

MECHANICAL SEAL

US3A UM3A



CAT005 ENG REV 01.05

Hheavy duty solutions for low and medium pressures operations are widely used in the chemical industry and waterworks. The *US3A* and the *UM3A* are single component seals.

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

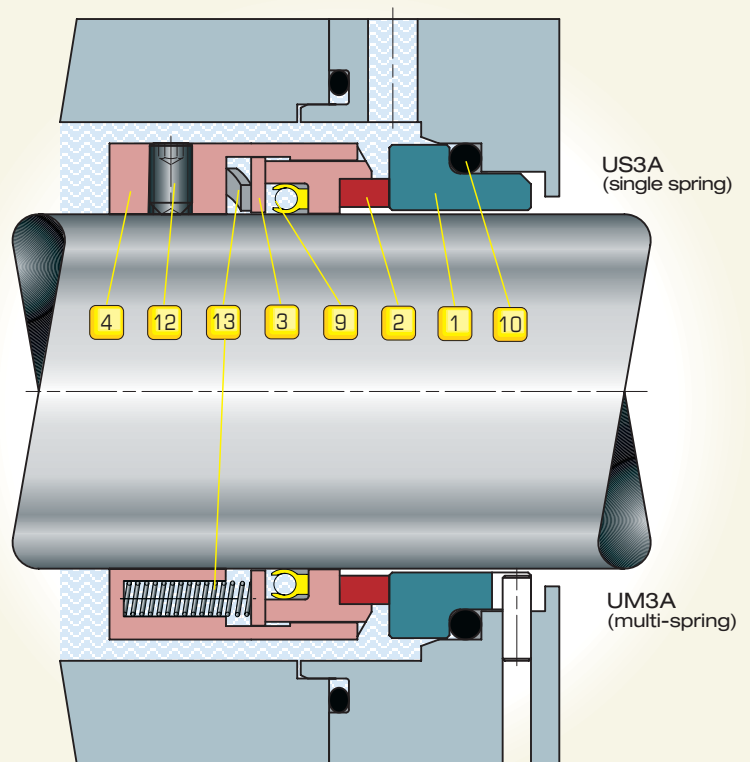
Because of the three drive lugs on the rotating body, they can tolerate high levels of vibration, and mechanical stress.

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

The *US3A* version is supplied with a single spring and is more suitable for moderately dirty liquids. The *UM3A* is a multi-spring version more suitable for clean liquids.



MECHANICAL SEAL US3A UM3A











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 LIMITS:

DIAMETER: (mm)	SPEED: (m/sec)	PRESSURE: (bar g)	TEMPERATURE: (°C)
100 ↑ 20	20 ↑ 0	12 ↑ 0	+250 ↑ -100

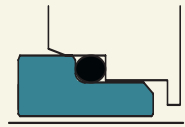
CHARACTERISTICS:

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

US3A UM3A

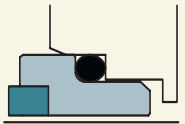
STATIONARY SEAT: 1

SOLID TYPE A



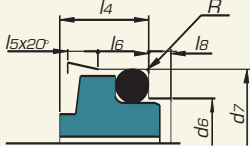
Cr-Mo Steel: **Y1**
Silicon Carbide: **U31**

TYPE A WITH INSERT



AISI 316+Tungsten Carbide: **K22**

SOLID TYPE C (3)



Graphite Resins impregnated: **Z31**

STATIONARY SEAT "O" RING: 10

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

■ PTFE: **T**

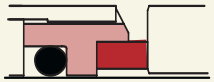
ROTARY FACE: 2

SOLID



Cr-Mo Steel: **Y1**
(only US3C-UM3C version)
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

US3A

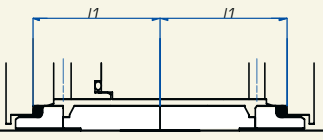
O20 - O40 coil spring AISI 316: **E**
O43 - 100 wave spring Superstainless: **E9**

UM3A

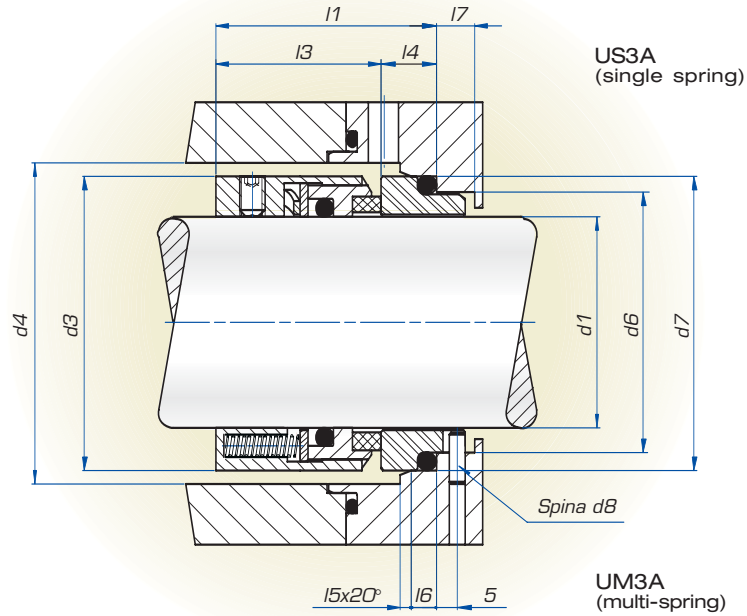
AISI 316: **E**
Hastelloy C: **I**

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 UM3A₀UM3A



US3A
(single spring)

UM3A
(multi-spring)

Seal Diameter	d1 h6	d3	d4 min.	d6 H11	d7 H8	d8	l1 ± 0,5	l3 ± 0,5	l4	l5	l6	l7	l8	R
20	20	34	36	29	35	3	37,5	27,5	10	2	5	9	4,5	1,5
22	22	36	38	31	37	3	37,5	27,5	10	2	5	9	4,5	1,5
24	24	38	40	33	39	3	40	30	10	2	5	9	4,5	1,5
25	25	39	41	34	40	3	40	30	10	2	5	9	4,5	1,5
28	28	42	44	37	43	3	42,5	32,5	10	2	5	9	4,5	1,5
30	30	44	46	39	45	3	42,5	32,5	10	2	5	9	4,5	1,5
32	32	46	48	42	48	3	42,5	32,5	10	2	5	9	4,5	1,5
33	33	47	49	42	48	3	42,5	32,5	10	2	5	9	4,5	1,5
35	35	49	51	44	50	3	42,5	32,5	10	2	5	9	4,5	1,5
38	38	54	58	49	56	4	45	34	11	2	6	9	5	1,5
40	40	56	60	51	58	4	45	34	11	2	6	9	5	1,5
43	43	59	63	54	61	4	45	34	11	2	6	9	5	2,5
45	45	61	65	56	63	4	45	34	11	2	6	9	5	2,5
48	48	64	68	59	66	4	45	34	11	2	6	9	5	2,5
50	50	66	70	62	70	4	47,5	34,5	13	2,5	6	9	5	2,5
53	53	69	73	65	73	4	47,5	34,5	13	2,5	6	9	5	2,5
55	55	71	75	67	75	4	47,5	34,5	13	2,5	6	9	5	2,5
58	58	78	83	70	78	4	52,5	39,5	13	2,5	6	9	5	2,5
60	60	80	85	72	80	4	52,5	39,5	13	2,5	6	9	5	2,5
63	63	83	88	75	83	4	52,5	39,5	13	2,5	6	9	5	2,5
65	65	85	90	77	85	4	52,5	39,5	13	2,5	6	9	5	2,5
68	68	88	93	81	90	4	52,5	37,5	15	2,5	7	9	5	2,5
70	70	90	95	83	92	4	60	45	15	2,5	7	9	5	2,5
75	75	99	104	88	97	4	60	45	15	2,5	7	9	5	2,5
80	80	104	109	95	105	4	60	44,5	15,5	3	7	9	5	2,5
85	85	109	114	100	110	4	60	44,5	15,5	3	7	9	5	2,5
90	90	114	119	105	115	4	65	49,5	15,5	3	7	9	5	2,5
95	95	119	124	110	120	4	65	49,5	15,5	3	7	9	5	2,5
100	100	124	129	115	125	4	65	49,5	15,5	3	7	9	5	2,5

Dimensions subject to modifications without notice.

Example:

To order the seals shown on this page for shaft 50 mm, single spring and material shown in the table below:

2	1	9	10	13	4 12 3
Z32	Y1	T3	T	E9	E

The code will be: US3A050 - Z32Y1T3TE9E (4)

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) The last letter of the product code **US3A** or **UM3A** shows the type A stationary seat with a slot for an antirotation pin; or if a short stationary seat without a slot is required, please request type C. The product code will then be **US3C** or **UM3C**. This type is not suitable for seals in PTFE.
- 4) 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.