

MECHANICAL SEAL  
**BS3A**  
**BM3A**



CAT011 ENG 12.09

**H**heavy duty solutions for medium and high pressures operations are widely used on multistage and boiler feedwater pumps.

The *BS3A* and the *BM3A* are single component seals.

For both of these, type A has a pinned stationary seat, pressure balanced, manufactured in accordance with UNI EN 12756 (ex DIN 24960). Both are suitable for clockwise or anti-clockwise rotation.

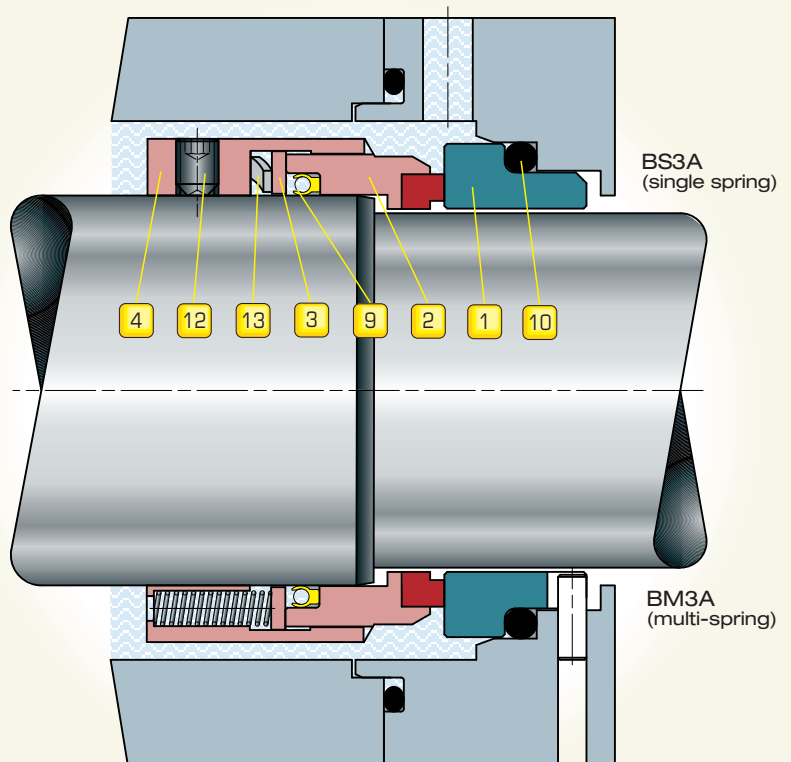
Because of the three drive lugs on the rotating body, they can tolerate high levels of vibration, and mechanical stress.

The "O" ring is easily removed and refitted when assembling the seal on shafts with keyways, threads or sharp edges.

The *BS3A* version is supplied with a single spring and is more suitable for moderately dirty liquids. The *BM3A* is a multi-spring version more suitable for clean liquids.



**MECHANICAL SEAL**  
**BS3A - BM3A**



**ELEMENTS:**

- 1 STATIONARY SEAT
- 2 ROTARY FACE
- 3 THRUST RING
- 4 SEAL BODY
- 9 ROTARY FACE "O" RING
- 10 STATIONARY SEAT "O" RING
- 12 SETSCREW
- 13 SPRING

**OPERATING CONDITIONS:**

DIAMETER: (mm)	SPEED: (m/sec)	PRESSURE: (bar)	TEMPERATURE: (°C)
<b>100</b>	<b>20</b>	<b>75</b>	<b>+250</b>
↑	↑	↑	↑
<b>20</b>	<b>0</b>	<b>0</b>	<b>-100</b>
↓	↓	↓	↓

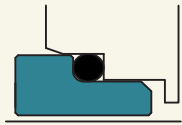
**CHARACTERISTICS:**

- SINGLE
- BI-DIRECTIONAL
- BALANCED
- UNI EN 12756
- RESISTANT TO ACIDS & BASES
- FLUIGAM (energized dynamic "O" ring)
- DIRTY LIQUIDS (SINGLE SPRING)
- RESISTANT TO MECHANICAL STRESS
- UNIVERSAL APPLICATION

# BS3A BM3A

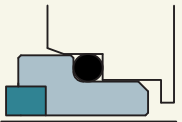
**STATIONARY SEAT: 1**

SOLID TYPE A



Cr-Mo Steel: **Y1**  
Silicon Carbide: **U31**

TYPE A WITH INSERT



AISI 316+Tungsten Carbide: **K22**

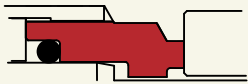
**STATIONARY SEAT "O" RING: 10**

- Nitrile Rubber: **G**
- Ethylene Propylene: **D**
- Fluoroelastomer: **V**
- Perfluoroelastomer: **G711**

■ PTFE: **T**

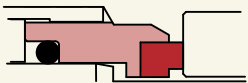
**ROTARY FACE: 2**

SOLID



Graphite Resins impregnated: **Z31**  
Graphite Antimony impregnated: **Z11**  
Silicon Carbide: **U31**

WITH INSERT



AISI 316+Graphite Resins impreg.: **Z32**  
AISI 316+Silicon Carbide: **U32**  
AISI 316+Tungsten Carbide: **K22**

**ROTARY FACE "O" RING: 9**

- Nitrile Rubber: **G**
- Ethylene Propylene: **D**
- Fluoroelastomer: **V**
- Perfluoroelastomer: **G711**

○ PTFE with AISI 316 spring: **T3**

**SPRINGS: 13**

**BS3A**

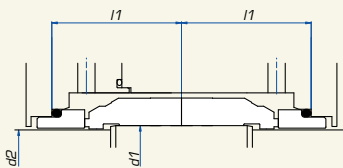
020 - 035 coil spring AISI 316: **E**  
038 - 100 wave spring Superstainless: **E9**

**BM3A**

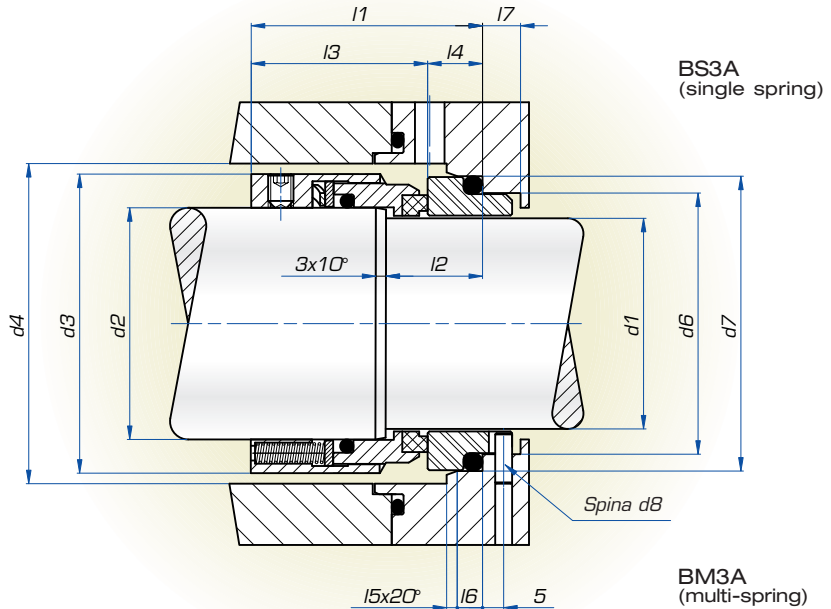
AISI 316: **E**  
Hastelloy C: **I**

**OTHER METAL PARTS: 4 12 3**

AISI 316: **E**



Back-to-Back solution according to UNI EN 12756. For stationary ring type **R** dimensions see catalogue BM3A◊BM3A



BS3A  
(single spring)

BM3A  
(multi-spring)

Seal Diameter	d1	d2	d3	d4	d6	d7	d8	l1	l2	l3	l4	l5	l6	l7
		h6		min.	H11	H8		± 0,5	± 0,5	± 0,5				
20	20	24	38	40	29	35	3	45	20	35	10	2	5	9
22	22	26	40	42	31	37	3	45	20	35	10	2	5	9
24	24	28	42	44	33	39	3	47,5	20	37,5	10	2	5	9
25	25	30	44	46	34	40	3	47,5	20	37,5	10	2	5	9
28	28	33	47	49	37	43	3	50	20	40	10	2	5	9
30	30	35	49	51	39	45	3	50	20	40	10	2	5	9
32	32	38	54	58	42	48	3	50	20	40	10	2	5	9
33	33	38	54	58	42	48	3	50	20	40	10	2	5	9
35	35	40	56	60	44	50	3	50	20	40	10	2	5	9
38	38	43	59	63	49	56	4	52,5	23	41,5	11	2	6	9
40	40	45	61	65	51	58	4	52,5	23	41,5	11	2	6	9
43	43	48	64	68	54	61	4	52,5	23	41,5	11	2	6	9
45	45	50	66	70	56	63	4	52,5	23	41,5	11	2	6	9
48	48	53	69	73	59	66	4	52,5	23	41,5	11	2	6	9
50	50	55	71	75	62	70	4	57,5	25	44,5	13	2,5	6	9
53	53	58	78	83	65	73	4	57,5	25	44,5	13	2,5	6	9
55	55	60	80	85	67	75	4	57,5	25	44,5	13	2,5	6	9
58	58	63	83	88	70	78	4	62,5	25	49,5	13	2,5	6	9
60	60	65	85	90	72	80	4	62,5	25	49,5	13	2,5	6	9
63	63	68	88	93	75	83	4	62,5	25	49,5	13	2,5	6	9
65	65	70	90	95	77	85	4	62,5	25	49,5	13	2,5	6	9
70	70	75	99	104	83	92	4	70	28	55	15	2,5	7	9
75	75	80	104	109	88	97	4	70	28	55	15	2,5	7	9
80	80	85	109	114	95	105	4	70	28	54,5	15,5	3	7	9
85	85	90	114	119	100	110	4	75	28	59,5	15,5	3	7	9
90	90	95	119	124	105	115	4	75	28	59,5	15,5	3	7	9
95	95	100	124	129	110	120	4	75	28	59,5	15,5	3	7	9
100	100	105	129	134	115	125	4	75	28	59,5	15,5	3	7	9

Dimensions subject to modifications without notice.

**Example:**

To order the seals shown on this page for shaft 70 mm, multi-spring and material shown in the table below:

2	1	9	10	13	4 12 3
U32	U31	T3	T	E	E

The code will be: **BM3A070 - U32U31T3TEE<sup>(3)</sup>**

**NOTES:**

- 1) The material shown on this page is only part of the available range, for other products stock items, please call our Technical Sales Office.
- 2) The material should be chosen according to the operating conditions. All queries should be sent to our Technical Sales Office.
- 3) When the material of the seal on the stationary seat "O" ring is the same as the seal on the rotary face "O" ring the product code is not repeated.