



Technical Engineering Guide

Diamond- Drives, LLC

Dedicated To Producing The World's Best Roller Chain

Diamond and Drives have merged to become Diamond-Drives by Timken, part of The Timken Company's advanced motion technologies portfolio. Diamond-Drives has a combined manufacturing space of 562,653 square feet in Illinois, Iowa and Weifang, China.

Diamond-Drives offers Diamond Series, Drives Series and Sapphire Series roller chain.
This catalog is focused on the technical aspects of roller chain and applies to each series of product.



Industry-leading performance and innovation



Basic chain offering for general applications

Table of Contents

General Drive Considerations	4	Roller Chain Installation	34
Selecting Sprockets	5	Safety	34
Drive Arrangements.	6	Drive Alignment.	35
Chain Wear	9	Chain and Connecting Link Installation	36
Chain Sag	10	Roller Chain Lubrication.	39
Operating Considerations.	11	Selecting a Lubricant	39
Chain Selection	12	Selecting a Lubrication Method.	40
Selecting a Chain Size	13	Roller Chain Maintenance.	41
Abridged Horsepower Ratings	14	Drive Guarding	41
Slow Speed Drives Selection	19	Regular Inspections.	41
Conveyor Chains	23	Horsepower Tables	43
		Sprocket Information	75
		Tools, Troubleshooting	90

DISCLAIMER

This catalog is provided solely to give you analysis tools and data to assist you in your product selection. Product performance is affected by many factors beyond the control of Diamond-Drives. Therefore, you must validate the suitability and feasibility of all product selections for your applications.

Diamond® and Drives® chain products are sold subject to Timken terms and conditions of sale, which include our limited warranty and remedy. You can find these at <https://www.timken.com/legal-notice/terms-and-conditions-of-sale/>

Please consult with your Diamond-Drives engineer for more information and assistance.

Every reasonable effort has been made to ensure the accuracy of the information in this writing, but no liability is accepted for errors, omissions or for any other reason.

All metric information is a conversation from imperial data.

⚠ WARNING

Failure to observe the following warnings could create a risk of death or serious injury.

- Do not use Diamond-Drives chain products for human lift applications.
- Do not reuse sections from a damaged chain, as the entire chain may be compromised.
- Always follow chain and equipment manufacturer's instructions and plant safety protocols.
- Always follow lock-out/tag-out and power off procedures before installing, removing, lubricating, or servicing a chain system.
- Do not weld to or torch cut nickel-plated chain, Silver Shield CR® plated chain, Diamond ACE® plated chain, or Ring Leader™ XLO O-Ring chain, as welding or torch cutting may release toxic fumes. If chain must be torch cut for removal, use proper ventilation and/or respiratory protective equipment.

⚠ CAUTION

Failure to observe the following cautions could create a risk of minor or moderate injury.

- Use only factory subassemblies for assembling chain strands. Do not disassemble and reassemble subassemblies.

NOTICE

- Always follow proper maintenance and handling practices.
- Use proper lubrication for optimal chain life and performance. Refer to Diamond-Drives published recommendations for proper lubricants and methods of lubrication.
- Do not run new chain on worn sprockets, as this will cause the chain to wear more rapidly.
- For best performance, do not mix chain subassemblies from different manufacturers.
- Never weld precision roller chain.

General Drive Considerations

One of the main advantages of the roller chain drive is its ability to perform well under widely varying conditions.

Despite this ability, there are a number of rules of good design practice which, if considered early in the design process, will enable the user to obtain optimum results.

Basic dimensions and minimum ultimate tensile requirements for single-pitch, double-pitch and attachment roller chains are specified by various standards organizations worldwide. ASME/ANSI, The American Society of Mechanical Engineers and The American National Standards Institute, defines dimensions such as: pitch, roller width, roller diameter, linkplate height, linkplate thickness, and pin diameter. British Standard chains are specified by the International Standards Organization (ISO) metric requirements (IS 606, BS228, DIN 8187) for dimensions, interchangeability, and sprocket fit. The primary purpose of these standards is to ensure that manufacturers will produce chains and sub-assemblies that are similar dimensionally and therefore interchangeable. In addition, these standards do offer the user some assurance of quality by defining a minimum ultimate tensile strength for each model of chain. However, tensile strength is not always a valid method to differentiate one manufacturer's product from another. It is very important to remember that dimensional standardization does not define quality or performance characteristics.

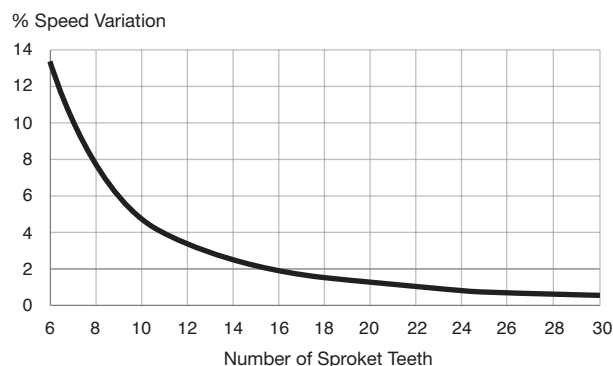
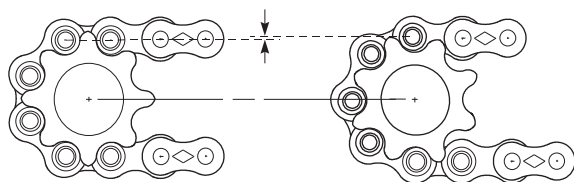
Tensile Strength: Tensile Strength is the static load required to break the chain. ***Tensile strength should never be confused with working load.*** The working load or tension applied to the chain in service should never exceed 1/6th the Tensile Strength when using a press-fit connecting link or 1/9th the Tensile Strength when using a slip-fit connecting link or offset link. If exceeding this value is necessary for a specific application, contact Diamond-Drives. ***Warning! A roller chain should never be loaded above 50% of its Tensile Strength for even one cycle. Doing so will permanently damage the chain.***

Allowable Working Load: Roller chains with equal tensile strengths can have very different working load capacities. Contrary to popular belief, there is no consistent relationship between a roller chain's working load capacity and its ultimate tensile strength. A chain with a higher tensile strength than a Diamond® chain or Drives® chain could have a much lower working load capacity.

Selecting Chain Size: There may be several suitable selections for any particular application. Loads, speeds, environment, cost, required service life, or other factors will determine the final selection. Generally, the lowest cost drive will consist of a single strand chain of the smallest pitch that can accommodate the load. The speed and number of teeth of the smallest sprocket, most commonly the driver sprocket, also have an effect on the selection of chain size. As a rule, the smaller the pitch the higher the permissible operating speed.

Selecting Sprockets

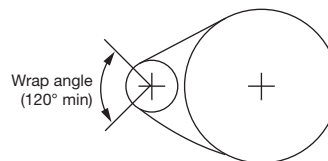
Small Sprocket: The smallest sprocket is usually the driver or input sprocket. As the chain enters and exits, it rises and falls as each pitch engages and disengages the sprockets.



This movement, called chordal action, causes chain speed variations (drive roughness) that may be objectionable in some applications. These speed variations can normally be minimized by increasing the size of the sprockets, as shown.

To minimize the negative effects of chordal action, the following are suggested guidelines for the minimum number of teeth in the smallest sprocket:

Slow Speed	Type A* lubrication region	12 Teeth
Medium Speed	Type B* lubrication region	17 Teeth
High Speed	Type C* lubrication region	25 Teeth



* More detail on type A, B and C lubrication can be found in the Roller Chain Lubrication section of this guide.

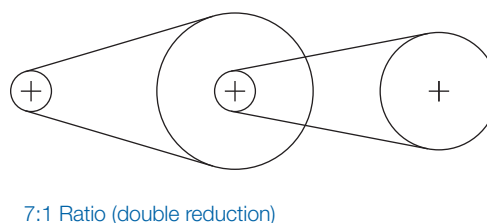
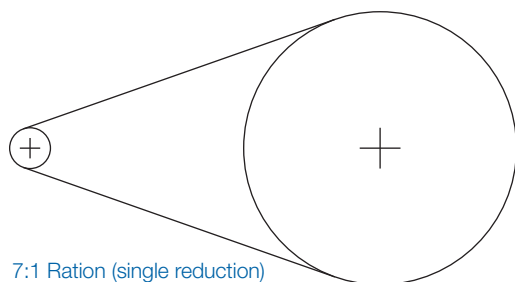
Hardened Teeth: Tooth loading increases as the number of teeth in the sprocket decreases. Hardening of sprocket teeth is recommended when the number of teeth is 25 or less and/or the sprocket will operate in:

1. Drives that are heavily loaded
2. Abrasive conditions
3. High speed drives
4. Drives requiring extremely long life

Chain Wrap: The recommended minimum wrap angle on the smallest sprocket in the drive is 120°. Wrap angle can be reduced to 90° if good chain tension adjustment is maintained. If chain tension is not closely maintained with less than 120° wrap, the chain can jump teeth, resulting in damage to itself and/or the sprocket.

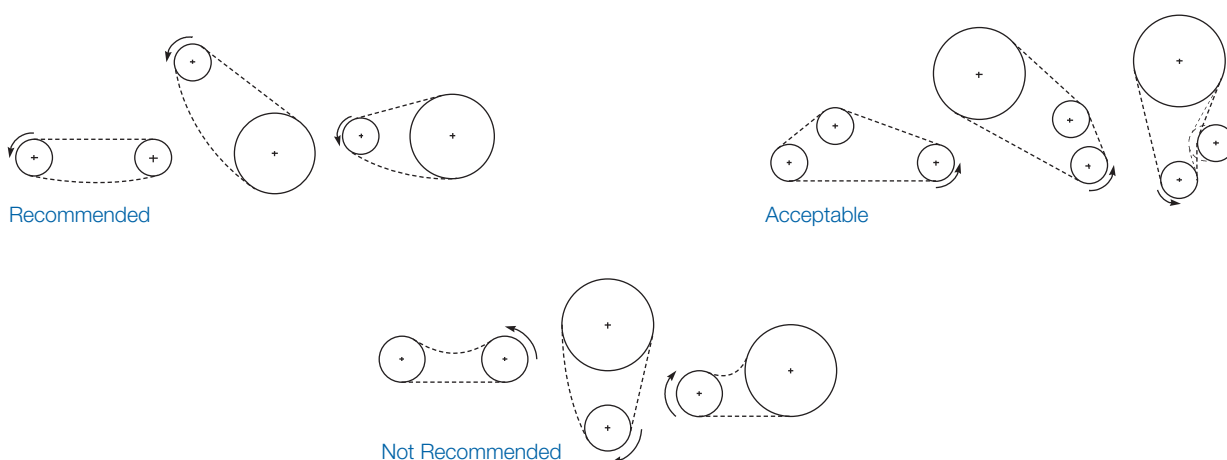
Note: For a drive ratio of 3:1 or less there will always be 120° or more wrap on the small sprocket, regardless of the center distance.

Drive Ratio: The ratio of the sprocket sizes is determined by the desired speed reduction or increase. The maximum recommended ratio for a single reduction is 7:1. In practice, the practical single reduction limit is affected by: the minimum size of the small sprocket, the maximum size of the large sprocket, and the need for sufficient wrap on the small sprocket. It is possible to utilize a reduction as great as 9:1 but a double reduction is preferable. It is important to remember that drive ratio is a function of the number of teeth on the sprockets, not the sprockets' diameters.



Drive Arrangements

Shown below are recommended, acceptable, and not recommended drive arrangements, along with preferred direction of travel. Every effort should be made to utilize the recommended or acceptable layouts in order to obtain optimum drive life.



Chain Length

Chain length must be an integral number of pitches (no fractions of pitches). Additionally, every attempt should be made during the design process to define a chain length that is an even number of pitches (including the connecting link). In a fixed center-distance drive this can be done by selecting sprockets that provide a ratio near that desired. In an adjustable center-distance drive this is achieved by providing sufficient adjustment or “take-up” so that an even number of pitches can be used and still operate with proper tension.

If neither of the above conditions can be met, a chain having an odd number of pitches is required. These designs require the use of offset links or “half links.” Offset links are generally costly and will significantly reduce the chain’s load carrying capacity.

Offset Links: Offset links are used to add a single pitch of roller chain. Diamond-Drives offers two types of offsets: single-pitch and multiple-pitch.

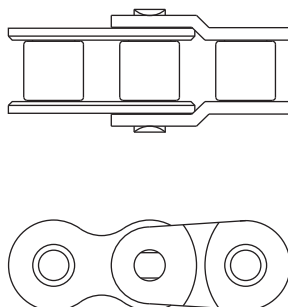
Single-pitch offsets are constructed using hybrid linkplates consisting of half pin linkplate and half roller linkplate contours. Single-pitch offsets are secured within the chain using a slip-fit pin and cotter keys.

Note: Single-pitch offsets can reduce the load capacity of a roller chain by as much as 30%.



Multiple-pitch offsets, commonly two pitches in length, are constructed with the same basic design as a single-pitch offset, with the exception that the offset link itself is riveted together with a standard roller link assembly. Multiple-pitch offsets afford the user superior performance and generally are less costly than single-pitch offsets.

Note: Multiple-pitch offsets can offer virtually the same integrity as the base chain. However, some reduction in load carrying capacity can result from their use.



Connecting Links

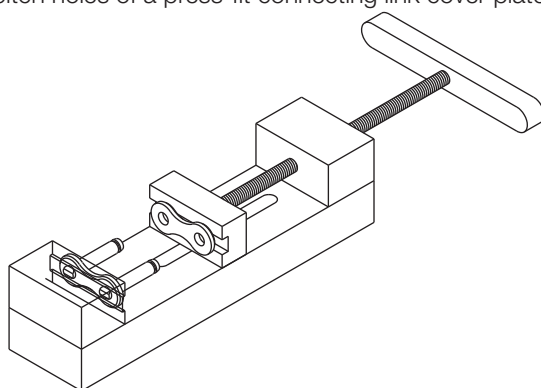
Connecting links are used to join the ends of the chain together once installed on the drive. Connecting links are available with two types of cover plates depending upon the application and/or the user's preference: slip-fit or press-fit.

Slip-fit cover plates are supplied when the user prefers ease of assembly and disassembly. The cover plate of a slip-fit connecting link has pitch holes that are larger in diameter than the pins. This allows the user to "slip" the cover plate onto the pins before installing a spring clip or cotters. This style of connecting link is inherently weaker than the base chain because its slip-fit construction does not have the same integrity found in the assembled chain.

Note: Slip-fit connecting links can reduce the chain's working load capacity by as much as 30% versus a press-fit connecting link.

Press-fit cover plates are provided when the integrity of the connecting link needs to be equal to that of the base chain. In this design, the cover plate has pitch holes that are smaller in diameter than the pins. This requires the user to "press" the cover plate onto the pins before installing a spring clip or cotters. While more difficult to install, these links do provide the greatest load carrying capability. Diamond-Drives does not provide any specific tool for use with the installation of a press-fit cover plate. However, a modified C-Clamp-type device often makes the job much easier.

Note: Never drill out or enlarge the pitch holes of a press-fit connecting link cover plate to make the installation easier.

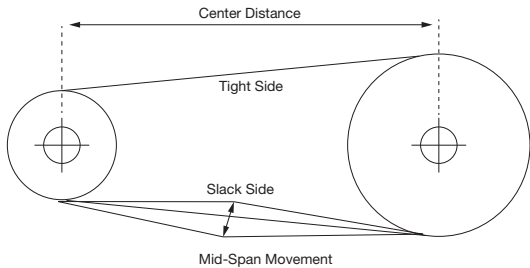


"C-Clamp" - Type Device

Chain Tensioning/Length Adjustment

Proper chain tension is critical to achieving acceptable service life. Chain tensioning may be accomplished by one of these actions: adjusting one of the shafts to increase the center distance, using a movable idler sprocket, or removing pitches from the chain to compensate for wear elongation.

For the majority of slow and medium speed chain drives, the total mid-span movement in the slack span should be approximately 4-6% of the drive's center distance. For drives operating at high speeds, impulse or reversing loads, the total movement should be reduced to 2-3% of the center distance. Drives with vertical centers should also be adjusted to the smaller percentage. If the drive incorporates shaft adjustment or an idler, the amount of movement or "take-up" should always allow for the removal of two pitches of chain.

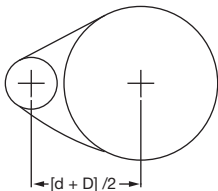


D = Diameter of large sprocket
d = Diameter of small sprocket
CD = Center distance, inches

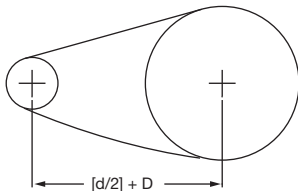
Dimensions in Inches									
Drive Center-Line	Mid span movement by center distance, low-medium speeds								
	5"	10"	15"	20"	30"	40"	60"	80"	100"
Level to 45°	127mm	254mm	381mm	508mm	762mm	1,016mm	1,524mm	2,032mm	2,540mm
	0.25" 6mm	0.50" 13mm	0.75" 19mm	1.00" 25mm	1.50" 38mm	2.00" 51mm	3.00" 76mm	4.00" 102mm	5.00" 127mm
>45°	0.12" 3mm	0.25" 6mm	0.38" 10mm	0.50" 13mm	0.75" 19mm	1.00" 25mm	1.50" 38mm	2.00" 51mm	2.50" 64mm

Drive Center Distance

The distance between driver and driven sprockets on a two-sprocket drive must be greater than one-half the sum of the sprocket outside diameters to avoid tooth interference. The recommended distance is the diameter of the large sprocket + 1/2 the diameter of the smaller sprocket.



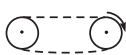
Absolute Minimum Center Distance



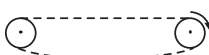
Recommended Minimum Center Distance

General guidelines for the selection or determination of the center distance for any two-sprocket drive are:

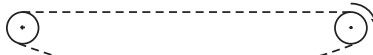
- 1. For the average application, a center distance of approximately 40 pitches of chain represents good practice.
- 2. A center distance of 80 pitches may be considered as an approved maximum.
- 3. For high speed or pulsating drives a center distance as short as 20 pitches may be desirable to avoid chain whipping and potential drive damage.



CD = 20P



CD = 40P

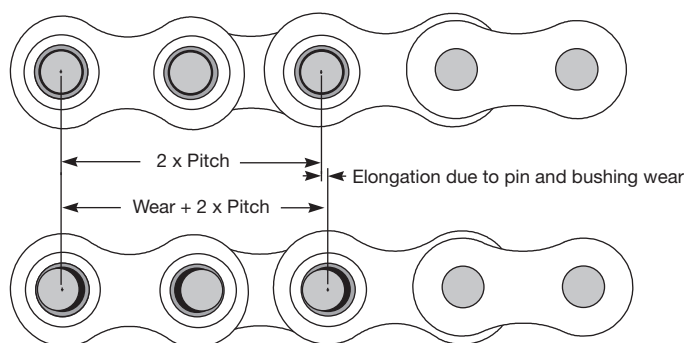


CD = 80P

Fixed Centers: When adjustable centers or idlers cannot be used, the exact center distance must be calculated and built into the drive. Drives with fixed centers should be conservatively selected and well lubricated to minimize the rate of chain wear. Adjustment for wear elongation in fixed center distance drives is accomplished only by removing links or pitches.

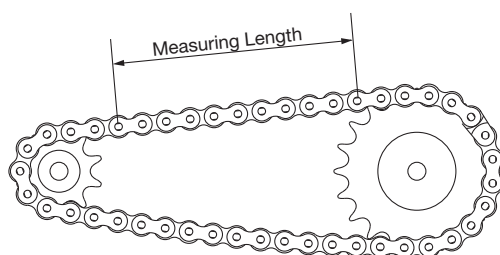
Chain Wear

The individual joints in a roller chain articulate as they enter and leave the sprockets. This articulation results in wear on the pins and bushings. As material is worn away from these surfaces the chain will gradually elongate.



Chain Does Not "Stretch" - Material is Removed from Pin and Bushing

Elongation is normal and may be minimized by proper lubrication and drive maintenance. The rate of wear is dependent upon: 1) the relationship between the load and the amount of bearing area between pin and bushing, 2) the material and surface condition of the bearing surfaces, 3) the adequacy of lubrication, and 4) the frequency and degree of articulation between pins and bushings. The latter is determined by the quantity of sprockets in the drive, their speeds, the number of teeth, and the length of the chain in pitches.



Measurement of Chain for Wear Elongation

Relatively accurate wear measurements can be made by using the above illustration. Measure as closely as possible from the center of one pin to the center of another. The more pitches contained within the measurement increases the accuracy. If the measured value exceeds the nominal by more than the allowable percentage the chain should be replaced. *The maximum allowable wear elongation is approximately 3% for most industrial applications, based upon sprocket design.* Note that the 3% allowable wear elongation is valid only in drives with up to 67 teeth in the large sprocket; for greater than 67 teeth in the large sprocket, calculate the allowable wear percentage using the relationship $200/T$, where T is the number of teeth in the large sprocket. *In drives having fixed center distances, chains running in parallel or where smoother operation is required, wear should be limited to approximately 1.5%.*

For example, if 12 pitches of a #80 chain were measured and the result was 12.360" or greater (using 3% as the maximum allowable wear), the chain should be replaced. Anything less than 12.360" would still be acceptable by most industrial standards.

For a free wear gauge to assist you with this procedure email marketing@diamondchain.com.

Chain Sag

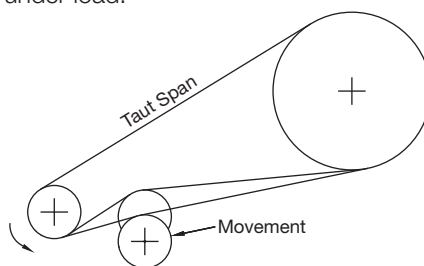
In long spans, a relatively small amount of excess chain can cause a substantial sag in the slack span. More detailed information concerning the calculation of chain sag can be found in the Conveyor Chain Selection section on page 23. In designing drives, it is necessary to provide sufficient clearance to prevent interference between the chain and chain case or other parts of the equipment.

Idler Sprockets

Idler sprockets may be used:

1. To take up slack in chain when shaft centers are not adjustable and are not located at a proper distance to provide a snug-fitting chain.
2. To take up slack in chain developed through normal chain wear. Such take-up will be necessary only at infrequent intervals because chain elongation due to wear occurs at a very slow rate when chain is adequately lubricated.
3. To guide the chain clear of any obstructions.
4. To increase the arc of chain wrap on other sprockets.
5. To provide for a reversed direction of rotation of a sprocket, outside a closed chain.

When an idler is required, it is preferable that it engage the slack chain span. If the particular design requires that an idler be installed in the taut span of chain, the service life of the chain will most likely be shortened because of the additional articulation of the chain's joints while under load.



Idler sprockets should be securely mounted so that they will remain in position until some change in position is needed.

When an idler is located inside the chain loop it should be located near the larger sprocket. When located outside the chain loop it should be located near the smaller sprocket.

Rarely is it desirable or necessary to provide automatic take-up by means of spring-and-ratchet combinations or dead weight mechanisms. The use of such types of idlers imposes additional and unnecessary loading on the chain joints.

Operating Considerations

Variable Speed Drives: Many drives must operate over a wide range of speeds and loads. The selected drive must be capable of performing acceptably at any of the required conditions. It is particularly important to be sure the drive is adequate at the most critical operating conditions which are often, but not limited to, the highest and lowest speeds.

Lubrication: *Lubrication is the single most important factor controlling a chain's wear life.* Specific methods of lubrication can be found in the Roller Chain Installation section of this guide. However, if the drive is located such that regular lubrication is infrequent or impractical, or if the drive is exposed to contaminants, consider the use of Diamond® Duralube® LIVE, EHT, or Ring Leader™ O-Ring chain, or Drives® Extended Life CHP® or Drives Element® chain. Details on these products can be found in the Diamond Series Product Catalog or the Drives Chain Product Catalog.

Environment: If the drive is exposed to water, corrosive agents, contamination, or is in high or low temperature environments, consideration should be given to the use of nickel, stainless steel, zinc coated or internally lubricated chains offered in both Diamond® and Drives® product portfolios. More detailed information can be found for these models in the Corrosion/Moisture Resistant and Reduced Maintenance sections of the Diamond Series Product Catalog or Drives Chain Product Catalog.

Temperature Limitations

Standard carbon steel chains can routinely be used where temperatures are between 0° (-18° C) and 350° F (177° C). For temperatures between 350° F (177° C) and 500° F (260° C), specially designed chains having extra internal clearances are recommended. At these temperatures, however, some loss of component hardness and reduced wear life can be expected.

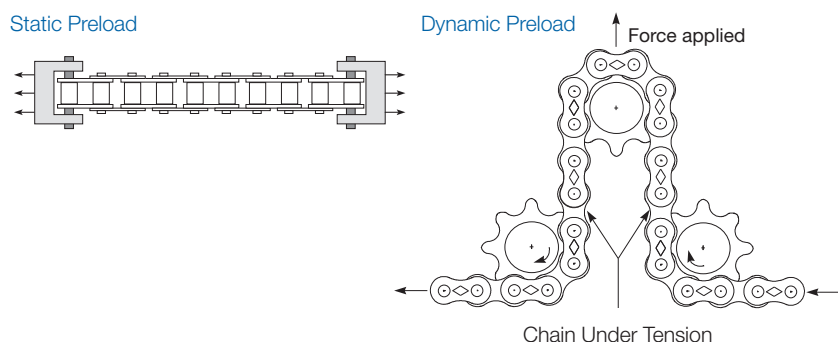
Stainless steel chains should be considered when the operating temperature will be below 0° (-18° C) or up to 900° F (482° C)

Please see the Diamond Series Product Catalog or the Drives Chain Product Catalog for a list of standard operating temperatures and available lubrications for enhanced operating capabilities.

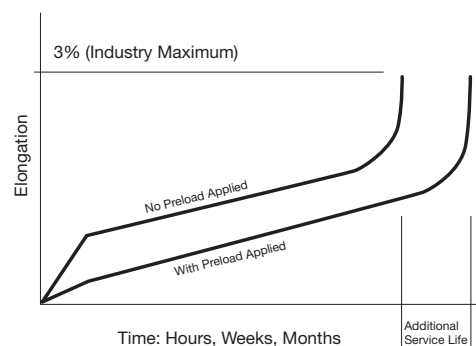
Preloading

After assembly, Diamond-Drives applies an initial load to the chains, called preload. This loading approximates the recommended maximum loading in service. Preloading can be done either statically or dynamically. Diamond-Drives dynamically preloads all 1/4" through 2" (6.4mm through 50.8mm) pitch Standard and Heavy Series single strand roller chains; large sizes use a static preload. Preloading is done to align the various chain components such as pins, bushings, and linkplates.

Benefit of Preloading: Preloading helps to greatly eliminate initial elongation often found in "lesser" chains. Elimination of this initial elongation can increase usable service life.



Benefit Of "Preloading"



Chain Selection

This section offers guidance for the selection of economical roller chain drives, capable of meeting the great majority of drive requirements. However, when information is needed on a special problem, or whenever it seems advisable to have any drive selection confirmed or checked, feel free to contact customerservicechain@timken.com.

The first step in sizing and selection of a roller chain drive is to assess the known information about the drive's requirements and limitations. The following list represents the information required to adequately select a roller chain which will perform acceptably:

1. Source of input power
2. Type of driven equipment
3. Input horsepower available
4. Size and speed of driving shaft
5. Size and speed of driven shaft
6. Center distance between shafts
7. Available center distance adjustment, if any
8. Space limitations such as maximum sprocket diameters
9. Available lubrication methods
10. Hostile environment, if any

Additionally, the following information, if available, will enhance the ability to select the most appropriate roller chain for the application:

1. Frequent stops and starts
2. High starting or inertial loads
3. Extreme temperatures, i.e., above 150° F (66° C) or below 0° F (-18° C)
4. Large cyclic load variations in each revolution
5. Multiple driven shafts

Selecting a Chain Size

Step 1 - Determine Service Factor: In drive design, the nominal horsepower available is usually known. However, the maximum horsepower actually realized by the chain may be much greater depending on the power source and the type of equipment being driven.

The service factor allows the user to estimate the maximum horsepower to which the drive may be exposed. This maximum horsepower will normally be a function of both the type of input power available combined with the type of equipment being driven. The following table lists some of the more common driver and driven combinations.

Type of Driven Equipment	Power Source Type			Type of Driven Equipment	Power Source Type		
	A	B	C		A	B	C
Agitators for Liquid	1.0	1.0	1.2	Food Processing –			
Beaters	1.2	1.3	1.4	Slicers, dough mixers, grinders	1.2	1.3	1.4
Blowers & Fans, Centrifugal	1.0	1.0	1.2	Kilns & Dryers	1.2	1.3	1.4
Boat Propellers	1.2	1.3	1.4	Machine Tools –			
Compressors –				Drills, grinders, lathes	1.0	1.0	1.2
Centrifugal & lobe	1.2	1.3	1.4	Boring mills, milling machines	1.2	1.3	1.4
Reciprocating, 3+ cylinders	1.2	1.3	1.4	Punch presses, shears	1.4	1.5	1.7
Reciprocating, 1 & 2 cylinders	1.4	1.5	1.7	Machinery, General –			
Conveyors –				Uniform load, non-reversing	1.0	1.0	1.2
Belt or chain, smoothly loaded	1.0	1.0	1.2	Moderate shock load, non-reversing	1.2	1.3	1.4
Heavy duty, not uniformly loaded	1.2	1.3	1.4	Severe shock load, reversing	1.4	1.5	1.7
Clay Working Machinery –				Mills –			
Pug mills	1.2	1.3	1.4	Ball, pebble, tube	1.2	1.3	1.4
Brick presses, briquetting machinery	1.4	1.5	1.7	Hammer, rolling	1.4	1.5	1.7
Cranes & Hoists	Consult Diamond			Pumps –			
Crushers	1.4	1.5	1.7	Centrifugal	1.0	1.0	1.2
Dredges –				Reciprocating, 3+ cylinders	1.2	1.3	1.4
Cable, reel, & conveyor drives	1.2	1.3	1.4	Reciprocating, 1 & 2 cylinders	1.4	1.5	1.7
Cutter head, jig, & screen drives	1.4	1.5	1.7	Paper Industry –			
Elevators, Bucket –				Pulp grinders	1.2	1.3	1.4
Smoothly loaded or fed	1.0	1.0	1.2	Calendars, mixers, sheeters	1.4	1.5	1.7
Not uniformly loaded or fed	1.2	1.3	1.4	Printing Presses, Magazine & Newspaper	1.4	1.5	1.7
Feeders –				Textile Industry –			
Rotary table	1.0	1.0	1.2	Calendars, mangles, nappers	1.2	1.3	1.4
Apron, screw, rotary vane	1.2	1.3	1.4	Carding machinery	1.4	1.5	1.7
Reciprocating	1.4	1.5	1.7	Woodworking Machinery	1.2	1.3	1.4

A – Internal combustion engine with hydraulic drive.

B – Electric motor or turbine.

C – Internal combustion engine with mechanical drive.

Step 2 - Calculate the Design Horsepower: The design horsepower is determined by multiplying the input horsepower by the service factor obtained above.

$$\blacklozenge \text{ Design Horsepower} = \text{Input HP} \times \text{Service Factor}$$

Step 3a - Make a Preliminary Chain Selection: There may be several suitable solutions when it comes to selecting a drive. Generally, however, the smallest pitch, single strand chain that will convey the required horsepower is often the most economical. Using the following abridged horsepower ratings, an initial chain size can be identified. Enter this rating table with the approximate RPM of the smallest sprocket, driving or driven, and locate the smallest size chain capable of transmitting the required horsepower.

Abridged Horsepower Ratings - Chart Units (Horsepower)

ASME/ ANSI #	# of teeth	Revolutions Per Minute													
		100	300	500	700	900	1200	3000	4000	5000	6000	7000	8000	9000	10000
25	17	0.10	0.29	0.47	0.64	0.82	1.08	2.61	2.65	1.90	1.44	1.14	0.94	0.79	0.67
	21	0.12	0.35	0.58	0.80	1.01	1.34	3.22	3.64	2.60	1.98	1.57	1.29	1.08	0.92
	25	0.15	0.42	0.69	0.95	1.21	1.59	3.84	4.73	3.38	2.57	2.04	1.67	1.40	
35	17	0.34	0.97	1.58	2.18	2.77	3.66	5.64	3.67	2.62	2.00	1.58	1.30		
	21	0.42	1.19	1.95	2.69	3.43	4.52	7.75	5.03	3.60	2.74	2.17			
	25	0.50	1.42	2.32	3.21	4.08	5.38	10.07	6.54	4.68	3.56				
40	17	0.80	2.29	3.74	5.16	6.57	8.66	4.17	2.71	1.94	1.47				
	21	0.98	2.83	4.61	6.37	8.11	10.69	5.72	3.71	2.66					
	25	1.17	3.36	5.49	7.59	9.66	12.73	7.43	4.82						
41	17	0.44	1.26	2.05	2.84	3.61	3.29	0.83	0.54	0.39	0.29				
	21	0.54	1.55	2.54	3.51	4.46	4.52	1.14	0.74	0.53					
	25	0.64	1.85	3.02	4.17	5.31	5.87	1.49	0.96						
50	17	1.55	4.45	7.27	10.04	12.78	16.85	4.98	3.23	2.31					
	21	1.92	5.50	8.98	12.40	15.79	20.81	6.84	4.44						
	25	2.28	6.55	10.69	14.77	18.79	24.77	8.88							
60	17	2.66	7.65	12.49	17.26	21.96	22.77	5.76	3.74						
	21	3.29	9.45	15.43	21.32	27.13	31.26	7.91							
	25	3.92	11.25	18.37	25.38	32.30	40.61	10.27							
80	13	4.76	13.66	22.31	30.81	29.51	19.17	4.85	3.15						
	17	6.22	17.86	29.17	40.29	44.13	28.66	7.25							
	21	7.69	22.07	36.03	49.77	60.59	39.36								
	25	9.15	26.27	42.89	59.25	75.42	51.12								
100	13	9.11	26.16	42.72	51.43	35.28	22.92	5.80							
	17	11.92	34.21	55.87	76.91	52.76	34.27								
	21	14.72	42.26	69.01	95.33	72.43	47.05								
	25	17.52	50.31	82.16	113.48	94.09	61.11								
120	13	15.39	44.18	72.14	59.51	40.82	26.51								
	17	20.12	57.77	94.34	88.99	61.04	39.65								
	21	24.86	71.37	116.54	122.18	83.81	54.44								
	25	29.59	84.96	138.74	158.70	108.86	70.71								
140	13	23.81	68.36	111.52	67.32	46.18	29.99								
	17	31.13	89.39	145.97	100.67	69.05	44.85								
	21	38.46	110.42	180.31	138.22	94.81	61.58								
	25	45.79	131.45	214.66	179.53	123.15	79.99								
160	13	34.54	99.17	124.09	74.91	51.38	33.37								
	17	45.17	129.68	185.56	112.02	76.84	49.91								
	21	55.80	160.20	254.77	153.80	105.50	68.52								
180	13	47.70	136.93	136.35	82.31	56.46	36.67								
	17	62.37	179.07	203.90	123.09	84.43	54.84								
	21	77.05	221.20	279.94	169.00	115.92	75.29								
200	13	63.33	181.81	148.34	89.55	61.43	39.90								
	17	82.81	237.75	221.83	133.91	91.86	59.66								
	21	102.29	293.69	304.56	183.86	126.11									
240	13	101.99	292.82	171.64	103.61	71.07	46.16								
	17	133.37	382.92	256.66	154.94	106.28									
	21	164.76	473.02	352.39	212.73	109.86									

Complete horsepower ratings are located in the Horsepower Rating section of this guide, see page 43.

If the design horsepower exceeds the capacity of single strand chain or if space limitations (i.e. sprocket diameters) are a consideration, then a multiple strand chain may be required.

Step 3b - Selecting a Multiple Strand Factor (if required): For the purpose of drive selection it is important to remember that multiple strand chain does not have the ability to transmit an even multiple of its single strand's horsepower. Example: a #80-2 chain cannot transmit two times the horsepower that a #80 single strand chain will. This is because the loading on a multiple strand chain cannot be exactly and evenly distributed across the full width of the chain due to many factors. Therefore, multiple strand chains are de-rated according to their number of strands. The following table provides values to be used in determining the single strand equivalent horsepower used in either the abridged horsepower ratings on the previous page or in the complete ASME/ANSI horsepower ratings located in the Horsepower Rating Table section of this guide.

Multiple Strand Rating Tables

Number of Strands	Multiple Strand Factor
2	1.7
3	2.5
4	3.3
5 or more	Contact Diamond-Drives

Calculating the equivalent single strand horsepower is accomplished by multiplying the input horsepower by the service factor and dividing that quantity by the multiple strand factor.

$$\text{HP (single strand eq.)} = \frac{(\text{Input Horsepower} \times \text{Service Factor})}{\text{Multiple Strand Factor}}$$

Once a tentative selection is obtained, refer to the complete ASME/ANSI horsepower ratings to more accurately define the small sprocket's required number of teeth to transmit the required design, single strand or single strand equivalent, horsepower.

In either the abridged or complete horsepower ratings, for exact speeds or numbers of teeth not shown, interpolate between the appropriate columns or lines. Studying the ratings will show that increasing the number of teeth on the small sprocket normally allows the use of a smaller pitch chain. Again, selecting the smallest pitch chain that will transmit the required horsepower makes maximum use of the chain's capacity and usually results in a more cost efficient drive.

Step 4 - Selecting the Large Sprocket: Once the chain and small sprocket sizes have been determined using the complete ASME/ANSI horsepower ratings, determine the number of teeth in the large sprocket by multiplying the number of teeth in the small sprocket by the required speed ratio. It is important to remember that roller chain drive ratios are calculated using the number of teeth on the sprockets, not sprocket diameters.

$$\begin{aligned} \text{Output RPM} &= \text{Input RPM} \div \text{Desired Ratio or,} \\ \text{Large Sprocket \# of Teeth} &= \text{Small Sprocket \# of Teeth} \times \text{Desired Ratio} \end{aligned}$$

Once the sprocket sizes have been determined, check to verify that there is no interference if any limitation was given in the initial drive requirements. If interference is confirmed, it may be possible to select a smaller pitch, multiple strand chain capable of transmitting the required horsepower, allowing the use of smaller diameter sprockets.

Step 5a - Calculating Chain Length When Ratio is 1:1: If the drive is a 1:1 ratio then the chain length in pitches can be determined easily using the following relationship: the total number of pitches required (chain length) is equal to two times the center distance in pitches plus the number of teeth on one sprocket.

$$\text{Chain Length} = (2 \times \text{Center Distance, in pitches}) + \text{the Number of Teeth on One Sprocket}$$

The total chain length, in pitches, should always be an even number including the terminal connecting link. This avoids the use of offset links which significantly reduce the load carrying capacity of the roller chain.

Step 5b - Calculating Chain Length When Ratio is Not 1:1: The following equation and associated table may be used to calculate the required length of chain, in pitches, when the driver and driven sprockets are different sizes.

$$CL_P = 2CD_P + \frac{T+t}{2} + \frac{.1013(T-t)^2}{4CD_P} \quad \text{or substituting A for } \frac{.1013(T-t)^2}{4} \quad CL_P = 2CD_P + \frac{T+t}{2} + \frac{A}{CD_P}$$

Where: CL_P = Total chain length in pitches

t = Number of teeth on smaller sprocket

T = Number of teeth on larger sprocket

CD_P = Center distance between shafts in pitches

Values of A for Chain Length Calculation

T - t	A	T - t	A	T - t	A	T - t	A
1	0.03	26	17.12	51	65.88	76	146.31
2	0.1	27	18.47	52	68.49	77	150.18
3	0.23	28	19.86	53	71.15	78	154.11
4	0.41	29	21.3	54	73.86	79	158.09
5	0.63	30	22.8	55	76.62	80	162.11
6	0.91	31	24.34	56	79.44	81	166.19
7	1.24	32	25.94	57	82.3	82	170.32
8	1.62	33	27.58	58	85.21	83	174.5
9	2.05	34	29.28	59	88.17	84	178.73
10	2.53	35	31.03	60	91.19	85	183.01
11	3.06	36	32.83	61	94.25	86	187.34
12	3.65	37	34.68	62	97.37	87	191.73
13	4.28	38	36.58	63	100.39	88	196.1
14	4.96	39	38.53	64	103.75	89	200.64
15	5.7	40	40.53	65	107.02	90	205.18
16	6.48	41	42.58	66	110.34	91	209.76
17	7.32	42	44.68	67	113.71	92	214.4
18	8.21	43	46.84	68	117.13	93	219.08
19	9.14	44	49.04	69	120.6	94	223.82
20	10.13	45	51.29	70	124.12	95	228.61
21	11.17	46	53.6	71	127.69	96	233.44
22	12.26	47	55.95	72	131.31	97	238.33
23	13.4	48	58.36	73	134.99	98	243.27
24	14.59	49	60.82	74	138.71	99	248.26
25	15.83	50	63.33	75	142.48	100	253.3

Step 5c - Calculating Chain Length (three or more sprocket drive): For three or more sprocket drives, the required chain length must be determined graphically using a layout drawing or by analyzing the drive.

Step 6 - Determining the Type of Lubrication Required: The ASME/ANSI horsepower ratings will indicate the recommended type of lubrication: manual, bath, or forced-type lubrication depending upon the operating range of the chain selected. More information on lubrication and maintenance can be found in the Installation and Maintenance sections of this guide.

Drive Selection Example

The first step is to obtain the necessary information in order to accurately select a chain.

For this example, the following requirements are known:

Source of power	-	Mechanically driven internal combustion engine
Driven equipment	-	Two-cylinder pump
Horsepower available	-	25
Driving shaft size	-	2-1/4 inches
Driving shaft speed	-	900 rpm
Driven shaft size	-	2 inches
Driven shaft speed	-	300 rpm
Center distance	-	To be determined
Drive arrangement	-	Horizontal shafts on horizontal centers
Space limitations	-	Yes, large sprocket cannot exceed 20 inches in diameter
Lubrication	-	To be determined
Harsh Environment	-	None

Solution:

1. Select an appropriate service factor from the Service Factors table located on page 13.

The service factor for a two-cylinder pump, driven by an internal combustion engine with mechanical drive, is 1.7.

2. Calculate the Design Horsepower from the equation,

**Design Horsepower = Input HP x Service Factor or,
Design Horsepower = 25 x 1.7 = 42.5**

3. Refer to the abridged Horsepower Ratings on page 14, and see that the 42.5 design horsepower, at 900 RPM, falls within the area for #80 chain. This is the smallest single strand chain which, with a 17-tooth sprocket, will transmit the required power.
4. Refer to the complete ASME/ANSI horsepower rating for #80 chain on page 50, and note that a #80 chain will transmit 44.13 horsepower at 900 rpm on a 17-tooth sprocket.

Chart Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket															
	10	25	50	75	88	100	200	300	400	500	600	700	800	900	1,000	1,200
11	0.44	1.06	2.07	3.05	3.56	4.03	7.83	11.56	15.23	18.87	22.48	26.07	27.41	22.97	19.61	14.92
12	0.48	1.16	2.26	3.33	3.88	4.39	8.54	12.61	16.62	20.59	24.53	28.44	31.23	26.17	22.35	17.00
13	0.52	1.26	2.45	3.61	4.21	4.76	9.26	13.66	18.00	22.31	26.57	30.81	35.02	29.51	25.20	19.17
14	0.56	1.35	2.63	3.89	4.53	5.12	9.97	14.71	19.39	24.02	28.62	33.18	37.72	32.98	28.16	21.42
15	0.60	1.45	2.82	4.16	4.86	5.49	10.68	15.76	20.77	25.74	30.66	35.55	40.41	36.58	31.23	23.76
16	0.64	1.55	3.01	4.44	5.18	5.86	11.39	16.81	22.16	27.45	32.70	37.92	43.11	40.30	34.41	26.17
17	0.68	1.64	3.20	4.72	5.50	6.22	12.10	17.86	23.54	29.17	34.75	40.29	45.80	44.13	37.68	28.66
18	0.72	1.74	3.39	5.00	5.83	6.59	12.81	18.91	24.93	30.88	36.79	42.66	48.49	48.08	41.05	31.23
19	0.76	1.84	3.57	5.28	6.15	6.95	13.53	19.96	26.31	32.60	38.84	45.03	51.19	52.15	44.52	33.87
20	0.80	1.93	3.76	5.55	6.47	7.32	14.24	21.01	27.70	34.32	40.88	47.40	53.88	56.32	48.08	36.58

Excerpt from Complete ASME/ANSI #80 HP Rating

Earlier in this section, it was recommended that the smallest sprocket in a medium speed drive should have a minimum of 17 teeth. So, the 17-tooth sprocket should be suitable for this drive. Consult a sprocket manufacturer's catalog to verify that the 17-tooth #80 sprocket has a maximum bore that will accommodate the required 2-1/4" driver shaft. For the purpose of this example, it will. (If it had not, then a larger number of teeth would have been required for the driver sprocket.)

5. The driver speed is 900 rpm and the driven speed is to be 300 rpm, so the speed ratio, or reduction, is $900/300 = 3:1$. Therefore, the large sprocket should have $17 \times 3 = 51$ teeth. Again, check with a sprocket manufacturer's guide to be sure that the bore capacity of the sprocket is adequate for a two inch shaft.

6. Earlier in this section it was recommended that the center distance be as short as 20 pitches for pulsating drives or $D + d/2$, where D = diameter of the large sprocket, and d = diameter of the small sprocket. Using data from the Sprocket Information section, the recommended minimum center distance would be $16.81 + 5.95/2 = 19.79$ inches. An acceptable start would be to select 20 pitches (#80 = 1.00 inch) or 20 inches. Based on the 17/51 tooth sprockets and a center distance of 20 pitches (inches), a chain 76 pitches long including connecting link is required. This calculation was made using the chain length equation presented earlier on page 16.

7. Again, referring to the complete ASME/ANSI horsepower ratings for #80 chain, Type B lubrication (oil bath or slinger) is required based upon the speed and number of teeth of the 17-tooth sprocket.

8. Review the initial design requirements to see if this selection is acceptable. The only constraint that was given was that the large sprocket's diameter could not exceed 20 inches. By referring to the Sprocket Information section located in this guide we can verify that the 51-tooth, #80 sprocket has an outside diameter of 16.81 inches, well within the limitation.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
30	9.567 243.00	10.110 256.79	8.942 227.13
31	9.985 253.62	10.430 264.92	9.247 234.87
32	10.202 259.13	10.750 273.05	9.577 243.26
33	10.520 267.21	11.070 281.18	9.883 251.03
34	10.838 275.29	11.390 289.31	10.213 259.41
35	11.156 283.36	11.710 297.43	10.520 267.21
36	11.474 291.44	12.030 305.56	10.849 275.56
37	11.792 299.52	12.350 313.69	11.156 283.36
38	12.110 307.59	12.670 321.82	11.485 291.72
39	12.428 315.67	12.990 329.95	11.792 299.52
40	12.746 323.75	13.310 338.07	12.121 307.87
41	13.064 331.83	13.630 346.20	12.429 315.70
42	13.382 339.90	13.940 354.08	12.757 324.03
43	13.700 347.98	14.260 362.20	13.065 331.85
44	14.018 356.06	14.580 370.33	13.393 340.18
45	14.336 364.13	14.900 378.46	13.702 348.03
46	14.654 372.21	15.220 386.59	14.029 356.34
47	14.972 380.29	15.540 394.72	14.338 364.19
48	15.290 388.37	15.860 402.84	14.665 372.49
49	15.608 396.44	16.180 410.97	14.975 380.37
50	15.926 404.52	16.500 419.10	15.301 388.65
51	16.244 412.60	16.810 426.97	15.611 396.52
52	16.562 420.67	17.130 435.10	15.937 404.80
53	16.880 428.75	17.450 443.23	16.248 412.70
54	17.198 436.83	17.770 451.36	16.573 420.95
55	17.517 444.93	18.090 459.49	16.884 428.85
56	17.835 453.01	18.410 467.61	17.210 437.13

Excerpt from Sprocket Diameters - ANSI/ASME Standard #80 Roller Chain

Slow Speed Drives Selection

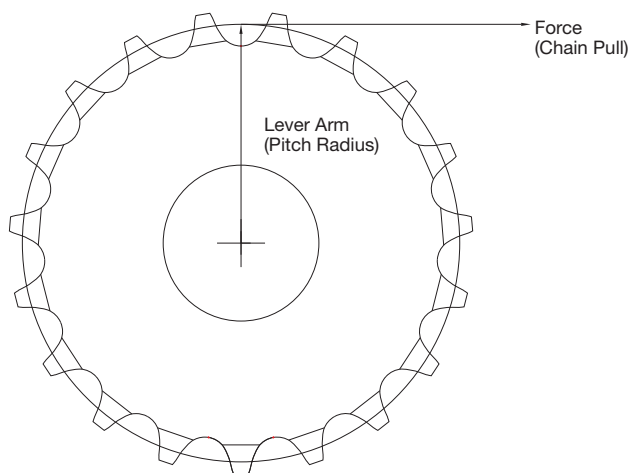
For drives operating at speeds lower than those shown in the horsepower ratings, chains may be selected on the basis of chain pull.

If chain pull is not known directly, determine it from the amount of horsepower to be transmitted by referring to equations below. By using the input horsepower, RPM, and pitch radius of the sprocket (one-half pitch diameter), an approximate chain pull can be determined. An appropriate chain can be selected by comparing chain tensile strengths against the chain pull.

Important - Chain pull must not exceed 1/6th of the ultimate tensile strength when the chain is connected using press-fit connecting links and no offset links are used. Chain pull must not exceed 1/9th of the ultimate tensile strength when slip-fit connecting links or offset links are used in the chain.

Horsepower, Chain Pull, and Torque Equations

Torque = Force x Lever Arm = Chain Pull x Pitch Radius



$$HP = \frac{F \times S}{33,000} = \frac{Q \times N}{5,252} = \frac{q \times N}{63,025}$$

$$F = \frac{HP \times 33,000}{S} = \frac{HP \times 396,000}{P \times T \times N} = \frac{HP \times 126,050}{D \times N}$$

$$Q = \frac{HP \times 5,252}{N} \text{ or } q = \frac{HP \times 63,025}{N}$$

$$S = \frac{T \times P \times N}{12}$$

Where:

D = Pitch diameter of large sprocket (inches)

F = Force or tension in chain (in pounds)

HP = Horsepower to be transmitted

N = Speed of sprocket (rev./min.)

P = Pitch of chains (inches)

Q = Torque in foot-pounds

q = Torque in inch-pounds

r = Lever arm or pitch radius

S = Speed of chain (feet/min)

T = Number of teeth on large sprocket

Example of Slow Speed Drive Selection

Again, the first step is to obtain the necessary information.

For this example, the following requirements are known:

Horsepower available	-	2
Driving shaft size	-	2-1/4 inches
Driving shaft speed	-	9 rpm
Driven shaft size	-	2-1/4 inches
Driven shaft speed	-	3 rpm
Center distance	-	To be determined
Drive arrangement	-	Horizontal shafts on horizontal centers
Space limitations	-	None
Lubrication	-	Manual or Drip
Harsh environment	-	None

Solution:

Determine if the #80 chain will be acceptable and if so, select driver and driven sprocket sizes and center distance. If we first use the following equation:

$$HP = \frac{q \times N}{63,025}$$

Where HP is the horsepower available, q is the torque in inch-pounds, and N is the smallest sprocket's speed in revolutions per minute.

Torque, q, in inch-pounds can also be represented by $F \times r$ where F is the force or tension in the chain, and r is the lever arm, or in this case, the pitch radius of the smallest sprocket.

Applying our known values into the equation we have:

$$2 \text{ HP} = \frac{q \times 9 \text{ RPM}}{63,025} \quad \text{which can be rearranged to}$$

$$q = \frac{(2 \text{ HP} \times 63,025)}{9 \text{ RPM}} \quad \text{or } q = 14,006 \text{ inch-pounds}$$

Where:

F = Force or tension in chain (in pounds)

HP = Horsepower available

N = smallest sprocket speed in RPM

q = Torque in inch-pounds

r = lever arm, or pitch radius

From the previous statement that chain pull should not exceed 1/6 to 1/9 of the chain's tensile strength and we are tentatively trying to use #80 chain, let's assume the more conservative condition and apply 1/9 to the tensile of #80 chain to arrive at our maximum working load.

$$\begin{aligned}\text{Working load} &= \text{chain tensile strength} \times 1/9 \\ &= 14,500 \text{ pounds} \times 1/9 \\ &= 1,611 \text{ pounds}\end{aligned}$$

$$\text{Since } q = F \times r, \text{ then } 14,006 = 1,611 \times r \text{ or,}$$

$$r (\text{pitch diameter of the small sprocket}) = \frac{q}{F} = \frac{14,006}{1,611} = 8.694 \text{ inches } (\times 2 = \text{pitch diameter})$$

To determine what size sprocket this equates to, we need to again refer to the Sprocket Information section for #80 chain.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	17.198 436.83	17.770 451.36	16.573 420.95
55	17.517 444.93	18.090 459.49	16.884 428.85
56	17.835 453.01	18.410 467.61	17.210 437.13
57	18.153 461.09	18.730 475.74	17.521 445.03
58	18.471 469.16	19.040 483.62	17.846 453.29
59	18.789 477.24	19.360 491.74	18.158 461.21
60	19.107 485.32	19.680 499.87	18.482 469.44
61	19.426 493.42	20.000 508.00	18.794 477.37
62	19.744 501.50	20.320 516.13	19.119 485.62
63	20.062 509.57	20.640 524.26	19.431 493.55
64	20.380 517.65	20.960 532.38	19.755 501.78
65	20.698 525.73	21.270 540.26	20.067 509.70
66	21.016 533.81	21.590 548.39	20.391 517.93
67	21.335 541.91	21.910 556.51	20.704 525.88
68	21.653 549.99	22.230 564.64	21.028 534.11
69	21.971 558.06	22.550 572.77	21.340 542.04
70	22.289 566.14	22.870 580.90	21.664 550.27
71	22.607 574.22	23.190 589.03	21.977 558.22
72	22.926 582.32	23.500 596.90	22.301 566.45
73	23.244 590.40	23.820 605.03	22.613 574.37
74	23.562 598.47	24.140 613.16	22.937 582.60
75	23.880 606.55	24.460 621.28	23.250 590.55
76	24.198 614.63	24.780 629.41	23.573 598.75
77	24.517 622.73	25.100 637.54	23.887 606.73
78	24.835 630.81	25.420 645.67	24.210 614.93
79	25.153 638.89	25.730 653.54	24.523 622.88
80	25.471 646.96	26.050 661.67	24.846 631.09
81	25.790 655.07	26.370 669.80	25.160 639.06
82	26.108 663.14	26.690 677.93	25.483 647.27
83	26.426 671.22	27.010 686.05	25.796 655.22
84	26.744 679.30	27.330 694.18	26.119 663.42
85	27.063 687.40	27.640 702.06	26.433 671.40

Excerpt from Sprocket Diameters - ANSI/ASME Standard #80 Roller Chain

From this, we see that in order for a #80 chain to be used, the smallest sprocket would need to have a pitch diameter (diameter is twice the pitch radius) of 17.517, or 55 teeth. This is probably not acceptable because in order to arrive at the desired speed reduction, the driver sprocket would need to be 159 teeth.

From earlier in this section we know that slow speed drives are recommended to have at least a 12-tooth sprocket. A good approach at this time would be to examine the Sprocket Information section and determine what the diameters are (actually we want the radius) of 12-tooth sprockets for some sizes greater than #80.

Doing this, we note that:

#100 12-tooth, pitch diameter of 4.83", radius of 2.42"

#120 12-tooth, pitch diameter of 5.79", radius of 2.90"

#140 12-tooth, pitch diameter of 6.76", radius of 3.38"

And, by applying our 1/9 criteria to the tensile strengths of those three models we find:

#100 working load is 2,666 pounds

#120 working load is 3,777 pounds

#140 working load is 5,111 pounds

Now we can replace the above values into the $q = F \times r$ equation.

For #100, $F = q/r = 14,006/2.42 = 5,787$ pounds which exceeds the recommended working load for #100 chain.

For #120, $F = q/r = 14,006/2.90 = 4,829$ pounds which exceeds the recommended working load for #120 chain.

For #140, $F = q/r = 14,006/3.38 = 4,143$ pounds which is below the recommended working load for #140 chain.

Based on the above, #140 chain operating on a 12-tooth driver is an acceptable solution. In practice, either a larger sprocket or using a smaller multiple strand chain could have resulted in an acceptable solution as well.

The selection of the driven sprocket is done in the same manner as the general drive selection by multiplying the drive ratio by the small sprocket's number of teeth. In this case, the desired ratio is 3:1 so the driven sprocket size will be 3 x 12 teeth or 36 teeth.

Center distance is calculated as before using 20 pitches as an acceptable minimum. 20 pitches x 1.75 inches per pitch = 35.00 inches. Verifying that the sprockets selected will fit into that envelope, using the formula, minimum center distance equals $D + d/2$; $21.05 + 7.58/2 = 24.84$ inches. So, 20 pitches should be fine for center distance.

The required chain length can again be calculated using the chain length equation presented earlier for a resulting chain length of 65 pitches. This length would require the use of an offset link which should be avoided whenever possible. Incorporating enough center distance adjustment into the design, permitting the use of a chain either 64 or 66 pitches long, would result in a more desirable design.

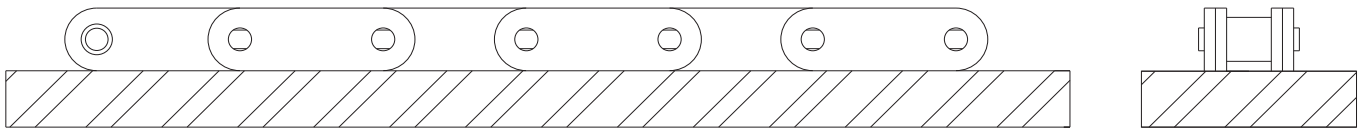
Conveyor Chains

Conveyor designers will find the attributes of precision roller chain valuable in the design and application of a broad spectrum of conveyor or material handling systems. High strength-to-weight ratios combined with precision machined and hardened parts to provide excellent performance, long life, and minimized power requirements, all resulting in lower cost/high productivity operations.

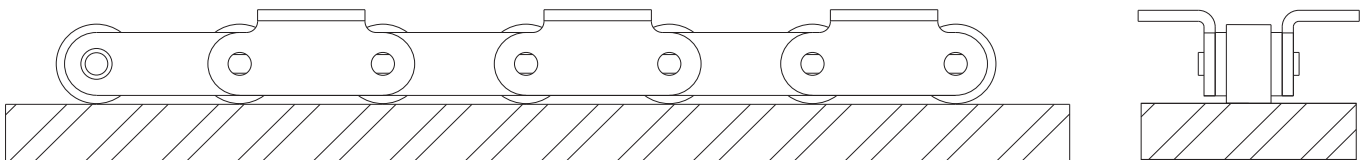
Standard Series, single-pitch roller chain built in accordance with ASME/ANSI B29.1, is available with a variety of attachments. These attachments, and details about the chains' configurations, can be found in either the Attachments section or Application Specific section of the appropriate Diamond Series Product Catalog or Drives Chain Product Catalog. Standard Series chains range in size from 1/4" pitch up to 2" pitch and are commonly used where speeds are relatively high and smooth operation is required. Standard Series chains are very versatile in that attachments with almost any desired spacing can be provided. Stainless steel chains, in many sizes, are also available for installations requiring corrosion resistance or for operation in extreme temperatures.

Double-Pitch Conveyor chains, built in accordance with ASME/ANSI B29.4, are available in sizes ranging from 1" pitch up to 4" pitch. Double-Pitch chains are most often used when speeds are slow to moderate, as their operation is generally not as smooth as single-pitch chains. Additionally, when relatively long shaft centers are present, double-pitch chains can be less costly because their construction requires only half as many components.

Double-Pitch Conveyor chains can be supplied with standard diameter rollers when the design calls for the chain to transport the conveyed product with the chain sliding on the edges of the oval contour linkplates.



Double-Pitch Conveyor chains can be supplied with oversized carrier rollers when the load is to rest on an attachment but be supported by the rollers. Chains with oversized rollers are recommended when it is necessary to reduce friction by “rolling” rather than “dragging” the product. This type of design can dramatically reduce the power required to operate the conveyor.



Double-Pitch Conveyor chains are available with a wide variety of standard or made-to-order attachments. Details on attachments and the chains' configurations can be found in either the Standard Attachment Chain section or Made-To-Order section of this guide. Additionally, depending on the model of conveyor chain required, many are available in stainless steel if the environment requires corrosion resistance or when operating temperatures are extreme.

In conveyor applications, roller chains are usually applied at lower speeds and with fewer joint articulations than in power transmission “drive” applications. Therefore, different design considerations and selection procedures are used in selecting conveyor chains.

Sprockets for Conveyor Chains

Size: Sprockets for conveyors are usually the same size for the head shaft and tail shaft. Sprockets having the largest practical number of teeth are desirable to reduce chordal action, provide for smooth operation, and obtain maximum chain wear life. It is recommended that sprockets have a minimum of 15 effective teeth. The number of effective teeth is the number of teeth engaged by the chain rollers in one revolution of the sprocket. If a single-pitch conveyor chain is used the effective teeth equals the number of sprocket teeth. When using double-pitch chain, use single-pitch sprockets only when more than 15 effective (30 actual) teeth are designed in. For drives with less than 30 actual (15 effective) teeth, use special cut double-pitch sprockets for maximum chain and sprocket life. Additionally, if a single-pitch sprocket is used on a double-pitch chain conveyor, an odd number of teeth in the sprocket is desirable. This allows for the chain to engage alternate teeth each revolution, thus distributing the tooth wear more evenly throughout the life of the chain and sprocket.

Hardness: The guidelines for hardening conveyor sprocket teeth are similar to those of power transmission drive sprocket teeth. For drives which are heavily loaded, drives that possess sprockets with a minimum number of teeth, or drives that are exposed to abrasives such as dirt or paper dust, consideration should be given to hardening the sprocket teeth to prolong both chain and sprocket life.

Alignment: Head and tail shafts as well as sprockets should always be aligned using procedures outlined in the Installation section of this guide. Additionally, because the majority of conveyors are designed and operate with two or more strands of chain operating in parallel, head shaft sprockets should be keyed to a common shaft so that the teeth of each sprocket are in alignment to assure equal load distribution on all chains in the conveyor. When chains in a conveyor are connected together with cross-members such as rolls or slats, it is suggested that the tail shaft sprockets also be keyed to the shaft to assure alignment of the sprocket teeth.

Chain Length Matching: With most conveyor applications, chains are expected to operate in parallel and their relationship to one another is critical.

Standard chain tolerance: ASME/ANSI tolerance on a chain is $+0.016"/-0.000"$ per foot.

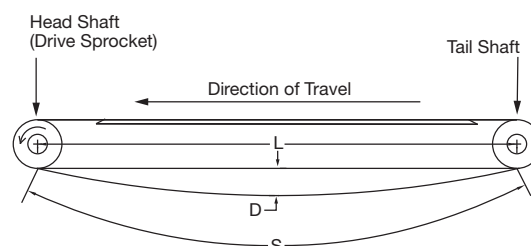
Class 1 matching: ensures the longest and shortest chain in a set do not vary in length by more than $0.030"/ft.$ ($0.76mm/m$).

Class 2 matching: ensures the longest and shortest chain in a set do not vary in length by more than $0.020"/ft.$ ($0.51mm/m$).

Take-ups: Take-ups are used to adjust or compensate for the chain's elongation in service. The maximum allowable wear elongation, based upon sprocket design, for most single-pitch chain is approximately 3%. The maximum allowable wear elongation, based on sprocket design, for most double-pitch conveyor chain is approximately 1.5%. Therefore, the amount of take-up required should be either of the above values, depending on the base chain used, or the design should incorporate the ability to remove an entire attachment "cycle" from the chain(s) if necessary to accommodate wear elongation.

Screw-type take-ups are ordinarily used and are located on the tail shaft end of the conveyor if possible. Chain should not be operated with both top and bottom strands taut because lubricant is never allowed to "flow" within the pin/bushing joint, re-establishing a barrier against wear. However, where constant tension is required, such as on conveyors subject to wide temperature variations, spring- or gravity-type take-ups are acceptable, recognize that some reduced wear life may result.

An alternate method of maintaining chain tension and allowing for wear elongation is to incorporate a catenary in the design. The most common design allows the chain to be unsupported in the return span of the conveyor. As the chain wears during service the excess linear length is allowed to "sag" and thus no physical take-up is necessary.



This type of design can have some negative effects on the operation of the conveyor. First, there may not be sufficient clearance between the conveyor and floor to accommodate the excess chain. This is particularly true if the conveyor is long. Second, there may be a considerable amount of catenary tension. This tension is distributed throughout the entire chain and is added to the working tension. In some cases, it may be great enough to exceed the working load of the chain defined initially in the selection process. Catenary tension must be considered when calculating chain working loads, bearing loads, and shaft diameters, but is not a factor in determining the horsepower required to operate the conveyor.

The values for depth of sag as well as catenary tension can be approximated from the following equations:

$$\text{Depth of chain sag, } s = \frac{\sqrt{3S^2 - 3SL^2}}{4}$$

Where:

- s = Depth of chain sag in inches
- SL = Straight line between points of support, normally shaft centers, in inches
- S = Actual amount of chain in return strand in inches
(number of links between points of support x chain pitch)

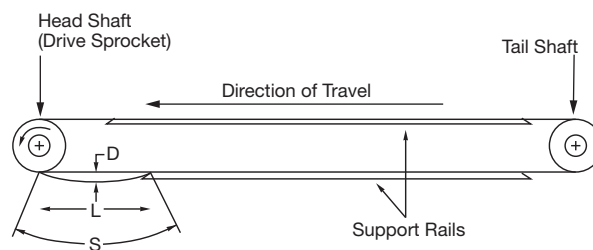
$$\text{Catenary tension, CT} = \frac{W_c}{12} \left[\frac{S^2}{8s} + \frac{s}{2} \right]$$

Where:

- CT = Catenary tension in pounds
- W_c = Weight of chain in pounds per foot
- S = Actual amount of chain in return strand in inches
(number of links between points of support x chain pitch)
- s = Depth of chain sag in inches

If the depth of sag or the amount of catenary tension exceeds the capacity of the machine's design or the chain's working load then a support rail can often be installed under the return span to direct the chain sag or to reduce the magnitude of catenary tension.

It is normal practice not to support the entire return span but to leave a short unsupported section for accumulation of chain slack.



Input Power: It is recommended that the drive sprocket be located on the head shaft so that only the span transporting product will be under maximum tension.

Temperature Limits: For operating limits of conveyor chains, refer to the General Drive Considerations section of this guide.

Lubrication: To attain maximum service life, all chains should be kept clean, free from grit, and well-lubricated. Conveyors commonly operate at slow speed with light loads and as such, lubrication application is not defined as with power transmission drive chains. Generally, lubricant applied to the chain by either manual or drip-type lubrication systems will be satisfactory. The specific grade of lubricant may depend upon the temperature and construction of the conveyor. For extremely high or low temperatures, special lubricants such as synthetic oils or molybdenum disulfide-based lubricants may be required. More information on lubricants and lubrication can be found in the Roller Chain Lubrication section of this guide.

If lubrication is not possible or the chain must operate in a contaminated environment, consideration should be given to either Diamond® Duralube® LIVE, EHT, or Ring Leader™ O-Ring chains, or Drives Element®, Silver Shield CR® or Extended Life CHP® chains. Information on these products is located in the Reduced Maintenance section of the Diamond Series Product Catalog or Drives Chains Product Catalog.

Conveyor Chain Selection

Conveyor chains usually are selected for specific operating conditions on the basis of the maximum anticipated chain pull. However, the spacing of attachments, if required, may be the determining factor in selecting the size of the chain.

The following steps outline the selection of most commonly designed conveyor drives:

1. Obtain required information
2. Calculate preliminary chain pull
3. Adjust preliminary chain pull for conveyor speed
4. Make preliminary chain selection
5. Finalize chain size selection
6. Select required sprocket sizes
7. Calculate total chain length
8. Determine required horsepower
9. Determine required lubrication system

Step 1 - Obtain Required Information: The following information is necessary to properly select most conveyor chains:

1. Conveyor arrangement, i.e., horizontal, vertical or inclined
2. Required speed in feet per minute
3. Weight of conveyed material in pounds per foot of conveyor length
4. Material being conveyed, i.e., wooden pallet, paper box, etc.
5. Weight of attachments or “flights” per foot, if applicable
6. Size of sprockets
7. Shaft center distance in feet
8. Type of operating environment, i.e., clean, dirty, corrosive, etc.
9. Available or allowable lubrication

Step 2 - Calculate Preliminary Chain Pull: The preliminary required chain pull may be calculated from the following:

1. For horizontal conveyors:

$$L = [(W_M + 2W_C) \times LC \times F_X] + W_M \times LC \times F_M$$

2. For inclined conveyors:

$$L = [(W_M + 2W_C) \times LC \times F_X] + (W_M + W_C) \times H + W_M \times LC \times F_M$$

3. For vertical conveyors:

$$L = (W_M + W_C) H$$

Where:

L = Chain pull, **in pounds**

W_M = Weight of conveyed material **in pounds per foot**

LC = Conveyor length, commonly shaft center distance, **in feet**

F_X = Coefficient of friction between chain and conveyor obtained from the Coefficients of Sliding Friction table located on the next page (if chain is expected to convey the material by sliding on the edges of the linkplates) or, from the Coefficients of Rolling Friction table located on the next page (if the chain is expected to convey the material by rolling on oversized carrier rollers).

F_M = Coefficient of friction between chain and conveyed material. This value can vary significantly and therefore, it is recommended to refer to an engineering handbook for the appropriate value.

H = Vertical height of conveyor, **in feet**

W_C = Weight of chain and attachments **in pounds per foot**

Rolling Coefficients of Friction

Chain Number	Static		Rolling	
	Dry	Lubricated	Dry	Lubricated
C-2042	0.17	0.12	0.14	0.10
C-2052	0.16	0.11	0.13	0.09
C-2062H	0.16	0.11	0.13	0.09
C-2082	0.15	0.10	0.12	0.08
C-2102H	0.14	0.09	0.11	0.07
C-2122H	0.14	0.09	0.11	0.07
C-2162H	0.13	0.08	0.10	0.07

Sliding Coefficients of Friction

	Dry	Lubricated
Static	0.33	0.24
Sliding	0.27	0.21

- ◆ In the preliminary calculations of chain pull, ignore W_c because the required chain size has not been established.
- ◆ When the conveyed load is supported on the chain rollers, large diameter rollers are recommended.
- ◆ For multiple strand conveyors, assuming each chain is equally loaded, divide the total chain pull calculated by the number of chains in the conveyor to obtain the equivalent single strand chain pull.

Step 3 - Adjust the Preliminary Chain Pull Based Upon Conveyor Speed: Multiply the calculated single strand chain pull by the load factor for the conveyor chain speed from the Load Factors for Conveyor Speed table.

Load Factors for Conveyor Speed

Chain Speed (feet per minute)	Load Factor	Chain Speed (feet per minute)	Load Factor
Up to 50	1.00	200 to 300	2.2
50 to 100	1.15	300 to 400	3.2
100 to 200	1.50	400 to 500	4.6

Step 4 - Make Preliminary Chain Selection: Using the preliminary chain pull, adjusted for conveyor speed, select a chain with an adequate working load from the Working Loads for Conveyor Chains table. If the conveyor operates in an abrasive or corrosive environment, consider using EHT, Ring Leader™ O-Ring, or Stainless Steel chain. Remember that the preliminary chain pull calculations still ignored the weight of the chain and attachments.

Working Loads for Conveyor Chains

ASME/ANSI Chain Number	Pitch (Inches)	Pitch (mm)	Carbon Steel (lbf)	Diamond® AP Series or Drives® AS Series (lbf)	Diamond® AU Series or Drives® PS Series and NS Series (lbf)
25	1/4	6.35	142	35	24
35	3/8	9.53	345	86	58
40	1/2	12.70	615	155	100
41	1/2	12.70	419	105	70
50	5/8	15.88	1010	230	165
60	3/4	19.05	1410	350	231
80	1	25.40	2350	600	396
100	1 1/4	31.75	3800	850	568
120	1 1/2	38.10	5380	1278	850
140	1 3/4	44.45	7280	1535	1005
160	2	50.80	9190	2100	1400
C2040, C2042	1	25.40	615	155	100
C2050, C2052	1 1/4	31.75	1010	230	165
C2060H, C2062H	1 1/2	38.10	1410	375	250
C2080H, C2082H	2	50.80	2350	625	415
C2100H, C2102H	2 1/2	63.50	3800	900	600
C2120H, C2122H	3	76.20	5380	1340	895
C2160H, C2162H	4	101.60	9190	2170	1450

Step 5 - Finalize Chain Size Selection: After a preliminary chain has been selected, recalculate the chain pull including the weight of the chain, including attachments, per foot. Nominal values for chain weight and attachment weight can be obtained from the Chain and Attachment Weight table below.

Diamond® Chain Attachment Weights

ASME/ANSI or Diamond Number	Weight per Foot-Base Chain	Weight for each Straight or Bent Attachment	Weight for each Extended Pin Attachment
25	0.0840	0.0007	...
35	0.2100	0.0019	0.0015
40	0.4100	0.0030	0.0020
41	0.2600	0.0033	0.0015
50	0.6800	0.0090	0.0037
60	0.9900	0.0120	0.0062
80	1.7300	0.0250	0.0150
100	2.5100	0.0650	0.0250
120	3.6900	0.1000	0.0450
140	5.0000	0.1800	0.0670
160	6.5300	0.2500	0.0960
C2040	0.3400	0.0068	0.0019
C2042	0.5000	0.0068	0.0019
C2050	0.5800	0.0130	0.0037
C2052	0.8100	0.0130	0.0037
C2060H	1.0500	0.0130	0.0062
C2062H	1.4200	0.0130	0.0062
C2080H	1.4000	0.0680	0.0150
C2082H	2.1300	0.0680	0.0150
C2100H	2.4800	0.1180	0.0250
C2102H	3.5100	0.1180	0.0250
C2120H	3.6000	0.1860	0.0450
C2122H	5.4800	0.1860	0.0450
C2160H	6.1800	0.4700	0.0960
C2162H	9.3400	0.4700	0.0960

Drives® Chain Attachment Weights

ASME/ANSI or Drives Number	Weight per Foot-Base Chain	Weight for each Straight or Bent Attachment	Weight for each Extended Pin Attachment
40	0.4200	0.0044	0.0020
50	0.7130	0.0066	0.0040
60	1.0670	0.0154	0.0060
80	1.8680	0.0287	0.0200
100	2.6800	0.0572	0.0270
120	3.9800	0.0968	0.0440
140	5.0300	0.1562	0.0660
160	6.7900	0.2134	0.0990
C2040	0.3400	0.0060	0.0020
C2042	0.5800	0.0060	0.0020
C2050	0.5800	0.0130	0.0040
C2052	0.9000	0.0130	0.0040
C2060H	1.0100	0.0370	0.0060
C2062H	1.4610	0.0370	0.0060
C2080H	1.7700	0.0820	0.0200
C2082H	2.4500	0.0820	0.0200
C2100H	2.3800	0.1320	0.0270
C2102H	3.9000	0.1320	0.0270
C2120H	3.4100	0.2210	0.0440
C2122H	5.4000	0.2210	0.0440
C2160H	6.0200	0.4680	0.0990
C2162H	9.2100	0.4680	0.0990

Calculate the catenary tension from the formula previously shown. Confirm that the catenary tension does not exceed the working load of the preliminary chain selection's chain. If it does exceed the capability of the preliminary selection either increase the size of the selected chain, recalculate catenary tension and compare again, or consider installing support rails to minimize the amount of chain in the unsupported span.

Step 6 - Select Required Sprocket Sizes: Select the sprockets for the conveyor using the guidelines previously listed in this section.

Step 7a - Calculate Required Chain Length: If both the headshaft and tailshaft sprockets have the same number of teeth, the total chain length in pitches (CL_p) can be calculated from the formula:

$$CL_p = \text{Number of teeth on one sprocket} + (2 \times \text{center distance in pitches})$$

Chain length should be an even number of pitches. The total chain length must be exactly divisible by the attachment spacing. For example, if the attachments are located every fourth pitch then the total chain length must be divisible by four.

Step 7b - Calculate Required Chain Length: If the headshaft and tailshaft sprockets are of unequal size, total chain length can be calculated from the formula:

$$CL_P = 2CD_P + \frac{T + t}{2} + \frac{.1013 (T - t)^2}{4CD_P} \quad \text{or substituting A for } \frac{.1013 (T - t)^2}{4} \quad CL_P = 2CD_P + \frac{T + t}{2} + \frac{A}{CD_P}$$

Where: CL_P = Total chain length **in pitches**

t = Number of teeth on smaller sprocket

T = Number of teeth on larger sprocket

CD_P = Center distance between shafts **in pitches**

Values of A for Chain Length Calculation

T - t	A	T - t	A	T - t	A	T - t	A
1	0.03	26	17.12	51	65.88	76	146.31
2	0.1	27	18.47	52	68.49	77	150.18
3	0.23	28	19.86	53	71.15	78	154.11
4	0.41	29	21.3	54	73.86	79	158.09
5	0.63	30	22.8	55	76.62	80	162.11
6	0.91	31	24.34	56	79.44	81	166.19
7	1.24	32	25.94	57	82.3	82	170.32
8	1.62	33	27.58	58	85.21	83	174.5
9	2.05	34	29.28	59	88.17	84	178.73
10	2.53	35	31.03	60	91.19	85	183.01
11	3.06	36	32.83	61	94.25	86	187.34
12	3.65	37	34.68	62	97.37	87	191.73
13	4.28	38	36.58	63	100.39	88	196.1
14	4.96	39	38.53	64	103.75	89	200.64
15	5.7	40	40.53	65	107.02	90	205.18
16	6.48	41	42.58	66	110.34	91	209.76
17	7.32	42	44.68	67	113.71	92	214.4
18	8.21	43	46.84	68	117.13	93	219.08
19	9.14	44	49.04	69	120.6	94	223.82
20	10.13	45	51.29	70	124.12	95	228.61
21	11.17	46	53.6	71	127.69	96	233.44
22	12.26	47	55.95	72	131.31	97	238.33
23	13.4	48	58.36	73	134.99	98	243.27
24	14.59	49	60.82	74	138.71	99	248.26
25	15.83	50	63.33	75	142.48	100	253.3

Again, the total chain length must be exactly divisible by the attachment spacing. For example, if the attachments are located every fourth pitch then the total chain length must be divisible by four.

Step 8 - Determine the Required Input Horsepower: The required input horsepower can be calculated from the formula:

$$HP = \frac{\text{chain pull} \times \# \text{ of chains} \times \text{conveyor speed in feet per minute}}{33,000}$$

Step 9 - Determine the Required Lubrication System: Refer to the guidelines for conveyor lubrication provided earlier in this section.

Example Conveyor Chain Selection

Given

A horizontal conveyor transports machine components on wooden pallets at 56 feet per minute using two parallel roller chains joined every 12 inches by a steel flight weighing 0.75 pounds each. The maximum weight of a pallet, including the machine components, is 120 pounds. The overall size of the pallet is 36 inches x 36 inches. The length of the conveyor, from center of headshaft to center of tailshaft is 75 feet, allowing a maximum of 25 pallets to be transported at one time. It is desired to utilize a roller chain constructed with oversized carrier rollers. There is no take-up currently designed for the conveyor as the excess chain will be accumulated using a catenary between head and tail shafts.

Determine

- ◆ Size of roller chain required
- ◆ Size of sprockets
- ◆ Recommended method of lubrication
- ◆ Required input horsepower

Step 1: Obtain the required information. From the given information, we know the following:

- ◆ Horizontal conveyor
- ◆ Speed is to be **56 feet per minute**
- ◆ **Shaft centers** are located **75 feet apart**
- ◆ Weight of **conveyed material** is 120 pounds over a 36 inch span, or **40 pounds per foot** of conveyor length.
- ◆ Conveyed material is a wooden pallet
- ◆ The drive is intended to have **two chains** connected with metal flights weighing .75 pounds each, every 12 inches. So, the **weight of the flights is .75 pounds per foot** of conveyor length.
- ◆ The flights will be attached to the chains every 12 inches. Therefore the **attachments will be spaced every 12 inches**.
- ◆ No specific sprockets have been defined but must be recommended

Step 2: Calculate preliminary chain pull.

- ◆ Using the equation, $L = [(W_M + 2W_C) \times LC \times F_x] + W_M \times LC \times F_M$, and the known information, the preliminary chain pull is:

$$L = [(40 + 2 \times 0) \times 75 \times 0.1] + 40 \times 75 \times .5 = 1,800 \text{ pounds}$$

Remember we omit the weight of the chain, W_c , in the preliminary chain pull calculation. Additionally, because the given information requested a roller chain having oversized carrier rollers, we selected an average F_x of .1 from the Coefficients of Rolling Resistance table. Because there is a possibility that the pallets may “accumulate,” forcing the chain to “slide” along the bottom surface of the pallets, an approximate coefficient of friction between wood and steel of 0.5 was selected from an engineering handbook.

Step 3: Adjust the preliminary chain pull for conveyor speed. Using the values in the Load Factors for Conveyor Speed table, we would use the factor 1.5, as the given information tells us that the conveyor’s speed will be 56 feet per minute.

$$L = \text{preliminary chain pull calculation} \times \text{speed factor}$$

$$L = 1,800 \text{ pounds} \times 1.5 = 2,700 \text{ pounds}$$

Step 4: Make a preliminary chain selection. To arrive at the single strand chain pull, we divide the total chain pull by the number of strands employed. In the example it was stated that the conveyor was to have two chains connected by flights. Therefore, the total chain pull of 2,700 pounds can be divided by two to arrive at the single strand chain pull.

$$\text{Single Strand Pull} = \text{Chain pull/number of chains in drive}$$

$$L = 2,700/2 = 1,350 \text{ pounds}$$

Using this value we can select a chain size from the Working Loads for Conveyor Chains table. In this example, no specific environment was defined so we can assume carbon steel chains will be acceptable. Based upon the 1,350 pound single strand chain pull calculated above, a C2082H chain would be acceptable based on its recommended working load of 2,070 pounds.

Step 5: Finalize chain selection. Now we include the weight of the selected chain and attachments along with the correct coefficient of rolling resistance for C2080H in the chain pull equation to verify that our selection is acceptable. We will assume that the design calls for bent attachments on both sides of the chain at 6-6 spacing (6 pitches of C2082H = 12 inches). Using the equation:

$L = [(W_M + 2W_C) \times LC \times F_R] + W_M \times LC \times F_M$ along with information extracted from the Chain and Attachment Weight table, and the given information, the finalized chain pull is:

$$L = [(40 + 2 \times 2.266) \times 75 \times 0.08] + 40 \times 75 \times .5 = 1,767 \text{ pounds}$$

Multiplying this by the speed factor of 1.5 gives results in $1,767 \times 1.5 = 2,650$ pounds.

But, because this drive is to be composed of two parallel chains, the single strand chain pull is $2,650/2$ or 1,325 pounds. This is still well within the limitations for C2082H conveyor chain.

Because there is no take-up designed into the drive other than a catenary under the conveyor, depth of sag and catenary tension must be calculated and considered in the drive's selection.

Using the equations for both sag and tension, and considering the maximum allowable elongation of 1.5% (approximately 27.00 inches), the following values are determined:

$$\text{Depth of chain sag, } s = \sqrt{\frac{3S^2 - 3L^2}{4}}$$

$$s = \sqrt{\frac{3(927)^2 - 3(900)^2}{4}}$$

$$s = 96.17 \text{ inches}$$

$$\text{Catenary tension, CT} = \frac{W}{12} \left[\frac{S^2}{8s} + \frac{s}{2} \right]$$

$$CT = \frac{2.26}{12} \left[\frac{927^2}{8s} + \frac{96.17}{2} \right]$$

$$CT = 219.41 \text{ pounds tension due to the catenary}$$

219.41 pounds is well within the capabilities of C2082H's working load. Therefore C2082H can be selected for use on this drive.

Step 6: Select required sprocket sizes. Using information provided earlier in this section, sprockets having at least 15 effective teeth should be acceptable.

Step 7: Calculate chain length. Both head and tail shafts will have sprockets of equal size. Therefore, chain length can be calculated using the formula:

$$CL = \text{Number of teeth (pitches) on one sprocket} + (2 \times \text{center distance in pitches})$$

$$CL = 15 + [2 \times (75 \times 6)] = 915 \text{ pitches}$$

Chain length must be a.) an even number of pitches and b.) evenly divisible by the spacing of the attachments. Therefore, 918 pitches is required as the spacing must be evenly divisible by 6.

It is possible to recalculate the depth of sag, D, and the catenary tension, T, using the new chain length, but it would not significantly affect the existing calculations.

Step 8: Determine the required input horsepower. Using the equation:

$$HP = \frac{\text{chain pull} \times \# \text{ of chains} \times \text{conveyor speed in feet per minute}}{33,000}$$

$$HP = \frac{1,325 \times 2 \times 56}{33,000} = 4.49 \text{ HP}$$

Step 9: Determine the required lubrication. As stated earlier, the majority of conveyor systems will provide satisfactory service life when lubricated using manual or drip lube systems. Therefore, unless the conveyor is operating in an unusually harsh or contaminated environment, type A or manual lubrication should serve satisfactorily.

Roller Chain Installation

Properly selected, installed, and maintained roller chain is an extremely versatile means of power transmission. It is possible, however, to greatly reduce a chain's life and even induce failure if the chain is abused through improper installation, operation, or maintenance procedures. In certain applications, chain failure can lead to personal injury or property damage.

A chain's installation, lubrication, and maintenance are generally quite simple but as with most similar systems, proper preparation will add greatly to the overall ease and effectiveness of the task.

Areas to be considered prior to, as well as after installation are:

1. Safety
2. Chain, sprockets, and other drive components
3. Shaft and sprocket alignment
4. Chain and connecting link installation
5. Initial correct tension and provisions for adjustment during service
6. Provision for adequate lubrication
7. Appropriate protective guarding

Safety

When installing or connecting/disconnecting a roller chain:

1. Always lock out equipment power switch before removing or installing chains.
2. ALWAYS USE SAFETY GLASSES to protect your eyes.
3. Wear protective clothing, gloves, and safety shoes as appropriate.
4. Support the equipment to prevent uncontrolled movement of chain and parts.
5. Use of pressing equipment is recommended to remove or install press-fit-type connecting/pin links. Tooling must be in good condition and properly used.
6. Do not attempt to connect or disconnect chain unless you know the chain's construction, including the correct direction for connecting link removal or insertion.

See page 3 for full list of warnings.

Condition of Components: Shafts, sprockets, bearings, and any other relevant machine framing should be thoroughly examined. Any evidence of damage or wear should be repaired prior to the chain's installation.

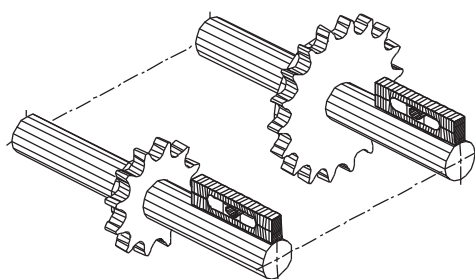
Chain Inspection: When reinstalling an existing chain, care should be taken to ensure that it is free of grit and dirt. If necessary, wash the chain in an approved solvent, paying particular attention to flexing the chain's joints while submerged, as this will allow contaminants within the chain's joints to be rinsed away. The chain should be allowed to thoroughly dry, removing any solvents that could reduce the operating lubricant's ability to protect the internal wear surfaces. Once dry, it is critical that the chain be relubricated prior to installation. Suggested lubricants can be determined from a list located later in this section.

When installing a new chain, the manufacturer's lubricant should not be removed. These lubricants were applied under special conditions to provide the best balance between initial wear resistance and surface protection.

Drive Alignment

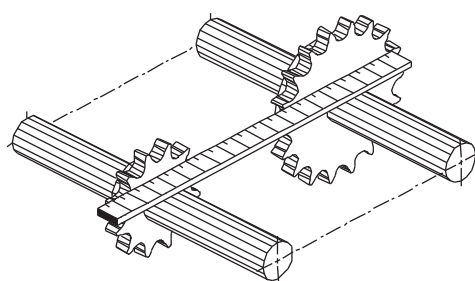
Misalignment results in uneven loading across the width of the chain and may cause damage ranging from roller linkplate and sprocket tooth wear up to and including premature failure from linkplate fatigue. Proper drive alignment can be divided into two categories: parallel shafts and parallel sprockets.

Aligning Shafts: Shafts should be parallel and level. This condition may be checked by the use of a feeler bar and a level.



Aligning Sprockets: Sprocket axial alignment can be checked with a straight edge which will extend across the finished sides of the two sprockets. Normally, it is good practice to align the sprockets as close to the shaft bearings as possible. For long center distances, use a taut cord or wire long enough to extend beyond each of the sprockets.

Note: When shafts have appreciable "end float," sprockets should be aligned for the normal running position. Recheck after a short running period for any signs of wear on inner faces of roller linkplates.



Recheck all preceding adjustments and be certain all sprocket set-screws, as well as any additional hardware, are secure.

Chain and Connecting Link Installation

Installing the Chain: Fit the chain around the sprockets in the drive and bring the free ends together, normally on one of the sprockets, for final connection. If the ends cannot be brought together on a common sprocket, the use of Diamond's chain connecting tool may be employed. Refer to the Tools, Troubleshooting section of the product catalog for more detailed information on connecting tools.

Installing the Connecting Link: The connecting link, depending upon the size and type of chain, may employ either a slip-fit or press-fit cover plate, combined with either a spring clip or cotters as the final retainer.

Press-fit cover plates, discussed in the General Drive Considerations section, are those which have an interference fit on the pins and provide integrity equal to the base chain itself. They do, however, present their own unique degree of difficulty at assembly.

To assemble the press-fit cover plates:

1. Insert the "Master Link," the portion of the link that contains the pins, and provide support or backing to resist the forces needed to drive the cover plate on.
2. Place the press-fit cover plate over the exposed pin ends and ensure that it is aligned properly.
3. Drive the cover plate on until it is flush with the ends of the pins.
4. Obtain a hollow punch (perhaps a small piece of pipe or a discarded chain's roller) and locate it over/around the flush pin end.
5. Alternately from one pitch hole to the other, continue to drive the ends of the linkplate onto the pins until it is clear of the spring clip groove or cotter hole. Care should be taken not to drive the plate on so far as to squeeze against or pinch the roller links. This will result in stiff or binding joints.
6. Install the retaining device, either a spring clip or cotter pin.

Caution: Never drill out or enlarge the pitch holes of a press-fit cover plate to make the installation easier. This will lower the integrity of the link.

Slip-fit cover plates, discussed in the General Drive Considerations section, are cover plates which have a clearance fit on the pins. These connecting links are far easier to install but reduce the working load capacity of the chain.

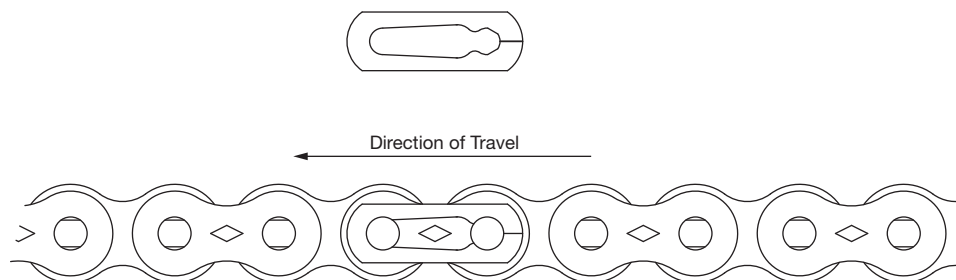
To assemble the slip-fit cover plate:

1. Insert the "Master Link," the portion of the link that contains the pins, into the chain.
2. Slide the plate over the pin ends to a location which clears either the spring clip groove or cotter hole.
3. Install the retaining device, either spring clip or cotter pin.

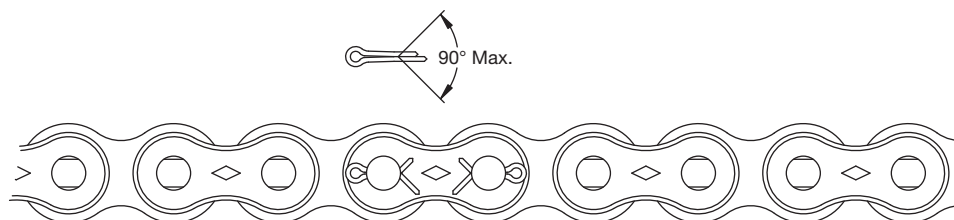
Note: When a slip-fit cover plate is used, a chain's working capacity can be reduced as much as 30% versus a press-fit cover plate.

Retaining Devices

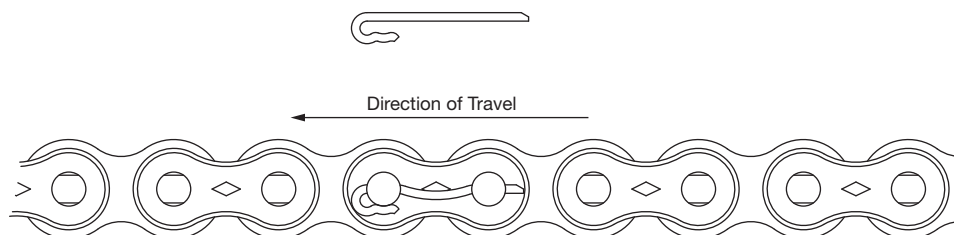
Spring clips are provided for chain models up to ANSI #60 / ISO 12B and provide a quick and easy method for securing the cover plate. Installation is performed by first determining the direction of chain travel and locating the closed end of the clip over the leading pin's groove. Final installation is performed by "snapping" the clip over the trailing pin locking it into the groove. Care should be taken not to bend or deform the clip during installation as this may cause it to come loose during operation.



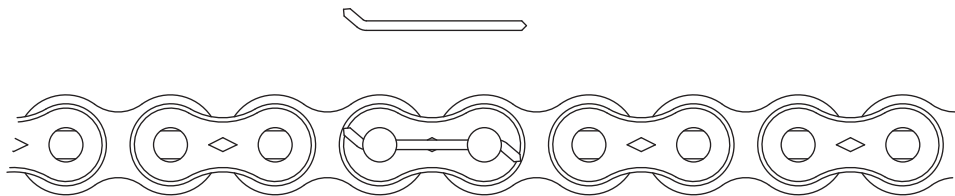
Staggered-leg cotters are normally provided on ANSI #80 / ISO 16B and larger models' connecting links as the method of retaining the cover plate. Diamond manufactures cotters and specially heat treats them to obtain specific properties which are beneficial in service. After insertion, the legs should not be spread in excess of 90° (included angle) and if removed **should not be reused**. It is not recommended to use commercial cotters as they may not provide satisfactory performance in severe applications.



Shepherd's crooks are available upon request for ANSI chain models #120-#160. These retaining devices secure the cover plate by passing through both pins of a connecting link with just a single pin. To install, first determine the direction of chain travel and then orient such that the hook-end of the device snaps onto the leading pin of the connecting link. The shepherd's crook should then be crimped slightly in the middle to minimize fretting.

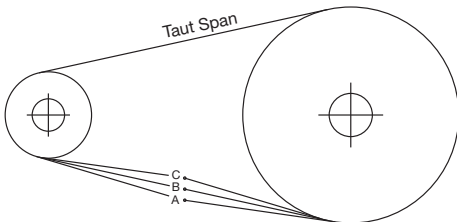


Z-pin cotters are available upon request for chain models #120-#200. These retaining devices are another single-pin method of securing the cover plate. The pins are supplied bent on one end. To retain the cover plate, simply install the z-pin cotter through both pins of a connecting link until the bend stops insertion, then bend the leading end in the opposite direction.



Proper Chain Tension: It should be expected that new chains will elongate slightly more during the first few days of service than in the months of subsequent operation. This is due to the “running-in” of the chain which removes minute imperfections from the surfaces of the pins and bushings. Diamond chains are pre-stressed prior to shipment to remove the majority of this “run-in” but some slight amount should still be expected. Because of this, it is good practice to establish and adjust center distances or idlers for an initially snug-fitting chain. After the initial run-in period, the drive should always be adjusted so that there is some degree of slack in the unloaded section of chain. This slack is very important as it allows the pin/bushing joint to relubricate itself prior to entering the working or loaded portion of the drive.

The following represents recommended mid-span movements for a properly tensioned drive.



Recommended Possible Mid-Span Movement, A-C, of Slack Span

Drive Center-Line	Tangent Length Between Sprockets								
	5	10	15	20	30	40	60	80	100
	in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm
Horizontal to 45	0.25 6.35	0.50 12.70	0.75 19.05	1.00 25.40	1.50 38.10	2.00 50.80	3.00 76.20	4.00 101.60	5.00 127.00
Vertical to 45	0.12 3.05	0.25 6.35	0.38 9.65	0.50 12.70	0.75 19.05	1.00 25.40	1.50 38.10	2.00 50.80	2.50 63.50

Why We Lubricate

Roller chain drives suffer more harm from faulty lubrication than from years of normal service!

A roller chain consists of a series of connected journal bearings which must be properly lubricated to obtain the maximum service life. Although many slow speed drives operate successfully with little or no lubrication beyond that initially applied at the time of manufacture, continued proper lubrication will greatly extend the useful life of every chain drive.

Chain drives require lubrication for six primary purposes:

1. Resist wear of the pin/bushing joint
2. Cushion impact loads
3. Dissipate heat
4. Flush away foreign materials
5. Lubricate chain-sprocket contact surfaces
6. Prevent rust or corrosion

Selecting a Lubricant

In selecting a lubricant, a good grade of clean petroleum oil without additives is most commonly recommended. Certain additives in oil can leave a varnish or gum buildup which will prevent additional lubricant from entering chain joints.

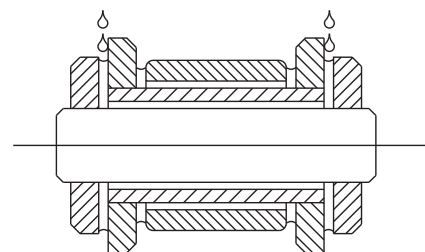
The viscosity of the lubricant greatly affects its ability to flow into the internal areas; therefore, the highest viscosity oil which will flow between the chain linkplates and fill the pin-bushing areas will provide the greatest film thickness and best wear life.

Greases, applied to the exterior of the chain, serve no purpose with the exception of protecting the external surfaces from rust or corrosion and should not be relied upon to provide any internal lubricating benefits.

The following table provides a guideline for selecting the proper lubricant viscosity at various ambient temperatures:

Ambient Temperature Degrees F	Recommended Lubricants				
	SUS Viscosity 100°F / 38°C	SAE Engine Oil	SAE Gear Oil	ISO	AGMA
20° to 40°F / -7° to 4°C	200-400	20	80W	46 or 68	1 or 2
40° to 100°F / 4° to 38°C	400-650	30	85W	100	3
100° to 120°F / 38° to 49°C	650-950	40	90	150	4
120° to 140°F / 49° to 60°C	950-1450	50	90	220	5

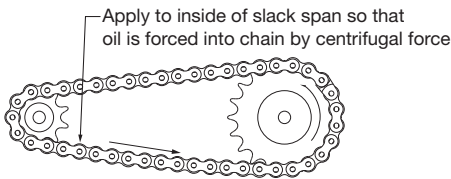
The elongation of roller chain is the result of wear caused by friction between the pins and bushings, and regardless of the size or type of chain, in order for any lubricant to reach the critical pin/bushing area it should be applied to the upper edges of linkplates in the slack span. Lubricant applied only to the chain's rollers will not provide an adequate supply to the internal wearing surfaces. However, the chain's rollers will receive adequate lubrication due to spillage over the linkplate edges when lubricant is properly applied.



Lubricant Flow Into the Chain Joint

Selecting a Lubrication Method

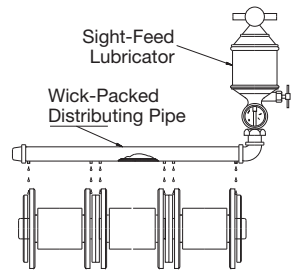
Note: When applying lubricant to multiple strand chain, it is important that lubricant be directed to each row of chain linkplates, not just the outermost rows; and, in conveying applications, oil should be directed between the rollers and bushings as well as between the chain linkplates, as significant wear can result from external loading.



Application of Lubricant to Chain

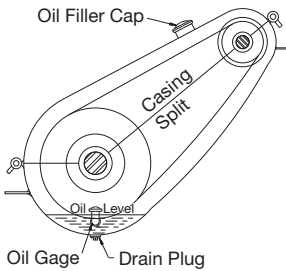
Methods of Lubrication

There are three basic methods of lubrication for roller chain drives. Close adherence to these recommended types of lubrication is essential in obtaining the maximum service life of a chain drive. These recommended types of lubrication, as shown in the horsepower rating tables, are determined by the chain speed and the amount of power transmitted.



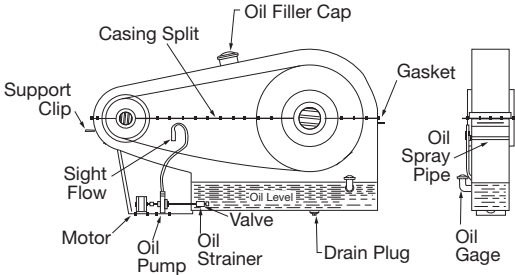
Manual or Drip Lubrication (Type A):

Lubricant applied manually with an oil can or brush is acceptable for slow speed drives; see table below for applicable chain speed requirements. When lubrication must be accomplished with a minimum amount of oil, it is advisable to equip the system with either felt pads or brushes which are fed lubricant from a reservoir and carefully positioned to direct oil into the clearances between each row of linkplates in the slack



span of chain.

Bath Lubrication (Type B):
Lubricant is applied to the chain by allowing the oil level within an enclosed casing to cover the chain at approximately the pitch line at its lowest point of operation. This is by far the most desirable method for chains operating at up to approximately 1500 feet per minute / 7.62 meters per second.



Pump Lubrication (Type C):
This is similar to bath lubrication with the exception that the lubricant is pumped onto the chain under pressure. The oil should be delivered to the upper edges of each row of linkplates across the lower span of chain just prior to the chain's entry into one of the sprockets.

The following table can be used as a guide for determining the type of lubricating system based upon the speed of the chain. The final selection should, however, be based upon the type of lubrication system recommended in the horsepower rating tables for the specific chain, sprocket, speed, and horsepower transmitted.

Lubrication System by Chain Size and Speed										
Lubrication Type	35/06B ft/min m/s	40/08B ft/min m/s	50/10B ft/min m/s	60/12B ft/min m/s	80/16B ft/min m/s	100/20B ft/min m/s	120/24B ft/min m/s	140/28B ft/min m/s	160/32B ft/min m/s	200/40B ft/min m/s
Type A (Manual/Drip)	350 1.8	300 1.5	250 1.3	215 1.1	165 0.8	145 0.7	125 0.6	110 0.6	100 0.5	80 0.4
Type B (Bath)	2,650 13.5	2,200 11.2	1,900 9.7	1,750 8.9	1,475 7.5	1,250 6.4	1,170 5.9	1,050 5.3	1,000 5.1	865 4.4
Type C (Forced Lubrication)	Use for any speeds higher than the Type B limits									

Roller Chain Maintenance

All chain drives should receive regular inspections. Each drive should be inspected after the initial 100 hours of operation. Thereafter, most drives should be inspected at 500-hour intervals. However, drives subject to shock loads or severe operating conditions should be inspected at more frequent intervals. This section will provide guidance as to what items should be evaluated during regular inspection intervals.

Drive Guarding

The strongest chain, built to the highest quality standards, can still break in normal service due to the effects of wear, fatigue, or unexpected overloads. Therefore, a roller chain drive should have adequate guarding to prevent personal injury or property damage.

If a roller chain breaks on a drive while operating at speed, the chain can be thrown off the sprockets with considerable force. The user should either provide adequate guarding to contain a broken chain, or prevent personnel from entering an area where a broken chain could strike them.

There are applications where a broken chain could release a load and cause personal injury or property damage. Provisions for a brake or other restraining device which will stop and hold the load in the event of a broken chain should be incorporated into the machinery's design.

Regular Inspections

At each inspection, the following items should be checked, the condition corrected, or the chain replaced as necessary:

1. Check Lubrication

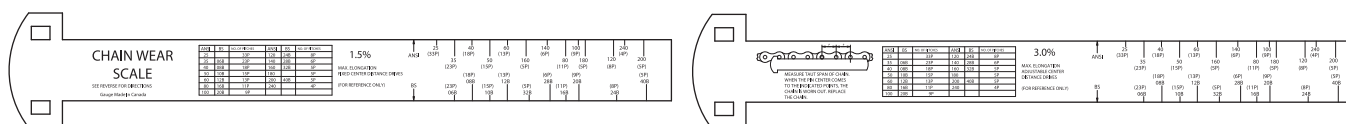
On slow speed drives, be sure the lubrication schedule is being followed and if the chain is covered with dirt and debris, clean the chain with an approved solvent and relubricate it. If drip lubrication is used, check for adequate oil flow and be sure it is being applied at the proper location on the chain (refer to the Lubrication section). With bath or pump lubrication, check oil level and add oil if needed. Check oil for contamination and change oil as needed. It is recommended to change the oil after the first 100 hours of operation and each 500 hours thereafter. If pump lubrication is used, check each orifice to be sure it is clear and is directing oil onto the chain properly.

2. Check Chain Tension

Refer to the Installation section and check chain tension. Adjust the drive as needed to maintain the proper sag in the slack span. If elongation exceeds the available adjustment, remove two pitches of chain and reconnect.

3. Check Chain Wear

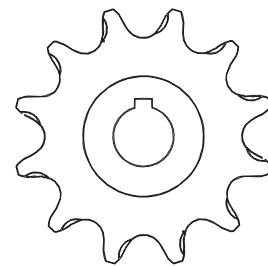
Roller chains should be replaced promptly when worn (elongated beyond 3%) or when the chain rollers begin to “ride high” near the tips of the teeth on relatively large sprockets. If the chain is worn excessively, replace the entire chain. Do not connect or splice a new section to a worn chain. Do not continue to run a chain worn in excess of 3% (or less in some applications) because the chain will not engage the sprockets properly and increased damage to the sprockets may occur.



Contact Diamond-Drives for your free wear gauge by emailing chain@timken.com.

4. Check Sprocket Tooth Wear

Check for roughness or binding when the chain engages or disengages from the sprocket. Inspect the sprocket teeth for reduced tooth sections and “hooked” tooth tips. If these conditions are present, the sprocket teeth are excessively worn and the sprocket should be replaced. Do not run new chain on worn sprockets as it will cause the new chain to wear rapidly. Conversely, do not run a worn chain on new sprockets as it will cause the new sprockets to wear rapidly. As a general rule, replace the sprockets with every third chain replacement.



Tooth Form Altered Due to Wear

5. Check Sprocket Alignment

If there is noticeable wear on the inside surfaces of the chain roller linkplates, the sprockets may be misaligned. Realign the sprockets as outlined in the Installation section to prevent further abnormal chain and sprocket wear.

6. Check for Drive Interference

Check for interference between the drive and other parts of the equipment. If there is any, correct it immediately. Interference can cause abnormal and potentially destructive wear on the chain or the interfering part. If the edges of the chain linkplates impact against a rigid part, linkplate fatigue and chain failure can result. Check for and eliminate any buildup of debris or foreign material between the chain and sprockets. A relatively small amount of debris in the sprocket roll seat can cause tensile loads great enough to break the chain if forced through the drive.

7. Check for Failure

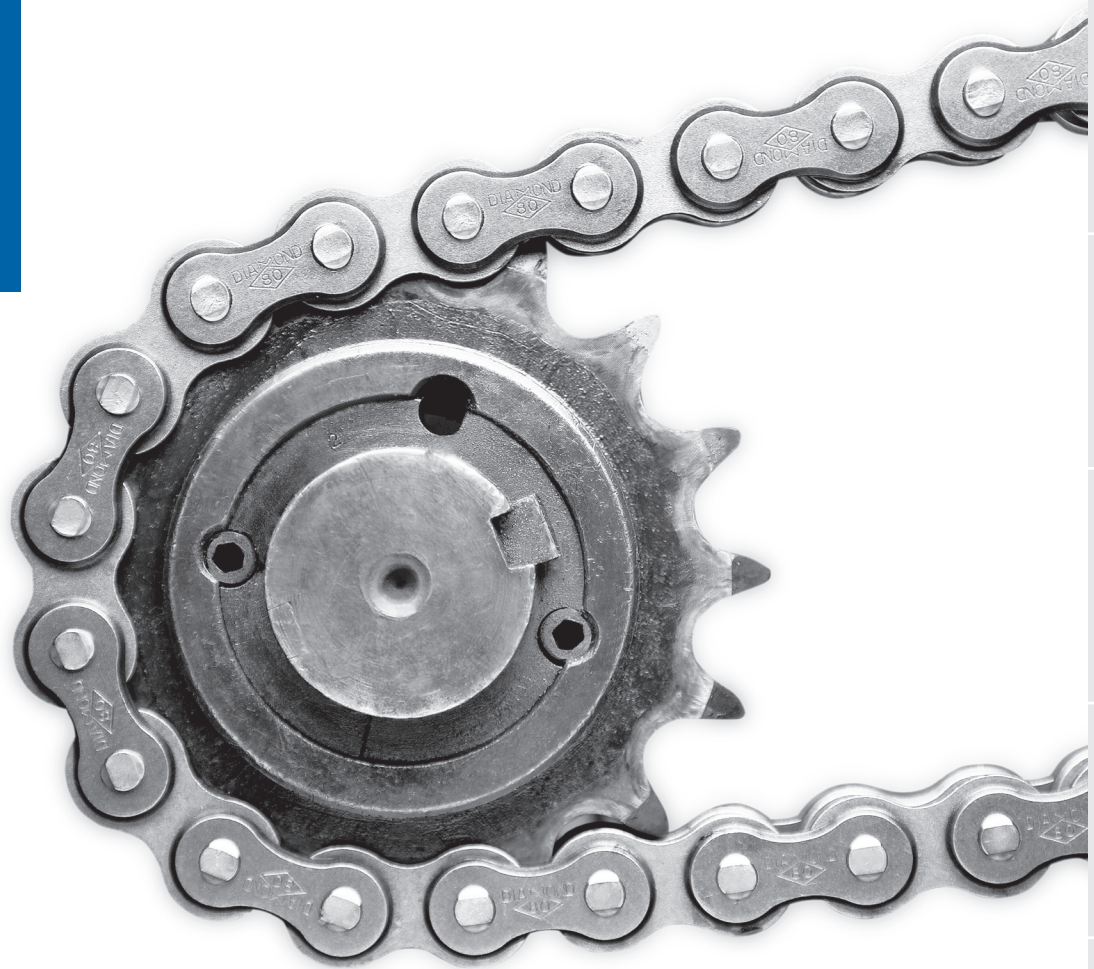
Inspect the chain for cracked, broken, or deformed parts. If any of these conditions are found, **replace the entire chain**. Even though portions of the chain may appear to be in good condition, in all likelihood, the entire chain has been damaged.

Warning: *Roller chains that have been damaged under excessive loading due to an accident, or otherwise, should be completely replaced because the chain, as well as the damaged component, has been loaded to a degree that has impaired its ability to transmit normal loading. See page 96 for a full list of warnings.*

8. Evidence of Lubrication

One of the first indications that a roller chain is not receiving adequate lubrication is that the external areas around the joints will most likely have a reddish/brown (rusty) color. The inadequate lubrication can be confirmed by removing a link (most commonly the connecting link) and examining the surface of the pins. The color of the pins will generally be dark brown, even blue, if the chain has been running with inadequate lubrication. Additionally, the surface of poorly lubricated pins will be rough, grooved, or even show evidence of galling. Properly lubricated chains will not exhibit the rusty color at the joints, and the pins of the connecting links, when removed, will be generally smooth, shiny and have an obvious coating of lubricant on the surface.

Horsepower Tables



The horsepower rating tables found on the following pages cover Standard Series, Heavy Series, Double Pitch, Ring Leader™ O-Ring and EHT roller chains.

This horsepower table section is divided as follows:

Pg. 44-57	Standard series chain
Pg. 58-66	Heavy series chain
Pg. 67-70	Double pitch chain
Pg. 71-74	O-Ring chain

The power transmission capacity ratings listed in the following tables are based upon these conditions:

1. A service factor of one
2. Chain length of 100 pitches
3. The use of recommended methods of lubrication
4. A two-sprocket drive, properly aligned and mounted on parallel horizontal shafts
5. A non-abrasive environment

Under these conditions, a service life of approximately 15,000 hours can be expected.

Standard Series Horsepower Tables

#25 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	50	100	300	365	500	700	900	1,200	1,500	1,800	2,100	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	7,000	8,000	9,000	10,000	11,000	12,000
11	0.03	0.06	0.19	0.22	0.30	0.42	0.53	0.70	0.87	1.03	1.20	1.42	1.69	1.69	1.38	1.16	0.99	0.86	0.75	0.60	0.49	0.41	0.35	0.30	0.27
12	0.04	0.07	0.20	0.24	0.33	0.46	0.58	0.76	0.95	1.13	1.31	1.55	1.84	1.92	1.57	1.32	1.12	0.97	0.86	0.68	0.56	0.47	0.40	0.34	0.30
13	0.04	0.08	0.22	0.26	0.36	0.49	0.63	0.83	1.03	1.22	1.42	1.67	1.99	2.17	1.77	1.49	1.27	1.10	0.96	0.77	0.63	0.53	0.45	0.39	0.34
14	0.04	0.08	0.24	0.28	0.38	0.53	0.68	0.89	1.10	1.32	1.52	1.80	2.15	2.42	1.98	1.66	1.42	1.23	1.08	0.86	0.70	0.59	0.50	0.43	0.38
15	0.05	0.09	0.25	0.30	0.41	0.57	0.72	0.95	1.18	1.41	1.63	1.93	2.30	2.67	2.20	1.84	1.57	1.36	1.20	0.95	0.78	0.65	0.56	0.48	0.42
16	0.05	0.09	0.27	0.32	0.44	0.61	0.77	1.02	1.26	1.50	1.74	2.06	2.45	2.85	2.42	2.03	1.73	1.50	1.32	1.05	0.86	0.72	0.61	0.53	0.47
17	0.05	0.10	0.29	0.35	0.47	0.64	0.82	1.08	1.34	1.60	1.85	2.19	2.61	3.02	2.65	2.22	1.90	1.64	1.44	1.14	0.94	0.79	0.67	0.58	0.51
18	0.05	0.11	0.30	0.37	0.49	0.68	0.87	1.15	1.42	1.69	1.96	2.32	2.76	3.20	2.89	2.42	2.07	1.79	1.57	1.25	1.02	0.86	0.73	0.63	0.56
19	0.06	0.11	0.32	0.39	0.52	0.72	0.92	1.21	1.50	1.78	2.07	2.45	2.91	3.38	3.13	2.62	2.24	1.94	1.70	1.35	1.11	0.93	0.79	0.69	
20	0.06	0.12	0.34	0.41	0.55	0.76	0.97	1.27	1.58	1.88	2.18	2.58	3.07	3.56	3.38	2.83	2.42	2.10	1.84	1.46	1.20	1.00	0.86	0.74	
21	0.06	0.12	0.35	0.43	0.58	0.80	1.01	1.34	1.66	1.97	2.29	2.70	3.22	3.74	3.64	3.05	2.60	2.26	1.98	1.57	1.29	1.08	0.92		
22	0.07	0.13	0.37	0.45	0.60	0.83	1.06	1.40	1.73	2.07	2.40	2.83	3.37	3.91	3.90	3.27	2.79	2.42	2.12	1.69	1.38	1.16	0.99		
23	0.07	0.13	0.39	0.47	0.63	0.87	1.11	1.46	1.81	2.16	2.51	2.96	3.53	4.09	4.17	3.50	2.98	2.59	2.27	1.80	1.47	1.24	1.04		
24	0.07	0.14	0.40	0.49	0.66	0.91	1.16	1.53	1.89	2.25	2.61	3.09	3.68	4.27	4.45	3.73	3.18	2.76	2.42	1.92	1.57	1.32	0.22		
25	0.08	0.15	0.42	0.51	0.69	0.95	1.21	1.59	1.97	2.35	2.72	3.22	3.84	4.45	4.73	3.96	3.38	2.93	2.57	2.04	1.67	1.40			
26	0.08	0.15	0.44	0.53	0.71	0.99	1.26	1.65	2.05	2.44	2.83	3.35	3.99	4.62	5.01	4.20	3.59	3.11	2.73	2.17	1.77	1.49			
28	0.08	0.16	0.47	0.57	0.77	1.06	1.35	1.78	2.21	2.63	3.05	3.61	4.30	4.98	5.60	4.70	4.01	3.47	3.05	2.42	1.98				
30	0.09	0.18	0.50	0.61	0.82	1.14	1.45	1.91	2.37	2.82	3.27	3.86	4.60	5.34	6.07	5.21	4.45	3.85	3.38	2.68	1.98				
32	0.10	0.19	0.54	0.65	0.88	1.21	1.55	2.04	2.52	3.01	3.49	4.12	4.91	5.69	6.47	5.74	4.90	4.25	3.73	2.96	0.35				
35	0.11	0.21	0.59	0.71	0.96	1.33	1.69	2.23	2.76	3.29	3.81	4.51	5.37	6.23	7.08	6.56	5.60	4.86	4.26	2.76					
40	0.12	0.23	0.67	0.81	1.10	1.52	1.93	2.55	3.15	3.76	4.36	5.15	6.14	7.11	8.09	8.02	6.85	5.93	4.91						
45	0.14	0.26	0.76	0.91	1.24	1.71	2.17	2.86	3.55	4.23	4.90	5.79	6.90	8.00	9.10	9.57	8.17	5.23	1.38						
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)										Type C (Oil Pump)											

Note: If using multiple strand chain, multiply horsepower rating by the following:
2 strands: 1.7x
3 strands: 2.5x

#25 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																									
	50	100	300	365	500	700	900	1,200	1,500	1,800	2,100	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	7,000	8,000	9,000	10,000	11,000	12,000	
11	0.02	0.04	0.14	0.16	0.22	0.31	0.40	0.52	0.65	0.77	0.89	1.06	1.26	1.26	1.03	0.87	0.74	0.64	0.56	0.45	0.37	0.31	0.26	0.22	0.20	
12	0.03	0.05	0.15	0.18	0.25	0.34	0.43	0.57	0.71	0.84	0.98	1.16	1.37	1.43	1.17	0.98	0.84	0.72	0.64	0.51	0.42	0.35	0.30	0.25	0.22	
13	0.03	0.06	0.16	0.19	0.27	0.37	0.47	0.62	0.77	0.91	1.06	1.25	1.48	1.62	1.32	1.11	0.95	0.82	0.72	0.57	0.47	0.40	0.34	0.29	0.25	
14	0.03	0.06	0.18	0.21	0.28	0.40	0.51	0.66	0.82	0.98	1.13	1.34	1.60	1.80	1.48	1.24	1.06	0.92	0.81	0.64	0.52	0.44	0.37	0.32	0.28	
15	0.04	0.07	0.19	0.22	0.31	0.43	0.54	0.71	0.88	1.05	1.22	1.44	1.72	1.99	1.64	1.37	1.17	1.01	0.89	0.71	0.58	0.48	0.42	0.36	0.31	
16	0.04	0.07	0.20	0.24	0.33	0.45	0.57	0.76	0.94	1.12	1.30	1.54	1.83	2.13	1.80	1.51	1.29	1.12	0.98	0.78	0.64	0.54	0.45	0.40	0.35	
17	0.04	0.07	0.22	0.26	0.35	0.48	0.61	0.81	1.00	1.19	1.38	1.63	1.95	2.25	1.98	1.66	1.42	1.22	1.07	0.85	0.70	0.59	0.50	0.43	0.38	
18	0.04	0.08	0.22	0.28	0.37	0.51	0.65	0.86	1.06	1.26	1.46	1.73	2.06	2.39	2.16	1.80	1.54	1.33	1.17	0.93	0.76	0.64	0.54	0.47	0.42	
19	0.04	0.08	0.24	0.29	0.39	0.54	0.69	0.90	1.12	1.33	1.54	1.83	2.17	2.52	2.33	1.95	1.67	1.45	1.27	1.01	0.83	0.69	0.59	0.51		
20	0.04	0.09	0.25	0.31	0.41	0.57	0.72	0.95	1.18	1.40	1.63	1.92	2.29	2.65	2.52	2.11	1.80	1.57	1.37	1.09	0.89	0.75	0.64	0.55		
21	0.04	0.09	0.26	0.32	0.43	0.60	0.75	1.00	1.24	1.47	1.71	2.01	2.40	2.79	2.71	2.27	1.94	1.69	1.48	1.17	0.96	0.81	0.69			
22	0.05	0.10	0.28	0.34	0.45	0.62	0.79	1.04	1.29	1.54	1.79	2.11	2.51	2.92	2.91	2.44	2.08	1.80	1.58	1.26	1.03	0.87	0.74			
23	0.05	0.10	0.29	0.35	0.47	0.65	0.83	1.09	1.35	1.61	1.87	2.21	2.63	3.05	3.11	2.61	2.22	1.93	1.69	1.34	1.10	0.92	0.78			
24	0.05	0.10	0.30	0.37	0.49	0.68	0.87	1.14	1.41	1.68	1.95	2.30	2.74	3.18	3.32	2.78	2.37	2.06	1.80	1.43	1.17	0.98	0.16			
25	0.06	0.11	0.31	0.38	0.51	0.71	0.90	1.19	1.47	1.75	2.03	2.40	2.86	3.32	3.53	2.95	2.52	2.18	1.92	1.52	1.25	1.04				
26	0.06	0.11	0.33	0.40	0.53	0.74	0.94	1.23	1.53	1.82	2.11	2.50	2.98	3.45	3.74	3.13	2.68	2.32	2.04	1.62	1.32	1.11				
28	0.06	0.12	0.35	0.43	0.57	0.79	1.01	1.33	1.65	1.96	2.27	2.69	3.21	3.71	4.18	3.50	2.99	2.59	2.27	1.80	1.48					
30	0.07	0.13	0.37	0.45	0.61	0.85	1.08	1.42	1.77	2.10	2.44	2.88	3.43	3.98	4.53	3.89	3.32	2.87	2.52	2.00	1.48					
32	0.07	0.14	0.40	0.48	0.66	0.90	1.16	1.52	1.88	2.24	2.60	3.07	3.66	4.24	4.82	4.28	3.65	3.17	2.78	2.21	0.26					
35	0.08	0.16	0.44	0.53	0.72	0.99	1.26	1.66	2.06	2.45	2.84	3.36	4.00	4.65	5.28	4.89	4.18	3.62	3.18	2.06						
40	0.09	0.17	0.50	0.60	0.82	1.13	1.44	1.90	2.35	2.80	3.25	3.84	4.58	5.30	6.03	5.98	5.11	4.42	3.66							
45	0.10	0.19	0.57	0.68	0.92	1.28	1.62	2.13	2.65	3.15	3.65	4.32	5.15	5.97	6.79	7.14	6.09	3.90	1.03							
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)										Type C (Oil Pump)												

Note: If using multiple strand chain, multiply horsepower rating by the following:
2 strands: 1.7x
3 strands: 2.5x

Standard Series Horsepower Tables

#35 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																										
	50	100	200	240	500	700	900	1,200	1,500	1,800	2,100	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	9,000	10,000		
11	0.11	0.22	0.42	0.50	1.02	1.41	1.80	2.37	2.93	3.49	4.05	3.86	2.94	2.33	1.91	1.60	1.37	1.18	1.04	0.92	0.82	0.74	0.67	0.57		0.48	
12	0.12	0.24	0.46	0.55	1.11	1.54	1.96	2.58	3.20	3.81	4.42	4.40	3.35	2.66	2.17	1.82	1.56	1.35	1.18	1.05	0.94	0.85	0.77	0.64		0.55	
13	0.13	0.26	0.50	0.60	1.21	1.67	2.12	2.80	3.47	4.13	4.79	4.96	3.77	3.00	2.45	2.05	1.75	1.52	1.33	1.18	1.06	0.95	0.87	0.73		0.62	
14	0.14	0.28	0.54	0.64	1.30	1.80	2.29	3.01	3.73	4.45	5.15	5.55	4.22	3.35	2.74	2.30	1.96	1.70	1.49	1.32	1.18	1.07	0.97	0.81		0.10	
15	0.15	0.30	0.58	0.69	1.39	1.92	2.45	3.23	4.00	4.76	5.52	6.15	4.68	3.71	3.04	2.55	2.17	1.88	1.65	1.47	1.31	1.18	1.07	0.90			
16	0.16	0.32	0.62	0.73	1.49	2.05	2.61	3.44	4.26	5.08	5.89	6.77	5.15	4.09	3.35	2.81	2.40	2.08	1.82	1.62	1.45	1.30	1.18	0.44			
17	0.17	0.34	0.65	0.78	1.58	2.18	2.77	3.66	4.53	5.40	6.26	7.40	5.64	4.48	3.67	3.07	2.62	2.27	2.00	1.77	1.58	1.43	1.30				
18	0.18	0.36	0.69	0.83	1.67	2.31	2.94	3.87	4.80	5.72	6.63	7.83	6.15	4.88	3.99	3.35	2.86	2.48	2.17	1.93	1.73	1.56	1.41				
19	0.19	0.38	0.73	0.87	1.76	2.44	3.10	4.09	5.06	6.03	7.00	8.27	6.67	5.29	4.33	3.63	3.10	2.69	2.36	2.09	1.87	1.69	0.05				
20	0.20	0.40	0.77	0.92	1.86	2.56	3.26	4.30	5.33	6.35	7.36	8.71	7.20	5.72	4.68	3.92	3.35	2.90	2.55	2.26	2.02	1.42					
21	0.21	0.42	0.81	0.96	1.95	2.69	3.43	4.52	5.60	6.67	7.73	9.14	7.75	6.15	5.03	4.22	3.60	3.12	2.74	2.43	2.17						
22	0.22	0.44	0.85	1.01	2.04	2.82	3.59	4.73	5.86	6.99	8.10	9.58	8.31	6.59	5.40	4.52	3.86	3.35	2.94	2.61	1.42						
23	0.23	0.46	0.89	1.06	2.14	2.95	3.75	4.95	6.13	7.30	8.47	10.01	8.88	7.05	5.77	4.83	4.13	3.58	3.14	2.79							
24	0.24	0.48	0.92	1.10	2.23	3.08	3.92	5.16	6.40	7.62	8.84	10.45	9.47	7.51	6.15	5.15	4.40	3.81	3.35	2.04							
25	0.25	0.50	0.96	1.15	2.32	3.21	4.08	5.38	6.66	7.94	9.20	10.88	10.07	7.99	6.54	5.48	4.68	4.05	3.56	0.12							
26	0.26	0.51	1.00	1.19	2.41	3.33	4.24	5.59	6.93	8.26	9.57	11.32	10.68	8.47	6.93	5.81	4.96	4.30	3.40								
28	0.29	0.55	1.08	1.28	2.60	3.59	4.57	6.02	7.46	8.89	10.31	12.19	11.93	9.47	7.75	6.49	5.55	4.81									
30	0.31	0.59	1.16	1.38	2.79	3.85	4.90	6.45	8.00	9.53	11.05	13.06	13.23	10.50	8.59	7.20	6.15	2.24									
32	0.33	0.63	1.23	1.47	2.97	4.10	5.22	6.88	8.53	10.16	11.78	13.93	14.58	11.57	9.47	7.93	5.76										
35	0.36	0.69	1.35	1.61	3.25	4.49	5.71	7.53	9.33	11.11	12.89	15.23	16.67	13.23	10.83	8.85	0.34										
40	0.41	0.79	1.54	1.84	3.71	5.13	6.53	8.61	10.66	12.70	14.73	17.41	20.37	16.17	11.04	0.34											
45	0.46	0.89	1.73	2.07	4.18	5.77	7.35	9.68	11.99	14.29	16.57	19.59	23.33	15.56	3.11												
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)								Type C (Oil Pump)															

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands: 1.7x

3 strands: 2.5x

4 strands: 3.3x

5 strands or more: please contact Diamond-Drives technical support

#35 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																										
	50	100	200	240	500	700	900	1,200	1,500	1,800	2,100	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	9,000	10,000		
11	0.08	0.16	0.31	0.37	0.76	1.05	1.34	1.77	2.18	2.60	3.02	2.88	2.19	1.74	1.42	1.19	1.02	0.88	0.78	0.69	0.61	0.55	0.50	0.43		0.36	
12	0.09	0.18	0.34	0.41	0.83	1.15	1.46	1.92	2.39	2.84	3.30	3.28	2.50	1.98	1.62	1.36	1.16	1.01	0.88	0.78	0.70	0.63	0.57	0.48		0.41	
13	0.10	0.19	0.37	0.45	0.90	1.25	1.58	2.09	2.59	3.08	3.57	3.70	2.81	2.24	1.83	1.53	1.30	1.13	0.99	0.88	0.79	0.71	0.65	0.54		0.46	
14	0.10	0.21	0.40	0.48	0.97	1.34	1.71	2.24	2.78	3.32	3.84	4.14	3.15	2.50	2.04	1.72	1.46	1.27	1.11	0.98	0.88	0.80	0.72	0.60		0.07	
15	0.11	0.22	0.43	0.51	1.04	1.43	1.83	2.41	2.98	3.55	4.12	4.59	3.49	2.77	2.27	1.90	1.62	1.40	1.23	1.10	0.98	0.88	0.80	0.67			
16	0.12	0.24	0.46	0.54	1.11	1.53	1.95	2.57	3.18	3.79	4.39	5.05	3.84	3.05	2.50	2.10	1.79	1.55	1.36	1.21	1.08	0.97	0.88	0.33			
17	0.13	0.25	0.48	0.58	1.18	1.63	2.07	2.73	3.38	4.03	4.67	5.52	4.21	3.34	2.74	2.29	1.95	1.69	1.49	1.32	1.18	1.07	0.97				
18	0.13	0.27	0.51	0.62	1.25	1.72	2.19	2.89	3.58	4.27	4.94	5.84	4.59	3.64	2.98	2.50	2.13	1.85	1.62	1.44	1.29	1.16	1.05				
19	0.14	0.28	0.54	0.65	1.31	1.82	2.31	3.05	3.77	4.50	5.22	6.17	4.97	3.94	3.23	2.71	2.31	2.01	1.76	1.56	1.39	1.26	0.04				
20	0.15	0.30	0.57	0.69	1.39	1.91	2.43	3.21	3.97	4.74	5.49	6.50	5.37	4.27	3.49	2.92	2.50	2.16	1.90	1.69	1.51	1.06					
21	0.16	0.31	0.60	0.72	1.45	2.01	2.56	3.37	4.18	4.97	5.76	6.82	5.78	4.59	3.75	3.15	2.68	2.33	2.04	1.81	1.62						
22	0.16	0.33	0.63	0.75	1.52	2.10	2.68	3.53	4.37	5.21	6.04	7.14	6.20	4.91	4.03	3.37	2.88	2.50	2.19	1.95	1.06						
23	0.17	0.34	0.66	0.79	1.60	2.20	2.80	3.69	4.57	5.44	6.32	7.46	6.62	5.26	4.30	3.60	3.08	2.67	2.34	2.08							
24	0.18	0.36	0.69	0.82	1.66	2.30	2.92	3.85	4.77	5.68	6.59	7.79	7.06	5.60	4.59	3.84	3.28	2.84	2.50	1.52							
25	0.19	0.37	0.72	0.86	1.73	2.39	3.04	4.01	4.97	5.92	6.86	8.11	7.51	5.96	4.88	4.09	3.49	3.02	2.65	0.09							
26	0.19	0.38	0.75	0.89	1.80	2.48	3.16	4.17	5.17	6.16	7.14	8.44	7.96	6.32	5.17	4.33	3.70	3.21	2.54								
28	0.22	0.41	0.81	0.95	1.94	2.68	3.41	4.49	5.56	6.63	7.69	9.09	8.90	7.06	5.78	4.84	4.14	3.59									
30	0.23	0.44	0.87	1.03	2.08	2.87	3.65	4.81	5.97	7.11	8.24	9.74	9.87	7.83	6.41	5.37	4.59	1.67									
32	0.25	0.47	0.92	1.10	2.21	3.06	3.89	5.13	6.36	7.58	8.78	10.39	10.87	8.63	7.06	5.91	4.30										
35	0.27	0.51	1.01	1.20	2.42	3.35	4.26	5.62	6.96	8.28	9.61	11.36	12.43	9.87	8.08	6.60	0.25										
40	0.31	0.59	1.15	1.37	2.77	3.83	4.87	6.42	7.95	9.47	10.98	12.98	15.19	12.06	8.23	0.25											
45	0.34	0.66	1.29	1.54	3.12	4.30	5.48	7.22	8.94	10.66	12.36	14.61	17.40	11.60	2.32												
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)								Type C (Oil Pump)															

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands: 1.7x

3 strands: 2.5x

4 strands: 3.3x

5 strands or more: please contact Diamond-Drives technical support

Standard Series Horsepower Tables

#40 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	10	25	50	100	180	200	300	500	700	900	1,000	1,200	1,400	1,600	1,800	2,100	2,500	3,000	3,500	4,000	5,000	6,000	7,000	8,000	
11	0.06	0.14	0.27	0.52	0.91	1.00	1.48	2.42	3.34	4.25	4.70	5.60	6.49	5.57	4.66	3.70	2.85	2.17	1.72	1.41	1.01	0.77	0.61	0.50	
12	0.06	0.15	0.29	0.56	0.99	1.09	1.61	2.64	3.64	4.64	5.13	6.11	7.09	6.34	5.31	4.22	3.25	2.47	1.96	1.60	1.15	0.87	0.69	0.57	
13	0.07	0.16	0.31	0.61	1.07	1.19	1.75	2.86	3.95	5.02	5.56	6.62	7.68	7.15	5.99	4.76	3.66	2.79	2.21	1.81	1.29	0.98	0.78		
14	0.07	0.17	0.34	0.66	1.15	1.28	1.88	3.08	4.25	5.41	5.98	7.13	8.27	7.99	6.70	5.31	4.09	3.11	2.47	2.02	1.45	1.10	0.87		
15	0.08	0.19	0.36	0.70	1.24	1.37	2.02	3.30	4.55	5.80	6.41	7.64	8.86	8.86	7.43	5.89	4.54	3.45	2.74	2.24	1.60	1.22	0.97		
16	0.08	0.20	0.39	0.75	1.32	1.46	2.15	3.52	4.86	6.18	6.84	8.15	9.45	9.76	8.18	6.49	5.00	3.80	3.02	2.47	1.77	1.34			
17	0.09	0.21	0.41	0.80	1.40	1.55	2.29	3.74	5.16	6.57	7.27	8.66	10.04	10.69	8.96	7.11	5.48	4.17	3.31	2.71	1.94	1.47			
18	0.09	0.22	0.43	0.84	1.48	1.64	2.42	3.96	5.46	6.95	7.69	9.17	10.63	11.65	9.76	7.75	5.97	4.54	3.60	2.95	2.11	1.60			
19	0.10	0.24	0.46	0.89	1.57	1.73	2.56	4.18	5.77	7.34	8.12	9.68	11.22	12.64	10.59	8.40	6.47	4.92	3.91	3.20	2.29	0.09			
20	0.10	0.25	0.48	0.94	1.65	1.82	2.69	4.39	6.07	7.73	8.55	10.18	11.81	13.42	11.44	9.07	6.99	5.31	4.22	3.45	2.47				
21	0.11	0.26	0.51	0.98	1.73	1.91	2.83	4.61	6.37	8.11	8.98	10.69	12.40	14.10	12.30	9.76	7.52	5.72	4.54	3.71	2.66				
22	0.11	0.27	0.53	1.03	1.81	2.01	2.96	4.83	6.68	8.50	9.40	11.20	12.99	14.77	13.19	10.47	8.06	6.13	4.87	3.98	2.85				
23	0.12	0.28	0.55	1.08	1.90	2.10	3.10	5.05	6.98	8.89	9.83	11.71	13.58	15.44	14.10	11.19	8.62	6.55	5.20	4.26	3.05				
24	0.12	0.30	0.58	1.12	1.98	2.19	3.23	5.27	7.28	9.27	10.26	12.22	14.17	16.11	15.03	11.93	9.18	6.99	5.54	4.54	0.87				
25	0.13	0.31	0.60	1.17	2.06	2.28	3.36	5.49	7.59	9.66	10.69	12.73	14.76	16.78	15.98	12.68	9.76	7.43	5.89	4.82					
26	0.13	0.32	0.63	1.22	2.14	2.37	3.50	5.71	7.89	10.04	11.11	13.24	15.35	17.45	16.95	13.45	10.36	7.88	6.25	5.12					
28	0.14	0.35	0.67	1.31	2.31	2.55	3.77	6.15	8.50	10.82	11.97	14.26	16.53	18.79	18.94	15.03	11.57	8.80	6.99	5.72					
30	0.15	0.37	0.72	1.41	2.47	2.74	4.04	6.59	9.11	11.59	12.82	15.28	17.71	20.14	21.01	16.67	12.84	9.76	7.75	6.34					
32	0.16	0.40	0.77	1.50	2.64	2.92	4.31	7.03	9.71	12.36	13.68	16.30	18.89	21.48	23.14	18.37	14.14	10.76	8.54	1.41					
35	0.18	0.43	0.84	1.64	2.88	3.19	4.71	7.69	10.62	13.52	14.96	17.82	20.67	23.49	26.30	21.01	16.17	12.30	9.76						
40	0.21	0.50	0.96	1.87	3.30	3.65	5.38	8.79	12.14	15.45	17.10	20.37	23.62	26.85	30.06	25.67	19.76	15.03							
45	0.23	0.56	1.08	2.11	3.71	4.10	6.06	9.89	13.66	17.39	19.24	22.92	26.57	30.20	33.82	30.63	23.58	15.53							
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)									Type C (Oil Pump)											

Note: If using multiple strand chain, multiply horsepower rating by the following:
2 strands: 1.7x
3 strands: 2.5x
4 strands: 3.3x
5 strands or more: please contact Diamond-Drives technical support

#40 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	10	25	50	100	180	200	300	500	700	900	1,000	1,200	1,400	1,600	1,800	2,100	2,500	3,000	3,500	4,000	5,000	6,000	7,000	8,000
11	0.04	0.10	0.20	0.39	0.68	0.75	1.10	1.80	2.49	3.17	3.50	4.18	4.84	4.15	3.47	2.76	2.13	1.62	1.28	1.05	0.75	0.57	0.45	0.37
12	0.04	0.11	0.22	0.42	0.74	0.81	1.20	1.97	2.71	3.46	3.83	4.56	5.29	4.73	3.96	3.15	2.42	1.84	1.46	1.19	0.86	0.65	0.51	0.43
13	0.05	0.12	0.23	0.45	0.80	0.89	1.30	2.13	2.95	3.74	4.15	4.94	5.73	5.33	4.47	3.55	2.73	2.08	1.65	1.35	0.96	0.73	0.58	
14	0.05	0.13	0.25	0.49	0.86	0.95	1.40	2.30	3.17	4.03	4.46	5.32	6.17	5.96	5.00	3.96	3.05	2.32	1.84	1.51	1.08	0.82	0.65	
15	0.06	0.14	0.27	0.52	0.92	1.02	1.51	2.46	3.39	4.33	4.78	5.70	6.61	6.61	5.54	4.39	3.39	2.57	2.04	1.67	1.19	0.91	0.72	
16	0.06	0.15	0.29	0.56	0.98	1.09	1.60	2.62	3.62	4.61	5.10	6.08	7.05	7.28	6.10	4.84	3.73	2.83	2.25	1.84	1.32	1.00		
17	0.07	0.16	0.31	0.60	1.04	1.16	1.71	2.79	3.85	4.90	5.42	6.46	7.49	7.97	6.68	5.30	4.09	3.11	2.47	2.02	1.45	1.10		
18	0.07	0.16	0.32	0.63	1.10	1.22	1.80	2.95	4.07	5.18	5.73	6.84	7.93	8.69	7.28	5.78	4.45	3.39	2.68	2.20	1.57	1.19		
19	0.07	0.18	0.34	0.66	1.17	1.29	1.91	3.12	4.30	5.47	6.06	7.22	8.37	9.43	7.90	6.26	4.82	3.67	2.92	2.39	1.71	0.07		
20	0.07	0.19	0.36	0.70	1.23	1.36	2.01	3.27	4.53	5.76	6.38	7.59	8.81	10.01	8.53	6.76	5.21	3.96	3.15	2.57	1.84			
21	0.08	0.19	0.38	0.73	1.29	1.42	2.11	3.44	4.75	6.05	6.70	7.97	9.25	10.51	9.17	7.28	5.61	4.27	3.39	2.77	1.98			
22	0.08	0.20	0.40	0.77	1.35	1.50	2.21	3.60	4.98	6.34	7.01	8.35	9.69	11.01	9.84	7.81	6.01	4.57	3.63	2.97	2.13			
23	0.09	0.21	0.41	0.81	1.42	1.57	2.31	3.77	5.20	6.63	7.33	8.73	10.13	11.51	10.51	8.34	6.43	4.88	3.88	3.18	2.27			
24	0.09	0.22	0.43	0.84	1.48	1.63	2.41	3.93	5.43	6.91	7.65	9.11	10.57	12.01	11.21	8.90	6.85	5.21	4.13	3.39	0.65			
25	0.10	0.23	0.45	0.87	1.54	1.70	2.51	4.09	5.66	7.20	7.97	9.49	11.01	12.51	11.92	9.46	7.28	5.54	4.39	3.59				
26	0.10	0.24	0.47	0.91	1.60	1.77	2.61	4.26	5.88	7.49	8.28	9.87	11.45	13.01	12.64	10.03	7.73	5.88	4.66	3.82				
28	0.10	0.26	0.50	0.98	1.72	1.90	2.81	4.59	6.34	8.07	8.93	10.63	12.33	14.01	14.12	11.21	8.63	6.56	5.21	4.27				
30	0.11	0.28	0.54	1.05	1.84	2.04	3.01	4.91	6.79	8.64	9.56	11.39	13.21	15.02	15.67	12.43	9.57	7.28	5.78	4.73				
32	0.12	0.30	0.57	1.12	1.97	2.18	3.21	5.24	7.24	9.22	10.20	12.15	14.09	16.02	17.26	13.70	10.54	8.02	6.37	1.05				
35	0.13	0.32	0.63	1.22	2.15	2.38	3.51	5.73	7.92	10.08	11.16	13.29	15.41	17.52	19.61	15.67	12.06	9.17	7.28					
40	0.16	0.37	0.72	1.39	2.46	2.72	4.01	6.55	9.05	11.52	12.75	15.19	17.61	20.02		22.42	19.14	14.74	11.21					
45	0.17	0.42	0.81	1.57	2.77	3.06	4.52	7.37	10.19	12.97	14.35	17.09	19.81	22.52	25.22	22.84	17.58	4.12						
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)									Type C (Oil Pump)										

Note: If using multiple strand chain, multiply horsepower rating by the following:
2 strands: 1.7x
3 strands: 2.5x
4 strands: 3.3x
5 strands or more: please contact Diamond-Drives technical support

Standard Series Horsepower Tables

#41 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																									
	10	25	50	100	180	200	300	500	700	900	1,000	1,200	1,400	1,600	1,800	2,100	2,500	3,000	3,500	4,000	5,000	6,000	7,000	8,000		
11	0.03	0.07	0.15	0.28	0.50	0.55	0.81	1.33	1.84	2.34	2.25	1.71	1.36	1.11	0.93	0.74	0.57	0.43	0.34	0.28	0.20	0.15	0.12	0.10		
12	0.03	0.08	0.16	0.31	0.54	0.60	0.89	1.45	2.00	2.55	2.57	1.95	1.55	1.27	1.06	0.84	0.65	0.49	0.39	0.32	0.23	0.17	0.14	0.11		
13	0.04	0.09	0.17	0.34	0.59	0.65	0.96	1.57	2.17	2.76	2.89	2.20	1.75	1.43	1.20	0.95	0.73	0.56	0.44	0.36	0.26	0.20	0.16			
14	0.04	0.10	0.19	0.36	0.63	0.70	1.04	1.69	2.34	2.97	3.23	2.46	1.95	1.60	1.34	1.06	0.82	0.62	0.49	0.40	0.29	0.22	0.17			
15	0.04	0.10	0.20	0.39	0.68	0.75	1.11	1.81	2.50	3.19	3.53	2.73	2.17	1.77	1.49	1.18	0.91	0.69	0.55	0.45	0.32	0.24	0.19			
16	0.05	0.11	0.21	0.41	0.73	0.80	1.18	1.93	2.67	3.40	3.76	3.01	2.39	1.95	1.64	1.30	1.00	0.76	0.60	0.49	0.35	0.27				
17	0.05	0.12	0.23	0.44	0.77	0.85	1.26	2.05	2.84	3.61	4.00	3.29	2.61	2.14	1.79	1.42	1.10	0.83	0.66	0.54	0.39	0.29				
18	0.05	0.12	0.24	0.46	0.82	0.90	1.33	2.18	3.00	3.82	4.23	3.59	2.85	2.33	1.95	1.55	1.19	0.91	0.72	0.59	0.42	0.32				
19	0.05	0.13	0.25	0.49	0.86	0.95	1.41	2.30	3.17	4.04	4.47	3.89	3.09	2.53	2.12	1.68	1.29	0.98	0.78	0.64	0.46	0.09				
20	0.06	0.14	0.27	0.52	0.91	1.00	1.48	2.42	3.34	4.25	4.70	4.20	3.33	2.73	2.29	1.81	1.40	1.06	0.84	0.69	0.49					
21	0.06	0.14	0.28	0.54	0.95	1.05	1.55	2.54	3.51	4.46	4.94	4.52	3.59	2.94	2.46	1.95	1.50	1.14	0.91	0.74	0.53					
22	0.06	0.15	0.29	0.57	1.00	1.10	1.63	2.66	3.67	4.67	5.17	4.85	3.85	3.15	2.64	2.09	1.61	1.23	0.97	0.80	0.57					
23	0.07	0.16	0.30	0.59	1.04	1.15	1.70	2.78	3.84	4.89	5.41	5.18	4.11	3.37	2.82	2.24	1.72	1.31	1.04	0.85	0.61					
24	0.07	0.16	0.32	0.62	1.09	1.20	1.78	2.90	4.01	5.10	5.64	5.52	4.38	3.59	3.01	2.39	1.84	1.40	1.11	0.91	0.65					
25	0.07	0.17	0.33	0.64	1.13	1.25	1.85	3.02	4.17	5.31	5.88	5.87	4.66	3.81	3.20	2.54	1.95	1.49	1.18	0.96						
26	0.07	0.18	0.34	0.67	1.18	1.30	1.92	3.14	4.34	5.52	6.11	6.23	4.94	4.05	3.39	2.69	2.07	1.58	1.25	1.02						
28	0.08	0.19	0.37	0.72	1.27	1.40	2.07	3.38	4.67	5.95	6.58	6.96	5.52	4.52	3.79	3.01	2.31	1.76	1.40	1.14						
30	0.08	0.20	0.40	0.77	1.36	1.50	2.22	3.63	5.01	6.37	7.05	7.72	6.13	5.01	4.20	3.33	2.57	1.95	1.55	1.27						
32	0.09	0.22	0.42	0.82	1.45	1.60	2.37	3.87	5.34	6.80	7.52	8.50	6.75	5.52	4.63	3.67	2.83	2.15	1.71	1.40						
35	0.10	0.24	0.46	0.90	1.59	1.76	2.59	4.23	5.84	7.44	8.23	9.80	7.72	6.32	5.29	4.20	3.23	2.46	1.95							
40	0.11	0.27	0.53	1.03	1.81	2.01	2.96	4.83	6.68	8.50	9.40	11.20	9.43	7.72	6.47	5.13	3.95	3.01								
45	0.13	0.31	0.60	1.16	2.04	2.26	3.33	5.44	7.51	9.56	10.58	12.60	11.25	9.21	7.72	6.13	4.72	3.59								
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)										Type C (Oil Pump)											

#41 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																									
	10	25	50	100	180	200	300	500	700	900	1,000	1,200	1,400	1,600	1,800	2,100	2,500	3,000	3,500	4,000	5,000	6,000	7,000	8,000		
11	0.02	0.05	0.11	0.21	0.37	0.41	0.60	0.99	1.37	1.74	1.68	1.28	1.01	0.83	0.69	0.55	0.43	0.32	0.25	0.21	0.15	0.11	0.09	0.07		
12	0.02	0.06	0.12	0.23	0.40	0.45	0.66	1.08	1.49	1.90	1.92	1.45	1.16	0.95	0.79	0.63	0.48	0.37	0.29	0.24	0.17	0.13	0.10	0.08		
13	0.03	0.07	0.13	0.25	0.44	0.48	0.72	1.17	1.62	2.06	2.16	1.64	1.30	1.07	0.89	0.71	0.54	0.42	0.33	0.27	0.19	0.15	0.12			
14	0.03	0.07	0.14	0.27	0.47	0.52	0.78	1.26	1.74	2.21	2.41	1.83	1.45	1.19	1.00	0.79	0.61	0.46	0.37	0.30	0.22	0.16	0.13			
15	0.03	0.07	0.15	0.29	0.51	0.56	0.83	1.35	1.86	2.38	2.63	2.04	1.62	1.32	1.11	0.88	0.68	0.51	0.41	0.34	0.24	0.18	0.14			
16	0.04	0.08	0.16	0.31	0.54	0.60	0.88	1.44	1.99	2.54	2.80	2.24	1.78	1.45	1.22	0.97	0.75	0.57	0.45	0.37	0.26	0.20				
17	0.04	0.09	0.17	0.33	0.57	0.63	0.94	1.53	2.12	2.69	2.98	2.45	1.95	1.60	1.33	1.06	0.82	0.62	0.49	0.40	0.29	0.22				
18	0.04	0.09	0.18	0.34	0.61	0.67	0.99	1.63	2.24	2.85	3.15	2.68	2.13	1.74	1.45	1.16	0.89	0.68	0.54	0.44	0.31	0.24				
19	0.04	0.10	0.19	0.37	0.64	0.71	1.05	1.72	2.36	3.01	3.33	2.90	2.30	1.89	1.58	1.25	0.96	0.73	0.58	0.48	0.34	0.07				
20	0.04	0.10	0.20	0.39	0.68	0.75	1.10	1.80	2.49	3.17	3.50	3.13	2.48	2.04	1.71	1.35	1.04	0.79	0.63	0.51	0.37					
21	0.04	0.10	0.21	0.40	0.71	0.78	1.16	1.89	2.62	3.33	3.68	3.37	2.68	2.19	1.83	1.45	1.12	0.85	0.68	0.55	0.40					
22	0.04	0.11	0.22	0.43	0.75	0.82	1.22	1.98	2.74	3.48	3.86	3.62	2.87	2.35	1.97	1.56	1.20	0.92	0.72	0.60	0.43					
23	0.05	0.12	0.22	0.44	0.78	0.86	1.27	2.07	2.86	3.65	4.03	3.86	3.06	2.51	2.10	1.67	1.28	0.98	0.78	0.63	0.45					
24	0.05	0.12	0.24	0.46	0.81	0.89	1.33	2.16	2.99	3.80	4.21	4.12	3.27	2.68	2.24	1.78	1.37	1.04	0.83	0.68	0.48					
25	0.05	0.13	0.25	0.48	0.84	0.93	1.38	2.25	3.11	3.96	4.38	4.38	3.47	2.84	2.39	1.89	1.45	1.11	0.88	0.72						
26	0.05	0.13	0.25	0.50	0.88	0.97	1.43	2.34	3.24	4.12	4.56	4.65	3.68	3.02	2.53	2.01	1.54	1.18	0.93	0.76						
28	0.06	0.14	0.28	0.54	0.95	1.04	1.54	2.52	3.48	4.44	4.91	5.19	4.12	3.37	2.83	2.24	1.72	1.31	1.04	0.85						
30	0.06	0.15	0.30	0.57	1.01	1.12	1.66	2.71	3.74	4.75	5.26	5.76	4.57	3.74	3.13	2.48	1.92	1.45	1.16	0.95						
32	0.07	0.16	0.31	0.61	1.08	1.19	1.77	2.89	3.98	5.07	5.61	6.34	5.03	4.12	3.45	2.74	2.11	1.60	1.28	1.04						
35	0.07	0.18	0.34	0.67	1.19	1.31	1.93	3.15	4.35	5.55	6.14	7.31	5.76	4.71	3.94	3.13	2.41	1.83	1.45							
40	0.08	0.20	0.40	0.77	1.35	1.50	2.21	3.60	4.98	6.34	7.01	8.35	7.03	5.76	4.82	3.83	2.95	2.24								
45	0.10	0.23	0.45	0.87	1.52	1.69	2.48	4.06	5.60	7.13	7.89	9.40	8.39	6.87	5.76	4.57	3.52	2.68								
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)										Type C (Oil Pump)											

Standard Series Horsepower Tables

#50 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	10	25	50	100	140	200	300	500	700	900	1,200	1,500	1,800	2,100	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	
11	0.11	0.27	0.52	1.00	1.39	1.95	2.88	4.70	6.50	8.27	10.24	7.33	5.58	4.42	3.41	2.59	2.06	1.68	1.41	1.20	1.04	0.92	0.81	0.73	
12	0.12	0.29	0.56	1.09	1.51	2.13	3.14	5.13	7.09	9.02	11.67	8.35	6.35	5.04	3.88	2.95	2.34	1.92	1.61	1.37	1.19	1.04	0.93		
13	0.13	0.31	0.61	1.19	1.64	2.31	3.40	5.56	7.68	9.77	12.88	9.42	7.16	5.69	4.38	3.33	2.64	2.16	1.81	1.55	1.34	1.18			
14	0.14	0.34	0.66	1.28	1.76	2.48	3.67	5.99	8.27	10.53	13.87	10.52	8.01	6.35	4.89	3.72	2.95	2.42	2.03	1.73	1.50	0.28			
15	0.15	0.36	0.70	1.37	1.89	2.66	3.93	6.41	8.86	11.28	14.86	11.67	8.88	7.05	5.42	4.13	3.27	2.68	2.25	1.92	1.66				
16	0.16	0.39	0.75	1.46	2.02	2.84	4.19	6.84	9.45	12.03	15.85	12.86	9.78	7.76	5.98	4.55	3.61	2.95	2.47	2.11					
17	0.17	0.41	0.80	1.55	2.14	3.02	4.45	7.27	10.04	12.78	16.85	14.08	10.71	8.50	6.55	4.98	3.95	3.23	2.71	2.31					
18	0.18	0.43	0.84	1.64	2.27	3.19	4.71	7.70	10.63	13.53	17.84	15.34	11.67	9.26	7.13	5.42	4.30	3.52	2.95	0.05					
19	0.19	0.46	0.89	1.73	2.39	3.37	4.98	8.12	11.22	14.28	18.83	16.64	12.66	10.05	7.73	5.88	4.67	3.82	3.20						
20	0.20	0.48	0.94	1.82	2.52	3.55	5.24	8.55	11.81	15.04	19.82	17.97	13.67	10.85	8.35	6.35	5.04	4.13	3.46						
21	0.21	0.51	0.98	1.92	2.65	3.73	5.50	8.98	12.40	15.79	20.81	19.34	14.71	11.67	8.99	6.84	5.42	4.44							
22	0.22	0.53	1.03	2.01	2.77	3.90	5.76	9.41	12.99	16.54	21.80	20.73	15.77	12.52	9.64	7.33	5.82	4.76							
23	0.23	0.55	1.08	2.10	2.90	4.08	6.02	9.83	13.58	17.29	22.79	22.16	16.86	13.38	10.30	7.84	6.22	5.09							
24	0.24	0.58	1.13	2.19	3.02	4.26	6.28	10.26	14.18	18.04	23.78	23.62	17.97	14.26	10.98	8.35	6.63	1.36							
25	0.25	0.60	1.17	2.28	3.15	4.44	6.55	10.69	14.77	18.79	24.77	25.11	19.11	15.16	11.67	8.88	7.05								
26	0.26	0.63	1.22	2.37	3.28	4.61	6.81	11.12	15.36	19.55	25.76	26.64	20.26	16.08	12.38	9.42	7.47								
28	0.28	0.67	1.31	2.55	3.53	4.97	7.33	11.97	16.54	21.05	27.75	29.77	22.65	17.97	13.84	10.52	4.74								
30	0.30	0.72	1.41	2.74	3.78	5.32	7.86	12.83	17.72	22.55	29.73	33.01	25.11	19.93	15.34	11.67									
32	0.32	0.77	1.50	2.92	4.03	5.68	8.38	13.68	18.90	24.06	31.71	36.37	27.67	21.96	16.90	12.86									
35	0.35	0.84	1.64	3.19	4.41	6.21	9.16	14.97	20.67	26.31	34.68	41.60	31.65	25.11	19.34	0.94									
40	0.40	0.96	1.88	3.65	5.04	7.10	10.47	17.10	23.63	30.07	39.64	49.11	38.67	30.68	23.62										
45	0.45	1.08	2.11	4.10	5.67	7.98	11.78	19.24	26.58	33.83	44.59	55.24	46.14	36.61	8.64										
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)						Type C (Oil Pump)														

Note: If using multiple strand chain, multiply horsepower rating by the following:
2 strands: 1.7x
3 strands: 2.5x
4 strands: 3.3x
5 strands or more: please contact Diamond-Drives technical support

#50 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	10	25	50	100	140	200	300	500	700	900	1,200	1,500	1,800	2,100	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	
11	0.08	0.20	0.39	0.75	1.04	1.45	2.15	3.50	4.85	6.17	7.64	5.47	4.16	3.30	2.54	1.93	1.54	1.25	1.05	0.89	0.78	0.69	0.60	0.54	
12	0.09	0.22	0.42	0.81	1.13	1.59	2.34	3.83	5.29	6.73	8.70	6.23	4.74	3.76	2.89	2.20	1.74	1.43	1.20	1.02	0.89	0.78	0.69		
13	0.10	0.23	0.45	0.89	1.22	1.72	2.54	4.15	5.73	7.29	9.60	7.02	5.34	4.24	3.27	2.48	1.97	1.61	1.35	1.16	1.00	0.88			
14	0.10	0.25	0.49	0.95	1.31	1.85	2.74	4.47	6.17	7.85	10.34	7.84	5.97	4.74	3.65	2.77	2.20	1.80	1.51	1.29	1.12	0.21			
15	0.11	0.27	0.52	1.02	1.41	1.98	2.93	4.78	6.61	8.41	11.08	8.70	6.62	5.26	4.04	3.08	2.44	2.00	1.68	1.43	1.24				
16	0.12	0.29	0.56	1.09	1.51	2.12	3.12	5.10	7.05	8.97	11.82	9.59	7.29	5.79	4.46	3.39	2.69	2.20	1.84	1.57					
17	0.13	0.31	0.60	1.16	1.60	2.25	3.32	5.42	7.49	9.53	12.57	10.50	7.99	6.34	4.88	3.71	2.95	2.41	2.02	1.72					
18	0.13	0.32	0.63	1.22	1.69	2.38	3.51	5.74	7.93	10.09	13.30	11.44	8.70	6.91	5.32	4.04	3.21	2.62	2.20	0.04					
19	0.14	0.34	0.66	1.29	1.78	2.51	3.71	6.06	8.37	10.65	14.04	12.41	9.44	7.49	5.76	4.38	3.48	2.85	2.39						
20	0.15	0.36	0.70	1.36	1.88	2.65	3.91	6.38	8.81	11.22	14.78	13.40	10.19	8.09	6.23	4.74	3.76	3.08	2.58						
21	0.16	0.38	0.73	1.43	1.98	2.78	4.10	6.70	9.25	11.77	15.52	14.42	10.97	8.70	6.70	5.10	4.04	3.31							
22	0.16	0.40	0.77	1.50	2.07	2.91	4.30	7.02	9.69	12.33	16.26	15.46	11.76	9.34	7.19	5.47	4.34	3.55							
23	0.17	0.41	0.81	1.57	2.16	3.04	4.49	7.33	10.13	12.89	16.99	16.52	12.57	9.98	7.68	5.85	4.64	3.80							
24	0.18	0.43	0.84	1.63	2.25	3.18	4.68	7.65	10.57	13.45	17.73	17.61	13.40	10.63	8.19	6.23	4.94	1.01							
25	0.19	0.45	0.87	1.70	2.35	3.31	4.88	7.97	11.01	14.01	18.47	18.72	14.25	11.30	8.70	6.62	5.26								
26	0.19	0.47	0.91	1.77	2.45	3.44	5.08	8.29	11.45	14.58	19.21	19.87	15.11	11.99	9.23	7.02	5.57								
28	0.21	0.50	0.98	1.90	2.63	3.71	5.47	8.93	12.33	15.70	20.69	22.20	16.89	13.40	10.32	7.84	3.53								
30	0.22	0.54	1.05	2.04	2.82	3.97	5.86	9.57	13.21	16.82	22.17	24.62	18.72	14.86	11.44	8.70									
32	0.24	0.57	1.12	2.18	3.01	4.24	6.25	10.20	14.09	17.94	23.65	27.12	20.63	16.38	12.60	9.59									
35	0.26	0.63	1.22	2.38	3.29	4.63	6.83	11.16	15.41	19.62	25.86	31.02	23.60	18.72	14.42	0.70									
40	0.30	0.72	1.40	2.72	3.76	5.29	7.81	12.75	17.62	22.42	29.56	36.62	28.84	22.88	17.61										
45	0.34	0.81	1.57	3.06	4.23	5.95	8.78	14.35	19.82	25.23	33.25	41.19	34.41	27.30	6.44										
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)						Type C (Oil Pump)														

Note: If using multiple strand chain, multiply horsepower rating by the following:
2 strands: 1.7x
3 strands: 2.5x
4 strands: 3.3x
5 strands or more: please contact Diamond-Drives technical support

Standard Series Horsepower Tables

#60 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	10	25	50	100	120	200	300	400	500	600	800	1,000	1,200	1,400	1,600	1,800	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	
11	0.19	0.46	0.89	1.72	2.05	3.35	4.95	6.52	8.08	9.63	12.69	15.58	11.85	9.41	7.70	6.45	5.51	3.94	3.00	2.38	1.95	1.63	1.39	1.21	
12	0.21	0.50	0.97	1.88	2.24	3.66	5.40	7.12	8.82	10.51	13.85	17.15	13.51	10.72	8.77	7.35	6.28	4.49	3.42	2.71	2.22	1.86	1.59	1.38	
13	0.22	0.54	1.05	2.04	2.43	3.96	5.85	7.71	9.55	11.38	15.00	18.58	15.23	12.08	9.89	8.29	7.08	5.06	3.85	3.06	2.50	2.10	1.79		
14	0.24	0.58	1.13	2.19	2.61	4.27	6.30	8.30	10.29	12.26	16.15	20.01	17.02	13.51	11.05	9.26	7.91	5.66	4.31	3.42	2.80	2.34	0.41		
15	0.26	0.62	1.21	2.35	2.80	4.57	6.75	8.90	11.02	13.13	17.31	21.44	18.87	14.98	12.26	10.27	8.77	6.28	4.77	3.79	3.10	2.60			
16	0.27	0.66	1.29	2.51	2.99	4.88	7.20	9.49	11.76	14.01	18.46	22.87	20.79	16.50	13.51	11.32	9.66	6.91	5.26	4.17	3.42	1.78			
17	0.29	0.70	1.37	2.66	3.17	5.18	7.65	10.08	12.49	14.88	19.62	24.30	22.77	18.07	14.79	12.40	10.58	7.57	5.76	4.57	3.74				
18	0.31	0.75	1.45	2.82	3.36	5.49	8.10	10.68	13.23	15.76	20.77	25.73	24.81	19.69	16.11	13.51	11.53	8.25	6.28	4.98	4.08				
19	0.33	0.79	1.53	2.98	3.55	5.79	8.55	11.27	13.96	16.63	21.92	27.16	26.91	21.35	17.48	14.65	12.50	8.95	6.81	5.40	0.20				
20	0.34	0.83	1.61	3.13	3.73	6.10	9.00	11.86	14.70	17.51	23.08	28.59	29.06	23.06	18.87	15.82	13.51	9.66	7.35	5.83					
21	0.36	0.87	1.69	3.29	3.92	6.40	9.45	12.46	15.43	18.38	24.23	30.02	31.26	24.81	20.31	17.02	14.53	10.40	7.91	6.28					
22	0.38	0.91	1.77	3.45	4.11	6.71	9.90	13.05	16.17	19.26	25.39	31.45	33.52	26.60	21.77	18.25	15.58	11.15	8.48						
23	0.40	0.95	1.85	3.61	4.29	7.01	10.35	13.64	16.90	20.13	26.54	32.88	35.84	28.44	23.28	19.51	16.66	11.92	9.07						
24	0.41	0.99	1.93	3.76	4.48	7.32	10.80	14.24	17.64	21.01	27.69	34.31	38.20	30.31	24.81	20.79	17.75	12.70	9.66						
25	0.43	1.04	2.01	3.92	4.67	7.62	11.25	14.83	18.37	21.89	28.85	35.74	40.61	32.23	26.38	22.11	18.87	13.51	10.27						
26	0.45	1.08	2.09	4.08	4.85	7.93	11.70	15.42	19.11	22.76	30.00	37.17	43.07	34.18	27.98	23.44	20.02	14.32	10.90						
28	0.48	1.16	2.26	4.39	5.23	8.54	12.60	16.61	20.58	24.51	32.31	40.03	47.68	38.20	31.26	26.20	22.37	16.01							
30	0.52	1.24	2.42	4.70	5.60	9.15	13.50	17.79	22.05	26.26	34.62	42.89	51.09	42.36	34.67	29.06	24.81	17.75							
32	0.55	1.33	2.58	5.02	5.98	9.76	14.40	18.98	23.52	28.01	36.92	45.75	54.50	46.67	38.20	32.01	27.33	19.56							
35	0.60	1.45	2.82	5.49	6.54	10.67	15.75	20.76	25.72	30.64	40.39	50.03	59.60	53.38	43.69	36.62	31.26	1.35							
40	0.69	1.66	3.22	6.27	7.47	12.20	18.00	23.73	29.39	35.02	46.16	57.18	68.12	65.22	53.38	44.74	38.20								
45	0.77	1.86	3.63	7.05	8.40	13.72	20.25	26.69	33.07	39.39	51.92	64.33	76.63	77.83	63.70	53.38	12.45								
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)												

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands: 1.7x

3 strands: 2.5x

4 strands: 3.3x

5 strands or more: please contact Diamond-Drives technical support

#60 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	10	25	50	100	120	200	300	400	500	600	800	1,000	1,200	1,400	1,600	1,800	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500
11	0.14	0.34	0.66	1.28	1.53	2.50	3.69	4.86	6.03	7.18	9.46	11.62	8.84	7.02	5.74	4.81	4.11	2.94	2.24	1.77	1.45	1.22	1.04	0.90
12	0.16	0.37	0.72	1.40	1.67	2.73	4.03	5.31	6.58	7.84	10.33	12.79	10.07	7.99	6.54	5.48	4.68	3.35	2.55	2.02	1.66	1.39	1.19	1.03
13	0.16	0.40	0.78	1.52	1.81	2.95	4.36	5.75	7.12	8.49	11.19	13.86	11.36	9.01	7.37	6.18	5.28	3.77	2.87	2.28	1.86	1.57	1.33	
14	0.18	0.43	0.84	1.63	1.95	3.18	4.70	6.19	7.67	9.14	12.04	14.92	12.69	10.07	8.24	6.91	5.90	4.22	3.21	2.55	2.09	1.74	0.31	
15	0.19	0.46	0.90	1.75	2.09	3.41	5.03	6.64	8.22	9.79	12.91	15.99	14.07	11.17	9.14	7.66	6.54	4.68	3.56	2.83	2.31	1.94		
16	0.20	0.49	0.96	1.87	2.23	3.64	5.37	7.08	8.77	10.45	13.77	17.05	15.50	12.30	10.07	8.44	7.20	5.15	3.92	3.11	2.55	1.33		
17	0.22	0.52	1.02	1.98	2.36	3.86	5.70	7.52	9.31	11.10	14.63	18.12	16.98	13.47	11.03	9.25	7.89	5.64	4.30	3.41	2.79			
18	0.23	0.56	1.08	2.10	2.51	4.09	6.04	7.96	9.87	11.75	15.49	19.19	18.50	14.68	12.01	10.07	8.60	6.15	4.68	3.71	3.04			
19	0.25	0.59	1.14	2.22	2.65	4.32	6.38	8.40	10.41	12.40	16.35	20.25	20.07	15.92	13.03	10.92	9.32	6.67	5.08	4.03	0.15			
20	0.25	0.62	1.20	2.33	2.78	4.55	6.71	8.84	10.96	13.06	17.21	21.32	21.67	17.20	14.07	11.80	10.07	7.20	5.48	4.35				
21	0.27	0.65	1.26	2.45	2.92	4.77	7.05	9.29	11.51	13.71	18.07	22.39	23.31	18.50	15.15	12.69	10.84	7.76	5.90	4.68				
22	0.28	0.68	1.32	2.57	3.06	5.00	7.38	9.73	12.06	14.36	18.93	23.45	25.00	19.84	16.23	13.61	11.62	8.31	6.32					
23	0.30	0.71	1.38	2.69	3.20	5.23	7.72	10.17	12.60	15.01	19.79	24.52	26.73	21.21	17.36	14.55	12.42	8.89	6.76					
24	0.31	0.74	1.44	2.80	3.34	5.46	8.05	10.62	13.15	15.67	20.65	25.58	28.49	22.60	18.50	15.50	13.24	9.47	7.20					
25	0.32	0.78	1.50	2.92	3.48	5.68	8.39	11.06	13.70	16.32	21.51	26.65	30.28	24.03	19.67	16.49	14.07	10.07	7.66					
26	0.34	0.81	1.56	3.04	3.62	5.91	8.72	11.50	14.25	16.97	22.37	27.72	32.12	25.49	20.86	17.48	14.93	10.68	8.13					
28	0.36	0.87	1.69	3.27	3.90	6.37	9.40	12.39	15.35	18.28	24.09	29.85	35.55	28.49	23.31	19.54	16.68	11.94						
30	0.39	0.92	1.80	3.50	4.18	6.82	10.07	13.27	16.44	19.58	25.82	31.98	38.10	31.59	25.85	21.67	18.50	13.24						
32	0.41	0.99	1.92	3.74	4.46	7.28	10.74	14.15	17.54	20.89	27.53	34.12	40.64	34.80	28.49	23.87	20.38	14.59						
35	0.45	1.08	2.10	4.09	4.88	7.96	11.74	15.48	19.18	22.85	30.12	37.31	44.44	39.81	32.58	27.31	23.31	1.01						
40	0.51	1.24	2.40	4.68	5.57	9.10	13.42	17.70	21.92	26.11	34.42	42.64	50.80	48.63	39.81	33.36	28.49							
45	0.57	1.39	2.71	5.26	6.26	10.23	15.10	19.90	24.66	29.37	38.72	47.97	57.14	58.04	47.50	39.81	9.28							
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)											

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands: 1.7x

3 strands: 2.5x

4 strands: 3.3x

5 strands or more: please contact Diamond-Drives technical support

Standard Series Horsepower Tables

#80 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	10	25	50	75	88	100	200	300	400	500	600	700	800	900	1,000	1,200	1,400	1,600	1,800	2,000	2,500	3,000	3,500	4,000
11	0.44	1.06	2.07	3.05	3.56	4.03	7.83	11.56	15.23	18.87	22.48	26.07	27.41	22.97	19.61	14.92	11.84	9.69	8.12	6.93	4.96	3.77	3.00	2.45
12	0.48	1.16	2.26	3.33	3.88	4.39	8.54	12.61	16.62	20.59	24.53	28.44	31.23	26.17	22.35	17.00	13.49	11.04	9.25	7.90	5.65	4.30	3.41	2.79
13	0.52	1.26	2.45	3.61	4.21	4.76	9.26	13.66	18.00	22.31	26.57	30.81	35.02	29.51	25.20	19.17	15.21	12.45	10.43	8.91	6.37	4.85	3.85	3.15
14	0.56	1.35	2.63	3.89	4.53	5.12	9.97	14.71	19.39	24.02	28.62	33.18	37.72	32.98	28.16	21.42	17.00	13.91	11.66	9.96	7.12	5.42	4.30	3.52
15	0.60	1.45	2.82	4.16	4.86	5.49	10.68	15.76	20.77	25.74	30.66	35.55	40.41	36.58	31.23	23.76	18.85	15.43	12.93	11.04	7.90	6.01	4.77	
16	0.64	1.55	3.01	4.44	5.18	5.86	11.39	16.81	22.16	27.45	32.70	37.92	43.11	40.30	34.41	26.17	20.77	17.00	14.25	12.16	8.70	6.62	5.25	
17	0.68	1.64	3.20	4.72	5.50	6.22	12.10	17.86	23.54	29.17	34.75	40.29	45.80	44.13	37.68	28.66	22.75	18.62	15.60	13.32	9.53	7.25		
18	0.72	1.74	3.39	5.00	5.83	6.59	12.81	18.91	24.93	30.88	36.79	42.66	48.49	48.08	41.05	31.23	24.78	20.29	17.00	14.51	10.39	7.90		
19	0.76	1.84	3.57	5.28	6.15	6.95	13.53	19.96	26.31	32.60	38.84	45.03	51.19	52.15	44.52	33.87	26.88	22.00	18.44	15.74	11.26	0.36		
20	0.80	1.93	3.76	5.55	6.47	7.32	14.24	21.01	27.70	34.32	40.88	47.40	53.88	56.32	48.08	36.58	29.03	23.76	19.91	17.00	12.16			
21	0.84	2.03	3.95	5.83	6.80	7.69	14.95	22.07	29.08	36.03	42.92	49.77	56.58	60.59	51.73	39.36	31.23	25.56	21.42	18.29	13.09			
22	0.88	2.13	4.14	6.11	7.12	8.05	15.66	23.12	30.47	37.75	44.97	52.14	59.27	64.97	55.47	42.20	33.49	27.41	22.97	19.61	14.03			
23	0.92	2.22	4.33	6.39	7.45	8.42	16.37	24.17	31.85	39.46	47.01	54.51	61.97	69.38	59.30	45.11	35.80	29.30	24.55	20.97	15.00			
24	0.96	2.32	4.52	6.66	7.77	8.78	17.09	25.22	33.24	41.18	49.06	56.88	64.66	72.40	63.21	48.08	38.16	31.23	26.17	22.35	15.99			
25	1.00	2.42	4.70	6.94	8.09	9.15	17.80	26.27	34.62	42.89	51.10	59.25	67.35	75.42	67.20	51.12	40.57	33.20	27.83	23.76	8.16			
26	1.04	2.51	4.89	7.22	8.42	9.52	18.51	27.32	36.01	44.61	53.14	61.62	70.05	78.43	71.27	54.22	43.02	35.22	29.51	25.20				
28	1.12	2.71	5.27	7.77	9.06	10.25	19.93	29.42	38.78	48.04	57.23	66.36	75.44	84.47	79.65	60.59	48.08	39.36	32.98	28.16				
30	1.20	2.90	5.64	8.33	9.71	10.98	21.36	31.52	41.55	51.47	61.32	71.10	80.82	90.50	88.33	67.20	53.33	43.65	36.58	31.23				
32	1.28	3.09	6.02	8.89	10.36	11.71	22.78	33.62	44.32	54.91	65.41	75.84	86.21	96.53	97.31	74.03	58.75	48.08	40.30	5.65				
35	1.40	3.38	6.58	9.72	11.33	12.81	24.92	36.78	48.47	60.05	71.54	82.95	94.29	105.58	111.31	84.68	67.20	55.00	28.15					
40	1.61	3.87	7.53	11.11	12.95	14.64	28.48	42.03	55.40	68.63	81.76	94.80	107.77	120.67	133.51	103.46	82.10	40.16						
45	1.81	4.35	8.47	12.49	14.57	16.47	32.04	47.28	62.32	77.21	91.98	106.65	121.24	135.75	150.20	123.45	72.28							
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)									Type C (Oil Pump)										
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support													For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.											

#80 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	10	25	50	75	88	100	200	300	400	500	600	700	800	900	1,000	1,200	1,400	1,600	1,800	2,000	2,500	3,000	3,500	4,000
11	0.33	0.79	1.54	2.27	2.65	3.01	5.84	8.62	11.36	14.07	16.76	19.44	20.44	17.13	14.62	11.13	8.83	7.23	6.06	5.17	3.70	2.81	2.24	1.83
12	0.36	0.87	1.69	2.48	2.89	3.27	6.37	9.40	12.39	15.35	18.29	21.21	23.29	19.51	16.67	12.68	10.06	8.23	6.90	5.89	4.21	3.21	2.54	2.08
13	0.39	0.94	1.83	2.69	3.14	3.55	6.91	10.19	13.42	16.64	19.81	22.98	26.11	22.01	18.79	14.30	11.34	9.28	7.78	6.64	4.75	3.62	2.87	2.35
14	0.42	1.01	1.96	2.90	3.38	3.82	7.43	10.97	14.46	17.91	21.34	24.74	28.13	24.59	21.00	15.97	12.68	10.37	8.69	7.43	5.31	4.04	3.21	2.62
15	0.45	1.08	2.10	3.10	3.62	4.09	7.96	11.75	15.49	19.19	22.86	26.51	30.13	27.28	23.29	17.72	14.06	11.51	9.64	8.23	5.89	4.48	3.56	
16	0.48	1.16	2.24	3.31	3.86	4.37	8.49	12.54	16.52	20.47	24.38	28.28	32.15	30.05	25.66	19.51	15.49	12.68	10.63	9.07	6.49	4.94	3.91	
17	0.51	1.22	2.39	3.52	4.10	4.64	9.02	13.32	17.55	21.75	25.91	30.04	34.15	32.91	28.10	21.37	16.96	13.88	11.63	9.93	7.11	5.41		
18	0.54	1.30	2.53	3.73	4.35	4.91	9.55	14.10	18.59	23.03	27.43	31.81	36.16	35.85	30.61	23.29	18.48	15.13	12.68	10.82	7.75	5.89		
19	0.57	1.37	2.66	3.94	4.59	5.18	10.09	14.88	19.62	24.31	28.96	33.58	38.17	38.89	33.20	25.26	20.04	16.41	13.75	11.74	8.40	0.27		
20	0.60	1.44	2.80	4.14	4.82	5.46	10.62	15.67	20.66	25.59	30.48	35.35	40.18	42.00	35.85	27.28	21.65	17.72	14.85	12.68	9.07			
21	0.63	1.51	2.95	4.35	5.07	5.73	11.15	16.46	21.68	26.87	32.01	37.11	42.19	45.18	38.58	29.35	23.29	19.06	15.97	13.64	9.76			
22	0.66	1.59	3.09	4.56	5.31	6.00	11.68	17.24	22.72	28.15	33.53	38.88	44.20	48.45	41.36	31.47	24.97	20.44	17.13	14.62	10.46			
23	0.69	1.66	3.23	4.77	5.56	6.28	12.21	18.02	23.75	29.43	35.06	40.65	46.21	51.74	44.22	33.64	26.70	21.85	18.31	15.64	11.19			
24	0.72	1.73	3.37	4.97	5.79	6.55	12.74	18.81	24.79	30.71	36.58	42.42	48.22	53.99	47.14	35.85	28.46	23.29	19.51	16.67	11.92			
25	0.75	1.80	3.50	5.18	6.03	6.82	13.27	19.59	25.82	31.98	38.11	44.18	50.22	56.24	50.11	38.12	30.25	24.76	20.75	17.72	6.08			
26	0.78	1.87	3.65	5.38	6.28	7.10	13.80	20.37	26.85	33.27	39.63	45.95	52.24	58.49	53.15	40.43	32.08	26.26	22.01	18.79				
28	0.84	2.02	3.93	5.79	6.76	7.64	14.86	21.94	28.92	35.82	42.68	49.48	56.26	62.99	59.40	45.18	35.85	29.35	24.59	21.00				
30	0.89	2.16	4.21	6.21	7.24	8.19	15.93	23.50	30.98	38.38	45.73	53.02	60.27	67.49	65.87	50.11	39.77	32.55	27.28	23.29				
32	0.95	2.30	4.49	6.63	7.73	8.73	16.99	25.07	33.05	40.95	48.78	56.55	64.29	71.98	72.56	55.20	43.81	35.85	30.05	4.21				
35	1.04	2.52	4.91	7.25	8.45	9.55	18.58	27.43	36.14	44.78	53.35	61.86	70.31	78.73	83.00	63.15	50.11	41.01	20.99					
40	1.20	2.89	5.62	8.28	9.66	10.92	21.24	31.34	41.31	51.18	60.97	70.69	80.36	89.98	99.56	77.15	61.22	29.95						
45	1.35	3.24	6.32	9.31	10.86	12.28	23.89	35.26	46.47	57.58	68.59	79.53	90.41	101.23	112.00	92.06	53.90							
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)									Type C (Oil Pump)										
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support													For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.											

Standard Series Horsepower Tables

#100 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	10	25	50	71	100	150	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,500	3,000	3,500	
11	0.85	2.04	3.96	5.55	7.71	11.38	15.00	22.14	29.18	36.15	43.06	40.03	32.77	27.46	23.45	20.32	17.84	14.15	11.58	9.71	8.29	5.93	4.51	3.58	
12	0.92	2.22	4.32	6.05	8.41	12.41	16.36	24.15	31.83	39.44	46.98	45.61	37.33	31.29	26.71	23.16	20.32	16.13	13.20	11.06	9.45	6.76	5.14		
13	1.00	2.41	4.68	6.56	9.11	13.45	17.73	26.16	34.48	42.72	50.89	51.43	42.10	35.28	30.12	26.11	22.92	18.18	14.88	12.47	10.65	7.62	5.80		
14	1.08	2.59	5.04	7.06	9.81	14.48	19.09	28.18	37.14	46.01	54.81	57.48	47.05	39.43	33.66	29.18	25.61	20.32	16.63	13.94	11.90	8.52	1.13		
15	1.15	2.78	5.41	7.57	10.51	15.52	20.45	30.19	39.79	49.30	58.72	63.75	52.18	43.73	37.33	32.36	28.40	22.54	18.45	15.46	13.20	9.45			
16	1.23	2.96	5.77	8.07	11.22	16.55	21.82	32.20	42.44	52.58	62.64	70.23	57.48	48.17	41.13	35.65	31.29	24.83	20.32	17.03	14.54	10.41			
17	1.31	3.15	6.13	8.58	11.92	17.59	23.18	34.21	45.10	55.87	66.55	76.91	62.95	52.76	45.05	39.04	34.27	27.19	22.26	18.65	15.93	11.40			
18	1.38	3.33	6.49	9.08	12.62	18.62	24.55	36.23	47.75	59.15	70.47	81.71	68.59	57.48	49.08	42.54	37.33	29.63	24.25	20.32	17.35	0.18			
19	1.46	3.52	6.85	9.59	13.32	19.66	25.91	38.24	50.40	62.44	74.38	86.25	74.38	62.34	53.22	46.13	40.49	32.13	26.30	22.04	18.82				
20	1.54	3.70	7.21	10.09	14.02	20.69	27.27	40.25	53.05	65.73	78.30	90.79	80.33	67.32	57.48	49.82	43.73	34.70	28.40	23.80	20.32				
21	1.61	3.89	7.57	10.60	14.72	21.73	28.64	42.26	55.71	69.01	82.21	95.33	86.43	72.43	61.85	53.61	47.05	37.33	30.56	25.61	21.87				
22	1.69	4.08	7.93	11.10	15.42	22.76	30.00	44.28	58.36	72.30	86.13	99.87	92.68	77.67	66.31	57.48	50.45	40.03	32.77	27.46	23.45				
23	1.77	4.26	8.29	11.60	16.12	23.79	31.36	46.29	61.01	75.59	90.04	104.41	99.07	83.02	70.89	61.44	53.93	42.79	35.03	29.35	25.06				
24	1.84	4.45	8.65	12.11	16.82	24.83	32.73	48.30	63.66	78.87	93.96	108.95	105.60	88.50	75.56	65.49	57.48	45.61	37.33	31.29	5.43				
25	1.92	4.63	9.01	12.61	17.52	25.86	34.09	50.31	66.32	82.16	97.87	113.48	112.27	94.09	80.33	69.63	61.11	48.49	39.69	33.26					
26	2.00	4.82	9.37	13.12	18.23	26.90	35.45	52.33	68.97	85.45	101.79	118.02	119.07	99.79	85.20	73.85	64.81	51.43	42.10	35.28					
28	2.15	5.19	10.09	14.13	19.63	28.97	38.18	56.35	74.27	92.02	109.62	127.10	133.07	111.52	95.22	82.53	72.43	57.48	47.05						
30	2.31	5.56	10.81	15.14	21.03	31.04	40.91	60.38	79.58	98.59	117.45	136.18	147.58	123.68	105.60	91.53	80.33	63.75	49.40						
32	2.46	5.93	11.53	16.15	22.43	33.11	43.64	64.40	84.88	105.16	125.28	145.26	162.58	136.25	116.33	100.84	88.50	70.23	8.82						
35	2.69	6.48	12.61	17.66	24.53	36.21	47.73	70.44	92.84	115.02	137.02	158.88	180.61	155.85	133.07	115.34	101.23	69.02							
40	3.07	7.41	14.41	20.18	28.04	41.38	54.54	80.50	106.11	131.45	156.60	181.58	206.41	190.42	162.58	140.92	122.68								
45	3.46	8.34	16.22	22.71	31.54	46.55	61.36	90.56	119.37	147.89	176.17	204.27	232.21	227.21	194.00	168.15	145.58								
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)								Type C (Oil Pump)													
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support																								For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.	

#100 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																									
	10	25	50	71	100	150	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,500	3,000	3,500		
11	0.63	1.52	2.95	4.14	5.75	8.49	11.19	16.51	21.76	26.96	32.11	29.85	24.44	20.48	17.49	15.15	13.30	10.55	8.64	7.24	6.18	4.42	3.36	2.67		
12	0.69	1.66	3.22	4.51	6.27	9.25	12.20	18.01	23.74	29.41	35.03	34.01	27.84	23.33	19.92	17.27	15.15	12.03	9.84	8.25	7.05	5.04	3.83			
13	0.75	1.80	3.49	4.89	6.79	10.03	13.22	19.51	25.71	31.86	37.95	38.35	31.39	26.31	22.46	19.47	17.09	13.56	11.10	9.30	7.94	5.68	4.33			
14	0.81	1.93	3.76	5.26	7.32	10.80	14.24	21.01	27.70	34.31	40.87	42.86	35.09	29.40	25.10	21.76	19.10	15.15	12.40	10.40	8.87	6.35	0.84			
15	0.86	2.07	4.03	5.64	7.84	11.57	15.25	22.51	29.67	36.76	43.79	47.54	38.91	32.61	27.84	24.13	21.18	16.81	13.76	11.53	9.84	7.05				
16	0.92	2.21	4.30	6.02	8.37	12.34	16.27	24.01	31.65	39.21	46.71	52.37	42.86	35.92	30.67	26.58	23.33	18.52	15.15	12.70	10.84	7.76				
17	0.98	2.35	4.57	6.40	8.89	13.12	17.29	25.51	33.63	41.66	49.63	57.35	46.94	39.34	33.59	29.11	25.56	20.28	16.60	13.91	11.88	8.50				
18	1.03	2.48	4.84	6.77	9.41	13.88	18.31	27.02	35.61	44.11	52.55	60.93	51.15	42.86	36.60	31.72	27.84	22.10	18.08	15.15	12.94	0.13				
19	1.09	2.62	5.11	7.15	9.93	14.66	19.32	28.52	37.58	46.56	55.47	64.32	55.47	46.49	39.69	34.40	30.19	23.96	19.61	16.44	14.03					
20	1.15	2.76	5.38	7.52	10.45	15.43	20.34	30.01	39.56	49.01	58.39	67.70	59.90	50.20	42.86	37.15	32.61	25.88	21.18	17.75	15.15					
21	1.20	2.90	5.64	7.90	10.98	16.20	21.36	31.51	41.54	51.46	61.30	71.09	64.45	54.01	46.12	39.98	35.09	27.84	22.79	19.10	16.31					
22	1.26	3.04	5.91	8.28	11.50	16.97	22.37	33.02	43.52	53.91	64.23	74.47	69.11	57.92	49.45	42.86	37.62	29.85	24.44	20.48	17.49					
23	1.32	3.18	6.18	8.65	12.02	17.74	23.39	34.52	45.50	56.37	67.14	77.86	73.88	61.91	52.86	45.82	40.22	31.91	26.12	21.89	18.69					
24	1.37	3.32	6.45	9.03	12.54	18.52	24.41	36.02	47.47	58.81	70.07	81.24	78.75	65.99	56.35	48.84	42.86	34.01	27.84	23.33	4.05					
25	1.43	3.45	6.72	9.40	13.06	19.28	25.42	37.52	49.45	61.27	72.98	84.62	83.72	70.16	59.90	51.92	45.57	36.16	29.60	24.80						
26	1.49	3.59	6.99	9.78	13.59	20.06	26.44	39.02	51.43	63.72	75.90	88.01	88.79	74.41	63.53	55.07	48.33	38.35	31.39	26.31						
28	1.60	3.87	7.52	10.54	14.64	21.60	28.47	42.02	55.38	68.62	81.74	94.78	99.23	83.16	71.01	61.54	54.01	42.86	35.09							
30	1.72	4.15	8.06	11.29	15.68	23.15	30.51	45.03	59.34	73.52	87.58	101.55	110.05	92.23	78.75	68.25	59.90	47.54	36.84							
32	1.83	4.42	8.60	12.04	16.73	24.69	32.54	48.02	63.30	78.42	93.42	108.32	121.24	101.60	86.75	75.20	65.99	52.37	6.58							
35	2.01	4.83	9.40	13.17	18.29	27.00	35.59	52.53	69.23	85.77	102.18	118.48	134.68	116.22	99.23	86.01	75.49	51.47								
40	2.29	5.53	10.75	15.05	20.91	30.86	40.67	60.03	79.13	98.02	116.78	135.40	153.92	142.00	121.24	105.08	91.48									
45	2.58	6.22	12.10	16.93	23.52	34.71	45.76	67.53	89.01	110.28	131.37	152.32	173.16	169.43	144.67	125.39	25.79									
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)								Type C (Oil Pump)														
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support																									For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.	

Standard Series Horsepower Tables

ANSI #120 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	10	25	50	60	75	100	150	200	300	400	500	600	700	800	900	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,700	
General Drive Considerations	11	1.43	3.44	6.69	7.97	9.88	13.02	19.22	25.33	37.38	49.27	61.04	58.37	46.32	37.91	31.77	27.13	20.64	16.38	13.40	11.23	9.59	8.31	7.30	6.11
	12	1.56	3.75	7.30	8.70	10.78	14.20	20.96	27.63	40.78	53.75	66.51	52.78	43.20	36.20	30.91	23.51	18.66	15.27	12.80	10.93	9.47	8.31	6.97	
	13	1.69	4.07	7.91	9.42	11.67	15.39	22.71	29.93	44.18	58.23	72.14	74.99	59.51	48.71	40.82	34.85	26.51	21.04	17.22	14.43	12.32	10.68	9.37	
	14	1.82	4.38	8.52	10.15	12.57	16.57	24.46	32.24	47.58	62.71	77.69	83.81	66.51	54.44	45.62	38.95	29.63	23.51	19.25	16.13	13.77	11.94	10.48	
	15	1.95	4.69	9.13	10.87	13.47	17.76	26.20	34.54	50.98	67.19	83.24	92.95	73.76	60.37	50.59	43.20	32.86	26.08	21.34	17.89	15.27	13.24		
Chain Selection	16	2.08	5.00	9.74	11.60	14.37	18.94	27.95	36.84	54.37	71.67	88.79	102.39	81.26	66.51	55.74	47.59	36.20	28.73	23.51	19.71	16.83	14.58		
	17	2.21	5.32	10.34	12.32	15.27	20.12	29.70	39.14	57.77	76.15	94.34	112.14	88.99	72.84	61.04	52.12	39.65	31.46	25.75	21.58	18.43			
	18	2.34	5.63	10.95	13.05	16.16	21.31	31.45	41.45	61.17	80.63	99.89	119.00	96.96	79.36	66.51	56.78	43.20	34.28	28.06	23.51	20.08			
	19	2.47	5.94	11.56	13.77	17.06	22.49	33.19	43.75	64.57	85.11	105.44	125.61	105.15	86.06	72.13	61.58	46.85	37.18	30.43	25.50	0.80			
	20	2.60	6.26	12.17	14.50	17.96	23.67	34.94	46.05	67.97	89.59	110.99	132.22	113.56	92.95	77.89	66.51	50.59	40.15	32.86	27.54				
Roller Chain Installation	21	2.73	6.57	12.78	15.22	18.86	24.86	36.69	48.36	71.37	94.07	116.54	138.83	122.18	100.00	83.81	71.56	54.44	43.20	35.36	27.46				
	22	2.86	6.88	13.39	15.95	19.76	26.04	38.43	50.66	74.76	98.55	122.09	145.44	131.01	107.23	89.87	76.73	58.37	46.32	37.91					
	23	2.99	7.19	14.00	16.67	20.65	27.22	40.18	52.96	78.16	103.02	127.64	152.05	140.04	114.62	96.06	82.02	62.39	49.51	40.53					
	24	3.11	7.51	14.60	17.40	21.55	28.41	41.93	55.26	81.56	107.50	133.19	158.66	149.28	122.18	102.39	87.43	66.51	52.78	43.20					
	25	3.24	7.82	15.21	18.12	22.45	29.59	43.67	57.57	84.96	111.98	138.74	165.27	158.70	129.90	108.86	92.95	70.71	56.11	46.32					
Roller Chain Maintenance	26	3.37	8.13	15.82	18.85	23.35	30.78	45.42	59.87	88.36	116.46	144.29	171.88	168.32	137.77	115.46	98.58	74.99	59.51						
	28	3.63	8.76	17.04	20.30	25.15	33.14	48.92	64.47	95.15	125.42	155.38	185.11	188.11	153.97	129.03	110.17	83.81	66.51						
	30	3.89	9.38	18.25	21.75	26.94	35.51	52.41	69.08	101.95	134.38	166.48	198.33	208.62	170.75	143.10	122.18	92.95	74.99						
	32	4.15	10.01	19.47	23.20	28.74	37.88	55.90	73.68	108.75	143.34	177.58	211.55	229.83	188.11	157.65	134.60	102.39							
	35	4.54	10.95	21.30	25.37	31.43	41.43	61.14	80.59	118.94	156.78	194.23	231.38	262.89	215.17	180.33	153.97	117.13							
Horsepower Tables	40	5.19	12.51	24.34	28.99	35.92	47.35	69.88	92.11	135.94	179.17	221.98	264.44	306.61	262.89	220.32	176.66								
	45	5.84	14.08	27.38	32.62	40.41	53.27	78.61	103.62	152.93	201.57	249.72	297.49	344.94	313.69	213.33	49.79								
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)									Type C (Oil Pump)												
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support													For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.												

#120 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	10	25	50	60	75	100	150	200	300	400	500	600	700	800	900	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,700	
Roller Chain Maintenance	11	1.07	2.57	4.99	5.94	7.37	9.71	14.33	18.89	27.87	36.74	45.52	43.53	34.54	28.27	23.69	20.23	15.39	12.21	9.99	8.37	7.15	6.20	5.44	4.56
	12	1.16	2.80	5.44	6.49	8.04	10.59	15.63	20.60	30.41	40.08	49.66	49.60	39.36	32.21	26.99	23.05	17.53	13.91	11.39	9.54	8.15	7.06	6.20	5.20
	13	1.26	3.03	5.90	7.02	8.70	11.48	16.93	22.32	32.95	43.42	53.79	55.92	44.38	36.32	30.44	25.99	19.77	15.69	12.84	10.76	9.19	7.96	6.99	
	14	1.36	3.27	6.35	7.57	9.37	12.36	18.24	24.04	35.48	46.76	57.93	62.50	49.60	40.60	34.02	29.05	22.10	17.53	14.35	12.03	10.27	8.90	7.81	
	15	1.45	3.50	6.81	8.11	10.04	13.24	19.54	25.76	38.02	50.10	62.07	69.31	55.00	45.02	37.72	32.21	24.50	19.45	15.91	13.34	11.39	9.87		
Horsepower Tables	16	1.55	3.73	7.26	8.65	10.72	14.12	20.84	27.47	40.54	53.44	66.21	76.35	60.60	49.60	41.57	35.49	26.99	21.42	17.53	14.70	12.55	10.87		
	17	1.65	3.97	7.71	9.19	11.39	15.00	22.15	29.19	43.08	56.79	70.35	83.62	66.36	54.32	45.52	38.87	29.57	23.46	19.20	16.09	13.74			
	18	1.74	4.20	8.17	9.73	12.05	15.89	23.45	30.91	45.61	60.13	74.49	88.74	72.30	59.18	49.60	42.34	32.21	25.56	20.92	17.53	14.97			
	19	1.84	4.43	8.62	10.27	12.72	16.77	24.75	32.62	48.15	63.47	78.63	93.67	78.41	64.17	53.79	45.92	34.94	27.73	22.69	19.02	0.60			
	20	1.94	4.67	9.08	10.81	13.39	17.65	26.05	34.34	50.69	66.81	82.77	98.60	84.68	69.31	58.08	49.60	37.72	29.94	24.50	20.54				
Sprocket Information	21	2.04	4.90	9.53	11.35	14.06	18.54	27.36	36.06	53.22	70.15	86.90	103.53	91.11	74.57	62.50	53.36	40.60	32.21	26.37	20.48				
	22	2.13	5.13	9.98	11.89	14.74	19.42	28.66	37.78	55.75	73.49	91.04	108.45	97.69	79.96	67.02	57.22	43.53	34.54	28.27					
	23	2.23	5.36	10.44	12.43	15.40	20.30	29.96	39.49	58.28	76.82	95.18	113.38	104.43	85.47	71.63	61.16	46.52	36.92	30.22					
	24	2.32	5.60	10.89	12.98	16.07	21.19	31.27	41.21	60.82	80.16	99.32	118.31	111.32	91.11	76.35	65.20	49.60	39.36	32.21					
	25	2.42	5.83	11.34	13.51	16.74	22.07	32.56	42.93	63.35	83.50	103.46	123.24	118.34	96.87	81.18	69.31	52.73	41.84	33.70					
Tools, Troubleshooting	26	2.51	6.06	11.80	14.06	17.41	22.95	33.87	44.65	65.89	86.84	107.60	128.17	125.52	102.74	86.10	73.51	55.92	44.38						
	28	2.71	6.53	12.71	15.14	18.75	24.71	36.48	48.08	70.95	93.53	115.87	138.04	140.27	114.82	96.22	82.15	62.50	49.60						
	30	2.90	6.99	13.61	16.22	20.09	26.48	39.08	51.51	76.02	100.21	124.14	147.89	155.57	127.33	106.71	91.11	69.31	55.92						
	32	3.09	7.46	14.52	17.30	21.43	28.25	41.68	54.94	81.09	106.89	132.42	157.75	171.38	140.27	117.56	100.37	76.35							
	35	3.39	8.17	15.88	18.92	23.44	30.89	45.59	60.10	88.69	116.91	144.84	172.54	196.04	160.45	134.47	114.82	87.34							
Roller Chain Lubrication	40	3.87	9.33	18.15	21.62	26.79	35.31	52.11	68.69	101.37	133.61	165.53	197.19	228.64	196.04	164.29	131.74								
	45	4.35	10.50	20.42	24.32	30.13	39.72	58.62	77.27	114.04	150.31	186.22	221.84	257.22	233.92	159.08	37.13								
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)									Type C (Oil Pump)												
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support													For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.												

Standard Series Horsepower Tables

#140 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	5	10	25	50	53	75	100	150	200	300	400	500	600	700	800	900	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	
11	1.14	2.21	5.32	10.36	10.95	15.28	20.15	29.73	39.19	57.84	76.24	86.80	66.03	52.40	42.89	35.94	30.69	23.35	18.53	15.16	12.71	10.85	9.40	8.25	
12	1.24	2.41	5.81	11.30	11.95	16.67	21.98	32.44	42.75	63.10	83.17	98.90	75.24	59.70	48.87	40.95	34.97	26.60	21.11	17.28	14.48	12.36	10.72	0.72	
13	1.34	2.61	6.29	12.24	12.94	18.06	23.81	35.14	46.32	68.36	90.10	111.52	84.83	67.32	55.10	46.18	39.43	29.99	23.80	19.48	16.33	13.94	12.08		
14	1.45	2.81	6.78	13.18	13.94	19.45	25.64	37.84	49.88	73.61	97.03	120.21	94.81	75.24	61.58	51.61	44.06	33.52	26.60	21.77	18.25	15.58			
15	1.55	3.01	7.26	14.12	14.93	20.84	27.47	40.54	53.44	78.87	103.96	128.79	105.15	83.44	68.29	57.23	48.87	37.17	29.50	24.15	20.24	17.28			
16	1.65	3.21	7.74	15.06	15.93	22.23	29.30	43.25	57.00	84.13	110.89	137.38	115.83	91.92	75.24	63.05	53.83	40.95	32.50	26.60	22.29				
17	1.75	3.41	8.23	16.00	16.93	23.62	31.13	45.95	60.57	89.39	117.82	145.97	126.86	100.67	82.40	69.05	58.96	44.85	35.59	29.13	24.41				
18	1.86	3.61	8.71	16.95	17.92	25.01	32.97	48.65	64.13	94.65	124.75	154.55	138.22	109.68	89.77	75.24	64.24	48.87	38.78	31.74					
19	1.96	3.82	9.20	17.89	18.92	26.40	34.80	51.36	67.69	99.90	131.68	163.14	149.89	118.95	97.36	81.59	69.66	53.00	42.06	34.42					
20	2.06	4.02	9.68	18.83	19.91	27.79	36.63	54.06	71.25	105.16	138.61	171.73	161.88	128.46	105.15	88.12	75.24	57.23	45.42	35.82					
21	2.17	4.22	10.16	19.77	20.91	29.18	38.46	56.76	74.82	110.42	145.54	180.31	174.17	138.22	113.13	94.81	80.95	61.58	48.87						
22	2.27	4.42	10.65	20.71	21.90	30.57	40.29	59.47	78.38	115.68	152.47	188.90	186.76	148.21	121.30	101.66	86.80	66.03	52.40						
23	2.37	4.62	11.13	21.65	22.90	31.96	42.12	62.17	81.94	120.94	159.40	197.48	199.64	158.43	129.67	108.67	92.78	70.58	56.01						
24	2.48	4.82	11.62	22.60	23.90	33.35	43.95	64.87	85.51	126.20	166.33	206.07	212.80	168.87	138.22	115.83	98.90	75.24	57.90						
25	2.58	5.02	12.10	23.54	24.89	34.74	45.79	67.57	89.07	131.45	173.27	214.66	226.24	179.53	146.94	123.15	105.15	79.99							
26	2.68	5.22	12.58	24.48	25.89	36.13	47.62	70.28	92.63	136.71	180.20	223.24	239.95	190.41	155.85	130.61	111.52	84.83							
28	2.89	5.62	13.55	26.36	27.88	38.91	51.28	75.68	99.76	147.23	194.06	240.42	268.16	212.80	174.17	145.97	124.63	94.81							
30	3.10	6.02	14.52	28.24	29.87	41.68	54.94	81.09	106.88	157.74	207.92	257.59	297.40	236.00	193.16	161.88	138.22	18.64							
32	3.30	6.43	15.49	30.13	31.86	44.46	58.61	86.50	114.01	168.26	221.78	274.76	327.63	259.99	212.80	178.34	152.27								
35	3.61	7.03	16.94	32.95	34.85	48.63	64.10	94.60	124.70	184.03	242.57	300.52	358.00	297.40	243.41	203.99	135.27								
40	4.13	8.03	19.36	37.66	39.83	55.58	73.26	108.12	142.51	210.33	277.22	343.45	409.15	363.35	297.40	153.78									
45	4.65	9.04	21.78	42.37	44.80	62.53	82.42	121.63	160.32	236.62	311.88	386.38	460.29	433.56	221.34										
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)												
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support													For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.												

#140 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																										
	5	10	25	50	53	75	100	150	200	300	400	500	600	700	800	900	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400			
11	0.85	1.65	3.97	7.73	8.17	11.39	15.03	22.17	29.22	43.13	56.85	64.73	49.24	39.07	31.98	26.80	22.89	17.41	13.82	11.30	9.48	8.09	7.01	6.15			
12	0.92	1.80	4.33	8.43	8.91	12.43	16.39	24.19	31.88	47.05	62.02	73.75	56.11	44.52	36.44	30.54	26.08	19.84	15.74	12.89	10.80	9.22	7.99	0.54			
13	1.00	1.95	4.69	9.13	9.65	13.47	17.76	26.20	34.54	50.98	67.19	83.16	63.26	50.20	41.09	34.44	29.40	22.36	17.75	14.53	12.18	10.40	9.01				
14	1.08	2.10	5.06	9.83	10.40	14.50	19.12	28.22	37.20	54.89	72.36	89.64	70.70	56.11	45.92	38.49	32.86	25.00	19.84	16.23	13.61	11.62					
15	1.16	2.24	5.41	10.53	11.13	15.54	20.48	30.23	39.85	58.81	77.52	96.04	78.41	62.22	50.92	42.68	36.44	27.72	22.00	18.01	15.09	12.89					
16	1.23	2.39	5.77	11.23	11.88	16.58	21.85	32.25	42.50	62.74	82.69	102.44	86.37	68.54	56.11	47.02	40.14	30.54	24.24	19.84	16.62						
17	1.30	2.54	6.14	11.93	12.62	17.61	23.21	34.26	45.17	66.66	87.86	108.85	94.60	75.07	61.45	51.49	43.97	33.44	26.54	21.72	18.20						
18	1.39	2.69	6.50	12.64	13.36	18.65	24.59	36.28	47.82	70.58	93.03	115.25	103.07	81.79	66.94	56.11	47.90	36.44	28.92	23.67							
19	1.46	2.85	6.86	13.34	14.11	19.69	25.95	38.30	50.48	74.50	98.19	121.65	111.77	88.70	72.60	60.84	51.95	39.52	31.36	25.67							
20	1.54	3.00	7.22	14.04	14.85	20.72	27.31	40.31	53.13	78.42	103.36	128.06	120.71	95.79	78.41	65.71	56.11	42.68	33.87	26.71							
21	1.62	3.15	7.58	14.74	15.59	21.76	28.68	42.33	55.79	82.34	108.53	134.46	129.88	103.07	84.36	70.70	60.36	45.92	36.44								
22	1.69	3.30	7.94	15.44	16.33	22.80	30.04	44.35	58.45	86.26	113.70	140.86	139.27	110.52	90.45	75.81	64.73	49.24	39.07								
23	1.77	3.45	8.30	16.14	17.08	23.83	31.41	46.36	61.10	90.18	118.86	147.26	148.87	118.14	96.69	81.04	69.19	52.63	41.77								
24	1.85	3.59	8.67	16.85	17.82	24.87	32.77	48.37	63.76	94.11	124.03	153.67	158.68	125.93	103.07	86.37	73.75	56.11	28.26								
25	1.92	3.74	9.02	17.55	18.56	25.91	34.15	50.39	66.42	98.02	129.21	160.07	168.71	133.88	109.57	91.83	78.41	59.65									
26	2.00	3.89	9.38	18.25	19.31	26.94	35.51	52.41	69.07	101.94	134.38	166.47	178.93	141.99	116.22	97.40	83.16	63.26									
28	2.16	4.19	10.10	19.66	20.79	29.02	38.24	56.43	74.39	109.79	144.71	179.28	199.97	158.68	129.88	108.85	92.94	70.70									
30	2.31	4.49	10.83	21.06	22.27	31.08	40.97	60.47	79.70	117.63	155.05	192.08	221.77	175.99	144.04	120.71	103.07	13.90									
32	2.46	4.79	11.55	22.47	23.76	33.15	43.71	64.50	85.02	125.47	165.38	204.89	244.31	193.87	158.68	132.99	113.55										
35	2.69	5.24	12.63	24.57	25.99	36.26	47.80	70.54	92.99	137.23	180.88	224.10	266.96	221.77	181.51	152.12	100.87										
40	3.08	5.99	14.44	28.08	29.70	41.45	54.63	80.63	106.27	156.84	206.72	256.11	305.10	270.95	221.77	114.67											
45	3.47	6.74	16.24	31.60	33.41	46.63	61.46	90.70	119.55	176.45	232.57	288.12	343.24	323.31	165.05												
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)														
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support																								For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.			

Standard Series Horsepower Tables

#160 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																												
	5	10	25	47	50	75	100	150	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,200					
11	1.65	3.20	7.72	14.16	15.02	22.17	29.23	43.14	56.86	83.91	110.60	96.58	73.47	58.31	47.72	39.99	34.15	29.60	25.98	20.61	16.87	14.14	12.07	10.46					
12	1.80	3.50	8.43	15.45	16.39	24.19	31.88	47.06	62.03	91.54	120.66	110.05	83.72	66.44	54.38	45.57	38.91	33.73	29.60	23.49	19.22	16.11	13.76						
13	1.95	3.79	9.13	16.73	17.76	26.21	34.54	50.98	67.19	99.17	130.71	124.09	94.40	74.91	61.31	51.38	43.87	38.03	33.37	26.48	21.68	18.17							
14	2.10	4.08	9.83	18.02	19.12	28.22	37.20	54.90	72.36	106.80	140.77	138.68	105.50	83.72	68.52	57.43	49.03	42.50	37.30	29.60	24.23	20.30							
15	2.25	4.37	10.53	19.31	20.49	30.24	39.86	58.82	77.53	114.43	150.82	153.80	117.00	92.85	75.99	63.69	54.38	47.13	41.37	32.83	26.87								
16	2.40	4.66	11.23	20.59	21.85	32.25	42.51	62.74	82.70	122.05	160.88	169.43	128.89	102.28	83.72	70.16	59.90	51.92	45.57	36.16	29.60								
17	2.55	4.95	11.94	21.88	23.22	34.27	45.17	66.66	87.87	129.68	170.93	185.56	141.16	112.02	91.69	76.84	65.61	56.87	49.91	39.61	24.21								
18	2.70	5.24	12.64	23.17	24.59	36.29	47.83	70.59	93.04	137.31	180.99	202.17	153.80	122.05	99.90	83.72	71.48	61.96	54.38	43.15									
19	2.85	5.54	13.34	24.45	25.95	38.30	50.48	74.51	98.21	144.94	191.04	219.25	166.79	132.36	108.33	90.79	77.52	67.19	58.97	46.80									
20	3.00	5.83	14.04	25.74	27.32	40.32	53.14	78.43	103.38	152.57	201.10	236.79	180.13	142.95	117.00	98.05	83.72	72.57	63.69	46.79									
21	3.15	6.12	14.74	27.03	28.68	42.33	55.80	82.35	108.54	160.20	211.15	254.77	193.81	153.80	125.88	105.50	90.07	78.08	68.52										
22	3.29	6.41	15.45	28.32	30.05	44.35	58.45	86.27	113.71	167.83	221.21	273.18	207.82	164.91	134.98	113.12	96.58	83.72	73.47										
23	3.44	6.70	16.15	29.60	31.42	46.36	61.11	90.19	118.88	175.45	231.26	286.51	222.15	176.29	144.29	120.92	103.24	89.49	78.54										
24	3.59	6.99	16.85	30.89	32.78	48.38	63.77	94.11	124.05	183.08	241.32	298.97	236.79	187.91	153.80	128.89	110.05	95.39	83.72										
25	3.74	7.28	17.55	32.18	34.15	50.40	66.43	98.04	129.22	190.71	251.37	311.42	251.74	199.77	163.51	137.03	117.00	101.41	32.66										
26	3.89	7.57	18.26	33.46	35.51	52.41	69.08	101.96	134.39	198.34	261.43	323.88	267.00	211.88	173.42	145.33	124.09	107.56											
28	4.19	8.16	19.66	36.04	38.24	56.44	74.40	109.80	144.73	213.60	281.54	348.79	298.39	236.79	193.81	162.42	138.68	36.88											
30	4.49	8.74	21.06	38.61	40.98	60.48	79.71	117.64	155.06	228.85	301.65	373.71	330.92	262.61	214.94	180.13	126.46												
32	4.79	9.32	22.47	41.19	43.71	64.51	85.03	125.49	165.40	244.11	321.76	398.62	364.56	289.30	236.79	198.44	22.58												
35	5.24	10.20	24.57	45.05	47.81	70.55	93.00	137.25	180.91	266.99	351.92	435.99	417.01	330.92	270.86	112.60													
40	5.99	11.65	28.09	51.48	54.63	80.63	106.28	156.86	206.75	305.14	402.19	498.28	509.49	404.31	160.63														
45	6.74	13.11	31.60	57.92	61.46	90.71	119.57	176.47	232.59	343.28	452.47	560.56	607.95	289.10															
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)									Type C (Oil Pump)																
Note: If using multiple strand chain, multiply horsepower rating by the following:																									For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.				
2 strands: 1.7x																													
3 strands: 2.5x																													
4 strands: 3.3x																													
5 strands or more: please contact Diamond-Drives technical support																													

#160 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	5	10	25	47	50	75	100	150	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,200
11	1.23	2.39	5.76	10.56	11.20	16.53	21.80	32.17	42.40	62.57	82.47	72.02	54.79	43.48	35.58	29.82	25.47	22.07	19.37	15.37	12.58	10.54	9.00	7.80
12	1.34	2.61	6.29	11.52	12.22	18.04	23.77	35.09	46.26	68.26	89.98	82.06	62.43	49.54	40.55	33.98	29.02	25.15	22.07	17.52	14.33	12.01	10.26	
13	1.45	2.83	6.81	12.48	13.24	19.54	25.76	38.02	50.10	73.95	97.47	92.53	70.39	55.86	45.72	38.31	32.71	28.36	24.88	19.75	16.17	13.55		
14	1.57	3.04	7.33	13.44	14.26	21.04	27.74	40.94	53.96	79.64	104.97	103.41	78.67	62.43	51.10	42.83	36.56	31.69	27.81	22.07	18.07	15.14		
15	1.68	3.26	7.85	14.40	15.28	22.55	29.72	43.86	57.81	85.33	112.47	114.69	87.25	69.24	56.67	47.49	40.55	35.14	30.85	24.48	20.04			
16	1.79	3.47	8.37	15.35	16.29	24.05	31.70	46.79	61.67	91.01	119.97	126.34	96.11	76.27	62.43	52.32	44.67	38.72	33.98	26.96	22.07			
17	1.90	3.69	8.90	16.32	17.32	25.56	33.68	49.71	65.52	96.70	127.46	138.37	105.26	83.53	68.37	57.30	48.93	42.41	37.22	29.54	18.05			
18	2.01	3.91	9.43	17.28	18.34	27.06	35.67	52.64	69.38	102.39	134.96	150.76	114.69	91.01	74.50	62.43	53.30	46.20	40.55	32.18				
19	2.13	4.13	9.95	18.23	19.35	28.56	37.64	55.56	73.24	108.08	142.46	163.49	124.38	98.70	80.78	67.70	57.81	50.10	43.97	34.90				
20	2.24	4.35	10.47	19.19	20.37	30.07	39.63	58.49	77.09	113.77	149.96	176.57	134.32	106.60	87.25	73.12	62.43	54.12	47.49	34.89				
21	2.35	4.56	10.99	20.16	21.39	31.57	41.61	61.41	80.94	119.46	157.45	189.98	144.52	114.69	93.87	78.67	67.17	58.22	51.10					
22	2.45	4.78	11.52	21.12	22.41	33.07	43.59	64.33	84.79	125.15	164.96	203.71	154.97	122.97	100.65	84.35	72.02	62.43	54.79					
23	2.57	5.00	12.04	22.07	23.43	34.57	45.57	67.25	88.65	130.83	172.45	213.65	165.66	131.46	107.60	90.17	76.99	66.73	58.57					
24	2.68	5.21	12.57	23.03	24.44	36.08	47.55	70.18	92.50	136.52	179.95	222.94	176.57	140.12	114.69	96.11	82.06	71.13	62.43					
25	2.79	5.43	13.09	24.00	25.47	37.58	49.54	73.11	96.36	142.21	187.45	232.23	187.72	148.97	121.93	102.18	87.25	75.62	24.35					
26	2.90	5.64	13.62	24.95	26.48	39.08	51.51	76.03	100.21	147.90	194.95	241.52	199.10	158.00	129.32	108.37	92.53	80.21						
28	3.12	6.08	14.66	26.88	28.52	42.09	55.48	81.88	107.93	159.28	209.94	260.09	222.51	176.57	144.52	121.12	103.41	27.50						
30	3.35	6.52	15.70	28.79	30.56	45.10	59.44	87.72	115.63	170.65	224.94	278.68	246.77	195.83	160.28	134.32	94.30							
32	3.57	6.95	16.76	30.72	32.59	48.11	63.41	93.58	123.34	182.03	239.94	297.25	271.85	215.73	176.57	147.98	16.84							
35	3.91	7.61	18.32	33.59	35.65	52.61	69.35	102.35	134.90	199.09	262.43	325.12	310.96	246.77	201.98	83.97								
40	4.47	8.69	20.95	38.39	40.74	60.13	79.25	116.97	154.17	227.54	299.91	371.57	379.93	301.49	119.78									
45	5.03	9.78	23.56	43.19	45.83	67.64	89.16	131.59	173.44	255.98	337.41	418.01	453.35	215.58										
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)									Type C (Oil Pump)											
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support																								
															For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.									

Standard Series Horsepower Tables

#180 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	2	5	10	25	43	50	75	100	150	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	
11	0.94	2.27	4.43	10.66	17.95	20.75	30.62	40.36	59.56	78.51	115.87	148.32	106.13	80.73	64.07	52.44	43.95	37.52	32.52	28.54	22.65	18.54	15.54	
12	1.03	2.48	4.83	11.63	19.58	22.63	33.40	44.03	64.98	85.64	126.40	166.61	120.92	91.99	73.00	59.75	50.07	42.75	37.06	32.52	25.81	21.12	17.70	
13	1.12	2.69	5.23	12.60	21.21	24.52	36.19	47.70	70.39	92.78	136.93	180.49	136.35	103.72	82.31	67.37	56.46	48.21	41.79	36.67	29.10	23.82		
14	1.20	2.90	5.63	13.57	22.84	26.40	38.97	51.36	75.81	99.92	147.47	194.37	152.38	115.92	91.99	75.29	63.10	53.87	46.70	40.98	32.52	26.62		
15	1.29	3.10	6.03	14.54	24.48	28.29	41.75	55.03	81.22	107.06	158.00	208.26	169.00	128.56	102.02	83.50	69.98	59.75	51.79	45.45	36.07			
16	1.37	3.31	6.44	15.51	26.11	30.18	44.54	58.70	86.64	114.19	168.53	222.14	186.17	141.63	112.39	91.99	77.09	65.82	57.05	50.07	39.74			
17	1.46	3.52	6.84	16.48	27.74	32.06	47.32	62.37	92.05	121.33	179.07	236.02	203.90	155.11	123.09	100.75	84.43	72.09	62.49	54.84	43.52			
18	1.54	3.72	7.24	17.45	29.37	33.95	50.10	66.04	97.47	128.47	189.60	249.91	222.15	169.00	134.11	109.77	91.99	78.54	68.08	59.75				
19	1.63	3.93	7.64	18.42	31.00	35.83	52.89	69.71	102.88	135.60	200.13	263.79	240.92	183.27	145.44	119.04	99.76	85.18	73.83	64.80				
20	1.72	4.14	8.05	19.39	32.64	37.72	55.67	73.38	108.30	142.74	210.67	277.68	260.19	197.93	157.07	128.56	107.74	91.99	79.74	69.98				
21	1.80	4.34	8.45	20.36	34.27	39.61	58.45	77.05	113.71	149.88	221.20	291.56	279.94	212.96	169.00	138.32	115.92	98.97	85.79	75.29				
22	1.89	4.55	8.85	21.33	35.90	41.49	61.24	80.71	119.12	157.02	231.73	305.44	300.17	228.35	181.21	148.32	124.30	106.13	91.99					
23	1.97	4.76	9.25	22.30	37.53	43.38	64.02	84.38	124.54	164.15	242.27	319.33	320.87	244.10	193.70	158.54	132.87	113.45	98.33					
24	2.06	4.96	9.65	23.27	39.16	45.26	66.80	88.05	129.95	171.29	252.80	333.21	342.02	260.19	206.47	169.00	141.63	120.92	40.34					
25	2.15	5.17	10.06	24.24	40.79	47.15	69.59	91.72	135.37	178.43	263.33	347.10	363.62	276.62	219.51	179.67	150.57	128.56						
26	2.23	5.38	10.46	25.21	42.43	49.04	72.37	95.39	140.78	185.56	273.87	360.98	385.66	293.38	232.81	190.55	159.69	122.43						
28	2.40	5.79	11.26	27.15	45.69	52.81	77.94	102.73	151.61	199.84	294.93	388.75	431.00	327.87	260.19	212.96	178.47							
30	2.57	6.20	12.07	29.09	48.95	56.58	83.50	110.07	162.44	214.11	316.00	416.51	477.99	363.62	288.56	236.18	128.92							
32	2.75	6.62	12.87	31.02	52.22	60.35	89.07	117.40	173.27	228.39	337.07	444.28	526.58	400.58	317.89	260.19								
35	3.00	7.24	14.08	33.93	57.11	66.01	97.42	128.41	189.52	249.80	368.67	485.93	602.34	458.22	363.62	142.51								
40	3.43	8.27	16.09	38.78	65.27	75.44	111.34	146.75	216.59	285.48	421.34	555.35	688.02	559.83	254.20									
45	3.86	9.31	18.10	43.63	73.43	84.87	125.26	165.10	243.66	321.17	474.00	624.77	774.03	480.00										
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)											
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support																							For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.	

#180 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																						
	2	5	10	25	43	50	75	100	150	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800
11	0.70	1.69	3.30	7.95	13.39	15.47	22.83	30.10	44.41	58.54	86.40	110.60	79.14	60.20	47.78	39.10	32.77	27.98	24.25	21.28	16.89	13.83	11.59
12	0.77	1.85	3.60	8.67	14.60	16.88	24.91	32.83	48.46	63.86	94.26	124.24	90.17	68.60	54.44	44.56	37.34	31.88	27.64	24.25	19.25	15.75	13.20
13	0.84	2.01	3.90	9.40	15.82	18.28	26.99	35.57	52.49	69.19	102.11	134.59	101.68	77.34	61.38	50.24	42.10	35.95	31.16	27.34	21.70	17.76	
14	0.89	2.16	4.20	10.12	17.03	19.69	29.06	38.30	56.53	74.51	109.97	144.94	113.63	86.44	68.60	56.14	47.05	40.17	34.82	30.56	24.25	19.85	
15	0.96	2.31	4.50	10.84	18.25	21.10	31.13	41.04	60.57	79.83	117.82	155.30	126.02	95.87	76.08	62.27	52.18	44.56	38.62	33.89	26.90		
16	1.02	2.47	4.80	11.57	19.47	22.51	33.21	43.77	64.61	85.15	125.67	165.65	138.83	105.61	83.81	68.60	57.49	49.08	42.54	37.34	29.63		
17	1.09	2.62	5.10	12.29	20.69	23.91	35.29	46.51	68.64	90.48	133.53	176.00	152.05	115.67	91.79	75.13	62.96	53.76	46.60	40.89	32.45		
18	1.15	2.77	5.40	13.01	21.90	25.32	37.36	49.25	72.68	95.80	141.38	186.36	165.66	126.02	100.01	81.86	68.60	58.57	50.77	44.56			
19	1.22	2.93	5.70	13.74	23.12	26.72	39.44	51.98	76.72	101.12	149.24	196.71	179.65	136.66	108.45	88.77	74.39	63.52	55.06	48.32			
20	1.28	3.09	6.00	14.46	24.34	28.13	41.51	54.72	80.76	106.44	157.10	207.07	194.02	147.60	117.13	95.87	80.34	68.60	59.46	52.18			
21	1.34	3.24	6.30	15.18	25.56	29.54	43.59	57.46	84.79	111.77	164.95	217.42	208.75	158.80	126.02	103.15	86.44	73.80	63.97	56.14			
22	1.41	3.39	6.60	15.91	26.77	30.94	45.67	60.19	88.83	117.09	172.80	227.77	223.84	170.28	135.13	110.60	92.69	79.14	68.60				
23	1.47	3.55	6.90	16.63	27.99	32.35	47.74	62.92	92.87	122.41	180.66	238.12	239.27	182.03	144.44	118.22	99.08	84.60	73.32				
24	1.54	3.70	7.20	17.35	29.20	33.75	49.81	65.66	96.90	127.73	188.51	248.47	255.04	194.02	153.96	126.02	105.61	90.17	30.08				
25	1.60	3.86	7.50	18.08	30.42	35.16	51.89	68.40	100.95	133.06	196.37	258.83	271.15	206.28	163.69	133.98	112.28	95.87					
26	1.66	4.01	7.80	18.80	31.64	36.57	53.97	71.13	104.98	138.37	204.22	269.18	287.59	218.77	173.61	142.09	119.08	91.30					
28	1.79	4.32	8.40	20.25	34.07	39.38	58.12	76.61	113.06	149.02	219.93	289.89	321.40	244.49	194.02	158.80	133.09						
30	1.92	4.62	9.00	21.69	36.50	42.19	62.27	82.08	121.13	159.66	235.64	310.59	356.44	271.15	215.18	176.12	96.14						
32	2.05	4.94	9.60	23.13	38.94	45.00	66.42	87.55	129.21	170.31	251.35	331.30	392.67	298.71	237.05	194.02							
35	2.24	5.40	10.50	25.30	42.59	49.22	72.65	95.76	141.33	186.28	274.92	362.36	449.16	341.69	271.15	106.27							
40	2.56	6.17	12.00	28.92	48.67	56.26	83.03	109.43	161.51	212.88	314.19	414.12	513.06	417.47	189.56								
45	2.88	6.94	13.50	32.53	54.76	63.29	93.41	123.12	181.70	239.50	353.46	465.89	577.19	357.94									
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)										
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support													For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.										

Standard Series Horsepower Tables

#200 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																						
	2	5	10	25	40	50	75	100	150	200	250	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600
11	1.25	3.02	5.88	14.16	22.23	27.54	40.65	53.58	79.08	104.24	129.14	153.84	161.36	115.46	87.83	69.70	57.05	47.81	40.82	35.38	31.05	24.64	20.17
12	1.37	3.29	6.41	15.45	24.25	30.05	44.35	58.45	86.27	113.71	140.88	167.82	183.86	131.56	100.08	79.42	65.00	54.48	46.51	40.32	35.38	28.08	22.98
13	1.48	3.57	6.94	16.73	26.28	32.55	48.04	63.33	93.46	123.19	152.62	181.81	207.31	148.34	112.85	89.55	73.30	61.43	52.45	45.46	39.90	31.66	
14	1.59	3.84	7.48	18.02	28.30	35.06	51.74	68.20	100.65	132.66	164.36	195.79	231.69	165.78	126.11	100.08	81.91	68.65	58.61	50.80	44.59	35.38	
15	1.71	4.12	8.01	19.31	30.32	37.56	55.43	73.07	107.84	142.14	176.09	209.78	256.95	183.86	139.87	110.99	90.85	76.13	65.00	56.34	49.45	37.46	
16	1.82	4.39	8.55	20.60	32.34	40.06	59.13	77.94	115.03	151.61	187.83	223.76	283.07	202.55	154.08	122.27	100.08	83.87	71.61	62.07	54.48		
17	1.94	4.67	9.08	21.88	34.36	42.57	62.83	82.81	122.22	161.09	199.57	237.75	310.02	221.83	168.75	133.91	109.61	91.86	78.43	67.98	59.66		
18	2.05	4.94	9.61	23.17	36.38	45.07	66.52	87.68	129.41	170.57	211.31	251.73	331.81	241.69	183.86	145.90	119.42	100.08	85.45	74.07	65.00		
19	2.16	5.22	10.15	24.46	38.40	47.58	70.22	92.55	136.59	180.04	223.05	265.72	350.24	262.11	199.39	158.23	129.51	108.53	92.67	80.32	2.22		
20	2.28	5.49	10.68	25.74	40.42	50.08	73.91	97.42	143.78	189.52	234.79	279.70	368.67	283.07	215.34	170.88	139.87	117.21	100.08	86.75			
21	2.39	5.77	11.22	27.03	42.45	52.59	77.61	102.29	150.97	198.99	246.53	293.69	387.11	304.56	231.69	183.86	150.49	126.11	107.68	32.68			
22	2.51	6.04	11.75	28.32	44.47	55.09	81.30	107.17	158.16	208.47	258.27	307.68	405.54	326.57	248.43	197.15	161.36	135.23	115.46				
23	2.62	6.31	12.28	29.61	46.49	57.59	85.00	112.04	165.35	217.95	270.01	321.66	423.97	349.09	265.56	210.74	172.49	144.55	104.48				
24	2.73	6.59	12.82	30.89	48.51	60.10	88.70	116.91	172.54	227.42	281.75	335.65	442.41	372.10	283.07	224.63	183.86	154.08	21.71				
25	2.85	6.86	13.35	32.18	50.53	62.60	92.39	121.78	179.73	236.90	293.49	349.63	460.84	395.60	300.94	238.82	195.47	163.81					
26	2.96	7.14	13.89	33.47	52.55	65.11	96.09	126.65	186.92	246.37	305.23	363.62	479.27	419.57	319.18	253.29	207.31	151.14					
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)										
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support													For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.										

#200 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																																	
	2	5	10	25	40	50	75	100	150	200	250	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600											
11	0.93	2.25	4.38	10.56	16.58	20.54	30.31	39.95	58.97	77.73	96.30	114.72	120.33	86.10	65.49	51.98	42.54	35.65	30.44	26.38	23.15	18.37	15.04											
12	1.02	2.45	4.78	11.52	18.08	22.41	33.07	43.59	64.33	84.79	105.05	125.14	137.10	98.10	74.63	59.22	48.47	40.63	34.68	30.07	26.38	20.94	17.14											
13	1.10	2.66	5.18	12.48	19.60	24.27	35.82	47.23	69.69	91.86	113.81	135.58	154.59	110.62	84.15	66.78	54.66	45.81	39.11	33.90	29.75	23.61												
14	1.19	2.86	5.58	13.44	21.10	26.14	38.58	50.86	75.05	98.92	122.56	146.00	172.77	123.62	94.04	74.63	61.08	51.19	43.71	37.88	33.25	26.38												
15	1.28	3.07	5.97	14.40	22.61	28.01	41.33	54.49	80.42	105.99	131.31	156.43	191.61	137.10	104.30	82.77	67.75	56.77	48.47	42.01	36.87	27.93												
16	1.36	3.27	6.38	15.36	24.12	29.87	44.09	58.12	85.78	113.06	140.06	166.86	211.09	151.04	114.90	91.18	74.63	62.54	53.40	46.29	40.63													
17	1.45	3.48	6.77	16.32	25.62	31.74	46.85	61.75	91.14	120.12	148.82	177.29	231.18	165.42	125.84	99.86	81.74	68.50	58.49	50.69	44.49													
18	1.53	3.68	7.17	17.28	27.13	33.61	49.60	65.38	96.50	127.19	157.57	187.72	247.43	180.23	137.10	108.80	89.05	74.63	63.72	55.23	48.47													
19	1.61	3.89	7.57	18.24	28.63	35.48	52.36	69.01	101.86	134.26	166.33	198.15	261.17	195.46	148.69	117.99	96.58	80.93	69.10	59.89	1.66													
20	1.70	4.09	7.96	19.19	30.14	37.34	55.11	72.65	107.22	141.33	175.08	208.57	274.92	211.09	160.58	127.43	104.30	87.40	74.63	64.69														
21	1.78	4.30	8.37	20.16	31.65	39.22	57.87	76.28	112.58	148.39	183.84	219.00	288.67	227.11	172.77	137.10	112.22	94.04	80.30	24.37														
22	1.87	4.50	8.76	21.12	33.16	41.08	60.63	79.92	117.94	155.46	192.59	229.44	302.41	243.52	185.25	147.01	120.33	100.84	86.10															
23	1.95	4.71	9.16	22.08	34.67	42.94	63.38	83.55	123.30	162.53	201.35	239.86	316.15	260.32	198.03	157.15	128.63	107.79	77.91															
24	2.04	4.91	9.56	23.03	36.17	44.82	66.14	87.18	128.66	169.59	210.10	250.29	329.91	277.47	211.09	167.51	137.10	114.90	16.19															
25	2.13	5.12	9.96	24.00	37.68	46.68	68.90	90.81	134.02	176.66	218.86	260.72	343.65	295.00	224.41	178.09	145.76	122.15																
26	2.21	5.32	10.36	24.96	39.19	48.55	71.65	94.44	139.39	183.72	227.61	271.15	357.39	312.87	238.01	188.88	154.59	112.71																
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)																					
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x 5 strands or more: please contact Diamond-Drives technical support																									For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.									

Standard Series Horsepower Tables

#240 Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	2	5	10	25	36	50	75	100	150	200	250	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	
11	2.02	4.86	9.46	22.81	32.36	44.36	65.47	86.30	127.37	167.88	207.99	247.77	186.70	133.59	101.63	80.65	66.01	55.32	47.23	40.94	35.93	31.87	28.51	
12	2.20	5.31	10.32	24.88	35.31	48.40	71.43	94.15	138.95	183.14	226.89	270.30	212.73	152.22	115.80	91.89	75.21	63.03	53.82	46.65	40.94	36.31	2.11	
13	2.39	5.75	11.18	26.95	38.25	52.43	77.38	101.99	150.53	198.41	245.80	292.82	239.87	171.64	130.57	103.61	84.81	71.07	60.68	52.60	46.16	38.13		
14	2.57	6.19	12.04	29.02	41.19	56.46	83.33	109.84	162.11	213.67	264.71	315.34	268.07	191.82	145.92	115.80	94.78	79.43	67.82	58.78	51.59			
15	2.75	6.63	12.90	31.10	44.13	60.50	89.28	117.68	173.68	228.93	283.62	337.87	297.30	212.73	161.83	128.42	105.11	88.09	75.21	65.19				
16	2.94	7.08	13.76	33.17	47.08	64.53	95.24	125.53	185.26	244.19	302.53	360.39	327.52	234.35	178.28	141.47	115.80	97.04	82.86	71.82				
17	3.12	7.52	14.62	35.24	50.02	68.56	101.19	133.37	196.84	259.45	321.43	382.92	358.70	256.66	195.25	154.94	126.82	106.28	90.74					
18	3.30	7.96	15.48	37.32	52.96	72.59	107.14	141.22	208.42	274.71	340.34	405.44	390.81	279.64	212.73	168.81	138.17	115.80	98.87					
19	3.49	8.40	16.34	39.39	55.90	76.63	113.09	149.06	220.00	289.98	359.25	427.97	423.82	303.26	230.70	183.08	149.84	125.58	3.20					
20	3.67	8.84	17.20	41.46	58.84	80.66	119.04	156.91	231.58	305.24	378.16	450.49	457.72	327.52	249.15	197.72	161.83	135.62						
21	3.85	9.29	18.07	43.54	61.79	84.69	125.00	164.76	243.16	320.50	397.07	473.02	492.48	352.39	268.07	212.73	174.12	109.86						
22	4.04	9.73	18.93	45.61	64.73	88.73	130.95	172.60	254.74	335.76	415.97	495.54	528.07	377.85	287.44	228.10	186.70							
23	4.22	10.17	19.79	47.68	67.67	92.76	136.90	180.45	266.32	351.02	434.88	518.07	564.48	403.91	307.26	243.83	199.57							
24	4.40	10.61	20.65	49.76	70.61	96.79	142.85	188.29	277.89	366.29	453.79	540.59	601.69	430.53	327.52	259.91	188.30							
25	4.59	11.06	21.51	51.83	73.55	100.83	148.81	196.14	289.47	381.55	472.70	563.12	639.68	457.72	348.20	276.32	73.47							
26	4.77	11.50	22.37	53.90	76.50	104.86	154.76	203.98	301.05	396.81	491.61	585.64	678.45	485.46	369.30	293.06								
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)											

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands: 1.7x

3 strands: 2.5x

For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.

#240 Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																						
	2	5	10	25	36	50	75	100	150	200	250	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400
11	1.51	3.62	7.05	17.01	24.13	33.08	48.82	64.35	94.98	125.19	155.10	184.76	139.22	99.62	75.79	60.14	49.22	41.25	35.22	30.53	26.79	23.77	21.26
12	1.64	3.96	7.70	18.55	26.33	36.09	53.27	70.21	103.62	136.57	169.19	201.56	158.63	113.51	86.35	68.52	56.08	47.00	40.13	34.79	30.53	27.08	1.57
13	1.78	4.29	8.34	20.10	28.52	39.10	57.70	76.05	112.25	147.95	183.29	218.36	178.87	127.99	97.37	77.26	63.24	53.00	45.25	39.22	34.42	28.43	
14	1.92	4.62	8.98	21.64	30.72	42.10	62.14	81.91	120.89	159.33	197.39	235.15	199.90	143.04	108.81	86.35	70.68	59.23	50.57	43.83	38.47		
15	2.05	4.94	9.62	23.19	32.91	45.11	66.58	87.75	129.51	170.71	211.50	251.95	221.70	158.63	120.68	95.76	78.38	65.69	56.08	48.61			
16	2.19	5.28	10.26	24.73	35.11	48.12	71.02	93.61	138.15	182.09	225.60	268.74	244.23	174.75	132.94	105.49	86.35	72.36	61.79	53.56			
17	2.33	5.61	10.90	26.28	37.30	51.13	75.46	99.45	146.78	193.47	239.69	285.54	267.48	191.39	145.60	115.54	94.57	79.25	67.66				
18	2.46	5.94	11.54	27.83	39.49	54.13	79.89	105.31	155.42	204.85	253.79	302.34	291.43	208.53	158.63	125.88	103.03	86.35	73.73				
19	2.60	6.26	12.18	29.37	41.68	57.14	84.33	111.15	164.05	216.24	267.89	319.14	316.04	226.14	172.03	136.52	111.74	93.65	2.39				
20	2.74	6.59	12.83	30.92	43.88	60.15	88.77	117.01	172.69	227.62	281.99	335.93	341.32	244.23	185.79	147.44	120.68	101.13					
21	2.87	6.93	13.47	32.47	46.08	63.15	93.21	122.86	181.32	239.00	296.10	352.73	367.24	262.78	199.90	158.63	129.84	81.92					
22	3.01	7.26	14.12	34.01	48.27	66.17	97.65	128.71	189.96	250.38	310.19	369.52	393.78	281.76	214.34	170.09	139.22						
23	3.15	7.58	14.76	35.55	50.46	69.17	102.09	134.56	198.59	261.76	324.29	386.32	420.93	301.20	229.12	181.82	148.82						
24	3.28	7.91	15.40	37.11	52.65	72.18	106.52	140.41	207.22	273.14	338.39	403.12	448.68	321.05	244.23	193.81	140.42						
25	3.42	8.25	16.04	38.65	54.85	75.19	110.97	146.26	215.86	284.52	352.49	419.92	477.01	341.32	259.65	206.05	54.79						
26	3.56	8.58	16.68	40.19	57.05	78.19	115.40	152.11	224.49	295.90	366.59	436.71	505.92	362.01	275.39	218.53							
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)									Type C (Oil Pump)									

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands: 1.7x

3 strands: 2.5x

For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.

Heavy Series Horsepower Tables

#60H Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	10	25	50	90	100	200	300	400	500	600	800	1,000	1,200	1,400	1,600	1,800	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	
11	0.22	0.53	1.02	1.80	1.99	3.87	5.72	7.53	9.33	11.12	14.66	15.58	11.85	9.41	7.70	6.45	5.51	3.94	3.00	2.38	1.95	1.63	1.39	1.21	
12	0.24	0.57	1.12	1.96	2.17	4.23	6.24	8.22	10.18	12.13	15.99	17.75	13.51	10.72	8.77	7.35	6.28	4.49	3.42	2.71	2.22	1.86	1.59		
13	0.26	0.62	1.21	2.13	2.35	4.58	6.76	8.90	11.03	13.14	17.32	20.02	15.23	12.08	9.89	8.29	7.08	5.06	3.85	3.06	2.50	2.10	1.79		
14	0.28	0.67	1.30	2.29	2.53	4.93	7.27	9.59	11.88	14.15	18.65	22.37	17.02	13.51	11.05	9.26	7.91	5.66	4.31	3.42	2.80	2.34			
15	0.30	0.72	1.40	2.45	2.71	5.28	7.79	10.27	12.73	15.16	19.99	24.76	18.87	14.98	12.26	10.27	8.77	6.28	4.77	3.79	3.10	2.60			
16	0.32	0.77	1.49	2.62	2.90	5.63	8.31	10.96	13.58	16.17	21.32	26.41	20.79	16.50	13.51	11.32	9.66	6.91	5.26	4.17	3.42				
17	0.34	0.81	1.58	2.78	3.08	5.99	8.83	11.64	14.43	17.18	22.65	28.06	22.77	18.07	14.79	12.40	10.58	7.57	5.76	4.57	3.74				
18	0.36	0.86	1.67	2.94	3.26	6.34	9.35	12.33	15.27	18.20	23.98	29.71	24.81	19.69	16.11	13.51	11.53	8.25	6.28	4.98	1.06				
19	0.38	0.91	1.77	3.11	3.44	6.69	9.87	13.01	16.12	19.21	25.32	31.36	26.91	21.35	17.48	14.65	12.50	8.95	6.81	5.40					
20	0.40	0.96	1.86	3.27	3.62	7.04	10.39	13.70	16.97	20.22	26.65	33.01	29.06	23.06	18.87	15.82	13.51	9.66	7.35	5.83					
21	0.42	1.00	1.95	3.44	3.80	7.39	10.91	14.38	17.82	21.23	27.98	34.66	31.26	24.81	20.31	17.02	14.53	10.40	7.91	4.87					
22	0.44	1.05	2.05	3.60	3.98	7.75	11.43	15.07	18.67	22.24	29.31	36.32	33.52	26.60	21.77	18.25	15.58	11.15	8.48						
23	0.46	1.10	2.14	3.76	4.16	8.10	11.95	15.75	19.52	23.25	30.65	37.97	35.84	28.44	23.28	19.51	16.66	11.92	9.07						
24	0.48	1.15	2.23	3.93	4.34	8.45	12.47	16.44	20.37	24.26	31.98	39.62	38.20	30.31	24.81	20.79	17.75	12.70	9.66						
25	0.50	1.20	2.33	4.09	4.52	8.80	12.99	17.12	21.21	25.27	33.31	41.27	40.61	32.23	26.38	22.11	18.87	13.51	10.27						
26	0.52	1.24	2.42	4.25	4.71	9.15	13.51	17.81	22.06	26.28	34.64	42.92	43.07	34.18	27.98	23.44	20.02	14.32	4.17						
28	0.56	1.34	2.61	4.58	5.07	9.86	14.55	19.18	23.76	28.30	37.31	46.22	48.14	38.20	31.26	26.20	22.37	16.01							
30	0.60	1.43	2.79	4.91	5.43	10.56	15.59	20.55	25.46	30.33	39.97	49.52	53.38	42.36	34.67	29.06	24.81	17.75							
32	0.64	1.53	2.98	5.23	5.79	11.27	16.63	21.92	27.15	32.35	42.64	52.82	58.81	46.67	38.20	32.01	27.33	11.45							
35	0.69	1.67	3.26	5.73	6.33	12.32	18.19	23.97	29.70	35.38	46.63	57.77	67.27	53.38	43.69	36.62	31.26								
40	0.79	1.91	3.72	6.54	7.24	14.08	20.79	27.40	33.94	40.43	53.30	66.03	78.66	65.22	53.38	44.74	29.65								
45	0.89	2.15	4.19	7.36	8.14	15.84	23.38	30.82	38.18	45.49	59.96	74.28	88.49	77.83	63.70	37.00									
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)									Type C (Oil Pump)												

Note: If using multiple strand chain, multiply horsepower rating by the following:
2 strands: 1.7x
3 strands: 2.5x
4 strands: 3.3x

#60H Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																								
	10	25	50	90	100	200	300	400	500	600	800	1,000	1,200	1,400	1,600	1,800	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	
11	0.16	0.40	0.76	1.34	1.48	2.89	4.27	5.62	6.96	8.29	10.93	11.62	8.84	7.02	5.74	4.81	4.11	2.94	2.24	1.77	1.45	1.22	1.04	0.90	
12	0.18	0.43	0.84	1.46	1.62	3.15	4.65	6.13	7.59	9.05	11.92	13.24	10.07	7.99	6.54	5.48	4.68	3.35	2.55	2.02	1.66	1.39	1.19		
13	0.19	0.46	0.90	1.59	1.75	3.42	5.04	6.64	8.23	9.80	12.92	14.93	11.36	9.01	7.37	6.18	5.28	3.77	2.87	2.28	1.86	1.57	1.33		
14	0.21	0.50	0.97	1.71	1.89	3.68	5.42	7.15	8.86	10.55	13.91	16.68	12.69	10.07	8.24	6.91	5.90	4.22	3.21	2.55	2.09	1.74			
15	0.22	0.54	1.04	1.83	2.02	3.94	5.81	7.66	9.49	11.30	14.91	18.46	14.07	11.17	9.14	7.66	6.54	4.68	3.56	2.83	2.31	1.94			
16	0.24	0.57	1.11	1.95	2.16	4.20	6.20	8.17	10.13	12.06	15.90	19.69	15.50	12.30	10.07	8.44	7.20	5.15	3.92	3.11	2.55				
17	0.25	0.60	1.18	2.07	2.30	4.47	6.58	8.68	10.76	12.81	16.89	20.92	16.98	13.47	11.03	9.25	7.89	5.64	4.30	3.41	2.79				
18	0.27	0.64	1.25	2.19	2.43	4.73	6.97	9.19	11.39	13.57	17.88	22.15	18.50	14.68	12.01	10.07	8.60	6.15	4.68	3.71	0.79				
19	0.28	0.68	1.32	2.32	2.57	4.99	7.36	9.70	12.02	14.32	18.88	23.39	20.07	15.92	13.03	10.92	9.32	6.67	5.08	4.03					
20	0.30	0.72	1.39	2.44	2.70	5.25	7.75	10.22	12.65	15.08	19.87	24.62	21.67	17.20	14.07	11.80	10.07	7.20	5.48	4.35					
21	0.31	0.75	1.45	2.57	2.83	5.51	8.14	10.72	13.29	15.83	20.86	25.85	23.31	18.50	15.15	12.69	10.84	7.76	5.90	3.63					
22	0.33	0.78	1.53	2.68	2.97	5.78	8.52	11.24	13.92	16.58	21.86	27.08	25.00	19.84	16.23	13.61	11.62	8.31	6.32						
23	0.34	0.82	1.60	2.80	3.10	6.04	8.91	11.74	14.56	17.34	22.86	28.31	26.73	21.21	17.36	14.55	12.42	8.89	6.76						
24	0.36	0.86	1.66	2.93	3.24	6.30	9.30	12.26	15.19	18.09	23.85	29.54	28.49	22.60	18.50	15.50	13.24	9.47	7.20						
25	0.37	0.89	1.74	3.05	3.37	6.56	9.69	12.77	15.82	18.84	24.84	30.78	30.28	24.03	19.67	16.49	14.07	10.07	7.66						
26	0.39	0.92	1.80	3.17	3.51	6.82	10.07	13.28	16.45	19.60	25.83	32.01	32.12	25.49	20.86	17.48	14.93	10.68	3.11						
28	0.42	1.00	1.95	3.42	3.78	7.35	10.85	14.30	17.72	21.10	27.82	34.47	35.90	28.49	23.31	19.54	16.68	11.94							
30	0.45	1.07	2.08	3.66	4.05	7.87	11.63	15.32	18.99	22.62	29.81	36.93	39.81	31.59	25.85	21.67	18.50	13.24							
32	0.48	1.14	2.22	3.90	4.32	8.40	12.40	16.35	20.25	24.12	31.80	39.39	43.85	34.80	28.49	23.87	20.38	8.54							
35	0.51	1.25	2.43	4.27	4.72	9.19	13.56	17.87	22.15	26.38	34.77	43.08	50.16	39.81	32.58	27.31	23.31								
40	0.59	1.42	2.77	4.88	5.40	10.50	15.50	20.43	25.31	30.15	39.75	49.24	58.66	48.63	39.81	33.36	22.11								
45	0.66	1.60	3.12	5.49	6.07	11.81	17.43	22.98	28.47	33.92	44.71	55.39	65.99	58.04	47.50	27.59									
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)									Type C (Oil Pump)												

Note: If using multiple strand chain, multiply horsepower rating by the following:
2 strands: 1.7x
3 strands: 2.5x
4 strands: 3.3x

Tools, Troubleshooting	Sprocket Information	Horsepower Tables	Roller Chain Maintenance	Roller Chain Lubrication	Roller Chain Installation	Chain Selection	General Drive Considerations	Introduction and Warnings
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Tools, Troubleshooting	Sprocket Information	Horsepower Tables	Roller Chain Maintenance	Roller Chain Lubrication	Roller Chain Installation	Chain Selection	General Drive Considerations
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Tools, Troubleshooting	Sprocket Information	Horsepower Tables
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Tools, Troubleshooting	Sprocket Information	Horsepower Tables	Roller Chain Maintenance
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Heavy Series Horsepower Tables

100H Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	10	25	50	58	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,700	3,000
11	0.93	2.23	4.34	5.01	8.45	16.43	24.25	31.96	39.60	47.18	40.03	32.77	27.46	23.45	20.32	17.84	14.15	11.58	9.71	8.29	7.19	6.31	5.28	4.51
12	1.01	2.44	4.74	5.46	9.21	17.93	26.46	34.87	43.20	51.46	45.61	37.33	31.29	26.71	23.16	20.32	16.13	13.20	11.06	9.45	8.19	7.19	6.02	5.14
13	1.09	2.64	5.13	5.92	9.98	19.42	28.66	37.78	46.80	55.75	51.43	42.10	35.28	30.12	26.11	22.92	18.18	14.88	12.47	10.65	9.23	8.10	6.79	5.80
14	1.18	2.84	5.53	6.37	10.75	20.91	30.86	40.68	50.40	60.04	57.48	47.05	39.43	33.66	29.18	25.61	20.32	16.63	13.94	11.90	10.32	9.05	7.59	8.42
15	1.26	3.04	5.92	6.83	11.52	22.41	33.07	43.59	54.00	64.33	63.75	52.18	43.73	37.33	32.36	28.40	22.54	18.45	15.46	13.20	11.44	10.04		
16	1.35	3.25	6.32	7.28	12.29	23.90	35.27	46.49	57.60	68.62	70.23	57.48	48.17	41.13	35.65	31.29	24.83	20.32	17.03	14.54	12.60	11.06		
17	1.43	3.45	6.71	7.74	13.05	25.39	37.48	49.40	61.20	72.91	76.91	62.95	52.76	45.05	39.04	34.27	27.19	22.26	18.65	15.93	13.80	12.12		
18	1.52	3.65	7.11	8.19	13.82	26.89	39.68	52.31	64.80	77.20	83.80	68.59	57.48	49.08	42.54	37.33	29.63	24.25	20.32	17.35	15.04	2.94		
19	1.60	3.86	7.50	8.65	14.59	28.38	41.89	55.21	68.40	81.48	90.88	74.38	62.34	53.22	46.13	40.49	32.13	26.30	22.04	18.82	16.31			
20	1.68	4.06	7.89	9.10	15.36	29.88	44.09	58.12	72.00	85.77	98.15	80.33	67.32	57.48	49.82	43.73	34.70	28.40	23.80	20.32	7.77			
21	1.77	4.26	8.29	9.56	16.13	31.37	46.30	61.02	75.60	90.06	104.43	86.43	72.43	61.85	53.61	47.05	37.33	30.56	25.61	21.87				
22	1.85	4.46	8.68	10.01	16.89	32.86	48.50	63.93	79.20	94.35	109.40	92.68	77.67	66.31	57.48	50.45	40.03	32.77	27.46	21.67				
23	1.94	4.67	9.08	10.47	17.66	34.36	50.71	66.83	82.80	98.64	114.37	99.07	83.02	70.89	61.44	53.93	42.79	35.03	29.35	2.94				
24	2.02	4.87	9.47	10.92	18.43	35.85	52.91	69.74	86.40	102.93	119.34	105.60	88.50	75.56	65.49	57.48	45.61	37.33	31.29					
25	2.10	5.07	9.87	11.38	19.20	37.34	55.12	72.65	90.00	107.22	124.32	112.27	94.09	80.33	69.63	61.11	48.49	39.69	29.68					
26	2.19	5.28	10.26	11.83	19.97	38.84	57.32	75.55	93.60	111.51	129.29	119.07	99.79	85.20	73.85	64.81	51.43	42.10	11.58					
28	2.36	5.68	11.05	12.75	21.50	41.83	61.73	81.36	100.80	120.08	139.24	133.07	111.52	95.22	82.53	72.43	57.48	47.05						
30	2.53	6.09	11.84	13.66	23.04	44.81	66.14	87.18	108.00	128.66	149.18	147.58	123.68	105.60	91.53	80.33	63.75	19.16						
32	2.69	6.49	12.63	14.57	24.57	47.80	70.55	92.99	115.20	137.24	159.13	162.58	136.25	116.33	100.84	88.50	70.23							
35	2.95	7.10	13.82	15.93	26.88	52.28	77.16	101.71	126.00	150.10	174.04	185.97	155.85	133.07	115.34	101.23	33.74							
40	3.37	8.12	15.79	18.21	30.72	59.75	88.18	116.23	144.00	171.55	198.91	226.11	190.42	162.58	140.92	82.37								
45	3.79	9.13	17.76	20.48	34.55	67.22	99.21	130.76	162.00	192.99	223.77	254.38	227.21	194.00	85.51									
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)							Type C (Oil Pump)													

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands:	1.7x
3 strands:	2.5x
4 strands:	3.3x

For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.

#100H Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	10	25	50	58	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,700	3,000
11	0.69	1.66	3.24	3.74	6.30	12.25	18.08	23.83	29.53	35.18	29.85	24.44	20.48	17.49	15.15	13.30	10.55	8.64	7.24	6.18	5.36	4.71	3.94	3.36
12	0.75	1.82	3.53	4.07	6.87	13.37	19.73	26.00	32.21	38.37	34.01	27.84	23.33	19.92	17.27	15.15	12.03	9.84	8.25	7.05	6.11	5.36	4.49	3.83
13	0.81	1.97	3.83	4.41	7.44	14.48	21.37	28.17	34.90	41.57	38.35	31.39	26.31	22.46	19.47	17.09	13.56	11.10	9.30	7.94	6.88	6.04	5.06	4.33
14	0.88	2.12	4.12	4.75	8.02	15.59	23.01	30.34	37.58	44.77	42.86	35.09	29.40	25.10	21.76	19.10	15.15	12.40	10.40	8.87	7.70	6.75	5.66	
15	0.94	2.27	4.41	5.09	8.59	16.71	24.66	32.51	40.27	47.97	47.54	38.91	32.61	27.84	24.13	21.18	16.81	13.76	11.53	9.84	8.53	7.49	6.28	
16	1.01	2.42	4.71	5.43	9.16	17.82	26.30	34.67	42.95	51.17	52.37	42.86	35.92	30.67	26.58	23.33	18.52	15.15	12.70	10.84	9.40	8.25		
17	1.07	2.57	5.00	5.77	9.73	18.93	27.95	36.84	45.64	54.37	57.35	46.94	39.34	33.59	29.11	25.56	20.28	16.60	13.91	11.88	10.29	9.04		
18	1.13	2.72	5.30	6.11	10.30	20.05	29.59	39.01	48.32	57.57	62.49	51.15	42.86	36.60	31.72	27.84	22.10	18.08	15.15	12.94	11.22	2.19		
19	1.19	2.88	5.59	6.45	10.88	21.16	31.24	41.17	51.01	60.76	67.77	55.47	46.49	39.69	34.40	30.19	23.96	19.61	16.44	14.03	12.16			
20	1.25	3.03	5.88	6.79	11.45	22.28	32.88	43.34	53.69	63.96	73.19	59.90	50.20	42.86	37.15	32.61	25.88	21.18	17.75	15.15	5.79			
21	1.32	3.18	6.18	7.13	12.03	23.39	34.53	45.50	56.37	67.16	77.87	64.45	54.01	46.12	39.98	35.09	27.84	22.79	19.10	16.31				
22	1.38	3.33	6.47	7.46	12.59	24.50	36.17	47.67	59.06	70.36	81.58	69.11	57.92	49.45	42.86	37.62	29.85	24.44	20.48	16.16				
23	1.45	3.48	6.77	7.81	13.17	25.62	37.81	49.84	61.74	73.56	85.29	73.88	61.91	52.86	45.82	40.22	31.91	26.12	21.89	2.19				
24	1.51	3.63	7.06	8.14	13.74	26.73	39.45	52.01	64.43	76.75	88.99	78.75	65.99	56.35	48.84	42.86	34.01	27.84	23.33					
25	1.57	3.78	7.36	8.49	14.32	27.84	41.10	54.18	67.11	79.95	92.71	83.72	70.16	59.90	51.92	45.57	36.16	29.60	22.13					
26	1.63	3.94	7.65	8.82	14.89	28.96	42.74	56.34	69.80	83.15	96.41	88.79	74.41	63.53	55.07	48.33	38.35	31.39	8.64					
28	1.76	4.24	8.24	9.51	16.03	31.19	46.03	60.67	75.17	89.54	103.83	99.23	83.16	71.01	61.54	54.01	42.86	35.09						
30	1.89	4.54	8.83	10.19	17.18	33.41	49.32	65.01	80.54	95.94	111.24	110.05	92.23	78.75	68.25	59.90	47.54	14.29						
32	2.01	4.84	9.42	10.86	18.32	35.64	52.61	69.34	85.90	102.34	118.66	121.24	101.60	86.75	75.20	65.99	52.37							
35	2.20	5.29	10.31	11.88	20.04	38.99	57.54	75.85	93.96	111.93	129.78	138.68	116.22	99.23	86.01	75.49	25.16							
40	2.51	6.06	11.77	13.58	22.91	44.56	65.76	86.67	107.38	127.92	148.33	168.61	142.00	121.24	105.08	61.42								
45	2.83	6.81	13.24	15.27	25.76	50.13	73.98	97.51	120.80	143.91	166.87	189.69	169.43	144.67	63.76									
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)						Type C (Oil Pump)														

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands:	1.7x
3 strands:	2.5x
4 strands:	3.3x

For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.

Tools, Troubleshooting	Sprocket Information	Horsepower Tables	Roller Chain Maintenance	Roller Chain Lubrication	Roller Chain Installation	Chain Selection	General Drive Considerations	Introduction and Warnings
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Tools, Troubleshooting	Sprocket Information	Horsepower Tables	Roller Chain Maintenance	Roller Chain Lubrication	Roller Chain Installation	Chain Selection	General Drive Considerations
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Tools, Troubleshooting	Sprocket Information	Horsepower Tables
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Tools, Troubleshooting	Sprocket Information	Horsepower Tables	Roller Chain Maintenance
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Heavy Series Horsepower Tables

#140H Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	5	10	25	44	50	75	100	150	200	300	400	500	600	700	800	900	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400
11	1.21	2.36	5.69	9.79	11.07	16.34	21.54	31.79	41.90	61.84	81.50	86.80	66.03	52.40	42.89	35.94	30.69	23.35	18.53	15.16	12.71	10.85	9.40	8.25
12	1.32	2.58	6.21	10.68	12.08	17.83	23.50	34.68	45.71	67.46	88.91	98.90	75.24	59.70	48.87	40.95	34.97	26.60	21.11	17.28	14.48	12.36	10.72	
13	1.43	2.79	6.73	11.57	13.08	19.31	25.45	37.57	49.52	73.08	96.32	111.52	84.83	67.32	55.10	46.18	39.43	29.99	23.80	19.48	16.33	13.94		
14	1.55	3.01	7.24	12.46	14.09	20.80	27.41	40.46	53.32	78.70	103.73	124.63	94.81	75.24	61.58	51.61	44.06	33.52	26.60	21.77	18.25	15.58		
15	1.66	3.22	7.76	13.35	15.10	22.28	29.37	43.35	57.13	84.32	111.14	137.69	105.15	83.44	68.29	57.23	48.87	37.17	29.50	24.15	20.24			
16	1.77	3.44	8.28	14.24	16.10	23.77	31.33	46.24	60.94	89.94	118.55	146.87	115.83	91.92	75.24	63.05	53.83	40.95	32.50	26.60	22.29			
17	1.88	3.65	8.80	15.13	17.11	25.25	33.29	49.13	64.75	95.56	125.96	156.05	126.86	100.67	82.40	69.05	58.96	44.85	35.59	29.13				
18	1.99	3.86	9.31	16.02	18.12	26.74	35.24	52.02	68.56	101.19	133.37	165.23	138.22	109.68	89.77	75.24	64.24	48.87	38.78	31.74				
19	2.10	4.08	9.83	16.92	19.12	28.22	37.20	54.90	72.37	106.81	140.78	174.41	149.89	118.95	97.36	81.59	69.66	53.00	42.06	33.55				
20	2.21	4.29	10.35	17.81	20.13	29.71	39.16	57.79	76.18	112.43	148.19	183.59	161.88	128.46	105.15	88.12	75.24	57.23	45.42					
21	2.32	4.51	10.87	18.70	21.14	31.20	41.12	60.68	79.99	118.05	155.60	192.77	174.17	138.22	113.13	94.81	80.95	61.58	48.87					
22	2.43	4.72	11.38	19.59	22.14	32.68	43.08	63.57	83.80	123.67	163.01	201.95	186.76	148.21	121.30	101.66	86.80	66.03	52.40					
23	2.54	4.94	11.90	20.48	23.15	34.17	45.03	66.46	87.60	129.29	170.42	211.13	199.64	158.43	129.67	108.67	92.78	70.58	29.48					
24	2.65	5.15	12.42	21.37	24.16	35.65	46.99	69.35	91.41	134.91	177.83	220.31	212.80	168.87	138.22	115.83	98.90	75.24						
25	2.76	5.37	12.94	22.26	25.16	37.14	48.95	72.24	95.22	140.54	185.24	229.49	226.24	179.53	146.94	123.15	105.15	79.99						
26	2.87	5.58	13.45	23.15	26.17	38.62	50.91	75.13	99.03	146.16	192.65	238.67	239.95	190.41	155.85	130.61	111.52	84.83						
28	3.09	6.01	14.49	24.93	28.18	41.59	54.82	80.91	106.65	157.40	207.47	257.03	268.16	212.80	174.17	145.97	124.63	41.32						
30	3.31	6.44	15.52	26.71	30.20	44.56	58.74	86.69	114.27	168.64	222.28	275.39	297.40	236.00	193.16	161.88	138.22							
32	3.53	6.87	16.56	28.49	32.21	47.54	62.66	92.47	121.88	179.89	237.10	293.74	327.63	259.99	212.80	178.34	152.27							
35	3.86	7.51	18.11	31.16	35.23	51.99	68.53	101.14	133.31	196.75	259.33	321.28	374.76	297.40	243.41	203.99	66.13							
40	4.41	8.59	20.70	35.61	40.26	59.42	78.32	115.59	152.36	224.86	296.38	367.18	437.42	363.35	264.26	74.76								
45	4.97	9.66	23.28	40.06	45.29	66.85	88.11	130.04	171.40	252.96	333.43	413.08	492.09	352.89	132.45									
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)									Type C (Oil Pump)											
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x												For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.												

#140H Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	5	10	25	44	50	75	100	150	200	300	400	500	600	700	800	900	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400
11	0.90	1.76	4.24	7.30	8.25	12.18	16.06	23.71	31.24	46.11	60.77	64.73	49.24	39.07	31.98	26.80	22.89	17.41	13.82	11.30	9.48	8.09	7.01	6.15
12	0.98	1.92	4.63	7.96	9.01	13.30	17.52	25.86	34.09	50.30	66.30	73.75	56.11	44.52	36.44	30.54	26.08	19.84	15.74	12.89	10.80	9.22	7.99	
13	1.07	2.08	5.02	8.63	9.75	14.40	18.98	28.02	36.93	54.50	71.83	83.16	63.26	50.20	41.09	34.44	29.40	22.36	17.75	14.53	12.18	10.40		
14	1.16	2.24	5.40	9.29	10.51	15.51	20.44	30.17	39.76	58.69	77.35	92.94	70.70	56.11	45.92	38.49	32.86	25.00	19.84	16.23	13.61	11.62		
15	1.24	2.40	5.79	9.96	11.26	16.61	21.90	32.33	42.60	62.88	82.88	102.68	78.41	62.22	50.92	42.68	36.44	27.72	22.00	18.01	15.09			
16	1.32	2.57	6.17	10.62	12.01	17.73	23.36	34.48	45.44	67.07	88.40	109.52	86.37	68.54	56.11	47.02	40.14	30.54	24.24	19.84	16.62			
17	1.40	2.72	6.56	11.28	12.76	18.83	24.82	36.64	48.28	71.26	93.93	116.37	94.60	75.07	61.45	51.49	43.97	33.44	26.54	21.72				
18	1.48	2.88	6.94	11.95	13.51	19.94	26.28	38.79	51.13	75.46	99.45	123.21	103.07	81.79	66.94	56.11	47.90	36.44	28.92	23.67				
19	1.57	3.04	7.33	12.62	14.26	21.04	27.74	40.94	53.97	79.65	104.98	130.06	111.77	88.70	72.60	60.84	51.95	39.52	31.36	25.02				
20	1.65	3.20	7.72	13.28	15.01	22.15	29.20	43.09	56.81	83.84	110.51	136.90	120.71	95.79	78.41	65.71	56.11	42.68	33.87					
21	1.73	3.36	8.11	13.94	15.76	23.27	30.66	45.25	59.65	88.03	116.03	143.75	129.88	103.07	84.36	70.70	60.36	45.92	36.44					
22	1.81	3.52	8.49	14.61	16.51	24.37	32.12	47.40	62.49	92.22	121.56	150.59	139.27	110.52	90.45	75.81	64.73	49.24	39.07					
23	1.89	3.68	8.87	15.27	17.26	25.48	33.58	49.56	65.32	96.41	127.08	157.44	148.87	118.14	96.69	81.04	69.19	52.63	21.98					
24	1.98	3.84	9.26	15.94	18.02	26.58	35.04	51.71	68.16	100.60	132.61	164.29	158.68	125.93	103.07	86.37	73.75	56.11						
25	2.06	4.00	9.65	16.60	18.76	27.70	36.50	53.87	71.01	104.80	138.13	171.13	168.71	133.88	109.57	91.83	78.41	59.65						
26	2.14	4.16	10.03	17.26	19.51	28.80	37.96	56.02	73.85	108.99	143.66	177.98	178.93	141.99	116.22	97.40	83.16	63.26						
28	2.30	4.48	10.81	18.59	21.01	31.01	40.88	60.33	79.53	117.37	154.71	191.67	199.97	158.68	129.88	108.85	92.94	30.81						
30	2.47	4.80	11.57	19.92	22.52	33.23	43.80	64.64	85.21	125.75	165.75	205.36	221.77	175.99	144.04	120.71	103.07							
32	2.63	5.12	12.35	21.24	24.02	35.45	46.73	68.95	90.89	134.14	176.81	219.04	244.31	193.87	158.68	132.99	113.55							
35	2.88	5.60	13.50	23.24	26.27	38.77	51.10	75.42	99.41	146.72	193.38	239.58	279.46	221.77	181.51	152.12	49.31							
40	3.29	6.41	15.44	26.55	30.02	44.31	58.40	86.20	113.61	167.68	221.01	273.81	326.18	270.95	197.06	55.75								
45	3.71	7.20	17.36	29.87	33.77	49.85	65.70	96.97	127.81	188.63	248.64	308.03	366.95	263.15	98.77									
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)								Type C (Oil Pump)												
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x 4 strands: 3.3x																								
												For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.												

Introduction and Warnings

General Drive Considerations

Chain Selection

Roller Chain Installation

Roller Chain Lubrication

Heavy Series Horsepower Tables

180H Roller Chain - Imperial Units (Horsepower)

[illegible]

#180H Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																						
	2	5	10	25	37	50	75	100	150	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800
11	0.74	1.79	3.47	8.38	12.21	16.31	24.06	31.72	46.82	61.71	91.07	110.60	79.14	60.20	47.78	39.10	32.77	27.98	24.25	21.28	16.89	13.83	11.59
12	0.81	1.95	3.80	9.14	13.33	17.79	26.26	34.61	51.07	67.32	99.36	126.02	90.17	68.60	54.44	44.56	37.34	31.88	27.64	24.25	19.25	15.75	1.79
13	0.88	2.11	4.11	9.91	14.44	19.27	28.44	37.49	55.33	72.93	107.63	141.87	101.68	77.34	61.38	50.24	42.10	35.95	31.16	27.34	21.70	17.76	
14	0.95	2.27	4.43	10.67	15.55	20.75	30.63	40.37	59.59	78.54	115.91	152.79	113.63	86.44	68.60	56.14	47.05	40.17	34.82	30.56	24.25	7.63	
15	1.01	2.44	4.74	11.43	16.65	22.24	32.82	43.26	63.84	84.15	124.20	163.70	126.02	95.87	76.08	62.27	52.18	44.56	38.62	33.89	26.90		
16	1.08	2.60	5.06	12.19	17.76	23.72	35.00	46.14	68.10	89.76	132.47	174.61	138.83	105.61	83.81	68.60	57.49	49.08	42.54	37.34	29.63		
17	1.15	2.77	5.38	12.95	18.87	25.20	37.20	49.02	72.36	95.37	140.75	185.52	152.05	115.67	91.79	75.13	62.96	53.76	46.60	40.89			
18	1.22	2.92	5.69	13.72	19.98	26.68	39.38	51.91	76.61	100.98	149.04	196.44	165.66	126.02	100.01	81.86	68.60	58.57	50.77	44.56			
19	1.28	3.09	6.01	14.48	21.10	28.17	41.57	54.79	80.87	106.59	157.31	207.35	179.65	136.66	108.45	88.77	74.39	63.52	55.06	48.32			
20	1.35	3.25	6.32	15.24	22.21	29.65	43.76	57.68	85.12	112.20	165.59	218.27	194.02	147.60	117.13	95.87	80.34	68.60	59.46	41.24			
21	1.42	3.42	6.64	16.00	23.32	31.13	45.95	60.56	89.38	117.81	173.87	229.18	208.75	158.80	126.02	103.15	86.44	73.80	63.97				
22	1.48	3.58	6.96	16.76	24.43	32.62	48.13	63.44	93.64	123.42	182.15	240.09	223.84	170.28	135.13	110.60	92.69	79.14	65.14				
23	1.55	3.74	7.27	17.52	25.54	34.09	50.32	66.33	97.90	129.03	190.43	251.00	239.27	182.03	144.44	118.22	99.08	84.60	21.86				
24	1.62	3.90	7.59	18.29	26.65	35.58	52.51	69.22	102.15	134.64	198.71	261.92	255.04	194.02	153.96	126.02	105.61	90.17					
25	1.69	4.06	7.90	19.05	27.75	37.06	54.70	72.09	106.40	140.25	206.99	272.83	271.15	206.28	163.69	133.98	112.28	71.71					
26	1.75	4.23	8.23	19.81	28.87	38.55	56.89	74.98	110.66	145.86	215.27	283.75	287.59	218.77	173.61	142.09	119.08	27.99					
28	1.89	4.55	8.85	21.33	31.09	41.51	61.26	80.74	119.17	157.08	231.83	305.57	321.40	244.49	194.02	158.80	109.11						
30	2.02	4.88	9.49	22.86	33.31	44.47	65.64	86.52	127.69	168.30	248.39	327.39	356.44	271.15	215.18	176.12	23.09						
32	2.16	5.20	10.12	24.38	35.53	47.44	70.01	92.28	136.19	179.52	264.95	349.22	392.67	298.71	237.05	148.84							
35	2.36	5.69	11.07	26.67	38.86	51.89	76.58	100.94	148.97	196.35	289.79	381.96	449.16	341.69	271.15	21.04							
40	2.70	6.50	12.65	30.48	44.41	59.30	87.52	115.35	170.25	224.40	331.19	436.53	540.81	417.47	92.17								
45	3.03	7.32	14.23	34.29	49.96	66.71	98.45	129.77	191.53	252.45	372.58	491.10	559.28	248.32									
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)										
Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x																							
												For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.											

Heavy Series Horsepower Tables

#200H Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																						
	2	5	10	25	33	50	75	100	150	200	250	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600
11	1.37	3.31	6.44	15.51	20.25	30.17	44.53	58.70	86.63	114.18	141.46	168.52	161.36	115.46	87.83	69.70	57.05	47.81	40.82	35.38	31.05	24.64	20.17
12	1.50	3.61	7.02	16.92	22.09	32.92	48.58	64.03	94.51	124.57	154.32	183.84	183.86	131.56	100.08	79.42	65.00	54.48	46.51	40.32	35.38	28.08	18.78
13	1.62	3.91	7.61	18.33	23.93	35.66	52.63	69.37	102.38	134.95	167.18	199.16	207.31	148.34	112.85	89.55	73.30	61.43	52.45	45.46	39.90	31.66	
14	1.75	4.21	8.19	19.74	25.77	38.40	56.68	74.71	110.26	145.33	180.04	214.48	231.69	165.78	126.11	100.08	81.91	68.65	58.61	50.80	44.59	35.38	
15	1.87	4.51	8.78	21.15	27.61	41.15	60.73	80.04	118.13	155.71	192.90	229.80	256.95	183.86	139.87	110.99	90.85	76.13	65.00	56.34	49.45		
16	2.00	4.81	9.36	22.56	29.45	43.89	64.77	85.38	126.01	166.09	205.76	245.12	283.07	202.55	154.08	122.27	100.08	83.87	71.61	62.07	54.48		
17	2.12	5.11	9.95	23.97	31.29	46.63	68.82	90.71	133.88	176.47	218.62	260.44	310.02	221.83	168.75	133.91	109.61	91.86	78.43	67.98	59.66		
18	2.25	5.41	10.53	25.38	33.13	49.38	72.87	96.05	141.76	186.85	231.48	275.76	337.77	241.69	183.86	145.90	119.42	100.08	85.45	74.07	11.75		
19	2.37	5.71	11.12	26.79	34.97	52.12	76.92	101.39	149.63	197.23	244.35	291.08	366.30	262.11	199.39	158.23	129.51	108.53	92.67	80.32			
20	2.50	6.02	11.70	28.20	36.82	54.86	80.97	106.72	157.51	207.61	257.21	306.40	395.60	283.07	215.34	170.88	139.87	117.21	100.08	31.07			
21	2.62	6.32	12.29	29.61	38.66	57.60	85.02	112.06	165.38	217.99	270.07	321.72	425.64	304.56	231.69	183.86	150.49	126.11	107.68				
22	2.75	6.62	12.87	31.02	40.50	60.35	89.07	117.40	173.26	228.37	282.93	337.04	456.40	326.57	248.43	197.15	161.36	135.23	86.70				
23	2.87	6.92	13.46	32.43	42.34	63.09	93.11	122.73	181.14	238.75	295.79	352.36	464.44	349.09	265.56	210.74	172.49	144.55	11.76				
24	3.00	7.22	14.04	33.84	44.18	65.83	97.16	128.07	189.01	249.13	308.65	367.68	484.64	372.10	283.07	224.63	183.86	154.08					
25	3.12	7.52	14.63	35.25	46.02	68.58	101.21	133.40	196.89	259.51	321.51	383.00	504.83	395.60	300.94	238.82	195.47	118.72					
26	3.24	7.82	15.21	36.66	47.86	71.32	105.26	138.74	204.76	269.89	334.37	398.32	525.02	419.57	319.18	253.29	207.31	46.33					

Lubrication Type A (Manual or Drip)

Type B (Oil Bath or Slinger)

Type C (Oil Pump)

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands: 1.7x

3 strands: 2.5x

For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.

#200H Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	2	5	10	25	33	50	75	100	150	200	250	300	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	
11	1.02	2.47	4.80	11.57	15.10	22.50	33.21	43.77	64.60	85.14	105.49	125.67	120.33	86.10	65.49	51.98	42.54	35.65	30.44	26.38	23.15	18.37	15.04	
12	1.12	2.69	5.23	12.62	16.47	24.55	36.23	47.75	70.48	92.89	115.08	137.09	137.10	98.10	74.63	59.22	48.47	40.63	34.68	30.07	26.38	20.94	14.00	
13	1.21	2.92	5.67	13.67	17.84	26.59	39.25	51.73	76.34	100.63	124.67	148.51	154.59	110.62	84.15	66.78	54.66	45.81	39.11	33.90	29.75	23.61		
14	1.30	3.14	6.11	14.72	19.22	28.63	42.27	55.71	82.22	108.37	134.26	159.94	172.77	123.62	94.04	74.63	61.08	51.19	43.71	37.88	33.25	26.38		
15	1.39	3.36	6.55	15.77	20.59	30.69	45.29	59.69	88.09	116.11	143.85	171.36	191.61	137.10	104.30	82.77	67.75	56.77	48.47	42.01	36.87			
16	1.49	3.59	6.98	16.82	21.96	32.73	48.30	63.67	93.97	123.85	153.44	182.79	211.09	151.04	114.90	91.18	74.63	62.54	53.40	46.29	40.63			
17	1.58	3.81	7.42	17.87	23.33	34.77	51.32	67.64	99.83	131.59	163.02	194.21	231.18	165.42	125.84	99.86	81.74	68.50	58.49	50.69	44.49			
18	1.68	4.03	7.85	18.93	24.71	36.82	54.34	71.62	105.71	139.33	172.61	205.63	251.88	180.23	137.10	108.80	89.05	74.63	63.72	55.23	8.76			
19	1.77	4.26	8.29	19.98	26.08	38.87	57.36	75.61	111.58	147.07	182.21	217.06	273.15	195.46	148.69	117.99	96.58	80.93	69.10	59.89				
20	1.86	4.49	8.72	21.03	27.46	40.91	60.38	79.58	117.46	154.81	191.80	228.48	295.00	211.09	160.58	127.43	104.30	87.40	74.63	23.17				
21	1.95	4.71	9.16	22.08	28.83	42.95	63.40	83.56	123.32	162.56	201.39	239.91	317.40	227.11	172.77	137.10	112.22	94.04	80.30					
22	2.05	4.94	9.60	23.13	30.20	45.00	66.42	87.55	129.20	170.30	210.98	251.33	340.34	243.52	185.25	147.01	120.33	100.84	84.65					
23	2.14	5.16	10.04	24.18	31.57	47.05	69.43	91.52	135.08	178.04	220.57	262.75	346.33	260.32	198.03	157.15	128.63	107.79	8.77					
24	2.24	5.38	10.47	25.23	32.95	49.09	72.45	95.50	140.94	185.78	230.16	274.18	361.40	277.47	211.09	167.51	137.10	114.90						
25	2.33	5.61	10.91	26.29	34.32	51.14	75.47	99.48	146.82	193.52	239.75	285.60	376.45	295.00	224.41	178.09	145.76	88.53						
26	2.42	5.83	11.34	27.34	35.69	53.18	78.49	103.46	152.69	201.26	249.34	297.03	391.51	312.87	238.01	188.88	154.59	34.55						

Lubrication Type A (Manual or Drip)

Type B (Oil Bath or Slinger)

Type C (Oil Pump)

Note: If using multiple strand chain, multiply horsepower rating by the following:

2 strands: 1.7x

3 strands: 2.5x

For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.

Heavy Series Horsepower Tables

#240H Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	2	5	10	25	27	50	75	100	150	200	250	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	
11	2.33	5.62	10.93	26.33	28.35	51.23	75.60	99.65	147.07	193.85	240.16	286.10	186.70	133.59	101.63	80.65	66.01	55.32	47.23	40.94	35.93	31.87	28.51	
12	2.54	6.13	11.92	28.73	30.93	55.88	82.48	108.71	160.44	211.48	262.00	312.11	212.73	152.22	115.80	91.89	75.21	63.03	53.82	46.65	40.94	36.31		
13	2.75	6.64	12.91	31.12	33.51	60.54	89.35	117.77	173.81	229.10	283.83	338.12	239.87	171.64	130.57	103.61	84.81	71.07	60.68	52.60	46.16			
14	2.97	7.15	13.91	33.52	36.09	65.20	96.22	126.83	187.18	246.72	305.66	364.13	268.07	191.82	145.92	115.80	94.78	79.43	67.82	58.78	18.18			
15	3.18	7.66	14.90	35.91	38.66	69.85	103.10	135.89	200.55	264.35	327.50	390.14	297.30	212.73	161.83	128.42	105.11	88.09	75.21	65.19				
16	3.39	8.17	15.89	38.30	41.24	74.51	109.97	144.95	213.92	281.97	349.33	416.15	327.52	234.35	178.28	141.47	115.80	97.04	82.86					
17	3.60	8.68	16.89	40.70	43.82	79.17	116.84	154.01	227.29	299.59	371.16	442.16	358.70	256.66	195.25	154.94	126.82	106.28	90.74					
18	3.81	9.19	17.88	43.09	46.40	83.83	123.72	163.07	240.66	317.21	392.99	468.17	390.81	279.64	212.73	168.81	138.17	115.80	16.92					
19	4.03	9.70	18.87	45.48	48.97	88.48	130.59	172.13	254.03	334.84	414.83	494.18	423.82	303.26	230.70	183.08	149.84	125.58						
20	4.24	10.21	19.87	47.88	51.55	93.14	137.46	181.18	267.40	352.46	436.66	520.19	457.72	327.52	249.15	197.72	161.83	98.33						
21	4.45	10.72	20.86	50.27	54.13	97.80	144.33	190.24	280.78	370.08	458.49	546.19	492.48	352.39	268.07	212.73	174.12							
22	4.66	11.23	21.85	52.67	56.71	102.45	151.21	199.30	294.15	387.71	480.33	572.20	528.07	377.85	287.44	228.10	186.70							
23	4.87	11.74	22.85	55.06	59.28	107.11	158.08	208.36	307.52	405.33	502.16	598.21	564.48	403.91	307.26	243.83	153.53							
24	5.09	12.26	23.84	57.45	61.86	111.77	164.95	217.42	320.89	422.95	523.99	624.22	601.69	430.53	327.52	259.91	48.97							
25	5.30	12.77	24.83	59.85	64.44	116.42	171.83	226.48	334.26	440.58	545.83	650.23	639.68	457.72	348.20	276.32								
26	5.51	13.28	25.83	62.24	67.02	121.08	178.70	235.54	347.63	458.20	567.66	676.24	678.45	485.46	369.30	293.06								
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)											

Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.

#240H Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																							
	2	5	10	25	27	50	75	100	150	200	250	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	
11	1.74	4.19	8.15	19.63	21.14	38.20	56.37	74.31	109.67	144.55	179.09	213.34	139.22	99.62	75.79	60.14	49.22	41.25	35.22	30.53	26.79	23.77	21.26	
12	1.89	4.57	8.89	21.42	23.06	41.67	61.51	81.07	119.64	157.70	195.37	232.74	158.63	113.51	86.35	68.52	56.08	47.00	40.13	34.79	30.53	27.08		
13	2.05	4.95	9.63	23.21	24.99	45.14	66.63	87.82	129.61	170.84	211.65	252.14	178.87	127.99	97.37	77.26	63.24	53.00	45.25	39.22	34.42			
14	2.21	5.33	10.37	25.00	26.91	48.62	71.75	94.58	139.58	183.98	227.93	271.53	199.90	143.04	108.81	86.35	70.68	59.23	50.57	43.83	13.56			
15	2.37	5.71	11.11	26.78	28.83	52.09	76.88	101.33	149.55	197.13	244.22	290.93	221.70	158.63	120.68	95.76	78.38	65.69	56.08	48.61				
16	2.53	6.09	11.85	28.56	30.75	55.56	82.00	108.09	159.52	210.27	260.50	310.32	244.23	174.75	132.94	105.49	86.35	72.36	61.79					
17	2.68	6.47	12.59	30.35	32.68	59.04	87.13	114.85	169.49	223.40	276.77	329.72	267.48	191.39	145.60	115.54	94.57	79.25	67.66					
18	2.84	6.85	13.33	32.13	34.60	62.51	92.26	121.60	179.46	236.54	293.05	349.11	291.43	208.53	158.63	125.88	103.03	86.35	12.62					
19	3.01	7.23	14.07	33.91	36.52	65.98	97.38	128.36	189.43	249.69	309.34	368.51	316.04	226.14	172.03	136.52	111.74	93.65						
20	3.16	7.61	14.82	35.70	38.44	69.45	102.50	135.11	199.40	262.83	325.62	387.91	341.32	244.23	185.79	147.44	120.68	73.32						
21	3.32	7.99	15.56	37.49	40.36	72.93	107.63	141.86	209.38	275.97	341.90	407.29	367.24	262.78	199.90	158.63	129.84							
22	3.47	8.37	16.29	39.28	42.29	76.40	112.76	148.62	219.35	289.12	358.18	426.69	393.78	281.76	214.34	170.09	139.22							
23	3.63	8.75	17.04	41.06	44.21	79.87	117.88	155.37	229.32	302.25	374.46	446.09	420.93	301.20	229.12	181.82	114.49							
24	3.80	9.14	17.78	42.84	46.13	83.35	123.00	162.13	239.29	315.39	390.74	465.48	448.68	321.05	244.23	193.81	36.52							
25	3.95	9.52	18.52	44.63	48.05	86.81	128.13	168.89	249.26	328.54	407.03	484.88	477.01	341.32	259.65	206.05								
26	4.11	9.90	19.26	46.41	49.98	90.29	133.26	175.64	259.23	341.68	423.30	504.27	505.92	362.01	275.39	218.53								
Lubrication	Type A (Manual or Drip)				Type B (Oil Bath or Slinger)								Type C (Oil Pump)											

Note: If using multiple strand chain, multiply horsepower rating by the following: 2 strands: 1.7x 3 strands: 2.5x For optimum results, contact Diamond-Drives technical support for drives operating in the shaded area.

Double Pitch Series Horsepower Tables

#2040 Double Pitch Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																			
	25	50	100	150	200	250	300	350	400	450	500	550	600	700	800	900	1,000	1,100	1,200	1,300
6	0.10	0.17																		
7	0.12	0.21	0.36	0.47	0.55															
8	0.14	0.26	0.45	0.64	0.73	0.82	0.90													
9	0.16	0.30	0.53	0.72	0.89	1.03	1.14	1.24	1.32											
10	0.18	0.34	0.61	0.84	1.04	1.22	1.37	1.50	1.62	1.71	1.79	1.86								
11	0.20	0.38	0.69	0.96	1.19	1.40	1.59	1.76	1.90	2.03	2.14	2.24	2.32							
12	0.22	0.42	0.77	1.07	1.34	1.58	1.80	2.00	2.17	2.33	2.47	2.60	2.70	2.88						
13	0.24	0.46	0.84	1.18	1.48	1.76	2.01	2.23	2.44	2.62	2.79	2.94	3.07	3.30	3.47					
14	0.26	0.50	0.92	1.29	1.62	1.93	2.20	2.46	2.69	2.90	3.09	3.27	3.43	3.70	3.91	4.07				
15	0.28	0.54	0.99	1.39	1.76	2.09	2.40	2.68	2.94	3.17	3.39	3.59	3.77	4.08	4.33	4.52	4.66			
16	0.30	0.57	1.06	1.50	1.89	2.25	2.59	2.89	3.17	3.43	3.67	3.89	4.09	4.44	4.73	4.96	5.13			
17	0.32	0.61	1.13	1.60	2.02	2.41	2.77	3.10	3.41	3.69	3.95	4.19	4.41	4.79	5.11	5.37	5.57	5.72		
18	0.34	0.65	1.20	1.70	2.15	2.57	2.95	3.30	3.63	3.93	4.21	4.47	4.71	5.13	5.48	5.77	5.99	6.16		
19	0.36	0.68	1.27	1.80	2.28	2.72	3.12	3.50	3.85	4.17	4.47	4.75	5.01	5.46	5.83	6.14	6.39	6.58	6.71	
20	0.38	0.72	1.34	1.89	2.40	2.87	3.30	3.70	4.07	4.41	4.73	5.02	5.29	5.77	6.17	6.51	6.77	6.97	7.11	
21	0.40	0.76	1.41	1.99	2.52	3.01	3.47	3.89	4.28	4.64	4.97	5.28	5.57	6.07	6.50	6.85	7.13	7.35	7.50	
22	0.42	0.79	1.47	2.09	2.64	3.16	3.63	4.07	4.48	4.86	5.21	5.53	5.83	6.37	6.81	7.18	7.48	7.70	7.87	
23	0.44	0.83	1.54	2.18	2.76	3.30	3.80	4.26	4.68	5.08	5.44	5.78	6.09	6.60	7.12	7.50	7.81	8.04	8.21	8.31
24	0.46	0.87	1.61	2.27	2.88	3.44	3.96	4.43	4.88	5.29	5.67	6.02	6.35	6.92	7.41	7.80	8.12	8.36	8.53	8.64
25	0.48	0.90	1.67	2.36	3.00	3.58	4.11	4.61	5.07	5.50	5.89	6.26	6.59	7.19	7.69	8.10	8.42	8.67	8.84	8.94
30	0.57	1.08	1.99	2.81	3.56	4.24	4.87	5.45	5.98	6.47	6.93	7.34	7.80	8.39	8.94	9.39	9.72	9.96	10.11	10.10
35	0.66	1.25	2.30	3.24	4.09	4.86	5.57	6.21	6.81	7.35	7.85	8.30	8.72	9.43	9.99	10.43	10.73	10.93	11.01	
40	0.75	1.41	2.60	3.65	4.59	5.44	6.22	6.93	7.57	8.15	8.68	9.16	9.59	10.31	10.86	11.20	11.50	11.61		
45	0.84	1.58	2.89	4.04	5.07	6.00	6.83	7.59	8.27	8.88	9.43	9.92	10.30	11.00	11.56	11.88	12.03			
50	0.93	1.74	3.17	4.42	5.53	6.52	7.41	8.20	8.91	9.54	10.10	10.59	11.01	11.67	12.11	12.33				
55	1.01	1.90	3.44	4.79	5.97	7.02	7.95	8.77	9.50	10.20	10.70	11.17	11.58	12.18						
60	1.10	2.05	3.71	5.14	6.39	7.49	8.46	9.31	10.00	10.68	11.23	11.69	12.06							
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)					Type C (Oil Pump)											

#2040 Double Pitch Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																			
	25	50	100	150	200	250	300	350	400	450	500	550	600	700	800	900	1,000	1,100	1,200	1,300
6	0.07	0.13																		
7	0.09	0.16	0.27	0.35	0.41															
8	0.10	0.19	0.34	0.48	0.54	0.61	0.67													
9	0.12	0.22	0.40	0.54	0.66	0.77	0.85	0.92	0.98											
10	0.13	0.25	0.45	0.63	0.78	0.91	1.02	1.12	1.21	1.28	1.33	1.39								
11	0.15	0.28	0.51	0.72	0.89	1.04	1.19	1.31	1.42	1.51	1.60	1.67	1.73							
12	0.16	0.31	0.57	0.80	1.00	1.18	1.34	1.49	1.62	1.74	1.84	1.94	2.01	2.15						
13	0.18	0.34	0.63	0.88	1.10	1.31	1.50	1.66	1.82	1.95	2.08	2.19	2.29	2.46	2.59					
14	0.19	0.37	0.69	0.96	1.21	1.44	1.64	1.83	2.01	2.16	2.30	2.44	2.56	2.76	2.92	3.03				
15	0.21	0.40	0.74	1.04	1.31	1.56	1.79	2.00	2.19	2.36	2.53	2.68	2.81	3.04	3.23	3.37	3.47			
16	0.22	0.43	0.79	1.12	1.41	1.68	1.93	2.16	2.36	2.56	2.74	2.90	3.05	3.31	3.53	3.70	3.83			
17	0.24	0.45	0.84	1.19	1.51	1.80	2.07	2.31	2.54	2.75	2.95	3.12	3.29	3.57	3.81	4.00	4.15	4.27		
18	0.25	0.48	0.89	1.27	1.60	1.92	2.20	2.46	2.71	2.93	3.14	3.33	3.51	3.83	4.09	4.30	4.47	4.59		
19	0.27	0.51	0.95	1.34	1.70	2.03	2.33	2.61	2.87	3.11	3.33	3.54	3.74	4.07	4.35	4.58	4.77	4.91	5.00	
20	0.28	0.54	1.00	1.41	1.79	2.14	2.46	2.76	3.03	3.29	3.53	3.74	3.94	4.30	4.60	4.85	5.05	5.20	5.30	
21	0.30	0.57	1.05	1.48	1.88	2.24	2.59	2.90	3.19	3.46	3.71	3.94	4.15	4.53	4.85	5.11	5.32	5.48	5.59	
22	0.31	0.59	1.10	1.56	1.97	2.36	2.71	3.03	3.34	3.62	3.89	4.12	4.35	4.75	5.08	5.35	5.58	5.74	5.87	
23	0.33	0.62	1.15	1.63	2.06	2.46	2.83	3.18	3.49	3.79	4.06	4.31	4.54	4.92	5.31	5.59	5.82	6.00	6.12	6.20
24	0.34	0.65	1.20	1.69	2.15	2.57	2.95	3.30	3.64	3.94	4.23	4.49	4.74	5.16	5.53	5.82	6.06	6.23	6.36	6.44
25	0.36	0.67	1.25	1.76	2.24	2.67	3.06	3.44	3.78	4.10	4.39	4.67	4.91	5.36	5.73	6.04	6.28	6.47	6.59	6.67
30	0.43	0.81	1.48	2.10	2.65	3.16	3.63	4.06	4.46	4.82	5.17	5.47	5.82	6.26	6.67	7.00	7.25	7.43	7.54	7.53
35	0.49	0.93	1.72	2.42	3.05	3.62	4.15	4.63	5.08	5.48	5.85	6.19	6.50	7.03	7.45	7.78	8.00	8.15	8.21	
40	0.56	1.05	1.94	2.72	3.42	4.06	4.64	5.17	5.64	6.08	6.47	6.83	7.15	7.69	8.10	8.35	8.58	8.66		
45	0.63	1.18	2.16	3.01	3.78	4.47	5.09	5.66	6.17	6.62	7.03	7.40	7.68	8.20	8.62	8.86	8.97			
50	0.69	1.30	2.36	3.30	4.12	4.86	5.53	6.11	6.64	7.11	7.53	7.90	8.21	8.70	9.03	9.19				
55	0.75	1.42	2.57	3.57	4.45	5.23	5.93	6.54	7.08	7.61	7.98	8.33	8.64	9.08						
60	0.82	1.53	2.77	3.83	4.77	5.59	6.31	6.94	7.46	7.96	8.37	8.72	8.99							
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)					Type C (Oil Pump)											

Double Pitch Series Horsepower Tables

#2050 Double Pitch Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																			
	25	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
6	0.18	0.31																		
7	0.22	0.40	0.66																	
8	0.27	0.48	0.83	1.09	1.29															
9	0.31	0.56	0.99	1.33	1.60	1.83	2.00													
10	0.35	0.64	1.14	1.56	1.90	2.20	2.44	2.64	2.80											
11	0.39	0.72	1.29	1.78	2.19	2.55	2.86	3.12	3.34	3.53										
12	0.43	0.80	1.44	1.99	2.47	2.89	3.26	3.58	3.86	4.10	4.30									
13	0.47	0.87	1.59	2.20	2.75	3.23	3.65	4.03	4.36	4.65	4.90	5.11	5.29							
14	0.51	0.95	1.73	2.41	3.01	3.55	4.03	4.45	4.83	5.17	5.47	5.73	5.95	6.09						
15	0.54	1.02	1.87	2.61	3.27	3.86	4.39	4.87	5.29	5.68	6.02	6.32	6.58	6.75	6.94					
16	0.58	1.09	2.01	2.81	3.52	4.16	4.74	5.27	5.74	6.16	6.54	6.88	7.18	7.39	7.61	779.00				
17	0.62	1.17	2.14	3.00	3.77	4.46	5.09	5.65	6.17	6.63	7.05	7.42	7.75	7.99	8.24	8.46	8.62			
18	0.66	1.24	2.27	3.19	4.01	4.75	5.42	6.03	6.58	7.09	7.54	7.94	8.31	8.56	8.84	9.08	9.28			
19	0.69	1.31	2.41	3.38	4.25	5.03	5.75	6.40	6.99	7.52	8.01	8.45	8.84	9.12	9.42	9.68	9.90	10.08		
20	0.73	1.38	2.54	3.56	4.48	5.31	6.07	6.76	7.38	7.95	8.47	8.93	9.35	9.65	9.97	10.25	10.49	10.69		
21	0.77	1.45	2.67	3.74	4.71	5.59	6.38	7.11	7.77	8.37	8.91	9.40	9.84	10.16	10.50	10.80	11.06	11.28	11.44	
22	0.81	1.52	2.79	3.92	4.93	5.85	6.69	7.45	8.14	8.77	9.34	9.85	10.31	10.65	11.01	11.32	11.59	11.83	12.00	
23	0.84	1.59	2.92	4.10	5.16	6.12	6.99	7.78	8.50	9.16	9.75	10.29	10.77	11.12	11.50	11.82	12.10	12.35	12.53	
24	0.88	1.66	3.04	4.27	5.37	6.37	7.28	8.11	8.86	9.54	10.16	10.71	11.21	11.57	11.97	12.30	12.59	12.85	13.03	
25	0.91	1.72	3.17	4.44	5.59	6.63	7.57	8.43	9.20	9.91	10.55	11.12	11.64	12.01	12.42	12.75	13.05	13.33	13.50	13.57
30	1.09	2.06	3.77	5.28	6.62	7.84	8.93	9.93	10.82	11.63	12.35	13.00	13.57	13.96	14.39	14.76	15.06	15.30	15.48	
35	1.27	2.38	4.35	6.07	7.59	8.96	10.18	11.28	12.27	13.14	13.92	14.60	15.20	15.58	16.00	16.35	16.62	16.82	16.94	
40	1.44	2.70	4.90	6.82	8.51	10.01	11.34	12.52	13.56	14.48	15.29	15.98	16.56	16.92	17.29	17.58	17.78			
45	1.61	3.00	5.44	7.54	9.37	10.98	12.40	13.65	14.73	15.67	16.47	17.15	17.70	17.96	18.29	18.49				
50	1.78	3.31	5.96	8.23	10.19	11.90	13.39	14.67	15.78	16.71	17.49	18.08	18.62	18.80						
55	1.95	3.60	6.45	8.90	10.95	12.75	14.30	15.60	16.67	17.57	18.37	18.91								
60	2.11	3.90	6.95	9.52	11.70	13.55	15.12	16.45	17.54											
Lubrication	Type A (Manual or Drip)		Type B (Oil Bath or Slinger)					Type C (Oil Pump)												

#2050 Double Pitch Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																			
	25	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
6	0.13	0.23																		
7	0.16	0.30	0.49																	
8	0.20	0.36	0.62	0.81	0.96															
9	0.23	0.42	0.74	0.99	1.19	1.36	1.49													
10	0.26	0.48	0.85	1.16	1.42	1.64	1.82	1.97	2.09											
11	0.29	0.54	0.96	1.33	1.63	1.90	2.13	2.33	2.49	2.63										
12	0.32	0.60	1.07	1.48	1.84	2.16	2.43	2.67	2.88	3.06	3.21									
13	0.35	0.65	1.19	1.64	2.05	2.41	2.72	3.01	3.25	3.47	3.65	3.81	3.94							
14	0.38	0.71	1.29	1.80	2.24	2.65	3.01	3.32	3.60	3.86	4.08	4.27	4.44	4.54						
15	0.40	0.76	1.39	1.95	2.44	2.88	3.27	3.63	3.94	4.24	4.49	4.71	4.91	5.03	5.18					
16	0.43	0.81	1.50	2.10	2.62	3.10	3.53	3.93	4.28	4.59	4.88	5.13	5.35	5.51	5.67	580.90				
17	0.46	0.87	1.60	2.24	2.81	3.33	3.80	4.21	4.60	4.94	5.26	5.53	5.78	5.96	6.14	6.31	6.43			
18	0.49	0.92	1.69	2.38	2.99	3.54	4.04	4.50	4.91	5.29	5.62	5.92	6.20	6.38	6.59	6.77	6.92			
19	0.51	0.98	1.80	2.52	3.17	3.75	4.29	4.77	5.21	5.61	5.97	6.30	6.59	6.80	7.02	7.22	7.38	7.52		
20	0.54	1.03	1.89	2.65	3.34	3.96	4.53	5.04	5.50	5.93	6.32	6.66	6.97	7.20	7.43	7.64	7.82	7.97		
21	0.57	1.08	1.99	2.79	3.51	4.17	4.76	5.30	5.79	6.24	6.64	7.01	7.34	7.58	7.83	8.05	8.25	8.41	8.53	
22	0.60	1.13	2.08	2.92	3.68	4.36	4.99	5.56	6.07	6.54	6.96	7.35	7.69	7.94	8.21	8.44	8.64	8.82	8.95	
23	0.63	1.19	2.18	3.06	3.85	4.56	5.21	5.80	6.34	6.83	7.27	7.67	8.03	8.29	8.58	8.81	9.02	9.21	9.34	
24	0.66	1.24	2.27	3.18	4.00	4.75	5.43	6.05	6.61	7.11	7.58	7.99	8.36	8.63	8.93	9.17	9.39	9.58	9.72	
25	0.68	1.28	2.36	3.31	4.17	4.94	5.64	6.29	6.86	7.39	7.87	8.29	8.68	8.96	9.26	9.51	9.73	9.94	10.07	10.12
30	0.81	1.54	2.81	3.94	4.94	5.85	6.66	7.40	8.07	8.67	9.21	9.69	10.12	10.41	10.73	11.01	11.23	11.41	11.54	
35	0.95	1.77	3.24	4.53	5.66	6.68	7.59	8.41	9.15	9.80	10.38	10.89	11.33	11.62	11.93	12.19	12.39	12.54	12.63	
40	1.07	2.01	3.65	5.09	6.35	7.46	8.46	9.34	10.11	10.80	11.40	11.92	12.35	12.62	12.89	13.11	13.26			
45	1.20	2.24	4.06	5.62	6.99	8.19	9.25	10.18	10.98	11.69	12.28	12.79	13.20	13.39	13.64	13.79				
50	1.33	2.47	4.44	6.14	7.60	8.87	9.98	10.94	11.77	12.46	13.04	13.48	13.88	14.02						
55	1.45	2.68	4.81	6.64	8.17	9.51	10.66	11.63	12.43	13.10	13.70	14.10								
60	1.57	2.91	5.18	7.10	8.72	10.10	11.27	12.27	13.08											
Lubrication	Type A (Manual or Drip)		Type B (Oil Bath or Slinger)					Type C (Oil Pump)												

Double Pitch Series Horsepower Tables

#2060 Double Pitch Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																			
	25	50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700
6	0.30																			
7	0.38	0.66	0.88	1.06																
8	0.45	0.80	1.10	1.35	1.57	1.75	1.90													
9	0.52	0.94	1.31	1.63	1.91	2.16	2.38	2.57	2.74											
10	0.59	1.08	1.51	1.90	2.24	2.55	2.83	3.09	3.31	3.51	3.69	3.85								
11	0.66	1.22	1.71	2.16	2.56	2.93	3.27	3.58	3.86	4.12	4.35	4.57	4.93							
12	0.73	1.35	1.90	2.41	2.87	3.30	3.69	4.05	4.39	4.70	4.98	5.25	5.71	6.09						
13	0.79	1.48	2.09	2.65	3.17	3.65	4.10	4.51	4.90	5.26	5.59	5.90	6.45	6.92	7.25					
14	0.86	1.60	2.28	2.90	3.47	4.00	4.50	4.96	5.39	5.80	6.18	6.53	7.16	7.71	8.10	8.51				
15	0.93	1.73	2.46	3.13	3.76	4.34	4.88	5.39	5.87	6.32	6.74	7.14	7.85	8.48	8.92	9.40				
16	0.99	1.85	2.64	3.37	4.04	4.67	5.26	5.82	6.34	6.83	7.29	7.73	8.52	9.21	9.71	10.25	10.70			
17	1.06	1.98	2.82	3.59	4.32	5.00	5.63	6.23	6.79	7.33	7.83	8.30	9.16	9.92	10.47	11.06	11.59	11.99		
18	1.12	2.10	2.99	3.82	4.59	5.32	6.00	6.64	7.24	7.81	8.34	8.85	9.78	10.60	11.21	11.84	12.42	12.88		
19	1.18	2.22	3.17	4.04	4.86	5.63	6.35	7.03	7.67	8.28	8.85	9.39	10.38	11.26	11.93	12.60	13.22	13.73	14.14	
20	1.25	2.34	3.34	4.26	5.09	5.94	6.70	7.42	8.10	8.74	9.35	9.92	10.97	11.86	12.62	13.34	13.99	14.54	14.99	
21	1.31	2.46	3.51	4.48	5.39	6.24	7.04	7.80	8.51	9.19	9.83	10.43	11.54	12.47	13.28	14.05	14.73	15.31	15.80	
22	1.37	2.57	3.67	4.69	5.65	6.54	7.38	8.17	8.92	9.63	10.30	10.93	12.09	13.06	13.92	14.73	15.44	16.05	16.57	
23	1.44	2.69	3.84	4.90	5.90	6.83	7.71	8.54	9.32	10.06	10.76	11.42	12.63	13.63	14.54	15.39	16.12	16.76	17.30	17.78
24	1.50	2.81	4.00	5.11	6.15	7.12	8.04	8.90	9.72	10.49	11.21	11.90	13.16	14.18	15.15	16.03	16.77	17.44	18.00	18.40
25	1.56	2.92	4.17	5.32	6.36	7.41	8.36	9.26	10.10	10.90	11.65	12.37	13.58	14.72	15.75	16.65	17.40	18.09	18.67	19.09
30	1.86	3.48	4.96	6.33	7.60	8.79	9.86	10.95	11.85	12.76	13.74	14.56	15.98	17.28	18.40	19.40	20.22	20.92	21.32	22.00
35	2.16	4.03	5.72	7.29	8.73	10.08	11.29	12.53	13.59	14.67	15.64	16.54	18.09	19.49	20.67	21.73	22.55	23.20	23.78	
40	2.45	4.56	6.46	8.21	9.82	11.31	12.65	14.00	15.16	16.33	17.37	18.34	19.95	21.42	22.62	23.68	24.42	25.08		
45	2.74	5.08	7.18	9.09	10.85	12.48	13.93	15.38	16.62	17.86	18.92	19.98	21.60	23.12	24.29	25.28	25.90			
50	3.02	5.58	7.87	9.95	11.80	13.59	15.13	16.67	17.98	19.28	20.37	21.47	23.12	24.59	25.69					
55	3.30	6.08	8.54	10.77	12.72	14.65	16.26	17.89	19.23	20.59	21.70	22.82	24.45	25.82						
60	3.57	6.56	9.20	11.57	13.60	15.66	17.34	19.03	20.41	21.80	22.92	24.04								
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)								Type C (Oil Pump)								

#2060 Double Pitch Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																			
	25	50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600	650	700
6	0.22																			
7	0.28	0.49	0.66	0.79																
8	0.34	0.60	0.82	1.01	1.17	1.30	1.42													
9	0.39	0.70	0.98	1.22	1.42	1.61	1.77	1.92	2.04											
10	0.44	0.81	1.13	1.42	1.67	1.90	2.11	2.30	2.47	2.62	2.75	2.87								
11	0.49	0.91	1.28	1.61	1.91	2.18	2.44	2.67	2.88	3.07	3.24	3.41	3.68							
12	0.54	1.01	1.42	1.80	2.14	2.46	2.75	3.02	3.27	3.50	3.71	3.91	4.26	4.54						
13	0.59	1.10	1.56	1.98	2.36	2.72	3.06	3.36	3.65	3.92	4.17	4.40	4.81	5.16	5.41					
14	0.64	1.19	1.70	2.16	2.59	2.98	3.36	3.70	4.02	4.33	4.61	4.87	5.34	5.75	6.04	6.35				
15	0.69	1.29	1.83	2.33	2.80	3.24	3.64	4.02	4.38	4.71	5.03	5.32	5.85	6.32	6.65	7.01				
16	0.74	1.38	1.97	2.51	3.01	3.48	3.92	4.34	4.73	5.09	5.44	5.76	6.35	6.87	7.24	7.64	7.98			
17	0.79	1.48	2.10	2.68	3.22	3.73	4.20	4.65	5.06	5.47	5.84	6.19	6.83	7.40	7.81	8.25	8.64	8.94		
18	0.84	1.57	2.23	2.85	3.42	3.97	4.47	4.95	5.40	5.82	6.22	6.60	7.29	7.90	8.36	8.83	9.26	9.60		
19	0.88	1.66	2.36	3.01	3.62	4.20	4.74	5.24	5.72	6.17	6.60	7.00	7.74	8.40	8.90	9.40	9.86	10.24	10.54	
20	0.93	1.74	2.49	3.18	3.80	4.43	5.00	5.53	6.04	6.52	6.97	7.40	8.18	8.84	9.41	9.95	10.43	10.84	11.18	
21	0.98	1.83	2.62	3.34	4.02	4.65	5.25	5.82	6.35	6.85	7.33	7.78	8.61	9.30	9.90	10.48	10.98	11.42	11.78	
22	1.02	1.92	2.74	3.50	4.21	4.88	5.50	6.09	6.65	7.18	7.68	8.15	9.02	9.74	10.38	10.98	11.51	11.97	12.36	
23	1.07	2.01	2.86	3.65	4.40	5.09	5.75	6.37	6.95	7.50	8.02	8.52	9.42	10.16	10.84	11.48	12.02	12.50	12.90	13.26
24	1.12	2.10	2.98	3.81	4.59	5.31	6.00	6.64	7.25	7.82	8.36	8.87	9.81	10.57	11.30	11.95	12.51	13.01	13.42	13.72
25	1.16	2.18	3.11	3.97	4.74	5.53	6.23	6.91	7.53	8.13	8.69	9.22	10.13	10.98	11.74	12.42	12.98	13.49	13.92	14.24
30	1.39	2.60	3.70	4.72	5.67	6.55	7.35	8.17	8.84	9.52	10.25	10.86	11.92	12.89	13.72	14.47	15.08	15.60	15.90	16.41
35	1.61	3.01	4.27	5.44	6.51	7.52	8.42	9.34	10.13	10.94	11.66	12.33	13.49	14.53	15.41	16.20	16.82	17.30	17.73	
40	1.83	3.40	4.82	6.12	7.32	8.43	9.43	10.44	11.30	12.18	12.95	13.68	14.88	15.97	16.87	17.66	18.21	18.70		
45	2.04	3.79	5.35	6.78	8.09	9.31	10.39	11.47	12.39	13.32	14.11	14.90	16.11	17.24	18.11	18.85	19.31			
50	2.25	4.16	5.87	7.42	8.80	10.13	11.28	12.43	13.41	14.38	15.19	16.01	17.24	18.34	19.16	0.00				
55	2.46	4.53	6.37	8.03	9.49	10.92	12.13	13.34	14.34	15.35	16.18	17.02	18.23	19.25						
60	2.66	4.89	6.86	8.63	10.14	11.68	12.93	14.19	15.22	16.26	17.09	17.93								
Lubrication	Type A (Manual or Drip)			Type B (Oil Bath or Slinger)								Type C (Oil Pump)								

Double Pitch Series Horsepower Tables

#2080 Double Pitch Roller Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																				300	350	400	450
	10	20	30	40	50	60	70	80	90	100	125	150	175	200	225	250								
6	0.32	0.56	0.77																					
7	0.39	0.71	0.98	1.23	1.44	1.64	1.81																	
8	0.46	0.84	1.19	1.50	1.79	2.05	2.29	2.51	2.71	2.90														
9	0.53	0.98	1.39	1.77	2.12	2.45	2.75	3.04	3.30	3.55	4.11	4.57												
10	0.59	1.11	1.59	2.03	2.44	2.83	3.20	3.54	3.87	4.18	4.88	5.48	6.01											
11	0.66	1.24	1.78	2.28	2.76	3.20	3.63	4.03	4.41	4.78	5.62	6.36	7.02	7.56	8.07									
12	0.72	1.37	1.97	2.53	3.06	3.57	4.05	4.51	4.94	5.36	6.33	7.21	7.95	8.66	9.27	9.82								
13	0.79	1.50	2.16	2.78	3.36	3.92	4.46	4.97	5.46	5.93	7.03	8.02	8.89	9.75	10.42	11.08								
14	0.85	1.62	2.34	3.02	3.66	4.28	4.86	5.43	5.97	6.49	7.71	8.82	9.83	10.76	11.53	12.29	13.60							
15	0.92	1.75	2.52	3.26	3.95	4.62	5.26	5.87	6.46	7.03	8.37	9.59	10.71	11.74	12.60	13.46	14.94							
16	0.98	1.87	2.70	3.49	4.24	4.96	5.65	6.31	6.95	7.56	9.01	10.34	11.57	12.69	13.63	14.59	16.24	17.65						
17	1.05	1.99	2.88	3.72	4.52	5.29	6.03	6.74	7.43	8.09	9.64	11.08	12.36	13.62	14.63	15.69	17.50	19.04						
18	1.11	2.11	3.06	3.95	4.80	5.62	6.41	7.17	7.90	8.60	10.26	11.80	13.21	14.52	15.60	16.76	18.72	20.38	21.77					
19	1.17	2.23	3.23	4.18	5.08	5.95	6.78	7.58	8.36	9.11	10.87	12.50	14.01	15.40	16.55	17.80	19.90	21.67	23.18					
20	1.23	2.35	3.40	4.40	5.36	6.27	7.15	8.00	8.81	9.60	11.47	13.19	14.78	16.26	17.48	18.81	21.04	22.91	24.52					
21	1.30	2.47	3.58	4.63	5.63	6.59	7.51	8.40	9.26	10.09	12.05	13.87	15.54	17.10	18.39	19.79	22.14	24.11	25.80					
22	1.36	2.59	3.75	4.85	5.90	6.90	7.87	8.81	9.67	10.58	12.63	14.53	16.29	17.92	19.28	20.74	23.20	25.27	27.03					
23	1.42	2.71	3.92	5.07	6.16	7.21	8.19	9.20	10.10	11.05	13.20	15.18	17.02	18.72	20.15	21.66	24.23	26.40	28.22					
24	1.48	2.82	4.05	5.28	6.43	7.52	8.54	9.59	10.53	11.52	13.76	15.83	17.74	19.51	21.01	22.55	25.23	27.50	29.38	30.98				
25	1.54	2.94	4.20	5.50	6.69	7.83	8.89	9.94	10.95	11.99	14.31	16.46	18.44	20.28	21.86	23.42	26.20	28.57	30.52	32.16				
30	1.84	3.51	5.02	6.55	7.97	9.32	10.62	11.74	12.97	14.23	16.96	19.47	21.78	23.92	25.73	27.52	30.70	33.56	35.52	37.26				
35	2.14	4.07	5.82	7.58	9.20	10.75	12.23	13.48	14.92	16.35	19.44	22.27	24.86	27.24	29.24	31.21	34.65	37.57	39.66					
40	2.44	4.62	6.60	8.57	10.39	12.09	13.79	15.17	16.80	18.36	21.78	24.88	27.71	30.28	32.42	34.52	38.09	40.96	43.07					
45	2.73	5.16	7.37	9.54	11.55	13.46	15.25	16.82	18.61	20.29	23.99	27.33	30.35	33.07	35.30	37.50	41.10	43.81						
50	3.01	5.69	8.13	10.49	12.68	14.76	16.69	18.43	20.35	22.12	26.09	29.64	32.81	35.65	37.92	40.16	43.70							
55	3.30	6.21	8.90	11.41	13.78	16.01	18.08	20.00	22.02	23.88	28.08	31.80	35.10	38.01	40.30	42.52								
60	3.58	6.73	9.62	12.32	14.85	17.24	19.43	21.53	23.65	25.57	29.97	33.83	37.22	40.14										
Lubrication	Type A (Manual or Drip)						Type B (Oil Bath or Slinger)						Type C (Oil Pump)											

#2080 Double Pitch Roller Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket																				300	350	400	450
	10	20	30	40	50	60	70	80	90	100	125	150	175	200	225	250								
Roller Chain Maintenance	6	0.24	0.42	0.57																				
	7	0.29	0.53	0.73	0.92	1.07	1.22	1.35																
	8	0.34	0.63	0.89	1.12	1.33	1.53	1.71	1.87	2.02	2.16													
	9	0.40	0.73	1.04	1.32	1.58	1.83	2.05	2.27	2.46	2.65	3.06	3.41											
	10	0.44	0.83	1.19	1.51	1.82	2.11	2.39	2.64	2.89	3.12	3.64	4.09	4.48										
	11	0.49	0.92	1.33	1.70	2.06	2.39	2.71	3.01	3.29	3.56	4.19	4.74	5.23	5.64	6.02								
	12	0.54	1.02	1.47	1.89	2.28	2.66	3.02	3.36	3.68	4.00	4.72	5.38	5.93	6.46	6.91	7.32							
	13	0.59	1.12	1.61	2.07	2.51	2.92	3.33	3.71	4.07	4.42	5.24	5.98	6.63	7.27	7.77	8.26							
	14	0.63	1.21	1.74	2.25	2.73	3.19	3.62	4.05	4.45	4.84	5.75	6.58	7.33	8.02	8.60	9.16	10.14						
	15	0.69	1.30	1.88	2.43	2.95	3.45	3.92	4.38	4.82	5.24	6.24	7.15	7.99	8.75	9.40	10.04	11.14						
Horsepower Tables	16	0.73	1.39	2.01	2.60	3.16	3.70	4.21	4.71	5.18	5.64	6.72	7.71	8.63	9.46	10.16	10.88	12.11	13.16					
	17	0.78	1.48	2.15	2.77	3.37	3.94	4.50	5.03	5.54	6.03	7.19	8.26	9.22	10.16	10.91	11.70	13.05	14.20					
	18	0.83	1.57	2.28	2.95	3.58	4.19	4.78	5.35	5.89	6.41	7.65	8.80	9.85	10.83	11.63	12.50	13.96	15.20	16.23				
	19	0.87	1.66	2.41	3.12	3.79	4.44	5.06	5.65	6.23	6.79	8.11	9.32	10.45	11.48	12.34	13.27	14.84	16.16	17.29				
	20	0.92	1.75	2.54	3.28	4.00	4.68	5.33	5.97	6.57	7.16	8.55	9.84	11.02	12.13	13.03	14.03	15.69	17.08	18.28				
	21	0.97	1.84	2.67	3.45	4.20	4.91	5.60	6.26	6.91	7.52	8.99	10.34	11.59	12.75	13.71	14.76	16.51	17.98	19.24				
	22	1.01	1.93	2.80	3.62	4.40	5.15	5.87	6.57	7.21	7.89	9.42	10.84	12.15	13.36	14.38	15.47	17.30	18.84	20.16				
	23	1.06	2.02	2.92	3.78	4.59	5.38	6.11	6.86	7.53	8.24	9.84	11.32	12.69	13.96	15.03	16.15	18.07	19.69	21.04				
	24	1.10	2.10	3.02	3.94	4.79	5.61	6.37	7.15	7.85	8.59	10.26	11.80	13.23	14.55	15.67	16.82	18.81	20.51	21.91	23.10			
	25	1.15	2.19	3.13	4.10	4.99	5.84	6.63	7.41	8.17	8.94	10.67	12.27	13.75	15.12	16.30	17.46	19.54	21.30	22.76	23.98			
Sprocket Information	30	1.37	2.62	3.74	4.88	5.94	6.95	7.92	8.75	9.67	10.61	12.65	14.52	16.24	17.84	19.19	20.52	22.89	25.03	26.49	27.78			
	35	1.60	3.03	4.34	5.65	6.86	8.02	9.12	10.05	11.13	12.19	14.50	16.61	18.54	20.31	21.80	23.27	25.84	28.02	29.57				
	40	1.82	3.45	4.92	6.39	7.75	9.02	10.28	11.31	12.53	13.69	16.24	18.55	20.66	22.58	24.18	25.74	28.40	30.54	32.12				
	45	2.04	3.85	5.50	7.11	8.61	10.04	11.37	12.54	13.88	15.13	17.89	20.38	22.63	24.66	26.32	27.96	30.65	32.67					
	50	2.24	4.24	6.06	7.82	9.46	11.01	12.45	13.74	15.17	16.49	19.46	22.10	24.47	26.58	28.28	29.95	32.59						
	55	2.46	4.63	6.64	8.51	10.28	11.94	13.48	14.91	16.42	17.81	20.94	23.71	26.17	28.34	30.05	31.71							
Tools, Troubleshooting	60	2.67	5.02	7.17	9.19	11.07	12.86	14.49	16.05	17.64	19.07	22.35	25.23	27.75	29.93									
	Lubrication	Type A (Manual or Drip)						Type B (Oil Bath or Slinger)					Type C (Oil Pump)											

Ring Leader™ O-Ring (XLO) Series Horsepower Tables

#50 O-Ring Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket											
	50	100	200	300	400	500	700	900	1,200	1,400	1,800	2,000
9	0.36	0.67	1.26	1.81	2.35	2.87	3.89	4.88	6.32	6.02	4.13	3.52
10	0.41	0.76	1.41	2.03	2.63	3.22	4.36	5.46	7.08	7.05	4.83	4.13
11	0.45	0.84	1.56	2.25	2.92	3.57	4.83	6.06	7.85	8.13	5.58	4.76
12	0.49	0.92	1.72	2.47	3.21	3.92	5.31	6.65	8.62	9.26	6.35	5.42
13	0.54	1.00	1.87	2.70	3.50	4.27	5.78	7.25	9.40	10.44	7.16	6.12
14	0.58	1.09	2.03	2.92	3.79	4.63	6.27	7.86	10.18	11.67	8.01	6.84
15	0.63	1.17	2.19	3.15	4.08	4.99	6.75	8.47	10.97	12.60	8.88	7.58
16	0.67	1.26	2.34	3.38	4.37	5.35	7.24	9.08	11.76	13.51	9.78	8.35
17	0.72	1.34	2.50	3.61	4.67	5.71	7.73	9.69	12.55	14.42	10.71	
18	0.76	1.43	2.66	3.83	4.97	6.07	8.22	10.31	13.35	15.34	11.67	
19	0.81	1.51	2.82	4.07	5.27	6.44	8.72	10.93	14.16	16.26	12.66	
20	0.86	1.60	2.98	4.30	5.57	6.80	9.21	11.55	14.96	17.19	13.67	
21	0.90	1.69	3.14	4.53	5.87	7.17	9.71	12.17	15.77	18.12	14.71	
22	0.95	1.77	3.31	4.76	6.17	7.54	10.21	12.80	16.58	19.05		
23	1.00	1.86	3.47	5.00	6.47	7.91	10.71	13.43	17.40	19.99		
24	1.04	1.95	3.63	5.23	6.78	8.29	11.22	14.06	18.22	20.93		
25	1.09	2.03	3.80	5.47	7.08	8.66	11.72	14.70	19.04	21.87		
26	1.14	2.12	3.96	5.70	7.39	9.03	12.23	15.33	19.86	22.82		
28	1.23	2.30	4.29	6.18	8.01	9.79	13.25	16.61	21.52			
30	1.33	2.48	4.62	6.66	8.63	10.54	14.27	17.90	23.18			
32	1.42	2.66	4.96	7.14	9.25	11.30	15.30	19.19	24.86			
35	1.57	2.93	5.46	7.86	10.19	12.45	16.86	21.14				
40	1.81	3.38	6.31	9.08	11.77	14.39	19.47	24.42				
45	2.06	3.84	7.16	10.32	13.36	16.34	22.12					

#50 O-Ring Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket											
	50	100	200	300	400	500	700	900	1,200	1,400	1,800	2,000
9	0.27	0.50	0.94	1.35	1.75	2.14	2.90	3.64	4.71	4.49	3.08	2.62
10	0.31	0.57	1.05	1.51	1.96	2.40	3.25	4.07	5.28	5.26	3.60	3.08
11	0.34	0.63	1.16	1.68	2.18	2.66	3.60	4.52	5.85	6.06	4.16	3.55
12	0.37	0.69	1.28	1.84	2.39	2.92	3.96	4.96	6.43	6.91	4.74	4.04
13	0.40	0.75	1.39	2.01	2.61	3.18	4.31	5.41	7.01	7.79	5.34	4.56
14	0.43	0.81	1.51	2.18	2.83	3.45	4.68	5.86	7.59	8.70	5.97	5.10
15	0.47	0.87	1.63	2.35	3.04	3.72	5.03	6.32	8.18	9.40	6.62	5.65
16	0.50	0.94	1.74	2.52	3.26	3.99	5.40	6.77	8.77	10.07	7.29	6.23
17	0.54	1.00	1.86	2.69	3.48	4.26	5.76	7.23	9.36	10.75	7.99	
18	0.57	1.07	1.98	2.86	3.71	4.53	6.13	7.69	9.96	11.44	8.70	
19	0.60	1.13	2.10	3.03	3.93	4.80	6.50	8.15	10.56	12.13	9.44	
20	0.64	1.19	2.22	3.21	4.15	5.07	6.87	8.61	11.16	12.82	10.19	
21	0.67	1.26	2.34	3.38	4.38	5.35	7.24	9.08	11.76	13.51	10.97	
22	0.71	1.32	2.47	3.55	4.60	5.62	7.61	9.54	12.36	14.21		
23	0.75	1.39	2.59	3.73	4.82	5.90	7.99	10.01	12.98	14.91		
24	0.78	1.45	2.71	3.90	5.06	6.18	8.37	10.48	13.59	15.61		
25	0.81	1.51	2.83	4.08	5.28	6.46	8.74	10.96	14.20	16.31		
26	0.85	1.58	2.95	4.25	5.51	6.73	9.12	11.43	14.81	17.02		
28	0.92	1.72	3.20	4.61	5.97	7.30	9.88	12.39	16.05			
30	0.99	1.85	3.45	4.97	6.44	7.86	10.64	13.35	17.29			
32	1.06	1.98	3.70	5.32	6.90	8.43	11.41	14.31	18.54			
35	1.17	2.18	4.07	5.86	7.60	9.28	12.57	15.76				
40	1.35	2.52	4.71	6.77	8.78	10.73	14.52	18.21				
45	1.54	2.86	5.34	7.70	9.96	12.18	16.49					

Ring Leader™ O-Ring (XLO) Series Horsepower Tables

#60 O-Ring Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket													
	50	100	150	200	300	400	500	600	700	900	1,000	1,200	1,400	1,500
9	0.62	1.16	1.67	2.16	3.12	4.04	4.94	5.82	6.68	8.38	9.21	8.77	6.96	6.28
10	0.70	1.30	1.87	2.43	3.49	4.53	5.53	6.52	7.49	9.39	10.32	10.27	8.15	7.35
11	0.77	1.44	2.07	2.69	3.87	5.02	6.13	7.23	8.30	10.41	11.44	11.85	9.41	8.48
12	0.85	1.58	2.28	2.95	4.25	5.51	6.74	7.94	9.12	11.43	12.57	13.51	10.72	9.66
13	0.92	1.73	2.49	3.22	4.64	6.01	7.34	8.65	9.94	12.46	13.70	15.23	12.08	10.90
14	1.00	1.87	2.69	3.49	5.02	6.51	7.96	9.37	10.77	13.50	14.85	17.02	13.51	12.18
15	1.08	2.01	2.90	3.76	5.41	7.01	8.57	10.10	11.60	14.55	15.99	18.85	14.98	13.51
16	1.16	2.16	3.11	4.03	5.80	7.52	9.19	10.83	12.44	15.60	17.15	20.21	16.50	14.88
17	1.24	2.31	3.32	4.30	6.20	8.03	9.81	11.56	13.28	16.65	18.31	21.58	18.07	
18	1.31	2.45	3.53	4.58	6.59	8.54	10.44	12.30	14.13	17.71	19.48	22.95	19.69	
19	1.39	2.60	3.74	4.85	6.99	9.05	11.06	13.04	14.98	18.78	20.65	24.33	21.35	
20	1.47	2.75	3.96	5.13	7.38	9.57	11.69	13.78	15.83	19.85	21.82	25.71	23.06	
21	1.55	2.90	4.17	5.40	7.78	10.08	12.33	14.53	16.69	20.92	23.00	27.11		
22	1.63	3.05	4.39	5.68	8.19	10.60	12.96	15.27	17.55	22.00	24.19	28.50		
23	1.71	3.19	4.60	5.96	8.59	11.13	13.60	16.03	18.41	23.08	25.38	29.90		
24	1.79	3.35	4.82	6.24	8.99	11.65	14.24	16.78	19.28	24.17	26.57	31.31		
25	1.87	3.50	5.04	6.52	9.40	12.17	14.88	17.54	20.14	25.26	27.77			
26	1.95	3.65	5.25	6.81	9.80	12.70	15.53	18.29	21.02	26.35	28.97			
28	2.12	3.95	5.69	7.37	10.62	13.76	16.82	19.82	22.77	28.55	31.39			
30	2.28	4.26	6.13	7.94	11.44	14.82	18.12	21.35	24.53	30.75				
32	2.45	4.56	6.57	8.52	12.27	15.89	19.43	22.89	26.30	32.97				
35	2.69	5.03	7.24	9.38	13.50	17.50	21.40	25.20	29.00					
40	3.11	5.81	8.37	10.80	15.60	20.20	24.70	29.10	33.50					
45	3.53	6.60	9.50	12.30	17.70	23.00	28.10	33.10						

#60 O-Ring Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket													
	50	100	150	200	300	400	500	600	700	900	1,000	1,200	1,400	1,500
9	0.46	0.87	1.25	1.61	2.33	3.01	3.68	4.34	4.98	6.25	6.87	6.54	5.19	4.68
10	0.52	0.97	1.39	1.81	2.60	3.38	4.12	4.86	5.59	7.00	7.70	7.66	6.08	5.48
11	0.57	1.07	1.54	2.01	2.89	3.74	4.57	5.39	6.19	7.76	8.53	8.84	7.02	6.32
12	0.63	1.18	1.70	2.20	3.17	4.11	5.03	5.92	6.80	8.52	9.37	10.07	7.99	7.20
13	0.69	1.29	1.86	2.40	3.46	4.48	5.47	6.45	7.41	9.29	10.22	11.36	9.01	8.13
14	0.75	1.39	2.01	2.60	3.74	4.85	5.94	6.99	8.03	10.07	11.07	12.69	10.07	9.08
15	0.81	1.50	2.16	2.80	4.03	5.23	6.39	7.53	8.65	10.85	11.92	14.06	11.17	10.07
16	0.87	1.61	2.32	3.01	4.33	5.61	6.85	8.08	9.28	11.63	12.79	15.07	12.30	11.10
17	0.92	1.72	2.48	3.21	4.62	5.99	7.32	8.62	9.90	12.42	13.65	16.09	13.47	
18	0.98	1.83	2.63	3.42	4.91	6.37	7.79	9.17	10.54	13.21	14.53	17.11	14.68	
19	1.04	1.94	2.79	3.62	5.21	6.75	8.25	9.72	11.17	14.00	15.40	18.14	15.92	
20	1.10	2.05	2.95	3.83	5.50	7.14	8.72	10.28	11.80	14.80	16.27	19.17	17.20	
21	1.16	2.16	3.11	4.03	5.80	7.52	9.19	10.84	12.45	15.60	17.15	20.22		
22	1.22	2.27	3.27	4.24	6.11	7.90	9.66	11.39	13.09	16.41	18.04	21.25		
23	1.28	2.38	3.43	4.44	6.41	8.30	10.14	11.95	13.73	17.21	18.93	22.30		
24	1.33	2.50	3.59	4.65	6.70	8.69	10.62	12.51	14.38	18.02	19.81	23.35		
25	1.39	2.61	3.76	4.86	7.01	9.08	11.10	13.08	15.02	18.84	20.71			
26	1.45	2.72	3.91	5.08	7.31	9.47	11.58	13.64	15.67	19.65	21.60			
28	1.58	2.95	4.24	5.50	7.92	10.26	12.54	14.78	16.98	21.29	23.41			
30	1.70	3.18	4.57	5.92	8.53	11.05	13.51	15.92	18.29	22.93				
32	1.83	3.40	4.90	6.35	9.15	11.85	14.49	17.07	19.61	24.59				
35	2.01	3.75	5.40	6.99	10.07	13.05	15.96	18.79	21.63					
40	2.32	4.33	6.24	8.05	11.63	15.06	18.42	21.70	24.98					
45	2.63	4.92	7.08	9.17	13.20	17.15	20.95	24.68						

Ring Leader™ O-Ring (XLO) Series Horsepower Tables

#80 O-Ring Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket										
	50	100	150	200	300	400	500	700	900	1,000	1,100
9	1.45	2.71	3.90	5.05	7.28	9.43	11.53	15.60	17.00	14.51	12.58
10	1.63	3.03	4.37	5.66	8.16	10.57	12.92	17.48	19.91	17.00	14.74
11	1.80	3.36	4.84	6.28	9.04	11.71	14.32	19.38	22.97	19.61	17.00
12	1.98	3.69	5.32	6.89	9.93	12.87	15.73	21.29	26.17	22.35	19.37
13	2.16	4.03	5.80	7.52	10.83	14.03	17.15	23.21	29.10	25.20	21.84
14	2.34	4.36	6.29	8.14	11.73	15.20	18.58	25.15	31.53	28.16	24.41
15	2.52	4.70	6.77	8.77	12.64	16.37	20.01	27.09	33.97	31.23	27.07
16	2.70	5.04	7.26	9.41	13.55	17.55	21.46	29.05	36.42	34.41	
17	2.88	5.38	7.75	10.04	14.47	18.74	22.91	31.01	38.88	37.68	
18	3.07	5.72	8.25	10.68	15.39	19.93	24.37	32.99	41.36	41.05	
19	3.25	6.07	8.74	11.33	16.31	21.13	25.83	34.97	43.85		
20	3.44	6.41	9.24	11.97	17.24	22.34	27.31	36.96	46.34		
21	3.62	6.76	9.74	12.62	18.17	23.55	28.78	38.96			
22	3.81	7.11	10.24	13.27	19.11	24.76	30.27	40.97			
23	4.00	7.46	10.75	13.92	20.05	25.98	31.75	42.98			
24	4.19	7.81	11.25	14.58	20.99	27.20	33.25	45.01			
25	4.37	8.16	11.76	15.23	21.94	28.42	34.75	47.04			
26	4.56	8.52	12.27	15.89	22.89	29.65	36.25				
28	4.94	9.23	13.29	17.22	24.80	32.13	39.27				
30	5.33	9.94	14.32	18.55	26.72	34.61	42.31				
32	5.71	10.66	15.35	19.89	28.64	37.11	45.36				
35	6.29	11.74	16.91	21.91	31.55	40.88	49.97				
40	7.27	13.56	19.53	25.31	36.45	47.22					
45	8.25	15.40	22.18	28.74	41.39	53.63					

#80 O-Ring Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket										
	50	100	150	200	300	400	500	700	900	1,000	1,100
9	1.08	2.02	2.91	3.77	5.43	7.03	8.60	11.63	12.68	10.82	9.38
10	1.22	2.26	3.26	4.22	6.08	7.88	9.63	13.03	14.85	12.68	10.99
11	1.34	2.51	3.61	4.68	6.74	8.73	10.68	14.45	17.13	14.62	12.68
12	1.48	2.75	3.97	5.14	7.40	9.60	11.73	15.88	19.51	16.67	14.44
13	1.61	3.01	4.33	5.61	8.08	10.46	12.79	17.31	21.70	18.79	16.29
14	1.74	3.25	4.69	6.07	8.75	11.33	13.86	18.75	23.51	21.00	18.20
15	1.88	3.50	5.05	6.54	9.43	12.21	14.92	20.20	25.33	23.29	20.19
16	2.01	3.76	5.41	7.02	10.10	13.09	16.00	21.66	27.16	25.66	
17	2.15	4.01	5.78	7.49	10.79	13.97	17.08	23.12	28.99	28.10	
18	2.29	4.27	6.15	7.96	11.48	14.86	18.17	24.60	30.84	30.61	
19	2.42	4.53	6.52	8.45	12.16	15.76	19.26	26.08	32.70		
20	2.57	4.78	6.89	8.93	12.86	16.66	20.37	27.56	34.56		
21	2.70	5.04	7.26	9.41	13.55	17.56	21.46	29.05			
22	2.84	5.30	7.64	9.90	14.25	18.46	22.57	30.55			
23	2.98	5.56	8.02	10.38	14.95	19.37	23.68	32.05			
24	3.12	5.82	8.39	10.87	15.65	20.28	24.79	33.56			
25	3.26	6.08	8.77	11.36	16.36	21.19	25.91	35.08			
26	3.40	6.35	9.15	11.85	17.07	22.11	27.03				
28	3.68	6.88	9.91	12.84	18.49	23.96	29.28				
30	3.97	7.41	10.68	13.83	19.93	25.81	31.55				
32	4.26	7.95	11.45	14.83	21.36	27.67	33.82				
35	4.69	8.75	12.61	16.34	23.53	30.48	37.26				
40	5.42	10.11	14.56	18.87	27.18	35.21					
45	6.15	11.48	16.54	21.43	30.86	39.99					

Ring Leader™ O-Ring (XLO) Series Horsepower Tables
#100 O-Ring Chain - Imperial Units (Horsepower)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket									
	25	50	100	150	200	300	400	500	600	700
9	1.49	2.78	5.19	7.47	9.68	13.94	18.06	22.08	26.02	29.63
10	1.67	3.11	5.81	8.37	10.85	15.62	20.24	24.74	29.15	33.49
11	1.85	3.45	6.44	9.28	12.02	17.32	22.43	27.42	32.31	37.12
12	2.03	3.79	7.08	10.19	13.21	19.02	24.64	30.12	35.49	40.78
13	2.22	4.13	7.72	11.11	14.40	20.74	26.87	32.84	38.70	44.46
14	2.40	4.48	8.36	12.04	15.60	22.47	29.11	35.58	41.92	48.16
15	2.59	4.83	9.01	12.97	16.80	24.20	31.36	38.33	45.17	51.89
16	2.77	5.17	9.66	13.91	18.02	25.95	33.62	41.10	48.43	55.64
17	2.96	5.52	10.31	14.85	19.24	27.71	35.90	43.88	51.70	59.40
18	3.15	5.88	10.96	15.79	20.46	29.47	38.18	46.67	55.00	
19	3.34	6.23	11.62	16.74	21.69	31.24	40.48	49.48	58.30	
20	3.53	6.58	12.29	17.70	22.93	33.02	42.78	52.30	61.63	
21	3.72	6.94	12.95	18.65	24.17	34.81	45.10	55.13		
22	3.91	7.30	13.62	19.62	25.41	36.60	47.42	57.97		
23	4.10	7.66	14.29	20.58	26.66	38.40	49.75	60.82		
24	4.30	8.02	14.96	21.55	27.92	40.21	52.09	63.68		
25	4.49	8.38	15.63	22.52	29.18	42.02	54.44			
26	4.68	8.74	16.31	23.49	30.44	43.84	56.80			
28	5.07	9.47	17.67	25.45	32.97	47.50	61.53			
30	5.47	10.20	19.04	27.42	35.52	51.17	66.29			
32	5.86	10.94	20.41	29.40	38.09	54.86				
35	6.46	12.05	22.49	32.39	41.96	60.44				
40	7.46	13.92	25.97	37.41	48.47	69.81				
45	8.47	15.81	29.50	42.49	55.04					

#100 O-Ring Chain - Metric Units (Kilowatts)

# of teeth in small sprocket	Revolutions Per Minute – Small Sprocket									
	25	50	100	150	200	300	400	500	600	700
9	1.11	2.07	3.87	5.57	7.22	10.40	13.47	16.47	19.40	22.10
10	1.25	2.32	4.33	6.24	8.09	11.65	15.09	18.45	21.74	24.97
11	1.38	2.57	4.80	6.92	8.96	12.92	16.73	20.45	24.09	27.68
12	1.51	2.83	5.28	7.60	9.85	14.18	18.37	22.46	26.46	30.41
13	1.66	3.08	5.76	8.28	10.74	15.47	20.04	24.49	28.86	33.15
14	1.79	3.34	6.23	8.98	11.63	16.76	21.71	26.53	31.26	35.91
15	1.93	3.60	6.72	9.67	12.53	18.05	23.39	28.58	33.68	38.69
16	2.07	3.86	7.20	10.37	13.44	19.35	25.07	30.65	36.11	41.49
17	2.21	4.12	7.69	11.07	14.35	20.66	26.77	32.72	38.55	44.29
18	2.35	4.38	8.17	11.77	15.26	21.98	28.47	34.80	41.01	
19	2.49	4.65	8.67	12.48	16.17	23.30	30.19	36.90	43.47	
20	2.63	4.91	9.16	13.20	17.10	24.62	31.90	39.00	45.96	
21	2.77	5.18	9.66	13.91	18.02	25.96	33.63	41.11		
22	2.92	5.44	10.16	14.63	18.95	27.29	35.36	43.23		
23	3.06	5.71	10.66	15.35	19.88	28.63	37.10	45.35		
24	3.21	5.98	11.16	16.07	20.82	29.98	38.84	47.49		
25	3.35	6.25	11.66	16.79	21.76	31.33	40.60			
26	3.49	6.52	12.16	17.52	22.70	32.69	42.36			
28	3.78	7.06	13.18	18.98	24.59	35.42	45.88			
30	4.08	7.61	14.20	20.45	26.49	38.16	49.43			
32	4.37	8.16	15.22	21.92	28.40	40.91				
35	4.82	8.99	16.77	24.15	31.29	45.07				
40	5.56	10.38	19.37	27.90	36.14	52.06				
45	6.32	11.79	22.00	31.68	41.04					

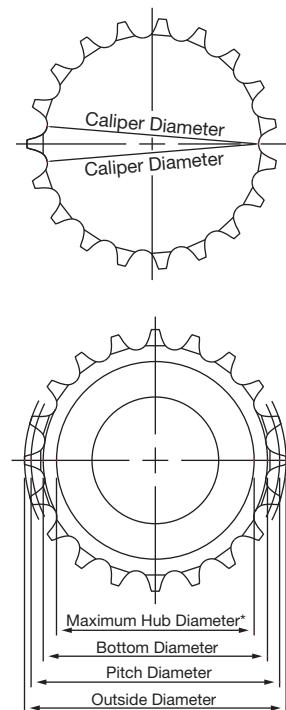
Sprocket Information

Pitch Diameter: The pitch diameter of a sprocket is the diameter of a circle followed by the centers of the chain pins as the sprocket revolves in mesh with the chain, and is a function of the chain pitch and of the number of teeth in the sprocket. This is a theoretical dimension, not directly measurable but for chain load calculations, one half the pitch diameter is equal to the “distance” in the (force x distance) formula.

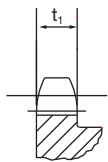
Bottom Diameter: The bottom diameter of a sprocket is the diameter of a circle tangent to the bottoms of the tooth spaces. The tolerance on the bottom diameter must be entirely negative to ensure that the chain will mesh properly with the sprocket teeth.

Caliper Diameter: Since the bottom diameter of a sprocket with an odd number of teeth cannot readily be measured directly, the following tables list caliper diameters which enable calculating the dimensions across the bottoms of tooth spaces most nearly opposite. As is true of bottom diameters, tolerances on caliper diameters must be entirely negative.

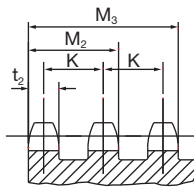
Outside Diameter: The outside diameter of a sprocket is comparatively unimportant as the tooth length is not vital to proper meshing with the chain. The outside diameter will vary depending on the type of cutter used.



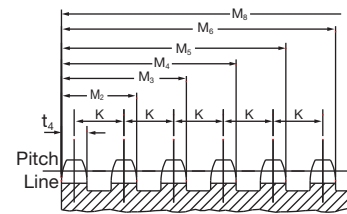
*Hub Diameter: Specified by sprocket manufacturer.



Single



Double and Triple



Quadruple and Other Multiples

Standard Series Sprockets

Chain Data for All Sprockets				Single Strand t_1	Double and Triple Strand			For 4 or more Strands								Matching Tolerance on "t" and "M"	Hot Rolled Tolerance on "t" and "M"
ASME/ANSI No.	Pitch P	Roller Width W	Roller Diam.		t_2	M_2	M_3	t_4	M_2	M_3	M_4	M_5	M_6	M_8	*K		
	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in
25	0.250 6.35	0.125 3.18	0.130 3.30	0.110 2.79	0.107 2.72	0.359 9.12	0.611 15.52	0.096 2.44	0.348 8.84	0.600 15.24	0.852 21.64	1.104 28.04	1.356 34.44	1.860 47.24	0.252 6.40	-0.007 -0.18	-0.021 -0.53
35	0.375 9.53	0.188 4.78	0.200 5.08	0.168 4.27	0.162 4.11	0.561 14.25	0.960 24.38	0.149 3.78	0.548 13.92	0.947 24.05	1.346 34.19	1.745 44.32	2.144 54.46	2.942 74.73	0.399 10.13	-0.008 -0.20	-0.027 -0.69
41	0.500 12.70	0.250 6.35	0.306 7.77	0.227 5.77	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-0.009 -0.23	-0.032 -0.81
40	0.500 12.70	0.312 7.92	0.312 7.92	0.284 7.21	0.275 6.99	0.841 21.36	1.407 35.74	0.256 6.50	0.822 20.88	1.388 35.26	1.954 49.63	2.520 64.01	3.086 78.38	4.218 107.14	0.566 14.38	-0.009 -0.23	-0.035 -0.89
50	0.625 15.88	0.375 9.53	0.400 10.16	0.343 8.71	0.332 8.43	1.045 26.54	1.758 44.65	0.311 7.90	1.024 26.01	1.737 44.12	2.450 62.23	3.163 80.34	3.876 98.45	5.302 134.67	0.713 18.11	-0.010 -0.25	-0.036 -0.91
60	0.750 19.05	0.500 12.70	0.469 11.91	0.459 11.66	0.444 11.28	1.341 34.06	2.238 56.85	0.418 10.62	1.315 33.40	2.212 56.18	3.109 78.97	4.006 101.75	4.903 124.54	6.697 170.10	0.897 22.78	-0.011 -0.28	-0.036 -0.91
80	1.000 25.40	0.625 15.88	0.625 15.88	0.575 14.61	0.557 14.15	1.710 43.43	2.863 72.72	0.526 13.36	1.679 42.65	2.832 71.93	3.985 101.22	5.138 130.51	6.291 159.79	8.597 218.36	1.153 29.29	-0.012 -0.30	-0.040 -1.02
100	1.250 31.75	0.750 19.05	0.750 19.05	0.692 17.58	0.669 16.99	2.077 52.76	3.485 88.52	0.633 16.08	2.041 51.84	3.449 87.60	4.857 123.37	6.265 159.13	7.673 194.89	10.489 266.42	1.408 35.76	-0.014 -0.36	-0.046 -1.17
120	1.500 38.10	1.000 25.40	0.875 22.23	0.924 23.47	0.894 22.71	2.683 68.15	4.472 113.59	0.848 21.54	2.637 66.98	4.426 112.42	6.215 157.86	8.004 203.30	9.793 248.74	13.371 339.62	1.789 45.44	-0.016 -0.41	-0.057 -1.45
140	1.750 44.45	1.000 25.40	1.000 25.40	0.924 23.47	0.894 22.71	2.818 71.58	4.742 120.45	0.848 21.54	2.772 70.41	4.696 119.28	6.620 168.15	8.544 217.02	10.468 265.89	13.316 336.63	1.924 48.87	-0.016 -0.41	-0.057 -1.45
160	2.000 50.80	1.250 31.75	1.125 28.58	1.156 29.36	1.119 28.42	3.424 86.97	5.729 145.52	1.063 27.00	3.368 85.55	5.673 144.09	7.978 202.64	10.283 261.19	12.588 319.74	17.198 436.83	2.305 58.55	-0.019 -0.48	-0.062 -1.57
180	2.250 57.15	1.406 35.71	1.406 35.71	1.301 33.05	1.259 31.98	3.851 97.82	6.443 163.65	1.197 30.40	3.789 96.24	6.381 162.08	8.973 227.91	11.565 293.75	14.157 359.59	19.341 491.26	2.592 65.84	-0.020 -0.51	-0.068 -1.73
200	2.500 63.50	1.500 38.10	1.562 39.67	1.389 35.28	1.344 34.14	4.161 105.69	6.978 177.24	1.278 32.46	4.095 104.01	6.912 175.56	9.729 247.12	12.546 318.67	15.363 390.22	20.997 533.32	2.817 71.55	-0.021 -0.53	-0.072 -1.83

*K dimensions apply to double and triple strands also.

Heavy Series Sprockets

Chain Data for All Sprockets				Single Strand t_1	Double and Triple Strand			For 4 or more Strands								Matching Tolerance on "t" and "M"	Hot Rolled Tolerance on "t" and "M"
ASME/ANSI No.	Pitch P	Roller Width W	Roller Diam.		t_2	M_2	M_3	t_4	M_2	M_3	M_4	M_5	M_6	M_8	*K		
	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in
60H	0.750 19.05	0.500 12.70	0.469 11.91	0.459 11.66	0.444 11.28	1.472 37.39	2.500 63.50	0.418 10.62	1.446 36.73	2.474 62.84	3.502 88.95	4.530 115.06	5.558 141.17	7.614 193.40	1.028 26.11	-0.011 -0.28	-0.036 -0.91
80H	1.000 25.40	0.625 15.88	0.625 15.88	0.575 14.61	0.557 14.15	1.840 46.74	3.123 79.32	0.526 13.36	1.809 45.95	3.092 78.54	4.375 111.13	5.568 141.43	6.941 176.30	9.507 241.48	1.283 32.59	-0.012 -0.30	-0.040 -1.02
100H	1.250 31.75	0.750 19.05	0.750 19.05	0.692 17.58	0.669 16.99	2.208 56.08	3.747 95.17	0.633 16.08	2.172 55.17	3.711 94.26	5.250 133.35	6.789 172.44	8.328 211.53	11.406 289.71	1.539 39.09	-0.014 -0.36	-0.046 -1.17
120H	1.500 38.10	1.000 25.40	0.875 22.23	0.924 23.47	0.894 22.71	2.818 71.58	4.742 120.45	0.848 21.54	2.772 70.41	4.696 119.28	6.620 168.15	8.544 217.02	10.468 265.89	13.316 336.63	1.924 48.87	-0.016 -0.41	-0.057 -1.45
140H	1.750 44.45	1.000 25.40	1.000 25.40	0.924 23.47	0.894 22.71	2.949 74.90	5.004 127.10	0.848 21.54	2.903 73.74	4.958 125.93	7.013 178.13	9.068 230.33	11.123 282.52	15.233 386.92	2.055 52.20	-0.016 -0.41	-0.057 -1.45
160H	2.000 50.80	1.250 31.75	1.125 28.58	1.156 29.36	1.119 28.42	3.555 90.30	5.991 152.17	1.063 27.00	3.499 88.87	5.935 150.75	8.371 212.62	10.807 274.50	13.243 336.37	18.115 460.12	2.436 61.87	-0.019 -0.48	-0.062 -1.57
180H	2.250 57.15	1.406 35.71	1.406 35.71	1.301 33.05	1.259 31.98	3.982 101.14	6.705 170.31	1.197 30.40	3.920 99.57	6.643 168.73	9.366 237.90	12.089 307.06	14.812 376.22	20.258 514.55	2.723 69.16	-0.020 -0.51	-0.068 -1.73
200H	2.500 63.50	1.500 38.10	1.562 39.67	1.389 35.28	1.344 34.14	4.427 112.45	7.510 190.75	1.278 32.46	4.361 110.77	7.444 189.08	10.527 267.39	13.610 345.69	16.693 424.00	22.859 580.62	3.083 78.31	-0.021 -0.53	-0.072 -1.83

*K dimensions apply to double and triple strands also.

The following tables list the basic dimensions most common to sprockets. For verification of these values or more detailed information please contact a reputable sprocket manufacturer.

Sprocket Diameters - ANSI Std. #25 Bushing Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	0.500 12.70	0.583 14.81	0.370 9.40
7	0.576 14.63	0.669 16.99	0.432 10.97
8	0.653 16.59	0.754 19.15	0.523 13.28
9	0.731 18.57	0.837 21.26	0.591 15.01
10	0.809 20.55	0.919 23.34	0.679 17.25
11	0.887 22.53	1.002 25.45	0.748 19.00
12	0.966 24.54	1.083 27.51	0.836 21.23
13	1.045 26.54	1.167 29.64	0.907 23.04
14	1.124 28.55	1.246 31.65	0.994 25.25
15	1.203 30.56	1.326 33.68	1.066 27.08
16	1.282 32.56	1.407 35.74	1.152 29.26
17	1.361 34.57	1.487 37.77	1.225 31.12
18	1.440 36.58	1.568 39.83	1.310 33.27
19	1.519 38.58	1.648 41.86	1.383 35.13
20	1.598 40.59	1.729 43.92	1.468 37.29
21	1.678 42.62	1.809 45.95	1.543 39.19
22	1.757 44.63	1.889 47.98	1.627 41.33
23	1.836 46.63	1.969 50.01	1.702 43.23
24	1.915 48.64	2.049 52.04	1.785 45.34
25	1.995 50.67	2.129 54.08	1.861 47.27
26	2.074 52.68	2.209 56.11	1.944 49.38
27	2.154 54.71	2.289 58.14	2.020 51.31
28	2.233 56.72	2.369 60.17	2.103 53.42
29	2.312 58.72	2.449 62.20	2.179 55.35
30	2.392 60.76	2.529 64.24	2.262 57.45
31	2.471 62.76	2.609 66.27	2.338 59.39
32	2.551 64.80	2.688 68.28	2.421 61.49
33	2.630 66.80	2.768 70.31	2.497 63.42
34	2.710 68.83	2.848 72.34	2.580 65.53
35	2.789 70.84	2.928 74.37	2.656 67.46
36	2.869 72.87	3.008 76.40	2.739 69.57
37	2.948 74.88	3.087 78.41	2.815 71.50
38	3.028 76.91	3.167 80.44	2.898 73.61
39	3.107 78.92	3.247 82.47	2.975 75.57
40	3.187 80.95	3.327 84.51	3.057 77.65
41	3.266 82.96	3.406 86.51	3.134 79.60
42	3.346 84.99	3.486 88.54	3.216 81.69
43	3.425 87.00	3.566 90.58	3.293 83.64
44	3.505 89.03	3.646 92.61	3.375 85.73
45	3.584 91.03	3.725 94.62	3.452 87.68
46	3.664 93.07	3.805 96.65	3.534 89.76
47	3.743 95.07	3.885 98.68	3.611 91.72
48	3.823 97.10	3.964 100.69	3.693 93.80
49	3.902 99.11	4.044 102.72	3.770 95.76
50	3.982 101.14	4.124 104.75	3.852 97.84
51	4.061 103.15	4.203 106.76	3.929 99.80
52	4.141 105.18	4.283 108.79	4.011 101.88
53	4.220 107.19	4.363 110.82	4.088 103.84

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	4.300 109.22	4.442 112.83	4.170 105.92
55	4.379 111.23	4.522 114.86	4.247 107.87
56	4.459 113.26	4.602 116.89	4.329 109.96
57	4.538 115.27	4.681 118.90	4.407 111.94
58	4.618 117.30	4.761 120.93	4.488 114.00
59	4.697 119.30	4.841 122.96	4.566 115.98
60	4.777 121.34	4.920 124.97	4.647 118.03
61	4.857 123.37	5.000 127.00	4.725 120.02
62	4.936 125.37	5.080 129.03	4.806 122.07
63	5.016 127.41	5.159 131.04	4.884 124.05
64	5.095 129.41	5.239 133.07	4.965 126.11
65	5.175 131.45	5.319 135.10	5.044 128.12
66	5.254 133.45	5.398 137.11	5.124 130.15
67	5.334 135.48	5.478 139.14	5.203 132.16
68	5.413 137.49	5.558 141.17	5.283 134.19
69	5.493 139.52	5.637 143.18	5.362 136.19
70	5.572 141.53	5.717 145.21	5.442 138.23
71	5.652 143.56	5.796 147.22	5.521 140.23
72	5.732 145.59	5.876 149.25	5.602 142.29
73	5.811 147.60	5.956 151.28	5.680 144.27
74	5.891 149.63	6.035 153.29	5.761 146.33
75	5.970 151.64	6.115 155.32	5.839 148.31
76	6.050 153.67	6.195 157.35	5.920 150.37
77	6.129 155.68	6.274 159.36	5.998 152.35
78	6.209 157.71	6.354 161.39	6.079 154.41
79	6.288 159.72	6.433 163.40	6.157 156.39
80	6.368 161.75	6.513 165.43	6.238 158.45
81	6.448 163.78	6.593 167.46	6.317 160.45
82	6.527 165.79	6.672 169.47	6.397 162.48
83	6.607 167.82	6.752 171.50	6.476 164.49
84	6.686 169.82	6.832 173.53	6.556 166.52
85	6.766 171.86	6.911 175.54	6.635 168.53
86	6.845 173.86	6.991 177.57	6.715 170.56
87	6.925 175.90	7.070 179.58	6.794 172.57
88	7.004 177.90	7.150 181.61	6.874 174.60
89	7.084 179.93	7.230 183.64	6.953 176.61
90	7.164 181.97	7.309 185.65	7.034 178.66
91	7.243 183.97	7.389 187.68	7.112 180.64
92	7.323 186.00	7.468 189.69	7.193 182.70
93	7.402 188.01	7.548 191.72	7.271 184.68
94	7.482 190.04	7.628 193.75	7.352 186.74
95	7.561 192.05	7.707 195.76	7.430 188.72
96	7.641 194.08	7.787 197.79	7.511 190.78
97	7.720 196.09	7.866 199.80	7.589 192.76
98	7.800 198.12	7.946 201.83	7.670 194.82
99	7.880 200.15	8.026 203.86	7.749 196.82
100	7.959 202.16	8.105 205.87	7.829 198.86
101	8.039 204.19	8.185 207.90	7.908 200.86

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	8.118 206.20	8.264 209.91	7.988 202.90
103	8.198 208.23	8.344 211.94	8.067 204.90
104	8.277 210.24	8.424 213.97	8.147 206.93
105	8.357 212.27	8.503 215.98	8.226 208.94
106	8.437 214.30	8.583 218.01	8.307 211.00
107	8.516 216.31	8.662 220.01	8.385 212.98
108	8.596 218.34	8.742 222.05	8.466 215.04
109	8.675 220.35	8.822 224.08	8.544 217.02
110	8.755 222.38	8.901 226.09	8.625 219.08
111	8.834 224.38	8.981 228.12	8.703 221.06
112	8.914 226.42	9.060 230.12	8.784 223.11
113	8.994 228.45	9.140 232.16	8.863 225.12
114	9.073 230.45	9.220 234.19	8.943 227.15
115	9.153 232.49	9.299 236.19	9.022 229.16
116	9.232 234.49	9.379 238.23	9.102 231.19
117	9.312 236.52	9.458 240.23	9.181 233.20
118	9.391 238.53	9.538 242.27	9.261 235.23
119	9.471 240.56	9.618 244.30	9.340 237.24
120	9.550 242.57	9.697 246.30	9.420 239.27
121	9.630 244.60	9.777 248.34	9.499 241.27
122	9.709 246.61	9.856 250.34	9.579 243.31
123	9.789 248.64	9.936 252.37	9.658 245.31
124	9.869 250.67	10.016 254.41	9.739 247.37
125	9.949 252.70	10.095 256.41	9.818 249.38
126	10.028 254.71	10.175 258.45	9.898 251.41
127	10.108 256.74	10.255 260.48	9.977 253.42
128	10.187 258.75	10.334 262.48	10.057 255.45
129	10.267 260.78	10.414 264.52	10.136 257.45
130	10.346 262.79	10.493 266.52	10.216 259.49
131	10.426 264.82	10.573 268.55	10.295 261.49
132	10.505 266.83	10.652 270.56	10.375 263.53
133	10.585 268.86	10.732 272.59	10.454 265.53
134	10.664 270.87	10.811 274.60	10.534 267.56
135	10.744 272.90	10.891 276.63	10.613 269.57
136	10.823 274.93	10.970 278.64	10.693 271.60
137	10.903 276.94	11.050 280.67	10.772 273.61
138	10.983 278.97	11.130 282.70	10.853 275.67
139	11.062 280.97	11.209 284.71	10.932 277.67
140	11.142 283.01	11.289 286.74	11.012 279.70
141	11.221 285.01	11.369 288.77	11.091 281.71
142	11.301 287.05	11.448 290.78	11.171 283.74
143	11.380 289.05	11.528 292.81	11.250 285.75
144	11.460 291.08	11.607 294.82	11.330 287.78
145	11.540 293.12	11.687 296.85	11.409 289.79
146	11.619 295.12	11.767 298.88	11.489 291.82
147	11.699 297.15	11.846 300.89	11.567 293.80
148	11.773 299.03	11.926 302.92	11.649 295.88
149	11.858 301.19	12.005 304.93	11.727 297.87

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus .130".

Sprocket Diameters - ANSI Std. #35 Bushing Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	0.750 19.05	0.880 22.35	0.550 13.97
7	0.864 21.95	1.000 25.40	0.642 16.31
8	0.980 24.89	1.130 28.70	0.780 19.81
9	1.096 27.84	1.260 32.00	0.879 22.33
10	1.214 30.84	1.380 35.05	1.014 25.76
11	1.331 33.81	1.500 38.10	1.117 28.37
12	1.449 36.80	1.630 41.40	1.249 31.72
13	1.567 39.80	1.750 44.45	1.356 34.44
14	1.685 42.80	1.870 47.50	1.485 37.72
15	1.804 45.82	1.990 50.55	1.594 40.49
16	1.922 48.82	2.110 53.59	1.722 43.74
17	2.041 51.84	2.230 56.64	1.832 46.53
18	2.159 54.84	2.350 59.69	1.959 49.76
19	2.278 57.86	2.470 62.74	2.070 52.58
20	2.397 60.88	2.590 65.79	2.197 55.80
21	2.516 63.91	2.710 68.83	2.309 58.65
22	2.635 66.93	2.830 71.88	2.435 61.85
23	2.754 69.95	2.950 74.93	2.547 64.69
24	2.873 72.97	3.070 77.98	2.673 67.89
25	2.992 76.00	3.190 81.03	2.786 70.76
26	3.111 79.02	3.310 84.07	2.911 73.94
27	3.230 82.04	3.430 87.12	3.025 76.84
28	3.349 85.06	3.550 90.17	3.149 79.98
29	3.468 88.09	3.670 93.22	3.263 82.88
30	3.588 91.14	3.790 96.27	3.388 86.06
31	3.707 94.16	3.910 99.31	3.502 88.95
32	3.826 97.18	4.030 102.36	3.626 92.10
33	3.945 100.20	4.150 105.41	3.741 95.02
34	4.064 103.23	4.270 108.46	3.864 98.15
35	4.183 106.25	4.390 111.51	3.979 101.07
36	4.303 109.30	4.510 114.55	4.103 104.22
37	4.422 112.32	4.630 117.60	4.218 107.14
38	4.541 115.34	4.750 120.65	4.341 110.26
39	4.660 118.36	4.870 123.70	4.456 113.18
40	4.780 121.41	4.990 126.75	4.580 116.33
41	4.899 124.43	5.110 129.79	4.695 119.25
42	5.018 127.46	5.230 132.84	4.818 122.38
43	5.137 130.48	5.350 135.89	4.934 125.32
44	5.257 133.53	5.470 138.94	5.057 128.45
45	5.376 136.55	5.590 141.99	5.173 131.39
46	5.495 139.57	5.710 145.03	5.295 134.49
47	5.614 142.60	5.830 148.08	5.411 137.44
48	5.734 145.64	5.950 151.13	5.534 140.56
49	5.853 148.67	6.070 154.18	5.650 143.51
50	5.972 151.69	6.190 157.23	5.772 146.61
51	6.091 154.71	6.310 160.27	5.888 149.56
52	6.211 157.76	6.430 163.32	6.011 152.68
53	6.330 160.78	6.540 166.12	6.127 155.63

Machining tolerances on outside diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	6.449 163.80	6.660 169.16	6.249 158.72
55	6.569 166.85	6.780 172.21	6.366 161.70
56	6.688 169.88	6.900 175.26	6.488 164.80
57	6.807 172.90	7.020 178.31	6.604 167.74
58	6.927 175.95	7.140 181.36	6.727 170.87
59	7.046 178.97	7.260 184.40	6.844 173.84
60	7.165 181.99	7.380 187.45	6.965 176.91
61	7.284 185.01	7.500 190.50	7.082 179.88
62	7.404 188.06	7.620 193.55	7.204 182.98
63	7.523 191.08	7.740 196.60	7.321 185.95
64	7.642 194.11	7.860 199.64	7.442 189.03
65	7.762 197.15	7.980 202.69	7.560 192.02
66	7.881 200.18	8.100 205.74	7.681 195.10
67	8.000 203.20	8.220 208.79	7.798 198.07
68	8.120 206.25	8.340 211.84	7.920 201.17
69	8.239 209.27	8.460 214.88	8.037 204.14
70	8.358 212.29	8.580 217.93	8.158 207.21
71	8.478 215.34	8.690 220.73	8.276 210.21
72	8.597 218.36	8.810 223.77	8.397 213.28
73	8.716 221.39	8.930 226.82	8.514 216.26
74	8.836 224.43	9.050 229.87	8.636 219.35
75	8.955 227.46	9.170 232.92	8.753 222.33
76	9.074 230.48	9.290 235.97	8.874 225.40
77	9.194 233.53	9.410 239.01	8.992 228.40
78	9.313 236.55	9.530 242.06	9.113 231.47
79	9.432 239.57	9.650 245.11	9.230 234.44
80	9.552 242.62	9.770 248.16	9.352 237.54
81	9.671 245.64	9.890 251.21	9.469 240.51
82	9.790 248.67	10.010 254.25	9.590 243.59
83	9.910 251.71	10.130 257.30	9.708 246.58
84	10.029 254.74	10.250 260.35	9.829 249.66
85	10.148 257.76	10.370 263.40	9.946 252.63
86	10.268 260.81	10.490 266.45	10.068 255.73
87	10.387 263.83	10.610 269.49	10.185 258.70
88	10.506 266.85	10.730 272.54	10.306 261.77
89	10.626 269.90	10.840 275.54	10.424 264.77
90	10.745 272.92	10.960 278.58	10.545 267.84
91	10.864 275.95	11.080 281.43	10.662 270.81
92	10.984 278.99	11.200 284.48	10.784 273.91
93	11.103 282.02	11.320 287.53	10.901 276.89
94	11.222 285.04	11.440 290.58	11.022 279.96
95	11.342 288.09	11.560 293.62	11.140 282.96
96	11.461 291.11	11.680 296.67	11.261 286.03
97	11.580 294.13	11.800 299.72	11.378 289.00
98	11.700 297.18	11.920 302.77	11.500 292.10
99	11.819 300.20	12.040 305.82	11.617 295.07
100	11.938 303.23	12.160 308.86	11.738 298.15
101	12.058 306.27	12.280 311.91	11.856 301.14

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	12.177 309.30	12.400 314.96	11.977 304.22
103	12.297 312.34	12.520 318.01	12.095 307.21
104	12.416 315.37	12.640 321.06	12.216 310.29
105	12.535 318.39	12.760 324.10	12.334 313.28
106	12.655 321.44	12.870 326.90	12.455 316.36
107	12.774 324.46	12.990 329.95	12.573 319.35
108	12.893 327.48	13.110 332.99	12.693 322.40
109	13.013 330.53	13.230 336.04	12.812 325.42
110	13.132 333.55	13.350 339.09	12.932 328.47
111	13.251 336.58	13.470 342.14	13.050 331.47
112	13.371 339.62	13.590 345.19	13.171 334.54
113	13.490 342.65	13.710 348.23	13.289 337.54
114	13.609 345.67	13.830 351.28	13.409 340.59
115	13.729 348.72	13.950 354.33	13.528 343.61
116	13.848 351.74	14.070 357.38	13.648 346.66
117	13.968 354.79	14.190 360.43	13.767 349.68
118	14.087 357.81	14.310 363.47	13.887 352.73
119	14.206 360.83	14.430 366.52	14.005 355.73
120	14.326 363.88	14.550 369.57	14.126 358.80
121	14.445 366.90	14.670 372.62	14.244 361.80
122	14.564 369.93	14.780 375.41	14.364 364.85
123	14.683 372.95	14.900 378.46	14.482 367.84
124	14.803 376.00	15.020 381.51	14.603 370.92
125	14.923 379.04	15.140 384.56	14.722 373.94
126	15.042 382.07	15.260 387.60	14.842 376.99
127	15.161 385.09	15.380 390.65	14.960 379.98
128	15.280 388.11	15.500 393.70	15.080 383.03
129	15.400 391.16	15.620 396.75	15.199 386.05
130	15.519 394.18	15.740 399.80	15.319 389.10
131	15.638 397.21	15.860 402.84	15.437 392.10
132	15.758 400.25	15.980 405.89	15.558 395.17
133	15.877 403.28	16.100 408.94	15.676 398.17
134	15.997 406.32	16.220 411.99	15.797 401.24
135	16.116 409.35	16.340 415.04	15.915 404.24
136	16.235 412.37	16.460 418.08	16.035 407.29
137	16.355 415.42	16.580 421.13	16.154 410.31
138	16.474 418.44	16.700 424.18	16.274 413.36
139	16.593 421.46	16.810 426.97	16.392 416.36
140	16.713 424.51	16.930 430.02	16.513 419.43
141	16.832 427.53	17.050 433.07	16.631 422.43
142	16.951 430.56	17.170 436.12	16.751 425.48
143	17.071 433.60	17.290 439.17	16.870 428.50
144	17.190 436.63	17.410 442.21	16.990 431.55
145	17.309 439.65	17.530 445.26	17.108 434.54
146	17.429 442.70	17.650 448.31	17.229 437.62
147	17.548 445.72	17.770 451.36	17.347 440.61
148	17.668 448.77	17.890 454.41	17.468 443.69
149	17.787 451.79	18.010 457.45	17.586 446.68

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus .200".

Sprocket Diameters - ANSI Std. #40 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	1.000 25.40	1.170 29.72	0.688 17.48
7	1.152 29.26	1.340 34.04	0.811 20.60
8	1.307 33.20	1.510 38.35	0.995 25.27
9	1.462 37.13	1.670 42.42	1.128 28.65
10	1.618 41.10	1.840 46.74	1.306 33.17
11	1.775 45.09	2.000 50.80	1.445 36.70
12	1.932 49.07	2.170 55.12	1.620 41.15
13	2.089 53.06	2.330 59.18	1.762 44.75
14	2.247 57.07	2.490 63.25	1.935 49.15
15	2.405 61.09	2.650 67.31	2.080 52.83
16	2.563 65.10	2.810 71.37	2.251 57.18
17	2.721 69.11	2.980 75.69	2.397 60.88
18	2.879 73.13	3.140 79.76	2.567 65.20
19	3.038 77.17	3.300 83.82	2.716 68.99
20	3.196 81.18	3.460 87.88	2.884 73.25
21	3.355 85.22	3.620 91.95	3.034 77.06
22	3.513 89.23	3.780 96.01	3.201 81.31
23	3.672 93.27	3.940 100.08	3.351 85.12
24	3.831 97.31	4.100 104.14	3.519 89.38
25	3.989 101.32	4.260 108.20	3.669 93.19
26	4.148 105.36	4.420 112.27	3.836 97.43
27	4.307 109.40	4.580 116.33	3.988 101.30
28	4.466 113.44	4.740 120.40	4.154 105.51
29	4.625 117.48	4.900 124.46	4.306 109.37
30	4.783 121.49	5.060 128.52	4.471 113.56
31	4.942 125.53	5.220 132.59	4.624 117.45
32	5.101 129.57	5.380 136.65	4.789 121.64
33	5.260 133.60	5.540 140.72	4.942 125.53
34	5.419 137.64	5.700 144.78	5.107 129.72
35	5.578 141.68	5.860 148.84	5.260 133.60
36	5.737 145.72	6.020 152.91	5.425 137.80
37	5.896 149.76	6.180 156.97	5.579 141.71
38	6.055 153.80	6.330 160.78	5.743 145.87
39	6.214 157.84	6.490 164.85	5.897 149.78
40	6.373 161.87	6.650 168.91	6.061 153.95
41	6.532 165.91	6.810 172.97	6.215 157.86
42	6.691 169.95	6.970 177.04	6.379 162.03
43	6.850 173.99	7.130 181.10	6.534 165.96
44	7.009 178.03	7.290 185.17	6.697 170.10
45	7.168 182.07	7.450 189.23	6.852 174.04
46	7.327 186.11	7.610 193.29	7.015 178.18
47	7.486 190.14	7.770 197.36	7.170 182.12
48	7.645 194.18	7.930 201.42	7.333 186.26
49	7.804 198.22	8.090 205.49	7.488 190.20
50	7.963 202.26	8.250 209.55	7.651 194.34
51	8.122 206.30	8.410 213.61	7.806 198.27
52	8.281 210.34	8.570 217.68	7.969 202.41
53	8.440 214.38	8.730 221.74	8.124 206.35

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	8.599 218.41	8.890 225.81	8.287 210.49
55	8.758 222.45	9.040 229.62	8.443 214.45
56	8.917 226.49	9.200 233.68	8.605 218.57
57	9.076 230.53	9.360 237.74	8.761 222.53
58	9.236 234.59	9.520 241.81	8.924 226.67
59	9.395 238.63	9.680 245.87	9.080 230.63
60	9.554 242.67	9.840 249.94	9.242 234.75
61	9.713 246.71	10.000 254.00	9.398 238.71
62	9.872 250.75	10.160 258.06	9.560 242.82
63	10.031 254.79	10.320 262.13	9.716 246.79
64	10.190 258.83	10.480 266.19	9.878 250.90
65	10.349 262.86	10.640 270.26	10.034 254.86
66	10.508 266.90	10.800 274.32	10.196 258.98
67	10.667 270.94	10.960 278.38	10.352 262.94
68	10.826 274.98	11.120 282.45	10.514 267.06
69	10.986 279.04	11.270 286.26	10.670 271.02
70	11.145 283.08	11.430 290.32	10.833 275.16
71	11.304 287.12	11.590 294.39	10.989 279.12
72	11.463 291.16	11.750 298.45	11.151 283.24
73	11.622 295.20	11.910 302.51	11.307 287.20
74	11.781 299.24	12.070 306.58	11.469 291.31
75	11.940 303.28	12.230 310.64	11.625 295.28
76	12.099 307.31	12.390 314.71	11.787 299.39
77	12.258 311.35	12.550 318.77	11.943 303.35
78	12.417 315.39	12.710 322.83	12.105 307.47
79	12.577 319.46	12.870 326.90	12.262 311.45
80	12.736 323.49	13.030 330.96	12.424 315.57
81	12.895 327.53	13.190 335.03	12.581 319.56
82	13.054 331.57	13.340 339.04	12.742 323.65
83	13.213 335.61	13.500 343.90	12.899 327.63
84	13.372 339.65	13.660 348.96	13.060 331.72
85	13.531 343.69	13.820 351.03	13.217 335.71
86	13.690 347.73	13.980 355.09	13.378 339.80
87	13.849 351.76	14.140 359.16	13.535 343.79
88	14.008 355.80	14.300 363.22	13.696 347.88
89	14.168 359.87	14.460 367.28	13.854 351.89
90	14.327 363.91	14.620 371.35	14.015 355.98
91	14.486 367.94	14.780 375.41	14.172 359.97
92	14.645 371.98	14.940 379.48	14.333 364.06
93	14.804 376.02	15.100 383.54	14.490 368.05
94	14.963 380.06	15.260 387.60	14.651 372.14
95	15.122 384.10	15.410 391.41	14.808 376.12
96	15.281 388.14	15.570 395.48	14.969 380.21
97	15.440 392.18	15.730 399.54	15.126 384.20
98	15.600 396.24	15.890 403.61	15.288 388.32
99	15.759 400.28	16.050 407.67	15.445 392.30
100	15.918 404.32	16.210 411.73	15.606 396.39
101	16.077 408.36	16.370 415.80	15.763 400.38

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	16.236 412.39	16.530 419.86	15.924 404.47
103	16.395 416.43	16.690 423.93	16.081 408.46
104	16.555 420.50	16.850 427.99	16.243 412.57
105	16.714 424.54	17.010 432.05	16.400 416.56
106	16.873 428.57	17.170 436.12	16.561 420.65
107	17.032 432.61	17.330 440.18	16.718 424.64
108	17.191 436.65	17.480 444.99	16.873 428.73
109	17.350 440.69	17.640 448.06	17.036 432.71
110	17.509 444.73	17.800 452.12	17.197 436.80
111	17.669 448.79	17.960 456.18	17.355 440.82
112	17.828 452.83	18.120 460.25	17.516 444.91
113	17.987 456.87	18.280 464.31	17.673 448.89
114	18.146 460.91	18.440 468.38	17.834 452.98
115	18.305 464.95	18.600 472.44	17.991 456.97
116	18.464 468.99	18.760 476.50	18.152 461.06
117	18.623 473.02	18.920 480.57	18.309 465.05
118	18.783 477.09	19.080 484.63	18.471 469.16
119	18.942 481.13	19.240 488.70	18.628 473.15
120	19.101 485.17	19.390 492.51	18.789 477.24
121	19.260 489.20	19.550 496.57	18.946 481.23
122	19.419 493.24	19.710 500.63	19.107 485.32
123	19.578 497.28	19.870 504.70	19.264 489.31
124	19.737 501.32	20.030 508.76	19.425 493.40
125	19.897 505.38	20.190 512.83	19.583 497.41
126	20.056 509.42	20.350 516.89	19.744 501.50
127	20.215 513.46	20.510 520.95	19.899 505.43
128	20.374 517.50	20.670 525.02	20.062 509.57
129	20.533 521.54	20.830 529.08	20.220 513.59
130	20.692 525.58	20.990 533.15	20.380 517.65
131	20.851 529.62	21.150 537.21	20.538 521.67
132	21.011 533.68	21.310 541.27	20.699 525.75
133	21.170 537.72	21.460 545.08	20.856 529.74
134	21.329 541.76	21.620 549.15	21.017 533.83
135	21.488 545.80	21.780 553.21	21.174 537.82
136	21.647 549.83	21.940 557.28	21.335 541.91
137	21.806 553.87	22.100 561.34	21.493 545.92
138	21.965 557.91	22.260 565.40	21.653 549.99
139	22.124 561.95	22.420 569.47	21.811 554.00
140	22.284 566.01	22.580 573.53	21.972 558.09
141	22.443 570.05	22.740 577.60	22.129 562.08
142	22.602 574.09	22.900 581.66	22.290 566.17
143	22.761 578.13	23.060 585.72	22.448 570.18
144	22.920 582.17	23.220 589.79	22.608 574.24
145	23.079 586.21	23.370 593.60	22.766 578.26
146	23.238 590.25	23.530 597.66	22.926 582.32
147	23.398 594.31	23.690 601.73	23.084 586.33
148	23.557 598.35	23.850 605.79	23.245 590.42
149	23.716 602.39	24.010 609.85	23.403 594.44

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus .306".

Sprocket Diameters - ANSI Std. #41 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	1.000 25.40	1.170 29.72	0.694 17.63
7	1.152 29.26	1.340 34.04	0.817 20.75
8	1.307 33.20	1.510 38.35	1.001 25.43
9	1.462 37.13	1.670 42.42	1.134 28.80
10	1.618 41.10	1.840 46.74	1.312 33.32
11	1.775 45.09	2.000 50.80	1.451 36.86
12	1.932 49.07	2.170 55.12	1.626 41.30
13	2.089 53.06	2.330 59.18	1.768 44.91
14	2.247 57.07	2.490 63.25	1.941 49.30
15	2.405 61.09	2.650 67.31	2.086 52.98
16	2.563 65.10	2.810 71.37	2.257 57.33
17	2.721 69.11	2.980 75.69	2.403 61.04
18	2.879 73.13	3.140 79.76	2.573 65.35
19	3.038 77.17	3.300 83.82	2.722 69.14
20	3.196 81.18	3.460 87.88	2.890 73.41
21	3.355 85.22	3.620 91.95	3.040 77.22
22	3.513 89.23	3.780 96.01	3.207 81.46
23	3.672 93.27	3.940 100.08	3.357 85.27
24	3.831 97.31	4.100 104.14	3.525 89.54
25	3.989 101.32	4.260 108.20	3.675 93.35
26	4.148 105.36	4.420 112.27	3.842 97.59
27	4.307 109.40	4.580 116.33	3.994 101.45
28	4.466 113.44	4.740 120.40	4.160 105.66
29	4.625 117.48	4.900 124.46	4.312 109.52
30	4.783 121.49	5.060 128.52	4.477 113.72
31	4.942 125.53	5.220 132.59	4.630 117.60
32	5.101 129.57	5.380 136.65	4.795 121.79
33	5.260 133.60	5.540 140.72	4.948 125.68
34	5.419 137.64	5.700 144.78	5.113 129.87
35	5.578 141.68	5.860 148.84	5.266 133.76
36	5.737 145.72	6.020 152.91	5.431 137.95
37	5.896 149.76	6.180 156.97	5.585 141.86
38	6.055 153.80	6.330 160.78	5.749 146.02
39	6.214 157.84	6.490 164.85	5.903 149.94
40	6.373 161.87	6.650 168.91	6.067 154.10
41	6.532 165.91	6.810 172.97	6.221 158.01
42	6.691 169.95	6.970 177.04	6.385 162.18
43	6.850 173.99	7.130 181.10	6.540 166.12
44	7.009 178.03	7.290 185.17	6.703 170.26
45	7.168 182.07	7.450 189.23	6.858 174.19
46	7.327 186.11	7.610 193.29	7.021 178.33
47	7.486 190.14	7.770 197.36	7.176 182.27
48	7.645 194.18	7.930 201.42	7.339 186.41
49	7.804 198.22	8.090 205.49	7.494 190.35
50	7.963 202.26	8.250 209.55	7.657 194.49
51	8.122 206.30	8.410 213.61	7.812 198.42
52	8.281 210.34	8.570 217.68	7.975 202.57
53	8.440 214.38	8.730 221.74	8.130 206.50

Machining tolerances on outside diameters are not critical. Tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	8.599 218.41	8.890 225.81	8.293 210.64
55	8.758 222.45	9.040 229.62	8.449 214.60
56	8.917 226.49	9.200 233.68	8.611 218.72
57	9.076 230.53	9.360 237.74	8.767 222.68
58	9.236 234.59	9.520 241.81	8.930 226.82
59	9.395 238.63	9.680 245.87	9.086 230.78
60	9.554 242.67	9.840 249.94	9.248 234.90
61	9.713 246.71	10.000 254.00	9.404 238.86
62	9.872 250.75	10.160 258.06	9.566 242.98
63	10.031 254.79	10.320 262.13	9.722 246.94
64	10.190 258.83	10.480 266.19	9.884 251.05
65	10.349 262.86	10.640 270.26	10.040 255.02
66	10.508 266.90	10.800 274.32	10.202 259.13
67	10.667 270.94	10.960 278.38	10.358 263.09
68	10.826 274.98	11.120 282.45	10.520 267.21
69	10.986 279.04	11.270 286.26	10.676 271.17
70	11.145 283.08	11.430 290.32	10.839 275.31
71	11.304 287.12	11.590 294.39	10.995 279.27
72	11.463 291.16	11.750 298.45	11.157 283.39
73	11.622 295.20	11.910 302.51	11.313 287.35
74	11.781 299.24	12.070 306.58	11.475 291.47
75	11.940 303.28	12.230 310.64	11.631 295.43
76	12.099 307.31	12.390 314.71	11.793 299.54
77	12.258 311.35	12.550 318.77	11.949 303.50
78	12.417 315.39	12.710 322.83	12.111 307.62
79	12.577 319.46	12.870 326.90	12.268 311.61
80	12.736 323.49	13.030 330.96	12.430 315.72
81	12.895 327.53	13.190 335.03	12.587 319.71
82	13.054 331.57	13.340 339.84	12.748 323.80
83	13.213 335.61	13.500 342.90	12.905 327.79
84	13.372 339.65	13.660 346.96	13.066 331.88
85	13.531 343.69	13.820 351.03	13.223 335.86
86	13.690 347.73	13.980 355.09	13.384 339.95
87	13.849 351.76	14.140 359.16	13.541 343.94
88	14.008 355.80	14.300 363.22	13.702 348.03
89	14.168 359.87	14.460 367.28	13.860 352.04
90	14.327 363.91	14.620 371.35	14.021 356.13
91	14.486 367.94	14.780 375.41	14.178 360.12
92	14.645 371.98	14.940 379.48	14.339 364.21
93	14.804 376.02	15.100 383.54	14.496 368.20
94	14.963 380.06	15.260 387.60	14.657 372.29
95	15.122 384.10	15.410 391.41	14.814 376.28
96	15.281 388.14	15.570 395.48	14.975 380.37
97	15.440 392.18	15.730 399.54	15.132 384.35
98	15.600 396.24	15.890 403.61	15.294 388.47
99	15.759 400.28	16.050 407.67	15.451 392.46
100	15.918 404.32	16.210 411.73	15.612 396.54
101	16.077 408.36	16.370 415.80	15.769 400.53

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	16.236 412.39	16.530 419.86	15.930 404.62
103	16.395 416.43	16.690 423.93	16.087 408.61
104	16.555 420.50	16.850 427.99	16.249 412.72
105	16.714 424.54	17.010 432.05	16.406 416.71
106	16.873 428.57	17.170 436.12	16.567 420.80
107	17.032 432.61	17.330 440.18	16.724 424.79
108	17.191 436.65	17.488 443.99	16.885 428.88
109	17.350 440.69	17.640 448.06	17.042 432.87
110	17.509 444.73	17.800 452.12	17.203 436.96
111	17.669 448.79	17.960 456.18	17.361 440.97
112	17.828 452.83	18.120 460.25	17.522 445.06
113	17.987 456.87	18.280 464.31	17.679 449.05
114	18.146 460.91	18.440 468.38	17.840 453.14
115	18.305 464.95	18.600 472.44	17.997 457.12
116	18.464 468.99	18.760 476.50	18.158 461.21
117	18.623 473.02	18.920 480.57	18.315 465.20
118	18.783 477.09	19.080 484.63	18.477 469.32
119	18.942 481.13	19.240 488.70	18.634 473.30
120	19.101 485.17	19.390 492.51	18.795 477.39
121	19.260 489.20	19.550 496.57	18.952 481.38
122	19.419 493.24	19.710 500.63	19.113 485.47
123	19.578 497.28	19.870 504.70	19.270 489.46
124	19.737 501.32	20.030 508.76	19.431 493.55
125	19.897 505.38	20.190 512.83	19.589 497.56
126	20.056 509.42	20.350 516.89	19.750 501.65
127	20.215 513.46	20.510 520.95	19.907 505.64
128	20.374 517.50	20.670 525.02	20.068 509.73
129	20.533 521.54	20.830 529.08	20.226 513.74
130	20.692 525.58	20.990 533.15	20.386 517.60
131	20.851 529.62	21.150 537.21	20.544 521.82
132	21.011 533.68	21.310 541.27	20.750 527.05
133	21.170 537.72	21.460 545.08	20.862 529.89
134	21.329 541.76	21.620 549.15	21.023 533.98
135	21.488 545.80	21.780 553.21	21.180 537.97
136	21.647 549.83	21.940 557.28	21.341 542.06
137	21.806 553.87	22.100 561.34	21.499 546.07
138	21.965 557.91	22.260 565.40	21.659 550.14
139	22.124 561.95	22.420 569.47	21.817 554.15
140	22.284 566.01	22.580 573.53	21.978 558.24
141	22.443 570.05	22.740 577.60	22.135 562.23
142	22.602 574.09	22.900 581.66	22.296 566.32
143	22.761 578.13	23.060 585.72	22.454 570.33
144	22.920 582.17	23.220 589.79	22.614 574.40
145	23.079 586.21	23.370 593.60	22.772 578.41
146	23.238 590.25	23.530 597.66	22.932 582.47
147	23.398 594.31	23.690 601.73	23.090 586.49
148	23.557 598.35	23.850 605.79	23.251 590.58
149	23.716 602.39	24.010 609.85	23.409 594.59

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus .312".

Sprocket Diameters - ANSI Std. #50 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	1.250 31.75	1.460 37.08	0.850 21.59
7	1.441 36.60	1.670 42.42	1.004 25.50
8	1.633 41.48	1.880 47.75	1.233 31.32
9	1.827 46.41	2.090 53.09	1.399 35.53
10	2.023 51.38	2.300 58.42	1.623 41.22
11	2.219 56.36	2.500 63.50	1.796 45.62
12	2.415 61.34	2.710 68.83	2.015 51.18
13	2.612 66.34	2.910 73.91	2.193 55.70
14	2.809 71.35	3.110 78.99	2.409 61.19
15	3.006 76.35	3.320 84.33	2.589 65.76
16	3.204 81.38	3.520 89.41	2.804 71.22
17	3.401 86.39	3.720 94.49	2.987 75.87
18	3.599 91.41	3.920 99.57	3.199 81.25
19	3.797 96.44	4.120 104.65	3.384 85.95
20	3.995 101.47	4.320 109.73	3.595 91.31
21	4.194 106.53	4.520 114.81	3.782 96.06
22	4.392 111.56	4.720 119.89	3.992 101.40
23	4.590 116.59	4.920 124.97	4.179 106.15
24	4.788 121.62	5.120 130.05	4.388 111.46
25	4.987 126.67	5.320 135.13	4.577 116.26
26	5.185 131.70	5.520 140.21	4.785 121.54
27	5.384 136.75	5.720 145.29	4.975 126.37
28	5.582 141.78	5.920 150.37	5.182 131.62
29	5.781 146.84	6.120 155.45	5.372 136.45
30	5.979 151.87	6.320 160.53	5.579 141.71
31	6.178 156.92	6.520 165.61	5.770 146.56
32	6.376 161.95	6.720 170.69	5.976 151.79
33	6.575 167.01	6.920 175.77	6.168 156.67
34	6.774 172.06	7.120 180.85	6.374 161.90
35	6.972 177.09	7.320 185.93	6.565 166.75
36	7.171 182.14	7.520 191.01	6.771 171.98
37	7.370 187.20	7.720 196.09	6.963 176.86
38	7.569 192.25	7.920 201.17	7.169 182.09
39	7.767 197.28	8.120 206.25	7.361 186.97
40	7.966 202.34	8.320 211.33	7.566 192.18
41	8.165 207.39	8.520 216.41	7.759 197.08
42	8.363 212.42	8.720 221.49	7.963 202.26
43	8.562 217.47	8.910 226.31	8.157 207.19
44	8.761 222.53	9.110 231.39	8.361 212.37
45	8.960 227.58	9.310 236.47	8.555 217.30
46	9.159 232.64	9.510 241.55	8.759 222.48
47	9.357 237.67	9.710 246.63	8.952 227.38
48	9.556 242.72	9.910 251.71	9.156 232.56
49	9.755 247.78	10.110 256.79	9.350 237.49
50	9.954 252.83	10.310 261.87	9.554 242.67
51	10.153 257.89	10.510 266.95	9.748 247.60
52	10.351 262.92	10.710 272.03	9.951 252.76
53	10.550 267.97	10.910 277.11	10.146 257.71

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	10.749 273.02	11.110 282.19	10.349 262.86
55	10.948 278.08	11.310 287.27	10.544 267.82
56	11.147 283.13	11.500 292.10	10.747 272.97
57	11.346 288.19	11.700 297.18	10.942 277.93
58	11.544 293.22	11.900 302.26	11.144 283.06
59	11.743 298.27	12.100 307.34	11.339 288.01
60	11.942 303.33	12.300 312.42	11.542 293.17
61	12.141 308.38	12.500 317.50	11.737 298.12
62	12.340 313.44	12.700 322.58	11.940 303.28
63	12.539 318.49	12.900 327.66	12.135 308.23
64	12.738 323.55	13.100 332.74	12.338 313.39
65	12.936 328.57	13.300 337.82	12.532 318.31
66	13.135 333.63	13.500 342.90	12.735 323.47
67	13.334 338.68	13.690 347.73	12.930 328.42
68	13.533 343.74	13.890 352.81	13.133 333.58
69	13.732 348.79	14.090 357.89	13.328 338.53
70	13.931 353.85	14.290 362.97	13.531 343.69
71	14.130 358.90	14.490 368.05	13.726 348.64
72	14.329 363.96	14.690 373.13	13.929 353.80
73	14.527 368.99	14.890 378.21	14.124 358.75
74	14.726 374.04	15.090 383.29	14.326 363.88
75	14.925 379.10	15.290 388.37	14.522 368.86
76	15.124 384.15	15.490 393.45	14.724 373.99
77	15.323 389.20	15.690 398.53	14.920 378.97
78	15.522 394.26	15.880 403.35	15.122 384.10
79	15.721 399.31	16.080 408.43	15.318 389.08
80	15.920 404.37	16.280 413.51	15.520 394.21
81	16.118 409.40	16.480 418.59	15.716 399.19
82	16.317 414.45	16.680 423.67	15.917 404.29
83	16.516 419.51	16.880 428.75	16.113 409.27
84	16.715 424.56	17.080 433.83	16.315 414.40
85	16.914 429.62	17.280 438.91	16.511 419.38
86	17.113 434.67	17.480 443.99	16.713 424.51
87	17.312 439.72	17.680 449.07	16.909 429.49
88	17.511 444.78	17.870 453.90	17.111 434.62
89	17.710 449.83	18.070 458.98	17.307 439.60
90	17.909 454.89	18.270 464.06	17.509 444.73
91	18.107 459.92	18.470 469.14	17.704 449.68
92	18.306 464.97	18.670 474.22	17.906 454.81
93	18.505 470.03	18.870 479.30	18.102 459.79
94	18.704 475.08	19.070 484.38	18.304 464.92
95	18.903 480.14	19.270 489.46	18.500 469.90
96	19.102 485.19	19.470 494.54	18.702 475.03
97	19.301 490.25	19.670 499.62	18.898 480.01
98	19.500 495.30	19.870 504.70	19.100 485.14
99	19.699 500.35	20.060 509.52	19.296 490.12
100	19.898 505.41	20.260 514.60	19.498 495.25
101	20.096 510.44	20.460 519.68	19.694 500.23

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	20.295 515.49	20.660 524.76	19.895 505.33
103	20.494 520.55	20.860 529.84	20.092 510.34
104	20.693 525.60	21.060 534.92	20.293 515.44
105	20.892 530.66	21.260 540.00	20.490 520.45
106	21.091 535.71	21.460 545.08	20.691 525.55
107	21.290 540.77	21.660 550.16	20.888 530.56
108	21.489 545.82	21.860 555.24	21.089 535.66
109	21.688 550.88	22.050 560.07	21.286 540.66
110	21.887 555.93	22.250 565.15	21.487 545.77
111	22.086 560.98	22.450 570.23	21.684 550.77
112	22.285 566.04	22.650 575.31	21.885 555.88
113	22.484 571.09	22.850 580.39	22.082 560.88
114	22.683 576.15	23.050 585.47	22.283 565.99
115	22.881 581.18	23.250 590.55	22.479 570.97
116	23.080 586.23	23.450 595.63	22.680 576.07
117	23.279 591.29	23.650 600.71	22.877 581.08
118	23.478 596.34	23.850 605.79	23.078 586.18
119	23.677 601.40	24.040 610.62	23.275 591.19
120	23.876 606.45	24.240 615.70	23.476 596.29
121	24.075 611.51	24.440 620.78	23.672 601.27
122	24.273 616.53	24.640 625.86	23.873 606.37
123	24.472 621.59	24.840 630.94	24.070 611.38
124	24.671 626.64	25.040 636.02	24.271 616.48
125	24.870 631.70	25.240 641.10	24.468 621.49
126	25.070 636.78	25.440 646.18	24.670 626.62
127	25.268 641.81	25.640 651.26	24.866 631.60
128	25.467 646.86	25.840 656.34	25.067 636.70
129	25.666 651.92	26.030 661.16	25.264 641.71
130	25.865 656.97	26.230 666.24	25.465 646.81
131	26.063 662.00	26.430 671.32	25.661 651.79
132	26.262 667.05	26.630 676.40	25.862 656.89
133	26.461 672.11	26.830 681.48	26.059 661.90
134	26.660 677.16	27.030 686.56	26.260 667.00
135	26.859 682.22	27.230 691.64	26.457 672.01
136	27.058 687.27	27.430 696.72	26.658 677.11
137	27.257 692.33	27.620 701.55	26.855 682.12
138	27.456 697.38	27.820 706.63	27.056 687.22
139	27.655 702.44	28.020 711.71	27.253 692.23
140	27.854 707.49	28.220 716.79	27.454 697.33
141	28.053 712.55	28.420 721.87	27.651 702.34
142	28.252 717.60	28.620 726.95	27.852 707.44
143	28.451 722.66	28.820 732.03	28.049 712.44
144	28.650 727.71	29.020 737.11	28.250 717.55
145	28.849 732.76	29.220 742.19	28.447 722.55
146	29.048 737.82	29.420 747.27	28.648 727.66
147	29.247 742.87	29.620 752.35	28.845 732.66
148	29.446 747.93	29.810 757.17	29.046 737.77
149	29.645 752.98	30.010 762.25	29.243 742.77

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus .400".

Sprocket Diameters - ANSI Std. #60 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	1.500 38.10	1.750 44.45	1.031 26.19
7	1.729 43.92	2.010 51.05	1.217 30.91
8	1.960 49.78	2.260 57.40	1.491 37.87
9	2.193 55.70	2.510 63.75	1.691 42.95
10	2.427 61.65	2.760 70.10	1.958 49.73
11	2.662 67.61	3.000 76.20	2.166 55.02
12	2.898 73.61	3.250 82.55	2.429 61.70
13	3.134 79.60	3.490 88.65	2.642 67.11
14	3.371 85.62	3.740 95.00	2.902 73.71
15	3.607 91.62	3.980 101.09	3.119 79.22
16	3.844 97.64	4.220 107.19	3.376 85.75
17	4.082 103.68	4.460 113.28	3.595 91.31
18	4.319 109.70	4.700 119.38	3.850 97.79
19	4.557 115.75	4.950 125.73	4.072 103.43
20	4.794 121.77	5.190 131.83	4.326 109.88
21	5.032 127.81	5.430 137.92	4.549 115.54
22	5.270 133.86	5.670 144.02	4.801 121.95
23	5.508 139.90	5.910 150.11	5.026 127.66
24	5.746 145.95	6.150 156.21	5.277 134.04
25	5.984 151.99	6.390 162.31	5.503 139.78
26	6.222 158.04	6.630 168.40	5.753 146.13
27	6.460 164.08	6.870 174.50	5.981 151.92
28	6.699 170.15	7.110 180.59	6.230 158.24
29	6.937 176.20	7.350 186.69	6.458 164.03
30	7.175 182.25	7.590 192.79	6.706 170.33
31	7.413 188.29	7.830 198.88	6.935 176.15
32	7.652 194.36	8.070 204.98	7.183 182.45
33	7.890 200.41	8.300 210.82	7.412 188.26
34	8.129 206.48	8.540 216.92	7.660 194.56
35	8.367 212.52	8.780 223.01	7.890 200.41
36	8.605 218.57	9.020 229.11	8.137 206.68
37	8.844 224.64	9.260 235.20	8.367 212.52
38	9.082 230.68	9.500 241.30	8.613 218.77
39	9.321 236.75	9.740 247.40	8.845 224.66
40	9.559 242.80	9.980 253.49	9.090 230.89
41	9.798 248.87	10.220 259.59	9.322 236.78
42	10.036 254.91	10.460 265.68	9.567 243.00
43	10.275 260.99	10.700 271.78	9.799 248.89
44	10.513 267.03	10.940 277.88	10.044 255.12
45	10.752 273.10	11.180 283.97	10.276 261.01
46	10.990 279.15	11.420 290.07	10.522 267.26
47	11.229 285.22	11.660 296.91	10.754 273.15
48	11.467 291.26	11.890 302.01	10.999 279.37
49	11.706 297.33	12.130 308.10	11.231 285.27
50	11.945 303.40	12.370 314.20	11.476 291.49
51	12.183 309.45	12.610 320.29	11.708 297.38
52	12.422 315.52	12.850 326.39	11.953 303.61
53	12.660 321.56	13.090 332.49	12.186 309.52

Machining tolerances on outside diameters are not critical. Tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	12.899 327.63	13.330 338.58	12.430 315.72
55	13.137 333.68	13.570 344.68	12.663 321.64
56	13.376 339.75	13.810 350.77	12.907 327.84
57	13.615 345.82	14.040 356.62	13.141 333.78
58	13.853 351.87	14.280 362.71	13.385 339.98
59	14.092 357.94	14.520 368.81	13.618 345.90
60	14.331 364.01	14.760 374.90	13.862 352.09
61	14.569 370.05	15.000 381.00	14.096 358.04
62	14.808 376.12	15.240 387.10	14.339 364.21
63	15.046 382.17	15.480 393.19	14.573 370.15
64	15.285 388.24	15.720 399.29	14.816 376.33
65	15.524 394.31	15.960 405.38	15.050 382.27
66	15.762 400.35	16.190 411.23	15.293 388.44
67	16.001 406.43	16.430 417.32	15.528 394.41
68	16.240 412.50	16.670 423.42	15.771 400.58
69	16.478 418.54	16.910 429.51	16.005 406.53
70	16.717 424.61	17.150 435.61	16.248 412.70
71	16.956 430.68	17.390 441.71	16.483 418.67
72	17.194 436.73	17.630 447.80	16.725 424.82
73	17.433 442.80	17.870 453.90	16.960 430.78
74	17.671 448.84	18.110 459.99	17.203 436.96
75	17.910 454.91	18.340 465.84	17.437 442.90
76	18.149 460.98	18.580 471.93	17.680 449.07
77	18.387 467.03	18.820 478.03	17.914 455.02
78	18.626 473.10	19.060 484.12	18.157 461.19
79	18.865 479.17	19.300 490.22	18.392 467.16
80	19.103 485.22	19.540 496.32	18.635 473.33
81	19.342 491.29	19.780 502.41	18.870 479.30
82	19.581 497.36	20.020 508.51	19.112 485.44
83	19.819 503.40	20.260 514.60	19.347 491.41
84	20.058 509.47	20.490 520.45	19.589 497.56
85	20.297 515.54	20.730 526.54	19.825 503.56
86	20.536 521.61	20.970 532.64	20.067 509.70
87	20.774 527.66	21.210 538.73	20.302 515.67
88	21.013 533.73	21.450 544.83	20.544 521.82
89	21.252 539.80	21.690 550.93	20.780 527.81
90	21.490 545.85	21.930 557.02	21.021 533.93
91	21.729 551.92	22.170 563.12	21.257 539.93
92	21.968 557.99	22.410 569.21	21.499 546.07
93	22.206 564.03	22.640 575.06	21.734 552.04
94	22.445 570.10	22.880 581.15	21.976 558.19
95	22.683 576.15	23.120 587.25	22.211 564.16
96	22.922 582.22	23.360 593.34	22.453 570.31
97	23.161 588.29	23.600 599.44	22.689 576.30
98	23.400 594.36	23.840 605.54	22.931 582.45
99	23.638 600.41	24.080 611.63	23.166 588.42
100	23.877 606.48	24.320 617.73	23.408 594.56
101	24.116 612.55	24.550 623.57	23.644 600.56

Machining tolerances on outside diameters are not critical. Tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	24.354 618.59	24.790 629.67	23.885 606.68
103	24.593 624.66	25.030 635.76	24.121 612.67
104	24.832 630.73	25.270 641.86	24.363 618.82
105	25.071 636.80	25.510 647.95	24.599 624.81
106	25.309 642.85	25.750 654.05	24.840 630.94
107	25.548 648.92	25.990 660.15	25.076 636.93
108	25.787 654.99	26.230 666.24	25.318 643.08
109	26.025 661.04	26.460 672.08	25.553 649.05
110	26.264 667.11	26.700 678.18	25.795 655.19
111	26.503 673.18	26.940 684.28	26.031 661.19
112	26.742 679.25	27.180 690.37	26.273 667.33
113	26.980 685.29	27.420 696.47	26.508 673.30
114	27.219 691.36	27.660 702.56	26.750 679.45
115	27.458 697.43	27.900 708.66	26.986 685.44
116	27.697 703.50	28.140 714.76	27.228 691.59
117	27.936 709.57	28.380 720.85	27.464 697.59
118	28.174 715.62	28.610 726.69	27.705 703.71
119	28.413 721.69	28.850 732.79	27.941 709.70
120	28.651 727.74	29.090 738.89	28.182 715.82
121	28.889 733.78	29.330 744.98	28.418 721.82
122	29.128 739.85	29.570 751.08	28.659 727.94
123	29.367 745.92	29.810 757.17	28.895 733.93
124	29.606 751.99	30.050 763.27	29.137 740.08
125	29.845 758.06	30.290 769.37	29.373 746.07
126	30.083 764.11	30.520 775.21	29.614 752.20
127	30.322 770.18	30.760 781.30	29.851 758.22
128	30.561 776.25	31.000 787.40	30.092 764.34
129	30.800 782.32	31.240 793.50	30.328 770.33
130	31.038 788.37	31.480 799.59	30.569 776.45
131	31.277 794.44	31.720 805.69	30.806 782.47
132	31.516 800.51	31.960 811.78	31.047 788.59
133	31.754 806.55	32.200 817.88	31.283 794.59
134	31.993 812.62	32.440 823.98	31.524 800.71
135	32.232 818.69	32.670 829.82	31.761 806.73
136	32.471 824.76	32.910 835.91	32.002 812.85
137	32.709 830.81	33.150 842.01	32.238 818.85
138	32.948 836.88	33.390 848.11	32.479 824.97
139	33.187 842.95	33.630 854.20	32.716 830.99
140	33.425 849.00	33.870 860.30	32.956 837.08
141	33.664 855.07	34.110 866.39	33.193 843.10
142	33.903 861.14	34.350 872.49	33.434 849.22
143	34.142 867.21	34.580 878.33	33.670 855.22
144	34.380 873.25	34.820 884.43	33.911 861.34
145	34.619 879.32	35.060 890.52	34.148 867.36
146	34.858 885.39	35.300 896.62	34.389 873.48
147	35.096 891.44	35.540 902.72	34.625 879.48
148	35.335 897.51	35.780 908.81	34.866 885.50
149	35.574 903.58	36.020 914.91	35.103 891.62

Machining tolerances on outside diameters are not critical. Tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus .469".

Sprocket Diameters - ANSI Std. #80 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	2.000 50.80	2.330 59.18	1.375 34.93
7	2.305 58.55	2.680 68.07	1.622 41.20
8	2.613 66.37	3.010 76.45	1.988 50.50
9	2.924 74.27	3.350 85.09	2.254 57.25
10	3.236 82.19	3.680 93.47	2.611 66.32
11	3.550 90.17	4.010 101.85	2.888 73.36
12	3.864 98.15	4.330 109.98	3.239 82.27
13	4.179 106.15	4.660 118.36	3.523 89.48
14	4.494 114.15	4.980 126.49	3.869 98.27
15	4.810 122.17	5.300 134.62	4.158 105.61
16	5.126 130.20	5.630 143.00	4.501 114.33
17	5.442 138.23	5.950 151.13	4.794 121.77
18	5.759 146.28	6.270 159.26	5.134 130.40
19	6.076 154.33	6.590 167.39	5.430 137.92
20	6.392 162.36	6.910 175.51	5.767 146.48
21	6.710 170.43	7.240 183.90	6.066 154.08
22	7.027 178.49	7.560 192.02	6.402 162.61
23	7.344 186.54	7.880 200.15	6.702 170.23
24	7.661 194.59	8.200 208.28	7.036 178.71
25	7.979 202.67	8.520 216.41	7.338 186.39
26	8.296 210.72	8.840 224.54	7.671 194.84
27	8.614 218.80	9.160 232.66	7.974 202.54
28	8.931 226.85	9.480 240.79	8.306 210.97
29	9.249 234.92	9.800 248.92	8.611 218.72
30	9.567 243.00	10.110 256.79	8.942 227.13
31	9.985 253.62	10.430 264.92	9.247 234.87
32	10.202 259.13	10.750 273.05	9.577 243.26
33	10.520 267.21	11.070 281.18	9.883 251.03
34	10.838 275.29	11.390 289.31	10.213 259.41
35	11.156 283.36	11.710 297.43	10.520 267.21
36	11.474 291.44	12.030 305.56	10.849 275.56
37	11.792 299.52	12.350 313.69	11.156 283.36
38	12.110 307.59	12.670 321.82	11.485 291.72
39	12.428 315.67	12.990 329.95	11.792 299.52
40	12.746 323.75	13.310 338.07	12.121 307.87
41	13.064 331.83	13.630 346.20	12.429 315.70
42	13.382 339.90	13.940 354.08	12.757 324.03
43	13.700 347.98	14.260 362.20	13.065 331.85
44	14.018 356.06	14.580 370.33	13.393 340.18
45	14.336 364.13	14.900 378.46	13.702 348.03
46	14.654 372.21	15.220 386.59	14.029 356.34
47	14.972 380.29	15.540 394.72	14.338 364.19
48	15.290 388.37	15.860 402.84	14.665 372.49
49	15.608 396.44	16.180 410.97	14.975 380.37
50	15.926 404.52	16.500 419.10	15.301 388.65
51	16.244 412.60	16.810 426.97	15.611 396.52
52	16.562 420.67	17.130 435.10	15.937 404.80
53	16.880 428.75	17.450 443.23	16.248 412.70

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	17.198 436.83	17.770 451.36	16.573 420.95
55	17.517 444.93	18.090 459.49	16.884 428.65
56	17.835 453.01	18.410 467.61	17.210 437.13
57	18.153 461.09	18.730 475.74	17.521 445.03
58	18.471 469.16	19.040 483.62	17.846 453.29
59	18.789 477.24	19.360 491.74	18.158 461.21
60	19.107 485.32	19.680 499.87	18.482 469.44
61	19.426 493.42	20.000 508.00	18.794 477.37
62	19.744 501.50	20.320 516.13	19.119 485.62
63	20.062 509.57	20.640 524.26	19.431 493.55
64	20.380 517.65	20.960 532.38	19.755 501.78
65	20.698 525.73	21.270 540.26	20.067 509.70
66	21.016 533.81	21.590 548.39	20.391 517.93
67	21.335 541.91	21.910 556.51	20.704 525.88
68	21.653 549.99	22.230 564.64	21.028 534.11
69	21.971 558.06	22.550 572.77	21.340 542.04
70	22.289 566.14	22.870 580.90	21.664 550.27
71	22.607 574.22	23.190 589.03	21.977 558.22
72	22.926 582.32	23.500 596.90	22.301 566.45
73	23.244 590.40	23.820 605.03	22.613 574.37
74	23.562 598.47	24.140 613.16	22.937 582.60
75	23.880 606.55	24.460 621.28	23.250 590.55
76	24.198 614.63	24.780 629.41	23.573 598.75
77	24.517 622.73	25.100 637.54	23.887 606.73
78	24.835 630.81	25.420 645.67	24.210 614.93
79	25.153 638.89	25.730 653.54	24.523 622.88
80	25.471 646.96	26.050 661.67	24.846 631.09
81	25.790 655.07	26.370 669.80	25.160 639.06
82	26.108 663.14	26.690 677.93	25.483 647.27
83	26.426 671.22	27.010 686.05	25.796 655.22
84	26.744 679.30	27.330 694.18	26.119 663.42
85	27.063 687.40	27.640 702.06	26.433 671.40
86	27.381 695.48	27.960 710.18	26.756 679.60
87	27.699 703.55	28.280 718.31	27.070 687.58
88	28.017 711.63	28.600 726.44	27.392 695.76
89	28.335 719.71	28.920 734.57	27.706 703.73
90	28.654 727.81	29.240 742.70	28.029 711.94
91	28.972 735.89	29.560 750.82	28.343 719.91
92	29.290 743.97	29.870 758.90	28.665 728.09
93	29.608 752.04	30.190 766.83	28.979 736.07
94	29.927 760.15	30.510 774.95	29.302 744.27
95	30.245 768.22	30.830 783.08	29.616 752.25
96	30.563 776.30	31.150 791.21	29.938 760.43
97	30.882 784.40	31.470 799.34	30.252 768.40
98	31.200 792.48	31.780 807.21	30.573 776.55
99	31.518 800.56	32.100 815.34	30.889 784.58
100	31.836 808.63	32.420 823.47	31.211 792.76
101	32.155 816.74	32.740 831.60	31.526 800.76

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	32.473 824.81	33.060 839.72	31.848 808.94
103	32.791 832.89	33.380 847.65	32.162 816.91
104	33.109 840.97	33.690 855.73	32.484 825.09
105	33.428 849.07	34.010 863.85	32.799 833.09
106	33.746 857.15	34.330 871.98	33.121 841.27
107	34.064 865.23	34.650 880.11	33.435 849.25
108	34.382 873.30	34.970 888.24	33.757 857.43
109	34.701 881.41	35.290 896.37	34.072 865.43
110	35.019 889.48	35.610 904.49	34.394 873.61
111	35.337 897.56	35.920 912.37	34.709 881.61
112	35.655 905.64	36.240 920.50	35.030 889.76
113	35.974 913.74	36.560 928.62	35.345 897.76
114	36.292 921.82	36.880 936.75	35.667 905.94
115	36.610 929.89	37.200 944.88	35.982 913.94
116	36.929 938.00	37.520 953.01	36.304 922.12
117	37.247 946.07	37.830 960.88	36.618 930.10
118	37.565 954.15	38.150 969.01	36.940 938.28
119	37.883 962.23	38.470 977.14	37.255 946.28
120	38.202 970.33	38.790 985.27	37.577 954.46
121	38.520 978.41	39.110 993.39	37.892 962.46
122	38.838 986.49	39.430 1001.52	38.213 970.61
123	39.156 994.56	39.740 1009.40	38.528 978.61
124	39.475 1002.67	40.060 1017.52	38.850 986.79
125	39.793 1010.74	40.380 1025.65	39.165 994.79
126	40.111 1018.82	40.700 1033.78	39.486 1002.94
127	40.430 1026.92	41.020 1041.91	39.801 1010.95
128	40.748 1035.00	41.340 1050.04	40.123 1019.12
129	41.066 1043.08	41.650 1058.17	40.438 1027.13
130	41.384 1051.15	41.970 1066.04	40.759 1035.28
131	41.703 1059.26	42.290 1074.17	41.075 1043.31
132	42.021 1067.33	42.610 1082.29	41.396 1051.46
133	42.339 1075.41	42.930 1090.42	41.711 1059.46
134	42.657 1083.49	43.250 1098.55	42.032 1067.61
135	42.976 1091.59	43.560 1106.42	42.348 1075.64
136	43.294 1099.67	43.880 1114.55	42.669 1083.79
137	43.612 1107.74	44.200 1122.68	42.984 1091.79
138	43.931 1115.85	44.520 1130.81	43.306 1099.97
139	44.249 1123.92	44.840 1138.94	43.621 1107.97
140	44.567 1132.00	45.160 1147.06	43.942 1116.13
141	44.885 1140.08	45.470 1155.19	44.258 1124.15
142	45.204 1148.18	45.790 1163.07	44.579 1132.31
143	45.522 1156.26	46.110 1171.19	44.894 1140.31
144	45.840 1164.34	46.430 1179.32	45.215 1148.46
145	46.159 1172.44	46.750 1187.45	45.531 1156.49
146	46.477 1180.52	47.070 1195.58	45.852 1164.64
147	46.795 1188.59	47.380 1203.45	46.167 1172.64
148	47.113 1196.67	47.700 1211.58	46.488 1180.80
149	47.432 1204.77	48.020 1219.71	46.804 1188.82

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus .625".

Sprocket Diameters - ANSI Std. #100 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	2.500 63.50	2.920 74.17	1.750 44.45
7	2.881 73.18	3.350 85.09	2.059 52.30
8	3.266 82.96	3.770 95.76	2.516 63.91
9	3.655 92.84	4.180 106.17	2.850 72.39
10	4.045 102.74	4.600 116.84	3.295 83.69
11	4.437 112.70	5.010 127.25	3.642 92.51
12	4.830 122.68	5.420 137.67	4.080 103.63
13	5.223 132.66	5.820 147.83	4.435 112.65
14	5.617 142.67	6.230 158.24	4.867 123.62
15	6.012 152.70	6.630 168.40	5.229 132.82
16	6.407 162.74	7.030 178.56	5.657 143.69
17	6.803 172.80	7.440 188.98	6.024 153.01
18	7.198 182.83	7.840 199.14	6.448 163.78
19	7.595 192.91	8.240 209.30	6.819 173.20
20	7.991 202.97	8.640 219.46	7.241 183.92
21	8.387 213.03	9.040 229.62	7.614 193.40
22	8.783 223.09	9.440 239.78	8.033 204.04
23	9.180 233.17	9.840 249.94	8.409 213.59
24	9.577 243.26	10.250 260.35	8.827 224.21
25	9.973 253.31	10.650 270.51	9.204 233.78
26	10.370 263.40	11.050 280.67	9.620 244.35
27	10.767 273.48	11.440 290.58	9.999 253.97
28	11.164 283.57	11.840 300.74	10.414 264.52
29	11.561 293.65	12.240 310.90	10.795 274.19
30	11.958 303.73	12.640 321.06	11.208 284.68
31	12.356 313.84	13.040 331.22	11.590 294.39
32	12.753 323.93	13.440 341.38	12.003 304.88
33	13.150 334.01	13.840 351.54	12.385 314.58
34	13.547 344.09	14.240 361.70	12.797 325.04
35	13.945 354.20	14.640 371.86	13.181 334.80
36	14.342 364.29	15.040 382.02	13.592 345.24
37	14.740 374.40	15.440 392.18	13.976 354.99
38	15.137 384.48	15.840 402.34	14.387 365.43
39	15.534 394.56	16.230 412.24	14.772 375.21
40	15.932 404.67	16.630 422.40	15.182 385.62
41	16.329 414.76	17.030 432.56	15.568 395.43
42	16.727 424.87	17.430 442.72	15.977 405.82
43	17.124 434.95	17.830 452.88	16.363 415.62
44	17.522 445.06	18.230 463.04	16.772 426.01
45	17.920 455.17	18.630 473.20	17.159 435.84
46	18.317 465.25	19.020 483.11	17.567 446.20
47	18.715 475.36	19.420 493.27	17.954 456.03
48	19.112 485.44	19.820 503.43	18.362 466.39
49	19.510 495.55	20.220 513.59	18.750 476.25
50	19.908 505.66	20.620 523.75	19.158 486.61
51	20.305 515.75	21.020 533.91	19.545 496.44
52	20.703 525.86	21.420 544.07	19.953 506.81
53	21.100 535.94	21.810 553.97	20.341 516.66

Machining tolerances on outside diameters are not critical. Tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	21.498 546.05	22.210 564.13	20.748 527.00
55	21.896 556.16	22.610 574.29	21.137 536.68
56	22.293 566.24	23.010 584.45	21.543 547.19
57	22.691 576.35	23.410 594.61	21.932 557.07
58	23.089 586.46	23.810 604.77	22.339 567.41
59	23.486 596.54	24.200 614.68	22.728 577.29
60	23.884 606.65	24.600 624.84	23.134 587.60
61	24.282 616.76	25.000 635.00	23.524 597.51
62	24.680 626.87	25.400 645.16	23.930 607.62
63	25.077 636.96	25.800 655.32	24.320 617.73
64	25.475 647.07	26.190 665.23	24.725 628.02
65	25.873 657.17	26.590 675.39	25.115 637.92
66	26.271 667.28	26.980 685.55	25.521 648.23
67	26.668 677.37	27.390 695.71	25.911 658.14
68	27.066 687.48	27.790 705.87	26.316 668.43
69	27.464 697.59	28.190 716.03	26.707 678.36
70	27.862 707.69	28.580 725.93	27.112 688.64
71	28.259 717.78	28.980 736.09	27.502 698.55
72	28.657 727.89	29.380 746.25	27.907 708.84
73	29.055 738.00	29.780 756.41	28.298 718.77
74	29.453 748.11	30.180 766.57	28.703 729.06
75	29.850 758.19	30.570 776.48	29.093 738.96
76	30.248 768.30	30.970 786.64	29.498 749.25
77	30.646 778.41	31.370 796.80	29.889 759.18
78	31.044 788.52	31.770 806.96	30.294 769.47
79	31.441 798.60	32.170 817.12	30.685 779.40
80	31.839 808.71	32.570 827.28	31.089 789.66
81	32.237 818.82	32.960 837.18	31.481 799.62
82	32.635 828.93	33.360 847.34	31.885 809.68
83	33.033 839.04	33.760 857.50	32.277 819.84
84	33.430 849.12	34.160 867.66	32.680 830.07
85	33.828 859.23	34.560 877.82	33.072 840.03
86	34.226 869.34	34.950 887.73	33.476 850.29
87	34.624 879.45	35.350 897.89	33.868 860.25
88	35.021 889.53	35.750 908.05	34.271 870.48
89	35.419 899.64	36.150 918.21	34.663 880.44
90	35.817 909.75	36.550 928.37	35.067 890.70
91	36.215 919.86	36.940 938.28	35.459 900.66
92	36.612 929.94	37.340 948.44	35.862 910.89
93	37.010 940.05	37.740 958.60	36.255 920.88
94	37.408 950.16	38.140 968.76	36.658 931.11
95	37.806 960.27	38.540 978.92	37.050 941.07
96	38.203 970.36	38.930 988.82	37.453 951.31
97	38.601 980.47	39.330 998.98	37.846 961.29
98	38.999 990.57	39.730 1009.14	38.249 971.52
99	39.397 1000.68	40.130 1019.30	38.642 981.51
100	39.795 1010.79	40.530 1029.46	39.045 991.74
101	40.193 1020.90	40.920 1039.37	39.438 1001.73

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	40.591 1031.01	41.320 1049.53	39.841 1011.96
103	40.989 1041.12	41.720 1059.69	40.234 1021.94
104	41.386 1051.20	42.120 1069.85	40.636 1032.15
105	41.784 1061.31	42.520 1080.01	41.030 1042.16
106	42.182 1071.42	42.910 1089.91	41.432 1052.37
107	42.580 1081.53	43.310 1100.07	41.825 1062.36
108	42.978 1091.64	43.710 1110.23	42.228 1072.59
109	43.376 1101.75	44.110 1120.39	42.621 1082.57
110	43.774 1111.86	44.510 1130.55	43.024 1092.81
111	44.171 1121.94	44.900 1140.46	43.417 1102.79
112	44.569 1132.05	45.300 1150.62	43.819 1113.00
113	44.967 1142.16	45.700 1160.78	44.213 1123.01
114	45.365 1152.27	46.100 1170.94	44.615 1133.22
115	45.763 1162.38	46.500 1181.10	45.009 1143.23
116	46.161 1172.49	46.890 1191.01	45.411 1153.44
117	46.559 1182.60	47.290 1201.17	45.804 1163.42
118	46.957 1192.71	47.690 1211.33	46.207 1173.66
119	47.354 1202.79	48.090 1221.49	46.600 1183.64
120	47.752 1212.90	48.490 1231.65	47.002 1193.85
121	48.149 1222.98	48.880 1241.55	47.395 1203.83
122	48.547 1233.09	49.280 1251.71	47.797 1214.04
123	48.945 1243.20	49.680 1261.87	48.191 1224.05
124	49.343 1253.31	50.080 1272.03	48.593 1234.26
125	49.741 1263.42	50.480 1282.19	48.987 1244.27
126	50.139 1273.53	50.870 1292.10	49.389 1254.48
127	50.537 1283.64	51.270 1302.26	49.783 1264.49
128	50.935 1293.75	51.670 1312.42	50.185 1274.70
129	51.333 1303.86	52.070 1322.58	50.579 1284.71
130	51.730 1313.94	52.470 1332.74	50.980 1294.89
131	52.128 1324.05	52.860 1342.64	51.375 1304.93
132	52.526 1334.16	53.260 1352.80	51.776 1315.11
133	52.924 1344.27	53.660 1362.96	52.170 1325.12
134	53.322 1354.38	54.060 1373.12	52.572 1335.33
135	53.720 1364.49	54.460 1383.28	52.966 1345.34
136	54.118 1374.60	54.850 1393.19	53.368 1355.55
137	54.515 1384.68	55.250 1403.35	53.762 1365.55
138	54.913 1394.79	55.650 1413.51	54.163 1375.74
139	55.311 1404.90	56.050 1423.67	54.558 1385.77
140	55.709 1415.01	56.450 1433.83	54.959 1395.96
141	56.107 1425.12	56.840 1443.74	55.353 1405.97
142	56.505 1435.23	57.240 1453.90	55.755 1416.18
143	56.903 1445.34	57.640 1464.06	56.149 1426.18
144	57.300 1455.42	58.040 1474.22	56.550 1436.37
145	57.698 1465.53	58.440 1484.38	56.945 1446.40
146	58.096 1475.64	58.830 1494.28	57.346 1456.59
147	58.494 1485.75	59.230 1504.44	57.741 1466.62
148	58.892 1495.86	59.630 1514.60	58.142 1476.81
149	59.290 1505.97	60.030 1524.76	58.537 1486.84

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus .750".

Sprocket Diameters - ANSI Std. #120 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	3.000 76.20	3.500 88.90	2.125 53.98
7	3.457 87.81	4.020 102.11	2.495 63.37
8	3.920 99.57	4.520 114.81	3.045 77.34
9	4.386 111.40	5.020 127.51	3.444 87.48
10	4.854 123.29	5.520 140.21	3.979 101.07
11	5.324 135.23	6.010 152.65	4.395 111.63
12	5.796 147.22	6.500 165.10	4.921 124.99
13	6.268 159.21	6.990 177.55	5.347 135.81
14	6.741 171.22	7.470 189.74	5.866 149.00
15	7.215 183.26	7.960 202.18	6.300 160.02
16	7.689 195.30	8.440 214.38	6.814 173.08
17	8.163 207.34	8.920 226.57	7.253 184.23
18	8.638 219.41	9.410 239.01	7.763 197.18
19	9.113 231.47	9.890 251.21	8.207 208.46
20	9.589 243.56	10.370 263.40	8.714 221.34
21	10.064 255.63	10.850 275.59	9.161 232.69
22	10.540 267.72	11.330 287.78	9.665 245.49
23	11.016 279.81	11.810 299.97	10.115 256.92
24	11.492 291.90	12.290 312.17	10.617 269.67
25	11.968 303.99	12.770 324.36	11.070 281.18
26	12.444 316.08	13.250 336.55	11.569 293.85
27	12.921 328.19	13.730 348.74	12.024 305.41
28	13.397 340.28	14.210 360.93	12.522 318.06
29	13.874 352.40	14.690 373.13	12.978 329.64
30	14.350 364.49	15.170 385.32	13.475 342.27
31	14.827 376.61	15.650 397.51	13.933 353.90
32	15.303 388.70	16.130 409.70	14.428 366.47
33	15.780 400.81	16.610 421.89	14.887 378.13
34	16.257 412.93	17.090 434.09	15.382 390.70
35	16.734 425.04	17.570 446.28	15.842 402.39
36	17.211 437.16	18.050 458.47	16.336 414.93
37	17.687 449.25	18.520 470.41	16.796 426.62
38	18.164 461.37	19.000 482.60	17.289 439.14
39	18.641 473.48	19.480 494.79	17.751 450.88
40	19.118 485.60	19.960 506.98	18.243 463.37
41	19.595 497.71	20.440 519.18	18.706 475.13
42	20.072 509.83	20.920 531.37	19.197 487.60
43	20.549 521.94	21.390 543.31	19.661 499.39
44	21.026 534.06	21.870 555.50	20.151 511.84
45	21.503 546.18	22.350 567.69	20.615 523.62
46	21.980 558.29	22.830 579.88	21.105 536.07
47	22.458 570.43	23.310 592.07	21.570 547.88
48	22.935 582.55	23.790 604.27	22.060 560.32
49	23.412 594.66	24.260 616.20	22.525 572.14
50	23.889 606.78	24.740 628.40	23.014 584.56
51	24.366 618.90	25.220 640.59	23.479 596.37
52	24.843 631.01	25.700 652.78	23.968 608.79
53	25.320 643.13	26.180 664.97	24.434 620.62

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	25.798 655.27	26.650 676.91	24.923 633.04
55	26.275 667.39	27.130 689.10	25.389 644.68
56	26.752 679.50	27.610 701.29	25.877 657.28
57	27.229 691.62	28.090 713.49	26.344 669.14
58	27.707 703.76	28.570 725.68	26.832 681.53
59	28.184 715.87	29.040 737.62	27.299 693.39
60	28.661 727.99	29.520 749.81	27.786 705.76
61	29.138 740.11	30.000 762.00	28.263 717.88
62	29.616 752.25	30.480 774.19	28.741 730.02
63	30.093 764.36	30.960 786.38	29.208 741.88
64	30.570 776.48	31.430 798.32	29.695 754.25
65	31.047 788.59	31.910 810.51	30.163 766.14
66	31.525 800.74	32.390 822.71	30.650 778.51
67	32.002 812.85	32.870 834.90	31.118 790.40
68	32.479 824.97	33.340 846.84	31.604 802.74
69	32.957 837.11	33.820 859.03	32.073 814.65
70	33.434 849.22	34.300 871.22	32.559 827.00
71	33.911 861.34	34.780 883.41	33.028 838.91
72	34.388 873.46	35.260 895.60	33.513 851.23
73	34.866 885.60	35.730 907.54	33.983 863.17
74	35.343 897.71	36.210 919.73	34.468 875.49
75	35.820 909.83	36.690 931.93	34.937 887.40
76	36.298 921.97	37.170 944.12	35.423 899.74
77	36.775 934.09	37.640 956.06	35.892 911.66
78	37.252 946.20	38.120 968.25	36.377 923.98
79	37.730 958.34	38.600 980.44	36.847 935.91
80	38.207 970.46	39.080 992.63	37.332 948.23
81	38.684 982.57	39.560 1004.82	37.802 960.17
82	39.162 994.71	40.030 1016.76	38.287 972.49
83	39.639 1006.83	40.510 1028.95	38.757 984.43
84	40.116 1018.95	40.990 1041.15	39.241 996.72
85	40.594 1031.09	41.470 1053.34	39.712 1008.68
86	41.071 1043.20	41.940 1065.28	40.196 1020.98
87	41.548 1055.32	42.420 1077.47	40.666 1032.92
88	42.026 1067.46	42.900 1089.66	41.151 1045.24
89	42.503 1079.58	43.380 1101.85	41.621 1057.17
90	42.981 1091.72	43.850 1113.79	42.106 1069.49
91	43.458 1103.83	44.330 1125.98	42.576 1081.43
92	43.935 1115.95	44.810 1138.17	43.060 1093.72
93	44.412 1128.06	45.290 1150.37	43.530 1105.66
94	44.889 1140.18	45.770 1162.56	44.014 1117.96
95	45.367 1152.32	46.240 1174.50	44.485 1129.92
96	45.844 1164.44	46.720 1186.69	44.969 1142.21
97	46.321 1176.55	47.200 1198.88	45.440 1154.18
98	46.799 1188.69	47.680 1211.07	45.924 1166.47
99	47.277 1200.84	48.150 1223.01	46.395 1178.43
100	47.754 1212.95	48.630 1235.20	46.879 1190.73
101	48.231 1225.07	49.110 1247.39	47.350 1202.69

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	48.709 1237.21	49.590 1259.59	47.834 1214.98
103	49.186 1249.32	50.060 1271.52	48.305 1226.95
104	49.664 1261.47	50.540 1283.72	48.789 1239.24
105	50.410 1280.41	51.020 1295.91	49.260 1251.20
106	50.619 1285.72	51.500 1308.10	49.744 1263.50
107	51.096 1297.84	51.970 1320.04	50.215 1275.46
108	51.573 1309.95	52.450 1332.23	50.698 1287.73
109	52.051 1322.10	52.930 1344.42	51.169 1299.69
110	52.528 1334.21	53.410 1356.61	51.653 1311.99
111	53.005 1346.33	53.880 1368.55	52.124 1323.95
112	53.483 1358.47	54.360 1380.74	52.608 1336.24
113	53.961 1370.61	54.840 1392.94	53.080 1348.23
114	54.438 1382.73	55.320 1405.13	53.563 1360.50
115	54.915 1394.84	55.800 1417.32	54.034 1372.46
116	55.393 1406.98	56.270 1429.26	54.518 1384.76
117	55.870 1419.10	56.750 1441.45	54.989 1396.72
118	56.347 1431.21	57.230 1453.64	55.472 1408.99
119	56.824 1443.33	57.710 1465.83	55.944 1420.98
120	57.301 1455.45	58.180 1477.77	56.426 1433.22
121	57.778 1467.56	58.660 1489.96	56.899 1445.23
122	58.256 1479.70	59.140 1502.16	57.381 1457.48
123	58.734 1491.84	59.620 1514.35	57.854 1469.49
124	59.212 1503.98	60.090 1526.29	58.337 1481.76
125	59.690 1516.13	60.570 1538.48	58.809 1493.75
126	60.167 1528.24	61.050 1550.67	59.292 1506.02
127	60.644 1540.36	61.530 1562.86	59.765 1518.03
128	61.122 1552.50	62.000 1574.80	60.247 1530.27
129	61.599 1564.61	62.480 1586.99	60.720 1542.29
130	62.076 1576.73	62.960 1599.18	61.201 1554.51
131	62.554 1588.87	63.440 1611.38	61.674 1566.52
132	63.031 1600.99	63.910 1623.31	62.156 1578.76
133	63.509 1613.13	64.390 1635.51	62.629 1590.78
134	63.986 1625.24	64.870 1647.70	63.111 1603.02
135	64.464 1637.39	65.350 1659.89	63.584 1615.03
136	64.941 1649.50	65.820 1671.83	64.066 1627.28
137	65.418 1661.62	66.300 1684.02	64.539 1639.29
138	65.896 1673.76	66.780 1696.21	65.021 1651.53
139	66.373 1685.87	67.260 1708.40	65.494 1663.55
140	66.851 1698.02	67.730 1720.34	65.979 1675.79
141	67.328 1710.13	68.210 1732.53	66.449 1687.80
142	67.806 1722.27	68.690 1744.73	66.931 1700.05
143	68.283 1734.39	69.170 1756.92	67.404 1712.06
144	68.760 1746.50	69.640 1768.86	67.885 1724.28
145	69.238 1758.65	70.120 1781.05	68.359 1736.32
146	69.715 1770.76	70.600 1793.24	68.840 1748.54
147	70.193 1782.90	71.080 1805.43	69.314 1760.58
148	70.670 1795.02	71.560 1817.62	69.795 1772.79
149	71.148 1807.16	72.030 1829.56	70.269 1784.83

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus .875".

Sprocket Diameters - ANSI Std. #140 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	3.500 88.90	4.080 103.63	2.500 63.50
7	4.033 102.44	4.680 118.87	2.932 74.47
8	4.573 116.15	5.280 134.11	3.573 90.75
9	5.117 129.97	5.860 148.84	4.042 102.67
10	5.663 143.84	6.440 163.58	4.663 118.44
11	6.212 157.78	7.010 178.05	5.148 130.76
12	6.762 171.75	7.580 192.53	5.762 146.35
13	7.313 185.75	8.150 207.01	6.259 158.98
14	7.864 199.75	8.720 221.49	6.864 174.35
15	8.417 213.79	9.280 235.71	7.371 187.22
16	8.970 227.84	9.850 250.19	7.970 202.44
17	9.524 241.91	10.410 264.41	8.483 215.47
18	10.078 255.98	10.980 278.89	9.078 230.58
19	10.632 270.05	11.540 293.12	9.596 243.74
20	11.187 284.15	12.100 307.34	10.187 258.75
21	11.742 298.25	12.660 321.56	10.709 272.01
22	12.297 312.34	13.220 335.79	11.297 286.94
23	12.852 326.44	13.780 350.01	11.822 300.28
24	13.407 340.54	14.340 364.24	12.407 315.14
25	13.963 354.66	14.900 378.46	12.935 328.55
26	14.518 368.76	15.460 392.68	13.518 343.36
27	15.074 382.88	16.020 406.91	14.049 356.84
28	15.630 397.00	16.580 421.13	14.630 371.60
29	16.186 411.12	17.140 435.36	15.162 385.11
30	16.742 425.25	17.700 449.58	15.742 399.85
31	17.298 439.37	18.260 463.80	16.276 413.41
32	17.854 453.49	18.820 478.03	16.854 428.09
33	18.410 467.61	19.380 492.25	17.389 441.68
34	18.966 481.74	19.940 506.48	17.966 456.34
35	19.523 495.88	20.490 520.45	18.503 469.98
36	20.079 510.01	21.050 534.67	19.079 484.61
37	20.635 524.13	21.610 548.89	19.617 498.27
38	21.192 538.28	22.170 563.12	20.192 512.88
39	21.748 552.40	22.730 577.34	20.731 526.57
40	22.305 566.55	23.290 591.57	21.305 541.15
41	22.861 580.67	23.840 605.54	21.845 554.86
42	23.418 594.82	24.400 619.76	22.418 569.42
43	23.974 608.94	24.960 633.98	22.958 583.13
44	24.531 623.09	25.520 648.21	23.531 597.69
45	25.087 637.21	26.080 662.43	24.072 611.43
46	25.644 651.36	26.630 676.40	24.644 625.96
47	26.201 665.51	27.190 690.63	25.196 639.98
48	26.757 679.63	27.750 704.85	25.757 654.23
49	27.314 693.78	28.310 719.07	26.300 668.02
50	27.871 707.92	28.870 733.30	26.871 682.52
51	28.427 722.05	29.420 747.27	27.414 696.32
52	28.984 736.19	29.980 761.49	27.984 710.79
53	29.541 750.34	30.540 775.72	28.528 724.61

Machining tolerances on outside diameters are not critical. Tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	30.097 764.46	31.100 789.94	29.097 739.06
55	30.654 778.61	31.650 803.91	29.641 752.88
56	31.211 792.76	32.210 818.13	30.211 767.36
57	31.768 806.91	32.770 832.36	30.755 781.18
58	32.324 821.03	33.330 846.58	31.324 795.63
59	32.881 835.18	33.890 860.81	31.869 809.47
60	33.438 849.33	34.440 874.78	32.438 823.93
61	33.995 863.47	35.000 889.00	32.983 837.77
62	34.551 877.60	35.560 903.22	33.551 852.20
63	35.108 891.74	36.110 917.19	34.097 866.06
64	35.665 905.89	36.670 931.42	34.665 880.49
65	36.222 920.04	37.230 945.64	35.211 894.36
66	36.779 934.19	37.790 959.87	35.779 908.79
67	37.336 948.33	38.350 974.09	36.325 922.66
68	37.892 962.46	38.900 988.06	36.892 937.06
69	38.449 976.60	39.460 1002.28	37.439 950.95
70	39.006 990.75	40.020 1016.51	38.006 965.35
71	39.563 1004.90	40.570 1030.48	38.553 979.25
72	40.120 1019.05	41.130 1044.70	39.120 993.65
73	40.677 1033.20	41.690 1058.93	39.667 1007.54
74	41.233 1047.32	42.250 1073.15	40.233 1021.92
75	41.790 1061.47	42.800 1087.12	40.781 1035.84
76	42.347 1075.61	43.360 1101.34	41.347 1050.21
77	42.904 1089.76	43.920 1115.57	41.895 1064.13
78	43.461 1103.91	44.480 1129.79	42.461 1078.51
79	44.018 1118.06	45.030 1143.76	43.009 1092.43
80	44.575 1132.21	45.590 1157.99	43.575 1106.81
81	45.132 1146.35	46.150 1172.21	44.123 1120.72
82	45.689 1160.50	46.710 1186.43	44.689 1135.10
83	46.246 1174.65	47.260 1200.40	45.237 1149.02
84	46.802 1188.77	47.820 1214.63	45.802 1163.37
85	47.359 1202.92	48.380 1228.85	46.350 1177.29
86	47.915 1217.04	48.930 1242.82	46.915 1191.64
87	48.472 1231.19	49.490 1257.05	47.464 1205.59
88	49.029 1245.34	50.050 1271.27	48.029 1219.94
89	49.586 1259.48	50.610 1285.49	48.578 1233.88
90	50.144 1273.66	51.160 1299.46	49.144 1248.26
91	50.700 1287.78	51.720 1313.69	49.692 1262.18
92	51.257 1301.93	52.280 1327.91	50.257 1276.53
93	51.814 1316.08	52.830 1341.88	50.806 1290.47
94	52.371 1330.22	53.390 1356.11	51.371 1304.82
95	52.928 1344.37	53.950 1370.33	51.920 1318.77
96	53.485 1358.52	54.510 1384.55	52.485 1333.12
97	54.042 1372.67	55.060 1398.52	53.034 1347.06
98	54.599 1386.81	55.620 1412.75	53.599 1361.41
99	55.156 1400.96	56.180 1426.97	54.149 1375.38
100	55.713 1415.11	56.740 1441.20	54.713 1389.71
101	56.270 1429.26	57.290 1455.17	55.263 1403.68

Machining tolerances on outside diameters are not critical. Tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	56.827 1443.41	57.850 1469.39	55.827 1418.01
103	57.384 1457.55	58.410 1483.61	56.377 1431.98
104	57.941 1471.70	58.960 1497.58	56.941 1446.30
105	58.498 1485.85	59.520 1511.81	57.491 1460.27
106	59.055 1500.00	60.080 1526.03	58.055 1474.60
107	59.612 1514.14	60.640 1540.26	58.605 1488.57
108	60.169 1528.29	61.190 1554.23	59.169 1502.89
109	60.726 1542.44	61.750 1568.45	59.719 1516.86
110	61.283 1556.59	62.310 1582.67	60.283 1531.19
111	61.840 1570.74	62.870 1596.90	60.833 1545.16
112	62.397 1584.88	63.420 1610.87	61.397 1559.48
113	62.954 1599.03	63.980 1625.09	61.948 1573.48
114	63.511 1613.18	64.540 1639.32	62.511 1587.78
115	64.068 1627.33	65.090 1653.29	63.062 1601.77
116	64.625 1641.48	65.650 1667.51	63.625 1616.08
117	65.182 1655.62	66.210 1681.73	64.176 1630.07
118	65.739 1669.77	66.770 1695.96	64.739 1644.37
119	66.296 1683.92	67.320 1709.93	65.290 1658.37
120	66.853 1698.07	67.880 1724.15	65.853 1672.67
121	67.410 1712.21	68.440 1738.38	66.404 1686.66
122	67.967 1726.36	68.990 1752.35	66.967 1700.96
123	68.524 1740.51	69.550 1766.57	67.518 1714.96
124	69.081 1754.66	70.110 1780.79	68.081 1729.26
125	69.639 1768.83	70.670 1795.02	68.633 1743.28
126	70.195 1782.95	71.220 1808.99	69.195 1757.55
127	70.752 1797.10	71.780 1823.21	69.746 1771.55
128	71.308 1811.22	72.340 1837.44	70.308 1785.82
129	71.866 1825.40	72.900 1851.66	70.860 1799.84
130	72.423 1839.54	73.450 1865.63	71.423 1814.14
131	72.980 1853.69	74.010 1879.85	71.974 1828.14
132	73.537 1867.84	74.570 1894.08	72.537 1842.44
133	74.094 1881.99	75.120 1908.05	73.088 1856.44
134	74.650 1896.11	75.680 1922.27	73.650 1870.71
135	75.207 1910.26	76.240 1936.50	74.202 1884.73
136	75.765 1924.43	76.790 1950.47	74.765 1899.03
137	76.322 1938.58	77.350 1964.69	75.316 1913.03
138	76.879 1952.73	77.910 1978.91	75.879 1927.33
139	77.435 1966.85	78.470 1993.14	76.431 1941.35
140	77.992 1981.00	79.020 2007.11	76.992 1955.60
141	78.549 1995.14	79.580 2021.33	77.545 1969.64
142	79.106 2009.29	80.140 2035.56	78.106 1983.89
143	79.664 2023.47	80.690 2049.53	78.659 1997.94
144	80.220 2037.59	81.250 2063.75	79.220 2012.19
145	80.777 2051.74	81.810 2077.97	79.773 2026.23
146	81.334 2065.88	82.370 2092.20	80.334 2040.48
147	81.891 2080.03	82.920 2106.17	80.887 2054.53
148	82.448 2094.18	83.480 2120.39	81.448 2068.78
149	83.005 2108.33	84.040 2134.62	82.001 2082.83

Machining tolerances on outside diameters are not critical. Tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus 1.000".

Sprocket Diameters - ANSI Std. #160 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	4.000 101.60	4.660 118.36	2.875 73.03
7	4.610 117.09	5.350 135.89	3.369 85.57
8	5.226 132.74	6.030 153.16	4.101 104.17
9	5.848 148.54	6.700 170.18	4.634 117.70
10	6.472 164.39	7.360 186.94	5.347 135.81
11	7.099 180.31	8.010 203.45	5.902 149.91
12	7.727 196.27	8.660 219.96	6.602 167.69
13	8.357 212.27	9.310 236.47	7.171 182.14
14	8.988 228.30	9.960 252.98	7.863 199.72
15	9.620 244.35	10.610 269.49	8.442 214.43
16	10.252 260.40	11.260 286.00	9.127 231.83
17	10.885 276.48	11.900 302.26	9.713 246.71
18	11.518 292.56	12.540 318.52	10.393 263.98
19	12.151 308.64	13.190 335.03	10.985 279.02
20	12.785 324.74	13.830 351.28	11.660 296.16
21	13.419 340.84	14.470 367.54	12.256 311.30
22	14.053 356.95	15.110 383.79	12.928 328.37
23	14.688 373.08	15.750 400.05	13.528 343.61
24	15.323 389.20	16.390 416.31	14.198 360.63
25	15.958 405.33	17.030 432.56	14.801 375.95
26	16.593 421.46	17.670 448.82	15.468 392.89
27	17.228 437.59	18.310 465.07	16.073 408.25
28	17.863 453.72	18.950 481.33	16.738 425.15
29	18.498 469.85	19.590 497.59	17.346 440.59
30	19.134 486.00	20.230 513.84	18.009 457.43
31	19.769 502.13	20.870 530.10	18.619 472.92
32	20.405 518.29	21.510 546.35	19.280 489.71
33	21.040 534.42	22.150 562.61	19.892 505.26
34	21.676 550.57	22.780 578.61	20.551 522.00
35	22.312 566.72	23.420 594.87	21.164 537.57
36	22.947 582.85	24.060 611.12	21.822 554.28
37	23.583 599.01	24.700 627.38	22.437 569.90
38	24.219 615.16	25.340 643.64	23.094 586.59
39	24.855 631.32	25.980 659.89	23.710 602.23
40	25.491 647.47	26.610 676.15	24.366 618.90
41	26.127 663.63	27.250 692.15	24.983 634.57
42	26.763 679.78	27.890 708.41	25.638 651.21
43	27.399 695.93	28.530 724.66	26.256 666.90
44	28.035 712.09	29.160 740.66	26.910 683.51
45	28.671 728.24	29.800 756.92	27.529 699.24
46	29.307 744.40	30.440 773.18	28.182 715.82
47	29.943 760.55	31.080 789.43	28.802 731.57
48	30.580 776.73	31.710 805.43	29.455 748.16
49	31.216 792.89	32.350 821.69	30.075 763.91
50	31.852 809.04	32.990 837.95	30.727 780.47
51	32.488 825.20	33.630 854.20	31.348 796.24
52	33.124 841.35	34.260 870.20	31.999 812.77
53	33.761 857.53	34.900 886.46	32.621 828.57

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	34.397 873.68	35.540 902.72	33.272 845.11
55	35.033 889.84	36.180 918.97	33.894 860.91
56	35.669 905.99	36.810 934.97	34.544 877.42
57	36.306 922.17	37.450 951.23	35.167 893.24
58	36.942 938.33	38.090 967.49	35.817 909.75
59	37.578 954.48	38.730 983.74	36.440 925.58
60	38.215 970.66	39.360 999.74	37.090 942.09
61	38.851 986.82	40.000 1016.00	37.713 957.91
62	39.487 1002.97	40.640 1032.26	38.362 974.39
63	40.124 1019.15	41.270 1048.26	38.986 990.24
64	40.760 1035.30	41.910 1064.51	39.635 1006.73
65	41.396 1051.46	42.550 1080.77	40.259 1022.58
66	42.033 1067.64	43.190 1097.03	40.908 1039.06
67	42.669 1083.79	43.820 1113.03	41.532 1054.91
68	43.306 1099.97	44.460 1129.28	42.181 1071.40
69	43.942 1116.13	45.100 1145.54	42.805 1087.25
70	44.578 1132.28	45.730 1161.54	43.453 1103.71
71	45.215 1148.46	46.370 1177.80	44.078 1119.58
72	45.851 1164.62	47.010 1194.05	44.726 1136.04
73	46.488 1180.80	47.640 1210.06	45.352 1151.94
74	47.124 1196.95	48.280 1226.31	45.999 1168.37
75	47.760 1213.10	48.920 1242.57	46.625 1184.28
76	48.397 1229.28	49.560 1258.82	47.272 1200.71
77	49.033 1245.44	50.190 1274.83	47.898 1216.61
78	49.670 1261.62	50.830 1291.08	48.545 1233.04
79	50.306 1277.77	51.470 1307.34	49.171 1248.94
80	50.943 1293.95	52.100 1323.34	49.818 1265.38
81	51.579 1310.11	52.740 1339.60	50.444 1281.28
82	52.216 1326.29	53.380 1355.85	51.091 1297.71
83	52.852 1342.44	54.010 1371.85	51.717 1313.61
84	53.489 1358.62	54.650 1388.11	52.364 1330.05
85	54.125 1374.78	55.290 1404.37	52.991 1345.97
86	54.761 1390.93	55.920 1420.37	53.637 1362.38
87	55.398 1407.11	56.560 1436.62	54.264 1378.31
88	56.034 1423.26	57.200 1452.88	54.909 1394.69
89	56.671 1439.44	57.840 1469.14	55.538 1410.67
90	57.307 1455.60	58.470 1485.14	56.182 1427.02
91	57.944 1471.78	59.110 1501.39	56.810 1442.97
92	58.580 1487.93	59.750 1517.65	57.455 1459.36
93	59.216 1504.09	60.380 1533.65	58.083 1475.31
94	59.853 1520.27	61.020 1549.91	58.728 1491.69
95	60.489 1536.42	61.660 1566.16	59.356 1507.64
96	61.126 1552.60	62.290 1582.17	60.001 1524.03
97	61.762 1568.75	62.930 1598.42	60.629 1539.98
98	62.399 1584.93	63.570 1614.68	61.274 1556.36
99	63.035 1601.09	64.200 1630.68	61.903 1572.34
100	63.672 1617.27	64.840 1646.94	62.547 1588.69
101	64.309 1633.45	65.480 1663.19	63.176 1604.67

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	64.945 1649.60	66.110 1679.19	63.820 1621.03
103	65.582 1665.78	66.750 1695.45	64.449 1637.00
104	66.218 1681.94	67.390 1711.71	65.093 1653.36
105	66.855 1698.12	68.030 1727.96	65.722 1669.34
106	67.491 1714.27	68.660 1743.96	66.366 1685.70
107	68.128 1730.45	69.300 1760.22	66.995 1701.67
108	68.765 1746.63	69.940 1776.48	67.638 1718.01
109	69.401 1762.79	70.570 1792.48	68.288 1734.01
110	70.038 1778.97	71.210 1808.73	68.913 1750.39
111	70.674 1795.12	71.850 1824.99	69.541 1766.34
112	71.311 1811.30	72.480 1840.99	70.186 1782.72
113	71.948 1827.48	73.120 1857.25	71.815 1824.10
114	72.585 1843.66	73.760 1873.50	71.460 1815.08
115	73.221 1859.81	74.390 1889.51	72.089 1831.06
116	73.858 1875.99	75.030 1905.76	72.733 1847.42
117	74.494 1892.15	75.670 1922.02	73.362 1863.39
118	75.130 1908.30	76.300 1938.02	74.005 1879.73
119	75.767 1924.48	76.940 1954.28	74.635 1895.73
120	76.403 1940.64	77.580 1970.53	75.278 1912.06
121	77.039 1956.79	78.210 1986.53	75.908 1928.06
122	77.676 1972.97	78.850 2002.79	76.551 1944.40
123	78.313 1989.15	79.490 2019.05	77.181 1960.40
124	78.950 2005.33	80.120 2035.05	77.825 1976.76
125	79.587 2021.51	80.760 2051.30	78.455 1992.76
126	80.222 2037.64	81.400 2067.56	79.097 2009.06
127	80.859 2053.82	82.030 2083.56	79.728 2025.09
128	81.495 2069.97	82.670 2099.82	80.370 2041.40
129	82.132 2086.15	83.310 2116.07	81.001 2057.43
130	82.769 2102.33	83.940 2132.08	81.644 2073.76
131	83.405 2118.49	84.580 2148.33	82.274 2089.76
132	84.042 2134.67	85.220 2164.59	82.917 2106.09
133	84.678 2150.82	85.850 2180.59	83.547 2122.09
134	85.315 2167.00	86.490 2196.85	84.190 2138.43
135	85.951 2183.16	87.130 2213.10	84.821 2154.45
136	86.588 2199.34	87.760 2229.10	85.463 2170.76
137	87.225 2215.52	88.400 2245.36	86.094 2186.79
138	87.861 2231.67	89.040 2261.62	86.736 2203.09
139	88.498 2247.85	89.680 2277.87	87.367 2219.12
140	89.134 2264.00	90.310 2293.87	88.009 2235.43
141	89.771 2280.18	90.950 2310.13	88.640 2251.46
142	90.407 2296.34	91.590 2326.39	89.282 2267.76
143	91.044 2312.52	92.220 2342.39	89.913 2283.79
144	91.680 2328.67	92.860 2358.64	90.555 2300.10
145	92.317 2344.85	93.500 2374.90	91.187 2316.15
146	92.954 2361.03	94.130 2390.90	91.829 2332.46
147	93.590 2377.19	94.770 2407.16	92.460 2348.48
148	94.227 2393.37	95.410 2423.41	93.102 2364.79
149	94.863 2409.52	96.040 2439.42	93.733 2380.82

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus 1.125".

Sprocket Diameters - ANSI Std. #180 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
5	3.828 97.23	4.450 113.03	2.235 56.77
6	4.500 114.30	5.250 133.35	3.094 78.59
7	5.186 131.72	6.020 152.91	3.650 92.71
8	5.879 149.33	6.780 172.21	4.473 113.61
9	6.579 167.11	7.530 191.26	5.073 128.85
10	7.281 184.94	8.280 210.31	5.875 149.23
11	7.986 202.84	9.010 228.85	6.499 165.07
12	8.693 220.80	9.750 247.65	7.287 185.09
13	9.402 238.81	10.480 266.19	7.927 201.35
14	10.112 256.84	11.210 284.73	8.706 221.13
15	10.822 274.88	11.930 303.02	9.357 237.67
16	11.533 292.94	12.660 321.56	10.127 257.23
17	12.245 311.02	13.390 340.11	10.787 273.99
18	12.957 329.11	14.110 358.39	11.551 293.40
19	13.670 347.22	14.830 376.68	12.217 310.31
20	14.383 365.33	15.560 395.22	12.977 329.62
21	15.096 383.44	16.280 413.51	13.648 346.66
22	15.810 401.57	17.000 431.80	14.404 365.86
23	16.524 419.71	17.720 450.09	15.079 383.01
24	17.238 437.85	18.440 468.38	15.832 402.13
25	17.952 455.98	19.160 486.66	16.511 419.38
26	18.666 474.12	19.880 504.95	17.260 438.40
27	19.381 492.28	20.600 523.24	17.942 455.73
28	20.096 510.44	21.320 541.53	18.690 474.73
29	20.810 528.57	22.040 559.82	19.374 492.10
30	21.525 546.74	22.760 578.10	20.119 511.02
31	22.240 564.90	23.480 596.39	20.806 528.47
32	22.955 583.06	24.190 614.43	21.549 547.34
33	23.670 601.22	24.910 632.71	22.237 564.82
34	24.385 619.38	25.630 651.00	22.979 583.67
35	25.101 637.57	26.350 669.29	23.669 601.19
36	25.816 655.73	27.070 687.58	24.410 620.01
37	26.531 673.89	27.790 705.87	25.101 637.57
38	27.246 692.05	28.500 723.90	25.840 656.34
39	27.962 710.23	29.220 742.19	26.533 673.94
40	28.677 728.40	29.940 760.48	27.271 692.68
41	29.393 746.58	30.660 778.76	27.965 710.31
42	30.108 764.74	31.370 796.80	28.702 729.03
43	30.824 782.93	32.090 815.09	29.397 746.68
44	31.539 801.09	32.810 833.37	30.133 765.38

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
45	32.255 819.28	33.530 851.66	30.830 783.08
46	32.971 837.46	34.240 869.70	31.565 801.75
47	33.686 855.62	34.960 887.98	32.262 819.45
48	34.402 873.81	35.680 906.27	32.996 838.10
49	35.118 892.00	36.400 924.56	33.694 855.83
50	35.834 910.18	37.110 942.59	34.428 874.47
51	36.549 928.34	37.830 960.88	35.126 892.20
52	37.265 946.53	38.550 979.17	35.859 910.82
53	37.981 964.72	39.270 997.46	36.558 928.57
54	38.696 982.88	39.980 1015.49	37.290 947.17
55	39.412 1001.06	40.700 1033.78	37.990 964.95
56	40.128 1019.25	41.420 1052.07	38.722 983.54
57	40.844 1037.44	42.130 1070.10	39.422 1001.32
58	41.560 1055.62	42.850 1088.39	40.154 1019.91
59	42.276 1073.81	43.570 1106.68	40.855 1037.72
60	42.991 1091.97	44.280 1124.71	41.585 1056.26
61	43.707 1110.16	45.000 1143.00	42.287 1074.09
62	44.423 1128.34	45.720 1161.29	43.017 1092.63
63	45.139 1146.53	46.430 1179.32	43.719 1110.46
64	45.855 1164.72	47.150 1197.61	44.449 1129.00
65	46.571 1182.90	47.870 1215.90	45.151 1146.84
66	47.287 1201.09	48.580 1233.93	45.881 1165.38
67	48.003 1219.28	49.300 1252.22	46.584 1183.23
68	48.719 1237.46	50.020 1270.51	47.313 1201.75
69	49.435 1255.65	50.730 1288.54	48.016 1219.61
70	50.151 1273.84	51.450 1306.83	48.745 1238.12
71	50.867 1292.02	52.170 1325.12	49.448 1255.98
72	51.583 1310.21	52.880 1343.15	50.177 1274.50
73	52.299 1328.39	53.600 1361.44	50.880 1292.35
74	53.015 1346.58	54.320 1379.73	51.609 1310.87
75	53.730 1364.74	55.030 1397.76	52.313 1328.75
76	54.446 1382.93	55.750 1416.05	53.040 1347.22
77	55.162 1401.11	56.470 1434.34	53.745 1365.12
78	55.879 1419.33	57.180 1452.37	54.473 1383.61
79	56.594 1437.49	57.900 1470.66	55.177 1401.50
80	57.310 1455.67	58.620 1488.95	55.904 1419.96
81	58.027 1473.89	59.330 1506.98	56.610 1437.89
82	58.743 1492.07	60.050 1525.27	57.337 1456.36
83	59.459 1510.26	60.770 1543.56	58.042 1474.27
84	60.175 1528.45	61.480 1561.59	58.769 1492.73

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
85	60.891 1546.63	62.200 1579.88	59.474 1510.64
86	61.607 1564.82	62.920 1598.17	60.201 1529.11
87	62.323 1583.00	63.630 1616.20	60.907 1547.04
88	63.039 1601.19	64.350 1634.49	61.633 1565.48
89	63.755 1619.38	65.070 1652.78	62.339 1583.41
90	64.471 1637.56	65.780 1670.81	63.065 1601.85
91	65.187 1655.75	66.500 1689.10	63.771 1619.78
92	65.903 1673.94	67.210 1707.13	64.497 1638.22
93	66.619 1692.12	67.930 1725.42	65.203 1656.16
94	67.335 1710.31	68.650 1743.71	65.929 1674.60
95	68.051 1728.50	69.360 1761.74	66.636 1692.55
96	68.767 1746.68	70.080 1780.03	67.361 1710.97
97	69.483 1764.87	70.800 1798.32	68.068 1728.93
98	70.199 1783.05	71.510 1816.35	68.793 1747.34
99	70.916 1801.27	72.230 1834.64	69.501 1765.33
100	71.631 1819.43	72.950 1852.93	70.225 1783.72
101	72.348 1837.64	73.660 1870.96	70.933 1801.70
102	73.064 1855.83	74.380 1889.25	71.658 1820.11
103	73.780 1874.01	75.100 1907.54	72.365 1838.07
104	74.496 1892.20	75.810 1925.57	73.090 1856.49
105	75.212 1910.38	76.530 1943.86	73.798 1874.47
106	75.928 1928.57	77.250 1962.15	74.522 1892.86
107	76.644 1946.76	77.960 1980.18	75.230 1910.84
108	77.360 1964.94	78.680 1998.47	75.954 1929.23
109	78.076 1983.13	79.390 2016.51	76.662 1947.21
110	78.792 2001.32	80.110 2034.79	77.386 1965.60
111	79.508 2019.50	80.830 2053.08	78.095 1983.61
112	80.225 2037.72	81.540 2071.12	78.819 2002.00
113	80.941 2055.90	82.260 2089.40	79.527 2019.99
114	81.657 2074.09	82.980 2107.69	80.251 2038.38
115	82.373 2092.27	83.690 2125.73	80.959 2056.36
116	83.089 2110.46	84.410 2144.01	81.683 2074.75
117	83.805 2128.65	85.120 2162.05	82.392 2092.76
118	84.521 2146.83	85.840 2180.34	83.115 2111.12
119	85.237 2165.02	86.560 2198.62	83.824 2129.13
120	85.953 2183.21	87.270 2216.66	84.547 2147.49
121	86.670 2201.42	87.990 2234.95	85.256 2165.50
122	87.386 2219.60	88.710 2253.23	85.980 2183.89
123	88.102 2237.79	89.420 2271.27	86.689 2201.90
124	88.818 2255.98	90.140 2289.56	87.412 2220.26

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus 1.406".

Sprocket Diameters - ANSI Std. #200 Roller Chain

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
6	5.000 127.00	5.830 148.08	3.438 87.33
7	5.762 146.35	6.690 169.93	4.055 103.00
8	6.532 165.91	7.540 191.52	4.970 126.24
9	7.310 185.67	8.370 212.60	5.637 143.18
10	8.090 205.49	9.200 233.68	6.528 165.81
11	8.872 225.35	10.020 254.51	7.219 183.36
12	9.660 245.36	10.830 275.08	8.098 205.69
13	10.447 265.35	11.640 296.66	8.808 223.72
14	11.235 285.37	12.460 316.48	9.673 245.69
15	12.025 305.44	13.260 336.80	10.397 264.08
16	12.815 325.50	14.070 357.38	11.253 285.83
17	13.605 345.57	14.870 377.70	11.985 304.42
18	14.397 365.68	15.680 398.27	12.835 326.01
19	15.190 385.83	16.480 418.59	13.576 344.83
20	15.982 405.94	17.290 439.17	14.420 366.27
21	16.775 426.09	18.090 459.49	15.166 385.22
22	17.567 446.20	18.890 479.81	16.005 406.53
23	18.360 466.34	19.690 500.13	16.755 425.58
24	19.152 486.46	20.490 520.45	17.590 446.79
25	19.947 506.65	21.290 540.77	18.346 465.99
26	20.740 526.80	22.090 561.09	19.178 487.12
27	21.535 546.99	22.890 581.41	19.937 506.40
28	22.330 567.18	23.690 601.73	20.768 527.51
29	23.122 587.30	24.490 622.05	21.526 546.76
30	23.917 607.49	25.290 642.37	22.355 567.82
31	24.712 627.68	26.090 662.69	23.118 587.20
32	25.505 647.83	26.880 682.75	23.943 608.15
33	26.300 668.02	27.680 703.07	24.708 627.58
34	27.095 688.21	28.480 723.39	25.533 648.54
35	27.890 708.41	29.280 743.71	26.300 668.02
36	28.685 728.60	30.080 764.03	27.123 688.92
37	29.480 748.79	30.870 784.10	27.891 708.43
38	30.275 768.99	31.670 804.42	28.713 729.31
39	31.070 789.18	32.470 824.74	29.483 748.87
40	31.865 809.37	33.270 845.06	30.303 769.70
41	32.660 829.56	34.060 865.12	31.074 789.28
42	33.455 849.76	34.860 885.44	31.893 810.08
43	34.250 869.95	35.660 905.76	32.665 829.69
44	35.045 890.14	36.460 926.08	33.483 850.47
45	35.840 910.34	37.250 946.15	34.256 870.10
46	36.635 930.53	38.050 966.47	35.073 890.85
47	37.430 950.72	38.850 986.79	35.847 910.51
48	38.225 970.92	39.640 1006.86	36.663 931.24
49	39.020 991.11	40.440 1027.18	37.438 950.93
50	39.815 1011.30	41.240 1047.50	38.253 971.63
51	40.610 1031.49	42.030 1067.56	39.029 991.34
52	41.405 1051.69	42.830 1087.88	39.843 1012.01
53	42.200 1071.88	43.630 1108.20	40.619 1031.72

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
54	42.995 1092.07	44.420 1128.27	41.433 1052.40
55	43.792 1112.32	45.220 1148.59	42.212 1072.18
56	44.587 1132.51	46.020 1168.91	43.025 1092.84
57	45.382 1152.70	46.810 1188.97	43.802 1112.57
58	46.177 1172.90	47.610 1209.29	44.615 1133.22
59	46.972 1193.09	48.410 1229.61	45.393 1152.98
60	47.767 1213.28	49.200 1249.68	46.205 1173.61
61	48.565 1233.55	50.000 1270.00	46.987 1193.47
62	49.360 1253.74	50.800 1290.32	47.798 1214.07
63	50.155 1273.94	51.590 1310.39	48.577 1233.86
64	50.950 1294.13	52.390 1330.71	49.388 1254.46
65	51.745 1314.32	53.190 1351.03	50.168 1274.27
66	52.540 1334.52	53.980 1371.09	50.978 1294.84
67	53.337 1354.76	54.780 1391.41	51.760 1314.70
68	54.132 1374.95	55.580 1411.73	52.570 1335.28
69	54.927 1395.15	56.370 1431.80	53.351 1355.12
70	55.722 1415.34	57.170 1452.12	54.160 1375.66
71	56.517 1435.53	57.960 1472.18	54.941 1395.50
72	57.315 1455.80	58.760 1492.50	55.753 1416.13
73	58.110 1475.99	59.560 1512.82	56.535 1435.99
74	58.905 1496.19	60.350 1532.89	57.343 1456.51
75	59.700 1516.38	61.150 1553.21	58.125 1476.38
76	60.495 1536.57	61.950 1573.53	58.933 1496.90
77	61.292 1556.82	62.740 1593.60	59.717 1516.81
78	62.087 1577.01	63.540 1613.92	60.525 1537.34
79	62.882 1597.20	64.330 1633.98	61.308 1557.22
80	63.677 1617.40	65.130 1654.30	62.115 1577.72
81	64.475 1637.67	65.930 1674.62	62.901 1597.69
82	65.270 1657.86	66.720 1694.69	63.708 1618.18
83	66.065 1678.05	67.520 1715.01	64.491 1638.07
84	66.860 1698.24	68.320 1735.33	65.298 1658.57
85	67.657 1718.49	69.110 1755.39	66.083 1678.51
86	68.452 1738.68	69.910 1775.71	66.890 1699.01
87	69.247 1758.87	70.700 1795.78	67.674 1718.92
88	70.042 1779.07	71.500 1816.10	68.480 1739.39
89	70.837 1799.26	72.300 1836.42	69.264 1759.31
90	71.635 1819.53	73.090 1856.49	70.073 1779.85
91	72.430 1839.72	73.890 1876.81	70.857 1799.77
92	73.225 1859.92	74.680 1896.87	71.663 1820.24
93	74.020 1880.11	75.480 1917.19	72.447 1840.15
94	74.815 1900.30	76.280 1937.51	73.253 1860.63
95	75.612 1920.54	77.070 1957.58	74.040 1880.62
96	76.407 1940.74	77.870 1977.90	74.845 1901.06
97	77.202 1960.93	78.660 1997.96	75.626 1920.90
98	77.997 1981.12	79.460 2018.28	76.435 1941.45
99	78.795 2001.39	80.260 2038.60	77.223 1961.46
100	79.590 2021.59	81.050 2058.67	78.028 1981.91
101	80.385 2041.78	81.850 2078.99	78.813 2001.85

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

No. of Teeth	Pitch Diameter	Outside Diameter	Bottom Diam. for Even Teeth/Caliper Diam. for Odd Teeth
	in mm	in mm	in mm
102	81.182 2062.02	82.640 2099.06	79.620 2022.35
103	81.977 2082.22	83.440 2119.38	80.406 2042.31
104	82.772 2102.41	84.240 2139.70	81.210 2062.73
105	83.567 2122.60	85.030 2159.76	81.996 2082.70
106	84.365 2142.87	85.830 2180.08	82.803 2103.20
107	85.160 2163.06	86.620 2200.15	83.589 2123.16
108	85.955 2183.26	87.420 2220.47	84.393 2143.58
109	86.752 2203.50	88.220 2240.79	85.181 2163.60
110	87.547 2223.69	89.010 2261.05	85.985 2184.02
111	88.342 2243.89	89.810 2281.17	86.771 2203.98
112	89.137 2264.08	90.600 2301.24	87.575 2224.41
113	89.935 2284.35	91.400 2321.56	88.364 2244.45
114	90.730 2304.54	92.200 2341.88	89.168 2264.87
115	91.525 2324.74	92.990 2361.95	89.954 2284.83
116	92.322 2344.98	93.790 2382.27	90.760 2305.30
117	93.117 2365.17	94.580 2402.33	91.547 2325.29
118	93.912 2385.36	95.380 2422.65	92.350 2345.69
119	94.707 2405.56	96.180 2442.97	93.137 2365.68
120	95.502 2425.75	96.970 2463.04	93.940 2386.08
121	96.297 2445.94	97.770 2483.36	94.727 2406.07
122	97.092 2466.14	98.560 2503.42	95.530 2426.46
123	97.890 2486.41	99.360 2523.74	96.320 2446.53
124	98.687 2506.65	100.160 2544.06	97.125 2466.98
125	99.482 2526.84	100.950 2564.13	97.909 2486.89
126	100.278 2547.06	101.750 2584.45	98.716 2507.39
127	101.074 2567.28	102.540 2604.52	99.504 2527.40
128	101.869 2587.47	103.340 2624.84	100.307 2547.80
129	102.665 2607.69	104.140 2645.16	101.095 2567.81
130	103.461 2627.91	104.930 2665.22	101.899 2588.23
131	104.257 2648.13	105.730 2685.54	102.687 2608.25
132	105.052 2668.32	106.520 2705.61	103.490 2628.65
133	105.848 2688.54	107.320 2725.93	104.278 2648.66
134	106.644 2708.76	108.120 2746.25	105.082 2669.08
135	107.439 2728.95	108.910 2766.31	105.870 2689.10
136	108.235 2749.17	109.710 2786.63	106.673 2709.49
137	109.031 2769.39	110.500 2806.70	107.461 2729.51
138	109.827 2789.61	111.300 2827.02	108.265 2749.93
139	110.622 2809.80	112.100 2847.34	109.053 2769.95
140	111.418 2830.02	112.890 2867.41	109.856 2790.34
141	112.214 2850.24	113.690 2887.73	110.644 2810.36
142	113.009 2870.43	114.480 2907.79	111.447 2830.75
143	113.805 2890.65	115.280 2928.11	112.236 2850.79
144	114.601 2910.87	116.070 2948.18	113.039 2871.19
145	115.396 2931.06	116.870 2968.50	113.827 2891.21
146	116.192 2951.28	117.670 2988.82	114.630 2911.60
147	116.988 2971.50	118.460 3008.88	115.419 2931.64
148	117.784 2991.71	119.260 3029.20	116.222 2952.04
149	118.579 3011.91	120.050 3049.27	117.010 2972.05

Machining tolerances on bottom diameters and caliper diameters should be in the minus direction. Tolerances on outside diameters are not critical.

Odd tooth "bottom diameters" equal pitch minus 1.562".

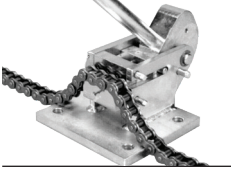
Tools, Troubleshooting

Chain Assembly and Disassembly Tools

Connecting Tools

	CT35 Connecting Tool - Small For use with ANSI 35 through 60H or ISO/British Standard 05B through 12B roller chain.
	CT80 Connecting Tool - Large For use with ANSI 80 through 240H or ISO/British Standard 16B through 48B single strand chain and most conveyor and engineered chains with a width of 5/8" or wider between the inside links. For multi-strand chains, a second connecting tool will aid in the alignment of the chain.
	CT80-Cable Cable Connecting Tool - Large For use with ANSI 80 through 240 or ISO/British Standard 16B through 48B single strand, multi-strand and double-pitch chain, and most conveyor and engineered chains with a width of 5/8" or wider between the inside links. This tool holds the ends of a chain together during the connection process.

Pin Extractor Tools

	PE113 Pin Extractor - Small For use with ANSI 25 through 60H or ISO/British Standard 05B through 12B roller chain.
	PE135 Pin Extractor - Large For use with ANSI 80 through 100H or ISO/British Standard 16B through 20B roller chain.
	PERE157 Pin Extractor - Extra Large For use with ANSI 120 through 160H or ISO/British Standard 24B roller chain.
	PE-MAX Pin Extractor - High Speed For use with ANSI 25 through 80H or ISO/British Standard 05B through 16B roller chain.
	EZ Breaker® Pin Extractor - Interchangeable Die For use with ANSI 35 through 100H, 40-2 through 80-2, 2040 through 2060H and 550 through 557 due to interchangeable die sets.

Using the Assembly and Disassembly Tools

Connecting Tools

CT35 & CT80

Hook the two arms of the connecting tool onto each end of the chain. Turn the screw clockwise to bring the two ends of chain towards each other. Insert the connecting link and complete assembly. Note: This tool is not made to stretch chain, only to hold it in place for assembly.

CT80-CABLE

Place the hooks of the connecting tool on the rollers past the link or links to be removed or replaced. The slack in the cable should be taken up with a wrench until the chain between the hooks is relieved of tension. This will allow for the removal of the link with a roller chain pin extractor. A new master or replacement link can then be inserted. The cable can then be released with the lock lever and the tool can be removed.

Pin Extractors

PE113, PE135 & PERE157

Begin by grinding the desired side-mashed (aka "spun") pin heads flush with the linkplate to ensure that the chain bushing will not be damaged during pin extraction. Place the jaws of the tool over the roller with the push-out tip centered on the chain pin. Tighten down by turning the top handle clockwise until the chain pin loosens, driving it partially through the linkplate. Follow the same procedure on the adjacent pin. Return to the original pin and force completely through the pin linkplate. Do the same on second pin, freeing linkplate from the pins. Remove disassembled pin link from the chain.

PE MAX & EZ Breaker®

Begin by grinding the desired side-mashed (aka "spun") pin heads flush with the linkplate to ensure that the chain bushing will not be damaged during pin extraction. Then, select the correct chain model on the carousel and insert the chain at the point you wish to remove the pin link. Ensure that the pressure pins are resting on the center of each chain pin. Next, pull the lever down and use continuous pressure to force the pins from the chain. Once the pins have been removed, replace the lever to the upright position and remove the chain.

WARNING: When Assembling or Disassembling Chain:



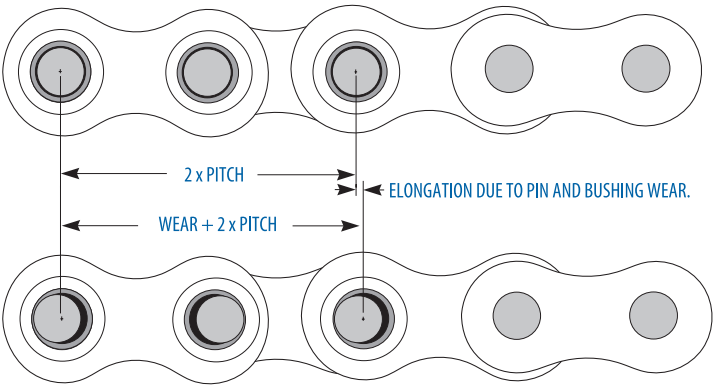
- Always use safety glasses to protect your eyes.
- Wear protective clothing, gloves, and safety shoes.
- Support the chain to prevent uncontrolled movement of the chain and equipment.
- Tools should be in good condition and properly used.
- Tools are not made to support total weight of chain, only to take up slack.
- Never use an extension on a handle which could overload device and cause possible injury.
- Do not attempt to connect or disconnect chain unless you know the chain construction, including the correct direction for pin removal or insertion.

Roller Chain Wear

Chain does not “stretch”; rather, elongation is caused when material is removed from the pins and bushings.

The individual joints in a roller chain articulate as they enter and exit the sprockets. This articulation results in wear on the pins and bushings. As material is worn away from these surfaces, the chain will gradually elongate.

For a free plastic chain wear gauge, please contact Diamond-Drives at chain@timken.com



Elongation Control

Elongation is normal and may be minimized through proper lubrication and drive maintenance. The rate of wear is dependent upon the load and the amount of bearing area between pin and bushing, the material and surface condition of the bearing surfaces, the adequacy of lubrication, and the frequency and degree of articulation between pins and bushings. The latter is determined by the quantity of sprockets in the drive, their speeds, the number of teeth, and the length of the chain in pitches.

Check Chain Wear

Roller chains should be replaced when worn (typically an elongation beyond 3%) or when the chain rollers begin to “ride high” near the tips of the teeth on relatively large sprockets. Do not connect or splice a new section to a worn chain. Do not continue to run a chain worn in excess of 3% (or less in some applications), the chain will not engage the sprockets properly and increased damage to the sprockets may occur.

Chain Wear Elongation Limits							
ANSI Chain No.	Chain Pitch		Pitches	Measured Length			
				Nominal		At 3% Wear	
	Inch	MM		Inch	MM	Inch	MM
25	.250	6.35	48	12.00	305	12.375	314
35	.375	9.52	32	12.00	305	12.375	314
41	.500	12.70	24	12.00	305	12.375	314
40	.500	12.70	24	12.00	305	12.375	314
50	.625	15.88	20	12.50	318	12.875	327
60	.750	19.05	16	12.00	305	12.375	314
80	1.000	25.40	12	12.00	305	12.375	314
100	1.250	31.75	20	25.00	635	25.750	654
120	1.500	38.10	16	24.00	610	24.719	628
140	1.750	44.45	14	24.50	622	25.250	641
160	2.000	50.80	12	24.00	610	24.719	628
180	2.250	57.15	12	27.00	686	27.812	706
200	2.500	63.50	10	25.00	635	27.750	654
240	3.000	76.20	8	24.00	610	24.719	628

ISO/BS Chain No	Chain Pitch		Pitches	Nominal		At 3% Wear	
	Inch	mm		Inch	mm	Inch	mm
06B	0.375	9.52	32	12	305	12.375	314
08B	0.500	12.70	24	12	305	12.375	314
10B	0.625	15.88	20	12.5	318	12.875	327
12B	0.750	19.05	16	12	305	12.375	314
16B	1.000	25.40	12	12	305	12.375	314
20B	1.250	31.75	20	25	635	25.750	654
24B	1.500	38.10	16	24	610	24.719	628
28B	1.750	44.45	14	24.5	622	25.250	641
32B	2.000	50.80	12	24	610	24.719	628

How To Measure Chain Wear

1 - As a safety precaution, shut off power and lock out gears and sprockets before attempting to measure chain wear.

2 - Determine the pitch of the chain. This is typically stamped on the outer linkplates of the chain. It can also be determined by measuring the distance from the center of one pin to the center of the next pin. Refer to the previous pages in this catalog for a list of ANSI standard chain models and correlating pitch measurements or visit www.diamonddrives.com.

3 - For reliable linear measurement, a taut span of chain must be used. Using slack chain will result in inaccurate measurements.

4 - Choose either a 1.5% or 3% wear elongation limit to check your span of chain. Each percentage correlates to a different side of the scale. The maximum allowable wear elongation is typically 3% for most industrial applications, depending upon sprocket design. In drives having fixed center distances, chains running in parallel, or where smoother operation is required, chain wear should be limited to approximately 1.5%.

Example: Using ASME/ANSI 60 roller chain, 13 pitches would measure 9.75 inches for nominal length (13 pitches x .75 pitch). A maximum wear calculation of 3% would be 1.03×9.75 or 10.0425 inches. A maximum wear calculation of 1.5% would be 1.015×9.75 or 9.896 inches.

5 - Refer to the table on the wear gauge for the number of pitches to inspect.

Example: For ASME/ANSI 60 roller chain, 13 pitches will be measured.

6 - Place the inside corner of the wear scale around one pin, using that pin as "0", or your starting point.

7 - Starting at "0", count the number of pins/pitches to be measured for your chain's length.

Example: Count from 0 to 13 for ASME/ANSI 60 roller chain.

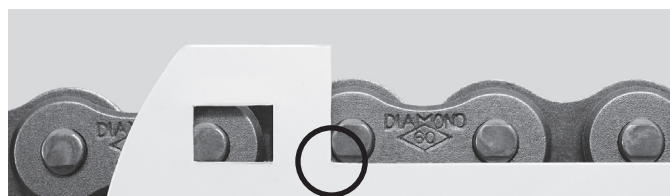
8 - If the center of the indicated pin does not reach the wear line for the corresponding chain size, the chain has not reached the wear limit.

Example: For ASME/ANSI 60 roller chain, if the center of the 13th pin does not reach the # 60 wear mark, the chain remains usable.

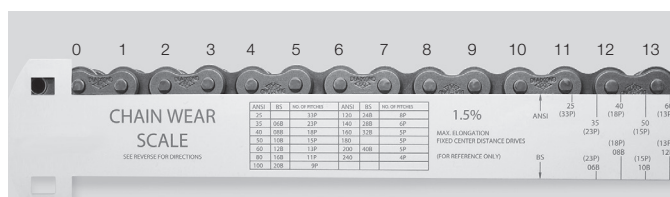
9 - If the center of the indicated pin is at or beyond the indicated line, the chain is worn to the wear limit (1.5% or 3%, depending on the scale used) and should be replaced.

Example: For ASME/ANSI 60 roller chain, if the center of the 13th pin reaches or exceeds the # 60 wear mark, the chain should be replaced.

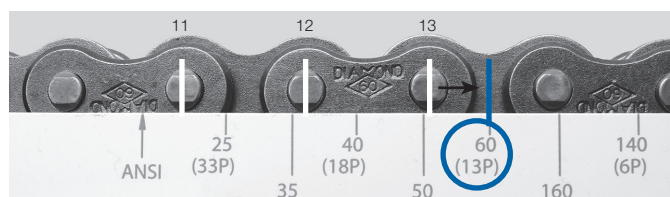
ANSI	BS	No. of Pitches	ANSI	BS	No. of Pitches
25		33P	120	24B	8P
35	06B	23P	140	28B	6P
40	08B	18P	160	32B	5P
50	10B	15P	180		5P
60	12B	13P	200	40B	5P
80	16B	11P	240		4P
100	20B	9P			



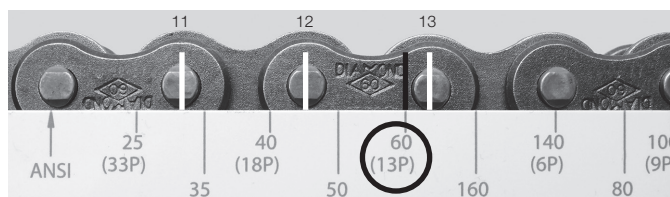
Step 6



Step 7

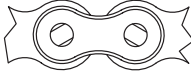
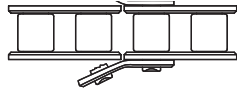
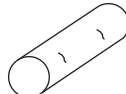


Step 8

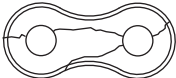
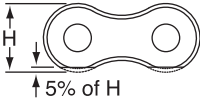


Step 9

Troubleshooting Guide

CONDITION/SYMPTOM	POSSIBLE CAUSE	WHAT TO DO
Tight Joints 	Dirt or foreign material in chain joints. Inadequate lubrication. Misalignment. Internal corrosion or rust. Overload bends pins or spreads roller linkplates.	Clean and re-lubricate chain. Replace chain. Re-establish proper lubrication. Replace sprockets and chain if needed. Realign sprockets. Replace chain. Eliminate cause of corrosion or protect chain. Replace chain. Eliminate cause of overload.
Rusted Chain	Exposed to moisture. Water in lubricant. Inadequate lubrication.	Replace chain. Protect from moisture. Change lubricant. Protect lubrication system from water. Replace chain. Provide or re-establish proper lubrication. Replace chain if needed.
Turned Pins 	Overload. Inadequate lubrication.	Replace chain. Eliminate cause of overload. Replace chain. Re-establish proper lubrication.
Enlarged Holes 	Overload.	Replace chain. Eliminate cause of overload.
Broken Pins Broken Linkplates  	Extreme Overload.	Replace chain. Replace sprockets if indicated. Eliminate cause of overload or redesign drive for larger pitch chain.
Broken, Cracked or Deformed Rollers 	Speed too high. Sprockets too small. Chain riding too high on sprocket teeth.	Replace chain. Reduce speed. Replace chain. Use larger sprockets, or possibly redesign drive for smaller pitch chain. Replace chain. Re-tension chain more often.
Pin Galling 	Speed or load too high. Inadequate lubrication.	Reduce speed or load. Possibly redesign drive for smaller pitch chain. Provide or re-establish proper lubrication.
Chain Climbs Sprocket Teeth	Excess chain slack. Excessive chain wear. Excessive sprocket wear. Excessive overload.	Re-tension chain. Replace and re-tension chain. Replace sprockets and chain. Replace chain. Eliminate cause of overload.

Troubleshooting Guide

CONDITION/SYMPTOM	POSSIBLE CAUSE	WHAT TO DO
Missing or Broken Cotters	Cotters installed improperly. Vibration. Excessively high speed.	Install new cotters per manufacturer's instructions. Replace chain. Reduce vibration. Use larger sprockets. Replace chain. Reduce speed. Redesign drive for smaller pitch chain.
Exposed Chain Surfaces Corroded or Pitted	Exposure to corrosive environment.	Replace chain. Protect from hostile environment.
Cracked Linkplates (Stress Corrosion)	Exposure to corrosive environment combined with stress from press fits.	Exposure to corrosive environment combined with stress from press fits.
		
Cracked Linkplates (Fatigue)	Load is greater than chain's dynamic capacity.	Replace chain. Reduce dynamic loading or redesign drive for larger chain.
		
Battered Linkplate Edges	Chain striking an obstruction.	Replace chain. Eliminate interference.
		
Worn Linkplate Contours	Chain rubbing on casing, guide, or obstruction.	Replace chain if 5% or more of height worn away. Re-tension chain. Eliminate interference.
		
Excessive Noise	Chain striking an obstruction. Loose casing or shaft mounts. Excess chain slack. Excessive sprocket wear. Sprocket misalignment. Inadequate lubrication. Chain pitch too large Too few sprocket teeth.	Replace chain. Eliminate interference. Tighten fasteners. Re-tension chain. Replace and re-tension chain. Replace chain and sprockets, if needed. Realign sprockets. Replace chain if needed. Re-establish proper lubrication. Redesign drive for smaller pitch chain. Check to see if larger sprockets can be used. If not, redesign drive.
Wear on Inside of Roller Linkplates and One Side of Sprockets	Sprocket misalignment.	Replace sprockets and chain if needed. Realign drive. Re-tension chain.
Chain Clings to Sprocket	Excessive sprocket wear. Sprocket misalignment.	Replace sprockets and chain. Replace sprockets and chain if needed. Realign sprockets.

Introduction
and Warnings

General Drive
Considerations

Chain
Selection

Roller Chain
Installation

Roller Chain
Lubrication

Roller Chain
Maintenance

Horsepower
Tables

Sprocket
Information

Tools,
Troubleshooting



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