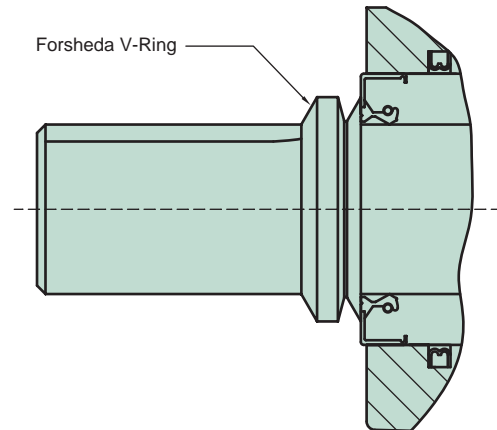


# Seal Modifications And Combinations

SE Encore worm gear speed reducers incorporate a single seal design that provides superior service for a majority of applications. SE Encore products can also be equipped with specially designed seals made from a variety of materials, for applications with severe requirements.

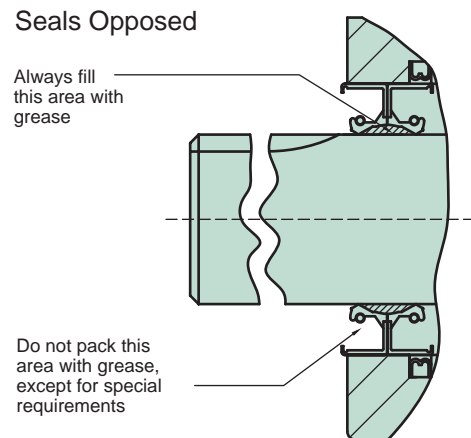
## V-RING SHAFT SEALS

V-ring shaft seals are external flinger seals that protect a primary seal from external contamination. They effectively keep contamination from reaching the primary seal lip thereby extending the primary seal life in harsh environments. The V-ring moves with the shaft providing a “flinger effect” created by centrifugal forces that develop from the shaft rotation. V-ring seals are available on any shaft having enough uninterrupted shaft surface in front of the primary seal to allow proper installation.



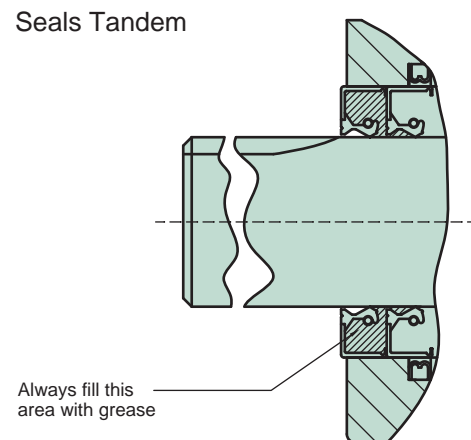
## OPPOSED SEALS

In special cases where V-ring shaft seals can not be used, Winsmith recommends double seals in an “opposed” mounting configuration for protection from external contamination. The inner seal faces the bearing and acts as a retainer for the lubricant inside the reducer. The second seal, facing the opposite direction, works to exclude contaminants. Packing the area between the two seals with grease ensures lubrication of the exterior seal.



## TANDEM SEALS – NOT RECOMMENDED

Winsmith does not recommend the use of tandem seals because this configuration is only proven partially effective as a preventative practice. Further, the use of more than one seal on the input shaft is not recommended because the additional friction created by the second seal increases heat generation, reducing seal life.



# Seal Modifications And Combinations

## BEARING ISOLATORS

Bearing isolators are dynamic seals that provide bearing protection and no leakage of lubricant during operation. They also provide total exclusion of outside contaminants. They are comprised of a rotor (rotating) and stator (stationary) member designed with labyrinth type or O-ring construction. Bearing isolators must be used in conjunction with a lip seal. Please contact Winsmith for availability.

## OPTIONAL SEAL MATERIALS

A variety of seal materials for applications with excessive requirements are available on SE Encore worm gear speed reducers.

## FLUOROELASTOMER (aka, Viton®)

Seals made of Fluoroelastomer materials are designed for improved chemical resistance and higher temperature capabilities when compared to seals made of NBR materials. These seals can be used on any shaft in the SE Encore product line.

## PTFE (aka Teflon®)

Seals made from PTFE (Polytetrafluoroethylene) provide a very low coefficient of friction against the shaft and are inert to most chemicals and fluids. Additionally, PTFE seals operate within a wide temperature range and can be augmented with fillers for enhanced wear resistance properties.

## OTHER MODIFICATIONS

### LONG TERM STORAGE

SE Encore worm gear speed reducers are normally prepared to go into service within a few months of the manufacture date. Products that will be put into storage for six months or more should be prepared for long term storage. This option includes:

- 100% filled with Mobil Glygoyle 460 lubricant. Instructions are provided for draining to the proper operating level prior start-up.
- Shafts and bores are covered with a rust preventative.

### SOLID LUBRICANT BEARINGS

In certain speed reducer mounting positions, when there is a concern that some bearings will not receive proper lubrication, a grease fitting is installed to allow external maintenance of these bearings. Occasionally, the application and mounting prohibit accessibility to the lubrication port. In these cases, the bearing can be impregnated with a solid lubricant that will provide adequate lubrication for extended operation. Solid lubricant bearings are available for output shafts only.

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