

INCORPORATING  
PRODUCTS AWARDED  
THE QUEEN'S AWARD  
FOR ENTERPRIZE;  
INNOVATION  
2009



THE QUEEN'S AWARDS  
FOR ENTERPRIZE  
INNOVATION  
2009



ENVIRONMENTAL TECHNOLOGY

reliability-focused-solutions.com

Reliability  
Focused  
Solutions



# LabTecta™

“The 21st Century Bearing Protector”  
PATENTED AND PATENT PENDING in over 39 countries.



IMPROVED	REDUCED
• Equipment life	• Bearing failures
• Process uptime	• Maintenance cost
• Operational profit	• Operational losses
• Environment	• Clean-up costs



*“With bearing protection truly essential in a reliability-focused plant, I have carefully analyzed both the new LabTecta design and the results of thorough testing. I firmly conclude this ingenious field-repairable isolator will prove highly cost effective and lead to demonstrable equipment failure reductions”.*

**Heinz P. Bloch P.E.**  
Independent Professional Engineer

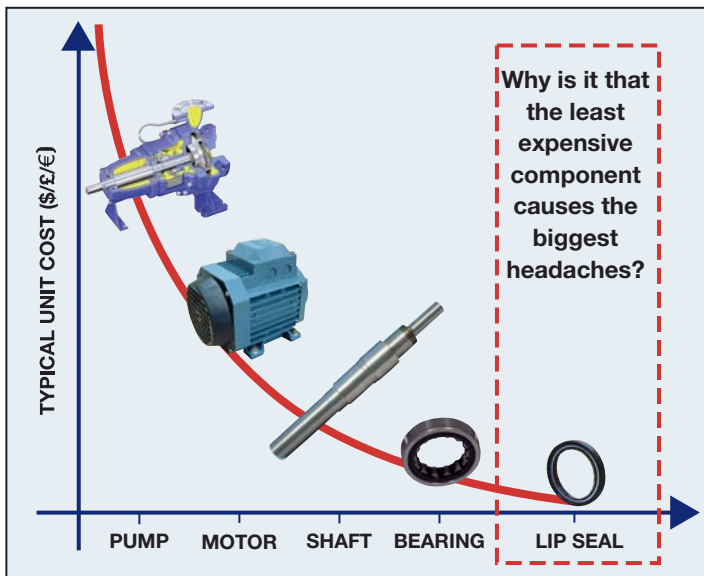
# AESSEAL® - Company Overview



Left: The AESSEAL® Global Technology Centre is one of over 69 Locations worldwide.  
 Right: AESSEAL® have 6 branches in the USA - Rockford, Kingsport, Longview, Marion, Central Maine and Texas.

AESSEAL® is one of the leading global specialists in the design and manufacture of mechanical seals, support systems and bearing seals. With operations in six continents, AESSEAL® is the world's 4th largest supplier of mechanical seals, achieving growth through exceptional customer service and innovative products that provide real customer benefits.

## The Problem with Lip Seals - What is the TRUE Cost?



### Lip Seals often have a short effective lifespan.

We use Lip Seals, despite the known problems, because we ignore the costs of shaft wear and premature bearing and equipment failure.

The LabTecta™ was designed to outperform Lip Seals and be inexpensive to repair.

## The Lip Seal Water Ingress Test Results

A water jet was applied at 13.3 m/s (2,616 ft/min) in two separate tests to a 100mm (4.000”) Lip Seal at 382 rpm and 1,910 rpm.

Both tests were abandoned after an average of 3 hours due to the visual level of water in the housing. The housing oil was then analysed for percentage water contamination.

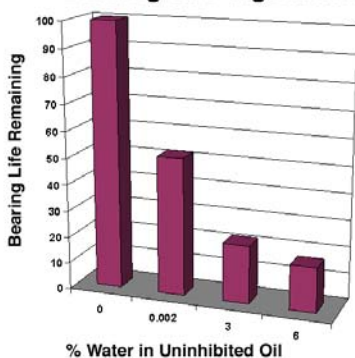
The Lip Seal test results, from a 3rd party laboratory showed **83%** (830,000 ppm) and **> 99%** (990,000 ppm) **water** contamination of the oil.



Lip Seal Test Certificates.

Lip Seal test: Oil sample bottles for laboratory analysis.

### Water Contamination Reduces Bearing Life Significantly



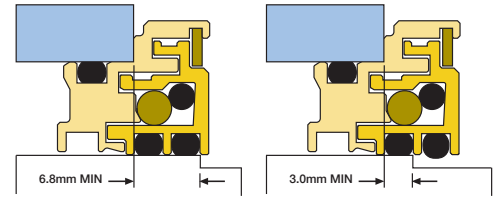
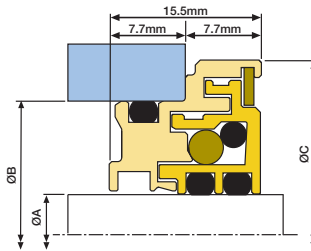
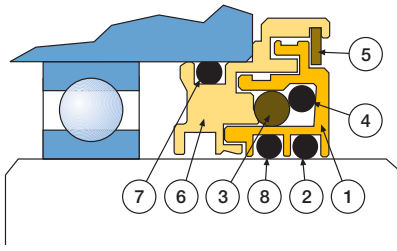
From research done by a major academic institution water contamination as low as 0.002% (20 ppm) can reduce bearing life in some oils by as much as 48%.

## Test Results Conclusion - A single acting Lip Seal cannot prevent forced water contamination.

### Limitations of Lip Seals

- Lip Seals are ineffective at keeping contamination from bearing housings.
- Lip Seals can seriously wear shafts, causing extensive equipment damage and added cost.
- When Lip Seals leak, loss of lubrication causes catastrophic bearing and equipment failure.
- API610 9th edition, Section 5.10.2.7 recognizes this and states that **“Lip-type Seals shall not be used in centrifugal pumps”**.

# LabTecta™ dimensions - 16.0mm - 145.0mm



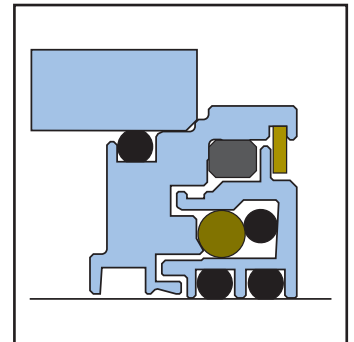
Twice the chance of fitting onto an unmarked shaft surface.

DIM A	DIM B	DIM C	STOCK CODE
16.0	36.0	43.4	L1M016PP-001-M036
41.0	44.9	L1M016PP-001-M041	
34.0	43.4	L1M016PP-001-M034	
38.0	43.4	L1M016PP-001-M038	
18.0	38.0	45.4	L1M018PP-001-M038
43.0	46.9	L1M018PP-001-M043	
36.0	45.4	L1M018PP-001-M036	
40.0	45.4	L1M018PP-001-M040	
20.0	40.0	47.4	L1M020PP-001-M040
45.0	48.9	L1M020PP-001-M045	
38.0	47.4	L1M020PP-001-M038	
42.0	47.4	L1M020PP-001-M042	
22.0	42.0	49.4	L1M022PP-001-M042
47.0	50.9	L1M022PP-001-M047	
40.0	49.4	L1M022PP-001-M040	
44.0	49.4	L1M022PP-001-M044	
24.0	44.0	51.4	L1M024PP-001-M044
49.0	52.9	L1M024PP-001-M049	
42.0	51.4	L1M024PP-001-M042	
46.0	51.4	L1M024PP-001-M046	
25.0	45.0	52.4	L1M025PP-001-M045
50.0	53.9	L1M025PP-001-M050	
43.0	52.4	L1M025PP-001-M043	
47.0	52.4	L1M025PP-001-M047	
28.0	48.0	55.4	L1M028PP-001-M048
53.0	56.9	L1M028PP-001-M053	
46.0	55.4	L1M028PP-001-M046	
50.0	55.4	L1M028PP-001-M050	
30.0	50.0	57.4	L1M030PP-001-M050
55.0	58.9	L1M030PP-001-M055	
48.0	57.4	L1M030PP-001-M048	
52.0	57.4	L1M030PP-001-M052	
32.0	52.0	59.4	L1M032PP-001-M052
57.0	60.9	L1M032PP-001-M057	
50.0	59.4	L1M032PP-001-M050	
54.0	59.4	L1M032PP-001-M054	
33.0	53.0	60.4	L1M033PP-001-M053
58.0	61.9	L1M033PP-001-M058	
51.0	60.4	L1M033PP-001-M051	
55.0	60.4	L1M033PP-001-M055	
35.0	55.0	62.4	L1M035PP-001-M055
60.0	63.9	L1M035PP-001-M060	
53.0	62.4	L1M035PP-001-M053	
57.0	62.4	L1M035PP-001-M057	
38.0	58.0	65.4	L1M038PP-001-M058
63.0	66.9	L1M038PP-001-M063	
56.0	65.4	L1M038PP-001-M056	
60.0	65.4	L1M038PP-001-M060	
40.0	60.0	67.4	L1M040PP-001-M060
65.0	68.9	L1M040PP-001-M065	
58.0	67.4	L1M040PP-001-M058	
62.0	67.4	L1M040PP-001-M062	
43.0	63.0	70.4	L1M043PP-001-M063
68.0	71.9	L1M043PP-001-M068	
61.0	70.4	L1M043PP-001-M061	
65.0	70.4	L1M043PP-001-M065	

DIM A	DIM B	DIM C	STOCK CODE
45.0	65.0	72.4	L1M045PP-001-M065
70.0	73.9	L1M045PP-001-M070	
71.0	74.9	L1M045PP-001-M071	
75.0	78.9	L1M045PP-001-M075	
48.0	68.0	75.4	L1M048PP-001-M068
73.0	76.9	L1M048PP-001-M073	
74.0	77.9	L1M048PP-001-M074	
78.0	81.9	L1M048PP-001-M078	
50.0	70.0	77.4	L1M050PP-001-M070
75.0	78.9	L1M050PP-001-M075	
76.0	79.9	L1M050PP-001-M076	
80.0	83.9	L1M050PP-001-M080	
52.0	72.0	79.4	L1M052PP-001-M072
77.0	80.9	L1M052PP-001-M077	
78.0	81.9	L1M052PP-001-M078	
82.0	85.9	L1M052PP-001-M082	
53.0	73.0	80.4	L1M053PP-001-M073
78.0	81.9	L1M053PP-001-M078	
79.0	82.9	L1M053PP-001-M079	
83.0	86.9	L1M053PP-001-M083	
55.0	75.0	82.4	L1M055PP-001-M075
80.0	83.9	L1M055PP-001-M080	
81.0	84.9	L1M055PP-001-M081	
85.0	88.9	L1M055PP-001-M085	
58.0	78.0	85.4	L1M058PP-001-M078
83.0	86.9	L1M058PP-001-M083	
84.0	87.9	L1M058PP-001-M084	
88.0	91.9	L1M058PP-001-M088	
60.0	80.0	87.4	L1M060PP-001-M080
85.0	88.9	L1M060PP-001-M085	
86.0	89.9	L1M060PP-001-M086	
90.0	93.9	L1M060PP-001-M090	
63.0	83.0	90.4	L1M063PP-001-M083
88.0	91.9	L1M063PP-001-M088	
89.0	92.9	L1M063PP-001-M089	
93.0	96.9	L1M063PP-001-M093	
65.0	85.0	92.4	L1M065PP-001-M085
90.0	93.9	L1M065PP-001-M090	
91.0	94.9	L1M065PP-001-M091	
95.0	98.9	L1M065PP-001-M095	
68.0	88.0	95.4	L1M068PP-001-M088
93.0	96.9	L1M068PP-001-M093	
94.0	97.9	L1M068PP-001-M094	
98.0	101.9	L1M068PP-001-M098	
70.0	90.0	97.4	L1M070PP-001-M090
95.0	98.9	L1M070PP-001-M095	
96.0	99.9	L1M070PP-001-M096	
100.0	103.9	L1M070PP-001-M100	
75.0	95.0	102.4	L1M075PP-001-M095
100.0	103.9	L1M075PP-001-M100	
101.0	104.9	L1M075PP-001-M101	
105.0	108.9	L1M075PP-001-M105	
80.0	100.0	107.4	L1M080PP-001-M100
105.0	108.9	L1M080PP-001-M105	
106.0	109.9	L1M080PP-001-M106	
110.0	113.9	L1M080PP-001-M110	

DIM A	DIM B	DIM C	STOCK CODE
85.0	105.0	112.4	L1M085PP-001-M105
110.0	113.9	L1M085PP-001-M110	
111.0	114.9	L1M085PP-001-M111	
115.0	118.9	L1M085PP-001-M115	
90.0	110.0	117.4	L1M090PP-001-M110
115.0	118.9	L1M090PP-001-M115	
116.0	119.9	L1M090PP-001-M116	
120.0	123.9	L1M090PP-001-M120	
95.0	115.0	122.4	L1M095PP-001-M115
120.0	123.9	L1M095PP-001-M120	
121.0	124.9	L1M095PP-001-M121	
100.0	125.0	128.9	L1M095PP-001-M125
120.0	127.4	L1M100PP-001-M120	
125.0	128.9	L1M100PP-001-M125	
126.0	129.9	L1M100PP-001-M126	
130.0	133.9	L1M100PP-001-M130	
105.0	125.0	132.4	L1M105PP-001-M125
130.0	133.9	L1M105PP-001-M130	
131.0	134.9	L1M105PP-001-M131	
135.0	138.9	L1M105PP-001-M135	
110.0	130.0	137.4	L1M110PP-001-M130
135.0	138.9	L1M110PP-001-M135	
136.0	139.9	L1M110PP-001-M136	
140.0	143.9	L1M110PP-001-M140	
115.0	135.0	142.4	L1M115PP-001-M135
140.0	143.9	L1M115PP-001-M140	
141.0	144.9	L1M115PP-001-M141	
145.0	148.9	L1M115PP-001-M145	
120.0	140.0	147.4	L1M120PP-001-M140
145.0	148.9	L1M120PP-001-M145	
146.0	149.9	L1M120PP-001-M146	
150.0	153.9	L1M120PP-001-M150	
125.0	145.0	152.4	L1M125PP-001-M145
150.0	153.9	L1M125PP-001-M150	
151.0	154.9	L1M125PP-001-M151	
155.0	158.9	L1M125PP-001-M155	
130.0	150.0	157.4	L1M130PP-001-M150
155.0	158.9	L1M130PP-001-M155	
156.0	159.9	L1M130PP-001-M156	
160.0	163.9	L1M130PP-001-M160	
135.0	155.0	162.4	L1M135PP-001-M155
160.0	163.9	L1M135PP-001-M160	
161.0	164.9	L1M135PP-001-M161	
165.0	168.9	L1M135PP-001-M165	
140.0	160.0	167.4	L1M140PP-001-M160
165.0	168.9	L1M140PP-001-M165	
166.0	169.9	L1M140PP-001-M166	
170.0	173.9	L1M140PP-001-M170	
145.0	165.0	172.4	L1M145PP-001-M165
170.0	173.9	L1M145PP-001-M170	
171.0	174.9	L1M145PP-001-M171	
175.0	178.9	L1M145PP-001-M175	

## LabTecta-SS™



The LabTecta-SS™ is available in full stainless steel construction giving even greater flexibility in more chemically demanding environments.

This unique design incorporates all the benefits of the standard LabTecta™. With the addition of a bumper/spacer to prevent incidental metal to metal contact in misaligned equipment.

The use of stainless steel bearing isolators in misaligned equipment will lead to equipment seizure and sparking.

**USE WITH CAUTION!**



Dimensional Information (mm)  
Larger sizes available upon request.

**NOT ALL SIZES ARE INVENTORIED. CONTACT THE LabTecta™ TEAM FOR DETAILS**  
**UK:** Email: sales@labtecta.com Phone: +44 (0) 1709 369966 Fax: +44 (0) 1709 720788  
**USA:** Email: usasales@labtecta.com Phone: +1 865 531 0192 Fax: +1 865 531 0571

## LabTecta™ - TWICE the Bearing Protection



Zenith Barrier - **TWICE** the chance of preventing oil escaping.



Babylonian Terrace - **TWICE** the chance of preventing water contamination.



Twin Rotary Drive - **TWICE** the chance of fitting onto an unmarked shaft surface.

# MagTecta™ - a bearing sealing revolution



The LabTecta™ is a non-contacting Labyrinth Bearing Protector ideally suited for high shaft speed or marginal lubrication applications.

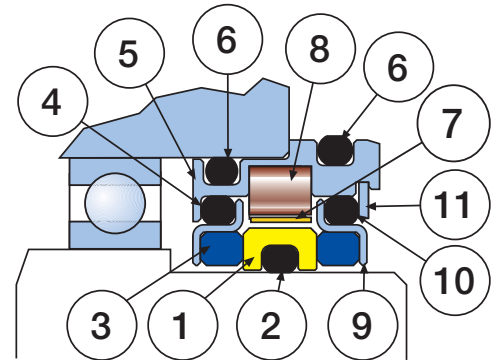
The LabTecta's sister products, the MagTecta™ and MagTecta-OM™, are contacting dual magnetic bearing seals which will seal the bearing chamber.

The patent pending MagTecta™ range is offered with true mechanical seal faces manufactured from blister resistant carbon and solid tungsten carbide, exactly the materials you would select for sealing oil.

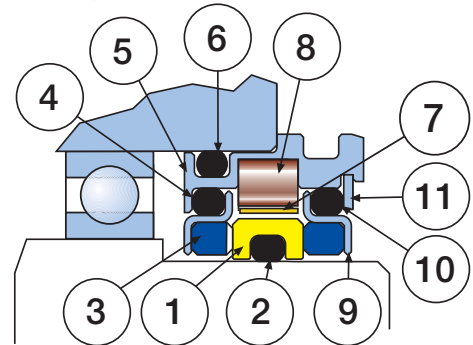
After many years of research and development, AESSEAL® is proud to offer these products which, in its opinion, are probably the most technologically advanced bearing protectors in the world.

The designs combine the latest AESSEAL® “pure innovation” with its world-leading, customer orientated, “modular” concept.

For further information, contact [magtecta@aes seal.com](mailto:magtecta@aes seal.com) or visit [www.bearingprotection.com](http://www.bearingprotection.com)



MagTecta™ shown in normal orientation



MagTecta-OM™ shown in normal orientation

## MagTecta™ Range Parts List

Item	Description	Material
1	Rotary Seal Face	Tungsten Carbide
2	Rotary Elastomer	Viton® / Aflas® / EPR / Kalrez®
3	Stationary Seal Face Assy	Ant.Car-S/S
4	Stationary Elastomer	Viton® / EPR
5	Outer Body	Stainless Steel
6	Outer Body Elastomer	Viton® / Aflas® / EPR / Kalrez®
7	Shroud	Phosphor Bronze
8	Magnet	Metal
9	Stationary Seal Face Assy	Ant.Car-S/S
10	Stationary Elastomer	Viton® / EPR
11	Circlip	Stainless Steel

## FOR EXACT WORKING PARAMETERS OF ALL THESE PRODUCTS CONTACT THE AESSEAL® BEARING PROTECTION TEAM.

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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



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

### USA Sales & Technical advice:

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