

1. Purpose

The purpose of this document acts as a guideline during the installation of the chain and chain drive unit(s) by checking a few points to ensure:

- optimal operation of both the chain as well as the drive unit(s)

SAFETY NOTE:

It is advisable to wear the correct Personal Protective Equipment (gloves and eye protection) during this operation. Avoid sprocket while turning.

2. Chain and chain drive unit installation guidelines:

The following steps must be followed when tensioning the chain.

- 2.1 Ensure that the troughs and corner units are aligned parallel (troughs) and perpendicular (trough and corner unit) to one another.
 - 2.1.1 Misalignment may cause variations in tension and excess wear on the chain.
- 2.2 Ensure that the chain is set-up and tensioned correctly according to Chain linking/ unlinking & tensioning guide (available on website).
- 2.3 Ensure that nothing is obstructing the chains movement.
- 2.4 Ensure that the drive unit is correctly assembled and that the sprocket is tightly fastened to avoid misalignment.
- 2.5 When placing the drive unit, ensure that it is placed perfectly perpendicular to the trough.
 - 2.5.1 If it is placed "skew" the sprocket will be misaligned with the chain causing excess wear and tensional issues.
- 2.6 Use the leg stands to place the drive unit at the correct height (in line with the troughs).
- 2.7 Ensure that the drive unit has an appropriate shear pin attached.
 - 2.7.1 This pin should break before the drive unit causes major damage to itself, the chain and circuit components.
 - 2.7.2 The ideal breaking force of the pin should be between 6 and 8 KN. 6 KN (M6 grade 4.8 bolt) for circuits up to 250 m long and 8 KN (M5 grade 8.8 bolt) for circuits 250 m and longer.
- 2.8 Circuits can operate with single or dual drive units.
 - 2.8.1 Dual drives reduce the tension in the chain as well as the strain on the drive unit.

- 2.8.2 Single drive units can generally be used on most circuit lengths, but it is recommended to use dual drive units for circuits 300 m and longer.

This will spread the ramp up force in the chain over 2 sections of the chain instead of 1, thus increasing the fatigue life of the chain.

- 2.9 Ensure that the size of the motor is appropriate for the circuit length and line speed.

- 2.10 Use the table below (adapted from industry standards) as a guideline.

Line speed	12 m/min		18 m/min	36m/min		
Motor size (Kw)	0.37	0.75	1.1	1.1	1.5	2.2
Max chain length (m)	180	300	300	180	200	300

Notes:

The circuit includes 4 corners of 90° each

This is a guideline and should not be taken as 100% accurate, motor sizes and maximum circuit lengths will vary for different circuit set-ups

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