

RELY ON EXCELLENCE

MA290 / MA291

Mechanical seals | Mechanical seals for pumps | Standard cartridge seals



Features

- Cartridge
- Balanced
- Independent of direction of rotation
- Stationary multiple springs
- Springs and pin located on the atmospheric side

Advantages

- Extremely short length design – the total length including the seal cover is less than 50 mm
- Easy installing on the pumps without modifying the stuffing box
- Excellent followability due to no influence from run-out, squareness or vibration of the shaft
- Mounted outside the stuffing box for providing excellent air cooling performance
- Un-wetted springs and knock pins for protecting from lockout by liquid

Operating range

MA290:

Pressure: $p = \dots 20 \text{ bar (290 PSI)}$

Temperature:

$t = -20 \text{ }^{\circ}\text{C} \dots 160 \text{ }^{\circ}\text{C} (-4 \text{ }^{\circ}\text{F} \dots 320 \text{ }^{\circ}\text{F})$ (oil),

$0 \text{ }^{\circ}\text{C} \dots 60 \text{ }^{\circ}\text{C} (32 \text{ }^{\circ}\text{F} \dots 140 \text{ }^{\circ}\text{F})$ (water)

Sliding velocity:

$vg = \text{max. } 20 \text{ m/s (66 ft/s)}$

Viscosity: $0.5 \text{ Pa}\cdot\text{s}$

Solids content: 0.3%

MA291:

Pressure: $p = \dots 16 \text{ bar (232 PSI)}$

Temperature:

$t = -20 \text{ }^{\circ}\text{C} \dots 160 \text{ }^{\circ}\text{C} (-4 \text{ }^{\circ}\text{F} \dots 320 \text{ }^{\circ}\text{F})$ (oil),

$0 \text{ }^{\circ}\text{C} \dots 60 \text{ }^{\circ}\text{C} (32 \text{ }^{\circ}\text{F} \dots 140 \text{ }^{\circ}\text{F})$ (water)

Sliding velocity: $vg = \text{max. } 20 \text{ m/s (66 ft/s)}$

Viscosity: $3 \text{ Pa}\cdot\text{s}$

Solids content: 10%

Materials

Seal face (MA290): High density carbon graphite

Seal face (MA291): Silicon carbide (Q1)

Seat (MA290/291): Silicon carbide (Q1)

Metal parts: CrNiMo steel (G)

Secondary seals: FKM (V)

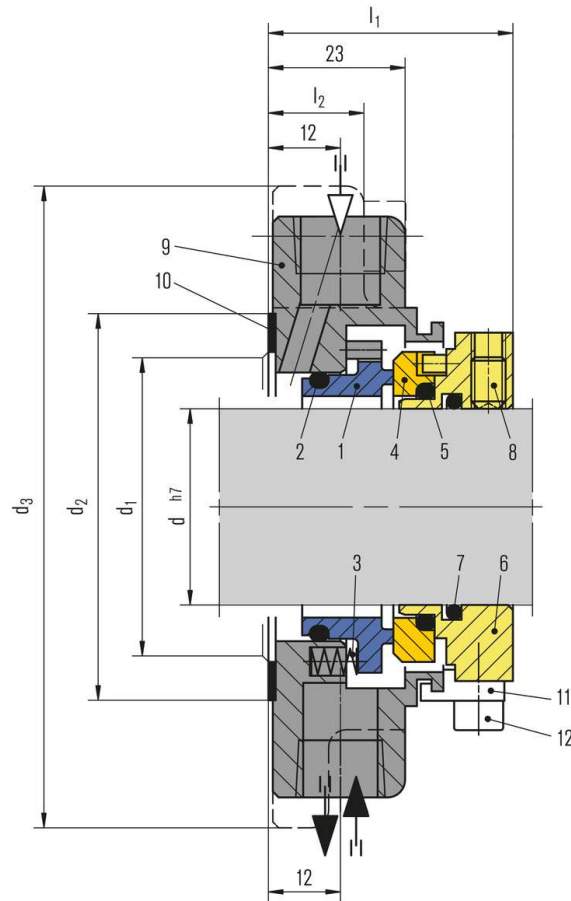
Standards and approvals

- EN 12756
- ISO 3096

Recommended applications

- Petrochemical industry
- Chemical industry
- Pharmaceutical industry
- Pulp and paper industry
- Water and waste water technology
- Food and beverage industry
- Universally applicable
- Centrifugal pumps
- Eccentric screw pumps
- Process pumps

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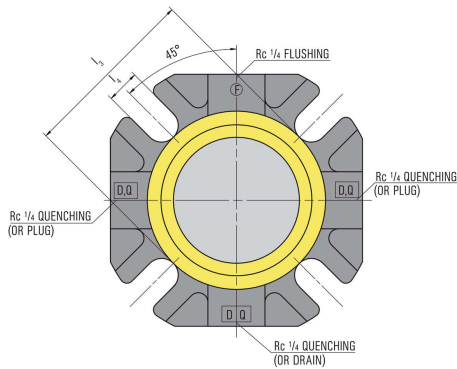


Item	Description
1	Seal face
2, 5, 7	O-Ring
3	Spring
4	Seat
6	Drive collar
8	Set screw
9	Seal cover
10	Gasket
11	Assembly fixture
12	HSH cap screw

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Installation, details, options

Seal cover



Dimensions

d	d ₁ min.	d ₁ max.	d ₂	d ₃	l ₁	l ₂	l ₃	l ₄
20	30	51	58	104	42	18	60	12
25	35	51	58	104	42	18	60	12
30	40	56	63	108	42	18	65	12
35	45	66	73	118	42	16	75	14
40	50	66	73	118	42	16	75	14
45	55	71	78	128	42	16	80	14
50	60	81	88	138	44	16	90	14
55	65	81	88	138	44	16	90	14
60	70	96	103	164	46	14	105	18
65	75	96	103	164	46	14	105	18
70	80	102	109	178	46	14	111	18
75	85	114	121	193	49	14	123	18
80	90	114	121	193	49	14	123	18
85	95	124	131	208	49	13	133	20
90	100	124	131	208	49	13	133	20
95	105	134	141	218	49	13	143	20
100	110	134	141	218	49	13	143	20

Dimensions in millimeter