

EA Type-1

What it is

The MECO EA Type-1 seal is a fully-split water-flushed slurry seal designed for wet pulp and paper applications with low shaft speeds (< 1,000 sfm) and pressures (< 30 psig). It is also used in wet cementitious materials like drywall mud, stuccos and grouts and fluids as found in flocculators and other water treatment systems.

How it works

The seal uses a wide drive elastomer to lock two, stainless steel rotors to the shaft, forcing the elastomer and rotors to turn with the shaft. The rotors act like rotating thrust washers and the elastomer ensures a watertight seal against the shaft. A self-lubricating polymer stationary face is built into each of two stainless steel housings. The rotors and elastomer are sandwiched between these stators. An elastomer adjusting gasket, fitted into a groove in each of the stationary housings, creates a watertight flush cavity. Cooling water at zero pressure is fed into the top of the seal and allowed to drain out the bottom, providing cooling for the seal faces and expelling any particulates which may migrate past the primary seal face.

Since the flush water is never allowed to build pressure within the seal's flush cavity, no dilution of the process material takes place.

Applications

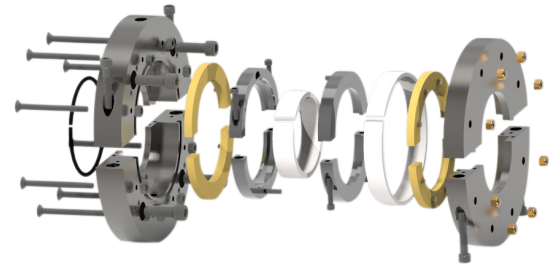
The EA Type-1 is used on horizontal and vertical shaft paper stock chests and pulpers, as well as mixing and conveying equipment processing abrasive cements. The seal can contain the large shaft runout typical of pulpers and cantilevered propeller agitators and performs well in abrasive slurries. The EA Type-1 is used in pulp and paper, home building products, sewage and water treatment, biomass and ethanol production, as well as other processes involving water-based slurries.

EA Type-1 machine applications

- Pulpers
- Agitators
- Mixers
- Stock chests
- Flocculators
- Conveyors

EA Type-1 process material applications

- Wet abrasive slurries
- Paper pulp
- Drywall or sheetrock mud
- Water-borne biomass
- Sewage and water treatment fluids
- Grouts and stuccos



EA Type-1 features:

- ✓ Fully split
- ✓ Elastomer driven
- ✓ Water-cooled



BEFORE: Stuffing box on a 4" paper stock agitator



INSTALLATION

Sizing & material options

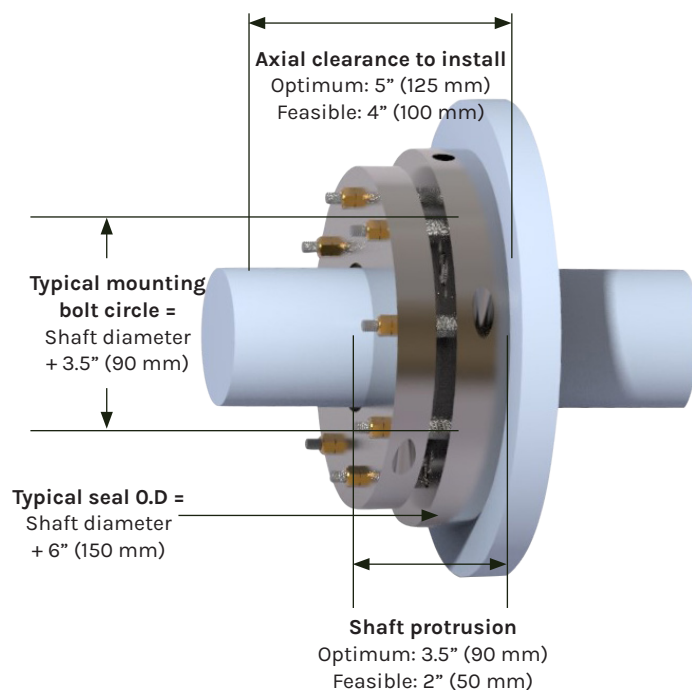
The EA Type-1 seal is custom-designed and manufactured to fit each application's needs. Shaft sizes typically range from 3" (76mm) up to 16.5" (420mm) but other sizes are possible. Seal housings are typically manufactured of 316L stainless steel and rotors of 17-4 stainless steel, with other alloys available. Drive elastomers and sacrificial stators can be manufactured from a variety of polymer materials, according to each application's needs. Seals are typically built fully-split for ease of installation and maintenance.



AFTER: EA Type-1 on a 4" paper stock agitator

Fully-split

FOR EXTERNAL MOUNTING



Maintenance

Periodic inspection of the flush water to ensure it is free-flowing is recommended to maximize the seal's mean-time-to-repair (MTR). Over time, the process fluid may cloud the flush water, indicating that an adjustment might be necessary. The seal can be manually adjusted for wear without emptying the vessel by measuring the distance between the housings and reducing it by a predetermined amount.

Monitoring the condition of the flush water, the temperature differential between the inlet and outlet, and the seal's ability to temporarily withstand back pressure can help determine if the seal is properly installed or requires adjustment. If the seal can no longer contain the flush water or cannot be adjusted further, a rebuild will be necessary. The seal may be rebuilt on-site or returned to Woodex-MECO for factory refurbishment. All seal faces and elastomers are fully split and replaceable and stainless steel faces can often be returned to the factory for refurbishing.



To learn more and to find out if the **EA Type-1 Seal** is the right seal for you, please give us a call, or submit an online application today!

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