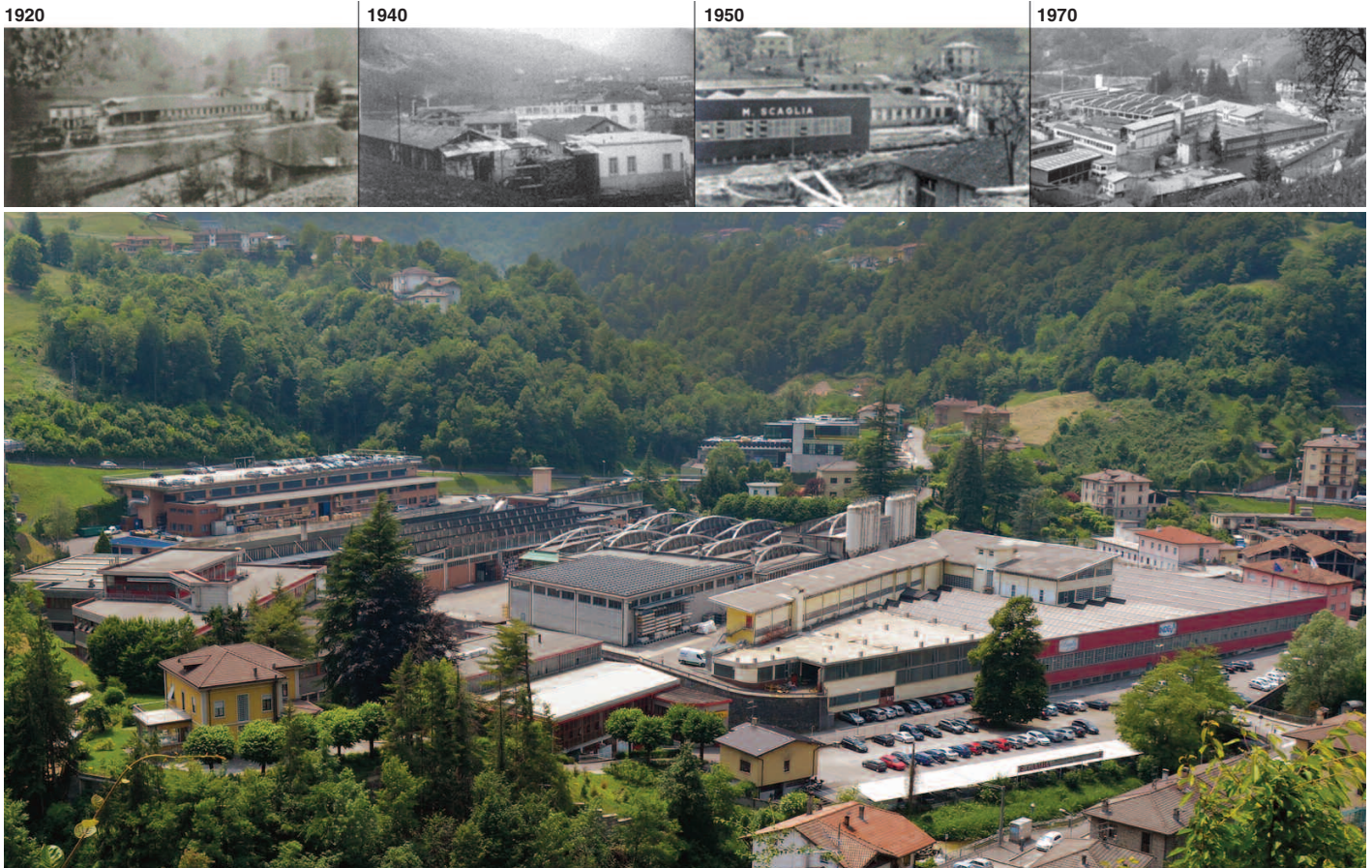


SIT Power Transmission, a history of passion and technology

SIT S.p.A., a core member of the Scaglia Group which was founded nearly 200 years ago in Bergamo Italy, has a 50 years history dedicated to manufacturing and supplying power transmission products. This experience fuels innovative design and high quality reliable products confirmed by our ISO 9001, ATEX and ROHS certifications. Due to its winning mix of human creativity and technology, SIT is recognized as an industry leader. With its worldwide distribution network, SIT is able to offer customers technical drive design assistance and consultation, a full stock range and quick yet precise service.

SIT S.p.A. manufactures and sells the widest range both of belts and pulleys for friction and synchronous drives, keyless self locking units, chain drives, ball bearings, planetary gearboxes, gear and backlash couplings and motor bases, standard and according to customer specifications.



SIT Synchronous Belts



SIT rubber timing belt drives

Power transmission is key part of an automatic machine, in terms of efficiency, reliability and durability. Only using quality components can such goals be obtained.

SIT S.p.A. belt drives, thanks to the innovative construction features, the respect of the international standards and continuous development, are the ideal, versatile and economic solution for machine design and manufacturing.

SIT, has been producing power transmission solutions for over five decades, and can offer one of the widest range of products in the market that will permit you to find the most efficient and compact solution at the best quality/price ratio.

Synchronous belts are the latest concept in power transmission belting evolution. These belts combine the advantages of chain and gear with the advantages of V-belts, but without the limitations usually associated with these conventional types of drives. There is minimal elongation, no metal-to-metal contact and no need of lubrication. Synchronous belts are amazingly versatile especially on possible applications on drives with extremely high power and from speeds under 0,5 m/s to over 40 m/s.

Synchronous belts make possible power transmission that is efficient and accurate to a precise degree.

Timing belts also make possible important savings in weight, space and construction without the sacrifice of efficiency. They are adaptable to almost any type of power transmission drive from printers to heavy industrial milling machines and grinders.

Engineered and manufactured with extreme care with pitch, tooth depth, width and other measurements accurate to a precise degree, timing belts are highly engineered products. The materials used in these remarkable belts consist of high-strength tension members, specially compounded rubber and proven synthetic fabrics. The belts are designed to eliminate excessive heat build-up and to operate efficiently.

SIT offer many distinctly different designs. Some are available as open-end constructions and some are available in dual-sided constructions.

HTD

They represent the family with the wider range of belt types. Effectively, the selection criteria can extend from first generation belts SIT TOP DRIVE® HTD, up to belts which can transmit very high torques like the SIT MUSTANG® TORQUE HTD, going through the last generation belts SIT MUSTANG® TORQUE HTD, which represent the optimum of the economic aspect and the power design project.

HPPD / Hi Performance Positive Drive

It is a line of curvilinear synchronous belts that offers stand alone universal performances. The profile is engineered to combine a multitude of belt sprockets combinations such as RPP and HTD.

SUPER TORQUE

STD represents the next evolution in synchronous drive belt development. The STD belt has a unique modified round tooth design that minimizes tooth shear and operates quieter than traditional trapezoidal tooth profiles. STD tooth pitches include 3M, 5M, 8M and 14M.

Imperial Pitch (SIT CLASSICA)

Imperial Pitch (SIT CLASSICA) is SIT's line of trapezoidal tooth profile synchronous belts. These belts were the first profile types developed in the continual evolution of synchronous drive belts. SIT CLASSICA product line includes a selection of MXL, XL, L, H, XH. Trapezoidal belts make an excellent means for transmitting power; however, time and technological advances have led to the more advanced product lines mentioned below.

According to the transmissible power, the following is offered:

Profile families

HTD/HPPD	CHD	HPPD	CMS	CMT
STD		CST	CMST	
IMPERIAL PITCH	CD			

Performance index



Rated power →

Each family of belts will be characterized by the Performance Index. This index is a fast and intuitive visual parameter to understand the performance level of the belt family. Complete technical information about belt performances is included in the Power Rating table.

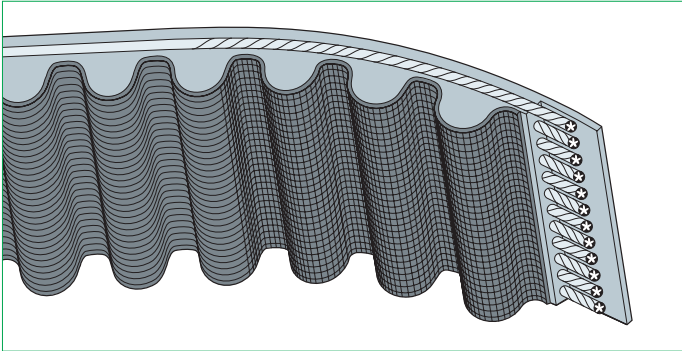


SIT TOP DRIVE® HTD - CHD



Performance index

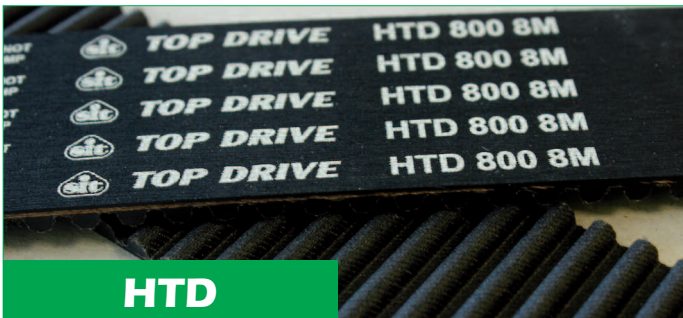
3M - 5M - 8M - 14M



SIT TOP DRIVE® HTD belt is an evolution of standard positive drive belts. The tooth shape is the HTD profile according to ISO 13050.

This profile has been used for many years in a wide range of applications and it is well known for its outstanding performances. Power transmission is much higher compared to the classic inch trapezoidal profile.

The circular-arc tooth profile provides superior tooth jump resistance and provides a smooth tooth engagement. The noise level is remarkably reduced if compared to the classic trapezoidal belts.

**HTD**

Belt construction

The drive elements are made of fiberglass tension cords, characterized by high tensile, bending and elongation strength. Side scrolling is greatly reduced by S/Z strands which are arranged in pairs.

The external covering in chloroprene is flexible and protects the fiberglass cords from oil, moisture and wear due to the friction, if the power was transmitted by the back of the belt.

The use of chloroprene provides the teeth with oil, heat and aging resistance.

They adhere well to the framework and to the protection fabric. A lasting protection of the teeth is the essential factor in fault-free operation and long life.

This is guaranteed by the use of low friction coefficient polyamide fabric, particularly resistant to abrasion.

APPLICATIONS

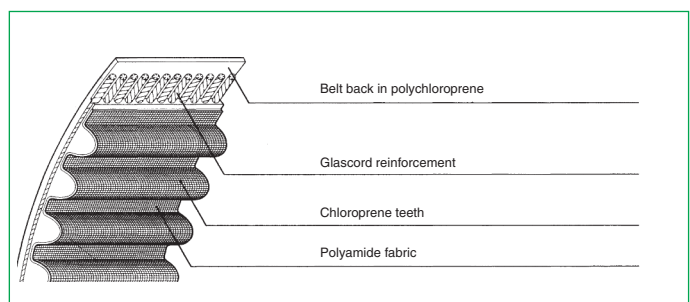
- Office-ATM machines
- Appliances
- Laundry machines
- Medical equipment
- Machines tools, Packaging machines, Plastic machines
- Woodworking and glass machines
- Compressors, pumps, ventilation
- Paper industry machinery
- Food processing equipment
- HVAC units
- Textile machinery
- Mining equipment
- Farm machinery
- Vending machinery
- Automatic warehouses

KEY FEATURES & BENEFITS

- Good quality/price ratio
- Maintenance-free
- High efficiency
- Good oil resistance
- Temperature: -20/+100 °C

BELT MATERIAL

- Tensile members: fiberglass
- Compound: chloroprene rubber (CR)
- Belt facing: polyamide (nylon)



SitDrive

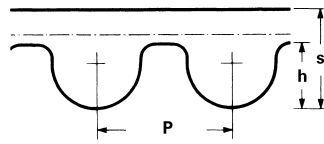
SIT have a complete stock of pulleys for all belts.

www.sitspa.com

Technical data

Belt dimensions

Pitch	P [mm]	h [mm]	s [mm]
3 M	3	1,2	2,4
5 M	5	2,1	3,6
8 M	8	3,4	5,6
14 M	14	6,1	10,0



Belt linear mass

Pitch	Linear mass [Kg/m · mm]
3 M	0,0024
5 M	0,0037
8 M	0,0056
14 M	0,0101

Belt standard widths

Pitch	Belt width [mm]
3 M	6 - 9 - 15
5 M	9 - 15 - 25
8 M	20 - 30 - 50 - 85
14 M	40 - 55 - 85 - 115 - 170

Width tolerances

Belt width [mm]	Belt length 0-880 [mm]	Belt length 881-1760 [mm]	Belt length over 1761 [mm]
up to 9 mm	+0,4 -0,8	+0,4 -0,8	-
from 10 to 40 mm	+0,8 -0,8	+0,8 -1,2	+0,8 -1,2
from 41 to 50 mm	+0,8 -1,2	+1,2 -1,2	+1,2 -1,5
from 51 to 85 mm	+1,2 -1,2	+1,5 -1,5	+1,5 -2,0
from 86 to 170 mm	+1,5 -1,5	+1,5 -2,0	+2,0 -2,0
more than 171 mm	-	+4,8 -4,8	+4,8 -4,8

Length tolerances (ISO 13050)

Belt length [mm]	Centre distance tolerance [mm]	Belt length [mm]	Centre distance tolerance [mm]
up to 150	± 0,15	1000 ÷ 1270	± 0,38
150 ÷ 255	± 0,20	1270 ÷ 1500	± 0,40
255 ÷ 400	± 0,23	1500 ÷ 1800	± 0,43
400 ÷ 560	± 0,25	1800 ÷ 2000	± 0,45
560 ÷ 800	± 0,30	2000 ÷ 2250	± 0,48
800 ÷ 1000	± 0,33	2250 and more	+ 0,10 mm/m

Minimum preload - verify nominal belt development

		Minimum preload on branch [N]											
Pitch [mm]	Belt width [mm]	6	9	15	20	25	30	40	50	55	85	115	170
3M		19	31	55	-	-	-	-	-	-	-	-	-
5M		-	57	100	-	173	-	-	-	-	-	-	-
8M		-	-	-	244	-	374	-	634	-	1089	-	-
14M		-	-	-	-	-	-	804	-	1149	1839	2529	3794

You can calculate these also for other widths using linear interpolation.

Available sizes

3M	
Teeth no.	Pitch length [mm]
37	111
39	117
43	129
47	141
48	144
50	150
52	156
53	159
56	168
58	174
59	177
60	180
62	186
64	192
67	201
68	204
70	210
71	213
72	216
75	225
80	240
82	246
84	252
85	255
87	261
89	267
90	270
95	285
98	294
100	300
104	312
106	318
107	321
110	330
112	336
113	339
119	357
121	363
128	384
130	390
131	393
132	396
140	420
144	432
145	435
149	447
158	474
159	477
160	480
162	486
163	489
165	495

3M	
Teeth no.	Pitch length [mm]
167	501
170	510
171	513
174	522
175	525
179	537
188	564
190	570
199	597
200	600
202	606
204	612
205	615
211	633
223	669
229	687
236	708
237	711
246	738
251	753
274	822
281	843
294	882
315	945
320	960
334	1002
347	1041
356	1068
357	1071
375	1125
390	1170
392	1176
415	1245
500	1500
523	1569

5M	
Teeth no.	Pitch length [mm]
45	225
53	265
55	275
59	295
60	300
65	325
66	330
67	335
70	350
75	375

5M	
Teeth no.	Pitch length [mm]
77	385
78	390
80	400
81	405
84	420
85	425
90	450
92	460
95	475
100	500
105	525
107	535
110	550
113	565
115	575
120	600
123	615
124	620
126	630
127	635
133	665
134	670
140	700
142	710
148	740
150	750
151	755
160	800
167	835
168	840
170	850
172	860
178	890
180	900
185	925
188	940
190	950
200	1000
210	1050
225	1125
240	1200
248	1240
254	1270
270	1350
284	1420
300	1500
319	1595
338	1690
360	1800
400	2000

8M	
Teeth no.	Pitch length [mm]
36	288
38	304
44	352
47	376
48	384
50	400
52	416
53	424
59	472
60	480
64	512
65	520
67	536
70	560
72	576
75	600
78	624
79	632
80	640
82	656
85	680
86	688
90	720
95	760
97	776
98	784
100	800
105	840
110	880
114	912
115	920
120	960
130	1040
133	1064
135	1080
140	1120
145	1160
150	1200
152	1216
153	1224
157	1256
160	1280
163	1304
166	1328
170	1360

8M	
Teeth no.	Pitch length [mm]
178	1424
180	1440
190	1520
200	1600
212	1696
220	1760
225	1800
250	2000
280	2240
281	2248
300	2400
325	2600
350	2800
376	3008
410	3280
426	3408
450	3600
476	3808
550	4400

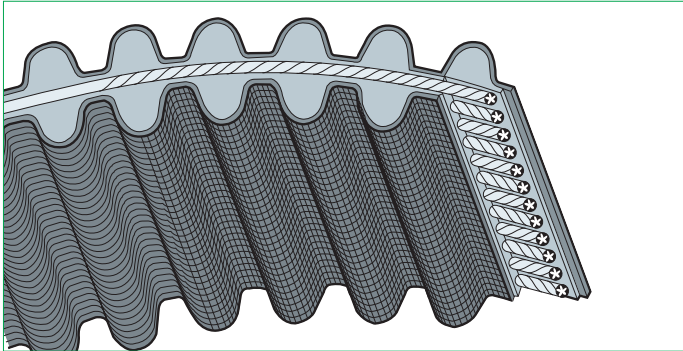
14M	
Teeth no.	Pitch length [mm]
69	966
75	1050
85	1190
100	1400
115	1610
127	1778
135	1890
150	2100
165	2310
175	2450
185	2590
200	2800
225	3150
240	3360
250	3500
262	3668
275	3850
309	4326
327	4578

Part Number	CHD 960 - 8M 50
SIT TOP DRIVE® HTD belt	
Pitch length (mm)	
Pitch	
Width (mm)	

SIT TOP DRIVE® HTD - DUAL - C2HD



5M - 8M - 14M

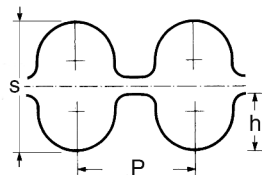


SIT TOP DRIVE® HTD DUAL synchronous belts can be used in a wide range of applications where one or multiple pulleys are driven by one belt. Inside and outside teeth are identical and are located directly in correspondence to each other. They can be used with standard HTD timing pulleys.



Belt dimensions

Pitch	P [mm]	h [mm]	s [mm]
5 M	5	2,1	5,4
8 M	8	3,4	8,2
14 M	14	6,1	15,2



APPLICATIONS

For precision drives where synchronized reverse rotation shafts are encountered and compactness is desired

- Printing machinery
- Mills
- Multi axes application

KEY FEATURES & BENEFITS

- Power transmission on both sides
- Good quality/price ratio
- Maintenance-free
- High efficiency
- Good oil resistance
- Temperature: -20/+100 °C
- Compact drive design

BELT MATERIAL

- Tensile members: fiberglass
- Compound: chloroprene rubber (CR)
- Belt facing: polyamide (nylon)

“DUAL” belt standard widths

Pitch	Belt width [mm]
5 M	9 - 15 - 25
8 M	20 - 30 - 50 - 85
14 M	40 - 55 - 85 - 115 - 170



SIT have a complete stock of pulleys for all belts.

www.sitspa.com

Available sizes

5M DUAL	
Teeth no.	Pitch length [mm]
113	565
120	600
123	615
124	620
126	630
127	635
133	665
140	700
142	710
148	740
151	755
160	800
167	835
168	840
172	860
178	890
180	900
185	925
190	950
200	1000
210	1050
225	1125
240	1200
254	1270
284	1420
300	1500
319	1595
338	1690
400	2000

8M DUAL	
Teeth no.	Pitch length [mm]
75	600
78	624
80	640
82	656
90	720
97	776
98	784
100	800
110	880
114	912
115	920
120	960
130	1040
140	1120
150	1200
160	1280
163	1304
166	1328
170	1360
175	1400
178	1424
180	1440
190	1520
200	1600
220	1760
225	1800
250	2000
281	2248
300	2400
325	2600

14M DUAL	
Teeth no.	Pitch length [mm]
69	966
85	1190
100	1400
115	1610
127	1778
135	1890
150	2100
165	2310
175	2450

Part Number	C2HD 960 - 8M	50
SIT TOP DRIVE® HTD - DUAL belt		
Pitch length (mm)		
Pitch		
Width (mm)		

Power rating

SIT TOP DRIVE® HTD - 14M170

		Rated power [kW]															
Teeth no.		28	29	30	32	34	36	38	40	42	44	46	48	52	56	64	72
Pitch Ø [mm]		124,78	129,23	133,69	142,60	151,52	160,43	169,34	178,25	187,17	196,08	204,99	213,90	231,73	249,55	285,21	320,86
rpm	Small pulley																
	10	0,88	0,92	1,01	1,19	1,32	1,49	1,62	1,71	1,84	1,93	2,02	2,15	2,33	2,55	2,90	3,25
	20	1,71	1,89	2,02	2,33	2,68	3,03	3,25	3,47	3,64	3,86	4,08	4,30	4,70	5,05	5,79	6,50
	40	3,47	3,77	4,04	4,70	5,35	6,01	6,54	6,93	7,33	7,72	8,12	8,56	9,39	10,1	11,6	13,0
	60	5,18	5,62	6,06	7,02	7,99	9,04	10,1	10,4	11,0	11,6	12,2	12,9	14,0	15,2	17,4	19,5
	100	8,65	9,39	10,1	11,7	13,3	15,1	16,3	17,3	18,3	19,3	20,4	21,4	23,4	25,3	29,0	32,6
	200	17,3	18,8	20,3	23,4	26,7	30,2	32,6	34,6	36,6	38,6	40,7	42,8	46,9	50,6	57,8	65,1
	300	23,7	25,7	27,7	31,9	36,4	41,1	44,4	47,0	49,6	52,4	55,1	57,8	63,2	68,6	79,6	91,0
	400	29,5	31,9	34,4	39,5	45,0	50,8	54,8	57,6	61,2	64,4	67,7	71,1	77,5	83,9	97,0	110,5
	500	34,7	37,6	40,5	46,5	52,9	59,6	64,3	67,9	71,6	75,3	79,1	82,9	90,2	97,5	112,3	127,5
	600	39,6	42,8	46,1	52,9	60,1	67,7	72,9	77,0	81,1	85,2	89,4	93,6	101,6	109,6	125,8	142,2
	700	44,2	47,7	51,3	58,9	66,8	75,2	80,9	85,3	89,8	94,2	98,8	103,3	112,0	120,6	137,8	155,1
	800	48,4	52,3	56,2	64,4	73,1	82,1	88,3	93,0	97,7	102,5	107,3	112,1	121,4	130,4	148,4	166,3
	950	54,3	58,6	63,0	72,1	81,6	91,6	98,3	103,4	108,6	113,7	118,8	123,9	133,7	143,2	161,9	180,1
	1000	56,1	60,6	65,1	74,5	84,3	94,5	101,4	106,7	111,9	117,1	122,3	127,5	137,4	147,0	165,8	183,9
	1200	63,0	67,9	72,9	83,3	94,1	105,3	112,8	118,3	123,8	129,3	134,8	140,2	150,3	159,9	178,4	195,6
	1450	70,5	75,9	81,4	92,7	104,5	116,7	124,6	130,4	136,0	139,3	144,9	152,4	162,3	169,5	187,8	201,5
	1600	74,4	80,1	85,8	97,7	109,9	122,5	130,6	136,3	141,9	147,4	152,7	158,0	167,3	175,6	190,2	201,5
	1800	79,1	85,0	91,0	103,4	116,1	129,2	137,3	142,8	148,2	153,4	158,4	163,2	171,5	178,5	189,4	195,6
	2000	83,1	89,2	95,4	108,1	121,1	134,5	142,5	147,7	152,7	157,5	162,0	166,2	172,9	178,0	183,9	183,6
2200	89,4	92,7	99,1	112,0	125,2	138,6	146,3	151,1	155,5	159,6	163,4	166,7	171,4	174,1	173,8	165,2	
2400	96,4	99,2	102,0	114,9	128,1	141,4	148,7	152,8	156,5	159,8	162,5	164,8	167,0	166,7	158,7	-	
2600	103,0	105,9	108,8	117,0	130,0	143,0	149,7	153,0	155,7	157,9	159,5	160,5	159,6	155,6	141,2	-	
2850	110,7	113,7	116,6	122,1	130,7	143,2	148,9	150,8	152,1	152,7	152,4	151,4	147,2	144,4	-	-	
3000	115,1	118,1	120,9	126,3	131,1	143,9	147,2	148,3	148,6	148,0	147,2	147,5	145,6	140,3	-	-	
3500	127,9	130,7	133,3	137,9	141,7	144,5	146,8	147,4	147,3	146,2	143,8	140,3	-	-	-	-	
4000	137,9	140,1	142,1	145,2	147,0	147,5	146,6	144,2	140,3	-	-	-	-	-	-	-	

A shorter life of the belt is expected for diameters included in this area.

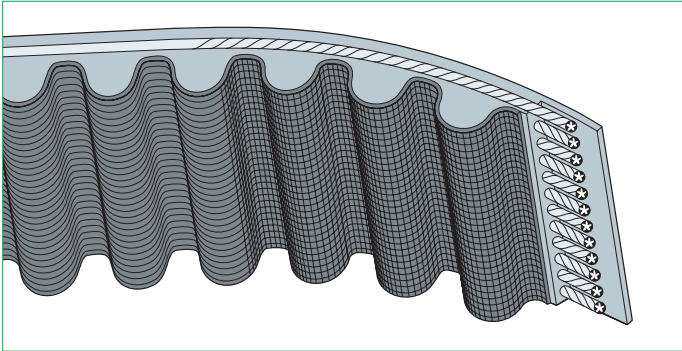


SIT MUSTANG® SPEED HTD - CMS

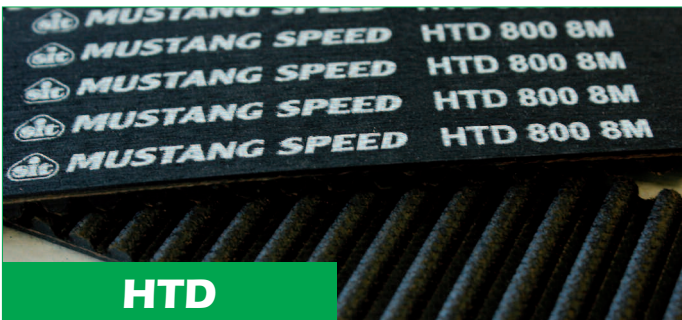


Performance index

3M - 5M - 8M - 14M



These heavy-duty synchronous belts are specifically designed for high power applications at high speed. The HTD tooth profile complies with ISO 13050. The wide range of available sizes makes the SIT MUSTANG® SPEED HTD a good fit for new projects as well as for MRO.



Belt construction

The specifically prepared tensile element in fiberglass provides an excellent dimensional stability preventing belt shrinkage or stretch under load. The belt length is constant during operation allowing a perfect synchronization with the pulley. The result is a longer belt life and a lower energy consumption. The chloroprene compound provides good protection from oil, moisture and wear while the low friction polyamide fabric gives a long lasting teeth protection.

APPLICATIONS

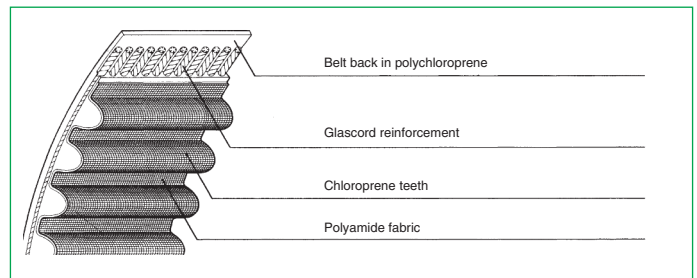
- Office-ATM machines
- Appliances
- Laundry machines
- Medical equipment
- Machines tools, Packaging machines, Plastic machines
- Woodworking and glass machines
- Compressors, pumps, ventilation
- Paper industry machinery
- Food processing equipment
- HVAC units
- Textile machinery
- Mining equipment
- Farm machinery
- Vending machinery
- Automatic warehouses
- Industrial applications (medium and high power)

KEY FEATURES & BENEFITS

- Excellent price/power ratio
- High power rating
- Maintenance-free
- Efficiency up to 98%
- Good oil resistance
- Static Conductive (ISO 9563)
- Temperature: -20/+100 °C

BELT MATERIAL

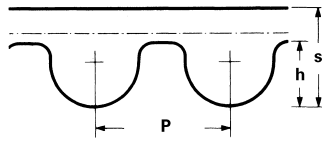
- Tensile members: fiberglass
- Compound: chloroprene rubber (CR)
- Belt facing: polyamide (nylon)



Technical data

Belt dimensions

Pitch	P [mm]	h [mm]	s [mm]
3 M	3	1,2	2,4
5 M	5	2,1	3,6
8 M	8	3,4	5,6
14 M	14	6,1	10,0



Belt linear mass

Pitch	Linear mass [Kg/m · mm]
3 M	0,0025
5 M	0,0034
8 M	0,0056
14 M	0,0102

Belt standard widths

Pitch	Belt width [mm]
3 M	6 - 9 - 15
5 M	9 - 15 - 25
8 M	20 - 30 - 50 - 85
14 M	40 - 55 - 85 - 115 - 170

Width tolerances

Belt width [mm]	Belt length 0-880 [mm]	Belt length 881-1760 [mm]	Belt length over 1761 [mm]
up to 9 mm	+0,4 -0,8	+0,4 -0,8	-
from 10 to 40 mm	+0,8 -0,8	+0,8 -1,2	+0,8 -1,2
from 41 to 50 mm	+0,8 -1,2	+1,2 -1,2	+1,2 -1,5
from 51 to 85 mm	+1,2 -1,2	+1,5 -1,5	+1,5 -2,0
from 86 to 170 mm	+1,5 -1,5	+1,5 -2,0	+2,0 -2,0
more than 171 mm	-	+4,8 -4,8	+4,8 -4,8

Length tolerances (ISO 13050)

Belt length [mm]	Centre distance tolerance [mm]	Belt length [mm]	Centre distance tolerance [mm]
up to 150	± 0,15	1001 ÷ 1270	± 0,38
151 ÷ 255	± 0,20	1271 ÷ 1500	± 0,40
256 ÷ 400	± 0,23	1501 ÷ 1800	± 0,43
401 ÷ 560	± 0,25	1801 ÷ 2000	± 0,45
561 ÷ 800	± 0,30	2001 ÷ 2250	± 0,48
801 ÷ 1000	± 0,33	2250 and more	Tolerance value 0,05 mm for every 500 mm increase in length

Minimum preload - verify nominal belt development

Minimum preload on branch [N]													
Pitch [mm]	Belt width [mm]	6	9	15	20	25	30	40	50	55	85	115	170
3M		30	49	87,5	-	-	-	-	-	-	-	-	-
5M		-	90	160	-	276	-	-	-	-	-	-	-
8M		-	-	-	391	-	599	-	1015	-	1743	-	-
14M		-	-	-	-	-	-	1287	-	1839	2943	4047	6071

You can calculate these also for other widths using linear interpolation.

Available sizes

3M	
Teeth no.	Pitch length [mm]
37	111
39	117
43	129
47	141
48	144
50	150
52	156
53	159
56	168
58	174
59	177
60	180
62	186
64	192
67	201
68	204
70	210
71	213
72	216
75	225
78	234
80	240
82	246
84	252
85	255
87	261
89	267
90	270
95	285
98	294
100	300
104	312
106	318
107	321
110	330
112	336
113	339
119	357
121	363
128	384
130	390
131	393
132	396
140	420
144	432
145	435
149	447
158	474
159	477
160	480

3M	
Teeth no.	Pitch length [mm]
162	486
163	489
165	495
167	501
171	513
174	522
175	525
179	537
188	564
190	570
199	597
200	600
202	606
204	612
205	615
211	633
223	669
236	708
237	711
246	738
251	753
274	822
281	843
294	882
315	945
320	960
334	1002
347	1041
356	1068
357	1071
375	1125
390	1170
392	1176
415	1245
500	1500
523	1569

5M	
Teeth no.	Pitch length [mm]
40	200
45	225
53	265
55	275
57	285
59	295
60	300
66	330
70	350
75	375
77	385
80	400
81	405
85	425
90	450
92	460
95	475
100	500
105	525
107	535
110	550
113	565
120	600
123	615
124	620
126	630
127	635
133	665
140	700
142	710
148	740
151	755
160	800
167	835
168	840
172	860
178	890
180	900
185	925
190	950
200	1000
210	1050
225	1125
240	1200
254	1270
284	1420
300	1500
319	1595
338	1690
400	2000

8M	
Teeth no.	Pitch length [mm]
36	288
38	304
44	352
47	376
48	384
50	400
52	416
53	424
59	472
60	480
70	560
75	600
78	624
80	640
82	656
86	688
90	720
97	776
98	784
100	800
110	880
114	912
115	920
120	960
130	1040
135	1080
140	1120
145	1160
150	1200
160	1280
163	1304
166	1328
170	1360
178	1424
180	1440
190	1520
200	1600
220	1760
225	1800

8M	
Teeth no.	Pitch length [mm]
250	2000
281	2248
300	2400
325	2600
350	2800
376	3008
410	3280
426	3408
476	3808

14M	
Teeth no.	Pitch length [mm]
69	966
75	1050
85	1190
100	1400
115	1610
127	1778
135	1890
150	2100
165	2310
175	2450
185	2590
200	2800
225	3150
240	3360
250	3500
262	3668
275	3850
309	4326
327	4578

Part Number	CMS 960 - 8M 50
SIT MUSTANG® SPEED HTD belt	
Pitch length (mm)	
Pitch	
Width (mm)	



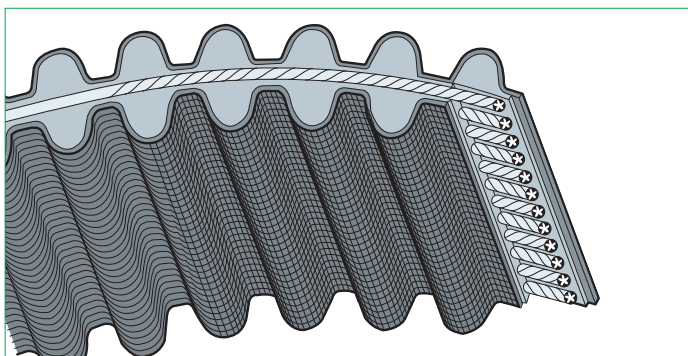
SIT MUSTANG® SPEED HTD - DUAL - C2MS



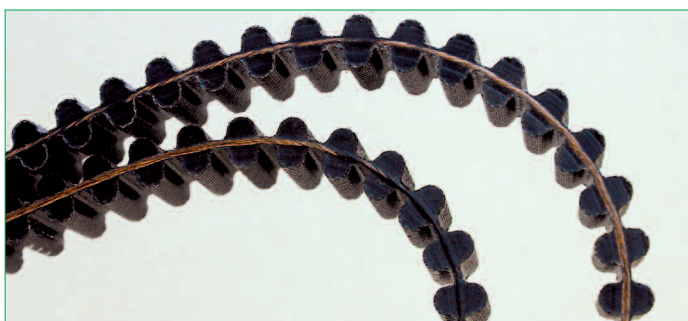
Performance index

“DUAL” 5M - 8M - 14M

SYNCHRONOUS BELT - C2MS

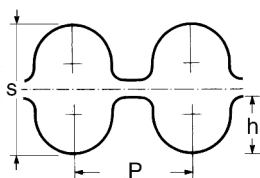


SIT MUSTANG® SPEED HTD DUAL synchronous belts can be used in a wide range of applications where one or multiple pulleys are driven by one belt. Inside and outside teeth are identical and are located directly in correspondence to each other. They can be used with standard HTD timing pulleys.



Belt dimensions

Pitch	P [mm]	h [mm]	s [mm]
5 M	5	2,1	5,4
8 M	8	3,4	8,2
14 M	14	6,1	15,2



APPLICATIONS

For precision drives where synchronized reverse rotation shafts are encountered and compactness is desired

- Printing machinery
- Mills
- Multi axes application

KEY FEATURES & BENEFITS

- Power transmission on both sides
- Excellent quality/price ratio
- Efficiency up to 98%
- Good oil resistance
- Static Conductive (ISO 9563)
- Temperature: -20/+100 °C
- Compact drive design

BELT MATERIAL

- Tensile members: fiberglass
- Compound: chloroprene rubber (CR)
- Belt facing: polyamide (nylon)

“DUAL” belt standard widths

Pitch	Belt width [mm]
5 M	9 - 15 - 25
8 M	20 - 30 - 50 - 85
14 M	40 - 55 - 85 - 115 - 170

SIT have a complete stock of pulleys for all belts.



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Available sizes

5M	
Teeth no.	Pitch length [mm]
113	565
120	600
123	615
124	620
126	630
127	635
133	665
140	700
142	710
148	740
151	755
160	800
167	835
168	840
172	860
178	890
180	900
185	925
190	950
200	1000
210	1050
225	1125
240	1200
254	1270
284	1420
300	1500
319	1595
338	1690
400	2000

8M	
Teeth no.	Pitch length [mm]
75	600
78	624
80	640
82	656
90	720
97	776
98	784
100	800
110	880
115	920
120	960
130	1040
140	1120
150	1200
160	1280
163	1304
166	1328
170	1360
178	1424
180	1440
190	1520
200	1600
220	1760
225	1800
250	2000
281	2248
300	2400
325	2600

14M	
Teeth no.	Pitch length [mm]
69	966
85	1190
100	1400
115	1610
127	1778
135	1890
150	2100
165	2310
175	2450

Part Number	C2MS 1200 - 8M 20
SIT MUSTANG® SPEED HTD DUAL belt	
Pitch length (mm)	
Pitch	
Width (mm)	

Power rating

SIT MUSTANG® SPEED HTD - 14M170

Rated power [kW]																	
Teeth no.	28	29	30	32	34	36	38	40	42	44	46	48	52	56	64	72	
Pitch Ø [mm]	124,78	129,23	133,69	142,60	151,52	160,43	169,34	178,25	187,17	196,08	204,99	213,90	231,73	249,55	285,21	320,86	
rpm Small pulley	10	2,36	2,51	2,65	2,92	3,18	3,43	3,68	3,92	4,17	4,41	4,65	4,90	5,38	5,86	6,84	7,82
	20	4,51	4,80	5,08	5,60	6,10	6,59	7,07	7,55	8,02	8,49	8,96	9,43	10,4	11,3	13,2	15,1
	40	8,60	9,17	9,71	10,7	11,7	12,6	13,6	14,5	15,4	16,3	17,2	18,1	19,9	21,7	25,3	28,9
	60	12,5	13,4	14,2	15,6	17,1	18,4	19,8	21,1	22,5	23,8	25,1	26,4	29,1	31,7	37,0	42,3
	100	20,0	21,4	22,7	25,1	27,4	29,6	31,8	34,0	36,1	38,2	40,4	42,5	46,7	50,9	59,4	67,8
	200	37,6	40,3	42,7	47,3	51,6	55,9	60,0	64,0	68,1	72,1	76,0	80,0	87,9	95,7	111,2	126,7
	300	54,1	57,9	61,5	68,1	74,3	80,4	86,3	92,1	97,8	103,5	109,1	114,8	125,9	136,9	158,7	180,1
	400	69,7	74,6	79,2	87,8	95,8	103,5	111,1	118,5	125,8	133,0	140,2	147,3	161,3	175,1	202,3	228,9
	500	84,6	90,6	96,2	106,5	116,2	125,5	134,6	143,5	152,2	160,8	169,4	177,8	194,4	210,7	242,5	273,3
	600	98,8	105,9	112,4	124,4	135,6	146,4	156,9	167,2	177,2	187,1	196,8	206,4	225,3	243,8	279,5	313,7
	700	112,5	120,5	127,9	141,5	154,2	166,4	178,1	189,6	200,8	211,8	222,7	233,3	254,2	274,5	313,4	350,2
	800	125,6	134,5	142,7	157,9	171,9	185,4	198,3	210,9	223,2	235,2	247,0	258,6	281,1	302,9	344,3	382,9
	950	144,3	154,5	163,9	181,1	197,0	212,2	226,7	240,7	254,4	267,7	280,7	293,4	318,0	341,4	385,3	425,0
	1000	150,3	160,9	170,7	188,5	205,0	220,7	235,7	250,2	264,2	277,9	291,2	304,2	329,3	353,2	397,5	437,3
	1200	173,1	185,3	196,4	216,6	235,1	252,6	269,2	285,2	300,6	315,5	329,8	343,7	370,2	395,0	439,6	477,5
	1450	199,1	213,0	225,5	248,2	268,8	288,0	306,2	323,4	339,8	355,5	370,5	384,8	411,6	435,9	477,0	508,5
	1600	213,5	228,2	241,5	265,4	287,0	307,0	325,7	343,4	360,1	376,0	391,0	405,2	431,3	454,4	491,7	517,0
	1800	231,2	247,0	261,1	286,4	309,0	329,7	348,9	366,8	383,5	399,2	413,8	427,5	451,8	472,4	502,2	516,8
	2000	247,4	264,0	278,9	305,1	328,4	349,4	368,7	386,5	402,9	417,9	431,7	444,3	465,9	482,7	502,5	503,6
2200	262,1	279,4	294,8	321,8	345,3	366,4	385,4	402,6	418,2	432,2	444,7	455,7	473,5	485,6	492,9	477,6	
2400	275,3	293,2	308,9	336,3	359,8	380,5	398,9	415,2	429,5	442,1	452,8	461,9	474,8	481,1	473,5	438,9	
2600	287,1	305,3	321,3	348,7	371,9	391,9	409,3	424,3	437,0	447,6	456,2	462,8	469,9	469,2	444,2	-	
2850	299,8	318,3	334,4	361,4	383,7	402,4	418,0	430,8	441,0	448,6	453,8	456,7	455,2	444,2	394,2	-	
3000	306,4	325,0	340,9	367,5	389,1	406,7	420,9	432,1	440,5	446,1	448,9	449,2	441,7	423,9	-	-	
3500	323,0	341,1	356,2	380,0	397,6	410,3	418,7	423,1	423,7	420,7	414,0	403,7	-	-	-	-	
4000	331,4	348,1	361,3	380,5	392,3	398,0	398,3	393,6	384,1	369,8	350,9	-	-	-	-	-	

A shorter life of the belt is expected for diameters included in this area.



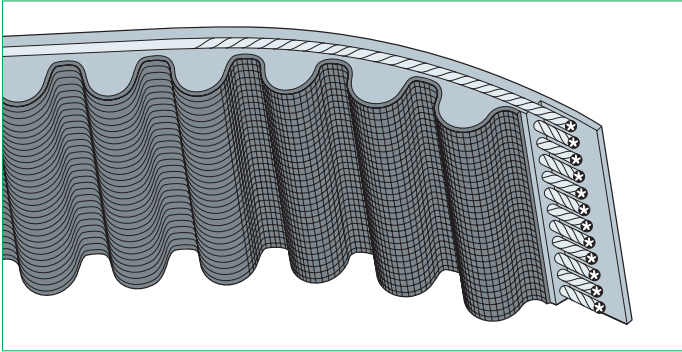
SIT MUSTANG® TORQUE HTD - CMT



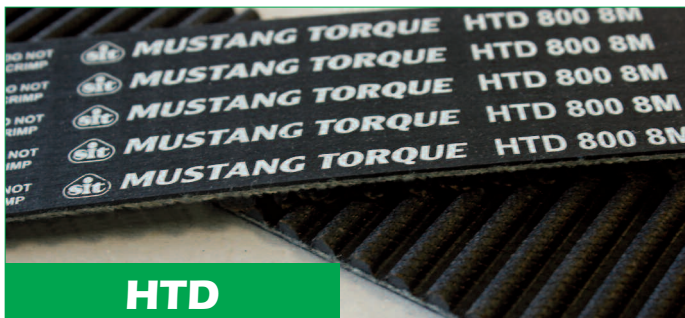
Performance index

8M - 14M

SYNCHRONOUS BELT - CMT



These heavy-duty synchronous belts are specifically designed for high torque applications at low speed. SIT MUSTANG® TORQUE HTD belts are among the best performing HTD profiled belts on the market. The extreme high performance permit very compact drives, saving space and reducing first installation costs. The HTD tooth profile complies with ISO 13050.

**HTD**

Belt construction

The aramid cords provide an excellent dimensional stability preventing belt shrinkage or stretch under load. The belt length is constant during operation allowing a perfect synchronization with the pulley. The result is a longer belt life and a lower energy consumption. The chloroprene compound provides good protection from oil, moisture and wear while the low friction polyamide fabric gives a long lasting teeth protection.

APPLICATIONS

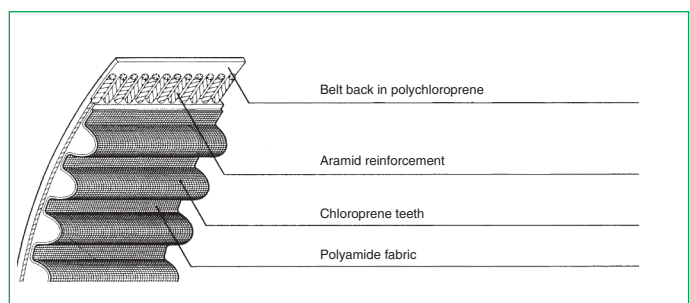
- Appliances
- Laundry machines
- Machines tools, Packaging machines, Plastic machines
- Woodworking and glass machines
- Compressors, pumps, ventilation
- Paper industry machinery
- Food processing equipment
- HVAC units
- Textile machinery
- Mining equipment
- Farm machinery
- Automatic warehouses
- High power and high load industrial applications

KEY FEATURES & BENEFITS

- High transmissible power and loads
- Longer belt life
- Maintenance-free
- Efficiency up to 98%
- Good oil resistance
- Static Conductive (ISO 9563)
- Temperature: -20/+100 °C

BELT MATERIAL

- Tensile members: aramid fiber (Kevlar®)
- Compound: chloroprene rubber (CR)
- Belt facing: polyamide (nylon)



SitDrive

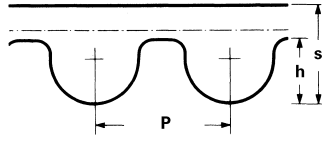
SIT have a complete stock of pulleys for all belts.

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Technical data

Belt dimensions

Pitch	P [mm]	h [mm]	s [mm]
8 M	8	3,4	5,6
14 M	14	6,1	10,0



Belt linear mass

Pitch	Linear mass [Kg/m · mm]
8M	0,0413
14M	0,0082

Belt standard widths

Pitch	Belt width [mm]
8 M	20 - 30 - 50 - 85
14 M	40 - 55 - 85 - 115 - 170

Width tolerances

Belt width [mm]	Belt length 0-880 [mm]	Belt length 881-1760 [mm]	Belt length over 1761 [mm]
up to 9 mm	+0,4 -0,8	+0,4 -0,8	-
from 10 to 40 mm	+0,8 -0,8	+0,8 -1,2	+0,8 -1,2
from 41 to 50 mm	+0,8 -1,2	+1,2 -1,2	+1,2 -1,5
from 51 to 85 mm	+1,2 -1,2	+1,5 -1,5	+1,5 -2,0
from 86 to 170 mm	+1,5 -1,5	+1,5 -2,0	+2,0 -2,0
more than 171 mm	-	+4,8 -4,8	+4,8 -4,8

Length tolerances (ISO 13050)

Belt length [mm]	Centre distance tolerance [mm]	Belt length [mm]	Centre distance tolerance [mm]
Up to 400	± 0,23	1500 ÷ 1800	± 0,43
400 ÷ 560	± 0,25	1800 ÷ 2000	± 0,45
560 ÷ 800	± 0,30	2000 ÷ 2250	± 0,48
800 ÷ 1000	± 0,33	2250 and more	+ 0,10 mm/m
1000 ÷ 1270	± 0,38	-	-
1270 ÷ 1500	± 0,40	-	-

Minimum preload - verify nominal belt development

		Minimum preload on branch [N]											
Pitch [mm]	Belt width [mm]	6	9	15	20	25	30	40	50	55	85	115	170
8M		-	-	-	391	-	599	-	1015	-	1743	-	-
14M		-	-	-	-	-	-	1287	-	1839	2943	4047	6071

You can calculate these also for other widths using linear interpolation.

Available sizes

8M	
Teeth no.	Pitch length [mm]
36	288
38	304
44	352
47	376
48	384
50	400
52	416
53	424
59	472
60	480
70	560
75	600
78	624
80	640
82	656
86	688
90	720
97	776
98	784
100	800
110	880
114	912
115	920
120	960
130	1040
135	1080
140	1120
145	1160
150	1200
160	1280
163	1304
166	1328
170	1360
178	1424
180	1440
190	1520
200	1600
220	1760
225	1800
250	2000
281	2248
300	2400
325	2600
350	2800
376	3008
410	3280
426	3408
476	3808

14M	
Teeth no.	Pitch length [mm]
69	966
75	1050
85	1190
100	1400
115	1610
127	1778
135	1890
150	2100
165	2310
175	2450
185	2590
200	2800
225	3150
240	3360
250	3500
262	3668
275	3850
309	4326
327	4578

Part Number	CMT	960 - 8M	50
SIT MUSTANG® TORQUE HTD belt			
Pitch length (mm)			
Pitch			
Width (mm)			

Power rating

SIT MUSTANG® TORQUE HTD 14M40

Rated power [kW]																		
Teeth no.	28	29	30	32	34	36	38	40	42	44	46	48	52	56	64	72		
Pitch Ø [mm]	124,78	129,23	133,69	142,60	151,52	160,43	169,34	178,25	187,17	196,08	204,99	213,90	231,73	249,55	285,21	320,86		
rpm	Small pulley	20	1,70	1,78	1,86	2,03	2,19	2,36	2,53	2,71	2,88	3,06	3,24	3,42	3,79	4,16	4,92	5,70
		40	3,18	3,33	3,48	3,80	4,11	4,44	4,76	5,09	5,42	5,76	6,10	6,44	7,14	7,85	9,29	10,8
		60	4,56	4,79	5,01	5,46	5,92	6,39	6,86	7,34	7,82	8,31	8,80	9,30	10,3	11,3	13,4	15,5
		100	7,18	7,53	7,88	8,60	9,33	10,1	10,8	11,6	12,3	13,1	13,9	14,7	16,3	17,9	21,2	24,5
		200	13,1	13,7	14,4	15,7	17,1	18,4	19,8	21,2	22,6	24,0	25,4	26,8	29,7	32,6	38,4	44,4
		300	18,4	19,3	20,3	22,1	24,0	25,9	27,8	29,7	31,7	33,6	35,6	37,5	41,5	45,5	53,4	61,4
		400	23,3	24,5	25,6	28,0	30,3	32,7	35,1	37,5	39,9	42,3	44,8	47,2	52,0	56,9	66,5	76,0
		500	27,9	29,2	30,6	33,4	36,2	39,0	41,8	44,6	47,4	50,2	53,1	55,9	61,5	67,0	77,9	88,5
		600	32,1	33,7	35,2	38,4	41,6	44,7	47,9	51,1	54,2	57,4	60,5	63,6	69,8	75,9	87,7	98,9
		700	36,0	37,8	39,5	43,0	46,5	50,0	53,5	57,0	60,4	63,8	67,2	70,6	77,2	83,7	95,9	107,3
		800	39,7	41,6	43,5	47,3	51,1	54,9	58,6	62,3	66,0	69,7	73,2	76,8	83,7	90,3	102,8	113,9
		950	44,8	46,9	49,0	53,2	57,3	61,4	65,5	69,4	73,4	77,2	81,0	84,6	91,7	98,4	110,4	120,4
		1000	46,3	48,5	50,7	54,9	59,2	63,4	67,5	71,6	75,5	79,4	83,2	86,9	94,0	100,6	112,2	121,6
		1200	52,1	54,4	56,8	61,4	66,0	70,4	74,7	78,9	82,9	86,9	90,6	94,2	100,9	106,8	116,3	122,4
		1450	58,1	60,6	63,1	68,0	72,7	77,2	81,5	85,6	89,4	93,1	96,4	99,6	105,0	109,3	114,3	114,1
		1600	61,2	63,7	66,3	71,1	75,8	80,2	84,4	88,3	91,9	95,2	98,2	100,9	105,2	108,1	109,4	-
1800	64,6	67,2	69,7	74,5	79,0	83,2	87,0	90,5	93,6	96,3	98,6	100,5	102,9	103,4	-	-		
2000	67,4	69,9	72,3	76,9	81,1	84,9	88,3	91,2	93,6	95,4	96,8	97,6	97,6	-	-	-		
2200	69,4	71,9	74,2	78,5	82,2	85,5	88,2	90,3	91,8	92,7	92,9	92,5	-	-	-	-		

SIT MUSTANG® TORQUE HTD 14M55

Rated power [kW]																		
Teeth no.	28	29	30	32	34	36	38	40	42	44	46	48	52	56	64	72		
Pitch Ø [mm]	124,78	129,23	133,69	142,60	151,52	160,43	169,34	178,25	187,17	196,08	204,99	213,90	231,73	249,55	285,21	320,86		
rpm	Small pulley	20	2,45	2,56	2,68	2,92	3,16	3,40	3,65	3,90	4,15	4,41	4,66	4,93	5,45	5,99	7,08	8,20
		40	4,57	4,79	5,02	5,47	5,92	6,39	6,86	7,33	7,81	8,30	8,79	9,28	10,3	11,3	13,4	15,5
		60	6,57	6,89	7,22	7,87	8,53	9,20	9,88	10,6	11,3	12,0	12,7	13,4	14,8	16,3	19,3	22,4
		100	10,3	10,8	11,4	12,4	13,4	14,5	15,6	16,7	17,8	18,9	20,0	21,1	23,4	25,7	30,5	35,3
		200	18,9	19,8	20,7	22,6	24,6	26,5	28,5	30,5	32,5	34,5	36,5	38,6	42,7	46,9	55,3	63,9
		300	26,5	27,8	29,2	31,8	34,6	37,3	40,0	42,8	45,6	48,4	51,2	54,1	59,8	65,5	76,9	88,4
		400	33,6	35,3	36,9	40,3	43,7	47,1	50,5	54,0	57,5	61,0	64,5	68,0	74,9	81,9	95,8	109,5
		500	40,1	42,1	44,1	48,1	52,1	56,1	60,2	64,2	68,3	72,3	76,4	80,4	88,5	96,5	112,2	127,4
		600	46,2	48,5	50,7	55,3	59,8	64,4	69,0	73,5	78,1	82,6	87,2	91,7	100,6	109,3	126,3	142,4
		700	51,9	54,4	56,9	61,9	67,0	72,0	77,0	82,0	87,0	91,9	96,8	101,7	111,2	120,5	138,2	154,5
		800	57,2	59,9	62,7	68,1	73,6	79,0	84,4	89,8	95,1	100,3	105,5	110,6	120,5	130,1	148,0	164,0
		950	64,5	67,5	70,5	76,5	82,5	88,4	94,2	100,0	105,6	111,2	116,6	121,9	132,1	141,7	158,9	173,3
		1000	66,7	69,8	73,0	79,1	85,2	91,3	97,2	103,0	108,8	114,4	119,8	125,1	135,3	144,8	161,6	175,2
		1200	75,0	78,4	81,8	88,4	95,0	101,4	107,6	113,6	119,4	125,1	130,5	135,6	145,3	153,8	167,5	176,3
		1450	83,7	87,3	90,9	97,9	104,6	111,1	117,3	123,2	128,8	134,0	138,9	143,4	151,2	157,4	164,6	164,3
		1600	88,1	91,8	95,4	102,4	109,2	115,5	121,5	127,1	132,3	137,1	141,4	145,3	151,5	155,7	157,5	-
1800	93,0	96,7	100,4	107,3	113,8	119,8	125,3	130,3	134,8	138,7	142,0	144,7	148,1	148,9	-	-		
2000	97,0	100,6	104,2	110,8	116,9	122,3	127,1	131,3	134,7	137,4	139,4	140,6	140,5	-	-	-		
2200	100,0	103,5	106,8	113,0	118,4	123,1	127,0	130,0	132,2	133,4	133,8	133,1	-	-	-	-		

A shorter life of the belt is expected for diameters included in this area.

Power rating

SIT MUSTANG® TORQUE HTD 14M85

Rated power [kW]																	
Teeth no.	28	29	30	32	34	36	38	40	42	44	46	48	52	56	64	72	
Pitch Ø [mm]	124,78	129,23	133,69	142,60	151,52	160,43	169,34	178,25	187,17	196,08	204,99	213,90	231,73	249,55	285,21	320,86	
rpm Small pulley	20	3,92	4,11	4,30	4,68	5,06	5,46	5,85	6,25	6,66	7,07	7,48	7,90	8,75	9,61	11,4	13,2
	40	7,34	7,69	8,05	8,77	9,50	10,2	11,0	11,8	12,5	13,3	14,1	14,9	16,5	18,1	21,5	24,9
	60	10,5	11,1	11,6	12,6	13,7	14,8	15,9	17,0	18,1	19,2	20,3	21,5	23,8	26,2	31,0	35,9
	100	16,6	17,4	18,2	19,9	21,6	23,3	25,0	26,7	28,5	30,3	32,1	33,9	37,6	41,3	48,9	56,6
	200	30,2	31,7	33,3	36,3	39,4	42,5	45,7	48,9	52,1	55,3	58,6	61,9	68,5	75,2	88,8	102,5
	300	42,6	44,7	46,8	51,1	55,4	59,8	64,2	68,7	73,2	77,7	82,2	86,7	95,9	105,0	123,4	141,8
	400	53,9	56,5	59,2	64,6	70,1	75,6	81,1	86,6	92,2	97,8	103,4	109,0	120,2	131,4	153,7	175,6
	500	64,4	67,5	70,7	77,1	83,6	90,0	96,5	103,0	109,5	116,0	122,5	129,0	142,0	154,8	180,0	204,3
	600	74,1	77,8	81,4	88,7	96,0	103,3	110,6	118,0	125,3	132,6	139,8	147,0	161,3	175,3	202,6	228,4
	700	83,2	87,3	91,3	99,4	107,5	115,5	123,6	131,6	139,6	147,5	155,3	163,1	178,4	193,3	221,6	247,9
	800	91,7	96,1	100,5	109,3	118,0	126,8	135,4	144,0	152,5	160,9	169,2	177,4	193,3	208,7	237,4	263,1
	950	103,4	108,3	113,1	122,8	132,4	141,8	151,2	160,4	169,5	178,3	187,0	195,5	211,9	227,2	254,9	278,0
	1000	107,0	112,0	117,0	126,9	136,7	146,4	155,9	165,3	174,5	183,5	192,2	200,7	217,0	232,3	259,2	281,0
	1200	120,3	125,8	131,2	141,9	152,3	162,6	172,6	182,2	191,6	200,6	209,3	217,6	233,0	246,7	268,7	282,8
	1450	134,3	140,1	145,8	157,0	167,8	178,2	188,2	197,6	206,6	215,0	222,8	230,0	242,6	252,6	264,0	263,5
	1600	141,3	147,2	153,0	164,3	175,1	185,3	195,0	204,0	212,3	219,9	226,9	233,0	243,0	249,7	252,7	-
1800	149,3	155,2	161,0	172,1	182,5	192,2	201,1	209,1	216,2	222,5	227,8	232,1	237,6	238,9	-	-	
2000	155,6	161,4	167,1	177,7	187,4	196,2	203,9	210,6	216,1	220,5	223,6	225,5	225,5	-	-	-	
2200	160,4	166,0	171,4	181,2	190,0	197,5	203,7	208,5	212,0	214,0	214,6	213,6	-	-	-	-	

SIT MUSTANG® TORQUE HTD 14M115

Rated power [kW]																	
Teeth no.	28	29	30	32	34	36	38	40	42	44	46	48	52	56	64	72	
Pitch Ø [mm]	124,78	129,23	133,69	142,60	151,52	160,43	169,34	178,25	187,17	196,08	204,99	213,90	231,73	249,55	285,21	320,86	
rpm Small pulley	20	5,40	5,66	5,92	6,44	6,97	7,51	8,06	8,61	9,17	9,73	10,3	10,9	12,0	13,2	15,6	18,1
	40	10,1	10,6	11,1	12,1	13,1	14,1	15,1	16,2	17,2	18,3	19,4	20,5	22,7	25,0	29,5	34,2
	60	14,5	15,2	15,9	17,4	18,8	20,3	21,8	23,3	24,9	26,4	28,0	29,6	32,8	36,0	42,7	49,4
	100	22,8	23,9	25,1	27,4	29,7	32,0	34,4	36,8	39,2	41,7	44,2	46,7	51,7	56,9	67,3	77,9
	200	41,6	43,7	45,8	50,0	54,2	58,5	62,9	67,3	71,7	76,2	80,7	85,2	94,4	103,6	122,2	141,1
	300	58,6	61,5	64,4	70,3	76,3	82,3	88,4	94,5	100,7	106,9	113,1	119,4	132,0	144,6	169,9	195,2
	400	74,2	77,8	81,5	89,0	96,5	104,0	111,6	119,3	126,9	134,6	142,3	150,1	165,5	180,9	211,6	241,7
	500	88,6	93,0	97,4	106,2	115,0	123,9	132,9	141,8	150,8	159,7	168,7	177,6	195,4	213,1	247,7	281,3
	600	102,1	107,0	112,0	122,1	132,1	142,2	152,3	162,4	172,5	182,5	192,5	202,4	222,1	241,4	278,8	314,4
	700	114,6	120,1	125,7	136,8	147,9	159,1	170,1	181,2	192,1	203,0	213,8	224,5	245,6	266,1	305,1	341,3
	800	126,3	132,3	138,4	150,5	162,5	174,5	186,4	198,2	209,9	221,5	232,9	244,2	266,1	287,3	326,8	362,2
	950	142,4	149,1	155,7	169,0	182,2	195,3	208,1	220,8	233,3	245,5	257,5	269,2	291,6	312,8	350,9	382,7
	1000	147,4	154,2	161,1	174,7	188,2	201,6	214,7	227,6	240,2	252,5	264,6	276,3	298,8	319,8	356,8	386,8
	1200	165,6	173,1	180,6	195,3	209,7	223,8	237,5	250,9	263,8	276,2	288,1	299,5	320,8	339,7	369,9	389,4
	1450	184,8	192,8	200,7	216,1	231,0	245,4	259,1	272,1	284,4	295,9	306,7	316,6	334,0	347,7	363,5	362,8
	1600	194,5	202,7	210,7	226,2	241,0	255,1	268,4	280,8	292,2	302,8	312,3	320,8	334,6	343,8	347,9	-
1800	205,5	213,7	221,6	236,9	251,3	264,6	276,8	287,8	297,7	306,3	313,5	319,5	327,1	328,8	-	-	
2000	214,2	222,2	230,0	244,7	258,0	270,1	280,7	289,9	297,5	303,5	307,8	310,5	310,4	-	-	-	
2200	220,8	228,5	235,9	249,5	261,5	271,8	280,4	287,1	291,9	294,7	295,4	294,0	-	-	-	-	

A shorter life of the belt is expected for diameters included in this area.

Power rating

SIT MUSTANG® TORQUE HTD 14M170

Rated power [kW]																	
Teeth no.	28	29	30	32	34	36	38	40	42	44	46	48	52	56	64	72	
Pitch Ø [mm]	124,78	129,23	133,69	142,60	151,52	160,43	169,34	178,25	187,17	196,08	204,99	213,90	231,73	249,55	285,21	320,86	
rpm Small pulley	20	8,12	8,50	8,89	9,68	10,5	11,3	12,1	12,9	13,8	14,6	15,5	16,3	18,1	19,9	23,5	27,2
	40	15,2	15,9	16,6	18,1	19,7	21,2	22,8	24,3	25,9	27,5	29,2	30,8	34,1	37,5	44,4	51,5
	60	21,8	22,9	23,9	26,1	28,3	30,5	32,8	35,1	37,4	39,7	42,1	44,5	49,3	54,2	64,1	74,3
	100	34,3	36,0	37,7	41,1	44,6	48,1	51,7	55,3	59,0	62,7	66,4	70,2	77,8	85,5	101,1	117,1
	200	62,6	65,7	68,8	75,1	81,5	88,0	94,5	101,1	107,8	114,5	121,3	128,1	141,8	155,7	183,7	212,0
	300	88,1	92,4	96,8	105,7	114,7	123,8	132,9	142,1	151,4	160,7	170,1	179,5	198,4	217,3	255,4	293,4
	400	111,5	117,0	122,6	133,7	145,0	156,4	167,8	179,3	190,8	202,4	214,0	225,6	248,8	272,0	318,0	363,4
	500	133,2	139,8	146,3	159,6	172,9	186,3	199,7	213,2	226,7	240,1	253,6	267,0	293,8	320,3	372,4	422,8
	600	153,4	160,9	168,4	183,5	198,6	213,8	229,0	244,1	259,2	274,3	289,3	304,2	333,8	362,8	419,1	472,6
	700	172,2	180,6	188,9	205,6	222,4	239,1	255,7	272,3	288,8	305,2	321,4	337,5	369,1	399,9	458,6	513,0
	800	189,8	198,9	208,0	226,2	244,3	262,3	280,2	298,0	315,6	333,0	350,1	367,0	400,0	431,8	491,2	544,4
	950	214,0	224,1	234,1	254,1	273,9	293,5	312,9	331,9	350,6	369,0	387,0	404,6	438,4	470,2	527,5	575,3
	1000	221,5	231,8	242,2	262,7	282,9	303,0	322,7	342,1	361,0	379,6	397,7	415,4	449,1	480,6	536,4	581,4
	1200	249,0	260,2	271,4	293,6	315,2	336,4	357,1	377,1	396,5	415,1	433,1	450,3	482,2	510,6	556,1	585,3
	1450	277,8	289,8	301,7	324,9	347,3	368,8	389,4	409,0	427,5	444,8	461,0	476,0	502,0	522,6	546,4	545,3
	1600	292,4	304,7	316,7	340,0	362,3	383,5	403,4	422,0	439,3	455,1	469,4	482,2	502,9	516,8	522,9	-
1800	308,8	321,1	333,1	356,1	377,7	397,7	416,0	432,7	447,5	460,4	471,3	480,2	491,7	494,3	-	-	
2000	322,0	334,1	345,7	367,8	387,9	406,0	422,0	435,8	447,2	456,2	462,7	466,7	466,5	-	-	-	
2200	331,9	343,5	354,6	375,0	393,1	408,6	421,5	431,5	438,7	442,9	444,0	441,9	-	-	-	-	

A shorter life of the belt is expected for diameters included in this area.

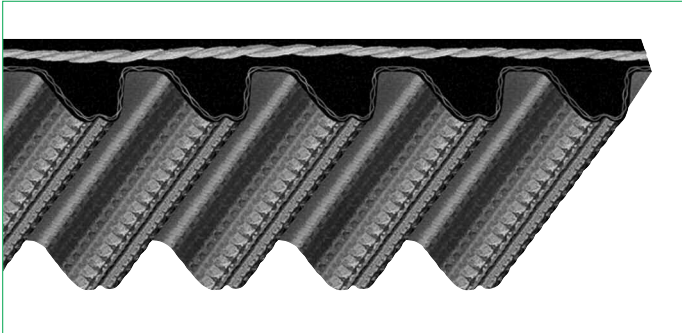


SIT Hi-PERFORMANCE Pd[®] PLUS - HPPD



Performance index

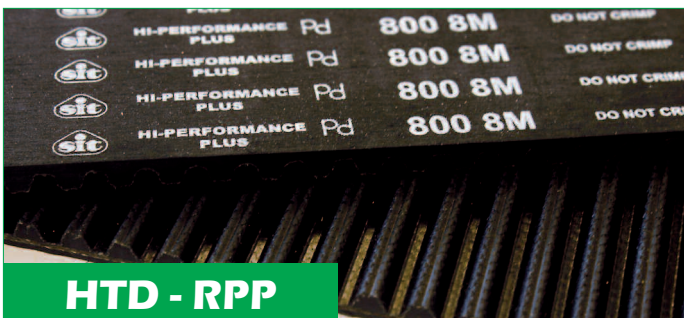
8M - 14M



SIT Hi-PERFORMANCE Pd[®] PLUS synchronous belts provide a reliable, economical, and trouble-free alternative to transmit power and reduce drive weight and cost when compared to classic V-belts.

Lubrication and tensioning devices are not needed thus creating a cleaner, maintenance free synchronous drive.

SIT Hi-PERFORMANCE Pd[®] PLUS belts have been designed for performances exceeding the traditional limitation of the first generation of HTD belt drives.

**HTD - RPP**

Belt construction

SIT Hi-PERFORMANCE Pd[®] PLUS unique parabolic round tooth profile has been designed to minimize interference between belt and sprocket during mesh, providing greater horsepower capacity without slippage or speed variation. By designing the tooth to disperse critical stresses and create a positive engagement with the sprocket, belt performance is improved along with assuring longer belt life.

The tensile member in HPPD Plus belts is twisted from multiple strands of fiberglass cord, high in tensile strength, flex life and resistance to elongation. This results in excellent dimensional stability which prevents belt shrinkage or stretch under load. The belt length is constant during operation allowing a perfect synchronization with the pulley. The result is a longer belt life and a lower energy consumption.

All HPPD Plus belts are made with Hyprene polymer which is specially compounded to resist environmental factors that can shorten belt life.

HPPD Plus utilizes a stretch nylon facing with an increased thickness that reduces friction, minimizing wear on both belts and pulleys while contributing to smooth and precise operation.

APPLICATIONS

- Laundry machines
- Medical equipment
- Machines tools, Packaging machines, Plastic machines
- Woodworking and glass machines
- Compressors, pumps, ventilation
- Paper industry machinery
- Food processing equipment
- HVAC units
- Textile machinery
- Mining equipment
- Farm machinery
- Vending machinery
- Automatic warehouses

KEY FEATURES & BENEFITS

- Higher power rating compared to standard HTD
- Maintenance-free
- High efficiency
- Good oil resistance
- Static Conductive (ISO 9563)
- Temperature: -30/+75 °C
- Quieter operation
- Universal tooth profile suitable for HTD pulleys

BELT MATERIAL

- Tensile members: fiberglass
- Compound: chloroprene rubber loaded with fiber (Wingprene[®])
- Belt facing: polyamide with increased thickness (nylon)

SIT have a complete stock of pulleys for all belts.



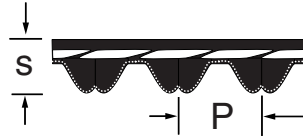
SitDrive

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Technical data

Belt dimensions

Pitch	P [mm]	s [mm]
8M	8	5,7
14M	14	10,7



Belt linear mass

Pitch	Linear mass [Kg/m · mm]
8M	0,0056
14M	0,0102

Belt standard widths

Pitch	Belt width [mm]
8 M	20 - 30 - 50 - 85
14 M	40 - 55 - 85 - 115 - 170

Width tolerances

Belt width [mm]	Belt length 0-880 [mm]	Belt length 881-1760 [mm]	Belt length over 1761 [mm]
up to 9 mm	+0,4 -0,8	+0,4 -0,8	-
from 10 to 40 mm	+0,8 -0,8	+0,8 -1,2	+0,8 -1,2
from 41 to 50 mm	+0,8 -1,2	+1,2 -1,2	+1,2 -1,5
from 51 to 85 mm	+1,2 -1,2	+1,5 -1,5	+1,5 -2,0
from 86 to 170 mm	+1,5 -1,5	+1,5 -2,0	+2,0 -2,0
more than 171 mm	-	+4,8 -4,8	+4,8 -4,8

Length tolerances (ISO 13050)

Belt length [mm]	Centre distance tolerance [mm]	Belt length [mm]	Centre distance tolerance [mm]
Up to 560	± 0,25	1500 ÷ 1800	± 0,43
560 ÷ 800	± 0,30	1800 ÷ 2000	± 0,45
800 ÷ 1000	± 0,33	2000 ÷ 2250	± 0,48
1000 ÷ 1270	± 0,38	2250 and more	+ 0,10 mm/m
1270 ÷ 1500	± 0,40	-	-
		-	-

Minimum preload - verify nominal belt development

Minimum preload on branch [N]									
Pitch [mm]	Belt width [mm]	20	30	40	50	55	85	115	170
8M		100	160	-	286	-	525	-	-
14M		-	-	313	-	444	729	1029	1613

You can calculate these also for other widths using linear interpolation.

Available sizes

8M	
Teeth no.	Pitch length [mm]
60	480
70	560
75	600
80	640
85	680
90	720
100	800
110	880
120	960
130	1040
140	1120
150	1200
160	1280
175	1400
180	1440
200	1600
220	1760
225	1800
250	2000
275	2200
300	2400
325	2600
350	2800
381	3048
410	3280
450	3600
550	4400

14M	
Teeth no.	Pitch length [mm]
69	966
85	1190
100	1400
115	1610
127	1778
135	1890
150	2100
165	2310
175	2450
185	2590
200	2800
225	3150
240	3360
250	3500
275	3850
309	4326
327	4578
354	4956
380	5320
410	5740
440	6160
490	6860

Part Number	HPPD 1800 P8M 50
SIT Hi-PERFORMANCE Pd® PLUS belt	
Pitch length (mm)	
Pitch	
Width (mm)	

Power rating

SIT Hi-PERFORMANCE Pd® PLUS 8M50

Rated power [kW]														
Teeth no.	28	30	32	34	36	38	40	44	48	56	64	72	80	
Pitch Ø [mm]	71,30	76,39	81,49	86,58	91,67	96,77	101,86	112,04	122,23	142,60	162,97	183,35	203,72	
Small pulley	50	1,06	1,15	1,23	1,32	1,41	1,49	1,57	1,74	1,90	2,22	2,54	2,84	3,14
	70	1,38	1,50	1,61	1,73	1,84	1,95	2,06	2,28	2,50	2,93	3,34	3,75	4,15
	100	1,83	1,99	2,14	2,30	2,45	2,60	2,75	3,05	3,34	3,91	4,47	5,01	5,55
	200	3,14	3,42	3,70	3,97	4,24	4,51	4,77	5,30	5,81	6,82	7,79	8,74	9,67
	300	4,29	4,68	5,06	5,44	5,82	6,19	6,56	7,29	8,00	9,38	10,73	12,03	13,30
	400	5,34	5,83	6,32	6,80	7,27	7,74	8,20	9,11	10,00	11,73	13,41	15,03	16,62
	500	6,33	6,92	7,49	8,06	8,63	9,18	9,73	10,81	11,87	13,93	15,91	17,83	19,70
	600	7,27	7,94	8,61	9,27	9,91	10,55	11,19	12,43	13,64	16,00	18,27	20,47	22,60
	700	8,16	8,92	9,67	10,41	11,14	11,86	12,57	13,97	15,33	17,98	20,52	22,97	25,35
	800	9,02	9,87	10,70	11,52	12,33	13,12	13,91	15,45	16,95	19,87	22,67	25,36	27,97
	900	9,86	10,78	11,69	12,59	13,47	14,34	15,20	16,88	18,52	21,69	24,73	27,66	30,49
	1000	10,67	11,67	12,66	13,62	14,58	15,52	16,44	18,26	20,03	23,45	26,72	29,87	32,91
	1100	11,46	12,54	13,59	14,63	15,65	16,66	17,65	19,60	21,49	25,15	28,65	32,01	35,25
	1200	12,24	13,38	14,51	15,61	16,70	17,78	18,83	20,90	22,92	26,80	30,51	34,08	37,50
	1300	12,99	14,21	15,40	16,57	17,73	18,86	19,98	22,17	24,30	28,41	32,32	36,08	39,69
	1400	13,73	15,01	16,27	17,51	18,72	19,92	21,10	23,41	25,65	29,97	34,08	38,02	41,81
	1500	14,45	15,80	17,12	18,42	19,70	20,96	22,20	24,62	26,97	31,49	35,79	39,91	43,87
	1600	15,16	16,57	17,96	19,32	20,66	21,97	23,27	25,79	28,25	32,97	37,46	41,75	45,86
	1700	15,85	17,33	18,77	20,19	21,59	22,96	24,31	26,95	29,51	34,42	39,09	43,54	47,81
	1800	16,53	18,07	19,57	21,05	22,50	23,93	25,33	28,07	30,73	35,83	40,67	45,28	49,70
1900	17,19	18,79	20,35	21,89	23,40	24,88	26,33	29,17	31,93	37,21	42,21	46,98	51,54	
2000	17,84	19,50	21,12	22,71	24,27	25,80	27,31	30,25	33,10	38,55	43,72	48,64	53,33	
2500	20,86	22,79	24,68	26,53	28,34	30,11	31,86	35,25	38,54	44,80	50,70	56,29	61,60	
3000	23,45	25,63	27,76	29,84	31,88	33,87	35,83	39,63	43,30	50,26	56,80	62,96	68,79	
3500	-	27,94	30,29	32,58	34,82	37,02	39,16	43,33	47,34	54,93	62,02	-	-	
4000	-	-	32,17	34,66	37,09	39,46	41,78	46,28	50,59	58,73	-	-	-	
4500	-	-	-	35,97	38,57	-	-	-	-	-	-	-	-	
5000	-	-	-	-	39,16	-	-	-	-	-	-	-	-	

SIT Hi-PERFORMANCE Pd® PLUS 8M85


Rated power [kW]											
Teeth no.	34	36	38	40	44	48	56	64	72	80	
Pitch Ø [mm]	86,58	91,67	96,77	101,86	112,04	122,23	142,60	162,97	183,35	203,72	
Small pulley	50	2,30	2,45	2,59	2,74	3,03	3,31	3,87	4,41	4,95	5,47
	70	3,01	3,20	3,40	3,59	3,98	4,35	5,09	5,82	6,52	7,22
	100	4,00	4,26	4,53	4,79	5,30	5,81	6,81	7,78	8,73	9,65
	200	6,91	7,38	7,85	8,31	9,22	10,12	11,87	13,57	15,23	16,84
	300	9,48	10,13	10,78	11,42	12,68	13,92	16,34	18,67	20,95	23,16
	400	11,84	12,66	13,47	14,28	15,86	17,41	20,43	23,34	26,18	28,93
	500	14,04	15,02	15,99	16,95	18,83	20,67	24,25	27,70	31,05	34,29
	600	16,13	17,26	18,38	19,48	21,64	23,75	27,86	31,81	35,63	39,34
	700	18,13	19,40	20,65	21,89	24,32	26,70	31,30	35,72	39,99	44,13
	800	20,06	21,46	22,85	24,21	26,90	29,52	34,59	39,46	44,16	48,70
	900	21,92	23,45	24,96	26,46	29,38	32,24	37,76	43,06	48,16	53,09
	1000	23,72	25,38	27,01	28,63	31,79	34,87	40,82	46,52	52,01	57,30
	1100	25,47	27,25	29,01	30,74	34,12	37,42	43,78	49,88	55,73	61,37
	1200	27,18	29,08	30,95	32,79	36,39	39,90	46,66	53,12	59,32	65,29
	1300	28,85	30,86	32,84	34,79	38,60	42,31	49,45	56,27	62,81	69,10
	1400	30,48	32,60	34,68	36,74	40,75	44,66	52,17	59,34	66,20	72,79
	1500	32,07	34,30	36,49	38,64	42,86	46,95	54,82	62,32	69,49	76,37
	1600	33,63	35,96	38,25	40,51	44,91	49,19	57,40	65,22	72,69	79,85
	1700	35,16	37,59	39,98	42,33	46,92	51,37	59,92	68,05	75,81	83,23
	1800	36,65	39,18	41,66	44,10	48,88	53,50	62,38	70,81	78,84	86,53
1900	38,11	40,73	43,31	45,84	50,79	55,59	64,78	73,49	81,80	89,73	
2000	39,54	42,25	44,92	47,55	52,66	57,62	67,12	76,11	84,68	92,85	
2500	46,18	49,33	52,43	55,46	61,38	67,09	77,99	88,27	98,00	107,25	
3000	51,95	55,50	58,97	62,38	69,00	75,38	87,51	98,89	109,62	119,77	
3500	56,72	60,63	64,45	68,19	75,44	82,42	95,63	107,97	-	-	
4000	60,34	64,57	68,70	72,75	80,57	88,08	102,26	-	-	-	
4500	62,63	67,15	-	-	-	-	-	-	-	-	
5000	-	68,18	-	-	-	-	-	-	-	-	

A shorter life of the belt is expected for diameters included in this area.

Power rating

SIT HI-PERFORMANCE Pd® PLUS 14M170

Rated power [kW]														
Teeth no.	36	38	40	44	48	52	56	60	64	68	72	80		
Pitch Ø [mm]	160,43	169,34	178,25	196,08	213,90	231,73	249,55	267,38	285,21	303,03	320,86	356,51		
rpm	Small pulley	50	12,57	13,34	14,11	15,65	17,19	18,72	20,25	21,77	23,28	24,79	26,29	29,26
		70	16,96	18,05	19,13	21,29	23,43	25,55	27,65	29,74	31,81	33,87	35,91	39,94
		100	22,94	24,47	25,98	28,98	31,95	34,88	37,78	40,65	43,49	46,29	49,07	54,55
		200	39,79	42,58	45,33	50,77	56,11	61,35	66,50	71,58	76,57	81,50	86,35	95,85
		300	53,96	57,82	61,64	69,14	76,47	83,66	90,70	97,61	104,39	111,06	117,62	130,42
		400	66,58	71,40	76,16	85,48	94,58	103,46	112,15	120,66	128,99	137,16	145,18	160,79
		500	78,18	83,87	89,47	100,44	111,12	121,53	131,69	141,61	151,31	160,81	170,12	188,18
		600	89,05	95,53	101,91	114,39	126,51	138,29	149,78	160,98	171,91	182,59	193,04	213,28
		700	99,37	106,59	113,69	127,55	140,99	154,04	166,73	179,09	191,13	202,88	214,35	236,52
		800	109,26	117,17	124,94	140,08	154,74	168,96	182,75	196,17	209,22	221,94	234,33	258,23
		900	118,81	127,36	135,76	152,10	167,89	183,17	197,99	212,37	226,34	239,94	253,17	278,62
		1000	128,08	137,23	146,21	163,66	180,51	196,79	212,54	227,81	242,63	257,02	271,00	297,86
		1100	137,09	146,81	156,34	174,84	192,67	209,87	226,49	242,58	258,17	273,29	287,96	316,07
		1200	145,88	156,13	166,18	185,66	204,41	222,47	239,90	256,74	273,04	288,82	304,11	333,34
		1300	154,46	165,22	175,75	196,16	215,77	234,63	252,80	270,34	287,28	303,67	319,52	349,77
		1400	162,84	174,08	185,07	206,35	226,76	246,37	265,24	283,41	300,95	317,88	334,25	365,39
		1500	171,03	182,72	194,15	216,25	237,41	257,71	277,22	295,99	314,07	331,50	348,32	380,27
		1600	179,01	191,14	202,98	225,85	247,72	268,67	288,77	308,08	326,66	344,54	361,78	394,42
		1700	186,80	199,33	211,56	235,15	257,69	279,24	299,89	319,71	338,73	357,03	374,63	407,89
		1800	194,37	207,29	219,89	244,17	267,32	289,44	310,60	330,87	350,31	368,96	386,89	420,69
1900	201,71	215,00	227,95	252,87	276,61	299,25	320,88	341,57	361,38	380,36	-	-		
2000	208,82	222,46	235,73	261,27	285,55	308,68	330,74	351,81	371,95	-	-	-		
2500	240,17	255,31	269,99	298,07	324,58	349,64	373,36	-	-	-	-	-		
3000	262,67	278,95	294,68	324,61	352,63	-	-	-	-	-	-	-		
3500	273,36	290,49	306,97	-	-	-	-	-	-	-	-	-		

 A shorter life of the belt is expected for diameters included in this area.



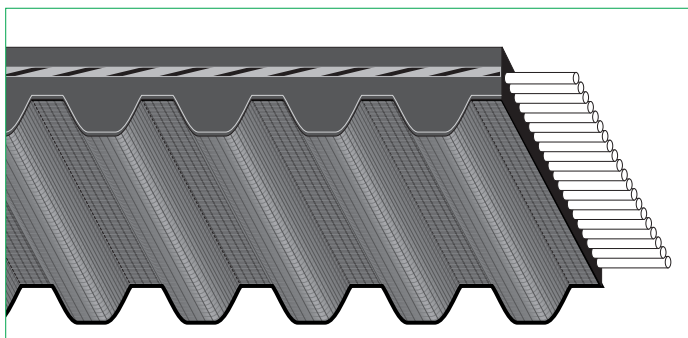
SIT TOP DRIVE® STD - CST



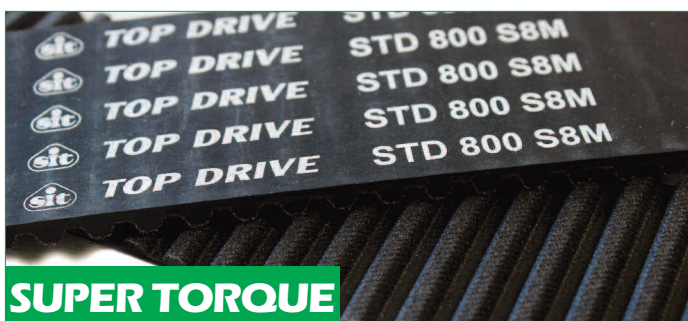
Performance index

8M

SYNCHRONOUS BELT - CST



Precise and consistent meshing, ideal for precision positioning even with reverse motion.



SUPER TORQUE

Belt construction

testo

APPLICATIONS

- Laundry machines
- Medical equipment
- Machines tools, Packaging machines, Plastic machines
- Woodworking and glass machines
- Compressors, pumps, ventilation
- Paper industry machinery
- Food processing equipment
- HVAC units
- Textile machinery
- Mining equipment
- Farm machinery
- Vending machinery
- Automatic warehouses

KEY FEATURES & BENEFITS

- Higher power rating compared to standard HTD
- Maintenance-free
- High efficiency
- Good oil resistance
- Static Conductive (ISO 9563)
- Temperature: -30/+75 °C
- Quieter operation
- Universal tooth profile suitable for HTD pulleys

BELT MATERIAL

- Tensile members: fiberglass
- Compound: chloroprene rubber (CR)
- Belt facing: polyamide (nylon)

SIT have a complete stock of pulleys for all belts.



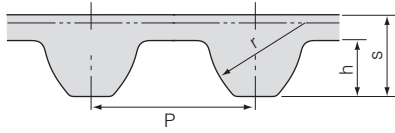
SitDrive

www.sitspa.com

Technical data

Belt dimensions

Pitch	P [mm]	h [mm]	s [mm]	r [mm]
8 M	8	3,05	5,30	5,20



Belt linear mass

Pitch	Linear mass [Kg/m · mm]
8M	0,115

Belt standard widths

Pitch	Width code	[mm]
8 M	200 - 300 - 500 - 850	20 - 30 - 50 - 85

Width tolerances

Belt width [mm]	Belt length 0-840 [mm]	Belt length 841-1680 [mm]	Belt length over 1680 [mm]
from 10 to 40 mm	+0,8 -0,8	+0,8 -1,2	+0,8 -1,2
from 41 to 50 mm	+0,8 -1,2	+1,2 -1,2	+1,2 -1,6
from 51 to 75 mm	+1,2 -1,6	+1,6 -1,6	+1,6 -2,0
from 76 to 100 mm	+1,6 -1,6	+1,6 -2,0	+2,0 -2,0
more than 100 mm	+2,4 -2,4	+2,4 -2,8	+2,4 -3,2

Length tolerances (ISO 13050)

Belt length [mm]	Centre distance tolerance [mm]	Belt length [mm]	Centre distance tolerance [mm]
up to 150	± 0,15	1000 ÷ 1270	± 0,38
150 ÷ 255	± 0,20	1270 ÷ 1500	± 0,40
255 ÷ 400	± 0,23	1500 ÷ 1800	± 0,43
400 ÷ 560	± 0,25	1800 ÷ 2000	± 0,45
560 ÷ 800	± 0,30	2000 ÷ 2250	± 0,48
800 ÷ 1000	± 0,33	2250 and more	+ 0,10 mm/m

Minimum preload - verify nominal belt development

Minimum preload on branch [N]		20	25	30	40	50	55	85
Pitch [mm]	Belt width [mm]							
8M		297	-	472	-	844	-	1535

You can calculate these also for other widths using linear interpolation.

Available sizes

8M	
Teeth no.	Pitch length [mm]
47	376
55	440
56	448
58	464
60	480
64	512
66	528
70	560
74	592
75	600
79	632
80	640
82	656
84	672
86	688
87	696
89	712
90	720
91	728
92	736
95	760
96	768
98	784
99	792
100	800
103	824
105	840
106	848
108	864
110	880
112	896
114	912
115	920
116	928
117	936
118	944
120	960
122	976
123	984
124	992
125	1000
128	1024
129	1032
130	1040
132	1056
133	1064
134	1072
135	1080
137	1096
140	1120
142	1136
144	1152
145	1160
146	1168
147	1176
148	1184
149	1192
150	1200
151	1208
152	1216

follow 8M	
Teeth no.	Pitch length [mm]
153	1224
155	1240
156	1248
157	1256
158	1264
160	1280
162	1296
163	1304
164	1312
168	1344
170	1360
171	1368
175	1400
176	1408
180	1440
185	1480
189	1512
190	1520
194	1552
200	1600
203	1624
206	1648
210	1680
220	1760
222	1776
225	1800
227	1816
239	1912
250	2000
280	2240
284	2272
299	2392
300	2400
312	2496
325	2600
350	2800
356	2848
400	3200
550	4400

Part Number	200	S	8M	2000
Width in mm x 10				
SIT TOP DRIVE® STD belt				
Pitch 8 mm				
Pitch length in mm				

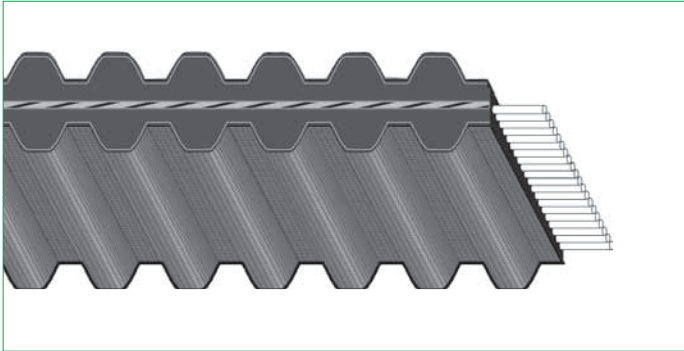


SIT TOP DRIVE® HTD - DUAL - C2MS



Performance index

“DUAL” 8M

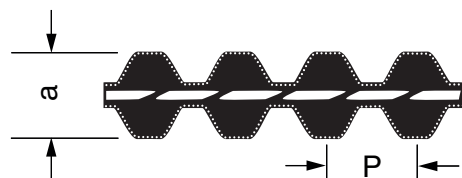


SIT TOP DRIVE® STD DUAL synchronous belts



Belt dimensions

Pitch	P [mm]	a [mm]
8 M	8	7,5



APPLICATIONS

For precision drives where synchronized reverse rotation shafts are encountered and compactness is desired

- Printing machinery
- Mills
- Multi axes application

KEY FEATURES & BENEFITS

- Power transmission on both sides
- Excellent quality/price ratio
- Efficiency up to 98%
- Good oil resistance
- Static Conductive (ISO 9563)
- Temperature: -30/+75 °C
- Compact drive design

BELT MATERIAL

- Tensile members: fiberglass
- Compound: chloroprene rubber (CR)
- Belt facing: polyamide (nylon)

“DUAL” belt standard widths

Pitch	Belt width [mm]
8 M	20 - 30 - 50 - 85



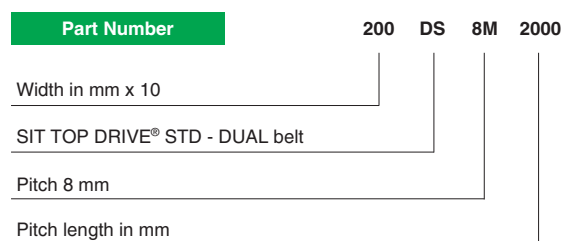
SIT have a complete stock of pulleys for all belts.

www.sitspa.com

Available sizes

8M	
Teeth no.	Pitch length [mm]
60	480
62	496
64	512
65	520
60	528
70	560
73	584
75	600
79	632
80	640
82	656
85	680
89	712
90	720
95	760
100	800
103	824
105	840
106	848
107	856
110	880
112	896
114	912
115	920
116	928
118	944
119	952
120	960
122	976
125	1000
128	1024
130	1040
132	1056
135	1080
140	1120
141	1128
142	1136
144	1152
145	1160
150	1200
152	1216
156	1248
157	1256
160	1280
163	1304
164	1312

follow 8M	
Teeth no.	Pitch length [mm]
169	1352
170	1360
173	1384
175	1400
178	1424
180	1440
185	1480
186	1488
190	1520
200	1600
205	1640
206	1648
210	1680
212	1696
216	1728
220	1760
222	1776
224	1792
225	1800
227	1816
229	1832
235	1880
239	1912
245	1960
250	2000
255	2040
256	2048
258	2064
263	2104
270	2160
280	2240
284	2272
288	2304
300	2400
312	2496
325	2600
350	2800
365	2920
368	2944
381	3048
400	3200
409	3272
430	3440
460	3680
550	4400



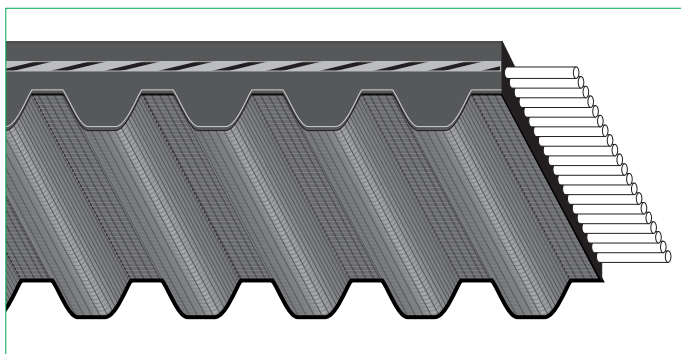


SIT MUSTANG® SPEED STD - CMST



Performance index

8M



SIT MUSTANG® SPEED STD synchronous belts combine the construction of the SIT MUSTANG® SPEED STD and the tooth profile of the SUPER TORQUE.

The result is power rating two times higher compared to first generation of SUPER TORQUE.

Execution with Aramid tensile members is also available for high torque at low speed applications.

**SUPER TORQUE**

APPLICATIONS

- Office-ATM machines
- Appliances
- Laundry machines
- Medical equipment
- Machines tools, Packaging machines, Plastic machines
- Woodworking and glass machines
- Compressors, pumps, ventilation
- Paper industry machinery
- Food processing equipment
- HVAC units
- Textile machinery
- Mining equipment
- Farm machinery
- Vending machinery
- Automatic warehouses
- Industrial applications (medium and high power)

KEY FEATURES & BENEFITS

- Excellent price/power ratio
- High power rating
- Maintenance free
- Efficiency up to 98%
- Good oil resistance
- Static Conductive (ISO 9563)
- Temperature: -20/+100°C
- Quieter operation
- Low vibration

BELT MATERIAL

- Tensile members: fiberglass
- Compound: chloroprene rubber (CR)
- Belt facing: polyamide (nylon)



SitDrive

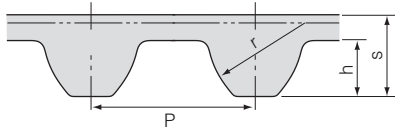
SIT have a complete stock of pulleys for all belts.

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Technical data

Belt dimensions

Pitch	P [mm]	h [mm]	s [mm]	r [mm]
8 M	8	3,05	5,30	5,20



Belt linear mass

Pitch	Linear mass [Kg/m · mm]
8M	0,0056

Belt standard widths

Pitch	Width code	[mm]
8 M	200 - 300 - 500 - 850	20 - 30 - 50 - 85

Width tolerances

Belt width [mm]	Belt length 0-880 [mm]	Belt length 881-1760 [mm]	Belt length over 1761 [mm]
up to 9 mm	+0,4 -0,8	+0,4 -0,8	-
from 10 to 40 mm	+0,8 -0,8	+0,8 -1,2	+0,8 -1,2
from 41 to 50 mm	+0,8 -1,2	+1,2 -1,2	+1,2 -1,5
from 51 to 85 mm	+1,2 -1,2	+1,5 -1,5	+1,5 -2,0
from 86 to 170 mm	+1,5 -1,5	+1,5 -2,0	+2,0 -2,0
more than 171 mm	-	+4,8 -4,8	+4,8 -4,8

Length tolerances (ISO 13050)

Belt length [mm]	Centre distance tolerance [mm]	Belt length [mm]	Centre distance tolerance [mm]
up to 150	± 0,15	1000 ÷ 1270	± 0,38
150 ÷ 255	± 0,20	1270 ÷ 1500	± 0,40
255 ÷ 400	± 0,23	1500 ÷ 1800	± 0,43
400 ÷ 560	± 0,25	1800 ÷ 2000	± 0,45
560 ÷ 800	± 0,30	2000 ÷ 2250	± 0,48
800 ÷ 1000	± 0,33	2250 and more	+ 0,10 mm/m

58

Belt drive engineering manual

Available sizes

8M	
Teeth no.	Pitch length [mm]
55	440
58	464
60	480
66	528
70	560
75	600
79	632
80	640
82	656
84	672
86	688
87	696
89	712
90	720
91	728
92	736
95	760
96	768
98	784
99	792
100	800
103	824
105	840
106	848
108	864
110	880
114	912
115	920
118	944
120	960

8M	
Teeth no.	Pitch length [mm]
124	992
125	1000
128	1024
129	1032
132	1056
133	1064
134	1072
135	1080
137	1096
140	1120
142	1136
144	1152
145	1160
146	1168
147	1176
148	1184
149	1192
150	1200
151	1208
152	1216
155	1240
157	1256
158	1264
160	1280
162	1296
163	1304
164	1312

8M	
Teeth no.	Pitch length [mm]
168	1344
171	1368
175	1400
176	1408
180	1440
185	1480
189	1512
190	1520
194	1552
200	1600
203	1624
220	1760
222	1776
225	1800
227	1816
239	1912
250	2000
280	2240
284	2272
299	2392
350	2800
356	2848

SYNCHRONOUS BELT - CMST

Part Number	CMST	1120	S8M	50
SIT MUSTANG® SPEED STD belt				
Pitch length (mm)				
Pitch				
Width (mm)				

Power rating

SIT MUSTANG® SPEED STD 8M20

Rated power [kW]																	
Teeth no.	22	24	26	28	30	32	34	36	38	40	44	48	52	56	64	72	
Pitch Ø [mm]	56,02	61,12	66,12	71,30	76,39	81,49	86,58	91,67	96,77	101,86	112,05	122,23	132,42	142,60	162,97	183,35	
rpm Small pulley	10	0,07	0,08	0,09	0,10	0,11	0,12	0,13	0,15	0,16	0,17	0,19	0,21	0,24	0,26	0,32	0,37
	20	0,26	0,29	0,33	0,36	0,40	0,43	0,47	0,51	0,54	0,58	0,66	0,74	0,83	0,92	1,10	1,28
	50	0,32	0,36	0,40	0,44	0,48	0,53	0,57	0,62	0,66	0,71	0,81	0,91	1,01	1,12	1,34	1,57
	100	0,59	0,67	0,74	0,82	0,90	0,98	1,06	1,15	1,24	1,33	1,51	1,69	1,89	2,08	2,50	2,92
	200	1,10	1,24	1,38	1,53	1,68	1,83	1,98	2,14	2,30	2,47	2,81	3,16	3,52	3,88	4,65	5,45
	300	1,59	1,79	1,99	2,20	2,41	2,63	2,86	3,08	3,32	3,55	4,04	4,54	5,06	5,59	6,69	7,84
	400	2,06	2,31	2,58	2,85	3,12	3,41	3,70	3,99	4,29	4,60	5,23	5,88	6,55	7,24	8,66	10,15
	500	2,51	2,83	3,15	3,48	3,82	4,16	4,52	4,88	5,25	5,62	6,39	7,19	8,00	8,84	10,58	12,40
	600	2,96	3,33	3,71	4,10	4,49	4,90	5,32	5,75	6,18	6,62	7,53	8,46	9,43	10,42	12,47	14,61
	700	3,40	3,82	4,26	4,70	5,16	5,63	6,11	6,60	7,10	7,60	8,64	9,72	10,83	11,96	14,32	16,78
	800	3,83	4,31	4,80	5,30	5,82	6,35	6,89	7,44	8,00	8,57	9,75	10,96	12,20	13,48	16,14	18,92
	950	4,47	5,03	5,60	6,19	6,79	7,41	8,04	8,68	9,33	10,00	11,37	12,79	14,24	15,73	18,83	22,07
	1000	4,68	5,26	5,86	6,48	7,11	7,76	8,41	9,09	9,77	10,47	11,91	13,39	14,91	16,48	19,72	23,11
	1200	5,52	6,20	6,91	7,63	8,37	9,13	9,91	10,70	11,51	12,34	14,03	15,77	17,56	19,41	23,23	27,22
	1450	6,54	7,35	8,19	9,04	9,92	10,83	11,75	12,69	13,64	14,62	16,62	18,69	20,82	23,00	27,53	32,26
	1600	7,14	8,03	8,94	9,88	10,84	11,83	12,83	13,86	14,91	15,97	18,16	20,42	22,74	25,12	30,07	35,24
	1800	7,94	8,92	9,94	10,98	12,05	13,15	14,26	15,40	16,57	17,75	20,18	22,69	25,27	27,93	33,43	39,17
	2000	8,72	9,81	10,93	12,07	13,25	14,45	15,68	16,93	18,21	19,51	22,19	24,94	27,78	30,70	36,74	43,06
	2200	9,50	10,69	11,90	13,15	14,43	15,74	17,08	18,45	19,84	21,26	24,17	27,17	30,26	33,44	40,03	46,91
	2500	10,66	11,98	13,35	14,75	16,18	17,65	19,16	20,69	22,25	23,84	27,11	30,48	33,94	37,51	44,89	52,61
2850	11,99	13,48	15,01	16,59	18,21	19,86	21,55	23,27	25,03	26,82	30,49	34,28	38,18	42,19	50,50	59,18	
3000	12,56	14,12	15,72	17,37	19,06	20,79	22,56	24,37	26,21	28,08	31,93	35,90	39,98	44,18	52,88	61,97	
3500	14,42	16,21	18,06	19,95	21,89	23,88	25,91	27,98	30,10	32,25	36,67	41,22	45,91	50,73	60,73	71,16	
4000	16,25	18,28	20,36	22,49	24,68	26,92	29,21	31,55	33,93	36,36	41,34	46,47	51,76	57,19	68,46	80,23	
4500	18,07	20,31	22,63	25,00	27,43	29,92	32,47	35,07	37,72	40,41	45,95	51,66	57,54	63,57	76,10	89,17	
5000	19,86	22,33	24,87	27,48	30,15	32,89	35,69	38,55	41,46	44,42	50,50	56,78	63,24	69,88	83,64	98,02	
5500	21,63	24,32	27,09	29,93	32,85	35,83	38,88	41,99	45,16	48,39	55,02	61,85	68,89	76,12	91,12	106,78	
6000	23,39	26,30	29,29	32,37	35,52	38,74	42,04	45,40	48,83	52,32	59,49	66,88	74,49	82,31	98,52	115,45	

Belt width [mm]	20	30	40	50	65	85
Width factor	1,00	1,58	2,16	2,73	3,60	4,76

Standard widths in bold.

The transmissible power for different belt's width is obtained by multiplying the value reported in the chart by the correspondent width factor.

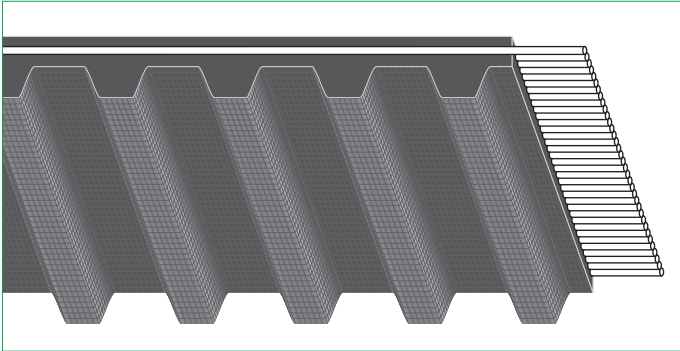


SIT CLASSICA Imperial pitch - CD



Performance index

MXL - XL - L - H - XH



The SIT CLASSICA synchronous belt, being designed with imperial pitch, is a valid and economical alternative solution in low/medium torque transmission systems. Reduced elongation, no need of lubrication and low wearing makes this belt an economic and reliable option.

**PITCH IN INCH**

Belt construction

The tensile element in fiberglass provides an excellent dimensional stability preventing belt shrinkage or stretch under load.

The Neoprene compound provides good protection from oil, heat and wear while the nylon facing provides smooth and accurate operation.

APPLICATIONS

- Office-ATM machines
- Appliances
- Laundry machines
- Medical equipment
- Machines tools, Packaging machines, Plastic machines
- Woodworking and glass machines
- Compressors, pumps, ventilation
- Paper industry machinery
- Food processing equipment
- HVAC units
- Textile machinery
- Mining equipment
- Farm machinery
- Vending machinery
- Automatic warehouses

KEY FEATURES & BENEFITS

- Wide range of pitches and lengths
- Maintenance-free
- High efficiency
- Good oil resistance
- Temperature: -30/+80 °C
- Universal trapezoidal tooth profile

BELT MATERIAL

- Tensile members: fiberglass
- Compound: chloroprene rubber (CR)
- Belt facing: polyamide (nylon)



SitDrive

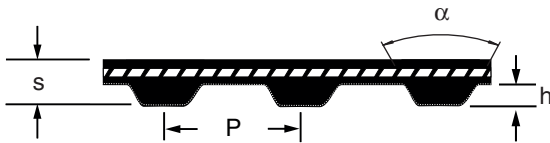
SIT have a complete stock of pulleys for all belts.

www.sitspa.com

Technical data

Belt dimensions

Pitch	P		h [mm]	s [mm]	α [mm]
	[Inches]	[mm]			
MXL	0,080	2,032	0,510	1,14	40°
XL	1/5	5,080	1,130	2,40	50°
L	3/8	9,525	1,695	3,60	40°
H	1/2	12,700	2,114	4,40	40°
XH	7/8	22,225	4,750	11,10	40°



Belt standard widths

Pitch	Width code	Belt width	
		[inches]	[mm]
XL	025, 031, 037	0,25 - 0,31 - 0,37	6,4 - 7,9 - 9,5
L	050, 075, 100	0,50 - 0,75 - 1,00	12,7 - 19,1 - 25,4
H	075, 100, 150, 200, 300	0,75 - 1,00 - 1,50 - 2,00 - 3,00	19,1 - 25,4 - 38,1 50,8 - 76,2
XH	200, 300, 400	2,00 - 3,00 - 4,00	50,8 - 76,2 - 101,6

Belt linear mass

Pitch	Linear mass [Kg/m · mm]
XL	0,0022
L	0,0032
H	0,0047
XH	0,0111

Width tolerances

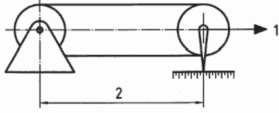
Belt width [mm]	Belt length 0-880 [mm]	Belt length 881-1760 [mm]	Belt length over 1761 [mm]
from 3,17 to 11,11 mm	+0,4 -0,8	+0,4 -0,8	- -
from 11,12 to 38,1 mm	+0,8 -0,8	+0,8 -0,8	+0,8 -1,2
from 38,2 to 50,8 mm	+1,2 -1,2	+1,2 -1,2	+1,2 -1,6
from 50,9 to 63,5 mm	+0,8 -1,2	+1,2 -1,6	+1,6 -1,6
from 63,6 to 76,2 mm	+1,2 -1,6	+1,6 -1,6	+1,6 -2,0
from 76,3 to 101,6 mm	+1,6 -1,6	+1,6 -2,0	+2,0 -2,0
more than 101,6 mm	+2,4 -2,4	+2,4 -2,8	+2,4 -3,2

Length tolerances (ISO 5296-1)

Belt length [mm]	Centre distance tolerance [mm]	Belt length [mm]	Centre distance tolerance [mm]
Up to 254	± 0,20	from 1017 to 1270	± 0,38
from 255 to 381	± 0,23	from 1271 to 1524	± 0,41
from 382 to 508	± 0,25	from 1525 to 1778	± 0,43
from 509 to 762	± 0,30	more than 1778	add 0.025 mm for each 250 mm increment
from 763 to 1016	± 0,33		

Belt pitch length measure procedure

Pulleys complying with ISO 5296-1			1 - Strength [N] based on belt width [mm] - [inch]												
Pitch [mm]	Teeth no.	Circumference [mm]	3,0 0,12	4,8 0,19	6,4 0,25	7,9 0,31	9,5 0,37	12,7 0,50	19,1 0,75	25,4 1,00	38,1 1,50	50,8 2,00	76,2 3,00	101,6 4,00	127,0 5,00
MXL	20	40,64	13	20	27	-	-	-	-	-	-	-	-	-	-
XL	10	50,80	-	-	36	44	53	-	-	-	-	-	-	-	-
L	16	152,40	-	-	-	-	-	105	180	245	-	-	-	-	-
H	20	254,00	-	-	-	-	-	-	445	620	980	1340	2100	-	-
XH	24	533,40	-	-	-	-	-	-	-	-	-	2000	3100	4450	-



1 Strength [N]
2 Centre distance [mm]

Available sizes

MXL - 0,080" (2,032 mm)

Note: Contact our sales department for availability

XL - 1/5" (5,080 mm)

Type	Teeth no.	Pitch length [inch]	Pitch length [mm]
60	30	6,00	153
64	32	6,40	163
70	35	7,00	178
74	37	7,40	188
80	40	8,00	203
90	45	9,00	229
92	46	9,20	234
94	47	9,40	239
96	48	9,60	244
98	49	9,80	249
100	50	10,00	254
102	51	10,20	259
108	54	10,80	274
110	55	11,00	279
112	56	11,20	285
114	57	11,40	290
116	58	11,60	295
120	60	12,00	305
122	61	12,20	310
124	62	12,40	315
126	63	12,60	320
128	64	12,80	325
130	65	13,00	330
134	67	13,40	340
136	68	13,60	345
138	69	13,80	350
140	70	14,00	356
142	71	14,20	360
144	72	14,40	366
146	73	14,60	371
148	74	14,80	376
150	75	15,00	381
154	77	15,40	391
160	80	16,00	406
162	81	16,20	412
164	82	16,40	417
166	83	16,60	422
168	84	16,80	427
170	85	17,00	432
172	86	17,20	437
174	87	17,40	442
176	88	17,60	447
180	90	18,00	457
182	91	18,20	462
184	92	18,40	467
186	93	18,60	472
188	94	18,80	477
190	95	19,00	483
192	96	19,20	488
194	97	19,40	493
196	98	19,60	498

follow XL - 1/5" (5,080 mm)

Type	Teeth no.	Pitch length [inch]	Pitch length [mm]
200	100	20,00	508
202	101	20,20	513
204	102	20,40	518
206	103	20,60	523
210	105	21,00	533
220	110	22,00	559
230	115	23,00	584
234	117	23,40	594
240	120	24,00	610
250	125	25,00	635
252	126	25,20	640
260	130	26,00	660
270	135	27,00	686
280	140	28,00	712
290	145	29,00	737
300	150	30,00	762
310	155	31,00	788
316	158	31,60	803
322	161	32,20	818
330	165	33,00	839
352	176	35,20	894
362	181	36,20	920
390	195	39,00	991
412	206	41,20	1046
450	225	45,00	1143

L - 3/8" (9,525 mm)

Type	Teeth no.	Pitch length [inch]	Pitch length [mm]
124	33	12,38	314
135	36	13,50	343
150	40	15,00	381
187	50	18,75	476
195	52	19,50	495
210	56	21,00	533
217	58	21,75	551
225	60	25,50	571
232	62	23,20	591
240	64	24,00	610
244	65	24,38	620
255	68	25,50	648
270	72	27,00	686
285	76	28,50	724
300	80	30,00	762
315	84	31,50	800
322	86	32,25	819
345	92	34,50	876
367	98	36,75	933
390	104	39,00	991
405	108	40,50	1028
420	112	42,00	1067
450	120	45,00	1143
461	123	46,13	1171
480	128	48,00	1219
510	136	51,00	1295
525	140	52,5	1334
540	144	54,00	1372
600	160	60,00	1524
660	176	66,00	1676

H - 1/2" (12,700 mm)			
Type	Teeth no.	Pitch length [inch]	Pitch length [mm]
210	42	21,0	533
225	45	22,50	571
230	46	23,00	584
240	48	24,00	610
255	51	25,50	648
270	54	27,00	686
300	60	30,00	762
315	63	31,5	800
320	64	32,00	813
330	66	33,00	838
360	72	36,00	914
390	78	39,00	990
420	84	42,00	1067
450	90	45,00	1143
480	96	48,00	1219
490	98	49,00	1244
510	102	51,00	1295
540	108	54,00	1372
560	112	56,00	1422
570	114	57,00	1448
585	117	58,50	1486
600	120	60,00	1524
630	126	63,00	1600
660	132	66,00	1676
700	140	72,50	1778
725	145	72,50	1841
730	146	73,0	1854
750	150	75,00	1905
800	160	80,00	2032
840	168	87,00	2134
850	170	85,00	2159
900	180	90,00	2286
1000	200	100,00	2540
1100	220	110,00	2794
1250	250	125,00	3175
1400	280	140,00	3556
1700	340	170,00	4318

XH - 7/8" (22,225 mm)			
Type	Teeth no.	Pitch length [inch]	Pitch length [mm]
507	58	50,75	1289
560	64	56,00	1422
630	72	63,00	1600
700	80	70,00	1778
770	88	77,00	1956
840	96	84,00	2134
980	112	98,00	2489
1120	128	112,00	2844
1260	144	126,00	3200
1400	160	140,00	3556
1540	176	154,00	3912
1750	200	175,00	4445

Additional lengths available on request.

Note: Additional lengths available on request.

Part Number	CD	210	L	075
SIT CLASSICA belt				
Pitch length x 10 (inches)				
Pitch				
Width x 100 (inches)				



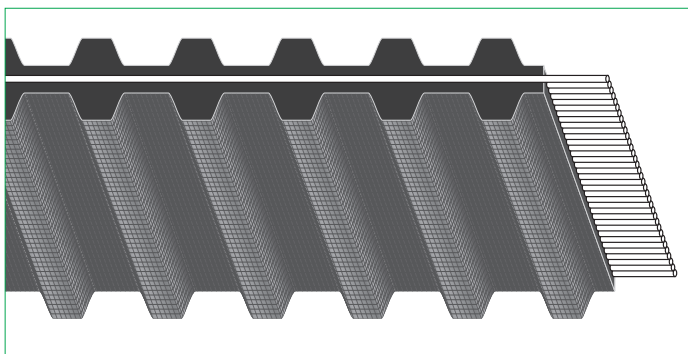
SIT CLASSICA Imperial pitch - DUAL - C2D



Performance index

“DUAL” XL - L - H

SYNCHRONOUS BELT - C2D



CLASSICA® DUAL synchronous belts can be used in a wide range of applications where one or multiple pulleys are driven by one belt.

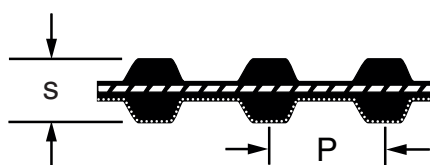
Inside and outside teeth are identical and are located directly in correspondence to each other.

They can be used with standard Imperial Pitch timing pulleys.



Belt dimensions

Pitch	P		s [mm]
	[Inches]	[mm]	
XL	1/5	5,080	3,05
L	3/8	9,525	4,57
H	1/2	12,700	5,94



APPLICATIONS

- Office-ATM machines
- Appliances
- Laundry machines
- Medical equipment
- Machines tools, Packaging machines, Plastic machines
- Woodworking and glass machines
- Compressors, pumps, ventilation
- Paper industry machinery
- Food processing equipment
- HVAC units
- Textile machinery
- Mining equipment
- Farm machinery
- Vending machinery
- Automatic warehouses

KEY FEATURES & BENEFITS

- Power transmission on both sides
- High efficiency
- Good oil resistance
- Temperature: -30/+75 °C
- Compact drive design
- Universal trapezoidal tooth profile

BELT MATERIAL

- Tensile members: Fiberglass
- Compound: Polychloroprene
- Belt facing: Polyamide

“DUAL” belt standard widths

Pitch	Width code	Belt width	
		[inches]	[mm]
XL	025, 037	0,25 - 0,37	6,4 - 9,5
L	050, 075, 100	0,50 - 0,75 - 1,00	12,7 - 19,1 - 25,4
H	075, 100, 150, 200, 300	0,75 - 1,00 - 1,50 2,00 - 3,00	19,1 - 25,4 - 38,1 50,8 - 76,2



SitDrive

SIT have a complete stock of pulleys for all belts.

www.sitspa.com

Available sizes

XL 1/5" (5,080 mm)	
Type	Pitch length [mm]
150	381
160	406
170	432
180	457
190	483
200	508
210	533
220	559
230	584
240	610
250	635
260	660
280*	711
290	737
300	762
310	787
330	838
362	919
392	996
450	1143
900	2286

L 3/8" (9,525 mm)	
Type	Pitch length [mm]
210	533
225	571
240	610
255	648
270	686
285	724
300	762
322	819
345	876
367	933
390	991
420	1067
450	1143
480	1219
510	1295
540	1372
600	1524
660	1676

H 1/2" (12,700 mm)	
Type	Pitch length [mm]
240	610
270	686
300	762
330	838
360	914
390	990
420	1067
450	1143
480	1219
490*	1245
510	1295
540	1372
570	1448
600	1524
630	1600
660	1676
700	1778
750	1905
800	2032
850	2159
900	2286
950	2413
1000	2794
1100	2794
1250	3175
1400	3556
1700	4318

*= available on request

Part Number	C2D	210	L	075
SIT CLASSICA - DUAL belt				
Pitch length x 10 (inches)				
Pitch				
Width x 100 (inches)				

Power rating

SIT CLASSICA - Imperial pitch XL

		Rated power [kW]																
Teeth no.		10	12	14	16	20	22	28	32	36	40	48	60	72	84	96	120	
Pitch Ø [mm]		16,17	19,40	22,64	25,87	32,34	35,57	45,28	51,74	58,21	64,68	77,62	97,02	116,43	135,83	155,23	194,04	
rpm	Small pulley	200	0,03	0,04	0,04	0,05	0,06	0,07	0,09	0,10	0,11	0,13	0,15	0,18	0,22	0,26	0,29	0,37
		600	0,09	0,11	0,13	0,15	0,15	0,20	0,25	0,29	0,33	0,37	0,44	0,54	0,65	0,76	0,87	1,08
		725	0,11	0,13	0,16	0,18	0,22	0,24	0,31	0,33	0,38	0,43	0,52	0,60	0,77	0,85	1,03	1,26
		800	0,12	0,14	0,17	0,19	0,24	0,26	0,34	0,39	0,44	0,49	0,58	0,73	0,87	1,00	1,15	1,43
		950	0,14	0,17	0,20	0,23	0,29	0,31	0,40	0,47	0,51	0,59	0,70	0,79	0,99	1,18	1,34	1,62
		1200	0,18	0,21	0,25	0,29	0,36	0,40	0,50	0,58	0,65	0,73	0,87	1,08	1,29	1,49	1,69	2,07
		1425	0,21	0,26	0,30	0,35	0,43	0,47	0,59	0,68	0,75	0,86	1,03	1,32	1,53	1,65	2,00	2,44
		1500	0,22	0,26	0,32	0,36	0,45	0,49	0,63	0,81	0,82	0,90	1,08	1,34	1,60	1,88	2,06	2,48
		2000	0,30	0,36	0,42	0,48	0,60	0,66	0,85	0,96	1,08	1,20	1,43	1,76	2,07	2,37	2,63	3,10
		2400	0,36	0,43	0,50	0,58	0,72	0,79	1,01	1,15	1,29	1,43	1,69	2,07	2,42	2,74	3,01	3,41
		2600	0,39	0,47	0,54	0,63	0,78	0,86	1,09	1,24	1,39	1,54	1,82	2,22	2,58	2,90	3,17	3,51
		2850	0,43	0,52	0,60	0,69	0,85	0,94	1,19	1,34	1,53	1,66	1,96	2,41	2,76	3,09	3,32	3,58
		3000	0,45	0,54	0,63	0,72	0,90	0,99	1,26	1,43	1,60	1,76	2,07	2,50	2,88	3,18	3,41	3,59
		3400	0,51	0,61	0,71	0,82	1,01	1,12	1,41	1,60	1,79	1,97	2,31	2,76	3,13	3,40	3,56	3,45
		3800	0,57	0,68	0,80	0,91	1,13	1,25	1,57	1,78	1,98	2,17	2,53	2,99	3,33	3,54	3,58	3,09
		4000	0,60	0,72	0,85	0,96	1,20	1,31	1,65	1,86	2,07	2,27	2,63	3,10	3,41	3,57	3,54	2,82
		4500	0,68	0,81	0,93	1,09	1,32	1,45	1,84	2,06	2,29	2,50	2,88	3,31	3,54	3,55	3,24	1,76
		5000	0,75	0,90	1,04	1,20	1,48	1,52	2,02	2,27	2,50	2,72	3,10	3,47	3,59	3,38	2,82	0,36
		5500	-	-	-	1,31	1,62	1,77	2,20	2,46	2,70	2,91	3,27	3,56	3,51	2,96	2,06	-
		6000	-	-	-	1,43	1,76	1,92	2,38	2,63	2,88	3,10	3,41	3,59	3,30	2,47	1,00	-
7000	-	-	-	1,65	2,02	2,20	2,68	2,96	3,18	3,37	3,57	3,38	2,47	0,69	-	-		
8000	-	-	-	-	2,30	2,46	2,96	3,21	3,41	3,54	3,54	2,82	1,00	-	-	-		
9000	-	-	-	-	2,51	2,71	3,19	3,41	3,55	3,59	3,30	1,82	-	-	-	-		
10000	-	-	-	-	2,73	2,92	3,38	3,54	3,58	3,49	2,82	0,35	-	-	-	-		
15000	-	-	-	-	3,47	3,57	3,38	2,81	1,82	0,35	-	-	-	-	-	-		

SYNCHRONOUS BELT - C2D

SIT CLASSICA - Imperial pitch L

		Rated power [kW]																
Teeth no.		10	12	14	16	20	22	28	32	36	40	48	60	72	84	96	120	
Pitch Ø [mm]		30,32	36,38	42,45	48,51	60,64	66,70	84,89	97,02	109,15	121,28	145,53	181,91	218,30	254,68	291,06	363,83	
rpm	Small pulley	200	0,07	0,10	0,11	0,13	0,15	0,17	0,21	0,24	0,28	0,31	0,37	0,46	0,55	0,64	0,74	0,91
		600	0,23	0,27	0,32	0,37	0,46	0,51	0,64	0,74	0,82	0,91	1,10	1,36	1,63	1,88	2,13	1,79
		725	0,29	0,35	0,39	0,46	0,56	0,60	0,79	0,88	1,02	1,18	1,25	1,47	1,91	2,21	2,49	2,28
		800	0,31	0,37	0,43	0,49	0,61	0,68	0,85	0,97	1,10	1,21	1,45	1,79	2,13	2,46	2,77	3,35
		950	0,37	0,43	0,50	0,59	0,74	0,80	1,01	1,15	1,29	1,40	1,62	1,84	2,43	2,76	3,09	3,68
		1200	0,46	0,55	0,65	0,74	0,91	1,00	1,27	1,45	1,63	1,79	2,13	2,62	3,07	3,47	3,84	4,39
		1425	0,55	0,66	0,77	0,88	1,08	1,24	1,49	1,70	1,90	2,10	2,50	3,02	3,56	3,93	4,26	4,65
		1500	0,57	0,69	0,80	0,91	1,14	1,25	1,58	1,79	2,01	2,21	2,57	3,17	3,65	4,06	4,38	4,66
		2000	-	0,91	1,07	1,21	1,51	1,65	2,07	2,35	2,62	2,87	3,35	3,94	4,39	4,65	4,68	3,98
		2400	-	1,10	1,27	1,45	1,79	1,96	2,46	2,76	3,07	3,35	3,84	4,39	4,67	4,63	4,21	2,02
		2600	-	1,18	1,38	1,57	1,93	2,12	2,64	2,96	3,26	3,56	4,04	4,54	4,70	4,43	3,70	0,50
		2850	-	1,29	1,49	1,70	2,09	2,29	2,84	3,17	3,48	3,79	4,26	4,65	4,56	3,90	2,99	-
		3000	-	1,36	1,58	1,79	2,21	2,42	2,99	3,34	3,65	3,94	4,39	4,69	4,47	3,62	2,02	-
		3400	-	1,54	1,78	2,02	2,48	2,70	3,31	3,67	3,99	4,26	4,61	4,61	3,85	2,15	-	-
		3800	-	1,71	1,98	2,23	2,74	2,98	3,61	3,97	4,26	4,50	4,70	4,26	2,76	-	-	-
		4000	-	1,79	2,08	2,35	2,86	3,11	3,75	4,10	4,37	4,58	4,68	3,98	2,02	-	-	-
		4500	-	1,96	2,46	2,62	3,16	3,42	4,05	4,37	4,57	4,69	4,46	2,90	-	-	-	-
		5000	-	2,21	2,55	2,87	3,44	3,71	4,31	4,56	4,66	4,64	3,98	1,31	-	-	-	-
		5500	-	2,42	2,78	3,11	3,71	3,96	4,51	4,68	4,65	4,41	2,74	-	-	-	-	-
		6000	-	2,62	2,99	3,35	3,94	4,19	4,65	4,65	4,47	3,98	2,02	-	-	-	-	-
7000	-	2,99	3,40	3,76	4,32	4,52	4,67	4,34	3,62	2,45	-	-	-	-	-	-		
8000	-	3,35	3,76	4,11	4,58	4,68	4,34	3,48	2,02	-	-	-	-	-	-	-		
9000	-	3,66	4,07	4,39	4,69	4,65	3,62	2,02	-	-	-	-	-	-	-	-		
10000	-	3,94	4,32	4,58	4,64	4,41	2,44	-	-	-	-	-	-	-	-	-		
15000	-	4,69	4,55	3,98	1,31	-	-	-	-	-	-	-	-	-	-	-		

A shorter life of the belt is expected for diameters included in this area.

Belt width	Code	025	031	037	050	075	100	150	200	300	400	500
	[mm]	6,4	7,9	9,5	12,7	19,0	25,4	38,7	50,8	76,2	101,6	127,0
Width factor		0,15	0,21	0,27	0,42	0,71	1,0	1,56	2,14	3,36	4,76	6,15

The transmissible power for different belt's width is obtained by multiplying the value reported in the chart by the correspondent width factor.

Power rating

SIT CLASSICA - Imperial pitch H

		Rated power [kW]																
Teeth no.		14	16	18	20	24	26	30	32	36	40	48	60	72	84	96	120	
Pitch Ø [mm]		56,60	64,68	72,77	80,85	97,02	105,11	121,28	129,36	145,53	161,70	194,04	242,55	291,06	339,57	388,08	485,10	
rpm	Small pulley	200	0,37	0,42	0,47	0,52	0,63	0,68	0,78	0,83	0,93	1,04	1,25	1,56	1,87	2,18	2,49	3,10
		600	1,10	1,25	1,40	1,56	1,87	2,02	2,33	2,49	2,79	3,10	3,71	4,62	5,51	6,39	7,25	8,89
		725	1,29	1,51	1,68	1,85	2,21	2,39	2,76	2,93	3,29	3,90	4,34	5,40	6,41	7,50	8,38	10,29
		800	1,46	1,66	1,87	2,07	2,49	2,69	3,10	3,31	3,71	4,12	4,92	6,10	7,25	8,35	9,42	11,38
		950	1,73	1,97	2,21	2,46	2,95	3,19	3,68	3,91	4,40	4,87	5,81	7,18	8,49	9,34	10,90	12,87
		1200	-	2,49	2,79	3,10	3,71	4,01	4,63	4,92	5,51	6,10	7,25	8,89	10,43	11,82	13,07	14,99
		1425	-	2,94	3,29	3,67	4,35	4,70	5,43	5,76	6,43	7,13	8,38	10,29	11,91	13,31	14,56	15,96
		1500	-	3,10	3,49	3,87	4,62	4,99	5,74	6,10	6,82	7,52	8,88	10,77	12,44	13,85	14,94	16,03
		2000	-	4,12	4,62	5,12	6,10	6,58	7,53	7,99	8,90	9,76	11,38	13,44	14,99	15,93	16,13	13,96
		2400	-	4,92	5,51	6,10	7,24	7,81	8,89	9,41	10,43	11,38	13,07	14,99	16,03	15,99	14,70	7,66
		2600	-	5,32	5,96	6,58	7,80	8,40	9,54	10,09	11,15	12,12	13,80	15,54	16,15	15,40	13,06	2,70
		2850	-	5,74	6,41	7,10	8,38	9,01	10,23	10,79	11,87	12,94	14,49	15,97	15,88	13,97	9,92	-
		3000	-	6,10	6,82	7,52	8,88	9,54	10,79	11,37	12,47	13,44	14,99	16,13	15,51	12,81	7,65	-
		3400	-	6,87	7,67	8,43	9,91	10,63	11,93	12,52	13,63	14,54	15,79	15,93	13,53	8,08	-	-
		3800	-	7,63	8,49	9,32	10,89	11,63	12,96	13,54	14,60	15,38	16,14	14,86	10,03	0,95	-	-
		4000	-	7,99	8,89	9,74	11,35	12,10	13,43	14,00	15,00	15,69	16,13	13,96	7,65	-	-	-
		4500	-	8,89	9,86	10,76	12,43	13,19	14,46	14,96	15,75	16,11	15,49	10,52	-	-	-	-
		5000	-	9,76	10,79	11,71	13,40	14,14	15,27	15,65	16,14	16,02	13,96	5,34	-	-	-	-
		5500	-	10,59	11,65	12,58	14,22	14,91	15,81	16,02	16,06	15,31	11,35	-	-	-	-	-
		6000	-	11,38	12,46	13,38	14,90	15,51	16,09	16,07	15,53	13,96	7,65	-	-	-	-	-
7000	-	12,81	13,88	14,77	15,93	16,14	15,75	15,10	12,80	9,03	-	-	-	-	-	-		
8000	-	14,02	14,99	15,69	16,13	15,82	13,96	12,36	7,65	0,74	-	-	-	-	-	-		
9000	-	15,00	15,76	16,13	15,51	14,44	10,56	7,65	-	-	-	-	-	-	-	-		
10000	-	15,69	16,13	16,02	13,96	11,88	5,33	0,74	-	-	-	-	-	-	-	-		
15000	-	13,95	10,55	5,33	-	-	-	-	-	-	-	-	-	-	-	-		

SIT CLASSICA - Imperial pitch XH

		Rated power [kW]														
Teeth no.		18	20	22	24	26	28	30	32	40	48	60	72	84	120	
Pitch Ø [mm]		127,34	141,49	155,64	169,79	183,94	198,08	212,23	226,38	282,98	339,57	424,47	509,36	594,25	848,88	
rpm	Small pulley	200	1,11	1,24	1,36	1,49	1,61	1,74	1,85	1,98	2,48	2,96	3,70	4,42	5,14	7,23
		600	3,33	3,69	4,06	4,41	4,78	5,13	5,49	5,85	7,22	8,57	10,44	12,15	13,64	16,51
		725	3,90	4,33	4,76	5,19	5,58	5,99	6,40	6,80	8,38	9,85	11,95	13,90	15,10	16,80
		800	4,41	4,90	5,38	5,85	6,32	6,77	7,23	7,68	9,41	10,84	13,17	14,89	16,11	15,96
		950	5,22	5,78	6,34	6,88	7,42	7,96	8,47	8,99	10,91	12,28	15,29	16,18	16,75	-
		1200	-	7,23	7,90	8,56	9,20	9,83	10,51	11,02	13,15	14,70	16,50	16,73	10,29	-
		1425	-	8,37	9,12	9,85	10,56	11,25	11,90	12,53	14,65	16,03	16,71	15,07	-	-
		1500	-	8,88	9,67	10,43	11,16	11,87	12,52	13,15	15,23	16,32	16,10	13,56	-	-
		2000	-	-	12,31	13,15	13,93	14,61	15,22	15,75	16,79	16,19	10,23	-	-	-
		2850	-	-	15,51	16,13	16,57	16,77	16,77	16,52	12,79	-	-	-	-	-
		3200	-	-	16,39	16,73	16,78	16,52	15,92	14,95	6,94	-	-	-	-	-
		3600	-	-	16,81	16,70	16,19	15,24	13,77	11,85	-	-	-	-	-	-
		4000	-	-	16,65	15,72	14,65	12,79	10,23	6,94	-	-	-	-	-	-
		5000	-	-	13,33	10,23	6,00	0,55	-	-	-	-	-	-	-	-
		6000	-	-	5,02	-	-	-	-	-	-	-	-	-	-	-

A shorter life of the belt is expected for diameters included in this area.

Belt width	Code	050	075	100	150	200	300	400	500	600	700	800
	[mm]	12,7	19,0	25,4	38,7	50,8	76,2	101,6	127,0	152,4	177,8	203,2
Width factor		0,42	0,71	1,0	1,56	2,14	3,36	4,76	6,15	7,50	8,89	10,32

The transmissible power for different belt's width is obtained by multiplying the value reported in the chart by the correspondent width factor.



OPEN END

SYNCHRONOUS BELT - OPEN END

SIT rubber belt can be supplied in open end versions. With open end belts it is possible to increase the applications range, inclu-

ding linear motion and several types of conveyors. The following is indicated, for each type of belt, the available rolls length.

SIT TOP DRIVE® HTD, SIT MUSTANG® SPEED available sizes

SIT TOP DRIVE® HTD, SIT MUSTANG® SPEED, SIT MUSTANG® TORQUE available sizes

3M		
Type	Width [mm]	Rolls length [m]
3M06	6	50
3M09	9	33
3M15	15	19

5M		
Type	Width [mm]	Rolls length [m]
5M09	9	105
5M15	15	61
5M25	25	38

8M		
Type	Width [mm]	Rolls length [m]
8M15	15	88
8M20	20	66
8M25	25	50
8M30	30	44
8M50	50	27

14M		
Type	Width [mm]	Rolls length [m]
14M40	40	33
14M55	55	22
14M85	85	19

SIT HIGH PERFORMANCE Pd® PLUS available sizes

8M		
Type	Width [mm]	Rolls length [m]
8M15	15	122
8M20	20	91
8M25	25	69
8M30	30	61
8M50	50	38

14M		
Type	Width [mm]	Rolls length [m]
14M40	40	46
14M55	55	30
14M85	85	26

SIT CLASSICA IMPERIAL PITCH available sizes

XL - 1/5" (5,080 mm)			
Type	Width [inches]	Width [mm]	Rolls length [m]
XL025	0,25	6,4	152
XL037	0,37	9,5	99
XL050	0,50	12,7	76
XL075	0,75	19,1	46

L - 3/8" (9,525 mm)			
Type	Width [inches]	Width [mm]	Rolls length [m]
L050	0,50	12,7	152
L075	0,75	19,1	107
L100	1,00	25,4	76

H - 1/2" (12,700 mm)			
Type	Width [inches]	Width [mm]	Rolls length [m]
H050	0,50	12,7	152
H075	0,75	19,1	107
H100	1,00	25,4	76



NOTE:
Length's rolls tolerances +/- 10%.
Different length/width could be available on request.

$4l^2 \cdot m$

Drive design (timing belt)



Drive design (timing belt)

SIT timing belt drives guarantee you an extremely high efficiency and long lifetime.

In order to obtain the best performance a correct calculation must be done.

Here below are shown the required equations and factors for calculation as well as the calculations steps.

Required data for correct calculation of a timing belt drive are:

- Machine type
- Drive motor type
- Motor power and/or required driving power
- Operating factor
- Rotational speed of the motor shaft
- Rotational speed of the driven shaft
- Center distance

Total service factor c_0

The total service factor c_0 is determined by adding factors c_2 , c_3 and c_4 :

$$c_0 = c_2 + c_3 + c_4$$

Please find on next page the relevant tables of c_2 and c_4

Factor c_1

Meshed teeth	> 6	5	4	3	2
Factor c_1	1,0	0,8	0,6	0,4	0,2

Glossary of symbol, unit and definition

Symbol	Unit	Definition
a	mm	Center distance
c_0	-	Predefined total service factor
$c_{0\text{ err}}$	-	Calculated total service factor
c_1	-	Teeth in mesh factor
c_2	-	Load factor
c_3	-	Acceleration factor
c_4	-	Fatigue factor
c_5	-	Length factor
d_w	mm	Pitch diameter of toothed pulley
d_{w1}	mm	Pitch diameter of driving toothed pulley
d_{w2}	mm	Pitch diameter of driven toothed pulley
d_{wg}	mm	Pitch diameter of large toothed pulley
d_{wk}	mm	Pitch diameter of small toothed pulley
F_{stat}	N	Static span tension
F_v	N	Axle load
i	-	Transmission ratio
k_1	-	Initial load factor
k_2	-	Initial service factor
L_w	mm	Pitch length of timing belt
n_1	min^{-1}	Speed of driving toothed pulley
n_2	min^{-1}	Speed of driven toothed pulley
P	kW	Power to be transmitted
P_R	kW	Power rating for selected width of belt
P_m	kW	Engine power
Z_e	-	Number of meshed teeth
v	m/s	Belt speed
z_1	-	No. of teeth of the driving toothed pulley
z_2	-	No. of teeth of the driven toothed pulley
z_k	-	No. of teeth of the small toothed pulley
β	°	Arc of contact around the small toothed pulley

Load factor c_2

The correct service factor is determined by:

1. The extent and frequency of peak loads.
2. The number of operating hours per year, broken down into average hours per day of continuous service.
3. The proper service category (intermittent, normal or continuous). Select the one that most closely approximates your application condition.

Intermittent service

- a. Light Duty – Not more than 6 hours per day.
- b. Never exceeding rated load.

Normal service

- a. Daily service 6 to 16 hours per day.
- b. Where occasional starting or peak load does not exceed 200% of the full load.

Continuous service

- a. Where starting or peak load is in excess of 200% of the full load or where starting or peak loads and overloads occur frequently.
- b. Continuous service 16 to 24 hours per day.

Typical Service Factors							
DRIVEN MACHINES TYPES	DRIVER TYPES						
Driven Machine Types noted below are representative samples only. Select a category most closely approximating your application from those listed below	ELECTRIC MOTORS: AC Normal Torque Squirrel Cage and Synchronous Inverters Softstarts			AC Split Phase DC Shunt Wound Internal Combustion Engines over 600 revs/min		ELECTRIC MOTORS: AC Hi-Torque AC Hi-Slip AC Repulsion-Induction AC Single Phase Series Wound AC Slip Ring DC Compound Wound Series Wound	Single Cylinder Engines and Internal Combustion Engines under 600 revs/min, line shafts, brakes, clutches, direct on line starting.
	"SOFT"/NORMAL TORQUE STARTS			"HEAVY"/HIGH TORQUE STARTS			
Driven Unit Service Factor	Intermittent Service	Normal Service	Continuous Service	Intermittent Service	Normal Service	Continuous Service	
Agitator: Liquid	1,3	1,5	1,7	1,5	1,7	1,9	
Agitator: Semi Liquid	1,4	1,6	1,8	1,6	1,8	0,2	
Bakery Machinery: Dough Mixers	1,3	1,5	1,7	1,5	1,7	1,9	
Brick & Clay Machinery: Augers, Granulators, Mixers	1,4	1,6	1,8	1,6	1,8	2,0	
Brick & Clay Machinery: Pug Mills	1,7	1,9	2,1	1,9	2,1	2,3	
Centrifuges	1,6	1,8	2,0	1,8	2,0	2,2	
Chokable Equipment: All Types	2,2	2,4	2,6	2,4	2,6	2,8	
Compressors: Centrifugal	1,4	1,6	1,9	1,6	1,8	2,0	
Compressor: Reciprocating	1,7	1,9	2,1	1,9	2,1	2,3	
Conveyors: Apron, Bucket, Elevator, Pan	1,5	1,7	1,9	1,7	1,9	2,1	
Conveyors: Heavy Duty Belt	1,4	1,6	1,8	1,6	1,8	2,0	
Conveyors: Flight, Screw	1,6	1,8	2,0	1,8	2,0	2,2	
Conveyors: Light Package Belt	1,2	1,4	1,6	1,4	1,6	1,8	
Dispensing and Display Equipment	1,0	1,1	1,2	1,1	1,3	1,5	
Elevators	1,5	1,7	1,9	1,7	1,9	2,1	
Exciters	1,5	1,7	1,9	1,7	1,9	2,1	
Fans & Blowers: Centrifugal, Induced Draft Exhausters < 7.5 kW	1,5	1,7	1,9	1,7	1,9	2,1	
Fans & Blowers: Mine Fans, Propeller, Positive Displacement Blowers	1,7	1,9	2,1	1,9	2,1	2,3	
Hoists	1,5	1,7	1,9	1,7	1,9	2,1	
Instrumentation	1,0	1,1	1,2	1,1	1,3	1,5	
Laundry Machinery: Extractors, Washers	1,5	1,7	1,9	1,7	1,9	2,1	
Laundry Machinery: General	1,3	1,5	1,7	1,5	1,7	1,9	
Line Shafts	1,4	1,6	1,8	1,6	1,8	2,0	
Machine Tools: Boring Mill, Grinder, Milling Machine, Shaper, Shears	1,5	1,7	1,9	1,7	1,9	2,1	
Machine Tools: Drill Press, Lathes, Screw Machine	1,3	1,5	1,7	1,5	1,7	1,9	
Measuring Devices	1,0	1,1	1,2	1,1	1,3	1,5	
Medical Equipment	1,0	1,1	1,2	1,1	1,3	1,5	
Mills: Ball, Rod, Pebble etc.	1,6	1,8	2,0	1,8	2,0	2,2	
Mixer: Liquid	1,3	1,5	1,7	1,5	1,7	1,9	
Mixer: Semi Liquid	1,4	1,6	1,8	1,6	1,8	2,0	

Driven Unit Service Factor	"SOFT"/NORMAL TORQUE STARTS			"HEAVY"/HIGH TORQUE STARTS		
	Intermittent Service	Normal Service	Continuous Service	Intermittent Service	Normal Service	Continuous Service
Office Equipment	1,1	1,3	1,5	1,3	1,5	1,7
Paper Machinery: Agitators, Calenders, Driers	1,2	1,4	1,6	1,4	1,6	1,8
Paper Machinery: Beaters, Jordans, Mash Pumps	1,3	1,5	1,7	1,5	1,7	1,9
Paper Machinery: Pulpers	1,6	1,8	2,0	1,8	2,0	2,2
Printing Machinery: Linotype Machines, Cutters, Folders	1,3	1,5	1,7	1,5	1,7	1,9
Printing Machinery: All Presses	1,5	1,7	1,9	1,7	1,9	2,1
Projection Equipment	1,0	1,1	1,2	1,1	1,3	1,5
Pumps: Centrifugal, Gear	1,4	1,6	1,8	1,6	1,8	2,0
Pumps: Rotary, Positive Displacement, Slush	1,5	1,7	1,9	1,7	1,9	2,1
Pumps: Piston (Reciprocating)	1,9	2,1	2,3	2,1	2,3	2,5
Rock Crushers	1,9	2,1	2,3	2,1	2,3	2,5
Rubber Plant Machinery: Calenders, Extruders, Mills	1,5	1,7	1,9	1,7	1,9	2,1
Saw Mill Machinery	1,5	1,7	1,9	1,7	1,9	2,1
Screens: Drum, Conical	1,2	1,4	1,6	1,4	1,6	1,8
Screens: Vibrating (cam), Shaker	1,4	1,6	1,8	1,6	1,8	2,0
Sewing Machines	1,1	1,3	1,5	1,3	1,5	1,7
Sweepers	1,1	1,3	1,5	1,3	1,5	1,7
Textile Machinery: Reel, Warper	1,4	1,6	1,8	1,6	1,8	2,0
Textile Machinery: Loom, Spinning Frame, Twister	1,5	1,7	1,9	1,7	1,9	2,1
Woodworking Machinery: Band Saw, Drill Press, Lathe	1,1	1,3	1,5	1,3	1,5	1,7
Woodworking Machinery: Circular Saw, Jointer, Planer	1,3	1,5	1,7	1,5	1,7	1,9

Acceleration factor c_3

Transmission ratio i	Acceleration factor c_3
1,00 - 1,25	-
> 1,25 - 1,75	0,1
> 1,75 - 2,50	0,2
> 2,50 - 3,50	0,3
> 3,50	0,4

$i = Z_1 / Z_2$

Fatigue factor c_4

This factor considers special stress on the belt, for instance through the back idler rollers.

	Fatigue factor c_4
Add. belt deflection	+ 0,2

Length factor c_5

This factor considers the bending fatigue load in relationship to the belt length.

Pitch [mm]	Pitch length [mm]	c_5
3	< 190	0,8
	190 - 260	0,9
	260 - 400	1
	400 - 600	1,1
	> 600	1,2

Pitch [mm]	Pitch length [mm]	c_5
5	< 440	0,8
	440 - 500	0,9
	500 - 800	1
	800 - 1100	1,1
	> 1100	1,2

Pitch [mm]	Pitch length [mm]	c_5
8	< 640	0,8
	640 - 959	0,9
	950 - 1280	1
	1280 - 1800	1,1
	> 1800	1,2

Pitch [mm]	Pitch length [mm]	c_5
14	< 1400	0,8
	1400 - 1750	0,9
	1750 - 2100	0,95
	2100 - 2600	1,0
	2600 - 3500	1,05
	> 3500	1,1

Calculation guide

1. Power Transmission Determination

Power transmission P [kW] is determined by multiplying the nominal power of the engine P_m [kW] by the total service factor c_0 .

$$P = P_m \cdot c_0 \text{ [kW];} \quad \text{where } c_0 = c_2 + c_3 + c_4$$

2. Belt pitch selection

Belt pitch can be previously selected by considering the required diameter to be used. The required minimal pulley's number of teeth is a decisive factor for the various pitches. See the following table as an example.

Pitch [mm]	3	5	8	14
Minimal number of teeth	10	14	22	28
Diameter [mm]	9,55	22,28	56,02	124,78
Back idler roller d_{min} [mm]	14	27	85	185

Notice:

The bigger the selected pulley diameter, the thinner is the drive width. The bigger the diameter, the higher is the belt speed and so the running noise at high rotation speed. The best compromise solution should always be searched. Usually there are many solutions for each problem.

3. Determination of number of teeth

By considering the drive specifications and the above minimal number of teeth, it is possible to define the number of teeth of the drive pulley and of the driven pulley by using the desired transmission ratio. The equation is:

$$i = \frac{z_1}{z_2} = \frac{d_{w1}}{d_{w2}} = \frac{n_2}{n_1}$$

4. Determination of belt length

The necessary theoretical belt length is obtained by considering the chosen pulleys of the drive and the necessary center distance. The calculated length shall be selected as near as possible to the standard belt length.

The distance between centers is calculated through the transformed equation using the standard length. The relevant equations are:

$$L_w = 2 \cdot a + \frac{\pi}{2} \cdot (d_{wg} + d_{wk}) + \frac{(d_{wg} - d_{wk})^2}{4 \cdot a} \quad \text{Belt pitch length}$$

$$a = \frac{b + \sqrt{b^2 - 32 \cdot (d_{wg} - d_{wk})^2}}{16} \quad \text{Center distance}$$

Where: $b = 4 \cdot L_w - 2 \cdot \pi \cdot (d_{wg} + d_{wk})$

5. Determination of belt width

The performance diagrams shown for each belt family show the powers transferred by the belt with standard belt widths according to the number of teeth of the small pulley and to their rotation speed. For these powers at least 6 teeth must be in mesh. In case of a lower number of meshed teeth Z_e also the C_1 factor will be reduced.

Number of meshed teeth z_e

The number of meshed teeth of the small tooth lock washer will be calculated using the following equation:

$$z_e = \left(0,5 - \frac{(d_{wg} - d_{wk})}{6 \cdot a} \right) \cdot z_k$$

6. Performance value for selected belt P_R

The values shown in power rating tables multiplied by the C_1 and C_5 factors correspond to the power transferred by the selected belt.

Example: Performance diagram SIT MUSTANG® SPEED HTD 8M - 20 mm Width

A selected belt length = 2.800 mm produces a length factor $c_5 = 1,2$;

Number of teeth of the small pulley $z_k = 24$ at rotation speed $n_k = 2.850 \text{ min}^{-1}$

Base value $P = 13,0 \text{ kW}$.

Number of meshed teeth z_e is 5, so $c_1 = 0,8$

Result: $P_R = 13,0 \times 0,8 \times 1,2 = P_R = 12,48 \text{ kW}$ for the power transferred by the belt.

The power transferred by the belt must be higher than the transmission power P (see under point 1).

If this is not the case, the next larger belt width shall be selected. If this is again not possible, it will be necessary to use a stronger belt, for instance Mustang® Torque.

Calculation example

A blower (centrifugal) shall be converted from a V-belt drive to synchronous belt drive.

Existing data:

Engine power:	$P_m = 60 \text{ kW at } 1.450 \text{ min}^{-1}$
Main engine:	Electric motor with high start torque
Drive pulley diameter:	ca. 250 mm
Transmission ratio:	1 : 1
Distance between centers:	1.150 to 1.250 mm
Operating time:	20 to 24 hours per day
No reverse bending	

1. Determination of the power transmission P

with $P = P_m \cdot c_0$ [kW] and $c_0 = c_2 + c_3 + c_4$

$$c_2 = 2,1$$

$$c_3 = 0$$

$$c_4 = 0$$

$$\text{result: } c_0 = 2,1 + 0 + 0 = 2,1$$

$$\text{so: } P = 60 \text{ kW} \cdot 2,1 = 126 \text{ kW}$$

2. Determination of the belt pitch

Due to the large pulley diameter of 250 mm, the maximum pitch with the maximum power potential shall be selected. The belt width is thus likely to become relatively small, which, among other things, reduces the bending load of the shaft ends. Selected pitch = 14 mm = 14M.

3. Determination of the number of teeth

As the transmission ratio is 1 : 1, only the number of teeth shall be determined.

Using the equation for the circumference we get pulley's circumference of ca. 785,4 mm.

This dimension, divided by the pitch dimension 14, gives the theoretical number of 56,099 teeth.

The selected number of teeth is 56. Thus the effective diameter is $d_w = \frac{z_1 \cdot t}{\pi} = 249,55 \text{ mm}$.

4. Determination of the belt length

With a distance between centers of ca. 1.200 mm and following equation

$$L_w = 2 \cdot a + \frac{\pi}{2} \cdot (d_{wg} + d_{wk}) + \frac{(d_{wg} - d_{wk})^2}{4 \cdot a}$$

it is possible to calculate a theoretical belt length of 3.184 mm.

The nearest suitable belt length is $L_w = 3.150 \text{ mm}$. Length factor $c_5 = 1,05$

With reversed equation we get the distance between centers $a = 1.183 \text{ mm}$ within the preset limits.

5. Determination of the belt width

In this case the number of meshed teeth is immediately clear because both pulleys have a contact angle of 180°, i.e. in each pulleys 28 teeth > 6 and so $c_1 = 1,0$.

Considering the nominal speed and the selected number of teeth, the power rating charts show a power transmission for the 14M pitches of:

112,7 kW for SIT TOP DRIVE® HTD 3.150 - 14M - 115

131,3 kW for SIT MUSTANG® SPEED HTD 3.150 - 14M - 55

157,4 kW for SIT MUSTANG® TORQUE HTD 3.150 - 14M - 55

6. Power value for selected belts P_R

The standard SIT TOP DRIVE[®] HTD timing belt gives $P \times c_5 = 112,7 \text{ kW} \times 1,05 = 118,33 \text{ kW}$. This value is not sufficient for the required factor c_0 of 2,1 and $P_m = 60 \text{ kW}$.

The best alternative is SIT MUSTANG[®] SPEED with 55 mm width; here P_R is 137,87 kW.

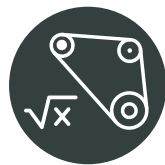
$$c_{0\text{err}} = \frac{P_R}{P_m} = 2,30$$

Choice: **SIT MUSTANG[®] SPEED HTD 3.150 - 14M 55**

The selected belt has half width of standard SIT TOP DRIVE[®] HTD belts and therefore also the pulleys are considerably lighter and less expensive.

The bending loads on shaft ends are also reduced.

The variant SIT MUSTANG[®] TORQUE should be also possible, but the drive speed is very closed to it's maximum admissible speed limit.



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Belt Installation and Tensioning

Objective

The timing belt must be installed and tensioned properly to ensure optimum performance. Both 'axial' and 'radial' sprocket alignment must be preserved while tensioning the drive.

Before commencing, inspect the belt for damage and confirm that the sprockets are correctly installed.

Belts should never be crimped or bent to a diameter less than the minimum sprocket diameter, approximately as following:

Minimum pulleys number of teeth

	CHD	HPPD	CMS	CMT	CMST	CD
3M	10	-	10	-	-	-
5M	12	-	12	-	-	-
8M	18	18	22*	22*	22*	-
14M	28	28	28	28	-	-
XL	-	-	-	-	-	10
L	-	-	-	-	-	10
H	-	-	-	-	-	14
XH	-	-	-	-	-	18

* On request we can produce pulleys with a minimum of 18 teeth.

Small diameters can significantly reduce belt lifetime.

Indicated values are the theoretical minimum suggested for each type and profile and represent a guide only.

Please contact our Technical Department for additional information.

1. Reduce the centre distance or release the tensioning idler to install the belt. Do not force/lever the belt on to the sprocket.
2. Place the belt over and on to each sprocket and ensure proper engagement between the sprocket and belt teeth.
3. Increase the centre distance or adjust the tensioning idler to remove any belt slack.
4. Correct belt tension can be determined using our SITDRIVE calculation tool and can be checked using the TEN-SIT® gauge.

Using Idlers

Idlers can be used either inside or outside of the belt, preferably on the outside. They are usually used as a tensioning mechanism when the drive has a fixed centre distance. When an idler is necessary, follow these general rules.

- Locate on the slack side of the belt
- Small, inside idlers should be grooved (up to 40 teeth).
- Outside idlers should be flat (NOT crowned).
- Minimum outside idler diameter should be 100 mm for 8M drives and 200 mm for 14M drives.
- Idler arc of contact should be held to a minimum.
- Spring Loaded tensioners should NOT be used.
- Lock idlers firmly in place to minimize movement or deflection during drive start-up and operation.

Flanged Sprockets

Flanges are used to keep the belt in the sprocket and prevent "tracking-off". As each belt has its own tracking characteristics, even belts with perfect drive alignment can have a tracking problem. Synchronous belts will have an inherent side thrust while in motion and can be controlled with flanged sprockets. If side thrust is severe, the drive should be checked for sprocket alignment, parallel shafts, and shaft deflection.

For a Two Sprocket Drive:

1. A minimum requirement should be two flanges on one sprocket. For economical reasons, the smaller sprocket is usually flanged.
2. When the centre distance of the drive exceeds 8 times the diameter of the smaller sprocket, it is suggested that flanges be included on both sides of each sprocket.

For a Multiple Sprocket Drive:

Two flanges are required on every other sprocket or a single flange on every sprocket, alternating sides.

For a Vertical Shaft Drive:

There should be a single flange on the lower side of all sprockets in the drive and ideally the smallest sprocket should be flanged on the top side, as well.