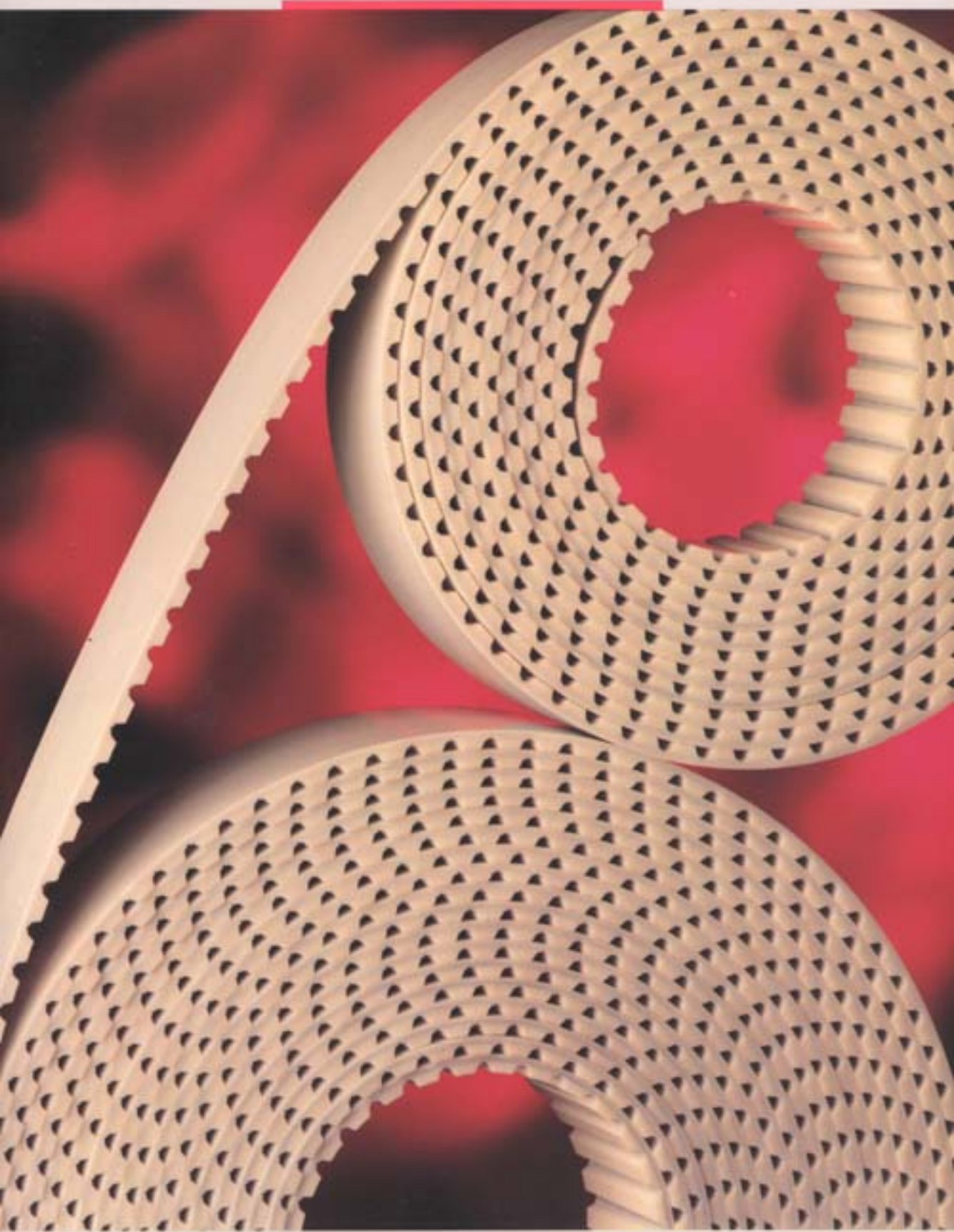


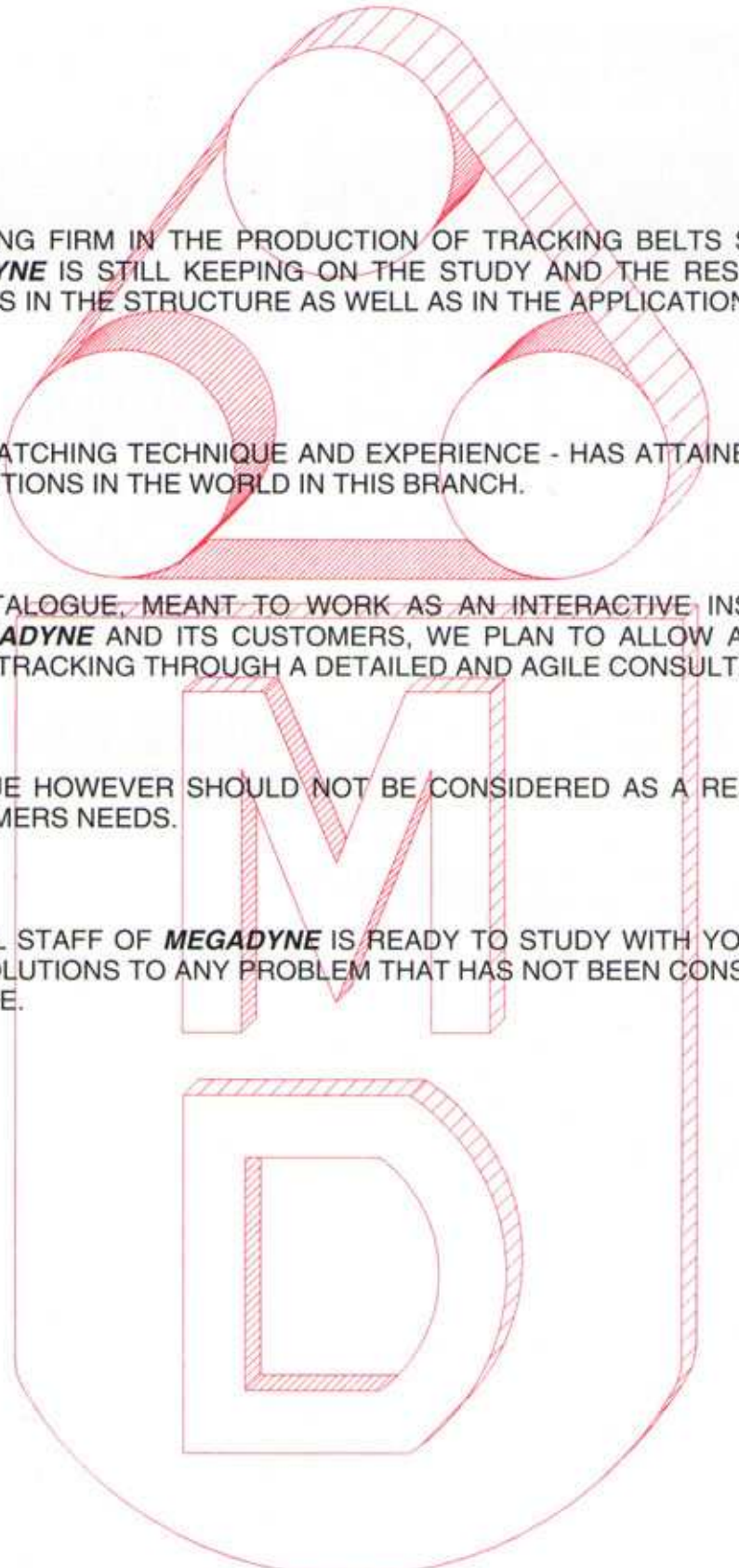


MEGADYNE

0009



POLYURETHANE OPEN END BELTS



BEING A LEADING FIRM IN THE PRODUCTION OF TRACKING BELTS SINCE THE 1950's, **MEGADYNE** IS STILL KEEPING ON THE STUDY AND THE RESEARCH OF NEW SOLUTIONS IN THE STRUCTURE AS WELL AS IN THE APPLICATIONS OF NEW MATERIALS.

MEGADYNE - MATCHING TECHNIQUE AND EXPERIENCE - HAS ATTAINED ONE OF THE FIRST POSITIONS IN THE WORLD IN THIS BRANCH.

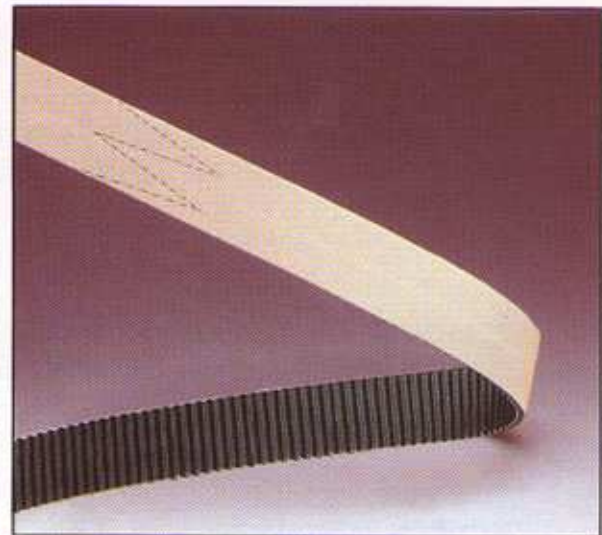
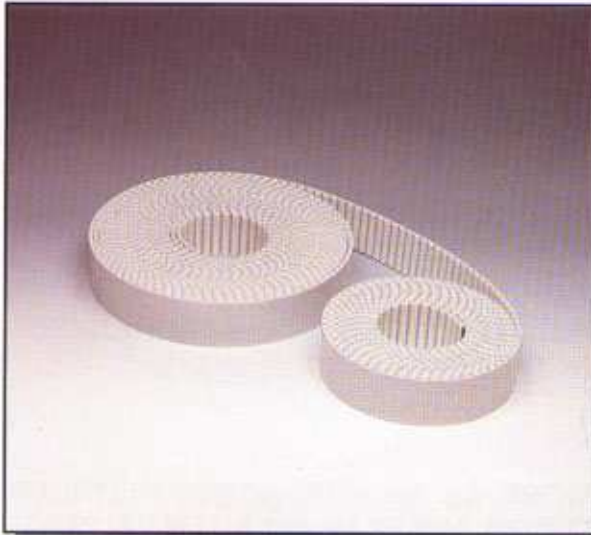
WITH THIS CATALOGUE, MEANT TO WORK AS AN INTERACTIVE INSTRUMENT BETWEEN **MEGADYNE** AND ITS CUSTOMERS, WE PLAN TO ALLOW A CAREFUL STUDY OF THE TRACKING THROUGH A DETAILED AND AGILE CONSULTATION.

THE CATALOGUE HOWEVER SHOULD NOT BE CONSIDERED AS A RESTRICTION OF THE CUSTOMERS NEEDS.

THE TECHNICAL STAFF OF **MEGADYNE** IS READY TO STUDY WITH YOU ALL THE NECESSARY SOLUTIONS TO ANY PROBLEM THAT HAS NOT BEEN CONSIDERED IN THE CATALOGUE.

MEGADYNE OPEN END BELTS

The **PU MEGADYNE OPEN END BELTS** have become well known in the last few years because of the multivarious applications they allow; in fact, thanks to their features, they can successfully replace a complete range of parts realized with mechanical processing.



The **PU MEGADYNE OPEN END BELTS** are produced with **MEGAPAN** polyurethane, wear and tear resistant, and high resistant traction cords. The combination of these elements, having high chemical and physical characteristics, turns out to be the **PU MEGADYNE OPEN END BELTS**.

The Steel Traction Cords gives to the **PU MEGADYNE OPEN END BELT** an excellent dimensional stability.

The **PU MEGADYNE OPEN END BELT** doesn't register any weak point and can be used in powerful applications with high number of revolutions.

CHARACTERISTICS of the MEGADYNE POLYURETHANE TIMING BELTS

MECHANICAL CHARACTERISTICS	CHEMICAL CHARACTERISTICS
<ul style="list-style-type: none"> - Constant dimensions - Noiseless - No maintenance - High flessibility - High resistance steel traction cords, with little stretching and top flexibility - Linear speeds up to 80 mt/sec. - Low pre-tension - Length constancy - High abrasion resistance 	<ul style="list-style-type: none"> - Aging, Hydrolisis, U.V.A. rays, Ozone resistant - Tropical temperature resistant - Working temperature $-30^{\circ}\text{C} \div +85^{\circ}\text{C}$; up to 110°C for short periods - High resistance to Oils, Greases and Gasoline - Fairly Acid-proof and Alkali-proof

PU Megadyne Open End Belts act according to the ISO 5296-1 and DIN 7721-1 rules.

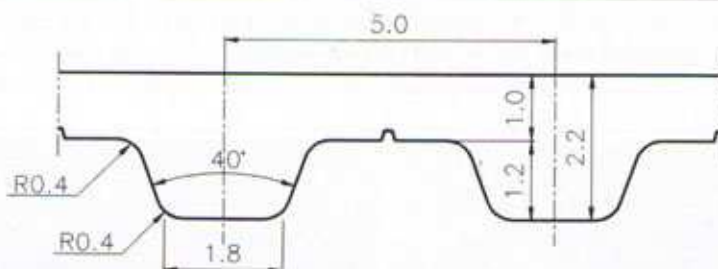
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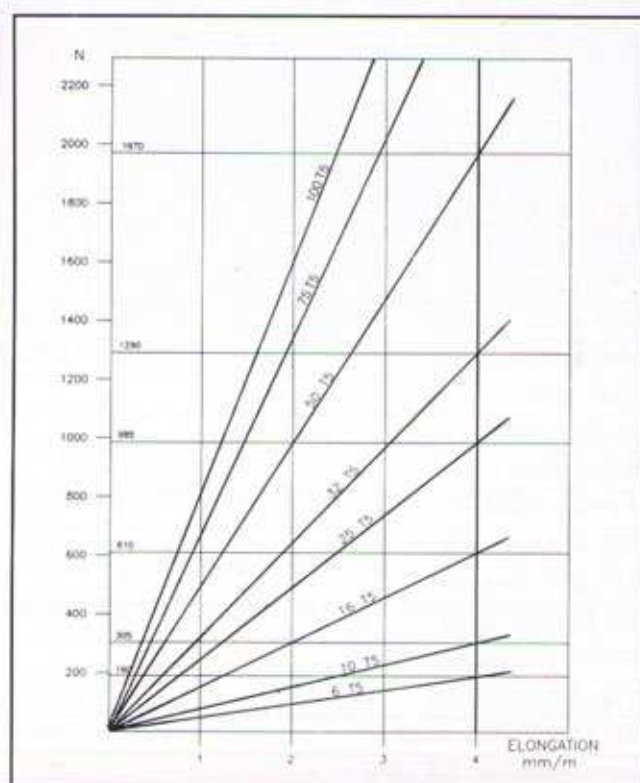
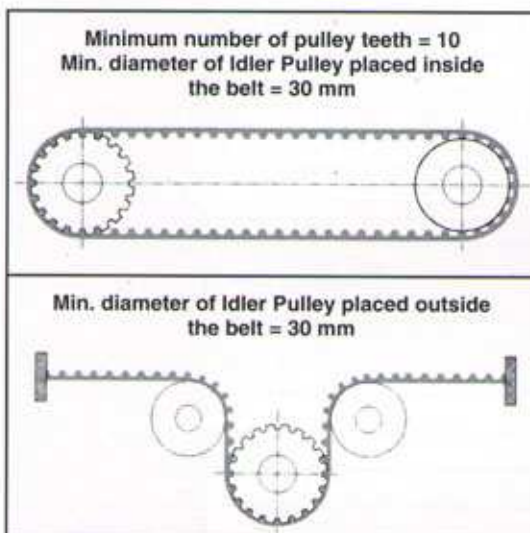
T5

BELT DATA



WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED [N]	BREAKING STRENGTH [N]
6	190	/	570
10	305	150	915
16	610	305	1830
25	985	490	2975
32	1290	645	3890
50	1970	985	5950
75	2680	1340	8100
100	3400	1700	10200

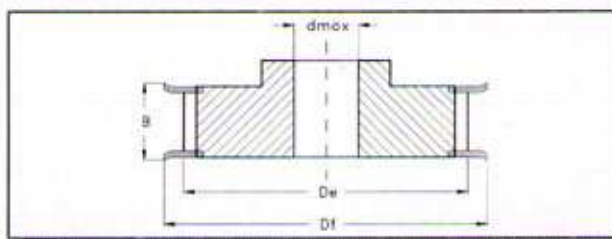
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
25	T5	100 m-LL
25	T5	2400 mm-J

ROLLS STANDARD LENGTH	
6 10	16 25 32 50
50 m	100 m

MINIMUM LENGTH JOINED BELT
For all widths
900 mm



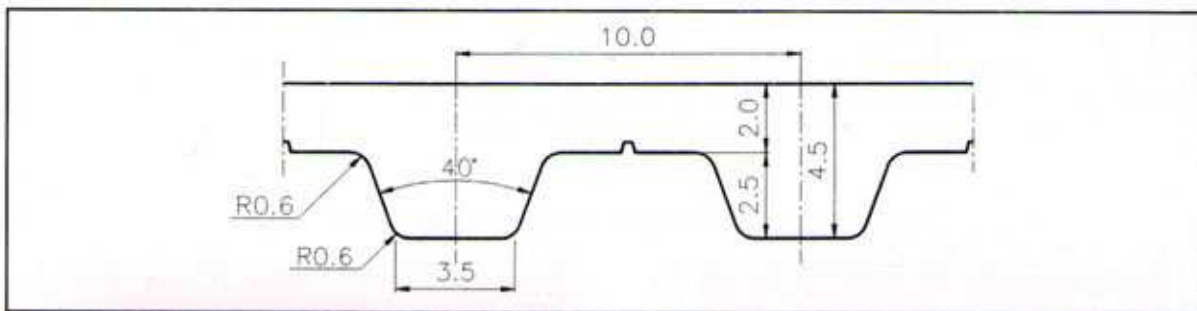
n° Teeth	De	Df	dmax
10	15,05	20	6
11	16,65	22	6
12	18,25	23	6
13	19,85	25	8
14	21,45	26	8
15	23,05	28	10
16	24,60	30	12
17	26,20	31	14
18	27,80	33	16
19	29,40	34	16
20	31,00	36	18
21	32,70	37	20
22	34,25	39	22
23	35,85	40	24
24	37,40	42	24
25	39,00	43	25
26	40,60	45	25
27	42,20	47	27
28	43,75	48	29
29	45,35	50	31
30	46,95	51	33
31	48,55	53	35
32	50,10	55	37
33	51,70	56	39
34	53,25	58	39
35	54,85	59	40
36	56,45	61	42
37	58,05	62	43
38	59,65	64	45
39	61,65	66	45
40	62,85	67	47
41	64,40	69	48
42	66,00	70	50
43	67,70	72	52
44	69,20	74	52
45	70,80	75	54
46	72,40	77	56
47	73,95	78	58
48	75,55	80	60
49	77,15	82	60
50	78,75	83	60
51	80,53	85	62
52	81,95	86	64
53	83,50	88	66
54	85,10	90	66
55	86,70	91	68
56	88,30	93	70
57	89,90	94	72
58	91,50	96	74
59	93,05	97	74
60	94,65	99	76
61	96,25	101	79

n° Teeth	De	Df	dmax
62	97,85	102	80
63	99,45	104	82
64	101,05	105	82
65	102,65	107	84
66	104,20	109	86
67	105,80	110	88
68	107,40	112	90
69	109,00	113	90
70	110,60	115	90
71	112,20	117	92
72	113,75	118	94
73	115,35	120	96
74	116,95	121	96
75	118,55	123	98
76	120,15	125	100
77	121,75	126	102
78	123,30	128	104
79	124,90	129	104
80	126,50	131	106
81	128,10	133	108
82	129,70	134	110
83	131,30	136	110
84	132,85	137	112
85	134,45	139	114
86	136,05	140	116
87	137,65	142	119
88	139,25	144	119
89	140,85	145	120
90	142,45	147	120
91	144,00	148	122
92	145,60	150	124
93	147,20	152	126
94	148,80	153	126
95	150,40	155	129
96	152,00	156	130
97	153,55	158	130
98	155,15	160	132
99	156,75	161	132
100	158,35	163	134
101	159,95	164	136
102	161,55	166	139
103	163,10	168	140
104	164,70	169	140
105	166,30	171	140
106	167,90	172	142
107	169,50	174	146
108	171,10	176	146
109	172,65	177	148
110	174,25	179	150
111	175,85	180	150
112	177,45	182	152
113	180,65	184	152



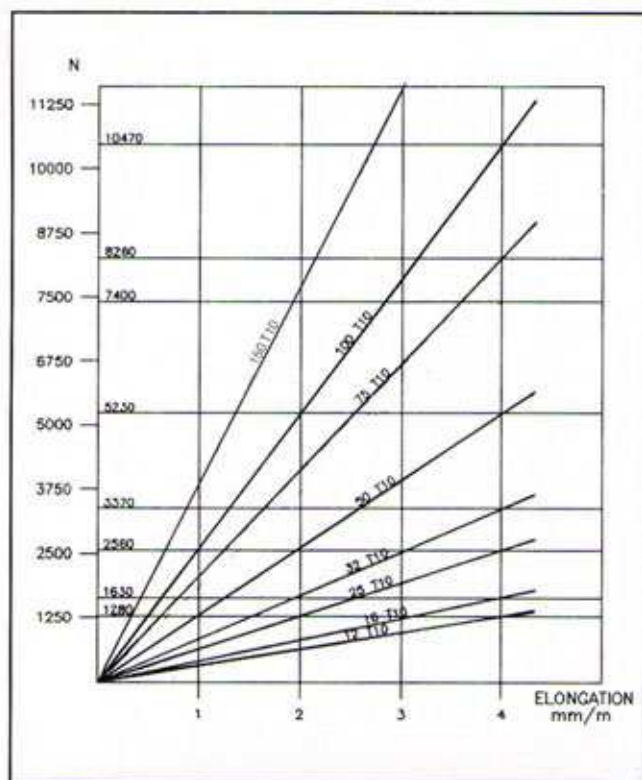
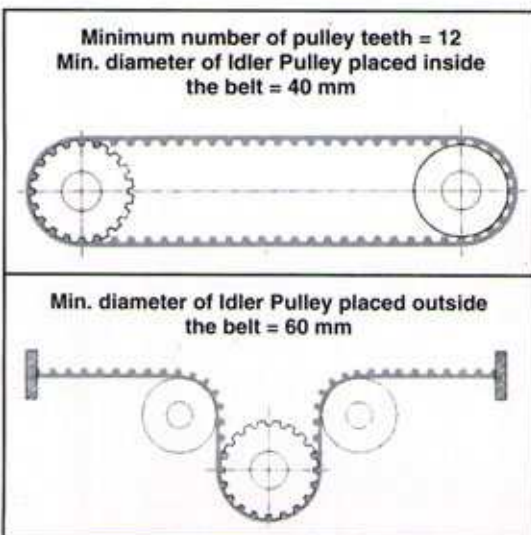
T10

BELT DATA



WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED [N]	BREAKING STRENGTH [N]
12	1280	/	4020
16	1630	815	5110
25	2560	1280	8040
32	3370	1685	10600
50	5230	2615	16450
75	8260	4130	25960
100	10470	5235	32900
150	12000	6000	38000

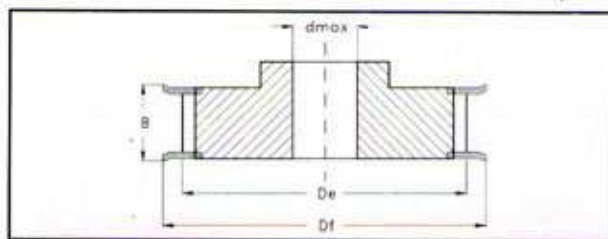
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
25	T10	100 m-LL
25	T10	4800 mm-J

ROLLS STANDARD LENGTH	
12	16 25 32 50 75 100
50 m	100 m

MINIMUM LENGTH JOINED BELT
For all widths
900 mm



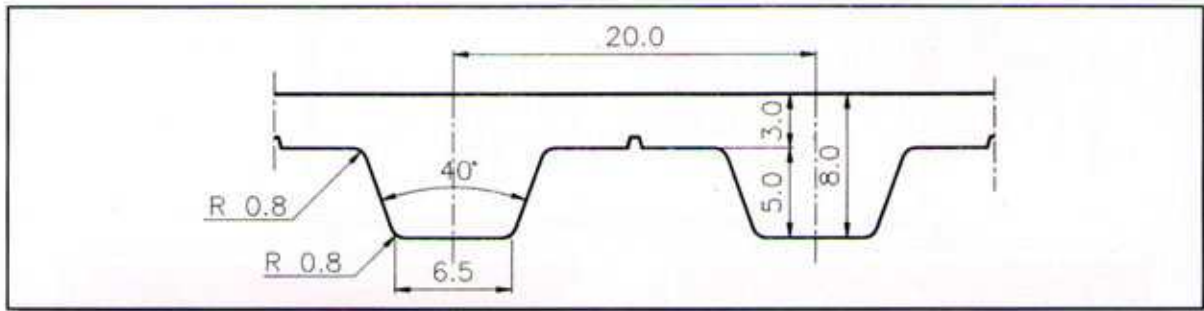
n° Teeth	De	Df	dmax
12	36,35	42	24
13	39,50	45	26
14	42,70	48	30
15	45,90	51	34
16	49,05	55	36
17	52,25	58	40
18	55,45	61	44
19	58,60	64	46
20	61,80	67	50
21	65,00	70	52
22	68,15	74	56
23	71,35	76	60
24	74,55	80	62
25	77,70	82	66
26	80,90	86	68
27	84,10	90	72
28	87,25	93	76
29	90,45	96	78
30	93,65	99	82
31	96,80	102	84
32	100,00	105	88
33	103,20	109	88
34	106,40	112	92
35	109,55	115	96
36	112,75	118	98
37	115,90	121	101
38	119,10	125	104
39	122,30	128	106
40	125,45	131	110
41	128,65	134	110
42	131,85	137	112
43	135,00	140	114
44	138,20	144	118
45	141,40	147	120
46	144,55	150	122
47	147,75	153	122
48	150,95	156	124
49	154,10	160	126
50	157,30	162	130
51	160,50	166	134
52	163,65	169	136
53	166,85	172	140
54	170,05	176	144
55	173,20	178	146
56	176,40	182	150
57	179,60	185	152
58	182,75	188	156
59	185,95	191	160
60	189,10	195	162
61	192,30	198	164
62	195,50	201	166
63	198,65	204	170

n° Teeth	De	Df	dmax
64	201,85	207	171
65	205,05	210	174
66	208,20	214	175
67	211,40	217	177
68	214,60	220	181
69	217,75	223	185
70	220,95	226	187
71	224,15	230	191
72	227,30	232	193
73	230,50	236	197
74	223,70	239	201
75	236,90	242	203
76	240,05	245	207
77	243,25	248	209
78	246,40	252	213
79	249,60	255	215
80	252,80	258	219
81	255,90	261	223
82	259,15	265	225
83	262,35	268	229
84	265,50	271	231
85	268,70	274	235
86	271,90	277	239
87	275,05	280	241
88	278,25	284	245
89	281,45	287	247
90	284,60	290	251
91	287,80	293	255
92	291,00	296	257
93	294,15	300	261
94	297,35	302	263
95	300,55	306	267
96	303,70	309	269
97	306,90	312	273
98	310,10	315	279
99	313,20	318	283
100	316,45	322	285
101	319,65	325	289
102	322,80	328	293
103	326,00	332	295
104	329,20	335	299
105	332,35	338	301
106	335,55	341	305
107	338,75	344	309
108	341,90	347	311
109	345,10	351	315
110	348,30	354	317
111	351,45	357	321
112	354,65	360	323
113	357,80	363	327
114	361,00	367	330



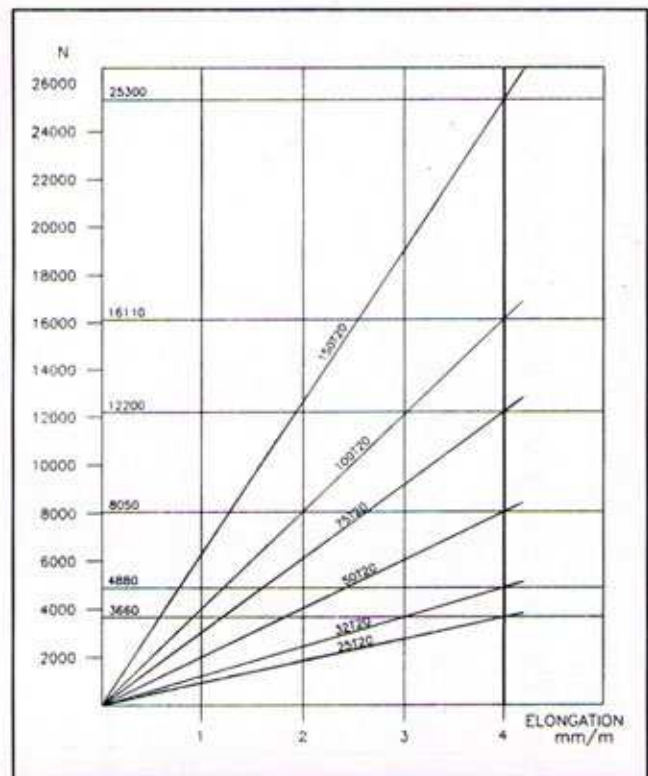
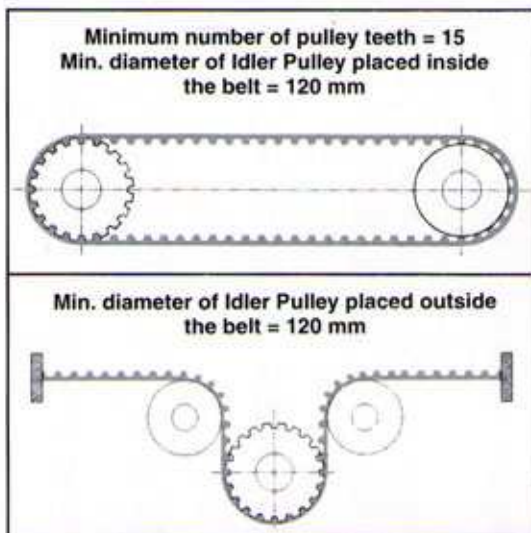
T20

BELT DATA



WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED	BREAKING STRENGTH [N]
25	3660	1830	12460
32	4880	2440	16620
50	8050	4025	27430
75	12200	6100	41560
100	16110	8050	54860
150	25300	12650	86400

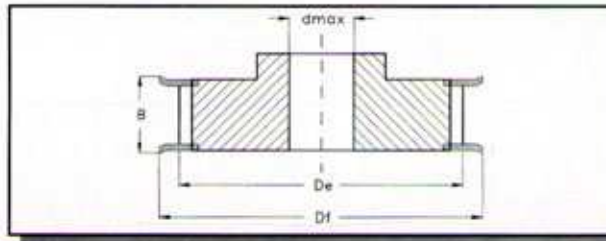
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
50	T20	100 m-LL
50	T20	9600 mm-J

ROLLS STANDARD LENGTH				
25	32	50	75	100
100 m				

MINIMUM LENGTH JOINED BELT	
For all widths	
1000 mm	



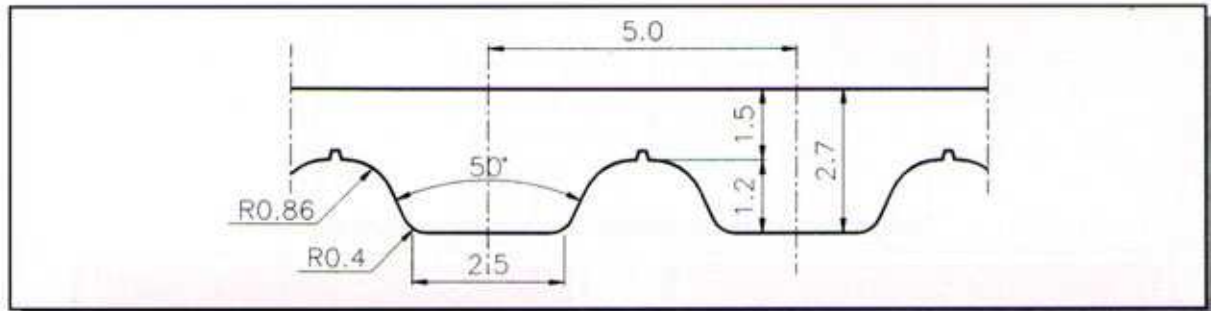
n° Teeth	De	Df	dmax
15	92,65	102	67
16	99,00	109	74
17	105,40	115	80
18	111,75	121	86
19	118,10	128	93
20	124,50	134	100
21	130,75	140	105
22	137,20	147	112
23	143,50	153	118
24	149,95	160	125
25	156,30	166	131
26	162,65	172	137
27	169,05	179	144
28	175,40	185	150
29	181,75	192	156
30	188,15	198	163
31	194,50	204	169
32	200,85	210	175
33	207,20	217	182
34	213,60	223	188
35	219,95	229	195
36	226,35	236	201
37	232,70	242	207
38	239,05	249	214
39	245,45	255	220
40	251,80	261	226
41	258,15	268	233
42	264,50	274	239
43	270,90	280	245
44	277,25	287	252
45	283,60	293	258
46	290,00	300	265
47	296,35	306	271
48	302,70	312	278
49	309,10	319	284
50	315,45	325	290
51	321,80	331	296
52	328,20	338	303
53	334,55	344	310
54	340,90	350	315
55	347,30	357	322
56	353,65	363	328
57	360,00	370	335
58	366,40	376	341
59	372,75	382	347
60	379,10	389	354
61	385,45	395	360
62	391,85	401	366
63	398,20	408	373
64	404,55	414	379

n° Teeth	De	Df	dmax
65	410,95	420	385
66	417,30	427	392
67	423,65	433	398
68	430,05	440	405
69	436,40	446	406
70	442,80	452	412
71	449,15	459	419
72	455,50	465	425
73	461,85	471	431
74	468,25	478	438
75	474,60	484	444
76	480,95	490	450
77	487,35	497	457
78	493,70	503	463
79	500,05	510	470
80	506,45	516	476
81	512,80	522	482
82	519,15	529	489
83	525,55	535	495
84	531,90	541	501
85	538,25	548	503
86	544,60	554	509
87	551,00	561	516
88	557,35	567	522
89	563,70	573	528
90	570,10	580	535
91	576,45	586	541
92	582,85	592	548
93	589,20	599	554
94	595,55	605	560
95	601,90	611	566
96	608,30	618	573
97	614,65	624	579
98	621,00	631	586
99	627,40	637	592
100	633,75	643	598
101	640,10	650	605
102	646,50	656	611
103	652,85	662	617
104	659,20	669	624
105	665,60	675	630
106	671,95	681	636
107	678,30	688	643
108	684,70	694	649
109	691,05	701	656
110	697,40	707	662
111	703,80	713	663
112	710,15	720	670
113	716,50	726	676
114	722,90	732	682



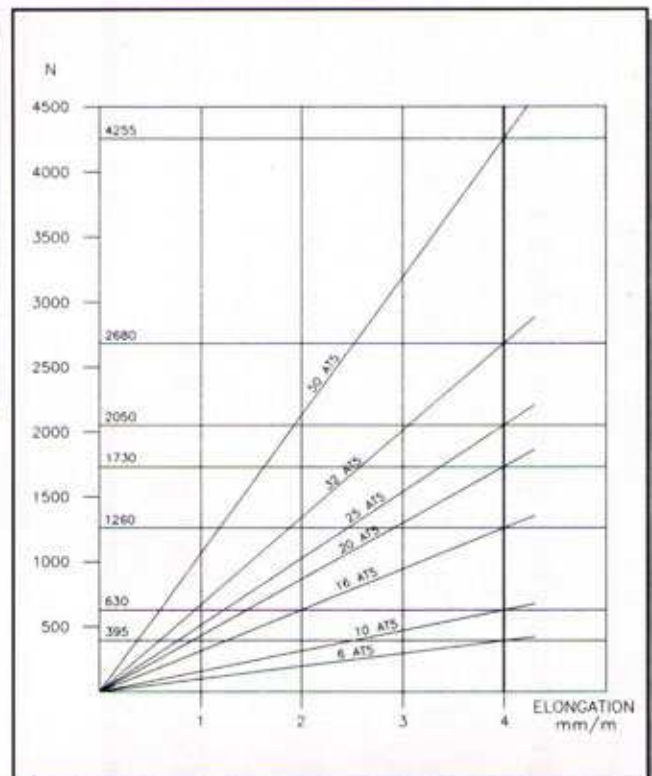
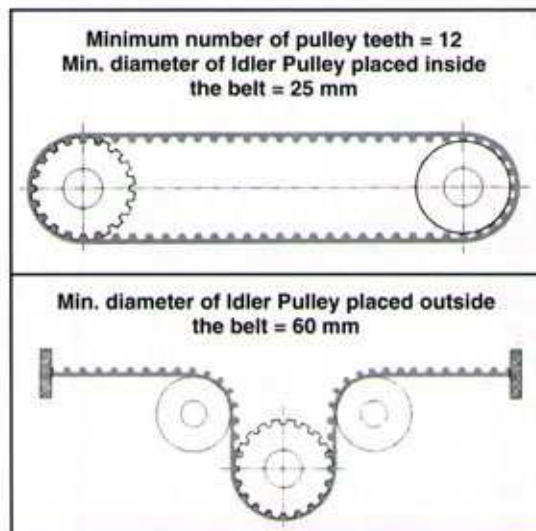
AT5

BELT DATA



WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED	BREAKING STRENGTH [N]
6	395	/	1225
10	630	315	1960
16	1260	630	3920
20	1730	865	5390
25	2050	1025	6370
32	2680	1340	8330
50	4255	2125	13230

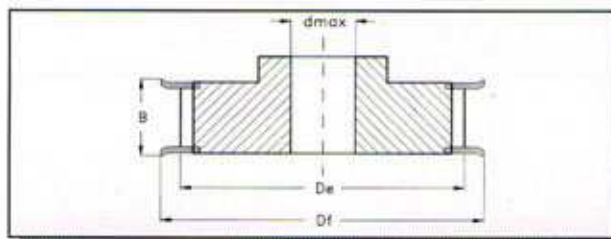
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
25	AT5	100 m-LL
25	AT5	2400 mm-J

ROLLS STANDARD LENGTH	
6 10	16 20 25 32 50
50 m	100 m

MINIMUM LENGTH JOINED BELT
For all widths
900 mm



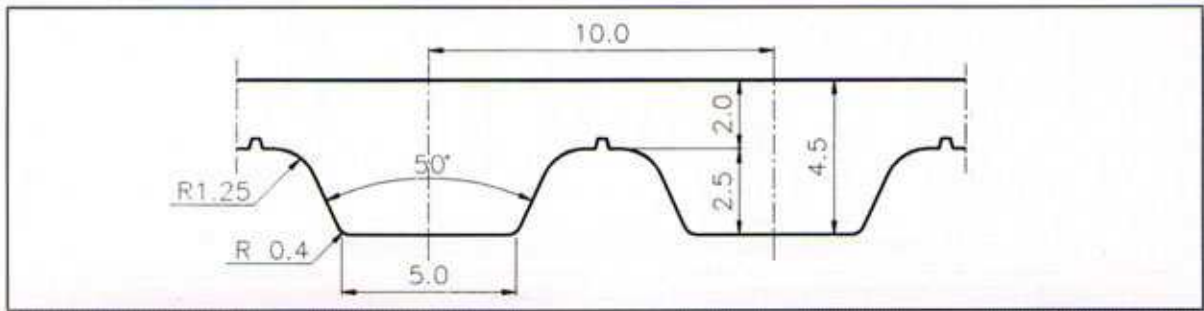
n° Teeth	De	Df	dmax
12	17,85	23	6
13	19,45	25	8
14	21,05	26	8
15	22,65	28	10
16	24,20	30	12
17	25,80	31	14
18	27,40	33	16
19	29,00	34	16
20	30,60	36	18
21	32,30	37	20
22	33,85	39	22
23	35,45	40	24
24	37,00	42	24
25	38,60	43	25
26	40,20	45	25
27	41,80	47	27
28	43,35	48	29
29	44,95	50	31
30	46,55	51	33
31	48,15	53	35
32	49,70	55	37
33	51,30	56	39
34	52,85	58	39
35	54,45	59	40
36	56,05	61	42
37	57,65	62	43
38	59,25	64	45
39	60,85	66	45
40	62,45	67	47
41	64,00	69	48
42	65,60	70	50
43	67,30	72	52
44	68,80	74	52
45	70,40	75	54
46	72,00	77	56
47	73,55	78	58
48	75,15	80	60
49	76,75	82	60
50	78,35	83	60
51	79,95	85	62
52	81,55	86	64
53	83,10	88	66
54	84,70	90	66
55	86,30	91	68
56	87,90	93	70
57	89,50	94	72
58	91,10	96	74
59	92,65	97	74
60	94,25	99	76
61	95,85	101	79
62	97,45	102	80

n° Teeth	De	Df	dmax
63	99,05	104	82
64	100,65	105	84
65	102,25	107	86
66	103,80	109	88
67	105,40	110	90
68	107,00	112	90
69	108,60	113	90
70	110,20	115	92
71	111,80	117	94
72	113,35	118	96
73	114,95	120	96
74	116,55	121	98
75	118,15	123	100
76	119,75	125	102
77	121,35	126	104
78	122,90	128	104
79	124,50	129	106
80	126,10	131	108
81	127,70	133	110
82	129,30	134	110
83	130,90	136	110
84	132,45	137	112
85	134,05	139	114
86	135,65	140	116
87	137,25	142	119
88	138,85	144	119
89	140,45	145	120
90	142,05	147	120
91	143,60	148	122
92	145,20	150	124
93	146,80	152	126
94	148,40	153	126
95	150,00	155	129
96	151,60	156	130
97	153,15	158	130
98	154,75	160	132
99	156,35	161	132
100	157,95	163	134
101	159,55	164	136
102	161,15	166	139
103	162,70	168	140
104	164,30	169	140
105	165,90	171	140
106	167,50	172	142
107	169,10	174	146
108	170,70	176	146
109	172,25	177	148
110	173,85	179	150
111	175,45	180	150
112	177,05	182	152
113	178,65	184	152



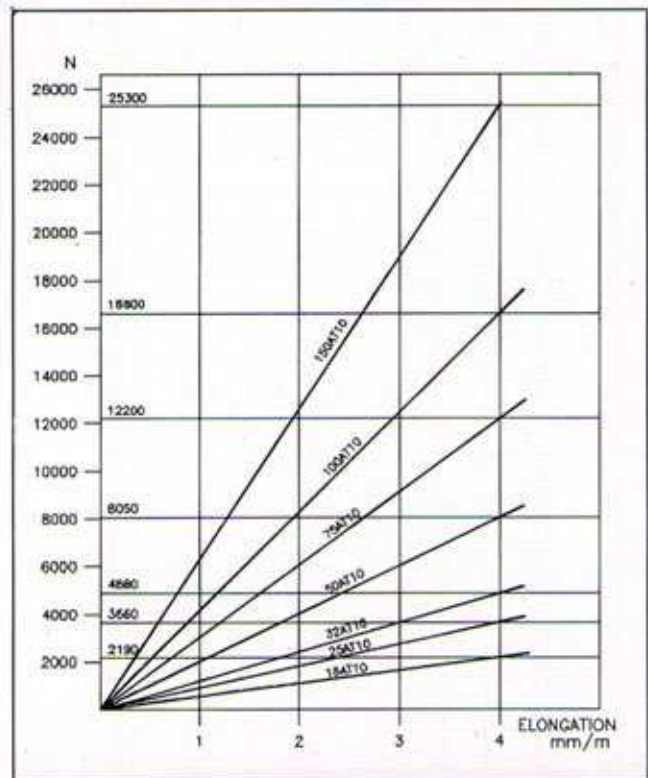
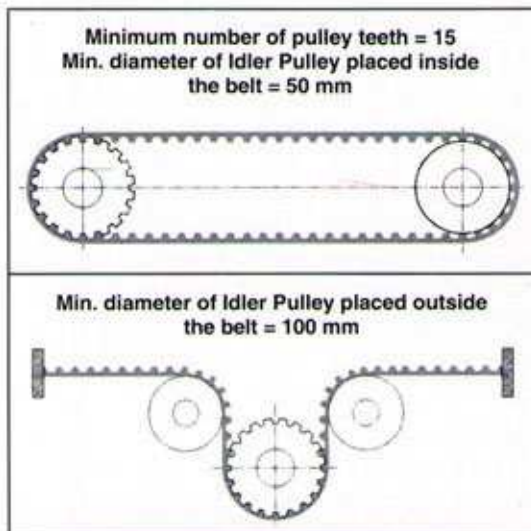
AT10

BELT DATA



WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED [N]	BREAKING STRENGTH [N]
16	2190	/	7480
25	3660	1830	12450
32	4880	2440	16600
50	8050	4025	27400
75	12200	6100	41500
100	16600	8300	56500
150	25300	12600	86400

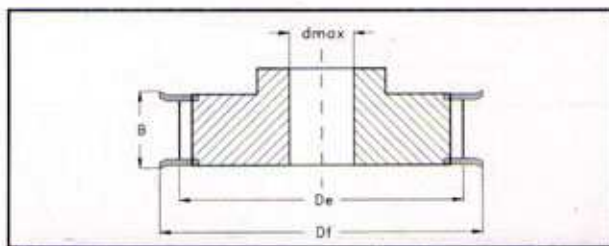
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
50	AT10	100 m-LL
50	AT10	4800 mm-J

ROLLS STANDARD LENGTH					
25	32	50	75	100	150
100 m					

MINIMUM LENGTH JOINED BELT	
For all widths	
900 mm	



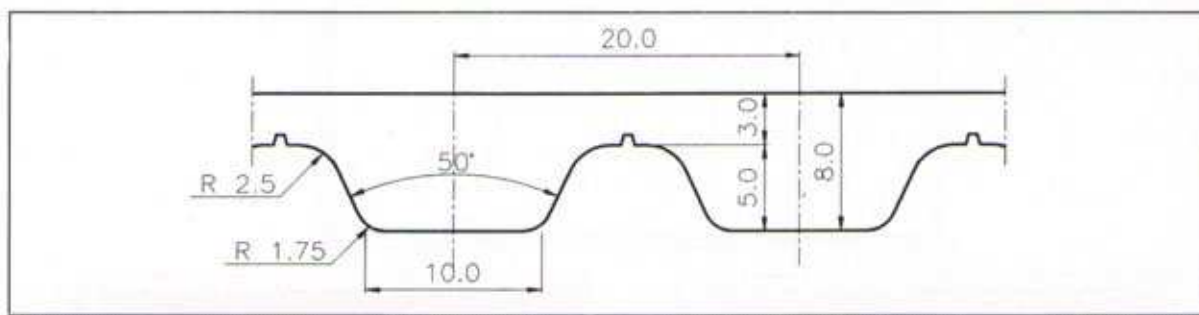
n° Teeth	De	Df	dmax
15	45,90	51	34
16	49,05	55	36
17	52,25	58	40
18	55,45	61	44
19	58,60	64	46
20	61,80	67	50
21	65,00	70	52
22	68,15	74	56
23	71,35	76	60
24	74,55	80	62
25	77,70	82	66
26	80,90	86	68
27	84,10	90	72
28	87,25	93	76
29	90,45	96	78
30	93,65	99	82
31	96,80	102	84
32	100,00	105	88
33	103,20	109	88
34	106,40	112	92
35	109,55	115	96
36	112,75	118	98
37	115,90	121	101
38	119,10	125	104
39	122,30	128	106
40	125,45	131	110
41	128,65	134	110
42	131,85	137	112
43	135,00	140	114
44	138,20	144	118
45	141,40	147	120
46	144,55	150	122
47	147,75	153	122
48	150,95	156	124
49	154,10	160	126
50	157,30	162	130
51	160,50	166	134
52	163,65	169	136
53	166,85	172	140
54	170,05	176	144
55	173,20	178	146
56	176,40	182	150
57	179,60	185	152
58	182,75	188	156
59	185,95	191	160
60	189,10	195	162
61	192,30	198	164
62	195,50	201	166
63	196,65	204	170
64	201,85	207	171

n° Teeth	De	Df	dmax
65	205,05	210	174
66	208,20	214	175
67	211,40	217	177
68	214,60	220	181
69	217,75	223	185
70	220,95	226	187
71	224,15	230	191
72	227,30	232	193
73	230,50	236	197
74	223,70	239	201
75	236,90	242	203
76	240,05	245	207
77	243,25	248	209
78	246,40	252	213
79	249,60	255	215
80	252,80	258	219
81	255,90	261	223
82	259,15	265	225
83	262,35	268	229
84	265,50	271	231
85	268,70	274	235
86	271,90	277	239
87	275,05	280	241
88	278,25	284	245
89	281,45	287	247
90	284,60	290	251
91	287,80	293	255
92	291,00	296	257
93	294,15	300	261
94	297,35	302	263
95	300,55	306	267
96	303,70	309	269
97	306,90	312	273
98	310,10	315	279
99	313,20	318	283
100	316,45	322	285
101	319,65	325	289
102	322,80	328	293
103	326,00	332	295
104	329,20	335	299
105	332,35	338	301
106	335,55	341	305
107	338,75	344	309
108	341,90	347	311
109	345,10	351	315
110	348,30	354	317
111	351,45	357	321
112	354,65	360	323
113	357,80	363	327
114	361,00	367	330



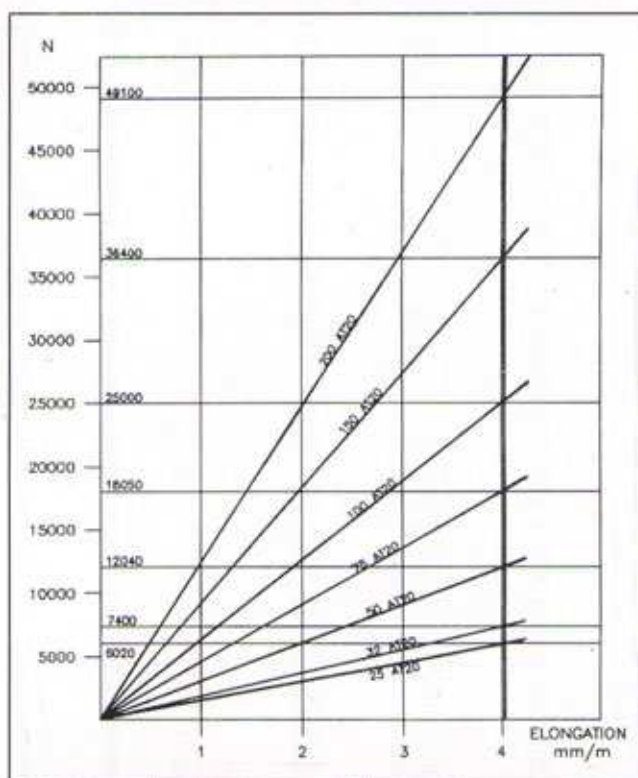
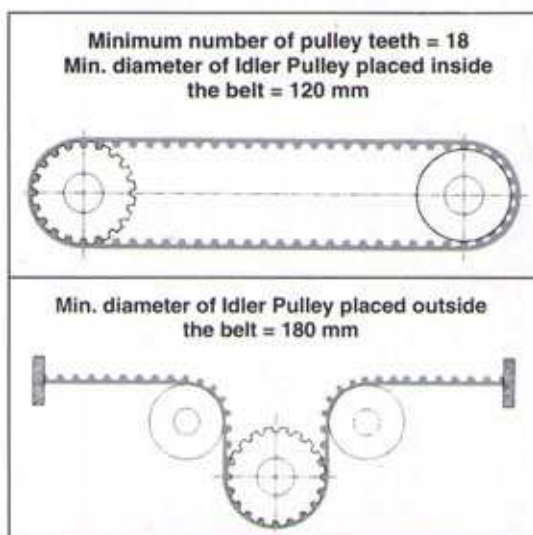
AT20

BELT DATA



WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED [N]	BREAKING STRENGTH [N]
25	6020	3010	19630
32	7400	3700	24160
50	12040	6020	39270
75	18050	9025	58900
100	25000	12500	81560
150	36400	18050	119000
200	49100	24550	160500

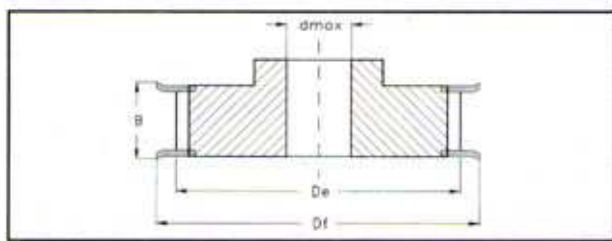
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
50	AT20	100 m-LL
50	AT20	9600 mm-J

ROLLS STANDARD LENGTH					
25	32	50	75	100	150
100 m					

MINIMUM LENGTH JOINED BELT	
For all widths	
1000 mm	



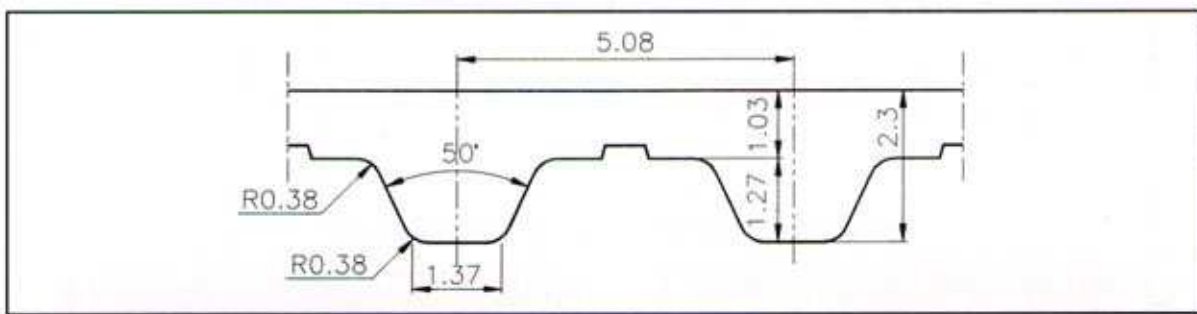
n° Teeth	De	Df	dmax
18	111,75	121	86
19	118,10	128	93
20	124,50	134	100
21	130,75	140	105
22	137,20	147	112
23	143,50	153	118
24	149,95	160	125
25	156,30	166	131
26	162,65	172	137
27	169,05	179	144
28	175,40	185	150
29	181,75	192	156
30	188,15	198	163
31	194,50	204	169
32	200,85	210	175
33	207,20	217	182
34	213,60	223	188
35	219,95	229	195
36	226,35	236	201
37	232,70	242	207
38	239,05	249	214
39	245,45	255	220
40	251,80	261	226
41	258,15	268	233
42	264,50	274	239
43	270,90	280	245
44	277,25	287	252
45	283,60	293	258
46	290,00	300	265
47	296,35	306	271
48	302,70	312	278
49	309,10	319	284
50	315,45	325	290
51	321,80	331	296
52	328,20	338	303
53	334,55	344	310
54	340,90	350	315
55	347,30	357	322
56	353,65	363	328
57	360,00	370	335
58	366,40	376	341
59	372,75	382	347
60	379,10	389	354
61	385,45	395	360
62	391,85	401	366
63	398,20	408	373
64	404,55	414	379
65	410,95	420	385
66	417,30	427	392

n° Teeth	De	Df	dmax
67	423,65	433	398
68	430,05	440	405
69	436,40	446	406
70	442,80	452	412
71	449,15	459	419
72	455,50	465	425
73	461,85	471	431
74	468,25	478	438
75	474,60	484	444
76	480,95	490	450
77	487,35	497	457
78	493,70	503	463
79	500,05	510	470
80	506,45	516	476
81	512,80	522	482
82	519,15	529	489
83	525,55	535	495
84	531,90	541	501
85	538,25	548	503
86	544,60	554	509
87	551,00	561	516
88	557,35	567	522
89	563,70	573	528
90	570,10	580	535
91	576,45	586	541
92	582,85	592	548
93	589,20	599	554
94	595,55	605	560
95	601,90	611	566
96	608,30	618	573
97	614,65	624	579
98	621,00	631	586
99	627,40	637	592
100	633,75	643	598
101	640,10	650	605
102	646,50	656	611
103	652,85	662	617
104	659,20	669	624
105	665,60	675	630
106	671,95	681	636
107	678,30	688	643
108	684,70	694	649
109	691,05	701	656
110	697,40	707	662
111	703,80	713	663
112	710,15	720	670
113	716,50	726	676
114	722,90	732	682



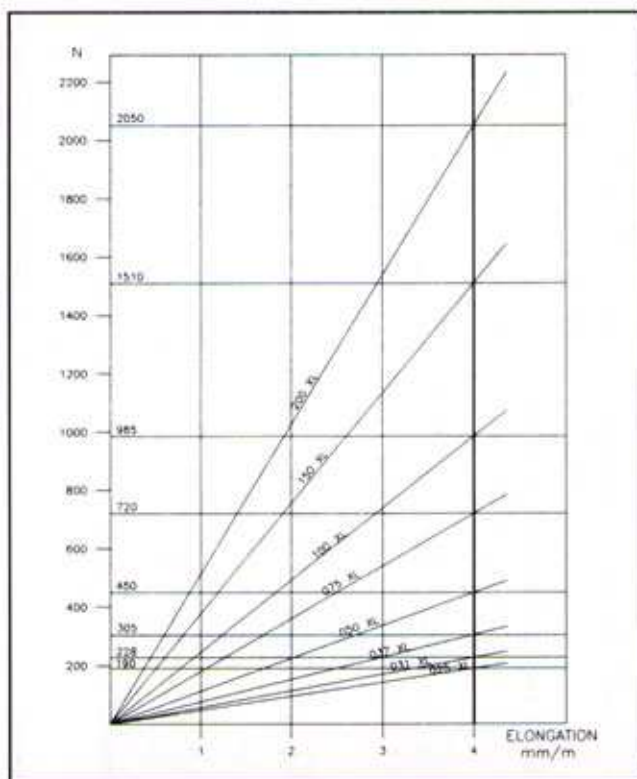
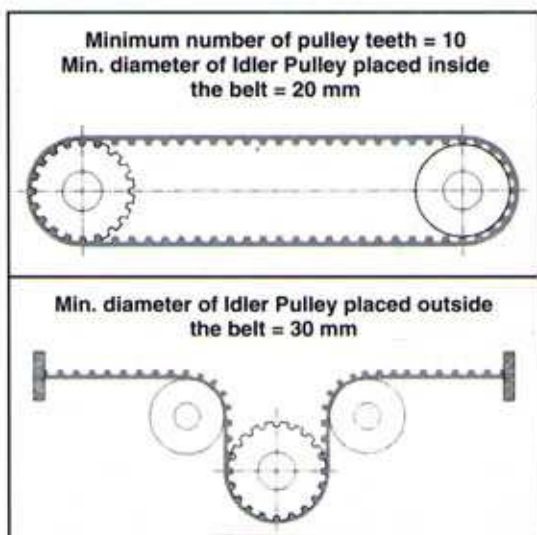
XL

BELT DATA



WIDTH [inch]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED	BREAKING STRENGTH [N]
0.25	190	/	570
0.31	228	/	685
0.37	305	150	915
0.50	450	225	1370
0.75	720	360	2170
1.00	985	490	2975
2.00	2050	1025	6170

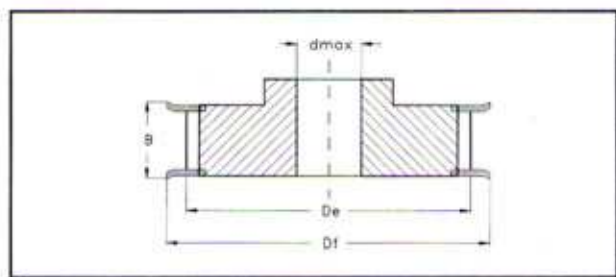
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
075	XL	100 m-LL
075	XL	2438,4 mm-J

ROLLS STANDARD LENGTH	
025 031 037 050	075 100 200
50 m	100 m

MINIMUM LENGTH JOINED BELT
For all widths
900 mm

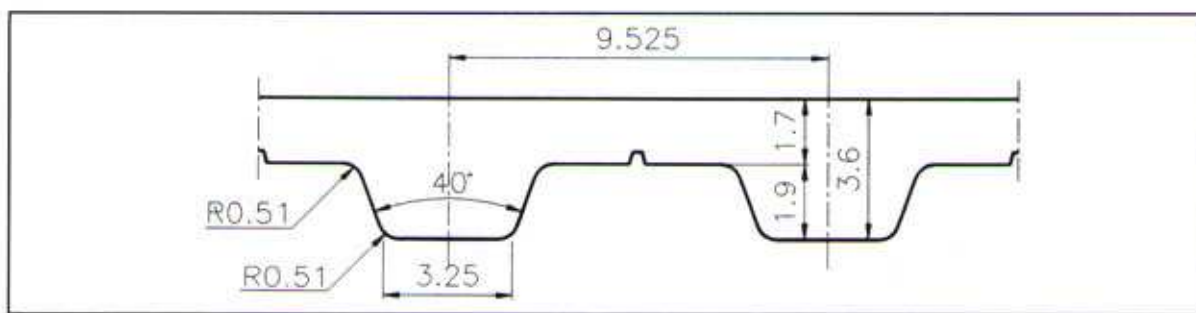


n° Teeth	De	Df	dmax
10	15,66	23	6
11	17,28	23	6
12	18,90	25	6
13	20,51	25	6
14	22,13	28	6
15	23,75	28	6
16	25,36	32	6
17	26,98	32	6
18	28,60	36	6
19	30,22	36	6
20	31,83	38	6
21	33,45	38	6
22	35,07	42	6
24	38,03	44	8
26	41,53	48	8
27	43,15	48	8
28	44,70	51	8
29	46,39	51	8
30	48,00	54	8
32	51,24	57	8
34	54,47	...	8
35	56,09	...	8
36	57,70	...	8
38	60,94	...	8
39	62,56	...	8
40	64,17	...	8
41	65,79	...	8
42	67,41	...	8
43	69,02	...	8
44	70,64	...	8
45	72,26	...	11
46	73,87	...	11
47	75,49	...	11
48	77,11	...	11
49	78,73	...	11
52	83,58	...	11
56	90,04	...	11
57	91,66	...	11
58	93,28	...	11
59	94,90	...	11
60	96,51	...	11
68	109,45	...	11
69	111,07	...	11
70	112,68	...	11
71	114,30	...	11
72	115,92	...	11



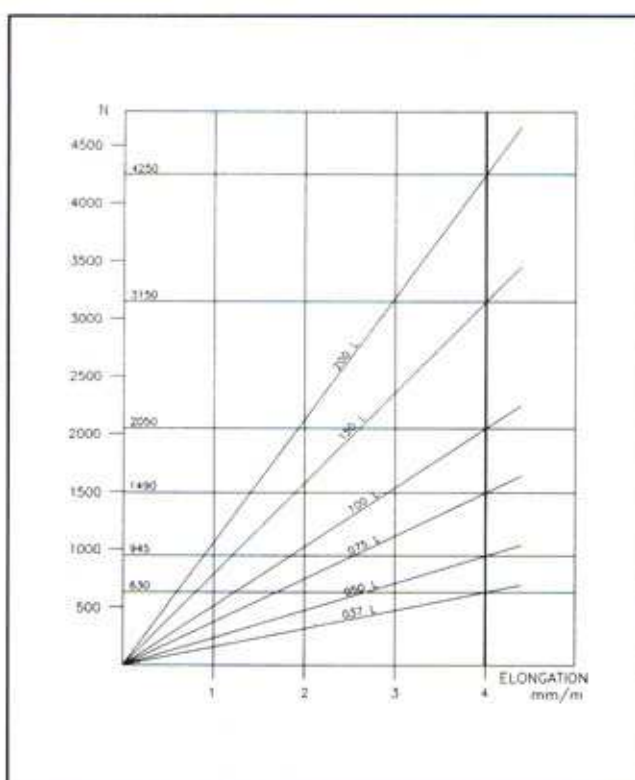
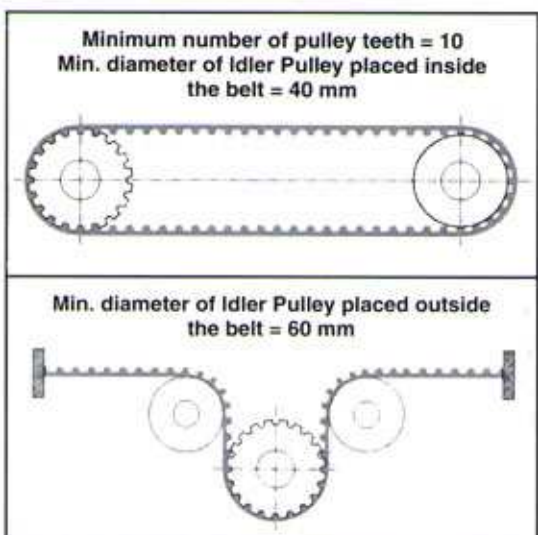
L

BELT DATA



WIDTH [inch]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED	BREAKING STRENGTH [N]
0.37	630	315	1860
0.50	945	470	2940
0.75	1490	745	4650
1.00	2050	1025	6050
1.50	3150	1575	9800
2.00	4250	2125	13230

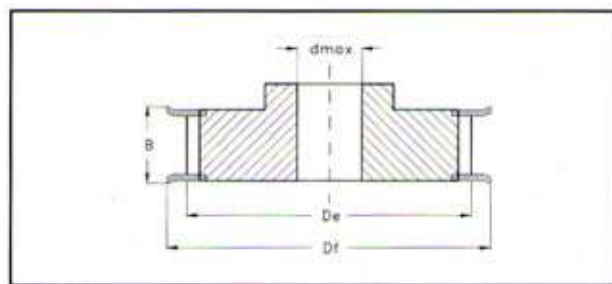
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
075	L	100 m-LL
075	L	4572 mm-J

ROLLS STANDARD LENGTH					
037	050	075	100	150	200
50 m		100 m			

MINIMUM LENGTH JOINED BELT
For all widths
900 mm



n° Teeth	De	Df	dmax
10	29,56	36	8
11	32,59	38	8
12	35,62	42	8
13	38,65	44	8
14	41,68	48	11
15	44,72	51	11
16	47,75	54	11
17	50,78	57	11
18	53,81	60	11
19	56,84	60	11
20	59,88	66	11
21	62,91	71	11
22	65,94	75	11
23	68,97	79	11
24	72,00	79	11
25	75,04	83	11
26	78,07	87	11
27	81,10	87	11
28	84,13	91	11
29	87,16	93	11
30	90,20	97	11
32	96,26	103	11
33	99,29	106	11
34	102,32	111	11
35	105,35	111	11
36	108,39	115	11
40	120,51	127	11
41	123,55	131	11
42	126,58	135	11
44	132,64	140	11
45	135,67	143	11
47	141,74	148	11
48	144,77	152	11
49	147,80	...	14
50	150,83	...	14
52	156,90	...	14
56	169,02	...	14
57	172,06	...	14
60	181,15	...	14
65	196,81	...	14
66	199,34	...	14
72	217,53	...	14
84	253,92	...	14
90	272,11	...	14
96	290,30	...	14
120	363,07	...	14

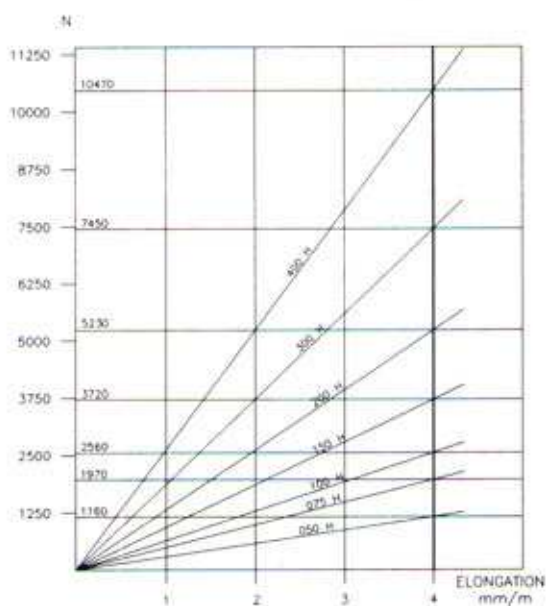


Technical drawing of a mechanical part with dimensions: 12.7, 4.43, 4.3, 2.29, 2.01, R1.02, and 40°.

WIDTH [inch]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED	BREAKING STRENGTH [N]
0.50	1160	580	3650
0.75	1970	985	6210
1.00	2560	1280	8040
1.50	3720	1860	11700
2.00	5230	2615	16450
3.00	7450	3725	25300
4.00	10470	5235	32900

LL	- OPEN END BELT -
J	- JOINED BELT -

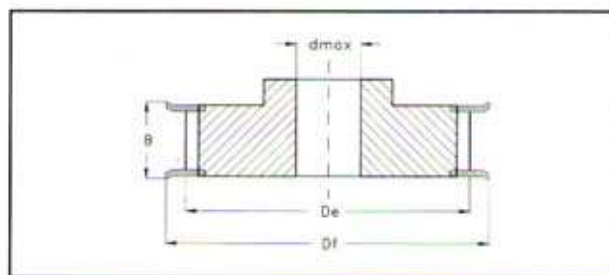
A schematic diagram of a planetary gear set. It features a central sun gear with 10 teeth, labeled $Z_1 = 10$. Surrounding the sun gear are three planet gears, each with 20 teeth, labeled $Z_2 = 20$. The planet gears are mounted on a planet carrier, which is represented by a dashed circle. The entire gear set is housed within a fixed frame, indicated by a thick outer line with hatching. The input shaft is connected to the sun gear, and the output shaft is connected to the planet carrier.



BELT CODE		
Width	Type	Length
150	H	100 m-LL
150	H	6096 mm-J

ROLLS STANDARD LENGTH	
050	075 100 150 200 300 400
50 m	100 m

MINIMUM LENGTH JOINED BELT
For all widths
900 mm

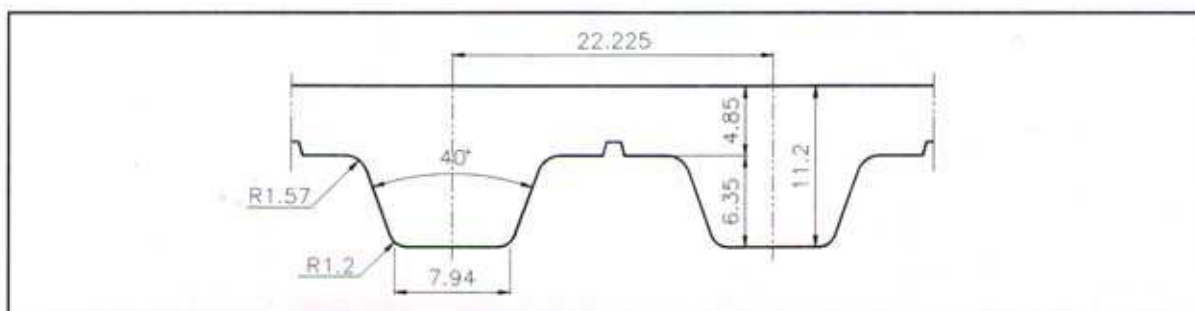


n° Teeth	De	Df	dmax
14	55,220	63	14
15	59,270	66	14
16	63,310	71	14
17	67,350	75	14
18	71,390	79	14
19	75,440	83	14
20	79,480	87	14
21	83,520	91	14
22	87,560	93	14
23	91,610	97	14
24	95,650	103	14
25	99,690	106	14
26	103,73	111	14
27	107,78	115	14
28	111,82	119	14
29	115,86	123	14
30	119,90	127	14
32	127,99	135	14
33	132,03	140	14
34	136,07	143	14
35	140,12	148	14
36	144,16	152	14
38	152,24	158	14
40	160,33	168	14
44	176,50	184	14
45	180,54	192	14
48	192,67	200	14
49	196,71	...	19
50	200,75	...	19
52	208,84	...	19
58	233,09	...	19
60	241,18	...	19
70	281,61	...	19
72	289,69	...	19
82	330,12	...	19
84	338,20	...	19
94	378,63	...	19
96	386,71	...	19
106	427,14	...	19
116	467,56	...	19
118	475,65	...	19
120	483,73	...	19
150	605,01	...	19
152	613,09	...	19
154	621,18	...	19
156	629,26	...	19



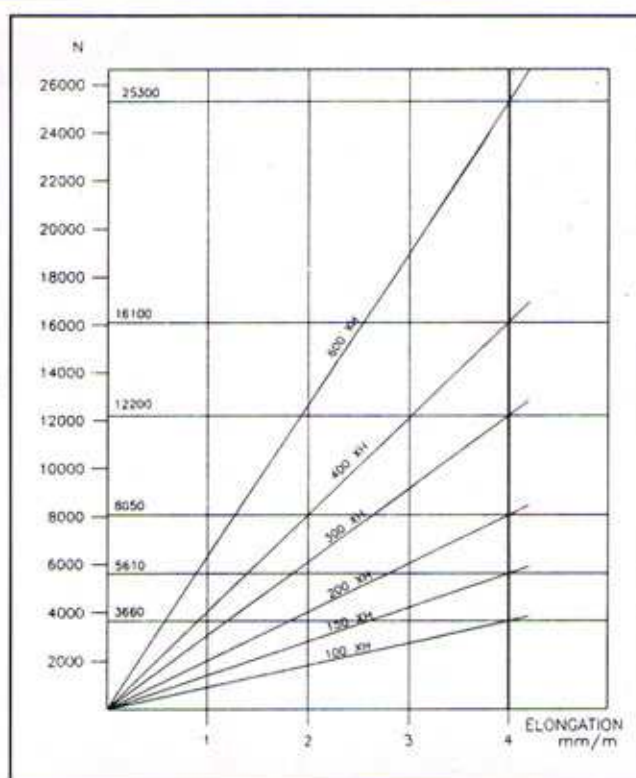
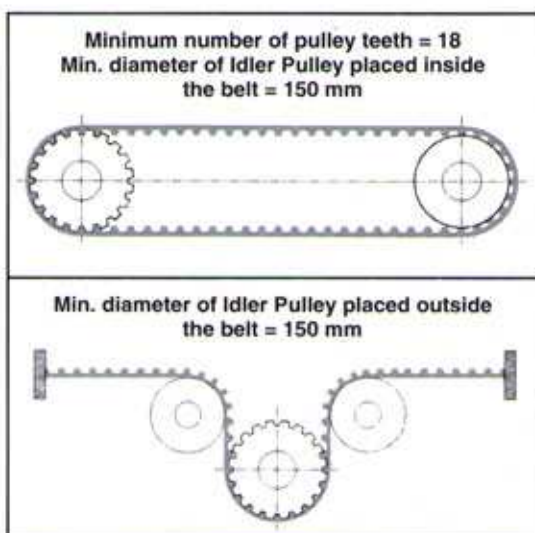
XH

BELT DATA



WIDTH [inch]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED	BREAKING STRENGTH [N]
1.00	3660	1830	12450
1.50	5610	2805	19100
2.00	8050	4025	27400
3.00	12200	6100	41500
4.00	16100	8050	54860
6.00	25300	12650	86400

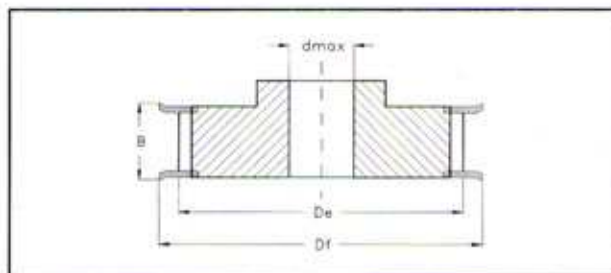
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
200	XH	100 m-LL
200	XH	10668 mm-J

ROLLS STANDARD LENGTH			
150	200	300	400
100 m			

MINIMUM LENGTH JOINED BELT	
For all widths	
1000 mm	

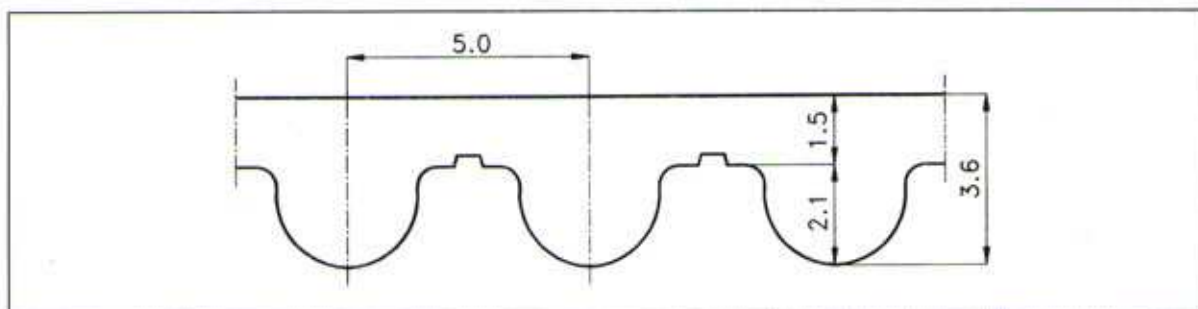


n° Teeth	De	Df	dmax
18	124,55	138	24
19	131,62	146	24
20	138,69	154	24
21	145,77	160	24
22	152,84	168	24
24	166,99	183	24
25	174,07	188	24
26	181,14	198	24
27	188,22	200	24
28	195,29	211	24
30	209,44	226	24
32	223,59	240	24
34	237,74	256	24
38	266,03	286	28
40	280,18	296	28
46	322,63	...	28
48	336,78	...	28
58	407,52	...	28
60	421,67	...	28
70	492,42	...	28
72	506,56	...	28
78	549,01	...	28
80	563,16	...	28
82	577,31	...	28
84	591,46	...	28
94	662,20	...	28
96	676,35	...	28
118	831,99	...	28
120	846,14	...	28



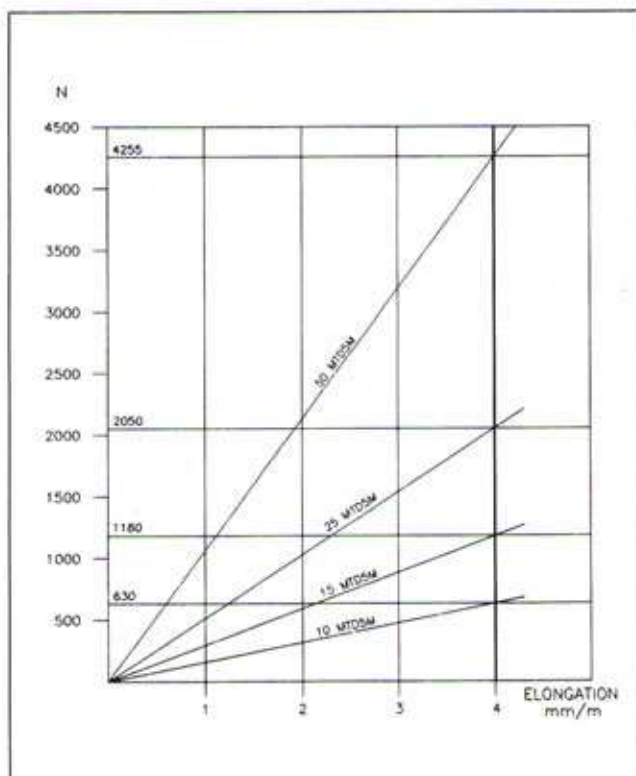
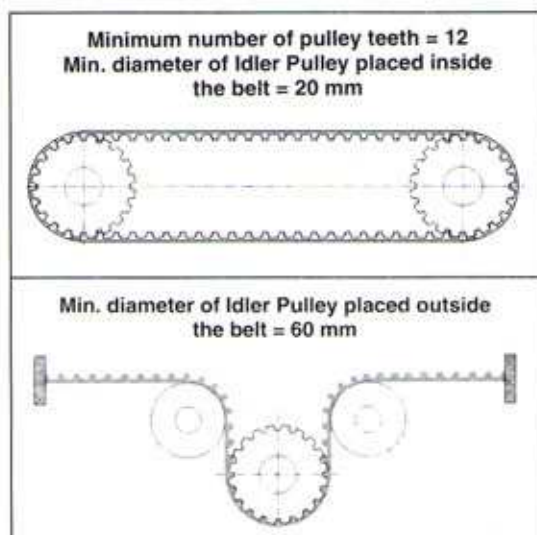
MTD5M

BELT DATA



WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED [N]	BREAKING STRENGTH [N]
10	630	315	1960
15	1180	590	3675
25	2050	1025	6370
50	4255	2128	13230

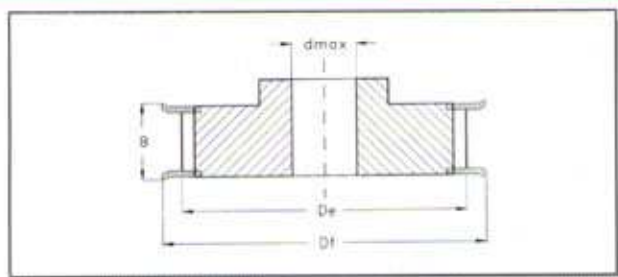
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
15	5M	100 m-LL
25	5M	4800 mm-J

ROLLS STANDARD LENGTH			
10	15	25	50
50 m	100 m		

MINIMUM LENGTH JOINED BELT
For all widths
900 mm



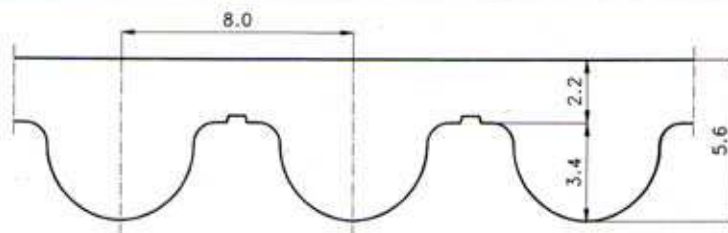
n° Teeth	De	Df	dmax
12	17,96	23	4
13	19,55	24	4
14	21,14	25	6
15	22,73	28	6
16	24,32	28	6
17	25,92	30	6
18	27,51	32	6
19	29,10	34	6
20	30,69	36	6
21	32,28	38	6
22	33,87	38	6
23	35,47	40	6
24	37,06	42	6
25	38,65	42	6
26	40,24	44	6
27	41,83	46	6
28	43,42	48	6
29	45,01	50	6
30	46,61	51	6
31	48,20	52	6
32	49,79	54	8
33	51,38	54	8
34	52,97	56	8
35	54,56	58	8
36	56,16	60	8
37	57,75	62	8
38	59,34	66	8
39	60,93	68	8
40	62,52	71	8
41	64,11	72	8
42	65,71	74	8

n° Teeth	De	Df	dmax
43	67,30	74	8
44	68,89	/	8
45	70,48	/	8
46	72,07	/	8
47	73,66	/	8
48	75,25	/	8
49	76,85	/	8
50	78,94	/	8
51	80,03	/	8
52	81,62	/	8
53	83,21	/	8
54	84,80	/	8
55	86,40	/	8
56	87,99	/	8
57	89,58	/	8
58	91,17	/	8
59	92,76	/	8
60	94,35	/	8
61	95,94	/	8
62	97,54	/	8
63	99,13	/	8
64	100,72	/	8
65	102,31	/	8
66	103,90	/	8
67	105,49	/	8
68	107,09	/	8
69	108,68	/	8
70	110,27	/	8
71	111,86	/	8
72	113,45	/	8
73	115,04	/	8



MTD8M

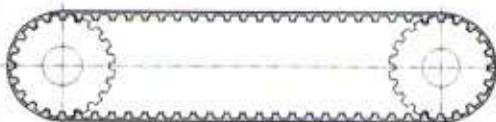
BELT DATA



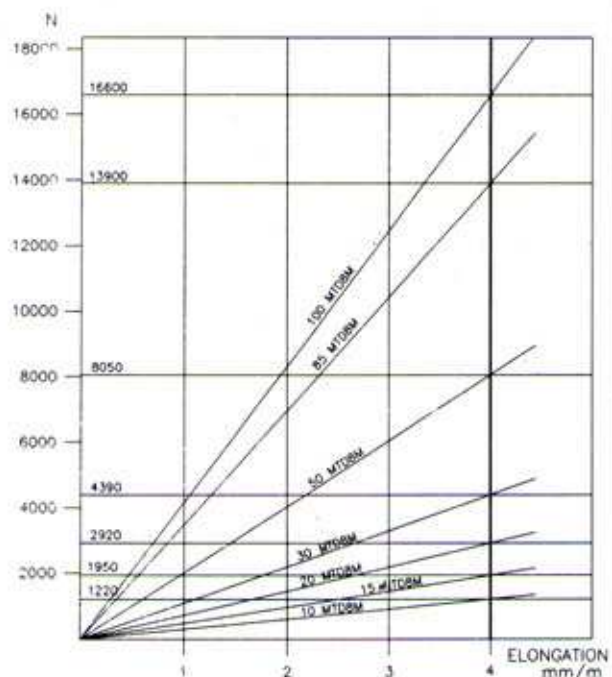
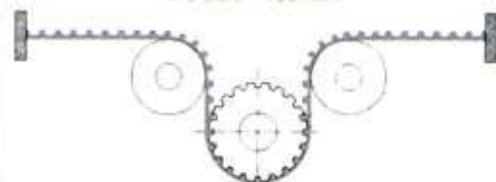
WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED [N]	BREAKING STRENGTH [N]
10	1220	610	4150
15	1950	975	6640
20	2920	1460	9960
30	4390	2195	14940
50	8050	4025	27400
85	13900	6950	47320
100	16600	8300	56500

LL	- OPEN END BELT -
J	- JOINED BELT -

Minimum number of pulley teeth = 18
Min. diameter of Idler Pulley placed inside
the belt = 50 mm



Min. diameter of Idler Pulley placed outside
the belt = 100 mm



BELT CODE

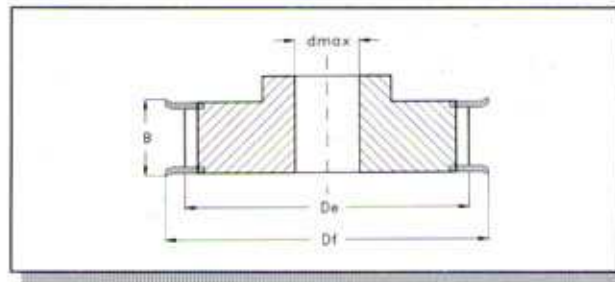
Width	Type	Length
30	8M	100 m-LL
50	8M	4496 mm-J

ROLLS STANDARD LENGTH

10	15	20	30	50	85	100
50 m	100 m					

MINIMUM LENGTH JOINED BELT

For all widths
900 mm



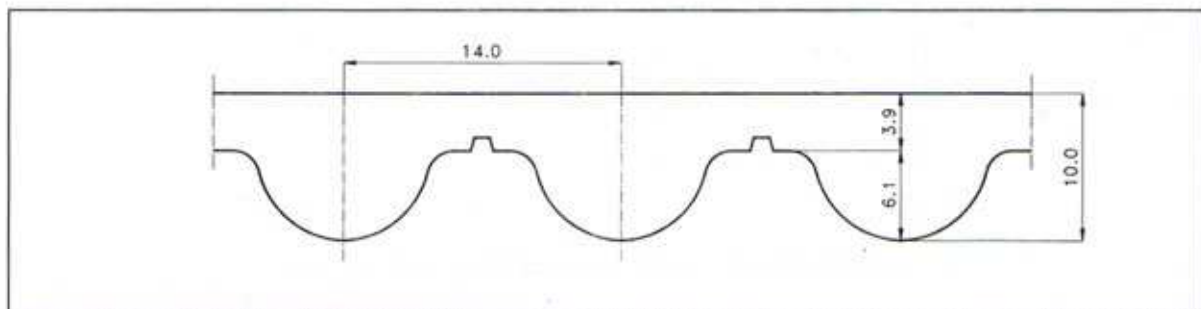
n° Teeth	De	Df	dmax
18	44,47	50	12
19	47,01	53	12
20	49,56	55	12
21	52,11	58	12
22	54,65	60	12
23	57,26	63	12
24	59,75	66	12
25	62,29	68	12
26	64,84	71	12
27	67,38	73	15
28	70,08	75	15
29	72,62	78	15
30	75,13	83	15
31	77,65	85	15
32	80,16	87	15
33	82,68	89	15
34	85,22	91	15
35	87,76	94	15
36	90,30	97	15
37	92,85	100	15
38	95,39	103	15
39	97,94	105	15
40	100,49	106	15
41	103,03	109	15
42	105,58	112	15
43	108,13	115	15
44	110,67	119	15
45	113,22	121	15
46	115,77	123	15
47	118,31	125	15
48	120,86	127	15
49	123,41	129	15
50	125,95	131	15
51	128,50	133	15
52	131,05	136	15
53	133,59	139	15
54	136,14	142	15

n° Teeth	De	Df	dmax
55	138,68	145	15
56	141,23	148	15
57	143,78	150	15
58	146,32	152	15
59	148,87	155	15
60	151,42	158	15
61	153,96	161	15
62	156,51	164	15
63	159,06	166	15
64	161,60	168	15
65	164,15	171	15
66	166,70	174	15
67	169,24	177	15
68	171,79	180	15
69	174,34	183	15
70	176,88	186	15
71	179,43	189	15
72	181,97	192	15
73	184,52	194	15
74	187,07	197	15
75	189,61	200	15
76	192,16	203	15
77	194,71	205	15
78	197,25	207	15
79	199,81	210	15
80	202,35	/	15
81	204,89	/	15
82	207,44	/	15
83	209,99	/	15
84	212,53	/	15
85	215,08	/	15
86	217,63	/	15
87	220,17	/	15
88	222,72	/	15
89	225,27	/	15
90	227,81	/	15
91	230,36	/	15



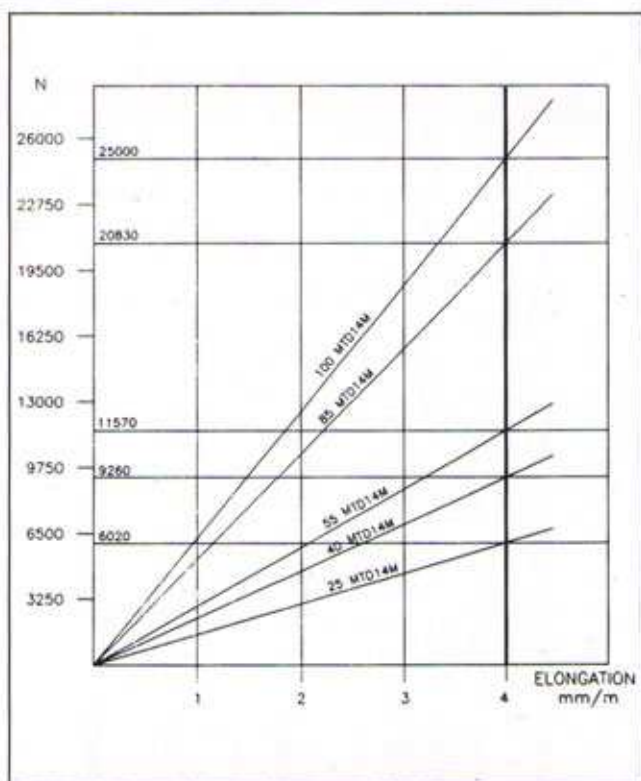
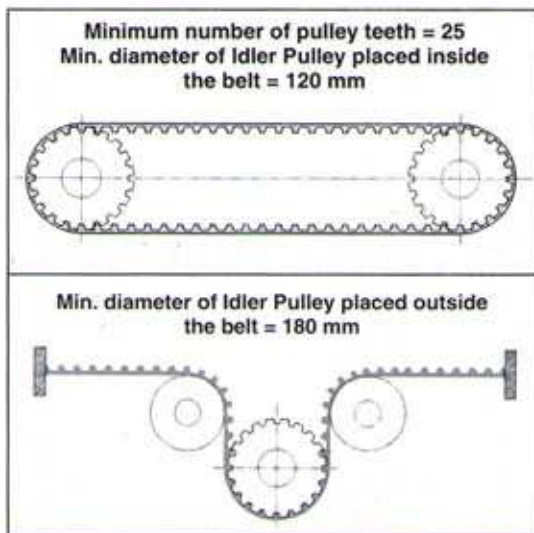
MTD14M

BELT DATA



WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED [N]	BREAKING STRENGTH [N]
25	6020	3010	19630
40	9260	4630	30200
55	11570	5785	37760
85	20830	10415	67960
100	25000	12500	81560

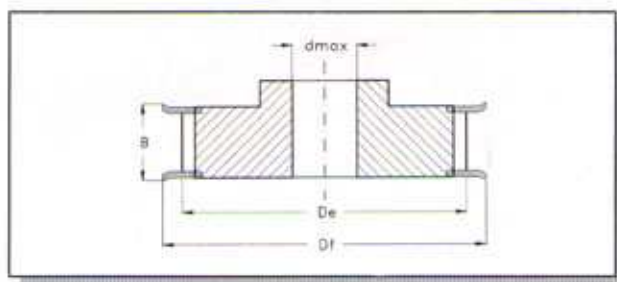
LL	- OPEN END BELT -
J	- JOINED BELT -



BELT CODE		
Width	Type	Length
40	14M	100 m-LL
55	14M	2800 mm-J

ROLLS STANDARD LENGTH				
25	40	55	85	100
100 m				

MINIMUM LENGTH JOINED BELT	
For all widths	
1000 mm	



n° Teeth	De	Df	dmax
25	108,61	115	24
26	113,06	121	24
27	117,52	127	24
28	121,98	127	24
29	126,44	138	24
30	130,90	138	24
31	135,35	144	24
32	139,81	154	24
33	144,26	157	24
34	148,72	160	24
35	153,18	164	24
36	157,63	168	24
37	162,09	175	24
38	166,55	183	24
39	171,00	185	24
40	175,46	188	24
41	179,92	193	24
42	184,37	199	24
43	188,83	205	24
44	193,28	211	24
45	197,74	213	24
46	202,03	217	24
47	206,65	221	24
48	211,11	226	24
49	215,57	229	24
50	220,02	232	24
51	224,48	236	24
52	228,94	240	24
53	233,39	244	28
54	237,85	248	28
55	242,30	252	28
56	246,76	256	28
57	251,22	260	28
58	255,67	264	28
59	260,13	268	28

n° Teeth	De	Df	dmax
60	264,59	273	28
61	269,04	278	28
62	273,50	284	28
63	277,95	290	28
64	282,41	296	28
65	286,87	299	28
66	291,32	302	28
67	295,78	305	28
68	300,24	309	28
69	304,69	313	28
70	309,15	317	28
71	313,61	320	28
72	318,06	/	28
73	322,52	/	28
74	326,97	/	28
75	331,43	/	28
76	335,89	/	28
77	340,34	/	28
78	344,80	/	28
79	349,26	/	28
80	353,71	/	28
81	358,17	/	28
82	362,63	/	28
83	367,08	/	28
84	371,54	/	28
85	375,99	/	28
86	380,45	/	28
87	384,91	/	28
88	389,36	/	28
89	393,82	/	28
90	398,28	/	28
91	402,73	/	28
92	407,19	/	28
93	411,64	/	28



NEW GENERATION

AT HPF

To the growing demand of compactness, precision and space of the new generation of linear transmissions, **MEGADYNE** answers with a **new generation of belts** with improved characteristics.

- **Increased charge** on the same section of belts
- **Less stretching** under the same charge conditions in compare with the **AT** standard belts
- **Winding diameters very wear** to those of **AT** standard
- **Reduced tolerances**
- Possibility of using **standard pulleys**

It is specially suggested to **use this belt** with linear movements **where high precision is required.**

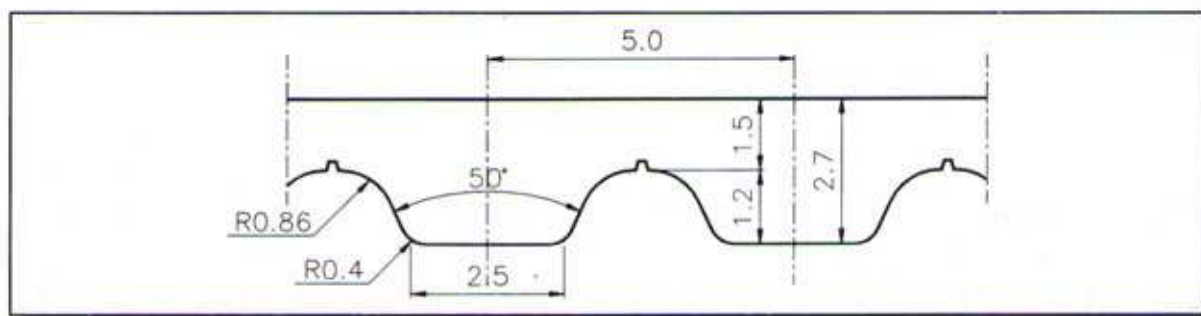
In order to use at better rate the characteristics of the **AT HPF**, a correct belt tension is necessary.

It is advisable to use a covering of poliammid cloth on the teeth in order to avoid the noise and increase the slipping on the plane.

A new improved adhesion system allows **MEGADYNE** to grant a **better distribution of the load** between the teeth and the traction cord, **reducing the slipping risks** between polyurethane and steel cord, specially in the presence of high accelerations.

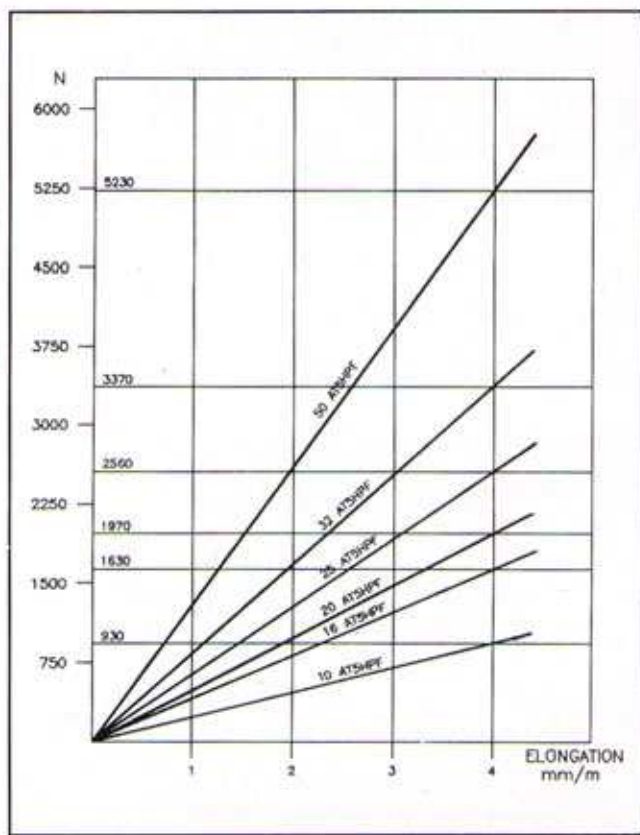
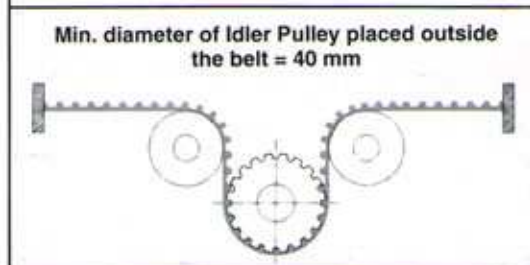
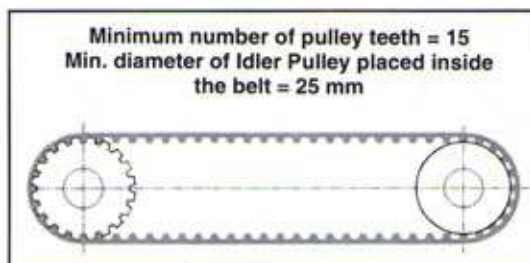
Anyway **MEGADYNE** has the possibility to realize several **different executions** with **high flexible cord**, **increased load**, **special tolerances** according to specific requests of the customers.

High Performance Flexibility Belt



WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED [N]	BREAKING STRENGTH [N]
10	930	/	2900
16	1630	/	5110
20	1970	/	6210
25	2560	/	8040
32	3370	/	10600
50	5230	/	16450

LL - OPEN END BELT -



BELT CODE		
Width	Type	Length
25	AT5 HPF	100 m-LL

ROLLS STANDARD LENGTH	
6 10	16 20 25 32 50
50 m	100 m

PRODUCED WITH MINUS TOLERANCES ON THE LENGTH TO BE USED WITH HIGH LOAD

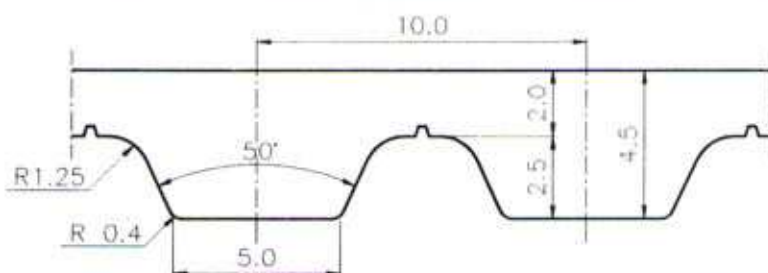


See **AT5 Pulley Data** on page 11



AT10 HPF

BELT DATA



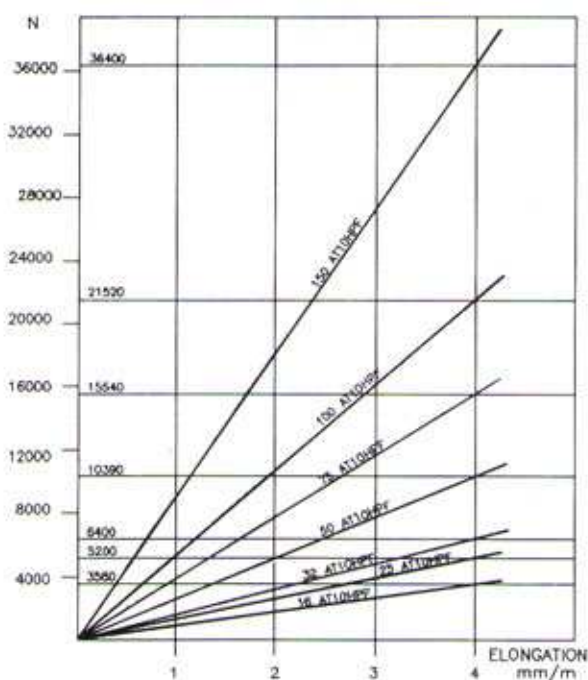
WIDTH [mm]	MAX TRACTION LOAD [N]	MAX TRACTION LOAD JOINED [N]	BREAKING STRENGTH [N]
16	3580	/	14300
25	5200	/	20680
32	6400	/	25450
50	10390	/	41350
75	15540	/	62050
100	21520	/	85900
150	36400	/	119000

LL - OPEN END BELT -

Minimum number of pulley teeth = 16
Min. diameter of Idler Pulley placed inside
the belt = 60 mm



Min. diameter of Idler Pulley placed outside
the belt = 100 mm



BELT CODE

Width	Type	Length
50	AT10 HPF	100 m-LL

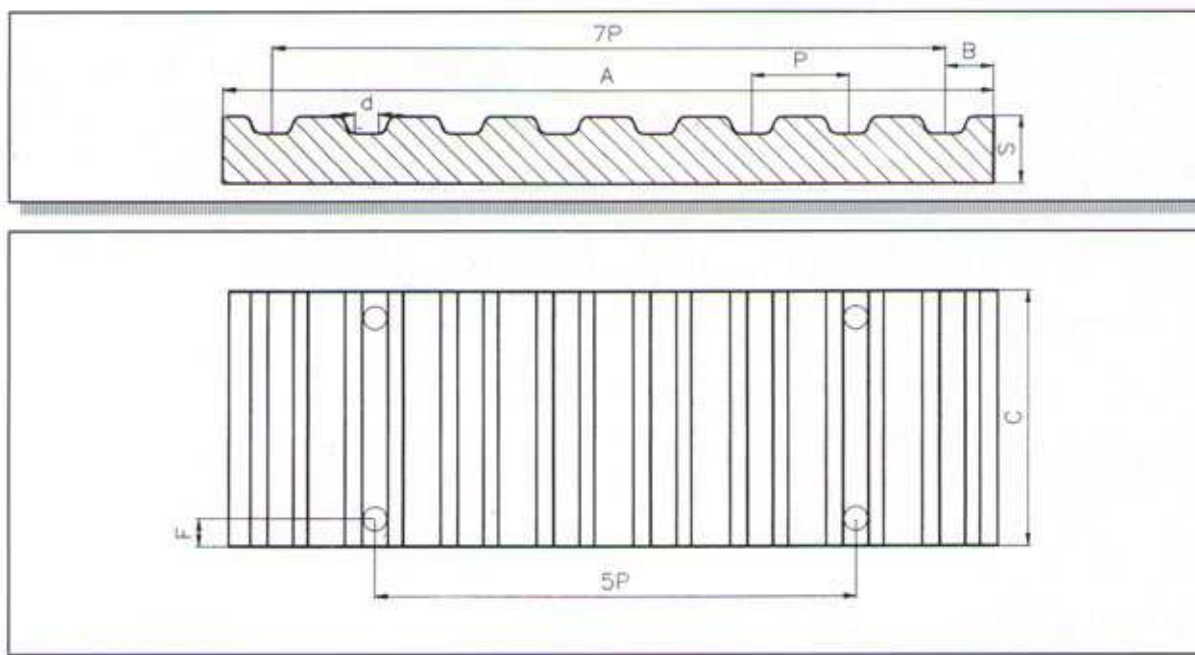
ROLLS STANDARD LENGTH

16	32	50	75	100
100 m				



See AT10 Pulley Data on page 13

FIXING PLATES



* P see the draw of the belt

FIXING PLATES FOR INCH PITCH BELTS (mm)

Type	F	d	B	A	S	Belt Width [inch]								
						025	037	050	075	100	150	200	300	400
XL	6	5,5	3,5	42,5	8	25,5	28,5	32	38	45				
L	8	9	5	76,6	15		36	39	45	51,5	64	77		
H	10	11	9	106,9	22			45	51	57,5	70	83	108	134

FIXING PLATES FOR METRIC PITCH BELTS (mm)

Type	F	d	B	A	S	Belt Width [mm]							
						6	10	16	25	32	50	75	100
T5-AT5	6	5,5	3,2	41,8	8	25	29	35	44	51	71		
T10-AT10	8	9	5	80	15			41	50	57	75	100	125
T20-AT20	10	11	10	160	20				56	65	81	106	132

FIXING PLATES FOR MTD BELTS (mm)

Type	F	d	B	A	S	Belt Width [mm]									
						10	15	20	25	30	40	50	55	85	100
5M	6	5,5	3,2	41,8	8	28	34		44			61			
8M	8	9	5	66	15	35	40	45		55		75		110	125
14M	10	11	9	116	22				56		71		86	116	132

The **fixing plates** are used to fix the tail of the open belts.

On the **customer's request**, the plates can be delivered **with or without fixing holes**.

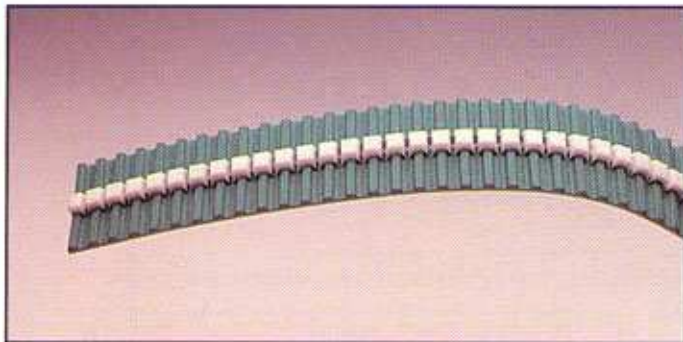
As the **belt can't be stretched** with the fixing plates we suggest to **use other tension system**.

The plates are delivered in **aluminium alloy**.

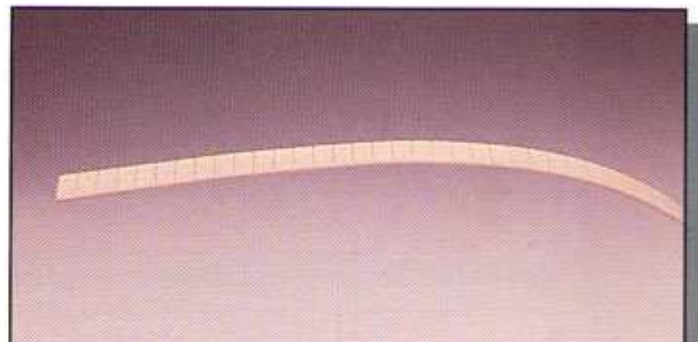
The Megadyne Technical Staff is ready to study special or particular applications.



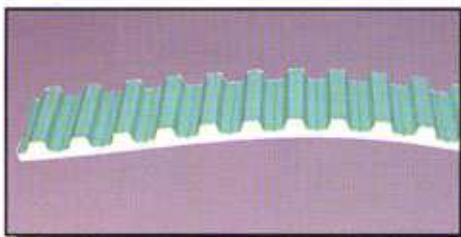
SPECIAL EXECUTIONS



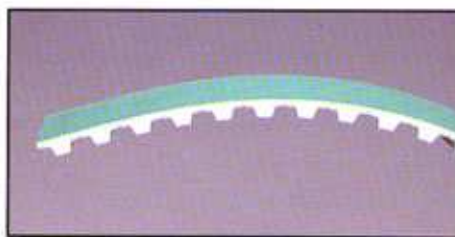
SELF TRACKING BELT
AVAILABLE ON: T10 - AT10 - H
AVAILABLE WIDTH: 25 - 50 - 75 - 100



POLYURETHANE FLAT OPEN END
P1 1 mm THICKNESS
P2 2 mm THICKNESS
AVAILABLE WIDTH: 10 - 20 - 30 - 40 - 50



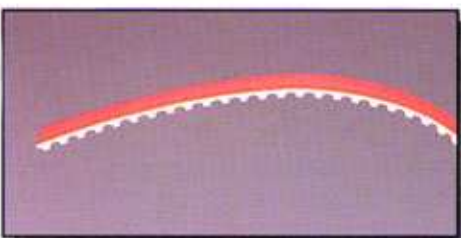
NFT
NYLON FABRIC ON THE TEETH
LOW FRICTION AND LESS NOISE
ALL PROFILES AVAILABLE



NFB
NYLON FABRIC ON THE BACK
LOW FRICTION FOR TRANSPORTATION
ALL PROFILES AVAILABLE



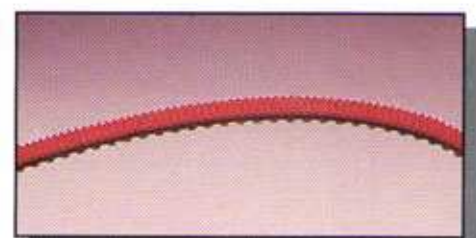
AVAFC
POLYURETHANE COVERED 85 SHORE A
TRANSPORT
AVAILABLE ON: T10 - T20 - AT10 - AT20 - H - XH



NATURAL RUBBER 40 SHORE A
DIFFERENT THICKNESS
TRANSPORT HIGH FRICTION
ALL PROFILES AVAILABLE



KEVLAR CORD
HARD CHEMICAL AND CLIMATIC APPLICATIONS
AVAILABLE ON: T5 - T10 - AT10 - L - H



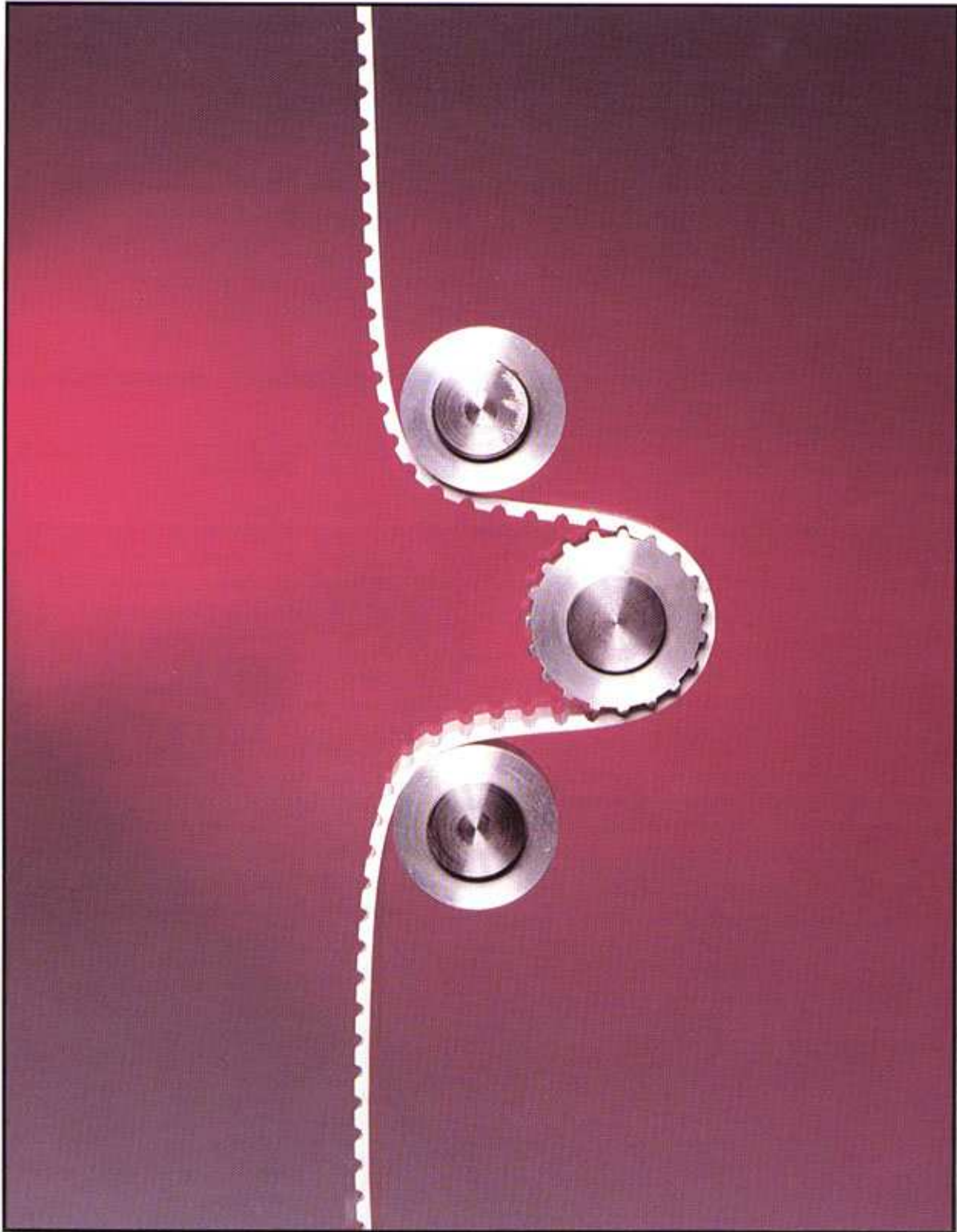
SUPERGRIP
RUBBER OR PVC
HIGH GRIP SURFACE
ALL PROFILES AVAILABLE

The **NFT** can be delivered with all types of covering

Other special executions can be arranged with the Megadyne Technical Staff



Open End belt drives calculation



POWER TRANSMISSION CALCULATION

The perfect efficiency of the power transmissions is influenced by several factors. That's why we have designed this catalogue section, fully dedicated to the transmission calculation, in order to allow a simple and easy consultation of the data.

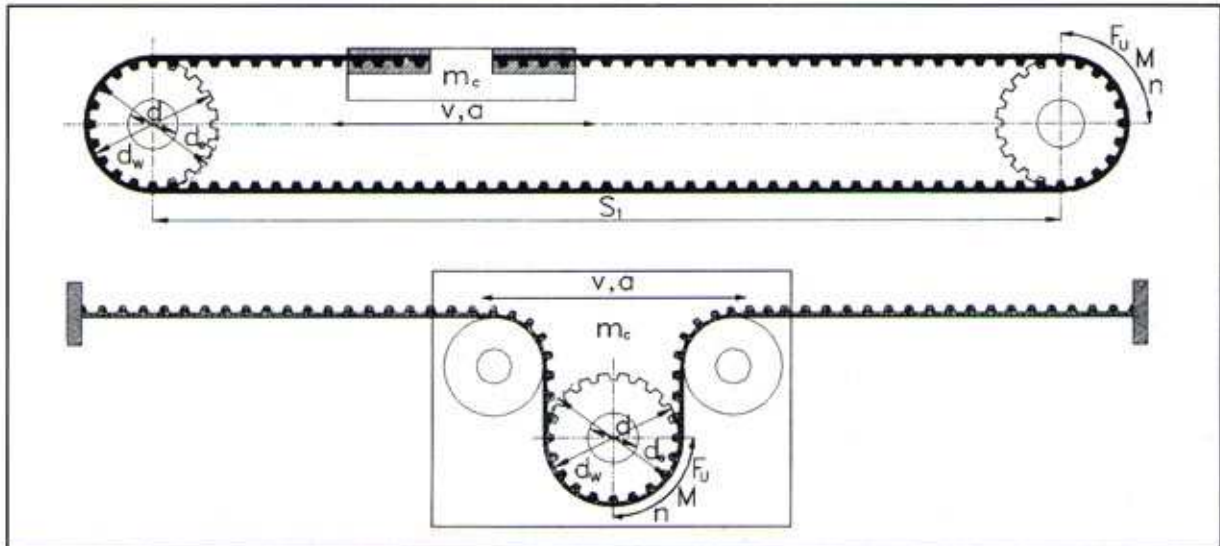
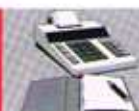


Table of symbols, units and definitions

Symbol	Unit	Definition	Symbol	Unit	Definition
a	mm	centre distance	m_b	kg	mass of belt
b	mm	belt width	m_c	kg	mass of carriage
c_0		overall service factor	m_p	kg	mass of pulley
c_1		acceleration factor	m_{pr}	kg	reduced mass of pulley
c_2		service factor	m_i	kg	mass of idler pulley
c_3		load factor	m_{ir}	kg	reduced mass of idler pulley
d_e	mm	outside diameter of pulley	m_{tot}	kg	total mass
d_{el}	mm	outside diameter of large pulley	n_1	min ⁻¹	r.p.m. of driver pulley
d_{es}	mm	outside diameter of small pulley	n_2	min ⁻¹	r.p.m. of driven pulley
d_w	mm	pitch diameter of pulley	n_l	min ⁻¹	r.p.m. of large pulley
d_{w1}	mm	pitch diameter of driver pulley	n_s	min ⁻¹	r.p.m. of small pulley
d_{w2}	mm	pitch diameter of driven pulley	P	kW	power to be transmitted
d_{wl}	mm	pitch diameter of large pulley	P_R	kW	power rating of the belt
d_{ws}	mm	pitch diameter of small pulley	t	mm	tooth pitch
F	N	static span tension	v	m/s	belt speed
F_{max}	N	maximum static span tension	z		number of teeth on belt
F_v	N	maximum traction load	z_m		number of teeth in mesh
i		speed ratio	z_1		number of teeth on driver pulley
L_w	mm	belt length	z_2		number of teeth on driven pulley
a_1	m/s ²	acceleration	z_l		number of teeth on large pulley
a_2	m/s ²	deceleration	z_s		number of teeth on small pulley
s_1	m	acceleration distance	α	°(degrees)	angle of side inclination
s_2	m	deceleration distance	β	°(degrees)	arc of contact on small pulley
s_c	m	distance at constant v	M	Nm	torque
s_{tot}	m	total distance	F_u	N	peripheral force
t_1	s	acceleration time	F_{Umax}	N	maximum peripheral force
t_2	s	deceleration time	F_{Us}	N	specific load on tooth
t_c	s	time at constant v	F_f	N	frictional force
t_{tot}	s	total time	p	kg/m	belt weight
d	mm	finished bore diameter	ρ	kg/dm ³	specific weight
			g	m/s ²	gravity acceleration

POWER TRANSMISSION CALCULATION



DRIVE CALCULATION DATA

The following pages contain the necessary data, formulae and tables needed to study a new belt drive; if you have particularly critical drive problems, we recommend to contact **MEGADYNE Technical Staff**, who will study with you all the necessary solutions.

The choice of the **Load factor c_3** depends on the operating conditions.
The following table shows the value to be used:

Operating conditions	Load Factor c_3
Steady load	1,0
Fluctuating load :	
- low.....	1,4
- average.....	1,7
- high.....	2,0

The **Teeth in Mesh z_m** represents the number of teeth of driver pulley meshing with the teeth of the drive belt.



For the calculation:

the maximum number of z_m for a open end belt is 12

the maximum number of z_m for a joined belt is 6

The **Belt Speed** is determinated using the speed n in r.p.m., the number of teeth z and pitch t in mm or pitch diameter d_w like shows the formula :

$$v = (n_1 \cdot z_1 \cdot t) / (60000) = (n_1 \cdot d_w) / (19100) \text{ [m/s]}$$



Use this formula to calculate the speed n in r.p.m. for chart on page 40



POWER TRANSMISSION CALCULATION

The **Belt Width b** is calculated using the specific load on tooth in mesh and per cm belt width :



See F_{Us} from charts on page 40

$$b = (F_{Umax} \cdot c_3 \cdot 10) / (F_{Us} \cdot z_m) \text{ [mm]}$$

Peripheral force

$$F_U = (2 \cdot 10^3 \cdot M) / d_w \text{ [N]}$$

$$F_U = (19,1 \cdot 10^6 \cdot P) / (n \cdot d_w) \text{ [N]}$$

$$F_U = (10^3 \cdot P) / v \text{ [N]}$$

Torque

$$M = (d_w \cdot F_U) / (2 \cdot 10^3) \text{ [Nm]}$$

$$M = (9,55 \cdot 10^3 \cdot P) / n \text{ [Nm]}$$

$$M = (d_w \cdot P) / (2 \cdot v) \text{ [Nm]}$$

Power

$$P = (M \cdot n) / (9,55 \cdot 10^3) \text{ [kW]}$$

$$P = (d_w \cdot F_U \cdot n) / (19,1 \cdot 10^6) \text{ [kW]}$$

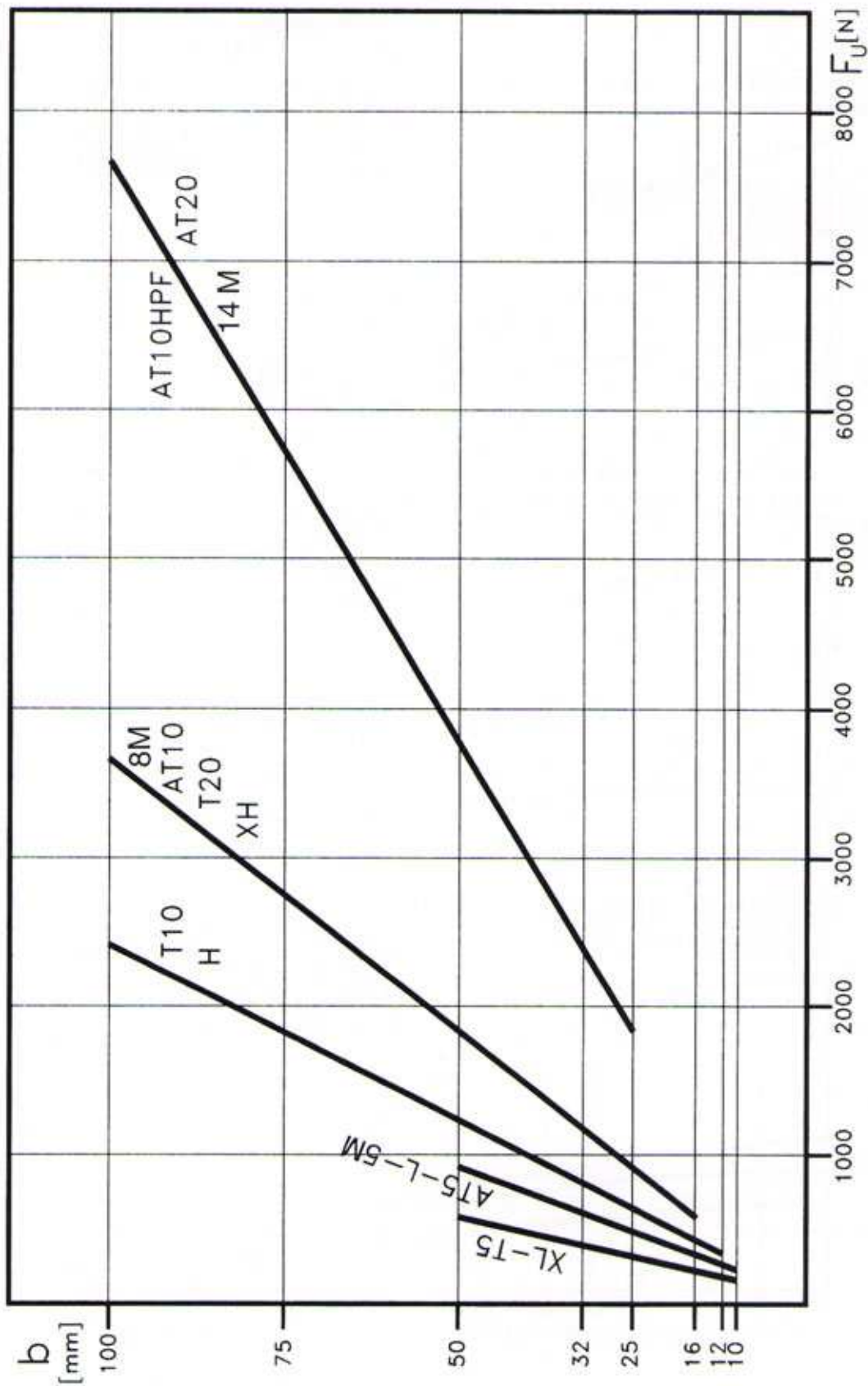
$$P = (F_U \cdot v) / 10^3 \text{ [kW]}$$

CONVERSION TABLE

To convert from	to	multiply by
CV	HP	0,9863201
CV	kcal/h	63,24151
CV	W	735,4988
CV	kW	0,7354988
CV	kgf*m/s	75
CV	lbf*ft/s	542,476
HP	CV	1,01387
HP	kcal/h	641,1865
HP	W	745,6999
HP	kW	0,7456999
HP	kgf*m/s	76,04022
HP	lbf*ft/s	550
in	m	0,0254
in	cm	2,54
in	mm	25,4
in	ft	0,083
in^2	m^2	0,00064516
in^2	cm^2	6,4516
in^2	mm^2	645,16
in^2	ft^2	0,006944444
in^3	m^3	1,63871E-05
in^3	cm^3	16,38706
in^3	mm^3	16387,06
in^3	ft^3	0,000578704

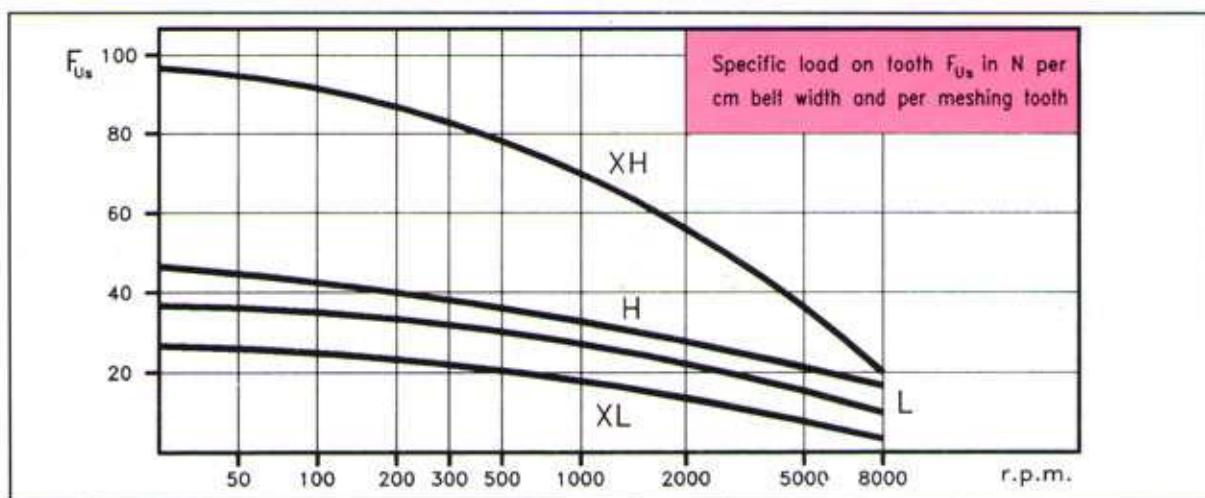
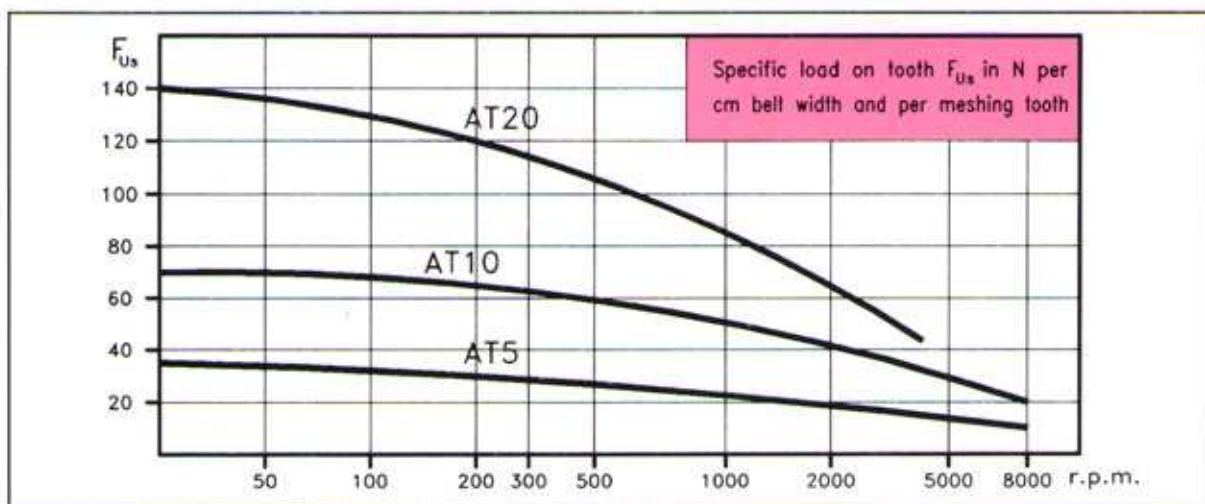
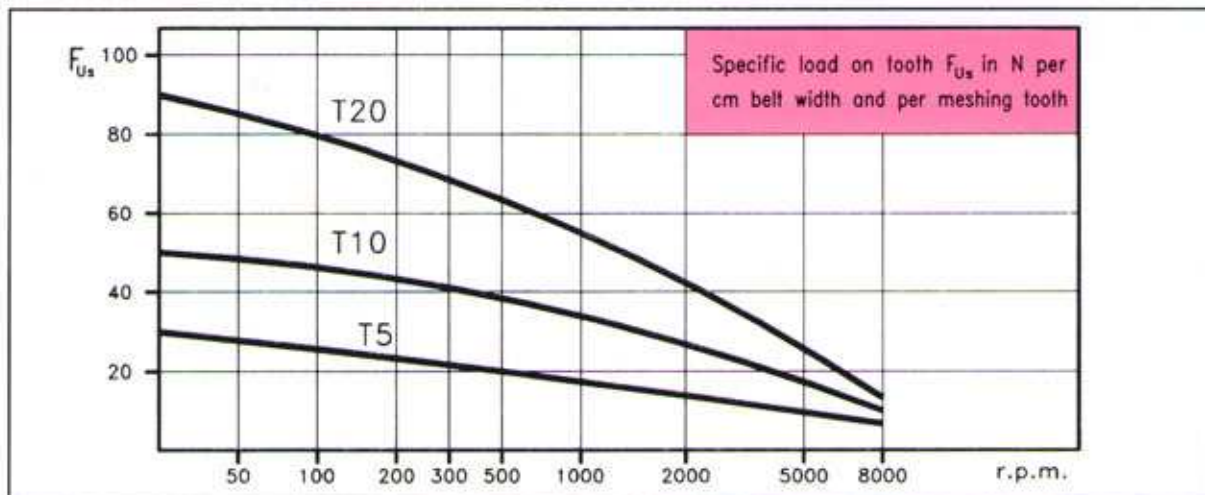
To convert from	to	multiply by
J	CV*h	3,77673E-07
J	HP*h	3,72506E-07
J	kWh	2,77778E-07
kg	lb	2,204623
kgf	N	9,80665
kgf	lbf	2,204623
kgf*m/s	CV	0,01333333
kgf*m/s	W	9,80665
kgf*m/s	kW	0,00980665
kW	CV	1,359622
kW	kcal/h	859,8452
kW	W	1000
kW	kgf*m/s	101,9716
kW	lbf*ft/s	737,5621
lb	kg	0,4535924
lb	kgf	0,4535924
lb	N	4,448222
N	kgf	0,1019716
N	lbf	0,2248089
W	CV	0,001359622
W	HP	0,001341022
W	kcal/h	0,8598452
W	kW	0,001
W	kgf*m/s	0,1019716
W	lbf*ft/s	0,7375621

BELT SELECTION TABLE





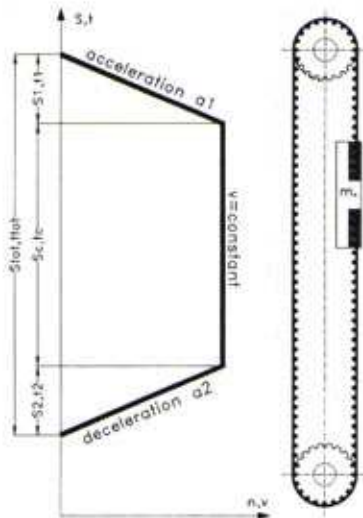
SPECIFIC LOAD ON TOOTH F_{Us}



POWER TRANSMISSION CALCULATION



As an example we show the study of a **Lifting Drive** with its principal data showed in the following boards:



Machine Data

Belt length	$L_w = 4500 \text{ mm}$
Pitch diameter of the pulleys	$d_w = 75 \text{ mm}$
Mass of carriage	$m_c = 60 \text{ kg}$
Frictional force	$F_f = 50 \text{ N}$
Distance at constant v	$S_c = 1,8 \text{ m}$
Belt speed	$v = 3,0 \text{ m/s}$
Acceleration	$a_1 = 5,0 \text{ m/s}^2$
Deceleration	$a_2 = 5,0 \text{ m/s}^2$

First we calculate the effective pull (Peripheral Force) to be transmitted:

$$F_U = m_c \cdot a_1 + m_c \cdot g = 60 \cdot 5 + 60 \cdot 9,81 = 888,6 \text{ N}$$

Now we can select profile to be used:



From chart on page 39 we select **AT10**, width 25 mm



From page 13 (AT10 Pulley Data) we select the pulleys with the diameter near the diameter on specification: **AT10** $d_e = 77,7 \text{ mm} = 25 \text{ teeth}$



The mass of pulleys m_p and the finished bore diameter d are $m_p = 0,422 \text{ kg}$ and $d = 20 \text{ mm}$ according to manufacture's specification



POWER TRANSMISSION CALCULATION

The **Mass of belt** is:

$$m_b = p \cdot L_w = 0,15 \cdot 4,5 = 0,675 \text{ kg}$$



See page 43 for belt weight p

The **Reduced Mass of the Pulleys** is:

$$m_{pr} = [(d_e^2 - d^2) \cdot \pi \cdot \rho \cdot B] / (4 \cdot 10^6) = [(6037,29 - 400) \cdot 3,14 \cdot 30 \cdot 2,7] / (4 \cdot 10^6) = 0,36 \text{ kg}$$

The **Total Mass** is:

$$m_{tot} = m_c + m_b + m_{pr} = 60 + 0,675 + 0,36 = 61 \text{ kg}$$

Now we can determine the **Maximum effective pull** (Max Peripheral Force) to be transmitted:

$$F_{Umax} = m_{tot} \cdot a_1 + m_c \cdot g + F_f = 61 \cdot 5 + 60 \cdot 9,81 + 50 = 944 \text{ N}$$

Now we determine the **Correct Belt Width** in accordance with the maximum effective pull:

$$b = (F_{Umax} \cdot c_3 \cdot 10) / (F_{Us} \cdot z_m) = 944 \cdot 1,7 \cdot 10 / (55 \cdot 12) = 24,31 \text{ mm}$$



Factor c_3 from table on page 37



F_{Us} from charts on page 40

Belt Installation Tension:

$$F \geq F_{Umax} \quad 1000 \text{ N} > 944 \text{ N}$$

$$F_{max} = F + F_{Umax} = 1000 + 944 = 1944 \text{ N}$$



$$F_v = 3660 \text{ N} \quad \text{See page 12 (AT10 Belt Data)}$$

$$F_v \geq F_{max} \cdot c_3 \quad 3660 \text{ N} > 1944 \cdot 1,7 = 3304 \text{ N}$$

DESIGN CHOICE:

MEGADYNE PU OPEN END BELT 25 AT10 4500 LL

TOLERANCES AND WEIGTHS



WIDTH AND THICKNESS TOLERANCES [mm]

TYPE	Tolerances for belt width	Tolerances for nominal thickness
T5	±0,5	±0,15
T10	±0,5	±0,30
T20	±1,0	±0,45
AT5	±0,5	±0,20
AT10	±0,5	±0,30
AT20	±1,0	±0,45

TYPE	Tolerances for belt width	Tolerances for nominal thickness
5M	±0,5	±0,20
8M	±0,5	±0,30
14M	±1,0	±0,45
XL	±0,5	±0,30
L	±0,5	±0,30
H	±0,5	±0,30
XH	±1,0	±0,50

BELT WEIGTH [kg/m]

Type	Width [mm]										
	6	10	12	16	20	25	32	50	75	100	150
T5	0,015	0,025	0,030	0,040	0,050	0,065	0,080	0,130			
T10		0,053	0,054	0,072	0,106	0,133	0,144	0,256	0,398	0,530	
T20						0,200	0,250	0,400	0,600	0,800	
AT5	0,018	0,030	0,036	0,048	0,060	0,075	0,096	0,150			
AT10				0,097	0,125	0,150	0,190	0,300	0,450	0,600	0,900
AT20						0,270	0,350	0,550	0,800	1,100	1,600
	10	15	20	25	30	40	50	55	85	100	
5M	0,041	0,061		0,102			0,203				
8M	0,063	0,095	0,126		0,190		0,316		0,537	0,632	
14M				0,282		0,451		0,620	0,958	1,127	
XL	0,012	0,016	0,020								
L			0,025	0,030	0,045	0,060					
H				0,035	0,055	0,070	0,11	0,14	0,22	0,28	
XH							0,43	0,65	0,97	1,30	
	025	031	037	050	075	100	150	200	300	400	
	Width [inch]										

Measuring load in N for belt width

The length tolerances is ±0,8 mm/m per each type of belt to be checked with following measuring loads.

Type	Width [mm]										
	6	10	12	16	20	25	32	50	75	100	150
T5	10	20		30	35	45	60				
T10				45		70	85	135	205	270	
T20						135	170	270	400	550	
AT5		25		40		60	80				
AT10						135	170	270	400	550	810
AT20							430	650	975	1300	1950
	10	15	20	25	30	40	50	55	85	100	
5M	25	40		60			120				
8M	55	80	110		165		275		465	550	
14M				325		520		715	1105	1300	
XL	12,5	16	20								
L			20	30	45	60					
H				35	55	70	110	140	220	280	
XH							430	650	975	1300	
	025	031	037	050	075	100	150	200	300	400	
	Width [inch]										