

2. An Introduction to Synchronous (Rubber, Polyurethane) Belts

Our synchronous belts have been designed to incorporate the unique features of synchronous transmission belts with those of both gears and flat chain belts. With a wide variety of models and dimensions available, design is easy for either light or heavy loads. These belts are

available in either synthetic rubber or polyurethane (Bancollan). Please feel free to select the right materials for your needs.

(1) Rubber Synchronous Belts

Features

■ **Precise Transmission**

The belt meshes accurately with its pulleys, thereby realizing its stated rotational speeds and degrees of movement.

■ **Economical Transmission**

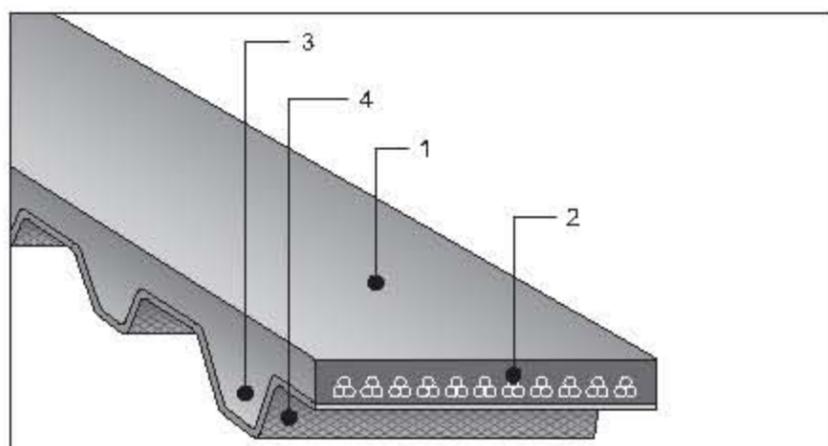
- As there is no contact between metal, there is no need to apply lubricant to the equipment.
- There is no need to be concerned about high original tensions, meaning that axle and motor size can be reduced.

■ **Relaxed Working Conditions**

In addition to our standard specifications, we also manufacture synchronous belts with the following unique specifications.

- Synchronous Belts for Big Loads
(Used for the transmission of big loads···XH, XXH types)
- Oil-Resistant Synchronous Belts
(Used in settings where large amounts of oil must be applied)
- Heat-Resistant Synchronous Belts
(Used in high-temperature environments between 90°C and 120°C)
- High Electrical Resistance Synchronous Belts
(When resistance of more than 100MΩ is required)

Structure



- | | |
|---------------------------------|--------------------|
| 1. Rubber backing (Chloroprene) | 2. Tensile members |
| 3. Rubber tooth (Chloroprene) | 4. Tooth canvas |

(2) Bancollan Synchronous Belts

Features

■ **Strong Resistance to Oils and the Ozone**

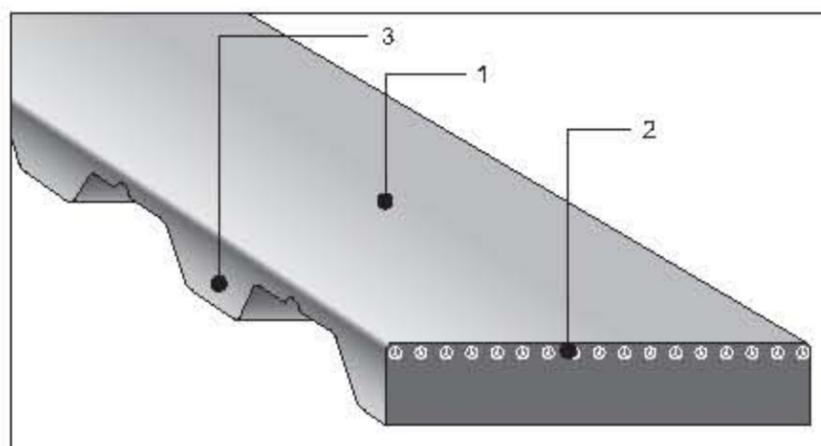
As these products will not expand from absorbing oil or crack due exposure to the ozone, they are ideal for use under the following conditions:

- For use in metallic machine tools, printers, and other such situations in which oil may adhere to the gears and the bearings.
- Situations in which the belt is to be used with optical equipment, copiers, projectors, and other such equipment which emits ozone particles.

■ **Clean Transmission and Conveyance**

Eye-catching colors without any sign of the dispersion of rubber chips help ensure the cleanliness of the surrounding area. This product is suited for use with OA equipment and food packaging machines.

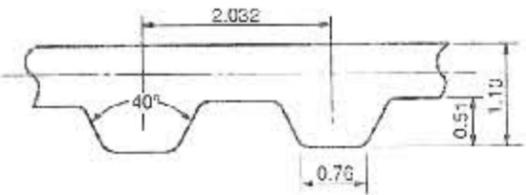
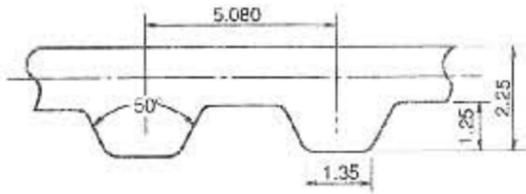
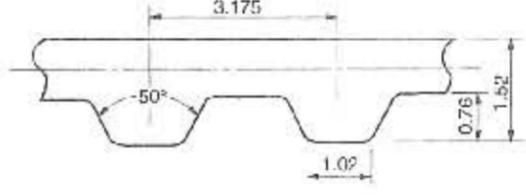
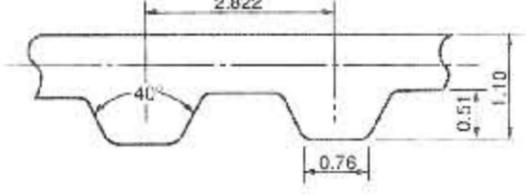
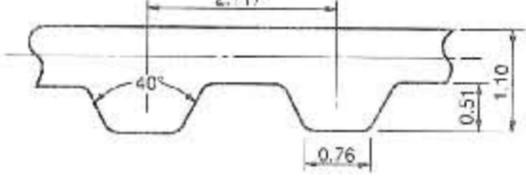
Structure



- | | |
|----------------------------------|--------------------|
| 1. Rubber backing (Polyurethane) | 2. Tensile members |
| 3. Rubber tooth (Polyurethane) | |

Belt Dimensions and Labeling

· Rubber Synchronous Belts

Belt type	Dimensions (mm)	Belt Labeling
MXL type		B 250 MXL 6.4 B: Belt 250: Number of teeth on the belt (250 teeth: 508.0mm) MXL: Belt type (MXL type) 6.4: Belt width (6.4mm)
XL type		300 XL 037 300: Belt's nominal length (30 inches: 762mm) XL: Belt type (XL type) 037: Belt's nominal width (0.37 inches: 9.5mm)
XXL type		60 XXL 4.8 60: Number of teeth on the belt (60 teeth: 190.5mm) XXL: Belt type (XXL type) 4.8: Belt width (4.8mm)
SL9 type		160 SL9 3.2 160: Number of teeth on the belt (160 teeth: 451.52mm) SL9: Belt type (SL9 type) 3.2: Belt width (3.2mm)
SL12 type		80 SL12-3.2 80: Number of teeth on the belt (80 teeth: 169.36mm) SL12-3.2: Belt type (SL12 type) 3.2: Belt width (3.2mm)

· Bancollan Synchronous Belts

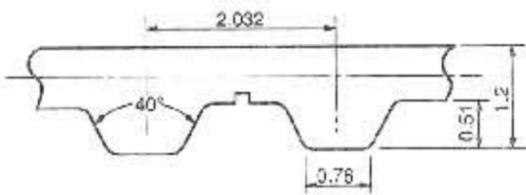
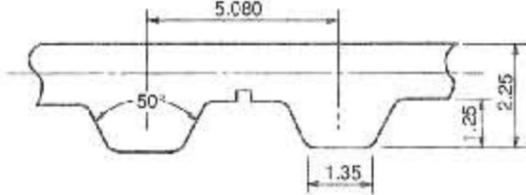
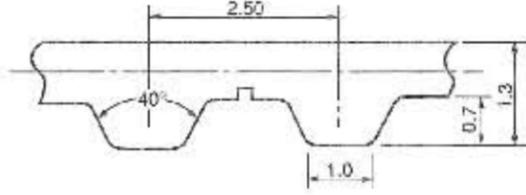
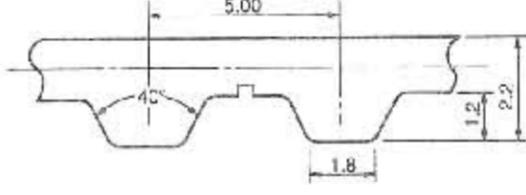
Belt type	Dimensions (mm)	Belt Labeling
MXL type		180 MXL 6.4 UK 180: Number of teeth on the belt (180 teeth: 365.76mm) MXL: Belt type (MXL type) 6.4: Belt width (6.4mm) UK: Tensile members' symbol U: Materials' symbol
XL type		240 XL 025 UK 240: Belt's nominal length (24 inches: 609.6mm) XL: Belt type (XL type) 025: Belt's nominal width (0.25 inches: 6.4mm) UK: Tensile members' symbol U: Materials' symbol
T2.5 type		10 T2.5-245 10: Belt width (10mm) T2.5-245: Belt's pitch perimeter (245mm) T2.5: Belt type (T2.5 type)
T5 type		20 T5-350 20: Belt width (20mm) T5-350: Belt's pitch perimeter (350mm) T5: Belt type (T5 type)

Table of the Standard Lengths of Synchronous Belts (Rubber and Polyurethane)

MXL Type Pitch: 2.032mm					MXL Type Pitch: 2.032mm					MXL Type Pitch: 2.032mm				
Name	Pitch perimeter (mm)	Number of teeth	R	U	Name	Pitch perimeter (mm)	Number of teeth	R	U	Name	Pitch perimeter (mm)	Number of teeth	R	U
B30MXL	60.96	30	-	○	B126MXL	256.03	126	○	○	B271MXL	550.67	271	○	-
B35MXL	71.12	35	-	○	B127MXL	265.06	127	○	-	B273MXL	554.74	273	○	-
B37MXL	75.18	37	-	○	B128MXL	269.10	128	○	○	B276MXL	558.80	276	○	-
B40MXL	81.28	40	-	○	B129MXL	262.13	129	○	-	B280MXL	568.96	280	○	○
B41MXL	83.31	41	-	○	B130MXL	264.16	130	○	○	B281MXL	570.99	281	○	-
B42MXL	85.34	42	-	○	B131MXL	266.19	131	○	-	B285MXL	579.12	285	○	-
B44MXL	89.41	44	○	-	B132MXL	268.22	132	○	○	B286MXL	585.22	286	○	-
※ B45MXL	91.44	45	○	○	B134MXL	272.29	134	○	○	B290MXL	589.29	290	○	-
B46MXL	97.54	48	○	○	B135MXL	274.32	135	○	-	B295MXL	599.44	295	○	○
※ B50MXL	101.60	50	○	○	B136MXL	276.35	136	-	○	B297MXL	603.50	297	○	-
B52MXL	105.66	52	○	○	B137MXL	278.38	137	○	-	B300MXL	608.60	300	○	○
B53MXL	107.70	53	○	○	B138MXL	280.42	138	○	-	B305MXL	619.78	305	○	○
B54MXL	109.73	54	○	○	B140MXL	284.48	140	○	○	B306MXL	625.88	306	○	-
※ B55MXL	111.76	55	○	○	B142MXL	288.54	142	○	-	B310MXL	629.92	310	○	○
B56MXL	113.79	56	○	○	B144MXL	292.61	144	○	○	B312MXL	633.98	312	○	-
B57MXL	115.82	57	○	○	B146MXL	294.64	146	○	-	B316MXL	640.18	316	○	-
B59MXL	119.89	59	○	-	B148MXL	298.67	148	○	-	B318MXL	645.19	318	○	-
※ B60MXL	121.92	60	○	○	B148MXL	300.74	148	○	-	B320MXL	650.24	320	○	-
B61MXL	123.95	61	○	-	B160MXL	304.80	160	○	○	B323MXL	656.34	323	○	-
B62MXL	125.98	62	○	-	B151MXL	308.83	151	○	-	B326MXL	662.43	326	○	-
B63MXL	128.02	63	○	○	※ B155MXL	314.96	155	○	○	B328MXL	666.50	328	○	-
B64MXL	130.05	64	○	-	B157MXL	319.02	157	-	○	B330MXL	670.56	330	○	○
B66MXL	132.09	66	○	○	B158MXL	321.06	158	○	-	B332MXL	674.62	332	○	-
B67MXL	136.14	67	○	○	B159MXL	323.09	159	○	-	B334MXL	678.69	334	○	-
B68MXL	138.18	68	○	○	B160MXL	325.12	160	○	○	B336MXL	682.75	336	○	○
B69MXL	140.21	69	○	-	B162MXL	329.18	162	○	-	B337MXL	684.78	337	○	-
※ B70MXL	142.24	70	○	○	B163MXL	331.22	163	○	-	B340MXL	690.88	340	-	○
B71MXL	144.27	71	○	○	B164MXL	333.25	164	○	-	B347MXL	705.10	347	○	○
B72MXL	146.30	72	○	○	B165MXL	335.28	165	○	○	B350MXL	711.20	350	○	○
B73MXL	148.34	73	○	○	B169MXL	343.41	169	○	-	B364MXL	719.33	364	○	-
B74MXL	150.37	74	○	-	B170MXL	345.44	170	○	○	B366MXL	721.36	366	○	-
※ B75MXL	152.40	75	○	○	※ B175MXL	355.60	175	○	○	B368MXL	727.46	368	○	-
B76MXL	154.43	76	○	○	B177MXL	359.66	177	○	-	B369MXL	729.49	369	○	-
B77MXL	156.46	77	○	-	B180MXL	365.76	180	○	○	B380MXL	731.52	380	○	○
B78MXL	158.50	78	○	-	B182MXL	369.82	182	-	-	B384MXL	739.65	384	○	-
B79MXL	160.53	79	○	○	B183MXL	371.86	183	-	-	B386MXL	741.68	386	○	-
※ B80MXL	162.56	80	○	○	B184MXL	373.89	184	○	○	B371MXL	753.67	371	○	-
B81MXL	164.59	81	○	○	B186MXL	382.02	186	○	-	B372MXL	755.69	372	○	-
B82MXL	166.62	82	○	○	B190MXL	388.09	190	○	○	B380MXL	772.16	380	○	-
B83MXL	168.66	83	○	○	B192MXL	390.14	192	○	-	B386MXL	788.42	386	○	-
B86MXL	172.72	86	○	○	B194MXL	394.21	194	-	○	B397MXL	808.70	397	○	-
B88MXL	174.75	88	○	-	B196MXL	398.24	196	○	○	B400MXL	812.80	400	○	-
B87MXL	176.78	87	○	○	B198MXL	398.27	198	○	-	B402MXL	816.86	402	○	-
B88MXL	178.82	88	○	○	※ B200MXL	408.40	200	○	○	B406MXL	822.96	406	○	-
※ B90MXL	182.88	90	○	○	B204MXL	414.53	204	○	-	B410MXL	833.12	410	○	-
B91MXL	184.91	91	○	○	B205MXL	416.56	205	○	○	B413MXL	838.22	413	○	-
B92MXL	186.94	92	○	-	B206MXL	422.66	206	○	-	B426MXL	863.60	426	○	-
B93MXL	188.98	93	○	-	B210MXL	428.72	210	○	○	B431MXL	875.79	431	○	-
B94MXL	191.01	94	○	○	B212MXL	430.78	212	○	○	B434MXL	881.89	434	○	-
B95MXL	193.04	95	○	○	B215MXL	436.89	215	○	○	B436MXL	883.92	436	○	-
B96MXL	195.07	96	○	-	B220MXL	447.04	220	○	○	B438MXL	890.02	438	-	○
B97MXL	197.10	97	○	○	B221MXL	449.07	221	○	-	B440MXL	894.08	440	○	-
B98MXL	199.14	98	○	○	B222MXL	451.10	222	○	-	B446MXL	910.34	446	○	-
B99MXL	201.17	99	○	-	B224MXL	455.17	224	○	-	B453MXL	920.50	453	○	○
※ B100MXL	203.20	100	○	○	※ B225MXL	457.20	225	○	○	B464MXL	942.65	464	○	-
B101MXL	205.23	101	○	-	B226MXL	459.23	226	○	-	B466MXL	950.68	466	○	○
B102MXL	207.26	102	○	○	B228MXL	463.30	228	○	-	B473MXL	981.14	473	○	-
B103MXL	209.30	103	○	○	B230MXL	467.36	230	○	○	B476MXL	985.20	476	○	-
B104MXL	211.33	104	○	-	B232MXL	471.42	232	○	-	B480MXL	975.36	480	○	-
B106MXL	213.36	106	○	-	B234MXL	475.49	234	○	-	B483MXL	981.46	483	-	○
B108MXL	215.39	108	○	○	B236MXL	479.55	236	○	○	B487MXL	989.58	487	○	-
B108MXL	219.46	108	○	-	B239MXL	485.65	239	○	-	B495MXL	1001.78	495	○	-
B109mXL	221.49	109	○	-	B240MXL	487.68	240	○	○	B496MXL	1011.94	496	○	-
※ B110MXL	223.52	110	○	○	B246MXL	497.84	246	○	-	B500MXL	1016.00	500	○	-
B112MXL	227.58	112	○	○	B248MXL	503.94	248	○	-	B516MXL	1048.51	516	○	-
B114MXL	231.65	114	○	○	B249MXL	505.97	249	○	-	B522MXL	1060.70	522	○	-
B115MXL	233.68	115	○	○	※ B250MXL	508.00	250	○	○	B524MXL	1064.77	524	○	-
B116MXL	236.78	116	○	○	B251MXL	510.03	251	○	-	B525MXL	1066.80	525	○	-
B119MXL	241.81	119	○	-	B256MXL	518.16	256	○	○	B536MXL	1087.12	536	○	-
B120MXL	243.84	120	○	○	B256MXL	520.19	256	○	-	B550MXL	1117.60	550	○	-
B121MXL	245.87	121	○	-	B260MXL	528.32	260	○	○	B579MXL	1176.53	579	-	○
B122MXL	247.90	122	○	-	B262MXL	532.38	262	○	-	B591MXL	1200.91	591	○	-
B123MXL	249.94	123	○	○	B266MXL	538.48	266	○	○	B612MXL	1243.68	612	○	-
B124MXL	251.97	124	○	-	B268MXL	544.58	268	○	-	B660MXL	1341.12	660	-	○
※ B125MXL	254.00	125	○	○	B270MXL	548.64	270	-	○	B666MXL	1351.28	666	○	-

Notes) Items marked with a ※ are of standard RMA size.

Table of the Standard Lengths of Synchronous Belts (Rubber and Polyurethane)

XL Type Pitch : 5.080mm					XL Type Pitch : 5.080mm					XL Type Pitch : 5.080mm				
Name	Pitch perimeter (mm)	Number of teeth	R	U	Name	Pitch perimeter (mm)	Number of teeth	R	U	Name	Pitch perimeter (mm)	Number of teeth	R	U
50XL	127.00	25	○	·	166XL	421.64	83	○	○	344XL	873.76	172	○	·
60XL	162.40	30	○	○	168XL	426.72	84	○	○	348XL	883.92	174	○	·
64XL	162.56	32	○	·	※ 170XL	431.80	85	○	○	352XL	894.08	176	○	·
68XL	172.72	34	○	·	172XL	436.88	86	○	·	356XL	904.24	178	○	·
※ 70XL	177.80	35	○	○	174XL	441.96	87	○	·	360XL	914.40	180	○	·
72XL	182.88	36	○	·	176XL	447.04	88	○	○	364XL	924.56	182	○	·
74XL	187.96	37	○	·	178XL	452.12	89	○	·	370XL	939.80	185	○	·
76XL	193.04	38	○	·	※ 180XL	457.20	90	○	○	372XL	944.88	186	○	·
78XL	198.12	39	○	·	182XL	462.28	91	○	·	376XL	955.04	188	○	○
※ 80XL	203.20	40	○	○	184XL	467.36	92	○	·	384XL	975.36	192	○	·
84XL	213.36	42	○	○	186XL	472.44	94	○	·	388XL	980.44	193	○	·
88XL	223.52	44	○	·	※ 190XL	482.60	95	○	○	388XL	985.52	194	○	·
※ 90XL	228.60	45	○	○	194XL	492.76	97	○	·	390XL	990.60	195	○	·
92XL	233.68	46	○	·	196XL	497.84	98	○	·	396XL	1005.84	198	○	○
94XL	238.76	47	○	·	198XL	502.92	99	○	○	400XL	1016.00	200	○	·
96XL	243.84	48	○	○	※ 200XL	508.00	100	○	○	408XL	1036.32	204	○	·
98XL	248.92	49	○	·	202XL	513.08	101	○	○	414XL	1051.56	207	·	○
※ 100XL	254.00	50	○	○	206XL	523.24	103	○	·	424XL	1076.96	212	○	·
102XL	259.08	51	○	·	208XL	528.32	104	○	·	430XL	1092.20	215	○	○
104XL	264.16	52	○	·	※ 210XL	533.40	105	○	○	450XL	1143.00	225	○	·
106XL	269.24	53	○	·	212XL	538.48	106	○	○	460XL	1158.24	228	○	·
108XL	274.32	54	○	·	214XL	543.56	107	○	·	460XL	1168.40	230	○	○
※ 110XL	279.40	55	○	○	216XL	548.64	108	○	·	470XL	1193.80	235	○	·
112XL	284.48	56	○	·	※ 220XL	558.80	110	○	○	476XL	1214.12	239	·	○
114XL	289.56	57	○	○	222XL	563.88	111	○	·	480XL	1219.20	240	·	○
116XL	294.64	58	○	·	224XL	568.96	112	○	·	490XL	1244.80	245	○	○
118XL	299.72	59	○	·	228XL	579.12	114	○	·	496XL	1259.84	248	○	·
※ 120XL	304.80	60	·	○	※ 230XL	584.20	115	○	○	610XL	1295.40	255	○	·
122XL	309.88	61	○	·	234XL	594.36	117	○	·	612XL	1300.48	256	·	○
124XL	314.96	62	○	·	236XL	599.44	118	·	○	640XL	1371.80	270	○	·
126XL	320.04	63	○	·	※ 240XL	609.60	120	○	○	664XL	1432.56	282	○	○
128XL	325.12	64	○	·	244XL	619.76	122	○	·	662XL	1503.68	296	○	·
※ 130XL	330.20	65	○	○	248XL	629.92	124	○	·	608XL	1544.32	304	○	·
132XL	335.28	66	○	·	※ 250XL	635.00	125	○	○	630XL	1600.20	315	○	○
134XL	340.36	67	○	·	254XL	645.16	127	·	○	638XL	1620.52	319	○	·
136XL	345.44	68	○	·	※ 260XL	660.40	130	○	○	670XL	1701.80	335	·	○
138XL	350.52	69	○	·	262XL	665.48	131	○	·	686XL	1742.44	343	○	○
※ 140XL	355.60	70	○	○	266XL	675.64	133	○	·	730XL	1854.20	365	·	○
142XL	360.68	71	○	·	270XL	685.80	135	○	·	826XL	2109.12	414	○	·
144XL	365.76	72	○	·	276XL	701.04	138	○	·	860XL	2184.40	430	○	·
146XL	370.84	73	○	·	280XL	711.20	140	○	·	966XL	2265.52	444	○	·
148XL	375.92	74	○	·	282XL	716.28	141	○	·	900XL	2286.00	450	○	·
※ 150XL	381.00	75	○	○	290XL	736.60	145	○	○	906XL	2306.32	454	○	·
152XL	386.08	76	○	·	300XL	762.00	150	○	○	914XL	2321.56	457	○	·
154XL	391.16	77	○	○	310XL	787.40	155	○	·	926XL	2362.04	463	○	·
156XL	396.24	78	○	○	314XL	797.56	157	○	·	1014XL	2575.56	507	○	·
158XL	401.32	79	○	·	320XL	812.80	160	○	○	1020XL	2590.80	510	○	·
※ 160XL	406.40	80	○	○	322XL	817.88	161	○	·					
162XL	411.48	81	○	·	330XL	838.20	165	○	○					
164XL	416.56	82	○	·	340XL	863.60	170	○	·					

(Notes) Items marked with a ※ are of standard RMA size.

T2.5 type (Polyurethane)

Pitch : 2.5mm

Name	Pitch perimeter (mm)	Number of teeth
T2.5-120	120.0	48
T2.5-145	145.0	58
T2.5-160	160.0	64
T2.5-177.5	177.5	71
T2.5-200	200.0	80
T2.5-230	230.0	92
T2.5-245	245.0	98
T2.5-265	265.0	106
T2.5-285	285.0	114
T2.5-305	305.0	122
T2.5-317.5	317.5	127
T2.5-330	330.0	132
T2.5-380	380.0	152
T2.5-420	420.0	168
T2.5-480	480.0	192
T2.5-492.5	492.5	197
T2.5-500	500.0	200
T2.5-600	600.0	240
T2.5-620	620.0	248
T2.5-650	650.0	260
T2.5-780	780.0	312
T2.5-915	915.0	366
T2.5-950	950.0	380

T5 type (Polyurethane)

Pitch : 5.0mm

Name	Pitch perimeter (mm)	Number of teeth
T5-165	165.0	33
T5-185	185.0	37
T5-200	200.0	40
T5-215	215.0	43
T5-220	220.0	44
T5-225	225.0	45
T5-245	245.0	49
T5-250	250.0	50
T5-255	255.0	51
T5-260	260.0	52
T5-270	270.0	54
T5-275	275.0	55
T5-280	280.0	56
T5-295	295.0	59
T5-300	300.0	60
T5-305	305.0	61
T5-325	325.0	65
T5-330	330.0	66
T5-340	340.0	68
T5-350	350.0	70
T5-355	355.0	71
T5-385	385.0	77
T5-375	375.0	75
T5-390	390.0	78
T5-400	400.0	80

Name	Pitch perimeter (mm)	Number of teeth
T5-410	410.0	82
T5-420	420.0	84
T5-425	425.0	85
T5-450	450.0	90
T5-455	455.0	91
T5-465	465.0	93
T5-475	475.0	95
T5-480	480.0	96
T5-500	500.0	100
T5-510	510.0	102
T5-525	525.0	105
T5-545	545.0	109
T5-550	550.0	110
T5-560	560.0	112
T5-575	575.0	115
T5-600	600.0	120
T5-610	610.0	122
T5-620	620.0	124
T5-630	630.0	126
T5-640	640.0	128
T5-650	650.0	130
T5-660	660.0	132
T5-675	675.0	135
T5-690	690.0	138
T5-695	695.0	139

Name	Pitch perimeter (mm)	Number of teeth
T5-700	700.0	140
T5-720	720.0	156
T5-760	760.0	150
T5-780	780.0	156
T5-800	800.0	160
T5-815	815.0	163
T5-840	840.0	168
T5-850	850.0	170
T5-900	900.0	180
T5-940	940.0	188
T5-990	990.0	198
T5-1000	1000.0	200
T5-1075	1075.0	215
T5-1100	1100.0	220
T5-1140	1140.0	228
T5-1215	1215.0	243
T5-1360	1360.0	276
T5-1440	1440.0	288

Standard Belt Dimensions

XXL type (Rubber)
Pitch : 3.175mm

Name	Pitch perimeter (mm)	Number of teeth
51XXL	161.93	51
60XXL	190.50	60
61XXL	193.68	61
64XXL	203.20	64
67XXL	212.73	67
73XXL	231.78	73
77XXL	244.48	77
80XXL	254.00	80
100XXL	317.50	100
103XXL	327.62	103
104XXL	330.20	104
105XXL	333.37	105
114XXL	361.95	114
115XXL	365.12	115
126XXL	400.05	126

Name	Pitch perimeter (mm)	Number of teeth
150XXL	476.25	150
153XXL	485.77	153
154XXL	488.95	154
156XXL	495.30	156
160XXL	508.00	160
162XXL	514.35	162
163XXL	517.52	163
173XXL	549.27	173
220XXL	698.50	220
231XXL	733.42	231
234XXL	742.95	234
321XXL	1019.17	321
379XXL	1203.32	379

SL9 type (Rubber)
Pitch : 2.822mm

Name	Pitch perimeter (mm)	Number of teeth
50SL9	141.10	50
60SL9	169.32	60
90SL9	253.98	90
127SL9	358.39	127
196SL9	553.11	196
205SL9	578.51	205
213SL9	601.08	213
230SL9	649.06	230
234SL9	660.35	234
238SL9	671.63	238
240SL9	677.28	240
243SL9	685.74	243
247SL9	697.03	247
252SL9	711.14	252
258SL9	728.07	258
263SL9	742.18	263
278SL9	784.51	278
280SL9	790.16	280
295SL9	832.49	295
303SL9	855.06	303

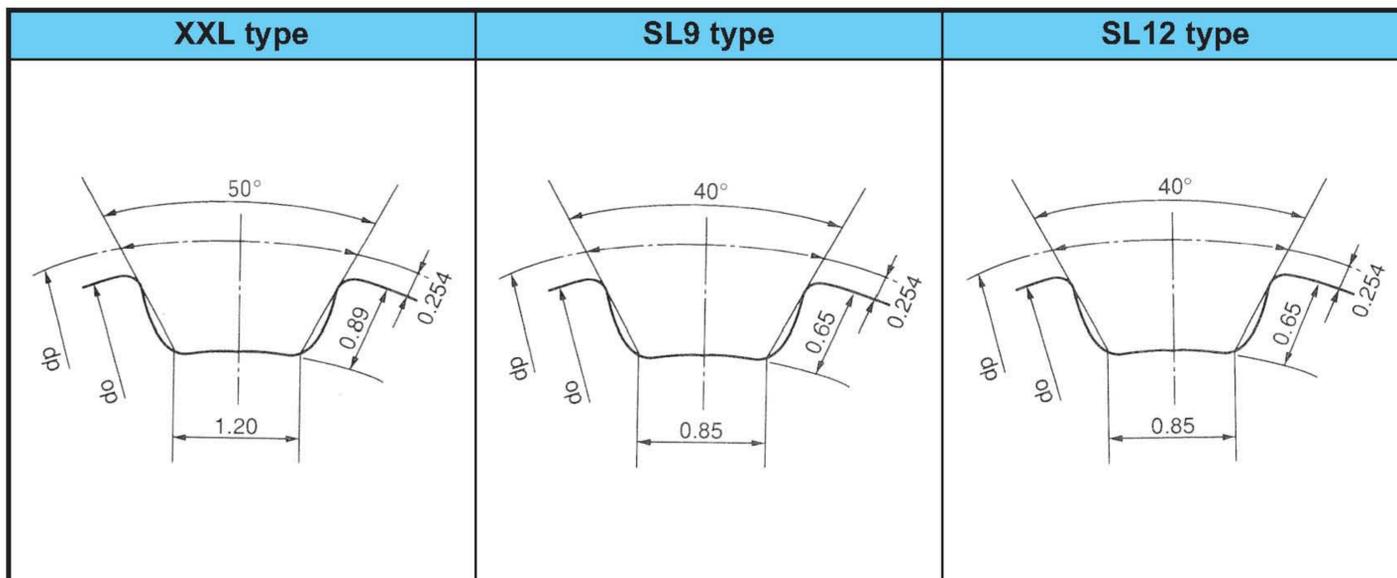
Name	Pitch perimeter (mm)	Number of teeth
317SL9	894.57	317
320SL9	903.04	320
322SL9	908.68	322
330SL9	931.26	330
343SL9	967.94	343
347SL9	979.23	347
352SL9	993.34	352
358SL9	1010.27	358
359SL9	1013.09	359
362SL9	1021.56	362
369SL9	1041.21	369
374SL9	1055.42	374
381SL9	1075.18	381
392SL9	1106.22	392
400SL9	1128.80	400
412SL9	1162.66	412

SL12 type (Rubber)
Pitch : 2.117mm

Name	Pitch perimeter (mm)	Number of teeth
323SL12	683.791	323
368SL12	779.056	368
406SL12	859.500	406
455SL12	963.235	455
477SL12	1009.809	477
487SL12	1030.979	487
489SL12	1035.213	489
523SL12	1107.191	523

Shape of Pulley's Teeth Grooves (Reference)

For the 3 belts described above, please use pulleys with the teeth groove shapes shown below.



3. An Introduction to Double Synchronous Belts (Rubber and Polyurethane)

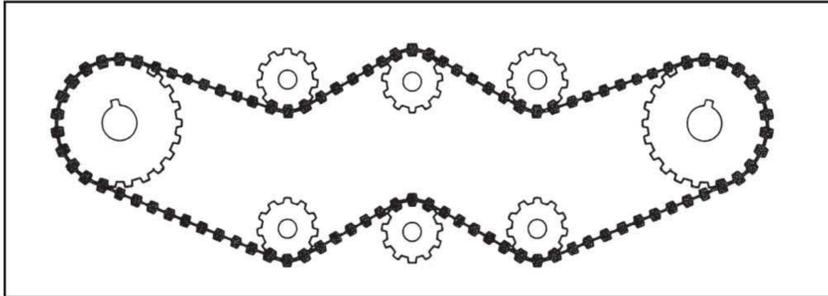
Double synchronous belts (rubber or polyurethane (Bancollan)) have identical teeth on both sides. One double synchronous belt can perform synchronous transmission across multiple axles.

Bancollan double synchronous belts are suited for use in environments that are easily exposed to oil or ozone. They are also ideal for avoiding the dispersion of rubber chips.

Features

· **Synchronous Transmission on Multiple Axles**

A single belt is able to realize synchronous transmission on multiple axles.



· **Simple Maintenance**

Unlike chains, there is no need to perform re-tensing or to apply lubricant, making maintenance easy.

· **Low-noise**

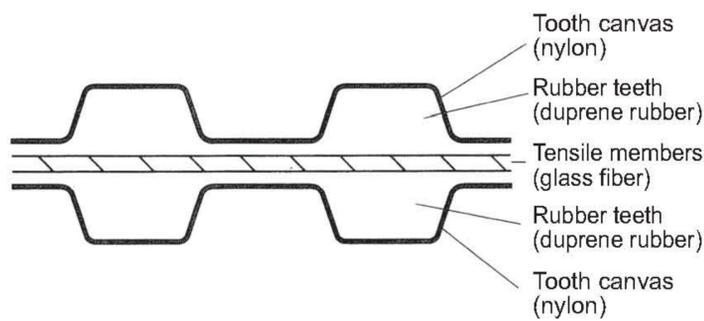
As there is no contact between metals, quiet transmission is achieved.

· **Clean**

Unlike with chains or gears, there is no need to apply lubricants. With no oil splashing around, the area around the belt is able to remain clean.

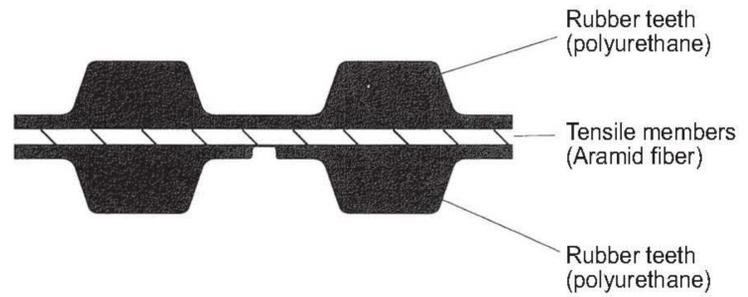
Structure

Double synchronous belt (DXL type)



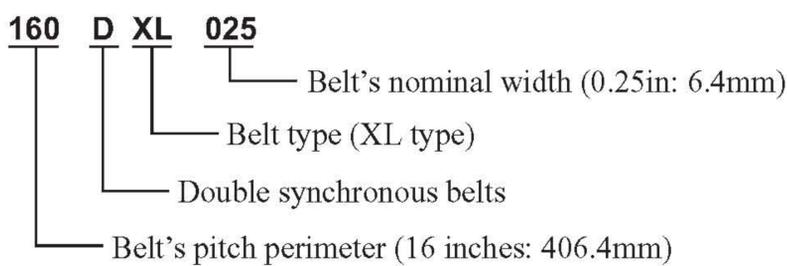
Bancollan

double synchronous belt (DXL type)

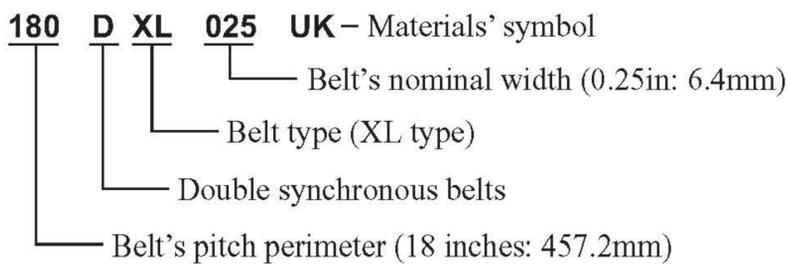


Labeling

· **Double synchronous belts**

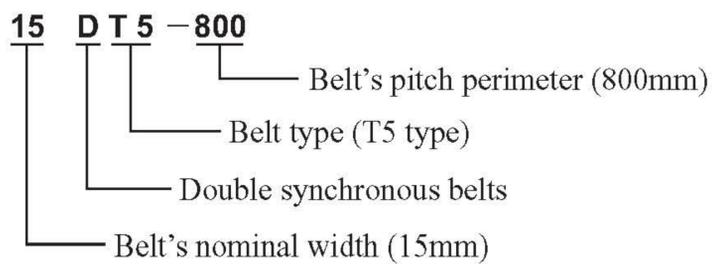
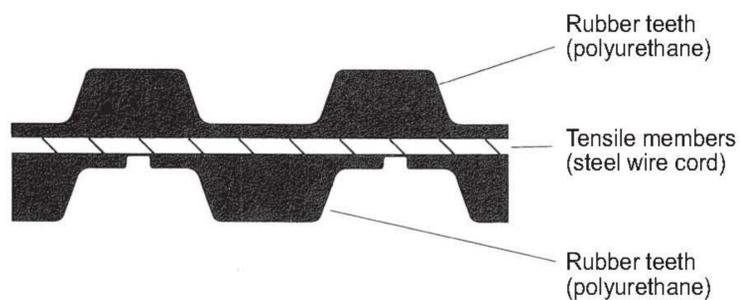


· **Bancollan double synchronous belts**

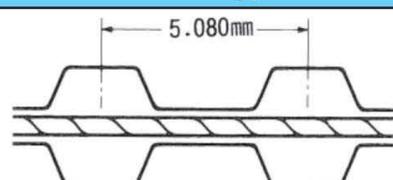


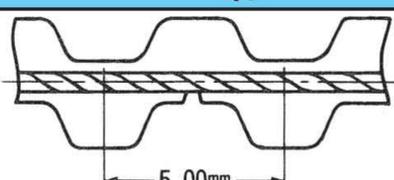
Bancollan

double synchronous belt (DT5 type)



The Standard Lengths of Double Synchronous Belts

DXL Type					
					
Belt's standard widths					
Nominal width	025	031	037	050	075
Width (mm)	6.4	7.9	9.5	12.7	19.0
Belt dimensions					
Name	Pitch perimeter (mm)	Number of teeth	R	U	
140DXL	355.60	70	-	○	
146DXL	370.84	73	-	○	
150DXL	381.00	75	-	○	
160DXL	406.40	80	○	-	
162DXL	411.48	81	○	-	
166DXL	421.64	83	○	○	
168DXL	426.72	84	○	-	
170DXL	431.80	85	○	○	
172DXL	436.88	86	○	-	
176DXL	447.04	88	○	-	
180DXL	457.20	90	○	○	
182DXL	462.28	91	○	-	
184DXL	467.36	92	○	-	
188DXL	477.52	94	○	-	
190DXL	482.60	95	○	○	
196DXL	497.84	98	○	-	
198DXL	502.92	99	○	-	
200DXL	508.00	100	○	○	
202DXL	513.08	101	○	-	
206DXL	523.24	103	○	-	
208DXL	528.32	104	○	-	
210DXL	533.40	105	○	○	
212DXL	538.48	106	○	-	
220DXL	558.80	110	○	○	
222DXL	563.88	111	○	-	
228DXL	579.12	114	○	-	
230DXL	584.20	115	○	○	
234DXL	594.36	117	○	-	
240DXL	609.60	120	○	○	
250DXL	635.00	125	○	-	
260DXL	660.40	130	○	-	
262DXL	665.48	131	○	-	
270DXL	685.80	135	○	○	
280DXL	711.20	140	○	-	
290DXL	736.60	145	○	○	
300DXL	762.00	150	○	○	
310DXL	787.40	155	○	-	
314DXL	797.56	157	○	-	
320DXL	812.80	160	○	○	
322DXL	817.88	161	○	-	
330DXL	838.20	165	○	-	
340DXL	863.60	170	○	-	
344DXL	873.76	172	○	-	
348DXL	883.92	174	○	-	
352DXL	894.24	176	○	-	
356DXL	904.24	178	○	-	
360DXL	914.40	180	○	-	
364DXL	924.56	182	○	-	
376DXL	955.04	188	○	○	
384DXL	975.36	192	○	-	
390DXL	990.60	195	○	-	
396DXL	1005.84	198	○	-	
400DXL	1016.00	200	○	○	
408DXL	1036.32	204	○	-	
424DXL	1076.96	212	○	-	
430DXL	1092.29	215	○	○	
450DXL	1143.00	225	○	-	
456DXL	1158.24	228	○	-	
460DXL	1168.40	230	○	-	
490DXL	1244.60	245	○	○	
592DXL	1503.68	296	○	-	
608DXL	1544.32	304	○	-	
630DXL	1600.20	315	○	-	

DT5 Type					
					
Belt's standard widths					
Nominal width	5	10	15	20	25
Width (mm)	5	10	15	20	25
Belt dimensions					
Name	Pitch perimeter (mm)	Number of teeth			
DT5- 300	300.0	60			
DT5- 410	410.0	82			
DT5- 460	460.0	92			
DT5- 480	480.0	96			
DT5- 515	515.0	03			
DT5- 550	550.0	110			
DT5- 590	590.0	118			
DT5- 620	620.0	124			
DT5- 650	650.0	130			
DT5- 700	700.0	140			
DT5- 750	750.0	150			
DT5- 800	800.0	160			
DT5- 815	815.0	163			
DT5- 860	860.0	172			
DT5- 900	900.0	180			
DT5- 940	940.0	188			
DT5- 1075	1075.0	215			
DT5- 1100	1100.0	220			

· Polyurethane only

Permitted Deviations in Dimensions

For more information on permitted deviations in belts' dimensions, such as their length and width, please refer to page S-51.

R: Rubber

U: Polyurethane

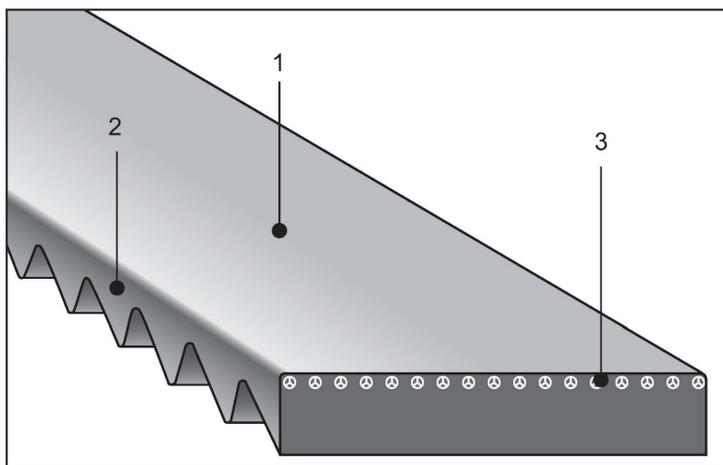
(III) Synchronous Belts · Double Synchronous Belts

1. An Introduction to Bancollan Synchronous TN Belt Products

Features

- Able to be used on smaller pulleys with diameters of 5mm!**
 ☆TN10.....5mm
 ☆TN15.....7mm
- Because the belt and its tensile members are both thin (especially true of polyurethane), the belt is able to adapt to use on a pulley with a diameter of just 5mm.
- High torque realized with low power!**
- The belt displays little resistance to bending or losses of power due to slipping, and can also cut down on loads borne by the axle resulting from the initial tension. Compared to regular rubber belts and flat belts, it is able to transmit a higher degree of torque. Additionally, by slowing down its drive, it is able to cut down on energy wasting better than DD (direct drive) products.
- Minimal deviations in operations!**
- As the belt's pitch is relatively small, when it is wound onto the pulley, it is able to approach a full circle. As a result, at proper rotational speeds, smooth operations similar to those of flat belts can be realized.
- No backlash!**
- Uses three-cornered teeth with angles of 70°, which establish contact with both walls of the pulleys' teeth grooves during meshing, meaning that there is no backlash.

Structure



- 1. Upper rubber piece (polyurethane)
- 2. Rubber teeth (polyurethane)
- 3. Tensile member
 - Aramid tensile members K label
 - Steel wire tensile members W label
 - Polyester tensile members T label

Note) The TN10 uses only polyester tensile members.

Examples of Use

Audio Equipment

- CD (disk drive, loading components)
- Car stereo (Tuner, drive, loading components)
- Radio and cassette recorder (Anti-tape slipping measures)

OA · Automated Machinery

- X-Y plotters (pen-point sending and drive)
- Dot printers (carriage movement, point-and-search drive)
- Automated vending machines, currency conversion machines (used for transmission and driving in bill recognition)
- ATM's (used for banknote and card transmission and drive)

Video Equipment

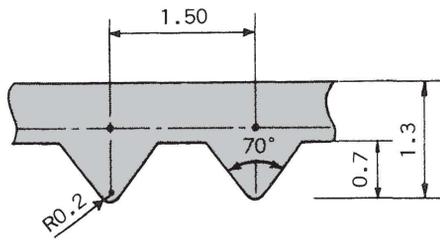
- VTR (Tape winding driving, loading components)
- Video disks (Loading and reading components)
- Mini-televisions (Tuning components)

Other Precision Machinery

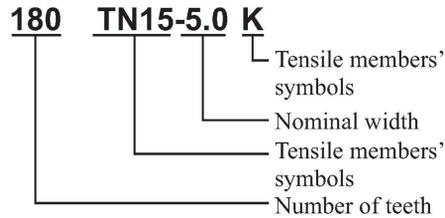
- Camera (Film winding driving)
- Analytical instruments (Transmission of test materials)
- Robots, NC equipment (Used in testing positioning)
- Medical equipment

(1) TN15 Type

· Belt profile dimensions



· Belt Labeling Methods



· Belt's standard width

Name	Belt's width (mm)
3.0	3.0
5.0	5.0
7.0	7.0
10.0	10.0
13.0	13.0

● Standard Belt Lengths

Name	Pitch perimeter (mm)	Number of teeth	Name	Pitch perimeter (mm)	Number of teeth	Name	Pitch perimeter (mm)	Number of teeth
43TN15	64.5	43	192TN15	288.0	192	360TN15	540.0	360
50TN15	75.0	50	196TN15	294.0	196	370TN15	555.0	370
60TN15	90.0	60	200TN15	300.0	200	380TN15	570.0	380
63TN15	94.5	63	220TN15	330.0	220	390TN15	585.0	390
79TN15	118.5	79	230TN15	345.0	230	400TN15	600.0	400
82TN15	123.0	82	240TN15	360.0	240	421TN15	631.5	421
100TN15	150.0	100	250TN15	375.0	250	441TN15	661.5	441
110TN15	165.0	110	260TN15	390.0	260	460TN15	690.0	460
114TN15	171.0	114	270TN15	405.0	270	480TN15	720.0	480
120TN15	180.0	120	271TN15	406.5	271	481TN15	721.5	481
130TN15	195.0	130	290TN15	435.0	290	828TN15	1242.0	828
131TN15	196.5	131	298TN15	447.0	298			
140TN15	210.0	140	300TN15	450.0	300			
150TN15	225.0	150	310TN15	465.0	310			
157TN15	235.5	157	320TN15	480.0	320			
160TN15	240.0	160	330TN15	495.0	330			
170TN15	255.0	170	334TN15	501.0	334			
180TN15	270.0	180	339TN15	508.5	339			
186TN15	279.0	186	340TN15	510.0	340			
190TN15	285.0	190	350TN15	525.0	350			

Note) Labeling methods for the belt's profile dimensions are different from those used in the past for notched synchronous belts (N15 types).

● Permitted Deviations in the Belt's Width

Unit: mm

TN15	
Nominal width	Permitted deviations
3.0	± 0.3
5.0	
7.0	± 0.4
10.0	± 0.5
13.0	

● Permitted Deviations in the Belt's Length

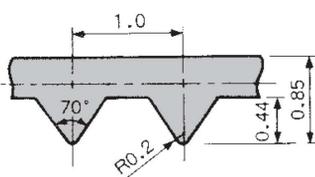
Unit: mm

Belt type	Nominal length	Permitted deviations in spacing between axles
TN15	100 or more, 170 or less	± 0.35
	170 or more, 250 or less	± 0.40
	250 or more, 330 or less	± 0.50
	330 or more, 400 or less	± 0.60
	400 or more	± 0.70

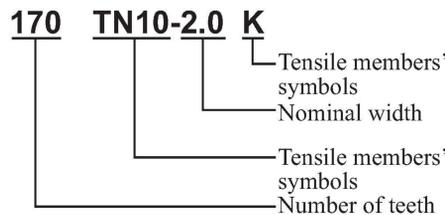
Note) Permitted deviations in the spacing between axles refers to the figure obtained with our company's designated testing conditions and designated length.

(2) TN10 Type

· Belt profile dimensions



· Belt Labeling Methods



· Belt's standard width

Name	Belt's width (mm)
1.0	1.0
2.0	2.0
3.0	3.0

● Standard Belt Lengths

Name	Pitch perimeter (mm)	Number of teeth	Name	Pitch perimeter (mm)	Number of teeth	Name	Pitch perimeter (mm)	Number of teeth
50TN10	50.0	50	100TN10	100.0	100	160TN10	160.0	160
60TN10	60.0	60	107TN10	107.0	107	170TN10	170.0	170
66TN10	66.0	66	110TN10	110.0	110	200TN10	200.0	200
80TN10	80.0	80	120TN10	120.0	120	250TN10	250.0	250
81TN10	81.0	81	130TN10	130.0	130	287TN10	287.0	287
90TN10	90.0	90	140TN10	140.0	140	310TN10	310.0	310
98TN10	98.0	98	150TN10	150.0	150			

● Permitted Deviations in the Belt's Width

Unit: mm

TN10	
Nominal width	Permitted deviations
1.0	± 0.2
2.0	
3.0	

● Permitted Deviations in the Belt's Length

Unit: mm

Belt type	Nominal length	Permitted deviations in spacing between axles
TN10	50 or more, 200 or less	± 0.20
	200 or more, 300 or less	± 0.30
	301 or more	± 0.40

Note) Permitted deviations in the spacing between axles refers to the figure obtained with our company's designated testing conditions and designated length.