

# Rotary Airlock Feeder

**For feeding material into high-pressure conveying lines  
in combustible/explosive dust applications.**

## Features/Advantages

The primary function of the E-HPS rotary feeder is to provide steady and continuous feeding to high and low pressure pneumatic conveying systems and boiler feed systems for high combustible/explosive dust applications where ATEX (or similar) compliance is required. The E-HPS Rotary Airlock is designed to remain intact under momentary high pressure situations of up to 10 bar (150 psi).

The E-HPS feeder allows entry of material into high-pressure conveying lines with a minimum of air and pressure loss. It can also serve as infeed and outfeed airlocks in low-pressure systems.

Jeffrey Rader has built thousands of rotary airlock feeders for worldwide applications and is considered to be the best in the industry for heavy-duty applications.

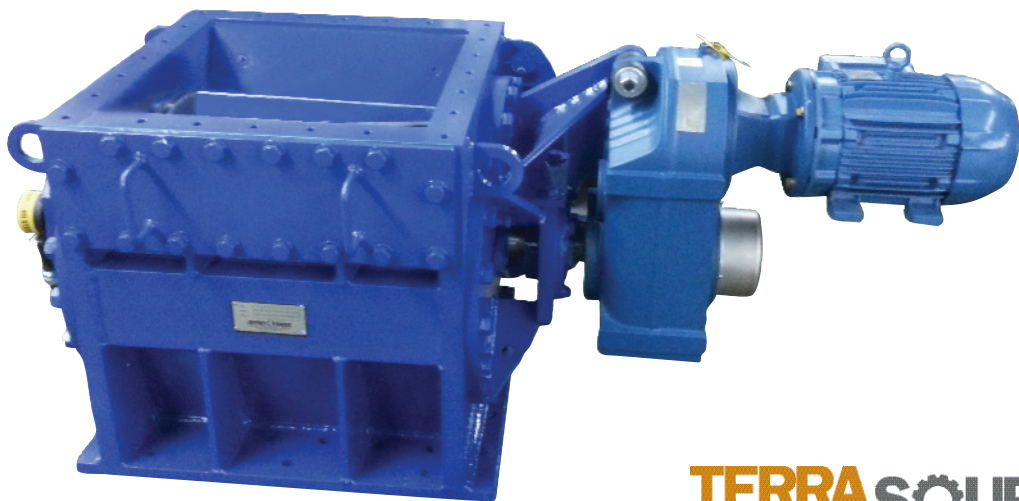
## Functional Description

All Jeffrey Rader rotary airlock feeders are designed for continuous duty service. The feeder consists of a heavy-duty, box-type housing that is rigidly reinforced to avoid distortion due to feed materials shearing during operation. The industrial housing is chrome-plated or fabricated from

duplex stainless steel for abrasion and corrosion resistance. Turning inside the housing bore, a rotor assembly moves material from the infeed of the feeder to the bottom discharge.

The rotor consists of heavy helical paddles with two end plates to increase rigidity. The paddles are mounted with removable shrink-type locking assemblies to a large diameter drive shaft and hard faced for extended wear and corrosion resistance. The internal rotor assembly and shaft run on high-quality roller bearings.

As material enters the feeder through the upper flange, material falls into the rotor pockets formed by the paddles. As the rotor assembly rotates, a top knife will shear any material that has not fallen completely into the pocket. The rotor, containing material, continues to turn. When the material reaches the bottom of the feeder, it falls out of the rotor pockets and lower flange of the feeder by gravity. An optional bottom wear bar is available to shear any material that does not fall completely out of the pocket. The rotor pocket then rotates back up into the starting position and the cycle repeats.





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### Features/Advantages (continued from other side)

#### Standard Model Information

All Jeffrey Rader rotary airlock feeders are manufactured of high-quality components, and are machined, fabricated and assembled with great care. All units are carefully checked by hand at the manufacturing shop for proper operation before shipment.

The following features are standard on this model:

- Housing stress relieved after fabrication, before 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 on the top knife.
- A large top knife access door for inspection, adjustment, and replacement of top knife. A safety switch is supplied to interlock to system as a back-up safety device.
- Packing glands provide positive sealing on rotor shafts which are hard chromed in packing area for long life.
- Access door provided in end cover for easy inspection.
- Shaft-mount reducers and torque arm mount are standard.
- Extra heavy-duty rotor and shaft assembly, with rotor mounted onto shaft with shrink-type locking assemblies.
- Extra heavy-duty housing sufficient for rated pressure.
- Lower RPM rotor speeds to reduce tip speed and potential for spark generation in dusty environments.

#### Optional Features

Below is a partial listing of optional features that may be selected at the time of order. In many cases, features may be added to existing units. Contact a Jeffrey Rader representative for more information on in-field modifications.

- ATEX certifications as required from authorized notifying body.
- Electric motor(s) by Jeffrey Rader.
- 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.

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