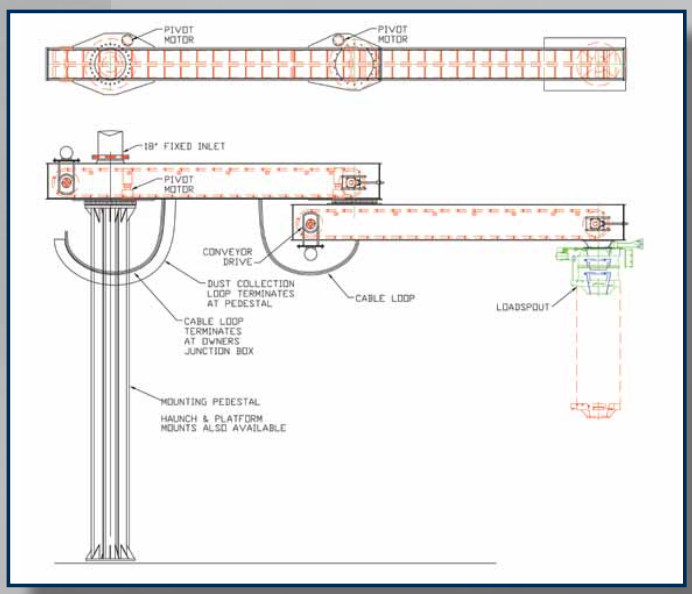
EconoLoader™ - Drag Conveyor Design

DYNATEK
ARTICULATED LOADING SYSTEMS

Drag Conveyor-based Loading Systems

DYNATEK's drag conveyor-based EconoLoader™ is preferred for the toughest materials and loading applications. Carbon steel box and structural truss frames, round or flat AR-grade steel bottoms and side plates and UHMW flights mounted on heavy duty steel chain result in loaders that are strong, yet versatile enough to handle everything from DDGS to abrasives like fly ash & cement – even hot materials. Drag conveyor-based loaders are also self-cleaning and fully enclosed so conveying is dust-free, even when loading at rates over 25,000 cubic feet per hour.

Like all DYNATEK loading systems, drag 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 drag conveyor
Construction	Main & 2nd Conveyor Arms = Carbon steel box or structural truss frames with AR-grade steel bottoms and side plates. UHMW flights mounted on heavy duty steel chain
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 Rates (theoretical)	12" conveyor running 175 ft. / min. = 10,350 bushels or 12,900 cu. Ft. / hr. 18" conveyor running 175 ft. / min. = 15,750 bushels or 19,650 cu. ft. / hr. 24" conveyor running 175 ft. / min. = 21,150 bushels or 26,400 cu. Ft. / hr. Actual rates are material dependent. Conveyor widths wider than 24 inches are optionally available.
Arm Positioning	Hydraulic or electromechanically-driven slewing bearings with capacities between 80,000 and 443,000 ft-lbs, rotate each arm up to 330 degrees horizontally at ½ - 1 RPM to provide articulated motion. Vertical positioning of the 2nd conveying arm is also available as an option.
Load-out	Retractable Loading spouts with 3 to 60 feet of vertical travel and dust recovery
Loader 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 voltages are available)
Finish	White metal sand blast with gray epoxy primer and polyurethane final coat.

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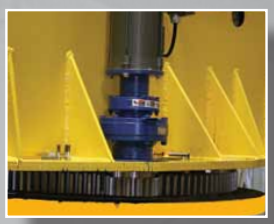
Loader Moves – Not the Transport Vehicle

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.



Dust Containment & Recovery

Retractable loading spouts with or without dust collection, insure precise, clean loading.

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.

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, drag chain and cleat construction
- Drag conveyor sizes > 24"
- Loader reach radii > 27 ft
- 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 Table For Drag Conveyor-based EconoLoaders™

SIZE	UNITS	SPEED FEET PER MINUTE									
		50	75	100	125	150	175	200	225	250	275
12"	BU/HR	69	3450	5150	6900	8600	10350	12050	13800	15500	18950
	CF/HR	86	4300	6450	8600	10750	12900	15050	17200	19350	21500
18"	BU/HR	105	5250	7850	10500	13100	15750	18350	21000	23600	26250
	CF/HR	131	6550	9800	13100	16350	19650	22900	26200	29450	32750
24"	BU/HR	141	7050	10550	14100	17600	21150	24650	28200	31700	35250
	CF/HR	176	880	13200	17600	22000	26400	30800	35200	39600	44000

Example: The theoretical conveying rate for an 18 inch wide drag conveyor moving at 150 feet per minute is 16,350 cubic feet per hour or 13,100 bushels per hour

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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