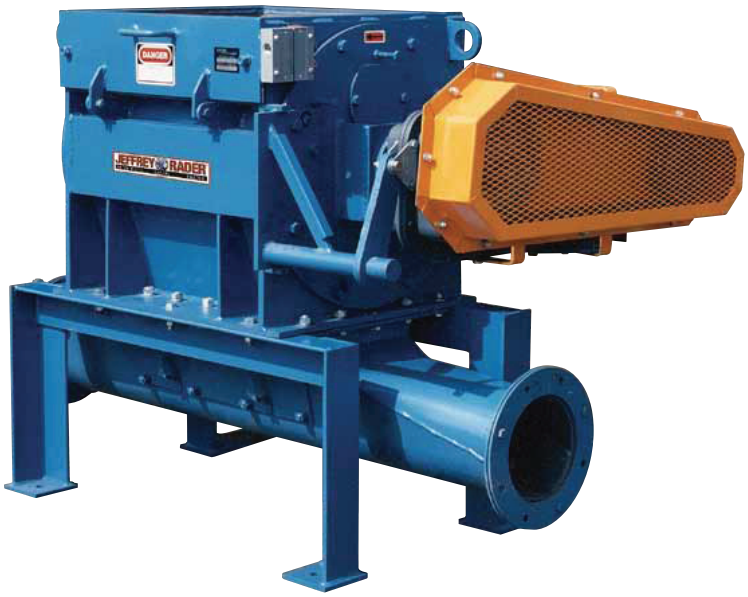
The Jeffrey Rader® Rotary Airlock Feeders

For feeding material into high/low pressure pneumatic conveying systems and boiler feed systems.



Features/Advantages

Jeffrey Rader® rotary airlock feeders deliver controlled material entry into high-pressure conveying systems while minimizing air leakage and pressure loss. They also perform reliably as infeed and discharge airlocks in low-pressure applications.

Jeffrey Rader® rotary airlock feeders set the industry standard—proven by thousands of installations operating reliably around the world.

We offer a complete line of premium new and OEM-rebuilt rotary airlock feeders. Each rebuilt unit is restored to rigorous design standards—providing like-new performance with substantial cost savings.

Functional Description

Jeffrey Rader® rotary airlock feeders are engineered for continuous-duty performance in demanding applications. Each unit features a rugged, reinforced box-style housing built to resist distortion from material shear forces during operation. The industrial housing is chrome-plated internally to maximize wear life and enhance corrosion resistance. At the core, a precision rotor assembly rotates within the housing bore, efficiently transferring material from the inlet to the discharge while maintaining a reliable air seal.

Material enters through the upper flange and drops into rotor pockets formed by the paddles. As the rotor assembly rotates, a top knife shears any material that has not fully settled into the pockets. The rotor continues to rotate with the material inside. As it reaches the discharge point, the material drops from the rotor pockets and lower flange, exiting the feeder by gravity. An optional bottom wear bar provides additional shearing for any material that doesn't fully release. The emptied pockets then rotate back to the intake position, and the cycle repeats.

Standard Model Information

All Jeffrey Rader® rotary airlock feeders are built from high-quality components. Each unit is precision-machined, expertly fabricated, and carefully assembled. Every machine is hand-inspected and rigorously tested at the factory to ensure proper operation before shipment.

The rotor features heavy-duty helical paddles reinforced by dual end plates for maximum rigidity. It is mounted on a large-diameter drive shaft using removable, self-centering locking assemblies for precise alignment and ease of maintenance. Rotor tips are hard-faced to deliver superior wear life and corrosion resistance, while the internal rotor assembly and shaft are supported by high-quality roller bearings for smooth, reliable operation.

Features/Advantages Cont.

Standard Feeders for Boiler Feed Systems:

- Ultra heavy-duty rotor and shaft assembly, featuring a rotor securely mounted to the shaft using precision shrink-fit locking assemblies.

Standard Feeders on All Models:

- Housing stress relieved post-fabrication, prior to machining.
- Top knife for shearing material at infeed.
- Stainless steel adjustment screws for top knife clearance adjustment.
- Top knife cover to prevent material build-up.
- Large, hinged top-access door provides quick, safe entry for top knife inspection, adjustment, and replacement. An integrated safety interlock switch ensures the system is disabled during access, adding an extra layer of protection.
- Packing glands ensure a tight, reliable seal on rotor shafts, which are hard-chromed in the packing area maximizing wear resistance and extending service life.
- Access door allows quick, convenient inspection.
- Shaft-mount reducers and torque arm mounts.
- Heavy-duty rotor and shaft assembly with precision-mounted rotor secured with self-centering locking assemblies.
- Adjustable brass seal rings at both ends of the rotor maintain tight clearances and significantly reduce air leakage.

Optional Features (partial listing):

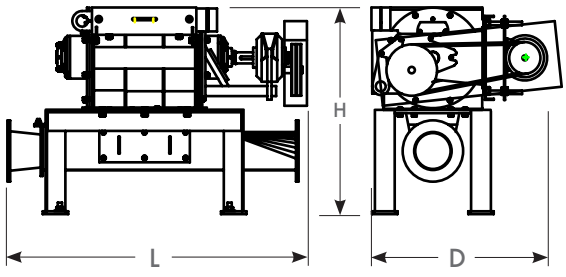
This partial listing of optional features may be specified at the time of order and, in many cases, can also be retrofitted to existing units. Contact a Jeffrey Rader® representative for more information on in-field modifications.

- Electric motor(s) by Jeffrey Rader®
- Torque arm brackets
- Optional drive arrangements
- Speed sensing to detect loss of RPM
- Anti-dusting baffle for infeed area of feeder
- Infeed impact plate to prevent excess wear on the feeder housing
- Sub-knife wear bar for protecting chrome or duplex stainless bore at infeed
- Bottom wear bar for protecting chrome bore at discharge
- Wear bar can be rotated four times to extend wear life
- Tee injector and mounting base for material infeed into a high-pressure pneumatic line
- Various special materials and/or coatings to meet specific operating conditions
- Special preparation, primer, and paint as required

Dimensions and Weights

IN. (MM) APPROXIMATE LAYOUT DIMENSIONS* AND SHIPPING WEIGHTS

MODEL**	HP	L	H	D	LBS (KG)
14 x 18	2 or 3	58" (1473)	39" (991)	36" (914)	789 (358)
20 x 20	3 or 5	67" (1702)	55" (1397)	40" (1016)	1,628 (738)
20 x 25	3 or 5	71" (1803)	55" (1397)	40" (1016)	1,872 (849)
20 x 30	3 or 5	76" (1930)	55" (1397)	40" (1016)	2,093 (949)
25 x 30	5 or 7.5	82" (2083)	63" (1600)	44" (1118)	2,980 (1,352)
25 x 35	5 or 7.5	89" (2261)	63" (1600)	44" (1118)	3,495 (1,585)
30 x 30	7.5 or 10	90" (2286)	77" (1956)	47" (1194)	4,478 (2,031)
30 x 35	7.5 or 10	94" (2388)	77" (1956)	47" (1194)	4,825 (2,189)
30 x 40	10 or 15	101" (2565)	77" (1956)	54" (1372)	5,398 (2,449)
30 x 45	10 or 15	106" (2692)	77" (1956)	54" (1372)	5,882 (2,668)



* Dimensions and weights shown are maximum for range within model size indicated. Certified drawings will be furnished for installation. Installation supervision is available.

** Larger models available on a custom basis — consult factory.

Call +1 855-483-7721 or email customer.service@astecindustries.com to find the sales representative nearest you.