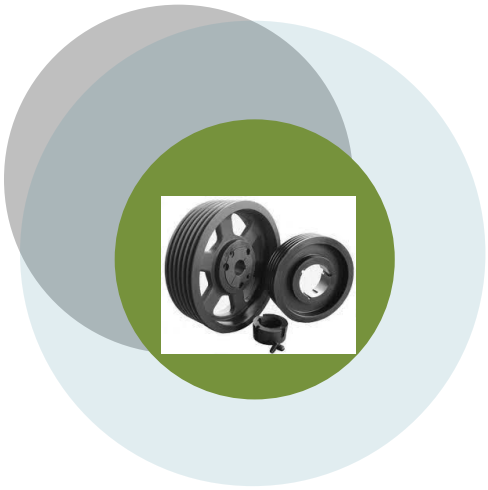
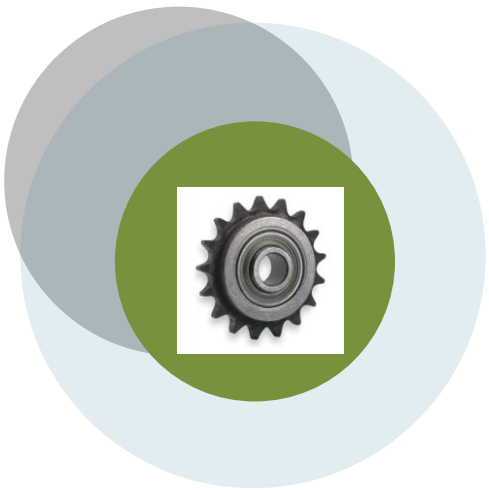
HIC UNIVERSAL

Machine Drive

V Pulleys and Steel Chain Sprockets





Made in India

Manufactured by HIC INTERNATIONAL CO INC

Technical Specifications

Optimum Production Solutions

Paper Machine Drive **Dual Duty**

Fan Drive **Wedge Multi Groove**

Sawmill Drive **Flat**

Blower Drive **Classical**

Automotive Drive **Narrow**

Gangsaw Drive **Banded**

Tobacco Machine Precision Drive **Timing**

High RPM Drive **Dynamically Balanced**

Forklift Truck Drive Chain **Sprocket**

and more.....

About HIC

HIC International Co Inc, formed in **1988** manufacturing industrial rubber and steel products **ISO 9001** certified producer of **Conveyor** belt roller idler, **Power Transmission** belts coupling pulley, **Hydraulic** hose valve, **Safety** rubber sheet mat quality exporters of HIC **Universal brand** to industrial traders distributors of USA, Australia, UAE, Singapore, China, South Africa, UK, Germany, Taiwan having manufacturing factories in Delhi and Ghaziabad UP of India.

Total Quality Management principles are followed and True Performance is thus assured.

Export Excellence Award during Feb 1997

Why HIC Universal Steel Sheave Pulleys?

CNC Machined Grooves
Keep Belt Damages Negligible

Quick Fit Taper Bush System
Eases Fixing and Saves Removal Time

Low Heat Build-up
using Graded Cast iron and Sintered Steel Material

Minimal Vibration
Belt Rotation Drive Solution

Power transmission motion setting dynamic mechanical wheel CNC machined taper lock bush system v belt-pulley manufactured of graded cast iron G3000 GG and timing pulleys produced of steel plus aluminium material precision statically balanced drive-pulley sheaves made in India by HIC Universal.

HIC Universal Taper lock belt pulleys, v belt-pulley sheaves and timing pulleys are Original Choice by industrial blower motor and centrifugal pump manufacturers in *India, China, Mexico USA North America, Canada, Latin America, Germany, Sweden, Russia, Japan, South Korea, Scotland-UK, Singapore, Australia, South Africa, Philippines, Indonesia, Saudi Arabia and other Asian countries.*

Manufacturing RANGE and SIZES

Conforming IS 3142, BS 7620, DIN 2211, ISO 4183, ANSI IP20, ANSI IP23 quality standards

*Classified under **HS Code** 8501*

Dual Duty V Pulley with Taper Bush

Solid Hub V Grooved Pulleys

Timing Belt Pulley

Taper Bush

Roller Chain Sprockets

- **Taper Bush Dynamically Balanced Dual Duty v belt pulleys A/SPA** section 1 to 6 grooves 80~800mm pitch circle dia (pcd) or Outer Diameter ; **B/SPB** 1 to 6 belt grooves 125~1000 pcd ; **C/SPC**2~10 belts run groove 200~1250mm pcd .

- **Balanced General Purpose solid v belt pulleys** without taper bush **A** section 1 to 5 grooves 2~26 inch OD ; **B** section 1 to 5 grooves 2~40"od ; **C** section 3~8 belts groove 3~50" OD ; **D** section 3~12 belts groove 12~56" OD ; **E** section 5~15 belts groove 16~72" OD.

- **Taper Locking Bushes weld on hubs sizes** 1008 to 5050 up to 125 mm maximum bore size.

- Toothed Drive Belt 'XL' type (extra light duty) pulley
- Cogged Belt 'L' type (light duty) pulley
- Tooth Belt 'H' type (heavy duty) pulley
- Cog Belt 'XH' type (extra heavy duty) pulley
- Toothed Belt 'XXH' type (double extra heavy duty) pulley

- **Chain Sprockets wheels single/double strand** with knob 10~50 teeth's in sizes 3/8"-1/2"-5/8"-3/4"-1"-1-1/4"-1-1/2" pitch sizes.

Nomenclature of V Belt Pulley

Diameter, Grooves and Dual Duty Taper Bush to Drive Industrial Belt: Technical Data

Industrial Pulley for use with A/SPA Section Belts				
Pitch Dia	No. of Grooves	Bush No.	Max Bore	Pulley Type
80	2	1215	32	6
	3	1215	32	6
	4	1210	32	6
	5	1108	28	6
85	2	1215	32	6
	3	1215	32	6
	4	1210	32	6
	5	1108	28	6

Industrial Pulley for use with A/SPA Section Belts				
Pitch Dia	No. of Grooves	Bush No.	Max Bore	Pulley Type
90	2	1615	42	3
	3	1615	42	3
	4	1610	42	6
	5	1108	28	6
95	2	1615	42	3
	3	1615	42	3
	4	1610	42	6
	5	1610	42	6

Industrial Pulley for use with A/SPA Section Belts				
Pitch Dia	No. of Grooves	Bush No.	Max Bore	Pulley Type
100	2	1615	42	6
	3	1615	42	6
	4	1610	42	6
	5	1610	42	6
106	2	2012	50	6
	3	1615	42	6
	4	1610	42	6
	5	1610	42	6

Industrial Pulley for use with A/SPA Section Belts				
Pitch Dia	No. Of Grooves	Bush No.	Max Bore	Pulley Type
112	2	1610	42	6
	3	2012	50	6
	4	2012	50	6
	5	2012	50	6
118	2	1610	42	6
	3	2012	50	6
	4	2012	50	6
	5	2012	50	6
125	2	1610	42	2
	3	2012	50	2
	4	2012	50	2
	5	2012	50	2
132	2	1610	42	2
	3	2012	50	2
	4	2517	60	2
	5	2517	60	2
140	2	2012	50	6
	3	2517	60	2

Industrial Pulley for use with A/SPA Section Belts				
Pitch Dia	No. of Grooves	Bush No.	Max Bore	Pulley Type
315	2	2517	60	4
	3	3020	75	8
	4	3020	75	7
	5	3535	90	8
400	2	2517	60	4
	3	3020	75	4
	4	3020	75	5
	5	3535	90	4

Industrial Pulley for use with B/SPB Section Belts

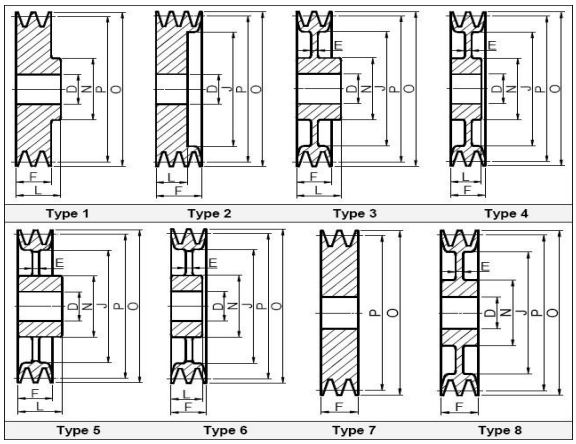
Pitch Dia	No. of Grooves	Bush No.	Max Bore	Pulley Type
125	2	1610	42	6
	3	1610	42	6

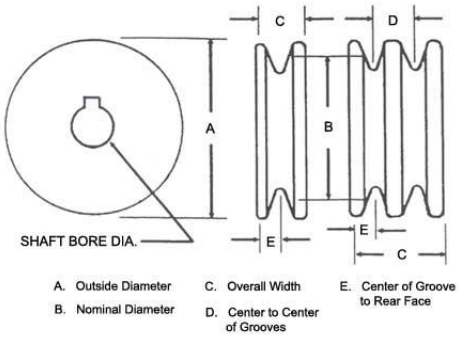
Industrial Pulley for use with B/SPB Section Belts				
Pitch Dia	No. of Grooves	Bush No.	Max Bore	Pulley Type
180	2	2012	50	6
	3	2517	60	6
	4	2517	60	3
	5	3020	75	3
	6	3020	75	2
190	2	2517	60	1
	3	2517	60	6
	4	2517	60	3
	5	3020	75	3
	6	3020	75	2
200	2	2517	60	1
	3	2517	60	2
	4	3020	75	2
	5	3020	75	2
	6	3020	75	2
212	2	2517	60	1
	3	2517	60	2
	4	3020	75	2
	5	3020	75	2
	6	3020	75	2
224	2	2517	60	1
	3	2517	60	2

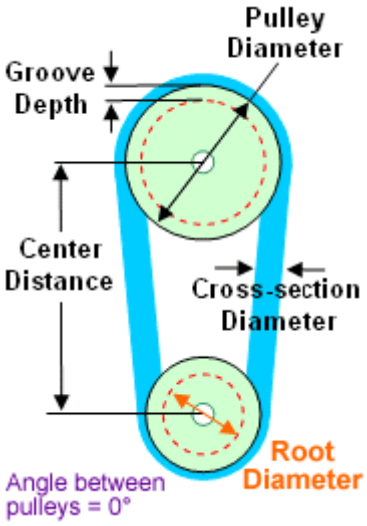
	4	2517	60	2		4	2012	50	3		4	3020	75	2
	5	2517	60	2		5	2012	50	3		5	3020	75	2
						6	2012	50	3		6	3020	75	2
150	2	2012	50	6	132	2	1610	42	6	236	2	2517	60	1
	3	2517	60	2		3	1610	42	6		3	2517	60	2
	4	2517	60	2		4	2012	50	3		4	3020	75	2
	5	2517	60	2		5	2012	50	2		5	3020	75	2
						6	2012	50	3		6	3020	75	2
160	2	2012	50	6	140	2	1610	42	6	250	2	2517	60	8
	3	2517	60	2		3	1610	42	6		3	3020	75	2
	4	2517	60	2		4	2012	50	3		4	3020	75	2
	5	2517	60	2		5	2012	50	2		5	3020	75	2
						6	2517	60	3		6	3020	75	2
180	2	2012	50	2	150	2	1610	42	6	280	2	2517	60	8
	3	2517	60	2		3	2012	50	6		3	3020	75	7
	4	2517	60	2		4	2012	50	3		4	3020	75	7
	5	3020	75	2		5	2517	60	2		5	3535	90	7
						6	2517	60	2		6	3535	90	7
200	2	2517	60	8	160	2	2012	50	6	315	2	3020	60	8
	3	2517	60	3		3	2517	60	6		3	3020	75	7
	4	3020	75	2		4	2517	60	3		4	3535	90	8
	5	3020	75	2		5	2517	60	3		5	3535	90	7
						6	2517	60	2		6	3535	90	7
250	2	2517	60	8	170	2	2012	50	6	355	2	2517	75	4
	3	2517	60	7		3	2517	60	6		3	3020	75	5
	4	3020	75	7		4	2517	60	3		4	3535	90	8
	5	3020	75	7		5	3020	75	3		5	3535	90	7
						6	3020	75	2		6	3535	90	7

Industrial Pulley for use with B/SPB Section Belts					Industrial Pulley for use with C/SPC Section Belts					Industrial Pulley for use with C/SPC Section Belts				
Pitch Dia	No. of Grooves	Bush No.	Max Bore	Pulley Type	Pitch Dia	No. of Grooves	Bush No.	Max Bore	Pulley Type	Pitch Dia	No. of Grooves	Bush No.	Max Bore	Pulley Type
400	2	3020	75	4	236	4	3535	90	3	425	4	3535	90	5
	3	3535	90	4		5	3535	90	3		5	4040	100	7
	4	3535	90	4		6	3535	90	3		6	4545	110	7
	5	3535	90	5		7	3535	90	3		7	4545	110	7
	6	3535	90	5		8	3535	90	3		8	5050	125	7
500	2	3020	75	4	250	4	3535	90	3	450	4	3535	90	5
	3	3535	90	4		5	3535	90	3		5	4040	100	5
	4	3535	90	4		6	3535	90	3		6	4545	110	7
	5	3535	90	5		7	3535	90	3		7	5050	125	7
	6	4040	100	5		8	3535	90	3		8	5050	125	7
630	2	3030	75	4	265	4	3535	90	3	475	4	3535	90	5
	3	3535	90	4		5	3535	90	3		5	4040	100	5

	4	3535	90	4		6	3535	90	3		6	4545	110	7
	5	4040	100	4		7	3535	90	3		7	5050	125	7
	6	4040	100	5		8	3535	90	3		8	5050	125	7
800	2	3030	75	4	280	4	3535	90	3	500	4	3535	90	5
	3	3535	90	4		5	3535	90	3		5	4040	100	5
	4	4040	100	4		6	3535	90	3		6	4545	110	5
	5	4040	100	4		7	3535	90	3		7	5050	125	7
	6	4545	110	5		8	3535	90	3		8	5050	125	7
1000	3	4040	100	4	300	4	3535	90	7	530	4	4040	100	5
	4	4040	100	4		5	3535	90	7		5	4545	110	5
	5	4545	110	4		6	3535	90	7		6	5050	125	5
	6	4545	100	5		7	3535	90	7		7	5050	125	7
						8	4040	100	3		8	5050	125	7
Industrial Pulley for use with C/SPC Section Belts					315	4	3535	90	7	560	4	4040	100	5
						5	3535	90	7		5	4545	110	5
						6	3535	90	7		6	5050	125	5
						7	3535	90	7		7	5050	125	5
						8	4040	100	3		8	5050	125	5
Pitch Dia	**No. of Grooves**	**Bush No.**	**Max Bore**	Pulley Type	335	4	3535	90	7	630	4	4545	110	4
						5	3535	90	7		5	5050	125	5
						6	3535	90	7		6	5050	125	5
						7	3535	90	7		7	5050	125	5
						8	4040	100	3		8	5050	125	5
200	4	3020	75	3	355	4	3535	90	7	800	4	5050	125	4
	5	3535	90	3		5	3535	90	7		5	5050	125	5
	6	3535	90	3		6	3535	90	7		6	5050	125	5
	7	3535	90	3		7	4040	90	7		7	5050	125	5
	8	3535	90	3		8	4040	100	3		8	5050	125	5
212	4	3020	75	3	375	4	3535	90	7	1000	4	5050	125	4
	5	3535	90	3		5	3535	90	7		5	5050	125	5
	6	3535	90	3		6	4040	100	7		6	5050	125	5
	7	3535	90	3		7	4040	100	7		7	5050	125	5
	8	3535	90	3		8	4045	110	7		8	5050	125	5
224	4	3535	90	3	400	4	3535	90	5	1250	4	5050	125	4
	5	3535	90	3		5	3535	90	5		5	5050	125	5
	6	3535	90	3		6	4040	100	7		6	5050	125	5
	7	3535	90	3		7	4545	110	7		7	5050	125	5
	8	3535	90	3		8	4545	110	7		8	5050	125	5







Drive and Driven Pulleys Length Estimation

Dual Duty Taper Bush Pulleys

Width of Cone Bush Pulley: Technical Specifications

Face Width Of Duo Applications Cone Bush Pulleys							
No. of V Belt Grooves							
Belt Section	***2***	***3***	***4***	***5***	***6***	***7***	***8***
A	*35*	*50*	*65*	*80*	-	-	-
B	*44*	*63*	*82*	*101*	*120*	-	-
C	-	-	*111*	*136*	*162*	*187*	*213*

Nomenclature of Taper Bush

Weld on Hubs for Belt Pulley Dimension in MM: Technical Specifications

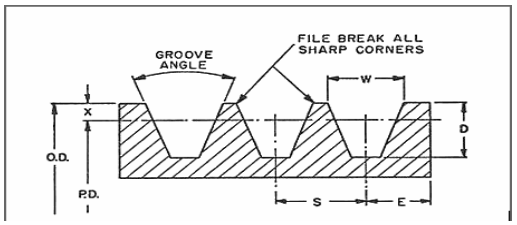
Cone & Bush size	1008	1108	1210	1215	1310	1610	1615	2012	2517	2525	3020	3030	3535	3525	4040	4545	5050
Nominal dia at large end of cone	35.0	38.0	47.5	47.5	51.0	57.0	57.0	70.0	85.5	85.5	108.0	108.0	127.0	127.0	146.0	162.0	177.5
face width	22	22	25	38	25	25	38	32	45	65	51	76	65	89	102	114	127
minimum bore	9	9	11	11	14	14	14	14	16	19	25	35	48	35	40	55	70
maximum bore	25	28	32	32	35	42	42	50	60	60	75	75	90	90	100	110	125

Notes: CONE WEDGE Bushes are stocked to suit standard metric and imperial shafts. All keyways are as per relevant ISI standards bores can be provided against customer's requirements.

WELDABLE HUBS for Steel Pulleys, Sprockets, Fans, Agitators, etc are also available with cone bushes for quick fitting. Advantages are same as in Quick Fit Pulleys with Cone Bushes. Standard Wieldable Hubs with Cone Bushes are off the shelf for shaft sizes up to 125 mm dia.

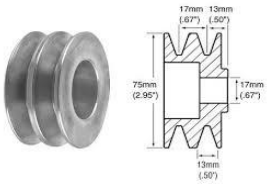
Taper Bush

Universal Weld on Hub



V Groove Pulley Dimensions

Pitch Dia and Groove Angle of Classical and Wedge Belt Sheaves: Technical Specifications



v Belt Groove Cross-Section	Pulley pitch Diameter dp (mm)	Groove Angle A Degree ±0.5⁰	Minimum Top width of groove g (mm)	Minimum Groove depth below outside diameter hg (mm)	Centre to centre of grooves sg (mm)	Edge of Pulley to first Groove Centre (mm)
SPZ	up to 80 over 80	34 38	9.7 9.9	11.0	12+0.3	8.0+1.0
A **SPA**	up to 118 over 118	34 38	13.0 13.3	13.8	15+0.3	10.0+2.0 -1.0
B **SPB**	up to 190 over 190	34 38	16.6 16.9	17.5	19+0.4	12.5+2.0 -1.0
C **SPC**	up to 315 over 315	34 38	22.7 22.9	23.8	25.5+0.5	17+2.0 -1.0
D	up to 475 over 475	36 38	32.2 32.6	28.0	37.0+0.6	24.0+3.0 -1.0
E	Up to 630 over 630	36 38	38.3 38.6	33.0	44.5+0.7	29+4.0 -1.0
When the pulley are to be used for v-belt sections A, B or C only, dimension hg may be reduced by 20%						

Notes: Dynamic Balancing of pulleys undertaken please and our lab Test Certificate is provided

Nomenclature of Poly V Pulleys

Diameter, J L Section Type and Taper Bush Sheaves Sizes: Technical Specifications

4 Groove "J" Section Poly V Pulleys					
					C=13.5
O. D	Type	Bush	A	B	D
20	1	-	-	22.5	5.0
25	1	-	-	22.5	5.0
30	1	-	-	22.5	9.5
35	1	-	-	22.5	9.5
40	1	-	-	22.5	12.0
45	1	-	-	22.5	12.0
50	1	-	-	22.5	12.0
56	7	1108	50	23.0	-
60	7	1108	50	23.0	-
63	7	1108	50	23.0	-
67	7	1108	50	23.0	-
71	7	1108	60	23.0	-
75	7	1108	60	23.0	-
80	7	1310	70	26.0	-
85	7	1310	70	26.0	-
90	7	1610	82	26.0	-
95	7	1610	82	26.0	-

4 Groove "J" Section Poly V Pulleys					
					C=13.5
O. D	Type	Bush	A	B	D
100	7	1610	82	26.0	-
106	7	1610	88	26.0	-
112	7	1610	90	26.0	-
118	7	1610	90	26.0	-
125	8	1610	90	26.0	-
132	8	1610	90	26.0	-
140	8	1610	90	26.0	-
160	8	2012	110	32.0	-
180	6	2012	110	32.0	-
200	6	2012	110	32.0	-
224	6	2012	110	32.0	-
250	9	2012	110	32.0	-
280	9	2012	110	32.0	-
315	9	2012	110	32.0	-
355	9	2517	120	45.0	-
400	9	2517	120	45.0	-

8 Groove "J" Section					
					C=23
O. D	Type	Bush	A	B	D
20	1	-	-	32	5.0
25	1	-	-	32	5.0
30	1	-	-	32	9.5
35	1	-	-	32	9.5
40	1	-	-	32	12.0
45	1	-	-	32	12.0
50	1	-	-	32	12.0
56	3	1108	-	23	-
60	3	1108	-	23	-
63	3	1108	-	23	-
67	3	1108	-	23	-
71	3	1108	-	23	-
75	3	1108	-	23	-
80	7	1310	70	26	-
85	7	1310	70	26	-
90	7	1610	82	26	-
95	7	1610	82	26	-

8 Groove "J" Section					
					C=23
O. D	Type	Bush	A	B	D
100	7	1610	82	26	-
106	7	1610	88	26	-
112	7	1610	90	26	-
118	7	1610	90	26	-
125	8	1610	90	26	-
132	8	1610	90	26	-
140	8	1610	90	26	-
160	8	2012	110	32	-
180	6	2012	110	32	-
200	6	2012	110	32	-
224	6	2012	110	32	-
250	9	2012	110	32	-
280	9	2012	110	32	-
315	9	2012	110	32	-
355	9	2517	120	45	-
400	9	2517	120	45	-

Nomenclature of Poly V Pulleys

12 Groove "J" Section					
					C=32.5
O. D	Type	Bush	A	B	D
20	1	-	-	41.5	5.0
25	1	-	-	41.5	5.0
30	1	-	-	41.5	9.5
35	1	-	-	41.5	9.5
40	1	-	-	41.5	12.0
45	1	-	-	41.5	12.0
50	1	-	-	41.5	12.0
56	1	-	-	41.5	12.0
60	2	1108	-	23	-
63	2	1108	-	23	-
67	2	1108	-	23	-
71	2	1108	-	23	-
75	2	1210	-	23	-
80	2	1610	-	26	-
85	2	1610	-	26	-
90	2	1610	-	26	-
95	2	1610	-	26	-

12 Groove "J" Section					
					C=32.5
O. D	Type	Bush	A	B	D
100	2	1610	-	26.0	-
106	2	1610	-	26.0	-
112	2	1610	-	26.0	-
118	2	2012	-	32.0	-
125	2	2012	-	32.0	-
132	2	2012	-	32.0	-
140	7	2517	120	45.0	-
160	8	2517	120	45.0	-
180	6	2517	120	45.0	-
200	6	2517	120	45.0	-
224	6	2517	120	45.0	-
250	6	2517	120	45.0	-
280	9	2517	120	45.0	-
315	9	2517	120	45.0	-
355	9	2517	120	45.0	-
400	9	2517	120	45.0	-

16 Groove "J" Section					
					C=42
O. D	Type	Bush	A	B	D
20	1	-	-	51.0	5.0
25	1	-	-	51.0	5.0
30	1	-	-	51.0	9.5
35	1	-	-	51.0	9.5
40	1	-	-	51.0	12.0
45	1	-	-	51.0	12.0
50	1	-	-	51.0	12.0
56	1	-	-	51.0	12.0
60	1	-	-	51.0	12.0
63	1	-	-	51.0	12.0
67	1	-	-	51.0	12.0
71	3	1215	-	42.0	-
75	2	1610	-	26.0	-
80	2	1610	-	26.0	-
85	2	1610	-	26.0	-
90	2	1610	-	26.0	-
95	2	1610	-	26.0	-

16 Groove "J" Section					
					C=42
O. D	Type	Bush	A	B	D
100	2	1610	-	26.0	-
106	2	1610	-	26.0	-
112	2	1610	-	26.0	-
118	2	2012	-	32.0	-
125	2	2012	-	32.0	-
132	2	2012	-	32.0	-
140	7	2517	120	45.0	-
160	8	2517	120	45.0	-
180	6	2517	120	45.0	-
200	6	2517	120	45.0	-
224	6	2517	120	45.0	-
250	6	2517	120	45.0	-
280	9	2517	120	45.0	-
315	9	2517	120	45.0	-
355	9	3020	146	52.0	-
400	9	3020	146	52.0	-

Nomenclature of Poly V Pulleys

6 Groove "L" Section				
				C=13.5
O. D	Type	Bush	A	B
75	2	1210	-	26
80	2	1210	-	26
85	2	1210	-	26
90	2	1610	-	26
95	2	1210	-	26
100	2	1610	-	26
106	2	1610	-	26
112	2	1610	-	26
118	2	2012	-	32
125	2	2012	-	32
132	2	2012	-	32
140	7	2517	120	45
150	7	2517	120	45
160	7	2517	120	45
170	8	2517	120	45
180	6	2517	120	45
190	6	2517	120	45
200	6	2517	120	45
212	6	2517	120	45
224	6	2517	120	45
236	6	2517	120	45
250	9	2517	120	45
280	6	2517	120	45
315	9	2517	120	45
355	9	3020	146	52
400	9	3020	146	52

8 Groove "L" Section				
				C=23
O. D	Type	Bush	A	B
75	2	1210	-	26
80	2	1210	-	26
85	2	1210	-	26
90	2	1610	-	26
95	2	1210	-	26
100	2	1610	-	26
106	2	1610	-	26
112	2	1610	-	26
118	2	2012	-	32
125	2	2012	-	32
132	2	2012	-	32
140	2	2517	-	45
150	2	2517	-	45
160	2	2517	-	45
170	2	2517	-	45
180	5	2517	120	45
190	5	2517	120	45
200	5	2517	120	45
212	5	2517	120	45
224	5	2517	120	45
236	5	2517	120	45
250	5	2517	120	45
280	6	3020	146	52
315	9	3020	146	52
355	9	3020	146	52
400	9	3020	146	52

Nomenclature of Poly V Pulleys

10 Groove "L" Section				
				C=57
O. D	Type	Bush	A	B
75	2	1215	-	42
80	2	1215	-	42
85	2	1215	-	42
90	2	1615	-	42
95	2	1215	-	42
100	2	2012	-	32
106	2	2012	-	32
112	2	2012	-	32
118	4	2517	-	45
125	4	2517	-	45
132	4	2517	-	45
140	4	2517	-	45
150	4	2517	-	45
160	4	2517	-	45
170	4	2517	-	45
180	5	2517	120	45
190	5	2517	120	45
200	5	3020	146	52
212	5	3020	146	52
224	5	3020	146	52
236	5	3020	146	52
250	5	3020	146	52
280	5	3020	146	52
315	6	3535	178	89
355	9	3535	178	89
400	9	3535	178	89

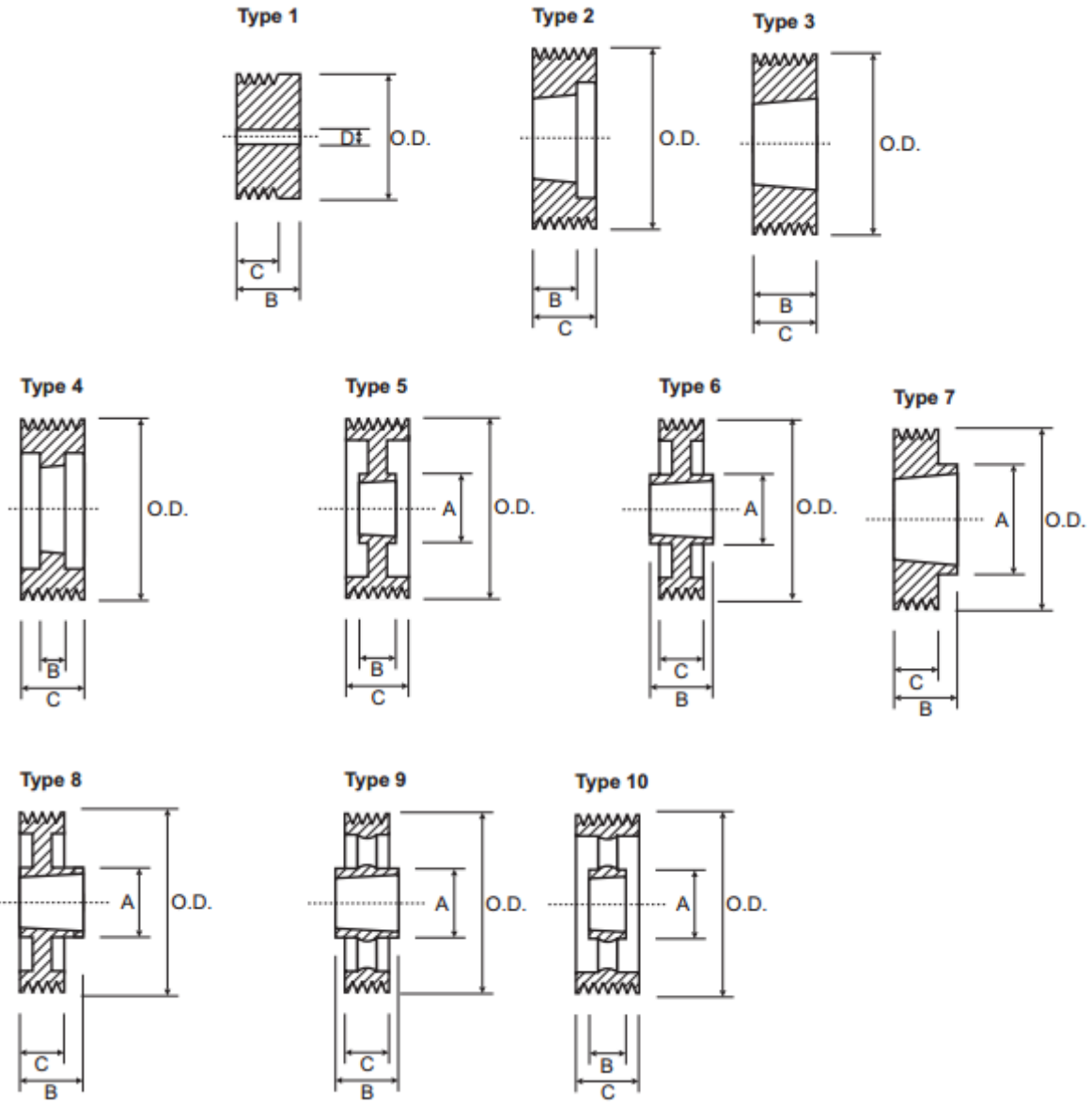
12 Groove "L" Section				
				C=67
O. D	Type	Bush	A	B
75	2	1215	-	42
80	2	1215	-	42
85	2	1215	-	42
90	2	1615	-	42
95	2	1215	-	42
100	2	2012	-	32
106	2	2012	-	32
112	2	2012	-	32
118	4	2517	-	45
125	4	2517	-	45
132	4	2517	-	45
140	4	2517	-	45
150	4	2517	-	45
160	4	2517	-	45
170	4	2517	-	45
180	4	2517	120	45
190	5	2517	120	45
200	5	3020	146	52
212	5	3020	146	52
224	5	3020	146	52
236	5	3020	146	52
250	5	3020	146	52
280	5	3020	146	52
315	6	3535	178	89
355	9	3535	178	89
400	9	3535	178	89

Nomenclature of Poly V Pulleys

16 Groove "L" Section				
				C=85
O. D	Type	Bush	A	B
85	4	1215	-	42
90	4	1615	-	42
95	4	1215	-	42
100	4	2012	-	32
106	4	2012	-	32
112	4	2012	-	32
118	4	2517	-	45
125	4	2517	-	45
132	4	2517	-	45
140	4	2517	-	45
150	4	2517	-	45
160	4	3020	-	52
170	4	3020	-	52
180	4	3020	-	52
190	5	3020	146	52
200	5	3020	146	52
212	5	3020	146	52
224	5	3020	146	52
236	5	3020	146	52
250	5	3020	146	52
280	6	3535	178	89
315	6	3535	178	89
355	9	3535	178	89
400	9	3535	178	89

20 Groove "L" Section				
				C=105
O. D	Type	Bush	A	B
118	4	2517	-	45
125	4	2517	-	45
132	4	2517	-	45
140	4	3020	-	52
150	4	3020	-	52
160	4	3020	-	52
170	4	3020	-	52
180	4	3020	-	52
190	5	3020	146	52
200	4	3535	-	89
212	4	3535	-	89
224	5	3535	178	89
236	5	3535	178	89
250	5	3535	178	89
280	5	3535	178	89
315	5	4040	215	102
355	5	4040	215	102
400	10	4040	215	102

Poly V Pulley TYPES



Nomenclature of Timing Pulley

Trapezoidal (Inch Pitch) and HTD Belt Pulleys Teeth and Diameter: Technical Specifications

XL (1/5" Pitch)			XL (1/5" Pitch)			XL (1/5" Pitch)			XL (1/5" Pitch)		
Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)	Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)	Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)	Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)
10	0.637	0.617	46	2.928	2.908	82	5.220	5.200	118	7.512	7.492
11	0.700	0.680	47	2.992	2.972	83	5.284	5.264	119	7.576	7.556
12	0.764	0.744	48	3.056	3.036	84	5.348	5.328	120	7.639	7.619
13	0.828	0.808	49	3.119	3.099	85	5.411	5.391	121	7.703	7.683
14	0.891	0.871	50	3.183	3.163	86	5.475	5.455	122	7.767	7.747
15	0.955	0.935	51	3.247	3.227	87	5.539	5.519	123	7.830	7.810
16	1.019	0.999	52	3.310	3.290	88	5.602	5.582	124	7.894	7.874
17	1.082	1.062	53	3.374	3.354	89	5.666	5.646	125	7.958	7.938
18	1.146	1.126	54	3.438	3.418	90	5.730	5.710	126	8.021	8.001
19	1.210	1.190	55	3.501	3.481	91	5.793	5.773	127	8.085	8.065
20	1.273	1.253	56	3.565	3.545	92	5.857	5.837	128	8.149	8.129
21	1.337	1.317	57	3.629	3.609	93	5.921	5.901	129	8.212	8.192
22	1.401	1.381	58	3.692	3.672	94	5.984	5.964	130	8.276	8.256
23	1.464	1.444	59	3.756	3.736	95	6.048	6.028	131	8.340	8.320
24	1.528	1.508	60	3.820	3.800	96	6.112	6.092	132	8.403	8.383
25	1.592	1.572	61	3.883	3.863	97	6.175	6.155	133	8.467	8.447
26	1.655	1.635	62	3.947	3.927	98	6.239	6.219	134	8.531	8.511
27	1.719	1.699	63	4.011	3.991	99	6.303	6.283	135	8.594	8.574
28	1.783	1.763	64	4.074	4.054	100	6.366	6.346	136	8.658	8.638
29	1.846	1.826	65	4.138	4.118	101	6.430	6.410	137	8.722	8.702
30	1.910	1.890	66	4.202	4.182	102	6.494	6.474	138	8.785	8.765
31	1.974	1.954	67	4.265	4.245	103	6.557	6.537	139	8.849	8.829
32	2.037	2.017	68	4.329	4.309	104	6.621	6.601	140	8.913	8.893
33	2.101	2.081	69	4.393	4.373	105	6.685	6.665	141	8.976	8.956
34	2.165	2.145	70	4.456	4.436	106	6.748	6.728	142	9.040	9.020
35	2.228	2.208	71	4.520	4.500	107	6.812	6.792	143	9.104	9.084
36	2.292	2.272	72	4.584	4.564	108	6.875	6.855	144	9.167	9.147
37	2.355	2.335	73	4.647	4.627	109	6.939	6.919	145	9.231	9.211
38	2.419	2.399	74	4.711	4.691	110	7.003	6.983	146	9.295	9.275
39	2.483	2.463	75	4.775	4.755	111	7.066	7.046	147	9.358	9.338
40	2.546	2.526	76	4.838	4.818	112	7.130	7.110	148	9.422	9.402
41	2.610	2.590	77	4.902	4.882	113	7.194	7.174	149	9.486	9.466
42	2.674	2.654	78	4.966	4.946	114	7.257	7.237	150	9.549	9.529
43	2.737	2.717	79	5.029	5.009	115	7.321	7.301	151	9.613	9.593
44	2.801	2.781	80	5.093	5.073	116	7.385	7.365	152	9.677	9.657
45	2.865	2.845	81	5.157	5.137	117	7.448	7.428	153	9.740	9.720

Nomenclature of Timing Pulley

	XL (1/5" Pitch)	
Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)
154	9.804	9.784
155	9.868	9.848
156	9.931	9.911
157	9.995	9.975
158	10.059	10.039
159	10.122	10.102
160	10.186	10.166
161	10.250	10.230
162	10.313	10.293
163	10.377	10.357
164	10.441	10.421
165	10.504	10.484
166	10.568	10.548
167	10.632	10.612
168	10.695	10.675
169	10.759	10.739
170	10.823	10.803
171	10.886	10.866
172	10.950	10.930
173	11.014	10.994
174	11.077	11.057
175	11.141	11.121
176	11.205	11.185
177	11.268	11.248
178	11.332	11.312
179	11.395	11.375
180	11.459	11.439
181	11.523	11.503
182	11.586	11.566
183	11.650	11.630
184	11.714	11.694
185	11.777	11.757
186	11.841	11.821
187	11.905	11.885
188	11.968	11.948
189	12.032	12.012

	XL (1/5" Pitch)	
Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)
190	12.096	12.076
191	12.159	12.139
192	12.223	12.203
193	12.287	12.267
194	12.350	12.330
195	12.414	12.394
196	12.478	12.458
197	12.541	12.521
198	12.605	12.585
199	12.669	12.649
200	12.732	12.712
201	12.796	12.776
202	12.860	12.840
203	12.923	12.903
204	12.987	12.967
205	13.051	13.031
206	13.114	13.094
207	13.178	13.158
208	13.242	13.222
209	13.305	13.285
210	13.369	13.349
211	13.433	13.413
212	13.496	13.476
213	13.560	13.540
214	13.624	13.604
215	13.687	13.667
216	13.751	13.731
217	13.815	13.795
218	13.878	13.858
219	13.942	13.922
220	14.006	13.986

Nomenclature of Timing Pulley

	L (3/8" Pitch)	
Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)
10	1.194	1.164
11	1.313	1.283
12	1.432	1.402
13	1.552	1.522
14	1.671	1.641
15	1.790	1.760
16	1.910	1.880
17	2.029	1.999
18	2.149	2.119
19	2.268	2.238
20	2.387	2.357
21	2.507	2.477
22	2.626	2.596
23	2.745	2.715
24	2.865	2.835
25	2.984	2.954
26	3.104	3.074
27	3.223	3.193
28	3.342	3.312
29	3.462	3.432
30	3.581	3.551
31	3.700	3.670
32	3.820	3.790
33	3.939	3.909
34	4.058	4.028
35	4.178	4.148
36	4.297	4.267
37	4.417	4.387
38	4.536	4.506
39	4.655	4.625
40	4.775	4.745
41	4.894	4.864
42	5.013	4.983
43	5.133	5.103
44	5.252	5.222
45	5.371	5.341

	L (3/8" Pitch)	
Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)
46	5.491	5.461
47	5.610	5.580
48	5.730	5.700
49	5.849	5.819
50	5.968	5.938
51	6.088	6.058
52	6.207	6.177
53	6.326	6.296
54	6.446	6.416
55	6.565	6.535
56	6.685	6.655
57	6.804	6.774
58	6.923	6.893
59	7.043	7.013
60	7.162	7.132
61	7.281	7.251
62	7.401	7.371
63	7.520	7.490
64	7.639	7.609
65	7.759	7.729
66	7.878	7.848
67	7.998	7.968
68	8.117	8.087
69	8.236	8.206
70	8.356	8.326
71	8.475	8.445
72	8.594	8.564
73	8.714	8.684
74	8.833	8.803
75	8.952	8.922
76	9.072	9.042
77	9.191	9.161
78	9.311	9.281
79	9.430	9.400
80	9.549	9.519
81	9.669	9.639

	L (3/8" Pitch)	
Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)
82	9.788	9.758
83	9.907	9.877
84	10.027	9.997
85	10.146	10.116
86	10.265	10.235
87	10.385	10.355
88	10.504	10.474
89	10.624	10.594
90	10.743	10.713
91	10.862	10.832
92	10.982	10.952
93	11.101	11.071
94	11.220	11.190
95	11.340	11.310
96	11.459	11.429
97	11.579	11.549
98	11.698	11.668
99	11.817	11.787
100	11.937	11.907
101	12.056	12.026
102	12.175	12.145
103	12.295	12.265
104	12.414	12.384
105	12.533	12.503
106	12.653	12.623
107	12.772	12.742
108	12.892	12.862
109	13.011	12.981
110	13.130	13.100
111	13.250	13.220
112	13.369	13.339
113	13.488	13.458
114	13.608	13.578
115	13.727	13.697
116	13.846	13.816
117	13.966	13.936

Nomenclature of Timing Pulley

	HTD (14mm Pitch)	
Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)
23	4.035	3.925
24	4.211	4.101
25	4.386	4.276
26	4.562	4.452
27	4.737	4.627
28	4.912	4.802
29	5.088	4.978
30	5.263	5.153
31	5.439	5.329
32	5.614	5.504
33	5.790	5.680
34	5.965	5.855
35	6.141	6.031
36	6.316	6.206
37	6.491	6.381
38	6.667	6.557
39	6.842	6.732
40	7.018	6.908
41	7.193	7.083
42	7.369	7.259
43	7.544	7.434
44	7.720	7.610
45	7.895	7.785
46	8.071	7.961
47	8.246	8.136
48	8.421	8.311
49	8.597	8.487

	HTD (14mm Pitch)	
Number of Teeth	Pitch Diameter (PD)	Outside Diameter (O.D.)
50	8.772	8.662
51	8.948	8.838
52	9.123	9.013
53	9.299	9.189
54	9.474	9.364
55	9.650	9.540
56	9.825	9.715
57	10.000	9.890
58	10.176	10.066
59	10.351	10.241
60	10.527	10.417
61	10.702	10.592
62	10.878	10.768
63	11.053	10.943
64	11.229	11.119
65	11.404	11.294
66	11.579	11.469
67	11.755	11.645
68	11.930	11.820
69	12.106	11.996
70	12.281	12.171
71	12.457	12.347
72	12.632	12.522
73	12.808	12.698
74	12.983	12.873
75	13.158	13.048
76	13.334	13.224
77	13.509	13.399
78	13.685	13.575
79	13.860	13.750
80	14.036	13.926

How to calculate Pitch Diameter and Outer Diameter?

Formula: Pitch Diameter, PD = (Pitch x Number of Teeth) / π; while

Outer diameter, OD =[(Pitch x number of teeth)/ π] – (2 x Distance from belt Pitch line to belt tooth bottom)

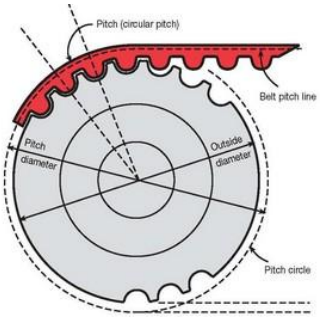
For E.g., for 25 teeth of XL size timing pulley

PITCH DIA, PD= 0.200 (1/5" pitch of XL) x 25 (teeth) / 3.14 (equals Pi , π)

= 1.592 inches pitch diameter arrived

OUTER DIA, OD= 0.200 (1/5" pitch of XL) x 25 (teeth) / 3.14 - (2 X 0.01 inches distance for L size) =1.572 inches outer diameter arrived

Similarly, can calculate for other type of timing belt pulleys



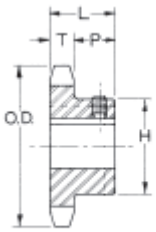
*Timing Belt **Power Capacity** Ratings*
KW/25mm Belt at 100rpm speed

Engine pulley driver teeth type	10	11	12	13	14	15	16	17	18	19	20	21	22	24	26	28	30	32	36	40	44	48
XL (1/5' pitch)	.01	.01	.01	.15	.02	.02	.02	.03	.03	.03	.03	.03	.03	.04	.04	.04						
L (3/8' pitch)	.04	.04	.04	.05	.05	0.6	.06	.07	.07	.07	.07	.08	.09	.10	.10	.11	.12	.13	.14	.16	.17	.19
H (1/2' pitch)	-	-	-	-	.19	.20	.21	.22	.24	.25	.26	.28	.29	.31	.34	.37	.40	.43	.48	.53	.58	.63
XH (7/8' pitch)	-	-	-	-	-	-	-	-	.57	.60	.63	.65	.69	.75	.83	.88	.94	1.0	1.1	1.25	-	-
XXH (1-1/4' pitch)	-	-	-	-	-	-	-	-	.99	1.0	1.1	1.15	1.22	1.30	1.43	1.5	1.65	1.8	1.95	2.2	-	-

*** Taper bush system timing pulley also manufactured.**

Nomenclature of Single Strand Chain Sprocket

Number of Teeth and Pitch Diameter to drive Simplex Roller Chain: Technical Specifications



TYPE 1

Finished Bore Single Sprockets

Part No	DIAMETERS		No. Teeth	Type	STOCK BORES MARKED "X"									DIMENSIONS			Wt. Lbs.
	Outside	Pitch			3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 3/16"	1 1/4"	T Nom.	L Max.	P	
Stock Steel Sprockets																	
H359	1.25"	1.069"	9	1	X	-	-	-	-	-	-	-	-	.168"	3/4"	37/64	.1
H3510	1.37	1.214	10	1	X	X	X*	-	-	-	-	-	-	.168"	3/4"	37/64	.1
H3511	1.50	1.331	11	1	X	X	X*	X*	-	-	-	-	-	.168"	3/4"	37/64	.2
H3512	1.62	1.449	12	1	-	X	X	X	-	-	-	-	-	.168"	3/4"	37/64	.2
H3513	1.75	1.567	13	1	-	X	X	X	-	-	-	-	-	.168"	3/4"	37/64	.3
H3514	1.87	1.685	14	1	-	X	X	X	-	X	-	-	-	.168"	3/4"	37/64	.3
H3515	1.99	1.804	15	1	-	X	X	X	X	X	-	-	-	.168"	3/4"	37/64	.3
H3516	2.10	1.922	16	1	-	X	X	X	X	X	-	-	-	.168"	3/4"	37/64	.4
H3517	2.23	2.041	17	1	-	X	X	X	X	X	-	-	-	.168"	3/4"	37/64	.4
H3518	2.35	2.159	18	1	-	X	X	X	X	X	-	-	-	.168"	3/4"	37/64	.5
H3519	2.47	2.278	19	1	-	X	X	X	-	X	-	-	-	.168"	3/4"	37/64	.5
H3520	2.59	2.397	20	1	-	X	X	X	-	X	-	-	-	.168"	3/4"	37/64	.7
H3521	2.70	2.516	21	1	-	X	X	X	-	X	-	-	-	.168"	7/8	45/64	.8
H3522	2.83	2.635	22	1	-	X	X	X	-	X	-	-	-	.168"	7/8	45/64	.8
H3523	2.95	2.754	23	1	-	X	X	X	-	X	-	-	-	.168"	7/8	45/64	.9
H3524	3.07	2.873	24	1	-	X	X	X	-	X	-	-	-	.168"	7/8	45/64	1.1
H3525	3.19	2.992	25	1	-	X	X	X	-	X	-	-	-	.168"	7/8	45/64	1.2
H3526	3.31	3.111	26	1	-	-	X	X	X	X	X	X	X	.168"	7/8	45/64	1.3
H3528	3.55	3.349	28	1	-	-	X	X	X	X	X	X	X	.168"	7/8	45/64	1.3
H3530	3.79	3.588	30	1	-	-	X	X	X	X	X	X	X	.168"	7/8	45/64	1.4
H3532	4.03	3.862	32	1	-	-	X	X	-	X	-	-	-	.168"	7/8	45/64	1.5
H3536	4.51	4.303	36	1	-	-	X	X	-	X	-	-	-	.168"	7/8	45/64	1.8
H3540	4.99	4.780	40	1	-	-	X	X	-	X	-	-	-	.168"	1	27/32	2.0
H3542	5.23	5.018	42	1	-		-	-	-	X	-	-	-	.168"	1	27/32	2.2
H3545	5.59	5.376	45	1	-		X	X	-	-	-	-	-	.168"	1	27/32	2.4
H3548	5.95	5.734	48	1	-		-	X	-	-	-	-	-	.168"	1	27/32	2.6
H3560	7.38	7.165	60	1	-		X	X	-	X	-	-	-	.168"	1	27/32	3.4

Hardened Teeth

Except where noted, all stock Finished Bore Sprockets are furnished with standard keyway on centreline of tooth and hollow head setscrews over the keyway and at 90⁰ from the keyway.

*** These bore sizes have setscrews at 90⁰ and 180⁰ from the keyway**

Nomenclature of Double Strand Chain Sprocket

Number of Teeth and Pitch Diameter to drive Duplex Roller Chain: Technical Specifications

CHAIN PITCH (INCHES)	1.5	2	2.5	3	4
CHAIN ROLLER DIAMETER	0.875"	1.125"	1.563"	1.750"	2.250"
PLATE THICKNESS	7/16"	9/16"	11/16"	15/16"	1-5/32"
CHAIN DESIGNATIONS	2062-2062H	2082-2082H	2102-2102H	2122-2122H	2162-2162H
NUMBER OF TEETH	PITCH DIAMETERS				
8	3.92	5.23	6.53	7.84	10.45
9	4.39	5.85	7.31	8.77	11.70
10	4.85	6.47	8.09	9.71	12.94
11	5.32	7.10	8.87	10.65	14.20
12	5.80	7.73	9.66	11.59	15.45
13	6.27	8.36	10.45	12.54	16.71
14	6.74	8.99	11.24	13.48	17.98
15	7.21	9.62	12.02	14.43	19.24
16	7.69	10.25	12.81	15.38	20.50
17	8.16	10.88	13.61	16.33	21.77
18	8.64	11.52	14.40	17.28	23.04
19	9.11	12.15	15.19	18.23	24.30
20	9.59	12.79	15.98	19.18	25.57

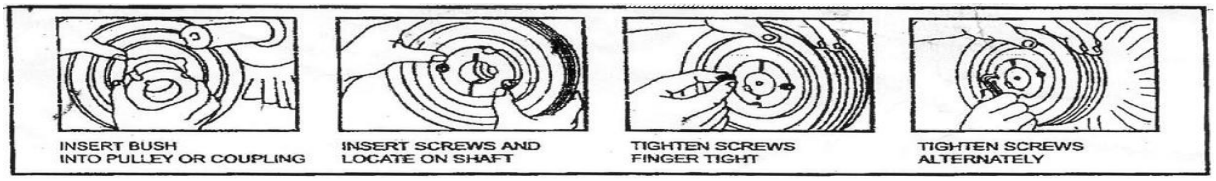
Installation Method of Belt Pulleys

Dynamic Power Transmission, HIC Fast Rotation Tips

- Fitting should be such that correctly positioned on the shaft without damaging pulley groove edges.
- Belts Breakage Prevention is ensured by using min. recommended & higher pitch Diameter drive pulley.
- Graded Cast Iron FG200 & eqvt is used filled with iron cement at times to protect from cracks during machining.
- Unhampered Production even if Blow Holes gets visible at times in the rim, centreplate & boss, nothing to interfere performance.
- Dynamic Balancing of statically balanced pulleys is recommended for pulleys with large face widths or to rotate above 3,000 rpm speed. Weights pieces if attached should be kept intact.
- Fixing Removal Time Saving is achieved by using QUICKFIT Taper Lock Bush pulley needing no re-boring in place of general purpose.
- Belt Slippage Check is possible by using min. Allowed Dia, Pitch 75mm(+6mm=OD) for A, 125mm(+8=OD) for B, 200mm(+9=OD) for C, 315mm(+14=OD) for D, 500mm (+20=OD) for E, 63mm for SPZ, 90mm for SPA, 160mm for SPB, 224mm for SPC sections.

Size Variation (+,-1% Pitch Dia; +,-0.5 ▫ Groove Angle; +-0.15mm Groove Top Width) as per mfg tolerances should be acceptable).

Fitment Method:-

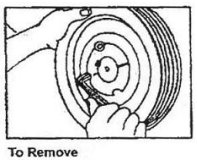


TO INSTALL

1. Remove the protective coating from the bore, Outside of bush and bore of hub. Alter ensuring that the mating tapered surfaces are completely clean and free from oil and dirt, insert bush in hub so that the holes line up.
2. Oil thread and point at grub screws, thread and under-head of cap screws. Place screws loosely in holes threaded in hub.
3. Clean shaft and fit hub and bush to shaft as one unit. Locate in position desired; remembering that the bush still grips the shaft first and then the hub will be slightly drawn to the bush.
4. Using a hexagon wrench tighten screws gradually and alternatively until they are fully secured. Use a piece of pipe on wrench to increase leverage.

TO REMOVE

1. Slacken all screws by several turns. Remove one or two according to number of jacking-off holes. Insert screws in jacking off holes after oiling thread and point of grub screws or thread and under- *head* of cap screws.


To Remove

2. Tighten screws alternately until bush is loosened in the hub and assembly is free on the shaft.
3. Remove assembly from shaft.
4. For normal drives a key is unnecessary. But when a key neither is nor used hammer against large end of bush using a block or sleeve to prevent damage. (This will ensure that the bush is seated squarely in the bore). Screws will now turn a little more. Repeat this, alternate hammering and screw tightening once or twice until correct tightening torque is obtained.
5. If a key is to be fitted, place it in the shaft ice way before fitting the bush. It is essential that only a side-fitting parallel key with TOP CLEARANCE be used.
6. After drive has been running under load for a short time stop and check tightness of screws.
7. Fill empty holes with grease to exclude dirt.

Bush		1008 1108	1310	1210 1215	1610 1615	2012	2517 2525	3020 3030	3525 3535	4040	4545	5050
Screw Tightening Torque(Nm.)		56	20	20	20	31	48	90	113	170	192	271
Screw	Qty.	2	2	2	2	2	2	2	3	3	3	3
Details	Size (BSW)	¼"	3/8"	3/8"	3/8"	7/16	½"	5/8"	½"	5/8"	¾"	7/8"

Purchase Enquiry Info

V Groove, Timing, Flat and Taper Bush Belt Pulley Min. Information to Be Sent

(Email at: belts@universaldelhi.org ; universal@hic-india.com or Call +91 11 2874 5120)

HIC ships v timing flat taper bush belt pulley sheave conforming IS 3142 tailor-made to buyer's order specifications to different countries including India. Please send following information in English to quote prices:

1. Pulley OD or PCD MM or Inch **Size**
2. Pulley pitch or section details for drive belt **Type**, V or timing or flat
3. Sheave **Grooves**, v-belt Numbers or Tooth profile or Face Width
4. **Bushing** type, TLB or QD or Gen. Purpose or Solid Hub
5. **Bore** size MM, pilot or finished hole and Keyway-w- d-h dimensions
6. **Material**, Cast Iron or Alloy Steel or Aluminium
7. **Dynamic Balancing**, if required
8. **Quantity**- Numbers

Quality Assurance Plan

HIC Belt Pulleys Testing Parameters

Quality Belt pulleys with taper bush manufactured in ISO 9001 certified HIC factories in India with Production Supervisors conducting routine pre-manufacture checks and post-manufacture tests as to:

100% Physical checks with respect to dimensions,
100% Chemical checks w.r.t. MOC,
20% Random physical tests

Note: Test Certificate of HIC's Lab forwarded along-with supplies. Fully geared up to provide Third Party Inspection at buyer's cost.

Production Capacity of Machinery Drive Products

	Approximate Qty. per annum
1. Nylon Sandwich Belt, Leather Transmission Belting, Flat Rubber Transmission Belt http://www.rubber-steel-industrial-products.com/rubber-belting-manufacturer/index.htm	**60,000 mts.**
2. Classical V Belts, Cogged Belts, Wedge Belt, Poly v Belt, Banded Belt, Harvester Combine Belt , Narrow Section Belt http://www.rubber-steel-industrial-products.com/v-belts-manufacturer/index.htm	**2,50,000 nos.**
3. V Belt Pulley Sheaves, Timing Pulley, Taper Bush Pulley, Weld on Hubs http://www.rubber-steel-industrial-products.com/belt-pulley-manufacturer/index.htm	**5,000 nos.**
4. Spider Jaw Couplings, Rubber Tyre Coupling, Flexible Gear Coupling, Pin Bush Coupling Taper Bush System http://www.rubber-steel-industrial-products.com/motor-coupling-manufacturer/index.htm http://www.rubber-steel-industrial-products.com/shaft-coupling-manufacturer/index.htm http://www.rubber-steel-industrial-products.com/gear-coupling-manufacturer/index.htm http://www.rubber-steel-industrial-products.com/bush-coupling-manufacturer/index.htm	**75,000 nos.**

Performance Certificates

KVQA

NORSK AKKREDITERING MSYS 007

Certificate of Registration

(Quality Management System)

KVQA CERTIFICATION SERVICES PVT. LTD.

This is to certify that the Quality Management System of

HIC INTERNATIONAL CO INC

D-136, Shankar Road, New Rajinder Nagar,
New Delhi-110060, India.

Has been found to be of the Quality Management System Standard

NS-EN ISO 9001:2008/ISO 9001:2008

This certificate is valid for the following product or service range

Dealing Into Industrial Conveyor Belts Idlers, Drive Couplings Pulleys, Hydraulic Hoses Valves, Rubber Sheets.

Certificate No: IQSC-1960

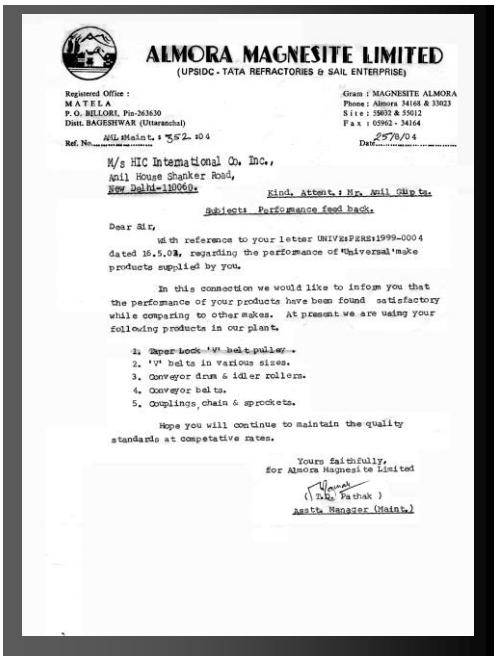
1st Surveillance Done on: 24/05/2011 — Date of Issue: 01, June, 2010

2nd Surveillance Done on: 01/05/2012 — Valid until: 31, May, 2013*

Issued by:

Authorised signatory KVQA

The certification body's accreditation is accredited by the Norsk Akkreditering of Norway with reference to the Parliamentary Proposition no 106 (1989/90) and Norsk Akkreditering's the status laid down in Royal Decree of 7th October 1993
Accredited by a member of IAF's MLA for Quality Systems



ALMORA MAGNESITE LIMITED
(UPSIDC - TATA REFRACTORIES & SAIL ENTERPRISE)

Registered Office :
M A T E L A
P. O. BILLORI, Pin-263630
Distt. BAGESHWAR (Uttaranchal)

Gram : MAGNESITE ALMORA
Phone : Almora 34168 & 33023
Site : 55032 & 55012
Fax : 05962 - 34164

Ref. No. AML Maint. : 352 :04 Date 2570/04

M/s HIC International Co. Inc.,
Anil House Shanker Road,
New Delhi-110060.

Kind. Attent. : Mr. Anil Gupta.

Subject: Performance feed back.

Dear Sir,

With reference to your letter UNIV:PERS:1999-0004 dated 16.5.03, regarding the performance of Universal make products supplied by you.

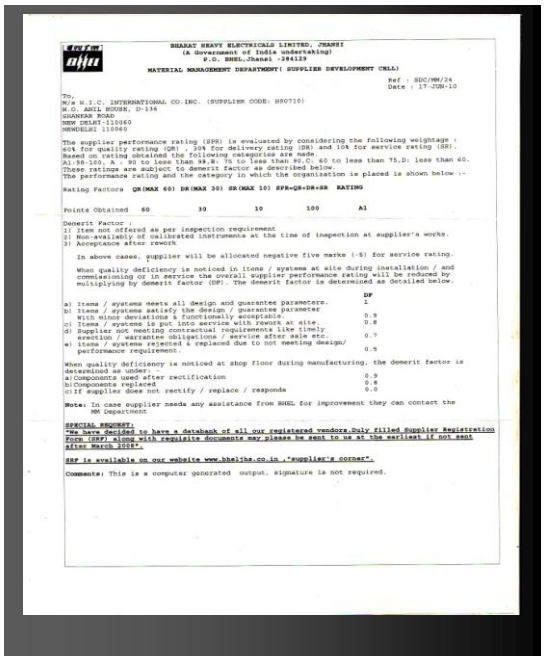
In this connection we would like to inform you that the performance of your products have been found satisfactory while comparing to other makes. At present we are using your following products in our plant.

1. Taper Lock 'V' belt puller.
2. 'V' belts in various sizes.
3. Conveyor drum & idler rollers.
4. Conveyor belts.
5. Couplings, chain & sprockets.

Hope you will continue to maintain the quality standards at competative rates.

Yours faithfully,
for Almora Magnesite Limited

(T.N. Pathak)
Asstt. Manager (Maint.)



BHARAT HEAVY ELECTRICALS LIMITED, JHANSI
(A Government of India undertaking)
P.O. BHEL,Jhansi -284129
MATERIAL MANAGEMENT DEPARTMENT(SUPPLIER DEVELOPMENT CELL)

Ref : SDC/MM/24
Date : 17-JUN-10

To,
M/s H.I.C. INTERNATIONAL CO.INC. (SUPPLIER CODE: H90710)
H.O. ANIL HOUSE, D-136
SHANKAR ROAD
NEW DELHI-110060
NEW DELHI 110060

The supplier performance rating (SPR) is evaluated by considering the following weightage :
40% for quality rating (QR) ; 30% for delivery rating (DR) and 10% for service rating (SR).
Based on rating obtained the following categories are made
A1:80-100, A : 90 to less than 99.9; 75 to less than 90; 60 to less than 75,D: less than 60.
These ratings are subject to demerit factor as described below.
The performance rating and the category in which the organisation is placed is shown below :-

Rating Factors	QR (MAX 60)	DR (MAX 30)	SR (MAX 10)	SPR=QR+DR+SR	RATING
Points Obtained	60	30	10	100	A1

Demerit Factor :
1) Item not offered as per inspection requirement
2) Non-availably of calibrated instruments at the time of inspection at supplier's works.
3) Acceptance after rework.

In above cases, supplier will be allocated negative five marks (-5) for service rating.

When quality deficiency is noticed in items / systems at site during installation / and commissioning or in service the overall supplier performance rating will be reduced by multiplying by demerit factor (DF). The demerit factor is determined as detailed below.

	DF
a) Items / systems meets all design and guarantee parameters.	1
b) Items / systems satisfy the design / guarantee parameter With minor deviations & functionally acceptable.	0.9
c) Items / systems is put into service with rework at site.	0.8
d) Supplier not meeting contractual requirements like timely exention / warrantee obligations / service after sale etc.	0.7
e) Items / systems rejected & replaced due to not meeting design/ performance requirement.	0.5

When quality deficiency is noticed at shop floor during manufacturing, the demerit factor is determined as under :

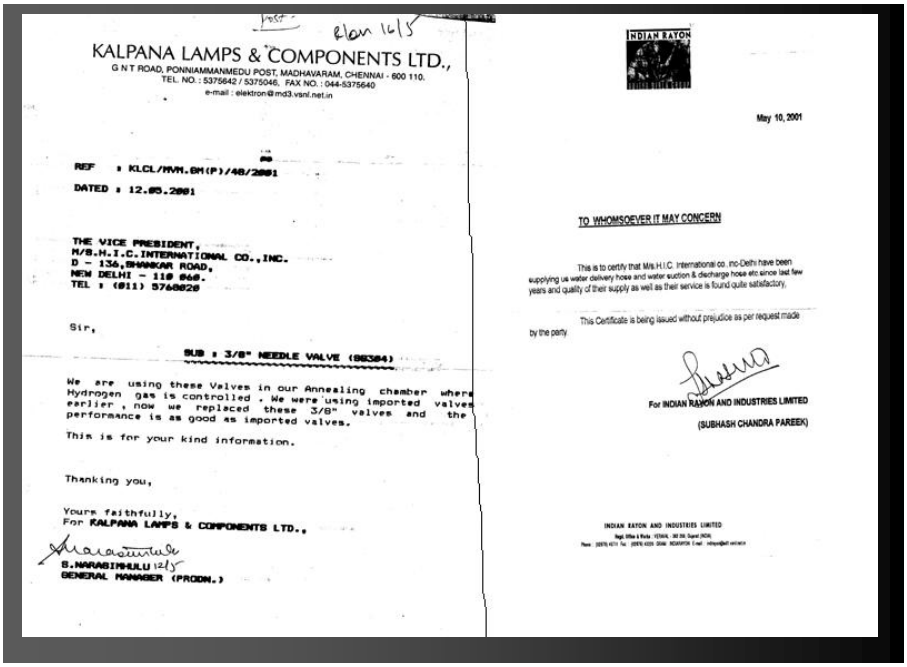
a) Components used after rectification	0.9
b) Components replaced	0.8
c) If supplier does not rectify / replace / responds	0.0

Note: In case supplier needs any assistance from BHEL for improvement they can contact the MM Department.

SPECIAL REQUEST:
"We have decided to have a databank of all our registered vendors.Duly filled Supplier Registration Form (SRF) along with requisite documents may please be sent to us at the earliest if not sent after March 2006".

SRF is available on our website www.bhelhe.co.in ,"supplier's corner".

Comments: This is a computer generated output, signature is not required.



KALPANA LAMPS & COMPONENTS LTD.,
G N T ROAD, PONNIAMMANMEDU POST, MADHAVARAM, CHENNAI - 600 110.
TEL. NO. : 5375642 / 5375046, FAX NO. : 044-5375640
e-mail : elektron@md3.vsnl.net.in

REF : KLCL/MVM.BH(P)/48/2001
DATED : 12.05.2001

THE VICE PRESIDENT,
M/S.H.I.C.INTERNATIONAL CO.,INC.
D - 136,SHANKAR ROAD,
NEW DELHI - 110 060.
TEL : (011) 5760020

Sir,

SUB : 3/8" NEEDLE VALVE (98384)

We are using these Valves in our Annealing chamber where Hydrogen gas is controlled . We were using imported valves earlier , now we replaced these 3/8" valves and the performance is as good as imported valves.

This is for your kind information.

Thanking you,

Yours faithfully,
For KALPANA LAMPS & COMPONENTS LTD.,

S.NARASIMHULU I.P.
GENERAL MANAGER (PRODN.)

INDIAN RAYON

May 10, 2001

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s.H.I.C. International co. inc-Delhi have been supplying us water delivery hose and water suction & discharge hose etc since last few years and quality of their supply as well as their service is found quite satisfactory.

This Certificate is being issued without prejudice as per request made by the party

For INDIAN RAYON AND INDUSTRIES LIMITED

(SUBHASH CHANDRA PAREEK)

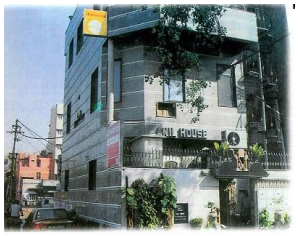
INDIAN RAYON AND INDUSTRIES LIMITED

Total Quality Management Principles Followed

HIC UNIVERSAL

NO MORE DRIVES

POWER TRANSMISSION STOPPAGE !



HIC India Headquarters

HIC International Co Inc

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New Delhi 110060 India | Asia

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Fax: 009111 28742791

E-mail: universal@hic-india.com, belts@universaldelhi.org

Contact Person: Mr Anil Gupta - President, Ms Priyum - Exports Head

Skype ID: anilguptahic

www.metricpulley.com | www.hictaperlockpulleys-africa.com | www.sprocketsheaves.com

Vendor Data: www.hic-india.com | **Customers List:** www.universaldelhi.org | **Catalogue:** www.rubber-steel-industrial-products.com