https://web.archive.org/web/20160819111857/http://mcschroeder.com/wp-content/uploads/2012/09/Product-Spec-Sheet-Belt-EconoLoader.pdf

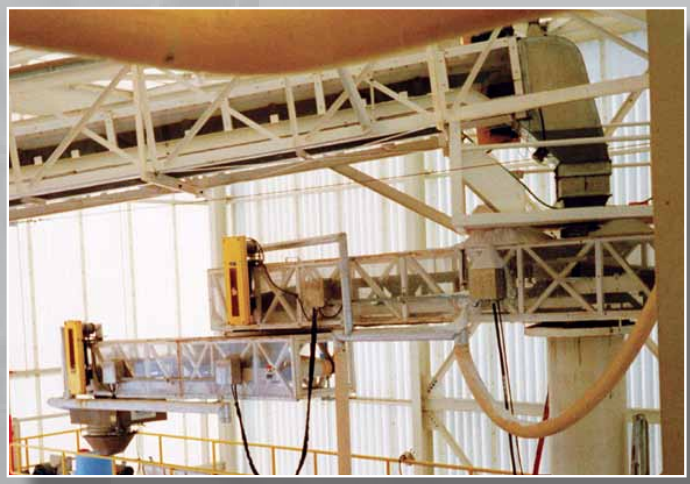
EconoLoader™ - Belt Conveyor Design

DYNATEK
ARTICULATED LOADING SYSTEMS

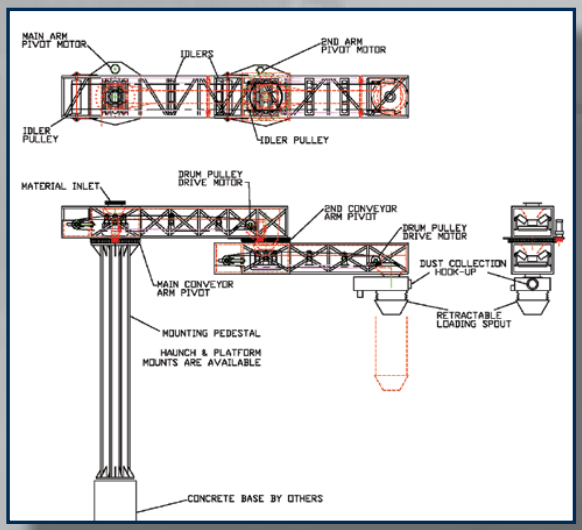
Belt Conveyor-based Loading Systems

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.



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.

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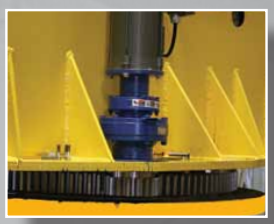
Loader Moves – Not the Transport Vehicle

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.

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

Conveying Rates For Belt Conveyor-based EconoLoaders™

A surcharge angle of 20 degrees was assumed for the calculations reflected in this chart.

BELT WIDTH (INCHES)	TROUGH DEGREES	CROSS-SECTION AREA (Sq. Ft.)	CONVEYING RATES in Short Tons Per Hour Density of 100 Pounds Per Cubic Foot Assumed							
			BELT SPEED in Feet Per Minute							
			50	100	150	200	250	300	350	400
18	20	0.161	24	48	72	96	120	145	169	193
18	35	0.205	31	61	92	123	154	185	215	246
18	45	0.226	34	68	102	135	169	203	237	271
24	20	0.321	48	96	144	193	241	289	337	385
24	35	0.406	61	122	183	244	305	365	426	487
24	45	0.440	66	132	198	264	330	396	462	528

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.

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