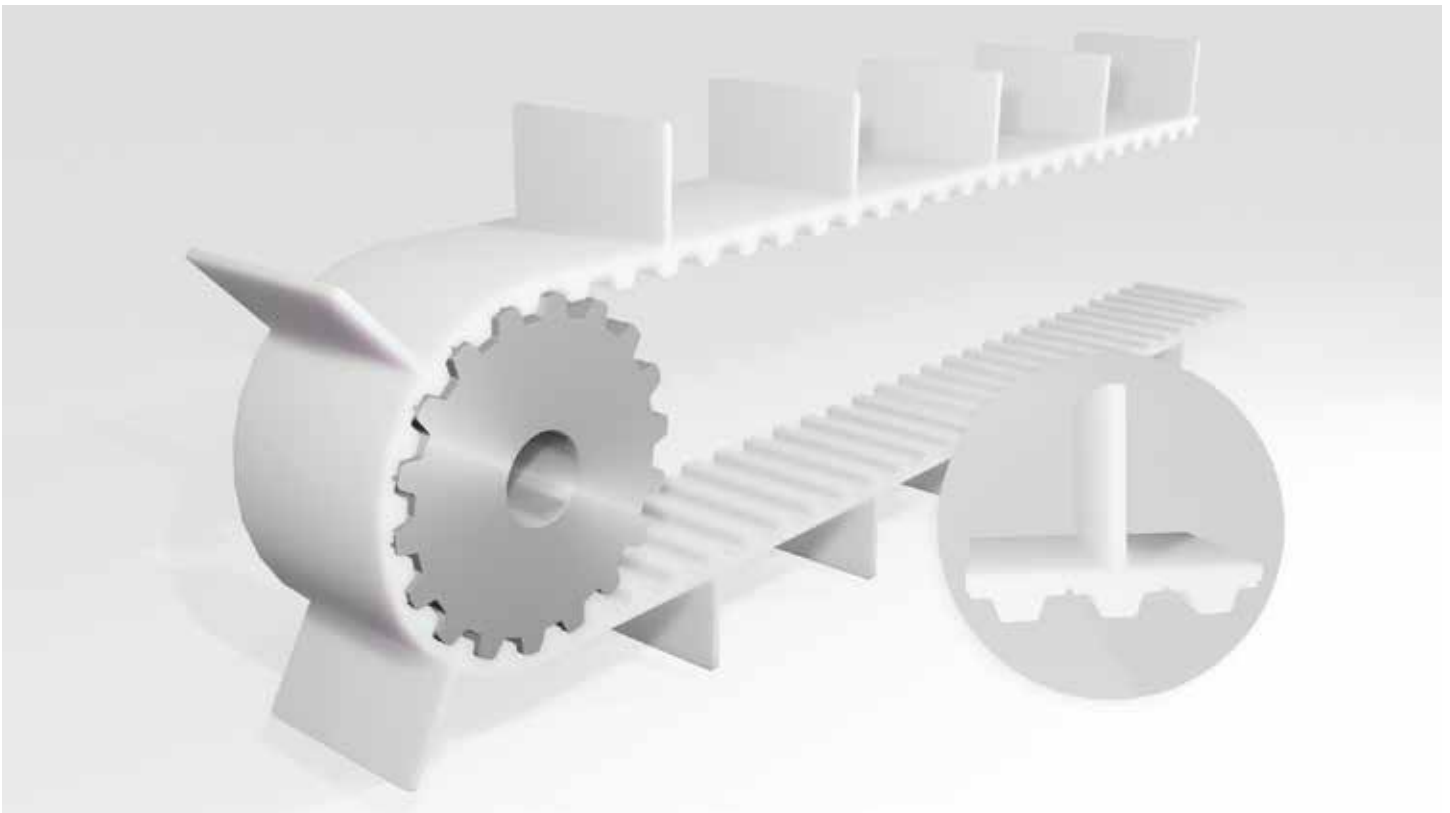


The World Leader in Polyurethane Timing Belts

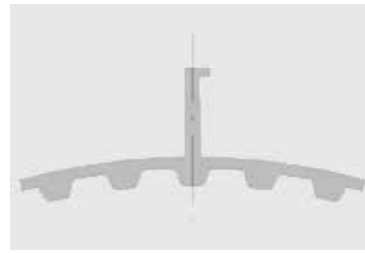
Weld-on Profiles

Design Considerations and Examples



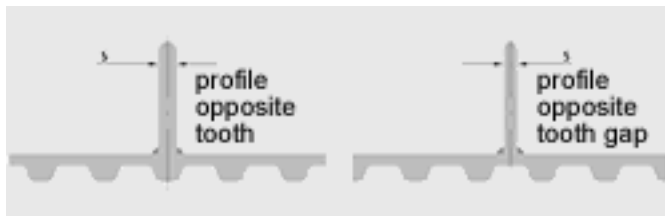
Design Considerations

Weld-on-Position “Opposite Tooth”



The flexibility of a timing belt is primarily achieved in the area of the tooth gap. In order to not impede the flexibility of the timing belt necessary to grant a smooth running performance, even with small pulley sizes, the weld-on position of profiles opposite the tooth is preferred. In this case, the belt tooth also supports the profile.

Profile Thickness ‘s’



The flexibility of a timing belt may be reduced by the weld-on profiles. As a general rule, the profile thickness should be selected as small as possible. In the table below, the recommended maximum profile thickness is given in millimeters. The recommended profile thickness is in direct relation to the number of teeth on the pulley. See the chart below.

Example: To determine the profile thickness ‘s’ for BRECOflex H pitch timing belt in conjunction with a 20 tooth pulley:

- For weld-on position “opposite tooth” the maximum profile thickness should be less than or equal to 8mm.
- For weld-on position “opposite tooth gap” the maximum profile thickness should be less than or equal to 3mm.

Max. profile thickness “opposite tooth” / Max. profile thickness “opposite tooth gap”

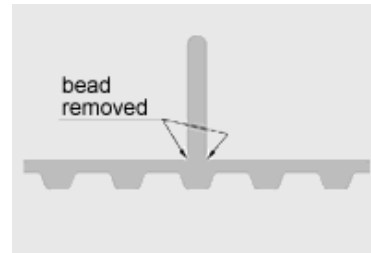
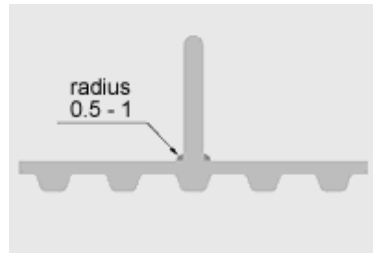
Pitch	20 Tooth Pulley	25 Tooth Pulley	30 Tooth Pulley	40 Tooth Pulley	50 Tooth Pulley	60 Tooth Pulley	100 Tooth Pulley
T5	5mm / 2mm	6mm / 2mm	6mm / 3mm	8mm / 4mm	9mm / 6mm	10mm / 8mm	12mm / 10mm
T10	8mm / 3mm	9mm / 4mm	10mm / 4mm	12mm / 6mm	14mm / 9mm	15mm / 12mm	20mm / 20mm
T20	12mm / 5mm	13mm / 5mm	15mm / 6mm	18mm / 8mm	20mm / 12mm	23mm / 20mm	30mm / 30mm
AT5	5mm / 2mm	6mm / 2mm	6mm / 3mm	8mm / 4mm	9mm / 6mm	10mm / 8mm	12mm / 10mm
AT10	8mm / 3mm	9mm / 4mm	10mm / 4mm	12mm / 6mm	14mm / 9mm	15mm / 12mm	20mm / 20mm
AT20	12mm / 5mm	13mm / 5mm	15mm / 6mm	18mm / 6mm	20mm / 12mm	23mm / 20mm	30mm / 30mm
XL	5mm / 2mm	6mm / 2mm	6mm / 3mm	8mm / 4mm	9mm / 6mm	10mm / 8mm	12mm / 10mm
L	6mm / 3mm	7mm / 3mm	8mm / 4mm	10mm / 5mm	12mm / 7mm	13mm / 10mm	16mm / 16mm
H	8mm / 4mm	9mm / 5mm	10mm / 6mm	12mm / 7mm	14mm / 10mm	15mm / 2mm	20mm / 20mm
XH	12mm / 5mm	14mm / 5mm	15mm / 6mm	18mm / 8mm	20mm / 12mm	23mm / 20mm	30mm / 30mm

NOTE: For in-between pulley sizes (i.e. 22 teeth) we recommend selecting the next lower maximum profile thickness.

Weld-on Profiles

Design Considerations

Welding Beads



A bead develops between the profile and the belt back due to the welding process. The polyurethane bead may reach a radius of 0.5 to 1.0mm (0.020 to 0.040). Should the bead impede your operation, please specify weld bead removed.

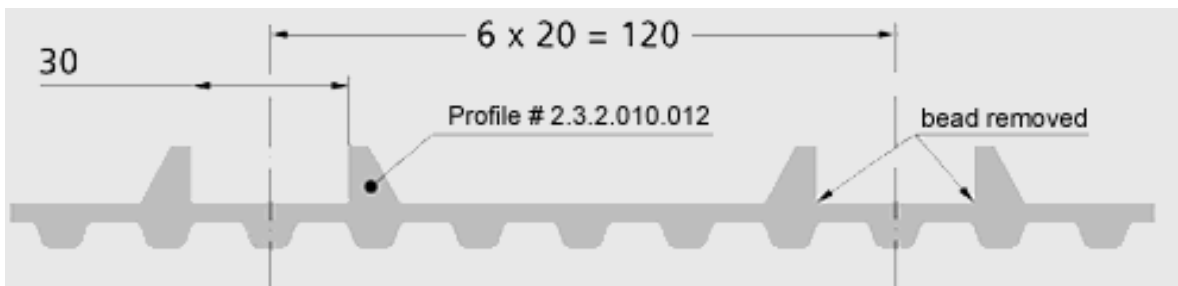
Profiles with Relief



When using wide profiles it is helpful to choose or design a profile with relief. Two examples are shown above. The first show relief at the base of the profile, known as weld feet. The second provides relief through its angled and hollow design which helps retain the flexibility of the timing belt.

As with regular profiles, the preferred welding position for the best support is opposite the tooth, though a weld opposite the tooth gap is acceptable if necessary.

Profile Pairs

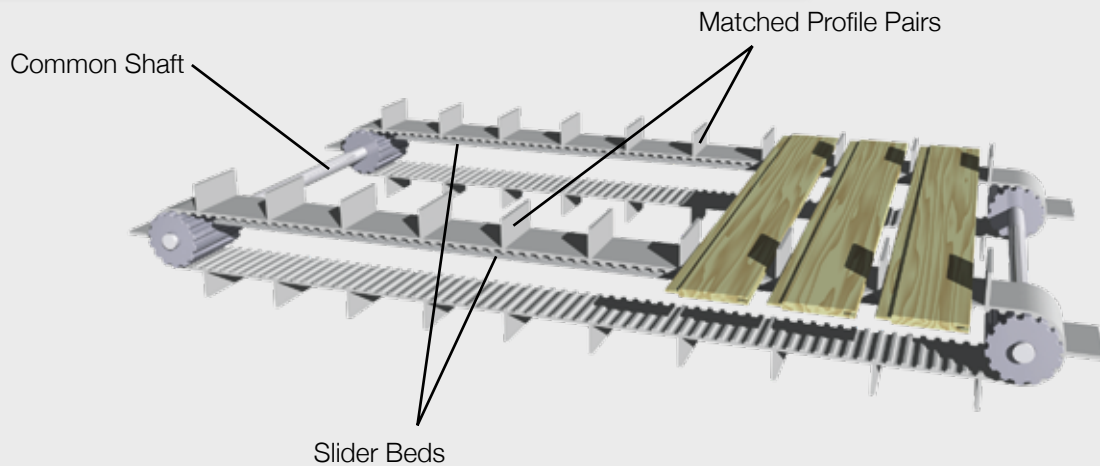


Profile pairs (profile pockets or brackets) are used in conveying applications primarily for positioning of parts and for feeder insert operations. The manufacturing tolerance for the clear measurement between a profile pair $\pm 0.5\text{mm}$ ($\pm 0.02\text{in}$). as reduced tolerance of $\pm 0.2\text{mm}$ ($\pm 0.01\text{in}$) is possible but may require additional set-up or tooling. Please consult Applications Engineering.

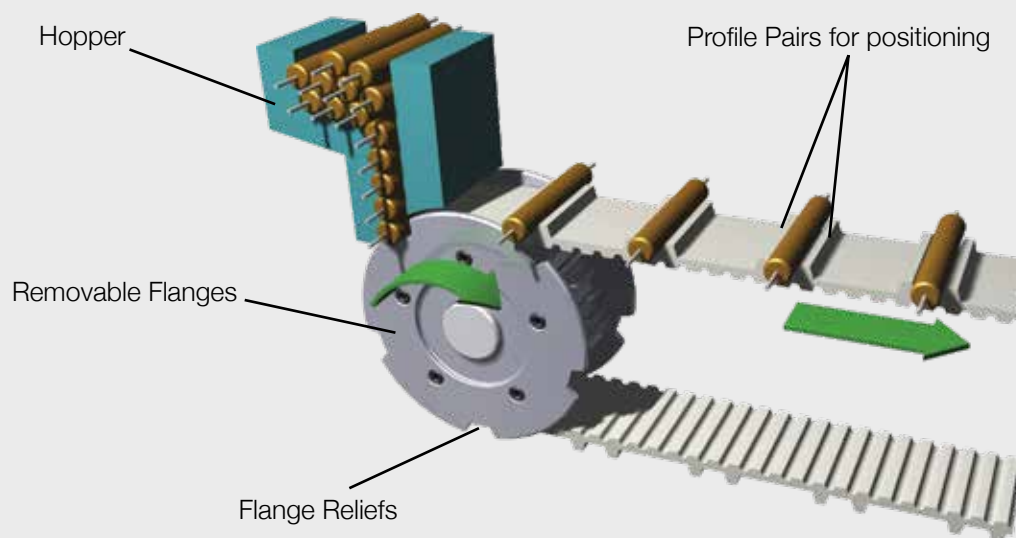
Weld-on Profiles

Application Examples

Synchronous Conveyor for Wide Products



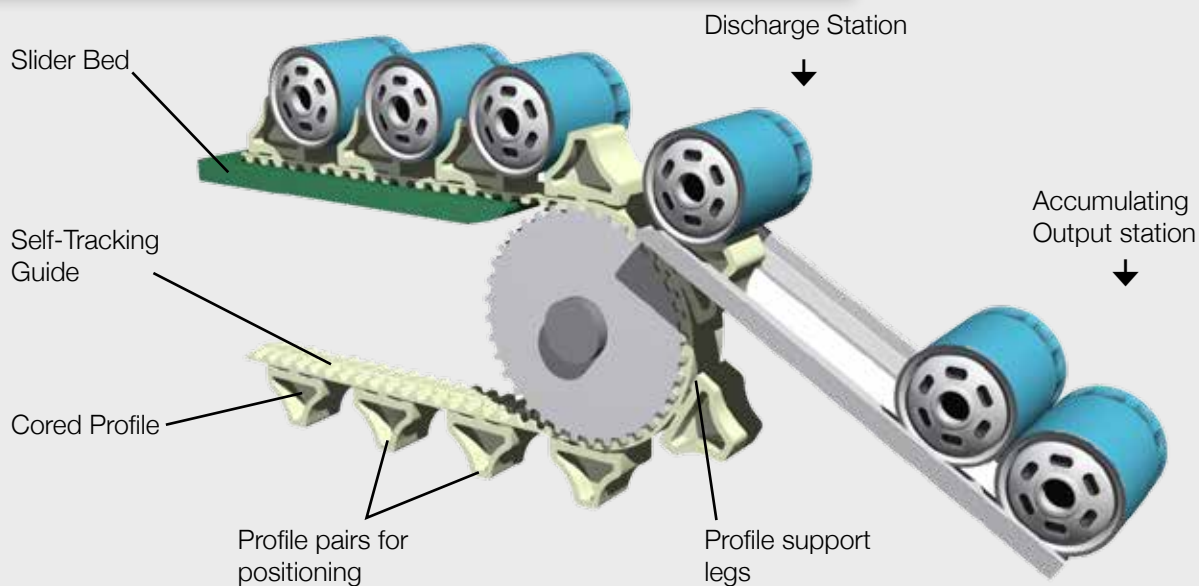
Product Driving Line



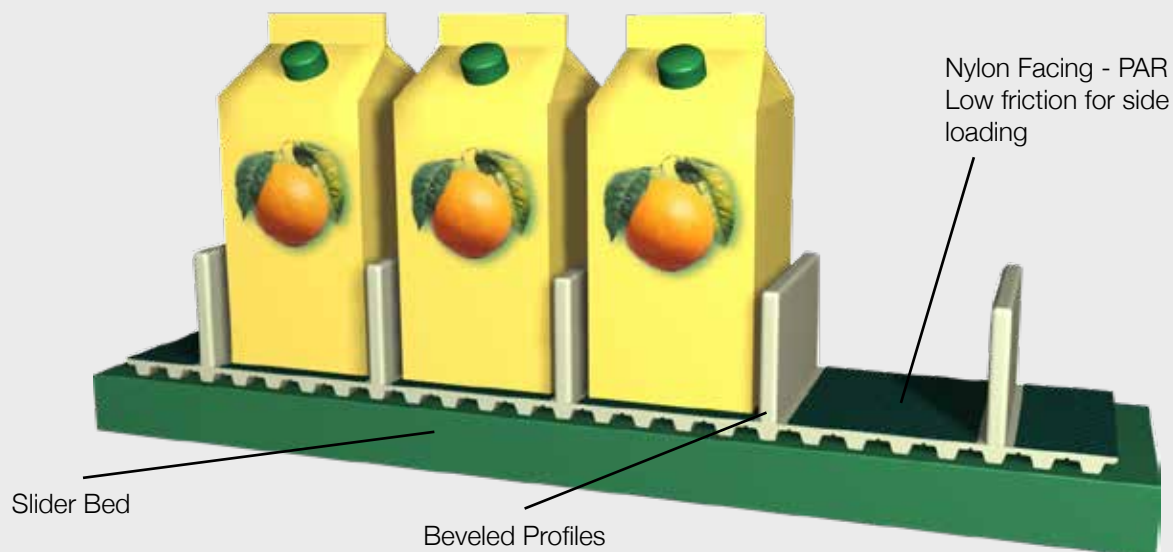
Weld-on Profiles

Application Examples

Cylindrical Product Conveying



Feeder Line for Juice Processing



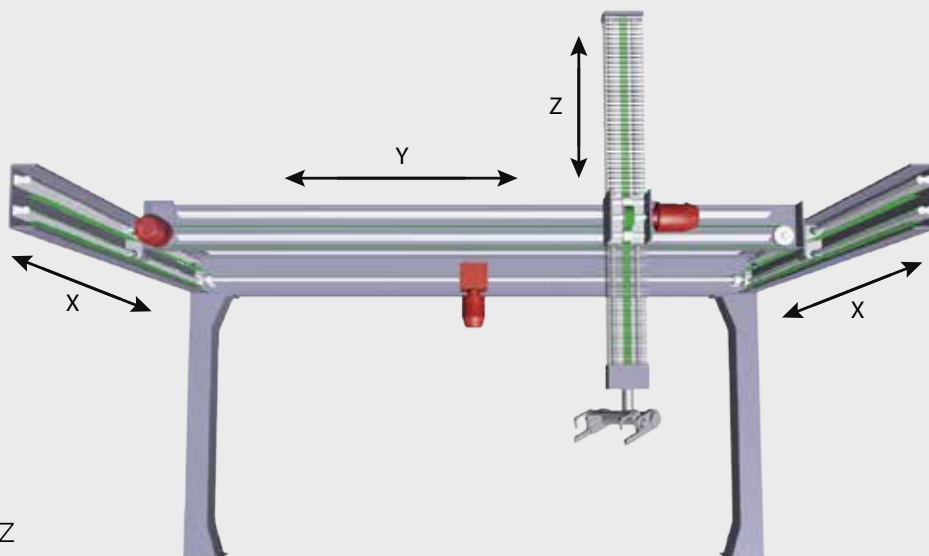
Weld-on Profiles

Application Examples

Profiled Timing Belt as Test Tube Carrier



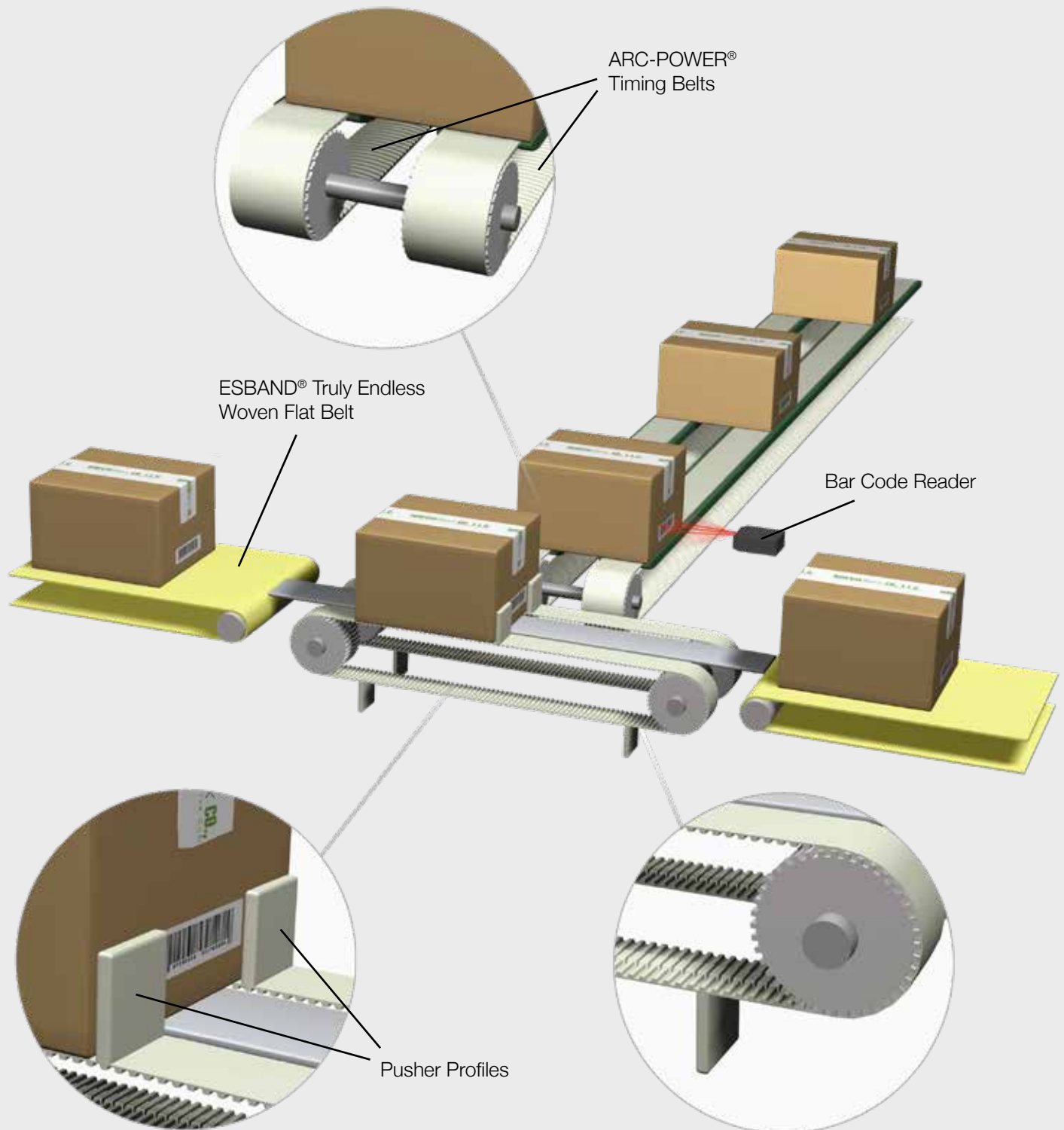
Pick and Place Linear Drive



Linear Drives - XYZ

Weld-on Profiles Application Examples

Sorting Station with Bar Code Reader



BRECOflex CO., L.L.C.

High Precision Drive Components

Contact Us

222 Industrial Way West, Eatontown, NJ 07724

Tel: 732-460-9500 • Fax: 732-542-6725

www.brecoflex.com • email: info@brecoflex.com

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