CLAUDIUS PETERS

Components

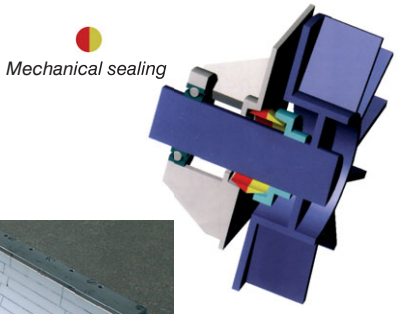
Rotary Feeder TWA

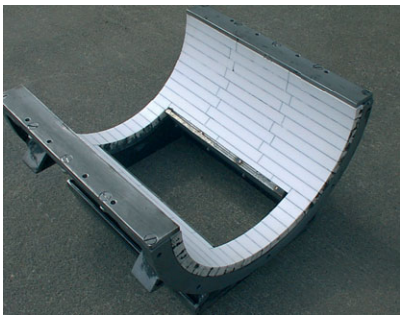
The TWA Rotary Feeder represents a drastic change in design compared with common rotary feeder technology. The 500 Brinell Ni-Hard rotor cell as well as the 500 Brinell Ni-Hard liner have clearly higher lifetimes than the traditional rotary feeders (e.g. coated with tungsten carbide). The wear is further minimized by a total of 12 chambers and thus 12 sealing webs.

In addition to a long lifetime, the rotary feeder construction shows further innovative features. The wear can be measured with the rotary feeder installed in place. Gap increases due to wear can be corrected in the installed condition and can be reduced to the original size. Due to the mechanical shaft seal the operational safety is further increased. Technically outdated solutions such as stuffing boxes or sealing gas labyrinths are no longer required.

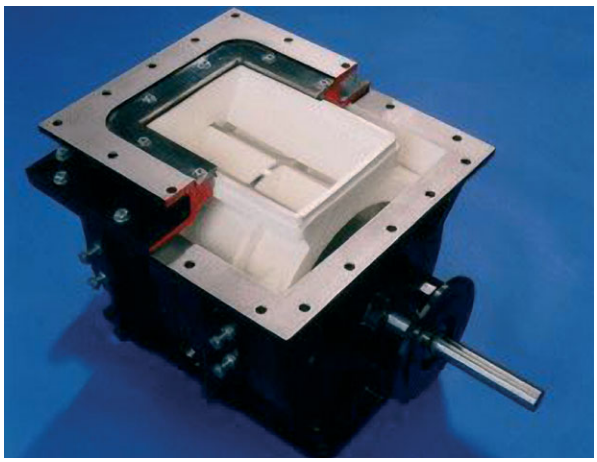
Fields of application

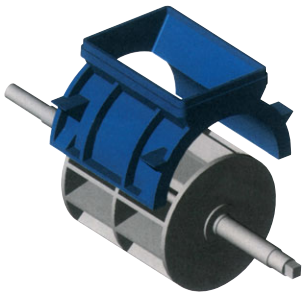
- **Optimum use as feed element for pneumatic conveying systems**
- **Highest wear protection by ceramic inserts allow for conveyance of highly abrasive materials such as clinker, fly ash, alumina, sands, slag sand meal, metal sanding dust**





Ceramic plate lining of liner

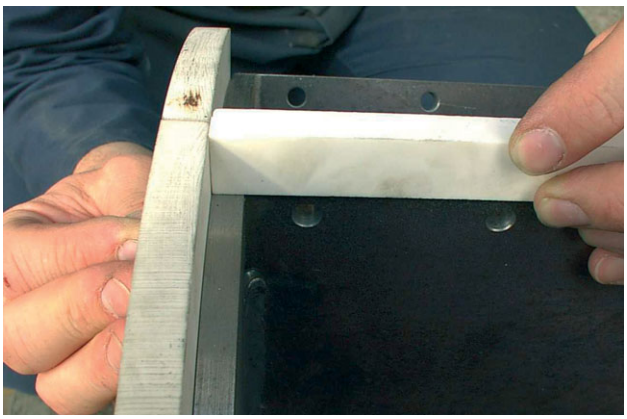




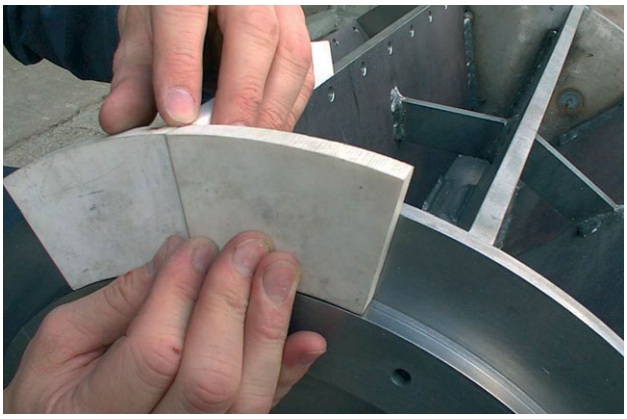
Advantages of the Rotary Feeder TWA

- **Rotor cell and liner in the basic version are of wear-resistant NiHard (Mohs' hardness 5)**
- **Feeder with ceramic plate lining at rotor cell and liner for highly abrasive materials (Mohs' hardness 9)**
- **With the valve in-situ, the gap between the rotor and liner can be adjusted to take account of product variation and even wear**
- **Mechanical shaft seals, practically maintenance-free**
- **Maintenance-free direct IP55 gear motor**
- **Exterior bearing, lifelong sealing**
- **Rotor cell and liner exchangeable for repair**
- **High-temperature design possible up to 220°C**

Rotary Feeder TWA



Installation of ceramic elements at rotor perimeter



Installation of ceramic edge disks at the rotor

Rotary Feeder TWA with ceramic lining

The main requirements on modern high-capacity rotary feeders consist of an optimum wear concept as well as an intelligent shaft seal.

Wear occurring during operation at the rotor and the housing, leaky shaft seals and a high leakage gas quantity are often the main problems in the use of rotary feeders.

The development of the Rotary Feeder TWA is based in particular on these operational requirements. A combination of NiHard components and mechanical shaft seals increases the lifetime of the rotary feeder by almost ten-fold when compared with standard feeders. The maintenance requirements are drastically minimized.

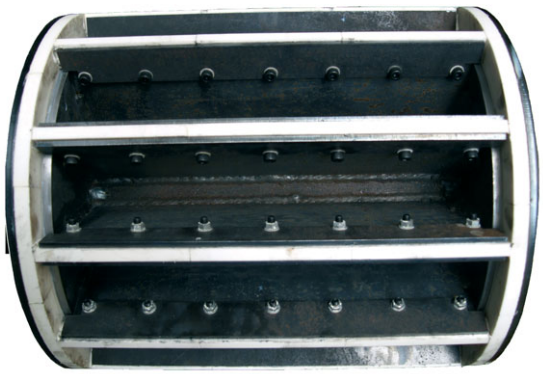
The ceramic plates developed as option for the Rotary Feeder TWA show excellent lifetimes in practical use, even in case of very abrasive bulk solids.

The ceramic plates are cut in such way that they can be arranged in a self-supporting manner, similar to a Roman arch. To avoid movement the plates are fixed to the base material by means of a special ceramic epoxy resin. Compared to the common epoxy resin, this special epoxy is much harder and thus ideally suited for this task.

High production accuracy as well as an optimum adjustment of the clearance between rotor cell and bushing allow for an operation with the smallest gaps possible and lead to minimized leakage gas quantities.

TWA [Size]	Chamber volume [l/r]	Volume flow at 20 rpm [m^3/h]	Construction height [mm]
200	3,4	4,1	328
250	7	8,4	374
300	14	16,8	450
350	24	28,8	520
400	34	40,8	578
500	80	96	710
600	125	150	780
800	225	270	924
1000	643	770	1160

Actual flow will not be 100% - depends on material and pressure



Installed rotor cell with ceramic wear elements

A Langley Holdings Company

Claudius Peters Projects GmbH
Schanzenstraße 40 | D-21614 Buxtehude | **Germany**
T: +49 4161 706-0 | E: projects@claudiuspeters.com
www.claudiuspeters.com

CP Components (GB) 09/2015/Issue 1