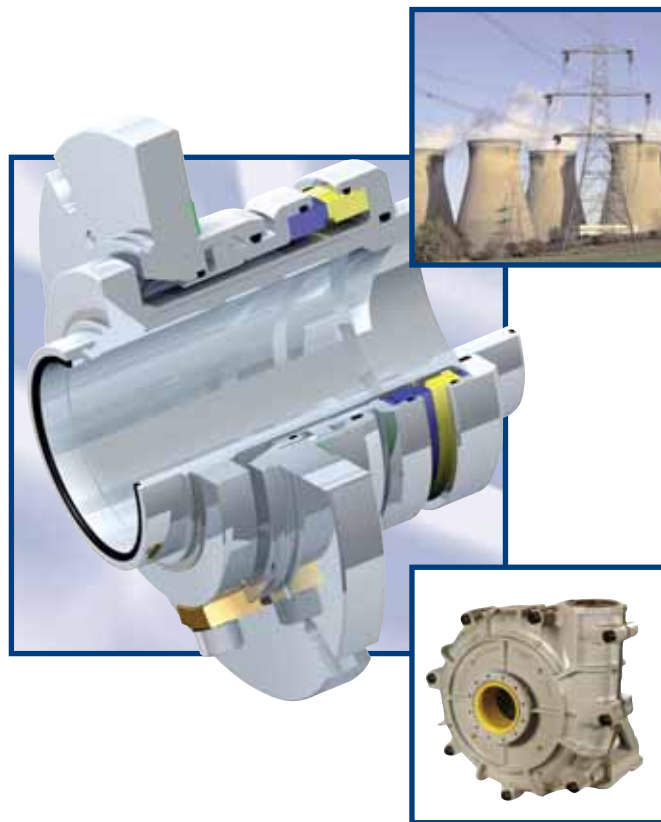




ENVIRONMENTAL TECHNOLOGY

FGDSS™

Low/Medium-Duty Single Slurry Seals



- SINGLE SEAL SUITABLE FOR ALL FGD, MINING AND MINERAL ORE PRODUCTION APPLICATIONS
- LONG LASTING, ABRASION-RESISTANT MATERIALS OF CONSTRUCTION
- ROBUST CONSTRUCTION DESIGNED FOR EASE OF INSTALLATION
- OEM & NON-AES SEAL REPAIR AND UPGRADE SERVICE
- RAPID DELIVERY ON ENGINEERED AND CUSTOMIZED DESIGNS

Slurry Sealing - Over Two Decades of Sealing Expertise

AESSEAL® has been successfully sealing slurries for decades throughout all industries including:

- Mining & Mineral Extraction: Cutting Heads and Conveying
- Pulp & Paper: Black Liquor, Coatings and Medium/High-Duty Stock Processing
- Power Generation: Flue Gas Desulphurization/Scrubbers and Coal Slurry
- Waste Water Production: Macerators and Digested Sludge
- Textiles: Dye Liquors and Fibrous Slurries
- Off-Shore Production: Sand/Gravel Oil Extraction
- Building Services: Asphalt, Pitch, Sand and Cement

Over the years, AESSEAL® has sealed nearly ALL major slurry equipment types and models. Solutions for some of the more commonly encountered manufacturers include Warman, Denver Orion, Goulds and KSB.

Our wide range of seal support systems and bearing protectors complement the mechanical seal range, enabling the supply of TOTAL packaged solutions for all slurry applications.



Slurry Pump

Why Consider AESSEAL® for Slurry Sealing Applications?

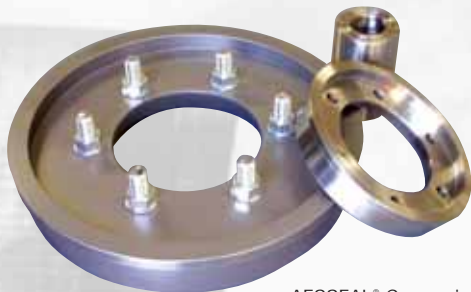
- Conformance to increasing environmental, EPA and government legislation
- Improved equipment reliability and performance
- Rapid delivery performance, including customized designs
- Full upgrade and replacement service for OEM and non-AES products
- Total Solutions: Absorber Pumps, Pre-Sat Pumps, Agitators, Ball Mills, Centrifuges, Conveyors and Electric Motors



Power Station Absorber

Successful Sealing - Change the Environment on Old Equipment

Not ALL sealing solutions are the same. Equipment reliability improvements can be made by changing the seal environment and/or upgrading the seal design.



AESSEAL® Conversion Kit

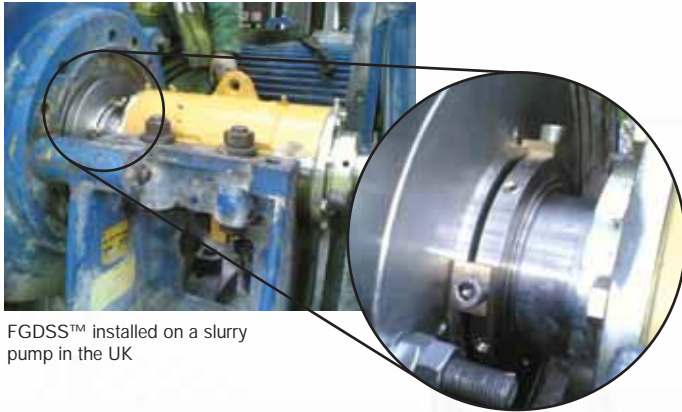
AESSEAL® can provide inexpensive seal conversion kits to upgrade non-AES seal designs or to change the OEM equipment seal environment, dramatically improving seal life.

- **Creates an ideal seal environment**
- **Produced in a wide range of abrasion/chemical resistant materials**
- **One-off purchase**
- **No primary equipment/shaft wear**

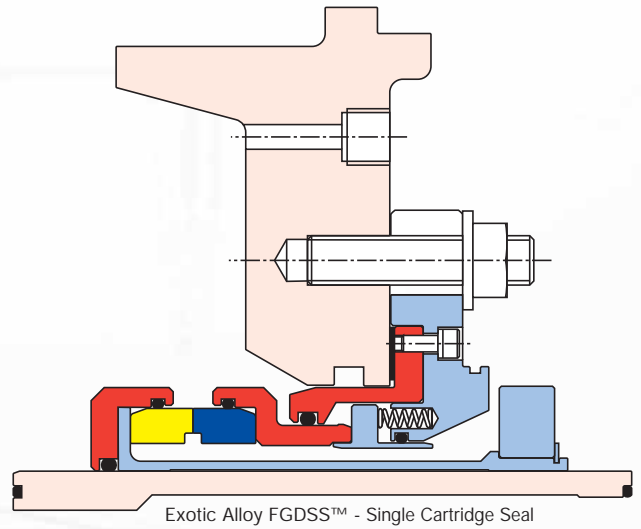
AESSEAL® offers a full repair service for most of the common slurry seals found on the market today. This service includes:

- **The supply of new faces in silicon carbide and/or tungsten carbide**
- **Replicated exotic alloy metallic components**
- **Metal recovery spraying of worn seal areas, particularly the seal carrier**

FGDSS™ - Single Cartridge Seals for FGD and Slurry Duties



FGDSS™ installed on a slurry pump in the UK



Shaft Size*†	up to 9.500" (240mm)
Face Materials	Silicon Carbide and Tungsten Carbide
Elastomer Options	Viton®, EPR, Nitrile, Kalrez® & Alfas®

* Not all sizes inventoried, not all metallurgies may be offered in all sizes. Contact your nearest AESSEAL® office for availability

Design Feature	Customer Benefit
Generally available in 316L Stainless Steel, DIN 1.4462 Duplex, Alloy 255 and Alloy C276†	Improved abrasion and erosion resistance creating seal longevity ✓
Metal-to-metal fits	Improved alignment and seal performance ✓
Robust drive mechanisms (non-elastomeric)	Reduced possibility of seal face damage ✓
Large radial clearances and shrouded multi-spring design	Improved seal face loading, which increases seal life ✓
No flush port/connection	Removes the need for gland seal and service water ✓
Hydraulically balanced seal faces	Reduced seal face heat generation and improved life ✓
Can be supplied and adapted to suit any slurry pump	No equipment modifications required ✓

† Exotic materials may not be available in larger sizes. Other sizes and/or materials may be offered subject to review & approval by AESSEAL® technical department



Component manufacturing facilities at AESSEAL plc Derby, one of over 40 authorized repair centers worldwide

The AESSEAL® global repair facilities manufacture and refurbish components from a range of materials including standard and exotic metals, plastics, PTFE and carbon. Diamond grinding facilities are available for hard-face materials, such as ceramics and carbides. Diamond lapping equipment enables the lapping of seal faces up to a diameter of 34" (864mm), to within two helium light bands. Multi-axis CNC machine tools are used to machine complex components providing an automated solution - from CAD to CAM.

AESSEAL® FGDSS™ slurry seal designs suit the equipment shown in the table below and / or similar equivalent pumps:

OEM	Model	OEM	Model
Warman®	1.5/1 B-AH	Warman®	8/6 F-AH
Warman®	3/2 C-AH	Warman®	10/8 F-AH
Warman®	4/3 D-AH	Warman®	10/8 G-AH
Warman®	6/4 E-AH	Warman®	650 TUL

"A full OEM and Non-AES seal refurbishment and upgrade service."

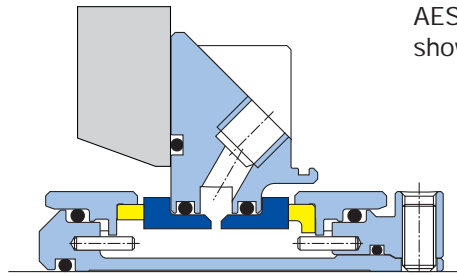
Double Cartridge Seals - Medium/Heavy Duty Range



Double seal and SSE-25™ System installed on a Slurry pump

AESSEAL® has a comprehensive product range designed to seal slurries, including but not limited to Vulcanized Spring Disk single-cartridge seals and high-pressure double seals with pumping rings and/or tungsten carbide wetted materials that provide ultra abrasion resistance to the processed slurry media.

The CDPH™ range of double cartridge seals shown, are suitable for use with a wide range of slurry pumps, including Warman A/H Slurry pumps as shown in the table. In South Africa, CDPH™ seals have been installed on Fly Ash Transfer pumps replacing gland packing. The CDPH™ seals with SSE-25™ support systems have reduced water consumption by over 200 litres/minute (50 gallons/minute).



CDPH™ Cartridge Double for heavy duty slurries

AESSEAL® CDPH™ slurry seal designs suit the equipment shown in the table below and/or similar equivalent pumps:

OEM	Model	OEM	Model
Warman®	1.5/1 B-AH	Warman®	8/6 F-AH
Warman®	3/2 C-AH	Warman®	10/8 F-AH
Warman®	4/3 D-AH	Warman®	10/8 G-AH
Warman®	6/4 E-AH	Warman®	650 TUL

Bearing Protection - All Rotating Equipment

Typically, wherever there is slurry, there is abrasive dust that works its way into the bearings of the rotating equipment.

AESSEAL® is a world leader in bearing seal technology and has a proven product range to seal all types of aggressive environments, specifically those synonymous with sealing slurries.



LabTecta™ installed on an Alumina Electric Motor duty

Applications

- Conveyor sealing
- Pillow block sealing
- Gearbox sealing
- Electric motor sealing
- Pump & agitator sealing
- Fans and blower sealing

Bearing Seal Designs

- Contact seal designs
- Non-contact seal designs
- Designs that accept angular misalignment
- Designs that accept axial shaft movement
- Split seal designs
- Air purge designs



LabTecta-OAP-PB™ installed on a Pillow Block duty

THIS DOCUMENT IS DESIGNED TO PROVIDE DIMENSIONAL INFORMATION AND AN INDICATION OF AVAILABILITY. FOR FURTHER INFORMATION AND SAFE OPERATING LIMITS CONTACT OUR TECHNICAL SPECIALISTS AT THE LOCATIONS BELOW.



USE DOUBLE MECHANICAL SEALS WITH HAZARDOUS PRODUCTS. ALWAYS TAKE SAFETY PRECAUTIONS:

- GUARD YOUR EQUIPMENT
- WEAR PROTECTIVE CLOTHING



UK Sales & Technical advice:

AESSEAL plc
Mill Close
Templeborough
Rotherham
S60 1BZ
United Kingdom

Telephone: +44 (0) 1709 369966
Fax: +44 (0) 1709 720788
E-mail: seals@aes seal.com
Internet: http://www.aes seal.com

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Our Purpose *'To give our customers such exceptional service that they need never consider alternative sources of supply.'*

International Repair Centre:

AESSEAL plc.
Wetherby Road
Osmaston Park Industrial Estate
Derby
DE24 8HL
United Kingdom

Telephone: +44 (0) 1332 366738
Fax: +44 (0) 1332 298195
E-mail: repairs@aes seal.co.uk