



S.D. Industries

Quality speaks for itself **Makseals**



MECHANICAL SEALS EQUIVALENT CHART

OUR CODE	TYPE	COMPANY
<i>Elastomer Bellow Seals</i>		
MAK101	TYPE-1	JHON CRANE
MAK102	TYPE-2	JHON CRANE
MAK116	TYPE-16	JHON CRANE
MAK210	TYPE-2100	JHON CRANE
MAK215	EA103	EAGLE
MAK301	BT-AR	BURGMANN
MAK502	TYPE-502	JHON CRANE
MAKG1	MG1	BURGMANN
MAKR20	TYPE 20	VULCAN
MAKR21	TYPE-21	JHON CRANE
MAKR24	P02 / TYPE 24	AES / VULCAN
<i>Metal Seals</i>		
MAK506	TYPE-606	JHON CRANE
MAK509	TYPE-609	JHON CRANE
MAK570	TYPE-670	JHON CRANE
MAKB80	MFL WT80	BURGMANN
MAKB85	MFL85N	BURGMANN
<i>O- ring Seals</i>		
MAK02	W02	AES
MAK080	P080	AES
MAK82N	HJ92N	BURGMANN
MAK84D	M74-D	BURGMANN
MAK109	P09	AES
MAK150	TYPE-50	JHON CRANE
MAK166	B16670 A3	LATTY
MAK640	TYPE 740	CHESTERTON
MAK791	TYPE 891	CHESTERTON
MAKH7N	H7N	BURGMANN
MAKM7F	M7F	BURGMANN
MAKM7N	M7N	BURGMANN
MAK42N	H12N	BURGMANN
MAK53A	M32/M377	BURGMANN
MAK53B	M37,M37G	BURGMANN
MAK53N	M3N	BURGMANN
MAKCS2	ROTEN 2 / T01	BURGMANN / AES
MAKJ1	TYPE-5 / BT-FN	JHON CRANE / BURGMANN
MAKRT5	ROTEN 5	SPAIN
<i>PTFE Seals</i>		
MAK19	9-T	JHON CRANE
MAK19B	T-109B	JHON CRANE
MAK68O	TYPE-58B	JHON CRANE
MAK68T	TYPE-58U	JHON CRANE
MAK69O	TYPE-59B	JHON CRANE
MAK69T	TYPE-59U	JHON CRANE
MAK110R	TYPE-10R	JHON CRANE
MAK120R	TYPE-20R	JHON CRANE

ELASTOMER BELLOW MECHANICAL SEAL



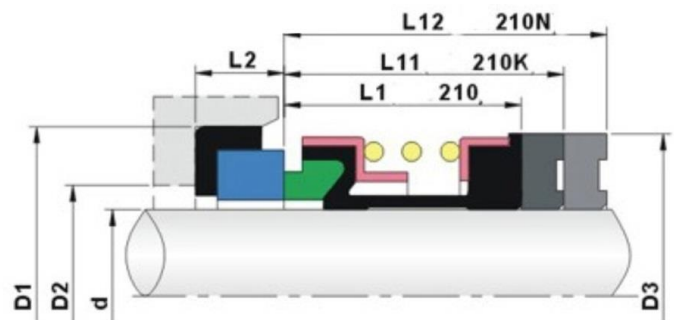
MAK210

Operations Conditions:

Temperature: -20°C to $+120^{\circ}\text{C}$

Pressure: $\leq 1.8\text{MPa}$

Speed: $\leq 15\text{m/s}$



Materials:

Stationary Ring: Ceramic(Alumina), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless, Ni-binder Tungsten Carbide

Rotary Ring: Resin Impregnated Carbon Graphite(Furan), Antimony Impreg. Carbon Graphite, Silicon Carbide Sintered Pressureless, Silicon Carbide Reaction Bonded

Secondary Seal: Nitrile (NBR), Ethylene Propylene (EPDM), Fluorocarbon Rubber (Viton)

Spring and Metal Parts: Stainless Steel, Stainless Steel

Applications: Clean Water, Sewage Water, Oil and other moderately corrosive fluids.

MAK210

Size/Metric	d	D3	D2	D1	L1	L11	L12	L2	Size/Inch	d	D3	L1
10	10	20	15	21	15	27.5	35.0	5.0	0.375	9.5	20.0	15.0
12	12	22	17	23	15	26.5	34.0	6.0	0.500	12.7	24.0	15.0
14	14	24	19	25	15	29.0	34.0	6.0	0.625	15.8	26.0	15.0
15	15	25	20	26	15	29.0	34.0	6.0	0.750	19.0	32.0	20.0
16	16	26	23	27	15	29.0	34.0	6.0	0.875	22.2	36.0	20.0
18	18	32	25	33	20	31.5	39.0	6.0	1.000	25.4	38.0	20.0
20	20	34	27	35	20	31.5	39.0	6.0	1.125	28.5	42.3	26.0
22	22	36	29	37	20	31.5	39.0	6.0	1.250	31.7	46.0	26.0
24	24	38	31	39	20	34.0	44.0	6.0	1.375	34.9	49.0	26.0
25	25	39	32	40	20	34.0	44.0	6.0	1.500	38.1	54.0	30.0
28	28	42	35	43	26	36.5	44.0	6.0	1.625	41.2	56.0	30.0
30	30	44	37	45	26	35.5	43.0	7.0	1.750	44.4	61.0	30.0
32	32	46	40	48	26	35.5	48.0	7.0	1.875	47.6	64.0	30.0
33	33	47	40	48	26	35.5	48.0	7.0	2.000	50.8	66.0	30.0
35	35	49	42	50	26	34.5	47.0	8.0	2.125	53.9	69.0	30.0
38	38	54	47	56	30	37.0	47.0	8.0	2.250	57.1	77.0	33.0
40	40	56	49	58	30	37.0	47.0	8.0	2.375	60.3	80.0	33.0
43	43	59	52	61	30	37.0	52.0	8.0	2.500	63.5	83.0	33.0
45	45	61	54	63	30	37.0	52.0	8.0	2.625	66.6	88.0	33.0
48	48	64	57	66	30	35.0	50.0	10.0	2.750	69.8	89.0	33.0
50	50	66	60	70	30	37.5	50.0	10.0	2.875	73.0	96.0	33.0
53	53	69	63	73	30	37.5	60.0	10.0	3.000	76.2	99.0	40.0
55	55	71	65	75	30	37.5	60.0	10.0	3.125	79.3	103.0	40.0
58	58	78	68	78	33	42.5	60.0	10.0	3.250	82.5	104.0	40.0
60	60	80	70	80	33	40.5	58.0	12.0	3.375	85.7	108.0	40.0
63	63	83	73	83	33	40.5	58.0	12.0	3.500	88.9	112.0	40.0
65	65	85	75	85	33	40.5	68.0	12.0	3.625	92.0	114.0	40.0
68	68	88	79	90	33	40.5	68.0	12.0	3.750	95.2	118.0	40.0
70	70	90	81	92	33	48.0	68.0	12.0	3.875	98.4	122.0	40.0
75	75	99	86	97	40	48.0	68.0	12.0	4.000	101.6	124.0	40.0
80	80	104	92	105	40	47.5	77.5	12.5				
85	85	109	97	110	40	47.5	77.5	12.5				
90	90	114	102	115	40	52.5	77.5	12.5				
95	95	119	117	120	40	52.5	77.5	12.5				
100	100	124	122	125	40	52.5	77.5	12.5				

ELASTOMER BELLOW MECHANICAL SEAL



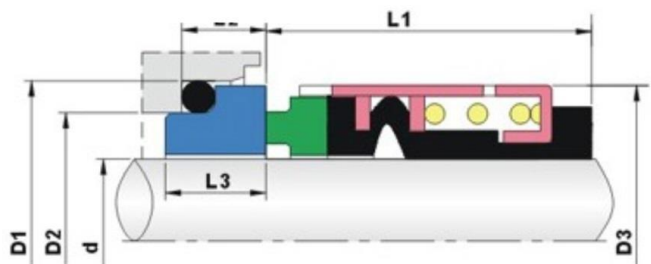
MAK502

Operations Conditions:

Temperature: -20°C to +120°C

Pressure: ≤ 2.5 MPa

Speed: ≤ 15 m/s



Materials:

Stationary Ring: Ceramic(Alumina), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless, Ni-binder Tungsten Carbide, Co-binder Tungsten Carbide

Rotary Ring: Resin Impregnated Carbon Graphite(Furan), Antimony Impreg. Carbon Graphite, Silicon Carbide Sintered Pressureless, Silicon Carbide Reaction Bonded, Co-binder Tungsten Carbide, Ni-binder Tungsten Carbide

Secondary Seal: Nitrile(NBR), Ethylene Propylene(EPDM), Fluorocarbon Rubber(Viton)
Spring and Metal Parts: Stainless Steel, Stainless Steel

Applications:

Clean Water, Sewage Water, Oil and other moderately corrosive fluids.

MAK502

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>L1</i>	<i>L2</i>	<i>L3</i>
14	14	24	21	25	23.0	12.0	12.8
16	16	26	23	27	23.0	12.0	12.8
18	18	32	27	33	24.0	13.5	14.5
20	20	34	29	35	24.0	13.5	14.5
22	22	36	31	37	24.0	13.5	14.5
24	24	38	33	39	26.7	13.3	14.3
25	25	39	34	40	27.0	13.0	14.0
28	28	42	37	43	30.0	12.5	13.5
30	30	44	39	45	30.5	12.0	13.0
32	32	46	42	48	30.5	12.0	13.0
33	33	47	42	48	30.5	12.0	13.0
35	35	49	44	50	30.5	12.0	13.0
38	38	54	49	56	32.0	13.0	14.0
40	40	56	51	58	32.0	13.0	14.0
43	43	59	54	61	32.0	13.0	14.0
45	45	61	56	63	32.0	13.0	14.0
48	48	64	59	66	32.0	13.0	14.0
50	50	66	62	70	34.0	13.5	14.5
53	53	69	65	73	34.0	13.5	14.5
55	55	71	67	75	34.0	13.5	14.5
58	58	78	70	78	39.0	13.5	14.2
60	60	80	72	80	39.0	13.5	14.2
63	63	83	75	83	39.0	13.5	14.2
65	65	85	77	85	39.0	13.5	14.2
68	68	88	81	90	39.0	13.5	14.2
70	70	89	83	92	45.5	14.5	15.2
75	75	96	88	97	45.5	14.5	15.2
80	80	104	95	105	45.5	15.0	15.7
85	85	108	100	110	45.0	15.0	15.7
90	90	114	105	115	50.0	15.0	15.7
95	95	118	110	120	50.0	15.0	15.7
100	100	124	115	125	50.0	15.0	15.7

ELASTOMER BELLOW MECHANICAL SEAL



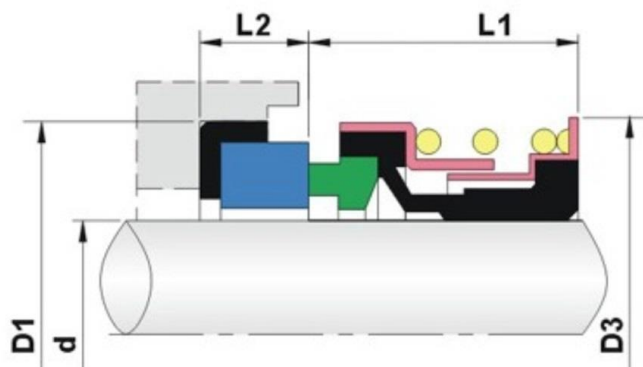
MAK116

Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
 Rotary Ring (Carbon/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil and weakly-corrosive mediums.
 Temperature: -20oC~200oC
 Pressure: $\leq 0.6\text{Mpa}$
 Speed: $\leq 10\text{ m/Sec}$



Size/Inch	d	D3	D1	L1	L2
0.375	9.5	23.29	22.23	16.66	7.14
0.500	12.7	23.29	25.40	16.66	6.35
0.625	15.8	30.10	31.75	18.24	10.31
0.750	19.0	33.07	34.93	18.24	10.31
0.875	22.2	36.30	38.10	20.63	10.31
1.000	25.4	39.42	41.28	20.63	11.10

ELASTOMER BELLOW MECHANICAL SEAL



MAK101

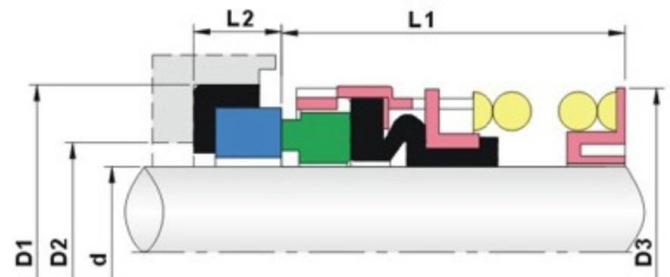
1. Operational Conditions:

Temperature: -20°C to +120°C

Pressure: $\leq 1.4\text{MPa}$

Speed: $\leq 15\text{m/s}$

2. Materials:



Stationary Ring: Ceramic (Alumina), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless, Ni-binder Tungsten Carbide, Co-binder Tungsten Carbide

Rotary Ring: Resin Impregnated Carbon Graphite (Furan), Antimony Impreg, Carbon Graphite, Silicon Carbide Sintered Pressureless, Silicon Carbide Reaction Bonded, Co-binder Tungsten Carbide, Ni-binder Tungsten Carbide

Secondary Seal: Nitrile (NBR), Ethylene Propylene (EPDM), Fluorocarbon Rubber (Viton)

3. Applications:

Clean Water, Sewage Water, Oil and other moderately corrosive fluids

MAK101

<i>Size/Inch</i>	<i>Size/Metric</i>	<i>D1</i>	<i>D2</i>	<i>D3</i>	<i>L1</i>	<i>L2</i>
0.500	12	25.40	19.05	23.80	30.16	7.93
	14	31.75	23.80	27.76	33.32	10.28
0.625	16	31.75	23.80	27.76	33.32	10.28
0.750	18	34.93	26.98	30.94	33.32	10.28
	20	38.10	30.15	34.11	34.93	10.28
0.875	22	38.10	30.15	34.11	34.93	10.28
	24	41.28	33.32	38.10	39.67	11.10
1.000	25	41.28	33.32	38.10	39.67	11.10
1.125	28	44.44	36.50	41.28	41.28	11.10
	30	47.63	37.90	46.02	41.28	11.10
1.250	32	47.63	37.90	46.02	41.28	11.10
	33	50.80	42.84	48.68	42.85	11.00
1.375	35	50.80	42.84	48.68	42.85	11.00
1.500	38	53.98	46.05	51.85	42.85	11.00
1.625	40	60.38	50.80	58.10	50.80	12.70
	43	63.50	53.97	61.27	50.80	12.70
1.750	45	63.50	53.97	61.27	50.80	12.70
1.875	48	66.68	57.15	64.66	53.98	12.70
	48	69.85	60.32	67.21	53.98	12.70
2.000	50	63.85	60.32	67.21	53.98	12.70
2.125	53	76.20	60.32	72.02	60.33	14.28
2.250	55	79.38	61.90	75.30	60.33	14.28
2.375	60	82.55	67.39	78.30	63.0	14.28
2.500	63	85.73	68.25	81.54	63.50	14.28
2.625	65	85.73	71.24	86.22	69.85	15.90
2.750	70	88.90	74.60	89.40	73.03	15.90
2.875	73	95.25	77.77	92.57	73.03	15.90
3.000	75	98.43	80.95	95.75	73.03	15.90

ELASTOMER BELLOW MECHANICAL SEAL



MAK102

Operations Conditions:

Temperature: -20°C to +120°C

Pressure: ≤ 1.4 MPa

Speed: ≤ 15 m/s

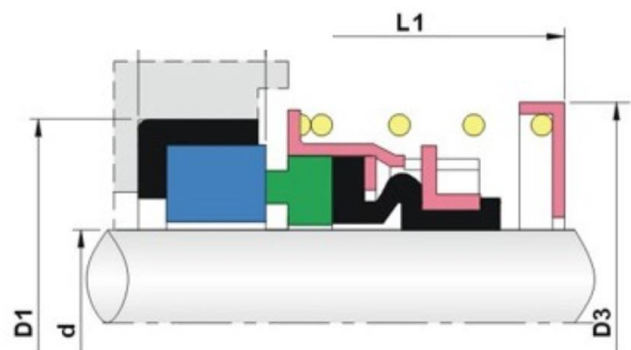
Materials:

Stationary Ring: Ceramic(Alumina), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless, Ni-binder Tungsten Carbide, Co-binder Tungsten Carbide

Rotary Ring: Resin Impregnated Carbon Graphite(Furan), Antimony Impreg. Carbon Graphite, Silicon Carbide Sintered Pressureless, Silicon Carbide Reaction Bonded, Co-binder Tungsten Carbide, Ni-binder Tungsten Carbide

Secondary Seal: Nitrile(NBR), Ethylene Propylene(EPDM), Fluorocarbon Rubber(Viton)

Spring and Metal Parts: Stainless Steel, Stainless Steel



Applications:

Clean Water, Sewage Water, Oil and other moderately corrosive fluids.

MAK102

Size/Metric	d	D3	D1	L1	L2
16	16	34.0	30	25	8
18	18	36.8	32	25	8
20	20	38.8	34	25	8
22	22	41.5	36	25	8
25	25	44.8	39	36	8
28	28	48.5	43	26	8
30	30	52.0	48	26	8
35	35	57.0	53	30	10
40	40	67.0	58	34	10
45	45	73.0	63	36	10
50	50	79.0	68	41	10
55	55	84.0	73	41	12
60	60	90.0	79	41	12
65	65	98.5	86	49	12
70	70	103.5	91	52	12
75	75	110.5	96	52	12
80	80	120.0	105	56	14
85	85	125.0	110	56	14
90	90	132.0	115	56	14
95	95	137.0	120	56	14
100	100	144.0	125	62	14
110	110	157.0	135	62	16
120	120	169.5	145	72	16

ELASTOMER BELLOW MECHANICAL SEAL



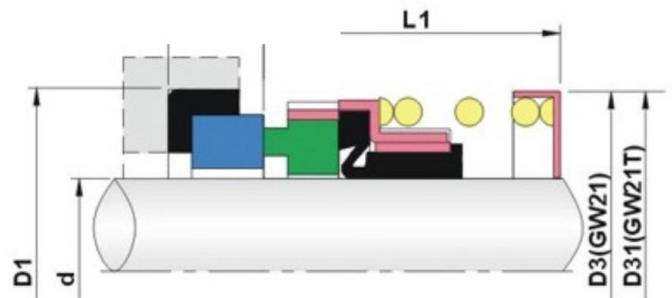
MAKR21

1. Operational Conditions:

Temperature: -20°C to +120°C

Pressure: $\leq 1.0\text{MPa}$

Speed: $\leq 15\text{m/s}$



2. Materials:

Stationary Ring: Ceramic (Alumina), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless, Ni-binder Tungsten Carbide Rotary Ring: Resin Impregnated Carbon Graphite (Furan), Antimony Impreg, Carbon Graphite, Silicon Carbide Sintered Pressureless, Silicon Carbide Reaction Bonded

Secondary Seal: Nitrile (NBR), Ethylene Propylene (EPDM), Fluorocarbon Rubber (Viton) Spring and Metal Parts: Stainless Steel, Stainless Steel

3. Applications:

Clean Water, Sewage Water, Oil and other moderately corrosive fluids

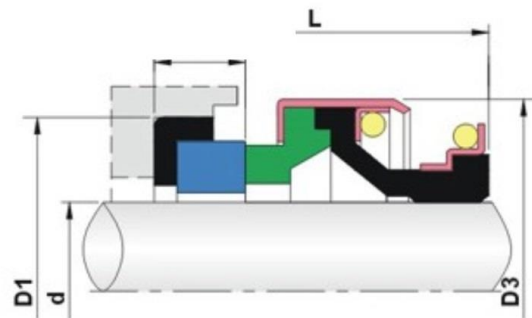
MAKR21

<i>Size/Inch</i>	<i>d</i>	<i>D3</i>	<i>D31</i>	<i>D1</i>	<i>L1</i>	<i>L2</i>
0.500	12.7	24.0	22.80	25.40	20.62	7.95
0.625	15.8	26.7	26.70	31.75	22.23	10.31
0.750	19.1	31.2	30.40	34.93	22.23	10.31
0.875	22.2	33.5	33.40	38.10	23.80	10.31
1.000	25.4	43.2	39.30	41.28	25.40	11.10
1.125	28.6	46.5	42.00	44.45	26.97	11.10
1.250	31.7	49.5	45.80	47.63	26.97	11.10
1.375	34.9	52.7	49.30	50.80	28.58	11.10
1.500	38.1	56.0	52.80	53.98	28.58	11.10
1.625	41.2	62.2	55.50	60.33	34.93	12.70
1.750	44.4	66.0	61.00	63.50	34.93	12.70
1.875	47.6	66.0	64.00	66.68	38.10	12.70
2.000	50.8	73.0	66.00	69.85	38.10	12.70
2.125	53.9	73.5	71.50	76.20	42.85	14.27
2.250	57.1	79.6	79.60	79.38	42.85	14.27
2.375	60.3	82.0	79.60	82.55	46.05	14.27
2.500	63.5	85.0	81.50	85.73	46.05	14.27
2.625	66.6	88.5	84.60	85.73	49.20	15.88
2.750	69.8	92.7	90.00	88.90	49.20	15.88
3.000	76.2	102.0	96.80	98.40	52.37	15.88

CLOSE TYPE ELASTOMER BELLOW MECHANICAL SEAL



MAK301



Operations Conditions:

Temperature: -20°C to +120°C **Pressure:** $\leq 0.6\text{MPa}$ **Speed:** $\leq 10\text{m/s}$

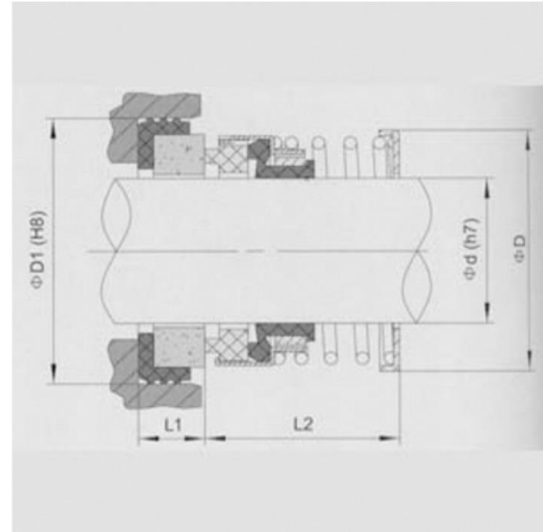
Materials:

Stationary Ring: Ceramic(Alumina), Silicon Carbide Reaction Bonded
Rotary Ring: Q5, Resin Impregnated Carbon Graphite(Furan), Silicon Carbide Reaction Bonded
Secondary Seal: Fluorocarbon Rubber(Viton), Nitrile (NBR), Ethylene Propylene(EPDM)
Spring and Metal Parts: Stainless Steel

MAK301

Size/Metric	d	D3	D1	L	L2	Size/Metric	d	D3	D1	L	L2
6	6	18.0	18.0	14.0	4.0	19	19	39.0	42.0	21.0	8.0
8S	8	18.0	22.0	15.0	4.0	20	20	39.0	42.0	21.0	8.0
8M	8	20.0	22/26	15.0	4/5.5	20L	20	42.0	45.0	23.0	10.0
8L	8	24.0	26.0	15.0	5.5	22S	22	36.0	45.0	26.5	10.0
10	10	24.0	26.0	21.0	8.0	22L	22	42.0	45.0	23.0	10.0
11	11	24.0	26.0	21.0	8.0	23	23	47.0	50.0	23.5	10.0
12	12	24.0	25/26	21.0	8.0	24	24	47.0	50.0	23.5	10.0
13	13	24.0	26.0	19.5	5.5/8	25	25	42.0	50.0	23.5	10.0
13L	13	28.0	28.0	21.0	8.0	25L	25	47.0	50.0	23.5	10.0
13H	13	32.0	29.5	30.5	8.0	26	26	47.0	50.0	23.5	10.0
14	14	28.0	28/28.5	21.0	8.0	27	27	47.0	50.0	23.5	10.0
14L	14	32.0	29.5	21.0	8.0	28	28	54.0	57.0	25.0	10.0
15S	15	28.0	28.5/30	21.0	8.0	30	30	54.0	57.0	25.0	10.0
15M	15	32.0	30/29.5	21.0	8.0	32	32	54.0	57.0	25.0	10.0
15L	15	39.0	38.0	21.0	8.0	35	35	60.0	63.0	26.0	10.0
16S	16	28.0	29.5/30	21.0	8.0	38	38	65.0	68.0	30.0	12.0
16M	16	32.0	29.5	21.0	8.0	40	40	65.0	68.0	30.0	12.0
16L	16	39.0	38.0	21.0	8.0	45	45	70.0	73.0	32.0	12.0
16H	16	32.0	30.0	21.0	10.0	50	50	85.0	88.0	38.0	15.0
17	17	39.0	42.0	21.0	8.0	55	55	85.0	88.0	38.0	15.0
18	18	39.0	42.0	21.0	8.0	60	60	105.0	110.0	45.0	15.0

ELASTOMER BELLOW MECHANICAL SEAL



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
 Rotary Ring (Carbon/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

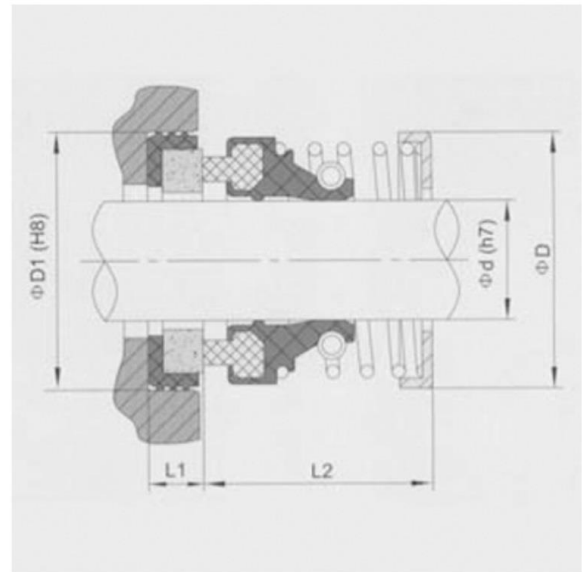
Mediums: Water, oil, and chemical mediums with weak corrosion.
 Temperature: -20°C~150°C
 Pressure: ≤ 0.8Mpa Speed: ≤ 10 m/Sec

Part#	d	D	D1	L1	L2	Part#	d	D	D1	L1	L2
MAKR24	12	21.7	23	8.6	24.1	MAKR24	40	55.7	58	11	34.2
MAKR24	14	24.5	25	8.6	26.6	MAKR24	43	58.8	61	11	34.2
MAKR24	16	26.65	27	8.6	26.6	MAKR24	45	61	63	11	34.2
MAKR24	18	30.35	33	10	27.7	MAKR24	48	64.2	66	11	34.2
MAKR24	20	33.4	35	10	27.7	MAKR24	50	66.6	70	13	34.7
MAKR24	22	33.55	37	10	27.7	MAKR24	55	71.65	75	13	34.7
MAKR24	24	38.3	39	10	30.2	MAKR24	58	78.4	78	13	39.7
MAKR24	25	39.3	40	10	30.2	MAKR24	60	78.4	80	13	39.7
MAKR24	28	42.2	43	10	32.7	MAKR24	63	81.5	83	13	39.7
MAKR24	30	43.95	45	10	32.7	MAKR24	65	84.3	85	13	39.7
MAKR24	32	45.75	48	10	32.7	MAKR24	68	89.65	90	15.3	37.4
MAKR24	33	45.85	48	10	32.7	MAKR24	70	89.65	92	15.3	44.9
MAKR24	35	49.1	50	10	32.7	MAKR24	75	96.8	97	15.3	44.9
MAKR24	38	52.6	56	11	34.2						

ELASTOMER BELLOW MECHANICAL SEAL



MAK215



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
Rotary Ring (Carbon/SiC/TC)
Secondary Seal (NBR/EPDM/Viton)
Spring and Punched Parts (Steel)

Working Conditions:

Pumps: Water pumps and household pumps.
Temperature: -20oC~110oC
Pressure: $\leq 0.5\text{Mpa}$
Speed: $\leq 6 \text{ m/Sec}$

MAK215

Part#	d	D	D1	L1	L2
MAK215	8	16	18/21	6.5	11.7
MAK215	9	19	21/24	6.5	16.7
MAK215	10	21	20/22/24	6.5	16.7
MAK215	11	21	24	6.5	16.7
MAK215	12	23	26	6.5	17.7
MAK215	13	23	26	7	17.2
MAK215	14	24.5	28	7	18.2
MAK215	15	24.5	28	7	18.2
MAK215	16	28.5	32	8	19.2
MAK215	17	28.5	32	8	19.2
MAK215	18	31.5	35	8	21.2
MAK215	19	31.5	35	8	21.2
MAK215	20	33.5	38	8	23.2
MAK215	22	34.5	40	8	24.2
MAK215	25	37.5	44	9	24.2
MAK215	28	40.5	46	9	25.2
MAK215	30	44.5	50	9	26.2
MAK215	32	47.5	54	9	28.2
MAK215	35	50.5	58	10	30.2
MAK215	38	53.5	60	10	32.2
MAK215	40	56.5	64	10	33.2
MAK215	45	61.5	66	10	35.2
MAK215	50	66.5	72	10	37.2

ELASTOMER BELLOW MECHANICAL SEAL



MAKR20/MAKRB/MAK108

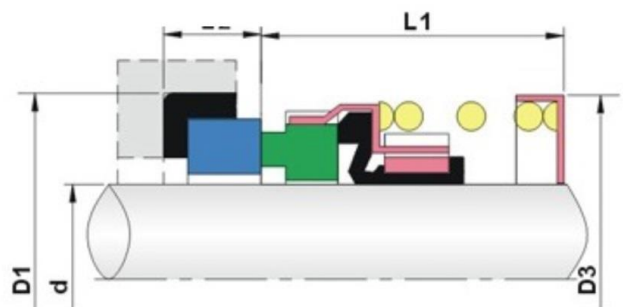
Operations Conditions:

Temperature: -20°C to +120°C

Pressure: $\leq 1.0\text{MPa}$ Speed: $\leq 15\text{m/s}$

Materials:

Stationary Ring: Ceramic(Alumina), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless, Ni-binder Tungsten Carbide Rotary Ring: Resin Impregnated Carbon Graphite(Furan), Antimony Impreg. Carbon Graphite, Silicon Carbide Sintered Pressureless, Silicon Carbide Reaction Bonded
Secondary Seal: Nitrile(NBR), Ethylene Propylene(EPDM), Fluorocarbon Rubber(Viton) Spring and Metal Parts: Stainless Steel, Stainless Steel



Applications:

Clean Water, Sewage Water, Oil and other moderately corrosive fluids.

MAKR20/MAKRB/MAK108

<i>Size/ Metric</i>	<i>d</i>	<i>D3</i>	<i>D1</i>	<i>L2</i>	<i>L1</i>		<i>Size/ Inch</i>	<i>d</i>	<i>D3</i>	<i>D1</i>	<i>L2</i>	<i>L1</i>
8	8	18.2	21	7	11.2		3/8	9.52	23.5	22.22	6.4	22.2
9	9	18.2	24	7	16.2		1/2	12.7	26.0	25.4	6.4	22.2
10	10	20.6	24	7	16.2		5/8	15.8	30.0	31.75	8.7	23.8
11	11	20.6	24	7	16.2		3/4	19.1	32.5	34.92	8.7	23.8
12	12	21.8	26	7	17.2		7/8	22.2	37.5	38.10	8.7	25.4
13	13	21.8	26	7	17.2		1	25.4	44.0	41.27	9.5	27.0
14	14	26.4	28	7	18.2		1- 1/8	28.6	48.0	44.45	9.5	28.6
15	15	26.4	28	7	18.2		1- 1/4	31.7	50.0	47.62	9.5	28.6
16	16	26.4	32	8	19.2		1- 3/8	34.9	54.5	50.80	9.5	30.2
17	17	29.5	32	8	19.2		1- 1/2	38.1	58.5	53.97	9.5	30.2
18	18	29.5	35	8	19.2		1- 5/8	41.2	64.0	60.32	11.1	36.5
19	19	29.5	35	8	19.2		1- 3/4	44.4	67.0	63.50	11.1	36.5
20	20	31.6	38	8	20.2		1- 7/8	47.6	71.0	66.67	11.1	39.7
22	22	33.6	40	8	20.2		2	50.8	73.5	69.85	11.1	39.7
25	25	39.6	44	9	20.2							
28	28	45.0	46	9	21.2							
30	30	46.6	50	9	22.2							
32	32	46.6	54	9	24.2							
35	35	50.8	58	10	26.2							
38	38	54.3	60	10	27.2							
40	40	57.3	64	10	28.2							
45	45	61.3	66	10	30.2							
50	50	67.8	72	10	32.2							

ELASTOMER BELLOW MECHANICAL SEAL



MAKBIA

Operations Conditions:

Temperature: -20°C to +120°C

Pressure: ≤ 1.0MPa **Speed:** ≤ 15m/s

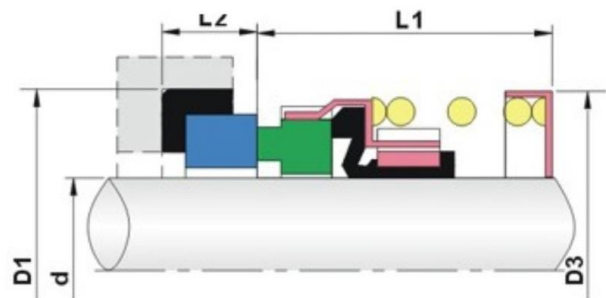
Materials:

Stationary Ring: Ceramic(Alumina), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless, Ni-binder Tungsten Carbide **Rotary Ring:** Resin Impregnated Carbon Graphite(Furan), Antimony Impreg. Carbon Graphite, Silicon Carbide Sintered Pressureless, Silicon Carbide Reaction Bonded

Secondary Seal: Fluorocarbon Rubber(Viton), Nitrile(NBR), Ethylene Propylene(EPDM),
Spring and Metal Parts: Stainless Steel, Stainless Steel

Applications:

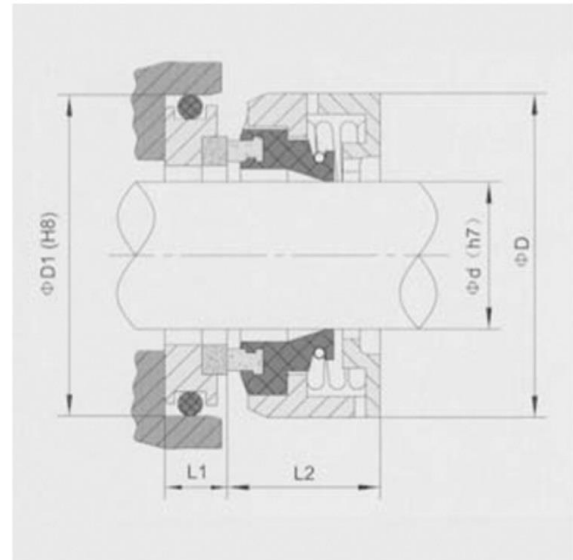
Clean Water, Sewage Water, Oil and other moderately corrosive fluids.



MAKBIA

Size/Metric	d	D3	D1	L1	L2
14	14	27.5	30	19.0	5.0
16	16	28.5	32	21.0	5.0
18	18	31.2	35	22.5	7.5
20	20	31.7	35	21.0	8.0
25	25	40.2	40	25.5	8.0
28	28	44.1	43	25.5	8.0
30	30	45.1	45	25.5	9.0
32	32	49.0	48	33.5	9.0
33	33	49.0	48	33.5	9.0
35	35	50.2	50	33.5	9.0
38	38	55.3	56	33.5	9.0
40	40	57.0	58	33.5	9.0
43	43	60.7	61	36.5	9.5
45	45	62.5	63	38.0	9.5
48	48	66.5	66	38.0	9.5
50	50	68.6	70	38.0	9.5
53	53	70.8	73	41.0	9.5
55	55	72.4	75	41.0	9.5
58	58	80.0	78	42.0	9.5
60	60	83.0	80	42.0	9.5
65	65	87.2	85	42.0	10.0
70	70	91.6	92	45.0	11.0
75	75	99.4	97	47.0	12.0
80	80	104.6	104	55.0	12.0
85	85	111.0	109	64.0	12.0
90	90	113.0	114	66.0	12.0

ELASTOMER BELLOW MECHANICAL SEAL



Combined Materials:

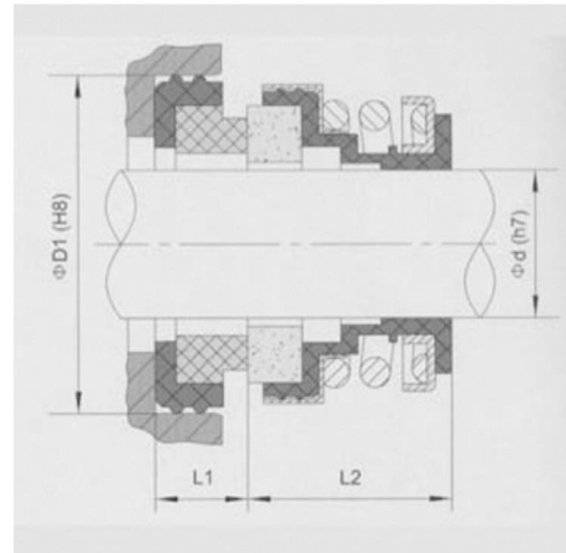
Stationary Ring (SiC/TC)
 Rotary Ring (SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Retainer (Steel and plastic
 or Cast Aluminum Alloy.)

Working Conditions:

Mediums: Water, oil and weakly-
 corrosive mediums.
 Temperature: -20oC~200oC
 Pressure: $\leq 0.5\text{Mpa}$
 Speed: $\leq 5 \text{ m/Sec}$

Part#	d	D	D1	L1	L2
MAK216- 20	20	42.5	55.5	11	25.7
MAK216- 22	22	47	45.5	9	23.8
MAK216- 25	25	54	50.5	10	28.8
MAK216- 28	28	54	50.5	10	28.8
MAK216- 30	30	54	50.5	10	28.8
MAK216- 35	35	62	60.5	11	29

Elastomer Bellow Shaft Seals



Combined Materials:

Stationary Ring (Carbon/SiC/TC)
 Rotary Ring (Ceramic/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

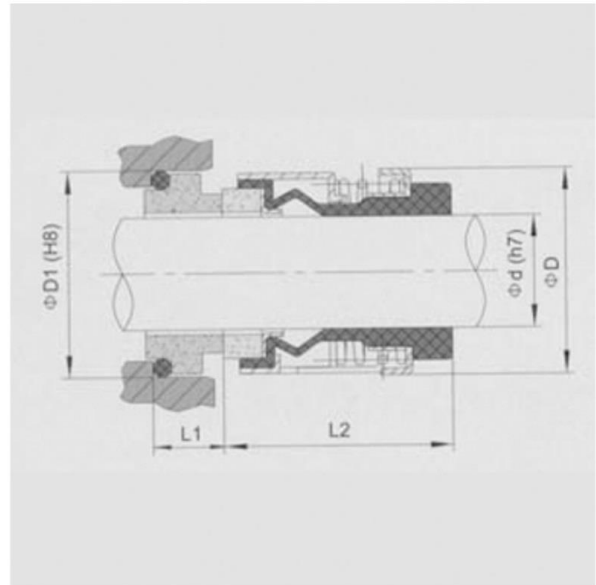
Pumps: Small water pumps and Pipe pumps.
 Temperature: -20°C~100°C
 Pressure: $\leq 0.5\text{Mpa}$
 Speed: $\leq 6\text{ m/Sec}$

Part#	d	D1	L1	L2
MAK103- 10	10	26	5.5	15
MAK103- 12	12	26	5.5	15
MAK103- 14	14	30	7	13.5
MAK103- 17	17	35	7	13.5
MAK103- 18	18	35	7	13.5

Elastomer Bellow Shaft Seals



MAKCR



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
 Rotary Ring (Carbon/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

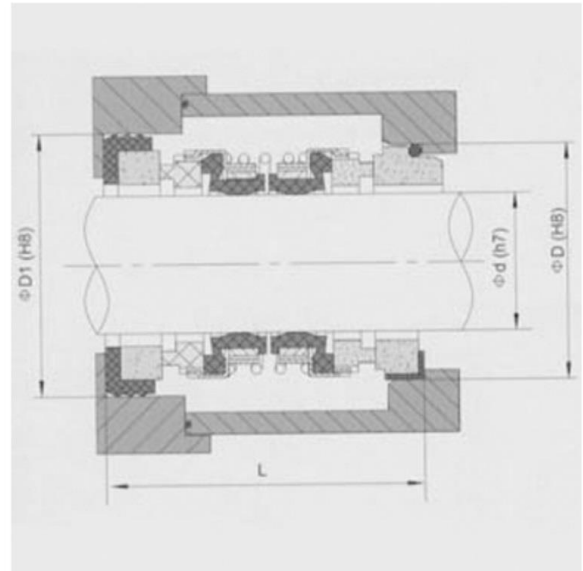
Mediums: Water, oil and weakly-corrosive mediums.
 Temperature: -20oC~150oC
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	D	D1	L1	L2
MAKCR- 12	12	22	23	8	31
MAKCR- 16	16	26	27	8	32.5

Elastomer Bellow Shaft Seals



MAK471



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
Rotary Ring (Carbon/SiC/TC)
Secondary Seal (NBR/EPDM/Viton)
Spring and Punched Parts (Steel)

Working Conditions:

Pumps: Submersible pumps, sewage pumps. Applied to the muddy water, sewage water or weakly corrosive fluids with soil grains.

Temperature: $-20^{\circ}\text{C} \sim 100^{\circ}\text{C}$

Pressure: $\leq 0.35\text{Mpa}$

Speed: $\leq 8 \text{ m/Sec}$

MAK471

Part#	d	D	D1	L
MAK471- 16	16	27	27	36
MAK471- 18	18	33	33	36
MAK471- 20	20	35	35	49
MAK471- 22	22	37	37	49
MAK471- 24	24	39	39	49
MAK471- 25	25	40	40	51
MAK471- 28	28	43	43	51
MAK471- 30	30	45	45	59
MAK471- 32	32	48	48	61
MAK471- 33	33	48	48	61
MAK471- 35	35	50	50	61
MAK471- 38	38	56	56	61
MAK471- 40	40	58	58	64.5
MAK471- 43	43	61	61	65
MAK471- 45	45	63	63	65
MAK471- 48	48	66	66	65
MAK471- 50	50	70	70	69.5
MAK471- 53	53	73	73	69.5
MAK471- 55	55	75	75	71

ELASTOMER BELLOW MECHANICAL SEAL



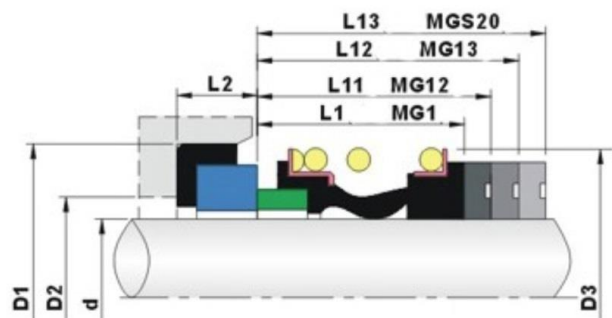
MAKG1/ G12/ G13/ G20

Operations Conditions:

Temperature: -20°C to +120°C

Pressure: ≤ 1.2MPa

Speed: ≤ 10m/s



Materials:

Stationary Ring: Ni-binder Tungsten Carbide, Silicon Carbide Reaction Bonded, Ceramic(Alumina), Silicon Carbide Sintered Pressureless

Rotary Ring: Resin Impregnated Carbon Graphite(Furan), Antimony Impreg. Carbon Graphite, Silicon Carbide Sintered Pressureless, Silicon Carbide Reaction Bonded

Secondary Seal: Fluorocarbon Rubber(Viton), Nitrile(NBR), Ethylene Propylene(EPDM)
Spring and Metal Parts: Stainless Steel, Stainless Steel

Applications: Clean Water, Sewage Water, Oil and other moderately corrosive fluids.

MAKG1/ G12/ G13/ G20

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>L1</i>	<i>L11</i>	<i>L12</i>	<i>L13</i>	<i>L2</i>
MAKG1/ G12/ G13/ G20	10	22.5	17	21	14.5	25.9	33.4	25.0	6.0
MAKG1/ G12/ G13/ G20	12	25.0	19	23	15.0	25.9	33.4	25.0	6.6
MAKG1/ G12/ G13/ G20	14	28.5	21	25	17.0	28.4	33.4	25.0	6.6
MAKG1/ G12/ G13/ G20	15	28.5	-	-	17.0	28.4	33.4	25.0	-
MAKG1/ G12/ G13/ G20	16	28.5	23	27	17.0	28.4	33.4	25.0	6.6
MAKG1/ G12/ G13/ G20	18	32.0	27	33	19.5	30.0	37.5	25.0	7.5
MAKG1/ G12/ G13/ G20	19	37.0	-	-	21.5	30.0	37.5	25.0	-
MAKG1/ G12/ G13/ G20	20	37.0	29	35	21.5	30.0	37.5	25.0	7.5
MAKG1/ G12/ G13/ G20	22	37.0	31	37	21.5	30.0	37.5	25.0	7.5
MAKG1/ G12/ G13/ G20	24	42.5	33	39	22.5	32.5	42.5	25.0	7.5
MAKG1/ G12/ G13/ G20	25	42.5	34	40	23.0	32.5	42.5	25.0	7.5
MAKG1/ G12/ G13/ G20	28	49.0	37	43	26.5	35.0	42.5	33.0	7.5
MAKG1/ G12/ G13/ G20	30	49.0	39	45	26.5	35.0	42.5	33.0	7.5
MAKG1/ G12/ G13/ G20	32	53.5	42	48	27.5	35.0	47.5	33.0	7.5
MAKG1/ G12/ G13/ G20	33	53.5	42	48	27.5	35.0	47.5	33.0	7.5
MAKG1/ G12/ G13/ G20	35	57.0	44	50	28.5	35.0	47.5	33.0	7.5
MAKG1/ G12/ G13/ G20	38	59.0	49	56	30.0	36.0	46.0	33.0	9.0
MAKG1/ G12/ G13/ G20	40	62.0	51	58	30.0	36.0	46.0	33.0	9.0
MAKG1/ G12/ G13/ G20	42	65.5	-	-	30.0	36.0	51.0	41.0	-
MAKG1/ G12/ G13/ G20	43	65.5	54	61	30.0	36.0	51.0	41.0	9.0
MAKG1/ G12/ G13/ G20	45	68.0	56	63	30.0	36.0	51.0	41.0	9.0
MAKG1/ G12/ G13/ G20	48	70.5	59	66	30.5	36.0	51.0	41.0	9.0
MAKG1/ G12/ G13/ G20	50	74.0	62	70	30.5	38.0	50.5	41.0	9.5
MAKG1/ G12/ G13/ G20	53	78.5	65	73	33.0	36.5	59.0	41.0	11.0
MAKG1/ G12/ G13/ G20	55	81.0	67	75	35.0	36.5	59.0	41.0	11.0
MAKG1/ G12/ G13/ G20	58	85.5	70	78	37.0	41.5	59.0	41.0	11.0
MAKG1/ G12/ G13/ G20	60	88.5	72	80	38.0	41.5	59.0	41.0	11.0
MAKG1/ G12/ G13/ G20	65	93.5	77	85	40.0	41.5	69.0	49.0	11.0
MAKG1/ G12/ G13/ G20	68	96.5	81	90	40.0	41.2	68.7	49.0	11.3
MAKG1/ G12/ G13/ G20	70	99.5	83	92	40.0	48.7	68.7	49.0	11.3
MAKG1/ G12/ G13/ G20	75	107.0	88	97	40.0	48.7	68.7	52.0	11.3
MAKG1/ G12/ G13/ G20	80	112.0	95	105	40.0	48.0	78.0	56.0	12.0
MAKG1/ G12/ G13/ G20	85	120.0	100	110	41.0	46.0	76.0	56.0	14.0
MAKG1/ G12/ G13/ G20	90	127.0	105	115	45.0	51.0	76.0	59.0	14.0
MAKG1/ G12/ G13/ G20	95	132.0	110	120	46.0	51.0	76.0	59.0	14.0
MAKG1/ G12/ G13/ G20	100	137.0	115	125	47.0	51.0	76.0	62.0	14.0

Grundfos Seals



MAK-GF1

Description:

MAK-GF1 is an original Grundfos seal with single spring o-ring Mounted semi-cartridge seals with threaded Hex-head Suitable for Grundfos CR, CRN, and CRI series pumps

Operational Conditions:

Temperature: -30°C to +200°C

Pressure: ≤ 2.5MPa

Speed: ≤ 25m/s

Materials:

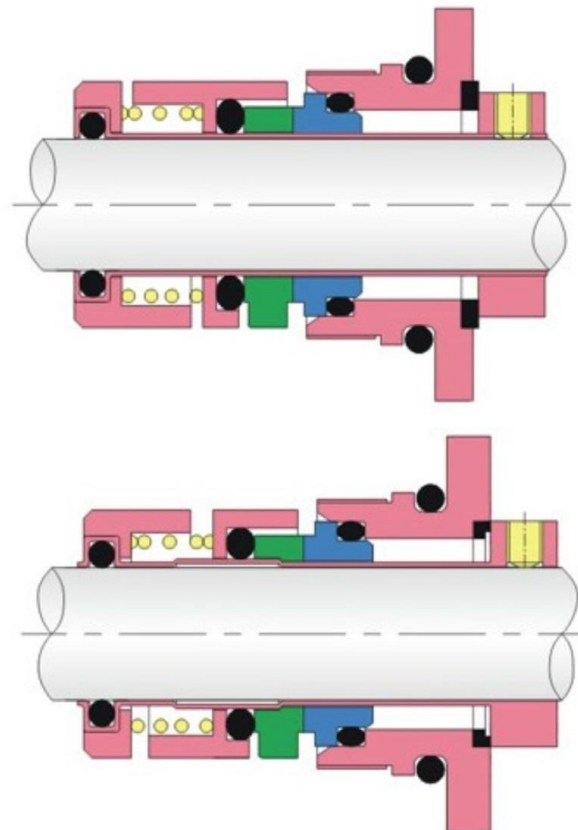
Stationary Ring: Silicon Carbide, TC

Rotary Ring: Carbon, Silicon Carbide, TC

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

Size: 12mm, 16mm



Grundfos Seals



MAK-GF2

Description:

MAK-GF2 is the mounted semi-cartridge seal with single spring o-ring and threaded Hex-head. Suitable for Grundfos CR, CRN, and CRI series pumps

Operational Conditions:

Temperature: -30°C to +200°C

Pressure: $\leq 2.5\text{MPa}$

Speed: $\leq 25\text{m/s}$

Materials:

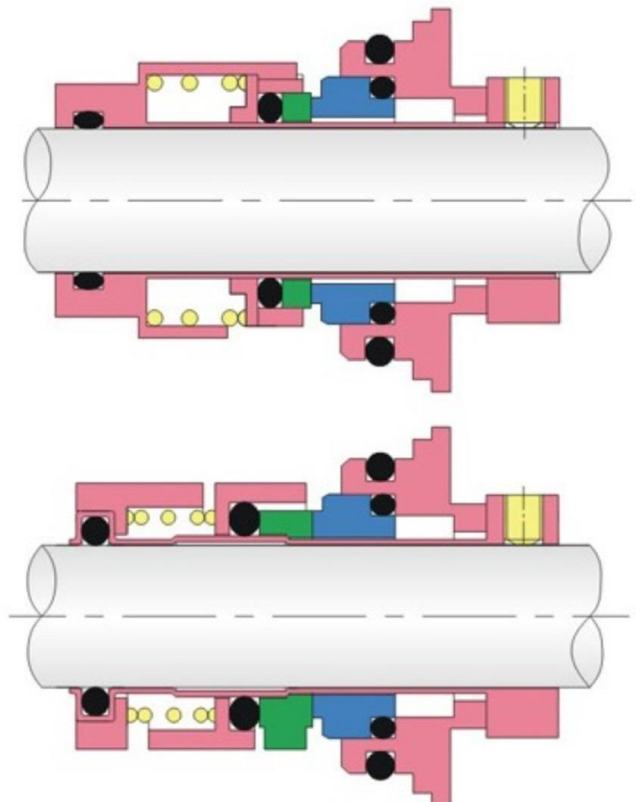
Stationary Ring: Silicon Carbide, TC

Rotary Ring: Carbon, Silicon Carbide, TC

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

Size: 12mm, 16mm



Grundfos Seals



MAK-GF3

Description:

MAK-GF3 is an original Grundfos seal with single spring o-ring Mounted semi-cartridge seals with push-fit head Suitable for Grundfos Pumps

Operational Conditions:

Temperature: -30°C to +200°C

Pressure: $\leq 2.5\text{MPa}$

Speed: $\leq 25\text{m/s}$

Materials:

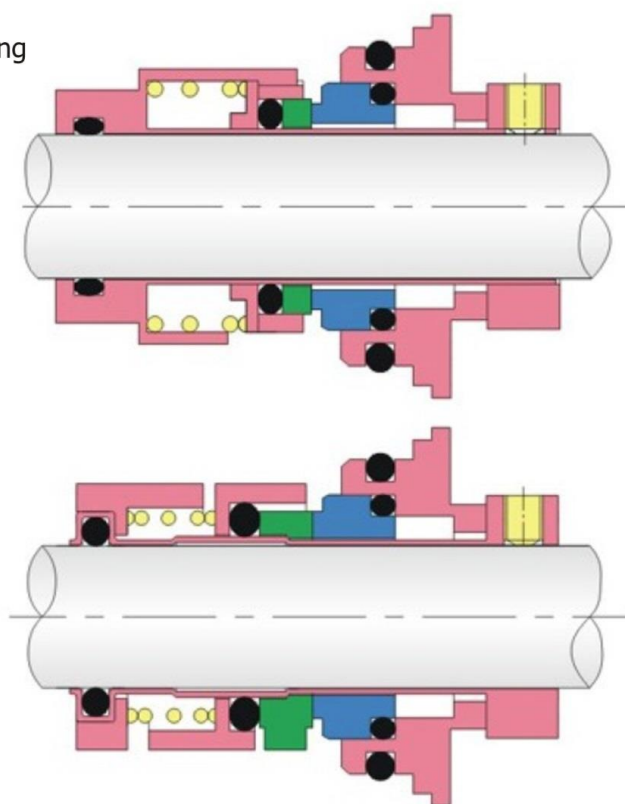
Stationary Ring: Silicon Carbide, TC

Rotary Ring: Carbon, Silicon Carbide, TC

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

Size: 22mm



Grundfos Seals



MAK-GF4

Description:

MAK-GF4 is the mounted semi-cartridge seal with a single spring o-ring and push-fit head. Suitable for Grundfos CR, CRN, and CRI series Pumps

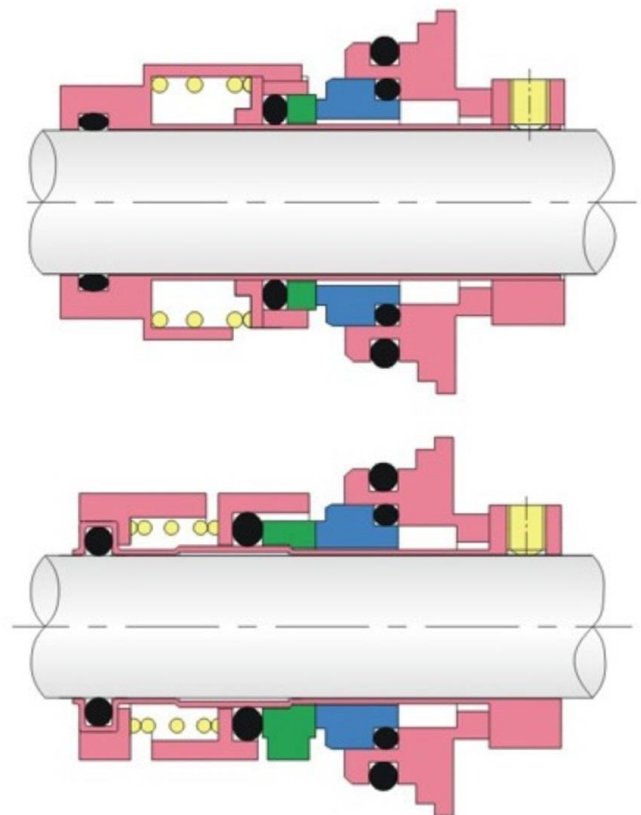
Operational Conditions:

Temperature: -30°C to +200°C
Pressure: $\leq 2.5\text{MPa}$
Speed: $\leq 25\text{m/s}$

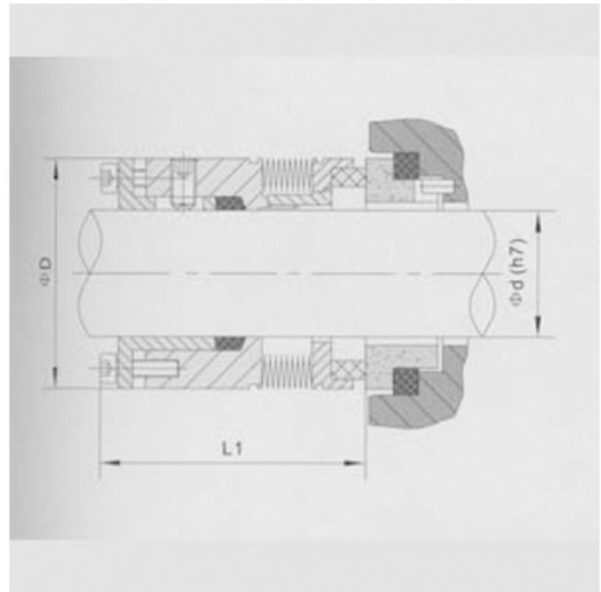
Materials:

Stationary Ring: Silicon Carbide, TC
Rotary Ring: Carbon, Silicon Carbide, TC
Secondary Seal: NBR, EPDM, Viton
Spring and Metal Parts: Steel

Size: 22mm



METAL BELOW MECHANICAL SEALS



Combined Materials:

Stationary Ring (SiC/TC)
Rotary Ring (Carbon/SiC/TC)
Secondary Seal (Graphite)
Bellow (AM350/Lnone1718)
Metal Part (Stainless Steel 304, 316)

Working Conditions:

Mediums: Oil, light hydrocarbon, aromatic hydrocarbon, organic solvents, weak acids, alkali, Ammonia, etc.

Temperature: -75oC~400oC

Pressure: $\leq 2.0\text{Mpa}$ (Single) $\leq 6.0\text{Mpa}$ (Double)

Speed: $\leq 23\text{m/Sec}$

MAK506

Part#	d	D	L1
MAK506- 16	19.05	41.28	58.92
MAK506- 18	22.23	44.45	59.72
MAK506- 20	25.4	47.63	59.71
MAK506- 22	28.58	50.8	60.53
MAK506- 24	31.75	53.98	60.53
MAK506- 26	34.93	57.15	62.89
MAK506- 28	38.1	60.33	63.7
MAK506- 30	41.28	63.5	63.7
MAK506- 32	44.45	66.68	64.49
MAK506- 34	47.63	69.85	64.49
MAK506- 36	50.8	73.0.	65.27
MAK506- 38	53.98	76.2	65.27
MAK506- 40	57.15	82.55	70.05
MAK506- 42	60.33	85.73	70.84
MAK506- 44	63.5	88.9	70.84
MAK506- 46	66.68	93.65	73.23
MAK506- 48	69.85	96.82	76.4
MAK506- 50	73.03	101.6	76.4
MAK506- 52	76.2	104.78	76.4
MAK506- 54	79.38	107.95	76.4
MAK506- 56	82.55	111.13	76.4
MAK506- 58	85.73	114.3	76.4
MAK506- 60	88.9	117.48	76.4
MAK506- 62	92.08	120.65	76.4
MAK506- 64	95.25	123.83	76.4

METAL BELOW MECHANICAL SEALS



MAK509

Operational Conditions :

Temperature : -75°C to +400°C

Pressure : $\leq 2.0\text{MPa}$

Speed : $\leq 23\text{m/s}$

Materials:

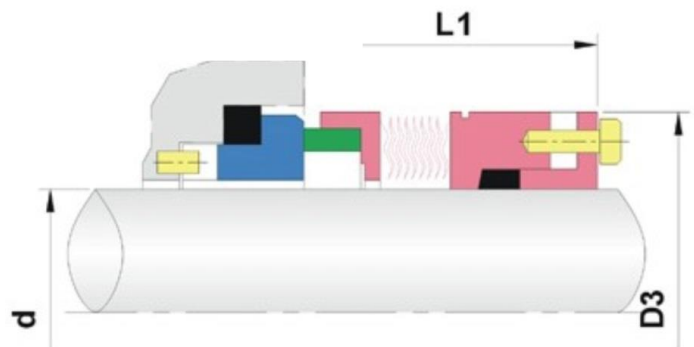
Stationary Ring: TC, Silicon Carbide

Rotary Ring: Carbon ,Silicon Carbide,TC

Secondary Seal: Graphite

Bellows: Steel

Spring and Metal Parts: Steel



Applications:

Oil, light hydrocarbon, aromatic Hydrocarbon, organic solvents, weak acids, ammonia etc.

MAK509

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>L1</i>
25.40	25.40	41.28	38.95
28.58	28.58	44.45	39.87
31.75	31.75	47.63	40.66
34.93	34.93	50.80	40.66
38.10	38.10	53.98	40.66
41.28	41.28	57.15	40.66
44.45	44.45	60.33	41.48
47.63	47.63	63.50	41.48
50.80	50.80	66.68	42.26
53.98	53.98	69.85	42.26
57.15	57.15	73.03	43.86
60.33	60.33	76.20	43.86
63.50	63.50	82.55	44.65
66.68	66.68	85.73	45.44
69.85	69.85	88.90	45.44
73.03	73.03	93.65	47.83
76.20	76.20	96.82	47.83
79.38	79.38	101.60	47.83
82.55	82.55	104.78	47.83
85.73	85.73	107.95	47.83
88.90	88.90	111.13	47.83
92.08	92.08	114.30	47.83
95.25	95.25	117.48	47.83
98.43	98.43	120.65	47.83
101.60	101.60	123.83	47.83

METAL BELOW MECHANICAL SEALS



MAK570/MAK576/MAK580

Operational Conditions :

Temperature : -75°C to +200°C

Pressure : ≤2.0MPa

Speed: ≤23m/s

Materials:

Stationary Ring: TC, Silicon Carbide

Rotary Ring: Carbon ,Silicon Carbide,TC

Secondary Seal: NBR,EPDM,Viton

Bellows: Steel

Spring and Metal Parts: Steel

Applications:

Oil, light hydrocarbon, aromatic Hydrocarbon,
organic solvents,weak acids, ammonia etc.

MAK570/MAK576/MAK580

<i>Size/Inch</i>	<i>d</i>	<i>D3</i>	<i>L1</i>		<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>L1</i>
0.750	0.750	1.312	1.250		18	18	32.00	27.7
0.875	0.875	1.437	1.250		20	20	33.30	27.7
0.937	0.937	1.500	1.250		22	22	36.00	27.7
1.000	1.000	1.562	1.250		24	24	38.10	30.2
1.125	1.125	1.687	1.250		25	25	39.00	30.2
1.250	1.250	1.812	1.312		28	28	42.00	32.7
1.375	1.375	1.937	1.437		30	30	44.00	32.7
1.500	1.500	2.063	1.437		32	32	46.00	32.7
1.625	1.625	2.187	1.437		33	33	47.00	32.7
1.750	1.750	2.312	1.437		35	35	49.20	32.7
1.875	1.875	2.437	1.500		38	38	52.40	34.2
2.000	2.000	2.562	1.500		40	40	55.60	34.2
2.125	2.125	2.687	1.500		43	43	58.70	34.2
2.250	2.250	2.812	1.562		45	45	58.70	34.2
2.375	2.375	2.937	1.562		48	48	61.90	34.2
2.500	2.500	3.187	1.562		50	50	65.10	34.7
2.625	2.625	3.312	1.625		53	53	68.30	34.7
2.750	2.750	3.437	1.625		55	55	71.00	34.7
2.875	2.875	3.625	1.687		60	60	74.60	39.7
3.000	3.000	3.750	1.687		65	65	84.10	39.7
3.125	3.125	3.875	1.750		70	70	87.30	45.2
3.250	3.250	4.000	1.750		75	75	95.30	45.2
3.375	3.375	4.125	1.750		80	80	98.40	44.7
3.625	3.625	4.375	1.875		85	85	104.80	44.7
3.750	3.750	4.500	1.875		90	90	108.00	49.7
3.880	3.880	4.625	1.875		95	95	114.30	49.7
4.000	4.000	4.750	1.875					

METAL BELOW MECHANICAL SEALS



MAKB85

Operational Conditions :

Temperature : -20°C to +200°C

Pressure : ≤ 2.1 MPa

Speed : ≤ 23 m/s

Materials:

Stationary Ring: TC, Silicon Carbide

Rotary Ring: Carbon, Silicon Carbide, TC

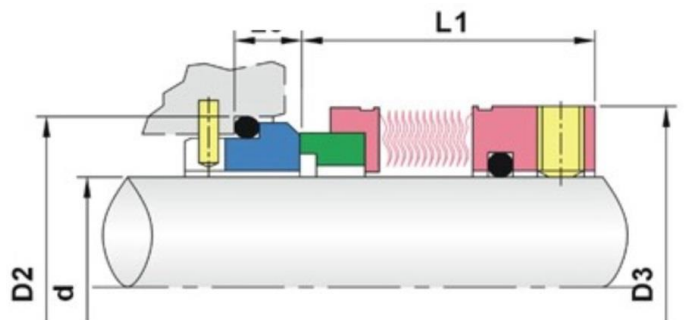
Secondary Seal: NBR, EPDM, Viton

Bellows: Steel

Spring and Metal Parts: Steel

Applications:

Oil, light hydrocarbon, aromatic Hydrocarbon, organic solvents, weak acids, ammonia etc.



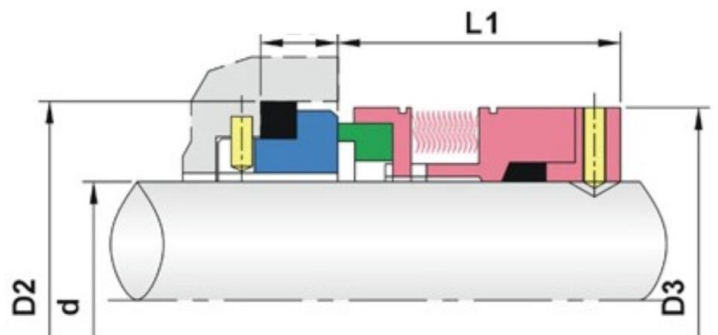
MAKB85

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>L3</i>	<i>L1</i>
16	16	30.00	27.0	10.0	32.5
18	18	32.00	33.0	11.5	30.5
20	20	33.50	35.0	11.5	30.5
22	22	36.50	37.0	11.5	30.5
24	24	39.00	39.0	11.5	28.5
25	25	39.60	40.0	11.5	28.5
28	28	42.80	43.0	11.5	31.0
30	30	45.00	45.0	11.5	31.0
32	32	46.00	48.0	11.5	31.0
33	33	48.00	48.0	11.5	31.0
35	35	49.20	50.0	11.5	31.0
38	38	52.30	56.0	14.0	31.0
40	40	55.50	58.0	14.0	31.0
43	43	57.50	61.0	14.0	31.0
45	45	58.70	63.0	14.0	31.0
48	48	61.90	66.0	14.0	31.0
50	50	65.00	70.0	15.0	32.50
53	53	68.20	73.0	15.0	32.5
55	55	70.00	75.0	15.0	32.5
58	58	71.70	78.0	15.0	37.5
60	60	74.60	80.0	15.0	37.5
63	63	79.00	83.0	15.0	37.5
65	65	84.10	85.0	15.0	37.5
68	68	87.30	90.0	18.0	34.5
70	70	87.30	92.0	18.0	42.0
75	75	95.00	97.0	18.0	42.0
80	80	98.40	105.0	18.2	41.8
85	85	104.70	110.0	18.2	41.8
90	90	111.0	115.0	18.2	46.8
95	95	114.00	120.0	17.2	47.8
100	100	117.40	125.0	17.2	47.8

METAL BELOW MECHANICAL SEALS



MAKB80



Operational Conditions :

Temperature : -20°C to +370°C

Pressure : $\leq 2.0\text{MPa}$

Speed: $\leq 23\text{m/s}$

Materials:

Stationary Ring: TC, Silicon Carbide

Rotary Ring: Carbon ,Silicon Carbide,TC

Secondary Seal: NBR,EPDM,Viton

Bellows: Steel

Spring and Metal Parts: Steel

Applications:

Oil, light hydrocarbon, aromatic Hydrocarbon, organic solvents, week acids, ammonia etc.

MAKB80

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>L3</i>	<i>L1</i>
16	16	38.0	35.0	11.5	46.7
18	18	40.0	37.0	11.5	46.7
20	20	42.0	40.0	11.5	46.7
22	22	44.0	43.0	11.5	46.7
24	24	46.0	43.0	11.5	46.7
25	25	47.0	45.0	11.5	46.7
28	28	50.0	48.0	11.5	46.7
30	30	52.0	50.0	11.5	46.7
32	32	54.0	56.0	14.0	46.7
33	33	55.0	56.0	14.0	46.7
35	35	57.0	58.0	14.0	46.7
38	38	60.0	61.0	14.0	46.7
40	40	66.0	63.0	14.0	47.7
43	43	63.0	66.0	14.0	47.7
45	45	71.0	70.0	15.0	47.7
48	48	74.0	73.0	15.0	47.7
50	50	76.0	75.0	15.0	47.7
53	53	79.0	78.0	15.0	47.7
55	55	81.0	80.0	15.0	47.7
58	58	85	83.0	15.0	53.2
60	60	87.0	85.0	15.0	53.2
63	63	90.0	90.0	18.0	53.2
65	65	92.0	92.0	18.0	53.2
68	68	95.0	97.0	18.0	53.2
70	70	97.0	97.0	18.0	53.2
75	75	102.0	105.0	18.2	53.0
80	80	107.0	110.0	18.2	53.0
85	85	112.0	115.0	18.2	53.0
90	90	117.0	120.0	17.2	54.0
95	95	122.0	125.0	17.2	54.0
100	100	127.0	134.3	20.2	54.2

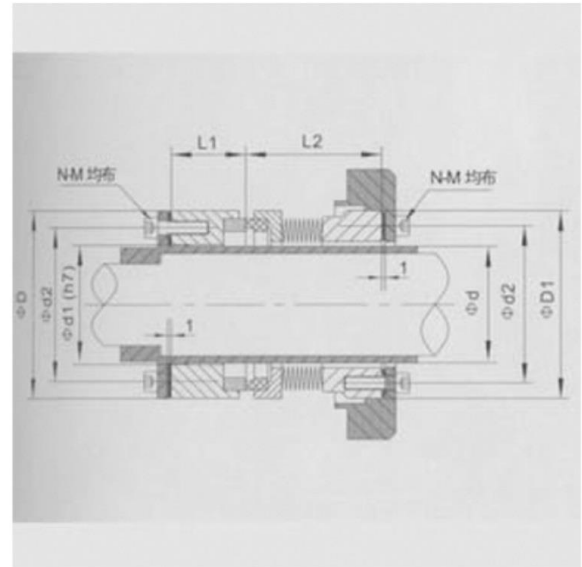
Welded Metal Bellow Mechanical Seals

MAKB12



Combined Materials:

Stationary Ring (SiC/TC)
 Rotary Ring (Carbon/SiC/TC)
 Secondary Seal (Graphite)
 Bellow (AM350/Lnone1718)
 Metal Part (Stainless Steel 304, 316)

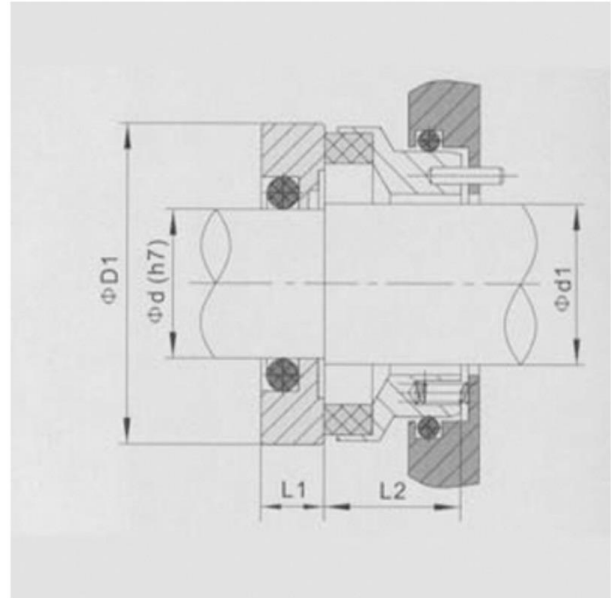


Working Conditions:

Mediums: Oil, light hydrocarbon, aromatic hydrocarbon, organic solvents, weak acids, alkali, Ammonia, etc.
 Temperature: -75oC~260oC
 Pressure: ≤ 2.0Mpa(Single) ≤ 3.5Mpa(Double)
 Speed: ≤ 50m/Sec

Part#	d	d1	d2	D	D1	L1	L2	N-M
MAKB12- 30	27	32.5	40	47	47	18	30	8-M4
MAKB12- 35	31.5	36	44	51	51	20	30	8- M4
MAKB12- 40	37	41.5	52	62	62	25	40	6- M6
MAKB12- 45	41.5	46.5	56	67	67	25	45/52	6- M6
MAKB12- 50	46.5	51.5	62	72	72	25	45/52	6- M6
MAKB12- 55	51.5	56.5	67	78	78	30	45/55	6- M6
MAKB12- 60	53	61	72	83	83	30	45/55	6- M6
MAKB12- 65	58.5	66	76	88	88	30	45/55	6- M6
MAKB12- 70	67	72.5	84	97	97	30	50/55	6- M6
MAKB12- 75	73	77.5	88	98	98	30	50	6- M6
MAKB12- 80	73.5	79.5	91	103	103	30	50	6- M6
MAKB12- 85	78	85.5	97	108	108	30	50	6- M6
MAKB12- 90	86	92.5	103	115	115	30	50/58	6- M6
MAKB12- 95	90	97.5	110	121	121	30	50	8- M6
MAKB12-100	95	102.5	113	124	124	30	50	8- M6

O RING MECHANICAL SEALLS



Combined Materials:

Stationary Ring (Steel/TC)
 Rotary Ring (Carbon/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Metal Part (Steel)

Working Conditions:

Mediums: Water, oil, weak acid, weak alkali, etc.
 Temperature: -20oC~200oC
 Pressure: ≤ 2.5Mpa
 Speed: ≤ 20m/Sec
 Part# d

Part#	d	d1	D1	L1	L2
MAK150- 5/8"	15.875	21	44.5	11	26
MAK150- 1"	25.4	28.58	51	11	26
MAK150- 1 ½ "	38.1	41.28	72.5	15.5	31

J TYPE O RING MECHANICAL SEALS



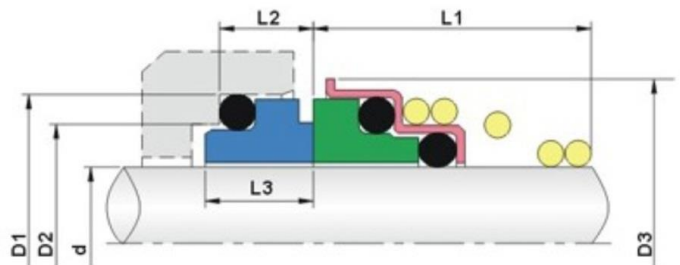
MAKJ1

Operational Conditions:

Temperature: -20°C to +150°C

Pressure: $\leq 1.0\text{MPa}$

Speed: $\leq 10\text{m/s}$



Materials:

Stationary Ring: Carbon, Silicon Carbide

Rotary Ring: Ceramic, Silicon Carbide

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids

MAKJ1

Size/Metric	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>L1</i>	<i>L2</i>	<i>L3</i>
10	10	20	14.0	18.1	15	5.5	7.0
11	11	22	16.5	20.6	18	5.5	7.0
12	12	22	16.5	20.6	18	5.5	7.0
13	13	25	19.0	23.1	22	6.0	7.5
14	14	25	19.0	23.1	22	6.0	7.5
15	15	29	21.0	26.9	22	7.0	9.2
16	16	29	21.0	26.9	23	7.0	9.2
17	17	29	21.0	26.9	23	7.0	9.2
18	18	33	25.0	30.9	24	8.0	10.0
19	19	33	25.0	30.9	25	8.0	10.0
20	20	33	25.0	30.9	25	8.0	10.0
21	21	38	30.0	35.4	25	8.0	10.0
22	22	38	30.0	35.4	25	8.0	10.0
23	23	38	30.0	35.4	27	8.0	10.0
24	24	38	30.0	35.4	27	8.0	10.0
25	25	40	33.0	38.2	27	8.5	10.0
28	28	46	38.0	43.3	29	9.0	11.0
29	29	46	38.0	43.3	30	9.0	11.0
30	30	46	38.0	43.3	30	9.0	11.0
32	32	46	38.0	43.3	30	9.0	11.0
33	33	48	45.0	53.5	39	11.5	13.0
35	35	50	45.0	53.5	39	11.5	13.0
38	38	56	52.0	60.5	39	11.5	13.0
40	40	58	52.0	60.5	39	11.5	13.0

O RING MECHANICAL SEALLS



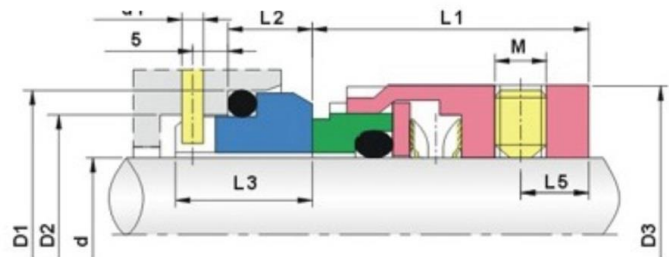
MAKM7N

Operational Conditions :

Temperature : -20°C to +190°C

Pressure : $\leq 1.2\text{MPa}$

Speed: $\leq 15\text{m/s}$



Materials:

Stationary Ring: Ceramic, Silicon Carbide, TC, Carbon

Rotary Ring: Carbon, Silicon Carbide

Secondary Seal: NBR, EPDM, Viton, PTFE

Spring and Metal Parts: Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids.

MAKM7N

Size/Metric	d	D3	D2	D1	d1	L1	L2	L3	L5	M
14	14	25	21	25	3	25.0	10.0	17.5	6	M5
16	16	27	23	27	3	25.0	10.0	17.5	6	M5
18	18	33	27	33	3	26.0	11.5	19.5	7	M5
20	20	35	29	35	3	26.0	11.5	19.5	7	M5
22	22	37	31	37	3	26.0	11.5	19.5	7	M5
24	24	39	33	39	3	28.5	11.5	19.5	8	M5
25	25	40	34	40	3	28.5	11.5	19.5	8	M5
28	28	43	37	43	3	31.0	11.5	19.5	8	M6
30	30	45	39	45	3	31.0	11.5	19.5	8	M6
32	32	47	42	48	3	31.0	11.5	19.5	8	M6
33	33	48	42	48	3	31.0	11.5	19.5	8	M8
35	35	50	44	50	3	31.0	11.5	19.5	8	M6
38	38	55	49	56	4	31.0	14.0	22.0	8	M6
40	40	57	51	58	4	31.0	14.0	22.0	8	M6
43	43	60	54	61	4	31.0	14.0	22.0	8	M6
45	45	62	56	63	4	31.0	14.0	22.0	8	M6
48	48	65	59	66	4	31.0	14.0	22.0	8	M6
50	50	67	62	70	4	32.5	15.0	23.0	8	M6
53	53	70	65	73	4	32.5	15.0	23.0	8	M6
55	55	72	67	75	4	32.5	15.0	23.0	8	M6
58	58	79	70	78	4	37.5	15.0	23.0	9	M8
60	60	81	72	80	4	37.5	15.0	23.0	9	M8
63	63	84	75	83	4	37.5	15.0	23.0	9	M8
65	65	86	77	85	4	37.5	15.0	23.0	9	M8
68	68	89	81	90	4	34.5	18.0	26.0	9	M8
70	70	91	83	92	4	42.0	18.0	26.0	9	M8
75	75	99	88	97	4	42.0	18.0	26.0	10	M8
80	80	104	95	105	4	41.8	18.2	26.2	10	M8
85	85	109	100	110	4	41.8	18.2	26.2	10	M8
90	90	114	105	115	4	46.8	18.2	26.2	10	M8
95	95	119	110	120	4	47.8	17.2	25.0	10	M8
100	100	124	115	125	4	47.8	17.2	25.2	10	M8

O RING MECHANICAL SEALLS



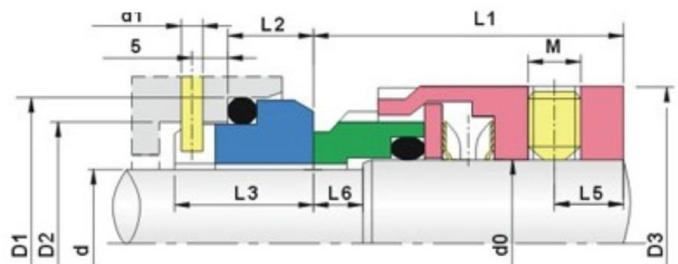
MAKH7N

Operational Conditions :

Temperature : -20°C to +190°C

Pressure : $\leq 2.5\text{MPa}$

Speed : $\leq 15\text{m/s}$



Materials :

Stationary Ring : Ceramic, Silicon Carbide, TC, Carbon

Rotary Ring : Carbon, Silicon Carbide, TC

Secondary Seal : NBR, EPDM, Viton, PTFE

Spring and Metal Parts : Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids.

MAKH7N

Size/Metric	d0	d	D3	D2	D1	d1	L1	L2	L3	L6	L5	M
14	18	14	33	21	25	3	32.5	10.0	17.5	8.0	6.0	M5
16	20	16	35	23	27	3	32.5	10.0	17.5	8.0	6.0	M5
18	22	18	37	27	33	3	33.5	11.5	19.5	8.5	7.0	M5
20	24	20	39	29	35	3	33.5	11.5	19.5	8.5	5.5	M5
22	26	22	41	31	37	3	33.5	11.5	19.5	8.5	8.0	M5
24	28	24	43	33	39	3	36.0	11.5	19.5	8.5	5.5	M6
25	30	25	45	34	40	3	36.0	11.5	19.5	8.5	5.5	M6
28	33	28	48	37	43	3	38.5	11.5	19.5	8.5	8.0	M6
30	35	30	50	39	45	3	38.5	11.5	19.5	8.5	8.0	M6
32	38	32	55	42	48	3	38.5	11.5	19.5	8.5	8.0	M5
33	38	33	55	42	48	3	38.5	11.5	19.5	8.5	8.0	M6
35	40	35	57	44	50	3	38.5	11.5	19.5	8.5	8.0	M6
38	43	38	60	49	56	4	38.5	14.0	22.0	9.0	8.0	M6
40	45	40	62	51	58	4	38.5	14.0	22.0	9.0	8.0	M6
43	48	43	65	54	61	4	38.5	14.0	22.0	9.0	8.0	M6
45	50	45	67	56	63	4	38.5	14.0	22.0	9.0	8.0	M6
48	53	48	70	59	66	4	38.5	14.0	22.0	9.0	8.0	M6
50	55	50	72	62	70	4	42.5	15.0	23.0	10.0	8.0	M6
53	58	53	79	65	73	4	42.5	15.0	23.0	10.0	9.0	M8
55	60	55	81	67	75	4	42.5	15.0	23.0	10.0	9.0	M8
58	63	58	84	70	78	4	47.5	15.0	23.0	10.0	9.0	M8
60	65	60	86	72	80	4	47.5	15.0	23.0	10.0	9.0	M8
63	68	63	89	75	83	4	47.5	15.0	23.0	10.0	9.0	M8
65	70	65	91	77	85	4	47.5	15.0	23.0	10.0	9.0	M8
70	75	70	99	83	92	4	52.0	18.0	26.0	10.0	10.0	M8
75	80	75	104	88	97	4	52.0	18.0	26.0	10.0	10.0	M8
80	85	80	109	95	105	4	51.8	18.2	26.2	9.8	10.0	M8
85	90	85	114	100	110	4	56.8	18.2	26.2	9.8	10.0	M8
90	95	90	119	105	115	4	56.8	18.2	26.2	9.8	10.0	M8
95	100	95	124	110	120	4	57.8	17.2	25.2	10.8	10.0	M8
100	105	100	129	115	125	4	57.8	17.2	25.2	10.8	10.0	M8

O RING MECHANICAL SEALLS



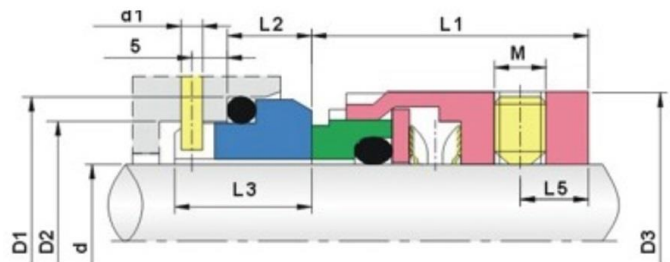
MAKM7F

Operational Conditions :

Temperature : -20°C to +190°C

Pressure : $\leq 1.2\text{MPa}$

Speed: $\leq 15\text{m/s}$



Materials:

Stationary Ring: Ceramic, Silicon Carbide, TC, Carbon

Rotary Ring: Carbon, Silicon Carbide

Secondary Seal: NBR, EPDM, Viton, PTFE

Spring and Metal Parts: Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids.

MAKM7F

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>d1</i>	<i>L1</i>	<i>L2</i>	<i>L3</i>	<i>L5</i>	<i>M</i>
14	14	25	21	25	3	25.0	10.0	17.5	6	M5
16	16	27	23	27	3	25.0	10.0	17.5	6	M5
18	18	33	27	33	3	26.0	11.5	19.5	7	M5
20	20	35	29	35	3	26.0	11.5	19.5	7	M5
22	22	37	31	37	3	26.0	11.5	19.5	7	M5
24	24	39	33	39	3	28.5	11.5	19.5	8	M5
25	25	40	34	40	3	28.5	11.5	19.5	8	M5
28	28	43	37	43	3	31.0	11.5	19.5	8	M6
30	30	45	39	45	3	31.0	11.5	19.5	8	M6
32	32	47	42	48	3	31.0	11.5	19.5	8	M6
33	33	48	42	48	3	31.0	11.5	19.5	8	M6
35	35	50	44	50	3	31.0	11.5	19.5	8	M6
38	38	55	49	56	4	31.0	14.0	22.0	8	M6
40	40	57	51	58	4	31.0	14.0	22.0	8	M6
43	43	60	54	61	4	31.0	14.0	22.0	8	M6
45	45	62	56	63	4	31.0	14.0	22.0	8	M6
48	48	65	59	66	4	31.0	14.0	22.0	8	M6
50	50	67	62	70	4	32.5	15.0	23.0	8	M6
53	53	70	65	73	4	32.5	15.0	23.0	8	M6
55	55	72	67	75	4	32.5	15.0	23.0	8	M6
58	58	79	70	78	4	37.5	15.0	23.0	9	M8
60	60	81	72	80	4	37.5	15.0	23.0	9	M8
63	63	84	75	83	4	37.5	15.0	23.0	9	M8
65	65	86	77	85	4	37.5	15.0	23.0	9	M8
68	68	89	81	90	4	34.5	18.0	26.0	9	M8
70	70	91	83	92	4	42.0	18.0	26.0	9	M8
75	75	99	88	97	4	42.0	18.0	26.0	10	M8
80	80	104	95	105	4	41.8	18.2	26.2	10	M8
85	85	109	100	110	4	41.8	18.2	26.2	10	M8
90	90	114	105	115	4	46.8	18.2	26.2	10	M8
95	95	119	110	120	4	47.8	17.2	25.2	10	M8
100	100	124	115	125	4	47.8	17.2	25.2	10	M8

CORNICAL SPRING O RING MECHANICAL SEALS



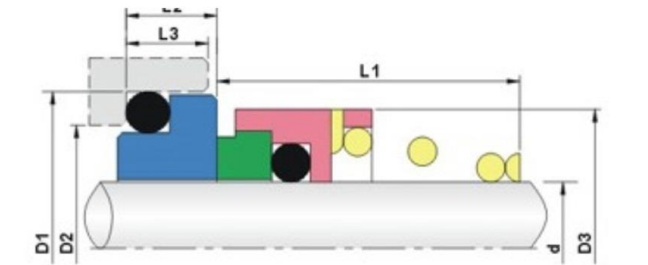
MAK53A

Operational Conditions:

Temperature: -30°C to +200°C

Pressure: $\leq 1.2\text{MPa}$

Speed: $\leq 20\text{m/s}$



Materials:

Stationary Ring: Silicon Carbide, TC, Carbon

Rotary Ring: Silicon Carbide, Ceramic, TC

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids

MAK53A

<i>Size/Metric MAK53A</i>	<i>D1</i>	<i>D2</i>	<i>D3</i>	<i>L1</i>	<i>L2</i>	<i>L3</i>
10.0	19.2	15.5	19.0	15.5	6.6	5.0
12.0	21.6	17.5	21.0	15.5	5.6	5.0
14.0	24.6	20.5	23.0	15.5	5.6	5.0
15.0	24.6	20.5	24.0	15.5	6.6	5.0
16.0	28.0	22.0	26.0	17.5	7.5	6.5
18.0	30.0	24.0	29.0	18.5	8.0	6.5
19.0	31.0	25.0	31.0	20.0	7.5	6.5
20.0	35.0	29.5	31.0	20.0	7.5	6.5
22.0	35.0	29.5	33.0	21.5	7.5	6.5
24.0	38.0	32.0	35.0	23.0	7.5	6.5
25.0	38.0	32.0	36.0	24.5	7.5	6.5
26.0	40.0	34.0	37.0	24.5	8.0	6.5
28.0	42.0	36.0	40.0	24.5	9.0	6.5
30.0	45.0	39.2	43.0	24.5	10.5	6.5
32.0	48.0	42.2	46.0	28.0	10.5	6.5
35.0	52.0	46.2	49.0	28.0	11.0	6.5
38.0	55.0	49.2	53.0	31.0	10.3	6.5
40.0	58.0	52.0	56.0	34.0	10.8	6.5
42.0	62.0	53.3	59.0	35.0	12.0	8.0
43.0	62.0	54.3	59.0	35.0	12.0	8.0
45.0	64.0	55.3	61.0	36.5	11.6	8.0
48.0	68.4	59.7	64.0	42.0	11.6	8.0
50.0	69.3	60.8	66.0	43.0	11.6	8.0
55.0	75.4	66.5	71.0	47.0	13.3	8.0
58.0	78.4	69.5	76.0	50.0	13.3	8.0
60.0	80.4	71.5	78.0	51.0	13.3	8.0
65.0	85.4	76.5	84.0	52.0	13.0	8.0
68.0	91.5	82.7	88.0	53.0	13.7	8.0
70.0	92.0	83.0	90.0	54.0	13.0	8.0
75.0	99.0	92.2	98.0	55.0	14.0	8.0
80.0	104.0	95.2	100.0	58.0	15.0	8.0

CORNICAL SPRING O RING MECHANICAL SEALS



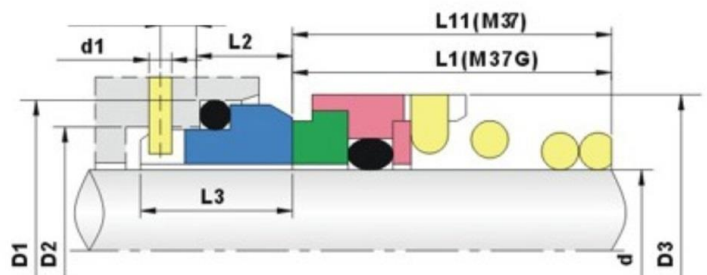
MAK53B

Operational Conditions:

Temperature: -20°C to +180°C

Pressure: ≤ 1.0MPa

Speed: ≤ 15m/s



Materials:

Stationary Ring: Ceramic, Silicon Carbide, TC, Carbon

Rotary Ring: Carbon, Silicon Carbide

Secondary Seal: NBR, EPDM, Viton, PTFE

Spring and Metal Parts: Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids

MAK53B

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>d1</i>	<i>L1</i>	<i>L11</i>	<i>L2</i>	<i>L3</i>
MAK53B- 10	10	20	17	21	3	16.9	-	10.0	17.5
MAK53B- 12	12	22	19	23	3	17.4	-	10.0	17.5
MAK53B- 14	14	24	21	25	3	17.4	16.5	10.0	17.5
MAK53B- 16	16	26	23	27	3	19.5	16.5	10.0	17.5
MAK53B- 18	18	31	27	33	3	20.5	18.0	11.5	19.5
MAK53B- 20	20	34	29	35	3	22.0	19.0	11.5	19.5
MAK53B- 22	22	36	31	37	3	23.5	20.5	11.5	19.5
MAK53B- 24	24	38	33	39	3	25.0	22.0	11.5	19.5
MAK53B- 25	25	39	34	40	3	26.5	23.5	11.5	19.5
MAK53B- 28	28	42	37	43	3	26.5	24.5	11.5	19.5
MAK53B- 30	30	44	39	45	3	25.0	24.5	11.5	19.5
MAK53B- 32	32	46	42	48	3	28.5	28.0	11.5	19.5
MAK53B- 33	33	47	42	48	3	-	-	11.5	19.5
MAK53B- 35	35	49	44	50	3	28.5	28.0	11.5	19.5
MAK53B- 38	38	54	49	56	4	32.2	31.0	14.0	22.0
MAK53B- 40	40	56	51	58	4	34.7	34.0	14.0	22.0
MAK53B- 43	43	59	54	61	4	-	-	14.0	22.0
MAK53B- 45	45	61	56	63	4	39.0	36.5	14.0	22.0
MAK53B- 48	48	64	59	66	4	44.7	42.0	14.0	22.0
MAK53B- 50	50	66	62	70	4	45.7	43.0	15.0	23.0
MAK53B- 53	53	69	65	73	4	-	-	15.0	23.0
MAK53B- 55	55	71	67	75	4	49.0	47.0	15.0	23.0
MAK53B- 58	58	78	70	78	4	52.0	50.0	15.0	23.0
MAK53B- 60	60	79	72	80	4	53.0	51.0	15.0	23.0
MAK53B- 63	63	83	75	83	4	-	-	15.0	23.0
MAK53B- 65	65	85	77	85	4	54.3	52.0	15.0	23.0
MAK53B- 68	68	88	81	90	4	55.3	52.7	18.0	26.0
MAK53B- 70	70	90	83	92	4	56.3	54.0	18.0	26.0
MAK53B- 75	75	98	88	97	4	56.3	54.0	18.0	26.0
MAK53B- 80	80	103	95	105	4	59.3	58.0	18.2	26.0

CORNICAL SPRING O RING MECHANICAL SEALS



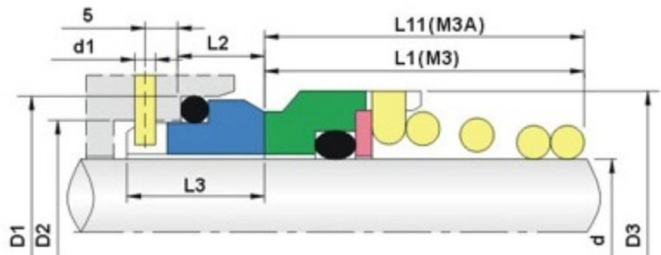
MAK53N

Operational Conditions:

Temperature: -20°C to $+180^{\circ}\text{C}$

Pressure: $\leq 1.0\text{MPa}$

Speed: $\leq 15\text{m/s}$



Materials:

Stationary Ring: Ceramic, Silicon Carbide, TC, Carbon

Rotary Ring: Carbon, Silicon Carbide, Steel

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

Applications: Clean water, sewage water, oil and other moderately corrosive fluids

MAK53N

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>d1</i>	<i>L1</i>	<i>L11</i>	<i>L2</i>	<i>L3</i>
10	10	19	17	21	3	15.5	15.5	10.0	17.5
12	12	21	19	23	3	16.0	15.5	10.0	17.5
14	14	23	21	25	3	16.5	15.5	10.0	17.5
16	16	26	23	27	3	18.0	17.5	10.0	17.5
18	18	29	27	33	3	19.5	18.5	11.5	19.5
20	20	31	29	35	3	22.0	20.0	11.5	19.5
22	22	33	31	37	3	21.5	21.5	11.5	19.5
24	24	35	33	39	3	23.5	23.0	11.5	19.5
25	25	36	34	40	3	26.5	24.5	11.5	19.5
28	28	40	37	43	3	26.5	24.5	11.5	19.5
30	30	43	39	45	3	26.5	24.5	11.5	19.5
32	32	46	42	48	3	28.5	28.0	11.5	19.5
33	33	47	42	48	3	28.5	-	11.5	19.5
35	35	49	44	50	3	28.5	28.0	11.5	19.5
38	38	53	49	56	4	33.5	31.0	14.0	22.0
40	40	56	51	58	4	36.0	34.0	14.0	22.0
43	43	59	54	61	4	38.5	-	14.0	22.0
45	45	61	56	63	4	39.5	36.5	14.0	22.0
48	48	64	59	66	4	46.0	42.0	14.0	22.0
50	50	66	62	70	4	45.0	43.0	15.0	23.0
53	53	69	65	73	4	47.0	-	15.0	23.0
55	55	71	67	75	4	49.0	47.0	15.0	23.0
58	58	76	70	78	4	55.0	50.0	15.0	23.0
60	60	78	72	80	4	55.0	51.0	15.0	23.0
63	63	83	75	83	4	55.0	-	15.0	23.0
65	65	84	77	85	4	55.0	52.0	15.0	23.0
68	68	88	81	90	4	55.0	53.0	18.0	26.0
70	70	90	83	92	4	57.0	54.0	18.0	26.0
75	75	98	88	97	4	62.0	55.0	18.0	26.0
80	80	100	95	105	4	61.8	58.0	18.2	26.2

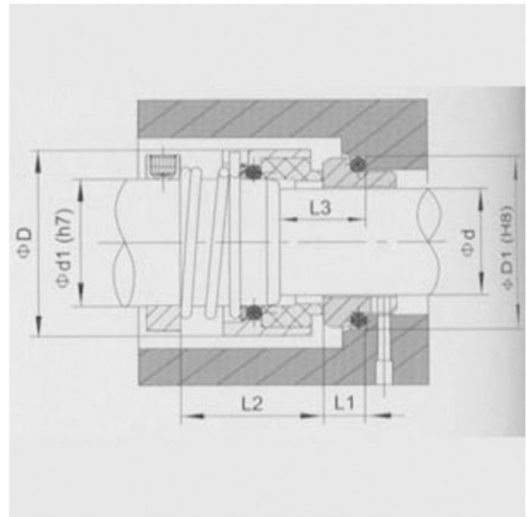
CORNICAL SPRING O RING MECHANICAL SEALS



MAK42N

Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
Rotary Ring (Carbon/SiC/TC)
Secondary Seal (NBR/EPDM/Viton)
Spring and Metal Part (Steel)



Working Conditions:

Pumps: Water pumps, sewage pumps and chemical pumps, etc.

Temperature: -20oC~180oC

Pressure: $\leq 2.5\text{Mpa}$

Speed: $\leq 10\text{m/Sec}$

Part# d

MAK42N

Part#	d	d1	D	D1	L1	L2	L3
MAK42N-10	10	14	24	21	10	25.7	18
MAK42N- 12	12	16	26	23	10	26.7	18
MAK42N- 14	14	18	31	25	10	29.7	18
MAK42N- 16	16	20	34	27	10	31.2	18
MAK42N- 18	18	22	36	33	11.5	32.7	20
MAK42N- 20	20	24	38	35	11.5	32.7	20
MAK42N- 22	22	26	40	37	11.5	32.7	20
MAK42N- 24	24	28	42	39	11.5	32.7	20
MAK42N- 25	25	30	44	40	11.5	33.7	20
MAK42N- 28	28	33	47	43	11.5	35.7	20
MAK42N- 30	30	35	49	45	11.5	35.7	20
MAK42N- 32	32	38	54	48	11.5	39.7	20
MAK42N- 33	33	38	54	48	11.5	39.7	20
MAK42N- 35	35	40	56	50	11.5	43.7	20
MAK42N- 38	38	43	59	56	14	46.2	23
MAK42N- 40	40	45	61	58	14	48.2	23
MAK42N- 43	43	48	64	61	14	51.2	23
MAK42N- 45	45	50	66	63	14	55.2	23
MAK42N- 48	48	53	69	66	14	55.	23
MAK42N- 50	50	55	71	70	15	58.2	25
MAK42N- 53	53	58	78	73	15	60.2	25
MAK42N- 55	55	60	79	75	15	60.2	25
MAK42N- 58	58	63	83	78	15	60.2	25
MAK42N- 60	60	65	85	80	15	60.2	25
MAK42N- 63	63	68	88	83	15	60.2	25
MAK42N- 65	65	70	90	85	15	61.2	25
MAK42N- 70	70	75	98	92	18	63.2	28
MAK42N- 75	75	80	103	97	18	68.2	28
MAK42N- 80	80	85	109	105	18.2	68.2	28

O RING MECHANICAL SEALLS



MAK82N/77N

Operational Conditions :

Temperature : -20°C to +180°C

Pressure : $\leq 2.5\text{MPa}$

Speed : $\leq 15\text{m/s}$

Materials:

Stationary Ring : Silicon Carbide, TC

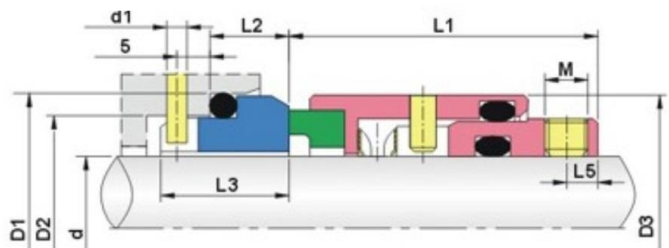
Rotary Ring : Carbon, Silicon Carbide, TC

Secondary Seal : NBR, EPDM, Viton

Spring and Metal Parts : Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids.



MAK82N/77N

Size/Metric	d	D3	D2	D1	d1	L1	L2	L3	L5	M
MAK82N/77N	18	32	27	33	3	30.5	7.0	15.0	3.0	M4
MAK82N/77N	20	34	29	35	3	30.5	7.0	15.0	3.0	M4
MAK82N/77N	22	36	31	37	3	30.5	7.0	15.0	3.0	M4
MAK82N/77N	24	38	33	39	3	33.0	7.0	15.0	3.5	M5
MAK82N/77N	25	39	34	40	3	33.0	7.0	15.0	3.5	M5
MAK82N/77N	28	42	37	43	3	35.5	7.0	15.0	3.5	M5
MAK82N/77N	30	44	39	45	3	35.5	7.0	15.0	3.5	M5
MAK82N/77N	32	47	42	48	3	35.5	7.0	15.0	3.5	M5
MAK82N/77N	33	47	42	48	3	35.5	7.0	15.0	3.5	M5
MAK82N/77N	35	49	44	50	3	35.5	7.0	15.0	3.5	M5
MAK82N/77N	38	54	49	56	4	37.0	8.0	16.0	4.0	M5
MAK82N/77N	40	56	51	58	4	37.0	8.0	16.0	4.0	M5
MAK82N/77N	43	59	54	61	4	37.0	8.0	16.0	4.0	M5
MAK82N/77N	45	61	56	63	4	37.0	8.0	16.0	4.0	M5
MAK82N/77N	48	64	59	66	4	37.0	8.0	16.0	4.0	M5
MAK82N/77N	50	66	62	70	4	38.0	9.5	17.0	4.5	M6
MAK82N/77N	53	69	65	73	4	38.0	9.5	17.0	4.5	M6
MAK82N/77N	55	71	67	75	4	38.0	9.5	17.0	4.5	M6
MAK82N/77N	58	78	70	78	4	42.0	10.5	18.0	4.5	M6
MAK82N/77N	60	80	72	80	4	42.0	10.5	18.0	4.5	M6
MAK82N/77N	63	83	75	83	4	42.0	10.5	18.0	4.5	M6
MAK82N/77N	65	85	77	85	4	42.0	10.5	18.0	4.5	M6
MAK82N/77N	68	88	81	90	4	41.5	11.0	18.5	4.5	M6
MAK82N/77N	70	90	83	92	4	48.5	11.5	19.0	5.0	M6
MAK82N/77N	75	99	88	97	4	48.5	11.5	19.0	5.5	M8
MAK82N/77N	80	104	95	105	4	48.5	11.5	19.0	5.5	M8
MAK82N/77N	85	109	100	110	4	48.5	11.5	19.0	5.5	M8
MAK82N/77N	90	114	105	115	4	52.0	13.0	20.5	5.5	M8
MAK82N/77N	95	119	110	120	4	52.0	13.0	20.5	5.5	M8
MAK82N/77N	100	124	115	125	4	52.0	13.0	20.5	5.5	M8

O RING MECHANICAL SEALLS



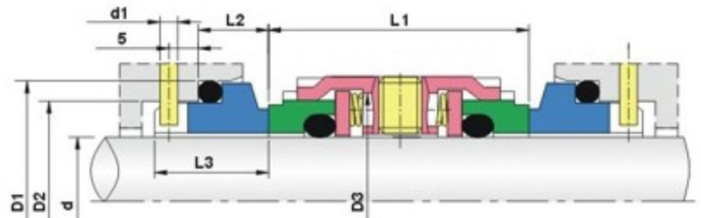
MAK84D

Operational Conditions :

Temperature : -20°C to +180°C

Pressure : $\leq 1.2\text{MPa}$

Speed: $\leq 15\text{m/s}$



Materials:

Stationary Ring: Ceramic, Silicon Carbide, TC, Carbon

Rotary Ring: Carbon, Silicon Carbide, TC

Secondary Seal: NBR, EPDM, Viton, PTFE

Spring and Metal Parts: Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids.

MAK84D

Size/Matric	d	D2	D1	D3	d1	L1	L2	L3
18	18	27	33	33	3	38	11.5	19.5
20	20	29	35	35	3	38	11.5	19.5
22	22	31	37	37	3	38	11.5	19.5
24	24	33	39	39	3	38	11.5	19.5
25	25	34	40	40	3	38	11.5	19.5
28	28	37	43	43	3	39	11.5	19.5
30	30	39	45	45	3	39	11.5	19.5
32	32	42	48	47	3	39	11.5	19.5
33	33	42	48	48	3	39	11.5	19.5
35	35	44	50	50	3	39	11.5	19.5
38	38	49	56	55	4	41	14.0	22.0
40	40	51	58	57	4	42	14.0	22.0
43	43	54	61	60	4	42	14.0	22.0
45	45	56	63	62	4	42	14.0	22.0
48	48	59	66	65	4	42	14.0	22.0
50	50	62	70	67	4	43	15.0	23.0
53	53	65	73	70	4	43	15.0	23.0
55	55	67	75	72	4	43	15.0	23.0
58	58	70	78	79	4	56	15.0	23.0
60	60	72	80	81	4	56	15.0	23.0
63	63	75	83	84	4	55	15.0	23.0
65	65	77	85	86	4	55	15.0	23.0
68	68	81	90	89	4	55	18.0	26.0
70	70	83	92	91	4	56	18.0	26.0
75	75	88	97	99	4	56	18.0	26.0
80	80	95	105	104	4	56	18.2	26.0
85	85	100	110	109	4	56	18.2	26.0
90	90	105	115	114	4	56	18.2	26.0
95	95	110	120	119	4	56	17.2	25.2
100	100	115	125	124	4	56	17.2	25.2

CORNICAL SPRING O RING MECHANICAL SEALS



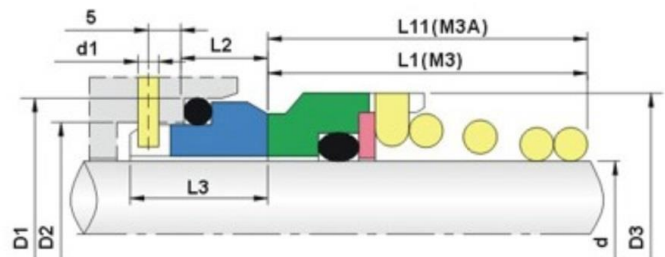
MAKCS2/CS42

Operational Conditions:

Temperature: -20°C to $+180^{\circ}\text{C}$

Pressure: $\leq 1.0\text{MPa}$

Speed: $\leq 15\text{m/s}$



Materials:

Stationary Ring: Ceramic, Silicon Carbide, TC, Carbon

Rotary Ring: Carbon, Silicon Carbide, Steel

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids

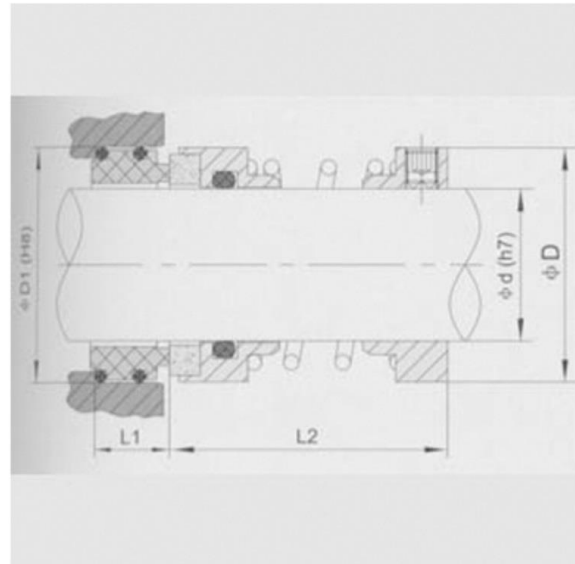
MAKCS2/CS42

Size/Metric	d	D3	D2	D1	d1	L1	L11	L2	L3
MAKCS2/CS42	10	19	17	21	3	15.5	15.5	10.0	17.3
MAKCS2/CS42	12	21	19	23	3	16.0	15.5	10.0	17.5
MAKCS2/CS42	14	23	21	25	3	16.5	15.5	10.0	17.5
MAKCS2/CS42	16	26	23	27	3	18.0	17.5	10.0	17.5
MAKCS2/CS42	18	29	27	33	3	19.5	18.5	11.5	19.5
MAKCS2/CS42	20	31	29	35	3	22.0	20.0	11.5	19.5
MAKCS2/CS42	22	33	31	37	3	21.5	21.5	11.5	19.5
MAKCS2/CS42	24	35	33	39	3	23.5	23.0	11.5	19.5
MAKCS2/CS42	25	36	34	40	3	26.5	24.5	11.5	19.5
MAKCS2/CS42	28	40	37	43	3	26.5	24.5	11.5	19.5
MAKCS2/CS42	30	43	39	45	3	26.5	24.5	11.5	19.5
MAKCS2/CS42	32	46	42	48	3	28.5	28.0	11.5	19.5
MAKCS2/CS42	33	47	42	48	3	28.5	-	11.5	19.5
MAKCS2/CS42	35	49	44	50	3	28.5	28.0	11.5	19.5
MAKCS2/CS42	38	53	49	56	4	33.5	31.0	14.0	22.0
MAKCS2/CS42	40	56	51	58	4	36.0	34.0	14.0	22.0
MAKCS2/CS42	43	59	54	61	4	38.5	-	14.0	22.0
MAKCS2/CS42	45	61	56	63	4	39.5	36.5	14.0	22.0
MAKCS2/CS42	48	64	59	66	4	46.0	42.0	14.0	22.0
MAKCS2/CS42	50	66	62	70	4	45.0	43.0	15.0	23.0
MAKCS2/CS42	53	69	65	73	4	47.0	-	15.0	23.0
MAKCS2/CS42	55	71	67	75	4	49.0	47.0	15.0	23.0
MAKCS2/CS42	58	76	70	78	4	55.0	50.0	15.0	23.0
MAKCS2/CS42	60	78	72	80	4	55.0	51.0	15.0	23.0
MAKCS2/CS42	63	83	75	83	4	55.0	-	15.0	23.0
MAKCS2/CS42	65	84	77	85	4	55.0	52.0	15.0	23.0
MAKCS2/CS42	68	88	81	90	4	55.0	53.0	18.0	26.0
MAKCS2/CS42	70	90	83	92	4	57.0	54.0	18.0	26.0
MAKCS2/CS42	75	98	88	97	4	62.0	55.0	18.0	26.0
MAKCS2/CS42	80	100	95	105	4	61.8	58.0	18.2	26.2

O RING MECHANICAL SEALLS



MAK080



Combined Materials:

Stationary Ring (Carbon/SiC/TC)
 Rotary Ring (Steel/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Metal Part (Steel)

Working Conditions:

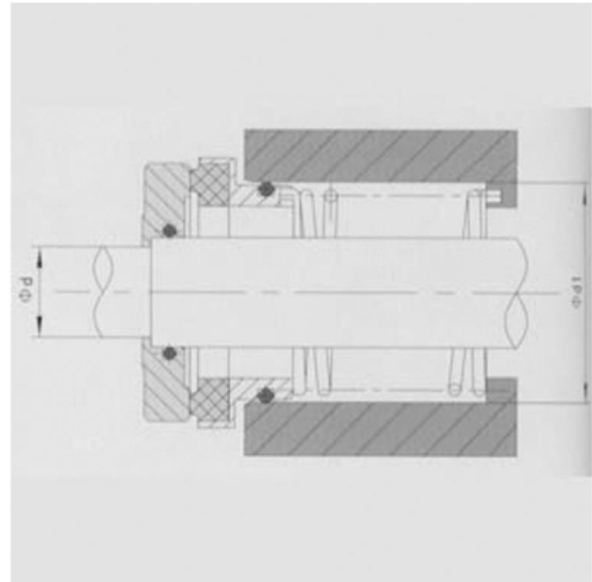
Mediums: Water, oil, acid, alkali with low corrosion, etc.
 Temperature: -20oC~180oC
 Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 10\text{m/Sec}$

Part#	d	D	D1	L1	L2	Part#	d	D	D1	L1	L2
MAK080	25	41	40	23	38.2	MAK080	50	66	67	24	55.2
MAK080	28	42	44	23	40.0	MAK080	52	68	70	24	58.2
MAK080	30	45.5	47	24	40.2	MAK080	55	71	73	24	58.2
MAK080	32	47	48	24	40.2	MAK080	58	74	76	24	58.2
MAK080	35	50	51	24	40.2	MAK080	60	77	80	26	60.2
MAK080	38	53	54	24	45.2	MAK080	62	78	83	26	60.2
MAK080	40	55	57	24	45.2	MAK080	65	82	86	26	62.2
MAK080	42	55.5	60.5	24	50.2	MAK080	68	84	89	26	62.2
MAK080	45	60	61	24	50.2	MAK080	70	87	89	26	65.2
MAK080	48	61.9	64	24	55.2	MAK080	75	91.5	95	26	65.2

O RING MECHANICAL SEALLS



MAK109



Combined Materials:

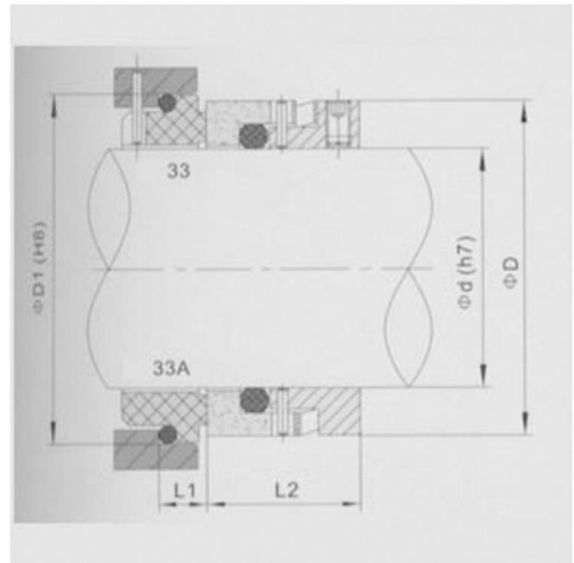
Stationary Ring (Steel/TC)
 Rotary Ring (Carbon/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Metal Part (Steel)

Working Conditions:

Mediums: Water, oil, weak acid, weak alkali, etc.
 Temperature: -20oC~200oC
 Pressure: $\leq 2.5\text{Mpa}$
 Speed: $\leq 20\text{m/Sec}$

Part#	d	d1
MAK109- 12	12	30
MAK109- 18	18	50
MAK109- 21	21	50
MAK109- 28	28	50
MAK109- 40	40	64

O RING MECHANICAL SEALLS



Combined Materials:

Stationary Ring (Carbon/SiC/TC)
Rotary Ring (Carbon/SiC/TC/Steel)
Secondary Seal (NBR/EPDM/Viton)
Spring and Metal Part (Steel)

Working Conditions:

Mediums: Water, oil, weak acid,
weak alkali, etc.
Temperature: $-20^{\circ}\text{C} \sim 200^{\circ}\text{C}$
Pressure: $\leq 0.8\text{Mpa}$
Speed: $\leq 15\text{m/Sec}$

MAK02

<i>Part#</i>	<i>d</i>	<i>D</i>	<i>D1</i>	<i>L1</i>	<i>L2</i>
MAK02	16	27	27	8.6	19.3
MAK02	20	31	35	10	19.3
MAK02	22	33	37	10	19.3
MAK02	24	34.1	39	10	19.3
MAK02	25	35.2	40	10	19.3
MAK02	28	40	43	10	19.3
MAK02	30	41	45	10	19.3
MAK02	32	42.4	48	10	19.3
MAK02	33	44	48	10	19.3
MAK02	35	45.5	50	10	21.3
MAK02	38	51.8	56	11	21.3
MAK02	40	53.8	58	11	21.3
MAK02	43	56	61	11	21.3
MAK02	45	58.2	63	11	21.3
MAK02	48	61.4	66	11	21.3
MAK02	50	61.9	70	13	21.3
MAK02	55	72	75	13	22.3
MAK02	60	76	80	13	26
MAK02	63	79.3	83	13	26
MAK02	65	82.3	85	13	26
MAK02	70	88.9	92	15.3	26
MAK02	75	96	97	15.3	26

MAK01

<i>Part#</i>	<i>d</i>	<i>D</i>	<i>D1</i>	<i>L1</i>	<i>L2</i>
MAK01- 5/8"	15.8	27	28.58	6.3	19.3
MAK01- 16	16	27	28.58	6.3	19.3
MAK01- 3/4"	19.05	30.3	31.75	6.3	19.3
MAK01- 24	24	34.2	35.46	7.6	19.3
MAK01- 28	28	40	42	7.6	19.3
MAK01- 1 1/8"	28.58	40	41.27	7.6	19.3
MAK01- 30	30	40.7	42.7	7.6	19.3
MAK01- 1 1/4"	31.75	42.5	44.2	7.6	19.3
MAK01- 32	32	42.5	44.45	7.6	19.3
MAK01- 35	35	45.6	47.62	7.6	19.3
MAK01- 38	38	52	53.97	8.1	21.3
MAK01- 1 3/4"	44.45	58.3	60.32	8.1	21.3
MAK01- 1 7/8"	47.63	61.5	63.5	8.1	21.3
MAK01- 50	50	62	63.96	8.1	21.3
MAK01- 2"	50.8	64.7	66.67	9.6	22.3
MAK01- 2 1/8"	53.98	71	73.02	9.6	22.3
MAK01- 2.15"	54.61	73	75	9.6	22.3
MAK01- 55	55	73	75	9.6	22.3
MAK01- 63	63	79.3	83	9.1	26
MAK01- 2 1/2"	63.5	79.3	88.9	9.1	26
MAK01- 2 3/4"	69.85	88.9	95.2	9.1	26
MAK01- 2 7/8"	73	94	98.4	9.1	26
MAK01- 75	75	96	100.4	9.1	26

CORNICAL SPRING O RING MECHANICAL SEALS



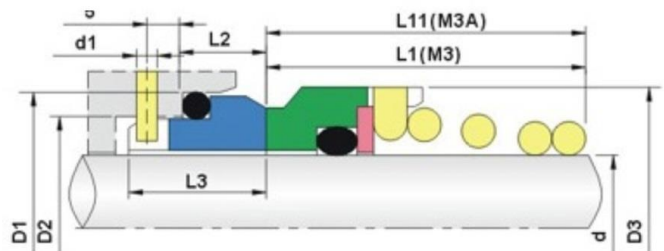
MAKCS52/MAKCS2

Operational Conditions:

Temperature: -20°C to $+180^{\circ}\text{C}$

Pressure: $\leq 1.0\text{MPa}$

Speed: $\leq 15\text{m/s}$



Materials:

Stationary Ring: Ceramic, Silicon Carbide, TC, Carbon

Rotary Ring: Carbon, Silicon Carbide, Steel

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

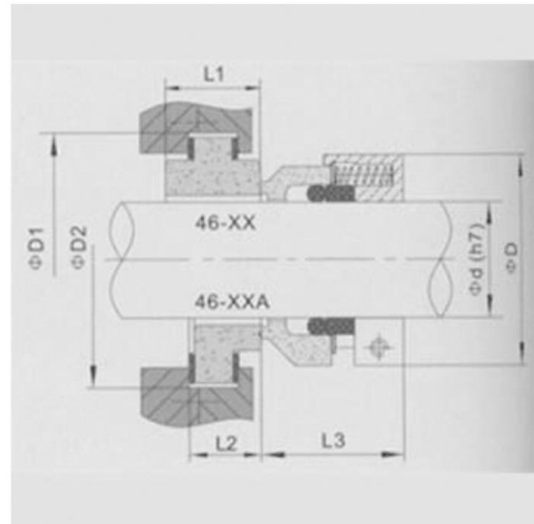
Applications:

Clean water, sewage water, oil and other moderately corrosive fluids

MAKCS52/MAKCS2

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>d1</i>	<i>L1</i>	<i>L11</i>	<i>L2</i>	<i>L3</i>
MAKCS2/CS52	10	19	17	21	3	15.5	15.5	10.0	17.3
MAKCS2/CS52	12	21	19	23	3	16.0	15.5	10.0	17.5
MAKCS2/CS52	14	23	21	25	3	16.5	15.5	10.0	17.5
MAKCS2/CS52	16	26	23	27	3	18.0	17.5	10.0	17.5
MAKCS2/CS52	18	29	27	33	3	19.5	18.5	11.5	19.5
MAKCS2/CS52	20	31	29	35	3	22.0	20.0	11.5	19.5
MAKCS2/CS52	22	33	31	37	3	21.5	21.5	11.5	19.5
MAKCS2/CS52	24	35	33	39	3	23.5	23.0	11.5	19.5
MAKCS2/CS52	25	36	34	40	3	26.5	24.5	11.5	19.5
MAKCS2/CS52	28	40	37	43	3	26.5	24.5	11.5	19.5
MAKCS2/CS52	30	43	39	45	3	26.5	24.5	11.5	19.5
MAKCS2/CS52	32	46	42	48	3	28.5	28.0	11.5	19.5
MAKCS2/CS52	33	47	42	48	3	28.5	-	11.5	19.5
MAKCS2/CS52	35	49	44	50	3	28.5	28.0	11.5	19.5
MAKCS2/CS52	38	53	49	56	4	33.5	31.0	14.0	22.0
MAKCS2/CS52	40	56	51	58	4	36.0	34.0	14.0	22.0
MAKCS2/CS52	43	59	54	61	4	38.5	-	14.0	22.0
MAKCS2/CS52	45	61	56	63	4	39.5	36.5	14.0	22.0
MAKCS2/CS52	48	64	59	66	4	46.0	42.0	14.0	22.0
MAKCS2/CS52	50	66	62	70	4	45.0	43.0	15.0	23.0
MAKCS2/CS52	53	69	65	73	4	47.0	-	15.0	23.0
MAKCS2/CS52	55	71	67	75	4	49.0	47.0	15.0	23.0
MAKCS2/CS52	58	76	70	78	4	55.0	50.0	15.0	23.0
MAKCS2/CS52	60	78	72	80	4	55.0	51.0	15.0	23.0
MAKCS2/CS52	63	83	75	83	4	55.0	-	15.0	23.0
MAKCS2/CS52	65	84	77	85	4	55.0	52.0	15.0	23.0
MAKCS2/CS52	68	88	81	90	4	55.0	53.0	18.0	26.0
MAKCS2/CS52	70	90	83	92	4	57.0	54.0	18.0	26.0
MAKCS2/CS52	75	98	88	97	4	62.0	55.0	18.0	26.0
MAKCS2/CS52	80	100	95	105	4	61.8	58.0	18.2	26.2

O Ring Mechanical Seals



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
Rotary Ring (Carbon/SiC/TC)
Secondary Seal (NBR/EPDM/Viton/Teflon)
Spring and Metal Part (Steel)

Working Conditions:

Mediums: Water, oil, acid, alkali, etc.
Temperature: -30oC~200oC
Pressure: ≤ 1 Mpa
Speed: ≤ 10 m/Se

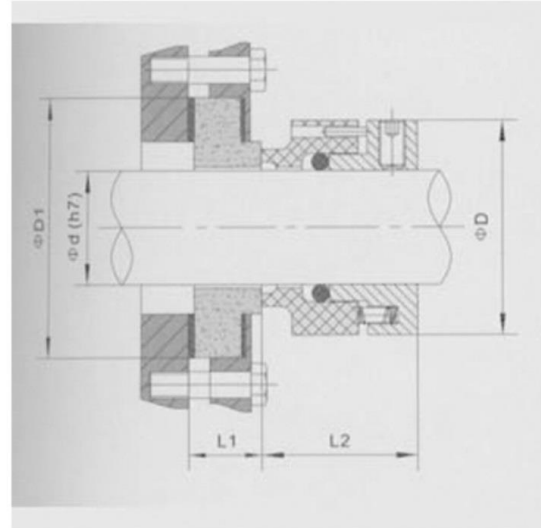
MAK166

Part#	d	D	D1	D2	L1	L2	L3	Part#	d	D	D1	L1	L3
15/16"	23.83	50	54	51.5	17.6	17.4	38.2	18	18	44	48	17.6	38.2
1"	25.4	52	54	55.5	17.6	17.4	38.2	20	20	46	51	17.6	38.2
1 1/8"	28.58	55	65	58.5	27	17.4	38.2	22	22	48	51	17.6	38.2
1 1/4"	31.75	60	68	61.5	27	17.4	38.2	24	24	50	54	17.6	38.2
1 3/8"	34.93	62	71	63.5	27	17.4	38.2	25	25	52	54	17.6	38.2
1 1/2"	38.1	65	78	71.5	27	17.4	38.2	28	28	55	65	27	38.2
1 5/8"	41.28	68	81	74.5	27	17.4	38.2	30	30	58	68	27	38.2
1 3/4"	44.45	72	84	81	27	17.4	38.2	32	32	60	68	27	38.2
1 7/8"	47.63	75	87	84	27	17.4	42.2	33	33	60	71	27	38.2
2"	50.8	78	97	90.5	33.3	17.4	42.2	35	35	62	71	27	38.2
2 1/8"	53.98	80	100	97	33.3	17.4	42.2	38	38	65	78	27	38.2
2 1/4"	57.15	83	103	100	33.3	17.4	42.2	40	40	68	81	27	38.2
2 3/8"	60.33	86	106	100.5	33.3	17.4	42.2	43	43	70	84	27	38.2
2 1/2"	63.5	90	110	106	33.3	17.4	42.2	45	45	72	84	27	42.2
2 5/8"	66.68	98	113	109.5	33.3	17.4	42.2	48	48	75	97	33.3	42.2
2 3/4"	69.85	98	116	116	33.3	17.4	42.2	50	50	78	97	33.3	42.2
2 7/8"	73.03	105	117	119	33.3	17.4	42.2	53	53	80	100	33.3	42.2
3"	76.2	105	121	123.5	33.3	17.4	42.2	55	55	80	103	33.3	42.2
3 1/8"	79.38	109	129	133	33.3	17.4	42.2	58	58	83	106	33.3	42.2
3 1/4"	82.55	109	132	123.5	33.3	17.4	42.2	60	60	86	106	33.3	42.2
3 3/8"	85.73	114	135	123.5	33.3	17.4	42.2	63	63	90	110	33.3	42.2
3 1/2"	88.9	120	138	126.5	33.3	17.4	42.2	65	65	93	113	33.3	42.2
3 5/8"	92.08	120	141	134.5	33.3	17.4	42.2	68	68	98	116	33.3	42.2
3 3/4"	95.28	125	144	133	33.3	17.4	42.2	70	70	98	116	33.3	42.2
4"	101.6	130	151	158.5	33.3	17.4	42.2	75	75	105	121	33.3	42.2
								80	80	109	132	33.3	42.2
								85	85	114	138	33.3	42.2
								90	90	120	144	33.3	42.2
								95	95	125	144	33.3	42.2
								100	100	130	151	33.3	42.2

O Ring Mechanical Seals



MAK640



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
Rotary Ring (Carbon/SiC/TC)
Secondary Seal (NBR/EPDM/Viton/Teflon)
Spring and Metal Part (Steel)

Working Conditions:

Mediums: Water, oil, acid, alkali, etc.
Temperature: $-30^{\circ}\text{C} \sim 200^{\circ}\text{C}$
Pressure: $\leq 0.8\text{Mpa}$
Speed: $\leq 10\text{m/Sec}$

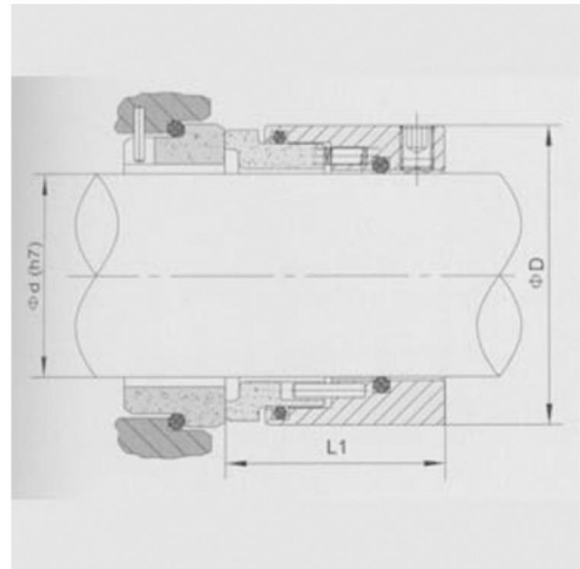
MAK640

Part#	d	D	D1	L1	L2
MAK640- 5/8"	15.875	38.9	41.1	17.9	31.95
MAK640- 3/4"	19.05	42.1	44.5	17.9	31.95
MAK640- 7/8"	22.225	45.3	47.5	17.9	31.95
MAK640- 1"	25.4	48.4	53.2	17.9	31.95
MAK640- 1 1/8"	28.575	52.0	56.4	17.9	31.95
MAK640- 1 1/4"	31.75	55.2	59.5	17.9	31.95
MAK640- 1 3/8"	34.925	58	61.1	17.9	31.95
MAK640- 1 1/2"	38.1	61.2	69.1	17.9	31.95
MAK640- 1 5/8"	41.275	64.3	72.2	17.9	31.95
MAK640- 1 3/4"	44.45	67.6	78.6	17.9	31.95
MAK640- 1 7/8"	47.625	70.7	81.8	17.9	31.95
MAK640- 2"	50.8	73.9	88.1	17.9	31.95
MAK640- 2 1/8"	53.975	77.1	94.5	17.9	31.95
MAK640- 2 1/4"	57.15	80.2	97.6	17.9	31.95
MAK640- 2 3/8"	60.325	83.4	98.4	17.9	31.95
MAK640- 2 1/2"	63.5	86.5	104.0	17.9	31.95
MAK640- 2 5/8"	66.675	89.7	107.2	17.9	31.95
MAK640- 2 3/4"	69.85	92.9	113.5	27.0	31.95
MAK640- 2 7/8"	73.025	96.1	116.7	27.0	31.95
MAK640- 3"	76.2	99.2	121.4	27.0	31.95

O RING MECHANICAL SEALLS



MAK791



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
Rotary Ring (Carbon/SiC/TC)
Secondary Seal (NBR/EPDM/Viton)
Spring and Metal Part (Steel)

Working Conditions:

Mediums: Grain and high viscosity mediums,
especially used in the sugar, pulp industry,
and sewage disposal, etc.

Temperature: $-20^{\circ}\text{C} \sim 180^{\circ}\text{C}$

Pressure: $\leq 1.6\text{Mpa}$ Speed: $\leq 15\text{m/Sec}$

MAK791

Part#	d	D	L1	Part#	d	D	L1
MAK791	18	32.28	35.2	MAK791- 1"	25.4	39.95	35.2
MAK791	20	34.29	35.2	MAK791- 1 1/8"	28.58	43.13	35.2
MAK791	22	36.3	35.2	MAK791- 1 1/4"	31.75	46.3	44.65
MAK791	24	38.3	35.2	MAK791- 1 3/8"	34.93	49.48	44.65
MAK791	25	39.29	35.2	MAK791- 1 1/2"	38.1	54.43	44.65
MAK791	28	42.29	35.2	MAK791- 1 5/8"	41.28	57.61	44.65
MAK791	30	44.3	35.2	MAK791- 1 3/4"	44.45	60.78	44.65
MAK791	32	46.3	44.65	MAK791- 1 7/8"	47.63	63.96	44.65
MAK791	33	47.9	44.65	MAK791- 2"	50.8	67.13	44.65
MAK791	35	49.48	44.65	MAK791- 2 1/8"	53.98	70.31	44.65
MAK791	38	54.28	44.65	MAK791- 2 1/4"	57.15	73.48	44.65
MAK791	40	58.08	44.65	MAK791- 2 3/8"	60.33	76.66	44.65
MAK791	43	59.08	44.65	MAK791- 2 1/2"	63.5	79.83	44.65
MAK791	45	61.09	44.65	MAK791- 2 5/8"	66.68	83.01	44.65
MAK791	48	64.11	44.65	MAK791- 2 3/4"	69.85	92.08	51
MAK791	50	66.09	44.65	MAK791- 2 7/8"	73.03	95.25	51
MAK791	55	71.07	44.65	MAK791- 3"	76.2	98.43	51
MAK791	60	77.14	44.65	MAK791- 3 1/8"	79.38	101.6	51
MAK791	65	83.01	44.65	MAK791- 3 1/4"	82.55	104.78	51
MAK791	70	86.08	44.65	MAK791- 3 3/8"	85.73	107.95	51
MAK791	75	98.43	51	MAK791- 3 1/2"	88.9	111.13	51
MAK791	80	104.76	51	MAK791- 3 5/8"	92.08	114.3	51
MAK791	85	107.95	51	MAK791- 3 3/4"	95.25	117.48	51
MAK791	90	114.3	51	MAK791- 3 7/8"	98.43	120.65	51
MAK791	95	117.48	51	MAK791- 4"	101.6	123.83	51
MAK791	100	123.83	51	MAK791- 4 1/8"	104.78	127	51
				MAK791- 4 1/4"	107.95	130.18	51
				MAK791- 4 3/8"	111.13	133.35	51
				MAK791- 4 1/2"	114.3	136.53	51

J TYPE O RING MECHANICAL SEALS



MAKRT5

Operational Conditions:

Temperature: -20°C to $+150^{\circ}\text{C}$

Pressure: $\leq 1.0\text{MPa}$

Speed: $\leq 10\text{m/s}$

Materials:

Stationary Ring: Carbon, Silicon Carbide

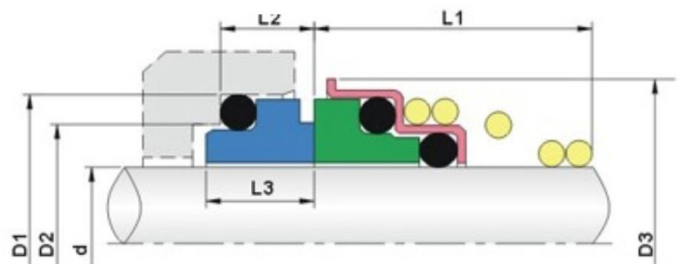
Rotary Ring: Ceramic, Silicon Carbide

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

Applications:

Clean water, sewage water, oil and other moderately corrosive fluids



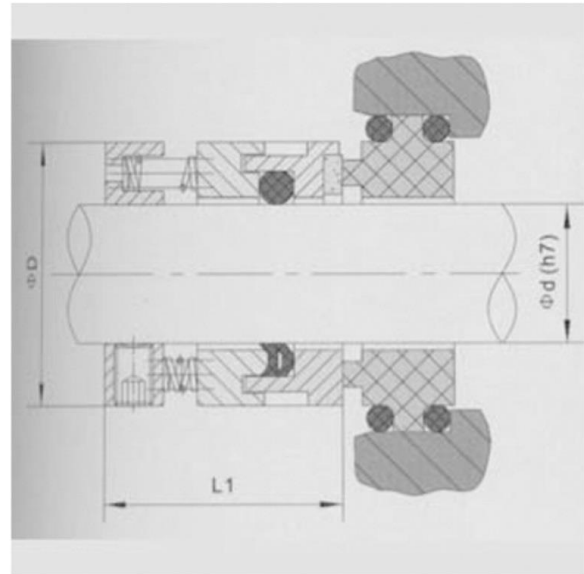
MAKRT5

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>L1</i>	<i>L2</i>	<i>L3</i>
10	10	20	14.0	18.1	15	5.5	7.0
11	11	22	16.5	20.6	18	5.5	7.0
12	12	22	16.5	20.6	18	5.5	7.0
13	13	25	19.0	23.1	22	6.0	7.5
14	14	25	19.0	23.1	22	6.0	7.5
15	15	29	21.0	26.9	22	7.0	9.2
16	16	29	21.0	26.9	23	7.0	9.2
17	17	29	21.0	26.9	23	7.0	9.2
18	18	33	25.0	30.9	24	8.0	10.0
19	19	33	25.0	30.9	25	8.0	10.0
20	20	33	25.0	30.9	25	8.0	10.0
21	21	38	30.0	35.4	25	8.0	10.0
22	22	38	30.0	35.4	25	8.0	10.0
23	23	38	30.0	35.4	27	8.0	10.0
24	24	38	30.0	35.4	27	8.0	10.0
25	25	40	33.0	38.2	27	8.5	10.0
28	28	46	38.0	43.3	29	9.0	11.0
29	29	46	38.0	43.3	30	9.0	11.0
30	30	46	38.0	43.3	30	9.0	11.0
32	32	46	38.0	43.3	30	9.0	11.0
33	33	48	45.0	53.5	39	11.5	13.0
35	35	50	45.0	53.5	39	11.5	13.0
38	38	56	52.0	60.5	39	11.5	13.0
40	40	58	52.0	60.5	39	11.5	13.0

O RING MECHANICAL SEALLS



MAK412



Combined Materials:

Stationary Ring (Carbon/SiC/TC)
 Rotary Ring (Steel/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton/Teflon)
 Spring and Metal Part (Steel)

Working Conditions:

Mediums: Water, oil, weak acid, weak alkali, etc.
 Temperature: -30oC~200oC
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 20\text{m/Sec}$

Part#	d	D	L1	Part#	d	D	L1
MAK412- 20	20	34	35.2	48	48	64	38.2
MAK412- 22	22	36	35.2	50	50	66	39.2
MAK412- 24	24	38	35.2	53	53	69	40.2
MAK412- 25	25	39	35.2	55	55	71	40.2
MAK412- 28	28	42	35.2	60	60	78	41.2
MAK412- 30	30	44	35.2	65	65	83	41.2
MAK412- 32	32	46	35.2	70	70	90	42.2
MAK412- 33	33	47	35.2	75	75	95	42.2
MAK412- 35	35	49	35.2	80	80	100	42.2
MAK412- 38	38	54	38.2	85	85	105	43.2
MAK412- 40	40	56	38.2	90	90	110	45.2
MAK412- 43	43	59	38.2	95	95	115	45.2
MAK412- 45	45	61	38.2	100	100	120	45.2

O RING MECHANICAL SEALLS



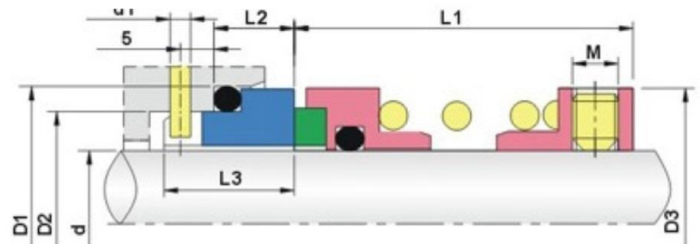
MAK152

Operational Conditions:

Temperature: -20°C to $+180^{\circ}\text{C}$

Pressure: $\leq 1.0\text{MPa}$

Speed: $\leq 15\text{m/s}$



Materials:

Stationary Ring: Ceramic, Silicon Carbide, TC

Rotary Ring: Carbon, Silicon Carbide

Secondary Seal: NBR, EPDM, Viton

Spring and Metal Parts: Steel

Applications:

Oil or chemical flow pumps, vessel pumps and so on

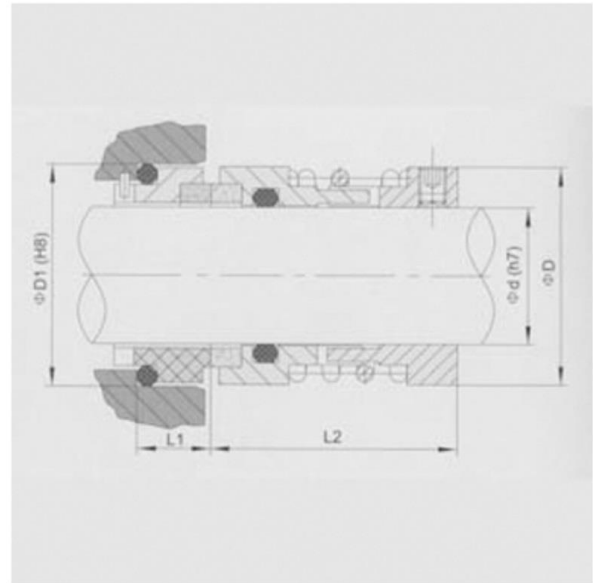
MAK152

Size/Metric	d	D3	D2	D1	d1	L1	L2	L3
18	18	32	27	33	3	35.0	10.0	17.0
20	20	34	29	35	3	35.0	10.0	17.0
22	22	36	31	37	3	35.0	10.0	17.0
24	24	38	33	39	3	40.0	10.0	17.0
25	25	39	34	40	3	40.0	10.0	17.0
28	28	42	37	43	3	40.0	10.0	17.0
30	30	44	39	45	3	40.0	10.0	17.0
32	32	46	42	48	3	45.0	10.0	17.0
33	33	47	42	48	3	45.0	10.0	17.0
35	35	49	44	50	3	45.0	10.0	17.0
38	38	54	49	56	4	44.0	11.0	18.0
40	40	56	51	58	4	44.0	11.0	18.0
43	43	59	54	61	4	49.0	11.0	18.0
45	45	61	56	63	4	49.0	11.0	18.0
48	48	64	59	66	4	49.0	11.0	18.0
50	50	66	62	70	4	47.0	13.0	20.0
53	53	69	65	73	4	57.0	13.0	20.0
55	55	71	67	75	4	57.0	13.0	20.0
58	58	78	70	78	4	57.0	13.0	20.0
60	60	80	72	80	4	57.0	13.0	20.0
63	63	83	75	83	4	57.0	13.0	20.0
65	65	85	77	85	4	67.0	13.0	20.0
68	68	88	81	90	4	64.7	15.3	22.0
70	70	90	83	92	4	64.7	15.3	22.0
75	75	99	88	97	4	64.7	15.3	22.0
80	80	104	95	105	4	74.3	15.7	22.5
85	85	109	100	110	4	74.3	15.7	22.5
90	90	114	105	115	4	74.3	15.7	22.5
95	95	119	110	120	4	74.3	15.7	22.5
100	100	124	115	125	4	74.3	15.7	22.5

O RING MECHANICAL SEALLS



MAK250



Combined Materials:

Stationary Ring (Carbon/Ceramic/SiC/TC)
 Rotary Ring (Carbon/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Metal Part (Steel)

Working Conditions:

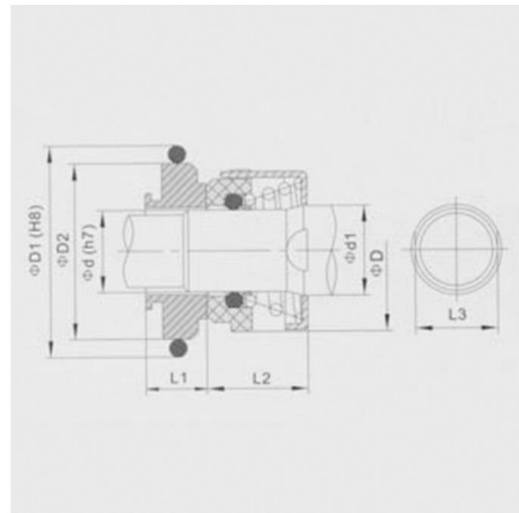
Mediums: Water, oil, weak acid, weak alkali, etc.
 Temperature: -20oC~180oC
 Pressure: $\leq 1.2\text{Mpa}$
 Speed: $\leq 16\text{m/Sec}$

Part#	d	D	D1	L1	L2	Part#	d	D	D1	L1	L2
MAK250- 20	20	34	35	13	41	48	48	64	66	13	55
MAK250- 22	22	36	37	13	41	50	50	66	68	13	60
MAK250- 24	24	38	39	13	43	53	53	69	71	13	61
MAK250- 25	25	39	40	13	43	55	55	71	73	13	61
MAK250- 28	28	42	43	13	45	58	58	76	79	16	63
MAK250- 30	30	44	45	13	45	60	60	78	81	16	63
MAK250- 33	33	47	48	13	45	63	63	81	84	16	63
MAK250- 35	35	49	50	13	49	65	65	83	86	16	67
MAK250- 38	38	54	56	13	53	70	70	90	92	16	68
MAK250- 40	40	56	58	13	55	75	75	95	97	16	72
MAK250- 43	43	59	61	13	55	80	80	100	105	16	72
MAK250- 45	45	61	63	13	55	85	85	105	110	16	77

O RING MECHANICAL SEALLS



MAKSD



Combined Materials:

Stationary Ring (Cast Iron/Steel)
 Rotary Ring (Carbon)
 Secondary Seal (NBR/Chlorinated Rubber)
 Spring and Punched Parts (65Mn/Iron)

Working Conditions:

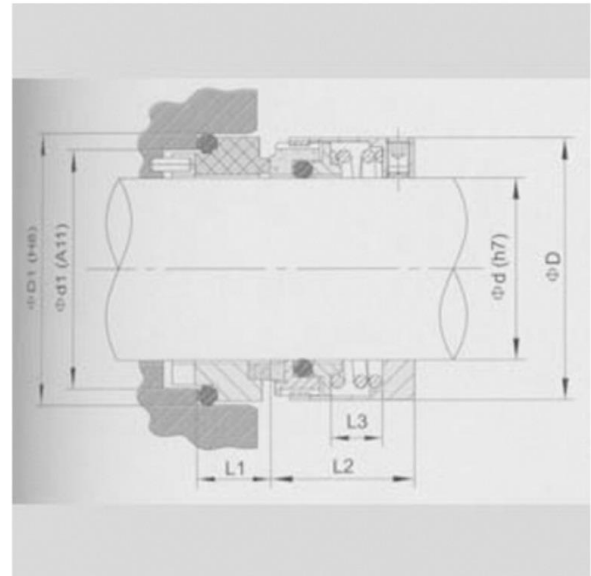
Mediums: Refregerating fluids, freon, water oil, etc.
 Temperature: -20oC~80oC
 Pressure: $\leq 0.8\text{Mpa}$
 Speed: $\leq 10\text{m/Sec}$

Part#	d	d1	D	D1	D2	L1	L2	L3
MAKSD- 12	12	13	25		25.7	11	13.3	12
MAKSD- 14	14	15.9	28	35.4	30	11	15.9	14.4
MAKSD- 15	15	16	28		30.1	8.65	16.5	15
MAKSD- 16	16	18	28	37.4	33.6	11	13.5	16
MAKSD- 18	18	20	30	37.4	33.6	11	15	18

O RING MECHANICAL SEALLS



MAK104



Combined Materials:

Stationary Ring (Carbon/SiC/TC)
Rotary Ring (Ceramic/SiC/TC)
Secondary Seal (NBR/EPDM/Viton)
Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, weak acid,
weak alkali, etc.
Temperature: -20oC~180oC
Pressure: ≤ 1 Mpa
Speed: ≤ 15 m/Sec

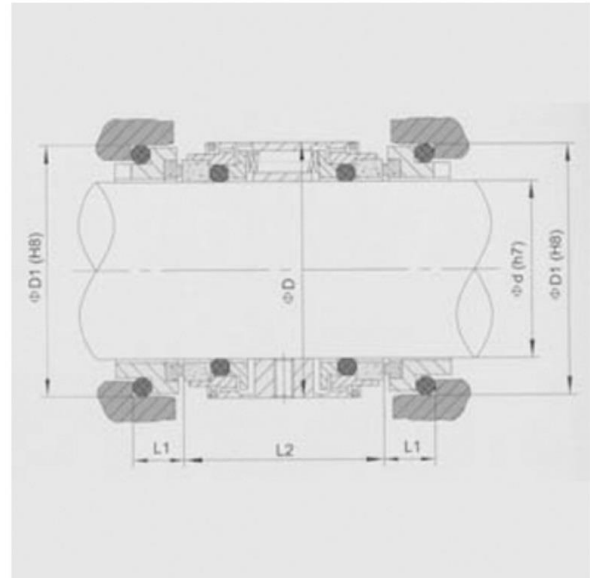
MAK104

Part#	d	d1	D	D1	L1	L2	L3
MAK104- 16	16	25	33	33	12.5	37	8
MAK104- 18	18	28	35	36	12.5	40	11
MAK104- 20	20	30	37	40	14.3	40	11
MAK104- 22	22	32	39	42	14.3	43	14
MAK104- 25	25	35	42	45	14.3	43	14
MAK104- 28	28	38	45	48	14.3	44	15
MAK104- 30	30	40	52	50	14.3	49	15
MAK104- 35	35	45	57	55	14.3	51	17
MAK104- 40	40	50	62	60	14.3	54	20
MAK104- 45	45	55	67	65	14.3	60	25
MAK104- 50	50	60	72	70	14.3	63	28
MAK104- 55	55	65	77	75	14.3	65	30
MAK104- 60	60	70	82	80	14.3	65	30
MAK104- 65	65	80	92	90	17.3	74	35
MAK104- 70	70	85	97	97	19.3	76	37
MAK104- 75	75	90	102	102	19.3	76	37
MAK104- 80	80	95	107	107	19.3	81	42
MAK104- 85	85	100	112	112	19.3	82	42
MAK104- 90	90	105	117	117	19.3	83	43
MAK104- 95	95	110	122	122	19.3	83	43
MAK104-100	100	115	127	127	19.3	83	43

O RING MECHANICAL SEALLS



MAK802



Combined Materials:

Stationary Ring (Carbon/SiC/TC)
 Rotary Ring (SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Metal Part (Steel)

Working Conditions:

Mediums: Muddy water, sewage water
 and weakly corrosive fluids with solid grains.
 Temperature: -20oC~180oC
 Pressure: $\leq 1.0\text{Mpa}$
 Speed: $\leq 13 \text{ m/Sec}$

Part#	d	D	D1	L1	L2
MAK802- 20	20	38	35	11.5	39
MAK802- 25	25	43	40	11.5	39
MAK802- 30	30	48	45	11.5	42
MAK802- 35	35	53	50	12	40
MAK802- 40	40	61	58	12	45
MAK802- 45	45	66	63	12	45
MAK802- 50	50	73	70	13	46
MAK802- 55	55	78	75	13	46
MAK802- 60	60	83	80	14	56
MAK802- 65	65	88	85	14	56
MAK802- 70	70	95	92	17	58
MAK802- 75	75	100	97	17	58
MAK802- 80	80	108	105	17	58

PTEF MULTI SPRING SEALS



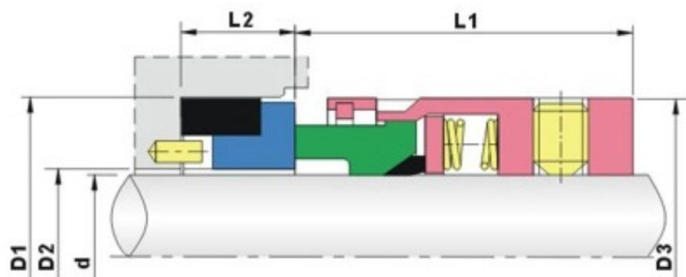
MAK19

Operations Conditions:

Temperature: -40°C to +250°C

Pressure: ≤ 1.2MPa

Speed: ≤ 15m/s



Materials:

Stationary Ring: Silicon Carbide Reaction Bonded, Ceramic (Alumina), Silicon Carbide Sintered Pressureless

Rotary Ring: Antimony Impreg. Carbon Graphite, Resin Impregnated Carbon Graphite (Furan), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless

Secondary Seal: Pure PTFE

Spring and Metal Parts: Stainless Steel, Stainless Steel, Hastelloy C-4 Alloy

Applications: Strong corrosive fluids

MAK19

(Size/Inch)	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>L1</i>	<i>L2</i>
0.500	12.7	26.70	13.4	25.40	20.62	7.9
0.625	15.8	30.66	16.6	31.75	19.05	10.3
0.750	19.0	33.83	19.7	34.93	22.23	10.3
0.875	22.2	37.00	22.9	38.10	23.80	10.3
1.000	25.4	40.10	26.1	41.28	25.40	11.1
1.125	28.5	43.36	29.3	44.45	26.97	11.1
1.250	31.7	48.13	32.4	47.63	26.97	11.1
1.375	34.9	51.30	35.6	50.80	28.58	11.1
1.500	38.1	54.48	38.8	53.98	28.58	11.1
1.625	41.2	60.83	42.4	60.33	34.93	12.7
1.750	44.4	64.00	45.5	63.50	34.93	12.7
1.875	47.6	66.68	48.7	66.68	34.93	12.7
2.000	50.8	70.36	51.9	69.85	34.93	12.7
2.125	53.9	76.70	55.0	76.20	42.85	14.3
2.250	57.1	79.88	58.2	79.38	42.85	14.3
2.375	60.3	83.06	61.4	82.55	42.85	14.3
2.500	63.5	86.23	64.6	85.73	42.85	14.3
2.625	66.6	89.40	67.7	85.73	42.85	15.9
2.750	69.8	92.58	70.9	88.90	42.85	15.9
2.875	73.0	95.76	74.1	95.25	42.85	15.9
3.000	76.2	97.33	77.3	98.43	42.85	15.9
3.125	79.3	100.50	80.5	101.60	42.85	19.8
3.250	82.5	105.28	83.6	104.78	42.85	19.8
3.375	85.7	108.46	86.8	107.95	42.85	19.8
3.500	88.9	111.63	90.0	111.13	42.85	19.8
3.625	92.0	114.80	93.1	114.30	42.85	19.8
3.750	95.2	117.98	96.3	117.48	42.85	19.8
3.875	98.4	121.16	99.5	120.65	42.85	19.8
4.000	101.6	124.33	102.7	123.83	42.85	19.8

PTEF MULTI SPRING SEALS



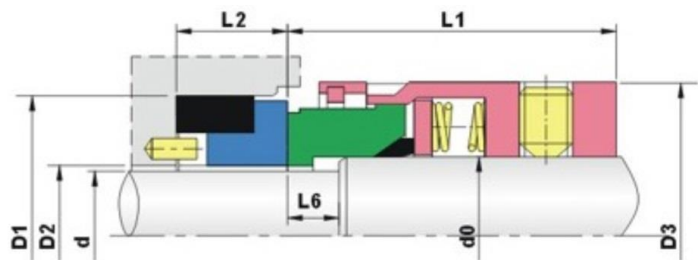
MAK19B

Operations Conditions:

Temperature: -40°C to +250°C

Pressure: ≤ 2.5MPa

Speed: ≤ 15m/s



Materials:

Stationary Ring: Silicon Carbide Reaction Bonded, Ceramic(Alumina), Silicon Carbide Sintered Pressureless

Rotary Ring: Antimony Impreg. Carbon Graphite, Resin Impregnated Carbon Graphite (Furan), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless

Secondary Seal: Pure PTFE

Spring and Metal Parts: Stainless Steel, Stainless Steel, Hastelloy C-4 Alloy

Applications:

Strong corrosive fluids

MAK19B

Size/Inch	d0	d	D3	D2	D1	L1	L2	L6
1.000	25.4	22.2	40.10	22.9	38.10	33.32	10.30	6.40
1.125	28.5	25.4	43.36	26.1	41.28	34.93	11.10	7.90
1.250	31.7	28.5	48.13	29.3	44.45	34.93	11.10	7.90
1.375	34.9	28.5	51.30	29.3	44.45	36.50	11.10	8.70
1.500	38.1	31.7	54.48	32.4	47.63	36.50	11.10	8.70
1.625	41.2	34.9	60.83	35.6	50.80	44.45	11.10	8.70
1.750	44.4	38.1	64.00	38.8	53.98	44.45	11.10	9.50
1.875	47.6	41.2	66.68	42.4	60.33	44.45	12.70	9.50
2.000	50.8	44.4	70.36	45.5	63.50	44.45	12.70	9.50
2.125	53.9	47.6	76.70	48.7	66.68	52.37	12.70	11.10
2.250	57.1	50.8	79.88	51.9	69.85	52.37	12.70	11.10
2.375	60.3	53.9	83.06	55.0	76.20	52.37	14.30	11.10
2.500	63.5	57.1	86.23	58.2	79.38	52.37	14.30	11.10
2.625	66.6	60.3	89.40	61.4	82.55	52.37	14.30	11.10
2.750	69.8	63.5	92.58	64.6	85.73	52.37	14.30	11.10
2.875	73.0	66.6	95.76	67.7	85.73	52.37	15.90	11.10
3.000	76.2	69.8	97.33	70.9	88.90	52.37	15.90	11.10
3.125	79.3	73.0	100.50	74.1	95.25	52.37	15.90	11.10
3.250	82.5	76.2	105.28	77.3	98.43	52.37	15.90	14.30
3.375	85.7	79.3	108.46	80.5	101.60	52.37	19.80	14.30
3.500	88.9	82.5	111.63	83.6	104.78	52.37	19.80	14.30
3.625	92.0	85.7	114.80	86.8	107.95	52.37	19.80	14.30
3.750	95.2	88.9	117.98	90.0	111.13	52.37	19.80	14.30
3.875	98.4	92.0	121.16	93.1	114.30	52.37	19.80	14.30
4.000	101.6	95.2	124.33	96.3	117.48	52.37	19.80	14.30

PTFE MULTI SPRING SEALS



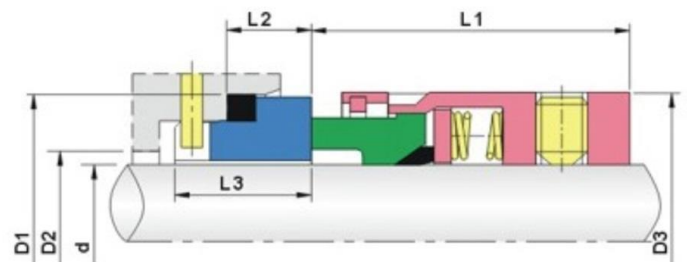
MAK68T/69T

Operations Conditions:

Temperature: -40°C to +250°C

Pressure: ≤ 1.2MPa

Speed: ≤ 15m/s



Materials:

Stationary Ring: Silicon Carbide Reaction Bonded, Ceramic(Alumina), Silicon Carbide

Sintered Pressureless Rotary Ring: Antimony Impreg. Carbon Graphite, Resin Impregnated Carbon Graphite(Furan), Silicon Carbide Reaction Bonded, Silicon Carbide Sintered Pressureless

Secondary Seal: Pure PTFE

Spring and Metal Parts: Stainless Steel, Stainless Steel, Hastelloy C-4 Alloy

Applications:

Strong corrosive fluids

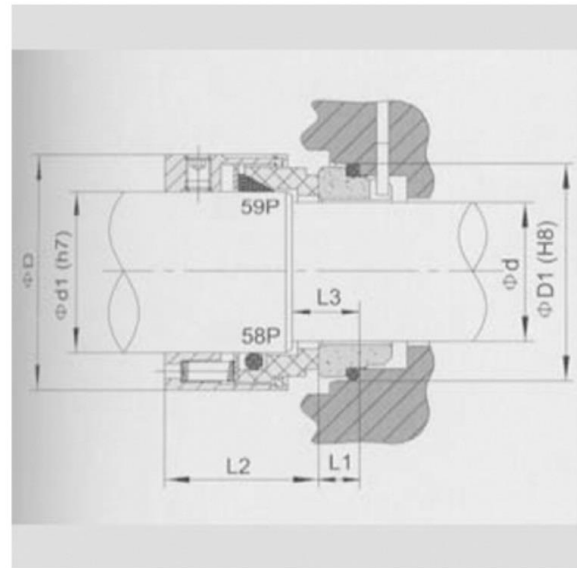
MAK68T/69T

<i>Size/Metric</i>	<i>d</i>	<i>D3</i>	<i>D2</i>	<i>D1</i>	<i>L1</i>	<i>L2</i>	<i>L3</i>
14	14	24	21	25	23.0	12.0	18.5
16	16	26	23	27	23.0	12.0	18.5
18	18	32	27	33	24.0	13.5	20.5
20	20	34	29	35	24.0	13.5	20.5
22	22	36	31	37	24.4	13.5	20.5
24	24	38	33	39	26.7	13.3	20.3
25	25	39	34	40	27.0	13.0	20.0
28	28	42	37	43	30.0	12.5	19.5
30	30	44	39	45	30.5	12.0	19.0
32	32	46	42	48	30.5	12.0	19.0
33	33	47	42	48	30.5	12.0	19.0
35	35	49	44	50	30.5	12.0	19.0
38	38	54	49	56	32.0	13.0	20.0
40	40	56	51	58	32.0	13.0	20.0
43	43	59	54	61	32.0	13.0	20.0
45	45	61	56	63	32.0	13.0	20.0
48	48	64	59	66	32.0	13.0	20.0
50	50	66	62	70	34.0	13.5	20.5
53	53	69	65	73	34.0	13.5	20.5
55	55	71	67	75	34.0	13.5	20.5
58	58	78	70	78	39.0	13.5	20.5
60	60	80	72	80	39.0	13.5	20.5
63	63	83	75	83	39.0	13.5	20.5
65	65	85	77	85	39.0	13.5	20.5
68	68	88	81	90	39.0	13.5	20.5
70	70	90	83	92	45.5	14.5	21.5
75	75	95	88	97	45.5	14.5	21.5
80	80	104	95	105	45.0	15.0	22.0
85	85	109	100	110	45.0	15.0	22.0
90	90	114	105	115	50.0	15.0	22.0
95	95	119	110	120	50.0	15.0	22.0
100	100	124	115	125	50.0	15.0	22.0

PTFE Wedge Mechanical Seals



MAK68O



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
Rotary Ring (Carbon/SiC/TC)
Secondary Seal (NBR/EPDM/Viton/Teflon)
Spring and Metal Part (Steel)

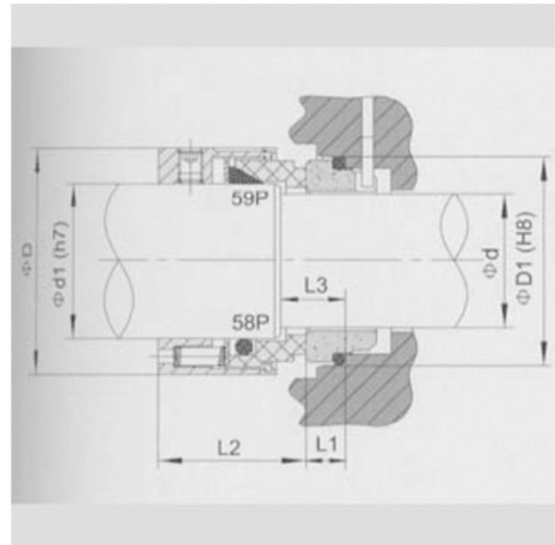
Working Conditions:

Mediums: Petroleum, chemical solvents,
weak and medium corrosion, etc.
Temperature: -40oC~250oC
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 20 \text{ m/Sec}$

MAK680

Part#	d	d1	D	D1	L1	L2	L3
MAK680- 14	14	18	32	25	12	30.7	18
MAK680- 16	16	20	34	27	12	30.7	18
MAK680- 18	18	22	36	33	13.5	31.7	20
MAK680- 20	20	24	38	35	13.5	31.7	20
MAK680- 22	22	26	40	37	13.5	31.7	20
MAK680- 24	24	28	42	39	13.5	34.4	20
MAK680- 25	25	30	44	40	13	34.7	20
MAK680- 28	28	33	47	43	12.5	37.7	20
MAK680- 30	30	35	49	45	12	38.2	20
MAK680- 32	32	38	54	48	12	38.2	20
MAK680- 33	33	38	54	48	12	38.2	20
MAK680- 35	35	40	56	50	12	38.2	20
MAK680- 38	38	43	59	56	13	39.7	23
MAK680- 40	40	45	61	58	13	39.7	23
MAK680- 43	43	48	64	61	13	39.7	23
MAK680- 45	45	50	66	63	13	39.7	23
MAK680- 48	48	53	69	66	13	39.7	23
MAK680- 50	50	55	71	70	13.5	44.2	25
MAK680- 53	53	58	78	73	13.5	44.2	25
MAK680- 55	55	60	80	75	13.5	44.2	25
MAK680- 58	58	63	83	78	13.5	49.2	25
MAK680- 60	60	65	85	80	13.5	49.2	25
MAK680- 63	63	68	88	83	13.5	49.2	25
MAK680- 65	65	70	90	85	13.5	49.2	25
MAK680- 70	70	75	95	92	14.5	55.7	28
MAK680- 75	75	80	104	97	14.5	55.7	28
MAK680- 80	80	85	109	105	15	55.2	28
MAK680- 85	85	90	114	110	15	60.2	28
MAK680- 90	90	95	119	115	15	60.2	28
MAK680- 95	95	100	124	120	15	60.2	28
MAK680- 100	100	105	129	125	15	60.2	28

PTFE Wedge Mechanical Seals



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
Rotary Ring (Carbon/SiC/TC)
Secondary Seal (NBR/EPDM/Viton/Teflon)
Spring and Metal Part (Steel)

Working Conditions:

Mediums: Petroleum, chemical solvents, weak and medium corrosion, etc.
Temperature: -40°C~250°C
Pressure: $\leq 2.5\text{Mpa}$
Speed: $\leq 20\text{ m/Sec}$

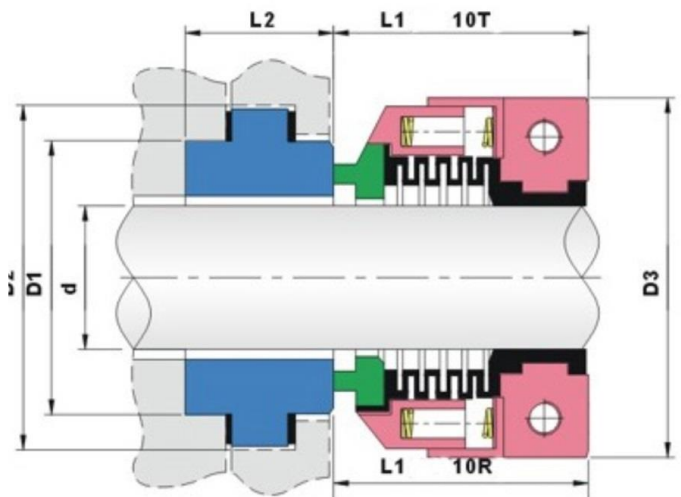
MAK690

Part#	d	d1	D	D1	L1	L2	L3
MAK690- 14	14	18	32	25	12	30.7	18
MAK690- 16	16	20	34	27	12	30.7	18
MAK690- 18	18	22	36	33	13.5	31.7	20
MAK690- 20	20	24	38	35	13.5	31.7	20
MAK690- 22	22	26	40	37	13.5	31.7	20
MAK690- 24	24	28	42	39	13.5	34.4	20
MAK690- 25	25	30	44	40	13	34.7	20
MAK690- 28	28	33	47	43	12.5	37.7	20
MAK690- 30	30	35	49	45	12	38.2	20
MAK690- 32	32	38	54	48	12	38.2	20
MAK690- 33	33	38	54	48	12	38.2	20
MAK690- 35	35	40	56	50	12	38.2	20
MAK690- 38	38	43	59	56	13	39.7	23
MAK690- 40	40	45	61	58	13	39.7	23
MAK690- 43	43	48	64	61	13	39.7	23
MAK690- 45	45	50	66	63	13	39.7	23
MAK690- 48	48	53	69	66	13	39.7	23
MAK690- 50	50	55	71	70	13.5	44.2	25
MAK690- 53	53	58	78	73	13.5	44.2	25
MAK690- 55	55	60	80	75	13.5	44.2	25
MAK690- 58	58	63	83	78	13.5	49.2	25
MAK690- 60	60	65	85	80	13.5	49.2	25
MAK690- 63	63	68	88	83	13.5	49.2	25
MAK690- 65	65	70	90	85	13.5	49.2	25
MAK690- 70	70	75	95	92	14.5	55.7	28
MAK690- 75	75	80	104	97	14.5	55.7	28
MAK690- 80	80	85	109	105	15	55.2	28
MAK690- 85	85	90	114	110	15	60.2	28
MAK690- 90	90	95	119	115	15	60.2	28
MAK690- 95	95	100	124	120	15	60.2	28
MAK690- 100	100	105	129	125	15	60.2	28

PTFE BELLOW SEALS



MAK110R/110T/152



Materials:

Stationary Ring: Silicon Carbide Reaction Bonded, Ceramic(Alumina)

Rotary Ring: Teflon, Silicon Carbide Reaction Bonded

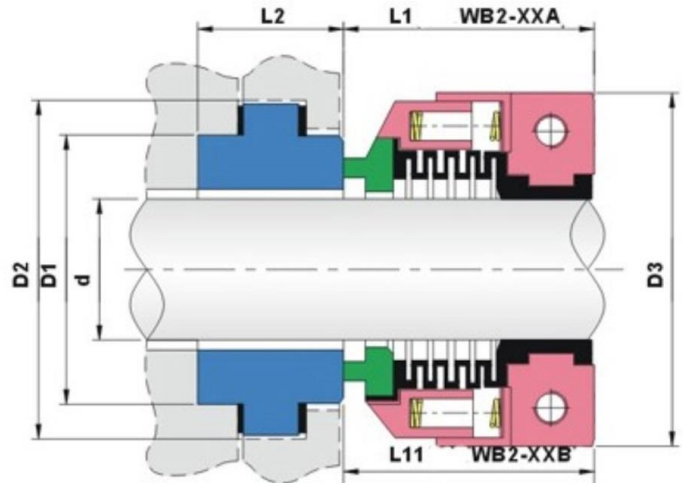
Secondary Seal: Teflon

Spring and Metal Parts: Stainless Steel, Stainless Steel

Applications: Sulfuric acid, hydrocarbon acid, phosphoric acid, acetic acid, and nitric acid
With various degrees, etc.

Size/Inch	D3	D2	D1	L2	L1
25.4	60	54	42.86	17.6	33.2
28.6	67	65	50.0	27	36.2
31.75	69	68	53.98	27	37.2
34.93	72	71	57.15	27	38.2
38.1	76	78	63.50	27	38.2
41.28	80	81	66.68	27	40.2
44.45	84	84	69.85	27	40.2
47.63	86	87	73.03	27	43.2
50.8	90	97	79.38	33.3	43.2

PTFE BELLOW SEALS



Operations Conditions:

Temperature: -20°C to +120°C

Pressure: ≤ 0.5MPa

Speed: ≤ 10m/s

MAK120R

Materials:

Stationary Ring: Silicon Carbide Reaction Bonded, Ceramic (Alumina)

Rotary Ring: Teflon, Silicon Carbide Reaction Bonded

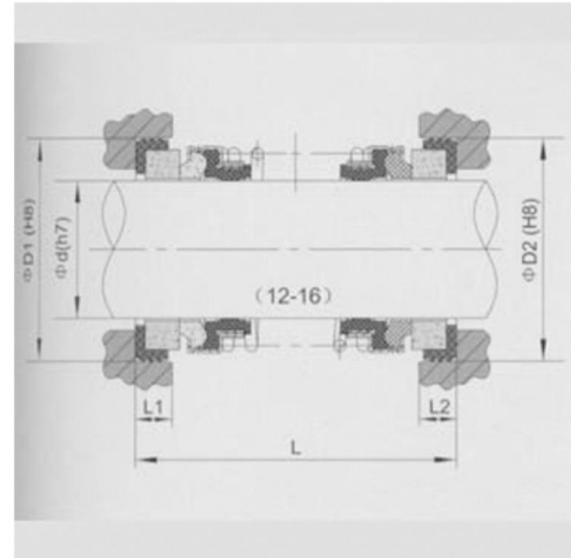
Secondary Seal: Teflon

Spring and Metal Parts: Stainless Steel, Stainless Steel

Applications: Sulfuric acid, hydrocarbon acid, phosphoric acid, acetic acid, and nitric acid
With various degrees, etc.

Size/Metric	D3	D2	D1	L2	L1	L11	Size/Inch	D3	D2	D1	L2	L1	L11
25	60	60	47	27	42	45	25.4	60	54	42.86	17.5	42	45
30	67	67	53	27	42	45	28.6	67	60	46.03	27	42	45
32	69	64	50.7	27	42	45	31.75	69	65	50.80	27	42	45
35	72	70	57	27	42	45	34.93	72	68	53.98	27	42	45
40	78	76	62	26	42	45	41.28	80	78	63.50	27	42	45
45	84	82	67	27	44	46	44.45	84	81	66.68	27	44	46
50	88	86	72	27	46	46	47.63	86	84	69.85	27	44	46
55	95	90	77	27	46	46	50.8	90	87	73.03	27	46	46
60	100	95	82	27	46	46	53.98	95	97	79.38	33.5	46	46
65	105	100	87	27	46	46	57.15	98	100	82.55	33.5	46	46
							60.3	100	103	85.73	33.5	46	46

Double Mechanical Seals



Combined Materials:

Stationary Ring (Ceramic/SiC/TC)
 Rotary Ring (Carbon/SiC/TC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

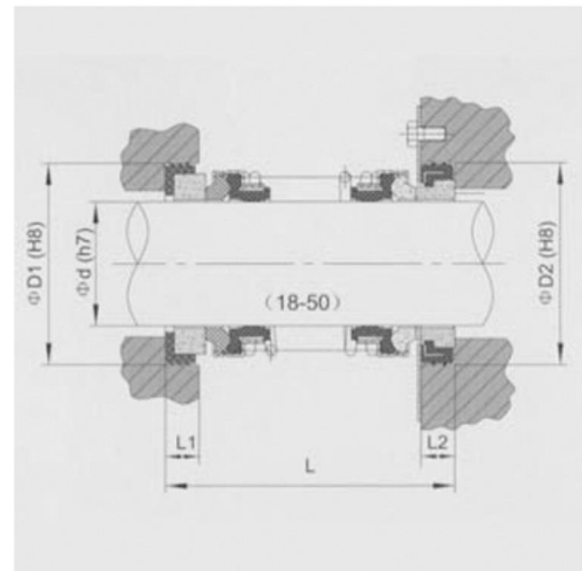
Working Conditions:

Pumps: Submersible pumps, sewage pumps. Applied to the muddy water, sewage water or weakly corrosive fluids with solid grains.

Temperature: $-20^{\circ}\text{C} \sim 100^{\circ}\text{C}$

Pressure: $\leq 0.5\text{Mpa}$

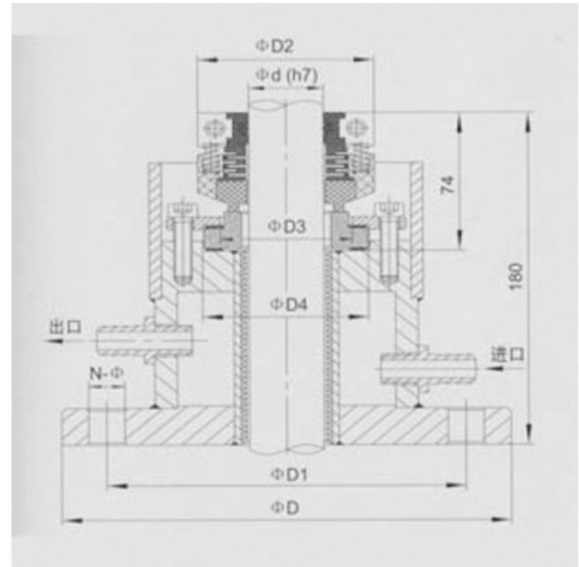
Speed: $\leq 8\text{ m/Sec}$



MAK560

Part#	d	D1	D2	L	L1	L2
MAK560- 12	12	25	25	36	5	5
MAK560- 13	13	25	25	36	5	5
MAK560- 14	14	30	30	36	5	5
MAK560- 15	15	30	30	36	5	5
MAK560- 16	16	30	30	36	5	5
MAK560- 18	18	35	38	49	7	7
MAK560- 19	19	35	38	49	7	7
MAK560- 20	20	38	44	49	7	7
MAK560- 25	25	44	50	51	7	7
MAK560- 30	30	50	57	59	9	8
MAK560- 35	35	58	64	61	9	9
MAK560- 40	40	64	70	64.5	11	9
MAK560- 45	45	66	70	65	10	9
MAK560- 50	50	72	80	69.5	10	9

Teflon Bellow Mechanical Seals



Combined Materials:

Stationary Ring (Ceramic/SiC)
Rotary Ring (Teflon/SiC)
Secondary Seal (VitonTeflon)
Spring and Metal Part (Steel)

Working Conditions:

Mediums: Various gases without any grains.
Temperature: $\leq 120^{\circ}\text{C}$
Pressure: $\leq 0.6\text{Mpa}$
Speed: $\leq 10\text{ m/Sec}$

MAK121

69

Part#	d	D	D1	D2	D3	D4	N-Φ
MAK121- 42	42	170	140	90	72	80	6-Φ15
MAK121- 50	50	200	170	100	80	101	8-Φ15
MAK121- 60	60	220	190	110	90	111	10-Φ15
MAK121- 70	70	280	250	120	100	121	16-Φ15
MAK121- 76	76	280	250	130	110	131	16-Φ15
MAK121- 80	80	280	250	130	110	131	16- Φ15
MAK121- 89	89	280	250	140	120	141	16- Φ15
MAK121- 95	95	330	300	150	125	151	20- Φ15

79

Part#	d	D	D1	D2	D3	D4	N-Φ
MAK121- 40	40	160	130	90	72	88	4-Φ14
MAK121- 50	50	185	150	100	80	101	4-Φ18
MAK121- 65	65	205	170	115	95	116	4-Φ18
MAK121- 80	80	235	200	130	110	131	8-Φ18
MAK121- 95	95	235	200	150	125	151	8-Φ18
MAK121-102	102	290	255	150	130	156	8-Φ18

HG2098- 91

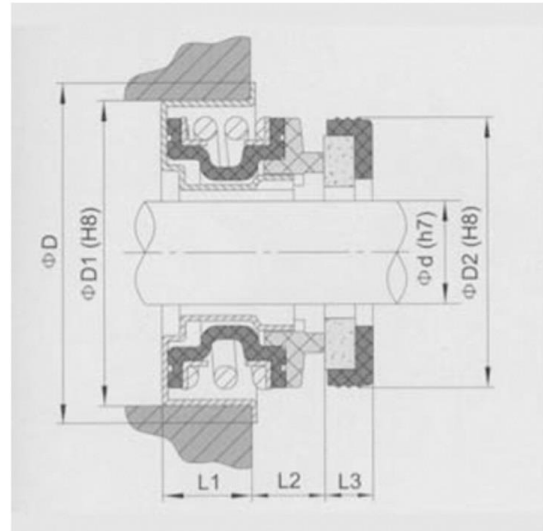
Part#	d	D	D1	D2	D3	D4	N-Φ
MAK121- 40	40	160	130	87	72	87	4- Φ18
MAK121- 50	50	190	150	98	80	100	4- Φ18
MAK121- 60	60	210	170	110	90	105	4- Φ18
MAK121- 65	65	210	170	115	95	115	4- Φ18
MAK121- 70	70	240	200	120	100	115	8- Φ18
MAK121- 75	75	240	200	130	110	130	8- Φ18
MAK121- 80	80	240	200	130	110	130	8- Φ18
MAK121- 90	90	265	225	140	120	140	8- Φ18
MAK121- 95	95	265	225	145	125	150	8- Φ18
MAK121-100	100	280	250	150	130	150	8- Φ18
MAK121-110	110	320	280	162	140	165	8- Φ18
MAK121-120	120	320	280	172	150	175	8- Φ18
MAK121-130	130	375	335	182	162	177	12- Φ18
MAK121-140	140	375	335	192	170	195	12- Φ18
MAK121-150	150	375	335	202	180	205	12- Φ18

AUTOMOTIVE PUMPS SEALS



Combined Materials:

Stationary Ring(Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

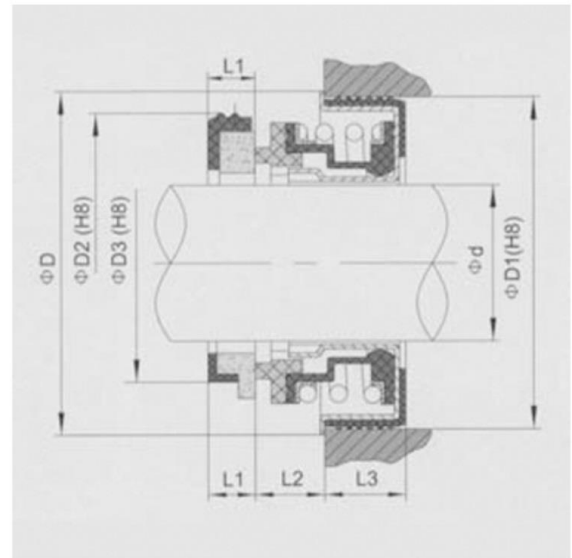


Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
 Temperature: -20oC~100oC
 Pressure: $\leq 0.3\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	D	D1	D2	L1	L2	L3
MAKA2- 10	10	29	24	23	7	6	4
MAKA2- 12	12	32	28.55	25	8	5.2	5
MAKA2- 12A	12	35	30	24	8	5	5
MAKA2- 12B	12	38.5	33.4	25	6	7	5
MAKA2- 16	16	41.5	36.45	31	8	6.8	5
MAKA2- 16	16	41.5	38.1	31	8	6.8	5
MAKA2- 20	20	43.8	40	35	9.5	6	5
MAKA2- 25	25	51	46/47	44	10	8	7
MAKA2- 28	28	57	52	45	10.5	8	7.5
MAKA2- 30	30	57	52	48	11	8	8
MAKA2- 1/2"	12.7	35	30	25.4	8	5	6.35
MAKA2- 5/8"	15.875	41.5	36.45	31.75	8	6.7	10.3
MAKA2- 3/4"	19.5	43.8	40	34.925	9.5	6	10.3
MAKA2—1"	25.4	51	47	41.275	10	7.9	11.1

AUTOMOTIVE PUMPS SEALS



Combined Materials:

Stationary Ring(Carbon/SiC)
Rotary Ring (Ceramic/SiC)
Secondary Seal (NBR/EPDM/Viton)
Spring and Punched Parts (Steel)

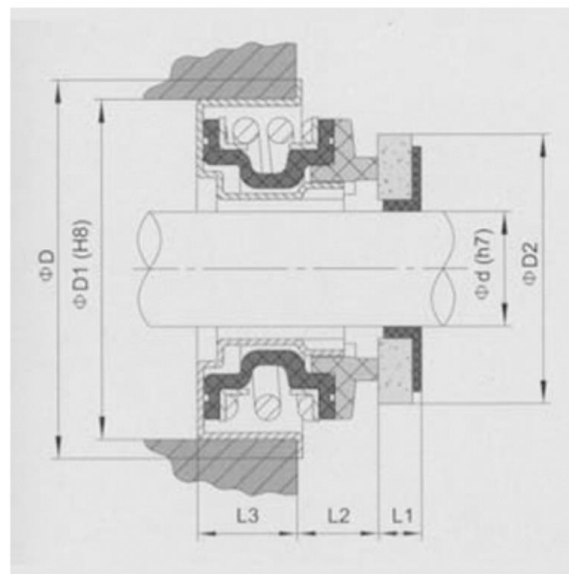
Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
Temperature: -20oC~100oC
Pressure: ≤ 0.3Mpa
Speed: ≤ 10 m/Sec

MAKA21

Part#	d	D	D1	D2	D3	L1	L2	L3
MAKA21- 12	12	32	26		18	6.8	6	8
MAKA21- 12A	12	35	30	24		4.5	5.5	9.5
MAKA21- 13	13	35	30	25		5	5.2	8.5
MAKA21- 13A	13	35	32	25		5	5.7	8.5
MAKA21- 15	15	41.3	30		21.5	6.8	7	9
MAKA21- 17	17	41.3	35		25	7.5	10.5	9
MAKA21- 17A	17	41.3	41	31		5	7.3	9.5
MAKA21- 20	20	43.8	40	35/36		7	12	10.5
MAKA21- 20A	20	43.8	45	35		5	6.5	11
MAKA21- 25	25	52.8	50	41.5		8	10	13.5
MAKA21- 25A	25	51	52	44		7	8.5	11.5
MAKA21- 28	28	57	54	45		7.5	9.5	11.5
MAKA21- 30	30	57	54	48		8.2	9.5	11.5
MAKA21- 30A	30	57	58	48		8	8.5	12.5
MAKA21- 35	35	63	61	50		8.2	12	11.5
MAKA21- 10B	10	29	27	23		4	6.5	7.5
MAKA21- 12B	12	31.7	32	25		5	5.7	8.5
MAKA21- 16B	16	41.5	41	31		5	7.3	9.5
MAKA21- 20B	20	43.8	45	35		5	6.5	11
MAKA21- 25B	25	51	52	44		7	8.5	11.5
MAKA21- 30B	30	57	58	48		8	8.5	12.5

AUTOMOTIVE PUMPS SEALS



Combined Materials:

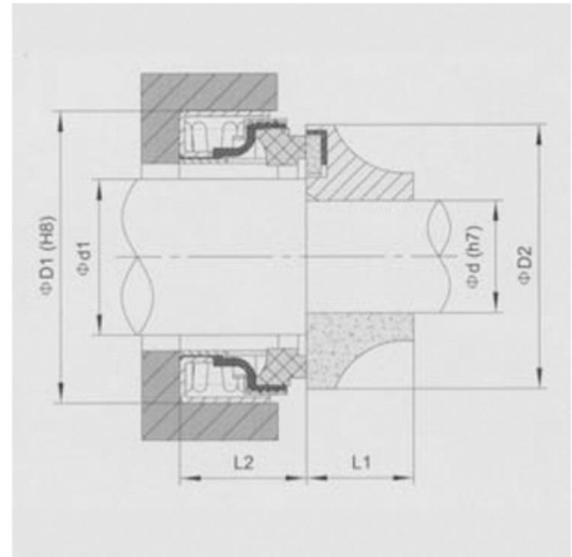
Stationary Ring(Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
 Temperature: -20oC~100oC
 Pressure: ≤0.3Mpa
 Speed: ≤ 10 m/Sec

Part#	d	D	D1	D2	L1	L2	L3
MAKA22- 12	12	35	30	24	5	4.7	8
MAKA22- 1/2"	12.7	35	30	24	5	4.7	8
MAKA22- 15	15	41.5	36.45	29.5	5	6.2	8
MAKA22- 5/8"	15.875	41.5	36.45	29.5	5	6.2	8
MAKA22- 16	16	41.5	36.45	29.5	5	6.2	8
MAKA22- 16A	16	44	38.1	29.5	5	6.2	8
MAKA22- 3/4"	19.05	43.5	40	34	6	6.5	9.5
MAKA22- 20	20	43.5	40	34	6	6.5	9.5

AUTOMOTIVE PUMPS SEALS



Combined Materials:

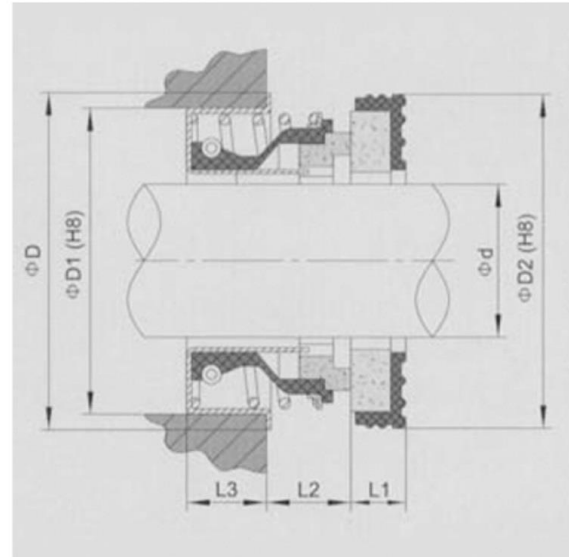
Stationary Ring(Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
 Temperature: -20oC~100oC
 Pressure: $\leq 0.3\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	d1	D1	D2	L1	L2
MAKA23- 25	20	30	47	48.6	19	20.5
MAKA23- 25A	20	30	52	48.6	19	20.5

AUTOMOTIVE PUMPS SEALS



Combined Materials:

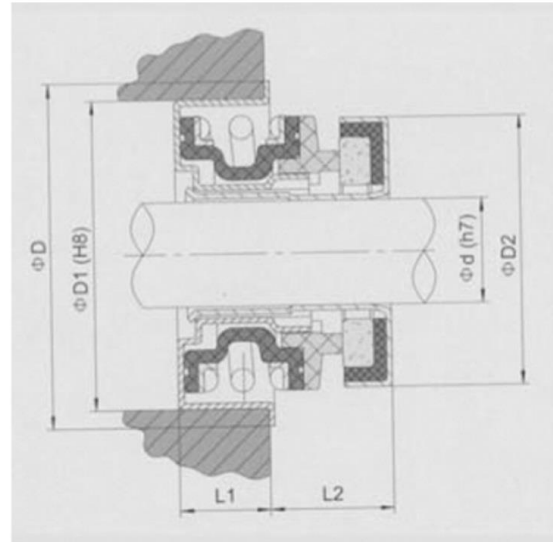
Stationary Ring(Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
 Temperature: -20oC~100oC
 Pressure: $\leq 0.3\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	D	D1	D2	L1	L2	L3
MAKA24- 16	16	42	36.45	29.5	5	7.8	10
MAKA24- 20	20	44	40	35	5	6.9	8.6

AUTOMOTIVE PUMPS SEALS



Combined Materials:

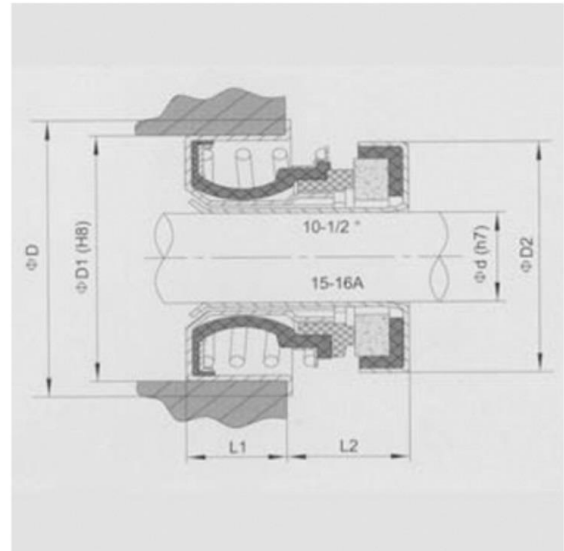
Stationary Ring (Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, and weakly
 -corrosive mediums, etc.
 Temperature: -20oC~100oC
 Pressure: $\leq 0.3\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	D	D1	D2	L1	L2
MAKA3- 12	12	35	30	25	8	9.7
MAKA3- 12A	12	38.5	33.4	25	6.7	11
MAKA3- 12B	12	32	28.55	25	8	9.7
MAKA3- 13	13	35	30	25	8	9.7
MAKA3- 15	15	41.5	36.45	30	8	11.2
MAKA3- 5/8"	15.875	41.5	34.2	30	5.6	12.25
MAKA3- 5/8" A	15.875	41.5	36.45	30	8	11.2
MAKA3- 5/8" B	15.875	41.5	38.1	30	8	11.2
MAKA3- 16	16	41.5	36.45	32.5	8	11.2
MAKA3- 16A	16	41.5	38.1	32.5	8	11.2
MAKA3- 20	20	43.8	38	37	9.5	12.5
MAKA3- 20A	20	43.8	40	38	9.5	12.5

AUTOMOTIVE PUMPS SEALS



Combined Materials:

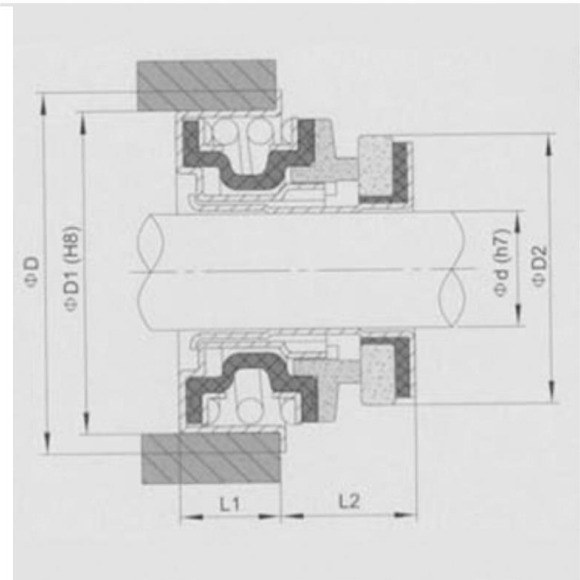
Stationary Ring (Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
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 Pressure: $\leq 0.3\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	D	D1	D2	L1	L2
MAKA31- 10	10	35	30	23.5	8.5	5.21
MAKA31- 12	12	35	30	28.5	7	7.7
MAKA31- 1/2"	12.7	35	30	28.5	7	7.7
MAKA31- 15	15	41.5	36.45	32.5	8	11.2
MAKA31- 5/8"	15.875	41.5	36.45	32.5	8	11.2
MAKA31- 16	16	41.5	36.45	32.5	8	11.2
MAKA31- 16A	16	44	38.1	32.5	8	11.2

AUTOMOTIVE PUMPS SEALS



Combined Materials:

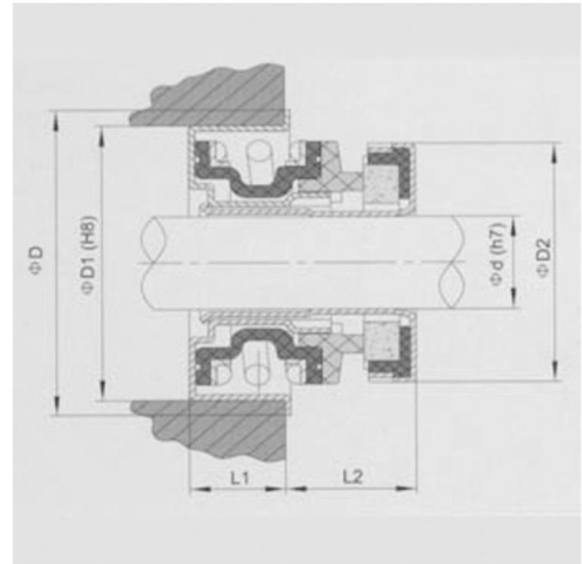
Stationary Ring(Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
 Temperature: -20oC~100oC
 Pressure: $\leq 0.3\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	D	D1	D2	L1	L2
MAKA32- 12	12	32	28.55	24	8	9.7
MAKA32- 12A	12	35	30	24	8	9.7
MAKA32- 1/2"	12.7	35	30	24	8	9.7
MAKA32- 15	15	41.5	36.45	29	8	11.2
MAKA32- 5/8"	15.875	41.5	36.45	29	8	11.2
MAKA32- 5/8" A	15.875	41.5	38.1	29	8	11.2
MAKA32- 16	16	41.5	36.45	29	8	11.2
MAKA32- 16A	16	41.5	38.1	29	8	11.2
MAKA32- 20	20	43.8	40	34	9.5	12.5

AUTOMOTIVE PUMPS SEALS



Combined Materials:

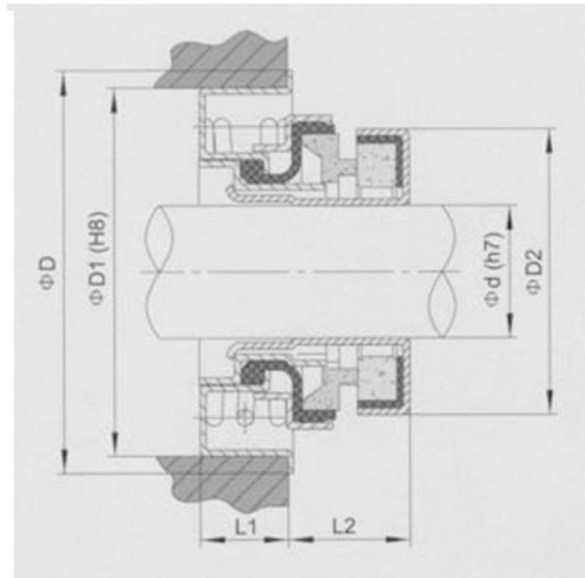
Stationary Ring(Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
 Temperature: -20oC~100oC
 Pressure: $\leq 0.3\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	D	D1	D2	L1	L2
MAKA33- 1/2"	12.7	35	30	25	8	9.5
MAKA33- 5/8"	15.875	41.5	36.45	30.5	8.5	12
MAKA33- 3/4"	19.05	43.8	40	37	9.5	12.5

AUTOMOTIVE PUMPS SEALS



Combined Materials:

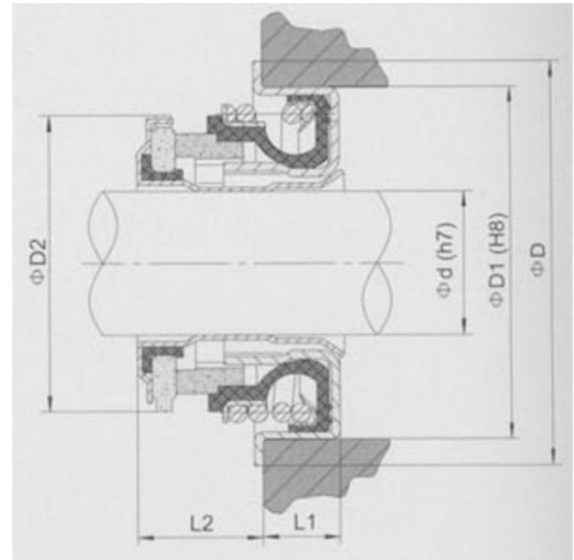
Stationary Ring(Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
 Temperature: -20oC~100oC
 Pressure: $\leq 0.3\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	D	D1	D2	L1	L2
MAKA34- 15	15	41.5	36.45	32.5	9.5	9.7
MAKA34- 16	16	41.5	36.45	32.5	9.5	9.7
MAKA34- 16A	16	41.5	36.45	28	9.5	11.5

AUTOMOTIVE PUMPS SEALS



Combined Materials:

Stationary Ring(Carbon/SiC)
 Rotary Ring (Ceramic/SiC)
 Secondary Seal (NBR/EPDM/Viton)
 Spring and Punched Parts (Steel)

Working Conditions:

Mediums: Water, oil, and weakly-corrosive mediums, etc.
 Temperature: -20oC~100oC
 Pressure: $\leq 0.3\text{Mpa}$
 Speed: $\leq 10 \text{ m/Sec}$

Part#	d	D	D1	D2	L1	L2
MAKA35- 12	12	35	30	26.5	8	9.6
MAKA35- 15	15	41.5	36.45	31.2	8	10.5

OFFICE: A/17, CHINAI BAUG INDUSTRIAL ESTATE
NEAR WATER TANK, B/H BANK OF BARODA
DUDHESWAR, AHMEDABAD 380004 (GUJARAT-INDIA).

PHONE: +91 79 25620778, 25621364

TEL/FAX: +91 79 25621364

MOBIEL: +91 9898369786, 9898569786

EMAIL: info@carbonproduct.com

Sister Concern :



Ahmedabad- 380004.



Carbo- Flex Enterprises.,
Mumbai- 400002.