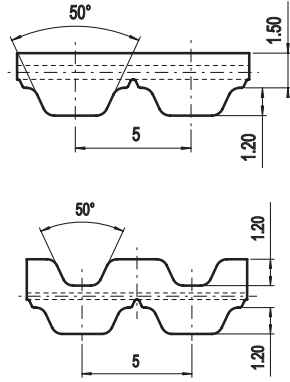


## AT5



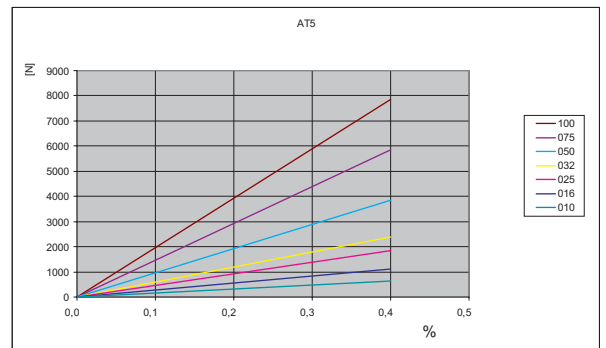
### Belt characteristics

- Polyurethane timing belt with steel tension cords.
  - Metric pitch 5 mm
  - Tooth profile and dimension are optimised to guarantee uniform load distribution and minimum deformation under load.
  - High resistance and low stretch steel cords to guarantee high stability and low elongation
  - Reduced polygonal effect with reduced drive vibration.
  - Particularly suitable for linear drives and light power transmission applications with high axial and angular positioning accuracy.
  - Double sided tooth construction available
  - Negative length tolerance available on request
- Width tolerance:  $\pm 0,5$  [mm]
  - Length tolerance:  $\pm 0,5$  [mm/m]
  - Thickness tolerance:  $\pm 0,2$  [mm]

### Technical data

Belt width b [mm]	Allowable tensile load Type M $F_{Tzul}$ [N]	Allowable tensile load Type V $F_{Tzul}$ [N]	Breaking load Type M $F_{Br}$ [N]	Specific spring rate $C_{spez}$ [N]	Weight [kg/m]
10	640	320	2160	160000	0,03
16	1120	560	3780	280000	0,05
25	1840	920	6210	460000	0,09
32	2400	1200	8100	600000	0,11
50	3840	1920	12960	960000	0,17
75	5840	2920	19710	1460000	0,26
100	7840	3920	26460	1960000	0,34

### Load / Elongation [ % ]

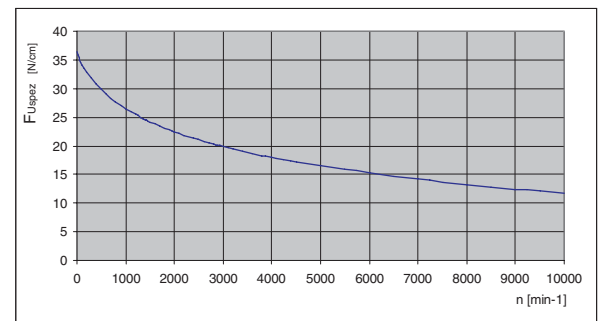


Other widths are available on request.

### Tooth shear strength

rpm	$F_{Uspez}$ [N/cm]	rpm	$F_{Uspez}$ [N/cm]	rpm	$F_{Uspez}$ [N/cm]	rpm	$F_{Uspez}$ [N/cm]
0	36,40	800	27,69	1900	22,73	4500	17,18
20	35,88	900	27,06	2000	22,42	5000	16,47
40	35,40	1000	26,49	2200	21,82	5500	15,83
60	34,97	1100	25,96	2400	21,28	6000	15,24
80	34,59	1200	25,47	2600	20,77	6500	14,69
100	34,24	1300	25,01	2800	20,29	7000	14,18
200	32,92	1400	24,57	3000	19,85	7500	13,71
300	31,92	1440	24,41	3200	19,43	8000	13,26
400	30,89	1500	24,16	3400	19,03	8500	12,85
500	29,95	1600	23,78	3600	18,66	9000	12,45
600	29,12	1700	23,41	3800	18,30	9500	12,07
700	28,37	1800	23,07	4000	17,96	10000	11,72

### Tooth shear strength / rpm



The specific load  $F_{Uspez}$  is the maximum load which one single belt tooth 1 cm wide can withstand in all operating conditions. This force is related to the drive rpm. The total load  $F_U$  transmissible by the belt in the drive is calculated by:


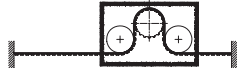
$$F_U \text{ [N]} = F_{Uspez} \cdot Z_e \cdot b$$

$F_U$  [N] = peripheral force  
 $F_{Uspez}$  [N/cm] = specific load  
 $Z_e$  = number of teeth in mesh in the small pulley  
 $Z_{emax}$  = max. no of teeth in mesh to be considered for the calculation of the drive  
 $Z_{emax} = 12$  for ELATECH® M  
 $Z_{emax} = 6$  for ELATECH® V  
 $b$  [cm] = belt width in cm

## Specialties

PROFILE	Belt width b [mm]	ARAMID CORD		STAINLESS STEEL	
		F <sub>Tzul</sub> [N] M type	F <sub>Br</sub> [N]	F <sub>Tzul</sub> [N] M type	F <sub>Br</sub> [N]
AT5	010	880	3600	600	2400
	016	1540	6300	1050	4200
	025	2530	10350	1730	6900
	032	3300	13500	2250	9000
	050	5280	21600	3600	14400
	075	8030	32850		
	100	10780	44100		

## Flexibility

Minimum pulley number of teeth and minimum idler diameter				
AT5		TYPE OF CORD		
		STANDARD	ARAMID	STAINLESS
Drive without reverse bending 	Timing pulley z <sub>min</sub>	15	15	15
	Idler running on belt teeth d <sub>min</sub>	30 mm	30 mm	65 mm
Drive with reverse bending 	Timing pulley z <sub>min</sub>	25	25	25
	Idler running on belt back d <sub>min</sub>	60 mm	60 mm	65 mm

## Timing pulleys

z	d <sub>a</sub>	d <sub>w</sub>	z	d <sub>a</sub>	d <sub>w</sub>	z	d <sub>a</sub>	d <sub>w</sub>	z	d <sub>a</sub>	d <sub>w</sub>
15	22,65	23,88	44	68,80	70,05	73	114,95	116,22	102	161,15	162,38
16	24,20	25,47	45	70,40	71,64	74	116,55	117,81	103	162,70	163,97
17	25,80	27,06	46	72,00	73,23	75	118,15	119,40	104	164,30	165,57
18	27,40	28,65	47	73,55	74,82	76	119,75	120,99	105	165,90	167,16
19	29,00	30,25	48	75,15	76,42	77	121,35	122,58	106	167,50	168,75
20	30,60	31,83	49	76,75	78,01	78	122,90	124,18	107	169,10	170,34
21	32,20	33,43	50	78,35	79,60	79	124,50	125,77	108	170,70	171,94
22	33,80	35,02	51	79,95	81,19	80	126,10	127,36	109	172,25	173,53
23	35,40	36,62	52	81,55	82,78	81	127,70	128,95	110	173,85	175,12
24	37,00	38,21	53	83,10	84,38	82	129,30	130,54	111	175,45	176,71
25	38,60	39,80	54	84,70	85,97	83	130,90	132,14	112	177,05	178,30
26	40,20	41,39	55	86,30	87,54	84	132,45	133,73	113	178,65	179,84
27	41,80	42,98	56	87,90	89,15	85	134,05	135,32	114	180,25	181,49
28	43,35	44,58	57	89,50	90,74	86	135,65	136,91	115	181,85	183,08
29	44,95	46,17	58	91,10	92,34	87	137,25	138,50	116	183,45	184,67
30	46,55	47,76	59	92,65	93,93	88	138,85	140,10	117	185,00	186,26
31	48,15	49,35	60	94,25	95,52	89	140,45	141,69	118	186,60	187,86
32	49,70	50,94	61	95,85	97,11	90	142,05	143,28	119	188,20	189,45
33	51,30	52,54	62	97,45	98,70	91	143,60	144,87	120	189,80	191,04
34	52,85	54,13	63	99,05	100,30	92	145,20	146,46			
35	54,45	55,72	64	100,65	101,89	93	146,80	148,06			
36	56,05	57,31	65	102,25	103,48	94	148,40	149,65			
37	57,65	58,90	66	103,80	105,07	95	150,00	151,24			
38	59,25	60,50	67	105,40	106,66	96	151,60	152,83			
39	60,85	62,09	68	107,00	108,26	97	153,15	154,42			
40	62,45	63,66	69	108,60	109,85	98	154,75	156,02			
41	64,00	65,27	70	110,20	111,44	99	156,35	157,61			
42	65,60	66,86	71	111,80	113,03	100	157,95	159,20			
43	67,30	68,46	72	113,35	114,62	101	159,55	160,79			

