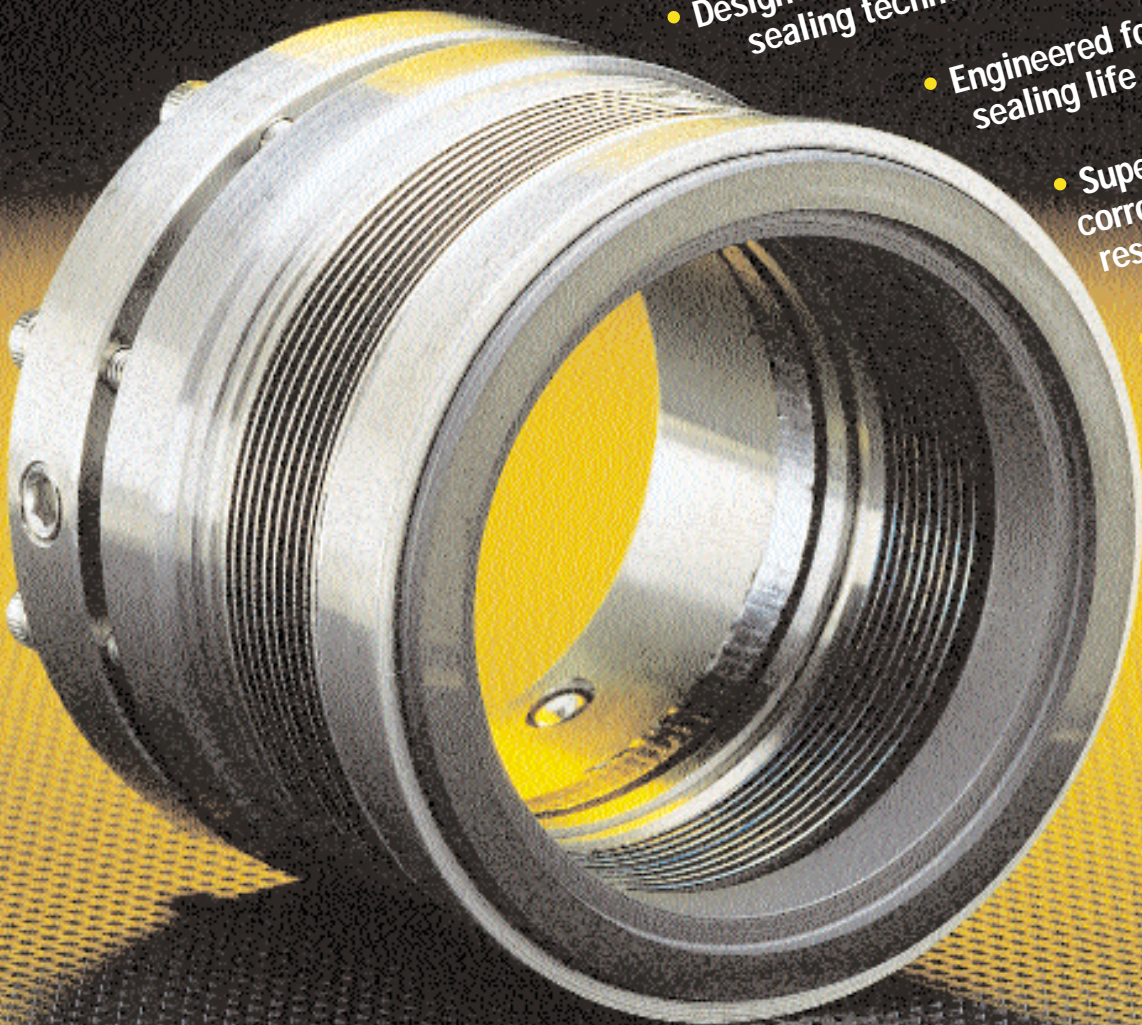


UTEX INDUSTRIES, INC.

# MBT™ Seal

METAL BELLOWS HIGH-TEMPERATURE MECHANICAL SEAL



- Provides maximum temperature range

- Designed with state-of-the-art sealing technology

- Engineered for longer sealing life

- Superior corrosion resistant alloys

- Fits most popular ANSI and API pumps



UTEX INDUSTRIES, INC.  
*Taking Sealing Technology Beyond Tomorrow*  
ISO 9001 Certified



## Features

Heat-treated Inconel 718 bellows core

Computer aided design alloy 42 Front Hub and rotating face insert constructed with premium grade blister resistant carbon

No dynamic gaskets

Unitized construction

Straight line pressure balanced

Nestled ripple bellows design

## Benefits

Corrosion resistant and is the recommended material of construction for high temperature in API 682

Minimizes distortion due to heat and pressure – allows maximum temperature utilization and longer run life

Prevents shaft or sleeve fretting and eliminates frictional drag associated with dynamic gaskets

Ease of handling and installation

Does not require a stepped sleeve or shaft

Even 360° face loading

## Specifications

### Metal Components

Heat Treated 718 Bellows Core  
Low Expansion Alloy 42 Front Hub

### Seal Face

Standard: Premium Blister Resistant Carbon  
Optional: Tungsten Carbide and Silicon Carbide

### Stationary Face

Standard: Silicon Carbide “L” Type Stationary Face with  
Texfoil™ Flexible Graphite Secondary Seal  
DIN 24960 “L” Type Stationary Faces Available for Metric Sizes

### Secondary Seals

Texfoil Flexible Graphite

### Temperature

Up to 800°F (430°C)

### Pressure (dependent upon seal size)

Operating: Up to 300 psi (20 Bar)  
Static: Up to 350 psi (24 Bar)

### Speed

Up to 4500 fpm (23m/s)

Cartridge seal assemblies are available. Consult UTEX for specific design application information.



## Metal Bellows High-Temperature Mechanical Seal



### **UTEX Industries, Inc. Introduces MBT™ Metal Bellows High-Temperature Mechanical Seal**

UTEX Industries, Inc. has developed a metal bellows mechanical seal that is corrosion resistant and designed for high temperature applications. The MBT will fit most popular ANSI and API pumps, without stuffing box modifications. The seal incorporates a superior nested ripple bellows design assuring sealing integrity.

### **Quality Designed Throughout**

This long lasting mechanical seal comes standard with high quality alloys and state-of-the-art sealing technology. The bellows core is heat-treated Inconel® 718 and is fitted with a low expansion alloy 42 front hub. Premium grade blister resistant carbon is standard. Silicon carbide and tungsten carbide are available.

### **Engineered for Superior Performance**

The flexible graphite secondary seal in the rotating unit remains static and eliminates shaft or sleeve fretting. The welded bellows core provides 360-degree face loading. The special design front hub and face insert minimizes distortion due to pressure and temperature. The integrally balanced MBT Metal Bellows Mechanical Seal remains clean while running because of the rotating bellows which generates a centrifugal force to expel abrasives.

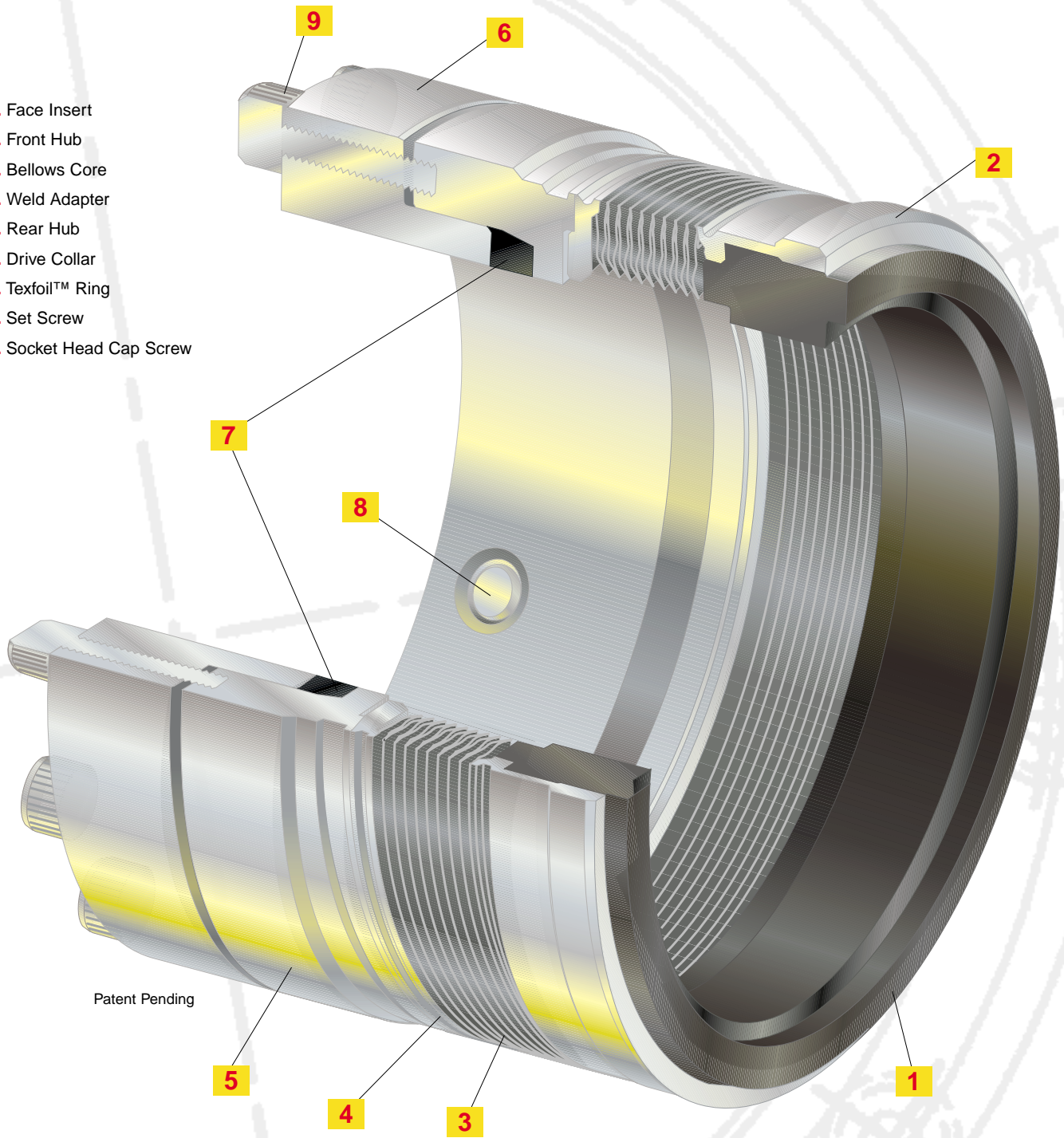
### **Applications**

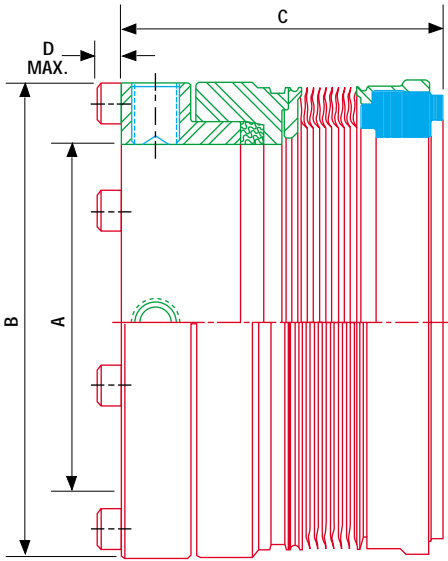
Process products include heat transfer fluids, tower bottoms, chemicals, paint, ink and fuel oils.

### **Industries Served**

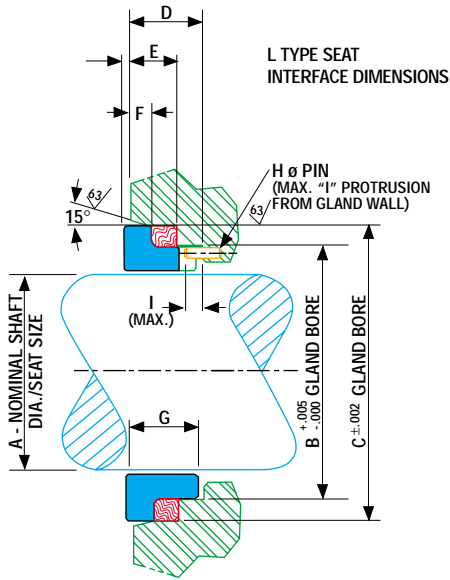
Petrochemical  
Refinery  
Pulp and Paper  
Power Generation

- 1. Face Insert
- 2. Front Hub
- 3. Bellows Core
- 4. Weld Adapter
- 5. Rear Hub
- 6. Drive Collar
- 7. Texfoil™ Ring
- 8. Set Screw
- 9. Socket Head Cap Screw

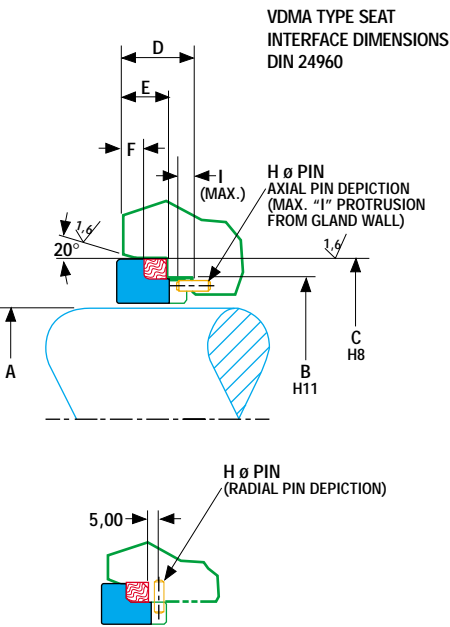




SEAL/SHAFT SIZE	SEAL O.D.	INSTALLED LENGTH	SCREW GAP LENGTH
INCH (MM)	A	B	C
.750	1.375 35,0	1.687 42,9	.13 3,2
.875	1.500 38,0	1.687 42,9	.13 3,2
1.000	25,0 1.625 41,5	1.687 42,9	.13 3,2
1.125	28,0 1.750 44,5	1.687 42,9	.13 3,2
1.250	30,0 1.875 47,6	1.687 42,9	.13 3,2
	32,0 1.875 47,6	1.687 42,9	.13 3,2
1.375	33,0 2.000 51,0	1.687 42,9	.13 3,2
	35,0 2.000 51,0	1.687 42,9	.13 3,2
1.500	38,0 2.125 54,0	1.687 42,9	.13 3,2
1.625	40,0 2.250 57,2	1.687 42,9	.13 3,2
1.750	43,0 2.375 60,3	1.687 42,9	.13 3,2
	45,0 2.375 60,3	1.687 42,9	.13 3,2
1.875	48,0 2.500 63,5	1.687 42,9	.13 3,2
2.000	50,0 2.625 66,7	1.687 42,9	.13 3,2
2.125	53,0 2.750 70,0	1.687 42,9	.13 3,2
2.250	55,0 2.875 73,0	1.687 42,9	.13 3,2
2.375	60,0 3.000 76,2	1.687 42,9	.13 3,2
2.500	63,0 3.250 82,6	2.000 50,8	.16 4,0
2.625	65,0 3.375 85,7	2.000 50,8	.16 4,0
2.750	70,0 3.500 88,9	2.000 50,8	.16 4,0
2.875	3.625 92,1	2.000 50,8	.16 4,0
3.000	75,0 3.750 95,3	2.000 50,8	.16 4,0
3.125	80,0 4.000 101,6	2.000 50,8	.19 4,8
3.250	4.125 104,8	2.000 50,8	.19 4,8
3.375	85,0 4.250 108,8	2.000 50,8	.19 4,8
3.500	90,0 4.375 111,1	2.000 50,8	.19 4,8
3.625	4.500 114,3	2.000 50,8	.19 4,8
3.750	95,0 4.625 117,5	2.000 50,8	.19 4,8
3.875	4.750 120,7	2.000 50,8	.19 4,8
4.000	100,0 4.875 123,8	2.000 50,8	.19 4,8
4.125	105,0 5.000 127,0	2.000 50,8	.19 4,8



NOM. SHAFT DIAMETER/ SEAT SIZE	COUNTER BORE	COUNTER BORE	COUNTER BORE DEPTH	COUNTER BORE DEPTH	CHAMFER LENGTH	SEAT LENGTH	PIN DIAMETER	MAX. PIN PROTRUSION
A	B	C	D	E	F	G	H	I
1.000	1.384	1.625	.439	.203	.047	.437	.094	.150
1.125	1.509	1.750	.439	.203	.047	.437	.094	.150
1.250	1.634	1.875	.439	.203	.047	.437	.094	.150
1.375	1.759	2.000	.439	.203	.047	.437	.094	.150
1.500	1.884	2.125	.439	.203	.047	.437	.094	.150
1.625	2.134	2.375	.503	.250	.062	.500	.094	.160
1.750	2.259	2.500	.503	.250	.062	.500	.094	.160
1.875	2.384	2.625	.503	.250	.062	.500	.094	.160
2.000	2.509	2.750	.503	.250	.062	.500	.094	.160
2.125	2.759	3.000	.584	.281	.094	.562	.094	.190
2.250	2.884	3.125	.584	.281	.094	.562	.094	.190
2.375	3.009	3.250	.584	.281	.094	.562	.094	.190
2.500	3.134	3.375	.584	.281	.094	.562	.094	.190
2.625	3.134	3.375	.658	.312	.125	.625	.094	.220
2.750	3.259	3.500	.658	.312	.125	.625	.094	.220
2.875	3.378	3.500	.613	.375	.125	.625	.094	.150
3.000	3.503	3.875	.613	.375	.125	.625	.094	.150
3.125	3.628	4.000	.613	.375	.125	.625	.094	.150
3.250	3.753	4.125	.613	.375	.125	.625	.094	.150
3.375	3.878	4.250	.613	.375	.125	.625	.094	.150
3.500	4.003	4.375	.613	.375	.125	.625	.094	.150
3.625	4.128	4.500	.701	.437	.187	.687	.094	.170
3.750	4.253	4.625	.701	.437	.187	.687	.094	.170
3.875	4.378	4.750	.701	.437	.187	.687	.094	.170
4.000	4.503	4.875	.701	.437	.187	.687	.094	.170



NOM. SHAFT DIAMETER	COUNTER BORE	COUNTER BORE	COUNTER BORE DEPTH	COUNTER BORE DEPTH	CHAMFER LENGTH	SEAT LENGTH	PIN DIAMETER	MAX. PIN PROTRUSION
A	B	C	D	E	F	G	H	I
10	17,0	21,0	14,0	5,5	1,50	15,0	3,0	5,0
12	19,0	23,0	14,0	5,5	1,50	15,0	3,0	5,0
14	21,0	25,0	14,0	5,5	1,50	15,0	3,0	5,0
16	23,0	27,0	14,0	5,5	1,50	15,0	3,0	5,0
18	27,0	33,0	16,0	7,0	2,00	17,0	3,0	5,5
20	29,0	35,0	16,0	7,0	2,00	17,0	3,0	5,5
22	31,0	37,0	16,0	7,0	2,00	17,0	3,0	5,5
24	33,0	39,0	16,0	7,0	2,00	17,0	3,0	5,5
25	34,0	40,0	16,0	7,0	2,00	17,0	3,0	5,5
28	37,0	43,0	16,0	7,0	2,00	17,0	3,0	5,5
30	39,0	45,0	16,0	7,0	2,00	17,0	3,0	5,5
32	42,0	48,0	16,0	7,0	2,00	17,0	3,0	5,5
33	42,0	48,0	16,0	7,0	2,00	17,0	3,0	5,5
35	44,0	50,0	16,0	7,0	2,00	17,0	3,0	5,5
38	49,0	56,0	17,0	8,0	2,00	18,0	4,0	5,5
40	51,0	58,0	17,0	8,0	2,00	18,0	4,0	5,5
43	54,0	61,0	17,0	8,0	2,00	18,0	4,0	5,5
45	56,0	63,0	17,0	8,0	2,00	18,0	4,0	5,5
48	59,0	66,0	17,0	8,0	2,00	18,0	4,0	5,5
50	62,0	70,0	17,5	8,5	2,50	20,0	4,0	5,5
53	65,0	73,0	17,5	8,5	2,50	20,0	4,0	5,5
55	67,0	75,0	17,5	8,5	2,50	20,0	4,0	5,5
58	70,0	78,0	17,5	8,5	2,50	20,0	4,0	5,5
60	72,0	80,0	17,5	8,5	2,50	20,0	4,0	5,5
63	75,0	83,0	17,5	8,5	2,50	20,0	4,0	5,5
65	77,0	85,0	17,5	8,5	2,50	20,0	4,0	5,5
70	83,0	92,0	18,5	9,5	2,50	22,0	4,0	5,5
75	88,0	97,0	18,5	9,5	2,50	22,0	4,0	5,5
80	95,0	105,0	19,0	10,0	3,00	22,5	4,0	5,5
85	100,0	110,0	19,0	10,0	3,00	22,5	4,0	5,5
90	105,0	115,0	19,0	10,0	3,00	22,5	4,0	5,5
95	110,0	120,0	19,0	10,0	3,00	22,5	4,0	5,5
100	115,0	125,0	19,0	10,0	3,00	22,5	4,0	5,5



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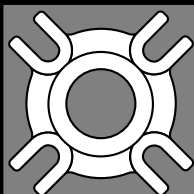
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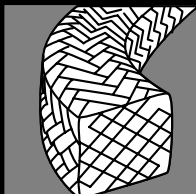
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