

PAC-MAXTM (S-60) **CONVEYOR SPECIFICATION**

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PAC-MAX™ (S-60) CONVEYOR SPECIFICATION

1. CHAIN

1.1 CAPACITIES

Maximum Pendant Capacity	220 lbs [100 kg]
Maximum Chain Pull capacity	2,000 lbs [907 kg]
Breaking Load – Ultimate Strength	15,000 lbs [6804 kg]
Chain Pitch (multiplies that pendants can attach to)	16 inches [406 mm]
Maximum Operation Temperature	Metal 350° F [180° C] Air 460° F [240° C]
Minimum Radius Horizontal Curve	30 inches [762 mm]
Minimum Radius Vertical Curve	48 inches [1219 mm]
Maximum Normal Operating Speed	45 F.P.M. [13.7 M/min]

1.2 CONSTRUCTION

E8 type, Bi-Planar Chain with the following parts per pitch:

- 4 Side Links
- 4 Bearing Pins
- 8 Circlips
- 2 Sintered Blocks
- 8 Bearing Wheels

1.3 ASSEMBLY

Hardened steel spindles pass through cruciform sintered iron blocks in both the vertical and horizontal planes. Side links are press fitted over the steel spindles and bearings are secured to these spindles using heavy-duty circlips.

1.4 CHAIN ROLLER BEARINGS

Open semi-precision type bearing. Case hardened inner and outer raceways complete with full compliment of case hardened carbon steel balls. With a maximum static load capacity of 325 lbs.

1.5 CHAIN SIDE LINKS

The conveyor side links are punched from EN8 medium tensile steel strip and have a thickness of 3/16 inch.

Pac-Max chains are *Anti Short Pitching* (the horizontal and vertical side links are the same length, which eliminates incorrect assembly)

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1.6 SPINDLES

The spindles are precision machined and case hardened for extended life. One end of the spindle is knurled to captivate the side link once pressed into position, and therefore eliminating the possibility of it rotating in the link.

1.7 CRUCIFORM BLOCK

The cruciform block is oil impregnated and acts as a universal joint allowing the spindles to articulate in both the horizontal and vertical planes.

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2.0 TRACK

2.1 CONSTRUCTION

Manufactured from two (2) accurately cold rolled “cruciform” sections. The two (2) sections are spaced apart by bolted end plates at a pitch of 30” [762 mm] centers. Track sections are bolted together using 3/8” standard hardware.

Standard Paint Finish: Powder coated Red RAL 3000

Standard Lengths: 10'-0” [3048 mm]

2.2 ASSEMBLY

3/16” thick intermediate yokes (flanges) are welded at 30” [762 mm] centers to form modular sections for bolted construction track sections.

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3.0 CONVEYOR COMPONENTS

3.1 DRIVE UNITS

600 LB & 1000 LB CHAIN-PULL "IN-LINE" DRIVE UNITS

- Maximum variable speed of 60 F.P.M.
- Supplied with a motor and a shaft mounted reducer with a limit switch
- Overall length of the drive unit is 61-3/8 inch [1560 mm]
- The drive configurations can be either slot down (standard) or inverted

2000 LB CHAIN-PULL "IN-LINE" DRIVE UNIT

- Maximum variable speed of 60 F.P.M.
- Supplied with a motor and reducer with sprockets and has a friction clutch type torque limiter
- Overall length of the drive unit is 64½ inch [1640 mm]
- The drive configurations can be either slot down (standard) or inverted

3.2 TAKE-UP UNITS

Take-up units are a 180° horizontal with track fitted onto a spring-tensioned frame, used for tensioning the slack conveyor chain, which is exiting the drive. The take-up is also utilized to make up the chain expansion due to heat in a paint system oven. The width or spread can be manufactured at various widths, the standard width being 60 inches [1524 mm]. The take-up can also be a manual screw type or an automatic pneumatic air type adjustment.

3.3 CURVES

Horizontal curves are fabricated from flanged channel rollings in a standard radius of 30 inches [762 mm].

Vertical curves are fabricated from flanged channel rollings in a standard radius of 48 inches [1219 mm].

Both the vertical and horizontal curves have pre-punched yokes (flanges) at each end. The curve segments are in 30° and 15° increments.

3.4 EXPANSION UNITS

Manufactured as take-up sections but without the threaded rods fitted. These are located in ovens and allow for expansion and contraction of track as the oven heats and cools. The profiles are laser cut to minimize any change of height to the track running face. The standard unit can extend 19½ inches [495 mm].

3.5 INSPECTION SECTIONS

Removable safety cover fitted centrally on a 20-inch [508 mm] length of track, which allows visual inspection of the chain, installation or removal of the chain and also connecting the conveyor chain. Constructed from structural steel angles connected by a split end plate at each end. For ease of identification, the inspection sections are zinc or chrome plated.

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3.6 LUBRICATOR UNITS (SHOT TYPE)

This solid shot lubricator is an electro-pneumatic type unit, which is operated by an air cylinder. The piston rod of which forms the ram of a displacement-type oil pump mounted on a 20 inch [508 mm] track section.

When the onward movement of the conveyor allows the actuating valve to close, the piston rod retracts and draws in a fresh charge of lubricant while the air exhausting from the cylinder passes back through the valve and ejects the stored lubricant charge onto the conveyor chain.

For recommended lubricants, see **LUBRICATION RECOMMENDATION CHART** in the S310 Power & Free section.

3.7 SWITCH UNITS – PULL CORD OPERATED DIVERGE & TROLLEY OPERATED MERGE

The switches are for a non-powered manually operated (hand pushed) system. Manufactured from track bend segments, track switches are configured to give diverge or merge conditions from the left or right hand side.

Diverge switches are pull cord manually activated.

Merge switches are trolley activated.

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4.0 CONVEYOR PERIPHERALS

4.1 UNDERGUARDING

Conveyor guards are recommended where loaded conveyor paths are over work areas, aisles, and machinery, to prevent injury or damage from falling parts or hooks. The envelope of the guarding should allow 6" to 12" clearance around the largest parts. The vertical height should permit loaded carriers to pass a fallen part lying on the bottom of the guarding. The vertical height of the guarding should be 2/3 of the tallest part. Underguarding is generally positioned at elevations 7'-0" or higher.

Sheet Metal Type: Utilized after dip tanks or washers, where dripping may be a problem or where small parts or dirt cannot be contained in mesh style guarding.

Wire Mesh Guarding: Utilized in most applications, so as to have a good view of the parts passing overhead. There are 2 basic sizes:

- 2" x 2" x 10ga (rated for up to 50 lbs parts)
- 2" x 4" x 1/4" (rated high enough for maintenance personnel foot traffic)

Netting: Utilized in light part applications or soft goods (clothing) The netting is rated to the part weight.

4.2 SUPPORT STEEL

The support steel is custom designed to suit the loading and the spans when attaching to the building roof trusses. Traditionally 2" x 2" x 3/16" angle iron is used for the hangers and cross bracing. The header steel is a channel sized to suit the spans.

Note: When attaching to the building steel - avoid welding the overhead steel superstructure and hanger steel to the building steel. Bolted style connections are rigorously recommended because welding will tend to weaken the strength of the building steel. In addition, the bolted connections make future changes easier. (Higher point loading, such as for the drive and take-up assemblies, requires heavier hanger and header steel).