

HEAVY DUTY CONVEYOR PULLEYS

- Wing Pulleys
- Drum Pulleys
- Take-up Frames
- Bushings
- Lagging
- Shafting
- Wear Items



Martin SPROCKET & GEAR, INC.

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are

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- Recycle
- Food Processing
- Unit Packaging
- ...and more!

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Heavy Duty Conveyor Pulleys

CONVEYOR PULLEYS - HEAVY DUTY

ITEM	PAGE
DRUM PULLEYS	3 – 7
Machined Drum Pulleys - Crowned	3
Machined Drum Pulleys - Flat	3
Standard Duty Drum Pulleys	4
Mine Duty Drum Pulleys	5
Quarry Duty Drum Pulleys	6
Engineering Class Drum Pulleys	7
WING PULLEYS	8 – 11
Standard Duty Wing Pulleys	8
Mine Duty Wing Pulleys	9
Quarry Duty Wing Pulleys	10
Quarry Duty "AR" Wing Pulleys	11
LAGGING	12–13
Lagging - Vulcanized	12
Vulcanized Lagging - Plain	12
Vulcanized Lagging - Herringbone	12
Vulcanized Lagging - Diamond Grooved	12
Lagging - Ceramic	13
MSHA-Mine & Safety Hazard Approved	13
AR-Abrasive Resistant	13
Ceramic (Cold bond and Vulcanized)	13
Lagging - Other	14
Weld On Strip Lagging	14
Cold Bond	14
Molded Urethane	14
SOF (Static Conductive Oil & Fire resistant)	14
BUSHINGS FOR CONVEYOR PULLEYS	15–16
MXT Bushings	15
M-HE Bushings	16
SHAFTING	17
WEAR ITEMS	18–19
Shell Lagging	18
Steel Wear Rims	18
Wing Lagging For CCI Wing Pulleys	18
Lagged Replaceable Contact Bars	18
Frequently Asked Questions	19
TAKE-UP FRAMES	20–26
Take-Up Frames Cross Reference	20 – 21
CTA Top Angle Take-Up Frames	22
CHD Heavy Duty Take-Up Frames	23
CCP Center Pulley Take Up Frames	24
CWS Wide Slot Take-Up Frames	25
TTU Tube Take-Up Frames	26
SPECIAL CONSTRUCTION PULLEYS	27–29
DSP Dead Shaft Wing Pulleys	27
DSP Dead Shaft Drum Pulleys	27
DSP Pedestals	27
Spiral Drum Pulleys	28
Spiral Wing Pulleys	28
Sprocket Rollers for Engineered Class Chain	29
Gudgeon Rollers	29
Cage Rollers	29
Nomenclature	30
Engineering / Technical Data	31–32
Belt Conveyor Data Sheet	33
HD Pulley Data Sheet	34

Heavy Duty Conveyor Pulleys

Martin now offers a comprehensive line of conveyor pulleys for your bulk material handling needs. Broadening our offering without compromising quality on:

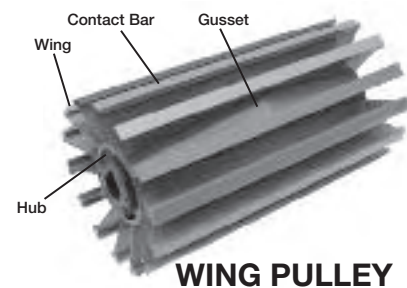
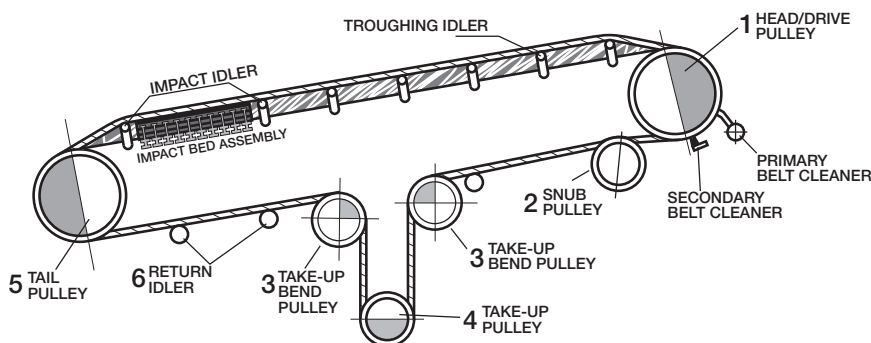
- Drum Pulleys — Lagged and Plain
- Wing Pulleys
- Shafts
- Take-up Frames
- Bushings
- Wear Items
- Specialty Pulleys



Seeing is believing — The *Martin* difference

All of *Martin's* conveyor pulleys meet or exceed CEMA standards for construction. Our pulleys are the heaviest, most durable in the industry.

Conveyor Components Locations and Terminology



- 1. Head Pulley** The pulley at the discharge end of a conveyor belt; may be either an idler or a drive pulley. Usually it has a larger diameter than other pulleys in the system and is often lagged to increase traction and pulley life.
- 2. Snub Pulley** Mounted close to the drive pulley on the return side of the belt, the snub pulley's primary job is to increase the angle of wrap around the drive pulley, thereby increasing traction. Its secondary purpose is reducing belt tension, which is important in maximizing conveyor component life. May be lagged for longer wear life.
- 3. Take-Up Bend Pulley** The bend pulley is used for changing the direction of the belt running to the gravity take-up. May be lagged for longer wear life.
- 4. Take-Up Pulley** An adjustable idler pulley to accommodate changes in the length of a conveyor belt to maintain proper tension.
- 5. Tail Pulley** A pulley at the tail of the belt conveyor opposite the normal discharge end; may be a drive pulley or an idler pulley.
- 6. Return Idler** The idler or roller on which the conveyor belt rides after the load which it was carrying has been dumped.

Martin Sales and Engineering will work with you to completely solve your belt conveying needs. The following pages will assist you in selecting most of the components for your conveyor. Since there are infinite amounts of conveying possibilities and configurations our sales and engineering staff are prepared to assist you with each of them.

See Page 30 for Part Nomenclature

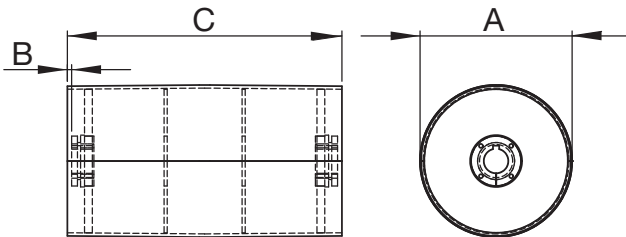
Machined Drum Pulleys — Crowned or Flat



Martin's Machined Drum Pulleys are manufactured from thick wall pipe or tubing, then machined on a lathe to form the crown and ensure minimum runout in operation.

Our Machined Drum Pulleys are the heaviest in the business, featuring a 3/8" minimum end disc, or 3/4" thick integral hub and end discs, minimum 1/4" rims and 1/4" center plates. Because each pulley has been machined, the pulley is the thickest in the center where the load is the highest.

Our Machined Drum Pulleys run more concentric than pulleys made by the "expansion" method. This ensures better belt tracking and less vibration transferred to the bearings.



FEATURES:

- 4 to 10-3/4" Diameter
- 3/8" minimum End Disc
- 1/4" minimum Center Plates
- Several Hub/Bushing systems available

OPTIONS:

- Lagging
- Shafting
- Bearing Assemblies
- Take-Up Systems

Estimated Machined Drum Pulley Weights

Diameter (A)	Hub	Max Bore	Setback (B)*	Face Width (C)									
				8	14	20	26	32	38	44	51	57	63
4	XT15	1-7/16	3/4	9	13	18	22	32	37	43	49	54	59
4-1/2*	XT15	1-7/16	3/4	15	21	27	33	39	45	51	58	64	70
4-1/2*	XT20	1-15/16	3/4	16	22	28	34	40	46	52	59	65	71
5	XT15	1-7/16	3/4	17	24	31	37	44	51	58	63	72	79
5	XT20	1-15/16	3/4	18	25	32	38	45	52	59	64	73	80
5-1/2*	XT15	1-7/16	3/4	19	26	33	41	48	56	63	72	79	87
5-1/2*	XT20	1-15/16	3/4	21	28	35	43	50	58	65	74	81	89
6	XT20	1-15/16	3/4	23	31	39	47	55	63	71	81	89	97
6	XT25	2-7/16	3/4	26	34	42	50	58	66	74	84	92	100
6-1/2*	XT20	1-15/16	3/4	27	38	49	60	70	81	92	105	115	126
6-1/2*	XT25	2-7/16	3/4	29	40	51	62	72	83	94	107	117	128
8	XT25	2-7/16	3/4	36	47	58	70	81	92	104	117	128	140
8	XT30	2-15/16	7/8	38	49	66	72	83	94	106	119	130	142
8-1/2*	XT25	2-7/16	3/4	43	58	73	87	102	117	131	149	163	178
8-1/2*	XT30	2-15/16	7/8	45	60	75	89	104	119	133	151	165	180
10	XT25	2-7/16	3/4	50	64	79	93	107	122	136	153	167	182
10	XT30	2-15/16	7/8	52	66	81	95	109	124	138	155	169	184
10	XT35	3-7/16	7/8	58	72	87	101	115	130	144	161	175	190
10-3/4*	XT25	2-7/16	3/4	66	76	93	111	130	148	167	188	207	226
10-3/4*	XT30	2-15/16	7/8	69	79	96	114	133	151	170	191	210	229
10-3/4*	XT35	3-7/16	7/8	75	85	101	120	139	157	176	197	216	235

*Nominal

• General position for bushing face – for position per application consult engineering.

Consult Factory for dimensional and weight specifications of sizes not shown.

Drum Pulleys

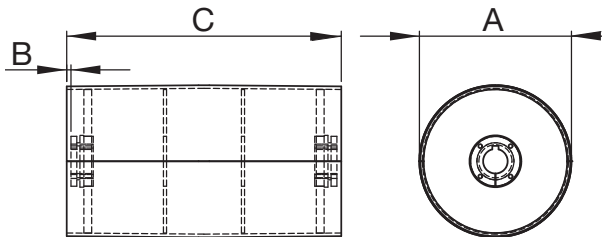


Standard Duty Drum Pulleys



Martin offers Standard Duty Drum Pulleys using a minimum 1/4" rim, 3/8" end discs and 1/4" center discs. Each Standard Drum Pulley features a two piece rolled rim, which has been fabricated on either of our flat or custom crowned roll machines. The rims are trimmed and hydraulically seated around the heavy end discs to ensure maximum concentricity. Once the pulley is formed, Martin utilizes a submerged arc weldment to ensure optimum connection of its individual components.

Our trademark Standard Duty Pulley is the heaviest off the shelf CEMA grade pulley in the industry. The thicker materials used in our Standard Duty pulleys yield longer life and better resistance to wear and stress that are present in every conveying application.



FEATURES:

- 12" to 60" Diameter
- 3/8" minimum End Disc
- 1/4" minimum Center Plates
- Several Hub/Bushing systems available

OPTIONS:

- Lagging
- Shafting
- Bearing Assemblies
- Take-Up Systems

Estimated Standard Duty Drum Pulley Weights

Diameter (A)	Hub	Max Bore	Setback (B)*	Face Width (C)							
				20	26	32	38	44	51	57	63
12	XT25	2-7/16	3/4	81	100	119	138	157	204	242	280
12	XT30	2-15/16	7/8	84	103	122	141	160	207	245	283
14	XT25	2-7/16	3/4	99	122	145	168	191	245	291	336
14	XT30	2-15/16	7/8	102	125	148	171	194	248	294	339
16	XT25	2-7/16	3/4	118	145	172	199	226	289	342	394
16	XT30	2-15/16	7/8	121	148	175	202	229	292	345	397
16	XT35	3-7/16	7/8	126	153	180	207	234	297	350	402
18	XT25	2-7/16	3/4	138	169	201	232	263	336	396	456
18	XT30	2-15/16	7/8	141	172	204	235	266	339	399	459
18	XT35	3-7/16	7/8	146	177	209	240	271	344	404	464
20	XT30	2-15/16	7/8	162	198	234	270	306	465	506	548
20	XT35	3-7/16	7/8	167	203	239	275	311	470	511	553
20	XT40	3-15/16	1	174	210	246	282	318	477	518	560
24	XT35	3-7/16	7/8	245	291	336	382	427	605	662	719
24	XT40	3-15/16	1	252	298	343	389	434	612	669	726
24	XT45	4-7/16	1	261	307	352	398	443	621	678	735
30	XT40	3-15/16	1	413	494	575	656	737	824	899	973
30	XT45	4-7/16	1	422	501	582	663	744	831	906	982
30	XT50	4-15/16	1	445	526	607	688	769	856	931	1005
36	XT40	3-15/16	1	541	644	746	849	952	1061	1155	1249
36	XT45	4-7/16	1	550	653	755	858	961	1070	1164	1258
36	XT50	4-15/16	1	573	676	778	881	984	1093	1187	1281

* General position for bushing face - for position per application consult engineering.

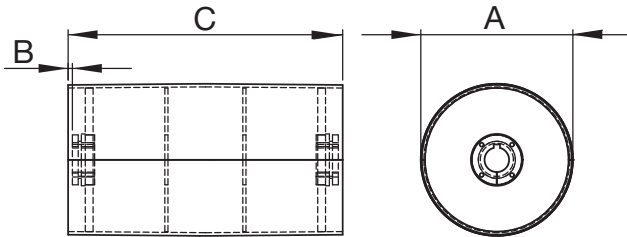
Consult Factory for dimensional and weight specifications of sizes not shown.

Mine Duty Drum Pulleys



Martin offers Mine Duty Drum Pulleys using a minimum 3/8" rim (up to 20" diameter), 1/2" minimum rim on 24" and larger diameter, 1" minimum end discs and 3/8" center discs. Each Mine Duty Drum Pulley features a two piece rolled rim, which has been fabricated on either of our flat or custom crowned roll machines. The rims are trimmed and hydraulically seated around the heavy end discs to ensure maximum concentricity. Once the pulley is formed, *Martin* utilizes a double or triple pass submerged arc weldment to ensure optimum connection of its individual components.

The *Martin* Mine Duty Pulley is available in either Flat Face or Crown Face construction.



FEATURES:

- 10" to 60" Diameter
- 3/8" thru 1" Rims
- 1", 1-1/4" and Heavier End Discs
- 3/8" Center Plates
- Several Hub/Bushing Systems Available
- Double Sub-Arc Weldments

Estimated Mine Duty Drum Pulley Weights

Diameter (A)	Hub	Max Bore	Setback (B)•	Face Width (C)						
				26	32	38	44	51	57	63
12	XT25	2-7/16	3/4	153	179	205	231	261	288	314
12	XT30	2-15/16	7/8	156	182	208	234	264	291	317
12	XT35	3-7/16	7/8	161	187	213	239	269	296	322
14	XT30	2-15/16	7/8	210	242	273	304	340	371	402
14	XT35	3-7/16	7/8	215	247	278	309	345	376	407
16	XT30	2-15/16	7/8	255	292	328	364	407	443	479
16	XT35	3-7/16	7/8	260	297	333	369	412	448	484
16	XT40	3-15/16	1	267	304	340	376	419	455	491
18	XT35	3-7/16	7/8	308	350	392	434	483	524	566
18	XT40	3-15/16	1	315	357	399	441	490	531	573
20	XT35	3-7/16	7/8	361	408	456	503	558	606	653
20	XT40	3-15/16	1	368	415	463	510	565	613	660
20	XT45	4-7/16	1	377	424	472	519	574	622	669
24	XT35	3-7/16	7/8	597	671	745	820	906	981	1055
24	XT40	3-15/16	1	604	678	752	827	913	988	1062
24	XT45	4-7/16	1	613	687	761	836	922	997	1071
30	XT40	3-15/16	1	857	954	1051	1148	1261	1359	1456
30	XT45	4-7/16	1	866	963	1060	1157	1270	1368	1465
30	XT50	4-15/16	1	889	986	1083	1180	1293	1391	1488
36	XT40	3-15/16	1	1152	1274	1395	1516	1658	1780	1901
36	XT45	4-7/16	1	1161	1283	1404	1525	1667	1789	1910
36	XT50	4-15/16	1	1184	1306	1427	1548	1690	1812	1933

• General position for bushing face - for position per application consult engineering.

Consult Factory for dimensional and weight specifications of sizes not shown.

Drum Pulleys

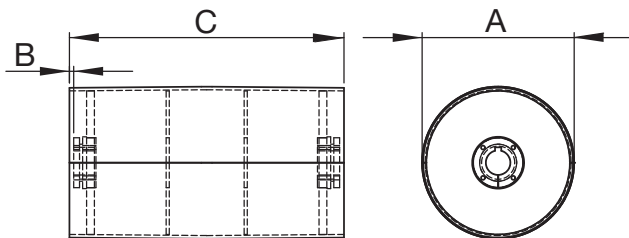


Quarry Duty Drum Pulleys



Martin offers Quarry Duty Drum Pulleys using a minimum 1/2" rim, 1-1/4" end discs, and 1/2" center discs, as well as an additional center disc. Each Quarry Duty Drum Pulley features a two piece rolled rim, which has been fabricated on either of our flat or custom crowned roll machines. The rims are trimmed and hydraulically seated around the heavy end discs to ensure maximum concentricity. Once the pulley is formed, *Martin* utilizes a double or triple pass submerged arc weldment to ensure optimum connection of its individual components.

Martin's Quarry Duty Drum Pulley is available in either Flat Face or Crown Face construction.



FEATURES:

- 12" to 60" Diameter
- 1/2" thru 1" Rims
- 1-1/4" and Heavier End Discs
- 1/2" Center Plates
- Full Depth Key Bushings
- Double Sub-Arc Weldments

Estimated Quarry Duty Drum Pulley Weights

Diameter (A)	Hub	Max Bore	Setback (B)*	Face Width (C)						
				26	32	38	44	51	57	63
12	XT35	3-7/16	7/8	229	264	298	332	372	406	441
14	XT35	3-7/16	7/8	285	326	367	408	456	497	538
16	XT35	3-7/16	7/8	346	394	442	490	546	594	642
16	XT40	3-15/16	1	353	401	449	497	553	601	649
18	XT35	3-7/16	7/8	412	468	523	578	643	698	753
18	XT40	3-15/16	1	419	475	530	585	650	705	760
20	XT35	3-7/16	7/8	486	549	611	674	746	809	871
20	XT40	3-15/16	1	493	556	618	681	746	816	878
20	XT45	4-7/16	1	502	565	627	690	762	825	887
24	XT35	3-7/16	7/8	646	725	803	881	972	1050	1128
24	XT40	3-15/16	1	653	732	810	888	979	1057	1135
24	XT45	4-7/16	1	662	741	819	897	988	1066	1144
30	XT40	3-15/16	1	935	1039	1142	1245	1365	1469	1572
30	XT45	4-7/16	1	944	1048	1151	1254	1374	1478	1581
30	XT50	4-15/16	1	967	1071	1174	1277	1397	1501	1604
36	XT40	3-15/16	1	1267	1397	1527	1658	1810	1940	2070
36	XT45	4-7/16	1	1276	1406	1536	1667	1819	1949	2079
36	XT50	4-15/16	1	1299	1429	1559	1690	1842	1972	2102

*General position for bushing face - for position per application consult engineering.

Consult Factory for dimensional and weight specifications of sizes not shown.

Engineering Class Drum Pulleys



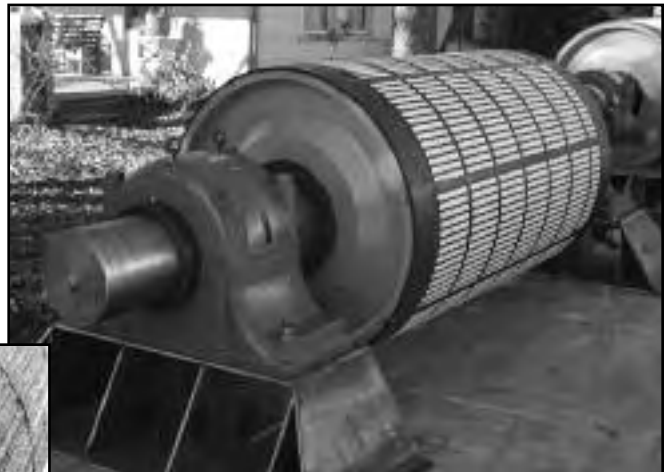
Engineering Class Pulley with FEA Mesh

Martin's Engineering Class Drum Pulleys feature our heaviest construction available. Unlike other manufacturers, whose Engineering Class Pulleys may actually feature material construction lighter than their Mine Duty Pulley, our Engineering Class Pulleys are constructed with materials even more aggressive than the Quarry Duty product. Our Engineering Class Pulleys generally feature extra manufacturing steps such as; machining, balancing, NDT weld tests, magnetic particle tested welds and thermally stress relieving to ensure that our pulley will stand up to the most rugged application.

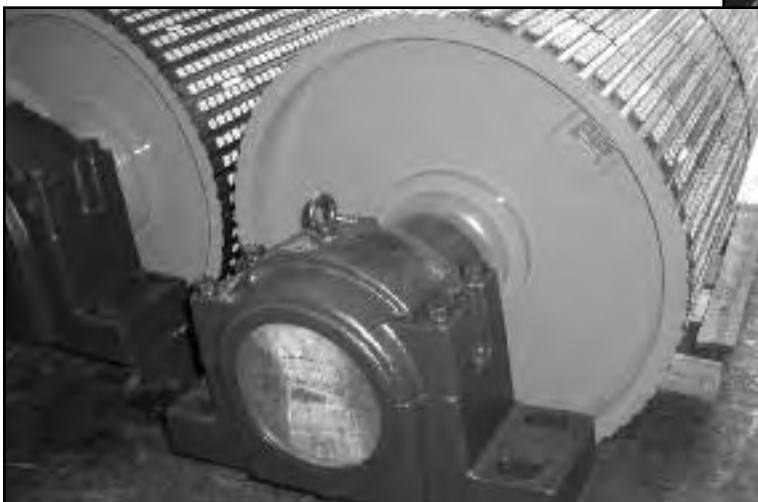
The *Martin* Engineering Class Drum Pulley can be manufactured in many designs; from rigid end disc bushed construction to turbine end disc with keyless compression hubs. The *Martin* Engineering Class Pulley is typically used in extremely high tension applications where performance is critical. Steel cable and high modulus fabric belt conveyors are perfect applications for the *Martin* Engineering Class Pulley.

FEATURES:

- Available in Any Diameter
- End Disc Profile is Engineered per Application
- Several Shaft Locking Mechanism Systems Available
- Balancing, Stress Relieving, Weld Testing & Additional Operations are Available.



Turbine End Disc Drum assembly with keyless locking device. Ceramic Lagging.



Engineering Drum Pulley assembly with keyless locking device. Ceramic Lagging.

OPTIONS:

- Vulcanized Lagging
- Shafting
- Bearing Assemblies
- Take-Up Frames

Call *Martin* for fast turn around times on Made-To-Order Engineering Pulleys!

Wing Pulleys



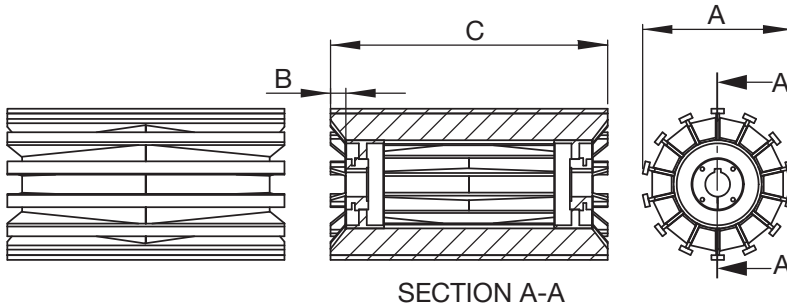
Standard Duty Wing Pulleys



Martin's Standard Duty Wing Pulleys are constructed from extremely heavy materials and are recognized in the industry as the most aggressive CEMA grade stock pulley on the shelf. All *Martin* wing pulleys utilize the unique 'end-pipe' design, which offers ultimate protection against wing folding and hub-weld fatigue. Our minimum 3/8" thick contact bar yields additional life in abrasive applications where our competitors thinner bar does not. Additionally, our 1/4" thick wing offers greater structural support in aggressive applications.

FEATURES:

- Available in 6" thru 60" Diameter
- Minimum 3/8" x 1-1/4" Contact Bars
- Minimum 1/4" Thick Wings
- Minimum 10 ga. Gussets
- Features Unique *Martin* 'End Pipe' Design
 - Better Protection Against Wing Folding
 - Better Protection Against Hub-Weld Fatigue
- Several Hub/Bushing Systems Available



Estimated Standard Duty Wing Pulley Weights

Diameter (A)*	Hub	Max Bore	Setback (B)•	Face Width (C)							
				20	26	32	38	44	51	57	63
12	XT25	2-7/16	3/4	105	130	154	179	203	232	256	281
12	XT30	2-15/16	7/8	111	136	160	185	209	238	262	287
14	XT25	2-7/16	3/4	120	147	175	203	230	263	290	318
14	XT30	2-15/16	7/8	126	153	181	209	236	269	296	324
16	XT25	2-7/16	3/4	136	168	201	233	265	303	336	368
16	XT30	2-15/16	7/8	142	174	207	239	272	309	342	374
16	XT35	3-7/16	7/8	153	186	218	250	283	320	353	385
18	XT25	2-7/16	3/4	183	230	277	323	370	425	471	518
18	XT30	2-15/16	7/8	189	236	283	329	376	431	477	524
18	XT35	3-7/16	7/8	201	248	294	341	388	442	489	536
20	XT30	2-15/16	7/8	203	250	300	350	400	458	508	558
20	XT35	3-7/16	7/8	212	262	311	361	411	470	519	569
20	XT40	3-15/16	1	226	276	326	376	425	484	534	584
24	XT35	3-7/16	7/8	254	314	373	432	492	561	621	680
24	XT40	3-15/16	1	268	328	387	447	506	575	635	694
24	XT45	4-7/16	1	286	346	405	465	524	593	653	712
30	XT40	3-15/16	1	310	374	438	503	567	642	706	771
30	XT45	4-7/16	1	328	392	456	521	585	660	724	789
30	XT50	4-15/16	1	373	437	501	566	630	705	769	834
36	XT40	3-15/16	1	401	493	584	676	767	874	966	1057
36	XT45	4-7/16	1	419	511	602	694	785	892	984	1075
36	XT50	4-15/16	1	464	556	647	739	830	937	1029	1120

* Nominal

• General position for bushing face - for position per application consult engineering.

Consult Factory for dimensional and weight specifications of sizes not shown.

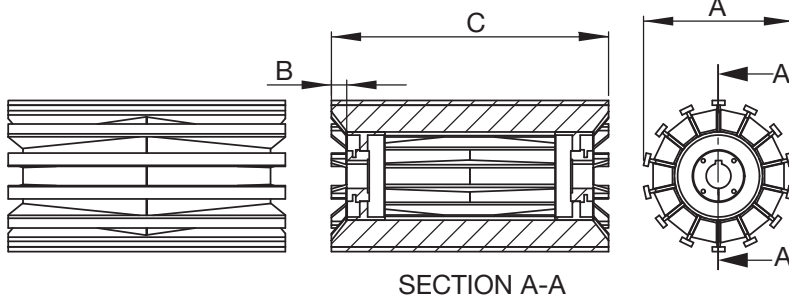
Mine Duty Wing Pulleys



Martin's Mine Duty Wing Pulleys are constructed from extremely heavy materials and are recognized in the industry as the most aggressive 'Mine Duty' stock pulley on the shelf. All *Martin* wing pulleys utilize the unique 'end-pipe' design, which offers ultimate protection against wing folding and hub-weld fatigue. Our minimum 5/8" thick contact bar yields additional life in abrasive applications where our competitors thinner bar does not. Additionally, our 3/8" thick wing and 1/4" gussets offer greater structural support in aggressive applications.

FEATURES:

- Available in 8" thru 60" Diameter
- Minimum 5/8" x 1-1/2" Contact Bars
- Minimum 3/8" Thick Wings
- Minimum 1/4" Gussets
- Features Unique *Martin* 'End Pipe' design
 - Better Protection Against Wing Folding
 - Better Protection Against Hub-Weld Fatigue
- Several Hub/Bushing Systems Available



Estimated Mine Duty Wing Pulley Weights

Diameter (A)*	Hub	Max Bore	Setback (B)•	Face Width (C)						
				26	32	38	44	51	57	63
12	XT25	2-7/16	3/4	193	232	272	311	356	396	435
12	XT30	2-15/16	7/8	199	239	278	317	363	402	441
12	XT35	3-7/16	7/8	211	250	289	329	374	413	453
14	XT25	2-7/16	3/4	221	266	311	356	408	453	497
14	XT30	2-15/16	7/8	228	272	317	362	414	459	507
14	XT35	3-7/16	7/8	239	284	329	373	426	470	515
16	XT25	2-7/16	3/4	255	307	360	412	473	526	578
16	XT30	2-15/16	7/8	261	313	366	418	479	532	584
16	XT35	3-7/16	7/8	272	325	377	430	491	543	596
16	XT40	3-15/16	1	287	339	392	444	505	558	610
18	XT35	3-7/16	7/8	345	414	483	553	633	702	772
18	XT40	3-15/16	1	359	428	498	567	647	717	786
20	XT35	3-7/16	7/8	384	462	540	618	709	787	865
20	XT40	3-15/16	1	398	476	554	632	723	802	880
20	XT45	4-7/16	1	416	494	572	650	741	820	898
24	XT35	3-7/16	7/8	462	556	649	743	852	946	1040
24	XT40	3-15/16	1	476	570	664	757	867	960	1054
24	XT45	4-7/16	1	494	588	682	775	885	978	1072
30	XT40	3-15/16	1	522	620	718	816	931	1029	1127
30	XT45	4-7/16	1	540	638	736	834	949	1047	1145
30	XT50	4-15/16	1	585	683	781	879	994	1092	1190
36	XT40	3-15/16	1	699	838	977	1116	1279	1418	1557
36	XT45	4-7/16	1	717	856	995	1134	1297	1436	1575
36	XT50	4-15/16	1	762	901	1040	1179	1342	1481	1620

* Nominal

• General position for bushing face - for position per application consult engineering.

Consult Factory for dimensional and weight specifications of sizes not shown.

Wing Pulleys



Quarry Duty Wing Pulleys



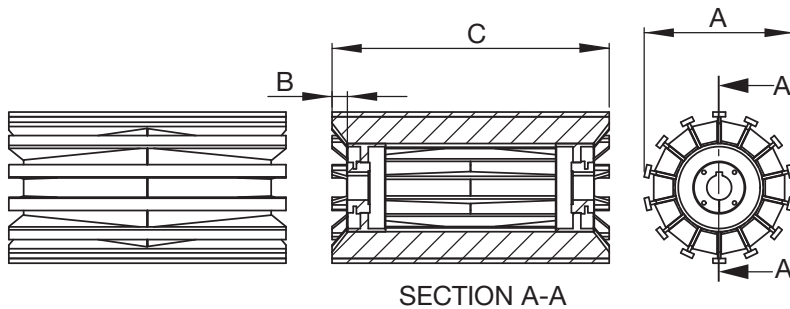
Martin's Quarry Duty Wing Pulleys are constructed from extremely heavy materials and are recognized in the industry as the most aggressive wing pulley in the business. All *Martin* wing pulleys utilize the unique 'end-pipe' design, which offers ultimate protection against wing folding and hub-weld fatigue. Our minimum 3/4" thick contact bar yields additional life in abrasive applications where our competitors thinner bar does not. Additionally, our 3/8" thick wing and 5/16" gussets offer higher structural support in aggressive applications.

All *Martin* Quarry Duty Wing Pulleys utilize full depth keyed bushings which offer maximum clamping force on the shaft and minimize "pulley walking." The Quarry Duty Wing Pulley has changed the industry and has spawned many 'knock-offs,' but none have been able to reproduce the original!

For the most aggressive applications, specify the best, specify the *Martin* Quarry Duty Wing Pulley!

FEATURES:

- Available in 10" thru 60" Diameter
- Minimum 3/4" x 2" Contact Bars
- Minimum 3/8" Thick Wings
- Minimum 5/16" Gussets
- Several Hub/Bushing Systems Available
- Features Unique *Martin* 'End Pipe' Design
 - Better Protection Against Wing Folding
 - Better Protection Against Hub-Weld Fatigue
- Features Full Depth Keyed Bushings for Higher Clamping to Shaft



Estimated Quarry Duty Wing Pulley Weights

Diameter (A)*	Hub	Max Bore	Setback (B)*	Face Width (C)						
				26	32	38	44	51	57	63
12	XT35	3-7/16	7/8	229	264	298	332	372	406	441
14	XT35	3-7/16	7/8	285	326	367	408	456	497	538
16	XT35	3-7/16	7/8	346	394	442	490	546	594	642
16	XT40	3-15/16	1	353	401	449	497	553	601	649
18	XT35	3-7/16	7/8	412	468	523	578	643	698	753
18	XT40	3-15/16	1	419	475	530	585	650	705	760
20	XT35	3-7/16	7/8	486	549	611	674	746	809	871
20	XT40	3-15/16	1	493	556	618	681	753	816	878
20	XT45	4-7/16	1	502	565	627	690	762	825	887
24	XT35	3-7/16	7/8	646	725	803	881	972	1050	1128
24	XT40	3-15/16	1	653	732	810	888	979	1057	1135
24	XT45	4-7/16	1	662	741	819	897	988	1066	1144
30	XT40	3-15/16	1	935	1039	1142	1245	1365	1469	1572
30	XT45	4-7/16	1	944	1048	1151	1254	1374	1478	1581
30	XT50	4-15/16	1	967	1071	1174	1277	1397	1501	1604
36	XT40	3-15/16	1	1267	1397	1527	1658	1810	1940	2070
36	XT45	4-7/16	1	1276	1406	1536	1667	1819	1949	2079
36	XT50	4-15/16	1	1299	1429	1559	1690	1842	1972	2102

* Nominal

• General position for bushing face - for position per application consult engineering.

Consult Factory for dimensional and weight specifications of sizes not shown.

Quarry Duty "AR" Wing Pulleys

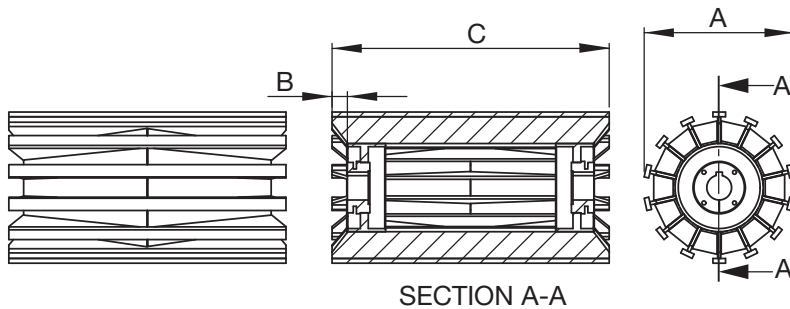


Martin Quarry Duty "AR" (abrasive resistant) Wing Pulleys are constructed with AR400 3/4" x 2" heavy contact bars and are recognized in the industry as a true problem solving pulley. All *Martin* Quarry Duty "AR" Wing Pulleys utilize the unique 'end-pipe' design, which offers ultimate protection against wing folding and hub-weld fatigue. Our 3/4" AR400 contact bar yields maximum life in super abrasive applications where our competitors thinner A36 mild steel bar does not. Additionally, our 1/2" thick wing and 5/16" gussets offer higher structural support in aggressive applications.

All *Martin* Quarry Duty "AR" Wing Pulleys utilize full depth keyed bushings which offer maximum clamping force on the shaft and minimize "pulley walking." The Quarry Duty "AR" wing pulley has changed the industry and solved the problem of premature bar wear plaguing users in some of the most aggressive applications.

FEATURES:

- Available in 10" thru 60" Diameter
- Minimum 3/4" x 2" Contact Bars "AR400" Abrasive Resistant Steel
- Minimum 1/2" Thick Wings
- Minimum 5/16" Gussets
- Features Unique *Martin* 'End Pipe' Design
 - Better Protection Against Wing Folding
 - Better Protection Against Hub-Weld Fatigue
- Features Full Depth Keyed Bushings for Higher Clamping to Shaft
- Several Hub/Bushing Systems Available



Estimated Quarry Duty "AR" Wing Pulley Weights

Diameter (A)*	Hub	Max Bore	Setback (B)•	Face Width (C)						
				26	32	38	44	51	57	63
12	XT35	3-7/16	7/8	271	324	377	430	492	545	597
14	XT35	3-7/16	7/8	335	402	470	538	617	685	752
16	XT35	3-7/16	7/8	362	434	507	580	665	738	810
16	XT40	3-15/16	1	376	449	521	594	679	752	825
18	XT35	3-7/16	7/8	462	558	654	750	862	958	1054
18	XT40	3-15/16	1	476	572	668	764	876	972	1068
20	XT35	3-7/16	7/8	512	619	727	834	960	1067	1175
20	XT40	3-15/16	1	526	634	741	848	974	1081	1189
20	XT45	4-7/16	1	544	652	759	866	992	1099	1207
24	XT35	3-7/16	7/8	613	741	870	998	1148	1277	1405
24	XT40	3-15/16	1	627	756	884	1012	1162	1291	1419
24	XT45	4-7/16	1	645	774	902	1030	1180	1309	1437
30	XT40	3-15/16	1	711	853	995	1137	1303	1444	1586
30	XT45	4-7/16	1	729	871	1013	1155	1321	1462	1604
30	XT50	4-15/16	1	774	916	1058	1200	1366	1507	1649
36	XT40	3-15/16	1	920	1109	1299	1489	1710	1900	2089
36	XT45	4-7/16	1	938	1127	1317	1507	1728	1918	2107
36	XT50	4-15/16	1	983	1172	1362	1552	1773	1963	2152

* Nominal

• General position for bushing face - for position per application consult engineering.

Consult Factory for dimensional and weight specifications of sizes not shown.

Nomenclature

VRL

Vulcanized Rubber Lagging

HBL

Herringbone Lagging

DGL

Diamond Grooved Lagging

In any conveying application, conveyor belt slippage can be a problem. There are basically three different factors that can cause slippage between a conveyor belt and a drive pulley.

1. The coefficient of friction might be too low.
2. The wrap angle of the belt on the conveyor pulley might be too small.
3. The tension on the belt might be too low.

The most cost efficient way to reduce the risk of slippage is to install the right type of pulley lagging on the drive pulley. The use of lagging on the conveyor pulley performs two functions:

1. Its primary function is to aid in gripping the conveyor belt, thus helping transmit torque from the drive to the pulley in order to carry the load on the conveyor belt.
2. Lagging also prolongs the wear life of the pulley.

Vulcanized lagging is a rubber compound that has been cured in an autoclave, which typically results in a 60-70 durometer material. After curing, the lagging can be grooved and/or machined.

Martin offers vulcanized rubber lagging on all of our drum pulleys. We apply rubber directly to the face of our pulleys by extrusion. Our lagging department has perfected the process and can apply rubber in any thickness to any diameter core pulley ranging from 4" to 72". We extrude rubber in the specified thickness, wrap the uncured rubber pulley in Teflon® impregnated curing tape and bake the pulley in one of our large diameter autoclaves under high pressure at a very high temperature for a set period of time until the rubber is fully cured.

We offer several grooving patterns in the cured rubber, but among the most popular are Herringbone and Diamond Groove.

The standard hardness for pulley lagging ranges from 60-70, but other durometers are available upon request.

Vulcanized Lagging - Plain



Plain vulcanized lagging is suitable for any pulley in the conveyor system where watershed is not necessary. It provides additional protection against belt wear and increases the life of the pulley.

Vulcanized Lagging - Herringbone



Herringbone Grooved Lagging offers superior tractive properties and is desired on all drive pulley applications. Each groove offers a path for water and other liquids to escape between the pulley face and the conveyor belt. Herringbone grooved pulleys are directional and should be applied to the conveyor in a manner in which the grooves point toward the direction of belt travel.

Vulcanized Lagging - Diamond Grooved



Diamond Grooved Lagging also offers superior tractive properties and should be specified on all reversing conveyor applications.

MSHA- Mine & Safety Hazard Approved



Mine & Safety Hazard Approved Lagging (MSHA) should be used in all underground coal mining applications and any application where fire safety is imperative. *Martin's* MSHA lagging compound has been approved by the United States Federal Government to apply on all pulleys in mining applications where fire safety is required. The MSHA compound is clearly labeled on each pulley and stamped with our government ID in several places on each pulley. Minimum required thickness for MSHA lagging is 1/2".

The MSHA compound can be shipped as plain, herringbone or diamond grooved

AR- Abrasive Resistant



Abrasive Resistant Lagging is a very popular compound in the most rugged applications where protection against highly abrasive conveyed materials is required. *Martin's* AR (abrasive resistant) compound was developed with the engineering support and technical experience of chemists from the tire industry. The AR compound mimics the substance used in the tires of the giant "quarry loaders" where resistance to puncture, wear and chunking has been essential. Our suppliers have learned through the years that the same technology can be applied to our rubber lagging compounds.

For maximum protection against premature lagging failure, specify *Martin's* AR Lagging!

Ceramic (Cold bond and Vulcanized)



Vulcanized Ceramic Lagging by *Martin* has proven to be the best in the industry. *Martin* has worked closely with independent testing labs to study adhesion strengths of several bonding methods. Our studies found that the *Martin* VC Lagg yield an 83% higher bonding strength than conventional cold bonding methods for ceramic lagging compounds.



Weld On Strip Lagging



Weld on Strip Lagging is available from *Martin's* stock and is easily installed on drum pulleys either in our facilities or in the field. We stock 72" long strips with retainers in diameters from 10" to 48". Not only do we have standard 60 durometer SBR available, but we can provide special compounds like; 40 durometer rubber, EPDM and SOF (Static Conductive Oil & Fire resistant).

Cold Bond



Cold Bond Lagging is another product available from *Martin's*. We stock full rolls of pre-cured rubber suitable for installation directly to the face of the pulley. Our Cold Bond rubber is available in plain or diamond grooved pattern. This product is typically used when pulleys on the conveyor must be re-lagged while still in operation, and can reduce the change-out time required to install a complete new assembly.

Simply tell us the diameter and face width of the pulley on which you would like to install our Cold Bond Lagging, and we will generate a quote for a "Cold Bond Kit" which will include all necessary materials required to lag the subject pulley.

Molded Urethane

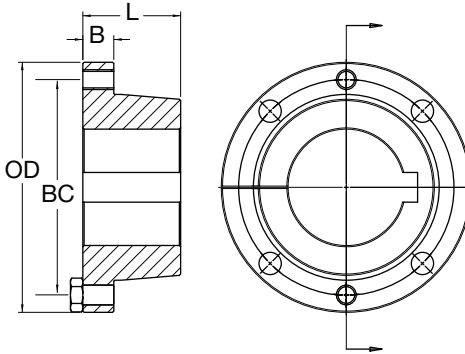


Molded Urethane Lagging is yet another product offered by *Martin's* which will protect pulleys from extreme abrasion. Our Urethane lagging is actually poured in a liquid state into a fabricated form, which encases the pulley. Once the urethane is cured and hardened, we machine the outside diameter to a concentric OD. We can additionally alter the urethane lagging to either a herringbone or diamond grooved pattern.

SOF (Static Conductive Oil & Fire resistant)



SOF (Static Conductive/Oil Resistant/Flame Resistant): Static Conductive, Oil Resistant, and Flame Resistant properties are combined to reduce the risk of explosion, and fire or oil related lagging failures. The static reducing qualities allow the accumulation of static to dissipate through the lagging to ground (in a grounded system). Oil resistance is appropriate for moderately oily conditions involving hydrocarbons, fats, oils, greases, hydraulic fluids, solvents, and other moderate chemicals. The self extinguishing characteristics of SOF make it ideal for use in grain and fertilizer applications.



QD Short Bushings & Taper Bushings also Available. Please See General Catalog, Section B For More Information.

Martin's MXT & CXT Bushings are available from stock to fit all popular pulley sizes. Martin stocks both MXT & CXT Bushings in a wide range of bore sizes per hub. Both the MXT & CXT Bushing offers a 2" per foot taper, which reduces end disc pre-stressing, as well as increasing clamping force.

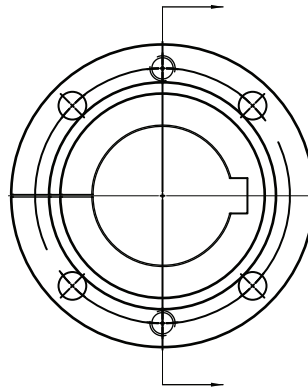
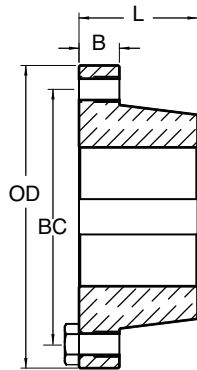
All bushings size 50 and larger feature full depth keys.

MXT™/ CXT™ Bushing Dimensions

Part Number		Max. Bore (In.)	Dimensions				Cap Screws		Wt. Lbs. (Approx)	Standard Stock Bores		Wrench Torque (Ft./Lbs.)
Cast / Ductile	Steel		Length thru Bore (L)	Flange Width (B)	Flange O.D. (OD)	Bolt Circle (BC)	No.	Size		Stock Bore (Inches)	Keyway*	
MXT15	CXT15	1-1/2	1-1/8	3/8	2-7/8	2-7/16	4	1/4 x 1	0.7	5/8, 3/4, 7/8 1, 1-1/8, 1-3/16, 1-1/4 1-7/16, 1-1/2	3/16 x 3/32 1/4 x 1/8 3/8 x 1/8*	8
MXT20	CXT20	2	1-13/32	15/32	3-3/4	3-3/16	4	5/16 x 1-1/4	1.5	3/4 1, 1-3/16, 1-1/4 1-7/16, 1-1/2, 1-11/16 1-15/16, 2	3/16 x 3/32 1/4 x 1/8 3/8 x 3/16 1/2 x 3/16*	17
MXT25	CXT25	2-1/2	1-7/8	5/8	4-7/16	3-3/4	4	3/8 x 1-3/4	2.6	1, 1-3/16, 1-1/4 1-7/16, 1-1/2, 1-11/16 1-15/16, 2, 2-3/16	1/4 x 1/8 3/8 x 3/16 1/2 x 1/4	29
MXT30	CXT30	3	2-1/16	11/16	5-5/16	4-9/16	4	7/16 x 1-1/2	4.2	2-7/16 1-7/16, 1-1/2 1-15/16, 2-3/16 2-7/16, 2-11/16 2-15/16	5/8 x 1/8* 3/8 x 3/16 1/2 x 1/4 5/8 x 5/16 3/4 x 3/16*	46
MXT35	CXT35	3-1/2	2-15/32	25/32	6-5/16	5-7/16	4	1/2 x 1-3/4	7.4	1-15/16, 2-3/16 2-7/16, 2-11/16 2-15/16 3-7/16 2-7/16	1/2 x 1/4 5/8 x 5/16 3/4 x 3/8 7/8 x 5/16*	70
MXT40	CXT40	4	2-13/16	7/8	7-1/8	6-1/8	4	9/16 x 2	10.5	2-15/16 3-7/16 3-15/16 3-7/16	5/8 x 5/16 7/8 x 7/16 1 x 3/8* 7/8 x 7/16	100
MXT45	CXT45	4-1/2	3-5/16	15/16	8	6-7/8	4	5/8 x 2-1/4	14.8	3-15/16 4-7/16	1 x 1/2 1 x 3/8*	140
MXT50	CXT50	5	3-3/4	1	10-1/8	8-5/16	4	3/4 x 2-1/2	27.8	3-15/16, 4-7/16 4-15/16	1 x 1/2 1-1/4 x 5/8	250
MXT60	CXT60	6	4-1/8	1-1/8	11-15/16	9-7/8	4	7/8 x 2-1/2	42.8	5-7/16, 5-1/2 5-15/16, 6	1-1/4 x 5/8 1-1/2 x 3/4	400
MXT70	CXT70	7	4-11/16	1-5/16	13-15/16	11-9/16	4	1 x 3	66.3	6-7/16, 6-1/2 6-15/16, 7	1-1/2 x 3/4 1-3/4 x 3/4	600
MXT80	CXT80	8	5-1/8	1-3/8	15-5/8	12-7/8	4	1-1/8 x 3-1/2	85.7	7-1/2 7-15/16, 8	1-3/4 x 3/4 2 x 3/4	750
MXT100	CXT100	10	6-3/16	1-9/16	17-15/16	15-9/16	6	1-1/8 x 3-1/2	146.0	8-1/2, 9 9-7/16, 9-1/2, 10	2 x 3/4 2-1/2 x 7/8	750
MXT120	CXT120	12	7-1/16	1-3/4	20-5/8	18-3/16	8	1-1/8 x 3-1/2	216.0	10-1/2, 11 11-1/2, 12	2-1/2 x 7/8 3 x 1	750

* Keystock provided for non-standard keyways.

Conveyor Bushings



**QD Short Bushings
& Taper Bushings
also Available.
Please See
General Catalog,
Section B
For More Information.**

Martin's M-HE Bushings are available from stock to fit all popular pulley sizes. Martin stocks M-HE Bushings in a wide range of bore sizes per hub. The M-HE Bushing offers a 3" per foot taper, which reduces end disc pre-stressing, as well as increasing clamping force.

MHE™ Bushing Dimensions

Part Number	Dimensions					Cap Screws		Wt. Lbs. (Approx)	Standard Stock Bores		Wrench Torque (Ft./Lbs.)
	Max. Bore (In.)	Length thru Bore (L)	Flange Width (B)	Flange O.D. (OD)	Bolt Circle (BC)	No. Bolts	Size		Stock Bore	Keyway*	
M-HE25	2-1/2	2-1/4	3/4	4-5/8	3-15/16	4	3/8 x 1-1/2	3	1, 1-1/8, 1-3/16, 1-1/4	1/4 X 1/8	30
									1-5/16, 1-3/8	5/16 X 5/32	
									1-7/16, 1-1/2, 1-11/16, 1-3/4	3/8 X 3/16	
									1-13/16, 1-7/8, 1-15/16, 2, 2-1/8, 2-3/16, 2-1/4	1/2 X 1/4	
									2-5/16, 2-3/8, 2-7/16, 2-1/2	5/8 X 3/16	
M-HE30	3	2-3/4	7/8	5-5/8	4-11/16	4	1/2 x 1-3/4	6	1-3/8	5/16 X 5/32	60
									1-7/16, 1-1/2, 1-11/16, 1-3/4	3/8 X 3/16	
									1-15/16, 2, 2-3/16	1/2 X 1/4	
									2-7/16, 2-1/2, 2-9/16, 2-11/16, 2-3/4	5/8 X 5/16	
									2-13/16, 2-7/8, 2-15/16, 3	3/4 X 1/8	
M-HE35	3-1/2	3	7/8	6-5/8	5-9/16	4	9/16 x 2	8	1-3/16	1/4 X 1/2	90
									1-7/16, 1-1/2, 1-11/16, 1-3/4	3/8 X 3/16	
									1-15/16, 2, 2-3/16, 2-1/4	1/2 X 1/4	
									2-3/8, 2-7/16, 2-1/2, 2-11/16, 2-3/4	5/8 X 5/16	
									2-7/8, 2-15/16, 3, 3-3/16	3/4 X 3/8	
									3-3/8, 3-7/16, 3-1/2	7/8 X 3/16	
M-HE40	4	3-1/2	1	7-1/2	6-5/16	4	5/8 x 2-1/2	13	1-15/16, 2-3/16	1/2 X 1/4	140
									2-7/16, 2-1/2, 2-11/16	5/8 X 5/16	
									2-15/16, 3-3/16	3/4 X 3/8	
									3-7/16, 3-11/16	7/8 X 7/16	
									3-7/8, 3-15/16, 4	1 X 1/4	
M-HE45	4-1/2	4	1-1/4	8-3/4	7-5/16	6	5/8 x 2-1/2	22	1-15/16	1/2 X 1/4	140
									2-7/16	5/8 X 5/16	
									2-15/16	3/4 X 3/8	
									3-7/16, 3-1/2	7/8 X 7/16	
									3-15/16	1 X 1/2	
									4-3/16, 4-7/16, 4-1/2	1 X 1/4	
M-HE50	5	4-1/2	1-1/2	9-5/8	8	6	3/4 x 3	40	2-15/16	3/4 X 3/8	200
									3-7/16	7/8 X 7/16	
									3-15/16, 4-7/16	1 X 1/2	
									4-15/16, 5	1-1/4 X 1/4	
M-HE60	6	5-1/4	1-3/4	11-1/8	9-1/4	6	7/8 x 3-1/2	50	3-15/16, 4-1/4, 4-7/16	1 X 1/2	350
									4-15/16, 5-7/16, 5-1/2	1-1/4 X 5/8	
									5-15/16, 6	1-1/2 X 1/4	

* Keystock provided for non-standard keyways.



Martin offers a wide variety of solutions for your shafting needs. We offer a number of materials from cold finish 1/2" diameter to hot roll material in excess of 15" diameter. Stock shafting material is available in several grades including 1144, 1045, 4140 and stainless steel. Our machining capabilities are virtually unlimited featuring CNC lathes, as well as engine lathes, vertical milling machines, horizontal milling machines and more to modify every shaft exactly to your specifications for your unique application.

Diameters shown in table are standard sizes recommended for general use. Standard bushings, bearings, couplings, pulleys, sheaves, clutches, backstops, and other conveyor items are commonly found in these diameters.

Shaft Keyseats

Shaft keyseats are commonly used beneath pulley bushings and with a drive. Pulley keyseats for standard pulleys start 1/2" inside the face and are keyed through the bushing. Location of drive keyseats are standard and the size is determined by the shaft diameter. Additional keyseats or non-standard sizes can be manufactured per request.

Shaft Turn Downs (Stepped Shafts)

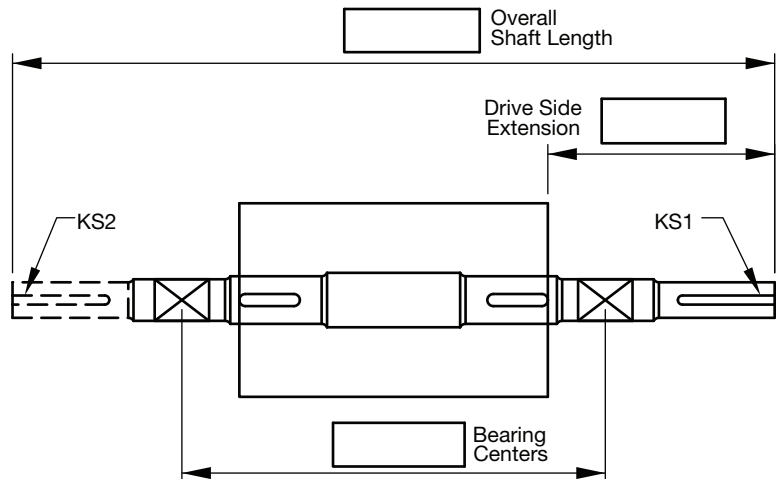
For larger shafting it is common to turn the shaft down for a more economical selection of bearings and drives. The turndown is generally less than 25% of the original diameter and the two different diameters should be joined with a generous and smooth fillet to reduce stress concentrations.

Conveyor Shafting should be selected to keep deflection to a minimum and maintain the integrity of the pulley assembly core. Call your *Martin* representative to properly select the shaft for your pulley and conveying needs.

Standard Shaft Diameters
15/16
1-3/16
1-7/16
1-11/16
1-15/16
2-3/16
2-7/16
2-11/16
2-15/16
3-7/16
3-15/16
4-7/16
4-15/16
5-7/16
6
6-1/2
7
7-1/2

*Tolerances for shafing diameters are as follows:		
	Plus	Minus
Up to 1 1/2"	0.000	0.002
Over 1 1/2" to 2 1/2"	0.000	0.003
Over 2 1/2" to 4"	0.000	0.004
Over 4" to 6"	0.000	0.005
Over 6" to 8"	0.000	0.006
Over 8" to 9"	0.000	0.007
Over 9"	0.000	0.008

* Special tolerances available upon request.



_____ Major Shaft Diameter Keyseat 1 _____ x _____ x _____
 _____ Shaft Diameter at Hub Keyseat 2 _____ x _____ x _____
 _____ Shaft Diameter at Bearing Direction of Rotation From Drive End _____
 _____ Shaft Diameter at KS1 Thickness _____
 _____ Shaft Diameter at KS2 Lagging _____
 Type _____

Wear Items



Shell Lagging

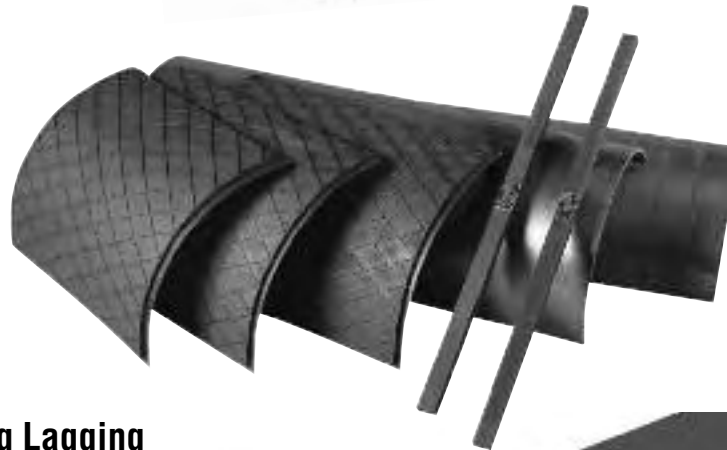
Shell Lagging is one product offered by *Martin* that allows our customers to Relag drum pulleys while they are still on the conveyor. Our field installable shell lagging kits are available in 3 piece, 4 piece and 5 piece construction depending upon the diameter of the core pulley to which the shells will be applied. Each shell is available in either flat construction or crowned construction.

Pulley Diameter	# Shells
12	3
14	3
16	4
18	4
20	4
24	4
30	4
36	5



Wear Rims

The *Martin* Steel Wear Rims are an additional item offered by *Martin* that allows the pulley to be patched while it is on the conveyor. Each rim is available in a 2 piece shell in 1/4", 5/16", 3/8" or 1/2" thick material.



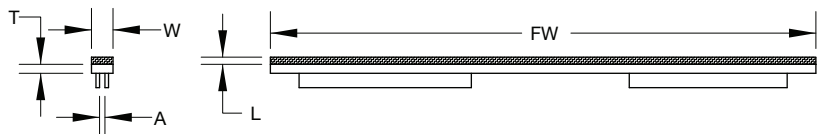
Wing Lagging

Martin Wing Lagging is designed to slide over the *Martin* wing pulley contact bars and is available in sizes suitable for all duties of our wing pulleys. Wing lagging is an excellent method of extending life on wing pulleys contact bars where belt abrasion typically causes premature wear. The *Martin* Wing Lagging product is easily installed either in the shop or in the field and can be supplied in either 72" long strips for your inventory, or in cut to length sizes for immediate installation.



Lagged Replacement Contact Bars

The *Martin* Replacement contact bars are intended for use on all manufacturer's wing pulleys and are field installable as well as shop installable. This product features vulcanized lagging on flatbars which have 1/4" x 1" clips on the bottom side designed to slide over the vertical wing flights on wing pulleys that have worn contact bars. It is imperative that the specific wing flight thickness be specified at the time of order so that our fabrication team can space the clips properly to slip over the existing wings.



Must be approved by customer:

FW _____ W _____
 T _____ A _____
 L _____

Frequently Asked Questions

Once Again, *Martin* has the answer when it comes to offering a solution to field replacements on conveyor pulleys; Steel Wear Rims, Shell Lagging, Wing Lagging and Lagged Replacement Bars. There are many applications that require a simple fix in the field while the pulley is still on the conveyor structure. The *Martin* Wear Item line up addresses these types of situations. We offer replacement parts for both drum pulleys and wing pulleys; each intended for installation on an existing pulley in the field.

Some common questions to address regarding the *Martin* Wear Parts are:

Q: When does it make sense to install the *Martin* Shell Lagging on a drum pulley?

A: If the conveyor belt has worn through the rubber lagging on a pulley but not had time to wear into the drum pulley shell, the *Martin* Shell Lagging may be a good solution.

Q: Can I install the *Martin* Shell Lagging on new pulleys?

A: Absolutely! However it is not recommended that the shell lagging be used in drive pulley applications where tensions are extreme. The *Martin* Shell Lagging is primarily intended for field installation as a means of avoiding down time caused by belt slippage from worn lagging.

Q: Does the *Martin* Wing Lagging fit on all manufacturers wings pulleys?

A: No, the *Martin* Wing Lagging product is intended for application on flatbar of dimensions equal to what is supplied on the *Martin* Wing Pulley.

Q: Does the *Martin* Wing Lagging Require any tools to install?

A: Yes, but very few. (Dead Blow Hammer & a Welder) Each wing lagging strip is installed by gently pounding it over the existing contact bar on each individual wing. Once the wing has been rotated on the conveyor to a point where the inside wings are exposed; then the cut-to-length strips are positioned and pounded on with a *Martin* dead-blow hammer. The product will

essentially “self-seat” itself when it hits the crown of the pulley, but should be driven on the balance of the distance across the face of the pulley. Once the Lagged Wing is properly positioned, a stitch weld should be placed along the bottom side of the bar, while watching for delamination of lagging from too much heat.

Q: Do the *Martin* Lagged Replacement Contact Bars fit all manufacturers’ wing pulleys?

A: Yes they will. However, it is imperative that the wing flight thickness be submitted to our factory prior to manufacturing the replacement bars. Most pulley manufacturers utilize different thickness materials on their wing flights and in order to ensure a tight fit of our bar onto the wing, we must know that dimension. Please ask one of our *Martin* factory representatives for a Lagged Replaceable Contact Bar sheet.

Q: Do the *Martin* Steel Wear Rims fit on all manufacturers pulleys?

A: Yes, however we need to know the outside diameter and face width of the drum pulley on which it will be installed. We typically manufacture the Steel Wear Rims in 2 halves which need to be clamped to the core pulley. Each half-shell is trimmed ¼" short of the core face so that there is room to run a weld to fasten the Wear Rim to the pulley. It is also important that the core is clean and free of debris prior to installation for maximum operating performance.

**** MANUFACTURERS NOTE ****

Martin Wear Rims, Shell Lagging, Wing Lagging and Replacement Lagged Contact bars are intended for wear and tractive properties only, and NOT intended for structural enhancement of the underlying conveyor pulley.

Take-Up Frames Cross Reference



A properly designed belt conveyor will require the use of a take-up device. This device will take up the stretch in the conveyor belt and keep proper tension at the drive pulley to reduce slippage. A dynamic type, like a gravity take-up, is generally preferred but not always practical due to space or cost. *Martin* Screw Take-Up Frames are a good solution for these applications. *Martin* offers several types of frames that accommodate most bearings, mounting positions, and travel. *Martin* Take-Up Frames are available in stock or made-to-order for all of your mechanical take-up needs.

Martin's Take-Up Frames are fabricated from steel, offering superior strength and durability in the most rugged conditions.

- Available in Top Angle, Heavy Duty, Center Pull, Wide Slot, Tube Take-Up & Light Duty
- Accommodate bearing shafts sizes from 1" to 5-15/16"
- Available in standard travel lengths from 9" to 60"
- Stainless Steel, ACME thread & MTO lengths available
- Suitable for most manufacturers' housing styles including center pull wide slot, pillow block and top angle protected screw

CROSS REFERENCE

Top Angle Take-Up Frames (CTA)



<i>Martin</i>	Dodge	Precision
CTA10	TP10	PTA200
CTA20	TP20	PTA203
CTA30	TP30	PTA208
CTA40	TP40	PTA300
CTA50	TP50	PTA308
CTA60	TP60	PTA400

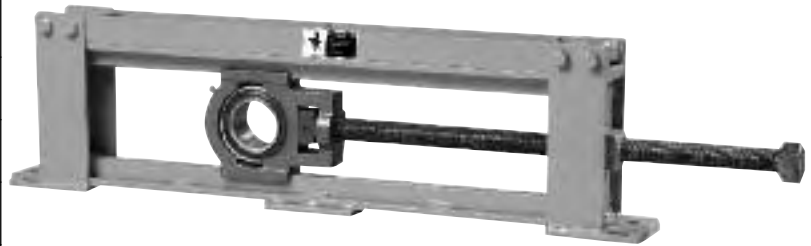
Heavy Duty Take-Up Frames (CHD)



<i>Martin</i>	Dodge	Precision	Linkbelt	Browning	SKF
CHD200	HD200	PHD200	LHD20	T2000 A/B/C	TFT01
CHD250	HD250	PHD250	LHD25	T2000 D/E	TFT03, TFT43
CHD300	HD300	PHD300	LHD30	T2000 F/G	TFT04/5, TFT34/44
CHD350	HD350	PHD350	LHD35	T2000 H/J	TFT06, TFT46
CHD400	HD400	PHD400	LHD40	T2000 K	TFT37
CHD500	HD500	PHD500	LHD50	T2000 M/N	TFT38, TFT48

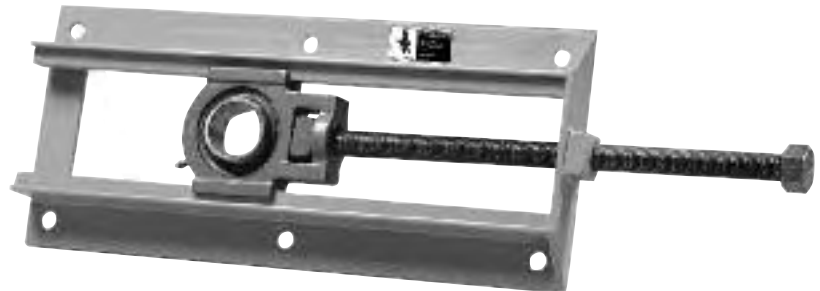
Center Pulley Take-Up Frames (CCP)

<i>Martin</i>	Dodge	Precision	Rexnord	Browning
CCP308	CP308	PCP108	ZHT6	T1000D
CCP400	CP400	PCP200	ZHT7	T1000EL
CCP408	CP408	PCP203	ZHT7	T1000EH
CCP502	CP502	PCP208	ZHT8	T1000F
CCP515	CP515	PCP300	ZHT9	T1000GL,GH
CCP613	CP613	PCP308	ZHT10	T1000JL,JH
CCP810	CP810	PCP400	ZHT11	T1000K



Wide Slot Take-Up Frames (CWS)

<i>Martin</i>	Dodge	Precision
CWS300	WS300	PWS100
CWS308	WS308	PWS108
CWS400	WS400	PWS200
CWS502	WS502	PWS208
CWS515	WS515	PWS300
CWS608	WS608	PWS308

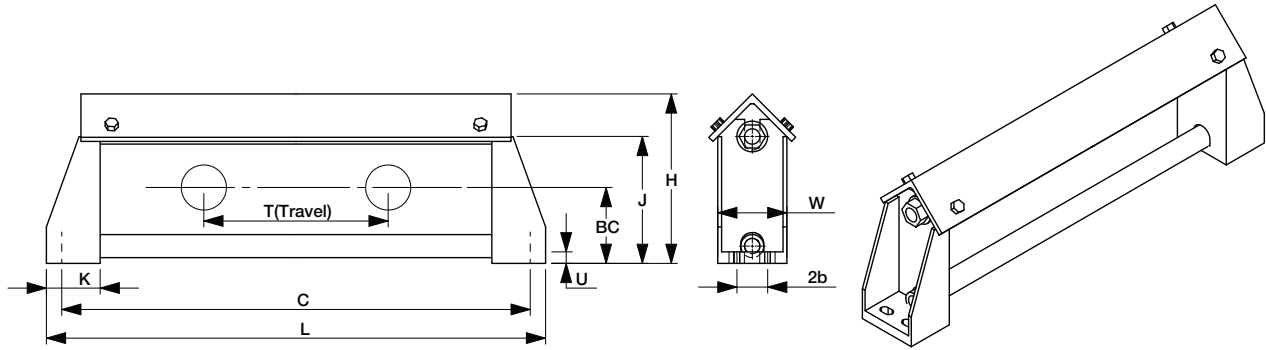


Tube Take-Up Frames (TTU)

<i>Martin</i>	Precision	Bryant	Link-Belt
TTU10	PST100	100	100
TTU25	PST200	250	250
TTU30	PST208	300	300
TTU35	PST208HD	350	-
TTU40	PST300	400	400
TTU50	PST308	500	-



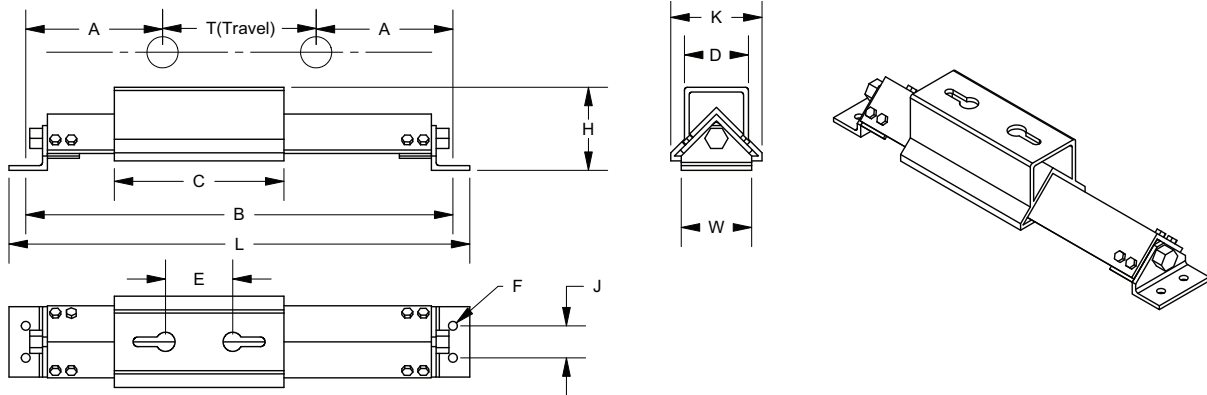
Take-Up Frames



Top Angle Take-Up Frames (CTA)

Frame Size	Nominal Travel (T)	Part Number	Weight	BC	C	H	J	K	L	U	2b	W
CTA10	12	CTA10-12	32	3-15/16	26-1/2	8-1/2	6-9/32	3	28-1/2	3/4	-	3-1/2
	18	CTA10-18	36		32-1/2				34-1/2			
	24	CTA10-24	40		38-1/2				40-1/2			
CTA20	12	CTA20-12	34	4-3/16	27-1/2	9-1/8	6-3/4	3	29-1/2	3/4	-	3-1/2
	18	CTA20-18	39		33-1/2				35-1/2			
	24	CTA20-24	43		39-1/2				41-1/2			
CTA30	12	CTA30-12	50	4 3/8	28-1/2	10-1/8	7-1/4	3-1/2	30-1/2	3/4	-	4
	18	CTA30-18	58		34-1/2				36-1/2			
	24	CTA30-24	66		40-1/2				42-1/2			
	30	CTA30-30	74		46-1/2				48-1/2			
	36	CTA30-36	82		52-1/2				54-1/2			
	48	CTA30-48	97		64-1/2				66-1/2			
CTA40	12	CTA40-12	56	4-15/16	30-1/2	11-1/16	8-3/32	3-1/2	32-1/2	3/4	2	4-1/2
	18	CTA40-18	63		36-1/2				38-1/2			
	24	CTA40-24	70		42-1/2				44-1/2			
	30	CTA40-30	77		48-1/2				50-1/2			
	36	CTA40-36	84		54-1/2				56-1/2			
	48	CTA40-48	98		66-1/2				68-1/2			
CTA50	12	CTA50-12	68	5-7/16	32	12-1/2	9-1/4	4	34-1/2	3/4	2	4-1/2
	18	CTA50-18	76		38				40-1/2			
	24	CTA50-24	84		44				46-1/2			
	30	CTA50-30	92		50				52-1/2			
	36	CTA50-36	100		56				58-1/2			
	48	CTA50-40	116		68				70-1/2			
CTA60	12	CTA60-12	96	7	36	14-1/4	11-3/32	4-1/2	38-1/2	3/4	2-1/2	5-1/2
	18	CTA60-18	106		42				44-1/2			
	24	CTA60-24	116		48				50-1/2			
	30	CTA60-30	126		54				56-1/2			
	36	CTA60-36	136		60				62-1/2			
	48	CTA60-48	156		72				74-1/2			

MTO Frames available upon request.

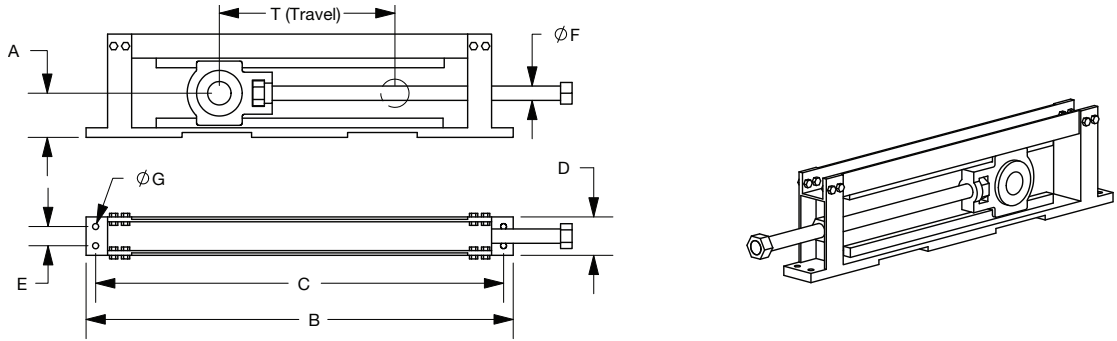


Heavy Duty Take-Up Frames (CHD)

Frame Size	Nominal Travel (T)	Part Number	Weight	A	B	C	D	E	F	H	J	K	L	W
CHD200	12	CHD200-12	50	8-1/2	29	11	4	Drilled To Order	5/8	5-1/4	2-1/2	6-1/8	31	5
	18	CHD200-18	53		35								37	
	24	CHD200-24	56		41								43	
	30	CHD200-30	60		47								49	
	36	CHD200-36	64		53								55	
CHD250	12	CHD250-12	84	10-3/8	32 3/4	13-1/4	5	Drilled To Order	5/8	6-1/4	3	7-1/8	35-1/4	5-1/2
	18	CHD250-18	89		38 3/4								41-1/4	
	24	CHD250-24	95		44 3/4								47-1/4	
	30	CHD250-30	100		50 3/4								53-1/4	
	36	CHD250-36	106		56 3/4								59-1/4	
CHD300	12	CHD300-12	140	11-3/4	35 1/2	14-1/4	6	Drilled To Order	3/4	7	3	8-3/4	38-1/4	6-1/2
	18	CHD300-18	147		41 1/2								44-1/4	
	24	CHD300-24	155		47 1/2								50-1/4	
	30	CHD300-30	165		53 1/2								56-1/4	
	36	CHD300-36	175		59 1/2								62-1/4	
	42	CHD300-42	186		65 1/2								68-1/4	
CHD350	12	CHD350-12	150	12-5/8	37 1/4	16	6	Drilled To Order	3/4	7	3	8-3/4	40	6-1/2
	18	CHD350-18	160		43 1/4								46	
	24	CHD350-24	170		49 1/4								52	
	30	CHD350-30	180		55 1/4								58	
	36	CHD350-36	190		61 1/4								64	
	42	CHD350-42	200		67 1/4								70	
CHD400	12	CHD400-12	179	14-5/8	41 1/4	20	7	Drilled To Order	3/4	7	3	8-3/4	44	6-1/2
	18	CHD400-18	189		47 1/4								50	
	24	CHD400-24	199		53 1/4								56	
	30	CHD400-30	209		59 1/4								62	
	36	CHD400-36	219		65 1/4								68	
	42	CHD400-42	230		71 1/4								74	
CHD500	12	CHD500-12	305	17-1/2	47	23-1/2	8-1/2	Drilled To Order	7/8	7-3/4	4	11-1/4	49-1/2	7
	18	CHD500-18	322		53								55-1/2	
	24	CHD500-24	340		59								61-1/2	
	30	CHD500-30	355		65								67-1/2	
	36	CHD500-36	370		71								73-1/2	
	42	CHD500-42	386		77								79-1/2	
48	CHD500-48	401	83	85-1/2										

MTO Frames available upon request.

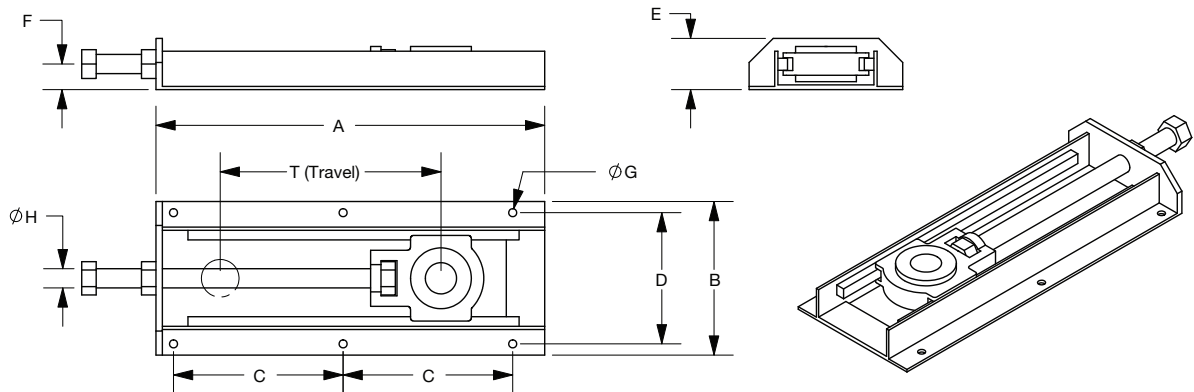
Take-Up Frames



Center Pulley Take-Up Frames (CCP)

Frame Size	Nominal Travel (T)	Part Number	Weight	A	B	C	D	E	F	G	
										Qty	Dia
CCP308	12	CCP308-12	30	3-7/16	28	26	3	NA	3/4	2	1/2
	18	CCP308-18	36		34	32					
	24	CCP308-24	40		40	38					
	30	CCP308-30	45		46	44					
	36	CCP308-36	50		52	50					
CCP400	12	CCP400-12	57	3-15/16	29-1/2	27-1/2	4	NA	1	2	5/8
	18	CCP400-18	66		35-1/2	33-1/2					
	24	CCP400-24	75		41-1/2	39-1/2					
	30	CCP400-30	85		47-1/2	45-1/2					
	36	CCP400-36	93		53-1/2	51-1/2					
CCP408	12	CCP408-12	62	4-7/16	29-1/2	27-1/2	4	NA	1-1/8	2	5/8
	18	CCP408-18	71		35-1/2	33-1/2					
	24	CCP408-24	82		41-1/2	39-1/2					
	30	CCP408-30	91		47-1/2	45-1/2					
	36	CCP408-36	102		53-1/2	51-1/2					
CCP502	12	CCP502-12	68	4-3/8	30-1/2	28-1/2	4	NA	1-1/4	2	3/4
	18	CCP502-18	79		36-1/2	34-1/2					
	24	CCP502-24	89		42-1/2	40-1/2					
	30	CCP502-30	101		48-1/2	46-1/2					
	36	CCP502-36	110		54-1/2	52-1/2					
CCP515	12	CCP515-12	112	5-1/8	32-1/2	30-1/2	5	2	1-1/2	4	5/8
	18	CCP515-18	134		38-1/2	36-1/2					
	24	CCP515-24	152		44-1/2	42-1/2					
	30	CCP515-30	166		50-1/2	48-1/2					
	36	CCP515-36	186		56-1/2	54-1/2					
CCP613	12	CCP613-12	128	5-5/8	34-1/4	32	5	2	1-3/4	4	3/4
	18	CCP613-18	146		40-1/4	38					
	24	CCP613-24	165		46-1/4	44					
	30	CCP613-30	184		52-1/4	50					
	36	CCP613-36	202		58-1/4	56					
CCP810	12	CCP810-12	200	7	38-1/2	36	6	2-1/2	2	4	3/4
	18	CCP810-18	242		44-1/2	42					
	24	CCP810-24	252		50-1/2	48					
	30	CCP810-30	278		56-1/2	54					
	36	CCP810-36	304		62-1/2	60					

MTO Frames available upon request.

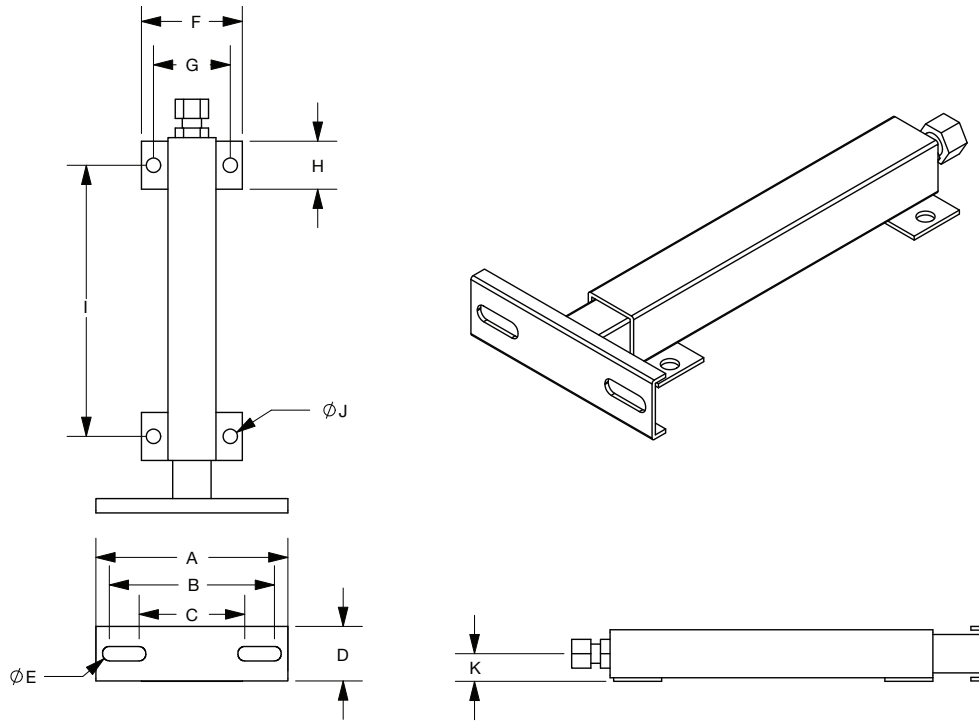


Wide Slot Take-Up Frames (CWS)

Frame Size	Nominal Travel (T)	Part Number	Weight	A	B	C	D	E	F	G		H
										Qty	Dia	
CWS 300	6	CWS300-6	7	12	6-9/16	4-15/16	5-9/16	1-3/4	1-1/16	6	7/16	5/8
	9	CWS300-9	8.5	15		6-7/16						
	12	CWS300-12	10	18		7-15/16						
	18	CWS300-18	13	24		10-15/16						
	24	CWS300-24	16	30		13-15/16						
CWS308	6	CWS308-6	9	12	7-1/16	9-7/16	6-1/16	2	1-1/4	4	7/16	3/4
	9	CWS308-9	10.5	15		6-1/4						
	12	CWS308-12	12	18		7-3/4						
	18	CWS308-18	15	24		10-3/4						
	24	CWS308-24	18	30		13-3/4						
CWS400	6	CWS400-6	14	13-3/4	8-13/16	11-1/2	7-5/16	2-1/4	1-7/16	4	1/2	1
	9	CWS400-9	16.5	16-3/4		7-1/4						
	12	CWS400-12	19	19-3/4		8-3/4						
	18	CWS400-18	24	25-3/4		11-3/4						
	24	CWS400-24	29	31-3/4		14-3/4						
CWS502	6	CWS502-6	20	14-3/4	10-7/16	12-1/2	8 5/8	2-1/2	1-1/2	4	9/16	1-1/4
	9	CWS502-9	23.5	17-3/4		15-1/2						
	12	CWS502-12	27	20-3/4		9-1/4						
	18	CWS502-18	34	26-3/4		12-1/4						
	24	CWS502-24	41	32-3/4		15-1/4						
CWS515	6	CWS515-6	31	17-7/8	12	14-1/2	10-1/4	3	2	4	5/8	1-1/2
	9	CWS515-9	36	20-7/8		17-1/2						
	12	CWS515-12	41	23-7/8		10-1/4						
	18	CWS515-18	51	29-7/8		13-1/4						
	24	CWS515-24	61	35-7/8		16-1/4						
CWS608	6	CWS608-6	31	17-7/8	12-9/16	14-1/2	10-13/16	3	2	4	5/8	1-1/2
	9	CWS608-9	36	20-7/8		17-1/2						
	12	CWS608-12	41	23-7/8		10-1/4						
	18	CWS608-18	51	29-7/8		13-1/4						
	24	CWS608-24	61	35-7/8		16-1/4						
30	CWS608-30	71	41-7/8	19-1/4								

MTO Frames available upon request.

Take-Up Frames



Tube Take-Up Frames (TTU)

Frame Size	Stroke	Part Number	A	B	C	D	E Bolt	F	G	H	I	J Bolt	K	Tube Size		Threaded Rod
														Outer	Inner	
TTU10	3	TTU10-3	5-1/4	4-3/8	2-7/8	1-1/2	3/8	3-3/4	2-5/8	1-1/2	3-9/16	1/2	7/8	1-1/4	1	5/8-11
	6	TTU10-6									7-1/16					
	9	TTU10-9									11-1/16					
	12	TTU10-12									15-1/16					
TTU25	6	TTU25-6	7	5-3/4	3-3/4	2	1/2	4	3	2	4-3/8	1/2	1-1/8	1-3/4	1-1/2	3/4-10
	9	TTU25-9									7-3/8					
	12	TTU25-12									10-3/8					
	18	TTU25-18									13-3/8					
		TTU25-18									13-3/8					
TTU30	9	TTU30-9	10	8-3/4	5-1/2	2-7/8	5/8	5-1/4	4	2-1/2	10-1/8	5/8	1-1/2	2-1/2	2-1/4	7/8-9
	12	TTU30-12									14-1/8					
	18	TTU30-18									21-1/8					
	24	TTU30-24									28-1/8					
		TTU30-24									28-1/8					
TTU35	9	TTU35-9	10	8-3/4	5-1/2	3	5/8	5-3/4	4-1/2	2-1/2	13	5/8	1-3/4	3	2-1/2	7/8-6 ACME
	12	TTU35-12									16					
	18	TTU35-18									22					
	24	TTU35-24									28					
		TTU35-24									28					
TTU40	12	TTU40-12	14	11-3/4	8-1/2	3-1/2	3/4	7-1/2	5-1/2	3-1/2	20	3/4	2-1/8	3-1/2	3	1-1/4-5 ACME
	18	TTU40-18									26					
	24	TTU40-24									32					
	36	TTU40-36									44					
	48	TTU40-48									56					
TTU50	12	TTU50-12	Made to Order Per Bearing Specification					11-1/2	9	5	31	1	3-1/2	6	5	2-1/4-4 ACME
	18	TTU50-18									37					
	24	TTU50-24									49					
	36	TTU50-36									61					
	48	TTU50-48									73					

MTO Frames available upon request.

Special manufacturing processes require special pulleys. Whether the equipment is used in mining, chemical, waste processing, or any other demanding application *Martin* has the experience to solve your problem.

With regional manufacturing facilities and knowledgeable sales teams strategically located across North America, *Martin* can meet your needs. *Martin* is the ONE you can rely on for manufacturing expertise, application experience, and a quick delivery to get you what you need, when you need it.

Martin routinely manufactures special construction pulleys to provide exceptional wear in even the roughest conditions. Below is a sample of some of the more common specialty pulleys *Martin* can manufacture.

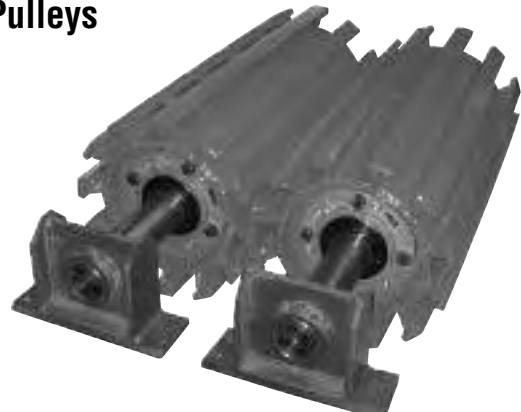
- Available in Wide Variety of MTO Sizes
- Meet or Exceed CEMA Standards
- Superior Strength
- Pulleys for Any Industry
- Fast Reliable Service

DSP Dead Shaft Pulleys

The *Martin* Dead Shaft Pulley (DSP) is designed to withstand the most rugged applications in any harsh environment. The DSP has been used in the industry to help reduce damage to conventional externally mounted pillow block bearings. The DSP features an internal bearing, tucked back close to the pulley where falling material is less likely to damage the bearings and seals. The *Martin* DSP features an off-the-shelf piloted flange cartridge (interchangeable with multiple bearing manufacturers) suited with harsh environment seals and external end caps for maximum protection against material contamination.

Each *Martin* DSP Pulley is shipped with an aggressively constructed pedestal which is fabricated to drop into the same dimensional footprint of the pillow block which it is replacing (this must be specified at the time of order).

The DSP is available as either wing or drum pulleys.



DSP Wing Pulley with *Martin* Pedestals



DSP Drum Pulley



DSP Wing Pulley

Special Construction Pulleys

Martin

Spiral Pulleys

The *Martin* Spiral pulley is manufactured with two reverse helix flights wrapped around the pulley core. The spiral material can vary in thickness and width and is subject to customer specification. The spiral pulley is very effective in cleaning the belt while suppressing noise.



Spiral Wing Pulley



Spiral Drum Pulley with 1/2" x 1/2" Flight



Spiral Drum Pulley with 1" x 1" Flight



Spiral Drum Pulley with 1/2" x 1" Flight

Sprocket Rollers for Engineered Class Chain

Martin Sprocket & Gear Manufactures Sprocket Rollers for engineered class chain. Our rollers are manufactured per customer specification and can be fabricated with bushings, keyless locking devices and through shafts, or with stub shafts and welded construction. Each Sprocket Roller features *Martin* Accu-Torch® Sprocket(s) of specification, and is affixed to the roller OD at any interval with our high tech sub-arc welding process.



Multi-Strand Sprocket Roller for Paper Mill Application



Sprocket Roller for Truck Dump in Sugar Mill Application

Gudgeon Rollers

Martin Sprocket & Gear offers gudgeon rollers, fabricated from thick wall pipe or tube and fitted with a specially designed end assembly that eliminates shaft and end disc weld fatigue. Each of these rollers is designed to convey bulk product without a conveyor belt directly over the roller face. Industries such as logging, lumber mills, steel mills and palletized product applications are perfect for the *Martin* Gudgeon Roll.



Cage Rollers

Martin Sprocket & Gear manufactures cage rollers for belt conveyors in almost any custom size requested. Cage rollers are very effective in allowing material to fall through the pulley. The roller is also known as a “beater roll” and actually shakes the material loose from the belt as it passes over the pulley.

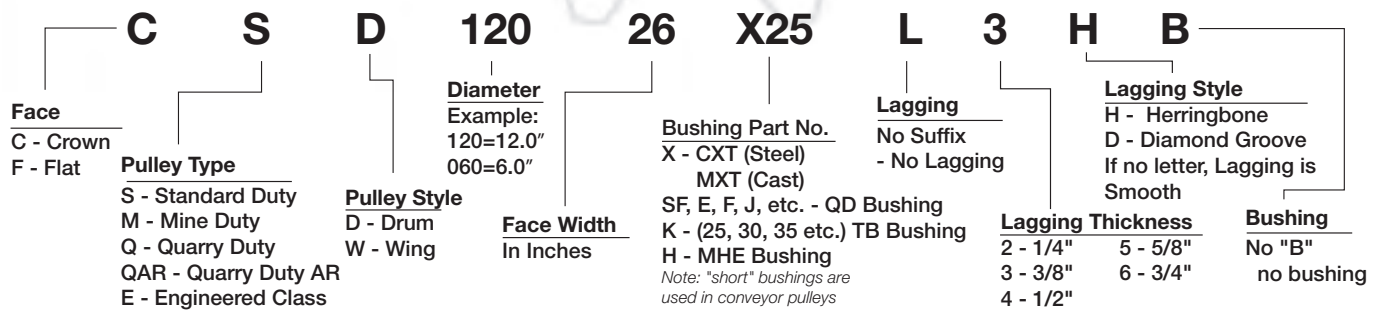




HEAVY DUTY CONVEYOR PULLEYS



PART NOMENCLATURE



SPECIALS

- Also available:
- Spiral Pulleys
 - "DSP" Dead Shaft Pulleys
 - V-Guide Pulleys
 - "VC" Vulcanized Ceramic Lagging
 - Ceramic Lagging
 - Take-Up Frames

This information can be used for *Martin* pulleys with rigid end plate design. That includes the Standard Duty, Mine Duty, and Quarry Duty products that are designed using CEMA/ANSI standards. The foundation of that design is accomplished by designing around a maximum designated shaft deflection. Any questions in design should be run through *Martin* Engineering.

1. Calculate effective tension, T_e

$$T_e = \frac{HP \times 33,000}{FPM}$$

2. Calculate belt slack side tension, T_2

$$T_2 = K \times T_e$$

Table 1: K-factor

Single Drive Belt Wrap	Auto TU		Manual/Screw TU	
	Bare	Lagged	Bare	Lagged
180	0.84	0.5	1.2	0.8
190	0.77	0.46	1.1	0.8
200	0.72	0.42	1.1	0.7
210	0.67	0.38	1	0.7
220	0.62	0.35	0.9	0.6
230	0.58	0.33	0.9	0.6
240	0.54	0.3	0.8	0.6

3. Calculate belt tight side tension, T_1

$$T_1 = T_2 + T_e$$

4. Calculate resultant load for each non-drive pulley, R

$$R = T_2 \times \text{Wrap Factor}$$

Table 2: Non Drive Wrap Factor

Belt Wrap	Factor	Belt Wrap	Factor
10°	0.174	130°	1.813
15°	0.261	135°	1.848
20°	0.347	140°	1.879
25°	0.433	145°	1.907
30°	0.518	150°	1.932
35°	0.601	155°	1.953
40°	0.684	160°	1.97
45°	0.765	165°	1.983
50°	0.845	170°	1.992
55°	0.923	175°	1.998
60°	1	180°	2
65°	1.075	185°	1.998
70°	1.147	190°	1.992
75°	1.218	195°	1.983
80°	1.286	200°	1.97
85°	1.351	205°	1.953
90°	1.414	210°	1.932
95°	1.475	215°	1.907
100°	1.532	220°	1.879
105°	1.587	225°	1.848
110°	1.638	230°	1.813
115°	1.687	235°	1.774
120°	1.732	240°	1.732

5. Calculate resultant load for the drive pulley.

Divide T_1 by T_2 ($\frac{T_1}{T_2}$) to look up in table 4:

Then calculate drive R:

$$R = T_2 \times \text{Factor}$$

6. Belt and Pulley width relationship

$$PW = BW + 2 \text{ (Belting } < 48\text{")}$$

$$PW = BW + 3 \text{ (Belting } \geq 48\text{")}$$

7. Determine minimum shaft size by using Table 5. Subtract the face width from the bearing centers. Using the face width column go down and across from the proper bearing center minus face (interpolate if necessary) until a shaft load rating shows higher than the calculated resultant load from above.

8. Pulley diameters are recommended by the belt manufacturer and generally have greater impact on pulley diameter selection than the load itself. Table 3 is used to compare the recommended diameter from the belt manufacturer to the PIW ratings for standard duty pulleys.

Table 3: Pulley PIW Rating

Arc of Contact	Pulley Diameter (inches)													
	8	10	12	14	16	18	20	24	30	36	42	48	54	60
10	65	80	95	120	145	175	205	260	345	430	520	605	690	775
20	50	60	75	95	115	135	160	200	265	335	400	465	535	600
30	45	55	65	80	100	115	140	175	230	290	345	405	460	520
40	35	45	55	70	85	100	120	150	200	245	295	345	395	445
50	30	40	45	60	70	85	100	130	170	215	255	300	340	385
60	30	40	45	60	70	85	100	125	165	205	250	290	330	375
70	30	40	50	60	75	85	105	130	175	220	260	305	350	395
80	30	45	50	65	80	95	115	140	190	235	285	330	375	425
90	35	45	55	70	85	100	120	150	200	255	305	355	405	455
100	40	50	60	75	90	110	130	160	215	270	325	380	430	485
110	45	55	65	80	100	115	140	175	230	290	345	405	460	520
120	45	55	65	85	105	120	145	185	245	305	365	425	490	550
130	50	60	75	95	115	135	160	200	265	335	400	465	535	600
140	55	70	80	105	125	150	180	225	300	375	450	525	600	675
150	60	75	90	115	140	170	200	250	335	420	505	590	670	755
160	70	85	100	130	160	185	225	280	375	465	560	650	745	840
170	75	95	115	145	175	205	250	310	415	520	620	725	830	930
180	85	105	125	160	195	230	275	345	460	575	690	805	920	1035
190	75	95	115	145	175	205	250	310	415	520	620	725	830	930
200	70	85	100	130	160	185	225	280	375	465	560	650	745	840
210	60	75	90	115	140	170	200	250	335	420	505	590	670	755
220	55	70	80	105	125	150	180	225	300	375	450	525	600	675
230	50	60	75	95	115	135	160	200	265	335	400	465	535	600
240	45	55	65	85	105	120	145	185	245	305	365	425	490	550

Table 4: Resultant Load Factor, Drive Pulleys

T1/T2	Angle of Wrap												
	180	185	190	195	200	205	210	215	220	225	230	235	240
1.8	2.8	2.798	2.79	2.778	2.761	2.739	2.713	2.681	2.645	2.605	2.56	2.511	2.458
2	3	2.998	2.99	2.977	2.96	2.937	2.909	2.887	2.84	2.798	2.752	2.701	2.646
2.2	3.2	3.197	3.19	3.177	3.158	3.135	3.107	3.073	3.035	2.992	2.944	2.892	2.836
2.4	3.4	3.394	3.389	3.376	3.357	3.333	3.304	3.27	3.231	3.187	3.138	3.085	3.027
2.6	3.6	3.597	3.589	3.575	3.556	3.532	3.502	3.467	3.427	3.382	3.332	3.278	3.219
2.8	3.8	3.797	3.789	3.775	3.755	3.73	3.7	3.664	3.624	3.578	3.527	3.472	3.412
3	4	3.997	3.989	3.974	3.955	3.929	3.898	3.862	3.821	3.774	3.723	3.667	3.606
3.2	4.2	4.197	4.188	4.174	4.154	4.128	4.097	4.06	4.018	3.971	3.919	3.862	3.8
3.4	4.4	4.397	4.388	4.374	4.353	4.327	4.295	4.258	4.215	4.168	4.115	4.057	3.995
3.6	4.6	4.597	4.588	4.573	4.553	4.526	4.494	4.456	4.413	4.365	4.312	4.253	4.191
3.8	4.8	4.797	4.788	4.773	4.752	4.725	4.693	4.655	4.611	4.562	4.509	4.45	4.387
4	5	4.997	4.988	4.973	4.952	4.925	4.892	4.853	4.809	4.76	4.706	4.647	4.583
4.2	5.2	5.197	5.188	5.172	5.151	5.124	5.091	5.052	5.008	4.958	4.903	4.844	4.779
4.4	5.4	5.397	5.388	5.372	5.351	5.323	5.29	5.251	5.206	5.156	5.101	5.041	4.976

Conveyor Pulley and Shaft Engineering



Table 5: Allowable Shaft Loads (pounds) for Pulleys

Shaft Diameter	Bearing Centers Minus Face	Pulley Face Width (inches)																
		12	14	16	18	20	22	26	32	38	44	51	57	63	66			
1-3/16	2	1000	920	780	670	590	530	440	350	290	240	210	180	170	160			
	6	570	520	440	380	340	300	250	200	160	140	120	100	94	90			
	10	400	370	310	270	230	210	170	140	110	96	82	73	66	63			
	14	300	280	240	200	180	160	130	110	87	74	63	56	51	48			
1-7/16	3	1500		1400	1200	1100	950	790	620	510	440	370	330	300	290			
	6	1000		950	820	720	640	530	420	350	300	250	220	200	190			
	10	700		660	570	500	450	370	290	240	210	180	160	140	130			
	14	540		510	440	390	350	290	230	190	160	140	120	110	100			
1-11/16	3	2400			2300	2000	1800	1500	1200	980	830	710	630	570	540			
	6	1600			1600	1400	1200	1000	800	660	560	480	430	380	370			
	10	1100			1100	960	850	700	560	460	390	340	300	270	260			
	16	780			750	660	590	490	380	320	270	230	210	180	180			
1-15/16	3	3700				3500	3100	2600	2100	1700	1400	1200	1100	990	940			
	6	2500				2400	2100	1800	1400	1100	980	840	740	670	640			
	10	1700				1700	1500	1200	970	800	680	580	520	470	440			
	16	1200				1100	1000	840	670	550	470	400	360	320	310			
2-3/16	3	5300					5100	4200	3300	2800	2400	2000	1800	1600	1500			
	8	2900					2800	2300	1900	1500	1300	1100	990	890	850			
	12	2200					2100	1700	1400	1100	970	820	730	660	630			
	18	1500					1500	1200	980	810	690	590	530	470	450			
2-7/16	4	6300						5600	4400	3700	3100	2700	2400	2100	2000			
	8	4000						3600	2900	2400	2000	1700	1500	1400	1300			
	12	3000						2700	2100	1700	1500	1300	1100	1000	970			
	18	2100						1900	1500	1300	1100	910	810	730	690			
2-11/16	4	8100							6400	5300	4500	3800	3400	3100	2900			
	8	5300							4200	3400	2900	2500	2200	2000	1900			
	12	3900							3100	2600	2200	1900	1600	1500	1400			
	18	2800							2200	1800	1600	1300	1200	1100	1000			
2-15/16	4	10600								9100	7500	6400	5500	4900	4400	4200		
	8	6900								6000	4900	4200	3600	3200	2900	2700		
	14	4600								3900	3200	2800	2300	2100	1900	1800		
	20	3400								2900	2400	2000	1700	1600	1400	1300		
3-7/16	6	11600									10100	8500	7200	6400	5700	5500		
	10	8500									7400	6300	5300	4700	4200	4000		
	14	6700									5800	4900	4200	3700	3300	3200		
	20	5100									4400	3800	3200	2800	2500	2400		
3-15/16	6	16700										14200	12000	10600	9500	9000		
	10	12400										10600	8900	7900	7100	6700		
	14	9800										8400	7100	6300	5600	5300		
	20	7500										6400	5400	4800	4300	4100		
4-7/16	8	19600											19100	16100	14200	12700	12100	
	12	15300											14800	12500	11100	9900	9400	
	16	12500											12100	10300	9100	8100	7700	
	22	9800											9500	8100	7100	6400	6000	
4-15/16	8	25200												23600	20800	18500	17600	
	12	19900												18600	16400	14600	13900	
	16	16400												15400	13500	12100	11500	
	22	13000												12200	10700	9600	9100	
5-7/16	10	26600													25100	22300	21100	
	14	22000													20700	18400	17500	
	18	18700													17700	15700	14900	
	24	15300													14500	12800	12200	
6	10	35700														33100	31300	
	14	29500														27300	25900	
	18	25100														23300	22100	
	24	20600														19000	19000	
6-1/2	12	39200															38000	
	16	33200															32100	
	20	28800															27800	
	26	24000															23200	
7	12	49000																
	16	41400																
	20	35900																
	26	29900																
7-1/2	14	54100																
	18	46500																
	22	40800																
	28	34400																

Based on SAE 1018 shaft material, using either a maximum shaft bending stress of 8000 psi induced by resultant load (no torque), or a maximum free shaft deflection slope at the hub of 0.0023 inches per inch (tangent of 8 minutes), whichever governs.

Date: _____

By: _____

Company Name: _____

Contact: _____

Conveyor ID: _____

Project: _____

Required Capacity: _____ TPH

Length: _____ ft.

Lift: _____ ft. or angle of incline

Material Conveyed: _____ Density: _____ lb/cu.ft. Repose Angle: _____

Belt Speed: _____

Belt Width: _____

Belt Construction: _____

Carrying Idler Angle: _____ Spacing: _____ Return Spacing: _____

Number of Plows: _____

Number of Scrapers: _____

Skirtboard Length: _____

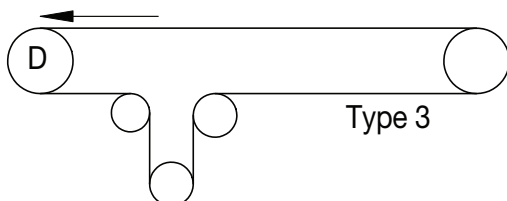
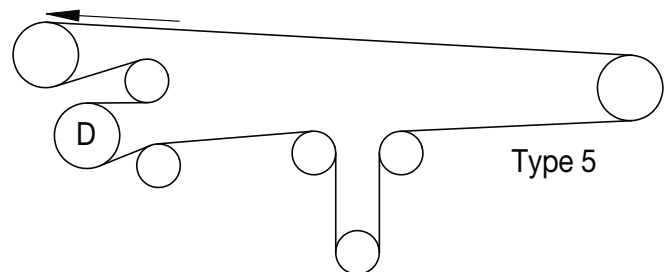
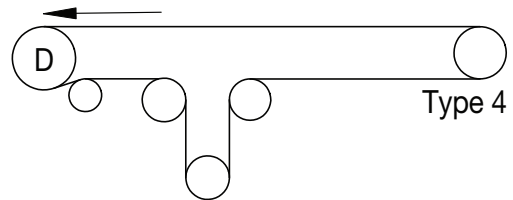
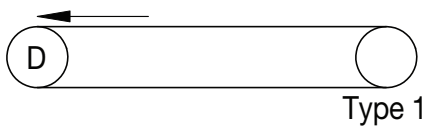
Height of Material on Skirtboard: _____

Horsepower: _____

Soft Start Type: _____ (electronic, fluid, etc.)

Bearing Centers: _____ inches

Conveyor Type: _____ (See Diagrams)



HD Pulley Data Sheet



Salesperson: _____ Date: _____

Customer: _____ Contact: _____

Address: _____

Phone: _____ E-Mail: _____

Pulley Tag/Callout: _____ Quantity: _____

1. Type of Pulley: Drum Wing
2. Crown or Flat Face: Crown Flat
3. Duty of Pulley: Standard Mine Quarry Quarry AR (Wing) Engineered
4. Diameter (inches): 4 6 8 10 12 14 16 18 20 24 30 36
 42 48 Other _____
5. Face Width (inches): 12 14 16 20 26 32 38 44 51 57 63 75
 Other _____ (Standard face is belt width +2" up to and including 42" belt and belt width +3" above 42")
6. Hub Style: MXT QD TL MHE Keyless Locker _____
7. Pulley Bushing Bore: _____
8. Lagging (Drum): Vulcanized SBR (select thickness and pattern below)

Thickness (inches): 1/4 3/8 1/2 3/4 1 _____
 Pattern: Smooth Herringbone Diamond _____

* If used underground please specify MSHA and call for assistance.
 * If used in a grain handling application and/or explosive air born particulate application specify SOF and call for assistance.

- Weld On Replaceable
- Urethane
- Ceramic Cold Bond Vulcanized

9. Lagging (Wing): Slide on Replaceable Weld on (with tabs)
 Vulcanized SBR Urethane
10. Shafting (Basic): Diameter _____ x Length _____ Bearing Centers: _____
 Drive Side Extension Right Hand Left Hand

11. Shafting (More Detail - A sketch or drawing may be required before manufacturing)

_____ Major Shaft Diameter (inside pulley)	_____ Shaft Diameter at Drive
_____ Shaft Diameter at Bushing	_____ Drive Key Length
_____ Shaft Diameter at Bearing	_____ Drive Key Details

12. Bearing and Drive Information Include with Quote For Information Only
- _____
- _____

13. Notes: _____

TERMS AND CONDITIONS

CANCELLATION OR SUSPENSION: Cancellation or suspension of manufacturing or shipping date of any order will be accepted only on terms which will indemnify us against loss.

MADE-TO-ORDER SIZES AND OVERRUNS: Because in manufacturing it is necessary to make slightly more of any article than the exact amount specified, in order to offset losses and ensure the required number of parts being produced, made-to-order items are subject to having a run of plus or minus 5% of the total order and may be shipped and invoiced without prior notice. The foregoing is not applicable to standard stock merchandise.

TAXES: Any sales, use, consumption, or other similar tax applicable to the sale, purchase, or use of product is not included in these prices and shall be paid by the purchaser.

"LIMITED WARRANTY": Subject to the limitation expressed in subsequent paragraphs, *Martin* Sprocket & Gear, Inc. and *Martin* Sprocket & Gear Canada Inc., make the following warranties: We warrant that each of our products of manufacture will be free from defects in material and workmanship under normal use and service for twelve months from the date of delivery to the original user. We will correct any such defects in material or workmanship by repair or replacement of the product F.O.B. our plant. Tools will carry the following lifetime warranty: If a *Martin* tool fails to satisfactorily perform its designated use, it may be returned to the *Martin* distributor from which such tool was purchased and will be repaired or replaced without cost.

THE FOREGOING WARRANTIES ARE EXPRESSLY IN LIEU OF ANY AND ALL REPRESENTATIONS, WARRANTIES AND CONDITIONS EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WHETHER ARISING FROM STATUTE, COMMON LAW, CUSTOM, OR OTHERWISE. THE REMEDY OF REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT OR TOOL SET FORTH IN THE FOREGOING WARRANTIES SHALL BE THE EXCLUSIVE REMEDY AVAILABLE TO ANY PERSON.

Charges for correcting defects will not be allowed, nor can we accept goods returned to us for repair or replacement, unless we are previously notified of the defect in writing and the return or correction is authorized by us in writing. All warranty claims alleging defects of materials or workmanship must be submitted in writing within thirty days of the discovery of a defect or such claim shall be considered waived. (This paragraph is subject to the provisions of the Consumer Protection laws of Mexico.)

The foregoing warranties shall not apply to any products or tools which have been subjected to misuse, neglect or accident, or have been altered or tampered with, or have been used beyond their normal useful or expected life, or which have had corrective work done thereon without our written consent. WE SHALL NOT BE LIABLE FOR ANY LOSS, INJURY, EXPENSE, OR DAMAGE, WHETHER DIRECT, CONSEQUENTIAL, INCIDENTAL, OR OTHERWISE, RESULTING FROM THE USE OF OUR PRODUCTS OR TOOLS OR CAUSED BY ANY DEFECT, FAILURE, OR MALFUNCTION OF ANY PRODUCT OR TOOL, WHETHER A CLAIM FOR SUCH DAMAGES IS BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, OR OTHERWISE. Equipment manufactured by others, and included in our proposal, is not warranted in any way by us but carries only the manufacturer's warranty, if any. No person has the authority to bind us to any representation or warranty other than the foregoing limited warranties as disclaimed.

The provisions of the United Nations Convention on Contracts for the International Sale of Goods or any local statute declaring it to have the force of law in the jurisdiction of one of the parties shall not apply to Products supplied hereunder.

"YOU ARE HEREBY NOTIFIED THAT ANY ADDITIONAL OR DIFFERENT TERMS FROM THOSE CONTAINED IN THIS LIMITED WARRANTY ARE OBJECTIONABLE. NO ADDITIONS OR CHANGES ARE BINDING ON *Martin* UNLESS THEY ARE IN WRITING AND SIGNED BY AN AUTHORIZED OFFICER."

NOTE: All past due invoices shall be payable to *Martin* Sprocket & Gear, Inc., at P.O. Box 91588, Arlington, Tarrant County, Texas 76015-0088. All past due invoices of *Martin* Sprocket & Gear Canada Inc., shall be payable at 896 Meyerside Drive, Mississauga, Ontario, Canada L5T 1R9. Reasonable attorneys' fees will be added if collection is forced.

RETURNED MATERIAL: When it is desired to return material for credit or exchange, it is necessary that permission in writing first be obtained from the nearest office.

SHIPMENTS: If we are not able to meet your shipment requirements and/or our expected dates of shipment, we will not accept liability for delays beyond our control, nor will we accept cancellations unless a settlement has been agreed upon between us.

FREIGHT ALLOWANCE: Freight allowances are shown on the different product discount sheets. In cases where a specific routing of any order is more costly than the routing selected by us, the excess charges will be added to the net amount of the invoice. Weights shown in catalog are approximate, and may not be used to determine qualifications for freight allowance.

CASH DISCOUNT: 1% 10th and 25th Net 30 Days. A 1% cash discount will be allowed on invoices dated the 1st through the 15th if paid by the 25th of the same month and on invoices dated the 16th through the end of the month if payment is made by the 10th of the next month. All invoices are due in 30 days. Cash discount does not apply to other charges such as freight, postage, or delivery charges.

This catalog supersedes all previous editions. Every effort has been put forward to produce what we feel is the best power transmission catalog in the industry. However, due to changes in engineering and manufacturing processes and procedures, it becomes necessary, from time to time, to make alterations to products, and such alterations may not be reflected in this catalog. Therefore, if dimensions, specifications or appearances represented by pictures or drawings or tables are critical in their applications, please consult the factory for clarification or certified drawings.



INVENTORY: *Martin* delivers with incredible fill rates from one of its many facilities strategically located across North America.



SERVICE: *Martin* ships rebores and other alterations within hours - not days... MTO's in days - not weeks.



PEOPLE: When you call *Martin* you get a person, not voice mail. We are ready, able and willing to help...Now!

For more information contact a branch near you:

USA

General Offices Sales and Manufacturing

Arlington, TX
3100 Sprocket Drive 76015-2898
P.O. Box 91588
Arlington, TX 76015-0088
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Sales and Manufacturing

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306 Bethany Road
Albemarle, NC 28001-8520
704-982-9555 (FAX 704-982-9599)

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3376 Delps Road 18038-9515
P.O. Box 267 • Danielsville, PA 18038-0267
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Ft. Worth, TX 76110-4692
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Sacramento, CA 95814-0426
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P.O. Box 886 • Scottsdale, GA 30079-0886
404-292-8744 (FAX 404-292-7771)

Tigard, OR
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