
55	260,13	262,61	160x10	16H7	225
56	264,90	267,38	160x10	16H7	230
57	269,67	272,15	160x10	16H7	235
58	274,45	276,93	160x10	16H7	239
59	279,22	281,70	160x10	16H7	244
60	284,00	286,48	160x10	16H7	249
61	288,77	291,25	160x10	16H7	254
62	293,55	296,03	160x10	16H7	259
63	298,32	300,80	160x10	16H7	263
64	303,10	305,58	160x10	16H7	268
65	307,87	310,35	160x10	16H7	273
66	312,65	315,13	160x10	16H7	278
67	317,42	319,90	160x10	16H7	282
68	322,20	324,68	160x10	16H7	287
69	326,97	329,45	160x10	16H7	292
70	331,74	334,23	160x10	16H7	297
71	336,52	339,00	160x10	16H7	302
72	341,29	343,77	160x10	16H7	306

BRECO order example

**Synchronising pulley AI 70 SFAT15 / 40 - Hub 110x10**

Material \_\_\_\_\_

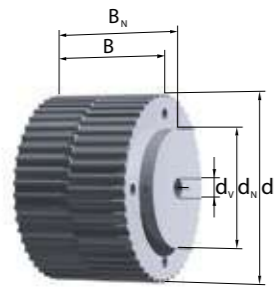
Total width B<sub>N</sub> \_\_\_\_\_

Type / Pitch \_\_\_\_\_

Number of teeth \_\_\_\_\_

Hub dimension d<sub>N</sub>xI<sub>N</sub> \_\_\_\_\_

## Synchronising pulley SFAT20



Standard version

Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
SFAT20	50	55	65
	75	80	90
	100	105	115

Please contact us if you need intermediate or larger widths or other hub dimensions.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
18	111,77	114,59	70x10	12H7	70
19	118,14	120,96	80x10	12H7	76
20	124,50	127,32	90x10	16H7	83
21	130,87	133,69	90x10	16H7	89
22	137,24	140,06	90x10	16H7	95
23	143,60	146,42	90x10	16H7	102
24	149,97	152,79	95x10	16H7	108
25	156,33	159,15	95x10	16H7	114
26	162,70	165,52	95x10	16H7	121
27	169,07	171,89	110x10	16H7	127
28	175,43	178,25	110x10	16H7	133
29	181,80	184,62	110x10	16H7	140
30	188,17	190,99	110x10	16H7	146
31	194,53	197,35	110x10	16H7	153
32	200,90	203,72	110x10	16H7	159
33	207,26	210,08	110x10	16H7	165
34	213,63	216,45	110x10	16H7	172
35	220,00	222,82	110x10	16H7	178
36	226,36	229,18	110x10	18H7	184
37	232,73	235,55	110x10	18H7	191
38	239,10	241,92	110x10	18H7	197
39	245,46	248,28	110x10	18H7	203
40	251,83	254,65	110x10	18H7	210
41	258,19	261,01	130x10	18H7	216
42	264,56	267,38	130x10	18H7	223
43	270,93	273,75	130x10	18H7	229
44	277,29	280,11	130x10	18H7	235
45	283,66	286,48	130x10	18H7	242
46	290,03	292,85	130x10	18H7	248
47	296,39	299,21	130x10	18H7	254
48	302,76	305,58	130x10	18H7	261
49	309,12	311,94	130x10	20H7	267
50	315,49	318,31	140x10	20H7	273

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]
51	321,86	324,68	140x10	20H7	280
52	328,22	331,04	140x10	20H7	286
53	334,59	337,41	140x10	20H7	293
54	340,95	343,77	140x10	20H7	299
55	347,32	350,14	140x10	20H7	305
56	353,69	356,51	140x10	20H7	312
57	360,05	362,87	140x10	20H7	318
58	366,42	369,24	140x10	20H7	324
59	372,79	375,61	140x10	20H7	331
60	379,15	381,97	140x10	20H7	337
61	385,52	388,34	140x10	20H7	344
62	391,88	394,70	140x10	20H7	350
63	398,25	401,07	140x10	20H7	356
64	404,62	407,44	140x10	20H7	363
65	410,98	413,80	140x10	20H7	369
66	417,35	420,17	140x10	20H7	375
67	423,72	426,54	140x10	20H7	382
68	430,08	432,90	140x10	20H7	388
69	436,45	439,27	140x10	20H7	394
70	442,81	445,63	140x10	20H7	401
71	449,18	452,00	140x10	20H7	407
72	455,55	458,37	140x10	20H7	414

## BRECO order example

**Synchronising pulley Al 90 SFAT20 / 45 - Hub 130x10**

Material

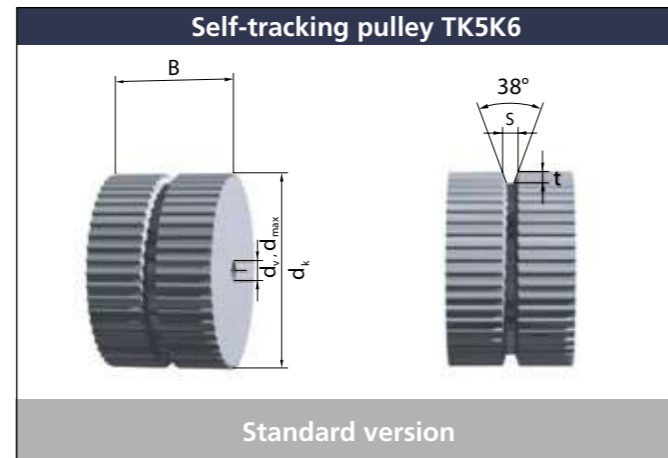
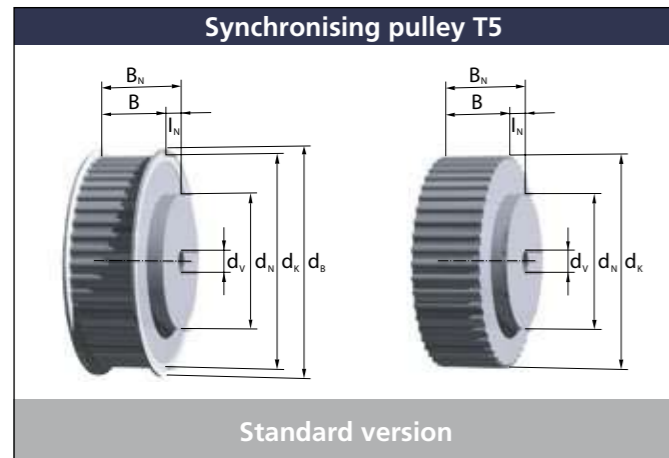
Total width B<sub>N</sub>

Type / Pitch

Number of teeth

Hub dimension d<sub>N</sub>xl<sub>N</sub>





Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
T5	6	12	18
T5	10	15	21
T5	16	21	27
T5	25	27	36
TK5K6	32	37	-
TK5K6	50	55	-

K6	
s	t
6,5	5

The T5 stock pulleys are marked in grey. Stock pulleys up to z=40 are supplied with flanges as standard, from z=48 without flanges. Self-tracking pulleys are production goods and only available from z=20.

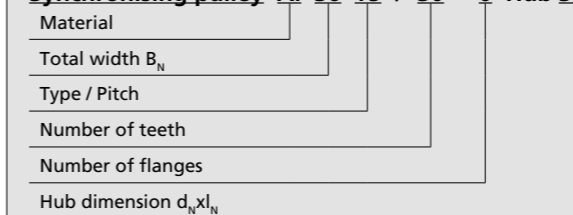
Please contact our sales partner if you require intermediate widths, larger widths or other hub dimensions.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]	
						T5	TK5K6
10	15,05	15,92	20	8x6	4H7	6	-
11	16,65	17,50	22	10x6	4H7	6	-
12	18,25	19,10	23	12x6	4H7	6	-
13	19,85	20,69	25	12x6	6H7	8	-
14	21,45	22,28	26	14x6	6H7	8	-
15	23,05	23,87	28	16x6	6H7	10	-
16	24,60	25,46	30	18x6	6H7	12	-
17	26,20	27,06	32	18x6	6H7	14	-
18	27,80	28,65	34	20x6	6H7	16	-
19	29,40	30,24	35	22x6	6H7	16	-
20	31,00	31,83	36	24x6	6H7	18	11
21	32,60	33,42	37	24x6	6H7	20	13
22	34,15	35,01	39	24x6	6H7	22	14
23	35,75	36,61	40	24x6	6H7	24	16
24	37,35	38,20	42	26x6	6H7	24	17
25	38,95	39,79	43	26x6	6H7	25	19
26	40,55	41,38	45	26x6	8H7	25	21
27	42,15	42,97	47	30x6	8H7	27	22
28	43,75	44,56	48	30x6	8H7	29	24
29	45,30	46,15	50	30x6	8H7	31	25
30	46,90	47,75	52	34x6	8H7	33	27
31	48,50	49,34	53	34x6	8H7	35	28
32	50,10	50,93	55	38x6	8H7	37	30
33	51,70	52,52	56	38x6	8H7	39	32
34	53,30	54,11	58	38x6	8H7	39	33
35	54,85	55,70	60	38x6	8H7	40	35
36	56,45	57,30	61	38x6	8H7	42	36
37	58,05	58,89	62	38x6	8H7	43	38
38	59,65	60,48	64	38x6	8H7	45	40
39	61,25	62,07	66	38x6	8H7	45	41
40	62,85	63,66	68	40x6	8H7	47	43

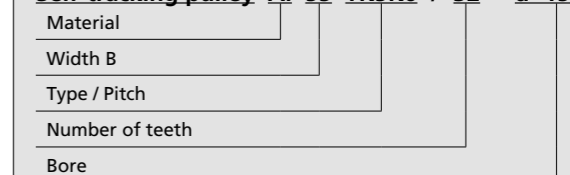
z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xI <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]	
						T5	TK5K6
41	64,40	65,25	70	40x6	8H7	48	44
42	66,00	66,85	72	40x6	8H7	50	46
43	67,60	68,44	72	40x6	8H7	52	48
44	69,20	70,03	74	40x6	8H7	52	49
45	70,80	71,62	75	40x6	8H7	54	51
46	72,40	73,21	76	40x6	8H7	56	52
47	73,95	74,80	78	40x6	8H7	58	54
48	75,55	76,39	80	50x6	8H7	60	56
49	77,15	77,99	82	50x6	8H7	60	57
50	78,75	79,58	84	50x6	8H7	60	59
51	80,35	81,17	86	50x6	8H7	62	60
52	81,95	82,76	86	50x6	8H7	64	62
53	83,55	84,35	88	50x6	8H7	66	63
54	85,10	85,94	90	50x6	8H7	66	65
55	86,70	87,54	91	50x6	8H7	68	67
56	88,30	89,13	93	50x6	8H7	70	68
57	89,90	90,72	94	50x6	8H7	72	70
58	91,50	92,31	96	50x6	8H7	74	71
59	93,10	93,90	99	50x6	8H7	74	73
60	94,65	95,49	99	65x6	8H7	76	75
61	96,25	97,08	100	65x6	8H7	79	76
62	97,85	98,68	102	65x6	8H7	80	78
63	99,45	100,27	104	65x6	8H7	82	79
64	101,05	101,86	105	65x6	8H7	82	81
65	102,65	103,45	107	65x6	8H7	84	83
66	104,20	105,04	109	65x6	8H7	86	84
67	105,80	106,63	112	65x6	8H7	88	86
68	107,40	108,23	112	65x6	8H7	90	87
69	109,00	109,82	115	65x6	8H7	90	89
70	110,60	111,41	115	65x6	8H7	90	91
71	112,20	113,00	117	65x6	8H7	92	92
72	113,75	114,59	118	80x6	10H7	94	94

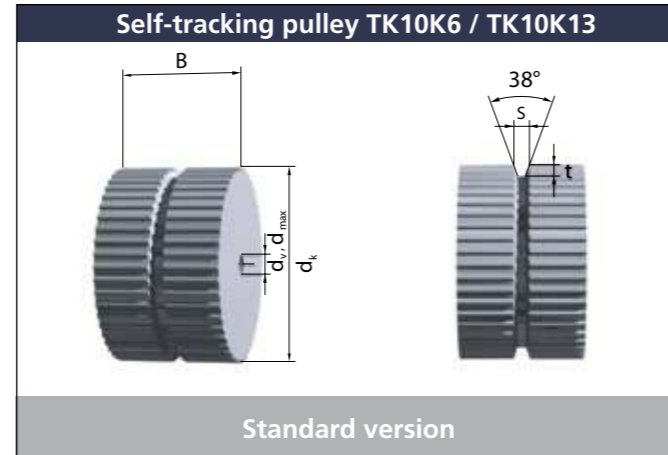
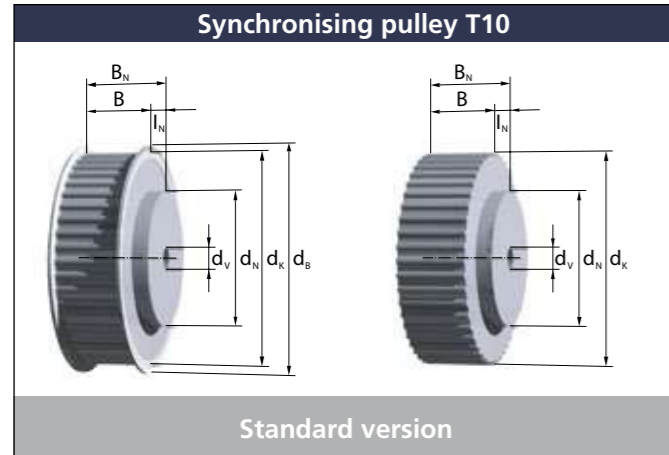
BRECO order example

**Synchronising pulley AI 36 T5 / 30 - 0 Hub 34x6**



**Self-tracking pulley AI 55 TK5K6 / 32 - d=15H7**





Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
T10	10	16	26
T10	16	21	31
T10	25	30	40
T10	32*	40	50
T10	50*	56	66
TK10K13	32	37	-
TK10K13	50	55	-
TK10K13	75	80	-
TK10K13	100	105	-
TK10K13	150	155	-
TK10K6	25	30	-
TK10K6	50	55	-

K6		K13	
s	t	s	t
6,5	5	13,5	7,5

The T10 stock pulleys are marked in grey. Stock pulleys up to z=40 are supplied with flanges as standard, from z=48 and without flanges. Self-tracking pulleys are production goods and only available from z=20.

Please contact our sales partner if you require intermediate widths, larger widths or other hub dimensions.

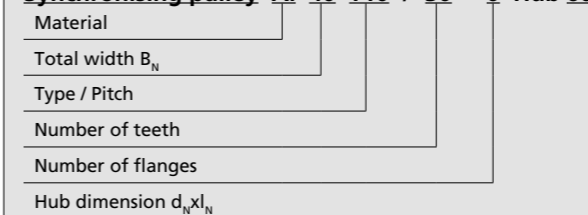
\* from z=18 available

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]		
						T10	TK10 K6	TK10 K13
12	36,35	38,20	42	28x10	6H7	24	-	-
13	39,55	41,38	45	28x10	6H7	26	-	-
14	42,70	44,56	48	32x10	8H7	30	-	-
15	45,90	47,75	52	32x10	8H7	34	-	-
16	49,10	50,93	55	35x10	8H7	36	-	-
17	52,25	54,11	58	35x10	8H7	40	-	-
18	55,45	57,30	61	40x10	10H7	44	-	-
19	58,65	60,48	64	44x10	10H7	46	-	-
20	61,80	63,66	68	46x10	12H7	50	42	37
21	65,00	66,85	72	46x10	12H7	52	45	40
22	68,20	70,03	74	50x10	12H7	56	48	43
23	71,35	73,21	76	50x10	12H7	60	51	46
24	74,55	76,39	80	58x10	12H7	62	55	50
25	77,75	79,58	84	60x10	12H7	66	58	53
26	80,90	82,76	86	60x10	12H7	68	61	56
27	84,10	85,94	90	60x10	12H7	72	64	59
28	87,25	89,13	93	60x10	12H7	76	67	62
29	90,45	92,31	96	60x10	12H7	78	70	65
30	93,65	95,49	99	60x10	12H7	82	74	69
31	96,80	98,68	102	60x10	12H7	84	77	72
32	100,00	101,86	106	65x10	12H7	88	80	75
33	103,20	105,04	109	65x10	12H7	88	83	78
34	106,35	108,23	112	65x10	12H7	92	86	81
35	109,55	111,41	115	65x10	16H7	96	90	85
36	112,75	114,59	118	70x10	16H7	98	93	88
37	115,90	117,77	121	70x10	16H7	101	96	91
38	119,10	120,96	125	70x10	16H7	104	99	94
39	122,30	124,14	128	70x10	16H7	106	102	97
40	125,45	127,32	131	80x10	16H7	110	105	100
41	128,65	130,51	134	80x10	16H7	110	109	104

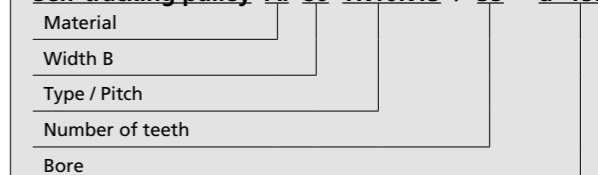
z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]		
						T10	TK10 K6	TK10 K13
42	131,85	133,69	137	80x10	16H7	112	112	107
43	135,00	136,87	140	80x10	16H7	114	115	110
44	138,20	140,06	144	90x10	16H7	118	118	113
45	141,40	143,24	147	90x10	16H7	120	121	116
46	144,50	146,42	150	90x10	16H7	122	125	120
47	147,75	149,61	153	90x10	16H7	122	128	123
48	150,95	152,79	156	95x10	16H7	124	131	126
49	154,10	155,97	160	95x10	16H7	126	134	129
50	157,30	159,15	163	95x10	16H7	130	137	132
51	160,50	162,34	166	95x10	16H7	134	140	135
52	163,65	165,52	169	95x10	16H7	136	144	139
53	166,85	168,70	172	95x10	16H7	140	147	142
54	170,05	171,89	176	110x10	16H7	144	150	145
55	173,20	175,07	179	110x10	16H7	146	153	148
56	176,40	178,25	182	110x10	16H7	150	156	151
57	179,60	181,44	185	110x10	16H7	152	160	155
58	182,75	184,62	188	110x10	16H7	156	163	158
59	185,95	187,80	191	110x10	16H7	160	166	161
60	189,15	190,99	195	110x10	16H7	162	169	164
61	192,30	194,17	198	110x10	16H7	164	172	167
62	195,50	197,35	201	110x10	16H7	166	176	171
63	198,70	200,54	204	140x10	16H7	170	179	174
64	201,85	203,72	207	140x10	16H7	171	182	177
65	205,05	206,90	210	140x10	16H7	174	185	180
66	208,25	210,08	214	140x10	16H7	175	188	183
67	211,40	213,27	217	140x10	16H7	177	191	186
68	214,60	216,45	220	140x10	16H7	181	195	190
69	217,80	219,63	223	140x10	16H7	185	198	193
70	220,95	222,82	226	140x10	16H7	187	201	196
71	224,15	226,00	230	140x10	16H7	191	204	199
72	227,35	229,18	233	140x10	16H7	193	207	202

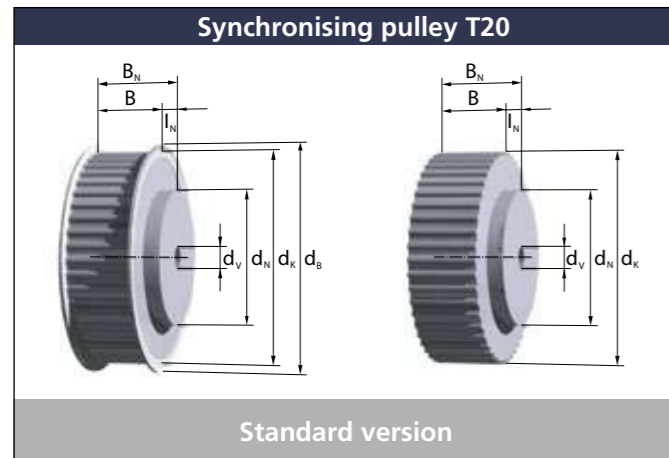
**BRECO order example**

**Synchronising pulley AI 40 T10 / 30 - 0 Hub 60x10**

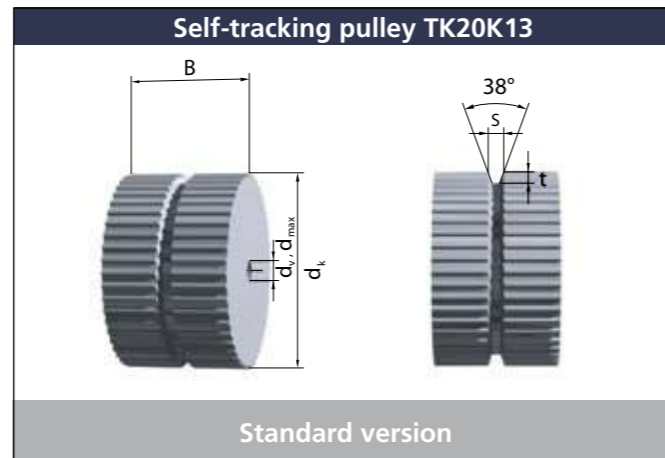


**Self-tracking pulley AI 80 TK10K13 / 35 - d=15H7**





Standard version



Standard version

Type	Belt width b [mm]	Pulley width B [mm]	Total width B <sub>N</sub> [mm]
T20	16	23	33
T20	25	32	42
T20	32	40	50
T20	50	60	70
T20	75	85	95
T20	100	110	120
TK20K13	50	55	-
TK20K13	75	80	-
TK20K13	100	105	-
TK20K13	150	155	-

K13	
s	t
13,5	7,5

Please contact us if you need intermediate or larger widths or other hub dimensions.

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]	
						T20	TK20 K13
15	92,65	95,49	102	60x10	12H7	67	62
16	99,00	101,86	109	70x10	12H7	74	69
17	105,35	108,23	115	70x10	12H7	80	75
18	111,75	114,59	121	70x10	12H7	86	91
19	118,10	120,96	128	80x10	12H7	93	98
20	124,45	127,32	134	90x10	16H7	100	94
21	130,85	133,69	140	90x10	16H7	105	100
22	137,20	140,06	147	90x10	16H7	112	107
23	143,55	146,42	153	90x10	16H7	118	113
24	149,95	152,79	160	95x10	16H7	125	119
25	156,30	159,15	166	95x10	16H7	131	126
26	162,65	165,52	172	95x10	16H7	137	132
27	169,05	171,89	179	110x10	16H7	144	139
28	175,40	178,25	185	110x10	16H7	150	145
29	181,75	184,62	192	110x10	16H7	156	151
30	188,15	190,99	198	110x10	16H7	163	158
31	194,50	197,35	204	110x10	16H7	169	164
32	200,85	203,72	210	110x10	16H7	175	170
33	207,25	210,08	217	110x10	16H7	182	177
34	213,60	216,45	223	110x10	16H7	188	183
35	219,95	222,82	229	110x10	16H7	195	190
36	226,35	229,18	236	110x10	18H7	201	196
37	232,70	235,55	242	110x10	18H7	207	202
38	239,05	241,92	249	110x10	18H7	214	209
39	245,40	248,28	255	110x10	18H7	220	215
40	251,80	254,65	261	110x10	18H7	226	221
41	258,15	261,01	268	130x10	18H7	233	228
42	264,50	267,38	274	130x10	18H7	239	234
43	270,90	273,75	280	130x10	18H7	245	240
44	277,25	280,11	287	130x10	18H7	252	247

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub>	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Pre-bore d <sub>v</sub>	Bore (max.) d <sub>max</sub> [mm]	
						T20	TK20 K13
45	283,60	286,48	293	130x10	18H7	258	253
46	290,00	292,85	300	130x10	18H7	265	260
47	296,35	299,21	306	130x10	18H7	271	266
48	302,70	305,58	312	130x10	18H7	278	272
49	309,10	311,94	319	130x10	20H7	284	279
50	315,45	318,31	325	140x10	20H7	290	285
51	321,80	324,68	331	140x10	20H7	296	292
52	328,20	331,04	338	140x10	20H7	303	298
53	334,55	337,41	344	140x10	20H7	310	304
54	340,90	343,77	350	140x10	20H7	315	310
55	347,30	350,14	357	140x10	20H7	322	317
56	353,65	356,51	363	140x10	20H7	328	323
57	360,00	362,87	370	140x10	20H7	335	330
58	366,40	369,24	376	140x10	20H7	341	336
59	372,75	375,61	382	140x10	20H7	347	342
60	379,10	381,97	389	140x10	20H7	354	349
61	385,50	388,34	395	140x10	20H7	360	355
62	391,85	394,70	401	140x10	20H7	366	362
63	398,20	401,07	408	140x10	20H7	373	368
64	404,55	407,44	414	140x10	20H7	379	374
65	410,95	413,80	420	140x10	20H7	385	380
66	417,30	420,17	427	140x10	20H7	392	387
67	423,65	426,54	433	140x10	20H7	398	393
68	430,05	432,90	440	140x10	20H7	405	400
69	436,40	439,27	446	140x10	20H7	406	406
70	442,75	445,63	452	140x10	20H7	412	412
71	449,15	452,00	459	140x10	20H7	419	419
72	455,50	458,37	465	140x10	20H7	425	425

BRECO order example

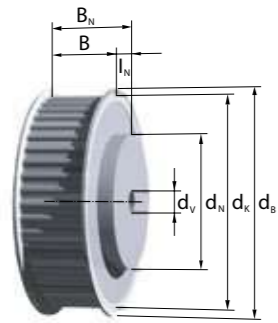
**Synchronising pulley AI 50 T20 / 30 - 2 Hub 110x10**

Material	AI
Total width B <sub>N</sub>	50
Type / Pitch	T20 / 30
Number of teeth	2
Number of flanges	2
Hub dimension d <sub>N</sub> xl <sub>N</sub>	110x10

**Self-tracking pulley AI 80 TK20K13 / 35 - d=16H7**

Material	AI
Width B	80
Type / Pitch	TK20K13 / 35
Number of teeth	d=16H7
Bore	

Synchronising pulley 5M



Standard version 6F

Belt width b=9 mm

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub> [mm]	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Total width B <sub>N</sub> (F) [mm]	Toothed width B <sub>N</sub> (L) [mm]	Pre-bore d <sub>v</sub>
12	17,96	19,10	23	13x5,5	20	14,5	4
14	21,14	22,28	26	13x5,5	20	14,5	6
15	22,73	23,87	28	16x5,5	20	14,5	6
16	24,32	25,46	30	16x5,5	20	14,5	6
18	27,51	28,65	34	19x5,5	20	14,5	6
20	30,69	31,83	36	23x8	22,5	14,5	6
22	33,87	35,01	39	25x8	22,5	14,5	6
24	37,06	38,20	42	27x8	22,5	14,5	6
26	40,24	41,38	45	30x8	22,5	14,5	6
28	43,42	44,56	48	30x8	22,5	14,5	6
30	46,60	47,75	52	35x8	22,5	14,5	6
32	49,79	50,93	55	38x8	22,5	14,5	6
36	56,16	57,30	61	38x8	22,5	14,5	8
40	62,52	63,66	68	38x8	22,5	14,5	8
44	68,89	70,03	74	38x11	25,5	14,5	8
48	75,25	76,39	80	45x11	25,5	14,5	8
60	94,35	95,49	99	60x11	25,5	14,5	8
72	113,45	114,59	118	80x11	25,5	14,5	8

Belt width b=15 mm

12	17,96	19,10	23	13x5,5	26	20,5	4
14	21,14	22,28	26	13x5,5	26	20,5	6
15	22,73	23,87	28	16x5,5	26	20,5	6
16	24,32	25,46	30	16x5,5	26	20,5	6
18	27,51	28,65	34	19x5,5	26	20,5	6
20	30,69	31,83	36	23x5,5	26	20,5	6
22	33,87	35,01	39	25x5,5	26	20,5	6
24	37,06	38,20	42	27x7,5	28	20,5	6
26	40,24	41,38	45	30x7,5	28	20,5	6
28	43,42	44,56	48	30x7,5	28	20,5	6
30	46,60	47,75	52	35x7,5	28	20,5	6

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub> [mm]	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Total width B <sub>N</sub> (F) [mm]	Toothed width B <sub>N</sub> (L) [mm]	Pre-bore d <sub>v</sub>
32	49,79	50,93	55	38x7,5	28	20,5	6
36	56,16	57,30	61	38x7,5	28	20,5	8
40	62,52	63,66	68	38x7,5	28	20,5	8
44	68,89	70,03	74	38x9,5	30	20,5	8
48	75,25	76,39	80	45x9,5	30	20,5	8
60	94,35	95,49	99	60x9,5	30	20,5	8
72	113,45	114,59	118	80x9,5	30	20,5	8

Belt width b=25 mm

12	17,96	19,10	23	13x5,5	36	30,5	4
14	21,14	22,28	26	13x5,5	36	30,5	6
15	22,73	23,87	28	16x5,5	36	30,5	6
16	24,32	25,46	30	16x5,5	36	30,5	6
18	27,51	28,65	34	19x5,5	36	30,5	6
20	30,69	31,83	36	23x5,5	36	30,5	6
22	33,87	35,01	39	25x7,5	38	30,5	6
24	37,06	38,20	42	27x7,5	38	30,5	6
26	40,24	41,38	45	30x7,5	38	30,5	6
28	43,42	44,56	48	30x7,5	38	30,5	6
30	46,60	47,75	52	35x7,5	38	30,5	6
32	49,79	50,93	55	38x7,5	38	30,5	6
36	56,16	57,30	61	38x7,5	38	30,5	8
40	62,52	63,66	68	38x7,5	38	30,5	8
44	68,89	70,03	74	38x9,5	40	30,5	8
48	75,25	76,39	80	45x9,5	40	30,5	8
60	94,35	95,49	99	60x9,5	40	30,5	8
72	113,45	114,59	118	80x9,5	40	30,5	8

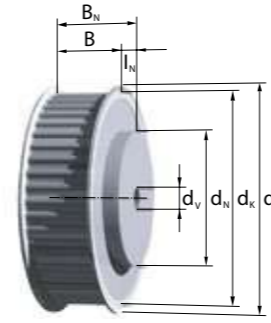
Material: Steel (C45)

Product name 28 - 5M - 09  
 Number of teeth  
 Pitch  
 Belt width

BRECO order example

Synchronising pulley St 22,5 - 5M / 28 - 2 Hub 30x8 d=6  
 Material  
 Total width B<sub>N</sub>  
 Type / Pitch  
 Number of teeth  
 Number of flanges  
 Hub dimension d<sub>N</sub>xl<sub>N</sub>  
 Bore

Synchronising pulley 8M



Standard version 6F

Belt width b=20 mm

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub> [mm]	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Total width B <sub>N</sub> (F) [mm]	Toothed width B <sub>N</sub> (L) [mm]	Pre-bore d <sub>v</sub>
22	54,65	56,02	60	43x10	38	28	12
24	59,75	61,12	66	45x10	38	28	12
26	64,84	66,21	71	50x10	38	28	12
28	70,08	71,30	75	50x10	38	28	15
30	75,13	76,39	83	55x10	38	28	15
32	80,16	81,49	87	60x10	38	28	15
34	85,22	86,58	91	70x10	38	28	15
36	90,30	91,67	98	70x10	38	28	15
38	95,39	96,77	103	75x10	38	28	15
40	100,49	101,86	106	75x10	38	28	15
44	110,67	112,05	119	75x10	38	28	15
48	120,86	122,23	127	75x10	38	28	15
56	141,23	142,60	148	80x10	38	28	15
64	161,6	162,97	168	80x10	38	28	15
72	181,97	183,35	192	80x10	38	28	15
80	202,35	203,72	210	90x10	38	28	15

Belt width b=50 mm

22	54,65	56,02	60	43x10	70	60	12
24	59,75	61,12	66	45x10	70	60	12
26	64,84	66,21	71	50x10	70	60	12
28	70,08	71,30	75	50x10	70	60	15
30	75,13	76,39	83	55x10	70	60	15
32	80,16	81,49	87	60x10	70	60	15
34	85,22	86,58	91	70x10	70	60	15
36	90,30	91,67	98	70x10	70	60	15
38	95,39	96,77	103	75x10	70	60	15
40	100,49	101,86	106	75x10	70	60	18
44	110,67	112,05	119	80x10	70	60	18
48	120,86	122,23	127	80x10	70	60	18
56	141,23	142,60	148	90x10	70	60	18

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub> [mm]	Hub d <sub>N</sub> xl <sub>N</sub> [mm]	Total width B <sub>N</sub> (F) [mm]	Toothed width B <sub>N</sub> (L) [mm]	Pre-bore d <sub>v</sub>
64	161,6	162,97	168	100x10	70	60	18
72	181,97	183,35	192	100x10	70	60	18
80	202,35	203,72	210	100x10	70	60	18

Belt width b=85 mm

22	54,65	56,02	60	43x10	105	95	12
24	59,75	61,12	66	45x10	105	95	12
26	64,84	66,21	71	50x10	105	95	12
28	70,08	71,30	75	50x10	105	95	15
30	75,13	76,39	83	55x10	105	95	15
32	80,16	81,49	87	60x10	105	95	15
34	85,22	86,58	91	70x10	105	95	15
36	90,30	91,67	98	70x10	105	95	15
38	95,39	96,77	103	75x10	105	95	15
40	100,49	101,86	106	75x10	105	95	18
44	110,67	112,05	119	75x10	105	95	18
48	120,86	122,23	127	80x10	105	95	18
56	141,23	142,60	148	90x10	105	95	20
64	161,60	162,97	168	100x10	105	95	20
72	181,97	183,35	192	100x10	105	95	20
80	202,35	203,72	210	110x10	105	95	20

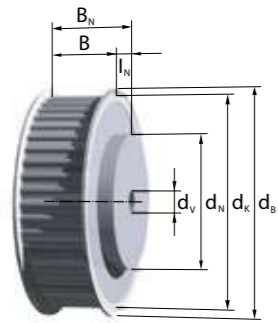
Material: Steel (C45)

Product name 38 - 8M - 20  
 Number of teeth  
 Pitch  
 Belt width

BRECO order example

Synchronising pulley St 48 - 8M / 38 - 2 Hub 75x10 d=15  
 Material  
 Total width B<sub>N</sub>  
 Type / Pitch  
 Number of teeth  
 Number of flanges  
 Hub dimension d<sub>N</sub>xl<sub>N</sub>  
 Bore

Synchronising pulley 14M



Standard version 6F

z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub> [mm]	Hub d <sub>N</sub> x l <sub>N</sub> [mm]	Total width B <sub>N</sub> (F) [mm]	Too- thed width B <sub>N</sub> (L) [mm]	Pre- bore d <sub>v</sub>
<b>Belt width b=85 mm</b>							
28	122,12	124,78	127	100x15	117	102	24
29	126,57	129,23	138	100x15	117	102	24
30	130,99	133,69	138	100x15	117	102	24
32	139,88	142,60	154	100x15	117	102	24
34	148,79	151,52	160	100x15	117	102	24
36	157,68	160,43	168	100x15	117	102	32
38	166,60	169,34	183	120x15	117	102	32
40	175,49	178,25	188	120x15	117	102	32
44	193,28	196,08	211	120x15	117	102	32
48	211,11	213,90	226	135x15	117	102	32
56	246,76	249,55	256	135x15	117	102	32
64	282,41	285,20	296	135x15	117	102	32
72	318,06	320,86	332	135x15	117	102	32
80	353,71	356,51	368	135x15	117	102	32

<b>Belt width b=40 mm</b>							
z	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	d <sub>B</sub> [mm]	Hub d <sub>N</sub> x l <sub>N</sub> [mm]	Total width B <sub>N</sub> (F) [mm]	Too- thed width B <sub>N</sub> (L) [mm]	Pre- bore d <sub>v</sub>
28	122,12	124,78	127	100x15	69	54	24
29	126,57	129,23	138	100x15	69	54	24
30	130,99	133,69	138	100x15	69	54	24
32	139,88	142,60	154	100x15	69	54	24
34	148,79	151,52	160	100x15	69	54	24
36	157,68	160,43	168	100x15	69	54	24
38	166,6	169,34	183	120x15	69	54	24
40	175,49	178,25	188	120x15	69	54	24
44	193,28	196,08	211	120x15	69	54	24
48	211,11	213,90	226	135x15	69	54	28
56	246,76	249,55	256	135x15	69	54	28
64	282,41	285,20	296	135x15	69	54	28
72	318,06	320,86	332	135x15	69	54	28
80	353,71	356,51	368	135x15	69	54	28
<b>Belt width b=55 mm</b>							
28	122,12	124,78	127	100x15	85	70	24
29	126,57	129,23	138	100x15	85	70	24
30	130,99	133,69	138	100x15	85	70	24
32	139,88	142,60	154	100x15	85	70	24
34	148,79	151,52	160	100x15	85	70	24
36	157,68	160,43	168	100x15	85	70	24
38	166,60	169,34	183	120x15	85	70	24
40	175,49	178,25	188	120x15	85	70	24
44	193,28	196,08	211	120x15	85	70	24
48	211,11	213,90	226	135x15	85	70	28
56	246,76	249,55	256	135x15	85	70	28
64	282,41	285,20	296	135x15	85	70	28
72	318,06	320,86	332	135x15	85	70	28
80	353,71	356,51	368	135x15	85	70	28

Material: Steel (C45)

Product name 30 - 14M - 85

Number of teeth

Pitch

Belt width

BRECO order example

Synchronising pulley St 117 - 14M / 30 - 2 Hub 100x15 d=24

Material

Total width B<sub>N</sub>

Type / Pitch

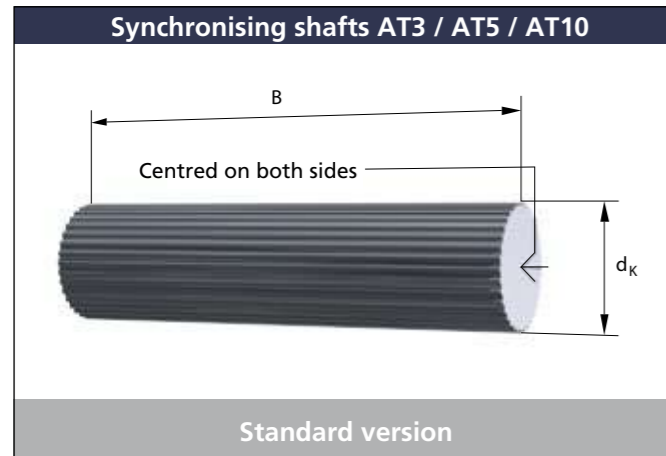
Number of teeth

Number of flanges

Hub dimension d<sub>N</sub> x l<sub>N</sub>

Bore





## BRECO order example

**Synchronising shaft Al 180 AT5 - SE / 48**

Material  
Width B  
Type / Pitch  
Gap design  
Number of teeth

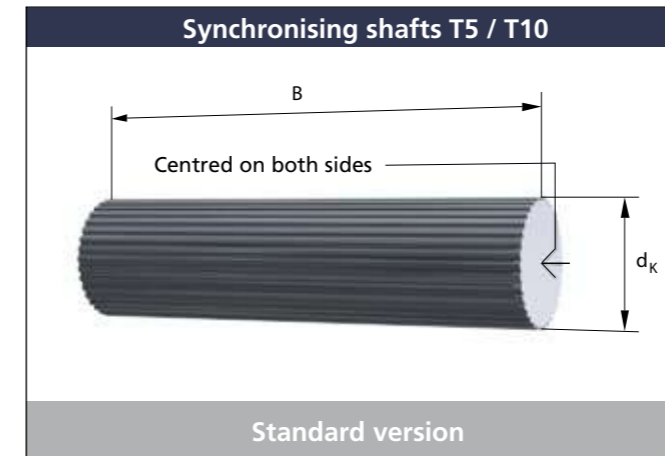
## Tooth gaps:

- Normal gap (Standard, without ordering addition)
- SE gap (ordering addition: -SE)
- Zero gap (ordering addition: -0)

## Material: AlCuMg1

The stock program is marked in grey. Further materials and numbers of teeth are available.

z	AT3			AT5			AT10		
	B	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	B	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	B	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]
15	100	13,91	14,32	150	22,65	23,87	180	45,93	47,75
16	100	14,87	15,28	150	24,24	25,46	180	49,11	50,93
18	100	16,78	17,19	150	27,43	28,65	180	55,48	57,30
19	100	17,73	18,14	150	29,02	30,24	180	58,66	60,48
20	150	18,69	19,10	180	30,61	31,83	180	61,84	63,66
22	150	20,60	21,01	180	33,79	35,01	180	68,21	70,03
24	150	22,51	22,92	180	36,98	38,20	180	74,57	76,39
25	150	23,46	23,87	180	38,57	39,79	180	77,76	79,58
27	180	25,37	25,78	180	41,75	42,97	180	84,12	85,94
28	180	26,33	26,74	180	43,34	44,56	180	87,31	89,13
30	180	28,24	28,65	180	46,53	47,75	180	93,67	95,49
32	180	30,15	30,56	180	49,71	50,93	180	100,04	101,86
36	180	33,97	34,38	180	56,08	57,30	180	112,77	114,59
40	180	37,79	38,20	180	62,44	63,66	180	125,50	127,32
44	180	41,61	42,02	180	68,81	70,03	180	138,24	140,06
48	180	45,43	45,84	180	75,17	76,39	180	150,97	152,79
60	180	56,89	57,30	180	94,27	95,49	180	189,17	190,99
72	180	68,34	68,75	180	113,37	114,59	180	227,36	229,18
100	180	95,08	95,49	180	157,93	159,15	180	316,49	318,31



## BRECO order example

**Synchronising shaft Al 180 T5 - SE / 48**

Material  
Width B  
Type / Pitch  
Gap design  
Number of teeth

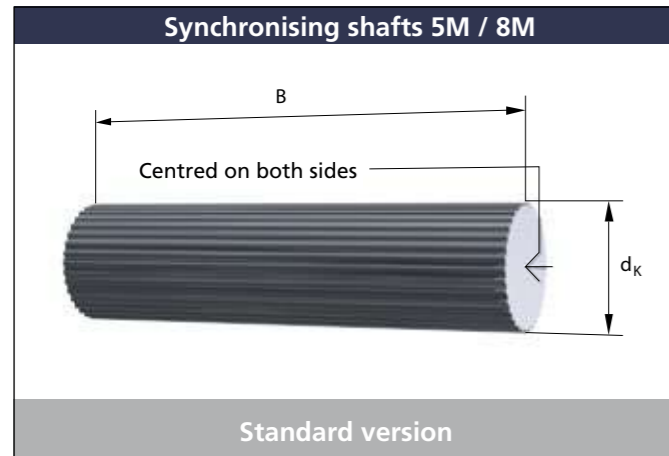
## Tooth gaps:

- Normal gap (Standard, without ordering addition)
- SE gap (ordering addition: -SE)
- Zero gap (ordering addition: -0)

## Material: AlCuMg1

The stock program is marked in grey. Further materials and numbers of teeth are available.

z	T5			T10		
	B	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	B	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]
12	150	18,25	19,10	180	36,35	38,20
14	150	21,45	22,28	180	42,70	44,56
15	150	23,05	23,87	180	45,90	47,75
16	150	24,60	25,46	180	49,10	50,93
18	180	27,80	28,65	180	55,45	57,30
19	180	29,40	30,24	180	58,65	60,48
20	180	31,00	31,83	180	61,80	63,66
22	180	34,15	35,01	180	68,20	70,03
24	180	37,35	38,20	180	74,55	76,39
25	180	38,95	39,79	180	77,75	79,58
27	180	42,15	42,97	180	84,10	85,94
30	180	46,90	47,75	180	93,65	95,49
32	180	50,10	50,93	180	100,00	101,86
36	180	56,45	57,30	180	112,75	114,59
40	180	62,85	63,66	180	125,45	127,32
48	180	75,55	76,39	180	150,95	152,79
60	180	94,65	95,49	180	189,15	190,99
72	180	113,25	114,59	180	227,35	229,18



BRECO order example

**Synchronising shaft Al 180 5M / 32**

Material

Width B

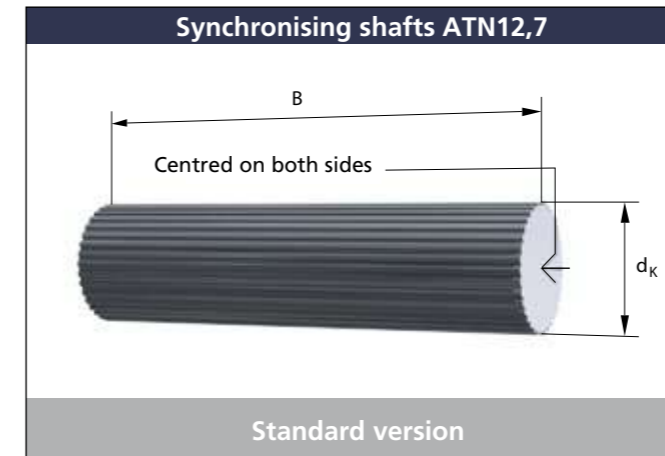
Type / Pitch

Number of teeth

**Material: AlCuMg1**

The stock program is marked in grey. Further materials and numbers of teeth are available.

z	5M			8M		
	B	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]	B	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]
20	180	30,69	31,83	-	-	-
24	180	37,06	38,20	180	59,75	61,12
25	180	38,65	39,79	180	62,29	63,66
27	180	41,83	42,97	180	67,38	68,75
30	180	46,60	47,75	180	75,13	76,39
32	180	49,79	50,93	180	80,16	81,49
36	180	56,16	57,30	180	90,30	91,67
40	180	62,52	63,66	180	100,49	101,86
48	180	75,25	76,39	180	120,86	122,23
60	180	94,35	95,49	180	151,42	152,79
72	180	113,45	114,59	180	181,97	183,35



BRECO order example

**Synchronising shaft Al 180 ATN12,7 - SE / 48**

Material

Width B

Type / Pitch

Tooth gap

Number of teeth

**Tooth gaps:**

- Normal gap (Standard, without ordering addition)
- SE gap (ordering addition: -SE)
- Zero gap (ordering addition: -0)

**Material: AlCuMg1**

The stock program is marked in grey. Further materials and numbers of teeth are available.

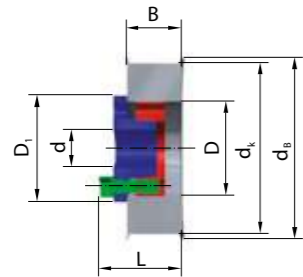
z	ATN12,7		
	B	d <sub>k</sub> [mm]	d <sub>0</sub> [mm]
20	180	79,03	80,85
24	180	95,20	97,02
25	180	99,24	101,06
27	180	107,33	109,15
30	180	119,46	121,28
32	180	127,54	129,36
36	180	143,71	145,53
40	180	159,88	161,70
48	180	192,22	194,04
60	180	240,73	242,55
72	180	289,24	291,06

Synchronising pulleys with tensioners



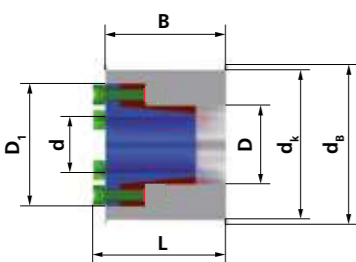
AT10 / T10

Synchronising pulleys with tensioners



Mounting arrangement 1

Synchronising pulleys with tensioners



Mounting arrangement 2

**Materials:**  
Synchronising pulley: aluminium (conformal with RoHS regulations)  
Tensioner: steel

**Number of flanges (optional): 0 / 1 / 2**

- Tooth gaps:**
- Normal gap (Standard, without ordering addition)
  - SE gap (ordering addition: -SE)
  - Zero gap (ordering addition: -0)

Belt width b = 25 mm, synchronising pulley width B = 32 mm							
z	AT10 dk [mm]	T10 dk [mm]	db [mm]	L <sub>max</sub> [mm]	D <sub>1</sub> [mm]	dxD [mm]	Mounting arrange- ment
18	55,48	55,45	61	58	45	15 x 24	1
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
19	58,66	58,65	64	58	45	15 x 24	1
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
20	61,84	61,80	68	53	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
22	68,21	68,20	74	53	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
24	74,57	74,55	80	53	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
25	77,76	77,75	84	53	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
27	84,12	84,10	90	53	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
					54	22 x 32	
					56	24 x 34	

Belt width b = 25 mm, synchronising pulley width B = 32 mm							
z	AT10 dk [mm]	T10 dk [mm]	db [mm]	L <sub>max</sub> [mm]	D <sub>1</sub> [mm]	dxD [mm]	Mounting arrange- ment
30	93,67	93,65	99	53	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
					54	22 x 32	
32	100,04	100,00	106	40	62	24 x 34	2
					62	25 x 35	
					62	28 x 38	
					62	30 x 40	
					62	32 x 42	
					62	35 x 45	
36	112,77	112,75	118	40	62	24 x 34	2
					62	25 x 35	
					62	28 x 38	
					62	30 x 40	
					62	32 x 42	
					62	35 x 45	
40	125,50	125,45	131	40	62	24 x 34	2
					62	25 x 35	
					62	28 x 38	
					62	30 x 40	
					62	32 x 42	
					62	35 x 45	

Belt width b = 25 mm, synchronising pulley width B = 32 mm							
z	AT10 dk [mm]	T10 dk [mm]	db [mm]	L <sub>max</sub> [mm]	D <sub>1</sub> [mm]	dxD [mm]	Mounting arrange- ment
44	138,24	130,20	144	40	62	18 x 55	2
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
					62	32 x 55	
					62	35 x 55	
48	150,97	150,95	156	40	62	18 x 55	2
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
					62	32 x 55	
					62	35 x 55	
60	189,17	189,15	195	40	62	18 x 55	2
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
					62	32 x 55	
					62	35 x 55	

BRECO order example

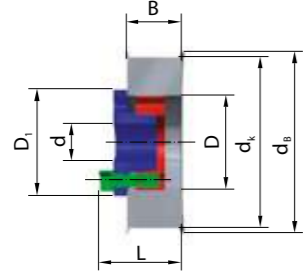
**Tensioner** **32** **AT10** - **SE** / **27** - **2** x **15**  
 Synchronising pulley width B  
 Type / Pitch  
 Tooth gap  
 Number of teeth  
 Number of flanges  
 Shaft diameter d

Synchronising pulleys with tensioners



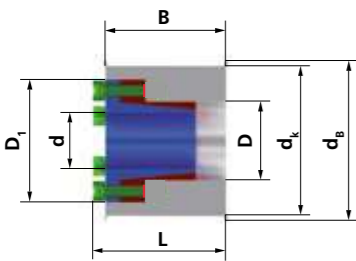
AT10 / T10

Synchronising pulleys with tensioners



Mounting arrangement 1

Synchronising pulleys with tensioners



Mounting arrangement 2

**Materials:**  
Synchronising pulley: aluminium (conformal with RoHS regulations)  
Tensioner: steel

**Number of flanges (optional): 0 / 1 / 2**

BRECO order example

<b>Tensioner</b>	<b>40</b>	<b>AT10</b>	<b>- SE</b>	<b>/ 27</b>	<b>- 2</b>	<b>× 18</b>
Synchronising pulley width B						
Type / Pitch						
Tooth gap						
Number of teeth						
Number of flanges						
Shaft diameter d						

Belt width b = 32 mm, synchronising pulley width B = 40 mm							
z	AT10 d <sub>k</sub> [mm]	T10 d <sub>k</sub> [mm]	d <sub>B</sub> [mm]	L <sub>max</sub> [mm]	D <sub>1</sub> [mm]	d×D [mm]	Mounting arrangement
15	45,93	45,90	52	66	45	15 x 24	1
					45	16 x 24	
					47	18 x 26	
16	49,11	49,10	55	66	45	15 x 24	1
					45	16 x 24	
					47	18 x 26	
18	55,48	55,45	61	66	45	15 x 24	1
					45	16 x 24	
					47	18 x 26	
19	58,66	58,65	64	66	45	15 x 24	1
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
20	61,84	61,80	68	56	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
22	68,21	68,20	74	56	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
					54	22 x 32	
24	74,57	74,55	80	56	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
					54	22 x 32	
					56	24 x 34	
					56	24 x 34	
25	77,76	77,75	84	56	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
					54	22 x 32	
27	84,12	84,10	90	56	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
					54	22 x 32	

Belt width b = 32 mm, synchronising pulley width B = 40 mm							
z	AT10 d <sub>k</sub> [mm]	T10 d <sub>k</sub> [mm]	d <sub>B</sub> [mm]	L <sub>max</sub> [mm]	D <sub>1</sub> [mm]	d×D [mm]	Mounting arrangement
30	93,67	93,65	99	56	45	15 x 24	2
					45	16 x 24	
					47	18 x 26	
					49	19 x 27	
					50	20 x 28	
32	100,04	100,00	106	48	62	14 x 55	2
					62	16 x 55	
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
36	112,77	112,75	118	48	62	14 x 55	2
					62	16 x 55	
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
40	125,5	125,45	131	48	62	14 x 55	2
					62	16 x 55	
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	

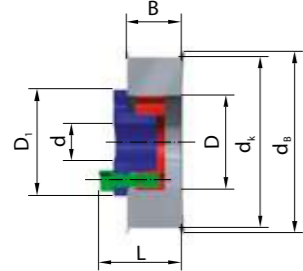
Belt width b = 32 mm, synchronising pulley width B = 40 mm							
z	AT10 d <sub>k</sub> [mm]	T10 d <sub>k</sub> [mm]	d <sub>B</sub> [mm]	L <sub>max</sub> [mm]	D <sub>1</sub> [mm]	d×D [mm]	Mounting arrangement
40	125,50	125,45	131	48	72	32 x 65	2
					72	35 x 65	
					72	38 x 65	
					72	40 x 65	
44	138,24	138,20	144	48	62	14 x 55	2
					62	16 x 55	
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
48	150,97	150,95	156	48	62	14 x 55	2
					62	16 x 55	
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
60	189,17	189,15	195	48	62	14 x 55	2
					62	16 x 55	
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	

Synchronising pulleys with tensioners



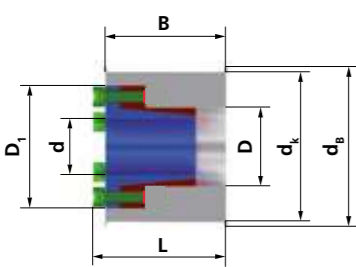
AT10 / T10

Synchronising pulleys with tensioners



Mounting arrangement 1

Synchronising pulleys with tensioners



Mounting arrangement 2

**Materials:**  
Synchronising pulley: aluminium (conformal with RoHS regulations)  
Tensioner: steel

**Number of flanges (optional): 0 / 1 / 2**

- Tooth gaps:**
- Normal gap (Standard, without ordering addition)
  - SE gap (ordering addition: -SE)
  - Zero gap (ordering addition: -0)

Belt width b = 50 mm, synchronising pulley width B = 56mm							
z	AT10 dk [mm]	T10 dk [mm]	db [mm]	L <sub>max</sub> [mm]	D <sub>1</sub> [mm]	dxD [mm]	Mounting arrangement
20	61,84	61,80	68	72	62	16 x 55	1
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
22	68,21	68,20	74	72	62	16 x 55	1
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	16 x 55	
					62	18 x 55	
24	74,57	74,55	80	72	62	16 x 55	1
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
25	77,76	77,75	84	64	62	16 x 55	2
					62	18 x 55	
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					56	24 x 55	
					44	16 x 55	
					47	18 x 55	
27	84,12	84,10	90	64	48	19 x 55	2
					49	20 x 55	
					54	22 x 55	
					56	24 x 55	
					56	24 x 55	
30	93,67	93,65	99	64	44	14 x 55	2
					44	16 x 55	
					47	18 x 55	
					48	19 x 55	
					49	20 x 55	
					54	22 x 55	
					56	24 x 55	
					56	24 x 55	
32	100,04	100,00	106	64	62	18 x 55	2
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
					72	32 x 65	
					72	35 x 65	
					72	38 x 65	
					72	40 x 65	

Belt width b = 50 mm, synchronising pulley width B = 56mm							
z	AT10 dk [mm]	T10 dk [mm]	db [mm]	L <sub>max</sub> [mm]	D <sub>1</sub> [mm]	dxD [mm]	Mounting arrangement
36	112,77	112,75	118	64	62	18 x 55	2
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					72	32 x 65	
					72	35 x 65	
					72	38 x 65	
					72	40 x 65	
					40	125,50	
62	19 x 55						
62	20 x 55						
62	22 x 55						
62	24 x 55						
62	25 x 55						
62	28 x 55						
72	32 x 65						
72	35 x 65						
72	38 x 65						
72	40 x 65						
44	138,24	138,20	144	64			62
					62	19 x 55	
					62	20 x 55	
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
					72	32 x 65	
					72	35 x 65	
					72	38 x 65	
					48	150,97	150,95
62	22 x 55						
62	24 x 55						
62	25 x 55						
62	28 x 55						
62	30 x 55						
62	30 x 55						
72	32 x 65						
72	35 x 65						
72	38 x 65						
72	40 x 65						

Belt width b = 50 mm, synchronising pulley width B = 56mm							
z	AT10 dk [mm]	T10 dk [mm]	db [mm]	L <sub>max</sub> [mm]	D <sub>1</sub> [mm]	dxD [mm]	Mounting arrangement
60	189,17	189,15	195	64	62	20 x 55	2
					62	22 x 55	
					62	24 x 55	
					62	25 x 55	
					62	28 x 55	
					62	30 x 55	
					72	32 x 65	
					72	35 x 65	
					72	38 x 65	
					72	40 x 65	

**BRECO order example**

**Tensioner** 56 AT10 - SE / 32 - 2 x 25

Synchronising pulley width B

Type / Pitch

Tooth gap

Number of teethe

Number of flanges

Shaft diameter d



Application	D <sub>1</sub> [mm]	dxD [mm]	Torque M <sub>T</sub> [Nm]	Axial force F <sub>A</sub> [kN]	Surface pressure		Clamping screws	
					Shaft	Hub	DIN 912	Tightening torque
					p <sub>w</sub> [N/mm <sup>2</sup> ]	p <sub>N</sub> [N/mm <sup>2</sup> ]	12.9 number and type	M <sub>S</sub> [Nm]
Medium to high torques	45	15 x 24	127	17	185	115	3 x M6	17
	45	16 x 24	136	17	175	115	3 x M6	17
	47	18 x 26	200	22	180	125	4 x M6	17
	49	19 x 27	210	22	170	120	4 x M6	17
	50	20 x 28	220	22	160	115	4 x M6	17
	54	22 x 32	250	22	115	80	4 x M6	17
	56	24 x 34	270	22	105	75	4 x M6	17
Low to medium torques	62	14 x 55	120	18	205	55	3 x M8	25
	62	16 x 55	140	18	180	55	3 x M8	25
	62	18 x 55	150	18	160	55	3 x M8	25
	62	19 x 55	160	18	150	55	3 x M8	25
	62	20 x 55	170	18	145	55	3 x M8	25
	62	22 x 55	280	25	185	75	3 x M8	35
	62	24 x 55	300	25	170	75	3 x M8	35
	62	25 x 55	310	25	165	75	3 x M8	35
	62	28 x 55	430	31	175	90	3 x M8	41
	62	30 x 55	470	31	165	90	3 x M8	41
	72	32 x 65	690	44	213	105	5 x M8	35
	72	35 x 65	910	52	234	126	5 x M8	41
	72	38 x 65	990	52	216	126	5 x M8	41
	72	40 x 65	1050	52	205	126	5 x M8	41

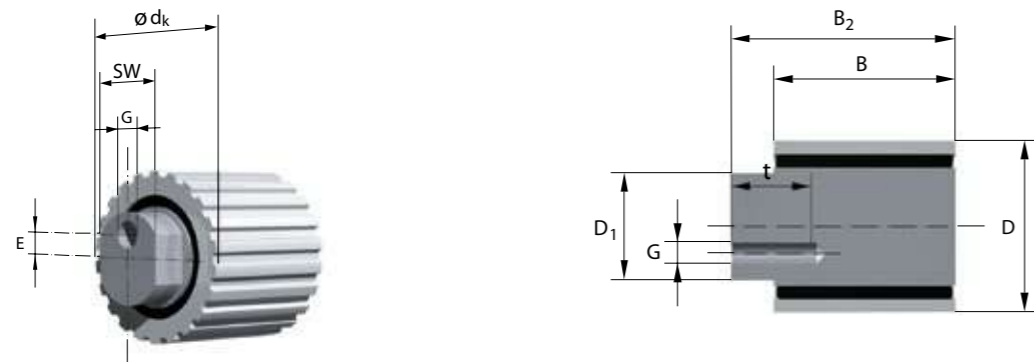
**Assembly instructions**

Please clean and lightly oil the contact surfaces of the shaft and hub. Then insert the tensioners into the hub rest and push onto the shaft. Tighten the clamping screws crosswise to the tightening torque M<sub>S</sub> indicated in the table in several stages using a torque wrench. Please check the tightening torque of all tightening screws in the order they are arranged. The table values of M<sub>T</sub> and F<sub>A</sub> have been calculated for an assembly with oil.

**Important:** Please do not use oil with molybdenum disulphide or high-pressure additives and grease. The coefficient of friction is significantly reduced by this.



Tension roller (T-, AT profile)



Type B/E0 (toothed)

Tension roller (BAT profile)



Type B/E0 left

Tension roller (BAT profile)



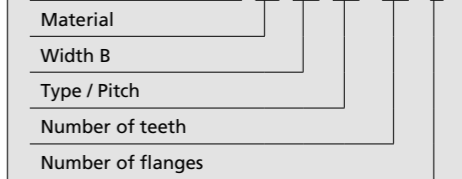
Type B/E0 right

Tension rollers B are seated twice on grooved roller bearings. The bearings are greased for life. Permanent temperatures  $\leq 70^\circ\text{C}$  and under will not lead to a reduced useful life of the grease. Short-term temperatures up to  $120^\circ\text{C}$  are permitted.

**Materials:**  
 Axis: steel  
 Running roller: aluminium

BRECO order example

**Tension roller B/E0 Al 34 T5 / 22 - 0**



**Tension roller B/E0 Al 40 BAT10 / 20 - righth**



Tension roller Type B/E0 (stock program)

B [mm]	Type / Pitch	Number of teeth	Number of flanges	max. Belt width [mm]	$d_k$ [mm]	$B_2$ [mm]	E [mm]	G	t [mm]	$D_1$ [mm]	SW [mm]	Loadbearing parameters		max. Rotational speeds n [min <sup>-1</sup> ]
												$C_{dyn.}$ [N]	$C_{stat.}$ [N]	
34	T5	22	0	25	34,15	42	5	M6	10	20	17	7950	3920	30000
40	T10	20	0	32	61,80	50	5	M12	20	30	27	19300	13100	30000
64	T10	20	0	50	61,80	74	5	M12	20	30	27	19300	13100	15000
34	AT5	22	0	25	33,79	42	5	M6	10	20	17	7950	3920	15000
40	AT10	20	0	32	61,84	50	5	M12	20	30	27	19300	13100	15000
64	AT10	20	0	50	61,84	74	5	M12	20	30	27	19300	13100	15000
40	BAT10	20*	0	32	61,84	50	5	M12	20	30	27	19300	13100	15000
64	BAT10	20*	0	50	61,84	74	5	M12	20	30	27	19300	13100	15000
40	BATK10	24	0	32	74,57	50	5	M12	20	30	27	19300	13100	15000
64	BATK10	24	0	50	74,57	74	5	M12	20	30	27	19300	13100	15000

\* Note  $z_{min}$ !

Tension rollers B are seated twice on grooved roller bearings. The bearings are greased for life. Permanent temperatures  $\leq 70^{\circ}\text{C}$  and under will not lead to a reduced useful life of the grease. Short-term temperatures up to  $120^{\circ}\text{C}$  are permitted.

**Materials:**  
 Axis: steel  
 Running roller: aluminium  
 Flanges: aluminium

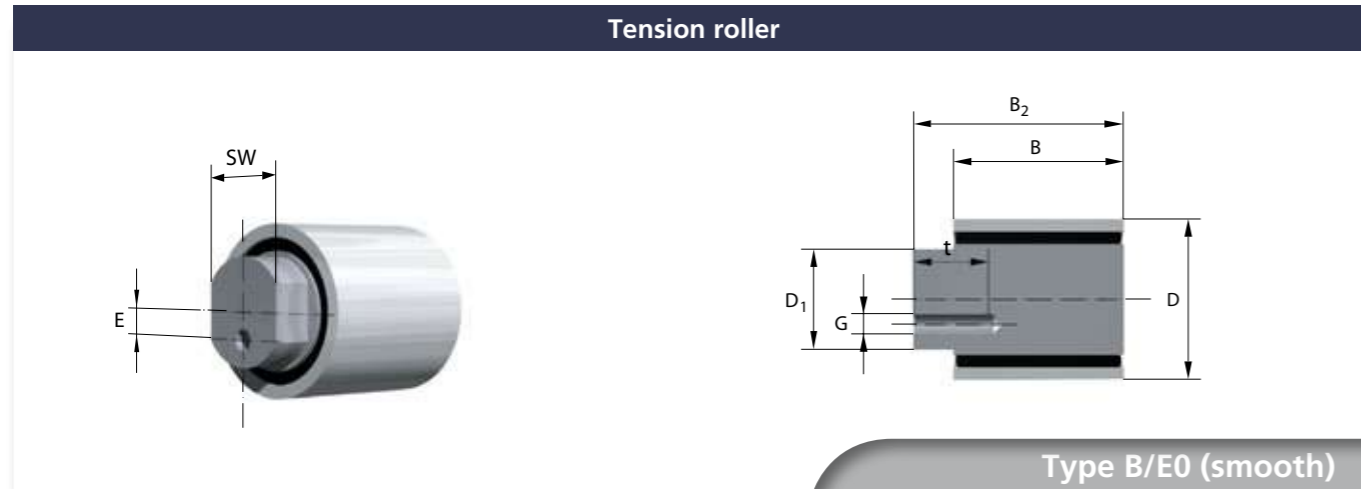
BRECO order example

**Tension roller B/E2 70 / 120 - 2**

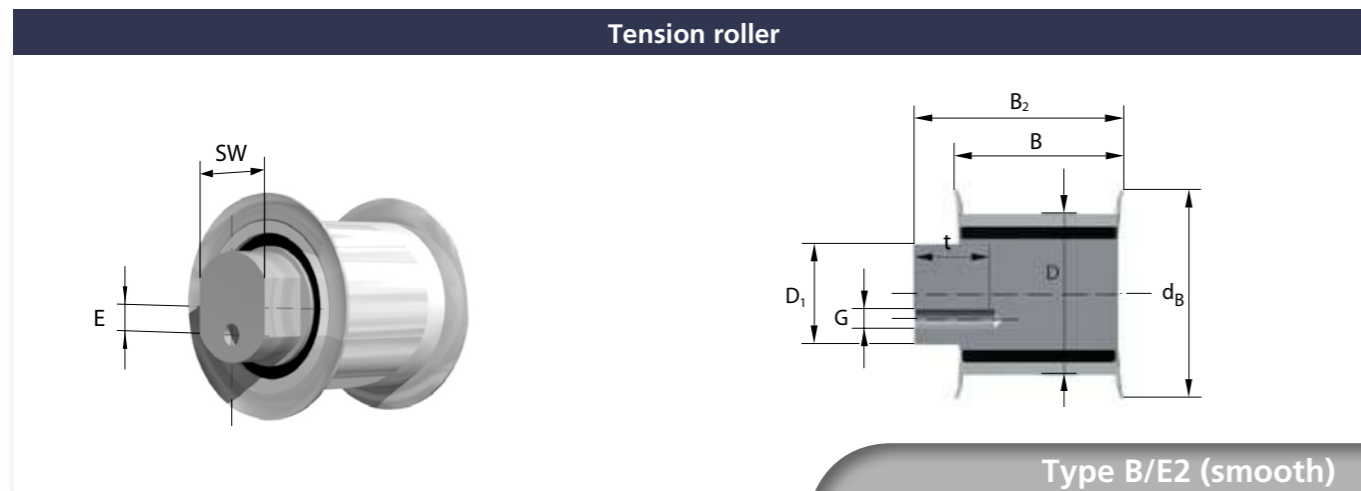
Width B

Diameter D

Number of flanges



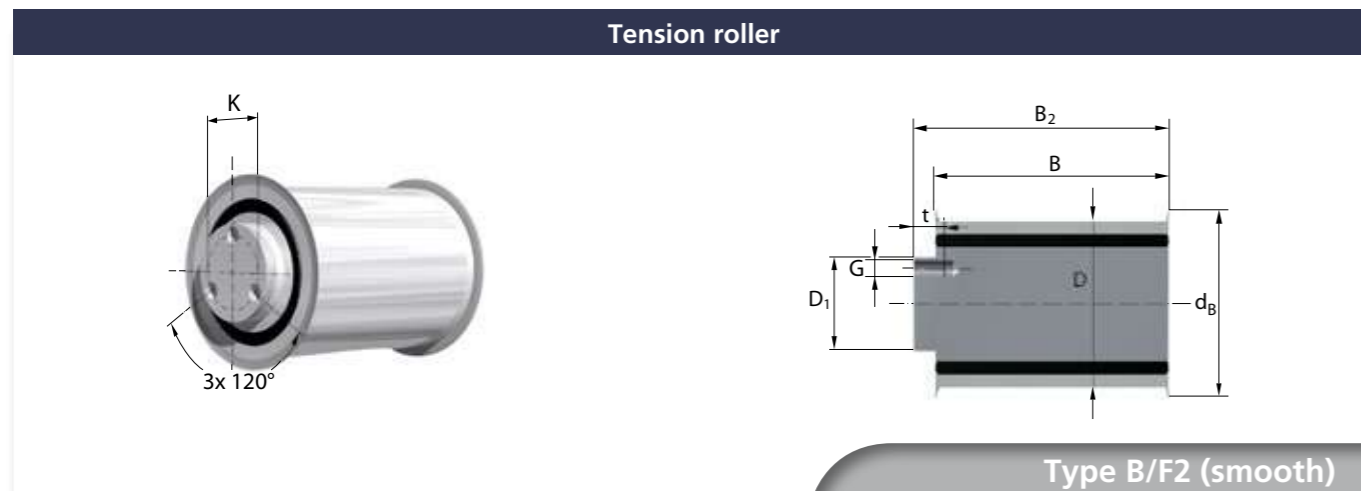
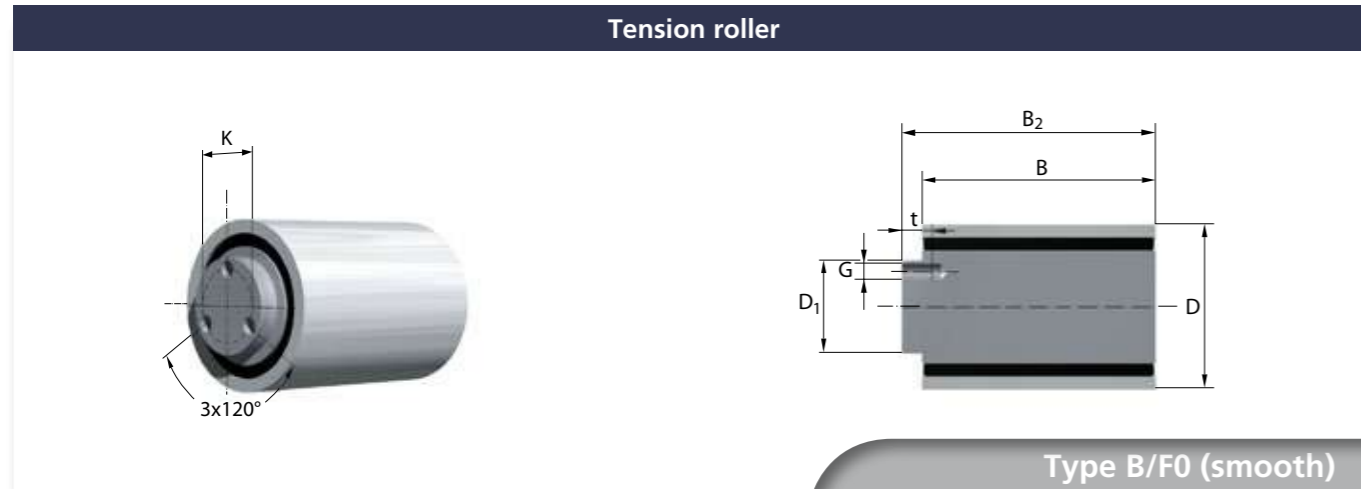
Type B/E0 (smooth)



Type B/E2 (smooth)

Tension roller Typ B/E0 (stock program)													
B [mm]	D [mm]	Number of flanges	max. Belt width [mm]	dB [mm]	B2 [mm]	E [mm]	G	t [mm]	D1 [mm]	SW [mm]	Loadbearing parameters		max. Rotational speeds n [min <sup>-1</sup> ]
											C <sub>dyn.</sub> [N]	C <sub>stat.</sub> [N]	
34	32	0	25	-	42	5	M6	10	20	17	7950	3920	10000
40	60	0	32	-	50	5	M12	20	30	27	19300	13100	5000
64	60	0	50	-	74	5	M12	20	30	27	19300	13100	5000
40	80	0	32	-	50	5	M12	20	30	27	19300	13100	5000
64	80	0	50	-	74	5	M12	20	30	27	19300	13100	5000
90	80	0	75	-	110	5	M20	32	45	36	48000	38000	5000
40	120	0	32	-	50	5	M12	20	30	27	19300	13100	5000
64	120	0	50	-	74	5	M12	20	30	27	19300	13100	5000
70	120	0	50	-	85	5	M20	30	45	36	70500	48000	5000
90	120	0	75	-	110	5	M20	32	45	36	48000	38000	5000
40	150	0	32	-	50	5	M12	20	30	27	19300	13100	5000
64	150	0	50	-	74	5	M12	20	30	27	19300	13100	5000
90	150	0	75	-	110	5	M20	32	45	36	48000	38000	5000

Tension roller Type B/E2 (stock program)													
B [mm]	D [mm]	Number of flanges	max. Belt width [mm]	dB [mm]	B2 [mm]	E [mm]	G	t [mm]	D1 [mm]	SW [mm]	Loadbearing parameters		max. Rotational speeds n [min <sup>-1</sup> ]
											C <sub>dyn.</sub> [N]	C <sub>stat.</sub> [N]	
34	32	2	25	41,5	42	5	M6	10	20	17	7950	3920	10000
40	60	2	32	71	50	5	M12	20	30	27	19300	13100	5000
64	60	2	50	71	74	5	M12	20	30	27	19300	13100	5000
40	80	2	32	91	50	5	M12	20	30	27	19300	13100	5000
64	80	2	50	91	74	5	M12	20	30	27	19300	13100	5000
90	80	2	75	91	110	5	M20	32	45	36	48000	38000	5000
40	120	2	32	132	50	5	M12	20	30	27	19300	13100	5000
64	120	2	50	132	74	5	M12	20	30	27	19300	13100	5000
70	120	2	50	137	85	5	M20	30	45	36	70500	48000	5000
90	120	2	75	137	110	5	M20	32	45	36	48000	38000	5000
40	150	2	32	162	50	5	M12	20	30	27	19300	13100	5000
64	150	2	50	162	74	5	M12	20	30	27	19300	13100	5000
90	150	2	75	162	110	5	M20	32	45	36	48000	38000	5000



**Materials:**

Axis: steel  
 Running roller: aluminium  
 Flanges: aluminium

**BRECO order example**

**Tension roller B/F2 117 / 180 - 2**

Width B \_\_\_\_\_  
 Diameter D \_\_\_\_\_  
 Number of flanges \_\_\_\_\_

**Tension roller Type B/F0 (stock program)**

B [mm]	D [mm]	Number of flanges	max. Belt width [mm]	dB [mm]	B2 [mm]	K [mm]	G	t [mm]	D1 [mm]	Loadbearing parameters		max. Rotational speeds n [min <sup>-1</sup> ]
										C <sub>dyn.</sub> [N]	C <sub>stat.</sub> [N]	
114	60	0	100	-	124	34	M8 (3x)	15	45	19300	13100	5000
114	80	0	100	-	124	34	M8 (3x)	15	45	19300	13100	5000
70	120	0	50	-	85	65	M12 (3x)	24	85	70500	48000	5000
90	120	0	75	-	110	65	M12 (3x)	24	85	70500	48000	5000
117	120	0	100	-	131	65	M12 (3x)	24	85	70500	48000	5000
70	180	0	50	-	85	65	M12 (3x)	25	106	70500	48000	5000
90	180	0	75	-	110	80	M16 (3x)	25	106	106000	76000	5000
117	180	0	100	-	131	80	M16 (3x)	25	106	106000	76000	5000

**Tension roller Type B/F2 (stock program)**

B [mm]	D [mm]	Number of flanges	max. Belt width [mm]	dB [mm]	B2 [mm]	K [mm]	G	t [mm]	D1 [mm]	Loadbearing parameters		max. Rotational speeds n [min <sup>-1</sup> ]
										C <sub>dyn.</sub> [N]	C <sub>stat.</sub> [N]	
114	60	2	100	71	124	34	M8 (3x)	15	45	19300	13100	5000
114	80	2	100	91	124	34	M8 (3x)	15	45	19300	13100	5000
70	120	2	50	137	85	65	M12 (3x)	24	85	70500	48000	5000
90	120	2	75	137	110	65	M12 (3x)	24	85	70500	48000	5000
117	120	2	100	137	131	65	M12 (3x)	24	85	70500	48000	5000
70	180	2	50	204	85	65	M12 (3x)	25	106	70500	48000	5000
90	180	2	75	204	110	80	M16 (3x)	25	106	106000	76000	5000
117	180	2	100	204	131	80	M16 (3x)	25	106	106000	76000	5000

## Notes on clamp connectors / clamp plate system

The BRECO® fix clamping elements are used in linear systems. Clamp connectors and clamp plates optimally adapted to our timing belts are available for diverse areas of application. Both elements are used to fasten the belt ends on the machine frame or on the moving unit.

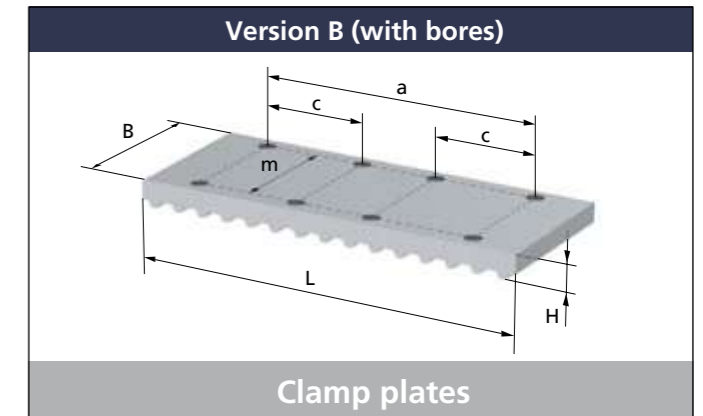
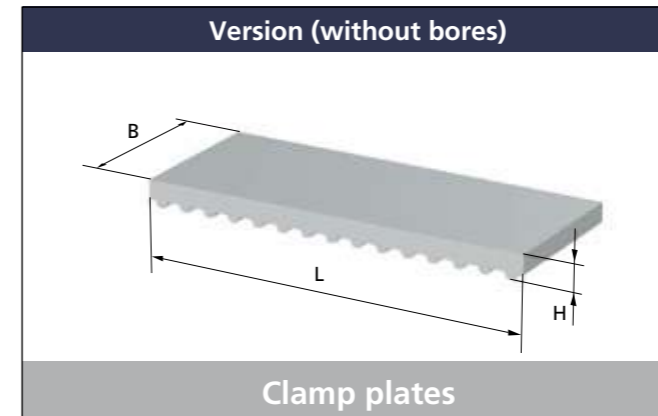
While the clamp connectors only enable simple fastening of the belt ends, the clamp plate can also be used for setting the pretensioning force via a clamping unit.

The different variants A, B and C specially optimised to the load are available to the user within a complete clamp plate system for the individual belt types and belt widths. The corresponding assignment is shown in table in the clamp plates section.

The different variants and subcategories ensure absolute clamping reliability together with optimum handling and assembly thanks to their design. Providing a complete system comprising base plate, if necessary toothed insert, upper plate, clamping unit and standard part accessories spares the user awkward assembly and coordination of the individual parts. In addition, using the toothed inserts made from high-strength polyamide in the clamp plates of variant B allows production costs to be optimised. This results in a system with a very good price-performance ratio overall.

Variant A is divided into types 1,2 and 3. Type 1 is supplied without bores and clamping unit, which means it provides freedom of constructional design, while allowing the belt end to be fastened without additional movements of the „fixed“ clamping position. Type 2, on the other hand, offers the clamping unit and long holes for clamping the timing belt drive. It is then necessary to fasten the clamp plate of type 2 on the machine frame. Type 3 is typically provided for „free suspension“ of the belt tensioning on the clamping unit. A protection that might be necessary against turning and movement must be provided either by fixing the clamping unit itself or corresponding limiting or guide elements in the clamp plate environment.

Variants B and C are generally suitable for both connections to the machine frame, „fixed“ and „freely suspended“, and are available in the version „without clamping unit“.



Clamp plates are often used in linear technology, when one or both belt ends need to be affixed to the housing. An adjustment of the pretension is not possible with clamp plates.

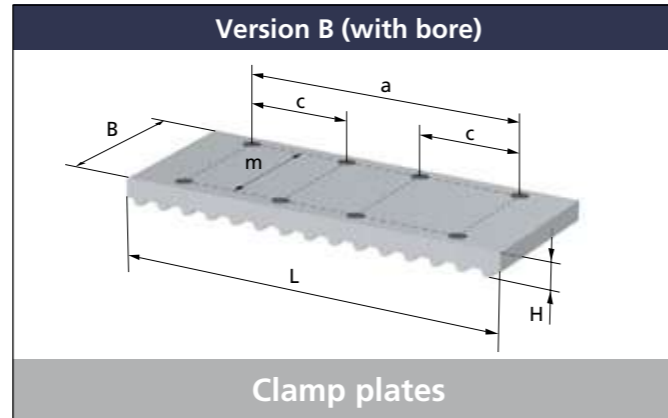
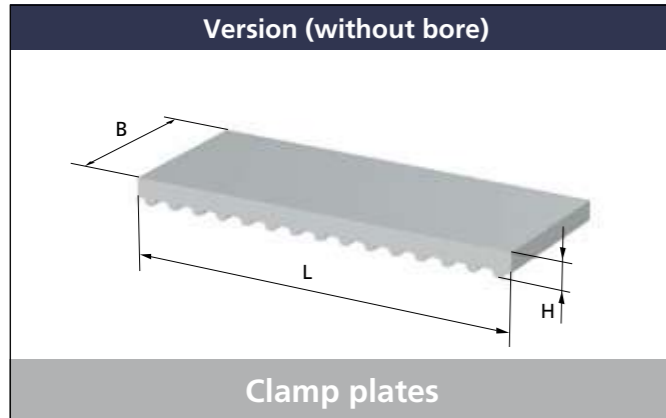
AT profile							
Belt width [mm]	BxL	Type / Pitch	Bore diameter d [mm]	m [mm]	a [mm]	c [mm]	H [mm]
10	30x75	AT3	5,5	20	50	12,5	8
20	50x75	AT3	5,5	30	50	12,5	8
25	60x75	AT3	5,5	38	50	12,5	8
25	50x120	AT5	5,5	38	80	20	10
32	60x120	AT5	5,5	46	80	20	10
50	75x120	AT5	5,5	62	80	20	10
75	110x120	AT5	5,5	94	80	20	10
25	50x160	AT10 BAT10	6,5	38	110	30	10
32	60x160	AT10 BAT10 BATK10	6,5	46	110	30	10
50	75x160	AT10 BAT10 BATK10	6,5	62	110	30	10
75	110x160	AT10 BAT10 BATK10	6,5	94	110	30	10
25	50x180	AT15protect ATS15	9	38	140	50	20
32	60x180	AT15protect ATS15	9	46	140	50	20
50	75x180	AT15protect ATS15 BAT15 BATK15	9	62	140	50	20
75	110x180	AT15protect ATS15 BAT15 BATK15	9	94	140	50	20
25	50x200	AT20	9	38	160	60	20
32	60x200	AT20	9	46	160	60	20
50	75x200	AT20	9	62	160	60	20
75	110x200	AT20	9	94	160	60	20

T profile							
Belt width [mm]	BxL	Type / Pitch	Bore diameter d [mm]	m [mm]	a [mm]	c [mm]	H [mm]
10	30x50	T2,5*	5,5	20	30	15	6
20	40x60	T2,5*	5,5	30	30	15	6
25	50x120	T5	5,5	38	80	20	10
32	60x120	T5	5,5	46	80	20	10
50	75x120	T5	5,5	62	80	20	10
75	110x120	T5	5,5	94	80	20	10
25	50x160	T10	6,5	38	110	30	10
32	60x160	T10	6,5	46	110	30	10
50	75x160	T10	6,5	62	110	30	10
75	110x160	T10	6,5	94	110	30	10
25	50x200	T20	6,5	38	160	60	20
32	60x200	T20	6,5	46	160	60	20
50	75x200	T20	6,5	62	160	60	20
75	110x200	T20	6,5	94	160	60	20

\* In the clamp plates of the type T2,5 there are only 6 instead of 8 bores.

BRECO order example

**Clamp plate**      **75 x 180**   **ATs15**   **B**  
 Width B  
 Length L  
 Type / Pitch  
 Version



Imperial pitch							
Belt width [mm]	BxL	Type / Pitch	Bore diameter d [mm]	m [mm]	a [mm]	c [mm]	H [mm]
25,4	50x120	T1/5"	5,5	38	80	20	10
38,1	60x120	T1/5"	5,5	46	80	20	10
50,8	75x120	T1/5"	5,5	62	80	20	10
76,2	110x120	T1/5"	5,5	94	80	20	10
25,4	50x160	T3/8"	6,5	38	110	30	10
38,1	60x160	T3/8"	6,5	46	110	30	10
50,8	75x160	T3/8"	6,5	62	110	30	10
76,2	110x160	T3/8"	6,5	94	110	30	10
25,4	50x160	T1/2"	6,5	38	110	30	10
38,1	60x160	T1/2"	6,5	46	110	30	10
50,8	75x160	T1/2"	6,5	62	110	30	10
76,2	110x160	T1/2"	6,5	94	110	30	10
101,6	140x160	T1/2"	6,5	124	110	30	10
25,4	50x200	T7/8"	6,5	38	160	60	20
38,1	60x200	T7/8"	6,5	46	160	60	20
50,8	75x200	T7/8"	6,5	62	160	60	20
76,2	110x200	T7/8"	6,5	94	160	60	20

**BRECO order example**

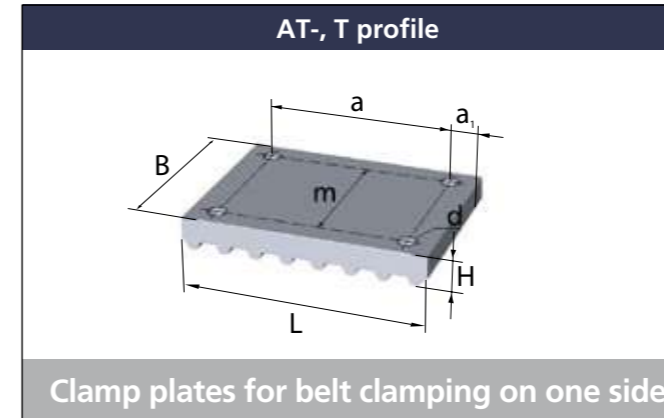
**Clamp plate**      **60 x 160 T3/8" B**

Width B

Length L

Type / Pitch

Version



AT profile							
Belt width [mm]	BxL	Type / Pitch	Bore diameter d [mm]	m [mm]	a [mm]	a <sub>1</sub> [mm]	H [mm]
25	50x58	AT5	5,5	35	30	15	10
32	60x58	AT5	5,5	42	30	15	10
50	75x58	AT5	5,5	60	30	15	10
75	110x58	AT5	5,5	90	30	15	10
25	50x78	AT10 BAT10	6,5	35	40	20	10
32	60x78	AT10 BAT10 BATK10	6,5	42	40	20	10
50	75x78	AT10 BAT10 BATK10	6,5	60	40	20	10
75	110x78	AT10 BAT10 BATK10	6,5	90	40	20	10
25	50x88	AT15protect ATS15	9	35	50	20	20
32	60x88	AT15protect ATS15	9	42	50	20	20
50	75x88	AT15protect ATS15 BAT15 BATK15	9	60	50	20	20
75	110x88	AT15protect ATS15 BAT15 BATK15	9	90	50	20	20
25	50x98	AT20	9	35	60	20	20
32	60x98	AT20	9	42	60	20	20
50	75x98	AT20	9	60	60	20	20
75	110x98	AT20	9	90	60	20	20

**BRECO order example**

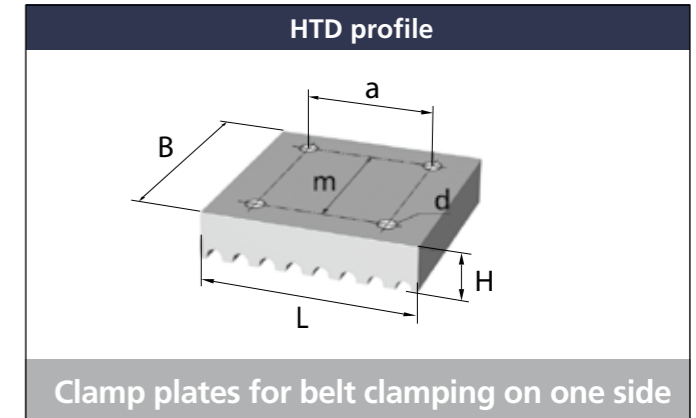
**Clamp plate**      **75 x 58 AT10 B**

Width B

Length L

Type / Pitch

Version



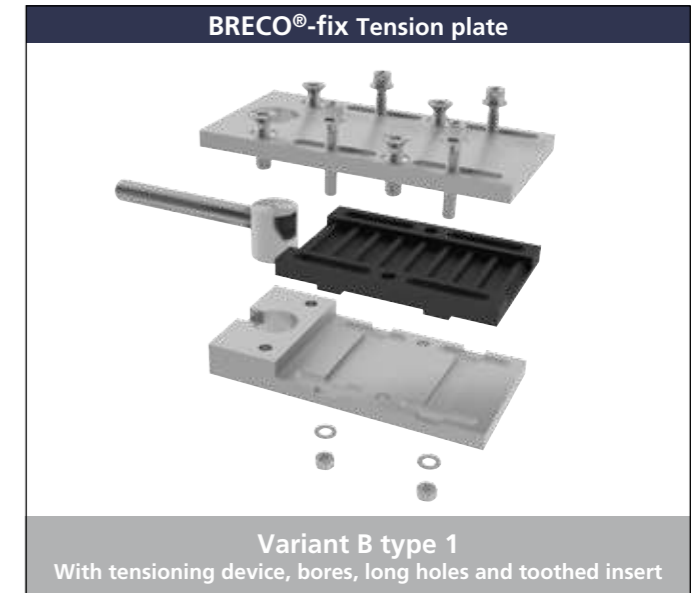
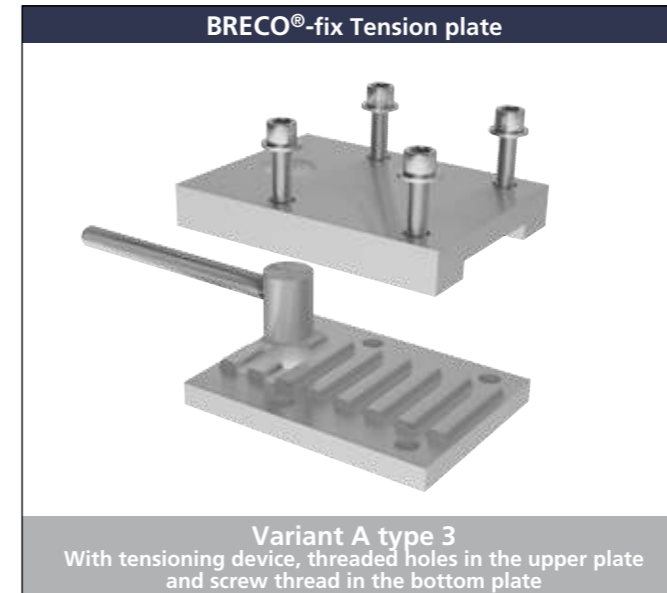
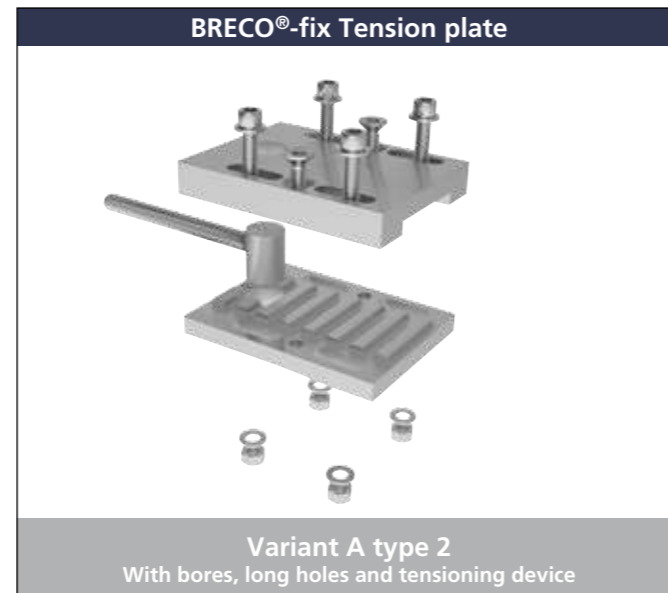
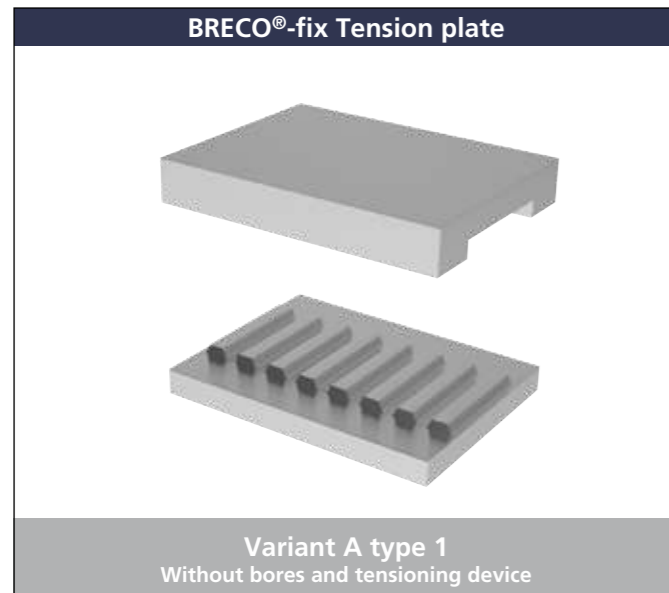
HTD profile						
Belt width [mm]	BxL	Type / Pitch	Bore diameter d [mm]	m [mm]	a [mm]	H [mm]
10	28x41,8	5M	5,5	16	25	8
15	34x41,8	5M	5,5	22	25	8
25	44x41,8	5M	5,5	32	25	8
20	45x66	8M	9	29	40	15
30	55x66	8M	9	39	40	15
50	75x66	8M	9	59	40	15
85	110x66	8M	9	94	40	15
40	71x116	14M	11	51	70	22
55	86x116	14M	11	66	70	22
85	116x116	14M	11	96	70	22

T profile							
Belt width [mm]	BxL	Type / Pitch	Bore diameter d [mm]	m [mm]	a [mm]	a <sub>1</sub> [mm]	H [mm]
25	50x58	T5	5,5	35	30	15	10
32	60x58	T5	5,5	42	30	15	10
50	75x58	T5	5,5	60	30	15	10
75	110x58	T5	5,5	90	30	15	10
25	50x78	T10	6,5	35	40	20	10
32	60x78	T10	6,5	42	40	20	10
50	75x78	T10	6,5	60	40	20	10
75	110x78	T10	6,5	90	40	20	10
25	50x98	T20	9	35	60	20	20
32	60x98	T20	9	42	60	20	20
50	75x98	T20	9	60	60	20	20
75	110x98	T20	9	90	60	20	20

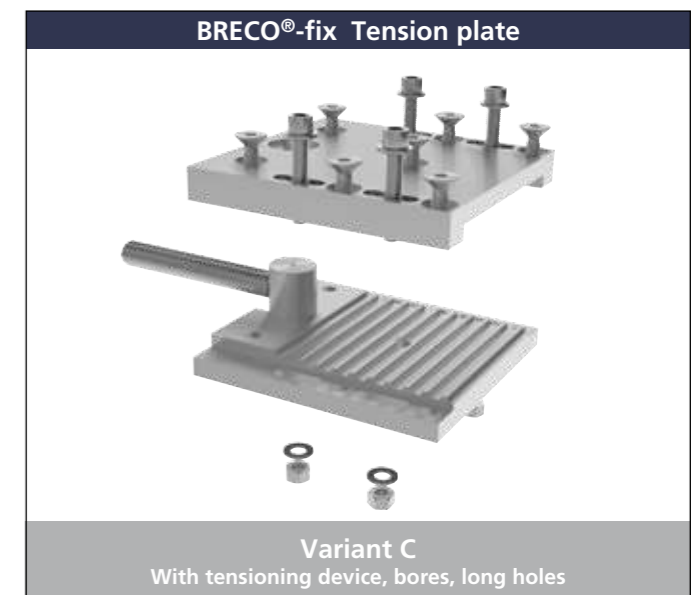
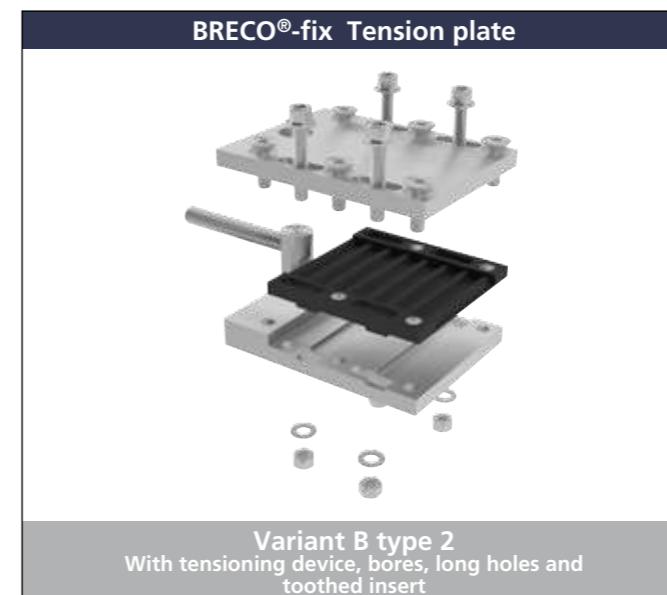
Clamp plates are also available without bores.

The table below is an overview about our available tension plate variants according to the different belt types.

BRECO®-fix Tension plates							
Pitch	Belt type	Belt widths					
		25	32	50	75	100	150
5 mm	T5	Variant A Type 1/2/3	Variant A Type 1/2/3	Variant A Type 1/2/3	-	-	-
	AT5 / ATL5	Variant A Type 1/2/3	Variant A Type 1/2/3	Variant A Type 1/2/3	-	-	-
10 mm	T10	Variant A Type 1/2/3	Variant A Type 1/2/3	Variant A Type 1/2/3	-	-	-
	AT10	Variant A Type 1/2/3	Variant A Type 1/2/3	Variant A Type 1/2/3	Variant B Type 2	Variant B Type 2	Variant C
	BATK10	-	Variant A Type 1/2/3	Variant A Type 1/2/3	Variant B Type 2	Variant B Type 2	-
	ATL10	Variant A Type 1/2/3	Variant A Type 1/2/3	Variant B Type 1	Variant B Type 2	Variant B Type 2	-
15 mm	ATS15	-	-	Variant B Type 1	Variant B Type 2	Variant B Type 2	Variant C
	BATK15	-	-	Variant B Type 1	Variant B Type 2	Variant B Type 2	-
20 mm	T20	-	-	Variant B Type 1	Variant B Type 2	Variant B Type 2	Variant C
	AT20	-	-	Variant B Type 1	Variant B Type 2	Variant B Type 2	Variant C
	ATL20	-	-	Variant B Type 1	Variant B Type 2	Variant B Type 2	-



**Remark:**  
Variant „B“ and „C“ are also available without tensioning device. If you don't need it, please make a note in the order code.





### Notes on the assembly of BRECO® timing belts in the BRECO® fix clamp plates

The BRECO® fix clamp plates are designed so that clamping reliability and optimum assembly of the timing belt in the clamp plate are ensured. We therefore recommend reading and complying with the assembly notes for the relevant types as well as the following assembly workflow.

**Please proceed in the following steps when assembling timing belts and clamp plates:**

#### Step 1: Preparation for assembly

Cut the timing belt in a gap between two belt teeth to the required length and place it in the toothed section of the open clamp plate.

#### Step 2: Preassembly of the clamp plate

Place the upper and lower plate as well as the toothed insert, if necessary, and connect everything with the preassembly screws (countersunk screws). Use a suitable torque wrench for this. Please note the tightening torques indicated for the relevant types. The preassembly screws keep the clamp plates securely closed during the subsequent steps.

#### Step 3: Tensioning the belt /fastening on the machine frame

Move the clamp plate(s) into the required assembly position in the machine. The clamp plates are usually fastened directly on the machine frame. This fastening is done with fastening screws (cylinder head screws) via the long holes of the clamp plates. We recommend leaving the fastening screws loose until the clamp plate is moved into position by the clamping unit, meaning the necessary pretensioning force is applied to the timing belt. After the pretensioning force has been set in the timing belt, the fastening screws can be tightened according to the specifications.

Special feature of freely suspended assembly:

Freely suspended assembly on the clamping unit is possible, but not strictly recommended. Step 2 of these instructions is logically followed by step 4 and then tensioning of the belt (step 3). The fastening screws must also be installed and tightened according to the specifications for freely suspended assembly. To apply the tensioning force during freely suspended assembly, we recommend fixing the clamp plate in a vice or similar. The fixing should be carried out in the front area (near to clamping unit).

#### Step 4: Applying the clamping force in the clamp plate

To ensure the required clamping reliability, the belt fastening in the clamp plates must be clamped again in addition to the preassembly and fastening procedure.

This clamping is carried out for belt widths > 50 mm (clamp plate variant B type 2 and variant C) using the countersunk screws and tightening these to the specified tightening torque for the clamping force. The fastening screws must also be tightened to the corresponding torque.

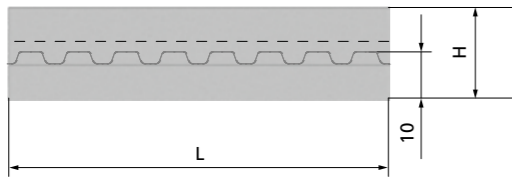
This step does not apply for the clamp plates variant A and variant B type 1, as this tensioning force was already applied here by tightening the fastening screws in the long holes.

#### Step 5: Retightening of the belt at a later date

If it is necessary to readjust the pretensioning force in the timing belt at a later date, only the fastening screws have to be loosened and „retightened“ via the clamping unit. The pretensioning of the belt tensioning in the clamp plate itself can be retained for this procedure.

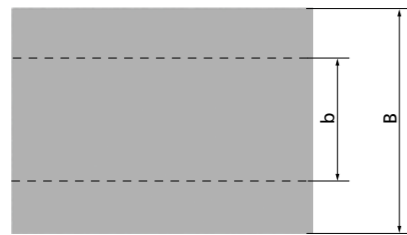
In the case of assembly freely suspended on the threaded rod, there is no need to loosen the fastening screws, as retightening can be done directly.

Tension plate variant A type 1



Without bores and tensoning device

Tension plate variant A type 1



Without bores and tensoning device

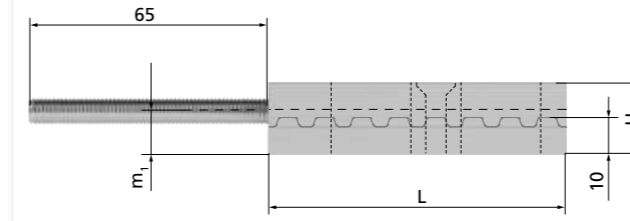
Tension plate variant A type 1

Belt width b/ belt type	B [mm]	L [mm]	H [mm]
25 T5	50	80	18,5
32 T5	60	80	18,5
50 T5	75	80	18,5
25 T10	50	80	19,5
32 T10	60	80	19,5
50 T10	75	80	19,5
25 AT5	50	80	19,0
32 AT5	60	80	19,0
50 AT5	75	80	19,0
25 ATL5	50	80	19,0
32 ATL5	60	80	19,0
50 ATL5	75	80	19,0
25 AT10	50	80	19,5
32 AT10	60	80	19,5
50 AT10	75	80	19,5
25 ATL10	50	80	19,5
32 ATL10	60	80	19,5
32 BATK10	60	80	19,5
50 BATK10	75	80	19,5

BRECO order example

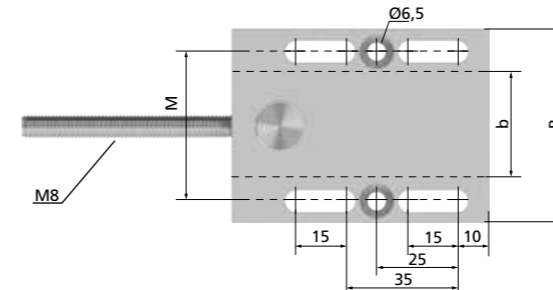
<b>Tension plate</b>	<b>60 x 80 AT5 Var A Type 1</b>
Width B	
Length L	
Belt type / Pitch	
Variant	
Type	

Tension plate variant A type 2



With bores, long holes and tensoning device

Tension plate variant A type 2



With bores, long holes and tensoning device

Tension plate variant A type 2

Belt width b/ belt type	B [mm]	L [mm]	M [mm]	m <sub>1</sub> [mm]	H [mm]
25 T5	50	80	38	10,25	18,5
32 T5	60	80	46	10,25	18,5
50 T5	75	80	62	10,25	18,5
25 T10	50	80	38	11,25	19,5
32 T10	60	80	46	11,25	19,5
50 T10	75	80	62	11,25	19,5
25 AT5	50	80	38	10,75	19,0
32 AT5	60	80	46	10,75	19,0
50 AT5	75	80	62	10,75	19,0
25 ATL5	50	80	38	10,75	19,0
32 ATL5	60	80	46	10,75	19,0
50 ATL5	75	80	62	10,75	19,0
25 AT10	50	80	38	11,25	19,5
32 AT10	60	80	46	11,25	19,5
50 AT10	75	80	62	11,25	19,5
25 ATL10	50	80	38	11,00	19,5
32 ATL10	60	80	46	11,00	19,5
32 BATK10	60	80	46	11,25	19,5
50 BATK10	75	80	62	11,25	19,5

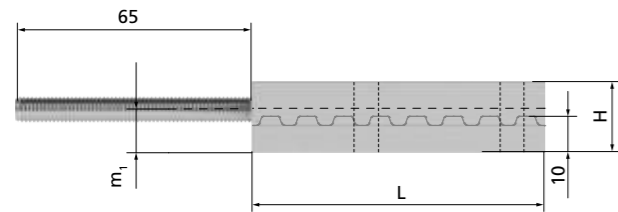
Mounting instructions

Tension plate	Variant A type 2		
	Belt width	25	32
Pre-assembly screws (SW=wrench size across flats)	Countersunk head screws ISO 10642, 2xM5 - 8.8 zined (SW3)	Countersunk head screws ISO 10642, 2xM5 - 8.8 zined (SW3)	Countersunk head screws ISO 10642, 2xM5 - 8.8 zined (SW3)
Recommended tightening moment of the pre-assembly screws M <sub>A</sub>	6 Nm	6 Nm	6 Nm
Fastening screws	Cheese head screws ISO 4762 4xM6 - 8.8 zined (SW5)	Cheese head screws ISO 4762 4xM6 - 8.8 zined (SW5)	Cheese head screws ISO 4762 4xM6 - 8.8 zined (SW5)
Recommended tightening moment of the fastening screws M <sub>A</sub>	10 Nm	10 Nm	10 Nm
Tightening moment for generation of tension force M <sub>A</sub>	10 Nm	10 Nm	10 Nm
Admissible force of the tension plates F <sub>adm</sub>	22400 N	28800 N	34000 N

BRECO order example

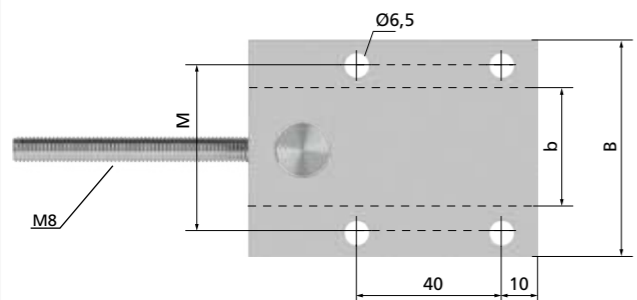
<b>Tension plate</b>	<b>60 x 80 AT10 Var A Type 2</b>
Width B	
Length L	
Belt type / pitch	
Variant	
Type	

Tension plate variant A type 3



With tensioning device, threaded holes in the upper plate and screw thread in the bottom plate

Tension plate variant A type 3



With tensioning device, threaded holes in the upper plate and screw thread in the bottom plate

Tension plate variant A type 3

Belt width b/ belt type	B [mm]	L [mm]	M [mm]	m <sub>1</sub> [mm]	H [mm]
25 T5	50	80	38	10,25	18,5
32 T5	60	80	46	10,25	18,5
50 T5	75	80	62	10,25	18,5
25 T10	50	80	38	11,25	19,5
32 T10	60	80	46	11,25	19,5
50 T10	75	80	62	11,25	19,5
25 AT5	50	80	38	10,75	19,0
32 AT5	60	80	46	10,75	19,0
50 AT5	75	80	62	10,75	19,0
25 ATL5	50	80	38	10,75	19,0
32 ATL5	60	80	46	10,75	19,0
50 ATL5	75	80	62	10,75	19,0
25 AT10	50	80	38	11,25	19,5
32 AT10	60	80	46	11,25	19,5
50 AT10	75	80	62	11,25	19,5
25 ATL10	50	80	38	11,00	19,5
32 ATL10	60	80	46	11,00	19,5
32 BATK10	60	80	46	11,25	19,5
50 BATK10	75	80	62	11,25	19,5

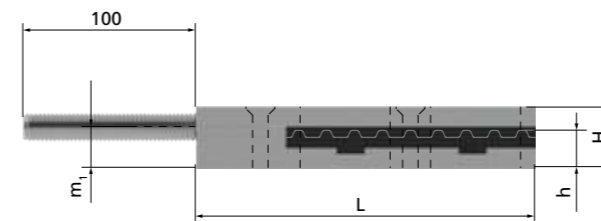
Mounting instructions

Tension plate	Variant A type 3			
	Belt width	25	32	50
Fastening screws		Cheese head screws ISO 4762 4xM6 - 8.8 zined (SW5)	Cheese head screws ISO 4762 4xM6 - 8.8 zined (SW5)	Cheese head screws ISO 4762 4xM6 - 8.8 zined (SW5)
Recommended tightening moment of the fastening screws M <sub>A</sub>		10 Nm	10 Nm	10 Nm
Tightening moment for generation of tension force M <sub>A</sub>		10 Nm	10 Nm	10 Nm
Admissible force of the tension plates F <sub>adm</sub>		22400 N	28800 N	34000 N

BRECO order example

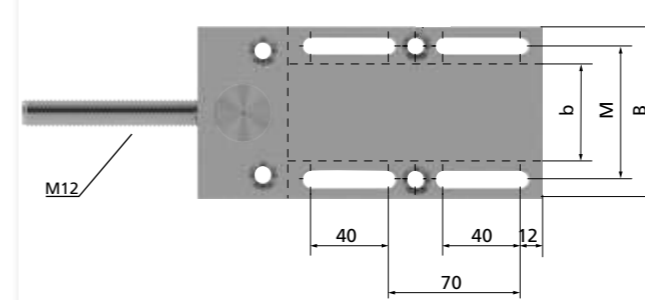
<b>Tension plate</b>	<b>50 x 80 AT10 Var A Type 3</b>
Width B	50
Length L	80
Belt type / pitch	AT10
Variant	Var A
Type	Type 3

Tension plate variant B type 1



With tensioning device, bores, long holes and toothed insert

Tension plate variant B type 1



With tensioning device, bores, long holes and toothed insert

Tension plate variant B type 1

Belt width b/ belt type	B [mm]	L [mm]	M [mm]	m <sub>1</sub> [mm]	h	H [mm]
50 ATL10	90	180	70	20,5	19,8	32
50 ATS15	90	180	70	20,5	19,38	32
50 BATK15	90	180	70	20,5	19,58	32
50 T20	90	180	70	20,5	19,08	32
50 AT20	90	180	70	20,5	19,08	32
50 ATL20	90	180	70	20,5	18,68	32

Remark:  
The toothed insert for 50 BATK15 is the same for curve „left“ and „right“

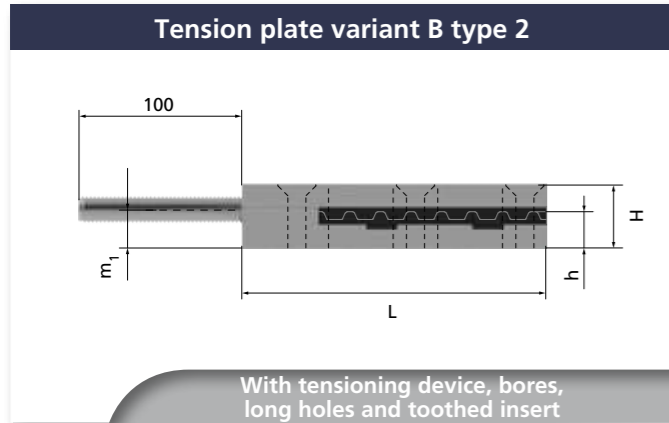


Mounting instructions

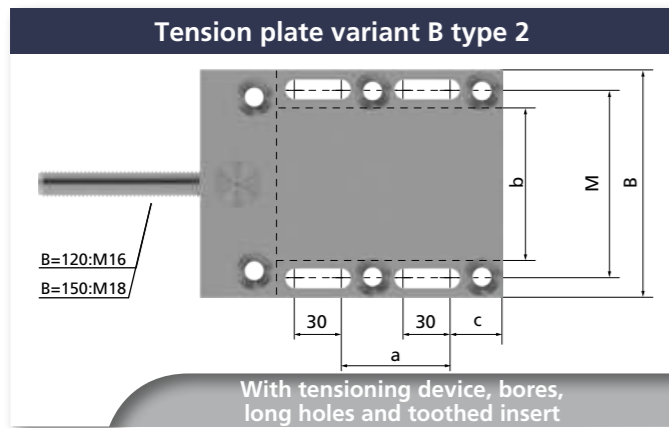
Tension plate	Variant B type 1
Belt width	50 mm
Pre-assembly screws (SW=wrench size across flats)	Countersunk head screws ISO 10642, 2xM8 - 8.8 (SW5) and 2xM10 - 8.8 (SW6)
Recommended tightening moment of the pre-assembly screws M <sub>A</sub>	8 Nm for M8 17 Nm for M10
Fastening screws	Cheese head screws ISO 4762 4xM8 - 8.8 (SW6)
Recommended tightening moment of the fastening screws M <sub>A</sub>	34 Nm
Tightening moment for generation of tension force M <sub>A</sub>	34 Nm on Cheese head screws in the long hole
Admissible force of the tension plates F <sub>adm</sub>	61600 N

BRECO order example

<b>Tension plate</b>	<b>90 x 180 ATL10 Var B Type 1 without tensioning device</b>
Width B	90
Length L	180
Belt type / pitch	ATL10
Variant	Var B
Type	Type 1
Version	without tensioning device



Belt width b/ belt type	B [mm]	L [mm]	M [mm]	m <sub>1</sub> [mm]	a [mm]	c [mm]	h [mm]	H [mm]
75 AT10	120	180	97	19,5	65	29,5	19,09	33
100 AT10	150	200	124	25,5	72	35	25,09	42
75 BATK10	120	180	97	19,5	65	29,5	19,09	33
100 BATK10	150	200	124	25,5	72	35	25,09	42
75 ATL10	120	180	97	19,5	65	29,5	18,8	33
100 ATL10	150	200	124	25,5	72	35	24,8	42
75 ATS15	120	180	97	19,5	65	29,5	18,38	33
100 ATS15	150	200	124	25,5	72	35	24,38	42
75 BATK15	120	180	97	19,5	65	29,5	18,58	33
100 BATK15	150	200	124	25,5	72	35	24,58	42
75 T20	120	180	97	19,5	65	29,5	18,08	33
100 T20	150	200	124	25,5	72	35	24,08	42
75 AT20	120	180	97	19,5	65	29,5	18,08	33
100 AT20	150	200	124	25,5	72	35	24,08	42
75 ATL20	120	180	97	19,5	65	29,5	17,68	33
100 ATL20	150	200	124	25,5	72	35	23,68	42



**Note:**  
For the timing belt types 75 BATK10/BATK15 and 100 BATK10/BATK15 it is necessary to indicate the curve direction!

**Mounting instructions**

Tension plate	Variant B type 2	
	75 mm	100 mm
Belt width	75 mm	100 mm
Pre-assembly screws (SW=wrench size across flats)	Countersunk head screws ISO 10642, 6xM10 - 8.8 (SW6)	Countersunk head screws ISO 10642, 6xM12 - 8.8 (SW8)
Recommended tightening moment of the pre-assembly screws M <sub>A</sub>	18 Nm	28 Nm
Fastening screws	Cheese head screws ISO 4762 4xM10 - 8.8 (SW8)	Cheese head screws ISO 4762 4xM12 - 8.8 (SW10)
Recommended tightening moment of the fastening screws M <sub>A</sub>	45 Nm	70 Nm
Tightening moment for generation of tension force M <sub>A</sub>	64 Nm on Countersunk head screws	114 Nm on Countersunk head screws
Admissible force of the tension plates F <sub>adm</sub>	95200 N	126000 N

**BRECO order example**

**Tension plate** 120 x 180 BATK15 Var B Type 2 left

Width B

Length L

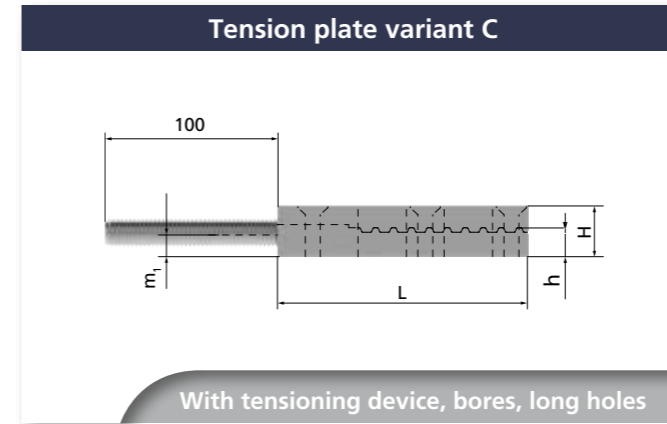
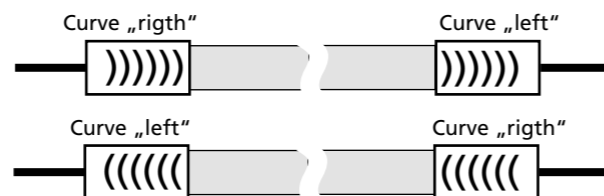
Belt type / pitch

Variant

Type

Curve direction (only BATK10, BATK15)

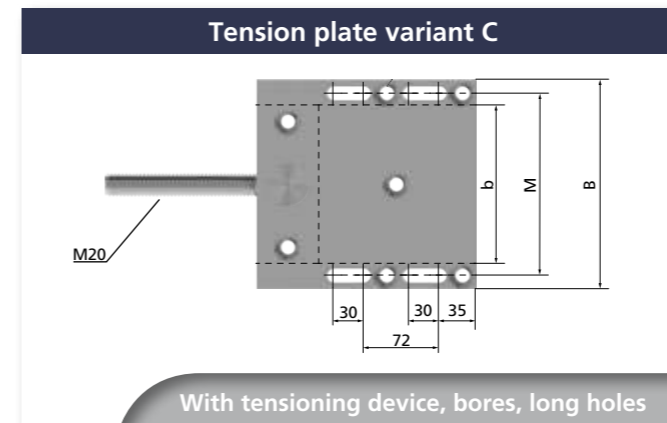
**Note:**  
The gear inserts for BATK10 and BATK15 depend on the curve direction „left“ or „right“.



Belt width b/ belt type	B [mm]	L [mm]	M [mm]	m <sub>1</sub> [mm]	h	H [mm]
150 AT10	200	210	174	25,5	25,05	42
150 ATS15	200	210	174	25,5	24,25	42
150 T20	200	210	174	25,5	24,20	42
150 AT20	200	210	174	25,5	23,85	42

**Mounting instructions**

Tension plate	Variante C
Belt width	150 mm
Pre-assembly screws (SW=wrench size across flats)	Countersunk head screws ISO 10642, 7xM12 - 8.8 (SW8), additional screw M12 in the middle of the belt
Recommended tightening moment of the pre-assembly screws M <sub>A</sub>	42 Nm
Fastening screws	Cheese head screws ISO 4762 4xM12 - 8.8 (SW10)
Recommended tightening moment of the fastening screws M <sub>A</sub>	105 Nm
Tightening moment for generation of tension force M <sub>A</sub>	122 Nm on Countersunk head screws
Admissible force of the tension plates F <sub>adm</sub>	190400 N



**BRECO order example**

**Tension plate** 200 x 210 AT10 Var C without tensioning device

Width B

Length L

Belt type / pitch

Variant

Version

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](http://www.mulco.de).

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### Pre-tension

Pre-tension highly influences the operating conduction and life of the whole gearing. It is therefore one of the few figures which the user of tooth-belt drives has to set for himself.

Pre-tension depends on the geometry and the stress of the tooth-belt drive so that the high values of the positioning and repetition precision are attainable, and through that the desirable transmitting behaviour can only be realised under the condition of a certain pre-tension.

Info brochure  
BRECO Measuring Device TSM alpha 1  
Download at [www.breco.de](http://www.breco.de)



### BRECO® Measuring Device TSM alpha 1

The fully electronic measuring instrument enables the controlling of the set-up pre-tension in tooth-belt drives in a very easy and secure way. Special sensors register the vibration of a tooth-belt that has been stimulated in advance. The instrument registers the belt's self-frequency. The light insensitive sensors allow for a relatively high measuring distance between the sensor and the belt. For this reason the instrument is very well adjusted to production and installation/assembly conditions.

Using the basic physical principle of a string vibration, the pre-tension and self-frequency of the belt are connected with each other. It is therefore an easy and fast task to calculate the belt's pre-tension according to the measured frequency.

#### The advantages

- easy-handling
- contactless measurement with one-sided belt touch
- measuring on all belt types including all different types of tension members, e.g. steel, Kevlar, glasfiber
- reliable measuring results that are highly reproducible
- connection for external sensor for measuring hard-accessible parts
- an LCD indicating how full the battery is
- optical and acoustical indication of necessity of battery change
- measuring range: 5 to 500 Hz
- maximum measurement tolerance:  $\pm 1$  Hz (more than 100 Hz  $\pm 2$  Hz)
- dimension: 120 mm x 65 mm x 30 mm
- weight: 160 g
- battery-powered
- 3-digit LCD-display
- transport suitcase



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**Drive elements from BRECO – safety in motion.**

## 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® M)
- Endless joined timing belts (BRECO® V)
- Timing belt lock for AT10, T10

**ATN-System - BRECO® 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® M)
- Open length flat belts (BRECO® M)
- Endless joined flat belts (BRECO® 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

**BRECOprotect®-timing belts**

- Product range

**Further information about:**

- Sales partners
- New products and developments
- Available catalogues can be found at [www.breco.de](http://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 quoted subject to tolerances and must not be interpreted as a guaranteed delivery specification. We reserve the right to make technical changes as part of our continuous product development process.



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# Keeping things moving!



This company positioning confronts BRECO GmbH & Co. Zahnscheiben KG as manufacturer of BRECO® Components with new great challenges, which are accepted with pleasure.

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