

## Bearing Protection

Patented

***Break the cycle  
of lip seal related downtime!  
Extend pump MTBPM***



## The new standard for reliability

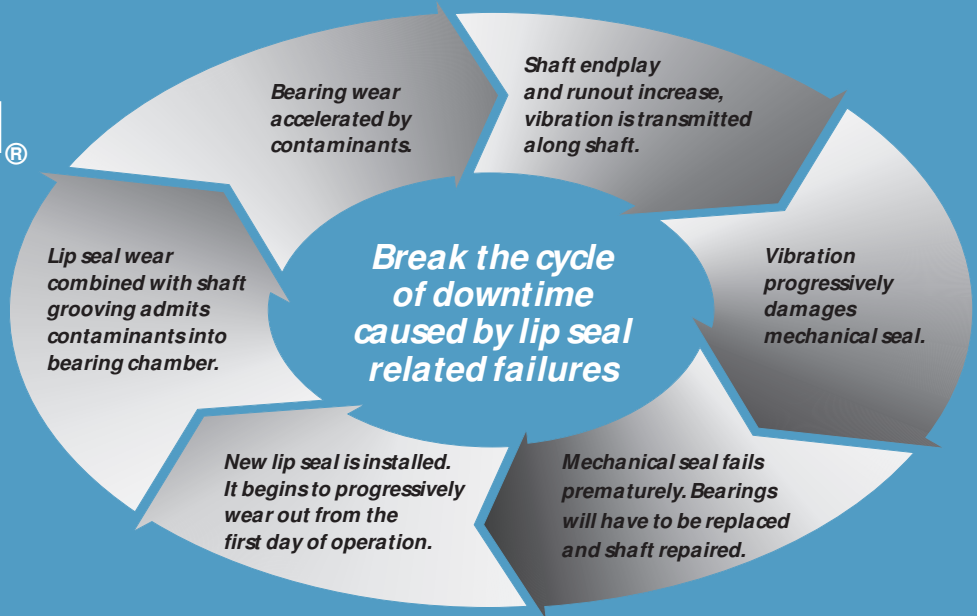
GBS Face Seals seal out virtually all external sources of contamination for maximum protection.

Labyrinth Seals for long-term, cost-effective protection in less demanding applications.

Break the cycle of downtime caused by lip seal related failures.

Keep all your equipment up and running without repetitive bearing failures.

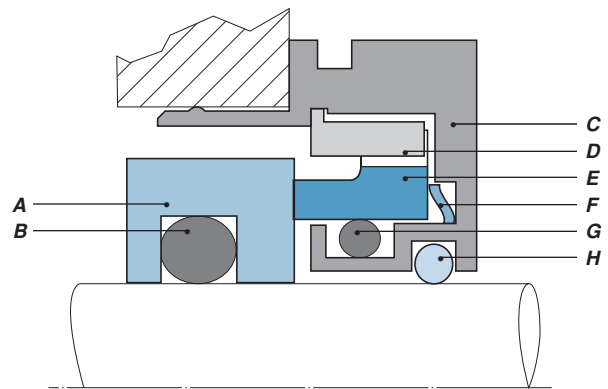
# CHESTERTON® Bearing Protection



# CHESTERTON® GBS Face Seal

Patented

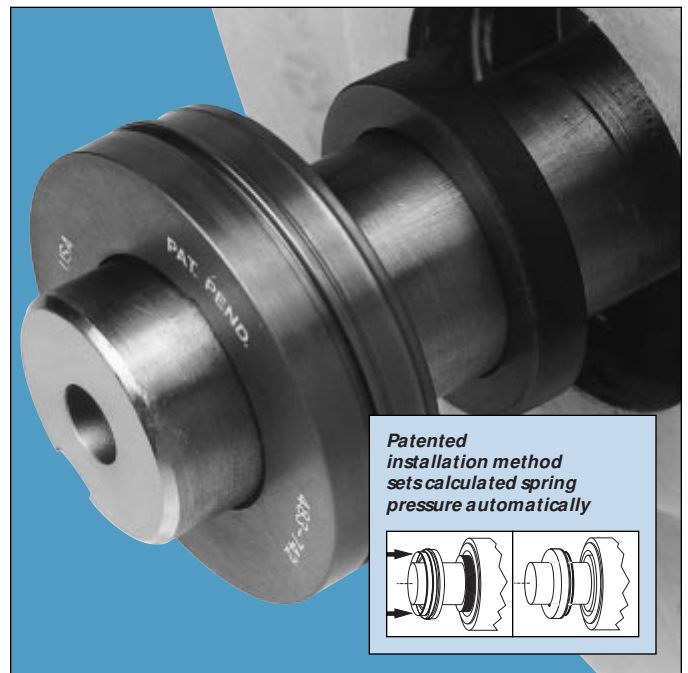
- Where immersion of the equipment may occur.
- Where moisture is continuous or condensing.
- Where hermetic sealing of the bearing chamber is required.
- Where oil levels approach the shaft diameter, requiring positive containment.



- |                           |                      |
|---------------------------|----------------------|
| A – Rotary face           | E – Stationary face  |
| B – Positive drive O-ring | F – Spring           |
| C – Seal housing          | G – Secondary O-ring |
| D – Retainer              | H – Excluder ring    |



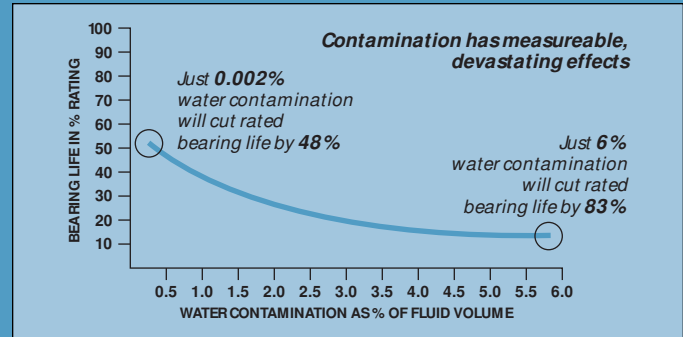
- Positively seals out all external sources of contamination.
- Will not fret, wear or damage shafts.
- Minimizes lubricant additions to bearing housings.
- No venting required, can be used with breather plug or expansion chamber.
- Self lubricating, narrow, carbon face can run dry, generates low heat, will not harm oil.
- Holds positive pressure up to 15 psi (1bar) in bearing housing. Friction drive rotary stays in place.
- Sizes from 0.875" to 4.5" (25 – 100 mm) shaft diameter.
- Metal Components: Aluminum.



The use of simple lip seals in process pump applications creates a vicious cycle of unnecessary downtime, with short MTBPM. From day one, lip seals begin to groove the shaft, progressively losing their compressive seal as well as damaging the shaft. After just three months on average, a lip seal has totally lost effectiveness. In the meantime, contaminants have begun to do the damage that can all too often result in premature mechanical seal failure, bearing failure and pump shutdown.

As shown in the chart at right, it doesn't take very much contamination to do serious bearing damage and subsequent reduction in MTBPM. CHESTERTON Bearing Protectors can break the cycle by preventing contamination from occurring.

In addition to causing pump failures, bearing failures cause up to 50% of compressor breakdowns, and up to 80% of motor breakdowns. Use the superior protection offered by CHESTERTON Bearing Protectors to help keep all your rotating equipment up and running.



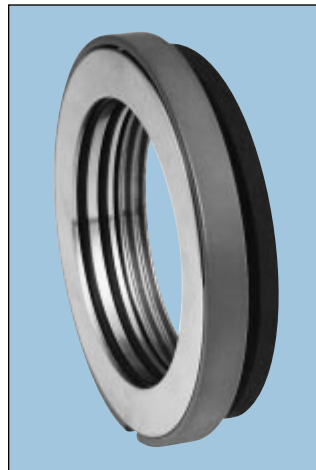
From in-depth study published in the *Journal of the American Society of Lubrication Engineers*.

# CHESTERTON® Labyrinth Seal

Patented

## For less demanding applications

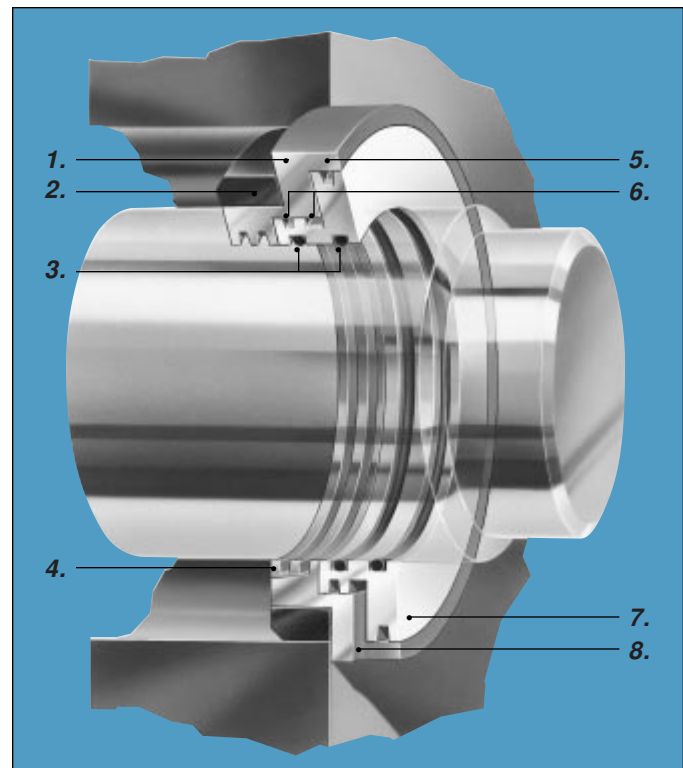
- Where immersion of the equipment will not occur.
- Where moisture is not continuous or condensing.
- Where hermetic sealing of the bearing chamber is not required.



- Tortuous path labyrinth with hooded design prevents direct penetration of liquid or dirt.
- Non-contacting and non-wearing parts for virtually unlimited life.
- Designed to withstand direct spray of 70 psi (5 bar) water for 45 minutes with no detectable leakage into bearing frame.
- Gravity drain allows liquid entering labyrinth to safely drain.
- Internal oil drain returns oil to bearing frame.

- Positive O-Ring shaft drive on rotary element.
- No shaft speed limitation – the higher the shaft speed, the better it works.
- Sizes from 0.875" to 4.5" (25 – 110 mm) shaft diameter.
- Metal Components: Nickel plated steel and 316SS.

1. **Stationary element:** nickel plated steel
2. **Mounting ring:** secure mounting without equipment alterations
3. **Positive O-rings:** non-slip, will not fret or damage shaft
4. **Oil drain:** helps retain lubricant in bearing housing
5. **Hooded design:** prevents direct penetration of dripping fluids
6. **Labyrinth:** traps liquid contaminants and directs to gravity drain
7. **Rotary element:** 316 stainless steel for corrosion resistance, acts as slinger when rotating
8. **Gravity drain:** allows liquid trapped by labyrinth to safely exit



## Bearing Protection – Size Availability

### CHESTERTON® GBS Face Seals

SHAFT DIAMETER INCH	HOUSING BORE DIAMETER				
	WITHOUT REDUCER	WITH REDUCER			
0.875	1.500	1.625	1.750	1.875	2.000
1.000	1.625	1.750	1.875	2.000	2.125
1.125	1.750	1.875	2.000	2.125	2.250
1.250	1.875	2.000	2.125	2.250	2.375
1.375	2.000	2.125	2.250	2.375	2.500
1.500	2.125	2.250	2.375	2.500	2.625
1.625	2.250	2.375	2.500	2.625	2.750
1.750	2.375	2.500	2.625	2.750	2.875
1.875	2.500	2.625	2.750	2.875	3.000
2.000	2.625	2.750	2.875	3.000	3.125
2.125	2.750	2.875	3.000	3.125	3.250
2.250	2.875	3.000	3.125	3.250	3.375
2.375	3.000	3.125	3.250	3.375	3.500
2.500	3.125	3.250	3.375	3.500	3.625
2.625	3.375	3.500	3.625	3.750	3.875
2.750	3.500	3.625	3.750	3.875	4.000
2.875	3.625	3.750	3.875	4.000	4.125
3.000	3.750	3.875	4.000	4.125	4.250
3.250	4.000	4.125	4.250	4.375	4.500
3.375	4.125	4.250	4.375	4.500	4.625
3.500	4.250	4.375	4.500	4.625	4.750
3.750	4.500	4.625	4.750	4.875	5.000
4.000	4.750	5.000	5.250	5.500	5.750
4.500	5.250	5.375	5.500	5.625	5.750

SHAFT DIAMETER METRIC/mm	HOUSING BORE DIAMETER				
	WITHOUT REDUCER	WITH REDUCER			
25	47	52	55	56	62
30	47	52	55	56	62
35	52	56	62		
38	55	60	62		
40	60				
42	62	72			
45	65	72			
50	68	72	80		
55	78	85			
60	80	85	90		
65	82	88	90	95	
70	90	100			
75	100	105	115		
80	100	105	115		
85	105	110			
87	105	110			
95	115				
100	120	125	130	135	

### CHESTERTON® Labyrinth Seals

SHAFT DIAMETER INCH	HOUSING BORE DIAMETER					
	WITHOUT MTG. RING	WITH MOUNTING RING				
0.875	1.250	1.375	1.500	1.625	1.750	1.875
1.000	1.375	1.500	1.625	1.750	1.875	2.000
1.125	1.500	1.625	1.750	1.875	2.000	2.125
1.250	1.625	1.750	1.875	2.000	2.125	2.250
1.375	1.750	1.875	2.000	2.125	2.250	2.375
1.500	1.875	2.000	2.125	2.250	2.375	2.500
1.625	2.125	2.250	2.375	2.500	2.625	2.750
1.750	2.250	2.375	2.500	2.625	2.750	2.875
1.875	2.375	2.500	2.625	2.750	2.875	3.000
2.000	2.500	2.625	2.750	2.875	3.000	3.125
2.125	2.625	2.750	2.875	3.000	3.125	3.250
2.250	2.875	3.000	3.125	3.250	3.375	3.500
2.375	2.875	3.000	3.125	3.250	3.375	3.500
2.500	3.000	3.125	3.250	3.375	3.500	3.625
2.625	3.250	3.375	3.500	3.625	3.750	3.875
2.750	3.500	3.625	3.750	3.875	4.000	4.125
2.875	3.750	3.875	4.000	4.125	4.250	4.375
3.000	3.750	3.875	4.000	4.125	4.250	4.375
3.125	4.000	4.125	4.250	4.375	4.500	4.625
3.250	4.000	4.125	4.250	4.375	4.500	4.625
3.312	4.125	4.250	4.375	4.500	4.625	4.750
3.375	4.125	4.250	4.375	4.500	4.625	4.750
3.500	4.375	4.500	4.625	4.750	4.875	5.000
3.625	4.375	4.500	4.625	4.750	4.875	5.000
3.750	4.375	4.500	4.625	4.750	4.875	5.000
3.875	4.875	5.000	5.125	5.250	5.375	5.500
4.000	4.875	5.000	5.125	5.250	5.375	5.500
4.125	5.125	5.250	5.375	5.500	5.625	5.750
4.250	5.125	5.250	5.375	5.500	5.625	5.750
4.312	5.375	5.500	5.625	5.750	5.875	6.000
4.375	5.375	5.500	5.625	5.750	5.875	6.000
4.500	5.375	5.500	5.625	5.750	5.875	6.000

SHAFT DIAMETER METRIC/mm	HOUSING BORE DIAMETER					
	WITHOUT MTG. RING	WITH MOUNTING RING				
25	35	38	40	47	52	
30	47	50	52	55	56	62
35	47	50	52	55	56	62
38	52	55	60	62		
40	52	55	60	62		
42	55	62	64	65	72	
45	60	65	68	72		
50	65	68	70	72	80	
55	70	78	80	85		
60	75	80	82	85	90	
65	82	85	88	90	95	
70	85	90	100			
75	100	105	115			
80	100	105	115			
85	105	110				
90	110	115	120	125	130	
95	115	120	130			
100	120	125	130	135		
110	130	140				

### A. W. CHESTERTON CO.

Middlesex Industrial Park, 225 Fallon Road  
 Stoneham, Massachusetts 02180-9101 USA  
 Telephone: 781-438-7000  
 Telex: 94-9417 • Fax: 781-438-8971  
 Cable: Chesterton Stoneham, Mass.  
 Web Address: <http://www.chesterton.com>

DISTRIBUTED BY: