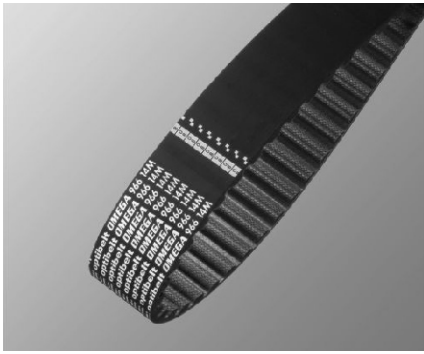
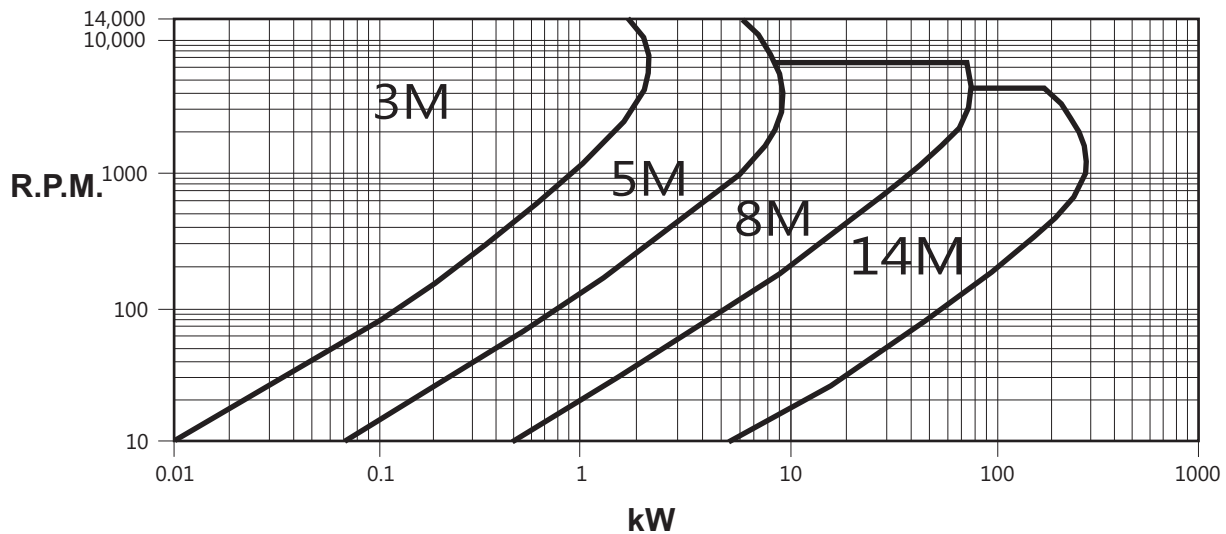


HTD Pulley & Belt Drives



HTD timing belts offer optimised load distribution through the rounded tooth form, guaranteeing high power transmission in low speed and high torque applications. Capable of transmitting up to 300kW and speeds of 14,000 rpm. HTD timing belts can be used in a wide range of applications from minimum drives like electronic power tools to heavy duty machinery where durability and low maintenance is required. To select a drive it is necessary to know the driver and driven shaft speeds, the demand power, proposed centre distance and duty cycle. The Optibelt range of timing belts in the chart below can be used to select the optimum belt size for a drive. For further information or help in selecting a drive contact Naismith Engineering.



Optibelt OMEGA HTD Timing Belts

Naismith Engineering stocks a large range of Optibelt OMEGA timing belts. Designed to be run with Standard HTD timing pulleys the OMEGA belt is designed for high performance, smooth running and low noise drives. It can operate in a temperature range of -3 up to +100 degrees Celsius and is up to 98% efficient.

Optibelt OMEGA HP HTD Timing Belt

Faster, stronger and more compact, that is how the Optibelt OMEGA HP presents itself, a timing belt for high demand applications. It can last up to 18 times longer and has up to twice the performance of the standard OMEGA belt. Due to these great features it is possible to reduce the size of the drive system, saving both room and money.

Optibelt OMEGA Fan Power HTD Timing Belt

Long life, maintenance free, high power applications are very common requirements on heat exchanger fan applications in the oil industry where belts must perform to the highest standard. Belts must also be Antistatic to ISO9563. The Optibelt OMEGA Fan Power belt is ideal for these applications.

Optibelt OMEGA HL HTD Timing Belt

On drives with low belt speed, Optibelt OMEGA HL timing belts have 25% more capacity than the OMEGA HP belt. In addition, the design was optimized so that the OMEGA HL is much more suitable for shock loads.

HTD Timing Belts 3M



	Pitch (mm)	T	B
3M	3mm	1.10	2.40

Belt	Teeth	Pitch Length
150-3M	50	150
156-3M	52	156
159-3M	53	159
180-3M	60	180
186-3M	62	186
210-3M	70	210
225-3M	75	225
240-3M	80	240
255-3M	85	255
285-3M	95	285
288-3M	96	288
291-3M	97	291
300-3M	100	300
306-3M	102	306
312-3M	104	312
381-3M	106	318

Belt	Teeth	Pitch Length
330-3M	110	330
339-3M	113	339
345-3M	115	345
357-3M	119	357
384-3M	128	384
420-3M	140	420
447-3M	149	447
513-3M	171	513
531-3M	177	531
564-3M	188	564
633-3M	211	633
669-3M	223	669
711-3M	237	711
804-3M	268	804
882-3M	294	882
1500-3M	500	1500

Standard widths of:-
 9mm Code = Length-3M-09
 15mm Code = Length-3M-15
 Long Length up to 15mm wide is available.

HTD Timing Belts 5M



Power Transmission



	Pitch (mm)	T	B
5M	5mm	2.10	3.80

Belt	Teeth	Pitch Length
120-5M	24	120
180-5M	36	180
225-5M	45	225
255-5M	51	255
265-5M	53	265
270-5M	54	270
280-5M	56	280
295-5M	59	295
300-5M	60	300
305-5M	61	305
325-5M	65	325
330-5M	66	330
340-5M	68	340
345-5M	69	345
350-5M	70	350
360-5M	72	360
365-5M	73	365
370-5M	74	370
375-5M	75	375
385-5M	77	385
400-5M	80	400
415-5M	83	415
420-5M	84	420
425-5M	85	425
450-5M	90	450
460-5M	92	460
475-5M	95	475
490-5M	98	490
500-5M	100	500
520-5M	104	520
525-5M	105	525
535-5M	107	535
540-5M	108	540
550-5M	110	550

Belt	Teeth	Pitch Length
550-5M	110	550
560-5M	112	560
565-5M	113	565
575-5M	115	575
580-5M	116	580
600-5M	120	600
610-5M	122	610
615-5M	123	615
620-5M	124	620
630-5M	126	630
635-5M	127	635
640-5M	128	640
645-5M	129	645
650-5M	130	650
655-5M	131	655
665-5M	133	665
670-5M	134	670
700-5M	140	700
710-5M	142	710
720-5M	144	720
740-5M	148	740
745-5M	149	745
750-5M	150	750
755-5M	151	755
775-5M	155	775
790-5M	158	790
800-5M	160	800
825-5M	165	825
830-5M	166	830
835-5M	167	835
845-5M	169	845
850-5M	170	850
860-5M	172	860
890-5M	178	890

Belt	Teeth	Pitch Length
900-5M	180	900
925-5M	185	925
935-5M	187	935
940-5M	188	940
950-5M	190	950
965-5M	193	965
975-5M	195	975
980-5M	196	980
985-5M	197	985
1000-5M	200	1000
1025-5M	205	1025
1035-5M	207	1035
1050-5M	210	1050
1100-5M	220	1100
1125-5M	225	1125
1135-5M	227	1135
1200-5M	240	1200
1270-5M	254	1270
1380-5M	276	1380
1400-5M	280	1400
1420-5M	284	1420
1425-5M	285	1425
1500-5M	300	1500
1595-5M	319	1595
1690-5M	338	1690
1800-5M	360	1800
1870-5M	374	1870
1895-5M	379	1895
2000-5M	400	2000
2110-5M	422	2110
2250-5M	450	2250
2350-5M	470	2350
2525-5M	505	2525

Standard widths of:-
 9mm Code = Length-5M-09
 15mm Code = Length-5M-15
 25mm Code = Length-5M-25
 Long Length up to 25mm wide
 is available.

HTD Timing Belts 8M



Power Transmission



	Pitch (mm)	T	B
8M	8mm	3.40	6.00

Belt	Teeth	Pitch Length
288-8M	36	288
320-8M	40	320
352-8M	44	352
376-8M	47	376
416-8M	52	416
424-8M	53	424
480-8M	60	480
512-8M	64	512
520-8M	65	520
536-8M	67	536
560-8M	70	560
576-8M	72	576
584-8M	73	584
600-8M	75	600
608-8M	76	608
624-8M	78	624
632-8M	79	632
640-8M	80	640
656-8M	82	656
680-8M	85	680
712-8M	89	712
720-8M	90	720
760-8M	95	760
776-8M	97	776
784-8M	98	784
800-8M	100	800
824-8M	103	824
840-8M	105	840
848-8M	106	848
856-8M	107	856
880-8M	110	880

Belt	Teeth	Pitch Length
896-8M	112	896
912-8M	114	912
920-8M	115	920
936-8M	117	936
960-8M	120	960
976-8M	122	976
1000-8M	125	1000
1040-8M	130	1040
1056-8M	132	1056
1064-8M	133	1064
1080-8M	135	1080
1096-8m	137	1096
1120-8M	140	1120
1128-8M	141	1128
1160-8M	145	1160
1168-8M	146	1168
1184-8M	148	1184
1200-8M	150	1200
1216-8M	152	1216
1224-8M	153	1224
1248-8M	156	1248
1256-8M	157	1256
1264-8M	158	1264
1280-8M	160	1280
1296-8M	162	1296
1304-8M	163	1304
1320-8M	165	1320
1328-8M	166	1328
1344-8M	168	1344
1360-8M	170	1360
1392-8M	174	1392

Belt	Teeth	Pitch Length
1400-8M	175	1400
1424-8M	178	1424
1432-8M	179	1432
1440-8M	180	1440
1480-8M	185	1480
1520-8M	190	1520
1552-8M	194	1552
1584-8M	198	1584
1600-8M	200	1600
1680-8M	210	1680
1696-8M	212	1696
1728-8M	216	1728
1760-8M	220	1760
1800-8M	225	1800
1896-8M	237	1896
1904-8M	238	1904
1936-8M	242	1936
2000-8M	250	2000
2080-8M	260	2080
2104-8M	263	2104
2240-8M	280	2240
2248-8M	281	2248
2272-8M	284	2272
2400-8M	300	2400
2504-8M	313	2504
2600-8M	325	2600
2800-8M	350	2800
3048-8M	350	3048
3280-8M	410	3280
3600-8M	450	3600
4400-8M	550	4400

Standard widths of:-
 20mm Code = Length-8M-20
 30mm Code = Length-8M-30
 55mm Code = Length-8M-50
 85mm Code = Length-8M-85
 Long Length up to 85mm wide is available.

HTD Timing Belts 14M



	Pitch (mm)	T	B
14M	14mm	6.00	10.00

Belt	Teeth	Pitch Length
966-14M	69	966
1092-14M	78	1092
1190-14M	85	1190
1400-14M	100	1400
1456-14M	104	1456
1610-14M	115	1610
1778-14M	127	1778
1890-14M	135	1890
2100-14M	150	2100
2310-14M	165	2310
2450-14M	175	2450
2590-14M	185	2590
2800-14M	200	2800
3150-14M	225	3150
3360-14M	240	3360
3500-14M	250	3500
3850-14M	275	3850
4004-14M	286	4004
4326-14M	309	4326
4578-14M	327	4578

Standard widths of:-

40mm Code = Length-14M-40

55mm Code = Length-14M-55

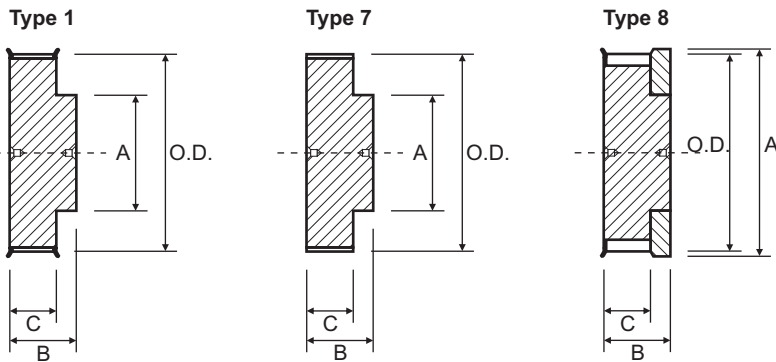
85mm Code = Length-14M-85

115mm Code = Length-14M-115

170mm Code = Length-14M-170

Long Length up to 85mm wide is available.

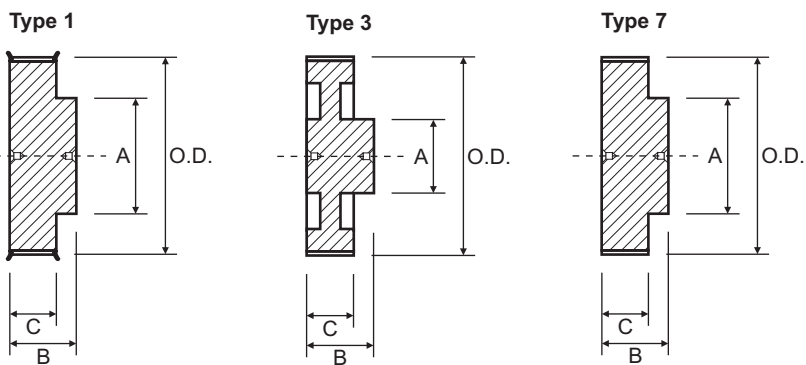
3M HTD Timing Pulleys



3M-9						3M-15					
Suit 9mm wide belt						Suit 15mm wide belt					
Part No.	O.D.	Type	A	B	C	Part No.	O.D.	Type	A	B	C
10-3M-9F	8.8	8	12.0	17.5	10.2	10-3M-15F	8.8	8	12.0	26.0	17.0
12-3M-9F	10.7	8	15.0	17.5	10.2	12-3M-15F	10.7	8	15.0	26.0	17.0
14-3M-9F	12.6	8	18.0	17.5	10.2	14-3M-15F	12.6	8	18.0	26.0	17.0
15-3M-9F	13.6	8	18.0	17.5	10.2	15-3M-15F	13.6	8	18.0	26.0	17.0
16-3M-9F	14.5	1	10.0	20.6	12.8	16-3M-15F	14.5	1	10.0	26.0	19.5
18-3M-9F	16.4	1	11.0	20.6	12.8	18-3M-15F	16.4	1	11.0	26.0	19.5
20-3M-9F	18.3	1	13.0	20.6	12.8	20-3M-15F	18.3	1	13.0	26.0	19.5
21-3M-9F	19.3	1	14.0	20.6	12.8	21-3M-15F	19.3	1	14.0	26.0	19.5
22-3M-9F	20.1	1	14.0	20.6	12.8	22-3M-15F	20.1	1	14.0	26.0	19.5
24-3M-9F	22.2	1	14.0	20.6	12.8	24-3M-15F	22.2	1	14.0	26.0	19.5
26-3M-9F	24.1	1	16.0	20.6	12.8	26-3M-15F	24.1	1	16.0	26.0	19.5
28-3M-9F	26.0	1	18.0	20.6	12.8	28-3M-15F	26.0	1	18.0	26.0	19.5
30-3M-9F	27.9	1	20.0	20.6	12.8	30-3M-15F	27.9	1	20.0	26.0	19.5
32-3M-9F	29.8	1	22.0	20.6	12.8	32-3M-15F	29.8	1	22.0	26.0	19.5
36-3M-9F	33.6	1	26.0	22.2	13.4	36-3M-15F	33.6	1	26.0	30.0	20.0
40-3M-9F	37.4	1	28.0	22.2	13.4	40-3M-15F	37.4	1	28.0	30.0	20.0
44-3M-9F	41.3	1	33.0	22.2	13.4	44-3M-15F	41.3	1	33.0	30.0	20.0
48-3M-9	45.1	7	33.0	22.2	13.4	48-3M-15	45.1	7	33.0	30.0	20.0
60-3M-9	56.5	7	33.0	22.2	13.4	60-3M-15	56.5	7	33.0	30.0	20.0
72-3M-9	68.0	7	33.0	22.2	13.4	72-3M-15	68.0	7	33.0	30.0	20.0

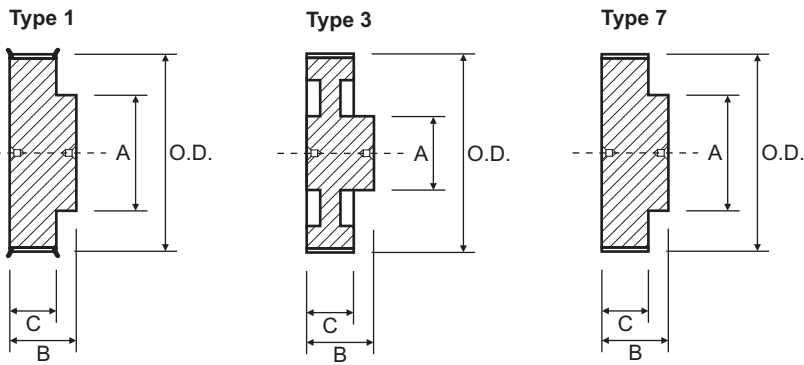
N.F. - No Flanges

5M HTD Timing Pulleys



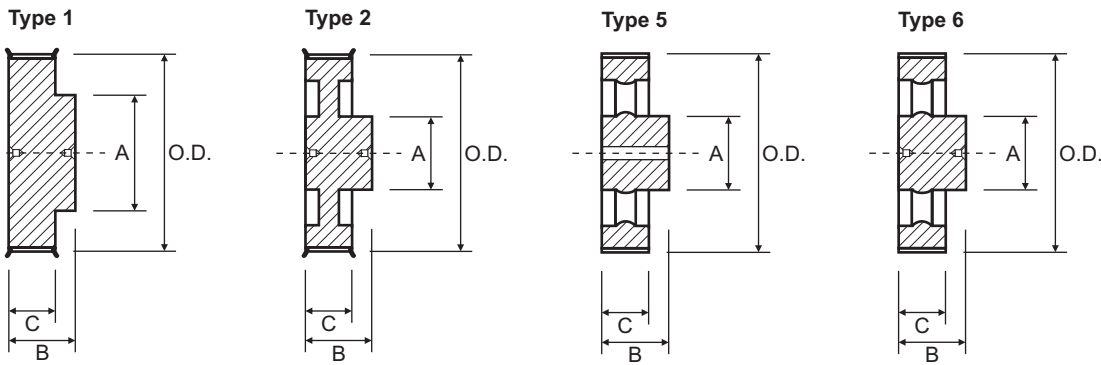
5M-9						5M-15					
Suit 9mm wide belt						Suit 15mm wide belt					
Part No.	O.D.	Type	A	B	C = 14.5	Part No.	O.D.	Type	A	B	C = 20.0
12-5M-9F	18.0	1	13.0	20.0	Steel Flanged	12-5M-15F	18.0	1	13.0	26.0	Steel Flanged
14-5M-9F	21.1	1	14.0	20.0		14-5M-15F	21.1	1	14.0	26.0	
15-5M-9F	22.7	1	16.0	20.0		15-5M-15F	22.7	1	16.0	26.0	
16-5M-9F	24.3	1	16.5	20.0		16-5M-15F	24.3	1	16.5	26.0	
18-5M-9F	27.5	1	20.0	20.0		18-5M-15F	27.5	1	20.0	26.0	
20-5M-9F	30.7	1	23.0	22.5		20-5M-15F	30.7	1	23.0	26.0	
21-5M-9F	32.3	1	24.0	22.5		21-5M-15F	32.3	1	24.0	26.0	
22-5M-9F	33.9	1	25.0	22.5		22-5M-15F	33.9	1	25.5	26.0	
24-5M-9F	37.1	1	27.0	22.5		24-5M-15F	37.1	1	27.0	28.0	
26-5M-9F	40.2	1	30.0	22.5		26-5M-15F	40.2	1	30.0	28.0	
28-5M-9F	43.4	1	30.5	22.5		28-5M-15F	43.4	1	30.5	28.0	
30-5M-9F	46.6	1	35.0	22.5		30-5M-15F	46.6	1	35.0	28.0	
32-5M-9F	49.8	1	38.0	22.5		32-5M-15F	49.8	1	38.0	28.0	
36-5M-9F	56.2	1	38.0	22.5		36-5M-15F	56.2	1	38.0	28.0	
40-5M-9F	62.5	1	38.0	22.5	40-5M-15F	62.5	1	38.0	28.0		
44-5M-9	68.9	7	38.0	25.5	Aluminium No Flanges	44-5M-15	68.9	7	38.0	30.0	Aluminium No Flanges
48-5M-9	75.3	7	45.0	25.5		48-5M-15	75.3	7	38.0	30.0	
60-5M-9	94.4	7	45.0	25.5		60-5M-15	94.4	7	50.0	30.0	
72-5M-9	113.5	3	45.0	25.5		72-5M-15	113.5	3	50.0	30.0	

5M HTD Timing Pulleys



5M-25					
Suit 25mm wide belt					
Part No.	O.D.	Type	A	B	C = 30.0
12-5M-25F	18.0	1	13.0	36.0	Steel Flanged
14-5M-25F	21.1	1	14.0	36.0	
15-5M-25F	22.7	1	16.0	36.0	
16-5M-25F	24.3	1	16.5	36.0	
18-5M-25F	27.5	1	20.0	36.0	
20-5M-25F	30.7	1	23.0	36.0	
21-5M-25F	32.3	1	24.0	38.0	
22-5M-25F	33.9	1	25.5	38.0	
24-5M-25F	37.1	1	27.0	38.0	
26-5M-25F	40.2	1	30.0	38.0	
28-5M-25F	43.4	1	30.5	38.0	
30-5M-25F	46.6	1	35.0	38.0	
32-5M-25F	49.8	1	38.0	38.0	
36-5M-25F	56.2	1	38.0	38.0	
40-5M-25F	62.5	1	38.0	38.0	
44-5M-25	68.9	7	38.0	40.0	Aluminium No Flanges
48-5M-25	75.3	7	38.0	40.0	
60-5M-25	94.4	7	50.0	40.0	
72-5M-25	113.5	3	50.0	40.0	

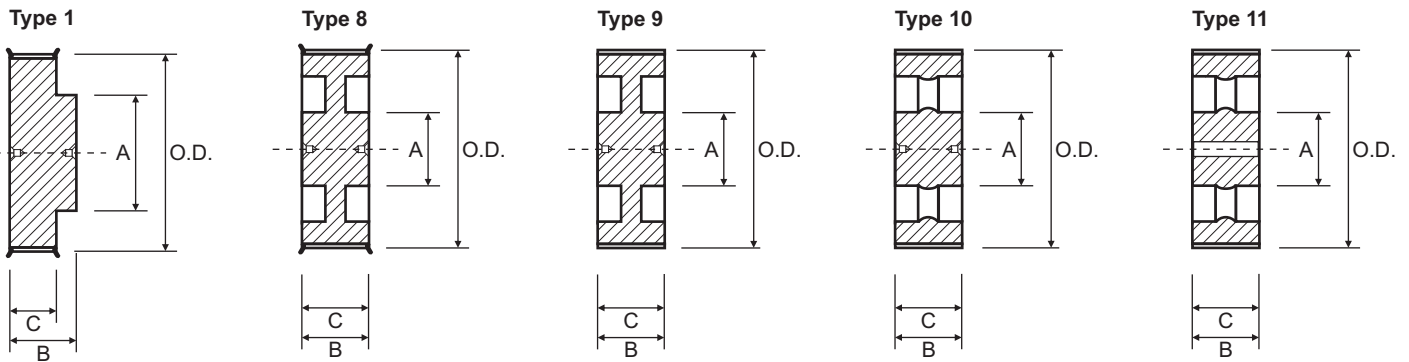
8M HTD Timing Pulleys



8M-20					8M-30								
Suit 20mm wide belt					Suit 30mm wide belt								
Part No.	O.D.	Type	A	B	C = 28.0	Part No.	O.D.	Type	A	B	C = 38.0		
18-8M-20F	44.5	1	32.0	38.0	Steel Flanged	18-8M-30F	44.5	1	32.0	48.0	Steel Flanged		
20-8M-20F	49.6	1	36.0	38.0		20-8M-30F	49.6	1	36.0	48.0			
22-8M-20F	54.7	1	43.0	38.0		22-8M-30F	54.7	1	43.0	48.0			
24-8M-20F	59.7	1	49.0	38.0		24-8M-30F	59.7	1	49.0	48.0			
26-8M-20F	64.8	1	50.0	38.0		26-8M-30F	64.8	1	50.0	48.0			
28-8M-20F	69.9	1	55.0	38.0		28-8M-30F	69.9	1	55.0	48.0			
30-8M-20F	75.0	1	60.0	38.0		30-8M-30F	75.0	1	60.0	48.0			
32-8M-20F	80.1	1	64.0	38.0		32-8M-30F	80.1	1	64.0	48.0			
34-8M-20F	85.2	1	70.0	38.0		34-8M-30F	85.2	1	70.0	48.0			
36-8M-20F	90.3	1	75.0	38.0		36-8M-30F	90.3	1	75.0	48.0			
38-8M-20F	95.4	1	80.0	38.0		38-8M-30F	95.4	1	80.0	48.0			
40-8M-20F	100.5	1	85.0	38.0		40-8M-30F	100.5	1	85.0	48.0			
44-8M-20F	110.7	1	96.0	38.0		44-8M-30F	110.7	1	96.0	48.0			
48-8M-20F	120.9	1	104.0	38.0		48-8M-30F	120.9	1	104.0	48.0			
56-8M-20F	141.2	2	80.0	38.0	Cast Iron	56-8M-30F	141.2	2	90.0	48.0	Cast Iron		
64-8M-20F	161.6	2	80.0	38.0		64-8M-30F	161.6	2	90.0	48.0			
72-8M-20F	182.0	2	80.0	38.0		72-8M-30F	182.0	2	95.0	48.0			
80-8M-20	202.4	6	90.0	38.0		N.F.	80-8M-30	202.4	6	100.0		48.0	N.F.
90-8M-20	227.8	6	90.0	38.0			90-8M-30	227.8	6	100.0		48.0	
					112-8M-30		283.8	5	100.0	48.0			
						144-8M-30	365.3	5	100.0	48.0			

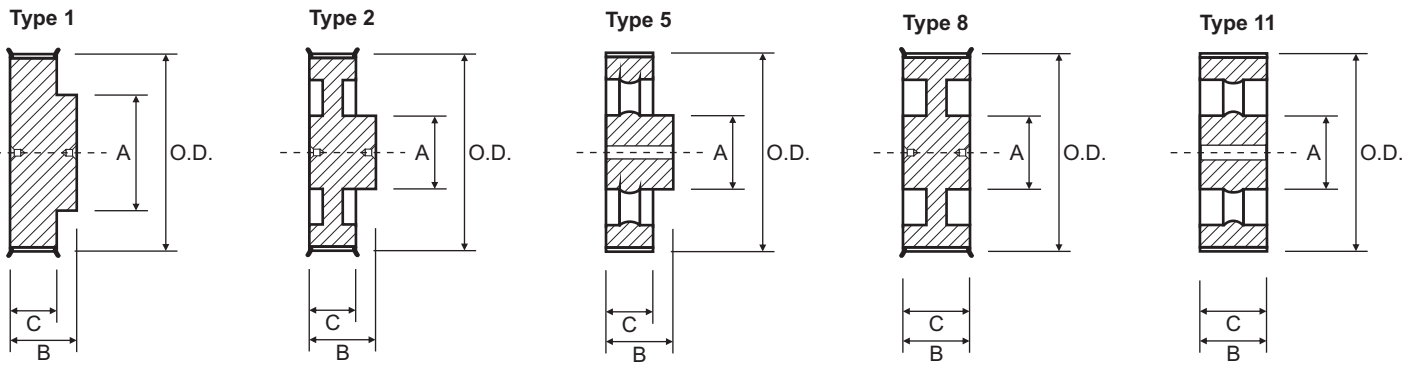
N.F. - No Flanges

8M HTD Timing Pulleys



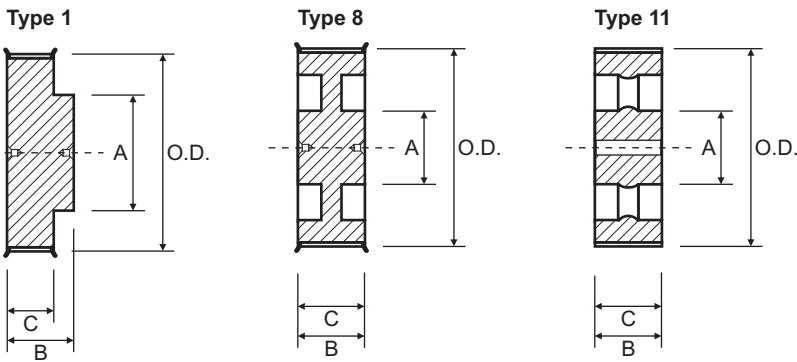
8M-50						8M-85					
Suit 50mm wide belt						Suit 85mm wide belt					
Part No.	O.D.	Type	A	B	C = 60.0	Part No.	O.D.	Type	A	B	C = 95.0
18-8M-50F	44.5	1	32.0	70.0	Steel Flanged	22-8M-85F	54.7	1	43.0	105.0	Steel Flanged
20-8M-50F	49.6	1	36.0	70.0		24-8M-85F	59.7	1	49.0	105.0	
22-8M-50F	54.7	1	43.0	70.0		26-8M-85F	64.8	1	50.0	105.0	
24-8M-50F	59.7	1	49.0	70.0		28-8M-85F	69.9	1	55.0	105.0	
26-8M-50F	64.8	1	50.0	70.0		30-8M-85F	75.0	1	60.0	105.0	
28-8M-50F	69.9	1	55.0	70.0		32-8M-85F	80.1	1	64.0	105.0	
30-8M-50F	75.0	1	60.0	70.0		34-8M-85F	85.2	1	70.0	105.0	
32-8M-50F	80.1	1	64.0	70.0		36-8M-85F	90.3	1	75.0	105.0	
34-8M-50F	85.2	1	70.0	70.0		38-8M-85F	95.4	1	80.0	105.0	
36-8M-50F	90.3	1	75.0	70.0		40-8M-85F	100.5	1	85.0	105.0	
38-8M-50F	95.4	1	80.0	70.0		44-8M-85F	110.7	1	96.0	105.0	
40-8M-50F	100.5	1	85.0	70.0		48-8M-85F	120.9	1	104.0	105.0	
44-8M-50F	110.7	1	96.0	70.0		56-8M-85F	141.2	1	107.0	105.0	
48-8M-50F	120.9	1	104.0	70.0		64-8M-85F	161.6	8	100.0	95.0	
56-8M-50F	141.2	8	90.0	60.0	72-8M-85F	182.0	8	110.0	95.0		
64-8M-50F	161.6	8	100.0	60.0	80-8M-85	202.4	9	110.0	95.0		
72-8M-50F	182.0	8	100.0	60.0	90-8M-85	227.8	10	110.0	95.0		
80-8M-50	202.4	9	110.0	60.0	112-8M-85	283.8	11	110.0	95.0		
90-8M-50	227.8	10	110.0	60.0	144-8M-85	365.3	11	120.0	95.0		
112-8M-50	283.8	11	110.0	60.0	168-8M-85	426.4	11	120.0	95.0		
144-8M-50	365.3	11	110.0	60.0	192-8M-85	487.5	11	130.0	95.0		
168-8M-50	426.4	11	120.0	60.0						Cast Iron No Flanges	
192-8M-50	487.5	11	130.0	60.0							

14M HTD Timing Pulleys



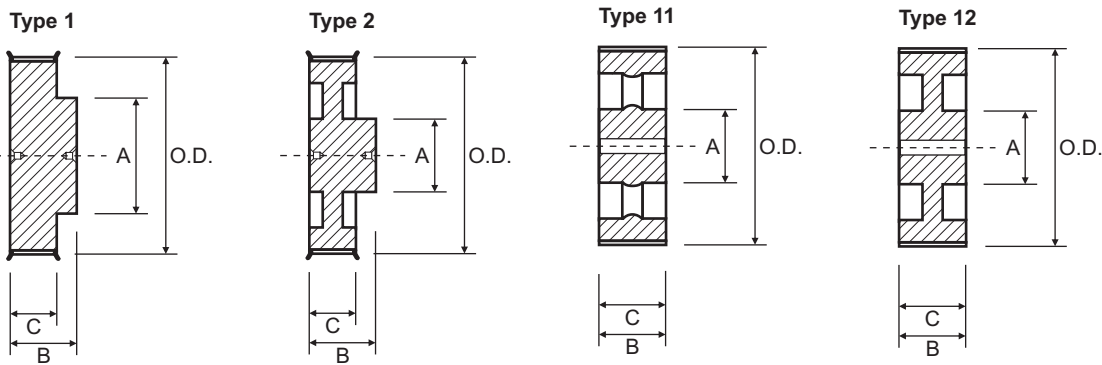
14M-40						14M-55					
Suit 40mm wide belt						Suit 55mm wide belt					
Part No.	O.D.	Type	A	B	C = 54.0	Part No.	O.D.	Type	A	B	C = 70.0
28-14M-40F	122.1	1	100.0	69.0	Cast Iron	28-14M-55F	122.1	1	100.0	85.0	Cast Iron
29-14M-40F	126.6	1	107.0	69.0		29-14M-55F	126.6	1	107.0	85.0	
30-14M-40F	131.0	1	107.0	69.0		30-14M-55F	131.0	1	107.0	85.0	
32-14M-40F	139.9	1	114.0	69.0		32-14M-55F	139.9	1	114.0	85.0	
34-14M-40F	148.8	1	122.0	69.0		34-14M-55F	148.8	1	122.0	85.0	
36-14M-40F	157.7	1	128.0	69.0		36-14M-55F	157.7	1	128.0	85.0	
38-14M-40F	166.6	1	141.0	69.0		38-14M-55F	166.6	1	141.0	85.0	
40-14M-40F	175.5	1	148.0	69.0		40-14M-55F	175.5	1	148.0	85.0	
44-14M-40F	193.3	2	120.0	69.0		44-14M-55F	193.3	2	120.0	85.0	
48-14M-40F	211.1	2	135.0	69.0		48-14M-55F	211.1	8	135.0	70.0	
56-14M-40F	246.8	2	135.0	69.0		56-14M-55F	246.8	8	135.0	70.0	
64-14M-40F	282.4	2	135.0	69.0		64-14M-55F	282.4	8	135.0	70.0	
72-14M-40	318.1	5	135.0	69.0		72-14M-55	318.1	11	135.0	70.0	
80-14M-40	353.7	5	135.0	69.0		80-14M-55	353.7	11	135.0	70.0	
90-14M-40	398.3	5	135.0	69.0	90-14M-55	398.3	11	135.0	70.0		
112-14M-40	496.3	5	135.0	69.0	112-14M-55	496.3	11	135.0	70.0		
144-14M-40	638.9	5	135.0	69.0	144-14M-55	638.9	11	135.0	70.0		

14M HTD Timing Pulleys



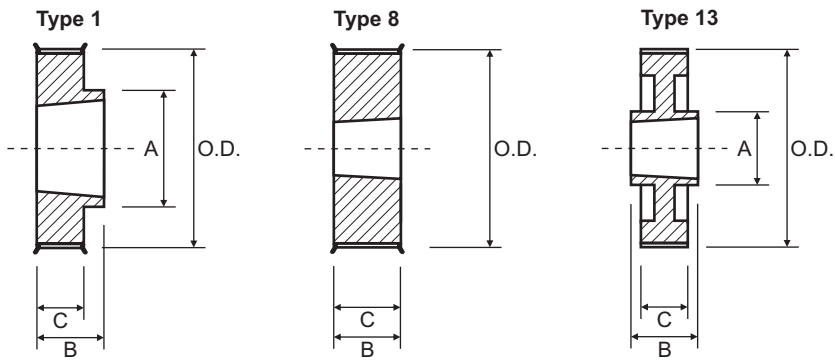
14M-85					14M-115						
Suit 85mm wide belt					Suit 115mm wide belt						
Part No.	O.D.	Type	A	B	C=102.0	Part No.	O.D.	Type	A	B	C=133.0
28-14M-85F	122.1	1	100.0	117.0	Cast Iron	28-14M-115F	122.1	1	100.0	148.0	Cast Iron
29-14M-85F	126.6	1	107.0	117.0		29-14M-115F	126.6	1	107.0	148.0	
30-14M-85F	131.0	1	107.0	117.0		30-14M-115F	131.0	1	107.0	148.0	
32-14M-85F	139.9	1	114.0	117.0		32-14M-115F	139.9	1	114.0	148.0	
34-14M-85F	148.8	1	122.0	117.0		34-14M-115F	148.8	1	122.0	148.0	
36-14M-85F	157.7	1	128.0	117.0		36-14M-115F	157.7	1	128.0	148.0	
38-14M-85F	166.6	1	141.0	117.0		38-14M-115F	166.6	1	141.0	148.0	
40-14M-85F	175.5	1	148.0	117.0		40-14M-115F	175.5	1	148.0	148.0	
44-14M-85F	193.3	1	169.0	117.0		44-14M-115F	193.3	1	169.0	148.0	
48-14M-85F	211.1	1	186.0	117.0		48-14M-115F	211.1	1	186.0	148.0	
56-14M-85F	246.8	8	150.0	102.0		56-14M-115F	246.8	8	150.0	148.0	
64-14M-85F	282.4	8	150.0	102.0		64-14M-115F	282.4	8	150.0	133.0	
72-14M-85	318.1	11	150.0	102.0		72-14M-115	318.1	11	150.0	133.0	
80-14M-85	353.7	11	150.0	102.0		80-14M-115	353.7	11	150.0	133.0	
90-14M-85	398.3	11	150.0	102.0	90-14M-115	398.3	11	150.0	133.0		
112-14M-85	496.3	11	150.0	102.0	112-14M-115	496.3	11	150.0	133.0		
144-14M-85	638.9	11	150.0	102.0	144-14M-115	638.9	11	150.0	133.0		

14M HTD Timing Pulleys



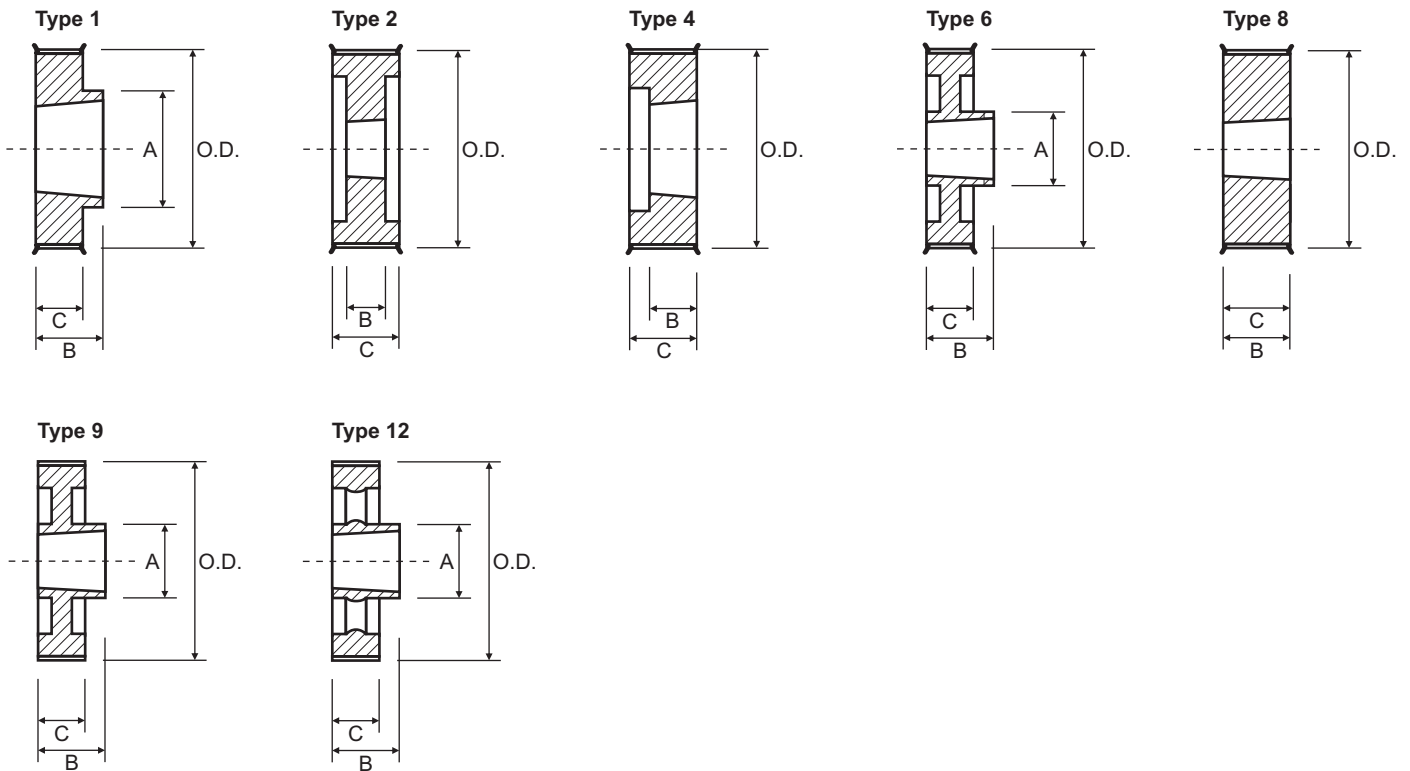
14M-170						
Suit 170mm wide belt						
Part No.	O.D.	Type	A	B	C = 187.0	
28-14M-170F	122.1	1	100.0	202.0	Cast Iron	
29-14M-170F	126.6	1	107.0	202.0		
30-14M-170F	131.0	1	107.0	202.0		
32-14M-170F	139.9	1	114.0	202.0		
34-14M-170F	148.8	1	122.0	202.0		
36-14M-170F	157.7	1	128.0	202.0		
38-14M-170F	166.6	1	141.0	202.0		
40-14M-170F	175.5	1	148.0	202.0		
44-14M-170F	193.3	1	169.0	202.0		
48-14M-170F	211.1	1	186.0	202.0		
56-14M-170F	246.8	2	160.0	202.0		
64-14M-170F	282.4	2	180.0	202.0		
72-14M-170	318.1	12	180.0	187.0		No Flanges
80-14M-170	353.7	12	180.0	187.0		
90-14M-170	398.3	11	180.0	187.0		
112-14M-170	496.3	11	200.0	187.0		
144-14M-170	638.9	11	200.0	187.0		

5M HTD Timing Pulleys



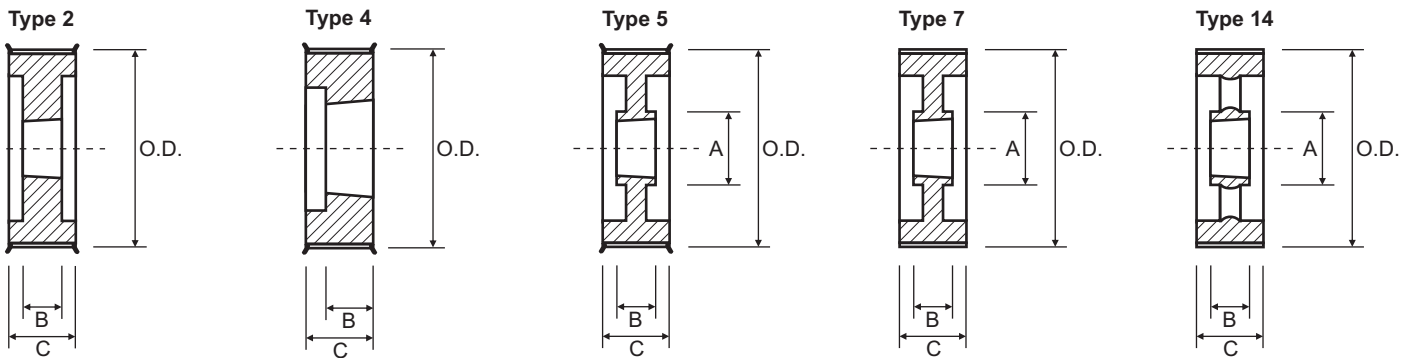
5M-15								
Suit 15mm wide belt								
Part No.	O.D	Type	Bush	A	B	C = 22.0		
P-34-5M-15F	53.0	8	1008	-	22.0		Steel	Flanged
P-36-5M-15F	56.2	8	1108	-	22.0			
P-38-5M-15F	59.3	8	1108	-	22.0			
P-40-5M-15F	62.5	8	1108	-	22.0			
P-44-5M-15F	68.9	8	1108	-	22.0			
P-48-5M-15F	76.3	1	1210	64.0	25.0			
P-56-5M-15F	88.0	1	1210	70.0	25.0			
P-64-5M-15F	100.7	1	1210	78.0	25.0			
P-72-5M-15F	113.5	1	1610	90.0	25.0			
P-80-5M-15F	126.2	1	1610	92.0	25.0			
P-90-5M-15	142.1	13	1610	92.0	25.0		Cast Iron	No Flanges
P112-5M-15	177.1	13	1610	92.0	25.0			
P136-5M-15	215.3	13	2012	110.0	32.0			
P150-5M-15	237.6	13	2012	110.0	32.0			

8M HTD Timing Pulleys



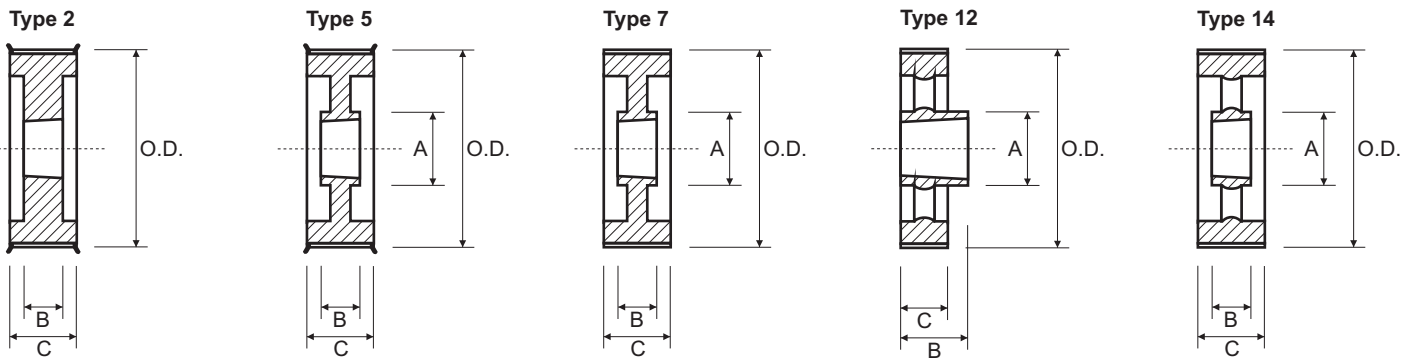
8M-20							8M-30							
Suit 20mm wide belt							Suit 30mm wide belt							
Part No.	O.D.	Type	Bush	A	B	C = 28.0	Part No.	O.D.	Type	Bush	A	B	C = 38.0	
P-22-8M-20F	54.7	4	1008	-	22.0	Cast Iron	P-22-8M-30F	54.7	4	1008	-	22.0	Cast Iron	
P-24-8M-20F	59.7	4	1108	-	22.0		P-24-8M-30F	59.7	4	1108	-	22.0		
P-26-8M-20F	64.8	4	1108	-	22.0		P-26-8M-30F	64.8	4	1108	-	22.0		
P-28-8M-20F	69.9	4	1108	-	22.0		P-28-8M-30F	69.9	4	1108	-	22.0		
P-30-8M-20F	75.0	4	1108	-	22.0		P-30-8M-30F	75.0	8	1615	-	38.0		
P-32-8M-20F	80.1	4	1610	-	25.0		P-32-8M-30F	80.1	8	1615	-	38.0		
P-34-8M-20F	85.2	4	1610	-	25.0		P-34-8M-30F	85.2	8	1615	-	38.0		
P-36-8M-20F	90.3	4	1610	-	25.0		P-36-8M-30F	90.3	8	1615	-	38.0		
P-38-8M-20F	95.4	4	1610	-	25.0		P-38-8M-30F	95.4	8	1615	-	38.0		
P-40-8M-20F	100.5	4	1610	-	25.0		P-40-8M-30F	100.5	8	1615	-	38.0		
P-44-8M-20F	110.7	1	2012	99.0	32.0		P-44-8M-30F	110.7	8	2012	-	32.0		
P-48-8M-20F	120.9	1	2012	105.0	32.0		P-48-8M-30F	120.9	8	2012	-	32.0		
P-56-8M-20F	141.2	1	2012	105.0	32.0		P-56-8M-30F	141.2	2	2012	-	32.0		
P-64-8M-20F	161.6	6	2012	110.0	32.0		P-64-8M-30F	161.6	2	2517	120.0	45.0		
P-72-8M-20F	182.0	6	2012	110.0	32.0		P-72-8M-30F	182.0	6	2517	120.0	45.0		
P-80-8M-20	202.4	9	2012	110.0	32.0		P-80-8M-30	202.4	6	2517	120.0	45.0		
P-90-8M-20	227.8	12	2012	110.0	32.0		P-90-8M-30	227.8	12	2517	120.0	45.0		
N.F. - No Flanges							N.F.	P112-8M-30	283.8	12	2517	120.0		45.0
								P144-8M-30	365.3	12	2517	120.0	45.0	

8M HTD Timing Pulleys



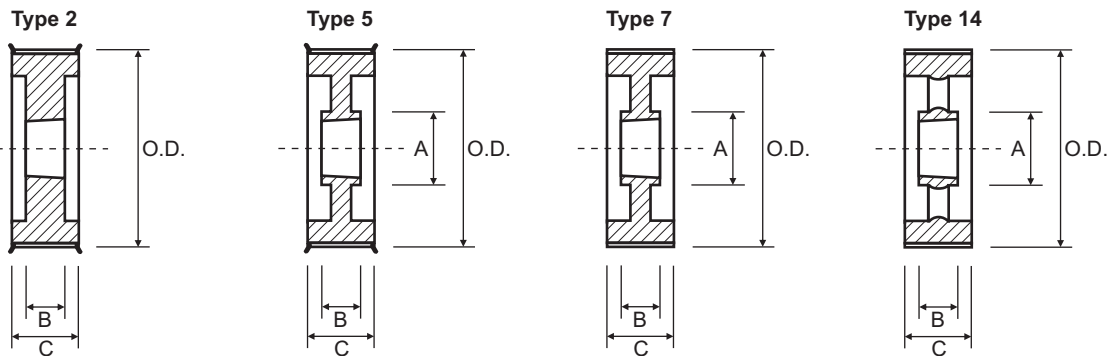
8M-50 Suit 50mm wide belt							8M-85 Suit 85mm wide belt						
Part No.	O.D	Type	Bush	A	B	C = 60.0	Part No.	O.D	Type	Bush	A	B	C = 95.0
P-28-8M-50F	69.9	2	1108	-	22.0	Cast Iron	P-34-8M-85F	85.2	2	1615	-	38.0	Cast Iron
P-30-8M-50F	75.0	4	1615	-	38.0		P-36-8M-85F	90.3	2	1615	-	38.0	
P-32-8M-50F	80.1	4	1615	-	38.0		P-38-8M-85F	95.4	2	1615	-	38.0	
P-34-8M-50F	85.2	4	1615	-	38.0		P-40-8M-85F	100.5	2	2012	-	32.0	
P-36-8M-50F	90.3	4	1615	-	38.0		P-44-8M-85F	110.7	2	2012	-	32.0	
P-38-8M-50F	95.4	4	1615	-	38.0		P-48-8M-85F	120.9	2	2517	-	45.0	
P-40-8M-50F	100.5	2	2012	-	32.0		P-56-8M-85F	141.2	2	2517	-	45.0	
P-44-8M-50F	110.7	2	2012	-	32.0		P-64-8M-85F	161.6	2	2517	-	45.0	
P-48-8M-50F	120.9	2	2012	-	32.0		P-72-8M-85F	182.0	2	3020	-	51.0	
P-56-8M-50F	141.2	2	2517	-	45.0		P-80-8M-85	202.4	7	3020	140.0	51.0	
P-64-8M-50F	161.6	5	2517	120.0	45.0		P-90-8M-85	227.8	7	3020	146.0	51.0	
P-72-8M-50F	182.0	5	2517	120.0	45.0		P112-8M-85	283.8	14	3020	146.0	51.0	
P-80-8M-50	202.4	7	3020	140.0	51.0		P144-8M-85	365.3	14	3030	140.0	76.0	
P-90-8M-50	227.8	7	3020	146.0	51.0		P168-8M-85	426.4	14	3030	140.0	76.0	
P112-8M-50	283.8	14	3020	146.0	51.0	P192-8M-85	487.5	14	3030	140.0	76.0		
P144-8M-50	365.3	14	3020	146.0	51.0								
P168-8M-50	426.4	14	3020	146.0	51.0								
P192-8M-50	487.5	14	3020	146.0	51.0								

14M HTD Timing Pulleys



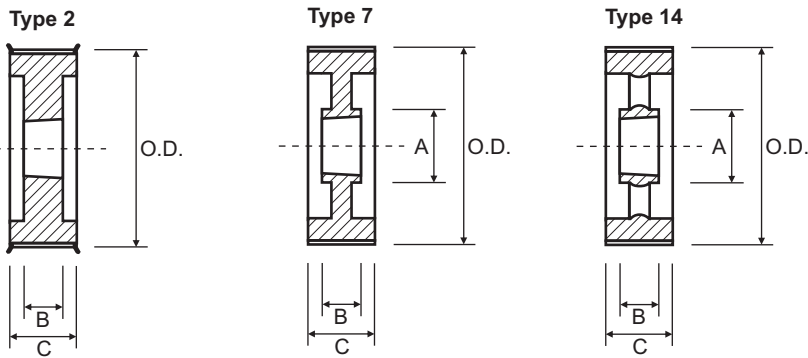
14M-40							14M-55						
Suit 40mm wide belt							Suit 55mm wide belt						
Part No.	O.D	Type	Bush	A	B	C = 54	Part No.	O.D	Type	Bush	A	B	C = 70
P-28-14M-40F	122.1	2	2012	-	32.0	Cast Iron Flanged	P-28-14M-55F	122.1	2	2012	-	32.0	Cast Iron Flanged
P-29-14M-40F	126.6	2	2012	-	32.0		P-29-14M-55F	126.6	2	2012	-	32.0	
P-30-14M-40F	131.0	2	2012	-	32.0		P-30-14M-55F	131.0	2	2517	-	45.0	
P-32-14M-40F	139.9	2	2012	-	32.0		P-32-14M-55F	139.9	2	2517	-	45.0	
P-34-14M-40F	148.8	2	2517	-	45.0		P-34-14M-55F	148.8	2	2517	-	45.0	
P-36-14M-40F	157.7	2	2517	-	45.0		P-36-14M-55F	157.7	2	2517	-	45.0	
P-38-14M-40F	166.6	2	2517	-	45.0		P-38-14M-55F	166.6	2	2517	-	45.0	
P-40-14M-40F	175.5	2	2517	-	45.0		P-40-14M-55F	175.5	2	2517	-	45.0	
P-44-14M-40F	193.3	2	3020	-	51.0		P-44-14M-55F	193.3	2	3020	-	51.0	
P-48-14M-40F	211.1	2	3020	-	51.0		P-48-14M-55F	211.1	2	3020	-	51.0	
P-56-14M-40F	246.8	5	3020	146.0	51.0		P-56-14M-55F	246.8	5	3020	146.0	51.0	
P-64-14M-40F	282.4	5	3020	146.0	51.0		P-64-14M-55F	282.4	5	3020	146.0	51.0	
P-72-14M-40	318.1	7	3020	146.0	51.0		P-72-14M-55	318.1	7	3020	146.0	51.0	
P-80-14M-40	353.7	14	3020	146.0	51.0		P-80-14M-55	353.7	14	3020	146.0	51.0	
P-90-14M-40	398.3	14	3020	146.0	51.0	P-90-14M-55	398.3	14	3020	146.0	51.0		
P112-14M-40	496.3	14	3020	146.0	51.0	P112-14M-55	496.3	14	3020	146.0	51.0		
P144-14M-40	638.9	14	3020	146.0	51.0	P144-14M-55	638.9	14	3020	146.0	51.0		
P168-14M-40	745.9	14	3020	146.0	51.0	P168-14M-55	745.9	14	3020	146.0	51.0		
						No Flanges	P192-14M-55	852.8	12	3535	178.0	89.0	No Flanges
							P216-14M-55	959.8	12	4040	178.0	89.0	

14M HTD Timing Pulleys



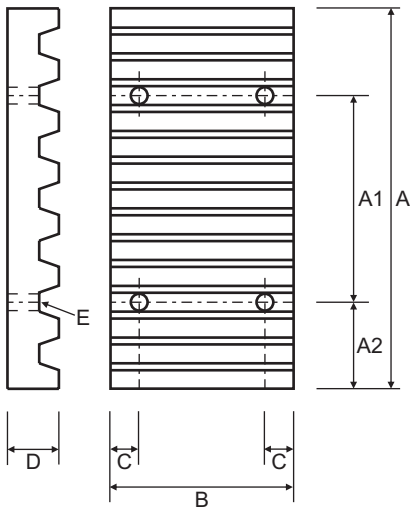
14M-85						14M-115							
Suit 85mm wide belt						Suit 115mm wide belt							
Part No.	O.D	Type	Bush	A	B	C = 102.0	Part No.	O.D	Type	Bush	A	B	C = 133.0
P-28-14M-85F	122.1	2	2517	-	45.0	Cast Iron	P-28-14M-115F	122.1	2	2517	-	45.0	Cast Iron
P-29-14M-85F	126.6	2	2517	-	45.0		P-29-14M-115F	126.6	2	2517	-	45.0	
P-30-14M-85F	131.0	2	2517	-	45.0		P-30-14M-115F	131.0	2	2517	-	45.0	
P-32-14M-85F	139.9	2	2517	-	45.0		P-32-14M-115F	139.9	2	2517	-	45.0	
P-34-14M-85F	148.8	2	2517	-	45.0		P-34-14M-115F	148.8	2	2517	-	45.0	
P-36-14M-85F	157.7	2	3020	-	51.0		P-36-14M-115F	157.7	2	3020	-	51.0	
P-38-14M-85F	166.6	2	3020	-	51.0		P-38-14M-115F	166.6	2	3020	-	51.0	
P-40-14M-85F	175.5	2	3020	-	51.0		P-40-14M-115F	175.5	2	3020	-	51.0	
P-44-14M-85F	193.3	2	3030	-	76.0		P-44-14M-115F	193.3	2	3030	-	76.0	
P-48-14M-85F	211.1	2	3030	-	76.0		P-48-14M-115F	211.1	2	3030	-	76.0	
P-56-14M-85F	246.8	2	3535	-	89.0		P-56-14M-115F	246.8	2	3535	-	89.0	
P-64-14M-85F	282.4	5	3535	178.0	89.0		P-64-14M-115F	282.4	5	3535	178.0	89.0	
P-72-14M-85	318.1	7	3535	178.0	89.0		P-72-14M-115	318.1	7	3535	178.0	89.0	
P-80-14M-85	353.7	14	3535	178.0	89.0		P-80-14M-115	353.7	14	3535	178.0	89.0	
P-90-14M-85	398.3	14	3535	178.0	89.0		P-90-14M-115	398.3	14	3535	178.0	89.0	
P112-14M-85	496.3	14	3535	178.0	89.0		P112-14M-115	496.3	14	3535	178.0	89.0	
P144-14M-85	638.9	14	3535	178.0	89.0	P144-14M-115	638.9	14	4040	215.0	102.0		
P149-14M-85	661.2	14	3535	195.0	89.0	P168-14M-115	745.9	14	4040	215.0	102.0		
P168-14M-85	745.9	14	3535	178.0	89.0	P192-14M-115	852.8	14	4040	215.0	102.0		
P192-14M-85	852.8	14	4040	215.0	102.0	P216-14M-115	959.8	14	4040	215.0	102.0		
P216-14M-85	959.8	14	4040	215.0	102.0								

14M HTD Timing Pulleys



14M-170						
Suit 170mm wide belt						
Part No.	O.D.	Type	Bush	A	B	C = 187.0
P38-14M-170F	166.6	2	3030	-	76.0	Cast Iron Flanged
P40-14M-170F	175.5	2	3030	-	76.0	
P44-14M-170F	193.3	2	3535	-	89.0	
P48-14M-170F	211.1	2	3535	-	89.0	
P56-14M-170F	246.8	2	3535	-	89.0	
P64-14M-170F	282.4	2	4040	-	102.0	
P72-14M-170	318.1	7	4040	215.0	102.0	Cast Iron No Flanges
P80-14M-170	353.7	7	4040	215.0	102.0	
P90-14M-170	398.3	14	4040	215.0	102.0	
P112-14M-170	496.3	14	5050	267.0	127.0	
P144-14M-170	638.9	14	5050	267.0	127.0	
P168-14M-170	745.9	14	5050	267.0	127.0	
P192-14M-170	852.8	14	5050	267.0	127.0	
P216-14M-170	959.8	14	5050	267.0	127.0	

Timing Belt Clamping Plates



Ideal for applications where the belt must be firmly held in one spot. Perfect for use with long length belting. Naismith Engineering keep a large range of Clamp Plates on the shelf.

Classical	Part No	A	A1	A2	B	C	D	E
XL	PIA-XL025	42.5	25.4	8.6	25.4	6.0	8.0	5.5
	PIA-XL037	42.5	25.4	8.6	28.5	6.0	8.0	5.5
L	PIA-L050	76.6	47.6	14.5	39.1	8.0	15.0	9.0
	PIA-L075	76.6	47.6	14.5	45.0	8.0	15.0	9.0
	PIA-L100	76.6	47.6	14.5	51.5	8.0	15.0	9.0
H	PIA-H050	106.9	63.5	21.7	45.0	10.0	22.0	11.0
	PIA-H075	106.9	63.5	21.7	51.0	10.0	22.0	11.0
	PIA-H100	106.9	63.5	21.7	57.4	10.0	22.0	11.0

HTD	Part No	A	A1	A2	B	C	D	E
5M	PIA-5M09	41.8	25.0	8.4	28.0	6.0	8.0	5.5
	PIA-5M15	41.8	25.0	8.4	34.0	6.0	8.0	5.5
	PIA-5M25	41.8	25.0	8.4	44.0	6.0	8.0	5.5
8M	PIA-8M20	66.0	40.0	13.0	45.0	8.0	15.0	9.0
	PIA-8M30	66.0	40.0	13.0	55.0	8.0	15.0	9.0
	PIA-8M50	66.0	40.0	13.0	75.0	8.0	15.0	9.0
	PIA-8M85	66.0	40.0	13.0	110.0	8.0	15.0	9.0
14M	PIA-14M40	116.0	70.0	23.0	71.0	10.0	22.0	11.0
	PIA-14M55	116.0	70.0	23.0	86.0	10.0	22.0	11.0
	PIA-14M85	116.0	70.0	23.0	116.0	10.0	22.0	11.0
	PIA-14M115	116.0	70.0	23.0	146.0	10.0	22.0	11.0
	PIA-14M170	116.0	70.0	23.0	201.0	10.0	22.0	11.0

Metric	Part No	A	A1	A2	B	C	D	E
T5	PIA-T5/10	41.8	25.0	8.4	29.0	6.0	8.0	5.5
	PIA-T5/16	41.8	25.0	8.4	35.0	6.0	8.0	5.5
	PIA-T5/25	41.8	25.0	8.4	44.0	6.0	8.0	5.5
T10	PIA-T10/16	80.0	50.0	15.0	41.0	8.0	15.0	9.0
	PIA-T10/25	80.0	50.0	15.0	50.0	8.0	15.0	9.0
	PIA-T10/32	80.0	50.0	15.0	57.0	8.0	15.0	9.0
	PIA-T10/50	80.0	50.0	15.0	75.0	8.0	15.0	9.0
AT5	PIA-AT5/10	41.8	25.0	8.4	29.0	6.0	8.0	5.5
	PIA-AT5/16	41.8	25.0	8.4	35.0	6.0	8.0	5.5
	PIA-AT5/25	41.8	25.0	8.4	44.0	6.0	8.0	5.5
AT10	PIA-AT10/16	80.0	50.0	15.0	41.0	8.0	15.0	9.0
	PIA-AT10/25	80.0	50.0	15.0	50.0	8.0	15.0	9.0
	PIA-AT10/32	80.0	50.0	15.0	57.0	8.0	15.0	9.0
	PIA-AT10/50	80.0	50.0	15.0	75.0	8.0	15.0	9.0

Taper Bushes



Taper bushes are designed to give the following:-

1. Easy assembly.
2. Rapid dismantling of the pulley and other transmission equipment.
3. No special tool requirement except hexagonal allen key.

A large range of bores are available off the shelf which ensures that an immediate assembly can be made, thus avoiding costly factory down-time.

The bushes are machined with standard keyways. This, in addition to clamping screws is sufficient to meet the required torque.

Part No.		Stock Bore Sizes	OD	L
1008	mm	12, 14, 15, 16, 18, 19, 20, 22, 24, 25	35.0	22.2
	inch	1/2", 5/8", 3/4", 7/8", 1"		
1108	mm	12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 28	38.0	22.2
	inch	1/2", 5/8", 3/4", 7/8", 1", 1 1/8"		
1210	mm	12, 14, 15, 16, 18, 19, 20, 22, 24, 25, 26, 28, 30, 32	47.5	25.4
	inch	1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4"		
1215	mm	12, 14, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32	47.5	38.1
	inch	1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4"		
1610	mm	12, 14, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42	57.0	25.4
	inch	1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 1 5/8"		
1615	mm	12, 14, 16, 18, 19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42	57.0	38.1
	inch	1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 1 5/8"		
2012	mm	16,19,20,22,24,25,28,30,32,35,38,40,42,45,48,50	70.0	31.8
	inch	3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 1 5/8", 1 3/4", 1 7/8", 2"		
2017	mm	19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50	70.0	44.4
	inch	3/4", 7/8", 1", 1 1/8", 1 3/8"		
2517	mm	19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 55, 60	85.5	44.5
	inch	3/4", 7/8", 1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 1 5/8", 1 3/4", 1 7/8", 2", 2 1/8",		
	inch	2 1/4", 2 3/8", 2 1/2"		
2525	mm	19, 20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 55, 60	85.6	63.5
	inch	3/4", 7/8", 1", 1 1/8"		
3020	mm	24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50, 55, 60, 65, 70, 75	108.0	50.8
	inch	1", 1 1/8", 1 1/4", 1 3/8", 1 1/2", 1 5/8", 1 3/4", 1 7/8", 2", 2 1/8", 2 1/4", 2 3/8", 2 1/2", 2 5/8", 2 3/4", 2 7/8", 3"		
3030	mm	32, 35, 38, 40, 42, 45, 48, 50, 55, 60, 65, 70, 75	108.0	76.2
	inch	1 1/4", 1 3/8", 1 1/2", 1 5/8", 1 3/4", 1 7/8", 2", 2 1/8", 2 1/4", 2 3/8", 2 1/2",		
	inch	2 5/8", 2 3/4", 2 2/8", 3"		
3525	mm	35, 38, 40, 42, 45, 48, 50, 55, 60, 65, 70, 75, 80, 85, 90	108.0	63.5
3535	mm	35, 38, 40, 42, 45, 48, 50, 55, 60, 65, 70, 75, 80, 85, 90	127.0	88.9
	inch	1 1/2", 1 5/8", 1 3/4", 1 7/8", 2", 2 1/8", 2 1/4", 2 3/8", 2 1/2", 2 5/8", 2 3/4",		
	inch	2 7/8", 3", 3 1/8", 3 1/4", 3 3/8", 3 1/2"		
4030	mm	40, 42, 45, 48, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100	146.0	76.2
4040	mm	40, 42, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100	146.0	101.6
	inch	1 3/8", 1 3/4", 1 7/8", 2", 2 1/8", 2 1/4", 2 1/2", 2 5/8", 2 3/4",		
	inch	3", 3 1/4", 3 1/2", 3 3/4", 4"		
4535	mm	60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110	162.0	88.9
4545	mm	60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110	162.0	114.3
	inch	3", 3 1/8", 3 1/4", 3 3/8", 3 1/2", 3 3/4", 4 1/2"		
5040	mm	70, 95, 100, 110, 115, 120, 125	177.5	101.6
5050	mm	70, 95, 100, 110, 115, 120, 125	177.5	127.0

The first 2 digits of the part number are the maximum bore size in inches.

The second 2 digits of the part number are the length through bore in inches.

Useful Information

PULLEY DIAMETER - SPEED

When choosing a pulley that is made of cast iron, care must be taken not to exceed pulley rim speed of 40 m/s. Centrifugal forces developed beyond this speed may prohibit the use of stock cast iron pulleys. For rim speeds exceeding 40 m/s, contact Naismith Engineering sales representative for recommendations. The formula below will help you work out what the rim speed of your pulley will be.

$$\text{Metres/Sec} = \frac{(\text{O.D.} \times .001) \times 3.142 \times \text{RPM}}{60}$$

O.D. Is in millimetres

USE OF FLANGED PULLEYS

Flanges are needed in order to keep the belt on the pulley. Due to tracking characteristics, even on the best aligned drives belts will ride off the edge of the pulleys. Flanges will prevent this belt ride off

On all drives using stock or made-to-order pulleys, the following conditions should be considered when selecting flanged pulleys;

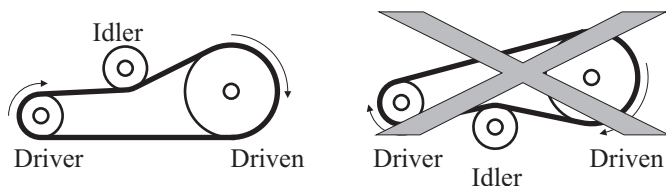
1. On all two-pulley drives, the minimum flanging requirements are two flanges on one pulley or one flange on each pulley on opposite sides.
2. On drives where the center distance is more than eight times the diameter of the small pulley, both pulleys should be flanged on both sides.
3. On drives with more than two pulleys, the minimum flanging requirements are two flanges on every other pulley or one flange on every pulley, alternating sides around the system. On made to order pulleys, flanges must be securely fastened by using mechanical fasteners, welding, shrink fit or other equivalent methods.

IDLERS

Use of idlers should be restricted to those cases in which they are functionally necessary. Idlers usually are used to apply tension when centres are not adjustable

Idlers should be located on the slack side of the belt drive. For inside idlers, grooved pulleys are recommended up to 40 grooves. On larger diameters, flat, uncrowned idlers may be used. Inside idler diameters should not be smaller than the smallest loaded pulley in the system.

Outside or backside idlers should be flat and uncrowned. Flanges are not recommended. Diameters should generally not be smaller than the smallest loaded pulley in the system. Slack side spring loaded idlers can be used, as long as care is taken to avoid resonant vibration conditions and load reversals.



Information on this page has been sourced from the following Gates catalogues
 Powergrip HTD Design Manual - E2/20068/8.92
 Gates Design Manual E2/20099

CENTRE DISTANCE AND BELT LENGTH

If you do not already know a tentative centre distance, a good estimate to use is equal to the diameter of the large pulley, or $\frac{1}{2}(\mathbf{D} + \mathbf{3d})$, whichever is the larger. You can then find a tentative belt length using the following formula.

$$\text{Tentative Belt Length} = 1.57(\mathbf{D} + \mathbf{d}) + (\mathbf{TCD} \times 2)$$

D = Pitch diameter, Large pulley

d = Pitch diameter, Small pulley

TCD = Tentative Center Distance

TEETH IN MESH

Power ratings are based on a minimum of six teeth in mesh between the belt and the pulley. In cases where fewer than six teeth are in full contact, 20% of the power rating must be subtracted for each tooth less than six. To calculate how many teeth your drive has in mesh use the formula below.

$$\text{Teeth in mesh} = \left[0.5 - \left(\frac{\mathbf{D} - \mathbf{d}}{\mathbf{6C}} \right) \right] \mathbf{T}$$

D = Pitch diameter, Large pulley

d = Pitch diameter, Small pulley

C = Center distance between shafts

T = Number of teeth in small pulley

OPERATING ENVIRONMENT

Temperature

Gates PowerGrip (XL, L, H & XH) and HTD (3M, 5M, 8M & 14M) belt performance is generally unaffected in ambient temperature environments between -25°C and 100°C. Gates Poly Chain GT has a temperature range of -54°C to 85°C. Polyurethane T and AT belts work best between -30°C and 80°C. In cases where belts are constantly running at or above these temperature extremes contact Naismith Engineering.

Aircraft & Motor Vehicle drives

Gates belts should not be used on aircraft, motor vehicle or hazardous applications where belt failure may cause injury.

BELT STORAGE AND HANDLING

For storage, the belt should be protected from moisture, oil, temperature extremes, direct sunlight and high ozone environments. The belt should be stored in its original package where applicable, avoiding any sharp bends or crimping, which will damage the belt.