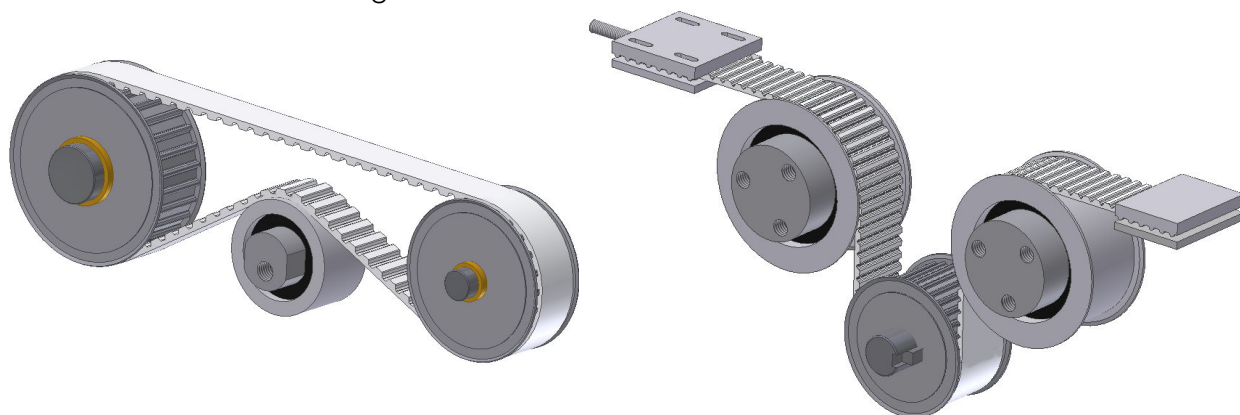


## Tensioner Idlers – Solutions for fixed-center drives

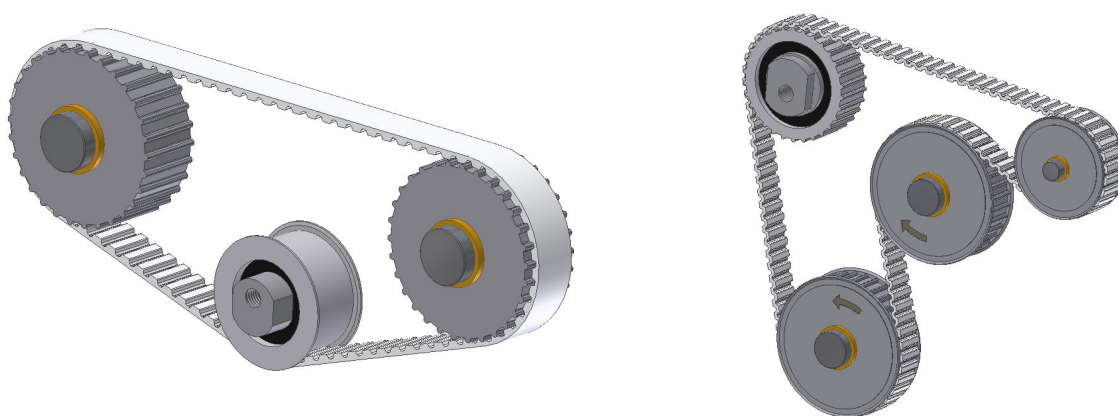
All timing belt drives require some form of tension adjustment. Tensioner idlers are a common way to provide this adjustment while maintaining fixed centers for the remaining pulleys. Placement of the tensioner may be on the belt back or tooth side provided that minimum recommended diameters are observed. Tensioner idlers may also be used to route the belt in a drive or increase wrap on a small pulley for higher power transmission capability.

Application Examples for tensioner idlers:

Back Bending Idler – Also known as Contra-flexure. Typically used to increase belt wrap on the drive pulley. Refer to appendix for minimum recommended pulley and idler sizes. Diameter recommendations differ for forward and back bending.



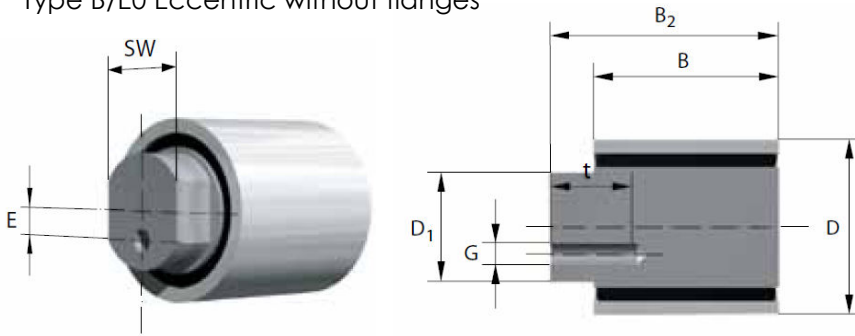
Tooth Side Idler – Used for tensioning adjustment or routing belt. Idler may be flat or toothed type.



Standard material is a steel shaft and bearings with aluminum housing and flanges. Custom tensioner idlers or materials are available as modified items for small quantities and custom items for large quantities. Permanently greased bearings are used with max continuous temperature of 160°F and intermittent 240°F.

## Eccentric Adjustment Tensioners - Compact integrated tensioning design

Type B/E0 Eccentric without flanges

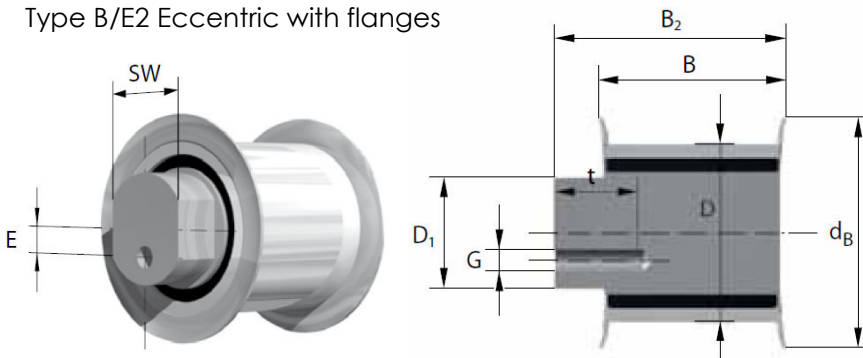


Part description:

B/E0 B/D-0 Tensioner

B = Face width  
D = Outside Diameter

Type B/E2 Eccentric with flanges



Part description:

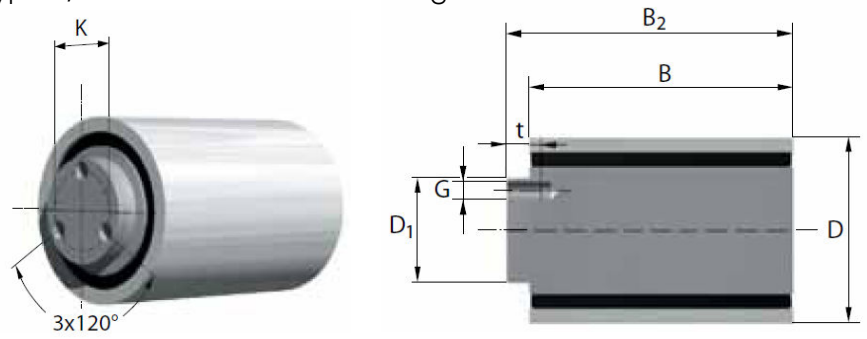
B/E2 B/D-2 Tensioner

B = Face width  
D = Outside Diameter

Eccentric Adjustment Tensioner - Dimensions												
B (mm)	D (mm)	Max Belt Width (mm)	d <sub>B</sub> (mm)	B <sub>2</sub> (mm)	E (mm)	G	t (mm)	D <sub>1</sub> (mm)	SW (mm)	Allowable Loading		Max RPM
										Dynamic (N)	Static (N)	
34	32	25	41.5	42	5	M6	10	20	17	7950	3920	10000
40	60	32	71	50	5	M12	20	30	27	19300	13100	5000
64	60	50	71	74	5	M12	20	30	27	19300	13100	5000
40	80	32	91	50	5	M12	20	30	27	19300	13100	5000
64	80	50	91	74	5	M12	20	30	27	19300	13100	5000
90	80	75	91	110	5	M20	32	45	36	48000	38000	5000
40	120	32	132	50	5	M12	20	30	27	19300	13100	5000
64	120	50	132	74	5	M12	20	30	27	19300	13100	5000
70	120	50	137	85	5	M20	30	45	36	70500	48000	5000
90	120	75	137	110	5	M20	32	45	36	48000	38000	5000
40	150	32	162	50	5	M12	20	30	27	19300	13100	5000
64	150	50	162	74	5	M12	20	30	27	19300	13100	5000
90	150	75	162	110	5	M20	32	45	36	48000	38000	5000

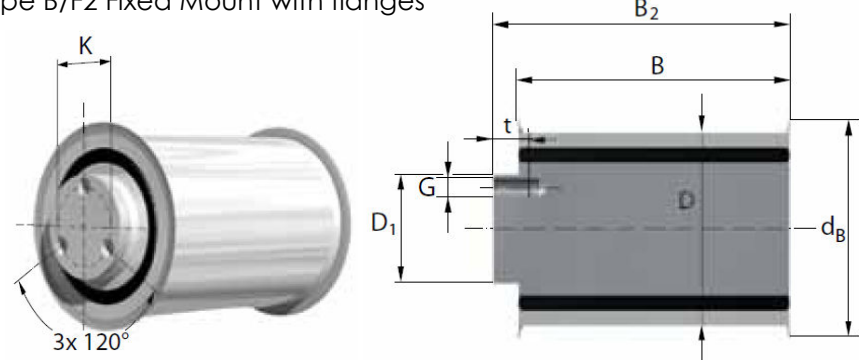
**3-Bolt Fixed Mount Tensioners - May be mounted in slots or on a arm for adjustment**

Type B/F0 Fixed Mount without flanges



Part description:  
 B/F0 B/D-0 Tensioner  
 B = Face width  
 D = Outside Diameter

Type B/F2 Fixed Mount with flanges



Part description:  
 B/F2 B/D-2 Tensioner  
 B = Face width  
 D = Outside Diameter

**Fixed Mount Tensioner - Dimensions**

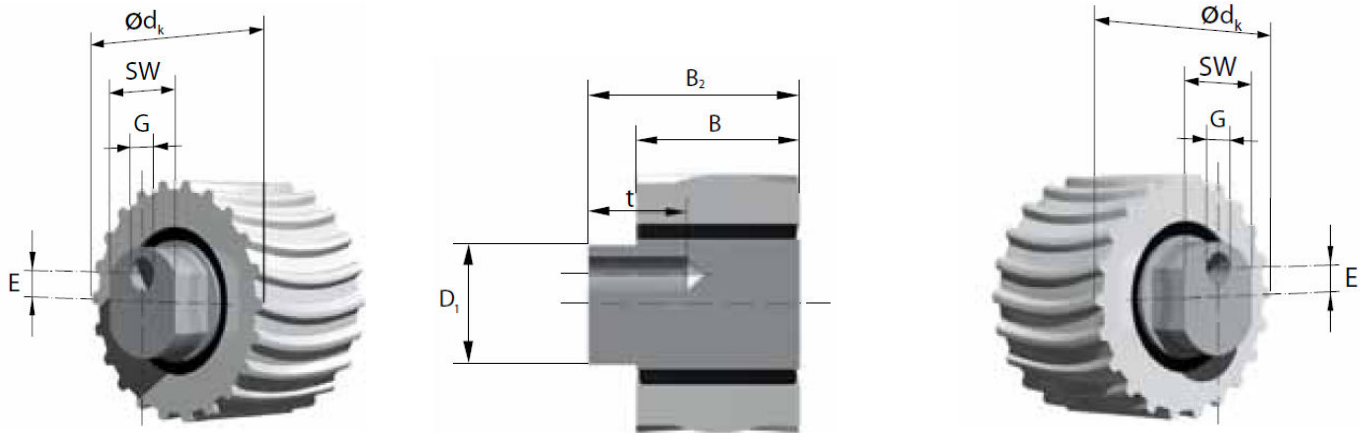
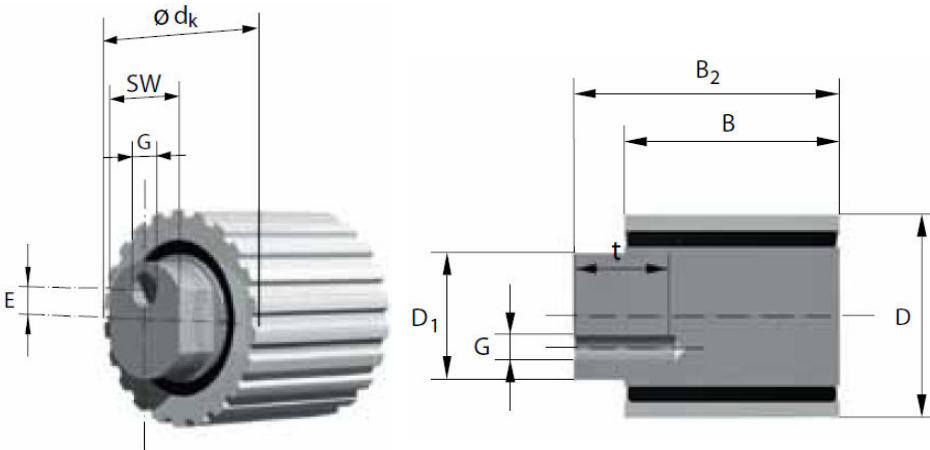
B (mm)	D (mm)	Max Belt Width (mm)	dB (mm)	B2 (mm)	K (mm)	G	t (mm)	D1 (mm)	Allowable Loading		Max RPM
									Dynamic (N)	Static (N)	
114	60	100	71	124	34	M8	15	45	19300	13100	5000
114	80	100	91	124	34	M8	15	45	19300	13100	5000
70	120	50	137	85	65	M12	24	85	70500	48000	5000
90	120	75	137	110	65	M12	24	85	70500	48000	5000
117	120	100	137	131	65	M12	24	85	70500	48000	5000
70	180	50	204	85	65	M12	25	106	70500	48000	5000
90	180	75	204	110	80	M16	25	106	106000	76000	5000
117	180	100	204	131	80	M16	25	106	106000	76000	5000

## Toothed Eccentric Tensioners – For the smoothest running on the inside of the belt

Type B/E0 Eccentric Mount without flanges

Part description:  
B/E0 AL B Pitch/Z-0 Tensioner

B = Face width  
Z = Number of teeth  
Specify Left or Right rotation  
for BAT/BATK pitches











Toothed Eccentric Tensioner - Dimensions

B (mm)	Pitch	Number of Teeth	Max Belt Width (mm)	D <sub>k</sub> (mm)	B <sub>2</sub> (mm)	E (mm)	G	t (mm)	D <sub>1</sub> (mm)	SW (mm)	Allowable Loading		Max RPM
											Dynamic (N)	Static (N)	
34	T5	22	25	34.15	42	5	M6	10	20	17	7950	3920	30000
40	T10	20	32	61.80	50	5	M12	20	30	27	19300	13100	30000
64	T10	20	50	61.80	74	5	M12	20	30	27	19300	13100	15000
34	AT5	22	25	33.79	42	5	M6	10	20	17	7950	3920	15000
40	AT10	20	32	61.84	50	5	M12	20	30	27	19300	13100	15000
64	AT10	20	50	61.84	74	5	M12	20	30	27	19300	13100	15000
40	BAT10	20	32	61.84	50	5	M12	20	30	27	19300	13100	15000
64	BAT10	20	50	61.84	74	5	M12	20	30	27	19300	13100	15000
40	BATK10	24	32	74.57	50	5	M12	20	30	27	19300	13100	15000
64	BATK10	24	50	74.57	74	5	M12	20	30	27	19300	13100	15000

Appendix:

MINIMUM NUMBER OF PULLEY TEETH AND IDLER DIAMETER

Application Pitch					Application Pitch				
	Min. # of Pulley Teeth (no Back Bending)	Min. # of Pulley Teeth (with Back Bending)	Min. Dia. of Flat Idler Running on Tooth Side (mm)	Min. Dia. of Flat Idler Running on Belt Back (mm)		Min. # of Pulley Teeth (no Back Bending)	Min. # of Pulley Teeth (with Back Bending)	Min. Dia. of Flat Idler Running on Tooth Side (mm)	Min. Dia. of Flat Idler Running on Belt Back (mm)
T 2	10	18	15	15	H	14	20	60	80
T 2.5	15	18	15	18	XH	18	25	150	180
T 5	10	15	30	30	BAT 10	20	25	60	120
T 10	12	20	60	60	BATK 10	20	25	60	120
T 20	15	25	120	120	BAT 15	20	30	100	150
AT 3	15	25	30	30	BATK 15	20	30	100	150
AT 5	15	20	25	60	SFAT 10	15	25	50	120
AT 10	15	25	50	120	SFAT 15	20	25	100	150
AT(S) 15	25	40	120	250	SFAT 20	18	25	120	180
AT 20	18	25	120	180	TK5 K6	25	25	60	80
ATN 10	25	—	80	—	TK10 K6	25	25	60	80
ATN 12.7	20	—	80	—	TK10 K13	25	25	80	120
ATN 20	20	—	125	—	TK20 K13	18	25	120	180
ATL 5	25	25	40	60	ATK5 K6	25	25	60	80
ATL 10	25	25	80	150	ATK10 K6	25	25	60	120
ATL 20	25	25	160	250	ATK10 K13	20	25	60	120
ATP 10	15	25	50	120	ATK20 K13	20	25	120	180
ATP 15	20	30	100	160	ATN10 K6	25	—	80	—
MXL	10	18	15	15	ATN12.7 K6	20	—	80	—
XL	10	15	30	30	HK13	18	20	80	120
L	15	20	60	60	LK13	25	25	80	80