

Rotary Seals for Wind Energy

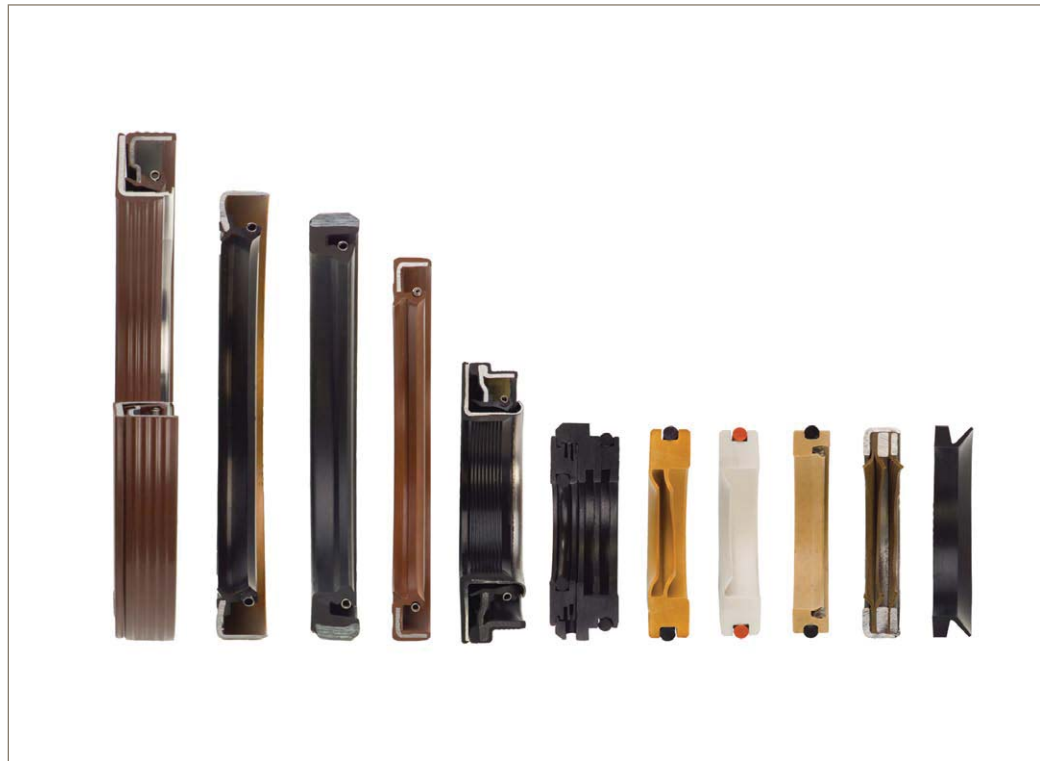
Vast range of profiles with proven longevity



Parker rotary seal advantages:

Parker is uniquely positioned to provide wind turbine manufacturers world-wide availability to a wide range of sealing solutions. We work with our customers to provide solutions to meet their service life objectives — from short term, cost effective solutions to 20 year service life. Quick response to customer needs is facilitated by engineering, manufacturing and logistics capabilities which include:

- In-house tooling
- CAE including finite element analysis (FEA) for rapid prototypes, design and delivery
- Global footprint for service and support when and where you need it.



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Product Features:

- High performance materials and patented designs deliver reliable, long seal life
- Expansive selection of profiles in size ranges from 1/2" to 80" dia (12mm to 2032mm)
- Split seal profiles available for easy installation
- Parker's global service, support, and availability is unmatched
- Short lead times on design, tooling and product



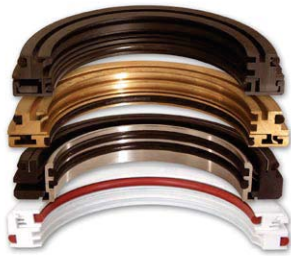
ENGINEERING YOUR SUCCESS.

ProTech™ Advanced Seal Technology

Upgrading to ProTech provides:

- Greatly extended seal life for the life of the bearing
- Energy efficiencies
- Design change ease
- Availability of split designs facilitate easy field repairs
- Wide range of available materials

Standard ProTech designs are available in sizes to 38", (965mm) diameter. Custom sizes as well as custom designs are available to 72" diameter (1828mm).



ProTech bearing isolator seals are available in a wide range of materials, including PTFE, metals & alloys.

Feature	Benefit
Non-contact design	<ul style="list-style-type: none"> • Improved energy efficiencies with virtually no torque consumption • Will not damage shaft due to friction or drag
Two-piece unitized construction	<ul style="list-style-type: none"> • Complete exclusion of dust and water • Zero oil leakage • Fewer components • Easier installation
Accommodates greatest axial movement in the industry	<ul style="list-style-type: none"> • Reduces a major factor causing labyrinth seal leakage
Fluoroelastomer O-rings	<ul style="list-style-type: none"> • Static elastomer seal for the most severe services
High shaft speeds	<ul style="list-style-type: none"> • Operates far beyond shaft speed limits of standard radial lip seals • Liberal specifications for shaft and bore finish result in cost savings
Precision machined seal	<ul style="list-style-type: none"> • Design changes are easily accommodated • Allows retrofit of most bore and shaft combinations
Can be split	<ul style="list-style-type: none"> • Easy installation for field retrofits where equipment cannot be uncoupled or disassembled. Requires no wear sleeves or shaft refurbishment.

Clipper® Oil Seal Profiles

Clipper® Oil Seals feature an integrally molded rubber fiber outer case and an elastomeric seal lip. The unique, nonmetallic construction will not rust or corrode and forms a gasket-type seal between the equipment housing and the seal outside diameter. Clipper split seal profiles are known as the easiest to install because they do not require a coverplate and may be replaced in the field with minimal downtime.

Profile	Features
<p>LUP LPD</p>	LUP and LPD profiles: General purpose spring-loaded single lip seal. Features non-metallic composite OD for damage-free installation. LPD can be furnished with/without spring retainer feature.
<p>LPD LDS</p>	LDS profile has a primary spring-loaded lip with a non-spring-loaded secondary lip for exclusion of light dust or contamination.
<p>RUP RPD</p>	RUP/RPD profiles. Used for split seal requirements at lower shaft surface speeds.

