



**+30%**

**POWERFUL PERFORMANCE**



# SY Chain

## SUGIYAMA

Advanced Technology

Premium  
**SBR**<sup>®</sup>



# Contents

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## S.Y CHAIN – Japanese Roller Chain

|                                        |    |
|----------------------------------------|----|
| Features of SY Chain .....             | 58 |
| How to Order Chain .....               | 60 |
| Selection of Roller Chain .....        | 62 |
| Roller Chain Quick Selection Chart ... | 63 |
| ANSI Roller Chain .....                | 64 |
| Aqua Series Chain .....                | 70 |
| BS Standard Roller Chain.....          | 72 |
| Double Capacity Chains .....           | 77 |
| Double Pitch (Conveyor) Roller Chain   | 80 |
| HE Extra Heavy Series Chain .....      | 82 |
| Heavy Series Chain .....               | 84 |
| Hollow Pin Chain .....                 | 86 |
| Hollow Pin Stainless Chain .....       | 87 |
| Leaf Chain .....                       | 88 |
| NEO Corrosion Resistant Chain .....    | 90 |
| Side Bow Chain .....                   | 92 |
| Stainless Steel Chain .....            | 93 |
| Straight Side Bar Chain .....          | 95 |
| Super Roller Chain .....               | 96 |
| Lubrication .....                      | 98 |
| Trouble Shooting .....                 | 99 |

### SY (Japan) Sugiyama Chain Co., Ltd.

Since 1946, SUGIYAMA CHAIN CO., LTD. has successfully marketed its chain in many industrial countries. They have been taking many opportunities for technical innovation and then aggressively incorporated the advanced technology into our manufacturing method of power transmission chain. In 1987, they became the first manufacturer in the world to develop SBR (Solid Bush and Roller) chain.

Their solid bushings and solid rollers are cold-forged from steel rod. The process allows them to design these parts with a totally cylindrical inside diameter and finely finished surfaces. This enhanced chain means much longer life as a result of the improved wear resistance.

[www.sychain.com](http://www.sychain.com)



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# Features of SY Chain

## The highest quality roller chain in the world just got stronger *Premium SBR Roller Chain*

Patented in: USA, Europe, Australia, Canada.

### **The Strongest Maximum Allowable Load**

Advantage



Astounding Maximum Allowable Loads

World's First Chain With 30% Higher Fatigue Strength

- \* Higher safety factor is gained.
- \* Downsizing to smaller chain is possible in some applications.
- \* Cost Savings

#### BS Standard Maximum Allowable Loads

| Chain No. | Competitor (kN) |
|-----------|-----------------|
| SY16B     | 12.6            |
| SY20B     | 19.6            |
| SY24B     | 27.5            |
| SY28B     | 34.3            |
| SY32B     | 39.2            |



| Premium SBR (kN) |
|------------------|
| 16.4             |
| 25.5             |
| 35.7             |
| 44.5             |
| 51.0             |

#### Note

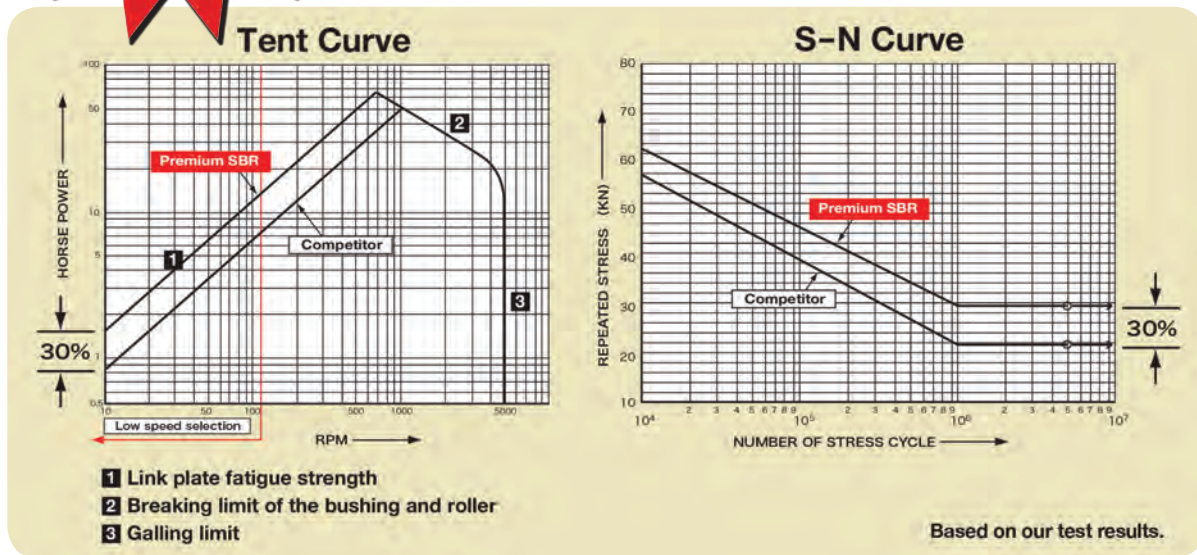
Sizes of Premium SBR Chain: 16B – 32B Single Strand  
80 – 240 Single Strand

#### ANSI Standard Maximum Allowable Loads

| Chain No. | Competitor (kN) |
|-----------|-----------------|
| SY 80     | 14.7            |
| SY100     | 22.6            |
| SY120     | 30.4            |
| SY140     | 40.2            |
| SY160     | 53.0            |
| SY180     | 60.8            |
| SY200     | 71.6            |
| SY240     | 99.0            |



| Premium SBR (kN) |
|------------------|
| 19.1             |
| 29.4             |
| 39.5             |
| 52.3             |
| 69.0             |
| 79.0             |
| 93.0             |
| 129.0            |



**Advantage**

## 2 The Longest Chain Life

### Significantly longer wear life

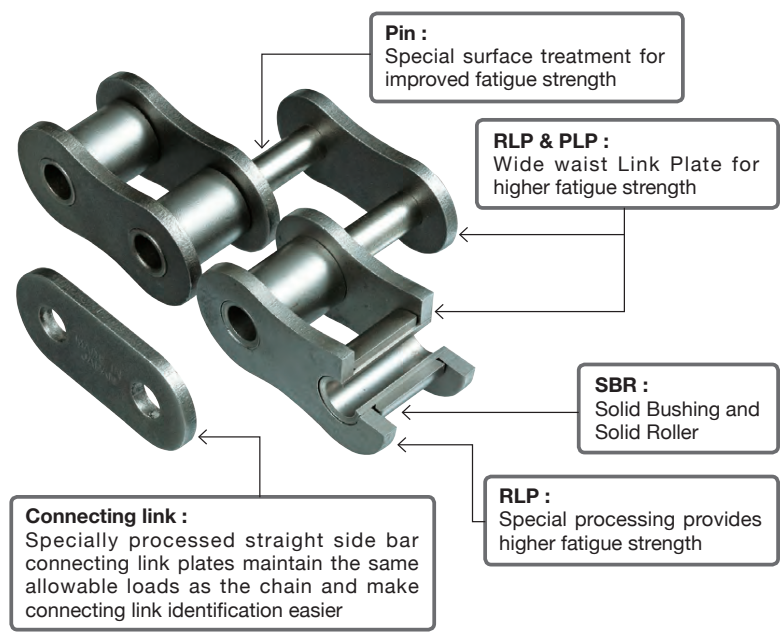
Conventional split bushings deform into a barrel shape when side plates are pressed on, leaving only two-point contact area. SBR (Solid Bushing & Roller) chain has extremely cylindrical inside and outside bushing walls resulting in full contact to disperse bearing pressure. Less pressure ensures excellent wear resistance.

### Up to 2-3 times longer wear life over curled bushings

The curled, split bushings have a seam where tiny space allows lubricant leakage resulting in shorter wear life. SBR has no seam resulting in lower bearing pressure allowing the bushings to retain lubrication resulting in much longer wear life.

### Reliable performance

SBR is cold-forged from steel rod. Cold-forming process also works with the molecular structure (grain) of the steel running lengthwise in the bushings thereby increasing fatigue strength and preventing bushings from breakage. Premium SBR chains improve performance of transmission with lesser elongation for long period of time.







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# How To Order Chain

SY CHAIN

## RUN BETTER WITH SY SPECIFY YOUR REQUIREMENTS



### HOW TO ORDER

Chain number, type: riveted or cottered, length and quantity are the necessary information for us to fill in your order. At the very least, the chain pitch, roller diameter and roller link inside width should be given if the chain number is unknown.

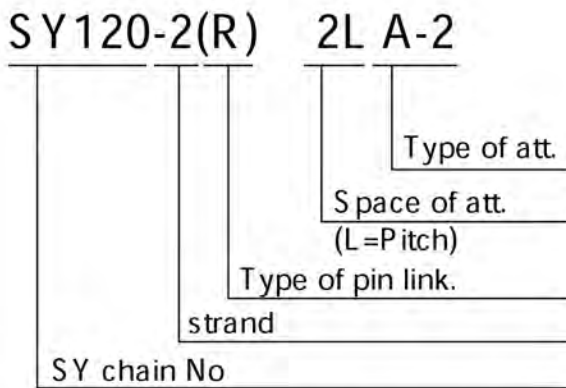
### STANDARD PACKING

SY roller chains are packed for convenient handling and storing. Each 10feet length is packed in a carton. 50feet length and more are wound on reel.



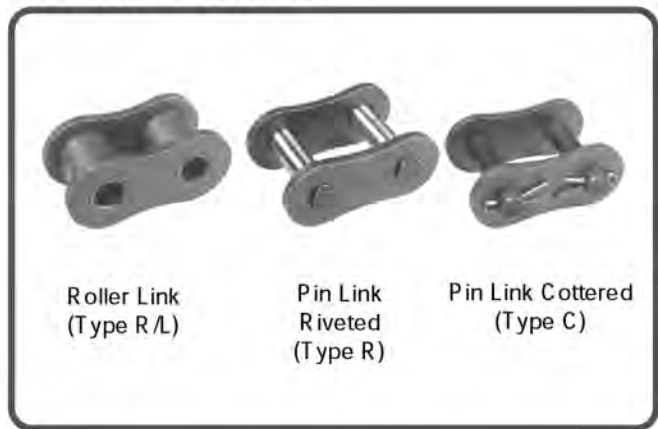
specifically as possible when ordering a cut length of chain.

### NOMENCLATURE

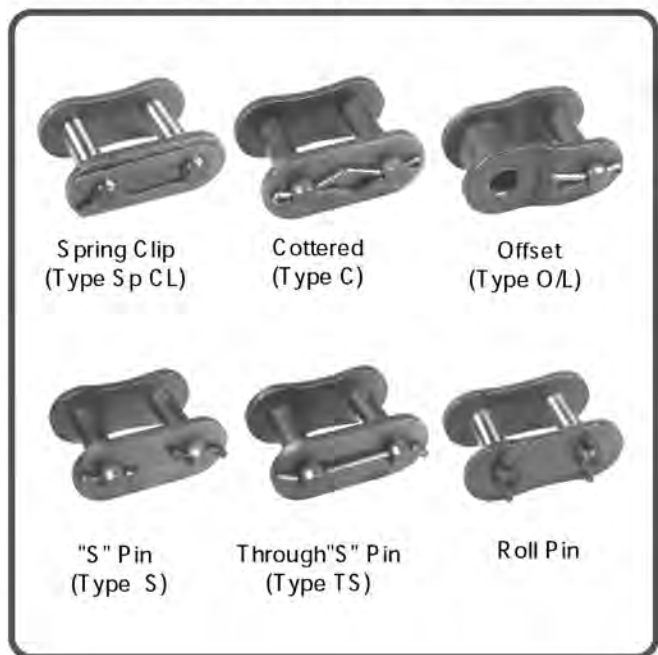


Plain chain consists of "SY chain No" and "Type of pin link". Attachment chain has one space between "Type of pin link" and "Space of attachment".

### CHAIN PARTS



### CHAIN CONNECTION PARTS



## CHAIN CONSTRUCTION

### RIVETED



Riveted chain is assembled by staking the pin heads on both sides of the chain

### COTTERED



Cottered chain is assembled by staking the pin heads on one side of the chain and drilling a hole in the other end to accommodate a cotter pin. This type of chain is easily assembled and disassembled in the field.

### SINGLE AND MULTIPLE



On multiple-strand types, all center plates are slip fitted (clearance-fitted) unless otherwise specified.

### Roller chain with connecting link (C/L)

Ordinarily even number of pitches includes a C/L on one end.



### Roller chain with offset link (O/L)

When an odd number of pitches is required, a C/L and an O/L are usually used.



### Roller chain with connecting links (C/L's) on both ends.

For odd pitches (not endless), 2C/L's are incorporated on request.



### Roller chain endless

Usually chains are furnished unendless. If an endless chain assembly is required, specify whether it is to be riveted endless or cotter-connected.







It is important to select the most suitable roller chains and sprockets for the job by careful study of power transmission requirements.

The following basic factors should be considered when selecting roller chains for transmission needs through there may be other factors.

## ATMOSPHERIC CONSIDERATION

The input power ratings appearing on the pages of 80 to 84, have been worked out under the following conditions.

- 1) To be driven in normal atmosphere of -10° F to 60° C free from ill effect of abrasive dust, corrosive gas, high humidity etc.
- 2) Sprockets should be aligned and mounted on parallel horizontal shafts.
- 3) Recommended method of lubrication and recommended kind of lubricant should be used.
- 4) Should be driven at even load or small load variations.

Power rating of multiple strand chain is not simply calculable by multiplying the power rating of one strand by the number of strand because of uneven load distribution onto each strand. So, multiple strand factor should be used for expected service life.

A service life of 15,000 hrs, can be expected when chain length is 100 pitches and the above conditions are met.

## POINT IN SELECTION ROLLER CHAIN AND SPROCKET

The following factors must be taken into consideration in selecting proper chain drive, depending on chain speed-normal or low speed. Also correction factors should be used, fully grasping the conditions of use.

- |                                              |                                                 |
|----------------------------------------------|-------------------------------------------------|
| a) Driven machine                            | e) RPM and diameter of high speed shaft[n1:rpm] |
| b) Type of load: smooth light or heavy shock | f) RPM and diameter of low speed shaft[n2:rpm]  |
| c) Source of power                           | g) Center distance of shaft [m]                 |
| d) kW to be transmitted [kW0:kW]             | h) Chain-driving speed [S:m/min]                |

## SELECTION PROCEDURE ACCORDING TO CHAIN SPEED

### IN CASE OF NORMAL SPEED

S=50~250m/min

To obtain corrected power kW<sub>1</sub> multiply kW<sub>0</sub> by corrected factor f<sub>1</sub> applied according to condition of use.

$$kW_1 = kW_0 \cdot f_1 = kW_0 \cdot f_1 \cdot f_2$$

To obtain chain and high-speed sprocket teeth N<sub>1</sub> use roller chain quick selection chart and power rating chart according to RPM of high speed shaft and corrected power kW<sub>1</sub>

N<sub>1</sub>

Determine low speed sprocket teeth N<sub>2</sub> from speed ratio R

$$R = n_1/n_2 \\ N_2 = R \cdot N_1$$

See if each sprocket shaft diameter and mounting space satisfy specifications of machi-

\* Check

Make special sprocket

Obtain corrected power kW<sub>1</sub> of single strand by referring to multiple strand factor f<sub>2</sub>

OK

Finally determined

Economical sprockets for general industrial use are recommended except when special sprockets are made due to unavoidable circumstances.

### IN CASE OF LOW SPEED

S=Less than 50m/min.

Divided into two cases depending on chain driving conditions

- 1) For low speed drive with few stops and starts, make the chain selection in a way to satisfy the following formula:  
 $T \times f_1 \times f_3 \leq \text{Max. allowable chain load.}$

- 2) For low speed drive with frequent stops and starts.  
 $T \times f_1 \times f_3 \times f_4 \leq \text{Ave. ultimate strength.}$

Select the chain by substituting the values of chain speed and max working load into formulas (1)&(2), after chain selected tentatively in the general way.

N<sub>1</sub>[-] = Number of teeth on small sprocket.

N<sub>2</sub>[-] = Number of teeth on large sprocket.

P [mm] = Chain pitch

S [m/min] = Chain speed

$$= N_1 \cdot P \cdot n_1 / 1000$$

$$T \text{ [kN]} = \text{Max. working load.} = 60$$

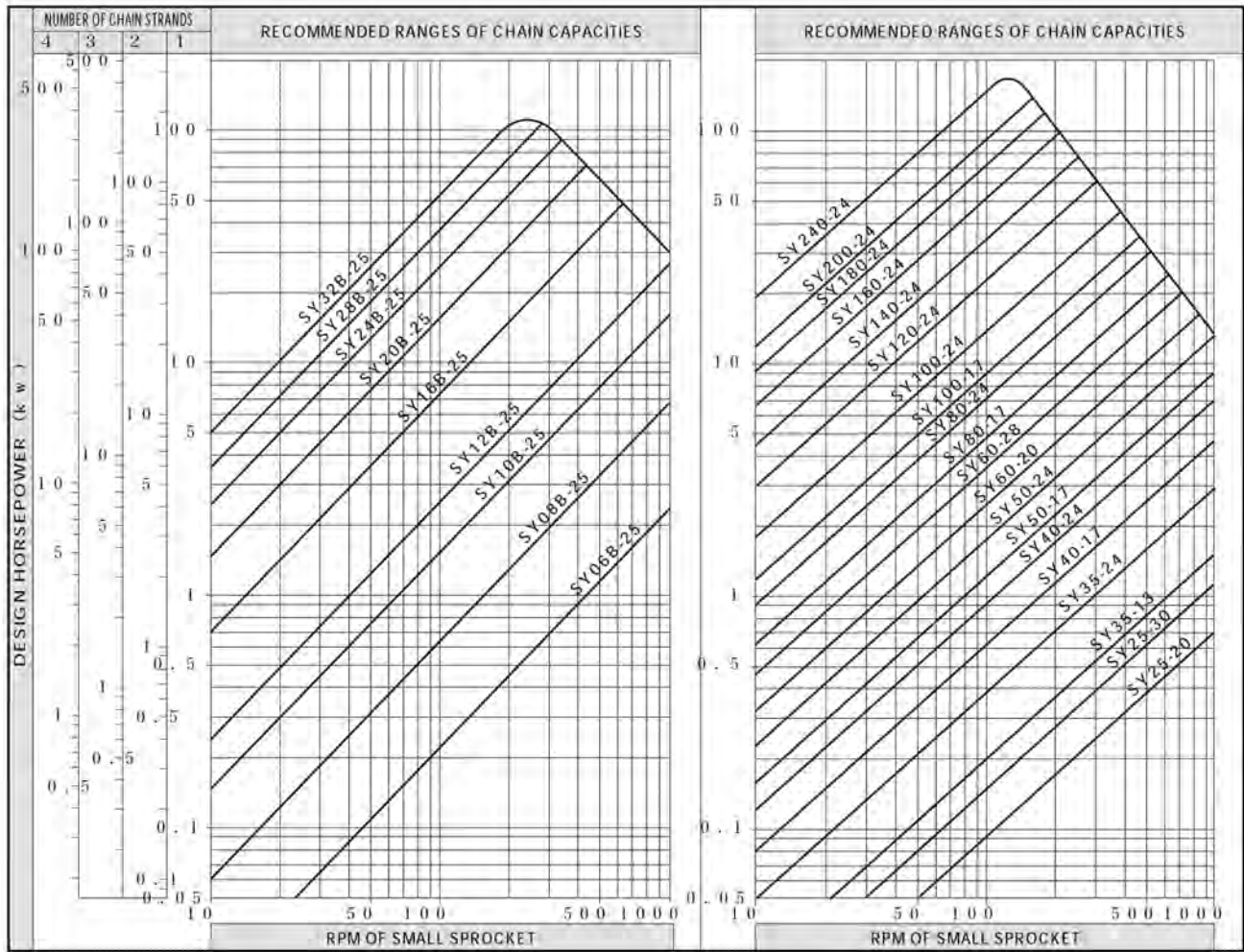
### f<sub>2</sub> : MULTI-STRAND FACTOR

| Number of roller chain strands | f <sub>2</sub> |
|--------------------------------|----------------|
| 2                              | 1.7            |
| 3                              | 2.5            |
| 4                              | 3.3            |
| 5                              | 3.9            |
| 6                              | 4.6            |
| 8                              | 6.2            |
| 10                             | 7.5            |



# Roller Chain Quick Selection Chart

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## CONCISE SELECTION DATA

| SY Chain No. | SY Standard(ANSI)   |                        | Each Series                |      |      |      |      |
|--------------|---------------------|------------------------|----------------------------|------|------|------|------|
|              | Max. Allowable Load | Ave. Ultimate Strength | Ave. Ultimate Strength(kN) |      |      |      |      |
|              |                     |                        | E                          | U    | H    | HE   | HU   |
| 35           | 2.48                | 10.8                   |                            |      |      |      |      |
| 40           | 4.17                | 19.1                   |                            |      |      |      |      |
| 50           | 7.22                | 31.9                   |                            |      |      |      |      |
| 60           | 10.7                | 43.1                   | 47.1                       |      | 54.9 | 53.9 |      |
| 80           | 19.1                | 78.5                   | 79.4                       | 84.3 | 60.2 | 93.2 | 98.1 |
| 100          | 29.4                | 118                    | 119                        | 127  | 137  | 142  | 145  |
| 120          | 39.5                | 167                    | 174                        | 186  | 186  | 191  | 196  |
| 140          | 52.3                | 216                    | 227                        | 245  | 241  | 252  | 255  |
| 160          | 69.0                | 275                    | 294                        | 314  | 306  | 319  | 324  |
| 180          | 79.0                | 353                    |                            | 412  | 373  |      |      |
| 200          | 93.0                | 451                    |                            | 490  | 520  |      |      |
| 240          | 129.0               | 677                    |                            | 726  | 726  |      |      |

### f1: SERVICE FACTOR

| Driven Load Condition | Interval Combustion Engine |                  | Motor or Turbine |
|-----------------------|----------------------------|------------------|------------------|
|                       | Hydraulic Drive            | Mechanical Drive |                  |
| Uniform Smooth        | 1.1                        | 1.3              | 1.0              |
| Moderate Shock        | 1.5                        | 1.7              | 1.4              |
| Heavy Shock           | 1.9                        | 2.1              | 1.8              |

### f3: SPEED COEFFICIENT f4: SAFETY FACTOR

| Chain Speed | f3  | Chain Speed | f4  |
|-------------|-----|-------------|-----|
| 15m/min.    | 1.0 | 25m/min.    | 7 ≤ |
| 15-30       | 1.2 | 25-50       | 8 ≤ |
| 30-50       | 1.4 |             |     |

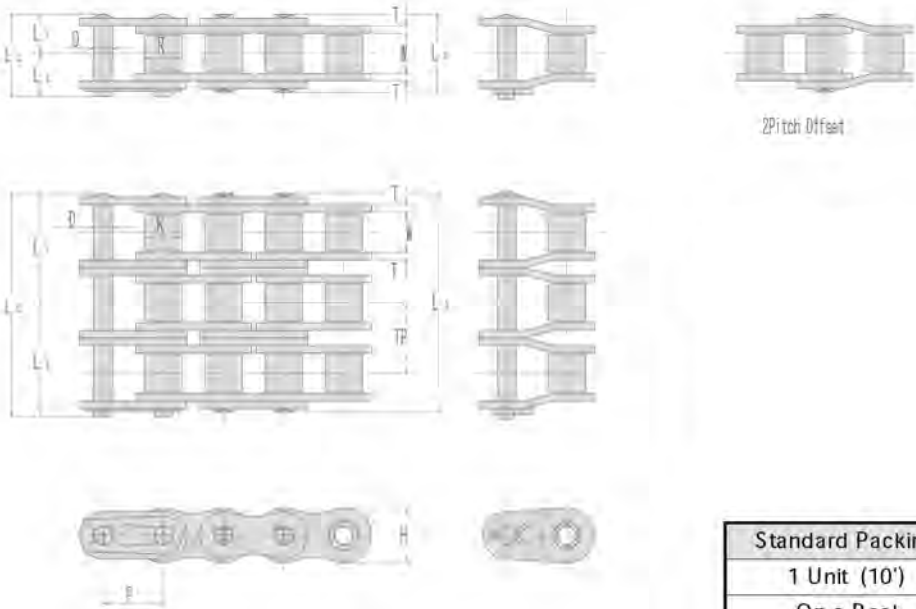




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# ANSI Roller Chain

SY CHAIN



|                  |      |      |
|------------------|------|------|
| Standard Packing | SY35 | SY40 |
| 1 Unit (10')     | 320P | 240P |
| On a Reel        | 250' | 200' |

## 35 (BUSHED CHAIN)

| SY Chain No. (ANSI) | Dimensions - mm |         |      |      |        |      |        |        |     |              |      | Average Ultimate Strength | Maximum Allowable Load※ | Average Chain Weight |
|---------------------|-----------------|---------|------|------|--------|------|--------|--------|-----|--------------|------|---------------------------|-------------------------|----------------------|
|                     | Pitch           | Bushing |      | Pin  |        |      |        | Plate  |     | Trans. Pitch |      |                           |                         |                      |
|                     |                 | Width   | Dia. | Dia. | Length |      | Height | Thick. |     |              |      |                           |                         |                      |
|                     |                 | P       | W    | R    | D      | LR   | LC     | L1     | L2  |              | H    |                           |                         |                      |
| SY 35               | 9.525           | 4.78    | 5.08 | 3.58 | 12.0   | 12.9 | 6.0    | 6.9    | 9.0 | 1.25         | —    | 10.8                      | 2.48                    | 0.34                 |
| SY 35-2             |                 |         |      |      | 22.1   | 23.0 | 11.1   | 11.9   |     |              | 10.1 | 21.6                      | 3.67                    | 0.63                 |
| SY 35-3             |                 |         |      |      | 32.2   | 33.1 | 16.1   | 17.0   |     |              |      | 32.4                      | 5.40                    | 0.92                 |
| SY 35-4             |                 |         |      |      | 42.3   | 43.2 | 21.2   | 22.0   |     |              |      | 43.2                      | 7.13                    | 1.22                 |
| SY 35-5             |                 |         |      |      | 52.4   | 53.2 | 26.2   | 27.0   |     |              |      | 54.0                      | 8.42                    | 1.56                 |
| SY 35-6             |                 |         |      |      | 62.5   | 63.5 | 31.3   | 32.2   |     |              |      | 64.8                      | 9.94                    | 1.89                 |

## 40

| SY Chain No. (ANSI) | Dimensions - mm |        |      |      |        |      |        |        |      |              |      | Average Ultimate Strength | Maximum Allowable Load※ | Average Chain Weight |
|---------------------|-----------------|--------|------|------|--------|------|--------|--------|------|--------------|------|---------------------------|-------------------------|----------------------|
|                     | Pitch           | Roller |      | Pin  |        |      |        | Plate  |      | Trans. Pitch |      |                           |                         |                      |
|                     |                 | Width  | Dia. | Dia. | Length |      | Height | Thick. |      |              |      |                           |                         |                      |
|                     |                 | P      | W    | R    | D      | LR   | LC     | L1     | L2   |              | H    |                           |                         |                      |
| SY 40               | 12.70           | 7.95   | 7.92 | 3.96 | 16.5   | 17.9 | 8.3    | 9.6    | 11.7 | 1.5          | —    | 19.1                      | 4.17                    | 0.60                 |
| SY 40-2             |                 |        |      |      | 30.8   | 32.2 | 15.4   | 16.8   |      |              | 14.4 | 38.2                      | 6.17                    | 1.22                 |
| SY 40-3             |                 |        |      |      | 45.0   | 46.6 | 22.5   | 24.1   |      |              |      | 57.3                      | 9.08                    | 1.85                 |
| SY 40-4             |                 |        |      |      | 60.0   | 60.8 | 30.0   | 30.8   |      |              |      | 76.4                      | 12.0                    | 2.46                 |
| SY 40-5             |                 |        |      |      | 74.6   | 75.6 | 37.3   | 38.3   |      |              |      | 95.5                      | 14.2                    | 3.14                 |
| SY 40-6             |                 |        |      |      | 89.0   | 89.9 | 44.5   | 45.4   |      |              |      | 115.0                     | 16.7                    | 3.31                 |

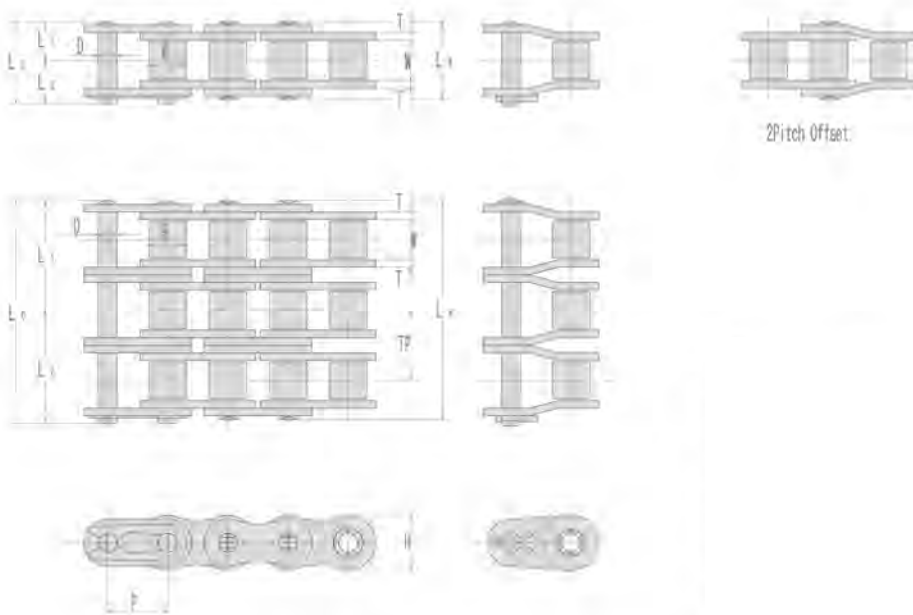
※Refer to page 80. "Selection of offset link"

# ANSI Roller Chain

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SY CHAIN



2Pitch Offset

|                  |      |      |
|------------------|------|------|
| Standard Packing | SY50 | SY60 |
| 1 Unit (10')     | 192P | 160P |
| On a Reel        | 100' | 100' |

## 50

| SY Chain No. (ANSI) | Dimensions - mm |        |       |      |        |       |        |        |      |              |      | Average Ultimate Strength | Maximum Allowable Load※ | Average Chain Weight |
|---------------------|-----------------|--------|-------|------|--------|-------|--------|--------|------|--------------|------|---------------------------|-------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin  |        |       |        | Plate  |      | Trans. Pitch |      |                           |                         |                      |
|                     |                 | Width  | Dia.  | Dia. | Length |       | Height | Thick. |      |              |      |                           |                         |                      |
|                     |                 | P      | W     | R    | D      | LR    | LC     | L1     | L2   |              | H    |                           |                         |                      |
| SY50                | 15.875          | 9.53   | 10.16 | 5.08 | 20.4   | 22.0  | 10.2   | 11.8   | 14.6 | 2.0          | —    | 31.9                      | 7.22                    | 0.98                 |
| SY50-2              |                 |        |       |      | 38.4   | 40.0  | 19.2   | 20.8   |      |              | 18.1 | 63.8                      | 10.7                    | 2.00                 |
| SY50-3              |                 |        |       |      | 56.7   | 58.2  | 28.4   | 29.8   |      |              |      | 95.7                      | 15.7                    | 3.07                 |
| SY50-4              |                 |        |       |      | 75.0   | 75.7  | 37.5   | 38.2   |      |              |      | 128.                      | 20.7                    | 3.97                 |
| SY50-5              |                 |        |       |      | 93.2   | 94.1  | 46.6   | 47.5   |      |              |      | 160.                      | 24.5                    | 5.02                 |
| SY50-6              |                 |        |       |      | 111.4  | 112.5 | 55.7   | 56.8   |      |              |      | 191.                      | 28.9                    | 6.01                 |

## 60

| SY Chain No. (ANSI) | Dimensions - mm |        |       |      |        |       |        |        |      |              |      | Average Ultimate Strength | Maximum Allowable Load※ | Average Chain Weight |
|---------------------|-----------------|--------|-------|------|--------|-------|--------|--------|------|--------------|------|---------------------------|-------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin  |        |       |        | Plate  |      | Trans. Pitch |      |                           |                         |                      |
|                     |                 | Width  | Dia.  | Dia. | Length |       | Height | Thick. |      |              |      |                           |                         |                      |
|                     |                 | P      | W     | R    | D      | LR    | LC     | L1     | L2   |              | H    |                           |                         |                      |
| SY60                | 19.05           | 12.70  | 11.91 | 5.95 | 25.5   | 26.9  | 12.8   | 14.1   | 17.5 | 2.4          | —    | 43.1                      | 10.7                    | 1.46                 |
| SY60-2              |                 |        |       |      | 48.2   | 49.7  | 24.0   | 25.7   |      |              | 22.8 | 86.2                      | 14.7                    | 2.95                 |
| SY60-3              |                 |        |       |      | 71.2   | 72.6  | 35.2   | 37.4   |      |              |      | 129                       | 21.6                    | 4.43                 |
| SY60-4              |                 |        |       |      | 94.4   | 95.4  | 47.2   | 48.2   |      |              |      | 172                       | 28.5                    | 5.92                 |
| SY60-5              |                 |        |       |      | 117.0  | 118.2 | 58.5   | 59.7   |      |              |      | 216                       | 33.7                    | 7.41                 |
| SY60-6              |                 |        |       |      | 140.0  | 140.9 | 70.1   | 70.8   |      |              |      | 259                       | 39.7                    | 8.90                 |
| SY60-8              |                 |        |       |      | 185.0  | 186.6 | 92.5   | 94.1   |      |              |      | 345                       | 53.5                    | 13.36                |
| SY60-10             |                 |        |       |      | 230.8  | 232.2 | 115.4  | 116.8  |      |              |      | 431                       | 64.7                    | 16.34                |

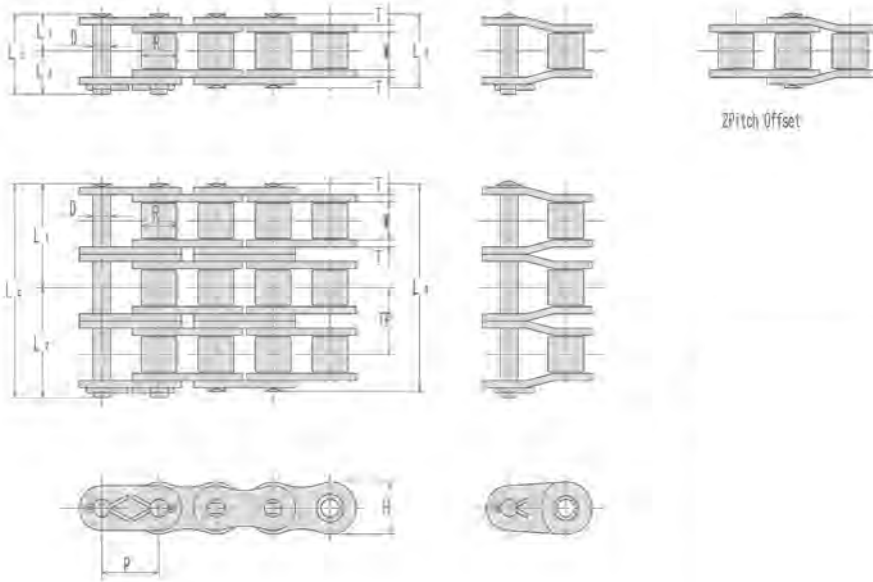
※Refer to page 80. "Selection of offset link"



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# ANSI Roller Chain

SY CHAIN



2Pitch Offset

|                  |      |       |
|------------------|------|-------|
| Standard Packing | SY80 | SY100 |
| 1 Unit (10')     | 120P | 96P   |

## 80

| SY Chain No. (ANSI) | Dimensions - mm |            |           |           |       |       |       |       |             |             |                    | Average Ultimate Strength<br>kN | Maximum Allowable Load*<br>kN | Average Chain Weight<br>kg/m |
|---------------------|-----------------|------------|-----------|-----------|-------|-------|-------|-------|-------------|-------------|--------------------|---------------------------------|-------------------------------|------------------------------|
|                     | Pitch<br>P      | Roller     |           | Dia.<br>D | Pin   |       |       |       | Plate       |             | Trans. Pitch<br>TP |                                 |                               |                              |
|                     |                 | Width<br>W | Dia.<br>R |           | LR    | LC    | L1    | L2    | Height<br>H | Thick.<br>T |                    |                                 |                               |                              |
|                     |                 |            |           |           |       |       |       |       |             |             |                    |                                 |                               |                              |
| SY80                | 25.40           | 15.88      | 15.88     | 7.93      | 32.8  | 35.5  | 16.4  | 19.1  | 23.4        | 3.2         | —                  | 78.5                            | 18.4                          | 2.52                         |
| SY80-2              |                 |            |           |           | 61.6  | 64.5  | 30.8  | 33.7  |             |             | 29.3               | 157                             | 25.0                          | 5.10                         |
| SY80-3              |                 |            |           |           | 90.9  | 94.1  | 45.5  | 48.6  |             |             |                    | 236                             | 36.8                          | 7.68                         |
| SY80-4              |                 |            |           |           | 120.4 | 123.5 | 60.2  | 63.3  |             |             |                    | 314                             | 48.5                          | 10.25                        |
| SY80-5              |                 |            |           |           | 149.8 | 152.8 | 74.9  | 77.9  |             |             |                    | 393                             | 57.3                          | 12.84                        |
| SY80-6              |                 |            |           |           | 179.1 | 182.1 | 89.6  | 92.5  |             |             |                    | 471                             | 67.6                          | 15.42                        |
| SY80-8              |                 |            |           |           | 237.6 | 240.6 | 118.8 | 121.8 |             |             |                    | 628                             | 91.1                          | 20.58                        |
| SY80-10             |                 |            |           |           | 296.2 | 299.2 | 148.1 | 151.1 |             |             |                    | 785                             | 110                           | 25.81                        |

## 100

| SY Chain No. (ANSI) | Dimensions - mm |            |           |           |       |       |       |       |             |             |                    | Average Ultimate Strength<br>kN | Maximum Allowable Load*<br>kN | Average Chain Weight<br>kg/m |
|---------------------|-----------------|------------|-----------|-----------|-------|-------|-------|-------|-------------|-------------|--------------------|---------------------------------|-------------------------------|------------------------------|
|                     | Pitch<br>P      | Roller     |           | Dia.<br>D | Pin   |       |       |       | Plate       |             | Trans. Pitch<br>TP |                                 |                               |                              |
|                     |                 | Width<br>W | Dia.<br>R |           | LR    | LC    | L1    | L2    | Height<br>H | Thick.<br>T |                    |                                 |                               |                              |
|                     |                 |            |           |           |       |       |       |       |             |             |                    |                                 |                               |                              |
| SY100               | 31.75           | 19.05      | 19.05     | 9.53      | 39.4  | 43.0  | 19.7  | 23.3  | 29.3        | 4.0         | —                  | 118                             | 28.3                          | 3.91                         |
| SY100-2             |                 |            |           |           | 75.1  | 78.8  | 37.6  | 41.2  |             |             | 35.8               | 236                             | 38.4                          | 7.74                         |
| SY100-3             |                 |            |           |           | 110.9 | 114.6 | 55.5  | 59.1  |             |             |                    | 354                             | 56.5                          | 11.58                        |
| SY100-4             |                 |            |           |           | 147.4 | 150.8 | 73.7  | 77.1  |             |             |                    | 472                             | 74.6                          | 15.40                        |
| SY100-5             |                 |            |           |           | 183.0 | 186.6 | 91.5  | 95.1  |             |             |                    | 590                             | 88.1                          | 19.26                        |
| SY100-6             |                 |            |           |           | 218.8 | 222.4 | 109.4 | 113.0 |             |             |                    | 708                             | 104                           | 23.10                        |
| SY100-8             |                 |            |           |           | 290.4 | 294.1 | 145.2 | 148.9 |             |             |                    | 944                             | 140                           | 30.81                        |
| SY100-10            |                 |            |           |           | 362.0 | 365.7 | 181.0 | 184.7 |             |             |                    | 1180                            | 170                           | 38.54                        |

\*Refer to page 80. "Selection of offset link"

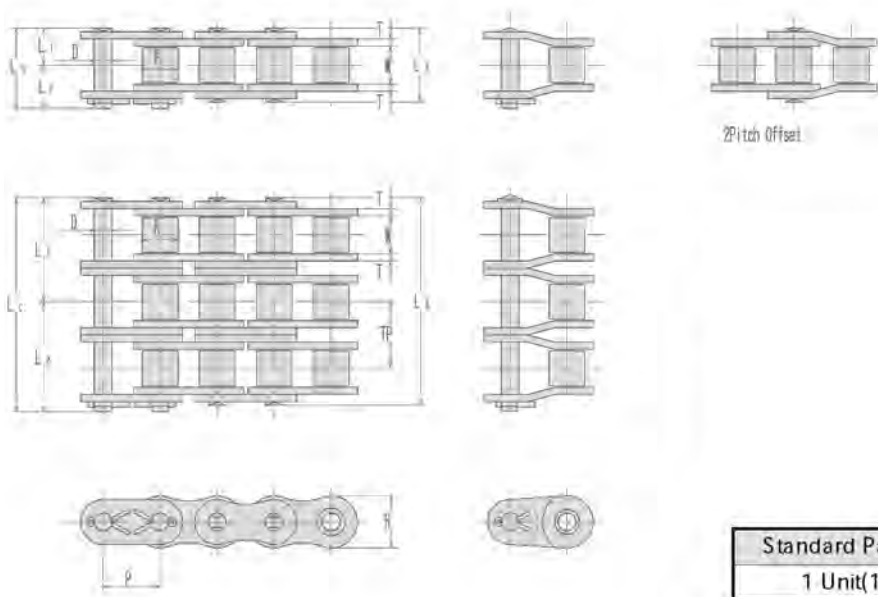


# ANSI Roller Chain

Premium  
SBR®



SY CHAIN



2Pitch Offset

|                  |       |       |
|------------------|-------|-------|
| Standard Packing | SY120 | SY140 |
| 1 Unit(10')      | 80P   | 68P   |

## 120

| SY Chain No. (ANSI) | Dimensions - mm |            |           |           |        |       |             |             |      |                    |      | Average Ultimate Strength<br>kN | Maximum Allowable Load※<br>kN | Average Chain Weight<br>kg/m |
|---------------------|-----------------|------------|-----------|-----------|--------|-------|-------------|-------------|------|--------------------|------|---------------------------------|-------------------------------|------------------------------|
|                     | Pitch<br>P      | Roller     |           | Pin       |        |       |             | Plate       |      | Trans. Pitch<br>TP |      |                                 |                               |                              |
|                     |                 | Width<br>W | Dia.<br>R | Dia.<br>D | Length |       | Height<br>H | Thick.<br>T |      |                    |      |                                 |                               |                              |
|                     |                 |            |           |           | LR     | LC    |             |             | L1   |                    | L2   |                                 |                               |                              |
| SY120               | 38.10           | 25.40      | 22.23     | 11.10     | 49.5   | 53.4  | 24.8        | 28.6        | 35.1 | 4.8                | —    | 167                             | 38.0                          | 5.76                         |
| SY120-2             |                 |            |           |           | 94.9   | 98.8  | 47.5        | 51.3        |      |                    | 45.4 | 334                             | 51.7                          | 11.49                        |
| SY120-3             |                 |            |           |           | 140.3  | 144.2 | 70.2        | 74.0        |      |                    |      | 501                             | 76.0                          | 17.20                        |
| SY120-4             |                 |            |           |           | 186.1  | 190.0 | 93.1        | 96.9        |      |                    |      | 668                             | 100                           | 22.92                        |
| SY120-5             |                 |            |           |           | 231.5  | 235.4 | 115.8       | 119.6       |      |                    |      | 835                             | 119                           | 28.65                        |
| SY120-6             |                 |            |           |           | 276.9  | 280.8 | 138.5       | 142.3       |      |                    |      | 1002                            | 140                           | 34.36                        |
| SY120-8             |                 |            |           |           | 367.5  | 371.7 | 183.8       | 187.9       |      |                    |      | 1336                            | 188                           | 45.81                        |
| SY120-10            |                 |            |           |           | 458.3  | 462.5 | 229.2       | 233.3       |      |                    |      | 1670                            | 228                           | 57.38                        |

## 140

| SY Chain No. (ANSI) | Dimensions - mm |            |           |           |        |       |             |             |      |                    |      | Average Ultimate Strength<br>kN | Maximum Allowable Load※<br>kN | Average Chain Weight<br>kg/m |
|---------------------|-----------------|------------|-----------|-----------|--------|-------|-------------|-------------|------|--------------------|------|---------------------------------|-------------------------------|------------------------------|
|                     | Pitch<br>P      | Roller     |           | Pin       |        |       |             | Plate       |      | Trans. Pitch<br>TP |      |                                 |                               |                              |
|                     |                 | Width<br>W | Dia.<br>R | Dia.<br>D | Length |       | Height<br>H | Thick.<br>T |      |                    |      |                                 |                               |                              |
|                     |                 |            |           |           | LR     | LC    |             |             | L1   |                    | L2   |                                 |                               |                              |
| SY140               | 44.45           | 25.40      | 25.4      | 12.70     | 54.0   | 58.3  | 27.0        | 31.3        | 40.9 | 5.6                | —    | 216                             | 50.3                          | 7.41                         |
| SY140-2             |                 |            |           |           | 102.9  | 107.2 | 51.5        | 55.7        |      |                    | 48.9 | 432                             | 68.3                          | 14.63                        |
| SY140-3             |                 |            |           |           | 151.7  | 156.3 | 75.9        | 80.4        |      |                    |      | 648                             | 101                           | 21.91                        |
| SY140-4             |                 |            |           |           | 201.2  | 205.5 | 100.6       | 104.9       |      |                    |      | 864                             | 133                           | 29.17                        |
| SY140-5             |                 |            |           |           | 250.1  | 254.4 | 125.1       | 129.3       |      |                    |      | 1080                            | 157                           | 36.45                        |
| SY140-6             |                 |            |           |           | 299.0  | 303.3 | 149.5       | 153.8       |      |                    |      | 1296                            | 185                           | 43.72                        |
| SY140-8             |                 |            |           |           | 396.5  | 401.1 | 198.3       | 202.8       |      |                    |      | 1728                            | 249                           | 58.28                        |
| SY140-10            |                 |            |           |           | 494.3  | 498.9 | 247.2       | 251.7       |      |                    |      | 2160                            | 302                           | 72.82                        |

※Refer to page 80. "Selection of offset link"

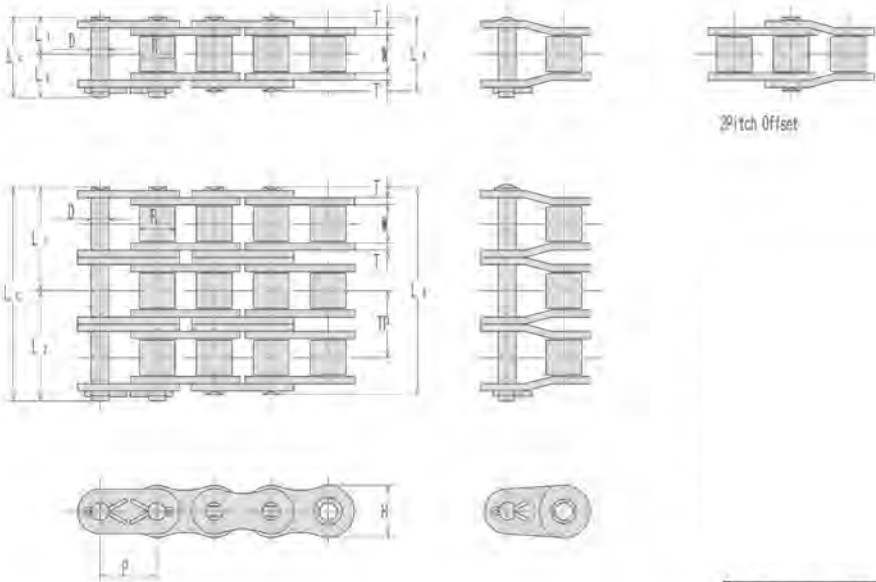
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Premium  
SBR®

# ANSI Roller Chain

SY CHAIN



2 Pitch Offset

|                  |       |       |
|------------------|-------|-------|
| Standard Packing | SY160 | SY180 |
| 1 Unit(10')      | 60P   | 54P   |

## 160

| SY Chain No. (ANSI) | Dimensions - mm |        |       |       |        |       |        |        |      |              |      | Average Ultimate Strength | Maximum Allowable Load* | Average Chain Weight |
|---------------------|-----------------|--------|-------|-------|--------|-------|--------|--------|------|--------------|------|---------------------------|-------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin   |        |       |        | Plate  |      | Trans. Pitch |      |                           |                         |                      |
|                     |                 | Width  | Dia.  | Dia.  | Length |       | Height | Thick. |      |              |      |                           |                         |                      |
|                     |                 | P      | W     | R     | D      | LR    | LC     | L1     | L2   |              | H    |                           |                         |                      |
| SY160               | 50.80           | 31.75  | 28.58 | 14.28 | 64.3   | 68.7  | 32.2   | 36.5   | 46.7 | 6.4          | —    | 275                       | 66.3                    | 9.79                 |
| SY160-2             |                 |        |       |       | 122.8  | 127.2 | 61.4   | 65.8   |      |              | 58.5 | 550                       | 90.1                    | 19.45                |
| SY160-3             |                 |        |       |       | 181.3  | 185.7 | 90.7   | 95.0   |      |              |      | 825                       | 133                     | 29.17                |
| SY160-4             |                 |        |       |       | 240.3  | 244.7 | 120.2  | 124.5  |      |              |      | 1100                      | 175                     | 38.77                |
| SY160-5             |                 |        |       |       | 298.8  | 303.3 | 149.4  | 153.9  |      |              |      | 1375                      | 207                     | 48.43                |
| SY160-6             |                 |        |       |       | 357.4  | 361.7 | 178.7  | 183.0  |      |              |      | 1650                      | 244                     | 58.08                |
| SY160-8             |                 |        |       |       | 474.4  | 478.8 | 237.2  | 241.6  |      |              |      | 2200                      | 329                     | 77.39                |
| SY160-10            |                 |        |       |       | 591.4  | 595.8 | 295.7  | 300.1  |      |              |      | 2750                      | 398                     | 102.86               |

## 180

| SY Chain No. (ANSI) | Dimensions - mm |        |       |       |        |       |        |        |      |              |      | Average Ultimate Strength | Maximum Allowable Load* | Average Chain Weight |
|---------------------|-----------------|--------|-------|-------|--------|-------|--------|--------|------|--------------|------|---------------------------|-------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin   |        |       |        | Plate  |      | Trans. Pitch |      |                           |                         |                      |
|                     |                 | Width  | Dia.  | Dia.  | Length |       | Height | Thick. |      |              |      |                           |                         |                      |
|                     |                 | P      | W     | R     | D      | LR    | LC     | L1     | L2   |              | H    |                           |                         |                      |
| SY180               | 57.15           | 35.70  | 35.70 | 17.45 | 72.5   | 78.4  | 36.3   | 42.1   | 52.5 | 7.2          | —    | 353                       | 70.6                    | 13.39                |
| SY180-2             |                 |        |       |       | 138.2  | 144.0 | 69.1   | 74.9   |      |              | 65.8 | 706                       | 98.4                    | 26.62                |
| SY180-3             |                 |        |       |       | 204.5  | 210.2 | 102.3  | 107.9  |      |              |      | 1059                      | 145                     | 39.85                |
| SY180-4             |                 |        |       |       | 270.2  | 275.9 | 135.1  | 140.8  |      |              |      | 1412                      | 191                     | 53.08                |
| SY180-5             |                 |        |       |       | 336.0  | 341.6 | 173.6  | 173.7  |      |              |      | 1765                      | 226                     | 66.31                |
| SY180-6             |                 |        |       |       | 401.8  | 407.3 | 200.9  | 206.4  |      |              |      | 2118                      | 266                     | 79.54                |

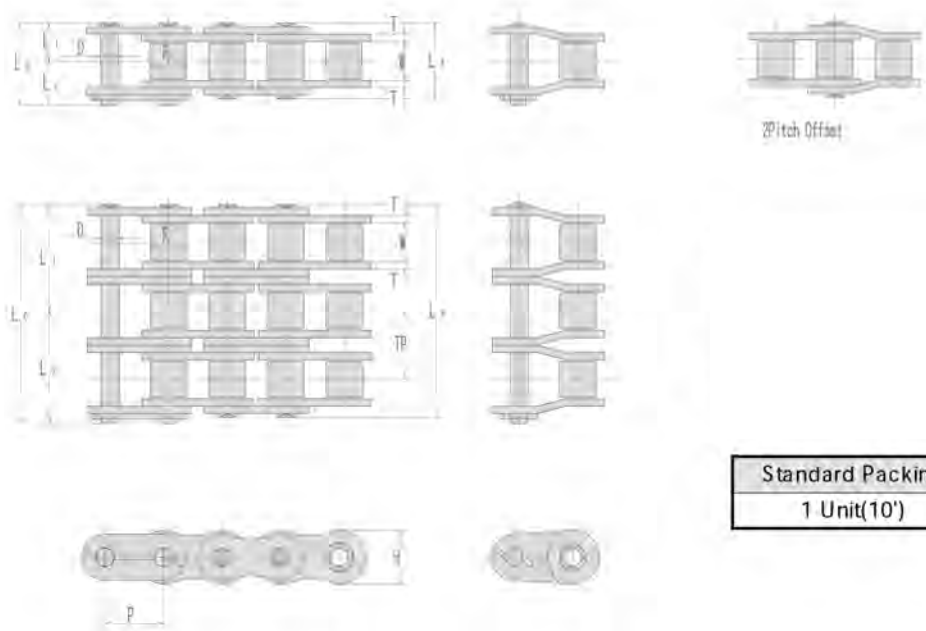
\*Refer to page 80. "Selection of offset link"

# ANSI Roller Chain

Premium  
SBR®



SY CHAIN



|                  |       |       |
|------------------|-------|-------|
| Standard Packing | SY200 | SY240 |
| 1 Unit(10')      | 48P   | 40P   |

## 200

| SY Chain No. (ANSI) | Dimensions - mm |        |       |       |        |       |       |        |        |              |      | Average Ultimate Strength | Maximum Allowable Load※ | Average Chain Weight |
|---------------------|-----------------|--------|-------|-------|--------|-------|-------|--------|--------|--------------|------|---------------------------|-------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin   |        |       |       | Plate  |        | Trans. Pitch |      |                           |                         |                      |
|                     |                 | Width  | Dia.  | Dia.  | Length |       |       | Height | Thick. |              |      |                           |                         |                      |
|                     |                 | P      | W     | R     | D      | LR    | LC    | L1     | L2     |              | H    |                           |                         |                      |
| SY200               | 63.50           | 38.10  | 39.67 | 19.83 | 78.5   | 87.0  | 39.3  | 47.7   | 59.8   | 8.0          | —    | 451                       | 82.3                    | 16.93                |
| SY200-2             |                 |        |       |       | 150.2  | 158.7 | 75.1  | 83.6   |        |              | 71.6 | 902                       | 122                     | 33.73                |
| SY200-3             |                 |        |       |       | 221.7  | 230.2 | 110.9 | 119.3  |        |              |      | 1353                      | 179                     | 50.53                |
| SY200-4             |                 |        |       |       | 293.3  | 302.4 | 146.7 | 155.7  |        |              |      | 1804                      | 236                     | 67.34                |
| SY200-5             |                 |        |       |       | 365.5  | 374.0 | 182.8 | 191.2  |        |              |      | 2255                      | 279                     | 84.14                |
| SY200-6             |                 |        |       |       | 437.1  | 445.6 | 218.6 | 227.0  |        |              |      | 2706                      | 329                     | 100.94               |

## 240

| SY Chain No. (ANSI) | Dimensions - mm |        |       |       |        |       |       |        |        |              |      | Average Ultimate Strength | Maximum Allowable Load※ | Average Chain Weight |
|---------------------|-----------------|--------|-------|-------|--------|-------|-------|--------|--------|--------------|------|---------------------------|-------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin   |        |       |       | Plate  |        | Trans. Pitch |      |                           |                         |                      |
|                     |                 | Width  | Dia.  | Dia.  | Length |       |       | Height | Thick. |              |      |                           |                         |                      |
|                     |                 | P      | W     | R     | D      | LR    | LC    | L1     | L2     |              | H    |                           |                         |                      |
| SY240               | 76.20           | 47.63  | 47.63 | 23.78 | 96.4   | 104.1 | 48.2  | 55.9   | 70.3   | 9.5          | —    | 677                       | 112.8                   | 23.64                |
| SY240-2             |                 |        |       |       | 184.2  | 191.8 | 92.1  | 99.7   |        |              | 87.8 | 1354                      | 167                     | 47.13                |
| SY240-3             |                 |        |       |       | 272.0  | 279.6 | 136.0 | 143.6  |        |              |      | 2031                      | 245                     | 70.61                |
| SY240-4             |                 |        |       |       | 359.8  | 367.4 | 179.9 | 187.5  |        |              |      | 2708                      | 324                     | 94.09                |
| SY240-5             |                 |        |       |       | 447.6  | 455.2 | 223.8 | 231.4  |        |              |      | 3385                      | 383                     | 117.56               |
| SY240-6             |                 |        |       |       | 535.5  | 543.0 | 267.8 | 275.2  |        |              |      | 4062                      | 451                     | 141.06               |

※Refer to page 80. "Selection of offset link"

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Premium  
SBR®

# Aqua Series Chain

## Feature

Excellent corrosion resistance without plating same strength and working load values as standard chain No hydrogen embrittlement by surface treatment.

## Results of corrosion resistant tests

### Salt spray test

| CHAINS                  | Hour for Rust developed(hours) |
|-------------------------|--------------------------------|
| Special surface treated | 1000 No rust                   |
| Glossy chromating       | 72~96                          |
| Colored chromating      | 120~240                        |
| Molten zinc plating     | 120~240                        |

### Salt spray test

| CHAINS                         | Hour for Rust developed(hours) |
|--------------------------------|--------------------------------|
| Nickel plated                  | 48                             |
| Special surface treated        | 600~840                        |
| Made of SUS304 stainless steel | above 840 No rust              |

## Applications

Outdoor service  
Sea water applications  
Stacking crane, Car parking

## Applicable Chains

#40~#240  
Attachment chain is available.

## Purpose of Special surface treatment

Linkplate : for anticorrosion  
Other parts : for anticorrosion and to reduce friction

## Caution

For the food products industry where the chain may be exposed to direct food contact, stainless steel chain is recommended.

## Applicable Chains

SY40AP~SY240AP  
Attachment chain is available.  
For identification, a suffix is added to the chain numbers.

THE ULTIMATE ROLLER CHAIN **LONG LIFE SERIES**

# SBR

**New AQUA-series  
ROLLER CHAIN**

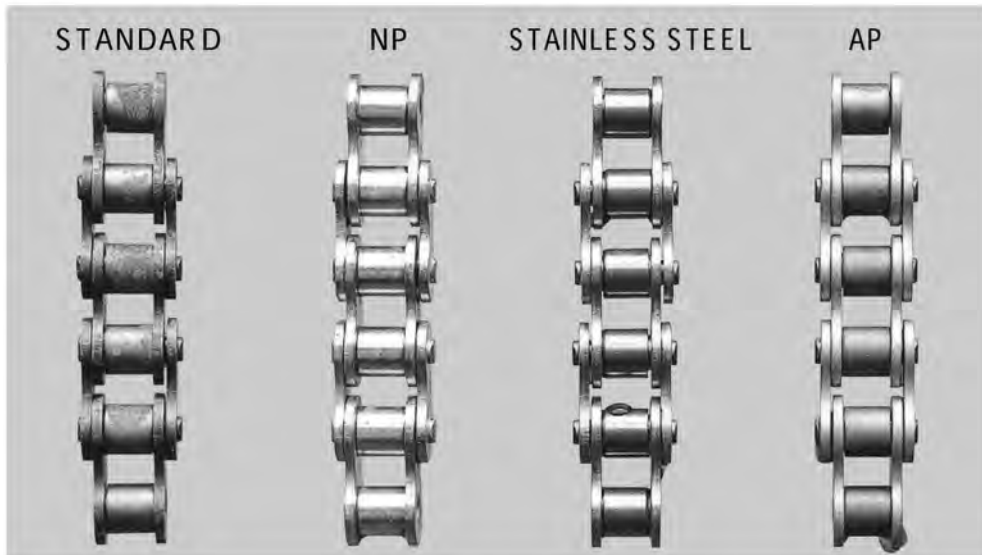
BS STANDARD ROLLER CHAINS  
ANSI STANDARD ROLLER CHAINS  
HEAVY-SERIES ROLLER CHAINS  
S-SERIES ROLLER CHAINS  
SUPER ROLLER CHAINS  
OIL-FIELD CHAINS  
ROLLERLESS CHAINS  
STRAIGHT SIDEBAR CHAINS  
DOUBLE PITCH ROLLER CHAINS etc.

# Aqua Series Chain

Premium  
SBR®

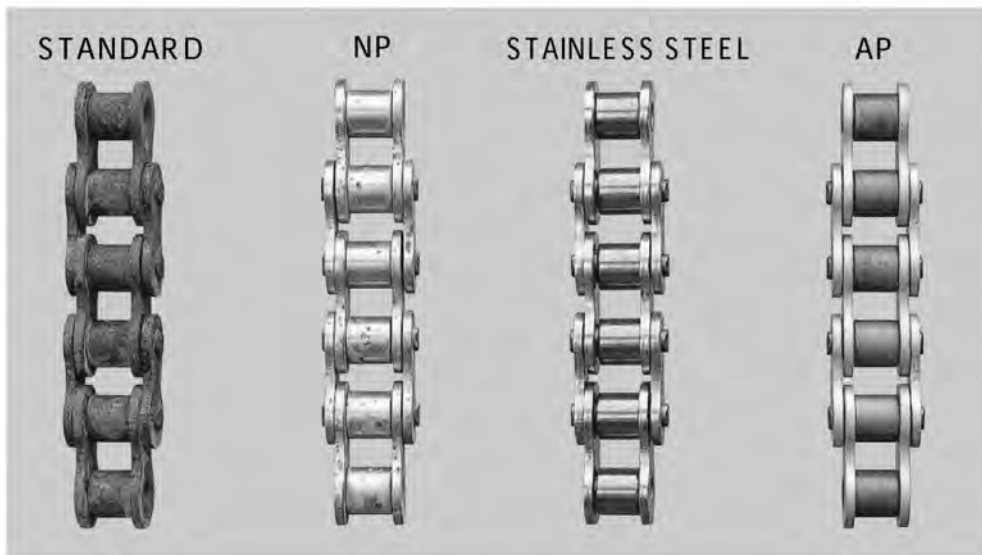


SY CHAIN



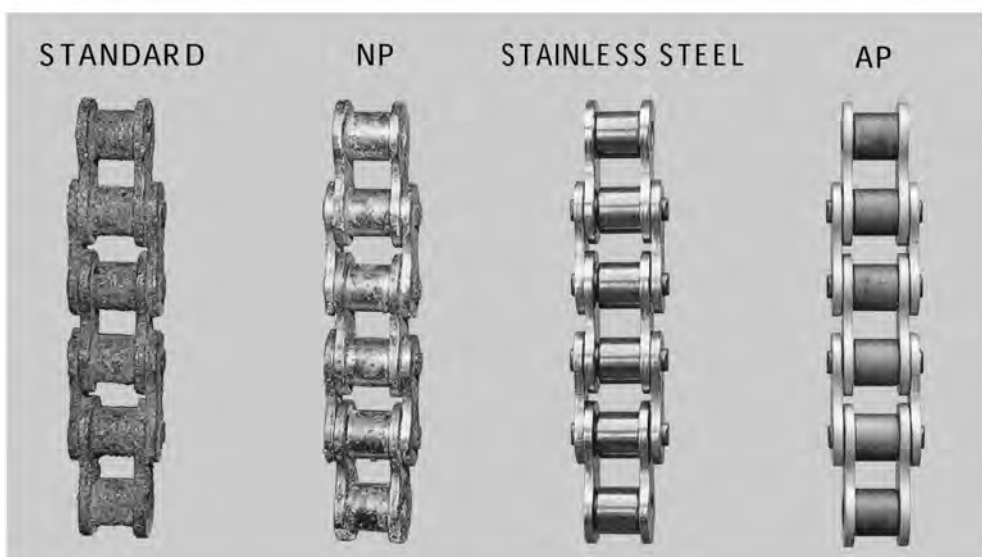
Open air,  
splashed water  
morning&evening

3days after



Open air,  
splashed water  
morning&evening

15days after



Indoors,  
splashed  
5% salty water  
morning&evening

15days after

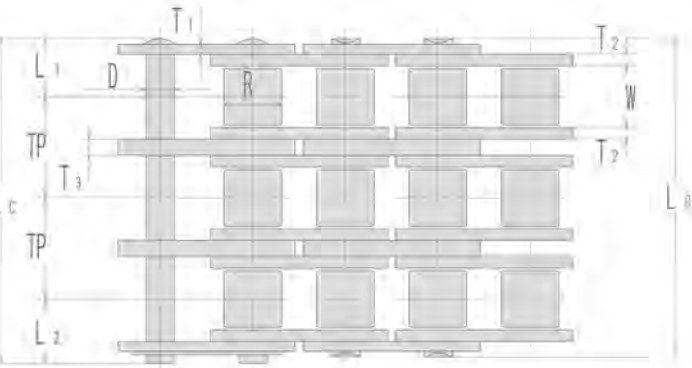
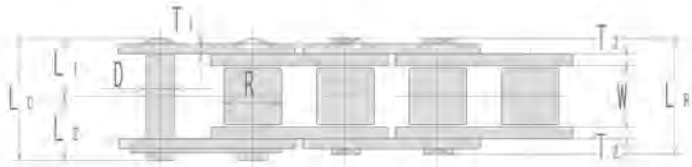


Premium  
SBR®

# BS Standard Roller Chain

SY BS standard roller chains are standardized in accordance with ISO 606 B and fully interchangeable with chains manufactured according to BS 228 and DIN 8187.

Supplied, in rivet type, to European countries as well as replacement on machinery employing BS standard chains.



| Standard Packing | 06B  |
|------------------|------|
| 1 Unit (10')     | 320P |
| 1 Unit (5m)      | 526P |

## 06B

| SY Chain No. (B S) | Pitch | Dimensions - mm |      |      |        |                |                |                |                |     |              |                |                | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------------|-------|-----------------|------|------|--------|----------------|----------------|----------------|----------------|-----|--------------|----------------|----------------|---------------------------|------------------------|----------------------|
|                    |       | Roller          |      | Pin  |        |                |                | Plate          |                |     | Trans. Pitch |                |                |                           |                        |                      |
|                    |       | Width           | Dia. | Dia. | Length |                |                | Height         | Thickness      |     |              |                |                |                           |                        |                      |
|                    |       | P               | W    | R    | D      | L <sub>R</sub> | L <sub>C</sub> | L <sub>1</sub> | L <sub>2</sub> | H   |              | T <sub>1</sub> | T <sub>2</sub> |                           |                        |                      |
| 06B                | 9.525 | 5.72            | 6.35 | 3.28 | 12.6   | 13.4           | 6.3            | 7.1            | 8.2            | 1.0 | 1.25         | 1.6            | 10.24          | 8.92                      | 1.7                    | 0.41                 |
| -2                 |       |                 |      |      | 22.9   | 23.7           |                |                |                |     |              |                |                | 16.9                      | 2.9                    | 0.78                 |
| -3                 |       |                 |      |      | 33.2   | 33.7           |                |                |                |     |              |                |                | 24.9                      | 4.2                    | 1.18                 |

Curled bushing is used.

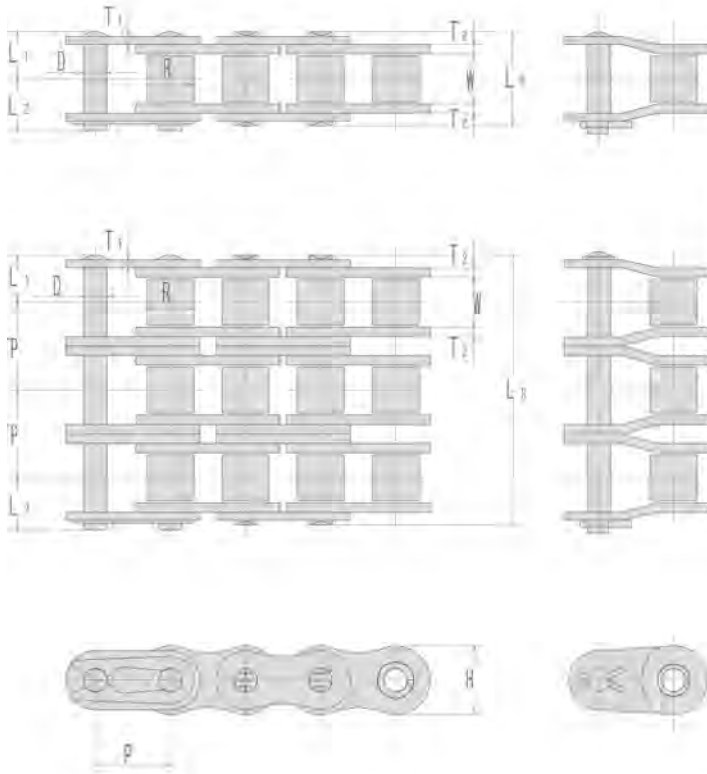


# BS Standard Roller Chain

Premium  
SBR®



SY CHAIN



| Standard Packing | 08B  | 10B  |
|------------------|------|------|
| 1 Unit (10')     | 240P | 192P |
| 1 Unit (5m)      | 394P | 316P |

## 08B

| SY Chain No. (B S) | Pitch | Dimensions - mm |      |      |        |      |     |     |        |           |              |       | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------------|-------|-----------------|------|------|--------|------|-----|-----|--------|-----------|--------------|-------|---------------------------|------------------------|----------------------|
|                    |       | Roller          |      |      | Pin    |      |     |     | Plate  |           | Trans. Pitch |       |                           |                        |                      |
|                    |       | Width           | Dia. | Dia. | Length |      |     |     | Height | Thickness |              |       |                           |                        |                      |
|                    |       | P               | W    | R    | D      | LR   | LC  | L1  | L2     | H         |              | T1    |                           |                        |                      |
| 08B                | 12.70 | 7.75            | 8.51 | 4.45 | 16.7   | 18.0 | 8.4 | 9.6 | 11.8   | 1.5       |              | 13.92 | 17.8                      | 3.14                   | 0.61                 |
| -2                 |       |                 |      |      | 30.6   | 31.9 |     |     |        |           |              |       | 31.1                      | 5.35                   | 1.26                 |
| -3                 |       |                 |      |      | 44.5   | 45.8 |     |     |        |           |              |       | 44.5                      | 7.85                   | 1.88                 |

## 10B

| SY Chain No. (B S) | Pitch  | Dimensions - mm |       |      |        |      |     |      |        |           |              |       | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------------|--------|-----------------|-------|------|--------|------|-----|------|--------|-----------|--------------|-------|---------------------------|------------------------|----------------------|
|                    |        | Roller          |       |      | Pin    |      |     |      | Plate  |           | Trans. Pitch |       |                           |                        |                      |
|                    |        | Width           | Dia.  | Dia. | Length |      |     |      | Height | Thickness |              |       |                           |                        |                      |
|                    |        | P               | W     | R    | D      | LR   | LC  | L1   | L2     | H         |              | T1    |                           |                        |                      |
| 10B                | 15.875 | 9.65            | 10.16 | 5.08 | 19.0   | 20.7 | 9.5 | 11.2 | 14.7   | 1.65      |              | 16.59 | 22.2                      | 4.90                   | 0.89                 |
| -2                 |        |                 |       |      | 35.6   | 37.3 |     |      |        |           |              |       | 44.5                      | 8.33                   | 1.79                 |
| -3                 |        |                 |       |      | 52.4   | 54.4 |     |      |        |           |              |       | 66.7                      | 12.2                   | 2.66                 |

※Refer to page 80. "Selection of offset link"

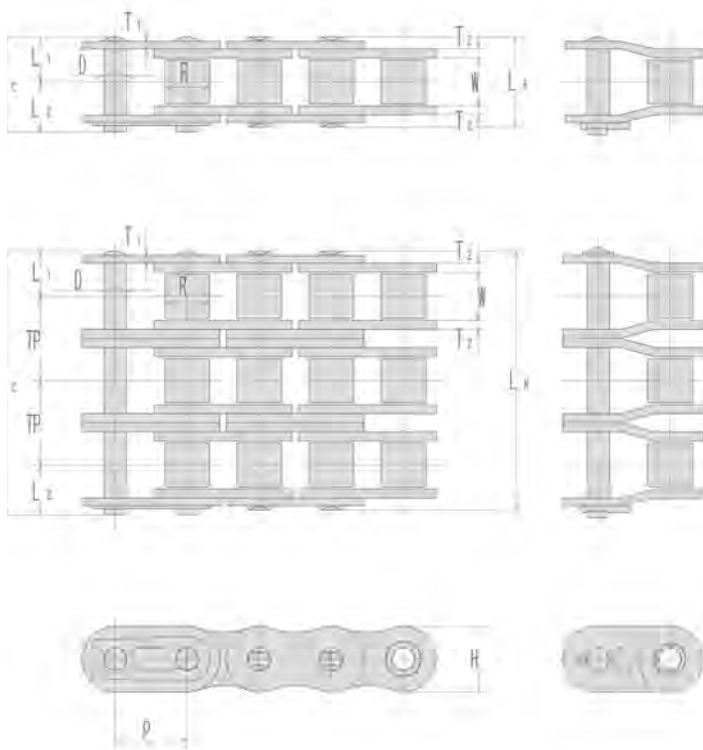
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Premium  
SBR®

# BS Standard Roller Chain

SY CHAIN



| Standard Packing | 12B  | 16B  |
|------------------|------|------|
| 1 Unit (10')     | 160P | 120P |
| 1 Unit (5m)      | 262P | 198P |

## 12B

| SY Chain No. (B S) | Pitch | Dimensions - mm |       |      |        |      |        |           |      |              |    |       | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------------|-------|-----------------|-------|------|--------|------|--------|-----------|------|--------------|----|-------|---------------------------|------------------------|----------------------|
|                    |       | Roller          |       | Pin  |        |      |        | Plate     |      | Trans. Pitch |    |       |                           |                        |                      |
|                    |       | Width           | Dia.  | Dia. | Length |      | Height | Thickness |      |              |    |       |                           |                        |                      |
| P                  | W     | R               | D     | LR   | LC     | L1   | L2     | H         | T1   | T2           | TP | kN    | kN                        | kg/m                   |                      |
| 12B                | 19.05 | 11.68           | 12.07 | 5.72 | 22.0   | 23.6 | 11.0   | 12.6      | 16.1 | 1.8          |    | 19.46 | 28.9                      | 7.06                   | 1.14                 |
| -2                 |       |                 |       |      | 41.6   | 43.1 |        |           |      |              |    |       | 57.8                      | 12.0                   | 2.28                 |
| -3                 |       |                 |       |      | 61.1   | 62.7 |        |           |      |              |    |       | 86.7                      | 17.6                   | 3.36                 |

## 16B

| SY Chain No. (B S) | Pitch | Dimensions - mm |       |      |        |       |        |           |      |              |     |       | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------------|-------|-----------------|-------|------|--------|-------|--------|-----------|------|--------------|-----|-------|---------------------------|------------------------|----------------------|
|                    |       | Roller          |       | Pin  |        |       |        | Plate     |      | Trans. Pitch |     |       |                           |                        |                      |
|                    |       | Width           | Dia.  | Dia. | Length |       | Height | Thickness |      |              |     |       |                           |                        |                      |
| P                  | W     | R               | D     | LR   | LC     | L1    | L2     | H         | T1   | T2           | TP  | kN    | kN                        | kg/m                   |                      |
| 16B                | 25.40 | 17.02           | 15.88 | 8.26 | 35.1   | 38.2  | 17.6   | 20.6      | 21.0 | 3.2          | 4.0 | 31.88 | 60                        | 12.6                   | 2.59                 |
| -2                 |       |                 |       |      | 67.2   | 70.1  |        |           |      |              |     |       | 106                       | 21.4                   | 5.13                 |
| -3                 |       |                 |       |      | 99.2   | 102.5 |        |           |      |              |     |       | 160                       | 31.5                   | 7.68                 |

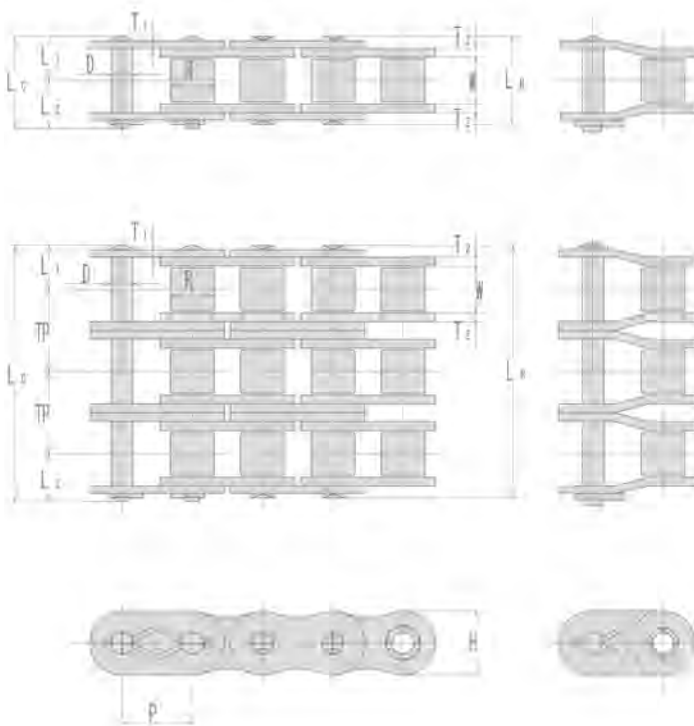
※Refer to page 80. "Selection of offset link"

# BS Standard Roller Chain

Premium  
SBR®



SY CHAIN



| Standard Packing | 20B  | 24B  |
|------------------|------|------|
| 1 Unit (10')     | 96P  | 80P  |
| 1 Unit (5m)      | 158P | 132P |

## 20B

| SY Chain No. (B S) | Pitch | Dimensions - mm |       |       |        |       |      |        |           |     |              |       | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------------|-------|-----------------|-------|-------|--------|-------|------|--------|-----------|-----|--------------|-------|---------------------------|------------------------|----------------------|
|                    |       | Roller          |       |       | Pin    |       |      |        | Plate     |     | Trans. Pitch |       |                           |                        |                      |
|                    |       | Width           | Dia.  | Dia.  | Length |       |      | Height | Thickness |     |              |       |                           |                        |                      |
|                    |       | P               | W     | R     | D      | LR    | LC   | L1     | L2        | H   |              | T1    |                           |                        |                      |
| 20B                | 31.75 | 19.56           | 19.05 | 10.16 | 40.2   | 44.0  | 20.1 | 23.9   | 26.4      | 3.5 | 4.5          | 36.45 | 95                        | 19.6                   | 3.76                 |
| -2                 |       |                 |       |       | 76.8   | 80.6  |      |        |           |     |              |       | 170                       | 33.3                   | 7.26                 |
| -3                 |       |                 |       |       | 113.3  | 117.2 |      |        |           |     |              |       | 250                       | 49.0                   | 10.86                |

## 24B

| SY Chain No. (B S) | Pitch | Dimensions - mm |       |       |        |       |      |        |           |     |              |       | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------------|-------|-----------------|-------|-------|--------|-------|------|--------|-----------|-----|--------------|-------|---------------------------|------------------------|----------------------|
|                    |       | Roller          |       |       | Pin    |       |      |        | Plate     |     | Trans. Pitch |       |                           |                        |                      |
|                    |       | Width           | Dia.  | Dia.  | Length |       |      | Height | Thickness |     |              |       |                           |                        |                      |
|                    |       | P               | W     | R     | D      | LR    | LC   | L1     | L2        | H   |              | T1    |                           |                        |                      |
| 24B                | 38.10 | 25.40           | 25.40 | 14.63 | 53.4   | 58.1  | 26.7 | 31.4   | 33.4      | 4.9 | 5.9          | 48.36 | 160                       | 27.5                   | 7.29                 |
| -2                 |       |                 |       |       | 101.8  | 106.5 |      |        |           |     |              |       | 280                       | 46.8                   | 14.53                |
| -3                 |       |                 |       |       | 150.2  | 154.9 |      |        |           |     |              |       | 425                       | 68.8                   | 21.76                |

※Refer to page 80. "Selection of offset link"

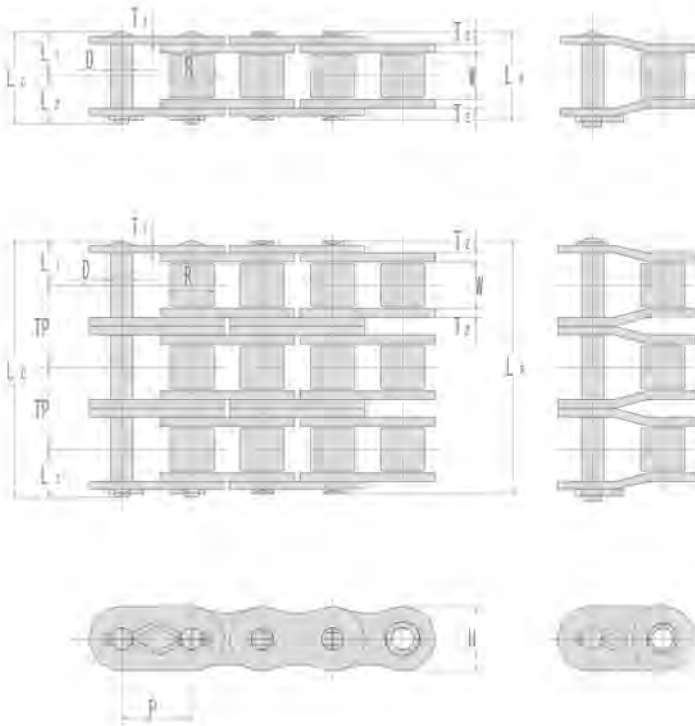




Premium  
SBR®

# BS Standard Roller Chain

SY CHAIN



| Standard Packing | 28B  | 32B  |
|------------------|------|------|
| 1 Unit (10')     | 68P  | 60P  |
| 1 Unit (5m)      | 114P | 100P |

## 28B

| SY Chain No. (B S) | Pitch | Dimensions - mm |       |       |        |       |        |           |      |              |     |       | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------------|-------|-----------------|-------|-------|--------|-------|--------|-----------|------|--------------|-----|-------|---------------------------|------------------------|----------------------|
|                    |       | Roller          |       | Pin   |        |       |        | Plate     |      | Trans. Pitch |     |       |                           |                        |                      |
|                    |       | Width           | Dia.  | Dia.  | Length |       | Height | Thickness |      |              |     |       |                           |                        |                      |
| P                  | W     | R               | D     | LR    | LC     | L1    | L2     | H         | T1   | T2           | TP  | kN    | kN                        | kg/m                   |                      |
| 28B                | 44.45 | 31.00           | 27.94 | 15.88 | 65.1   | 70.5  | 32.6   | 37.9      | 37.0 | 6.3          | 7.4 | 59.56 | 200                       | 34.3                   | 9.26                 |
| -2                 |       |                 |       |       | 124.7  | 130.0 |        |           |      |              |     |       | 360                       | 58.3                   | 18.45                |
| -3                 |       |                 |       |       | 184.2  | 189.6 |        |           |      |              |     |       | 530                       | 85.8                   | 27.65                |

## 32B

| SY Chain No. (B S) | Pitch | Dimensions - mm |       |       |        |       |        |           |      |              |     |       | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------------|-------|-----------------|-------|-------|--------|-------|--------|-----------|------|--------------|-----|-------|---------------------------|------------------------|----------------------|
|                    |       | Roller          |       | Pin   |        |       |        | Plate     |      | Trans. Pitch |     |       |                           |                        |                      |
|                    |       | Width           | Dia.  | Dia.  | Length |       | Height | Thickness |      |              |     |       |                           |                        |                      |
| P                  | W     | R               | D     | LR    | LC     | L1    | L2     | H         | T1   | T2           | TP  | kN    | kN                        | kg/m                   |                      |
| 32B                | 50.80 | 31.00           | 29.21 | 17.81 | 65.0   | 71.1  | 32.5   | 38.6      | 42.2 | 6.3          | 6.9 | 58.55 | 250                       | 39.2                   | 9.92                 |
| -2                 |       |                 |       |       | 123.4  | 129.7 |        |           |      |              |     |       | 450                       | 66.6                   | 19.76                |
| -3                 |       |                 |       |       | 182.0  | 188.3 |        |           |      |              |     |       | 670                       | 98.0                   | 29.61                |

※Refer to page 80. "Selection of offset link"

## **SY Double Capacity roller chains possess**

*Twice the number of link plates and provide almost twice the ultimate strength of standard single strand roller chains. They are primarily designed for high load hoist, pull down, or other tension linkage applications, and operate on standard ASME/ANSI single strand sprockets with hardened teeth.*

*Good for ecology: Lesser number of component parts  
Operates in smaller space  
Lighter weight  
(in comparison with double strand roller chain)*



**Available for**  
**ANSI / BS Type**  
**&**  
**Double Pitch**  
**Roller Chain**

|          | Double Capacity | Double Strand |
|----------|-----------------|---------------|
| Pitch    | Same            |               |
| Sprocket | Single          | Double        |
| Space    | Small           | Large         |
| Weight   | Light           | Heavy         |



Premium  
SBR®

# Double Capacity Roller Chain

SY CHAIN



All 33 men trapped 2,060 ft below ground were winched to the surface by the rescue capsule.

Drilled hole 2,060 ft down to rescue the miners.



A drilling machine installed with SY 180 Double Capacity chain was utilized to drill 6" holes dia the 2,060 ft. or so down that found the 33 miners in Chile.



SY Double Capacity Roller Chain(#180)



# Double Capacity Roller Chain

Premium  
SBR®

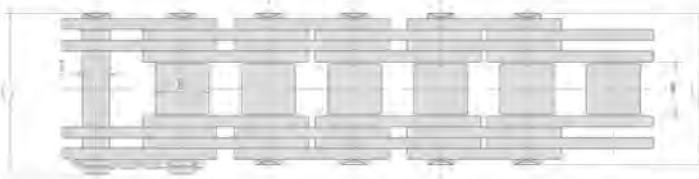


SY CHAIN

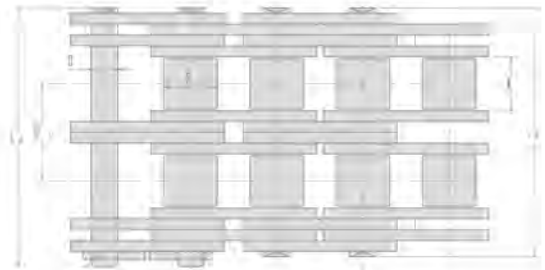
Double Capacity Chain is a single strand chain that offers the same ultimate tensile strength as a double strand chain with a saving of 50%.

Double Capacity Chain consists of twice the amount of side plates as single strand chain.

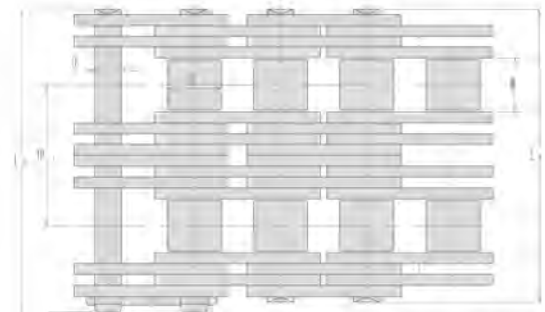
DC (×2)



TC (×3)



FC (×4)



$$\begin{aligned} LR2 &= LR1 + TP1 \\ LC2 &= LC1 + TP1 \\ LR3 &= LR1 + TP2 \\ LC3 &= LC1 + TP2 \end{aligned}$$

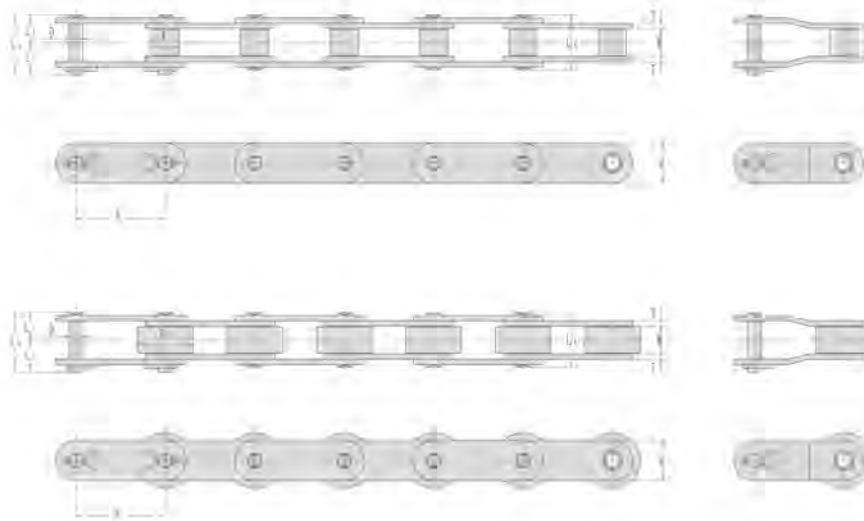
| SY Chain No.    | Dimensions - mm |        |       |       |        |       |                  |       | Average Ultimate Strength (kN) |      |      | Maximum Allowable Load (kN) |
|-----------------|-----------------|--------|-------|-------|--------|-------|------------------|-------|--------------------------------|------|------|-----------------------------|
|                 | Pitch           | Roller |       | Pin   |        |       | Transverse Pitch |       | DC                             | TC   | FC   | DC                          |
|                 |                 | Width  | Dia.  | Dia.  | Length |       | TP1              | TP2   |                                |      |      |                             |
|                 |                 | P      | W     | R     | D      | LR1   |                  |       |                                |      |      |                             |
| 16BDC · TC · FC | 25.40           | 17.02  | 15.88 | 8.26  | 50.0   | 53.2  | 31.9             | 44.7  | 137                            | 205  | 274  | 19.5                        |
| 20BDC · TC · FC | 31.75           | 19.56  | 19.05 | 10.16 | 56.0   | 60.4  | 36.5             | 50.5  | 212                            | 318  | 424  | 30.2                        |
| 24BDC · TC · FC | 38.10           | 25.40  | 25.40 | 14.63 | 75.4   | 80.5  | 48.4             | 68.0  | 359                            | 538  | 718  | 51.2                        |
| 28BDC · TC · FC | 44.45           | 31.00  | 27.94 | 15.88 | 93.0   | 98.8  | 59.6             | 84.8  | 447                            | 670  | 894  | 63.8                        |
| 32BDC · TC · FC | 50.80           | 31.00  | 29.21 | 17.81 | 92.4   | 98.5  | 58.6             | 83.8  | 549                            | 823  | 1098 | 78.4                        |
| 80DC · TC · FC  | 25.40           | 15.88  | 15.88 | 7.93  | 45.6   | 48.7  | 29.3             | 42.1  | 157                            | 235  | 314  | 22.4                        |
| 100DC · TC · FC | 31.75           | 19.05  | 19.05 | 9.53  | 55.8   | 59.5  | 35.8             | 51.8  | 235                            | 352  | 470  | 33.5                        |
| 120DC · TC · FC | 38.10           | 25.40  | 22.23 | 11.10 | 69.0   | 73.3  | 45.4             | 64.2  | 343                            | 514  | 686  | 49.0                        |
| 140DC · TC · FC | 44.45           | 25.40  | 25.40 | 12.70 | 76.4   | 81.1  | 48.9             | 71.3  | 451                            | 676  | 902  | 64.4                        |
| 160DC · TC · FC | 50.80           | 31.75  | 28.58 | 14.28 | 90.0   | 95.1  | 58.5             | 84.1  | 559                            | 838  | 1118 | 79.8                        |
| 180DC · TC · FC | 57.15           | 35.70  | 35.70 | 17.45 | 101.6  | 107.7 | 65.8             | 94.6  | 726                            | 1089 | 1452 | 103.0                       |
| 200DC · TC · FC | 63.50           | 38.10  | 39.67 | 19.83 | 111.2  | 120.0 | 71.6             | 103.6 | 932                            | 1398 | 1864 | 133.0                       |
| 240DC · TC · FC | 76.20           | 47.63  | 47.63 | 23.78 | 135.6  | 143.2 | 87.8             | 125.8 | 1353                           | 2029 | 2706 | 193.0                       |



Premium  
SBR®

# Double Pitch Roller Chain

SY CHAIN



## STANDARD ROLLER TYPE

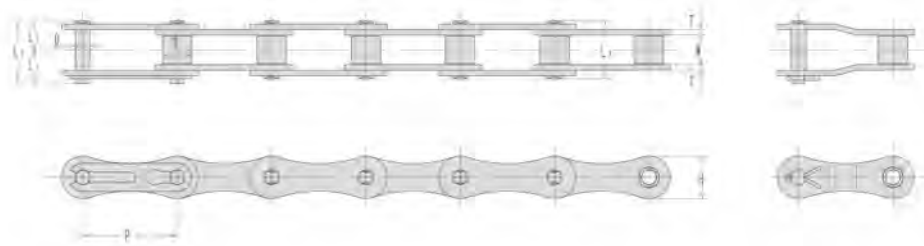
| SY Chain No. (ANSI) | Dimensions - mm |        |       |       |        |      |      |        |        |     | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|---------------------|-----------------|--------|-------|-------|--------|------|------|--------|--------|-----|---------------------------|------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin   |        |      |      | Plate  |        |     |                           |                        |                      |
|                     |                 | Width  | Dia.  | Dia.  | Length |      |      | Height | Thick. |     |                           |                        |                      |
|                     |                 | P      | W     | R     | D      | LR   | Lc   | L1     | L2     | H   |                           |                        |                      |
| C2040               | 25.40           | 7.95   | 7.92  | 3.96  | 16.5   | 18.5 | 8.2  | 10.3   | 11.4   | 1.5 | 16.9                      | 3.63                   | 0.48                 |
| C2050               | 31.75           | 9.53   | 10.16 | 5.08  | 20.4   | 22.0 | 10.2 | 11.8   | 15.0   | 2.0 | 27.5                      | 6.28                   | 0.82                 |
| C2060H              | 38.10           | 12.70  | 11.91 | 5.95  | 28.7   | 31.0 | 14.4 | 16.6   | 17.0   | 3.2 | 40.2                      | 8.63                   | 1.38                 |
| C2080H              | 50.80           | 15.88  | 15.88 | 7.93  | 35.5   | 38.8 | 17.8 | 21.0   | 22.6   | 4.0 | 68.6                      | 14.7                   | 2.32                 |
| C2100H              | 63.50           | 19.05  | 19.05 | 9.53  | 42.2   | 45.7 | 21.1 | 24.6   | 28.6   | 4.8 | 107.9                     | 22.6                   | 3.46                 |
| C2120H              | 76.20           | 25.40  | 22.23 | 11.10 | 52.6   | 57.0 | 26.3 | 30.7   | 34.9   | 5.6 | 151.0                     | 30.4                   | 4.92                 |
| C2160H              | 101.60          | 31.75  | 28.58 | 14.28 | 67.7   | 72.9 | 33.9 | 39.0   | 47.6   | 7.2 | 257.9                     | 53.0                   | 8.02                 |

## CARRIER ROLLER TYPE

| SY Chain No. (ANSI) | Dimensions - mm |        |       |       |        |      |      |        |        |     | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|---------------------|-----------------|--------|-------|-------|--------|------|------|--------|--------|-----|---------------------------|------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin   |        |      |      | Plate  |        |     |                           |                        |                      |
|                     |                 | Width  | Dia.  | Dia.  | Length |      |      | Height | Thick. |     |                           |                        |                      |
|                     |                 | P      | W     | R     | D      | LR   | Lc   | L1     | L2     | H   |                           |                        |                      |
| C2042               | 25.40           | 7.95   | 15.88 | 3.96  | 16.5   | 18.5 | 8.2  | 10.3   | 11.4   | 1.5 | 16.9                      | 3.63                   | 0.82                 |
| C2052               | 31.75           | 9.53   | 19.05 | 5.08  | 20.4   | 22.0 | 10.2 | 11.8   | 15.0   | 2.0 | 27.5                      | 6.28                   | 1.26                 |
| C2062H              | 38.10           | 12.70  | 22.23 | 5.95  | 28.7   | 31.0 | 14.4 | 16.6   | 17.0   | 3.2 | 40.2                      | 8.63                   | 2.08                 |
| C2082H              | 50.80           | 15.88  | 28.58 | 7.93  | 35.5   | 38.8 | 17.8 | 21.0   | 22.6   | 4.0 | 68.6                      | 14.7                   | 3.36                 |
| C2102H              | 63.50           | 19.05  | 39.67 | 9.53  | 42.2   | 45.7 | 21.1 | 24.6   | 28.6   | 4.8 | 107.9                     | 22.6                   | 5.64                 |
| C2122H              | 76.20           | 25.40  | 44.45 | 11.10 | 52.6   | 57.0 | 26.3 | 30.7   | 34.9   | 5.6 | 151.0                     | 30.4                   | 7.87                 |
| C2162H              | 101.60          | 31.75  | 57.15 | 14.28 | 67.7   | 72.9 | 33.9 | 39.0   | 47.6   | 7.2 | 257.9                     | 53.0                   | 12.77                |

# Double Pitch Roller Chain

Premium  
SBR®



SY CHAIN

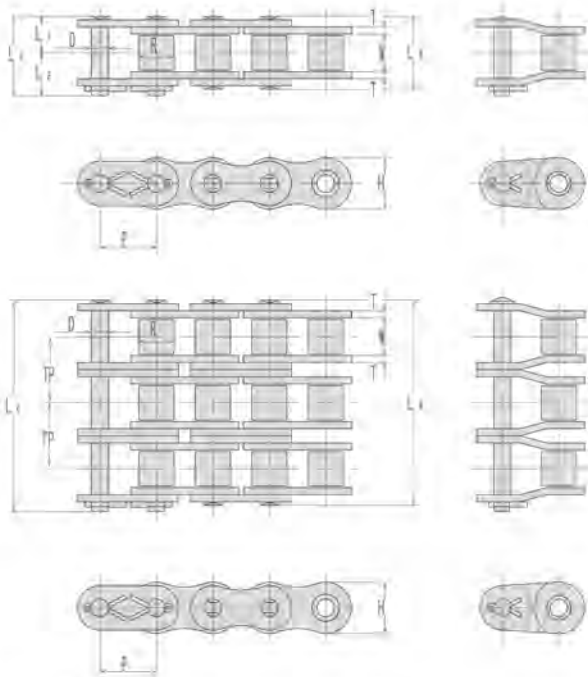
## DRIVE SERIES

| SY Chain No. (ANSI) | Dimensions - mm |        |       |      |        |      |        |        |      |     | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|---------------------|-----------------|--------|-------|------|--------|------|--------|--------|------|-----|---------------------------|------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin  |        |      |        | Plate  |      |     |                           |                        |                      |
|                     |                 | Width  | Dia.  | Dia. | Length |      | Height | Thick. |      |     |                           |                        |                      |
|                     |                 | P      | W     | R    | D      | LR   | Lc     | L1     | L2   | H   |                           |                        |                      |
| A2040               | 25.40           | 7.95   | 7.92  | 3.96 | 16.5   | 17.9 | 8.3    | 9.6    | 11.4 | 1.5 | 16.7                      | 3.63                   | 0.43                 |
| A2050               | 31.75           | 9.53   | 10.16 | 5.08 | 20.4   | 22.0 | 10.2   | 11.8   | 15.0 | 2.0 | 27.5                      | 6.28                   | 0.73                 |
| A2060               | 38.10           | 12.70  | 11.91 | 5.95 | 25.5   | 26.9 | 12.8   | 14.1   | 17.0 | 2.4 | 40.2                      | 8.64                   | 1.03                 |
| A2080               | 50.80           | 15.88  | 15.88 | 7.93 | 32.8   | 35.2 | 16.4   | 18.8   | 22.6 | 3.2 | 68.2                      | 14.7                   | 1.71                 |



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SY Heavy series roller chains are designed with thicker side plates to insure greater capacity for absorbing shock loads without fatigue failure of side plates. Also manufactured to close tolerances in accordance with ANSI specifications and are mainly used for applications where space and design limitations prohibit the use of a large size roller chain, and yet greater load carrying capacities are needed in oil-field drilling operations.

## HE TYPE

| SY Chain No. | Dimensions - mm |        |       |       |        |       |       |       |        |              |        | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|-------|--------|-------|-------|-------|--------|--------------|--------|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Pin   |        |       |       | Plate |        | Trans. Pitch |        |                           |                        |                      |
|              |                 | Width  | Dia.  | Dia.  | Length |       |       |       | Height |              | Thick. |                           |                        |                      |
|              |                 |        |       |       | P      | W     | R     | D     |        |              |        |                           |                        |                      |
| SY 80HE      | 25.4            | 15.88  | 15.88 | 7.93  | 35.5   | 38.8  | 17.8  | 21.1  | 23.4   | 4.0          | —      | 93.2                      | 18.4                   | 2.80                 |
| SY 80HE-2    |                 |        |       |       | 68.4   | 71.3  | 34.2  | 37.1  |        |              | 32.6   | 186                       | 28.4                   | 5.54                 |
| SY 80HE-3    |                 |        |       |       | 101.0  | 104.0 | 50.5  | 53.5  |        |              |        | 280                       | 41.8                   | 8.26                 |
| SY 80HE-4    |                 |        |       |       | 133.6  | 136.7 | 66.8  | 69.9  |        |              |        | 373                       | 55.1                   | 10.98                |
| SY 80HE-5    |                 |        |       |       | 166.2  | 169.3 | 83.1  | 86.2  |        |              |        | 466                       | 65.1                   | 13.71                |
| SY 80HE-6    |                 |        |       |       | 199.0  | 201.9 | 99.4  | 102.5 |        |              |        | 559                       | 76.8                   | 16.43                |
| SY 80HE-8    |                 |        |       |       | 264.0  | 267.1 | 132.0 | 135.1 |        |              |        | 746                       | 104                    | 21.88                |
| SY100HE      | 31.75           | 19.05  | 19.05 | 9.53  | 42.2   | 45.7  | 21.1  | 24.6  | 29.3   | 4.8          | —      | 142                       | 28.3                   | 4.14                 |
| SY100HE-2    |                 |        |       |       | 81.6   | 85.0  | 40.8  | 44.2  |        |              | 39.1   | 284                       | 45.1                   | 8.20                 |
| SY100HE-3    |                 |        |       |       | 120.7  | 124.4 | 60.4  | 64.0  |        |              |        | 426                       | 66.3                   | 12.26                |
| SY100HE-4    |                 |        |       |       | 159.0  | 163.5 | 79.7  | 83.5  |        |              |        | 568                       | 87.5                   | 16.33                |
| SY100HE-5    |                 |        |       |       | 198.5  | 202.3 | 99.3  | 103.0 |        |              |        | 710                       | 103                    | 20.39                |
| SY100HE-6    |                 |        |       |       | 238.2  | 241.8 | 119.1 | 122.7 |        |              |        | 852                       | 122                    | 24.45                |
| SY100HE-8    |                 |        |       |       | 316.4  | 320.0 | 158.2 | 161.8 |        |              |        | 1136                      | 164                    | 32.58                |
| SY100HE-10   |                 |        |       |       | 394.6  | 398.2 | 197.3 | 200.9 |        |              |        | 1420                      | 199                    | 40.70                |
| SY120HE      | 38.10           | 25.40  | 22.23 | 11.10 | 52.6   | 57.0  | 26.3  | 30.7  | 35.1   | 5.6          | —      | 191                       | 38.0                   | 5.83                 |
| SY120HE-2    |                 |        |       |       | 102.0  | 106.1 | 51.0  | 55.1  |        |              | 48.9   | 382                       | 58.3                   | 11.56                |
| SY120HE-3    |                 |        |       |       | 150.6  | 154.6 | 75.3  | 79.3  |        |              |        | 573                       | 85.8                   | 17.29                |
| SY120HE-4    |                 |        |       |       | 199.2  | 203.7 | 99.6  | 104.1 |        |              |        | 764                       | 113                    | 23.02                |
| SY120HE-5    |                 |        |       |       | 247.8  | 252.6 | 123.9 | 128.7 |        |              |        | 955                       | 134                    | 28.75                |
| SY120HE-6    |                 |        |       |       | 297.6  | 301.5 | 148.8 | 152.7 |        |              |        | 1146                      | 158                    | 34.48                |
| SY120HE-8    |                 |        |       |       | 395.4  | 399.7 | 197.7 | 202.0 |        |              |        | 1528                      | 213                    | 45.94                |
| SY120HE-10   |                 |        |       |       | 493.2  | 497.5 | 246.6 | 250.9 |        |              |        | 1910                      | 257                    | 57.40                |

※Refer to page 80. "Selection of offset link"

# HE Extra Heavy Series Chain

Premium  
SBR®



SY CHAIN

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| SY Chain No. | Dimensions - mm |            |           |           |        |       |       |       |             |                    |             | Average Ultimate Strength<br>kN | Maximum Allowable Load<br>kN | Average Chain Weight<br>kg/m |
|--------------|-----------------|------------|-----------|-----------|--------|-------|-------|-------|-------------|--------------------|-------------|---------------------------------|------------------------------|------------------------------|
|              | Pitch<br>P      | Roller     |           | Pin       |        |       |       | Plate |             | Trans. Pitch<br>TP |             |                                 |                              |                              |
|              |                 | Width<br>W | Dia.<br>R | Dia.<br>D | Length |       |       |       | Height<br>H |                    | Thick.<br>T |                                 |                              |                              |
|              |                 |            |           |           | LR     | Lc    | L1    | L2    |             |                    |             |                                 |                              |                              |
| SY140HE      | 44.45           | 25.40      | 25.40     | 12.70     | 57.0   | 61.6  | 28.5  | 33.1  | 40.9        | 6.4                | 52.2        | 252                             | 50.3                         | 8.41                         |
| SY140HE-2    |                 |            |           |           | 109.4  | 114.0 | 54.7  | 59.3  |             |                    |             | 504                             | 76.7                         | 16.59                        |
| SY140HE-3    |                 |            |           |           | 161.8  | 166.4 | 80.9  | 85.5  |             |                    |             | 756                             | 113                          | 24.77                        |
| SY140HE-4    |                 |            |           |           | 214.0  | 218.7 | 107.0 | 111.7 |             |                    |             | 1008                            | 149                          | 32.96                        |
| SY140HE-5    |                 |            |           |           | 266.2  | 270.9 | 133.1 | 137.8 |             |                    |             | 1260                            | 176                          | 41.15                        |
| SY140HE-6    |                 |            |           |           | 318.4  | 323.1 | 159.2 | 163.9 |             |                    |             | 1512                            | 207                          | 49.33                        |
| SY140HE-8    |                 |            |           |           | 422.8  | 427.5 | 211.4 | 216.1 |             |                    |             | 2016                            | 280                          | 65.78                        |
| SY160HE      | 50.80           | 31.75      | 28.58     | 14.28     | 67.7   | 72.9  | 33.9  | 39.1  | 46.7        | 7.2                |             | 61.9                            | 319                          | 66.3                         |
| SY160HE-2    |                 |            |           |           | 129.8  | 134.9 | 64.9  | 70.0  |             |                    | 638         |                                 | 100.                         | 21.21                        |
| SY160HE-3    |                 |            |           |           | 191.8  | 196.8 | 95.9  | 100.9 |             |                    | 957         |                                 | 147                          | 31.54                        |
| SY160HE-4    |                 |            |           |           | 253.7  | 258.8 | 126.9 | 131.9 |             |                    | 1276        |                                 | 194                          | 41.89                        |
| SY160HE-6    |                 |            |           |           | 377.5  | 382.6 | 188.8 | 193.8 |             |                    | 1914        |                                 | 270                          | 62.58                        |
| SY180HE      | 57.15           | 35.70      | 35.70     | 17.45     | 75.7   | 81.3  | 37.9  | 43.5  | 52.5        | 8.0                | 68.6        |                                 | 441                          | 70.6                         |
| SY180HE-2    |                 |            |           |           | 144.2  | 149.8 | 72.1  | 77.7  |             |                    |             | 882                             | 121                          | 30.06                        |
| SY180HE-3    |                 |            |           |           | 212.8  | 218.7 | 106.4 | 112.3 |             |                    |             | 1323                            | 179                          | 44.94                        |
| SY180HE-4    |                 |            |           |           | 281.4  | 287.4 | 140.7 | 146.7 |             |                    |             | 1764                            | 236                          | 59.83                        |
| SY200HE      | 63.50           | 38.10      | 39.67     | 19.83     | 84.9   | 93.2  | 42.5  | 50.8  | 59.8        | 9.5                | 78.3        | 559                             | 82.3                         | 17.85                        |
| SY200HE-2    |                 |            |           |           | 163.1  | 172.0 | 81.6  | 90.4  |             |                    |             | 1118                            | 138                          | 35.20                        |
| SY200HE-3    |                 |            |           |           | 241.4  | 250.3 | 120.7 | 129.6 |             |                    |             | 1677                            | 204                          | 52.53                        |
| SY200HE-4    |                 |            |           |           | 319.8  | 328.6 | 159.9 | 168.7 |             |                    |             | 2236                            | 269                          | 69.94                        |
| SY240HE      | 76.20           | 47.63      | 47.63     | 23.78     | 110.2  | 117.7 | 55.6  | 62.0  | 70.3        | 12.7               | 101.2       | 883                             | 112.8                        | 32.29                        |
| SY240HE-2    |                 |            |           |           | 211.6  | 218.9 | 105.8 | 113.1 |             |                    |             | 1766                            | 192                          | 62.06                        |
| SY240HE-3    |                 |            |           |           | 312.6  | 320.1 | 156.3 | 163.8 |             |                    |             | 2649                            | 283                          | 91.82                        |
| SY240HE-4    |                 |            |           |           | 414.0  | 421.3 | 207.0 | 214.3 |             |                    |             | 3532                            | 373                          | 121.58                       |





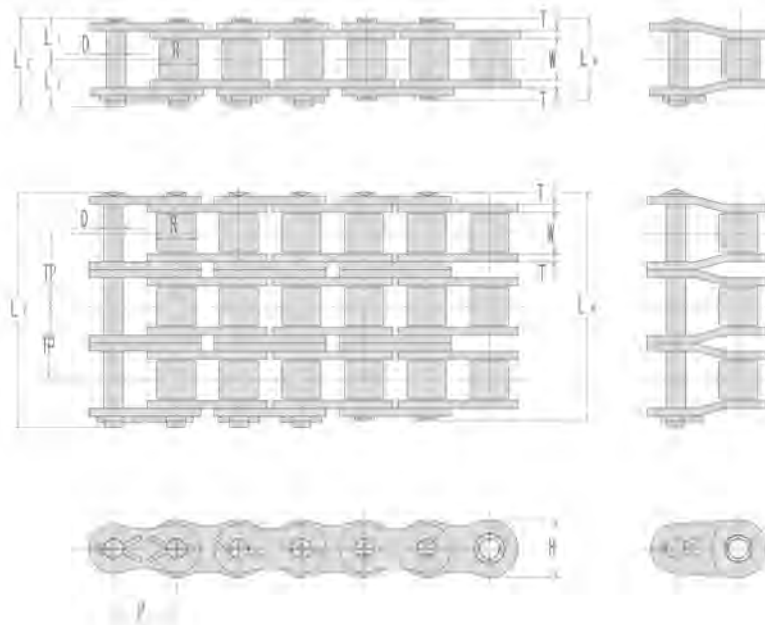


Premium  
SBR®

# Heavy Series Chain

SY H-series roller chains are provided with greater shock and wear resistance and high breaking strength for general purpose applications. The side plate thickness is equal to the next larger ANSI roller chains and through-hardened high-tensile structural steel pins realize strong power transmission in limited equipment space, showing excellent shock absorption and fatigue strength and high ultimate strength of as much as 110-120 percent.

Single roller chains of this series run on standard single roller chain sprockets.



## SINGLE STRANDS

| SY Chain No. | Dimensions - mm |        |       |                |                |                |                |        |        |      | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight | Type of Conn Link |
|--------------|-----------------|--------|-------|----------------|----------------|----------------|----------------|--------|--------|------|---------------------------|------------------------|----------------------|-------------------|
|              | Pitch           | Roller |       | Pin            |                |                |                | Plate  |        |      |                           |                        |                      |                   |
|              |                 | Width  | Dia.  | Dia.           | Length         |                |                | Height | Thick. |      |                           |                        |                      |                   |
| P            | W               | R      | D     | L <sub>R</sub> | L <sub>C</sub> | L <sub>1</sub> | L <sub>2</sub> | H      | T      | kN   | kN                        | kg/m                   |                      |                   |
| SY 60H       | 19.05           | 12.70  | 11.91 | 5.95           | 28.8           | 30.8           | 14.4           | 16.4   | 17.5   | 3.2  | 54.9                      | 10.7                   | 1.80                 | C                 |
| SY 80H       | 25.40           | 15.88  | 15.88 | 7.93           | 35.7           | 38.7           | 17.9           | 20.8   | 23.4   | 4.0  | 90.2                      | 18.4                   | 2.81                 |                   |
| SY 100H      | 31.75           | 19.05  | 19.05 | 9.53           | 42.4           | 45.9           | 21.2           | 24.7   | 29.3   | 4.8  | 137                       | 28.3                   | 4.14                 |                   |
| SY 120H      | 38.10           | 25.40  | 22.23 | 11.10          | 52.8           | 57.2           | 26.4           | 30.8   | 35.1   | 5.6  | 186                       | 38.0                   | 5.83                 |                   |
| SY 140H      | 44.45           | 25.40  | 25.40 | 12.70          | 57.2           | 61.8           | 28.6           | 33.2   | 40.9   | 6.4  | 241                       | 50.3                   | 8.41                 |                   |
| SY 160H      | 50.80           | 31.75  | 28.58 | 14.28          | 67.9           | 73.0           | 34.0           | 39.0   | 46.7   | 7.2  | 306                       | 66.3                   | 10.86                |                   |
| SY 180H      | 57.15           | 35.70  | 35.70 | 17.45          | 75.6           | 81.5           | 37.8           | 43.7   | 52.5   | 8.0  | 373                       | 70.6                   | 15.18                |                   |
| SY 200H      | 63.50           | 38.10  | 39.67 | 19.83          | 84.8           | 93.4           | 42.4           | 51.0   | 59.8   | 9.5  | 520                       | 82.3                   | 17.85                | S                 |
| SY 240H      | 76.20           | 47.63  | 47.63 | 23.78          | 109.8          | 118.2          | 54.9           | 63.3   | 70.3   | 12.7 | 726                       | 112.8                  | 32.29                |                   |

※Refer to page 80. "Selection of offset link"



# Heavy Series Chain

Premium  
SBR®



SY CHAIN

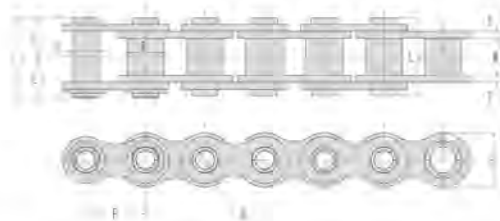
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## MULTIPLE STRANDS

| SY Chain No. | Dimensions - mm |            |           |           |        |       |             |             |      |                    |       | Average Ultimate Strength<br>kN | Maximum Allowable Load<br>kN | Average Chain Weight<br>kg/m |
|--------------|-----------------|------------|-----------|-----------|--------|-------|-------------|-------------|------|--------------------|-------|---------------------------------|------------------------------|------------------------------|
|              | Pitch<br>P      | Roller     |           | Pin       |        |       |             | Plate       |      | Trans. Pitch<br>TP |       |                                 |                              |                              |
|              |                 | Width<br>W | Dia.<br>R | Dia.<br>D | Length |       | Height<br>H | Thick.<br>T |      |                    |       |                                 |                              |                              |
|              |                 |            |           | LR        | LC     | L1    | L2          |             |      |                    |       |                                 |                              |                              |
| SY 60H-2     | 19.05           | 12.70      | 11.91     | 5.95      | 54.9   | 57.0  | 27.4        | 29.6        | 17.5 | 3.2                | 26.1  | 110                             | 15.2                         | 3.59                         |
| SY 60H-3     |                 |            |           |           | 80.6   | 83.1  | 40.3        | 42.8        |      |                    |       | 165                             | 22.3                         | 5.39                         |
| SY 60H-4     |                 |            |           |           | 107.1  | 109.3 | 53.6        | 55.7        |      |                    |       | 220                             | 29.4                         | 7.18                         |
| SY 80H-2     | 25.40           | 15.88      | 15.88     | 7.93      | 68.4   | 71.3  | 34.2        | 37.1        | 23.4 | 4.0                | 32.6  | 180                             | 25.8                         | 5.54                         |
| SY 80H-3     |                 |            |           |           | 101.0  | 104.0 | 50.5        | 53.5        |      |                    |       | 271                             | 38.0                         | 8.26                         |
| SY 80H-4     |                 |            |           |           | 133.6  | 136.7 | 66.8        | 69.9        |      |                    |       | 361                             | 50.2                         | 10.98                        |
| SY 80H-5     |                 |            |           |           | 166.2  | 169.3 | 83.1        | 86.2        |      |                    |       | 451                             | 59.3                         | 13.71                        |
| SY 80H-6     |                 |            |           |           | 198.8  | 201.9 | 99.4        | 102.5       |      |                    |       | 541                             | 69.9                         | 16.43                        |
| SY 80H-8     |                 |            |           |           | 264.0  | 267.1 | 132.0       | 135.1       |      |                    |       | 722                             | 94.2                         | 21.88                        |
| SY100H-2     | 31.75           | 19.05      | 19.05     | 9.53      | 81.6   | 85.0  | 40.8        | 44.2        | 29.3 | 4.8                | 39.1  | 274                             | 39.1                         | 8.20                         |
| SY100H-3     |                 |            |           |           | 120.7  | 124.4 | 60.4        | 64.0        |      |                    |       | 414                             | 57.5                         | 12.26                        |
| SY100H-4     |                 |            |           |           | 159.4  | 163.2 | 79.7        | 83.5        |      |                    |       | 548                             | 75.9                         | 16.33                        |
| SY100H-5     |                 |            |           |           | 198.5  | 202.3 | 99.3        | 103.0       |      |                    |       | 685                             | 89.7                         | 20.39                        |
| SY100H-6     |                 |            |           |           | 238.2  | 241.8 | 119.1       | 122.7       |      |                    |       | 822                             | 106                          | 24.45                        |
| SY100H-8     |                 |            |           |           | 316.4  | 320.0 | 158.2       | 161.8       |      |                    |       | 1096                            | 143                          | 32.58                        |
| SY100H-10    |                 |            |           |           | 394.6  | 398.2 | 197.3       | 200.9       |      |                    |       | 1370                            | 173                          | 40.70                        |
| SY120H-2     | 38.10           | 25.40      | 22.23     | 11.10     | 102.0  | 106.1 | 51.0        | 55.1        | 35.1 | 5.6                | 48.9  | 372                             | 53.4                         | 11.56                        |
| SY120H-3     |                 |            |           |           | 150.6  | 154.6 | 75.3        | 79.3        |      |                    |       | 558                             | 78.5                         | 17.29                        |
| SY120H-4     |                 |            |           |           | 199.2  | 203.2 | 99.6        | 103.6       |      |                    |       | 744                             | 104                          | 23.02                        |
| SY120H-5     |                 |            |           |           | 247.8  | 252.6 | 123.9       | 128.7       |      |                    |       | 930                             | 123                          | 28.75                        |
| SY120H-6     |                 |            |           |           | 297.6  | 301.9 | 148.8       | 153.1       |      |                    |       | 1116                            | 144                          | 34.48                        |
| SY120H-8     |                 |            |           |           | 395.4  | 399.7 | 197.7       | 202.0       |      |                    |       | 1488                            | 195                          | 45.94                        |
| SY120H-10    |                 |            |           |           | 493.2  | 497.5 | 246.6       | 250.9       |      |                    |       | 1860                            | 236                          | 57.40                        |
| SY140H-2     | 44.45           | 25.40      | 25.40     | 12.70     | 109.4  | 114.0 | 54.7        | 59.3        | 40.9 | 6.4                | 52.2  | 482                             | 70.0                         | 16.59                        |
| SY140H-3     |                 |            |           |           | 161.8  | 166.4 | 80.9        | 85.5        |      |                    |       | 723                             | 103                          | 24.77                        |
| SY140H-4     |                 |            |           |           | 214.0  | 218.7 | 107.0       | 111.7       |      |                    |       | 964                             | 136                          | 32.96                        |
| SY140H-5     |                 |            |           |           | 266.2  | 270.9 | 133.1       | 137.8       |      |                    |       | 1205                            | 161                          | 41.15                        |
| SY140H-6     |                 |            |           |           | 318.4  | 323.1 | 159.2       | 163.9       |      |                    |       | 1446                            | 190                          | 49.33                        |
| SY140H-8     |                 |            |           |           | 422.8  | 427.5 | 211.4       | 216.1       |      |                    |       | 1928                            | 255                          | 65.78                        |
| SY160H-2     | 50.8            | 31.75      | 28.58     | 14.28     | 129.8  | 134.9 | 64.9        | 70.0        | 46.7 | 7.2                | 61.9  | 612                             | 93.3                         | 21.21                        |
| SY160H-3     |                 |            |           |           | 191.8  | 196.8 | 95.9        | 100.9       |      |                    |       | 918                             | 137                          | 31.54                        |
| SY160H-4     |                 |            |           |           | 253.7  | 258.8 | 126.9       | 131.9       |      |                    |       | 1224                            | 181                          | 41.89                        |
| SY160H-6     |                 |            |           |           | 377.5  | 382.6 | 188.8       | 193.8       |      |                    |       | 1836                            | 253                          | 62.58                        |
| SY180H-2     | 57.15           | 35.70      | 35.70     | 17.45     | 144.2  | 149.8 | 72.1        | 77.7        | 52.5 | 8.0                | 68.6  | 746                             | 102                          | 31.06                        |
| SY180H-3     |                 |            |           |           | 212.8  | 218.7 | 106.4       | 112.3       |      |                    |       | 1119                            | 149                          | 44.94                        |
| SY180H-4     |                 |            |           |           | 281.4  | 287.4 | 140.7       | 146.7       |      |                    |       | 1492                            | 197                          | 59.83                        |
| SY200H-2     | 63.50           | 38.10      | 39.67     | 19.84     | 163.1  | 172.0 | 81.6        | 90.4        | 59.8 | 9.5                | 78.3  | 1040                            | 127                          | 35.20                        |
| SY200H-3     |                 |            |           |           | 241.4  | 250.3 | 120.7       | 129.6       |      |                    |       | 1560                            | 186                          | 62.53                        |
| SY200H-4     |                 |            |           |           | 319.8  | 328.4 | 159.9       | 168.7       |      |                    |       | 2080                            | 246                          | 69.94                        |
| SY240H-2     | 76.20           | 47.63      | 47.63     | 23.78     | 211.0  | 219.4 | 105.5       | 113.9       | 70.3 | 12.7               | 101.2 | 1452                            | 173                          | 62.06                        |
| SY240H-3     |                 |            |           |           | 312.2  | 320.6 | 156.1       | 164.5       |      |                    |       | 2178                            | 255                          | 91.82                        |
| SY240H-4     |                 |            |           |           | 413.4  | 421.8 | 206.7       | 215.1       |      |                    |       | 2904                            | 336                          | 121.58                       |



SY Hollow pin chains are identical to ANSI roller chains, and run on standard ANSI sprockets. The unique hollow pin feature provides unlimited conveyor versatility, allowing easy insertion of cross rods or attachments to pre-assembled chain at desired spacing. For identification, the suffix HP is added to the chain numbers.



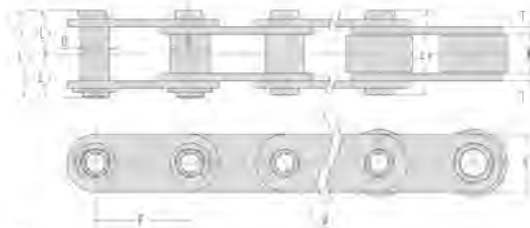
## HP STANDARD

| SY Chain No. | Dimensions - mm |        |       |            |        |        |      |      |      |        |        | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|------------|--------|--------|------|------|------|--------|--------|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Hollow Pin |        |        |      |      |      | Plate  |        |                           |                        |                      |
|              |                 | Width  | Dia.  | Outside    | Inside | Length |      |      |      | Height | Thick. |                           |                        |                      |
| P            | W               | R      | D     | d          | LR     | LC     | L1   | L2   | H    | T      | kN     | kN                        | kg/m                   |                      |
| SY40-HP      | 12.70           | 7.95   | 7.92  | 5.63       | 4.03   | 16.7   | 17.6 | 8.4  | 9.2  | 12.0   | 1.5    | 12.7                      | 1.77                   | 0.58                 |
| SY50-HP      | 15.875          | 9.53   | 10.16 | 7.09       | 5.13   | 20.1   | 21.3 | 10.1 | 11.2 | 15.0   | 2.0    | 19.6                      | 3.14                   | 0.97                 |
| SY60-HP      | 19.05           | 12.70  | 11.91 | 8.29       | 6.04   | 26.0   | 27.2 | 13.0 | 14.2 | 18.1   | 2.4    | 28.4                      | 4.22                   | 1.46                 |
| SY80-HP      | 25.40           | 15.88  | 15.88 | 11.34      | 8.08   | 32.4   | 34.3 | 16.2 | 18.1 | 24.1   | 3.2    | 51.0                      | 7.65                   | 2.47                 |

HP standard are rollerless; R given above shows bushing dia.

## Double Pitch Hollow Pin Chains

SY Hollow pin chains with oil less parts are quality chains functioning rationally, combining both advantages of hollow pin chains and self-lube chains. Available on the same sprockets as double-pitch roller chains.



## HP DOUBLE PITCH

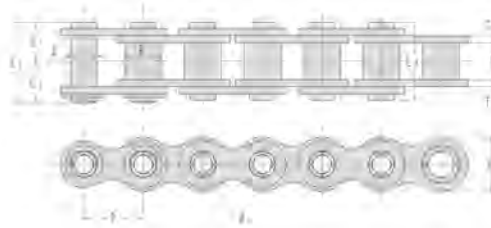
| SY Chain No. | Dimensions - mm |        |       |            |        |        |      |      |      |        |        | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|------------|--------|--------|------|------|------|--------|--------|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Hollow Pin |        |        |      |      |      | Plate  |        |                           |                        |                      |
|              |                 | Width  | Dia.  | Outside    | Inside | Length |      |      |      | Height | Thick. |                           |                        |                      |
| P            | W               | R      | D     | d          | LR     | LC     | L1   | L2   | H    | T      | kN     | kN                        | kg/m                   |                      |
| C2040-HP     | 25.40           | 7.95   | 7.92  | 5.63       | 4.03   | 16.7   | 17.6 | 8.4  | 9.2  | 12.0   | 1.5    | 12.7                      | 1.77                   | 0.46                 |
| C2050-HP     | 31.75           | 9.53   | 10.16 | 7.09       | 5.13   | 20.1   | 21.3 | 10.1 | 11.2 | 15.0   | 2.0    | 19.6                      | 3.14                   | 0.76                 |
| C2060-HP     | 38.10           | 12.70  | 11.91 | 8.29       | 6.04   | 26.0   | 27.2 | 13.0 | 14.2 | 18.1   | 2.4    | 28.4                      | 4.22                   | 1.12                 |
| C2080-HP     | 50.80           | 15.88  | 15.88 | 11.34      | 8.08   | 32.4   | 34.3 | 16.2 | 18.1 | 24.1   | 3.2    | 51.0                      | 7.65                   | 1.98                 |
| C2042-HP     | 25.40           | 7.95   | 15.88 | 5.63       | 4.03   | 16.7   | 17.6 | 8.4  | 9.2  | 12.0   | 1.5    | 12.7                      | 1.77                   | 0.81                 |
| C2052-HP     | 31.75           | 9.53   | 19.05 | 7.09       | 5.13   | 20.1   | 21.3 | 10.1 | 11.2 | 15.0   | 2.0    | 19.6                      | 3.14                   | 1.25                 |
| C2062-HP     | 38.10           | 12.70  | 22.23 | 8.29       | 6.04   | 26.0   | 27.2 | 13.0 | 14.2 | 18.1   | 2.4    | 28.4                      | 4.22                   | 1.79                 |
| C2082-HP     | 50.80           | 15.88  | 28.58 | 11.34      | 8.08   | 32.4   | 34.3 | 16.2 | 18.1 | 24.1   | 3.2    | 51.0                      | 7.65                   | 3.17                 |
| C2082H-HP    | 50.80           | 15.88  | 28.58 | 11.34      | 8.08   | 35.8   | 37.7 | 17.9 | 19.8 | 24.1   | 4.0    | 58.0                      | 7.65                   | 3.22                 |

SY Chains C2040-HP thru C2080-HP are rollerless; R given above shows bushing dia.



# Hollow Pin Stainless Chain

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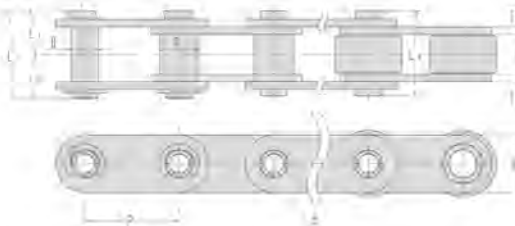
SY CHAIN

## HP-SS STANDARD

| SY Chain No. | Dimensions - mm |        |       |         |        |        |      |      |      |        |        | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|---------|--------|--------|------|------|------|--------|--------|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Pin     |        |        |      |      |      | Plate  |        |                           |                        |                      |
|              |                 | Width  | Dia.  | Outside | Inside | Length |      |      |      | Height | Thick. |                           |                        |                      |
|              | P               | W      | R     | D       | d      | LR     | LC   | L1   | L2   | H      | T      |                           |                        |                      |
| 40HP-SS      | 12.70           | 7.95   | 7.92  | 5.63    | 4.03   | 16.7   | 17.6 | 8.4  | 9.2  | 12.0   | 1.5    | 7.65                      | 0.44                   | 0.58                 |
| 50HP-SS      | 15.875          | 9.53   | 10.16 | 7.09    | 5.13   | 20.1   | 21.3 | 10.1 | 11.2 | 15.0   | 2.0    | 11.8                      | 0.69                   | 0.97                 |
| 60HP-SS      | 19.05           | 12.70  | 11.91 | 8.29    | 6.04   | 26.0   | 27.2 | 13.0 | 14.2 | 18.1   | 2.4    | 17.1                      | 1.03                   | 1.46                 |
| 80HP-SS      | 25.40           | 15.88  | 15.88 | 11.34   | 8.08   | 32.4   | 34.3 | 16.2 | 18.1 | 24.1   | 3.2    | 31.0                      | 1.77                   | 2.47                 |

HP standard are rollerless; R given above shows bushing dia.

# Double Pitch Stainless Hollow Pin Chain



## HP-SS DOUBLE PITCH

| SY Chain No. | Dimensions - mm |        |       |         |        |        |      |      |      |        |        | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|---------|--------|--------|------|------|------|--------|--------|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Pin     |        |        |      |      |      | Plate  |        |                           |                        |                      |
|              |                 | Width  | Dia.  | Outside | Inside | Length |      |      |      | Height | Thick. |                           |                        |                      |
|              | P               | W      | R     | D       | d      | LR     | LC   | L1   | L2   | H      | T      |                           |                        |                      |
| C2040HP-SS   | 25.40           | 7.95   | 7.92  | 5.63    | 4.03   | 16.7   | 17.6 | 8.4  | 9.2  | 12.0   | 1.5    | 7.65                      | 0.44                   | 0.46                 |
| C2050HP-SS   | 31.75           | 9.53   | 10.16 | 7.09    | 5.13   | 20.1   | 21.3 | 10.1 | 11.2 | 15.0   | 2.0    | 11.8                      | 0.69                   | 0.76                 |
| C2060HP-SS   | 38.10           | 12.70  | 11.91 | 8.29    | 6.04   | 26.0   | 27.2 | 13.0 | 14.2 | 18.1   | 2.4    | 17.1                      | 1.03                   | 1.12                 |
| C2080HP-SS   | 50.80           | 15.88  | 15.88 | 11.34   | 8.08   | 32.4   | 34.3 | 16.2 | 18.1 | 24.1   | 3.2    | 31.0                      | 1.77                   | 1.98                 |
| C2042HP-SS   | 25.40           | 7.95   | 15.88 | 5.63    | 4.03   | 16.7   | 17.6 | 8.4  | 9.2  | 12.0   | 1.5    | 7.65                      | 0.44                   | 0.81                 |
| C2052HP-SS   | 31.75           | 9.53   | 19.05 | 7.09    | 5.13   | 20.1   | 21.3 | 10.1 | 11.2 | 15.0   | 2.0    | 11.8                      | 0.69                   | 1.25                 |
| C2062HP-SS   | 38.10           | 12.70  | 22.23 | 8.29    | 6.04   | 26.0   | 27.2 | 13.0 | 14.2 | 18.1   | 2.4    | 17.1                      | 1.03                   | 1.79                 |
| C2082HP-SS   | 50.80           | 15.88  | 28.58 | 11.34   | 8.08   | 32.4   | 34.3 | 16.2 | 18.1 | 24.1   | 3.2    | 31.0                      | 1.77                   | 3.17                 |
| C2082H-HP-SS | 50.80           | 15.88  | 28.58 | 11.34   | 8.08   | 35.8   | 37.7 | 17.9 | 19.8 | 24.1   | 4.0    | 31.0                      | 1.77                   | 3.22                 |

SY Chains C2040-HP thru C2080-HP are rollerless; R given above shows bushing dia.

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# Leaf Chain

SY CHAIN

SY Leaf chains are well suited for any application requiring flexible, high strength linkage for reciprocating motion or lift at relatively low speed. For their low cost and long life, widely used for lift trucks, masts and other lifting as construction and mining machines and excellent as balance and counterweights of machine tools and so forth.

## CONSTRUCTION AND LACING COMBINATIONS

Built of interlaced plates held together by riveted pins. The chain nomenclature indicates the lacing combinations.

### AL SERIES (LIGHT DUTY)

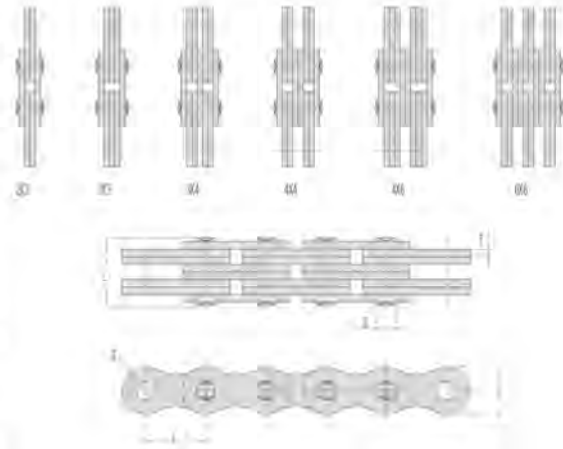
Consisting of link plates of the same contour and thickness as the pin link plates of ANSI roller chains in same pitch. Mainly used for relatively constant, low, medium load with less shock.

### BL SERIES (HEAVY DUTY)

Consisting of link plates with next large size pitch chain of ANSI roller chains. Chiefly used for medium load with greater shock.

### LL SERIES (ISO 606)

Consisting of link plates of the same contour and thickness as the pin link plates of BS roller chains in same pitch.



| SY Chain No. | Lacing | Dimensions - mm |       |        |        |           |          | Average Ultimate Strength | Maximum Allowable Load | Average Weight |
|--------------|--------|-----------------|-------|--------|--------|-----------|----------|---------------------------|------------------------|----------------|
|              |        | Pitch           | Pin   |        | Plate  |           | Hole Dia |                           |                        |                |
|              |        |                 | Dia.  | Length | Height | Thickness |          |                           |                        |                |
| P            | D      | L               | H     | T      | S      | kN        | kN       | kg/m                      |                        |                |
| AL422        | 2×2    | 12.70           | 3.96  | 8.4    | 10.3   | 1.5       | 4.03     | 18.6                      | 1.86                   | 0.36           |
| AL444        | 4×4    |                 |       | 14.6   |        |           |          | 37.3                      | 3.43                   | 0.70           |
| AL466        | 6×6    |                 |       | 21.2   |        |           |          | 55.9                      | 3.92                   | 1.04           |
| AL522        | 2×2    | 15.875          | 5.08  | 10.5   | 12.7   | 2.0       | 5.15     | 30.4                      | 3.04                   | 0.58           |
| AL544        | 4×4    |                 |       | 19.0   |        |           |          | 60.8                      | 5.30                   | 1.16           |
| AL566        | 6×6    |                 |       | 27.6   |        |           |          | 94.1                      | 6.28                   | 1.73           |
| AL622        | 2×2    | 19.05           | 5.95  | 12.4   | 15.2   | 2.4       | 6.04     | 43.1                      | 4.41                   | 0.81           |
| AL644        | 4×4    |                 |       | 22.2   |        |           |          | 86.3                      | 7.45                   | 1.68           |
| AL666        | 6×6    |                 |       | 32.6   |        |           |          | 129                       | 8.73                   | 2.46           |
| AL822        | 2×2    | 25.40           | 7.93  | 16.6   | 20.2   | 3.2       | 8.00     | 72.6                      | 7.35                   | 1.42           |
| AL844        | 4×4    |                 |       | 29.4   |        |           |          | 145                       | 13.2                   | 2.88           |
| AL866        | 6×6    |                 |       | 43.0   |        |           |          | 218                       | 15.4                   | 4.23           |
| AL1022       | 2×2    | 31.75           | 9.53  | 19.6   | 24.5   | 4.0       | 9.59     | 108                       | 11.6                   | 2.46           |
| AL1044       | 4×4    |                 |       | 36.2   |        |           |          | 216                       | 20.6                   | 4.81           |
| AL1066       | 6×6    |                 |       | 53.5   |        |           |          | 324                       | 24.0                   | 7.24           |
| AL1222       | 2×2    | 38.10           | 11.10 | 24.0   | 29.2   | 4.8       | 11.22    | 152                       | 16.5                   | 3.35           |
| AL1244       | 4×4    |                 |       | 43.7   |        |           |          | 304                       | 29.1                   | 6.58           |
| AL1266       | 6×6    |                 |       | 63.4   |        |           |          | 456                       | 34.2                   | 9.82           |
| AL1422       | 2×2    | 44.45           | 12.70 | 27.8   | 34.2   | 5.6       | 12.82    | 205                       | 22.1                   | 4.99           |
| AL1444       | 4×4    |                 |       | 51.2   |        |           |          | 410                       | 38.9                   | 9.56           |
| AL1466       | 6×6    |                 |       | 73.6   |        |           |          | 615                       | 46.1                   | 14.13          |
| AL1622       | 2×2    | 50.80           | 14.28 | 31.8   | 40.3   | 6.4       | 14.47    | 269                       | 28.3                   | 6.35           |
| AL1644       | 4×4    |                 |       | 58.4   |        |           |          | 539                       | 49.9                   | 12.62          |
| AL1666       | 6×6    |                 |       | 84.8   |        |           |          | 809                       | 58.8                   | 18.87          |

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# Leaf Chain

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SY CHAIN

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| SY Chain No. | Lacing | Dimensions - mm |           |             |             |                |               | Average Ultimate Strength<br>kN | Maximum Allowable Load<br>kN | Average Weight<br>kg/m |
|--------------|--------|-----------------|-----------|-------------|-------------|----------------|---------------|---------------------------------|------------------------------|------------------------|
|              |        | Pitch<br>P      | Pin       |             | Plate       |                | Hole Dia<br>S |                                 |                              |                        |
|              |        |                 | Dia.<br>D | Length<br>L | Height<br>H | Thickness<br>T |               |                                 |                              |                        |
| BL422        | 2×2    | 12.70           | 5.08      | 10.5        | 11.7        | 2.0            | 5.15          | 27.5                            | 4.51                         | 0.64                   |
| BL423        | 2×3    |                 |           | 12.5        |             |                |               |                                 |                              |                        |
| BL434        | 3×4    |                 |           | 16.8        |             |                |               |                                 |                              |                        |
| BL444        | 4×4    |                 |           | 19.0        |             |                |               |                                 |                              |                        |
| BL446        | 4×6    |                 |           | 23.0        |             |                |               |                                 |                              |                        |
| BL466        | 6×6    |                 |           | 27.5        |             |                |               |                                 |                              |                        |
| BL522        | 2×2    | 15.875          | 5.95      | 12.4        | 14.6        | 2.4            | 6.04          | 42.7                            | 6.86                         | 1.01                   |
| BL523        | 2×3    |                 |           | 15.0        |             |                |               |                                 |                              |                        |
| BL534        | 3×4    |                 |           | 20.0        |             |                |               |                                 |                              |                        |
| BL544        | 4×4    |                 |           | 22.2        |             |                |               |                                 |                              |                        |
| BL546        | 4×6    |                 |           | 27.6        |             |                |               |                                 |                              |                        |
| BL566        | 6×6    |                 |           | 32.4        |             |                |               |                                 |                              |                        |
| BL622        | 2×2    | 19.05           | 7.93      | 16.6        | 17.5        | 3.2            | 8.00          | 70.6                            | 9.81                         | 1.53                   |
| BL623        | 2×3    |                 |           | 19.5        |             |                |               |                                 |                              |                        |
| BL634        | 3×4    |                 |           | 26.2        |             |                |               |                                 |                              |                        |
| BL644        | 4×4    |                 |           | 29.2        |             |                |               |                                 |                              |                        |
| BL646        | 4×6    |                 |           | 36.5        |             |                |               |                                 |                              |                        |
| BL666        | 6×6    |                 |           | 43.0        |             |                |               |                                 |                              |                        |
| BL822        | 2×2    | 25.40           | 9.53      | 19.6        | 24.1        | 4.0            | 9.59          | 114                             | 17.0                         | 2.57                   |
| BL823        | 2×3    |                 |           | 23.8        |             |                |               |                                 |                              |                        |
| BL834        | 3×4    |                 |           | 32.5        |             |                |               |                                 |                              |                        |
| BL844        | 4×4    |                 |           | 36.2        |             |                |               |                                 |                              |                        |
| BL846        | 4×6    |                 |           | 45.0        |             |                |               |                                 |                              |                        |
| BL866        | 6×6    |                 |           | 53.5        |             |                |               |                                 |                              |                        |
| BL1022       | 2×2    | 31.75           | 11.10     | 24.0        | 29.3        | 4.8            | 11.20         | 157                             | 26.0                         | 3.73                   |
| BL1023       | 2×3    |                 |           | 28.6        |             |                |               |                                 |                              |                        |
| BL1034       | 3×4    |                 |           | 38.7        |             |                |               |                                 |                              |                        |
| BL1044       | 4×4    |                 |           | 43.7        |             |                |               |                                 |                              |                        |
| BL1046       | 4×6    |                 |           | 53.4        |             |                |               |                                 |                              |                        |
| BL1066       | 6×6    |                 |           | 63.4        |             |                |               |                                 |                              |                        |
| BL1222       | 2×2    | 38.10           | 12.70     | 27.8        | 35.1        | 5.6            | 12.82         | 207                             | 36.8                         | 4.77                   |
| BL1223       | 2×3    |                 |           | 34.2        |             |                |               |                                 |                              |                        |
| BL1234       | 3×4    |                 |           | 45.5        |             |                |               |                                 |                              |                        |
| BL1244       | 4×4    |                 |           | 51.2        |             |                |               |                                 |                              |                        |
| BL1246       | 4×6    |                 |           | 62.6        |             |                |               |                                 |                              |                        |
| BL1266       | 6×6    |                 |           | 73.6        |             |                |               |                                 |                              |                        |
| BL1422       | 2×2    | 44.45           | 14.28     | 31.8        | 40.9        | 6.4            | 14.39         | 270                             | 49.0                         | 7.87                   |
| BL1423       | 2×3    |                 |           | 38.8        |             |                |               |                                 |                              |                        |
| BL1434       | 3×4    |                 |           | 51.7        |             |                |               |                                 |                              |                        |
| BL1444       | 4×4    |                 |           | 58.4        |             |                |               |                                 |                              |                        |
| BL1446       | 4×6    |                 |           | 71.2        |             |                |               |                                 |                              |                        |
| BL1466       | 6×6    |                 |           | 84.8        |             |                |               |                                 |                              |                        |
| BL1622       | 2×2    | 50.80           | 17.45     | 35.8        | 46.7        | 7.2            | 17.62         | 392                             | 58.8                         | 9.77                   |
| BL1623       | 2×3    |                 |           | 43.7        |             |                |               |                                 |                              |                        |
| BL1634       | 3×4    |                 |           | 58.9        |             |                |               |                                 |                              |                        |
| BL1644       | 4×4    |                 |           | 65.9        |             |                |               |                                 |                              |                        |
| BL1646       | 4×6    |                 |           | 80.2        |             |                |               |                                 |                              |                        |
| BL1666       | 6×6    |                 |           | 96.2        |             |                |               |                                 |                              |                        |





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**SBR**<sup>®</sup>

# NEO Corrosion Resistant Chain



SBR - Roller Chain

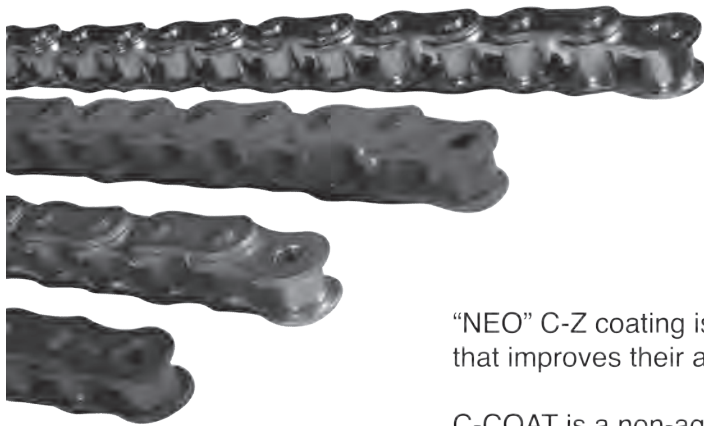
# 'NEO'

Roller Chain

Premium  
**SBR**<sup>®</sup>



## Amazingly High Corrosion Resistance



## What is NEO?

"NEO" C-Z coating is a combination of C-COAT and Z-COAT that improves their already high corrosion resistance properties.

C-COAT is a non-aqueous chromating method, the porous properties of Z-COAT are utilized to form a film that demonstrates excellent corrosion resistance characteristics.

- NEW C-Z exhibits superior corrosion resistance properties, particularly in high temperatures, compared to existing electro zinc plating
- Even more outstanding than existing phosphating etc. As a corrosion resistant surface treatment
- No hydrogen embrittlement
- No drop in strength caused through high temperature treatments
- Has all the other excellent properties of C-COAT and Z-COAT

### Applications

- Washdown areas, abattoirs, dairies, etc
- High humidity environments
- Agricultural machinery
- Oven conveyors or Drives For Industry Acidic and salty environments



Available in: 08B-1 to 20B-1, 40-1 to 100-1 and C2040 to C2080





SBR - Roller Chain

# 'NEO'

Roller Chain

Premium  
**SBR**<sup>®</sup>

## “NEO’ CZ COAT’s Film Structure and Rust Prevention Mechanism

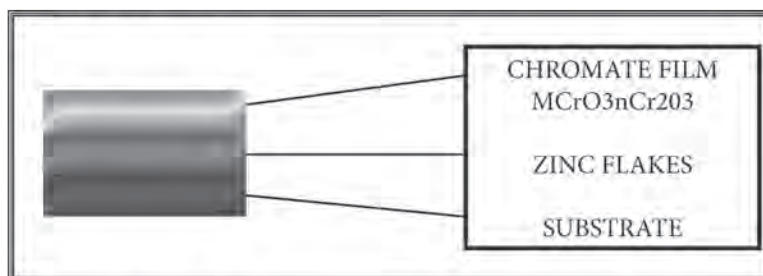
The Z-COAT film is formed by projecting Z-IRON onto the surface of the material to transfer a zinc layer. The transferred zinc is laminated and bonded in a thin layer onto the treated surface. The layer makes a metal to metal contact exhibiting good current carrying properties among the zinc flakes, and between the zinc flakes and substrate, and thus the galvanic protective current of the zinc flows for the correct amount.

C-COAT film is formed by treating with cool chrom to partially reduce chromic acid on the treated surface, and by forming an amorphous polymer with composition of  $mCrO_3nCr_2O_3$ , namely a chromate film.

'NEO' is a combination of both C-COAT and Z-COAT that forms a chromate film on the surface of the laminated zinc flakes and in voids. Cool chrom demonstrates extremely low surface tension due to it being a non-aqueous solution, and penetrates into fine gaps, and passivates its surface.

The corrosion protection mechanism of 'NEO' has the compounded result of the following three factors:

- Galvanic protection of the zinc properly controlled by chromic acid
- Passivation of the substrate by the chromic acid
- The barrier effect of the zinc flakes



**Through the combined use of C-COAT & Z-COAT, 'NEO' Chain offers an amazingly high degree of corrosion resistance.**

Available in: 08B-1 to 20B-1, 40-1 to 100-1 and C2040 to C2080



Premium  
SBR®

# Side Bow Chain

SY CHAIN

SY Side Bow chains provide extra clearance between pins, bushings, and link plates to allow freedom of operation around a curve or twist. The basic dimensions and quality are the same as those of ANSI standard roller chains. Side bow chain is widely used for live roll conveyors, and with attachments to convey material around curves. For identification, the suffix SB is added the number.



## SB STANDARD

| SY Chain No. | Dimensions - mm |        |       |                |                |                |                |        |        |                   |     | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|----------------|----------------|----------------|----------------|--------|--------|-------------------|-----|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Pin            |                |                |                | Plate  |        | Min. Curve Radius |     |                           |                        |                      |
|              |                 | Width  | Dia.  | Out Dia.       | Length         |                |                | Height | Thick. |                   |     |                           |                        |                      |
| P            | W               | R      | D     | L <sub>R</sub> | L <sub>C</sub> | L <sub>1</sub> | L <sub>2</sub> | H      | T      | r                 | kN  | kN                        | kg/m                   |                      |
| SY 40-SB     | 12.70           | 7.95   | 7.92  | 3.96           | 16.9           | 18.9           | 8.5            | 10.4   | 11.7   | 1.5               | 350 | 14.9                      | 1.77                   | 0.63                 |
| SY 50-SB     | 15.875          | 9.53   | 10.16 | 5.08           | 21.1           | 23.1           | 10.6           | 12.5   | 14.6   | 2.0               | 400 | 22.1                      | 3.14                   | 1.03                 |
| SY 60-SB     | 19.05           | 12.70  | 11.91 | 5.95           | 26.3           | 28.1           | 13.2           | 14.9   | 17.5   | 2.4               | 500 | 29.4                      | 4.22                   | 1.46                 |
| SY 80-SB     | 25.40           | 15.88  | 15.88 | 7.93           | 33.4           | 36.4           | 16.7           | 19.7   | 23.4   | 3.2               | 600 | 57.9                      | 7.65                   | 2.42                 |

○Stainless steel, nickel plated, and with attachments are supplied on request.

## Side Bow Double Pitch Chains

SY Double pitch side bow chains are manufactured to the same high standards as our regular side bow chains but are better suited when shaft centers are relatively long. Available in standard roller or carrier roller type.



## SB DOUBLE PITCH

| SY Chain No. | Dimensions - mm |        |       |                |                |                |                |        |        |                   |      | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|----------------|----------------|----------------|----------------|--------|--------|-------------------|------|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Pin            |                |                |                | Plate  |        | Min. Curve Radius |      |                           |                        |                      |
|              |                 | Width  | Dia.  | Out Dia.       | Length         |                |                | Height | Thick. |                   |      |                           |                        |                      |
| P            | W               | R      | D     | L <sub>R</sub> | L <sub>C</sub> | L <sub>1</sub> | L <sub>2</sub> | H      | T      | r                 | kN   | kN                        | kg/m                   |                      |
| C2040-SB     | 25.40           | 7.95   | 7.92  | 3.96           | 16.9           | 18.9           | 8.5            | 10.4   | 11.4   | 1.5               | 700  | 14.9                      | 1.77                   | 0.48                 |
| C2050-SB     | 31.75           | 9.53   | 10.16 | 5.08           | 21.1           | 23.1           | 10.6           | 12.5   | 15.0   | 2.0               | 800  | 22.1                      | 3.14                   | 0.82                 |
| C2060-SB     | 38.10           | 12.70  | 11.91 | 5.95           | 26.3           | 28.1           | 13.2           | 14.9   | 17.0   | 2.4               | 1000 | 29.4                      | 4.22                   | 1.20                 |
| C2042-SB     | 25.40           | 7.95   | 15.88 | 3.96           | 16.9           | 18.9           | 8.5            | 10.4   | 11.4   | 1.5               | 700  | 14.9                      | 1.77                   | 0.82                 |
| C2052-SB     | 31.75           | 9.53   | 19.05 | 5.08           | 21.1           | 23.1           | 10.6           | 12.5   | 15.0   | 2.0               | 800  | 22.1                      | 3.14                   | 1.26                 |
| C2062-SB     | 38.10           | 12.70  | 22.23 | 5.95           | 26.3           | 28.1           | 13.2           | 14.9   | 17.0   | 2.4               | 1000 | 29.4                      | 4.22                   | 2.01                 |



SS series stainless steel roller chains provide excellent corrosion protection against low or high temperature, acid, alkali, moisture, scale, oil and magnetism.

SS series stainless steel roller chains are manufactured in accordance with the dimensions ANSI standards.

### INTRODUCTION OF SY NEW HIGH POWER NEW SSS SERIES PRODUCTS

SSS series stainless steel roller chains with solid rollers.

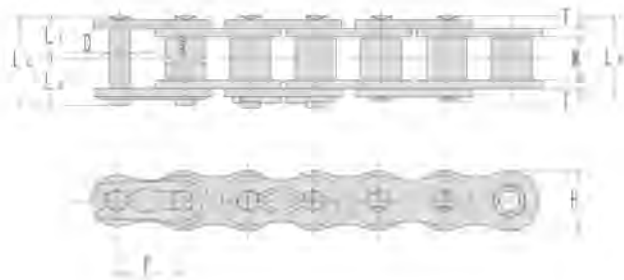
Anti-magnetic of solid roller has superior permeability than the common curled roller.

High Power New SSS Chain use a specially treated pin and roller.

Extremely long life is engaged by this surface treatment.

SSS series chain life is more than 2 times longer than that of normal SS series Chain.

50% Higher Allowable Loads



## BS AND ANSI STAINLESS STEEL CHAIN

| SY Chain No. | Dimensions - mm |        |       |       |        |      |      |        |        |          | Minimum Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|-------|--------|------|------|--------|--------|----------|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Pin   |        |      |      | Plate  |        |          |                           |                        |                      |
|              |                 | Width  | Dia.  | Dia.  | Length |      |      | Height | Thick. |          |                           |                        |                      |
| P            | W               | R      | D     | LR    | Lc     | L1   | L2   | H      | T      | kN       | kN                        | kg/m                   |                      |
| 06B-SS       | 9.525           | 5.72   | 6.35  | 3.28  | 12.6   | 13.4 | 6.3  | 7.1    | 8.2    | 1.0/1.25 | 6.18                      | 0.27                   | 0.43                 |
| 08B-SS       | 12.70           | 7.75   | 8.51  | 4.45  | 16.7   | 17.8 | 8.4  | 9.4    | 11.8   | 1.5      | 10.3                      | 0.52                   | 0.61                 |
| 10B-SS       | 15.875          | 9.65   | 10.16 | 5.08  | 19.0   | 20.6 | 9.5  | 11.1   | 14.7   | 1.65     | 15.7                      | 0.68                   | 0.89                 |
| 12B-SS       | 19.05           | 11.68  | 12.07 | 5.72  | 22.0   | 23.6 | 11.0 | 12.6   | 16.1   | 1.8      | 18.1                      | 0.88                   | 1.14                 |
| 16B-SS       | 25.40           | 17.02  | 15.88 | 8.26  | 35.1   | 38.2 | 17.6 | 20.6   | 20.3   | 3.2/4.0  | 42.2                      | 2.06                   | 2.59                 |
|              | P               | W      | R     | D     | LR     | Lc   | L1   | L2     | H      | T1/T2    | kN                        | kN                     | kg/m                 |
| SY 35-SS     | 9.525           | 4.78   | ▲5.08 | 3.58  | 12.2   | 13.7 | 6.1  | 7.6    | 9.0    | 1.25     | 5.68                      | 0.26                   | 0.34                 |
| SY 40-SS     | 12.70           | 7.95   | 7.92  | 3.96  | 16.9   | 18.5 | 8.5  | 10.0   | 11.7   | 1.5      | 11.1                      | 0.44                   | 0.60                 |
| SY 50-SS     | 15.875          | 9.53   | 10.16 | 5.08  | 20.8   | 22.3 | 10.4 | 11.9   | 14.6   | 2.0      | 17.6                      | 0.68                   | 0.98                 |
| SY 60-SS     | 19.05           | 12.70  | 11.91 | 5.95  | 26.0   | 27.9 | 13.0 | 14.9   | 17.5   | 2.4      | 24.5                      | 1.03                   | 1.46                 |
| SY 80-SS     | 25.40           | 15.88  | 15.88 | 7.93  | 32.8   | 35.5 | 16.4 | 19.1   | 23.4   | 3.2      | 42.3                      | 1.77                   | 2.52                 |
| SY 100-SS    | 31.75           | 19.05  | 19.05 | 9.53  | 40.0   | 43.3 | 20.0 | 23.3   | 29.3   | 4.0      | 51.0                      | 2.55                   | 3.91                 |
| ※SY 120-SS   | 38.10           | 25.40  | 22.23 | 11.10 | 50.4   | 54.2 | 25.2 | 29.0   | 35.1   | 4.8      | 68.6                      | 3.92                   | 5.76                 |
| ※SY 140-SS   | 44.45           | 25.40  | 25.40 | 12.70 | 54.0   | 58.3 | 27.0 | 31.3   | 40.9   | 5.6      | 88.2                      | 4.66                   | 7.41                 |
| ※SY 160-SS   | 50.80           | 31.75  | 28.58 | 14.28 | 64.3   | 68.7 | 32.2 | 36.5   | 46.7   | 6.4      | 109.8                     | 6.37                   | 9.79                 |

▲Chain is rollerless R shows bushing dia.

※304 Stainless steel.

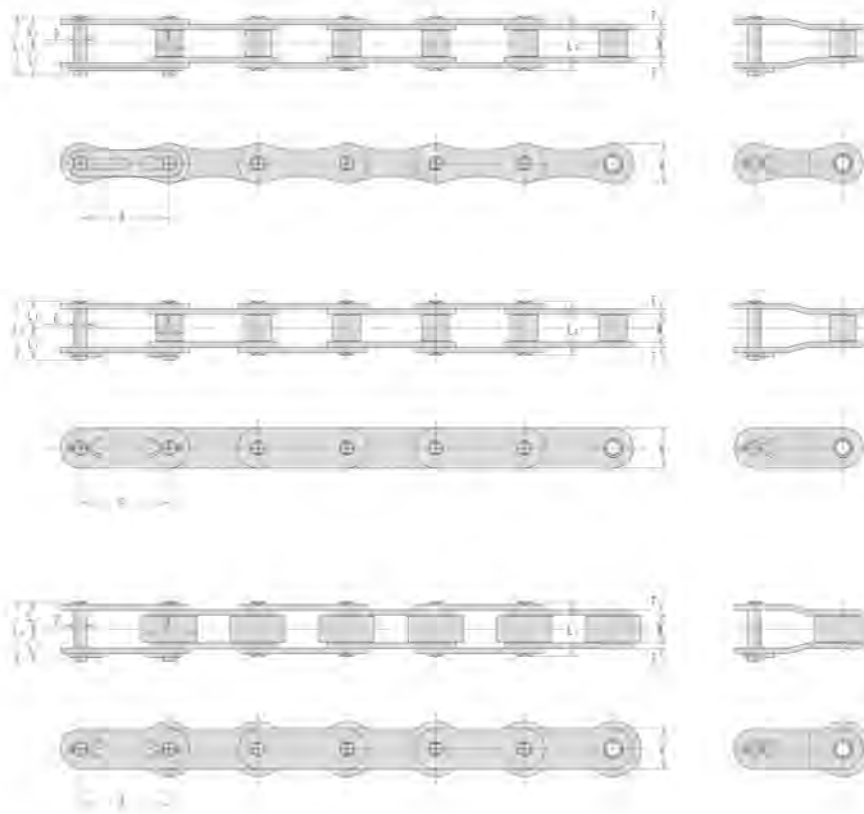




Premium  
SBR®

# Stainless Steel Chain

SY CHAIN



## DOUBLE PITCH STAINLESS STEEL CHAIN

| SY Chain No. | Dimensions - mm |        |       |       |        |      |      |        |        |     | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|-------|--------|------|------|--------|--------|-----|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Pin   |        |      |      | Plate  |        |     |                           |                        |                      |
|              |                 | Width  | Dia.  | Dia.  | Length |      |      | Height | Thick. |     |                           |                        |                      |
|              |                 | P      | W     | R     | D      | LR   | Lc   | L1     | L2     | H   |                           |                        |                      |
| A2040-SS     | 25.40           | 7.95   | 7.92  | 3.96  | 16.9   | 18.5 | 8.5  | 10.0   | 11.4   | 1.5 | 12.4                      | 0.44                   | 0.43                 |
| A2050-SS     | 31.75           | 9.53   | 10.16 | 5.08  | 20.8   | 22.3 | 10.4 | 11.9   | 15.0   | 2.0 | 20.3                      | 0.68                   | 0.73                 |
| A2060-SS     | 38.10           | 12.70  | 11.91 | 5.95  | 26.0   | 27.9 | 13.0 | 14.9   | 17.0   | 2.4 | 27.4                      | 1.03                   | 1.03                 |
| A2080-SS     | 50.80           | 15.88  | 15.88 | 7.93  | 32.8   | 35.5 | 16.4 | 19.1   | 22.6   | 3.2 | 47.1                      | 1.77                   | 1.71                 |
| C2040-SS     | 25.40           | 7.95   | 7.92  | 3.96  | 16.9   | 18.5 | 8.5  | 10.0   | 11.4   | 1.5 | 12.4                      | 0.44                   | 0.48                 |
| C2050-SS     | 31.75           | 9.53   | 10.16 | 5.08  | 20.8   | 22.3 | 10.4 | 11.9   | 15.0   | 2.0 | 20.3                      | 0.68                   | 0.82                 |
| C2060H-SS    | 38.10           | 12.70  | 11.91 | 5.95  | 28.8   | 30.9 | 14.4 | 16.5   | 17.0   | 3.2 | 27.4                      | 1.03                   | 1.38                 |
| C2080H-SS    | 50.80           | 15.88  | 15.88 | 7.93  | 35.7   | 38.8 | 17.9 | 20.9   | 22.6   | 4.0 | 47.1                      | 1.77                   | 2.32                 |
| ※C2100H-SS   | 63.50           | 19.05  | 19.05 | 9.53  | 42.4   | 46.0 | 21.2 | 24.8   | 28.6   | 4.8 | 56.9                      | 2.55                   | 3.46                 |
| ※C2120H-SS   | 76.20           | 25.40  | 22.23 | 11.10 | 52.8   | 57.2 | 26.4 | 30.8   | 34.9   | 5.6 | 76.5                      | 3.92                   | 4.92                 |
| ※C2160H-SS   | 101.60          | 31.75  | 28.58 | 14.28 | 67.9   | 73.1 | 34.0 | 39.1   | 47.6   | 7.2 | 123                       | 6.37                   | 8.02                 |
| C2042-SS     | 25.40           | 7.95   | 15.88 | 3.96  | 16.9   | 18.5 | 8.5  | 10.0   | 11.4   | 1.5 | 12.4                      | 0.44                   | 0.82                 |
| C2052-SS     | 31.75           | 9.53   | 19.05 | 5.08  | 20.8   | 22.3 | 10.4 | 11.9   | 15.0   | 2.0 | 20.3                      | 0.68                   | 1.26                 |
| C2062H-SS    | 38.10           | 12.70  | 22.23 | 5.95  | 28.8   | 30.9 | 14.4 | 16.5   | 17.0   | 3.2 | 27.4                      | 1.03                   | 2.08                 |
| C2082H-SS    | 50.80           | 15.88  | 28.58 | 7.93  | 35.7   | 38.8 | 17.9 | 20.9   | 22.6   | 4.0 | 47.1                      | 1.77                   | 3.36                 |
| ※C2102H-SS   | 63.50           | 19.05  | 39.67 | 9.53  | 42.4   | 46.0 | 21.2 | 24.8   | 28.6   | 4.8 | 56.9                      | 2.55                   | 5.64                 |
| ※C2122H-SS   | 76.20           | 25.40  | 44.45 | 11.10 | 52.8   | 57.2 | 26.4 | 30.8   | 34.9   | 5.6 | 76.5                      | 3.92                   | 7.87                 |
| ※C2162H-SS   | 101.60          | 31.75  | 57.15 | 14.28 | 67.9   | 73.1 | 34.0 | 39.1   | 47.6   | 7.2 | 123                       | 6.37                   | 12.77                |

※304 Stainless steel

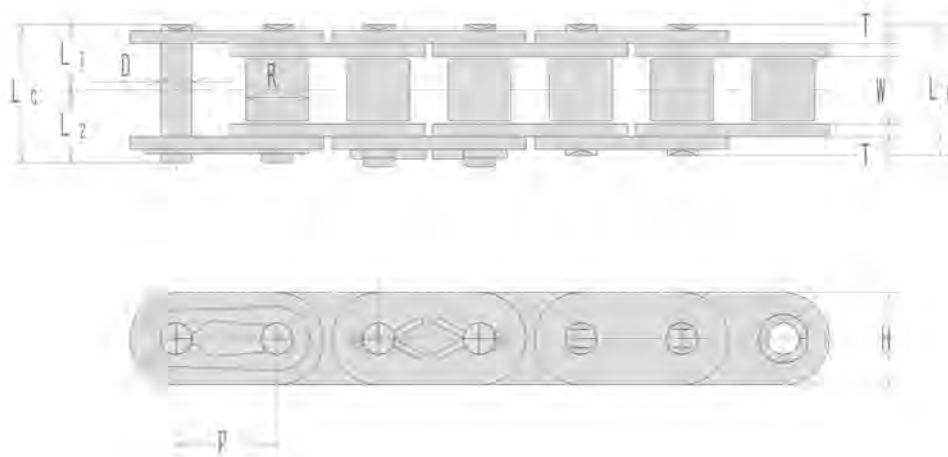
# Straight Side Bar Chain

Premium  
SBR®



SY CHAIN

SY ANSI straight sidebar chains are identical with ANSI standard chains except for the straight side plates. Provided with higher fatigue resistance than the standard chains. Sprockets for ANSI standard chains may be used for these chains. For identification, a suffix of F is added to the standard chain numbers as listed below.



| SY Chain No. | Dimensions - mm |        |       |       |        |       |      |        |        |      | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight | Type of Conn Link         |
|--------------|-----------------|--------|-------|-------|--------|-------|------|--------|--------|------|---------------------------|------------------------|----------------------|---------------------------|
|              | Pitch           | Roller |       | Pin   |        |       |      | Plate  |        |      |                           |                        |                      |                           |
|              |                 | Width  | Dia.  | Dia.  | Length |       |      | Height | Thick. |      |                           |                        |                      |                           |
| P            | W               | R      | D     | LR    | LC     | L1    | L2   | H      | T      | kN   | kN                        | kg/m                   |                      |                           |
| SY 35F       | 9.525           | 4.78   | 5.08  | 3.58  | 12.0   | 12.9  | 6.0  | 6.9    | 9.0    | 1.25 | 10.8                      | 2.23                   | 0.38                 | Spcl<br><br><br><br><br>C |
| SY 40F       | 12.70           | 7.95   | 7.92  | 3.96  | 16.5   | 17.7  | 8.3  | 9.4    | 11.7   | 1.5  | 19.1                      | 4.17                   | 0.67                 |                           |
| SY 50F       | 15.875          | 9.53   | 10.16 | 5.08  | 20.4   | 21.9  | 10.2 | 11.7   | 14.6   | 2.0  | 31.9                      | 7.22                   | 1.1                  |                           |
| SY 60F       | 19.05           | 12.70  | 11.91 | 5.95  | 25.5   | 26.9  | 12.8 | 14.1   | 17.5   | 2.4  | 43.1                      | 10.7                   | 1.63                 |                           |
| SY 80F       | 25.40           | 15.88  | 15.88 | 7.93  | 32.8   | 35.0  | 16.4 | 18.6   | 23.4   | 3.2  | 78.5                      | 18.4                   | 2.82                 |                           |
| SY 100F      | 31.75           | 19.05  | 19.05 | 9.53  | 39.4   | 43.0  | 19.7 | 23.3   | 29.3   | 4.0  | 118                       | 28.3                   | 4.37                 |                           |
| SY 120F      | 38.10           | 25.40  | 22.23 | 11.1  | 49.5   | 53.4  | 24.8 | 28.6   | 35.1   | 4.8  | 167                       | 38.0                   | 6.45                 |                           |
| SY 140F      | 44.45           | 25.40  | 25.40 | 12.7  | 54.0   | 58.3  | 27.0 | 31.3   | 40.9   | 5.6  | 216                       | 50.3                   | 8.29                 |                           |
| SY 160F      | 50.80           | 31.75  | 28.58 | 14.28 | 64.3   | 68.7  | 32.2 | 36.5   | 46.7   | 6.4  | 275                       | 66.3                   | 10.96                |                           |
| SY 200F      | 63.50           | 38.1   | 39.67 | 19.83 | 78.5   | 87.0  | 39.3 | 47.7   | 59.8   | 8.0  | 451                       | 82.3                   | 18.96                |                           |
| SY 240F      | 76.20           | 47.63  | 47.63 | 23.78 | 96.4   | 104.1 | 48.2 | 55.9   | 70.3   | 9.5  | 677                       | 112.8                  | 26.47                |                           |

Finer Power Transmissions P/L | www.finerpt.com

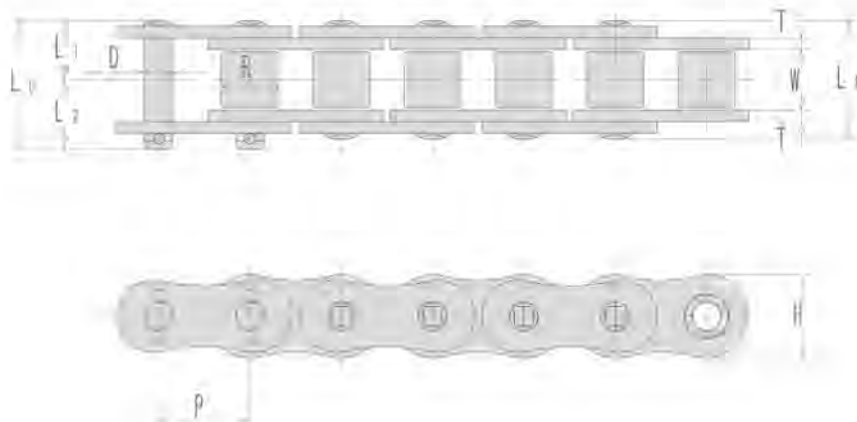


Premium  
SBR®

# Super Roller Chain

SY Super standard series roller chains are developed to offer you longer service life, thus leading to labor-savings. Thorough consideration to fitting portions and the use of high-grade special alloy steel components ensure the chain's greater resistance of fatigue and shock. Operative on standard roller chain sprockets.

SY super heavy series roller chains provided with link plates of next larger chain size promise you higher performance and superior quality.

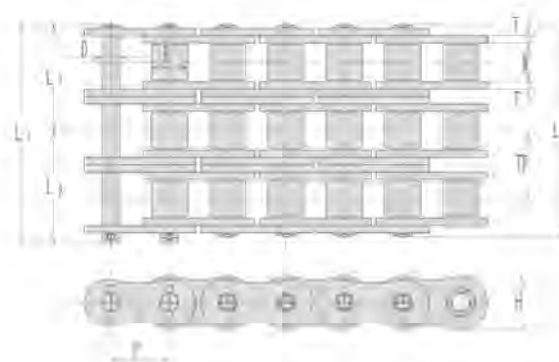


- Note: 1. Offset links are not available.  
 2. Riveted type chain will be provided unless otherwise specified.  
 Cottered type chain will be provided upon request.  
 3. Press-fitted type connecting links will be supplied.

## SINGLE STRANDS

| SY Chain No. (ANSI) | Dimensions - mm |        |       |       |        |                |                |                |                |     | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|---------------------|-----------------|--------|-------|-------|--------|----------------|----------------|----------------|----------------|-----|---------------------------|------------------------|----------------------|
|                     | Pitch           | Roller |       | Pin   |        |                |                | Plate          |                |     |                           |                        |                      |
|                     |                 | Width  | Dia.  | Dia.  | Length |                |                | Height         | Thick.         |     |                           |                        |                      |
|                     |                 | P      | W     | R     | D      | L <sub>R</sub> | L <sub>C</sub> | L <sub>1</sub> | L <sub>2</sub> | H   |                           |                        |                      |
| SUPER 80            | 25.40           | 15.88  | 15.88 | 7.93  | 32.6   | 35.5           | 16.3           | 19.2           | 24.1           | 3.2 | 84.3                      | 18.6                   | 2.81                 |
| SUPER 100           | 31.75           | 19.05  | 19.05 | 9.53  | 39.8   | 43.2           | 19.9           | 23.3           | 30.1           | 4.0 | 127                       | 30.4                   | 4.26                 |
| SUPER 120           | 38.10           | 25.40  | 22.23 | 11.10 | 49.7   | 53.7           | 24.9           | 28.8           | 36.2           | 4.8 | 186                       | 39.2                   | 6.30                 |
| SUPER 140           | 44.45           | 25.40  | 25.40 | 12.70 | 54.0   | 58.3           | 27.0           | 31.3           | 42.2           | 5.6 | 245                       | 53.9                   | 8.04                 |
| SUPER 160           | 50.80           | 31.75  | 28.58 | 14.28 | 64.4   | 69.0           | 32.2           | 36.8           | 48.2           | 6.4 | 314                       | 70.6                   | 10.8                 |
| SUPER 200           | 63.50           | 38.10  | 39.67 | 19.83 | 78.6   | 86.2           | 39.3           | 46.9           | 60.3           | 8.0 | 490                       | 94.1                   | 17.6                 |
| SUPER 240           | 76.20           | 47.63  | 47.63 | 23.78 | 96.4   | 103.4          | 48.2           | 55.2           | 72.4           | 9.5 | 726                       | 132                    | 25.6                 |
| SUPER 80H           | 25.40           | 15.88  | 15.88 | 7.93  | 35.9   | 38.9           | 18.0           | 20.9           | 24.1           | 4.0 | 98.1                      | 20.6                   | 3.33                 |
| SUPER 100H          | 31.75           | 19.05  | 19.05 | 9.53  | 42.6   | 46.2           | 21.3           | 24.9           | 30.1           | 4.8 | 145                       | 32.4                   | 4.88                 |
| SUPER 120H          | 38.10           | 25.40  | 22.23 | 11.10 | 52.8   | 57.3           | 26.4           | 30.9           | 36.2           | 5.6 | 196                       | 42.2                   | 6.94                 |
| SUPER 140H          | 44.45           | 25.40  | 25.40 | 12.70 | 57.2   | 61.9           | 28.6           | 33.3           | 42.2           | 6.4 | 255                       | 56.9                   | 8.87                 |
| SUPER 160H          | 50.80           | 31.75  | 28.58 | 14.28 | 67.9   | 72.8           | 34.0           | 38.8           | 48.2           | 7.1 | 324                       | 73.5                   | 11.7                 |





## MULTIPLE STRANDS

| SY Chain No. | Dimensions - mm |        |       |       |        |       |       |       |        |              |        | Average Ultimate Strength | Maximum Allowable Load | Average Chain Weight |
|--------------|-----------------|--------|-------|-------|--------|-------|-------|-------|--------|--------------|--------|---------------------------|------------------------|----------------------|
|              | Pitch           | Roller |       | Pin   |        |       |       | Plate |        | Trans. Pitch |        |                           |                        |                      |
|              |                 | Width  | Dia.  | Dia.  | Length |       |       |       | Height |              | Thick. |                           |                        |                      |
|              |                 | P      | W     | R     | D      | LR    | LC    | L1    | L2     |              | H      |                           |                        |                      |
| SUPER80-2    | 25.40           | 15.88  | 15.88 | 7.93  | 62.0   | 64.9  | 31.0  | 33.9  | 24.1   | 3.2          | 29.3   | 169                       | 31.6                   | 5.63                 |
| SUPER80-3    |                 |        |       |       | 91.3   | 94.2  | 45.7  | 48.5  |        |              |        | 253                       | 46.5                   | 8.41                 |
| SUPER80-4    |                 |        |       |       | 120.6  | 123.5 | 60.3  | 63.2  |        |              |        | 337                       | 61.4                   | 11.18                |
| SUPER100-2   | 31.75           | 19.05  | 19.05 | 9.53  | 75.4   | 79.0  | 37.7  | 41.3  | 30.1   | 4.0          | 35.8   | 254                       | 51.7                   | 8.38                 |
| SUPER100-3   |                 |        |       |       | 111.2  | 114.8 | 55.6  | 59.2  |        |              |        | 381                       | 76.0                   | 12.57                |
| SUPER100-4   |                 |        |       |       | 147.0  | 150.6 | 73.5  | 77.1  |        |              |        | 508                       | 100                    | 16.77                |
| SUPER120-2   | 38.10           | 25.40  | 22.23 | 11.10 | 95.4   | 99.4  | 47.7  | 51.7  | 36.2   | 4.8          | 45.4   | 372                       | 66.6                   | 12.44                |
| SUPER120-3   |                 |        |       |       | 140.8  | 144.8 | 70.4  | 74.4  |        |              |        | 558                       | 98.0                   | 18.65                |
| SUPER120-4   |                 |        |       |       | 186.2  | 190.2 | 93.1  | 97.1  |        |              |        | 744                       | 129                    | 24.85                |
| SUPER140-2   | 44.45           | 25.40  | 25.40 | 12.70 | 103.3  | 107.6 | 51.7  | 55.9  | 42.2   | 5.6          | 48.9   | 490                       | 91.6                   | 15.92                |
| SUPER140-3   |                 |        |       |       | 152.2  | 156.5 | 76.1  | 80.4  |        |              |        | 735                       | 135                    | 23.84                |
| SUPER140-4   |                 |        |       |       | 201.1  | 205.4 | 100.6 | 104.8 |        |              |        | 980                       | 178                    | 30.72                |
| SUPER160-2   | 50.80           | 31.75  | 28.58 | 14.28 | 123.2  | 127.8 | 61.6  | 66.2  | 48.2   | 6.4          | 58.5   | 628                       | 120                    | 21.44                |
| SUPER160-3   |                 |        |       |       | 181.7  | 186.3 | 90.9  | 95.4  |        |              |        | 942                       | 177                    | 32.10                |
| SUPER160-4   |                 |        |       |       | 240.2  | 244.8 | 120.1 | 124.7 |        |              |        | 1256                      | 233                    | 42.84                |
| SUPER200-2   | 63.50           | 38.10  | 39.67 | 19.83 | 150.6  | 158.2 | 75.3  | 82.9  | 60.3   | 8.0          | 71.6   | 980                       | 160                    | 34.91                |
| SUPER200-3   |                 |        |       |       | 222.2  | 229.8 | 111.1 | 118.7 |        |              |        | 1470                      | 235                    | 52.44                |
| SUPER200-4   |                 |        |       |       | 293.8  | 301.4 | 146.9 | 154.5 |        |              |        | 1960                      | 311                    | 69.74                |
| SUPER240-2   | 76.20           | 47.63  | 47.63 | 23.78 | 184.2  | 191.2 | 92.1  | 99.1  | 72.4   | 9.5          | 87.8   | 1452                      | 224                    | 50.88                |
| SUPER240-3   |                 |        |       |       | 272.0  | 279.0 | 136.0 | 143.0 |        |              |        | 2178                      | 330                    | 76.12                |
| SUPER240-4   |                 |        |       |       | 359.8  | 366.8 | 179.9 | 186.9 |        |              |        | 2904                      | 436                    | 101.40               |
| SUPER 80H-2  | 25.40           | 15.88  | 15.88 | 7.93  | 68.6   | 399.4 | 34.3  | 365.1 | 24.1   | 4.0          | 32.6   | 196.2                     | 35.02                  | 6.67                 |
| SUPER 80H-3  |                 |        |       |       | 101.2  | 432.0 | 50.6  | 381.4 |        |              |        | 294.3                     | 51.5                   | 9.96                 |
| SUPER100H-2  | 31.75           | 19.05  | 19.05 | 9.53  | 81.6   | 85.4  | 40.8  | 44.6  | 30.1   | 4.8          | 39.1   | 290                       | 55.08                  | 9.6                  |
| SUPER100H-3  |                 |        |       |       | 120.7  | 124.5 | 60.4  | 64.1  |        |              |        | 435                       | 81.0                   | 14.4                 |
| SUPER120H-2  | 38.10           | 25.40  | 22.23 | 11.10 | 102.0  | 173.4 | 51.0  | 122.4 | 36.2   | 5.6          | 48.9   | 392                       | 71.74                  | 13.71                |
| SUPER120H-3  |                 |        |       |       | 150.9  | 222.3 | 75.5  | 79.6  |        |              |        | 588                       | 105.5                  | 20.55                |
| SUPER140H-2  | 44.45           | 25.40  | 25.40 | 12.70 | 109.6  | 274.5 | 54.8  | 219.7 | 42.2   | 6.4          | 52.2   | 510                       | 96.73                  | 17.56                |
| SUPRR140H-3  |                 |        |       |       | 161.8  | 326.7 | 80.9  | 245.8 |        |              |        | 765                       | 142.25                 | 26.3                 |
| SUPER160H-2  | 50.80           | 31.75  | 28.58 | 14.28 | 223.7  | 388.6 | 111.9 | 276.8 | 48.2   | 7.1          | 61.9   | 648                       | 124.95                 | 23.15                |
| SUPER160H-3  |                 |        |       |       | 285.6  | 450.5 | 142.8 | 100.7 |        |              |        | 972                       | 183.75                 | 34.67                |



## LUBRICATION

Proper lubrication of roller chains is a very important factor in getting their best possible performance and longer lifetime. No matter how well a transmission system is designed, if it is not properly lubricated, its service life will be shortened.

Abrasion between the pin and bushing causes roller chains to stretch. Therefore, these parts should be well lubricated.

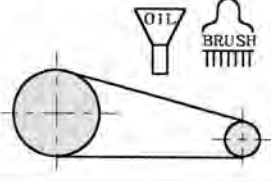
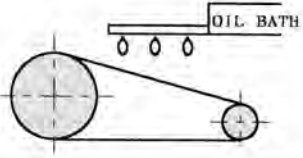
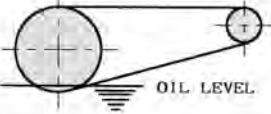
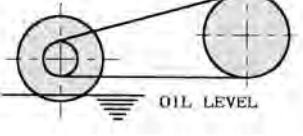
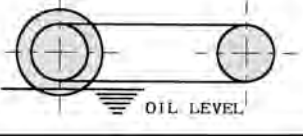
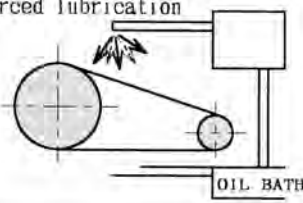
The gap between the pin-link plate and roller-link plate on the slack side of the chain should be filled with lubricant.

The oil forms a film which minimizes wear of the pin and bushing thus increasing the chain service life.

It also reduces noises and cools down the chain running at high speed.

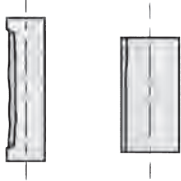
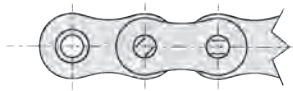
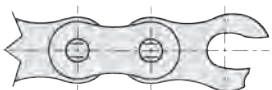
## POINTS OF LUBRICATION

- 1) Fill and change oil periodically.
- 2) Generally, heavy oil and grease are not suitable as a lubricant.
- 3) Avoid mix of oil with another kind or other maker's.
- 4) Adequate lubrication quantity is also essential for a chain's longer service life.

| Type | Method                                                                                                                                       | Amount                                                                                                                                                                                                                                                              |
|------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A    | Manual lubrication<br>                                      | <ul style="list-style-type: none"> <li>● Periodically to keep chain joints from drying</li> </ul>                                                                                                                                                                   |
|      | Dripping lubrication<br>                                   | <ul style="list-style-type: none"> <li>● Usually 4-20 drops of oil per minute.</li> <li>● Excess oil should be reserved in a simple case.</li> </ul>                                                                                                                |
| B    | Oil bath lubrication<br>                                    | <ul style="list-style-type: none"> <li>● Effective at medium and low speeds.</li> <li>● To be dipped 6~12 mm.</li> </ul>                                                                                                                                            |
|      | Lubrication by slinger disc<br>For large speed ratio<br> | <ul style="list-style-type: none"> <li>● Effective at rather high speeds.</li> <li>● To be dipped 12~25mm at about 200m/min, circumferential speed of slinger disc.</li> </ul>                                                                                      |
|      | Lubrication by slinger disc<br>For small speed ratio<br> | <ul style="list-style-type: none"> <li>● Case should be cleaned to remove impurities.</li> </ul>                                                                                                                                                                    |
| C    | Forced lubrication<br>                                   | <ul style="list-style-type: none"> <li>● Effective for heavy load, high power and high speed.</li> <li>● Ab 4 ltr/min. should be filled without oil shortage or heating up.</li> <li>● Closed circulating lubrication system needs a clean tank or case.</li> </ul> |

| SY Chain No.     | Temperature[ °C ] |        |        |        |        |        |        |        |
|------------------|-------------------|--------|--------|--------|--------|--------|--------|--------|
|                  | -10               | 0      | 40     | 50     | -10    | 0      | 40     | 50     |
|                  | 0                 | 40     | 50     | 60     | 0      | 40     | 50     | 60     |
| Lubrication Type | TYPE A-B          |        |        |        | TYPE C |        |        |        |
| ~SY50            | SAE 10            | SAE 20 | SAE 30 | SAE 50 | SAE 10 | SAE 20 | SAE 30 | SAE 40 |
| SY60~SY80        | 20                | 30     | 40     | 50     | 10     | 20     | 30     | 40     |
| SY100            | 20                | 30     | 40     | 50     | 20     | 30     | 40     | 50     |
| SY120~           | 30                | 40     | 50     | 50     | 20     | 30     | 40     | 50     |

The below chart shows the most common chain failures and causes, but not necessarily the only ones.

| Problem                                                                                                     | Possible Causes of Problem                                                                                                                                                 | Suggested Remedy                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>Pin or Bushing Galling | <ul style="list-style-type: none"> <li>• Overload</li> <li>• Inadequate lubrication</li> </ul>                                                                             | <ul style="list-style-type: none"> <li>• Proper lubrication</li> <li>• Replace chain when elongation exceeds functional limits</li> </ul>                                                                                         |
| <br>Turned Pins            | <ul style="list-style-type: none"> <li>• Overload</li> <li>• Inadequate lubrication</li> </ul>                                                                             | <ul style="list-style-type: none"> <li>• Replace chain as soon as possible</li> </ul>                                                                                                                                             |
| Excessive Noise                                                                                             | <ul style="list-style-type: none"> <li>• Too little or too much slack</li> <li>• Chain obstruction</li> <li>• Loose chain guard or bearing</li> </ul>                      | <ul style="list-style-type: none"> <li>• Adjust centers or take-up</li> <li>• Inspect &amp; remove obstruction</li> <li>• Tighten bolts and check bearings</li> </ul>                                                             |
| Chain Vibration                                                                                             | <ul style="list-style-type: none"> <li>• Excessive chain slack</li> <li>• Center distance too long</li> <li>• stiff links</li> </ul>                                       | <ul style="list-style-type: none"> <li>• Adjust chain tensioner</li> <li>• Install idler</li> <li>• Lubricate or replace chain</li> </ul>                                                                                         |
| Wear on inside of link plate and one side of sprocket teeth                                                 | <ul style="list-style-type: none"> <li>• Misalignment</li> </ul>                                                                                                           | <ul style="list-style-type: none"> <li>• Realign sprockets and shafts</li> <li>• Replace chain and sprockets if necessary</li> </ul>                                                                                              |
| Chain stiffens                                                                                              | <ul style="list-style-type: none"> <li>• Excessive load</li> <li>• Misalignment</li> <li>• Inadequate lubrication</li> <li>• Corrosion</li> </ul>                          | <ul style="list-style-type: none"> <li>• Replace chain with one of suitable strength</li> <li>• Inspect alignment</li> <li>• Clean and establish correct lubrication</li> <li>• Replace with corrosion resistant chain</li> </ul> |
| Chain Climbs Sprockets                                                                                      | <ul style="list-style-type: none"> <li>• Excessive chain wear</li> <li>• Excessive chain slack</li> <li>• Inadequate lubrication</li> <li>• Sprocket tooth wear</li> </ul> | <ul style="list-style-type: none"> <li>• Replace chain</li> <li>• Install tensioner if necessary</li> <li>• Replace sprocket</li> </ul>                                                                                           |
| <br>Fractured Plate      | <ul style="list-style-type: none"> <li>• Extreme overload</li> </ul>                                                                                                       | <ul style="list-style-type: none"> <li>• Inspect the drive to determine the cause of high load</li> <li>• Redesign drive using a higher capacity chain</li> </ul>                                                                 |