



LabTecta® 66PB-HD

Bearing protector engineered for misalignment
in extreme conditions



- Eliminates the cause of over 50% of bearing failures
- Designed for extreme environments such as mining conveyors in hot and dusty climates
- Extended bearing and equipment life
- Ultimate protection against bearing contamination
- Extended grease lubrication requirements
- Reduced operating temperature due to non-contacting design





LabTecta®66PB-HD (Heavy Duty)— Plummer / pillow block design

Introducing the world's first conveyor bearing isolator designed specifically for mining, manufactured to fix the most common bearing failure on a mine.

Suitable for extreme environments and developed in collaboration with mining end users in conveyor applications. Sealing split bearing blocks has always been a challenge due to significant variations in alignment between the shaft and bearing block. Traditional competitor designs and labyrinth rings rely on large clearances to accommodate angular misalignment but offer minimal protection against contamination. Meanwhile, contact sealing solutions suffer from short lifespans as misalignment quickly wears down the sealing surfaces (plus the need for regular maintenance if oil lubricated)

AESSEAL® has solved this issue with the LabTecta®66PB-HD, engineered to absorb misalignment while maximizing seal performance (with no external oil or bearing lubrication requirements). This allows you to benefit from LabTecta®66 technology, which helps eliminate the primary cause of over 50% of bearing failures. The AESSEAL® LabTecta®66PB-HD is a stand-alone bearing isolator that requires no additional support systems (reduction in using hydrocarbon oils is also helpful for the environment). Its unique design effectively retains lubrication while keeping out water and dust, ensuring optimal bearing protection.



Key Benefits:

- Specifically designed for conveyors in the mining industry in collaboration with a world leading mining organization
- Extends bearing and equipment life
- Utilizes LabTecta®66 contamination prevention technology (patent pending)
- Reduces lubrication intervals
- Improves lubrication retention
- Lower energy consumption via non contacting technology



LabTecta®66PB-HD — engineered for misalignment in extreme conditions



ATEX Certified

Complying with ATEX directive 2014/34/EU, the LabTecta®66PB-HD is available on request certified for use in Group I M2 (Mining) and Group II Cat 2 & 3 (Zone 1/21 & 2/22) equipment.



IP66 Certified

The LabTecta®66PB-HD has been independently assessed to IP66 in both Australia (Simtars) & Global (CML).



Ingress Protection code rating

The premier third-party standard for Ingress Protection.

Protection Rating against solids

Level 6 — Defined as "No ingress of dust; complete protection against contact."

IP66

Protection Rating against water.....

Level 6 — Defined as "Water projected in powerful jets (0.5" / 12.5mm nozzle) against the enclosure from all practicable angles shall have no harmful effects". Tested with at least 26 US gallons (100 litres) per minute for at least 3 minutes, while equipment is both static & rotating.



Extensive slow speed application specific testing

In addition to achieving ATEX and IP66 certification, AESSEAL® has conducted extensive internal testing of the LabTecta®66PB-HD. This process includes a static test, a dynamic test at 150 RPM, and concludes with a low-speed test at 50 RPM, ensuring performance and reliability under a range of operating conditions.



The comprehensive LabTecta®66PB-HD testing was internally and externally verified at the AESSEAL® Factory for the Future.

Frequently asked questions:

While many customers have encountered issues with current market designs, the PB-HD offers a smart solution that directly addresses these challenges.

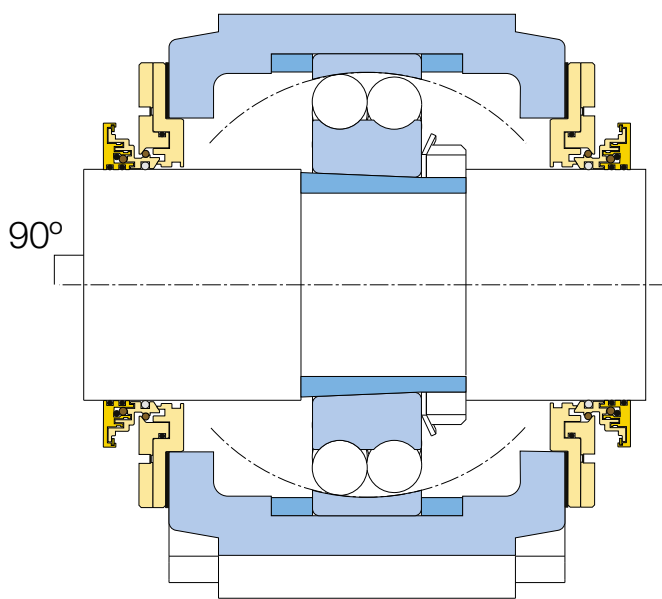
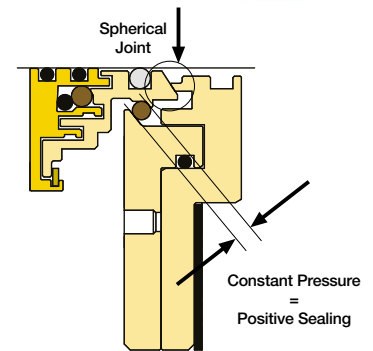
Reported issues with the existing competitor designs	Impact	LabTecta®66PB-HD Solution
Grease or oil leakage from the current competitor sealing solution into the environment, including spillages during maintenance.	Environmental Impact.	LabTecta®66PB-HD is a standalone bearing isolator that requires no additional support systems. Its unique design effectively retains bearing lubrication while keeping water and dust out. It has been independently certified to IP66 standards by both Simtars in Australia and CML globally.
Pressurized closed-oil systems demand frequent operator maintenance and can obstruct production areas. They are prone to failure due to lubrication loss and accelerated seal wear, cannot accommodate prolonged angular misalignment, and lack independent IP66 certification.	Technical, Environmental and Commercial Impact.	<p>The AESSEAL® LabTecta®66PB-HD absorbs angular and radial misalignment without requiring additional lubrication systems, which can be maintenance-intensive and obstructive.</p> <p>Enhanced squeeze on the universal joint optimizes seal performance throughout operation.</p> <p>Unlike traditional bearing isolators, the LabTecta® does not rely on tight clearances for protection, preventing clogging and binding, especially in harsh environments like mining.</p>
Increased power consumption due to contact-based design, impacting energy efficiency and environmental sustainability.	Technical and Environmental Impact.	<p>A non-contacting bearing isolator whilst still giving IP66 Protection.</p> <p>Independently Certified.</p>
Existing designs are complex and challenging to install.	Technical Impact	Features a cartridge design with setting clips for straightforward and reliable installation. This plug-and-play solution requires minimal technical expertise, ensuring a hassle-free setup.
Repairability due to the design of the bearing protector.	Environmental and Commercial Impact	The main metal components can be reused, requiring only the face shield, elastomers, and consumables for seal repairs.
Not compromising seal performance but offering a more commercially viable product by design.	Commercial Impact	The latest advancements in sealing design address historical design and operational challenges while offering an environmentally sustainable solution for today's needs. This competitive, repairable product is eco-friendly and commercially advantageous.
Removal of the need for a constant oil lubrication header tank.	Commercial Impact	<p>The ongoing cost of lubrication oil has been eliminated.</p> <p>Given the number of seals typically installed at an average site and the frequency of pot refills, this results in a significant reduction in oil usage.</p>
Global Support and Customer Service	Commercial Impact	AESSEAL® offers a global network to implement this upgrade at all locations necessary to support customers, including stock availability, fast response, technical support and installation assistance.

Misalignment? — No problem



The LabTecta®66PB-HD utilizes a unique three-piece stator design. This includes a self-aligning joint that allows the seal to align both to the bearing block and the shaft.

The joint also provides constant pressure on the static elastomer to provide positive sealing throughout the range of motion. **The LabTecta®66PB-HD accepts the same degree of angular misalignment as any standard seal offered by the OEM.**



LabTecta®66PB-HD
Good

shaft



x°

shaft



x°

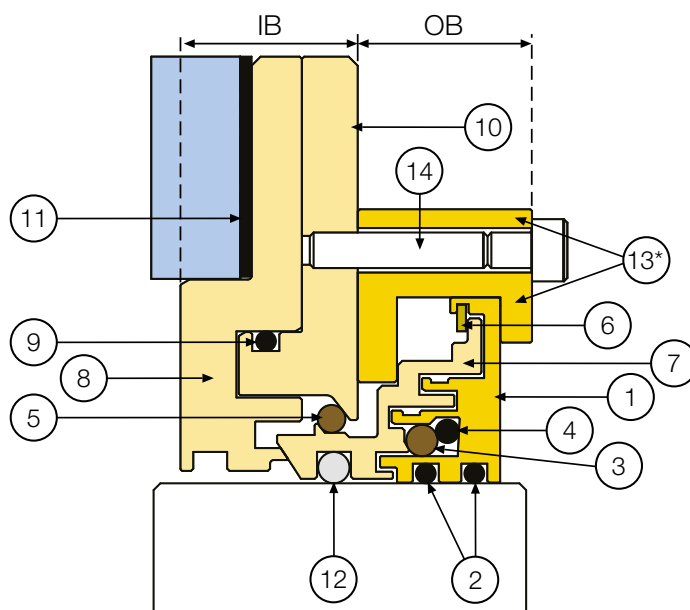
LabTecta®66PB-HD
No Problem



For mining and other challenging environments

The Labtecta®66PB-HD takes the base design and adds key features to cope with such environments:

- Includes setting clips for ease of installation on difficult to position and large diameter applications
- Repairable via removable cover plate
- Grease retention band as standard
- Reinforced design to withstand extreme conditions



Item	Description	Material
1	LabTecta®66PB-HD Rotary	Phosphor Bronze
2	Double Drive O'Rings	FKM
3	Arknian™ Shut Off Device	FKM 90
4	Arknian™ Energizer	FKM
5	Pivot O-Ring	FKM 90
6	LabTecta® Face Shield	Bronze Filled PTFE
7	LabTecta®66PB-HD Body	Phosphor Bronze
8	LabTecta®66PB-HD Adaptor	Phosphor Bronze
9	Cover Plate O-Ring	FKM
10	LabTecta®66PB-HD Adaptor Cover Plate	Phosphor Bronze
11	LabTecta®66PB-HD Gasket	AF1
12	Grease Band	PTFE
13*	LabTecta®66PB-HD Setting Clips	Phosphor Bronze
14	Cap Head Screw	316 SS

	IB Max	OB Max
50mm - 140mm	6.7mm	26.2mm
150mm - 450mm	7.7mm	36.5mm

	IB Max	OB Max
0.750" - 5.562"	0.264"	1.032"
6.000" - 17.500"	0.303"	1.437"

For smaller or larger sizes, please contact us.

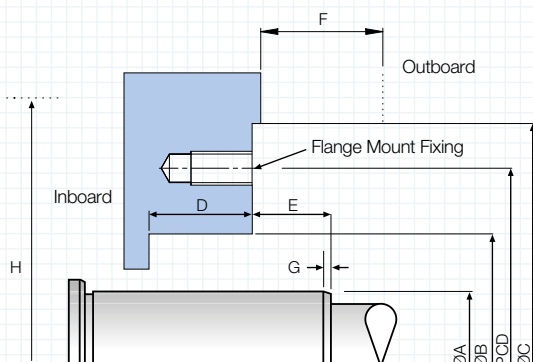


* This should be removed upon completion of installation. **DO NOT DISCARD SETTING CLIPS,** please reuse for uninstallation and reinstallation procedures.

LabTecta®66PB-HD — Additional designs

Sketch Housing Dimensions:

Either use the “standard” diagram provided or sketch your own below.



Dimensions

ØA (Shaft Ø):
 ØB (Housing Bore Ø):
 PCD (Pitch Circle Diameter):
 ØC (First Obstruction):
 D (Max. Insertion):
 E (Distance to Step):

F (First Obstruction):
 G (Chamfer Size):
 H (Product Height):
 Quantity of Holes:
 Bolt Size :
 Bolting Spacing :

Application Data:

Block Manufacturer:
 Speed:
 Shaft: ☐ Horizontal ☐ Vertical
 Max. Angular Misalignment:
 Lubrication Type / System:

Block Number:
 Bearing Type:
 Max. axial movement:
 Seal Material: ☐ Bronze ☐ Stainless Steel
 Other:

Please refer to the standard bearing protection SAF for non-flange mounted requests

Complete the information above and send to:

UK Fax: **+44 (0) 1709 720788** USA Fax: **+1 865 531 0571** E-mail: sales@labtecta.com

Further information about the AESSEAL® LabTecta®66 range is available in the standard LabTecta®66 brochure.

E-mail: sales@labtecta.com to request a copy or download it from our website: www.labtecta.com

Engineered for
misalignment in
extreme conditions



ENVIRONMENTAL TECHNOLOGY

To experience the exceptional, please contact your local representative. Discover full details on our website:

www.aesseal.com

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ISO/TS 29001, ISO 37001, ISO 45001 & ISO 50001



Net Zero champions globally



Use double mechanical seals with hazardous products.

Always take safety precautions:

- Guard your equipment
- Wear protective clothing



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