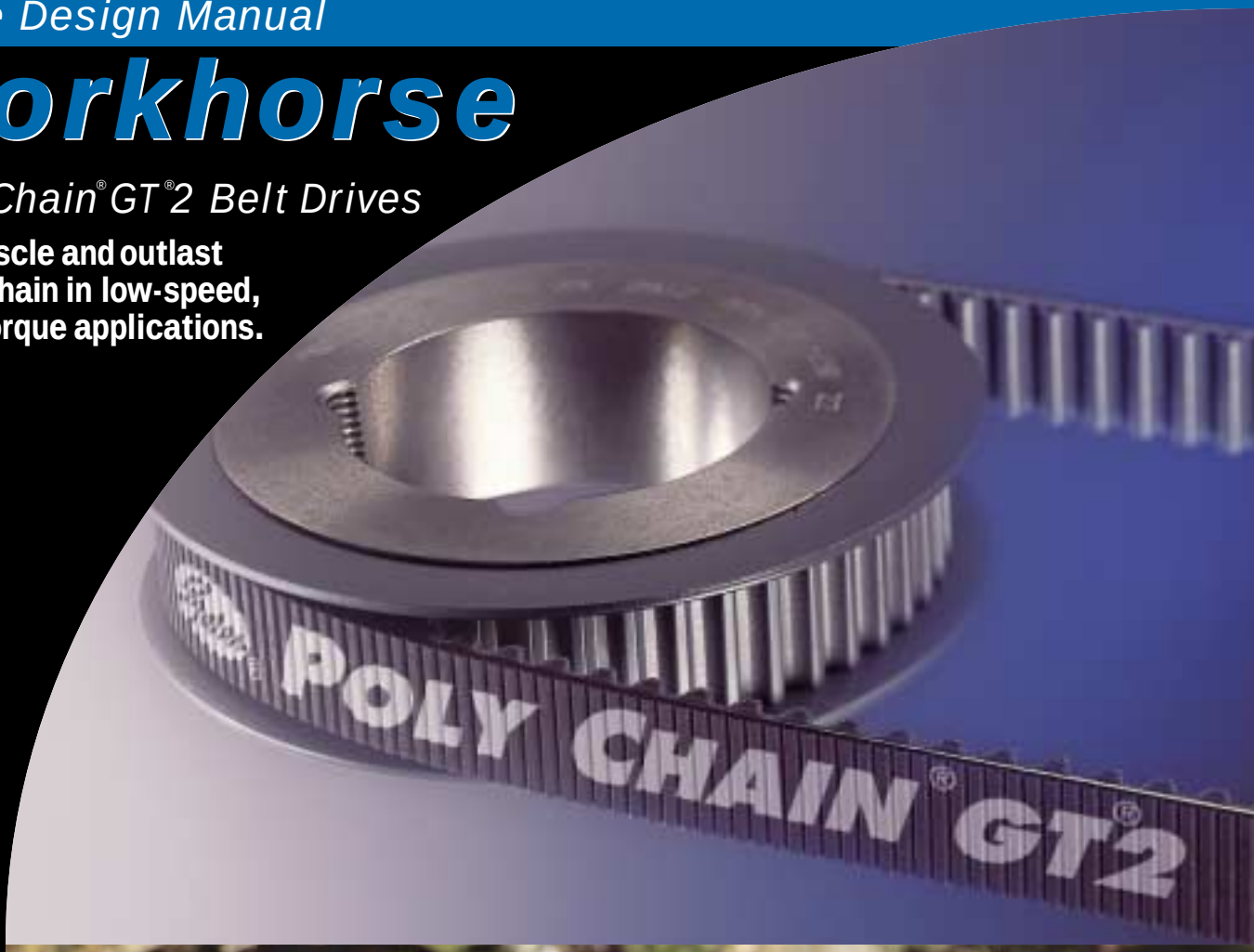
Drive Design Manual

Workhorse

Poly Chain® GT®2 Belt Drives

Outmuscle and outlast roller chain in low-speed, high-torque applications.



Gates®

THE DRIVING FORCE IN POWER TRANSMISSION

Low speed. High speed. And any speed in between.
Gates has your total synchronous belt drive system solution!

Synchronous belt drives are being used more extensively than ever for the transfer of power from one shaft to another, multiplication of torque, speed reduction or increase, and synchronization of shaft operations.

Gates, the world's recognized leader in synchronous belt technology, continues to meet all your needs for synchronous belts, sprockets and bushings across the broadest range of industry applications. Choose from a full line of quality products featuring leading-edge technologies that deliver the advantages you're looking for:

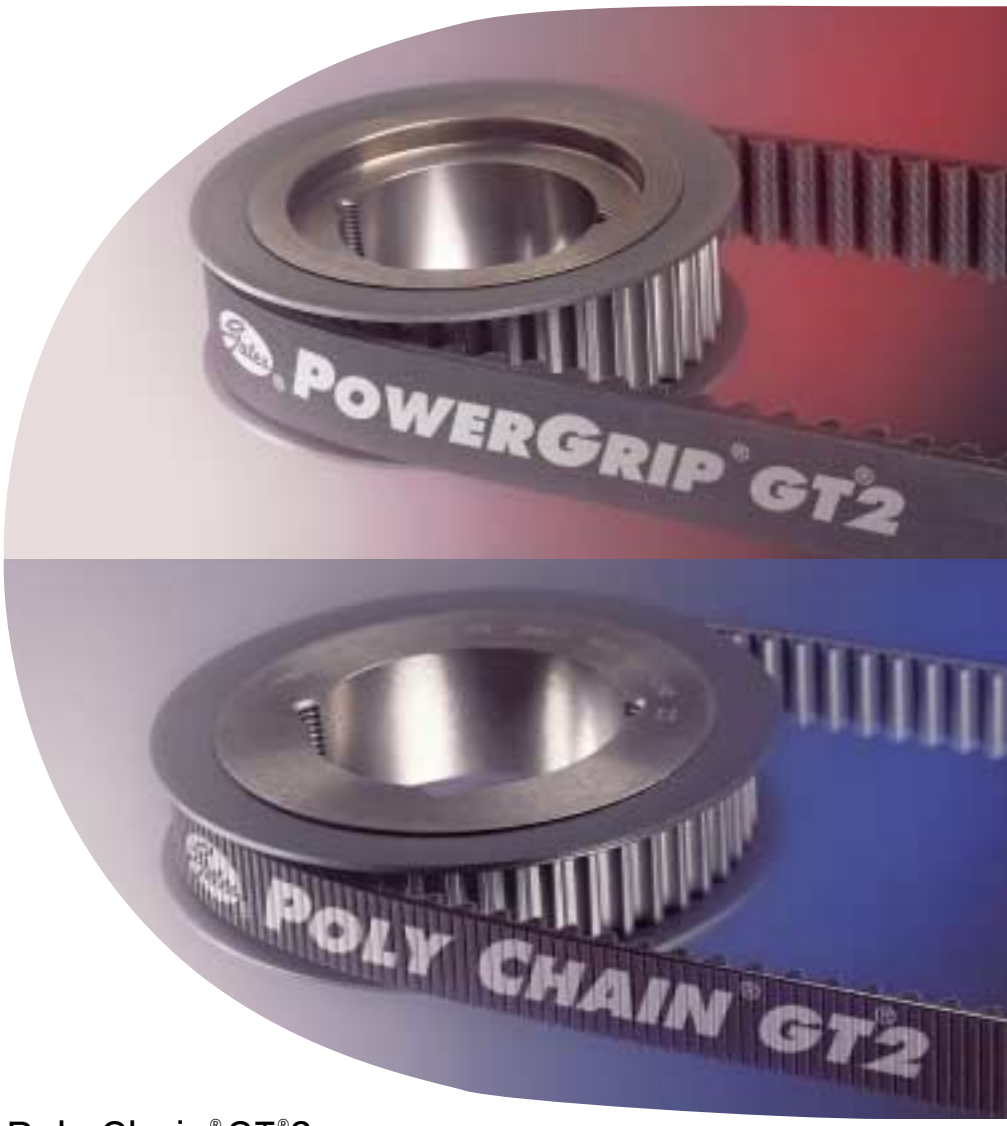
- ***Reduced downtime***
- ***Reduced over-all drive cost***
- ***Reduced drive package size***
- ***Increased component life***
- ***Increased performance***
- ***Energy savings***
- ***Reduced acquisition costs***
- ***Reduced transaction costs***
- ***Increased drive design options***

New, improved synchronous belt lines.

The latest innovations in Gates synchronous drive systems are two redesigned and reengineered belt and sprocket lines. They are the clear winners in overall cost, drive selection options and performance when compared to any other belt drive products on the market today.

PowerGrip® GT®2

The Racehorse. *This is the performance choice for a wide variety of high-speed (above 500 rpm) drive applications. PowerGrip GT2 will deliver more power at a lower overall cost than any other rubber synchronous belt drive system available.*



Poly Chain® GT®2

The Workhorse. *This is the optimal choice in meeting your needs for low-speed (below 500 rpm), high-torque drive applications. The powerful Poly Chain GT2 polyurethane belt drive system will outperform roller chain drives and any rubber belt drive system on the market today, delivering the lowest-cost belt drive system available for low-speed, high-torque applications.*

And we can prove it!

Taper-Lock® sprockets & bushings.

Poly Chain GT2 and PowerGrip GT2 belt drive systems feature Taper-Lock bushings. Advantages of the Taper-Lock system include:

- ***Industry-proven robustness***
- ***True running, concentric***
- ***Extensive use in roller chain sprockets***
- ***Easy installation and removal***
- ***Allows compact sprocket hub designs***
- ***Short length-thru-bore dimensions***
- ***Flush mount with no protruding hubs***
- ***Installs with less axial sprocket movement than other bushing systems***

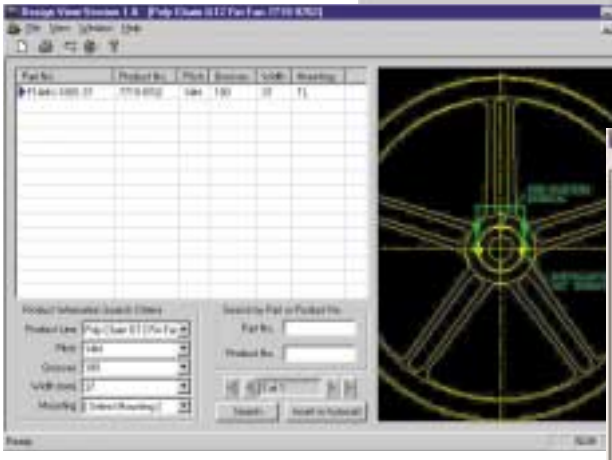
Made-to-order sprockets.

Gates Made-to-Order (MTO) Metal Department supports synchronous MTO sprockets with 90% of Requests For Quote (RFQ) provided within 48 hours and 84% of quotes provided within 24 hours. Quoted delivery dates are met at a 97% rate and most deliveries are made within four weeks. Call 800-709-6001 for more information.

Gates Compass® CD-ROM: selection, maintenance, and design tool.

The Gates Compass CD-ROM is a powerful tool offering a variety of useful information and features. It makes choosing the right drive system fast and easy. Compass contains *Design Flex™ II, Design View™ and Design OHL™* for invaluable assistance in product selection, drive design, energy savings calculations, installation and system cost savings. The CD also contains eight instructional videos covering topics such as belt drive troubleshooting, tensioning, safety and installation. The Compass CD-ROM is available through authorized Gates Industrial Power Transmission Distributors.

▲ **Design Flex II™**



▲ **Design View™**

Design OHL™ ▶

A partnership commitment.

To ensure that you get the synchronous drive systems that are right for your applications, Gates provides the industry's leading support program and the largest distributor network. You get local inventory availability and a single source for all your needs. You also get access to Gates Product Application Engineering Support for unmatched design and problem-solving expertise in every aspect of synchronous drive operation. You're backed by the industry's largest manufacturer's field sales force, voted number one in a recent *Selling Power* magazine survey. Your Gates representatives are experts in the products they market and provide a variety of in-house and on-site training programs. Nobody is as committed to supporting you as Gates!

It's obvious! Gates is your total synchronous drive solution.

With industry-leading technologies, a complete line of high quality, top-performing products, and unmatched customer support, it's easy to see that Gates is the partner to choose in meeting all your needs for synchronous belt drive systems.

Poly Chain GT2

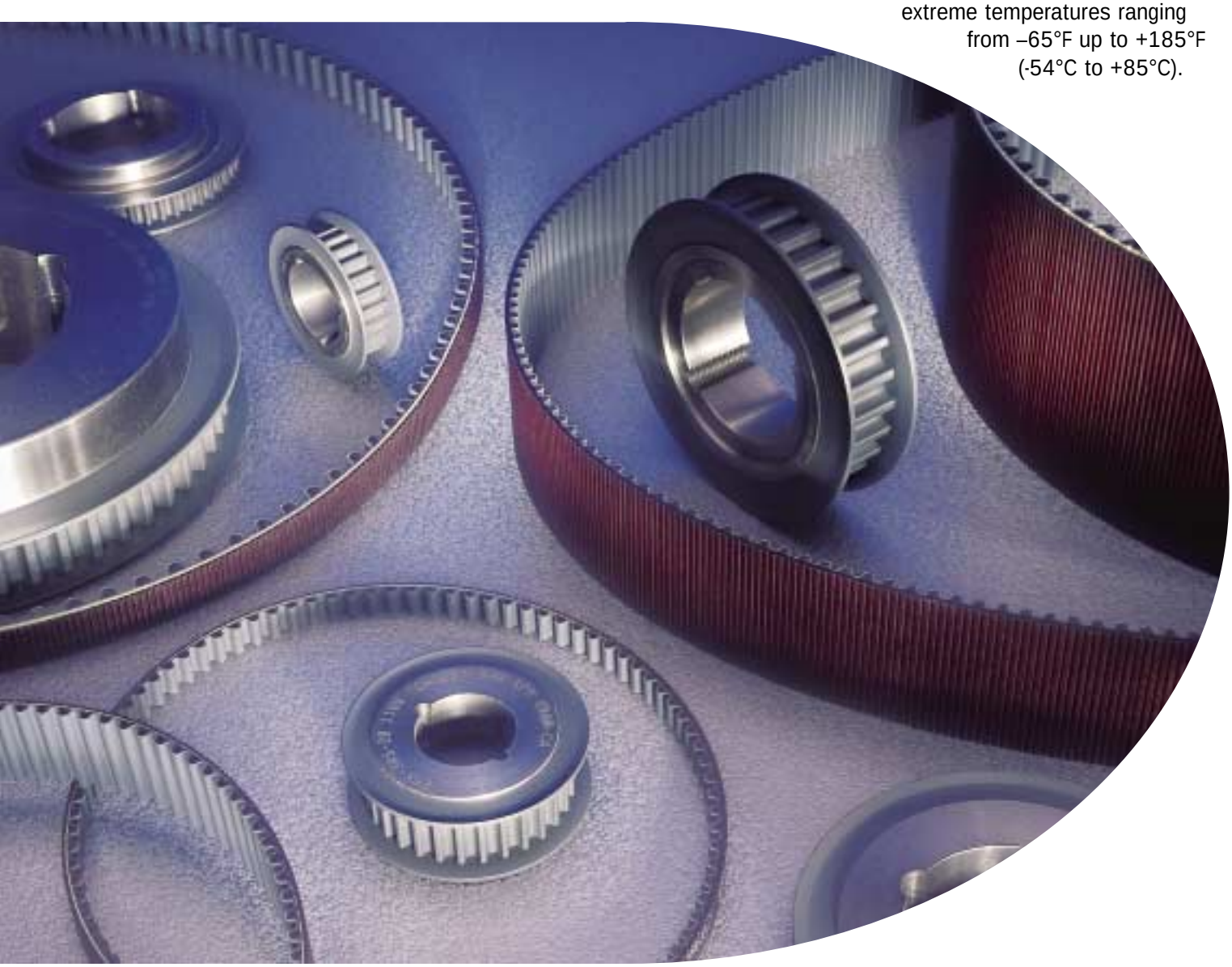
New Poly Chain GT2 is Gates most powerful synchronous belt, ideally suited for low-speed (below 500 rpm), high torque industrial applications. This improved belt features a polyurethane body with a robust aramid fiber tensile cord and new nylon tooth facing—improvements that enable increased load-carrying capacity. Size for size, space for space, Poly Chain GT2 transmits up to 30 percent more power than its predecessor. It also permits the design of more compact, lighter weight drives that deliver more power in less space than any other belt drive system available.

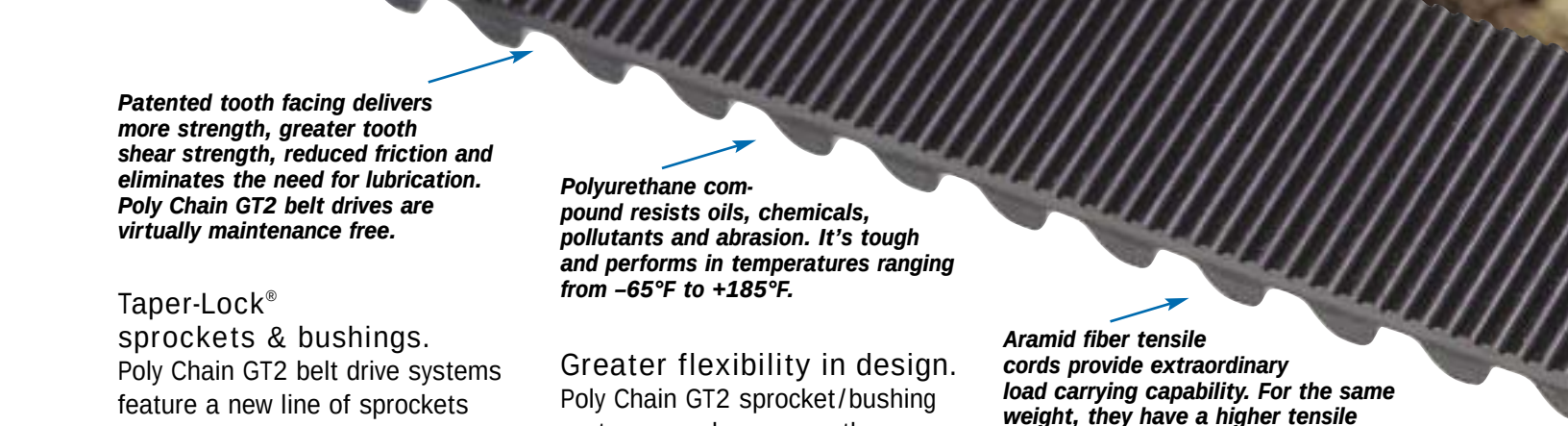
Poly Chain GT2 is the result of innovative state-of-the-art design and engineering. The body and teeth are made of a durable polyurethane compound, specially blended for uncompromising adhesion to the tensile cords and heavy nylon tooth facing, allowing for increased tooth shear strength and excellent flex life. The result is ***the toughest belt on the market*** by far, virtually immune to abrasion and chemical attack.

Poly Chain GT2 performs flawlessly, even under the harshest operating conditions.

The aramid fiber tensile cords constitute the belt's muscle. The cord provides exceptional flex fatigue life and its high impact strength makes the belt resistant to shock and surge loading. Poly Chain GT2 drives dramatically reduce maintenance costs, expensive production downtime and noise problems associated with the metal-to-metal contact of roller chain drives.

The nylon fabric covering the teeth is highly resistant to oil, chemicals, pollutants, corrosion and abrasion, while providing excellent tooth shear strength and durability. Poly Chain GT2 belts are exceptionally durable and remain fully operational under extreme temperatures ranging from –65°F up to +185°F (-54°C to +85°C).





Patented tooth facing delivers more strength, greater tooth shear strength, reduced friction and eliminates the need for lubrication. Poly Chain GT2 belt drives are virtually maintenance free.

Polyurethane compound resists oils, chemicals, pollutants and abrasion. It's tough and performs in temperatures ranging from –65°F to +185°F.

Aramid fiber tensile cords provide extraordinary load carrying capability. For the same weight, they have a higher tensile modulus than steel for incredible strength and virtually zero elongation. Exceptional flex fatigue characteristics combined with the ability to absorb shock loads make Poly Chain GT2 the ideal drive system choice for low-speed high-torque applications.

Taper-Lock® sprockets & bushings.

Poly Chain GT2 belt drive systems feature a new line of sprockets that have been redesigned to carry the new increased belt power ratings. These new sprockets utilize the Taper-Lock bushing system that has been tested and proven in industry for many years. This allows easy sprocket installation and removal and keeps the hubs narrow so the length-thru-bore dimension is less than ever before. Now, Poly Chain GT2 sprockets will fit on those applications with short shafts, with room to spare.

In addition, the left-justified hub design allows shaft mounting close to outboard bearings. This keeps the center of load dimension small, so overhung load values are as low as possible—lower than any competitive belt drive system.

Poly Chain GT2 is the ideal candidate for low-speed and speed reducer applications. Its high load carrying capacity is unmatched by any competitive belt drive system, allowing drive designs in widths narrower than ever before, approaching roller chain drive systems.

More horsepower in less space for less cost.

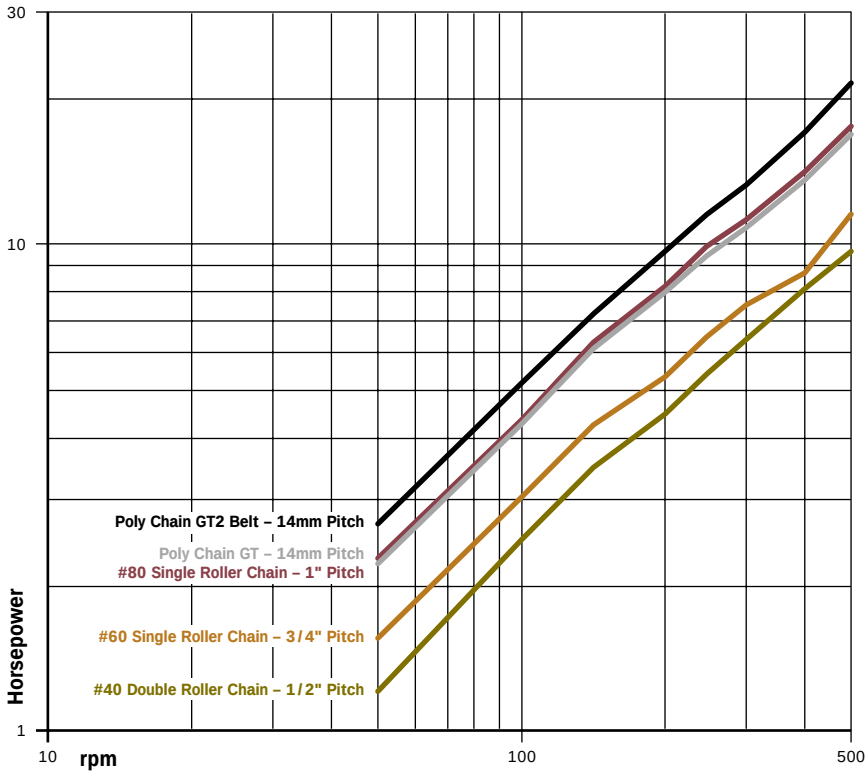
From low-speed fractional horsepower drives to more than 1,200 horsepower, Poly Chain GT2 drives are unsurpassed in transmitting positive power over a wide range of loads, while withstanding power surges and shock loading. Think of all the places you could use a drive system like that!

Greater flexibility in design.

Poly Chain GT2 sprocket/bushing systems use less space than conventional sprockets and sheaves. In comparison with most competitive drives (roller chain or rubber), Poly Chain GT2 belt drives are as little as one-half the width and 50 percent lighter. Yet they can deliver over five times more horsepower than standard rubber synchronous systems in the same space. Savings like these in space and weight allow for a wide latitude in design flexibility.

How do you calculate the cost of downtime?

The "normal" downtime costs and lost productivity resulting from maintenance and chain replacement could add up to hundreds—if not thousands—of dollars per drive per year. You have no choice. If you use roller chain drives, you must maintain them or they <u>will</u> break down. Consequently, regular scheduled maintenance on your production equipment must be accomplished to maintain these roller chain drives, often resulting in extensive downtime. Elimination of this downtime would clearly result in increased production output.



Horsepower Rating Comparison
(Width is approximately 1" for all transmission media)

Poly Chain GT2
advantages over roller chain:

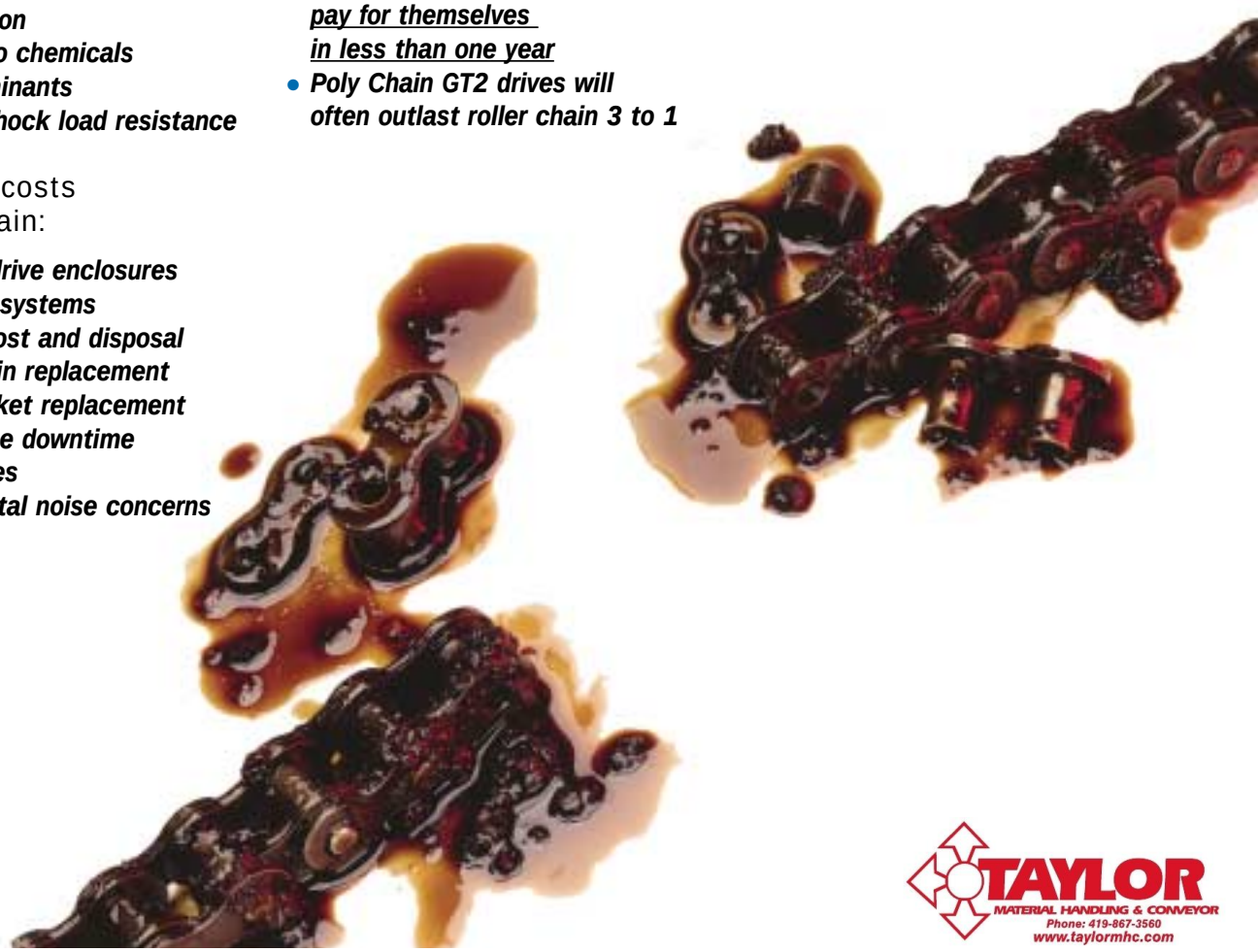
- ***Long, dependable life***
- ***Reduced downtime***
- ***Virtually maintenance free***
- ***No retensioning***
- ***Quiet***
- ***Minimal vibration due to chordal action***
- ***Virtually no elongation***
- ***Clean running system***
- ***No expensive oil baths***
- ***No lubrication***
- ***Resistant to chemicals and contaminants***
- ***Excellent shock load resistance***

Save big with
Poly Chain GT2 drives:

- ***No "hidden costs" in lost productivity***
- ***No "hidden costs" of ongoing maintenance***
- ***Poly Chain GT2 drives reduce overall costs and can pay for themselves in less than one year***
- ***Poly Chain GT2 drives will often outlast roller chain 3 to 1***

The hidden costs
of roller chain:

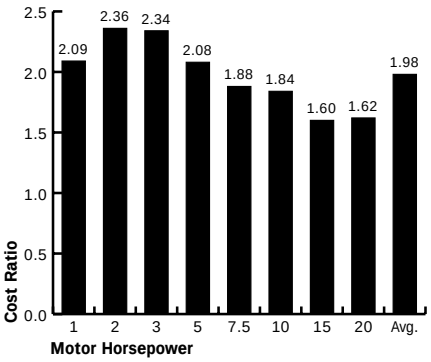
- ***Expensive drive enclosures***
- ***Lubrication systems***
- ***Lubricant cost and disposal***
- ***Broken chain replacement***
- ***Worn sprocket replacement***
- ***Maintenance downtime***
- ***Safety issues***
- ***Environmental noise concerns***



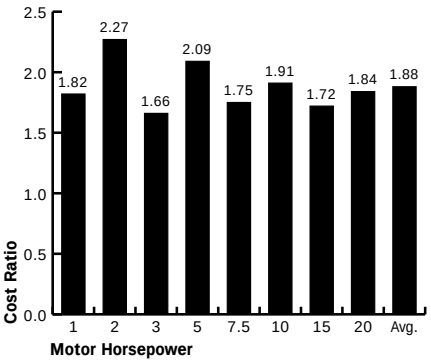
TAYLOR
MATERIAL HANDLING & CONVEYOR
Phone: 419-867-3560
www.taylormhc.com

Poly Chain GT2 Drives are guaranteed to outperform and outmuscle roller chain and high-performance rubber belt synchronous systems—at a lower overall service lifetime cost per drive. *And here's proof!*

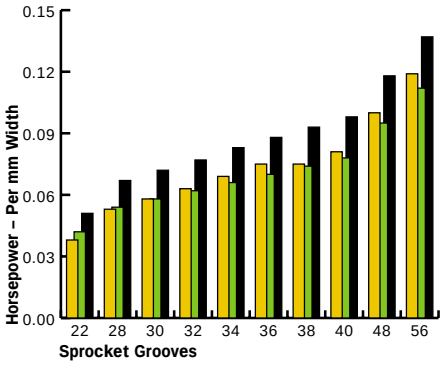
Poly Chain® GT®2
Poly Chain® GT® **Dayco® Panther®** **Goodyear® Eagle Pd™** **HTD®**



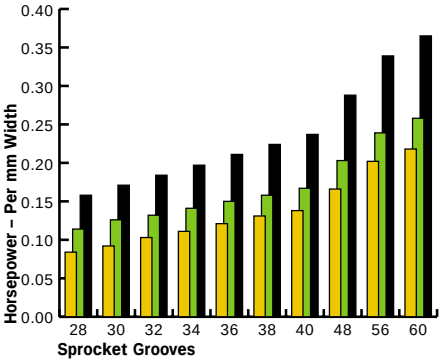
Cost Ratio
Poly Chain GT2 / Roller Chain
(100 rpm Shaft Speed)



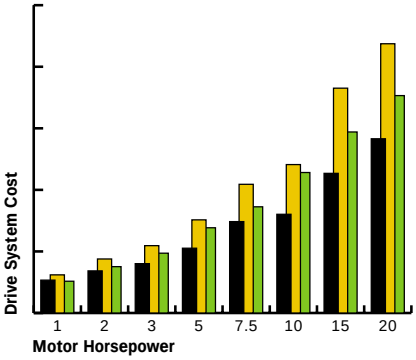
Cost Ratio
Poly Chain GT2 / Roller Chain
(200 rpm Shaft Speed)



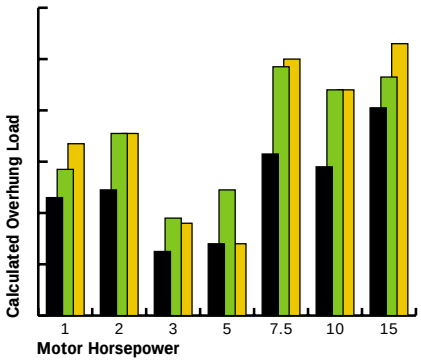
Horsepower Per mm Belt Width
Light Package Conveyor Example
(8mm Pitch, 100 rpm Reducer Output
Service Factor Added)



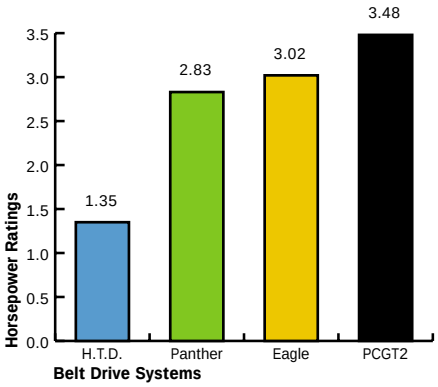
Horsepower Per mm Belt Width
Light Package Conveyor Example
(14mm Pitch, 100 rpm Reducer Output
Service Factor Added)



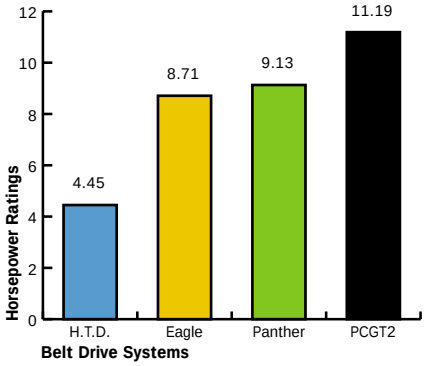
System Cost For Motor Horsepowers
(1:1 Speed Ratio, 103 rpm Reducer Output)



Overhung Load Comparison
Poly Chain GT2 vs Eagle Pd and Panther
(All drives designed with
comparable diameter sprockets)

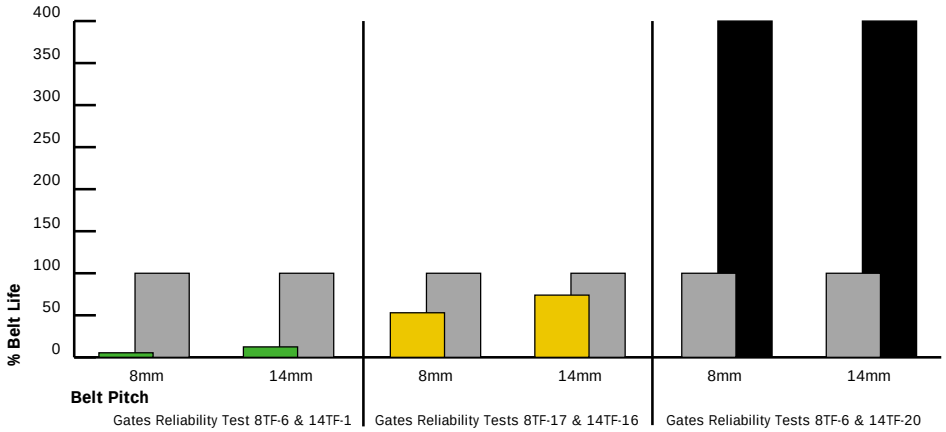


Published Horsepower Rating
Per Inch of Width
(8mm Sprocket, 56 Groove,
100 rpm Reducer Output)



Published Horsepower Rating
Per Inch of Width
(14mm Sprocket, 56 Groove,
100 rpm Reducer Output)

* Because Poly Chain GT2 belts have the highest capacity, a narrow belt drive can be used, meaning that the center of the belt load is closer to the reducer bearing, resulting in less bearing load.



Life Performance Indexes

Poly Chain GT vs Panther, Eagle and Poly Chain GT2

Belt Test Descriptions

Dr **Competitive Comparisons** **Dn**

Test ID	Pitch	Speed	Sprockets	Load
8TF-6	8mm	2000 rpm	24T/24T	High Torque
8TF-17	8mm	2000 rpm	24T/24T	High Torque
14TF-1	14mm	1750 rpm	32T/32T	High Torque
14TF-16	14mm	1750 rpm	32T/32T	High Torque
14TF-20	14mm	1750 rpm	32T/32T	High Torque

Note: All competitive belt tests were conducted in a laboratory environment under identical operating conditions

8mm Pitch Product Line Comparison

	Gates Poly Chain GT2	Goodyear Eagle Pd	Dayco RPP Panther
Sprocket Diameters	26	26	20
Sprocket Selections	103	52	80
Center Distance Range	5.51 – 84.72	5.51 – 44.09	3.78 – 83.15
Maximum Speed Ratio	10.18:1	11.20:1	8.73:1
Belt Length Selections	20	14	26
Belt Length Range	640 – 4480mm	640 – 2400mm	480 – 4400mm
Belt Width Selections	12-21-36-62	16-32	12-22-35-60
Total Drive Combinations	22,000+	7,000+	16,500+

14mm Pitch Product Line Comparison

	Gates Poly Chain GT2	Goodyear Eagle Pd	Dayco RPP Panther
Sprocket Diameters	32	21	23
Sprocket Selections	160	84	115
Center Distance Range	8.54 – 79.09	8.54 – 47.40	7.99 – 89.84
Maximum Speed Ratio	8.00:1	6.00:1	7.71:1
Belt Length Selections	19	14	18
Belt Length Range	994 – 4410mm	994 – 2800mm	966 – 4956mm
Belt Width Selections	20-37-68-90-125	35-53-70-105	20-42-65-90-120
Total Drive Combinations	36,000+	8,000+	17,500+

The bottom line:

Compared to other drive system alternatives to roller chain available today, Poly Chain GT2 drives offer you:

- ***The most compact belt drive system available today***
- ***Lowest cost drive system at low speed***
- ***Lowest overhung load generated on speed reducer shafts***
- ***Longest life, width for width***

That's why Gates is ***The Driving Force In Power Transmission!***

Poly Chain GT2 vs. Roller Chain Savings Calculator

This sample calculator below illustrates the dramatic cost savings of a Poly Chain GT2 drive system compared to a roller chain system.

Make the switch to Poly Chain GT2

Poly Chain GT2 drives tested in a variety of applications lasted longer and required less maintenance than the roller chain or rubber belt drives they replaced. The following industries are ideal for Poly Chain GT2 drive systems:

ANNUAL COSTS	Roller Chain	Poly Chain® GT2®
Unit Cost of New Drive System	$ 110.21	$ 186.34
Yearly Costs To Maintain Roller Chain:		
Replacement cost – Chain/Belt	$ 33.96	$ *
Labor	$ 13.00	$ *
Replacement cost – Sprockets	$ 28.58	$ *
Labor	$ 13.00	$ *
Lubrication cost – Labor	$ 6.50	$
Disposal	$?	$
Production Downtime	$ 100.00	$
Employee Complaints (noise/lost production)	$?	$
Safety costs (lube on floor, etc.)	$?	$
Annual Total Cost to Maintain System:	$ 195.04	$ 0.00
Annual Total Cost of New System:	$ 305.25	$ 186.34
Annual Total Cost to Maintain System: Pay Back: Poly Chain GT2	0.61 Years	
Cost of Systems in Three Years	$ 695.33	$ 186.34
Savings in Dollars - First Three Years:	$ 508.99 Per Drive	
Cost of Systems in Five Years	$ 1,085.41	$ 266.34
Savings in Dollars – First Five Years:	$ 819.07 Per Drive	

*NOTE: Worksheet assumes that roller chain drives are replaced once per year on the average and that a properly designed Poly Chain GT2 belt (only) should have to be replaced only once every 3 years; hence the yearly replacement costs are calculated at 1/3 of the component cost.

*Visit **www.gates.com/sync** for an online version*

Lumber, Pulp & Paper

Conveyors, repulpers, sentry screens, effluent systems, presses, waxers, chippers, debarkers, slashers, chip 'n saws, edgers, roll grinders, screw conveyors, flotation cells, cut-off saws, hourglass rolls, dryers, agitators, calendars, pumps, winders

Packaging

Box makers, carton sealers, case palletizers, and live roll, apron, belt, chain and screw conveyors

Food Processing

Pumps, bucket elevators, belt conveyors, icing machines, elongators, dough mixers, cookers, mills, bottling machines, meat grinders, hog dehairers

Aluminum/Steel

Bucket elevators, shot blasters, conveyor drives, scrap cutters, sand seals, drag-out machines, polishers, cooling chambers, muffler furnaces, mandrel stripping rods, spinner cars, gray iron foundries, sand conveyors, bucket elevators, grinders

Petrochemical Industries

Air coolers, chlorine compressors, processing, centrifuges, dryers, compressors, pumps

Sand, Gravel & Concrete

Feeder drives, conveyor drives, elevators, screw conveyors

Glass Manufacturing/Bottles

Conveyors, crushers, grinders, carton sealers, case palletizers

And more!

SAFETY POLICY

WARNING! Be Safe! Gates belt drive systems are very reliable when used safely and within Gates application recommendations. However, there are specific USES THAT MUST BE AVOIDED due to the risk of serious injury or death. These prohibited misuses include:

Primary In Flight Aircraft Systems

Do not use Gates belts, pulleys or sprockets on aircraft, propeller or rotor drive systems or in-flight accessory drives. Gates belt drive systems are not intended for aircraft use.

Lift Systems

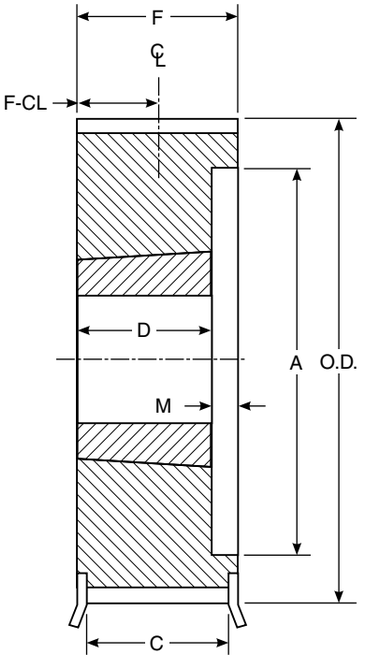
Do not use Gates belts, pulleys or sprockets in applications that depend solely upon the belt to raise/lower, support or sustain a mass without an independent safety backup system. Gates belt drive systems are not intended for use in applications requiring special “Lift” or “Proof” type chains with minimum tensile strength or certified/test tensile strength requirements.

Braking Systems

Do not use Gates belts, pulleys or sprockets in applications that depend solely upon the belt to slow or stop a mass, or to act as a brake without an independent safety backup system. Gates belt drive systems are not intended to function as a braking device in “emergency stop” systems.

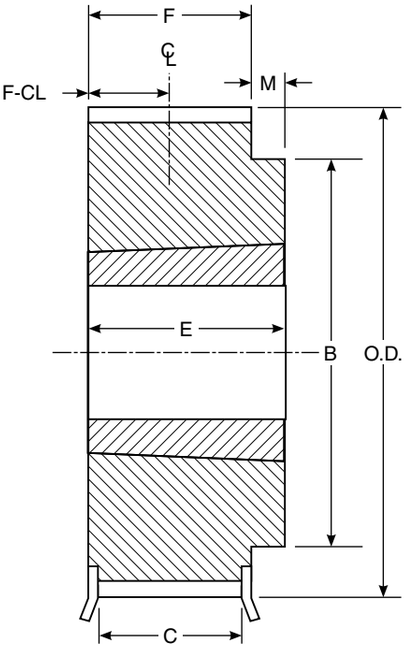
Poly Chain® GT®2 Sprocket Specifications

Type A



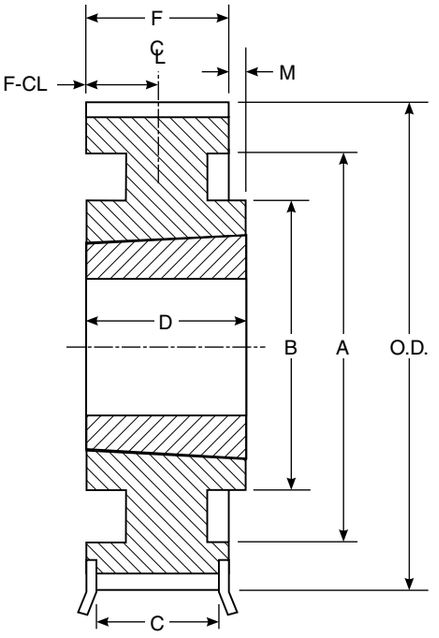
Type AF

Type B



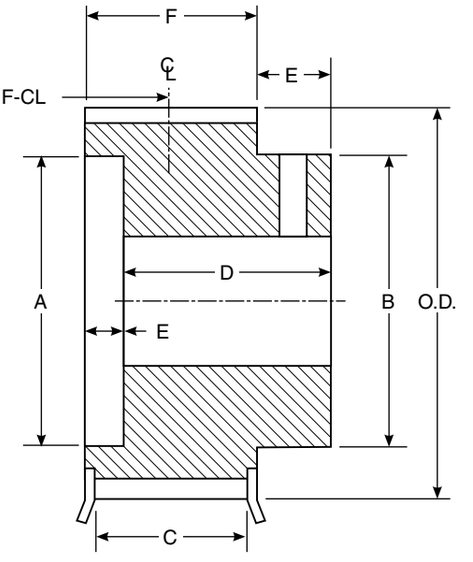
Type BF

Type C



Type CF

Type 6



Type 6F

Stock 8mm Poly Chain® GT®2 Sprocket Specifications

(All stock sprockets conform to the metallurgical and mechanical properties noted in ASTM A48 for Gray Iron castings and ASTM A536 for Ductile Iron castings.)

Sprocket Number	Number of Teeth	Diameters (in)			Design Type	Dimensions (in)								Bushing Size	Bore Sizes		Approx. Wt. (lb)	Approx. WR^2	Matl. Spec.
		Pitch	O.D	Flange Ref.		A	B	C	D	E	F	M	F-CL		Min	Max			
8MX-22S-12	22	2.206	2.143	2.610	AF-1	0.00	-	0.60	0.88	-	0.88	0.01	0.44	1008	0.500	1.000	0.4	0.002	D
8MX-22S-12-PB	22	2.206	2.143	2.610	6F-1	-	1.79	0.57	1.31	0.46	0.85	0	0.43	MPB	0.500	1.188	1.0	0.004	D
8MX-25S-12	25	2.506	2.443	2.910	AF-1	0.00	-	0.60	0.88	-	0.88	0.01	0.44	1108	0.500	1.125	0.6	0.004	G
8MX-25S-12-PB	25	2.506	2.443	2.910	6F-1	-	2.08	0.57	1.31	0.46	0.85	0	0.43	MPB	0.500	1.500	1.4	0.006	D
8MX-28S-12	28	2.807	2.744	3.210	AF-1	0.00	-	0.60	0.88	-	0.88	0.01	0.44	1108	0.500	1.125	0.9	0.007	G
8MX-28S-12-PB	28	2.807	2.744	3.210	6F-1	-	2.34	0.57	1.31	0.46	0.85	0	0.43	MPB	0.500	1.750	1.8	0.011	D
8MX-30S-12	30	3.008	2.945	3.410	AF-1	0.00	-	0.60	0.88	-	0.88	0.01	0.44	1108	0.500	1.125	1.1	0.009	G
8MX-30S-12-PB	30	3.008	2.945	3.410	6F-1	-	2.54	0.57	1.42	0.57	0.85	0	0.43	MPB	0.500	1.813	2.2	0.015	D
8MX-32S-12	32	3.208	3.145	3.610	AF-1	-	-	0.72	1.00	-	1.00	0	0.50	1210	0.500	1.250	1.2	0.012	D
8MX-32S-12-PB	32	3.208	3.145	3.610	6F-1	-	2.73	0.57	1.42	0.57	0.85	0	0.43	MPB	0.500	2.000	2.5	0.020	D
8MX-34S-12	34	3.409	3.346	3.810	AF-1	-	-	0.72	1.00	-	1.00	0	0.50	1610	0.500	1.688	1.1	0.014	D
8MX-36S-12	36	3.609	3.546	4.010	AF-1	-	-	0.72	1.00	-	1.00	0	0.50	1610	0.500	1.688	1.4	0.019	G
8MX-38S-12	38	3.810	3.747	4.210	AF-1	-	-	0.72	1.00	-	1.00	0	0.50	1610	0.500	1.688	1.7	0.025	G
8MX-40S-12	40	4.010	3.947	4.410	BF-1	-	3.56	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	1.7	0.031	D
8MX-42S-12	42	4.211	4.148	4.910	BF-1	-	3.76	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	2.1	0.042	G
8MX-45S-12	45	4.511	4.448	4.910	BF-1	-	3.76	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	2.6	0.055	G
8MX-48S-12	48	4.812	4.749	5.210	BF-1	-	3.76	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	3.4	0.081	G
8MX-50S-12	50	5.013	4.950	5.410	BF-1	-	3.76	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	3.7	0.094	G
8MX-53S-12	53	5.314	5.251	5.500	BF-1	-	3.76	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	4.7	0.132	G
8MX-56S-12	56	5.614	5.551	6.010	BF-1	-	3.76	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	5.4	0.165	G
8MX-60S-12	60	6.015	5.952	6.410	BF-1	-	3.76	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	6.3	0.217	G
8MX-63S-12	63	6.316	6.253	6.720	CF-1	5.71	4.00	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	4.1	0.140	G
8MX-67S-12	67	6.717	6.654	6.870	CF-1	6.14	4.00	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	4.3	0.164	G
8MX-71S-12	71	7.118	7.055	7.500	CF-1	6.51	4.00	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	4.7	0.199	G
8MX-75S-12	75	7.519	7.456	7.920	CF-1	6.90	4.00	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	5.1	0.239	G
8MX-80S-12	80	8.020	7.957	8.420	CF-1	7.23	4.00	0.57	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	5.8	0.323	G
8MX-90S-12	90	9.023	8.960	-	C-2	8.05	4.00	-	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	8.0	0.563	G
8MX-112S-12	112	11.229	11.166	-	C-2	10.25	4.00	-	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	12.0	1.405	G
8MX-140S-12	140	14.036	13.973	-	C-3	11.96	4.38	-	1.25	-	0.85	0.40	0.43	2012	0.500	2.125	17.0	3.176	G
8MX-180S-12	180	18.046	17.983	-	C-3	15.80	4.88	-	1.75	-	0.85	0.90	0.43	2517	0.500	2.688	26.6	8.146	G
8MX-224S-12	224	22.457	22.394	-	C-3	20.17	4.88	-	1.75	-	0.85	0.90	0.43	2517	0.500	2.688	37.0	17.98	G

Material Spec : S - Steel SS - Sintered Steel G - Grey Iron D - Ductile Iron **Design Type Suffix**: 1 - Solid 2 - Web 3 - Arms

Sprocket Number	Number of Teeth	Diameters (in)			Design Type	Dimensions (in)								Bushing Size	Bore Sizes		Approx. Wt. (lb)	Approx. WR^2	Matl. Spec.
		Pitch	O.D	Flange Ref.		A	B	C	D	E	F	M	F-CL		Min	Max			
8MX-22S-21	22	2.206	2.143	2.610	AF-1	1.63	-	0.92	0.88	-	1.20	0.33	0.60	1008	0.500	1.000	0.6	0.002	D
8MX-22S-21-PB	22	2.206	2.143	2.610	6F-1	-	1.79	0.92	1.65	0.45	1.20	0	0.60	MPB	0.500	1.188	1.3	0.005	D
8MX-25S-21	25	2.506	2.443	2.910	AF-1	1.92	-	0.92	0.88	-	1.20	0.33	0.60	1108	0.500	1.125	0.8	0.005	G
8MX-25S-21-PB	25	2.506	2.443	2.910	6F-1	-	2.08	0.92	1.65	0.45	1.20	0	0.60	MPB	0.500	1.500	1.8	0.009	D
8MX-28S-21	28	2.807	2.744	3.210	AF-1	2.18	-	0.92	0.88	-	1.20	0.33	0.60	1108	0.500	1.125	1.0	0.008	G
8MX-28S-21-PB	28	2.807	2.744	3.210	6F-1	-	2.34	0.92	1.65	0.45	1.20	0	0.60	MPB	0.500	1.750	2.3	0.014	D
8MX-30S-21	30	3.008	2.945	3.410	AF-1	2.38	-	0.92	0.88	-	1.20	0.33	0.60	1108	0.500	1.125	1.3	0.011	G
8MX-30S-21-PB	30	3.008	2.945	3.410	6F-1	-	2.54	0.92	1.77	0.57	1.20	0	0.60	MPB	0.500	1.813	2.8	0.020	D
8MX-32S-21	32	3.208	3.145	3.610	AF-1	2.58	-	0.92	1.00	-	1.20	0.20	0.60	1210	0.500	1.250	1.4	0.015	D
8MX-32S-21-PB	32	3.208	3.145	3.610	6F-1	-	2.73	0.92	1.77	0.57	1.20	0	0.60	MPB	0.500	2.000	3.2	0.026	D
8MX-34S-21	34	3.409	3.346	3.810	AF-1	2.66	-	0.92	1.00	-	1.20	0.20	0.60	1610	0.500	1.688	1.4	0.018	D
8MX-36S-21	36	3.609	3.546	4.010	AF-1	2.96	-	0.92	1.00	-	1.20	0.20	0.60	1610	0.500	1.688	1.6	0.023	D
8MX-38S-21	38	3.810	3.747	4.210	AF-1	3.15	-	0.92	1.00	-	1.20	0.20	0.60	1610	0.500	1.688	1.9	0.030	G
8MX-40S-21	40	4.010	3.947	4.410	AF-1	-	-	0.97	1.25	-	1.25	0	0.63	2012	0.500	2.125	2.0	0.037	D
8MX-42S-21	42	4.211	4.148	4.910	AF-1	-	-	0.97	1.25	-	1.25	0	0.63	2012	0.500	2.125	2.4	0.048	G
8MX-45S-21	45	4.511	4.448	4.910	AF-1	-	-	0.97	1.25	-	1.25	0	0.63	2012	0.500	2.125	3.0	0.067	G
8MX-48S-21	48	4.812	4.749	5.210	AF-1	-	-	0.97	1.25	-	1.25	0	0.63	2012	0.500	2.125	3.7	0.092	G
8MX-50S-21	50	5.013	4.950	5.410	AF-1	-	-	0.97	1.25	-	1.25	0	0.63	2012	0.500	2.125	4.2	0.111	G
8MX-53S-21	53	5.314	5.251	5.500	AF-1	-	-	0.97	1.25	-	1.25	0	0.63	2012	0.500	2.125	5.0	0.145	G
8MX-56S-21	56	5.614	5.551	6.010	AF-1	-	-	0.97	1.25	-	1.25	0	0.63	2012	0.500	2.125	5.8	0.184	G
8MX-60S-21	60	6.015	5.952	6.420	AF-1	-	-	0.97	1.25	-	1.25	0	0.63	2012	0.500	2.125	6.9	0.247	G
8MX-63S-21	63	6.316	6.253	6.720	CF-1	5.71	3.76	0.92	1.25	-	1.20	0.05	0.60	2012	0.500	2.125	4.1	0.154	G
8MX-67S-21	67	6.717	6.654	6.880	CF-1	6.14	4.50	0.92	1.75	-	1.20	0.55	0.60	2517	0.500	2.688	5.7	0.232	G
8MX-71S-21	71	7.118	7.055	7.500	CF-1	6.51	4.50	0.92	1.75	-	1.20	0.55	0.60	2517	0.500	2.688	6.1	0.275	G
8MX-75S-21	75	7.519	7.456	7.920	CF-1	6.90	4.50	0.92	1.75	-	1.20	0.55	0.60	2517	0.500	2.688	6.5	0.323	G
8MX-80S-21	80	8.020	7.957	8.420	CF-1	7.23	4.50	0.92	1.75	-	1.20	0.55	0.60	2517	0.500	2.688	7.5	0.432	G
8MX-90S-21	90	9.023	8.960	-	C-2	7.78	4.50	-	1.75	-	1.20	0.55	0.60	2517	0.500	2.688	11.0	0.825	G
8MX-112S-21	112	11.229	11.166	-	C-2	10.00	4.50	-	1.75	-	1.20	0.55	0.60	2517	0.500	2.688	16.0	1.892	G
8MX-140S-21	140	14.036	13.973	-	C-3	11.74	4.88	-	1.75	-	1.20	0.55	0.60	2517	0.500	2.688	24.1	4.707	G
8MX-180S-21	180	18.046	17.983	-	C-3	15.49	6.25	-	2.00	-	1.20	0.80	0.60	3020	0.875	3.250	39.0	12.02	G
8MX-224S-21	224	22.457	22.394	-	C-3	19.86	6.25	-	2.00	-	1.20	0.80	0.60	3020	0.875	3.250	53.4	26.34	G

Material Spec : S - Steel SS - Sintered Steel G - Grey Iron D - Ductile Iron **Design Type Suffix**: 1 - Solid 2 - Web 3 - Arms

NOTES:

- Weights for Minimum Plain Bore (MPB) Sprockets are with minimum bore.
- Weights and WR^2 for Bushed Sprockets do not include bushings.
- WR^2 values have lb-ft^2 units.

Stock 8mm Poly Chain® GT®2 Sprocket Specifications—continued

Sprocket Number	Number of Teeth	Diameters (in)			Design Type	Dimensions (in)								Bushing Size	Bore Sizes		Approx. Wt. (lb)	Approx. WR^2	Matl. Spec.
		Pitch	O.D	Flange Ref.		A	B	C	D	E	F	M	F-CL		Min	Max			
8MX-22S-36-PB	22	2.206	2.143	2.610	6F-1	-	1.79	1.58	2.44	0.58	1.86	0	0.93	MPB	0.500	1.188	2.0	0.008	D
8MX-25S-36-PB	25	2.506	2.443	2.910	6F-1	-	2.08	1.58	2.44	0.58	1.86	0	0.93	MPB	0.500	1.500	2.7	0.013	D
8MX-28S-36-PB	28	2.807	2.744	3.210	6F-1	-	2.34	1.58	2.44	0.58	1.86	0	0.93	MPB	0.500	1.750	3.4	0.021	D
8MX-30S-36-PB	30	3.008	2.945	3.410	6F-1	-	2.54	1.58	2.44	0.58	1.86	0	0.93	MPB	0.500	1.813	3.9	0.029	D
8MX-32S-36	32	3.208	3.145	3.610	AF-1	2.58	-	1.58	1.00	-	1.86	0.86	0.93	1210	0.500	1.250	1.7	0.02	D
8MX-32S-36-PB	32	3.208	3.145	3.610	6F-1	-	2.73	1.58	2.44	0.58	1.86	0	0.93	MPB	0.500	2.000	4.5	0.038	D
8MX-34S-36	34	3.409	3.346	3.810	AF-1	2.66	-	1.58	1.00	-	1.86	0.86	0.93	1610	0.500	1.688	1.8	0.026	D
8MX-34S-36-PB	34	3.409	3.346	3.810	6F-1	-	2.82	1.58	2.45	0.59	1.86	0	0.93	MPB	0.500	2.125	5.1	0.047	D
8MX-36S-36	36	3.609	3.546	4.010	AF-1	2.96	-	1.58	1.00	-	1.86	0.86	0.93	1610	0.500	1.688	2.1	0.032	D
8MX-36S-36-PB	36	3.609	3.546	4.010	6F-1	-	3.13	1.58	2.51	0.65	1.86	0	0.93	MPB	0.500	2.313	5.9	0.063	D
8MX-38S-36	38	3.810	3.747	4.210	AF-1	3.15	-	1.58	1.00	-	1.86	0.86	0.93	1610	0.500	1.688	2.4	0.04	D
8MX-38S-36-PB	38	3.810	3.747	4.210	6F-1	-	3.32	1.58	2.51	0.65	1.86	0	0.93	MPB	0.500	2.438	6.7	0.079	D
8MX-40S-36	40	4.010	3.947	4.410	AF-1	3.35	-	1.58	1.25	-	1.86	0.61	0.93	2012	0.500	2.125	2.5	0.049	D
8MX-42S-36	42	4.211	4.148	4.910	AF-1	3.62	-	1.58	1.25	-	1.86	0.61	0.93	2012	0.500	2.125	2.8	0.061	D
8MX-45S-36	45	4.511	4.448	4.910	AF-1	3.62	-	1.58	1.25	-	1.86	0.61	0.93	2012	0.500	2.125	3.8	0.09	G
8MX-48S-36	48	4.812	4.749	5.210	AF-1	4.14	-	1.58	1.25	-	1.86	0.61	0.93	2012	0.500	2.125	4.3	0.114	G
8MX-50S-36	50	5.013	4.950	5.410	AF-1	4.13	-	1.58	1.25	-	1.86	0.61	0.93	2012	0.500	2.125	5.1	0.143	G
8MX-53S-36	53	5.314	5.251	5.500	AF-1	4.76	-	1.58	1.25	-	1.86	0.61	0.93	2012	0.500	2.125	5.5	0.169	G
8MX-56S-36	56	5.614	5.551	6.010	AF-1	4.92	-	1.58	1.25	-	1.86	0.61	0.93	2012	0.500	2.125	6.5	0.221	G
8MX-60S-36	60	6.015	5.952	6.420	AF-1	5.13	-	1.58	1.75	-	1.86	0.11	0.93	2517	0.500	2.688	8.9	0.352	G
8MX-63S-36	63	6.316	6.253	6.720	AF-1	5.71	-	1.58	1.75	-	1.86	0.11	0.93	2517	0.500	2.688	10.4	0.556	G
8MX-67S-36	67	6.717	6.654	6.880	DF-1	5.98	4.25	1.58	1.75	-	1.86	0.11	0.93	2517	0.500	2.688	6.5	0.307	G
8MX-71S-36	71	7.118	7.055	7.500	DF-1	6.39	4.25	1.58	1.75	-	1.86	0.11	0.93	2517	0.500	2.688	7.0	0.365	G
8MX-75S-36	75	7.519	7.456	7.920	DF-1	6.79	4.25	1.58	1.75	-	1.86	0.11	0.93	2517	0.500	2.688	7.3	0.423	G
8MX-80S-36	80	8.020	7.957	8.420	BF-1	-	5.75	1.58	2.00	-	1.86	0.14	0.93	3020	0.875	3.250	17.9	1.202	G
8MX-90S-36	90	9.023	8.960	-	B-1	-	5.75	-	2.00	-	1.86	0.14	0.93	3020	0.875	3.250	24.2	1.982	G
8MX-112S-36	112	11.229	11.166	-	C-2	9.80	5.75	-	2.00	-	1.86	0.14	0.93	3020	0.875	3.250	22.7	2.768	G
8MX-140S-36	140	14.036	13.973	-	C-3	11.72	6.25	-	2.00	-	1.86	0.14	0.93	3020	0.875	3.250	36.2	7.29	G
8MX-180S-36	180	18.046	17.983	-	C-3	15.31	6.25	-	2.00	-	1.86	0.14	0.93	3020	0.875	3.250	54.4	18.67	G
8MX-224S-36	224	22.457	22.394	-	C-3	19.62	8.75	-	2.50	-	1.86	0.64	0.93	3525	1.188	3.938	91.1	42.40	G

Material Spec : S - Steel SS - Sintered Steel G - Grey Iron D - Ductile Iron **Design Type Suffix**: 1 - Solid 2 - Web 3 - Arms

Sprocket Number	Number of Teeth	Diameters (in)			Design Type	Dimensions (in)								Bushing Size	Bore Sizes		Approx. Wt. (lb)	Approx. WR^2	Matl. Spec.
		Pitch	O.D	Flange Ref.		A	B	C	D	E	F	M	F-CL		Min	Max			
8MX-22S-62-PB	22	2.206	2.143	2.610	6F-1	-	1.79	2.63	3.56	0.65	2.91	0	1.46	MPB	1.000	1.188	2.4	0.011	D
8MX-25S-62-PB	25	2.506	2.443	2.910	6F-1	-	2.08	2.63	3.56	0.65	2.91	0	1.46	MPB	1.000	1.500	3.4	0.019	D
8MX-28S-62-PB	28	2.807	2.744	3.210	6F-1	-	2.34	2.63	3.56	0.65	2.91	0	1.46	MPB	1.000	1.750	4.5	0.032	D
8MX-30S-62-PB	30	3.008	2.945	3.410	6F-1	-	2.54	2.63	3.50	0.58	2.92	0	1.46	MPB	1.000	1.813	5.2	0.042	D
8MX-32S-62-PB	32	3.208	3.145	3.610	6F-1	-	2.73	2.63	3.50	0.59	2.91	0	1.46	MPB	1.000	2.000	6.1	0.055	D
8MX-34S-62	34	3.409	3.346	3.810	AF-1	2.66	-	2.63	1.00	-	2.91	1.91	1.46	1610	0.500	1.688	2.6	0.038	D
8MX-34S-62-PB	34	3.409	3.346	3.810	6F-1	-	2.82	2.63	3.50	0.59	2.91	0	1.46	MPB	1.000	2.125	6.9	0.070	D
8MX-36S-62	36	3.609	3.546	4.010	AF-1	2.96	-	2.63	1.00	-	2.91	1.91	1.46	1610	0.500	1.688	2.8	0.045	D
8MX-36S-62-PB	36	3.609	3.546	4.010	6F-1	-	3.13	2.63	3.56	0.65	2.91	0	1.46	MPB	1.000	2.313	8.0	0.092	D
8MX-38S-62	38	3.810	3.747	4.210	AF-1	3.15	-	2.63	1.00	-	2.91	1.91	1.46	1610	0.500	1.688	3.1	0.056	D
8MX-38S-62-PB	38	3.810	3.747	4.210	6F-1	-	3.32	2.63	3.56	0.65	2.91	0	1.46	MPB	1.000	2.438	9.1	0.115	D
8MX-40S-62	40	4.010	3.947	4.410	AF-1	3.35	-	2.63	1.25	-	2.91	1.66	1.46	2012	0.500	2.125	3.3	0.067	D
8MX-40S-62-PB	40	4.010	3.947	4.410	6F-1	-	3.52	2.63	3.63	0.72	2.91	0	1.46	MPB	1.000	2.563	10.3	0.144	D
8MX-42S-62	42	4.211	4.148	4.910	AF-1	3.62	-	2.63	1.25	-	2.91	1.66	1.46	2012	0.500	2.125	3.6	0.079	D
8MX-42S-62-PB	42	4.211	4.148	4.910	6F-1	-	3.79	2.63	3.63	0.72	2.91	0	1.46	MPB	1.000	2.750	11.6	0.178	D
8MX-45S-62	45	4.511	4.448	4.910	AF-1	3.62	-	2.63	1.25	-	2.91	1.66	1.46	2012	0.500	2.125	5.1	0.126	D
8MX-45S-62-PB	45	4.511	4.448	4.910	6F-1	-	3.79	2.63	3.63	0.72	2.91	0	1.46	MPB	1.000	2.750	13.1	0.227	D
8MX-48S-62	48	4.812	4.749	5.210	AF-1	4.14	-	2.63	1.75	-	2.91	1.16	1.46	2517	0.500	2.688	5.1	0.15	G
8MX-50S-62	50	5.013	4.950	5.410	AF-1	4.13	-	2.63	1.75	-	2.91	1.16	1.46	2517	0.500	2.688	6.3	0.196	G
8MX-53S-62	53	5.314	5.251	5.500	AF-1	4.76	-	2.63	1.75	-	2.91	1.16	1.46	2517	0.500	2.688	6.7	0.229	G
8MX-56S-62	56	5.614	5.551	6.010	AF-1	4.92	-	2.63	1.75	-	2.91	1.16	1.46	2517	0.500	2.688	8.3	0.307	G
8MX-60S-62	60	6.015	5.952	6.420	AF-1	5.13	-	2.63	2.00	-	2.91	0.91	1.46	3020	0.875	3.250	8.9	0.407	G
8MX-63S-62	63	6.316	6.253	6.720	AF-1	5.71	-	2.63	2.00	-	2.91	0.91	1.46	3020	0.875	3.250	9.9	0.483	G
8MX-67S-62	67	6.717	6.654	6.880	AF-1	6.14	-	2.63	2.00	-	2.91	0.91	1.46	3020	0.875	3.250	12.0	0.64	G
8MX-71S-62	71	7.118	7.055	7.500	AF-1	6.51	-	2.63	2.00	-	2.91	0.91	1.46	3020	0.875	3.250	14.4	0.837	G
8MX-75S-62	75	7.519	7.456	7.920	AF-1	6.90	-	2.63	2.00	-	2.91	0.91	1.46	3020	0.875	3.250	16.8	1.067	G
8MX-80S-62	80	8.020	7.957	8.420	AF-1	7.23	-	2.63	2.00	-	2.91	0.91	1.46	3020	0.875	3.250	20.5	1.45	G
8MX-90S-62	90	9.023	8.960	-	D-1	7.39	5.42	-	2.00	-	2.91	0.91	1.46	3020	0.875	3.250	30.1	2.631	G
8MX-112S-62	112	11.229	11.166	-	D-2	9.60	5.42	-	2.00	-	2.91	0.91	1.46	3020	0.875	3.250	31.0	4.255	G
8MX-140S-62	140	14.036	13.973	-	D-2	12.40	8.75	-	2.50	-	2.91	0.41	1.46	3525	1.188	3.938	62.8	10.91	G
8MX-180S-62	180	18.046	17.983	-	D-3	15.33	8.75	-	2.50	-	2.91	0.41	1.46	3525	1.188	3.938	91.6	29.51	G
8MX-224S-62	224	22.457	22.394	-	D-3	19.38	8.75	-	2.50	-	2.91	0.41	1.46	3525	1.188	3.938	127.1	67.42	G

Material Spec : S - Steel SS - Sintered Steel G - Grey Iron D - Ductile Iron **Design Type Suffix**: 1 - Solid 2 - Web 3 - Arms

NOTES:

- Weights for Minimum Plain Bore (MPB) Sprockets are with minimum bore.
- Weights and WR^2 for Bushed Sprockets do not include bushings.
- WR^2 values have lb-ft^2 units.

Sprocket Specifications

Sprocket Tolerance Specifications

Poly Chain® GT®2 sprockets are made to close tolerances. Modifications such as reboring may result in unsatisfactory drive performance. Strict adherence to the standard tolerances (as shown in table below) is highly recommended.

Sprocket Outside Diameter and Pitch

Outside Diameter Range (in)	Outside Diameter Tolerance (in)	Pitch To Pitch Tolerance (in)	
		Adjacent Grooves	Accumulative Over 90 Degrees
Over 2.000 to and including 4.000	+ 0.004 - 0.000	± 0.001	± 0.0045
Over 4.000 to and including 7.000	+ 0.005 - 0.000	± 0.001	± 0.005
Over 7.000 to and including 12.000	+ 0.006 - 0.000	± 0.001	± 0.006
Over 12.000 to and including 20.000	+ 0.007 - 0.000	± 0.001	± 0.0065
Over 20.000	+ 0.008 - 0.000	± 0.001	± 0.0075

Sprocket Runout

Radial Runout*

Outside Diameter		Total Eccentricity Total Indicator Reading	
(in)	(mm)	(in)	(mm)
Over 2 to 4	50 100	0.003	0.08
Over 4 to 8	100 200	0.004	0.10
Over 8	200	.0005 per inch O.D. over 8″	.013 per mm O.D. over 200mm
		(may not exceed face diameter tolerance)	

*** Total Indicator Reading**

Axial Runout*

For outside diameters 1.0 inches and under. . 0.001 inches

For each additional inch of outside diameter up through 10.0 inches, add . . . . . 0.001 inches

For each additional inch of outside diameter over 10.0 inches, add . . . . . 0.0005 inches

*** Total Indicator Reading**

Sprocket and Bushing Keyseat

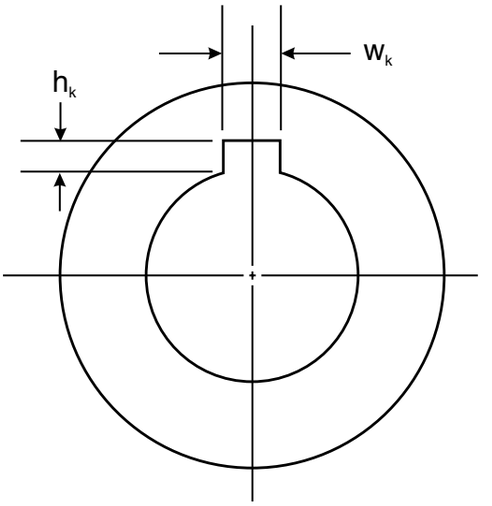
Shaft Diameter (in)	Width w_k† (in)	Depth, h_k (in) + 0.015 0.000
Up through 7/16 (0.44)	3/32 (0.0938)	3/64 (0.047)
Over 7/16 (0.44) to and incl. 9/16 (0.56)	1/8 (0.125)	1/16 (0.062)
Over 9/16 (0.56) to and incl. 7/8 (0.88)	3/16 (0.1875)	3/32 (0.094)
Over 7/8 (0.88) to and incl. 1 1/4 (1.25)	1/4 (0.250)	1/8 (0.125)
Over 1 1/4 (1.25) to and incl. 1 3/8 (1.38)	5/16 (0.3125)	5/32 (0.156)
Over 1 3/8 (1.38) to and incl. 1 3/4 (1.75)	3/8 (0.375)	3/16 (0.188)
Over 1 3/4 (1.75) to and incl. 2 1/4 (2.25)	1/2 (0.500)	1/4 (0.250)
Over 2 1/4 (2.25) to and incl. 2 3/4 (2.75)	5/8 (0.625)	5/16 (0.312)
Over 2 3/4 (2.75) to and incl. 3 1/4 (3.25)	3/4 (0.750)	3/8 (0.375)
Over 3 1/4 (3.25) to and incl. 3 3/4 (3.75)	7/8 (0.875)	7/16 (0.438)
Over 3 3/4 (3.75) to and incl. 4 1/2 (4.50)	1 (1.000)	1/2 (0.500)
Over 4 1/2 (4.50) to and incl. 5 1/2 (5.50)	1 1/4 (1.250)	5/8 (0.625)

† Tolerance on width, W_k

For width up through 1/2 (0.500) . . . . . + 0.002, 0.000 inches

For width over 1/2 (0.500) up through 1 (1.000) . . + 0.003, 0.000 inches

For width over 1 (1.000). . . . . + 0.004, 0.000 inches



Balancing

Stock Sprockets are statically balanced per MPTA (Mechanical Power Transmission Association) Standard Practice for Pulley Balancing SPB-86 using the weight based on the following two criteria:

1. Balance limit (ounces) = Sprocket Weight (lb) x 0.016; or
2. 0.176 ounce (5 grams), whichever is greater.

Caution: Stock sprockets should not be used on drives where rim surface speeds exceed 6,500 fpm. Sprocket construction and materials will determine the dynamic balancing requirements of the sprocket(s) where rim surface speeds exceed 6,500 fpm.

Sprocket Tooth Profile and Surface Quality

The Poly Chain GT2 sprocket tooth profile was designed and developed exclusively by The Gates Rubber Company to operate with the Gates Poly Chain GT2 Belt. See Engineering Section II-3, Tooth Profile, on page 104 for a complete discussion of the performance characteristics of this new tooth profile. The tooth surface should be free of any surface defects and should be 80 micro-inches finish or better.

Sprocket Blanks

Sprocket blanks can be grooved by Gates for specially designed, made-to-order sprockets. If those sprockets are supplied in blank form, Gates can perform the “grooving” operation. The blank diameter must be 0.050″ larger than the finished sprocket O.D. Contact your local Gates Representative for additional details.

Poly Chain® GT®2 Bored-To-Size Sprocket Bore Range Listing

8mm Pitch Sprockets

Sprocket Size	Minimum Bore (in)	Full Keyway Bore Range (in)	Shallow Keyway Bore Range (in)
8MX-22S-12	0.500	0.500 - 1.063	1.125 - 1.188
8MX-22S-21	0.500	0.500 - 1.063	1.125 - 1.188
8MX-22S-36	0.500	0.500 - 1.063	1.125 - 1.188
8MX-25S-12	0.500	0.500 - 1.313	1.375 - 1.500
8MX-25S-21	0.500	0.500 - 1.313	1.375 - 1.500
8MX-25S-36	0.500	0.500 - 1.313	1.375 - 1.500
8MX-25S-62	1.000	1.000 - 1.313	1.375 - 1.500
8MX-28S-12	0.500	0.500 - 1.500	1.563 - 1.750
8MX-28S-21	0.500	0.500 - 1.500	1.563 - 1.750
8MX-28S-36	0.500	0.500 - 1.500	1.563 - 1.750
8MX-28S-62	1.000	1.000 - 1.500	1.563 - 1.750
8MX-30S-12	0.500	0.500 - 1.563	1.625 - 1.813
8MX-30S-21	0.500	0.500 - 1.563	1.625 - 1.813
8MX-30S-36	0.500	0.500 - 1.563	1.625 - 1.813
8MX-30S-62	1.000	1.000 - 1.563	1.625 - 1.813
8MX-32S-12	0.500	0.500 - 1.750	1.813 - 2.000
8MX-32S-21	0.500	0.500 - 1.750	1.813 - 2.000
8MX-32S-36	0.500	0.500 - 1.750	1.813 - 2.000
8MX-32S-62	1.000	1.000 - 1.750	1.813 - 2.000
8MX-34S-36	0.500	0.500 - 1.750	1.813 - 2.125
8MX-34S-62	1.000	1.000 - 1.750	1.813 - 2.125
8MX-36S-36	0.500	0.500 - 1.938	2.000 - 2.313
8MX-36S-62	1.000	1.000 - 1.938	2.000 - 2.313
8MX-38S-36	0.500	0.500 - 2.125	2.188 - 2.438
8MX-38S-62	1.000	1.000 - 2.125	2.188 - 2.438
8MX-40S-62	1.000	1.000 - 2.188	2.250 - 2.563
8MX-42S-62	1.000	1.000 - 2.375	2.438 - 2.750
8MX-45S-62	1.000	1.000 - 2.375	2.438 - 2.750

All Bored-To-Size Sprockets are made-to-order. Check with you local Gates representative or Customer Service for a quote and delivery.

14mm Pitch Sprockets

Sprocket Size	Minimum Bore (in)	Full Keyway Bore Range (in)	Shallow Keyway Bore Range (in)
14MX-28S-37	1.000	1.000 - 2.500	2.563 - 2.938
14MX-28S-68	1.000	1.000 - 2.500	2.563 - 2.938
14MX-28S-90	1.500	1.500 - 2.500	2.563 - 2.938
14MX-28S-125	1.500	1.500 - 2.500	2.563 - 2.938
14MX-29S-68	1.000	1.000 - 2.750	2.813 - 3.188
14MX-29S-90	1.500	1.500 - 2.750	2.813 - 3.188
14MX-29S-125	1.500	1.500 - 2.750	2.813 - 3.188
14MX-30S-68	1.000	1.000 - 2.750	2.813 - 3.188
14MX-30S-90	1.500	1.500 - 2.750	2.813 - 3.188
14MX-30S-125	1.500	1.500 - 2.750	2.813 - 3.188
14MX-31S-68	1.000	1.000 - 2.875	2.938 - 3.438
14MX-31S-90	1.500	1.500 - 2.875	2.938 - 3.438
14MX-31S-125	1.500	1.500 - 2.875	2.938 - 3.438
14MX-32S-68	1.000	1.000 - 2.875	2.938 - 3.438
14MX-32S-90	1.500	1.500 - 2.875	2.938 - 3.438
14MX-32S-125	1.500	1.500 - 2.875	2.938 - 3.438
14MX-33S-68	1.000	1.000 - 2.938	3.000 - 3.500
14MX-33S-90	1.500	1.500 - 2.938	3.000 - 3.500
14MX-33S-125	1.500	1.500 - 2.938	3.000 - 3.500
14MX-34S-37	1.000	1.000 - 2.938	3.000 - 3.500
14MX-34S-68	1.000	1.000 - 2.938	3.000 - 3.500
14MX-34S-90	1.500	1.500 - 2.938	3.000 - 3.500
14MX-34S-125	1.500	1.500 - 2.938	3.000 - 3.500
14MX-35S-90	1.500	1.500 - 3.250	3.313 - 3.813
14MX-35S-125	1.500	1.500 - 3.250	3.313 - 3.813
14MX-36S-90	1.500	1.500 - 3.250	3.313 - 3.813
14MX-36S-125	1.500	1.500 - 3.250	3.313 - 3.813
14MX-37S-90	1.500	1.500 - 3.563	3.625 - 4.125
14MX-37S-125	1.500	1.500 - 3.563	3.625 - 4.125
14MX-38S-90	1.500	1.500 - 3.563	3.625 - 4.125
14MX-38S-125	1.500	1.500 - 3.563	3.625 - 4.125
14MX-39S-90	1.500	1.500 - 3.750	3.182 - 4.375
14MX-39S-125	1.500	1.500 - 3.750	3.182 - 4.375
14MX-40S-90	1.500	1.500 - 3.750	3.182 - 4.375
14MX-40S-125	1.500	1.500 - 3.750	3.182 - 4.375
14MX-43S-125	1.500	1.500 - 4.125	4.188 - 4.813
14MX-45S-125	1.500	1.500 - 4.375	4.438 - 5.000
14MX-48S-125	1.500	1.500 - 4.688	4.750 - 5.625

All Bored-To-Size Sprockets are made-to-order. Check with you local Gates representative or Customer Service for a quote and delivery.

Recommended Re-bore Specifications and Instructions

For Minimum Plain Bore (MPB) Sprockets

When using MPB Poly Chain® GT®2 sprockets in power transmission systems, important guidelines should be followed for proper product finishing and application. Due to the high load carrying capacity and high operating tensions often found in Poly Chain GT2 belt drive systems, it is imperative to use and adhere to industry standard practices.

When finishing MPB sprockets for high performance belt drive systems, care should be taken to ensure proper functionality and performance. General re-bore instructions and specifications are as follows:

1. Materials used in Poly Chain GT2 sprockets are steel, gray iron, and ductile iron. The materials used may vary with the size of the sprocket. See the Sprocket Specification Tables, pages 72 thru 77 for specific materials.
2. The maximum bore diameter specified by the manufacturer for each sprocket size should **NOT** be exceeded, or a keyway used which reduces the hub thickness to less than its minimum allowable value. See the Sprocket Specification Tables for a listing of recommended bore ranges by sprocket size. Bores exceeding the maximum recommended value for a particular sprocket size can adversely affect the structural integrity, thereby reducing their load-carrying capability.

   The minimum metal thickness between the keyway and hub O.D. should be no less than the set screw diameter specified for the corresponding sprocket size. See Figure 1. A listing of minimum set screw diameters is included below.

8M-22S thru 28S – 1/4″	14M-28S – 7/16″
8M-30S thru 34S – 5/16″	14M-29S thru 32S – 1/2″
8M-36S thru 38S – 3/8″	14M-33S thru 40S – 5/8″
8M-40S thru 45S – 7/16″	14M-43S thru 48S – 3/4″

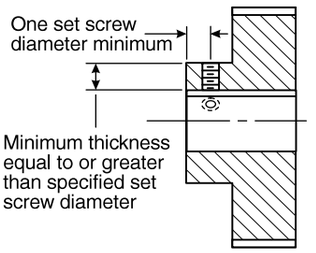


Figure 1 - Minimum Hub Thickness and Set Screw Placement Guidelines

3. The fit between a finished sprocket bore and its mating shaft in a power transmission system must not allow relative movement between the bore and the shaft when the drive is subjected to belt tension and torque loads. This is accomplished, in the case of plain bore sprockets, with the use of set screws and keys and by controlling the fit or clearance between the sprocket bore and its mating shaft. Cyclical, pulsating, or reversing loads may wear the sprocket bore and/or keyway due to the relative movement between the contacting surfaces of the shaft and the bore. The resulting wear may increase the clearance further, if an interference fit is not used.

   In order to maximize the performance of high capacity belt drives using plain bore style sprockets, the following for recommendations presented in Table 7 should be followed:

   Class 1 Clearance Fits should be used when the transmitted load is smooth in nature.

   Interference Fits should be used for Poly Chain GT2 curvilinear drives *transmitting cyclical, pulsating, or reversing loads.*

Table 7 - Recommended Shaft / Bore Fits (Inches)

		Clearance Fits		Interference Fits			
		Class 1- Smooth Load		Cyclical, Pulsating, Reversing Load			
Nominal Bore Range Over - To (Incl.)	Shaft Tol. (minus)	Bore Tol. (Plus)	Fit Tol. (Plus)	Bore Tolerance Range (Minus)		Fit Tolerance Range (Minus)	
0.4375 - 0.5626	0.0005	0.0010	0.0015	0.0005	0.0010	0.0000	0.0010
0.5625 - 0.8750	0.0005	0.0010	0.0015	0.0005	0.0010	0.0000	0.0010
0.8750 - 1.2500	0.0005	0.0010	0.0015	0.0005	0.0010	0.0000	0.0010
1.2500 - 1.3750	0.0005	0.0010	0.0015	0.0005	0.0010	0.0000	0.0010
1.3750 - 1.500	0.0005	0.0010	0.0015	0.0005	0.0010	0.0000	0.0010
1.5000 - 1.7500	0.0010	0.0010	0.0020	0.0010	0.0020	0.0000	0.0020
1.7500 - 2.0000	0.0010	0.0010	0.0020	0.0010	0.0020	0.0000	0.0020
2.0000 - 2.2500	0.0010	0.0015	0.0025	0.0010	0.0020	0.0000	0.0020
2.2500 - 2.7500	0.0010	0.0015	0.0025	0.0010	0.0020	0.0000	0.0020
2.7500 - 3.0000	0.0010	0.0015	0.0025	0.0010	0.0020	0.0000	0.0020
3.0000 - 3.2500	0.0010	0.0015	0.0025	0.0015	0.0030	0.0005	0.0030
3.2500 - 3.7500	0.0010	0.0015	0.0025	0.0015	0.0030	0.0005	0.0030
3.7500 - 4.0000	0.0010	0.0015	0.0025	0.0015	0.0030	0.0005	0.0030
4.0000 - 4.5000	0.0010	0.0015	0.0025	0.0020	0.0035	0.0010	0.0035
4.5000 - 5.0000	0.0010	0.0015	0.0025	0.0020	0.0035	0.0010	0.0035
5.0000 - 5.5000	0.0010	0.0015	0.0025	0.0025	0.0040	0.0015	0.0040
5.5000 - 6.5000	0.0010	0.0015	0.0025	0.0025	0.0040	0.0015	0.0040

Table 7 was extracted in part from AGMA Standard for Bores and Keyways for Flexible Couplings (Inch Series) AGMA 9002-A86 Table.

4. DO NOT chuck or center the sprocket on guide flanges. Soft jaws should be used when chucking on the sprocket teeth. Center (indicate) the sprocket using the sprocket tooth O.D.

   If chucked on the Rim I.D. or Hub O.D., the sprocket should be centered with respect to the sprocket tooth O.D. Guide flanges are permanently mounted and should not be removed. If original flanges must be removed, they should be replaced with NEW flanges. New guide flanges should be attached securely with care using mechanical fasteners such as screws. **Note: Improper guide flange reassembly may cause serious personal injury and/or mechanical damage.**
5. Set screw holes in the sprocket hub must be placed properly for maximum holding strength. For both standard and shallow keyseats, two (2) set screws should be used as illustrated in Figure 2. The total holding strength of the set screws is dependent upon their placement and design. Generally, one screw should be placed directly over the keyway, and the other screw at ninety degrees (90) from the keyway, or at sixty-five degrees (65°) from the keyway—a more recent practice that improves holding power. Sometimes four set screws (or two pair) are used for increased holding strength.

Recommended Re-bore Specifications and Instructions

For Minimum Plain Bore (MPB) Sprockets

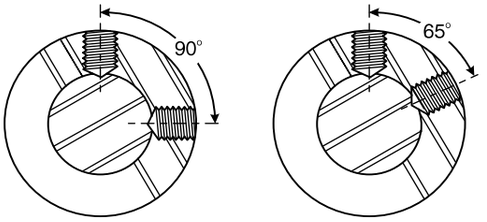


Figure 2 - Set Screw Angles

Each set screw should be placed axially—a minimum of one set screw diameter from the end of the sprocket hub extension. See Figure 1. For recommended set screw tightening torque values see Table 8 below.

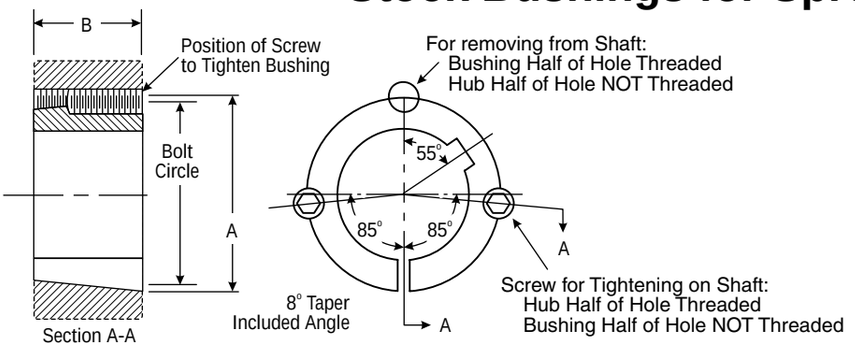
Table 8 - Recommended Tightening Torque Values For Set Screws

Set Screw Size	Hex Key Size (in)	Approximate Installation Torque Values (lb-in)
1/4	1/8	80
5/16	5/32	160
3/8	3/16	275
7/16	7/32	430
1/2	1/4	615
5/8	5/16	1315
3/4	3/8	2150
7/8	1/2	5130

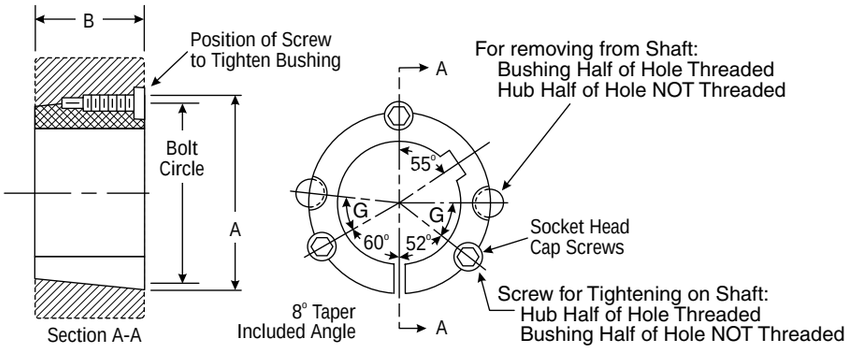
6. After reboring, the sprocket may require rebalancing. Vibration, noise, reduced bearing life, and undue stresses on the mechanical components in the system could result if improper rebalancing practices are used. See Sprocket Specifications, page 78, for recommended sprocket balancing specifications.
7. Standard square or rectangular keys should be used. See pages 83-84 for standard key dimensions.

Specifications and tolerances for sprocket eccentricity, parallelism, and balancing, etc. are all presented on Page 78.

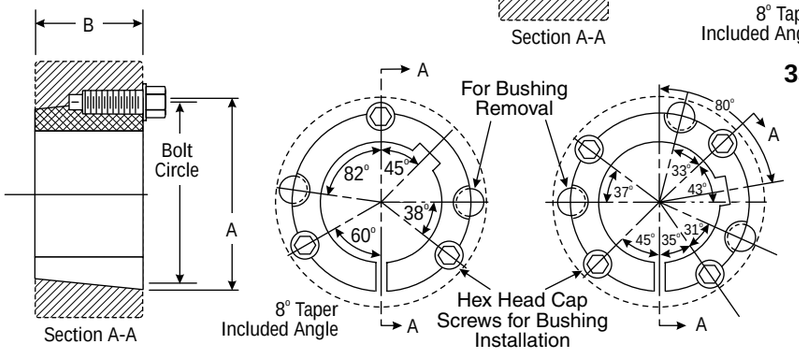
Stock Bushings for Sprockets



1008 thru 3020



3525 thru 5040



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TAPER-LOCK* BUSHINGS

Bushing Size	Torque Capacity (lb-in)	Dimensions (in)		Bolt Circle (in)	Mounting Screws			Bore Range (in)			Weight Range (lb)	
									Max Bore			
		A	B		Quantity	Size	G (deg)	Min. Bore	Standard Keyseat***	Shallow Keyseat**	Max. Bore	Min. Bore
1008	1,200	1.386	0.875	1.328	2	1/4 x 1/2	-	0.500	0.875	1.000	0.2	0.3
1108	1,300	1.511	0.875	1.328	2	1/4 x 1/2	-	0.500	1.000	1.125	0.1	0.3
1210	3,600	1.875	1.000	1.750	2	3/8 x 5/8	-	0.500	1.250	-	0.4	0.6
1610	4,300	2.250	1.000	2.125	2	3/8 x 5/8	-	0.500	1.500	1.688	0.5	0.9
1615	4,300	2.25	1.500	2.125	2	3/8 x 5/8	-	0.500	1.500	1.688	0.6	1.3
2012	7,150	2.750	1.250	2.625	2	7/16 x 7/8	-	0.500	1.875	2.125	0.9	1.7
2517	11,600	3.375	1.750	3.250	2	1/2 x 1	-	0.500	2.250	2.688	1.8	3.7
3020	24,000	4.250	2.000	4.000	2	5/8 x 1 1/4	-	0.875	2.750	3.250	3.3	6.5
3525	44,800	5.000	2.500	4.830	3	1/2 x 1 1/2	39	1.188	3.250	3.938	4.2	11.1
3535	44,800	5.000	3.500	4.830	3	1/2 x 1 1/2	39	1.188	3.250	3.938	5.0	14.8
4030	77,300	5.750	3.000	5.540	3	5/8 x 1 3/4	40	1.438	3.625	4.438	6.7	17.5
4040	77,300	5.750	4.000	5.540	3	5/8 x 1 3/4	40	1.438	3.625	4.438	8.2	22.1
4535	110,000	6.375	3.500	6.130	3	3/4 x 2	40	1.938	4.250	4.938	9.3	24.1
4545	110,000	6.375	4.500	6.130	3	3/4 x 2	40	1.938	4.250	4.938	11.2	30.3
5040	126,000	7.000	4.000	6.720	3	7/8 x 2 1/4	37	2.438	4.500	5.000	16.4	31.9
6050	282,000	9.250	5.000	9.000	3	1 1/4 x 3 1/2	-	4.438	6.000	-	45.0	57.0
7060	416,000	10.250	6.000	10.000	4	1 1/4 x 3 1/2	-	4.938	7.000	-	66.0	87.0

* Registered trademark of Reliance Electric. ** Key is furnished with each bushing having a shallow keyseat.
*** Keys are not furnished with bushings having standard keyseats.

Taper-Lock Bushing Bore and Keyseat Information

Taper Lock Bushings are available from stock with all popular bores within the bore range of each size bushing.

The Taper Lock Bushing Keyseat Dimension charts below list the bore range for each bushing and the appropriate keyseat dimensions.

Where standard keyseats are indicated, refer to the Standard Keyseat Dimensions chart. Where bores do not permit standard depth keyseats, a flat key of the proper dimensions is furnished with the bushing.

Taper-Lock Bushing Keyseat Dimensions

Bushing	Bores (in)	Keyseat
1008	0.500 - 0.875	Standard
	0.938 - 1.000	1/4 x 1/16
1108	0.500 - 1.000	Standard
	1.062 - 1.125	1/4 x 1/16
1210	0.500 - 1.250	Standard
1610	0.500 - 1.500	Standard
	1.563 - 1.688	3/8 x 1/8
1615	0.500 - 1.500	Standard
	1.563 - 1.688	3/8 x 1/8
2012	0.500 - 1.875	Standard
	1.938 - 2.125	1/2 x 3/16
2517	0.500 - 2.250	Standard
	2.313 - 2.688	5/8 x 3/16
3020	0.875 - 2.750	Standard
	2.813 - 3.250	3/4 x 1/4
3525	1.188 - 3.250	Standard
	3.313 - 3.750	7/8 x 1/4
	3.875 - 3.938	1 x 1/4
3535	1.188 - 3.250	Standard
	3.313 - 3.750	7/8 x 1/4
	3.875 - 3.938	1 x 1/4
4030	1.438 - 3.625	Standard
	3.688 - 3.750	7/8 x 1/4
	3.875 - 4.438	1 x 1/4
4040	1.438 - 3.625	Standard
	3.688 - 3.750	7/8 x 1/4
	3.875 - 4.438	1 x 1/4
4535	1.938 - 4.250	Standard
	4.375 - 4.500	1 x 1/4
	4.750 - 4.938	1 1/4 x 1/4
4545	1.938 - 4.250	Standard
	4.375 - 4.500	1 x 1/4
	4.750 - 4.938	1 1/8 x 1/4
5040	2.438 - 4.500	Standard
	4.875 - 5.000	1 1/4 x 7/16
6050	4.438 - 6.000	Standard
7060	4.938 - 7.000	Standard

Standard Keyseat Dimensions

	Keyseat (in)		Key (in)	
Shaft Diameter (in)	Width	Depth	Width	Depth
0.313 - 0.438	3/32	3/64	3/32	3/32
0.500 - 0.563	1/8	1/16	1/8	1/8
0.625 - 0.875	3/16	3/32	3/16	3/16
0.938 - 1.250	1/4	1/8	1/4	1/4
1.313 - 1.375	5/16	5/32	5/16	5/16
1.438 - 1.750	3/8	3/16	3/8	3/8
1.813 - 2.250	1/2	1/4	1/2	1/2
2.313 - 2.750	5/8	5/16	5/8	5/8
2.813 - 3.250	3/4	3/8	3/4	3/4
3.313 - 3.750	7/8	7/16	7/8	7/8
3.813 - 4.500	1	1/2	1	1
4.563 - 5.500	1 1/4	5/8	1 1/4	1 1/4
5.563 - 6.500	1 1/2	3/4	1 1/2	1 1/2
6.563 - 7.500	1 3/4	3/4	1 3/4	1 1/2
7.563 - 9.000	2	3/4	2	1 1/2

Bushing Bore and Keyseat Information — continued

Specifying English and Metric Keyways

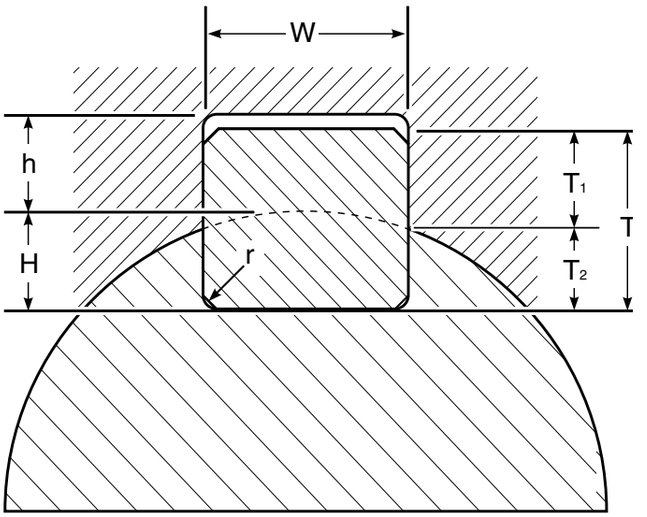
Dimensioning and specifying metric keys and keyways varies significantly from the English system. In the English system, it is the standard practice to dimension the keyway, while in the metric system it is common practice to specify the key size. In the English system, the keyway in the hub is dimensioned by the width and depth at the side, but in the metric system the keyway is dimensioned by the width and the depth measured from the radius of the shaft to the center of the keyway. One of the following methods should be used to specify keyways:

English:	**Metric**:
W x T_1 Keyway	W x T Key
W x T Key	W x h Keyway

Unless otherwise noted, the keyway in the shaft is assumed to be standard. Also, T_1 and T_2 are not necessarily equal.

The metric system does not refer to keyseat or keyway dimensions as does the English system. Instead, dimensions are given for the key itself which is rectangular in shape, not square, as in the English system. The correct terminology when ordering metric bored bushings with millimeter keyways will be either of the following:

1. Specify “standard Keyway”
2. Customer to specify keysize (keyseat to be standard size in shaft)

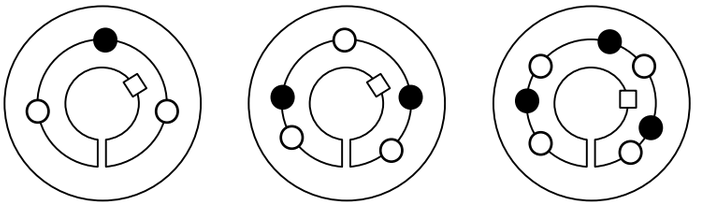


Metric Bore and Key Dimensions for Taper-Lock Bushings

Bushing	Bore (mm)	Keyway (WxT) (mm)	Key Size (ref.) (mm)
1008	14, 16	5 X 2.3	5 X 5
	18, 19, 20, 22	6 X 2.8	6 X 6
	24	8 X 3.3	8 X 7
1108	14*, 16	5 X 2.3	5 X 5
	18, 19, 20, 22	6 X 2.8	6 X 6
	24, 25	8 X 3.3	8 X 7
1210	14, 16	5 X 2.3	5 X 5
	18, 19, 20, 22*	6 X 2.8	6 X 6
	24, 25, 28, 30	8 X 3.3	8 X 7
1610	14*, 16*	5 X 2.3	5 X 5
	18*, 19, 20, 22	6 X 2.8	6 X 6
	24, 25, 28, 30	8 X 3.3	8 X 7
	32, 35, 38	10 X 3.3	10 X 8
	40	12 X 3.3	12 X 8
2012	14, 16	5 X 2.3	5 X 5
	18, 19, 20, 22	6 X 2.8	6 X 6
	24, 25, 28, 30	8 X 3.3	8 X 7
	32, 35, 38	10 X 3.3	10 X 8
	40, 42	12 X 3.3	12 X 8
	45, 48*	14 X 3.8	14 X 9
2517	14, 16	5 X 2.3	5 X 5
	18, 19*, 20, 22	6 X 2.8	6 X 6
	24, 25, 28, 30	8 X 3.3	8 X 7
	32, 35, 38	10 X 3.3	10 X 8
	40, 42	12 X 3.3	12 X 8
	45, 48, 50	14 X 3.8	14 X 9
	55	16 X 4.3	16 X 10
	60, 65*	18 X 4.4	18 X 11
3020	24, 25, 28, 30*	8 X 3.3	8 X 7
	32*, 35*, 38*	10 X 3.3	10 X 8
	40, 42*	12 X 3.3	12 X 8
	45, 48, 50	14 X 3.8	14 X 9
	55	16 X 4.3	16 X 10
	60, 65	18 X 4.4	18 X 11
	70*, 75*	20 X 4.9	20 X 12

* Non-stock, made to order bushing

Taper-Lock Type Sprocket Installation and Removal



1008 to 3020 | 3525 to 6050 | 7060

To Install TAPER-LOCK Type Bushings

1. Clean the shaft, bore of bushing, outside of bushing and the sprocket hub bore of all oil, paint and dirt. File away any burrs.

   Note: The use of lubricants can cause sprocket breakage. USE NO LUBRICANTS IN THIS INSTALLATION.
2. Insert the bushing into the sprocket hub. Match the hole pattern, not threaded holes (each complete hole will be threaded on one side only).
3. LIGHTLY oil the set screws and thread them into those half-threaded holes indicated by on the diagram above.

   Note: Do not lubricate the bushing taper, hub taper, bushing bore, or the shaft. Doing so could result in sprocket breakage.
4. With the key in the shaft keyway, position the assembly onto the shaft allowing for small axial movement of the sprocket which will occur during the tightening process.

   Note: When mounting sprockets on a vertical shaft, precautions must be taken to positively prevent the sprocket and/or bushing from falling during installation.
5. Alternately torque the set screws until the sprocket and bushing tapers are completely seated together (at approximately half of the recommended torque; see table below).

   Note: Do not use worn hex key wrenches. Doing so may result in a loose assembly or may damage screws.
6. Check the alignment and sprocket axial runout (wobble), and correct as necessary.
7. Continue alternate tightening of the cap screws to the recommended torque values specified in the table below.
8. To increase the bushing gripping force, hammer the face of the bushing using a drift or sleeve (Do Not Hit The Bushing Directly With The Hammer).
9. Re-torque the bushing screws after hammering.
10. Recheck all screw torque values after the initial drive run-in, and periodically thereafter. Repeat steps 5 through 9 if loose.

To Remove

1. Loosen and remove all mounting screws.
2. Insert screws into all jack screw holes indicated by "●" (see figure above).
3. Loosen the bushing by alternately tightening the screws in small but equal increments until the tapered sprocket and bushing surfaces disengage.

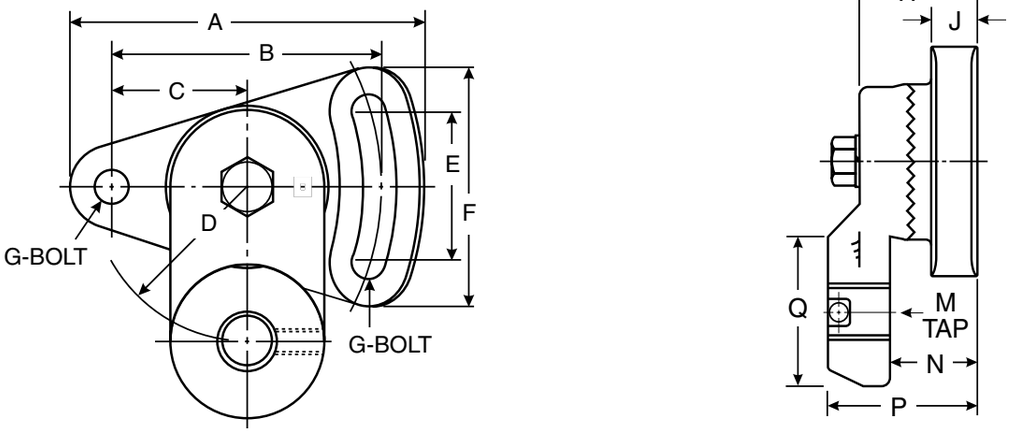
Sprocket Installation

Bushing Style	Bolts		Torque Wrench	
	Qty.	Size	lb-ft	lb-in
1008	2	1/4-20 x 1/2	4.6	55
1108	2	1/4-20 x 1/2	4.6	55
1210	2	3/8-16 x 5/8	14.6	175
1610	2	3/8-16 x 5/8	14.6	175
1615	2	3/8-16 x 5/8	14.6	175
2012	2	7/16-14 x 7/8	23.3	280
2517	2	1/2-13 x 1	35.8	430
3020	2	5/8-11 x 1 1/4	66.7	800
3525	3	1/2-13 x 1 1/2	83.3	1000
3535	3	1/2-13 x 1 1/2	83.3	1000
4030	3	5/8-11 x 1 3/4	142	1700
4040	3	5/8-11 x 1 3/4	142	1700
4535	3	3/4-10 x 2	204	2450
4545	3	3/4-10 x 2	204	2450
5040	3	7/8-9 x 2 1/4	258	3100
6050	3	1 1/4-7 x 3 1/2	652	7820
7060	4	1 1/4-7 x 3 1/2	652	7820

Caution: Excessive bolt torque can cause sprocket and/or bushing breakage.
Note: To insure proper bushing/sprocket performance, full bushing contact on the shaft is recommended.

Belt Drive Tensioners

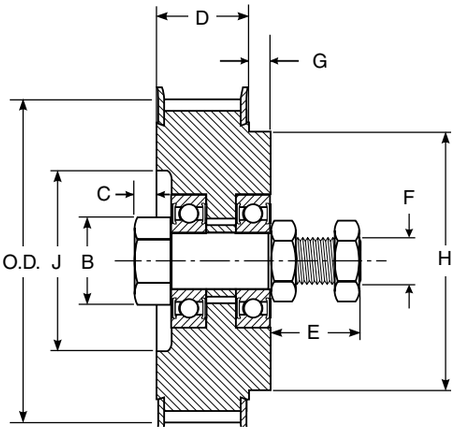
(Double Adjustable)



Specifications

Tensioned Product No.	Use With	Part No.	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	J (in)	M (Threads)	N (in)	P (in)	Q (in)	Weight (lb)
7720-2010	8mm Pitch Poly Chain GT2	10-IDL-BRAK2	4.63	3.50	1.75	2.00	2.06	3.06	0.38	1.50	0.56	¾-16	1.00	1.88	1.75	2.7
7720-2020	14mm Pitch Poly Chain GT2	20-IDL-BRAK2	6.94	5.25	2.63	5.00	3.00	4.56	0.63	2.38	1.00	1-14	1.63	2.94	0.75	10.8

Poly Chain® GT®2 Idler Sprockets



Poly Chain GT 2 Idler Dimensions

Product No.	Use With	Part No.	Size Designation	Belt Width (in)	No. of Teeth	O.D. (in)	B Ref. (in)	C (in)	D (in)	E Ref. (in)	F (Threads) (in)	G Ref. (in)	H (in)	J (in)	Wt. (lb)
7720-1700	8mm Pitch Poly Chain GT2	12-IDL-SPK2	8MX-32S-12	12	32	3.145	1.25	0.50	0.85	1.56	¾-16	0.94	2.75	-	1.0
7720-1710		21-IDL-SPK2	8MX-32S-21	21	32	3.145	1.25	0.50	1.24	1.56	¾-16	0.56	2.75	-	1.1
7720-1720		36-IDL-SPK2	8MX-36S-36	36	36	3.546	1.91	0.75	1.86	1.63	¾-16	-	-	-	2.0
7720-1730		62-IDL-SPK2	8MX-36S-62	62	36	3.546	1.91	0.75	2.91	1.69	¾-16	0.69	3.13	-	2.1
7720-1800	14mm Pitch Poly Chain GT2	20-IDL-SPK2	14MX-30S-20	20	30	5.153	2.55	1.00	1.36	2.25	1-14	1.00	4.38	-	9.0
7720-1810		37-IDL-SPK2	14MX-30S-37	37	30	5.153	2.55	1.00	2.06	2.25	1-14	0.25	4.38	-	12.0
7720-1820		68-IDL-SPK2	14MX-34S-68	68	34	5.855	3.38	0.56	3.33	2.25	1-14	1.00	4.88	4.34	15.6
7720-1830		90-IDL-SPK2	14MX-34S-90	90	34	5.855	3.38	0.31	4.20	2.25	1-14	1.00	4.88	4.34	16.7
7720-1840		125-IDL-SPK2	14MX-35S-125	125	35	6.031	3.38	0.19	5.61	2.25	1-14	1.09	4.88	4.34	23.1

Poly Chain® GT®2 Sprocket Diameter Table

8mm Pitch Sprocket Diameters

No. of Grooves	Diameters mm* in PD	Diameters mm* in OD	No. of Grooves	Diameters mm* in PD	Diameters mm* in OD	No. of Grooves	Diameters mm* in PD	Diameters mm* in OD	No. of Grooves	Diameters mm* in PD	Diameters mm* in OD	No. of Grooves	Diameters mm* in PD	Diameters mm* in OD
22	56.02 **2.206**	54.42 **2.143**	51	129.87 **5.113**	128.27 **5.050**	80	203.72 **8.020**	202.12 **7.957**	109	277.57 **10.928**	275.97 **10.865**	138	351.41 **13.835**	349.81 **13.772**
23	58.57 **2.306**	56.97 **2.243**	52	132.42 **5.213**	130.82 **5.150**	81	206.26 **8.121**	204.66 **8.058**	110	280.11 **11.028**	278.51 **10.965**	139	353.96 **13.935**	352.36 **13.872**
24	61.12 **2.406**	59.52 **2.343**	53	134.96 **5.314**	133.36 **5.251**	82	208.81 **8.221**	207.21 **8.158**	111	282.66 **11.128**	281.06 **11.065**	140	356.51 **14.036**	354.91 **13.973**
25	63.66 **2.506**	62.06 **2.443**	54	137.51 **5.414**	135.91 **5.351**	83	211.36 **8.321**	209.76 **8.258**	112	285.21 **11.229**	283.61 **11.166**	141	359.05 **14.136**	357.45 **14.073**
26	66.21 **2.607**	64.61 **2.544**	55	140.06 **5.514**	138.46 **5.451**	84	213.90 **8.421**	212.30 **8.358**	113	287.75 **11.329**	286.15 **11.266**	142	361.60 **14.236**	360.00 **14.173**
27	68.75 **2.707**	67.15 **2.644**	56	142.60 **5.614**	141.00 **5.551**	85	216.45 **8.522**	214.85 **8.459**	114	290.30 **11.429**	288.70 **11.366**	143	364.15 **14.336**	362.55 **14.273**
28	71.30 **2.807**	69.70 **2.744**	57	145.15 **5.715**	143.55 **5.652**	86	219.00 **8.622**	217.40 **8.559**	115	292.85 **11.529**	291.25 **11.466**	144	366.69 **14.437**	365.09 **14.374**
29	73.85 **2.907**	72.25 **2.844**	58	147.70 **5.815**	146.10 **5.752**	87	221.54 **8.722**	219.94 **8.659**	116	295.39 **11.630**	293.79 **11.567**	145	369.24 **14.537**	367.64 **14.474**
30	76.39 **3.008**	74.79 **2.945**	59	150.24 **5.915**	148.64 **5.852**	88	224.09 **8.822**	222.49 **8.759**	117	297.94 **11.730**	296.34 **11.667**	146	371.79 **14.637**	370.19 **14.574**
31	78.94 **3.108**	77.34 **3.045**	60	152.79 **6.015**	151.19 **5.952**	89	226.64 **8.923**	225.04 **8.860**	118	300.48 **11.830**	298.88 **11.767**	147	374.33 **14.737**	372.73 **14.674**
32	81.49 **3.208**	79.89 **3.145**	61	155.34 **6.116**	153.74 **6.053**	90	229.18 **9.023**	227.58 **8.960**	119	303.03 **11.930**	301.43 **11.867**	148	376.88 **14.838**	375.28 **14.775**
33	84.03 **3.308**	82.43 **3.245**	62	157.88 **6.216**	156.28 **6.153**	91	231.73 **9.123**	230.13 **9.060**	120	305.58 **12.031**	303.98 **11.968**	149	379.43 **14.938**	377.83 **14.875**
34	86.58 **3.409**	84.98 **3.346**	63	160.43 **6.316**	158.83 **6.253**	92	234.28 **9.223**	232.68 **9.160**	121	308.12 **12.131**	306.52 **12.068**	150	381.97 **15.038**	380.37 **14.975**
35	89.13 **3.509**	87.53 **3.446**	64	162.97 **6.416**	161.37 **6.353**	93	236.82 **9.324**	235.22 **9.261**	122	310.67 **12.231**	309.07 **12.168**	151	384.52 **15.139**	382.92 **15.076**
36	91.67 **3.609**	90.07 **3.546**	65	165.52 **6.517**	163.92 **6.454**	94	239.37 **9.424**	237.77 **9.361**	123	313.22 **12.331**	311.62 **12.268**	152	387.06 **15.239**	385.46 **15.176**
37	94.22 **3.709**	92.62 **3.646**	66	168.07 **6.617**	166.47 **6.554**	95	241.92 **9.524**	240.32 **9.461**	124	315.76 **12.432**	314.16 **12.369**	153	389.61 **15.339**	388.01 **15.276**
38	96.77 **3.810**	95.17 **3.747**	67	170.61 **6.717**	169.01 **6.654**	96	244.46 **9.624**	242.86 **9.561**	125	318.31 **12.532**	316.71 **12.469**	154	392.16 **15.439**	390.56 **15.376**
39	99.31 **3.910**	97.71 **3.847**	68	173.16 **6.817**	171.56 **6.754**	97	247.01 **9.725**	245.41 **9.662**	126	320.86 **12.632**	319.26 **12.569**	155	394.70 **15.540**	393.10 **15.477**
40	101.86 **4.010**	100.26 **3.947**	69	175.71 **6.918**	174.11 **6.855**	98	249.55 **9.825**	247.95 **9.762**	127	323.40 **12.732**	321.80 **12.669**	156	397.25 **15.640**	395.65 **15.577**
41	104.41 **4.110**	102.81 **4.047**	70	178.25 **7.018**	176.65 **6.955**	99	252.10 **9.925**	250.50 **9.862**	128	325.95 **12.833**	324.35 **12.770**	157	399.80 **15.740**	398.20 **15.677**
42	106.95 **4.211**	105.35 **4.148**	71	180.80 **7.118**	179.20 **7.055**	100	254.65 **10.026**	253.05 **9.963**	129	328.50 **12.933**	326.90 **12.870**	158	402.34 **15.840**	400.74 **15.777**
43	109.50 **4.311**	107.90 **4.248**	72	183.35 **7.218**	181.75 **7.155**	101	257.19 **10.126**	255.59 **10.063**	130	331.04 **13.033**	329.44 **12.970**	159	404.89 **15.941**	403.29 **15.878**
44	112.05 **4.411**	110.45 **4.348**	73	185.89 **7.319**	184.29 **7.256**	102	259.74 **10.226**	258.14 **10.163**	131	333.59 **13.133**	331.99 **13.070**	160	407.44 **16.041**	405.84 **15.978**
45	114.59 **4.511**	112.99 **4.448**	74	188.44 **7.419**	186.84 **7.356**	103	262.29 **10.326**	260.69 **10.263**	132	336.14 **13.234**	334.54 **13.171**	161	409.98 **16.141**	408.38 **16.078**
46	117.14 **4.612**	115.54 **4.549**	75	190.99 **7.519**	189.39 **7.456**	104	264.83 **10.427**	263.23 **10.364**	133	338.68 **13.334**	337.08 **13.271**	162	412.53 **16.241**	410.93 **16.178**
47	119.68 **4.712**	118.08 **4.649**	76	193.53 **7.619**	191.93 **7.556**	105	267.38 **10.527**	265.78 **10.464**	134	341.23 **13.434**	339.63 **13.371**	163	415.08 **16.342**	413.48 **16.279**
48	122.23 **4.812**	120.63 **4.749**	77	196.08 **7.720**	194.48 **7.657**	106	269.93 **10.627**	268.33 **10.564**	135	343.77 **13.534**	342.17 **13.471**	164	417.62 **16.442**	416.02 **16.379**
49	124.78 **4.912**	123.18 **4.849**	78	198.63 **7.820**	197.03 **7.757**	107	272.47 **10.727**	270.87 **10.664**	136	346.32 **13.635**	344.72 **13.572**	165	420.17 **16.542**	418.57 **16.479**
50	127.32 **5.013**	125.72 **4.950**	79	201.17 **7.920**	199.57 **7.857**	108	275.02 **10.828**	273.42 **10.765**	137	348.87 **13.735**	347.27 **13.672**	166	422.72 **16.642**	421.12 **16.579**

* Dimensions are given in inches and millimeters. Inches are shown in **black** in bold face type.
Millimeters are shown in blue in light face type.

Stock sprockets are shown shaded.

Poly Chain® GT®2 Sprocket Diameter Table

8mm Pitch Sprocket Diameters

No. of Grooves	Diameters mm* in PD	OD	No. of Grooves	Diameters mm* in PD	OD	No. of Grooves	Diameters mm* in PD	OD	No. of Grooves	Diameters mm* in PD	OD	No. of Grooves	Diameters mm* in PD	OD
167	425.26 **16.743**	423.66 **16.680**	179	455.82 **17.946**	454.22 **17.883**	191	486.38 **19.149**	484.78 **19.086**	203	516.94 **20.352**	515.34 **20.289**	215	547.49 **21.555**	545.89 **21.492**
168	427.81 **16.843**	426.21 **16.780**	180	458.37 **18.046**	456.77 **17.983**	192	488.92 **19.249**	487.32 **19.186**	204	519.48 **20.452**	517.88 **20.389**	216	550.04 **21.655**	548.44 **21.592**
169	430.35 **16.943**	428.75 **16.880**	181	460.91 **18.146**	459.31 **18.083**	193	491.47 **19.349**	489.87 **19.286**	205	522.03 **20.552**	520.43 **20.489**	217	552.59 **21.755**	550.99 **21.692**
170	432.90 **17.043**	431.30 **16.980**	182	463.46 **18.246**	461.86 **18.183**	194	494.02 **19.449**	492.42 **19.386**	206	524.57 **20.653**	522.97 **20.590**	218	555.13 **21.856**	553.53 **21.793**
171	435.45 **17.144**	433.85 **17.081**	183	466.01 **18.347**	464.41 **18.284**	195	496.56 **19.550**	494.96 **19.487**	207	527.12 **20.753**	525.52 **20.690**	219	557.68 **21.956**	556.08 **21.893**
172	437.99 **17.244**	436.39 **17.181**	184	468.55 **18.447**	466.95 **18.384**	196	499.11 **19.650**	497.51 **19.587**	208	529.67 **20.853**	528.07 **20.790**	220	560.23 **22.056**	558.63 **21.993**
173	440.54 **17.344**	438.94 **17.281**	185	471.10 **18.547**	469.50 **18.484**	197	501.66 **19.750**	500.06 **19.687**	209	532.21 **20.953**	530.61 **20.890**	221	562.77 **22.156**	561.17 **22.093**
174	443.09 **17.444**	441.49 **17.381**	186	473.65 **18.647**	472.05 **18.584**	198	504.20 **19.851**	502.60 **19.788**	210	534.76 **21.054**	533.16 **20.991**	222	565.32 **22.257**	563.72 **22.194**
175	445.63 **17.545**	444.03 **17.482**	187	476.19 **18.748**	474.59 **18.685**	199	506.75 **19.951**	505.15 **19.888**	211	537.31 **21.154**	535.71 **21.091**	223	567.86 **22.357**	566.26 **22.294**
176	448.18 **17.645**	446.58 **17.582**	188	478.74 **18.848**	477.14 **18.785**	200	509.30 **20.051**	507.70 **19.988**	212	539.85 **21.254**	538.25 **21.191**	224	570.41 **22.457**	568.81 **22.394**
177	450.73 **17.745**	449.13 **17.682**	189	481.28 **18.948**	479.68 **18.885**	201	511.84 **20.151**	510.24 **20.088**	213	542.40 **21.354**	540.80 **21.291**			
178	453.27 **17.845**	451.67 **17.782**	190	483.83 **19.048**	482.23 **18.985**	202	514.39 **20.252**	512.79 **20.189**	214	544.95 **21.455**	543.35 **21.392**			

14mm Pitch Sprocket Diameters

No. of Grooves	Diameters mm* in PD	OD	No. of Grooves	Diameters mm* in PD	OD	No. of Grooves	Diameters mm* in PD	OD	No. of Grooves	Diameters mm* in PD	OD	No. of Grooves	Diameters mm* in PD	OD
28	124.78 **4.912**	121.98 **4.802**	40	178.25 **7.018**	175.45 **6.908**	52	231.73 **9.123**	228.93 **9.013**	64	285.21 **11.229**	282.41 **11.119**	76	338.68 **13.334**	335.88 **13.224**
29	129.23 **5.088**	126.43 **4.978**	41	182.71 **7.193**	179.91 **7.083**	53	236.19 **9.299**	233.39 **9.189**	65	289.66 **11.404**	286.86 **11.294**	77	343.14 **13.509**	340.34 **13.399**
30	133.69 **5.263**	130.89 **5.153**	42	187.17 **7.369**	184.37 **7.259**	54	240.64 **9.474**	237.84 **9.364**	66	294.12 **11.579**	291.32 **11.469**	78	347.59 **13.685**	344.79 **13.575**
31	138.15 **5.439**	135.35 **5.329**	43	191.62 **7.544**	188.82 **7.434**	55	245.10 **9.650**	242.30 **9.540**	67	298.57 **11.755**	295.77 **11.645**	79	352.05 **13.860**	349.25 **13.750**
32	142.60 **5.614**	139.80 **5.504**	44	196.08 **7.720**	193.28 **7.610**	56	249.55 **9.825**	246.75 **9.715**	68	303.03 **11.930**	300.23 **11.820**	80	356.51 **14.036**	353.71 **13.926**
33	147.06 **5.790**	144.26 **5.680**	45	200.54 **7.895**	197.74 **7.785**	57	254.01 **10.000**	251.21 **9.890**	69	307.49 **12.106**	304.69 **11.996**	81	360.96 **14.211**	358.16 **14.101**
34	151.52 **5.965**	148.72 **5.855**	46	204.99 **8.071**	202.19 **7.961**	58	258.47 **10.176**	255.67 **10.066**	70	311.94 **12.281**	309.14 **12.171**	82	365.42 **14.387**	362.62 **14.277**
35	155.97 **6.141**	153.17 **6.031**	47	209.45 **8.246**	206.65 **8.136**	59	262.92 **10.351**	260.12 **10.241**	71	316.40 **12.457**	313.60 **12.347**	83	369.88 **14.562**	367.08 **14.452**
36	160.43 **6.316**	157.63 **6.206**	48	213.90 **8.421**	211.10 **8.311**	60	267.38 **10.527**	264.58 **10.417**	72	320.86 **12.632**	318.06 **12.522**	84	374.33 **14.737**	371.53 **14.627**
37	164.88 **6.492**	162.08 **6.382**	49	218.36 **8.597**	215.56 **8.487**	61	271.84 **10.702**	269.04 **10.592**	73	325.31 **12.808**	322.51 **12.698**	85	378.79 **14.913**	375.99 **14.803**
38	169.34 **6.667**	166.54 **6.557**	50	222.82 **8.772**	220.02 **8.662**	62	276.29 **10.878**	273.49 **10.768**	74	329.77 **12.983**	326.97 **12.873**	86	383.25 **15.088**	380.45 **14.978**
39	173.80 **6.842**	171.00 **6.732**	51	227.27 **8.948**	224.47 **8.838**	63	280.75 **11.053**	277.95 **10.943**	75	334.23 **13.158**	331.43 **13.048**	87	387.70 **15.264**	384.90 **15.154**

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