**ARTICULATED LOADING SYSTEMS**

**Belt Conveyor-based Loading Systems**

DYNATEK’s belt-based EconoLoader™ is the most versatile and economical articulated loader available. A variety of design configurations involving mild or stainless steel truss frame construction, troughing idlers, corrugated sidewall belts and even air-guided belt conveying, make this version of EconoLoader™ the right choice for loading applications involving granular, irregular, abrasive, sticky, even wet materials like coal, compost, sand, gravel, minerals and fertilizer.

Belt conveyor-based EconoLoaders™ consist of (2) open or enclosed conveying arms, each containing its own belt conveyor. Material enters the loader through an inlet in the main arm and discharges through the outlet or a dust recovery load-out spout at the end of the 2nd arm (loading arm).

Like all DYNATEK loading systems, belt conveyor-based models are designed for articulated motion. Two slewing bearing-based pivots, enable both conveyor arms to pivot separately resulting in nearly 330 degrees of rotation and loader reach of up to 27 feet. Loading is fast and convenient because you position the loader, not the truck, railcar or barge being loaded.

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**EconoLoader™ Specifications**

**Loader Type**
Articulated belt conveyor

**Construction**
Two carbon steel structural truss frames with CEMA-C type, lifetime lubricated idlers.

**Belts**
Two, 2-ply, 3/8" thick, black, oil and heat resistant EPDM belts driven with totally enclosed drum motors. Exact Belt specifications are application and material dependent.

**Loader Reach**
22 feet from inlet CL to discharge CL for truck loading. 27 feet from inlet CL to discharge CL for railcar loading. (longer lengths are optionally available)

**Loading Rate**
Belt widths of 18" & 24" can convey material at theoretical rates of more than 26,400 cubic feet / hour (Actual rates are material dependent)

**Arm Positioning**
Hydraulic or electromechanically-driven slewing bearings with capacities between 80,000 and 443,000 ft-lbs, rotate the loading conveyor up to 330 degrees horizontally at ½ - 1 RPM to provide articulated motion.

**Load-out**
Retractable Loading spouts with 3 to 60 feet of vertical travel and dust recovery

**Control**
Fully wired NEMA 4 control panel with hand-held control pendant allows a single operator to rotate both conveyor arms, raise / lower the loading spout and start/stop conveyor operation. Control voltage = 120 VAC, 60 HZ, 1 PH Motor voltage = 230 / 460 VAC, 60 HZ, 3 Ph (other NEMA-rated enclosures and voltage configurations are available)

**Finish**
White metal sand blast with gray epoxy primer and polyurethane final coat.
Loader Moves – Not the Transport Vehicle
Slewing bearings allow both conveyor sections to rotate up to 330 degrees and reach up to 30 ft. This “articulated motion” lets you precisely position the discharge point without having to move the truck, railcar or barge.

Easy Pendant – based Operation
Operation of the EconoLoader™ couldn’t be easier. A NEMA 4, hand-held pendant lets the operator drive the loader to the loading point, lower the loading spout into the hatch and start the loading process.

Conveying Rates For Belt Conveyor-based EconoLoaders™
A surcharge angle of 20 degrees was assumed for the calculations reflected in this chart.

<table>
<thead>
<tr>
<th>BELT WIDTH (INCHES)</th>
<th>TROUGH DEGREES</th>
<th>CROSS-SECTION AREA (Sq. Ft.)</th>
<th>CONVEYING RATES in Short Tons Per Hour Density of 100 Pounds Per Cubic Foot Assumed</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>BELT SPEED in Feet Per Minute</td>
</tr>
<tr>
<td>18</td>
<td>20</td>
<td>0.161</td>
<td>50 100 150 200 250 300 350 400</td>
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<tr>
<td>18</td>
<td>35</td>
<td>0.205</td>
<td>24 48 72 96 120 145 169 193</td>
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<tr>
<td>18</td>
<td>45</td>
<td>0.226</td>
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<tr>
<td>24</td>
<td>20</td>
<td>0.321</td>
<td>34 68 102 135 169 203 237 271</td>
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<tr>
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<td>48 96 144 193 241 289 337 385</td>
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<tr>
<td>24</td>
<td>45</td>
<td>0.440</td>
<td>61 122 183 244 305 365 426 487</td>
</tr>
</tbody>
</table>

Experienced and Tested
Over the years, DYNATEK has supplied a wide assortment of unique articulated loading solutions to customers like BASF, General Mills, Valero and Nucor Steel. Using screw, belt, drag and air slide conveyor based designs, DYNATEK Loaders are being used throughout the country to load materials like DDGS, calcium carbonate, silica, salt, soy meal, coffee and a host of other materials. So challenge us with your loading requirements, no matter how difficult and find out why so many companies prefer DYNATEK Articulated Loading Systems.

Load Point Control & Dust Recovery
Retractable loading spouts with or without dust collection, insure precise, clean loading.

Design Flexibility
Every DYNATEK EconoLoader™ is custom-engineered for the application so filling special customer requests is no issue. Here are some examples:
- Stainless steel frame construction
- Special conveying belts with/without corrugated sidewalls
- Loader reach radii > 27 ft
- Loading conveyor widths > 24 in
- Post, haunch or platform mounting
- Abrasion-resistant in-feed and discharge transitions
- In-feed control gates
- Special control features and DCS interfaces
- NEMA 7 or 9 control housings

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