Etannor

GRAVITY OF ENGINEERING

Pump Seal

Reactor Seal

ABOUT US

WE ARE CLOSE TO YOU.....

As time goes by, we feel extremely satisfied and proud to be able to contribute to and from part of a responsible. Fluid controller industry which is striving to build a better world and a safer future.
We are convinced we can offer you a solution that will meet your expectation.

WHO WE ARE

HISTORY:

Etannor was established in 2017 and specializes in designing, manufacturing, repairing and selling mechanical seals. We provide effective solution worldwide.

STRATEGY:

Our aim is to be recognized in the market for our **accessibility** and **adaptability** to the need of our customers and the **availability** and **reliability** of our products, solutions and services.

VISION:

We aim to be expert in mechanical seals and associated products for industry.

ACCESSIBILITY

Contact us using traditional methods or new communication technologies. We are always ready to provide you with the most suitable response.

AVAILABLITY

Our wide range and efficient process make it possible to deliver the requested products when it is required.

ADAPTIBILITY

We provide our customers with advice and guidance. Our design and manufacturing capacity means we are able to customize products and services to their needs

OUR VALUES

We provide our customers with advice and guidance. Our design and manufacturing capacity means we are able to customize products and services to their needs

RELIABILITY

Our customers see us as a trusted partner because we always meet our commitments.

SECTORS

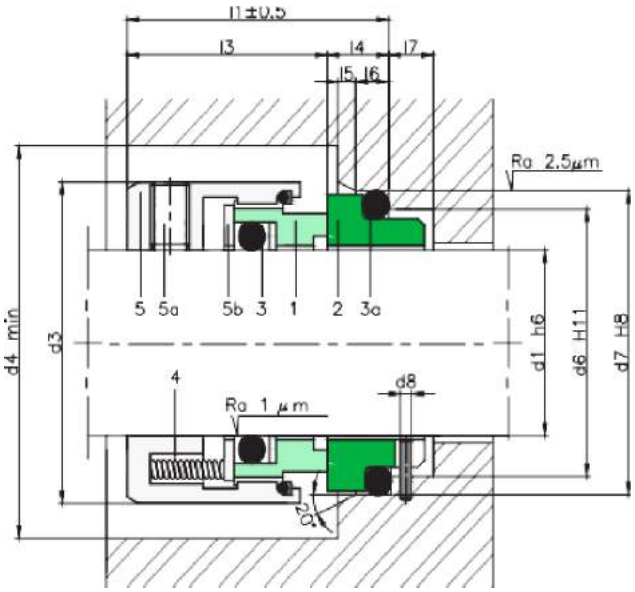
We contribute to the success of strategic sectors.

COMPONENTS

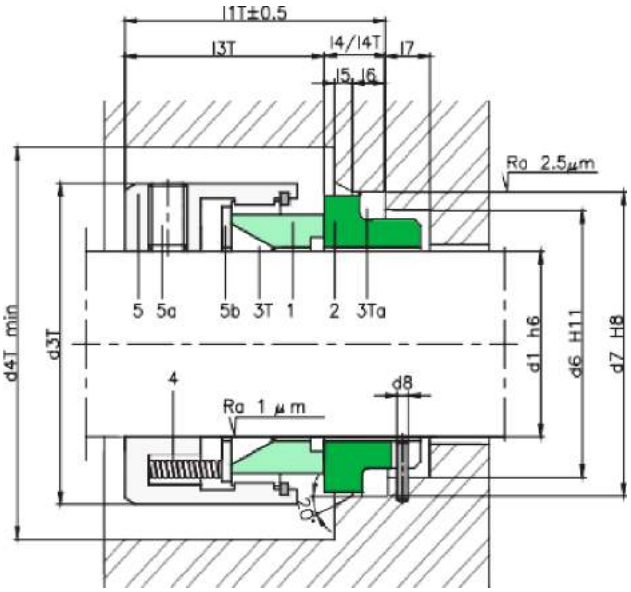
1	Rotating contact surface
2	Stationary contact surface
3	O-rings
3T	PTFE wedge
3a	O-rings
3Ta	PTFE gasket
4	Springs
5	Metal frame
5a	Set screws
5b	Ring

SECTOR

- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Power plant technology
- Pulp and paper industry
- Food and beverage industry
- Hot water applications
- Light hydrocarbons
- Boiler feed pumps
- Process pumps



E8M



E8MT

OPEARTING RANGE

d_1= 14 ÷ 100 mm, p= 10 kg/cm^2, v= 20, m/st= -15÷ +200oC

The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application

DESCRIPTION

The balanced contact surface design allows the mechanical seal to be used in applications with high pressures without suffering premature wear.
The set of springs placed around the contact surface of the rotating part generates a more uniformed load than in models with a single spring.
It can be supplied with PTFE wedge for highly aggressive chemicals with high temperatures.
Seal compliant with standard EN 12756 (KB)

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide
Al-Oxide ceramic
Glass filled PTFE

SECONDARY MATERIALS.

fkm,ffkm, ptfe, gft, grafoil, nbr,
nitile, epdm, karlez & as per customer req.

RAW MATERIALS.

ss304,ss316,ss316l,titanium, hastolloy,
duplex & as per customer req.

DIMENSIONS CHART

DIMENSIONS IN MM

Shaft		Rotary part				Stationary part						Total length
mm	d2	d3	d4	I3	d6	d7	d8	I2 I4/	I4T	I6	I7	I1/ I1T
14	18	32	34	30,5	21	25	3	18	12	5,5	8,5	42,5
16	20	34	36	30,5	23	27	3	18	12	5,5	8,5	42,5
20	24	38	40	31,5		35	3	20	13,5	7	9	45
24	28	42	44	34,2	33	39	3	20	13,3	7	9	47,5
28	33	47	49	37,5	37	43	3	20	12,5	7	9	50
32	38	54	58	38	42	48	3	20	12	7	9	50
35	40	56	60	38	44	50	3	23	12	7	9	50
40	45	61	65	39,5	51	58	4	23	13	8	9	52,5
45	50	66	70	39,5	56	63	4	23	13	8	9	52,5
50	55	71	75	44	62	70	4	25	13,5	8,5	9	57,5
55	60	80	85	44	67	75	4	25	13,5	8,5	9	57,5
60	65	85	90	49	72	80	4	25	13,5	8,5	9	62,5
70	75	95	104	55,5	83	92	4	28	14,5	9,5	9	70
80	85	109	114	55	95	105	4	28	15	10	9	70
85	90	114	119	60	100	110	4	28	15	10	9	75
90	95	119	124	60	105	115	4	28	15	10	9	75
95	100	124	129	60	110	120	4	28	15	10	9	75
100	105	129	134	60	115	125	4	28	15	10	9	75

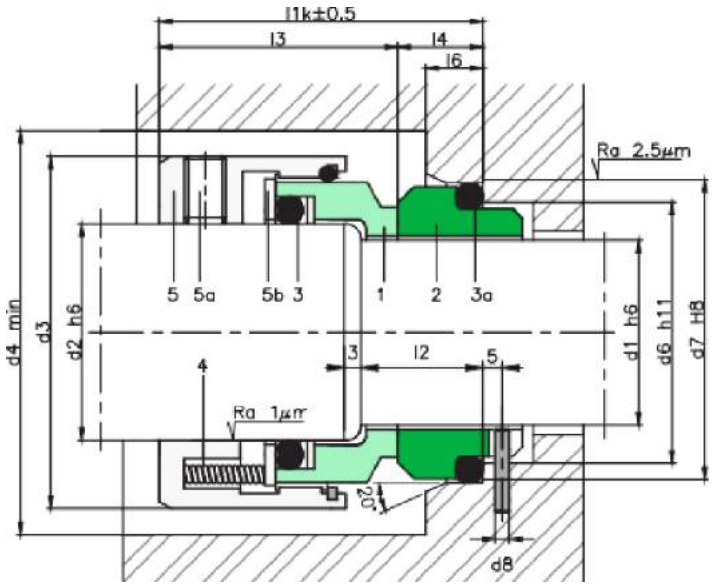
Dimensions subject to changes or modifications.

COMPONENTS

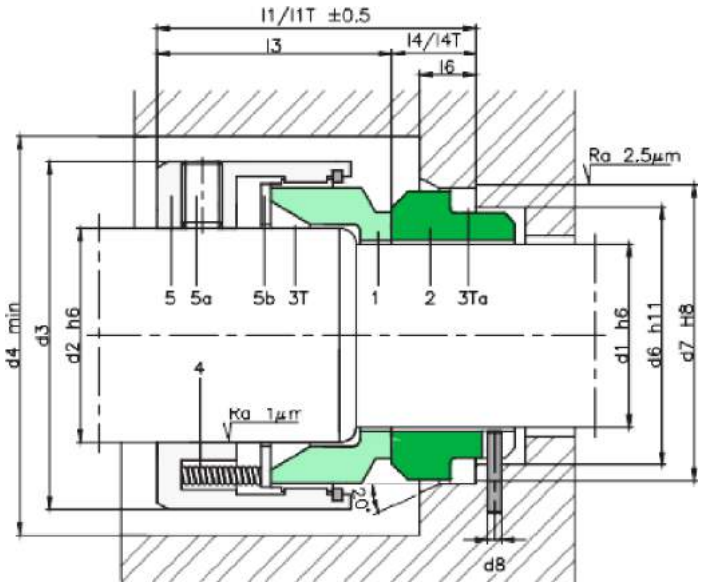
1	Rotating contact surface
2	Stationary contact surface
3	O-rings
3T	PTFE wedge
3a	O-rings
3Ta	PTFE gasket
4	Springs
5	Metal frame
5a	Set screws
5b	Ring

SECTOR

- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Power plant technology
- Pulp and paper industry
- Food and beverage industry
- Hot water applications
- Light hydrocarbons
- Boiler feed pumps
- Process pumps



E8MB



E8MBT

OPEARTING RANGE

d_1= 14 ÷ 100 mm, p= 10 kg/cm^2, v= 20m/s, t= -15÷ +200oC

The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application

DESCRIPTION

The balanced contact surface design allows the mechanical seal to be used in applications with high pressures without suffering premature wear.
The set of springs placed around the contact surface of the rotating part generates a more uniformed load than in models with a single spring.
It can be supplied with PTFE wedge for highly aggressive chemicals with high temperatures.
Seal compliant with standard EN 12756 (KB)

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide
Al-Oxide ceramic
Glass filled PTFE

SECONDARY MATERIALS.

fkm,ffkm, ptfe, gft, grafoil, nbr,
nitile, epdm, karlez & as per customer req.

RAW MATERIALS.

ss304,ss316,ss316l,titanium, hastolloy,
duplex & as per customer req.

DIMENSIONS CHART

DIMENSIONS IN MM

Shaft		Rotary part				Stationary part						Total length
mm	d2	d3	d4	I3	d6	d7	d8	I2 I4/	I4T	I6	I7	I1/ I1T
14	18	32	34	30,5	21	25	3	18	12	5,5	8,5	42,5
16	20	34	36	30,5	23	27	3	18	12	5,5	8,5	42,5
20	24	38	40	31,5		35	3	20	13,5	7	9	45
24	28	42	44	34,2	33	39	3	20	13,3	7	9	47,5
28	33	47	49	37,5	37	43	3	20	12,5	7	9	50
32	38	54	58	38	42	48	3	20	12	7	9	50
35	40	56	60	38	44	50	3	23	12	7	9	50
40	45	61	65	39,5	51	58	4	23	13	8	9	52,5
45	50	66	70	39,5	56	63	4	23	13	8	9	52,5
50	55	71	75	44	62	70	4	25	13,5	8,5	9	57,5
55	60	80	85	44	67	75	4	25	13,5	8,5	9	57,5
60	65	85	90	49	72	80	4	25	13,5	8,5	9	62,5
70	75	95	104	55,5	83	92	4	28	14,5	9,5	9	70
80	85	109	114	55	95	105	4	28	15	10	9	70
85	90	114	119	60	100	110	4	28	15	10	9	75
90	95	119	124	60	105	115	4	28	15	10	9	75
95	100	124	129	60	110	120	4	28	15	10	9	75
100	105	129	134	60	115	125	4	28	15	10	9	75

Dimensions subject to changes or modifications.

COMPONENTS

1	Rotating contact surface
2	Stationary contact surface
3	O-rings
3T	PTFE wedge
3a	O-rings
3Ta	PTFE gasket
4	Springs
5	Metal frame
5a	Set screws
5b	Ring

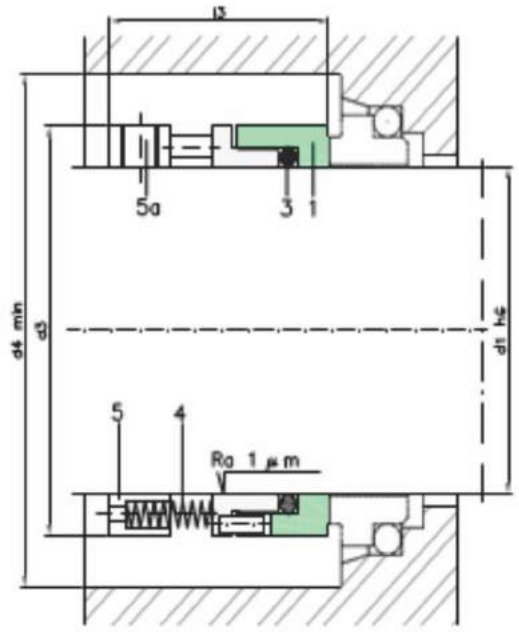
SECTOR

- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Power plant technology
- Pulp and paper industry
- Food and beverage industry
- Hot water applications
- Light hydrocarbons
- Boiler feed pumps
- Process pumps

DIMENSION CHART MM

Shaft	Rotatry Part		
mm	d3	d4	l3
20	34	39	35
22	36	41	35
24	38	43	35
25	39	44	35
28	42	47	35
30	44	49	35
32	46	51	35
33	47	52	35
35	49	54	35
38	54	59	38
40	56	61	38
43	59	64	38
45	61	66	38
48	64	69	38
50	66	71	39
53	69	74	40
55	71	76	40
58	76	81	41
60	78	83	41
63	81	86	41
65	83	88	41

Dimensions subject to changes or modifications.



DU8R

OPEARTING RANGE

d_1= 20 ÷ 100mm, p= 12 kg/cm^2, v= 20m/s, t= -40 ÷ +200oC (*)
(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION

The contact surface of the rotating part can be detached, which makes this model extremely versatile as it is easy to exchange contact surfaces made of different materials

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide
Al-Oxide ceramic
Glass filled PTFE

SECONDARY MATERIALS.

fkm,ffkm, ptfe, gft, grafoil, nbr,
nitile, epdm, karlez & as per customer req.

RAW MATERIALS.

ss304,ss316,ss316l,titanium, hastolloy,
duplex & as per customer req.

COMPONENTS

1 Rotating contact surface
2 Stationary contact surface
3 O-rings
3a O-rings
4 Springs
5 Metal frame
5a Set screws

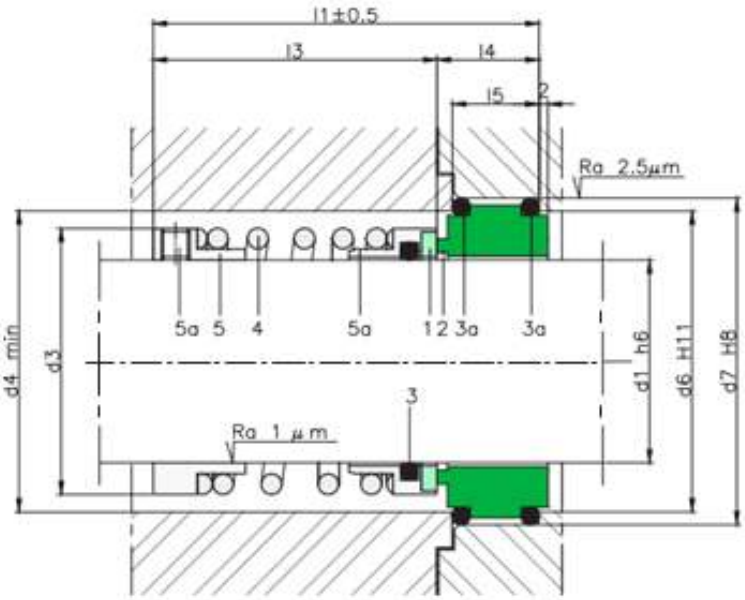
SECTOR

- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Power plant technology
- Pulp and paper industry
- Food and beverage industry
- Hot water applications
- Light hydrocarbons
- Boiler feed pumps
- Process pumps

DIMENSION CHART MM

Shaft	Rotary part			Stationary part				Total length
mm	d3	d4	l3	d6	d7	l4	l5	l1
20	34	36	46	36	42	23	18	69
22	36	38	46	38	44	23	18	69
25	39	41	47	41	47	23	18	70
30	44	46	49	46	52	23	20	72
33	47	49	52	49	55	23	18	75
38	54	58	57	58	64	25	20	82
43	59	63	57	63	69	25	20	82
48	64	68	64	68	74	25	20	89
53	69	73	69	73	79	25	20	94
58	76	83	71	83	89	28	20	99
63	81	88	74	88	94	28	22	102
68	86	93	78	93	99	30	22	106
75	95	104	84	104	110	30	24	114

Dimensions subject to changes or modifications.



E6S

OPEARTING RANGE

d_1= 20 ÷ 100mm, p= 12 kg/cm^2, v= 15m/s, t= -20 ÷ +200oC (*)
(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION

Single mechanical seal with an extremely versatile and functional design.
The fact that it is attached to the shaft with screws allows this seal to be installed in a large variety of applications with differing mounting dimensions.
Its structure allows secondary seals made of different materials to be used: FKM, Aflas®, FFKM, FEP, NBR, HNBR and materials complying with special standards such as FDA, USP, EC, etc.

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide
Al-Oxide ceramic
Glass filled PTFE

SECONDARY MATERIALS.

fkm,ffkm, ptfe, gft, grafoil, nbr,
nitile, epdm, karlez & as per customer req.

RAW MATERIALS.

ss304,ss316,ss316l,titanium, hastolloy,
duplex & as per customer req.

COMPONENTS

1 Rotating contact surface
2 Stationary contact surface
3 O-rings
3a O-rings
4 Springs
5 Metal frame
5a Set screws

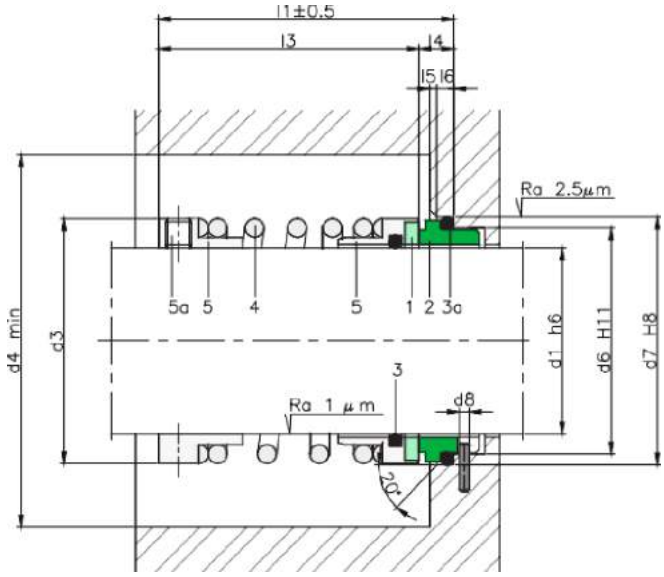
SECTOR

- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Power plant technology
- Pulp and paper industry
- Food and beverage industry
- Hot water applications
- Light hydrocarbons
- Boiler feed pumps
- Process pumps

DIMENSION CHART MM

Shaft	Rotary part			Stationary part				Total length
mm	d3	d4	l3	d6	d7	l4	l5	l1
20	34	36	46	36	42	23	18	69
22	36	38	46	38	44	23	18	69
25	39	41	47	41	47	23	18	70
30	44	46	49	46	52	23	20	72
33	47	49	52	49	55	23	18	75
38	54	58	57	58	64	25	20	82
43	59	63	57	63	69	25	20	82
48	64	68	64	68	74	25	20	89
53	69	73	69	73	79	25	20	94
58	76	83	71	83	89	28	20	99
63	81	88	74	88	94	28	22	102
68	86	93	78	93	99	30	22	106
75	95	104	84	104	110	30	24	114

Dimensions subject to changes or modifications.



E6L

OPEARTING RANGE

d_1= 20 ÷ 100mm, p= 12 kg/cm^2, v= 15m/s, t= -20 ÷ +200oC (*)
(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION

Single mechanical seal with an extremely versatile and functional design.
The fact that it is attached to the shaft with screws allows this seal to be installed in a large variety of applications with differing mounting dimensions.
Its structure allows secondary seals made of different materials to be used: FKM, Aflas®, FFKM, FEP, NBR, HNBR and materials complying with special standards such as FDA, USP, EC, etc.

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide
Al-Oxide ceramic
Glass filled PTFE

SECONDARY MATERIALS.

fkm,ffkm, ptfe, gft, grafoil, nbr,
nitile, epdm, karlez & as per customer req.

RAW MATERIALS.

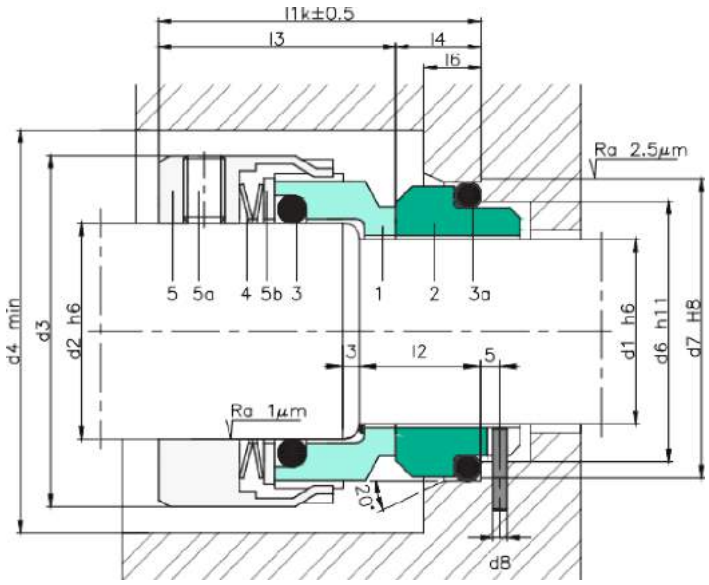
ss304,ss316,ss316l,titanium, hastolloy,
duplex & as per customer req.

COMPONENTS

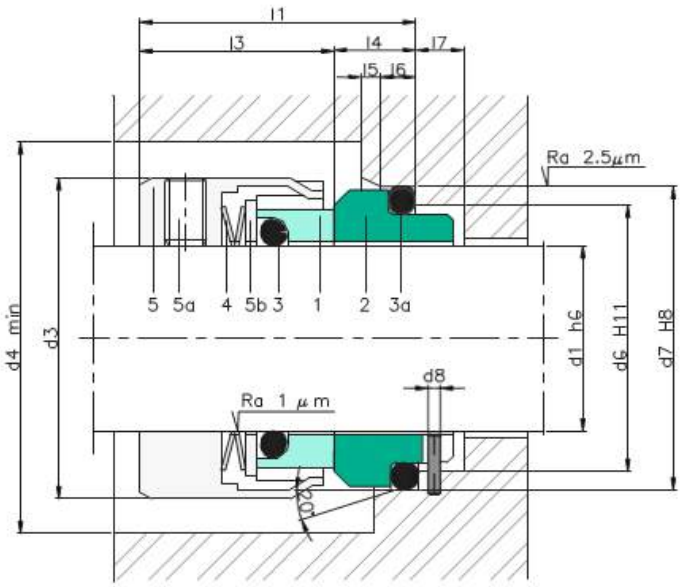
1 Rotating contact surface
2 Stationary contact surface
3 O-rings
3a O-rings
4 Springs
5 Metal frame
5a Set screws
5b Ring

SECTOR

- Process industry• Chemical industry
- Pulp and paper industry
- Water and waste water technology
- Shipbuilding
- Food and beverage industry
- Lube oils
- Low solids content media
- Water / sewage water pumps
- Chemical standard pumps
- Vertical screw pumps
- Gear wheel feed pumps
- Multistage pumps (drive side)
- Circulation of printing colors with viscosity
- 500 … 15,000 mm2/s



E7B



E7N

OPEARTING RANGE

Shaft diameter: d1 = 14 … 100 mm (0.55" … 3.94")
Pressure: p1 = 25 bar (363 PSI)
Temperature: t = –50 °C … +220 °C
(–58 °F … +428 °F)
Sliding velocity: vg = 20 m/s (66 ft/s)Axial movement:
d1 = … 25 mm: ±1 mm
d1 = 28 … 63 mm: ±1.5 mm
d1 = from 65 mm: ±2 mm

DESCRIPTION

Recommended for working with sticky fluids and fluids laden with particles and fibres. Unlike the multispring models, the wave spring model cannot be blocked or obstructed and its open leaf design produces a self-cleaning effect.
Standard L9 type stationary part.
Seal compliant with standard EN 12756 (KU). Available with a pumping ring on the casing to re- duce the temperature between the contact surfaces and facilitate the barrier fluid movement in the case of double mounting (reference LWS10-F).
Contact surface kits supplied available.

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- For plain shafts
- Single seal
- Unbalanced
- Super-Sinus-spring or multiple springs rotating
- Independent of direction of rotation
- Pumping screw for media with higher viscosity (E7N)
- Variant with PTFE secondary seals for high chemical resistance (E7N)

ADVANTAGE

- Universal application opportunities
- Efficient stock keeping
- due to easily interchangeable faces
- Extended selection of materials

DIMENSIONS IN MM

Shaft	Rotary part					Stationary part								Total length
mm	d3	d4	l3	l3A	l9	d6	d7	d8	l4	l4A	l5	l6	l7	l1
18	32	34	30.5	28.5	3	27	33	3	7	9	2	4	8.5	37.5
20	34	36	30.5	28.5	3	29	35	3	7	9	2	5	8.5	37.5
22	36	38	30.5	28.5	3	31	37	3	7	9	2	5	9	37.5
24	38	40	33	31	3.5	33	39	3	7	9	2	5	9	40
25	39	41	33	31	3.5	34	40	3	7	9	2	5	9	40
28	42	44	35.5	33	3.5	37	43	3	7	9.5	2	5	9	42.5
30	44	46	35.5	33	3.5	39	45	3	7	9.5	2	5	9	42.5
32	47	48	35.5	33	3.5	42	48	3	7	9.5	2	5	9	42.5
33	47	49	35.5	33	3.5	42	48	3	7	9.5	2	5	9	42.5
35	49	51	35.5	33	3.5	44	50	3	7	9.5	2	5	9	42.5
38	54	58	37	34.5	4	49	56	4	8	10.5	2	6	9	45
40	56	60	37	34.5	4	51	58	4	8	10.5	2	6	9	45
43	59	63	37	34.5	4	54	61	4	8	10.5	2	6	9	45
45	61	65	37	34.5	4	56	63	4	8	10.5	2	6	9	45
48	64	68	37	34.5	4	59	66	4	8	10.5	2	6	9	45
50	66	70	38	35.5	4.5	62	70	4	9.5	12	2.5	6	9	47.5
53	69	73	38	35.5	4.5	65	73	4	9.5	12	2.5	6	9	47.5
55	71	75	38	35.5	4.5	67	75	4	9.5	12	2.5	6	9	47.5
58	78	83	42	39.5	4.5	70	78	4	10.5	13	2.5	6	9	52.5
60	80	85	42	39.5	4.5	72	80	4	10.5	13	2.5	6	9	52.5
63	83	88	42	39.5	4.5	75	83	4	10.5	13	2.5	6	9	52.5
65	85	90	42	39.5	4.5	77	85	4	10.5	13	2.5	6	9	52.5
68	88	93	41.5	39	4.5	81	90	4	11	13.5	2.5	7	9	52.5
70	90	95	48.5	46	5	83	92	4	11.5	14	2.5	7	9	60
75	99	104	48.5	46	5.5	88	97	4	11.5	14	2.5	7	9	60
80	104	109	48.5	46	5.5	95	105	4	11.5	14	3	7	9	60
85	109	114	48.5	46	5.5	100	110	4	11.5	14	3	7	9	60
90	114	119	52	49.5	5.5	105	115	4	13	15.5	3	7	9	65
95	119	124	52	49.5	5.5	110	120	4	13	15.5	3	7	9	65
100	124	129	52	49.5	5.5	115	125	4	13	15.5	3	7	9	65

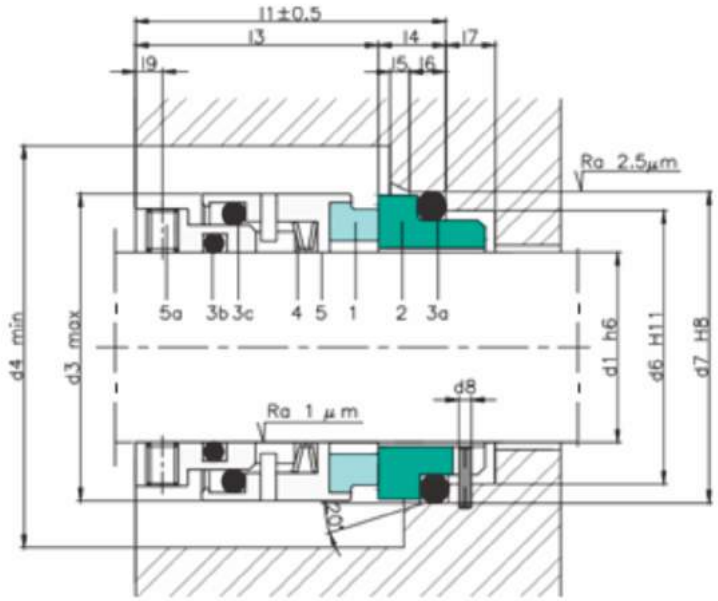
Dimensions subject to changes or modifications.

COMPONENTS

1	Rotating contact surface
2	Stationary contact surface
3	O-rings
3a	O-rings
3b	O-rings
4	Springs
5	Metal frame
5a	Set screws

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products



E29J

OPEARTING RANGE

Shaft diameter: d1 = 14 … 100 mm (0.55" … 3.94")
Pressure: p1 = 25 bar (363 PSI)
Temperature: t = –50 °C … +220 °C
(–58 °F … +428 °F)
Sliding velocity: vg = 20 m/s (66 ft/s)Axial movement:
d1 = … 25 mm: ±1 mm
d1 = 28 … 63 mm: ±1.5 mm
d1 = from 65 mm: ±2 mm

DESCRIPTION

The wave spring is protected from the fluid. Ideal for using in cleaning processes since the possibility of particles adhering to the seal is considerably reduced.
Internally balanced, with no need for a stepped shaft (E29J).
Suitable for working in applications with high pressures.
The O-ring resting on the shaft does not cause wear as there is no axial movement (chan- ges in pressure).
Seal compliant with standard EN 12756 (UK).

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- For unstepped shafts
- Single seal
- Balanced
- Independent of direction of rotation
- Encapsulated rotating spring

ADVANTAGE

- Especially designed for solids containing and highly viscous media
- Springs are protected from the product
- Rugged and reliable design
- No damage of the shaft by dynamically loaded O-Ring
- Universal application
- Variant for operation under vacuum available
- Variant for sterile operation available

DIMENSIONS IN MM

Shaft	Rotary part					Stationary part								Total length
mm	d3	d4	l3	l3A	l9	d6	d7	d8	l4	l4A	l5	l6	l7	l1
18	32	34	30.5	28.5	3	27	33	3	7	9	2	4	8.5	37.5
20	34	36	30.5	28.5	3	29	35	3	7	9	2	5	8.5	37.5
22	36	38	30.5	28.5	3	31	37	3	7	9	2	5	9	37.5
24	38	40	33	31	3.5	33	39	3	7	9	2	5	9	40
25	39	41	33	31	3.5	34	40	3	7	9	2	5	9	40
28	42	44	35.5	33	3.5	37	43	3	7	9.5	2	5	9	42.5
30	44	46	35.5	33	3.5	39	45	3	7	9.5	2	5	9	42.5
32	47	48	35.5	33	3.5	42	48	3	7	9.5	2	5	9	42.5
33	47	49	35.5	33	3.5	42	48	3	7	9.5	2	5	9	42.5
35	49	51	35.5	33	3.5	44	50	3	7	9.5	2	5	9	42.5
38	54	58	37	34.5	4	49	56	4	8	10.5	2	6	9	45
40	56	60	37	34.5	4	51	58	4	8	10.5	2	6	9	45
43	59	63	37	34.5	4	54	61	4	8	10.5	2	6	9	45
45	61	65	37	34.5	4	56	63	4	8	10.5	2	6	9	45
48	64	68	37	34.5	4	59	66	4	8	10.5	2	6	9	45
50	66	70	38	35.5	4.5	62	70	4	9.5	12	2.5	6	9	47.5
53	69	73	38	35.5	4.5	65	73	4	9.5	12	2.5	6	9	47.5
55	71	75	38	35.5	4.5	67	75	4	9.5	12	2.5	6	9	47.5
58	78	83	42	39.5	4.5	70	78	4	10.5	13	2.5	6	9	52.5
60	80	85	42	39.5	4.5	72	80	4	10.5	13	2.5	6	9	52.5
63	83	88	42	39.5	4.5	75	83	4	10.5	13	2.5	6	9	52.5
65	85	90	42	39.5	4.5	77	85	4	10.5	13	2.5	6	9	52.5
68	88	93	41.5	39	4.5	81	90	4	11	13.5	2.5	7	9	52.5
70	90	95	48.5	46	5	83	92	4	11.5	14	2.5	7	9	60
75	99	104	48.5	46	5.5	88	97	4	11.5	14	2.5	7	9	60
80	104	109	48.5	46	5.5	95	105	4	11.5	14	3	7	9	60
85	109	114	48.5	46	5.5	100	110	4	11.5	14	3	7	9	60
90	114	119	52	49.5	5.5	105	115	4	13	15.5	3	7	9	65
95	119	124	52	49.5	5.5	110	120	4	13	15.5	3	7	9	65
100	124	129	52	49.5	5.5	115	125	4	13	15.5	3	7	9	65

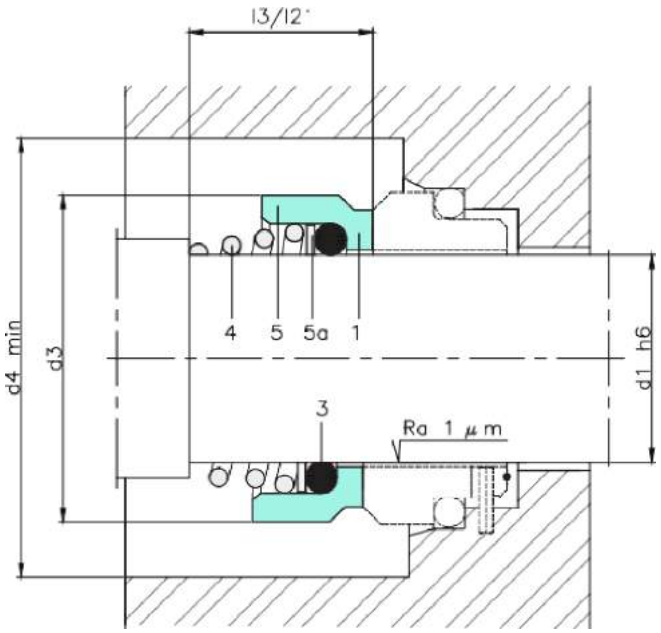
Dimensions subject to changes or modifications.

COMPONENTS

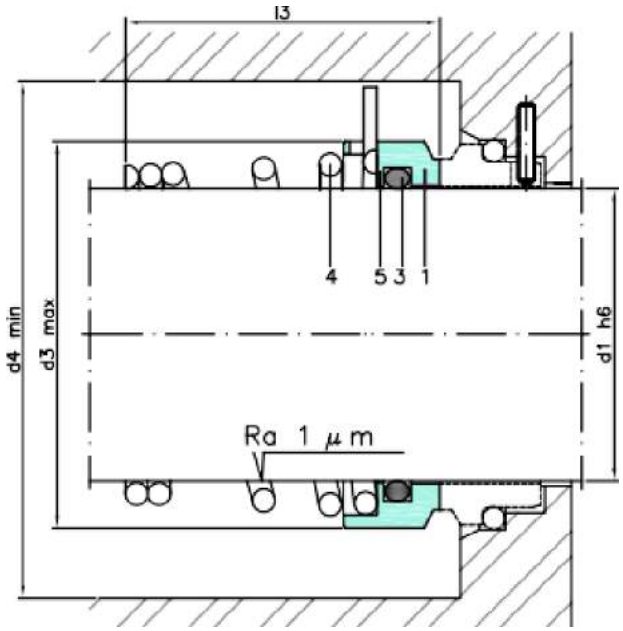
1	Rotating contact surface
3	O-rings
4	Springs
5	Metal frame
5a	Rings

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products



E5C



E5B

OPEARTING RANGE

Shaft diameter: d1 = 14 … 100 mm (0.55" … 3.94")
Pressure: p1 = 25 bar (363 PSI)
Temperature: t = –50 °C … +220 °C
(–58 °F … +428 °F)
Sliding velocity: vg = 20 m/s (66 ft/s)Axial movement:
d1 = … 25 mm: ±1 mm
d1 = 28 … 63 mm: ±1.5 mm
d1 = from 65 mm: ±2 mm

DESCRIPTION

Conical mechanical seal with an extremely versatile and functional design. The rotating part of the seal can be combined with a large variety of stationary parts, which offers a wide range of combinations.
Its structure allows secondary seals made of different materials to be used: FKM, Aflas®, FFKM, FEP, NBR, HNBR and materials complying with special standards such as FDA, USP, EC, etc.

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- For unstepped shafts
- Single seal
- Balanced
- Independent of direction of rotation
- Encapsulated rotating spring

ADVANTAGE

- Especially designed for solids containing and highly viscous media
- Springs are protected from the product
- Rugged and reliable design
- No damage of the shaft by dynamically loaded O-Ring
- Universal application
- Variant for operation under vacuum available
- Variant for sterile operation available

DIMENSIONS IN MM

Shaft	Rotary part			
mm	d3	d4	l3	l21
10	19	24	15,5	15,5
12	21	26	16	15,5
15	24	29	-	15,5
18	29	34	19,5	18,5
22	33	38	21,5	21,5
25	36	41	26,5	24,5
28	40	45	26,5	24,5
32	46	51	28,5	28
35	49	54	28,5	28
40	56	61	36	34
43	59	64	38,5	-
48	64	69	46	42
53	69	74	47	-
58	76	81	55	50
63	83	88	55	-
68	88	93	55	53
75	98	103	62	55
80	100	105	61.8	58

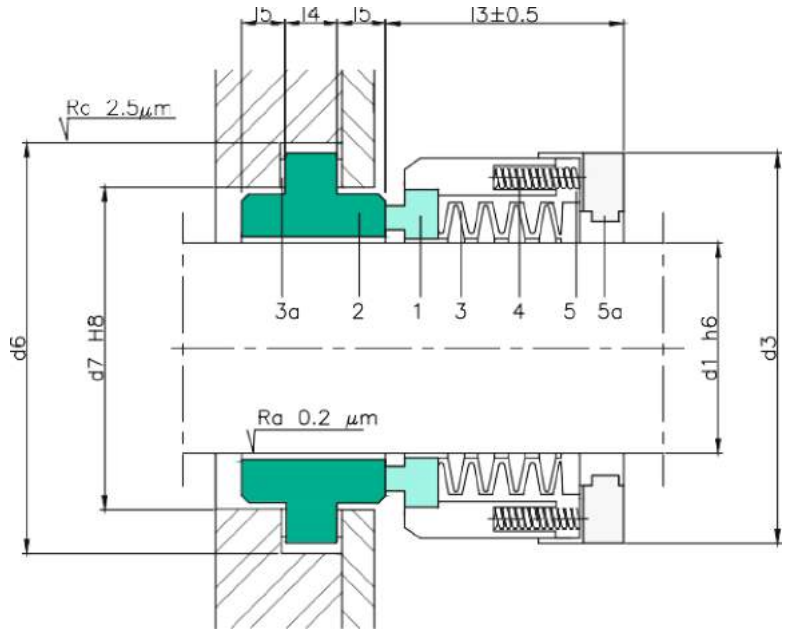
Dimensions subject to changes or modifications.

COMPONENTS

1 Rotating contact surface
2 Stationary contact surface
3 Bellows
3a PTFE gasket
4 Spring
5 Ring
5a Set screw

SECTOR

- Process Industries
- Oil and Gas Industries
- Refinery Industries
- Pulp petrochemical industries
- Chemical industry
- Powerplants industry
- Water Technology industry
- Sugar Industries
- Horizontal and Vertical Pump
- Reactors and Mixer



ET9

OPEARTING RANGE

d_1= 25 ÷ 100mm, p= 12 kg/cm^2, v= 16 m/s, t= -40÷ +200oC (*)
(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION

This mechanical seal model is mostly made of PTFE and other materials that are resistant to chemically aggressive products. The metal parts are isolated from the process fluid.

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- For unstepped shafts
- Single seal
- Balanced
- Independent of direction of rotation
- Encapsulated rotating spring

ADVANTAGE

- Especially designed for solids containing and highly viscous media
- Springs are protected from the product
- Rugged and reliable design
- No damage of the shaft by dynamically loaded O-Ring
- Universal application
- Variant for operation under vacuum available
- Variant for sterile operation available

DIMENSIONS IN INCHES

Shaft		Rotary part		Stationary part			
(")	mm	d3	l3	d6	d7	l4	l5
0,875	22,23	57	31	51	40,6	8	4,8
1000	25,40	61	33	54	42,9	8	4,8
1125	28,58	67	36	65	50,8	11	8
1250	31,75	70	37	68	54	11	8
1375	34,93	73	38	71	57,2	11	8
1500	38,10	76	38	78	63,5	11	8
1625	41,28	80	40	84	69,9	11	8
1750	44,45	83	40	84	69,9	11	8
1875	47,63	86	43	97	79,4	14,3	9,5
2000	50,80	89	43	97	79,4	14,3	9,5
2125	53,98	103	53	103	95,7	14,3	9,5
2250	57,15	107	53	106	88,9	14,3	9,5
2375	60,33	110	53	106	88,9	14,3	9,5
2500	63,50	113	53	110	92,1	14,3	9,5
2625	66,68	116	53	116	98,4	14,3	9,5
2750	69,85	118	53	116	98,4	14,3	9,5
2875	73,03	122	53	121	103,2	14,3	9,5
3000	76,20	126	53	121	103,2	14,3	9,5
3250	82,55	150	73	138	120,7	14,3	9,5
3500	88,90	156	73	144	127	14,3	9,5
3750	95,25	163	73	144	127	14,3	9,5
4000	101,60	169	73	151	133,4	14,3	9,5

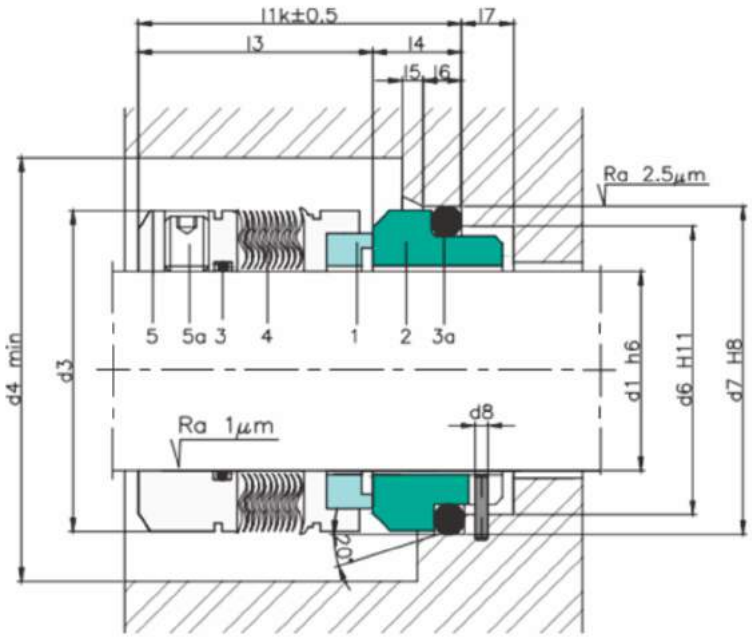
Dimensions subject to changes or modifications.

COMPONENTS

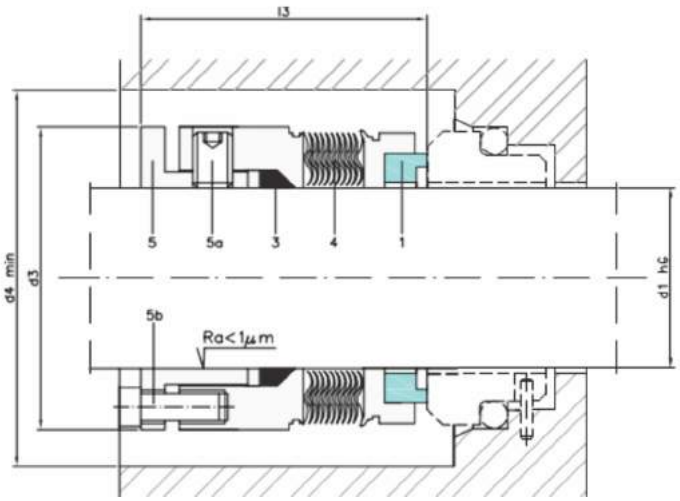
1 Rotating contact surface
2 Stationary contact surface
3 Bellows
3a O-rings
4 Metal Bellows
5 Metal frame
5a Set screws

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products



E41T



E41TB

OPEARTING RANGE

d_1= 16 ÷ 100mm, p= 20 kg/cm^2, v= 25 m/s, t= -40÷ +200oC (*)
-40÷ +200 °C (up to 400º C with a special design) (*)
(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION

Internally balanced, with no need for a stepped shaft (models E41T / E41TB). The O-ring resting on the shaft does not cause wear as there is no axial movement. Appropriate for applications with sticky or high viscosity fluids as its open leaf design generates a self-cleaning effect. In addition it is suitable for application at moderate pressures and high temperatures (for up to 400º C please enquire) and very aggressive fluids in chemical and mechanical terms. Very often used in compressors.

SEAL FACE MATERIALS.

Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- For unstepped shafts
- Single seal
- Balanced
- Independent of direction of rotation
- Encapsulated rotating spring

ADVANTAGE

- Especially designed for solids containing and highly viscous media
- Springs are protected from the product
- Rugged and reliable design
- No damage of the shaft by dynamically loaded O-Ring
- Universal application
- Variant for operation under vacuum available
- Variant for sterile operation available

DIMENSIONS IN INCHES

Shaft		Rotary part			Stationary part		
(")	mm	d3	d4	l3	d6	d7	l4
0,750	19,05	34	38	30,5	29,5	35	11,5
0,875	22,23	39	43	28,5	33,5	39	11,5
1,000	25,40	39,6	43,6	28,5	34,5	40	11,5
1,125	28,58	42,8	46,8	31	37,5	43	11,5
1,250	31,75	46	50	31	42,5	48	11,5
1,375	34,93	49,2	53,2	31	44,5	50	11,5
1,500	38,10	52,5	56,5	31	49,5	56	14
1,625	41,28	55,5	59,5	31	54,5	61	14
1,750	44,45	59,5	63,5	31	56,5	63	14
1,875	47,63	62,5	66,5	31	59,5	66	14
2,000	50,80	65	69	32,5	62,5	70	15
2,125	53,98	68,2	72,2	32,5	67,5	75	15
2,250	57,15	71,7	75,7	37,5	70,5	78	15
2,375	60,33	75	79	37,5	72,5	80	15
2,500	63,50	79	83	37,5	75,5	83	15
2,625	66,68	84,1	88,1	34,5	81,5	90	18
2,750	69,85	87,3	91,3	42	83,5	92	18
2,875	73,03	92	96	42	88,5	97	18
3,000	76,20	95	99	42	88,5	97	18
3,125	79,38	98,4	102,4	41,8	95,5	105	18,2
3,250	82,55	101,6	105,6	41,8	100,5	110	18,2
3,375	85,73	104,7	108,7	41,8	100,5	110	18,2

Dimensions subject to changes or modifications.

RUBBER BELLOW SEAL

ERB

FEATURES

- Single seal
- Loosely inserted seal face provides self-adjusting capability
- In-house manufactured sliding parts

ADVANTAGE

The **ERB** is self-adjusting to shaft misalignments anddeflections because of the loosely inserted seal face as well as the ability of the bellows to stretch and tighten. The length of the contact area of the bellows with the shaft is an optimum compromise between ease of assembly (less friction) and sufficient adhesive force for torque transmission. Additionally the seal fulfills very specific leakage requirements. Because the sliding parts are made in-house, a wide variety of special needs can be accommodated.

EZ2

FEATURES

- Single seal
- Loosely inserted seal face provides self-adjusting capability
- In-house manufactured sliding parts

ADVANTAGE

The **EZ2** is self-adjusting to shaft misalignments anddeflections because of the loosely inserted seal face as well as the ability of the bellows to stretch and tighten. The length of the contact area of the bellows with the shaft is an optimum compromise between ease of assembly (less friction) and sufficient adhesive force for torque transmission. Additionally the seal fulfills very specific leakage requirements. Because the sliding parts are made in-house, a wide variety of special needs can be accommodated.

ERC

FEATURES

- Single seal
- Loosely inserted seal face provides self-adjusting capability
- In-house manufactured sliding parts

ADVANTAGE

Mechanical seal for large-series cold water pumps, produced in millions of units per year. The **ERC** owes its success to the wide range of application, the short axial length (this allows for more economic pump construction and saves material), and the best quality/price ratio. The elasticity of the bellows design enables a more robustoperation.
The **ERC** can also be used as a multiple seal in tandem or back-to-back arrangement when the product mediacannot ensure lubrication, or when sealing media with a higher solids content. Installation proposals can be provided upon request.

RUBBER BELLOW SEAL

E1 / E12 / E13

FEATURES

- For plain shafts
- Single and dual seal
- Elastomer bellows rotating
- Unbalanced
- Independent of direction of rotation
- No torsion on bellows

ADVANTAGE

- Shaft protection over entire seal length
- Protection of seal face during installation due to special bellows design
- Insensitive to shaft deflections due to large axial movement ability
- Universal application opportunities
- Important material certifications available
- High flexibility due to wide offer on materials
- Suitable for low-end sterile applications
- Special design for hot water pumps (RMG12) available
- Dimension adaptions and additional seats available

E1100

FEATURES

- Single seal
- Loosely inserted seal face provides self-adjusting capability
- In-house manufactured sliding parts

ADVANTAGE

The **E1100** is self-adjusting to shaft misalignments anddeflections because of the loosely inserted seal face as well as the ability of the bellows to stretch and tighten. The length of the contact area of the bellows with the shaft is an optimum compromise between ease of assembly (less friction) and sufficient adhesive force for torque transmission. Additionally the seal fulfills very specific leakage requirements. Because the sliding parts are made in-house, a wide variety of special needs can be accommodated.

E205

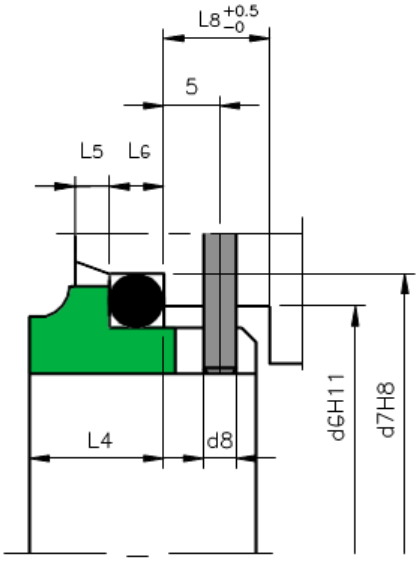
FEATURES

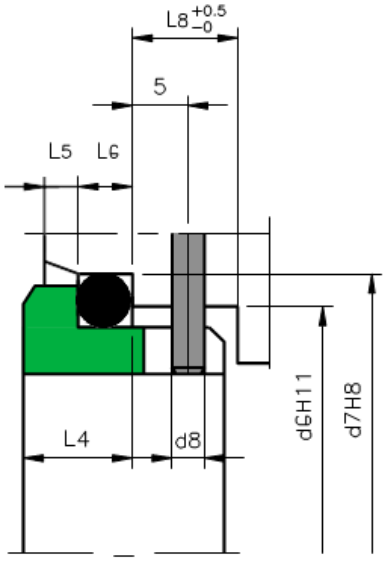
- Single seal
- Loosely inserted seal face provides self-adjusting capability
- In-house manufactured sliding parts

ADVANTAGE

Mechanical seal for large-series cold water pumps, produced in millions of units per year. The **E205** owes its success to the wide range of application, the short axial length (this allows for more economic pump construction and saves material), and the best quality/price ratio. The elasticity of the bellows design enables a more robustoperation.
The **E205** can also be used as a multiple seal in tandem or back-to-back arrangement when the product mediacannot ensure lubrication, or when sealing media with a higher solids content. Installation proposals can be provided upon request.

PF. E9



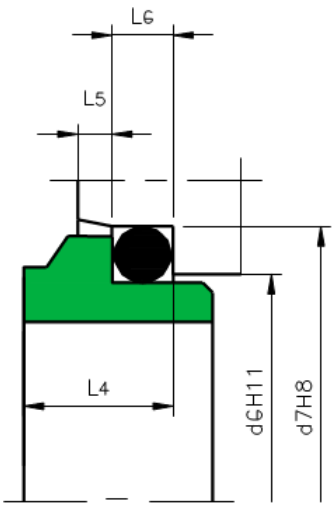


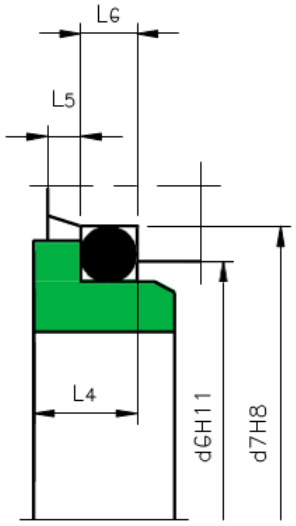
PF. E1 DIN
PF. E9
PF. E16

							L16	L1DIN	L9
d1	d6	d7	d8	l5	L6	l7		l4	
ĈĆ	17	21	3	1,5	4	8,5	-	-	10
12	19	23	3	1,5	4	8,5	-	-	10
14	21	25	3	1,5	4	8,5	-	-	10
16	23	27	3	1,5	4	8,5	-	-	10
18	27	33	3	2	5	9	7	-	11,5
20	29	35	3	2	5	9	7	10	11,5
22	31	37	3	2	5	9	7	10	11,5
24	33	39	3	2	5	9	7	10	11,5
25	34	40	3	2	5	9	7	10	11,5
28	37	43	3	2	5	9	7	10	11,5
30	39	45	3	2	5	9	7	10	11,5
32	42	48	3	2	5	9	7	10	11,5
33	42	48	3	2	5	9	7	10	11,5
35	44	50	3	2	5	9	7	10	11,5
38	49	56	4	2	6	9	7	11	14
40	51	58	4	2	6	9	8	11	14
43	54	61	4	2	6	9	8	11	14
45	56	63	4	2	6	9	8	11	14
48	59	66	4	2	6	9	8	11	14
50	62	70	4	2,5	6	9	9,5	13	15
53	65	73	4	2,5	6	9	9,5	13	15
55	67	75	4	2,5	6	9	9,5	13	15
58	70	78	4	2,5	6	9	10,5	13	15
60	72	80	4	2,5	6	9	10,5	13	15
65	77	85	4	2,5	6	9	10,5	13	15
68	81	90	4	2,5	7	9	11	15	18
70	83	92	4	2,5	7	9	11,5	15	18
75	88	97	4	2,5	7	9	11,5	15	18
80	95	105	4	3	7	9	11,5	15,5	18,2
85	100	110	4	3	7	9	11,5	15,5	18,2
90	105	115	4	3	7	9	13	15,5	18,2
95	110	120	4	3	7	9	13	15,5	17,2
100	115	125	4	3	7	9	13	15,5	17,2

Dimensions subject to changes or modifications.

PF. E606

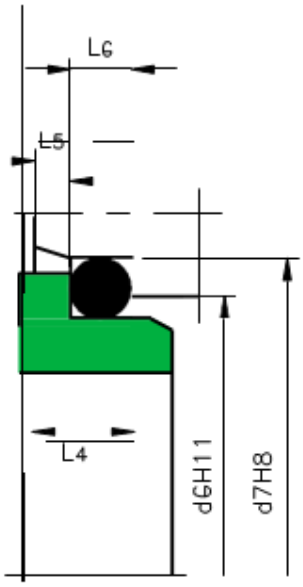




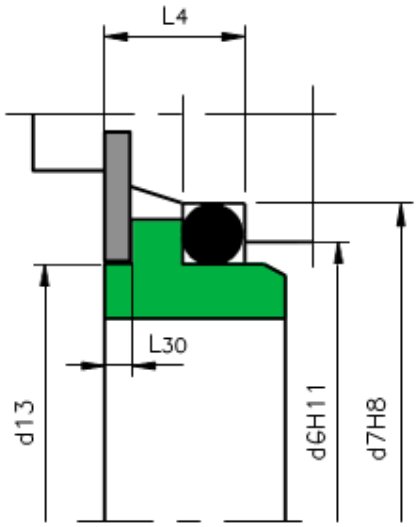
PF. E6

			L606 / L6	LDIN		
d1	d6	d7		l4	L5	l6
10	17	21	6,6	7	1,5	4
12	19	23	6,6	7	1,5	4
14	21	25	6,6	7	1,5	4
16	23	27	6,6	7	1,5	4
18	27	33	7,5	10	2	5
20	29	35	7,5	10	2	5
22	31	37	7,5	10	2	5
24	33	39	7,5	10	2	5
25	34	40	7,5	10	2	5
28	37	43	7,5	10	2	5
30	39	45	7,5	10	2	5
32	42	48	7,5	10	2	5
33	42	48	7,5	10	2	5
35	44	50	7,5	10	2	5
38	49	56	9	13	2	6
40	51	58	9	13	2	6
43	54	61	9	13	2	6
45	56	63	9	13	2	6
48	59	66	9	13	2	6
50	62	70	9,5	14	2,5	6
53	65	73	11	14	2,5	6
55	67	75	11	14	2,5	6
58	70	78	11	14	2,5	6
60	72	80	11	14	2,5	6
65	77	85	11	14	2,5	6
68	81	90	11,3	16	2,5	7
70	83	92	11,3	16	2,5	7
75	88	97	11,3	16	2,5	7
80	95	105	12	18	3	7
85	100	110	14	18	3	7
90	105	115	14	18	3	7
95	110	120	14	18	3	7
100	115	125	14	18	3	7

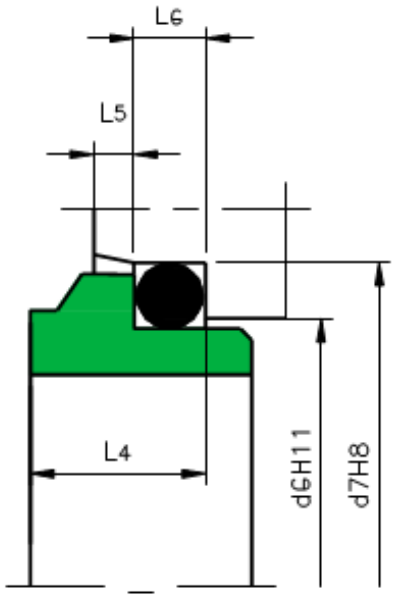
Dimensions subject to changes or modifications.



PF. E4



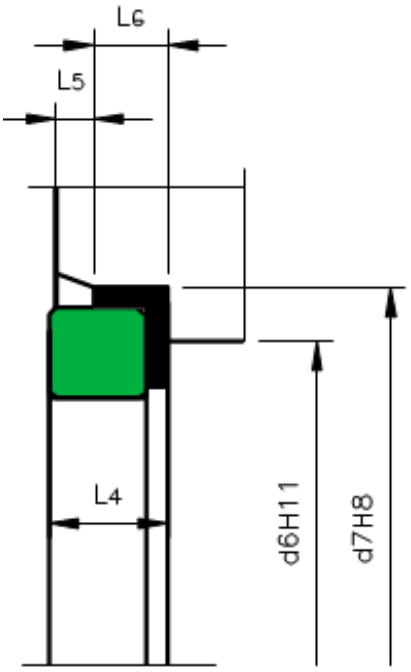
PF. E7



PF. E13

	L4/L7/L13	L	L4/L7/L13	L	L7	L	L4/ L7	L13			L7
D1	d6		d7		d13				L5	L6	L30
10	15,5	14	19,2	18,1	17	5,5	6,6	-	1,5	4	2
12	17,5	16,5	21,6	20,6	19	5,5	5,6	-	1,5	4	1
14	20,5	19	24,6	23,1	21,5	6	5,6	-	1,5	4	1
16	22	21	28	26,9	24	7	7,5	-	1,5	4	1,5
18	24	25	30	30,9	27,5	7	8	10	2	5	2
20	29,5	25	35	30,9	32	8	7,5	9,5	2	5	1,5
22	29,5	30	35	35,4	32	8	7,5	9,5	2	5	1,5
24	32	30	38	35,4	35	8	7,5	9,5	2	5	1,5
25	32	33	38	38,2	35	8,5	7,5	9,5	2	5	1,5
28	36	38	42	43,3	38	9	9	11	2	5	3
30	39,2	38	45	43,3	42	9	10,5	11	2	5	3,5
32	42,2	38	48	43,3	45	9	10,5	11	2	5	4,5
33	44,2	45	50	53,5	46	11,5	11	11,5	2	5	5
35	46,2	45	52	53,5	48	11,5	11	11,5	2	5	5
38	49,2	52	55	60,5	52	11,5	10,3	11,5	2	6	4,3
40	52,2	52	58	60,5	55	11,5	10,8	11,5	2	6	4,8
43	53,3	57	62	60,5	59	11,5	12	14,3	2	6	2,5
45	55,3	57	64	65,5	59	11,5	11,6	14,3	2	6	2,2
48	59,7	57	68,4	65,5	65	11,5	11,6	14,3	2	6	2,2
50	60,8	64	69,3	72,5	64	11,5	11,6	14,3	2,5	6	2,2
53	63,8	-	72,3	-	69	-	12,3	14,3	2,5	6	2,5
55	66,5	64	75,4	72,5	71	11,5	13,3	15,3	2,5	6	2,5
58	69,5	-	78,4	-	75,5	-	13,3	15,3	2,5	6	3,5
60	71,5	72	80,4	79,3	75	11,5	13,3	15,3	2,5	6	2,5
65	76,5	77	85,4	84,5	81,5	11,5	13	15,3	2,5	6	3,2
68	82,7	-	91,5	-	87	-	13,7	16	2,5	7	3,7
70	83	82	92	89,5	87	11,5	13	15,3	2,5	7	3,7
75	90,2	87	99	94,5	91	11,5	14	15,3	2,5	7	3,2
80	95,2	92	104	99,5	100	11,5	15	16,3	3	7	4,7
85	100,2	98	109	105,5	102	13,5	14,8	16,3	3	7	4,5
90	105,2	105	114	111,5	110	13,5	14,8	16,3	3	7	3
95	111,6	110	120,3	116,5	116	13,5	15,8	17,3	3	7	4
100	114,5	114	123,3	119,5	119	13,5	15,8	17,3	3	7	4

Dimensions subject to changes or modifications.



PF. E50
PF. E60

R / L60 / CDIN			L50				R	L60	CDIN	L50
d1	d6	d7	d6	d7	l5	l6	l4			
10	**17**	**21**	**11**	**24,6**	**1,5**	**4**	**5**	**6,6**	**8,6**	**9**
12	19	23	13.5	27,8	1,5	4	6	6,6	8,6	9
14	21	25	17	30,95	1,5	4	6	6,6	8,6	10,5
16	23	27	17	30,95	1,5	4	6	6,6	8,6	10,5
18	27	33	20	34,15	2	5	6	7,5	10	10,5
20	29	35	21.5	35,7	2	5	6	7,5	10	10,5
22	31	37	23	37,3	2	5	6	7,5	10	10,5
24	33	39	26.5	40,5	2	5	6	7,5	10	10,5
25	34	40	26.5	40,5	2	5	6	7,5	10	10,5
28	37	43	29.5	47,65	2	5	6	7,5	10	12
30	39	45	32.5	50,8	2	5	7	7,5	10	12
32	42	48	32.5	50,8	2	5	7	7,5	10	12
33	42	48	36.5	54	2	5	7	7,5	10	12
35	44	50	36.5	54	2	5	8	7,5	10	12
38	49	56	39.5	57,15	2	6	8	9	11	12
40	51	58	42.5	60,35	2	6	8	9	11	12
43	54	61	46	63,5	2	6	8	9	11	12
45	56	63	46	63,5	2	6	8	9	11	12
48	59	66	49	66,7	2	6	10	9	11	12
50	62	70	52	69,85	2,5	6	10	9,5	13	13,5
53	65	73	55.5	73,05	2,5	6	10	11	13	13,5
55	67	75	58.5	76,2	2,5	6	10	11	13	13,5
58	70	78	61.5	79,4	2,5	6	10	11	13	13,5
60	72	80	61.5	79,4	2,5	6	12	11	13	13,5
65	77	85	68	92,1	2,5	6	12	11	13	16
68	81	90	71	95,25	2,5	7	12	11,3	15,3	16
70	83	92	71	95,25	2,5	7	12	11,3	15,3	16
75	88	97	77.5	101,6	2,5	7	12	11,3	15,3	16
80	95	105	84	114,3	3	7	12,5	12	15,7	20
85	100	110	87	117,5	3	7	12,5	14	15,7	20
90	105	115	93.5	123,85	3	7	12,5	14	15,7	20
95	110	120	96.5	127	3	7	12,5	14	15,7	20
100	115	125	103	133,35	3	7	12,5	14	15,7	20

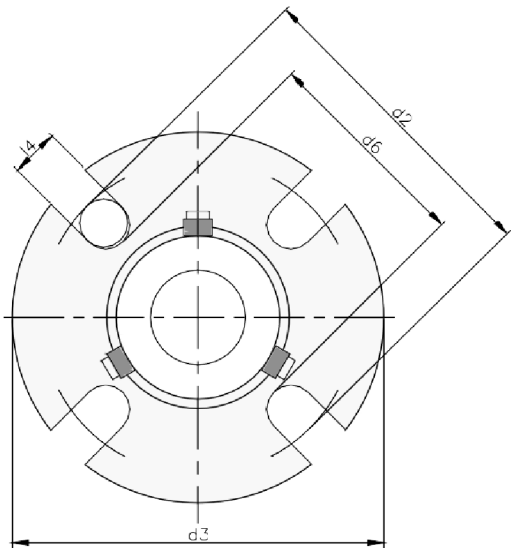
Dimensions subject to changes or modifications.

CHARACTERISTICS

- Unbalanced
- Not dependent on the rotation direction.
- Wave spring

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products



OPEARTING RANGE

d_1= 20 ÷ 95mm, p= 10 kg/cm^2, v= 20 m/s, t= -15÷ +200oC (*)

(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION

Single cartridge in which due to its geometry, the rotating part has a wave spring to prevent it from blocking when in contact with viscous fluids or fibres.

SEAL FACE MATERIALS.

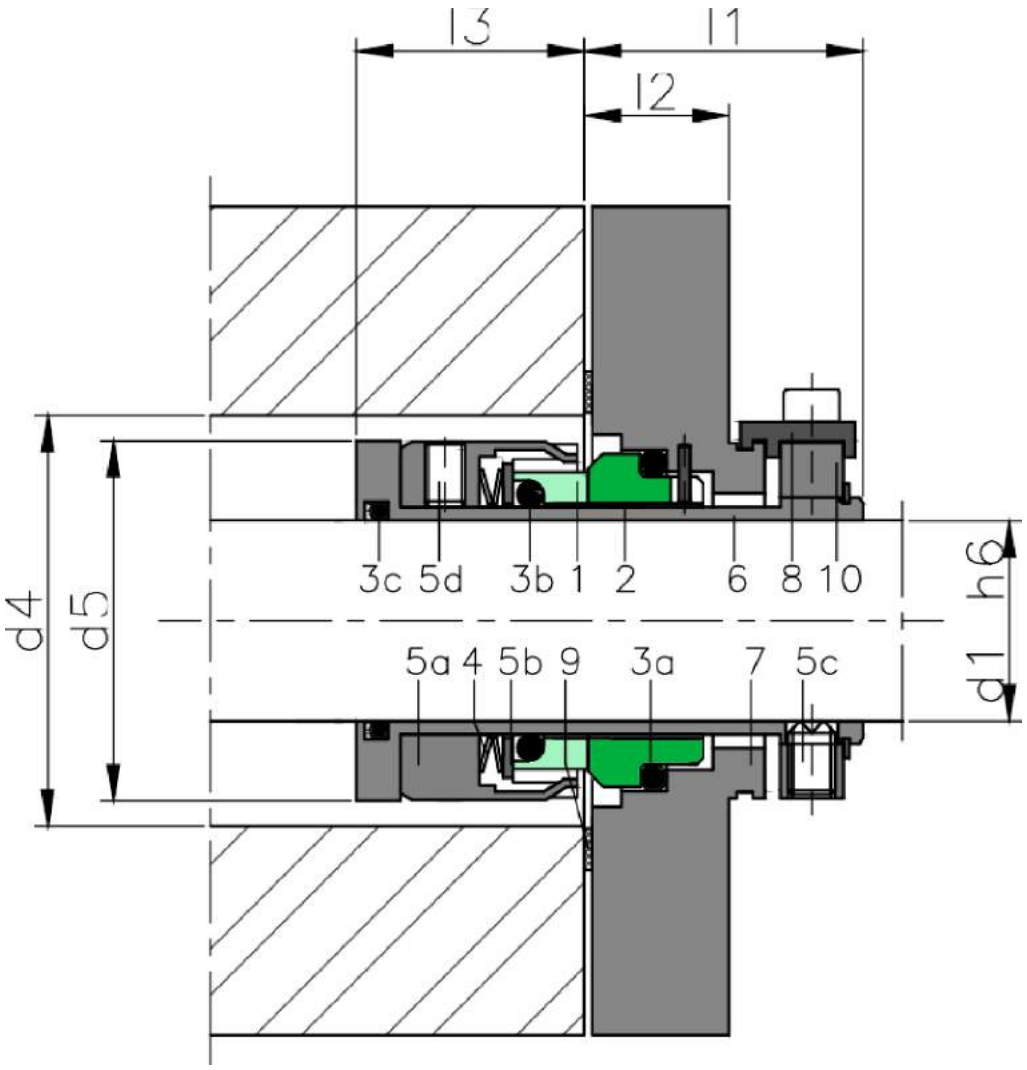
Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- For unstepped shafts
- Single seal
- Balanced
- Independent of direction of rotation
- Encapsulated rotating spring

ADVANTAGE

- Especially designed for solids containing and highly viscous media
- Springs are protected from the product
- Rugged and reliable design
- No damage of the shaft by dynamically loaded O-Ring
- Universal application
- Variant for operation under vacuum available
- Variant for sterile operation available



COMPONENTS

1 Rotating contact surface
2 Stationary contact surface
3 O-rings
4 Metal bellows
5a Metal frame
5b Ring
5c Set screws
5d Set screws
6 Sleeve
7 Flange
8 Setting clips
9 Flat gasket
10 Drive ring

DIMENSIONS IN CHART

mm	d_2 min.	d_2 max.	d_3	d_4 min.	d_4 max.	d_5	d_6	l_1	l_2	l_3	l_4
24	**72**	**93**	**105**	**44**	**52**	**43**	**60**	**32**	**21**	**41**	**12**
25	72	93	105	44	52	43	60	32	21	41	12
30	76	98	110	49	56	48	64	32	21	41	12
33	81.5	103	115	57	61.5	55	69.5	32	21	43,5	12
38	86	108	120	62	66	60	74	32	21	42	12
43	90.5	123	135	67	70.5	65	78.5	32	21	42	12
48	98	123	135	74	78	70	86	32	21	45,5	12
55	111	134	150	82	85	81	95	32	21	50,5	16
65	128.5	140	160	93	98.5	91	108.5	32	21	57	20
75	148	170	190	105	118	104	128	32	21	57	20
85	158	170	190	116	128	114	138	32	21	62	20
95	168	195	215	126	138	124	148	32	21	63	20

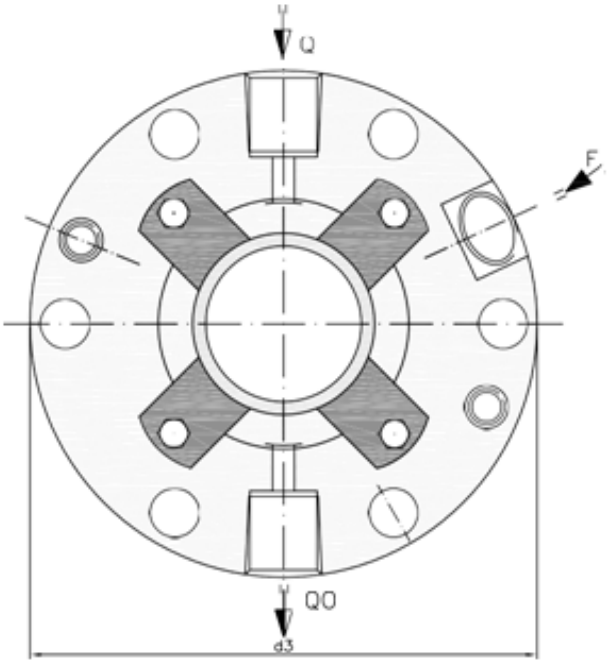
Dimensions subject to changes or modifications.

CHARACTERISTICS

- Balanced.
- Multispring.
- Not dependent on the rotation direction.
- Flush and drain connections.
- API 682 / ISO 21049.
- Categories 2 and 3, Type A, Arrangement 1.

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products



OPEARTING RANGE

d_1= 19.5 ÷ 110mm, p= 40 kg/cm^2, v= 23 m/s, t= -40÷ +200oC (*)

(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION

Simple cartridge with connections for washing between the friction faces and the Quench system with unpressurized fluid for cooling. For applications where high pressure is required.
The special characteristics of the cartridge provide great robustness and reliability.

Its design allows axial movement of up to ± 2.0 mm, depending on the diameter and mounting.

SEAL FACE MATERIALS.

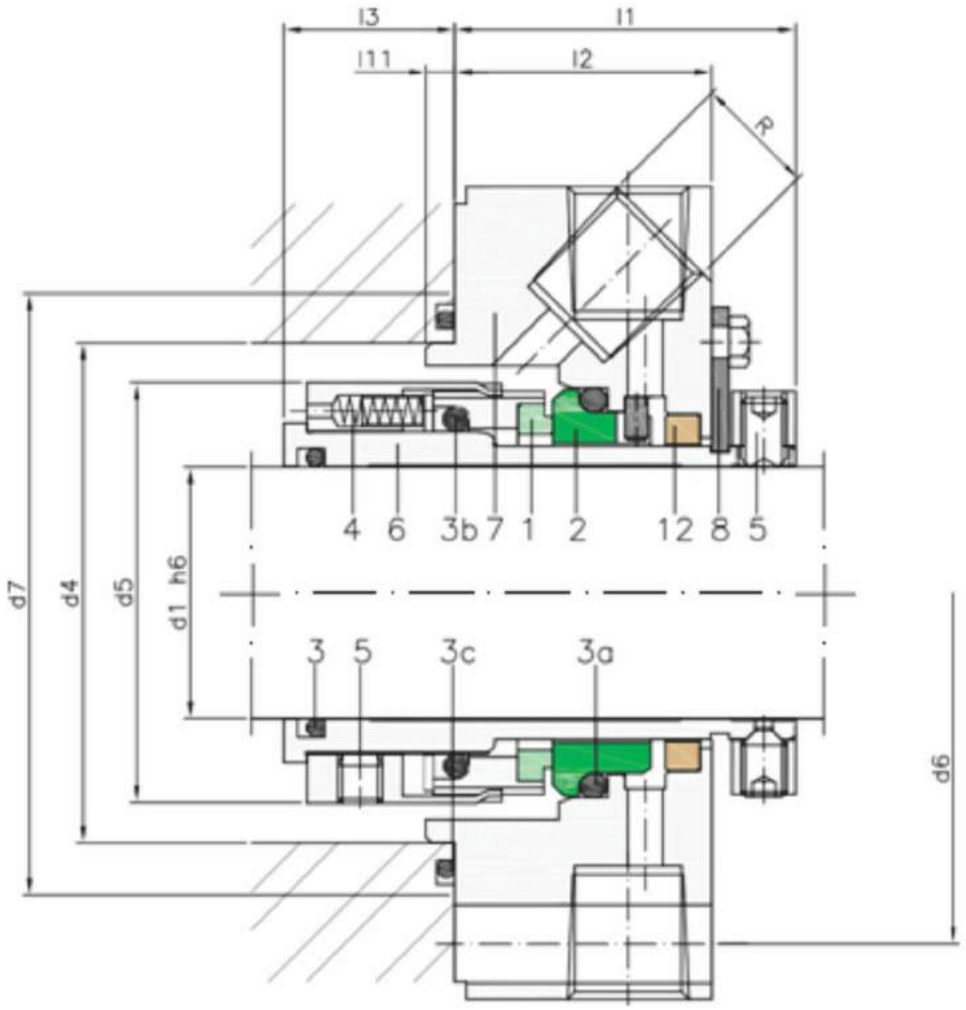
Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- For unstepped shafts
- Single seal
- Balanced
- Independent of direction of rotation
- Encapsulated rotating spring

ADVANTAGE

- Especially designed for solids containing and highly viscous media
- Springs are protected from the product
- Rugged and reliable design
- No damage of the shaft by dynamically loaded O-Ring
- Universal application
- Variant for operation under vacuum available
- Variant for sterile operation available



COMPONENTS

1 Rotating contact surface
2 Stationary contact surface
3 O-ring
4 Springs
5 Drive ring
6 Sleeve
7 Flange
8 Setting clips
12 PTFE ring for quench.

DIMENSIONS IN CHART

Shaft

mm	d3	d4	d5	d6	d7	l1	l2	l3	l11
20	138,0	70,0	50,0	105,0	85,0	94,0	76,0	1,0	6,0
30	148	80	62	115	95	98	77	2,5	6
40	158,0	90,0	72,0	125,0	105,0	98,5	77,5	7,0	6,0
50	168	100	86	140	115	99.5	78.5	12	6
60	188,0	120,0	99,0	160,0	135,0	102,0	81,0	18,5	6,0
70	198	130	109	170	145	106	81	18	6
80	208,0	140,0	119,0	180,0	155,0	106,0	81,0	23,0	6,0
90	238	160	129	205	175	106	81	23	6
100	248,0	170,0	153,0	215,0	185,0	109,0	81,0	24,0	6,0
110	258	180	168	225	195	109	81	24	6

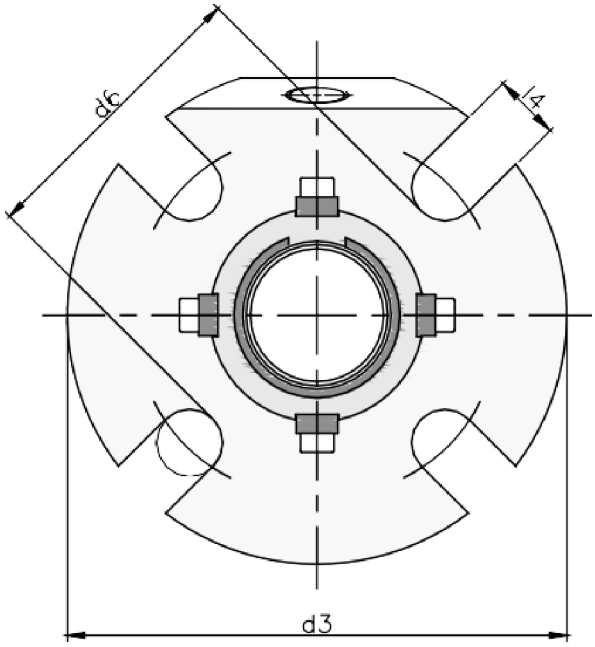
Dimensions subject to changes or modifications.

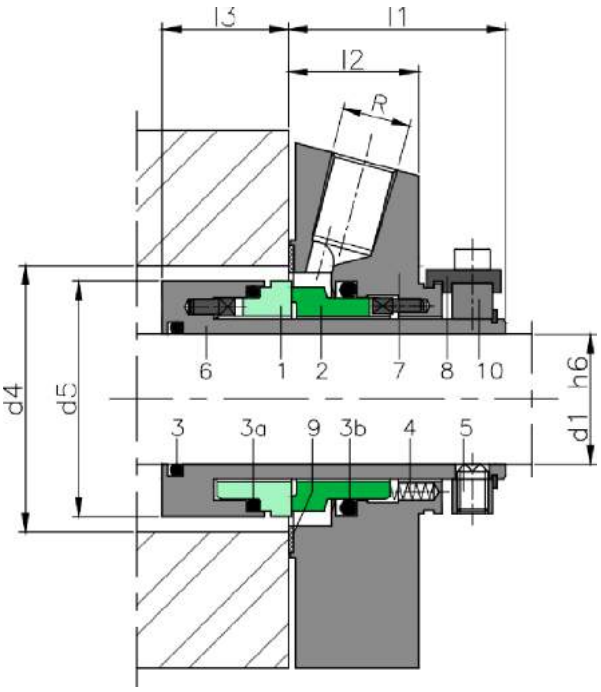
CHARACTERISTICS

- Balanced.
- Multispring.
- Not dependent on the rotation direction.
- Flushing connections.

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products





OPEARTING RANGE

d_i= 25 ÷ 110mm, p= 25 kg/cm^2, v= 16 m/s, t= -15÷ +200oC (*)

(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

ADVANTAGE

- Ideal seal for standardizations
- Universal applicable for packings conversions, retrofits or original equipment
- No dimensional modification of the seal chamber (centrifugal pumps) necessary, small radial installation height
- No damage of the shaft by dynamically loaded O-Ring
- Extended service life
- Installation faults are avoided, cost-effective
- No damage caused by dirt entered during assembly
- Straightforward and easy installation due to pre-assembled unit (reduced down-times)
- Individual adaptation to pump design possible
- Customer specific versions available

COMPONENTS

1 Rotating contact surface
2 Stationary contact surface
3 O-rings
4 Springs
5 Set screws
6 Sleeve
7 Flange
8 Setting clips
9 Flat gasket
10 Drive ring
11 Lip seal quench
12 Throttle ring PTFE carbongraphite reinforced quench

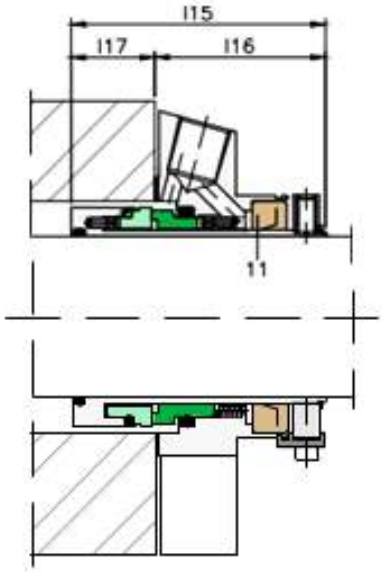
DESCRIPTION

A single cartridge with connections for flushing the seal contact faces. The springs are portected from the product to prevent blocking in applications with particleladen fluids. The standard flange has a connection for flushing to clean and cool the faces (**ETAX**)

DIMENSIONS IN CHART

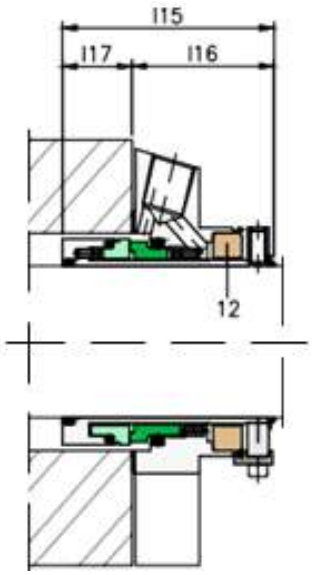
Shaft															
mm	l1	l2	l3	l4	l12	l13	l14	l15	l16	l17	d3	d4 mín.	d4 máx.	d5	d6
25	42,4	25,4	24,6	13,2	35	32	17.5	79.5	53.4	26.1	105	44	51,5	43	62
28	42,4	25,4	24,6	13,2	35	32	17.5	79.5	53.4	26.1	105	47	52	46	62
30	42,4	25,4	24,6	13,2	35	32	17.5	79.5	53.4	26.1	110	49	56	48	65
32	42,4	25,4	24,6	13,2	35	32	17.5	79.5	53.4	26.1	110	51	57	49,8	67
33	42,4	25,4	24,6	13,2	35	32	17.5	79.5	53.4	26.1	113	51	57	49,8	67
35	42,4	25,4	24,6	13,2	35	32	17.5	79.5	53.4	26.1	123	54	61,5	53	70
38	42,4	25,4	24,6	14,2	35	32	17.5	79.5	53.4	26.1	123	57	66	56	75
40	42,4	25,4	24,6	14,2	35	32	17.5	79.5	53.4	26.1	133	59	68	58	75
42	42,4	25,4	24,6	14,2	35	32	17.5	79.5	53.4	26.1	133	61,5	69,5	60,5	80
43	42,4	25,4	24,6	14,2	35	32	17.5	79.5	53.4	26.1	138	61,5	70,5	60,5	80
45	42,4	25,4	24,6	14,2	35	32	17.5	79.5	53.4	26.1	138	64	73	62,5	81
48	42,4	25,4	24,6	14,2	35	32	17.5	79.5	53.4	26.1	138	67	75	65,6	84
50	42,4	25,4	24,6	18	35	32	17.5	79.5	53.4	26.1	148	69	78	68	87
53	42,4	25,4	24,6	18	35	32	17.5	79.5	53.4	26.1	148	73	87	72	97
55	42,4	25,4	24,6	18	35	32	17.5	79.5	53.4	26.1	148	74	83	73	90
60	42,4	25,4	24,6	18	35	32	17.5	79.5	53.4	26.1	157	79	91	78	102
65	42,4	25,4	24,6	18	35	32	17.5	79.5	53.4	26.1	163	85,7	98,5	84,8	109
70	42,4	25,4	24,6	18	35	32	17.5	79.5	53.4	26.1	178	95	108	93	118
75	57,4	28	26,6	18	46.1	37.9	22	98	63.9	34.1	190	101,6	118	100	129
80	57,4	28	26,6	18	46.1	37.9	22	98	63.9	34.1	195	108	124	106,4	135
85	57,4	28	26,6	22	46.1	37.9	22	98	63.9	34.1	198	111,1	128	109,5	139
90	57,4	28	26,6	22	46.1	37.9	22	98	63.9	34.1	205	117,5	135	115,9	145
95	57,4	28	26,6	22	46.1	37.9	22	98	63.9	34.1	208	120,7	138	119,1	148
100	57,4	28	26,6	22	46.1	37.9	22	98	63.9	34.1	218	127	144	125,4	154

Dimensions subject to changes or modifications.



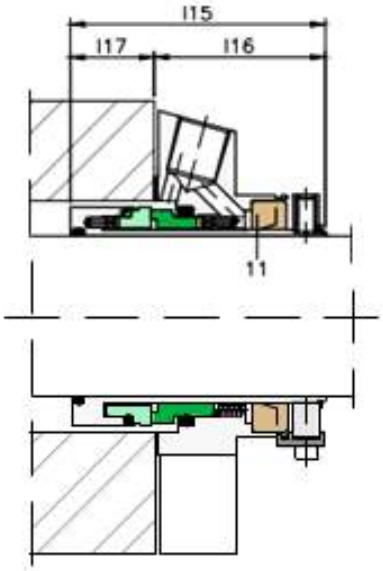
ETAX - QF

Single cartridge with connections for quench and flush between the faces, with a non-pressurised fluid. The quench fluid sealing is done through an oil seal. For applications using fluids with scant lubrication.



ETAX - QFG

Single cartridge with connections for quench and flush between the faces, with a non-pressurised fluid. The quench fluid sealing is done through a throttle ring PTFE carbon-graphite reinforced.



ETAX - QFC

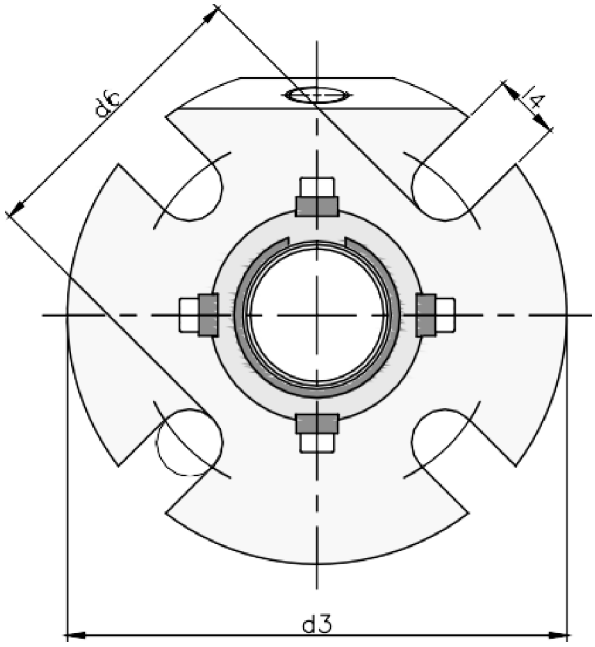
Single cartridge with no connections, for closed chamber applications in which no water re-circulation is necessary Applications: Clean fluids

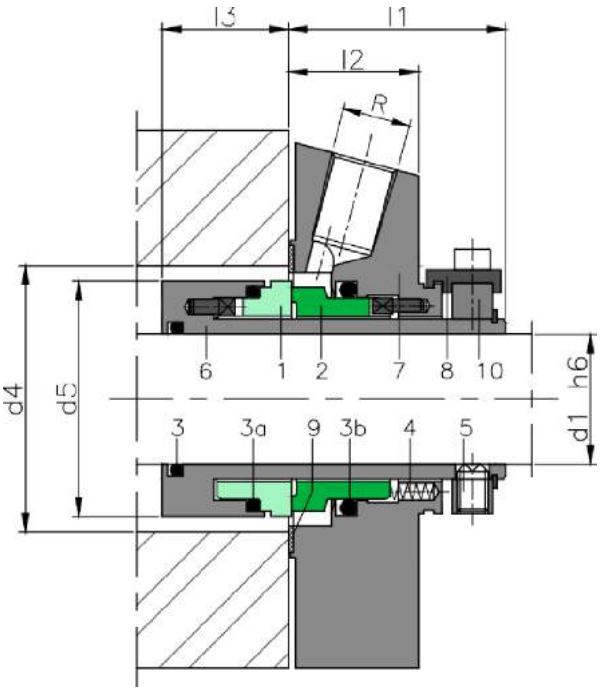
CHARACTERISTICS

- Balanced.
- Multispring.
- Not dependent on the rotation direction.
- Flushing connections.

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products





OPEARTING RANGE

d_1= 25 ÷ 110mm, p= 25 kg/cm^2, v= 16 m/s, t= -15÷ +200oC (*)

(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

ADVANTAGE

- Ideal for use in ANSI process pumps
- Universal applicable for packings conversions, retrofits or original equipment
- Seal for standardizations
- No dimensional modification of the seal chamber necessary, small radial installation height
- No damage of the shaft by dynamically loaded O-Ring
- Extended service life
- Installation faults are avoided, cost-effective
- No damage caused by dirt entered during assembly
- Straightforward and easy installation due topre-assembled unit (reduced down-times)

COMPONENTS

1 Rotating contact surface
2 Stationary contact surface
3 O-rings
4 Springs
5 Set screws
6 Sleeve
7 Flange
8 Setting clips
9 Flat gasket
10 Drive ring
11 Lip seal quench
12 Throttle ring PTFE carbongraphite reinforced quench

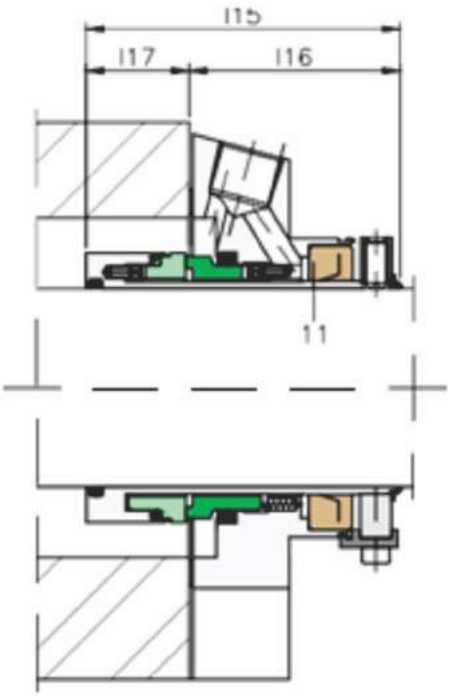
DESCRIPTION

A single cartridge with connections for flushing the seal contact faces. The springs are portected from the product to prevent blocking in applications with particleladen fluids. The standard flange has a connection for flushing to clean and cool the faces.
Recomended for flange pumps ANSI Standard bore and ansi big bore

DIMENSIONS IN CHART

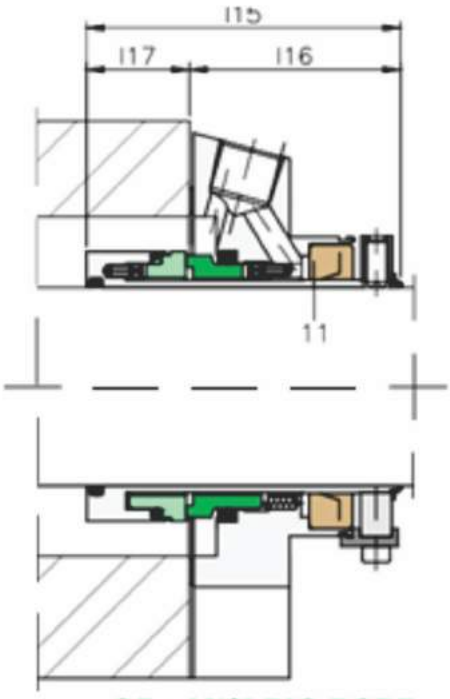
Shaft													
(")	mm	d3	d4 min.	d4 max.	d5	d6	l1	l2	l3	l4	l15	l16	l17
1,000	25,4	--	--	--	--	--	--	--	--	--	--	--	--
1,125	28,5	114,3	44,5	71	43,5	84,1	42,3	25,4	24,6	11,1	74,6	48,4	26,1
1,250	31,7	--	--	--	--	--	--	--	--	--	--	--	--
1,375	35	130	50,8	81	49,7	90	42,3	25,4	24,6	11,1	74,8	48,7	26,1
1,500	38,1	--	--	--	--	--	--	--	--	--	--	--	--
1,625	41,2	--	--	--	--	--	--	--	--	--	--	--	--
1,750	44,4	165	63,5	103	62,5	116	42,3	25,4	24,6	14,2	76,5	50,3	26,1
1,875	47,6	152	67,5	100	65,6	112	42,3	25,4	24,6	14	78	52,3	25,7
2,000	50,8	160	70	116	68	124	42,3	32	18	14	79,5	53,3	26,1
2,125	54	175	74	115	72	134	42,3	25,4	24,6	18	76,5	50,3	26,1
2,250	57,1	163	78,5	112	75,1	119	48,7	32,4	17,6	18	79,5	53,8	26,1
2,500	63,5	198	83,7	134	81,5	140	48,7	31,7	18,2	18	79,5	53,8	26,1
2,625	66,6	175	80,5	130	84,7	136	48,7	31,7	18,2	18	79,5	53,8	26,1
2,750	69,8	190	95	133	93	140	49,4	32,4	17,6	16	79,5	53,8	26,1
3,000	76,2	209	102	140	100	150	57,8	32,4	26,1	16,5	98	64	34,1
3,250	82,5	--	--	--	--	--	--	--	--	--	--	--	--

Dimensions subject to changes or modifications.



ETAX - ANSI BIG BORE
ETAX - ANSI STANDARD BORE

Single cartridge with connections for quench and flush between the faces, with a non-pressurised fluid. The quench fluid sealing is done through a lip seal.
For applications using fluids with scant lubrication.



QF - ANSI BIG BORE
QF - ANSI STANDARD BORE

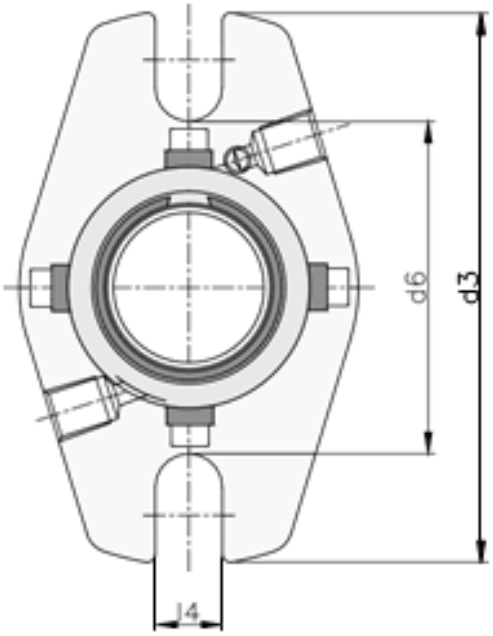
Single cartridge with connections for quench and flush between the faces, with a non-pressurised fluid. The quench fluid sealing is done through a throttle ring PTFE carbon-graphite reinforced.
For applications using fluids with scant lubrication.

CHARACTERISTICS

- Balanced.
- Multispring.
- Not dependent on the rotation direction.
- Stuffing box gland shape.
- Flush and drain connections.

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products



OPEARTING RANGE

d_1= 25 ÷ 70mm, p= 20 kg/cm^2, v= 11.2 m/s, t= -15÷ +200oC (*)

(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

ADVANTAGE

- Ideal for use in ANSI process pumps
- Universal applicable for packings conversions, retrofits or original equipment
- Seal for standardizations
- No dimensional modification of the seal chamber necessary, small radial installation height
- No damage of the shaft by dynamically loaded O-Ring
- Extended service life
- Installation faults are avoided, cost-effective
- No damage caused by dirt entered during assembly
- Straightforward and easy installation due topre-assembled unit (reduced down-times)

SEAL FACE MATERIALS.

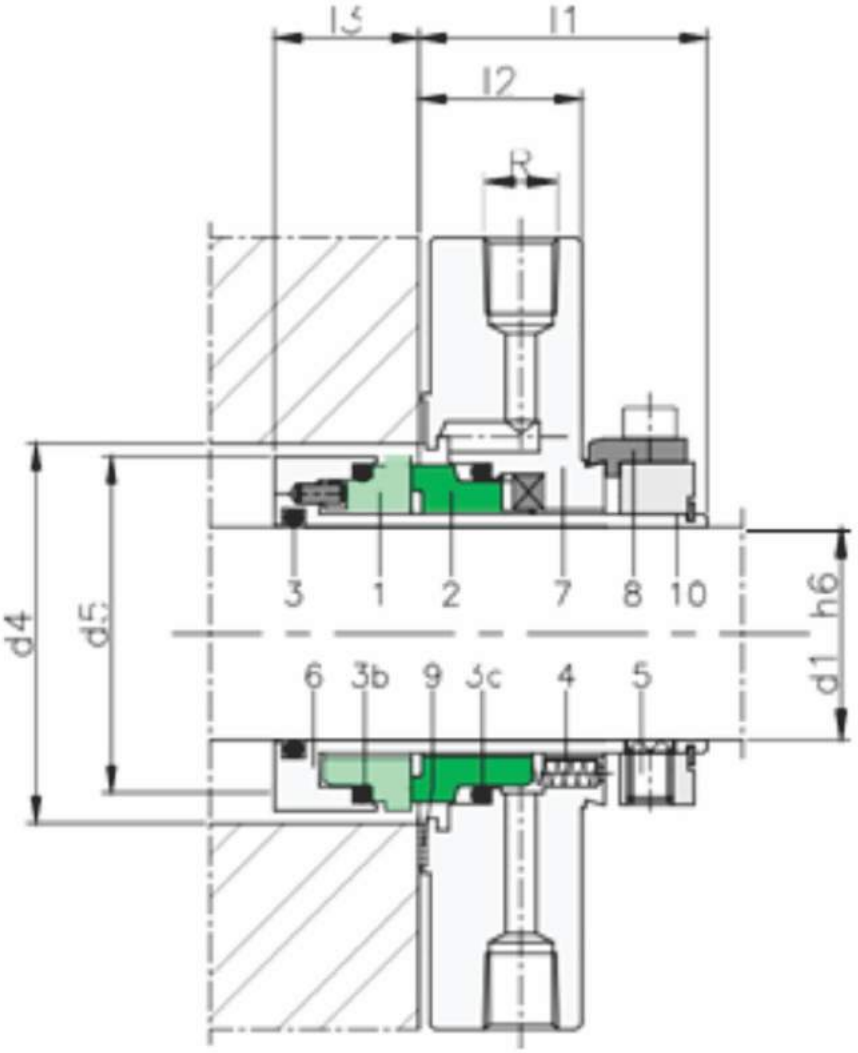
Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- For unstepped shafts
- Single seal
- Balanced
- Independent of direction of rotation
- Encapsulated rotating spring

DESCRIPTION

Cartridge cast flange with a stuffing box gland shape for replacing packing in pumps.
The springs are protected from the product to prevent the blocking in applications with particle-laden fluids. The flange has two connections, one for flushing and cleaning the faces, and the another is a drain to clean the springs and also to control the small leaks



COMPONENTS

1 Rotating contact surface
2 Stationary contact surface
3 O-rings
4 Springs
5 Set screws
6 Sleeve
7 Flange
8 Setting clips
9 Flat gasket
10 Drive ring

DIMENSIONS IN INCHES

Shaft										
(")	mm	d_3	d_4 min	d_4 max	d_5	d_6	l_1	l_2	l_3	l_4
1,000	**25,40**	**104**	**49**	**61**	**46,5**	**62**	**38**	**21,5**	**19**	**12,5**
1125	28,58	104	52	63	48,5	62	38	21,5 19	12,5	
1250	31,75	104	54	65	51,5	67	38	21,5	19	12,5
1375	34,93	115	57	68	53,5	70	38	21,5 19	12,5	
1500	38,10	125	62	73	56,5	75	38	21,5	19	14,7
1625	41,28	133	66	77	60,5	79	38	21,5	19	14,7
1875	47,63	140	71	82	66,5	84	38	21,5	19	14,7
2125	53,98	150	79	90	73,5	92	38	21,5	19	17,5
2250	57,15	155	82	93	76,5	95	38	21,5	19	17,5
2375	60,33	160	87	98	78,5	100	38	21,5	19	17,5
2500	63,50	165	90	101	81,5	103	38	21,5	19	17,5
2625	66,68	170	97	108	86,5	110	38	21,5	19	17,5

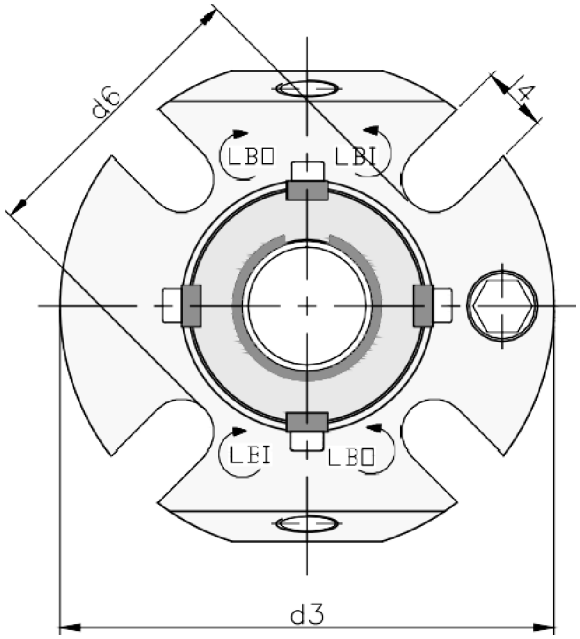
Dimensions subject to changes or modifications.

CHARACTERISTICS

•Balanced.
•Multispring.
•Not dependent on the rotation direction.
•Barrier fluid connections.

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products



OPEARTING RANGE

d_i= 25 ÷ 100mm, p= 25 kg/cm^2, v= 16 m/s, t= -15÷ +200oC (*)

(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

ADVANTAGE

- Ideal for use in ANSI process pumps
- Universal applicable for packings conversions, retrofits or original equipment
- Seal for standardizations
- No dimensional modification of the seal chamber necessary, small radial installation height
- No damage of the shaft by dynamically loaded O-Ring
- Extended service life
- Installation faults are avoided, cost-effective
- No damage caused by dirt entered during assembly
- Straightforward and easy installation due topre-assembled unit (reduced down-times)

SEAL FACE MATERIALS.

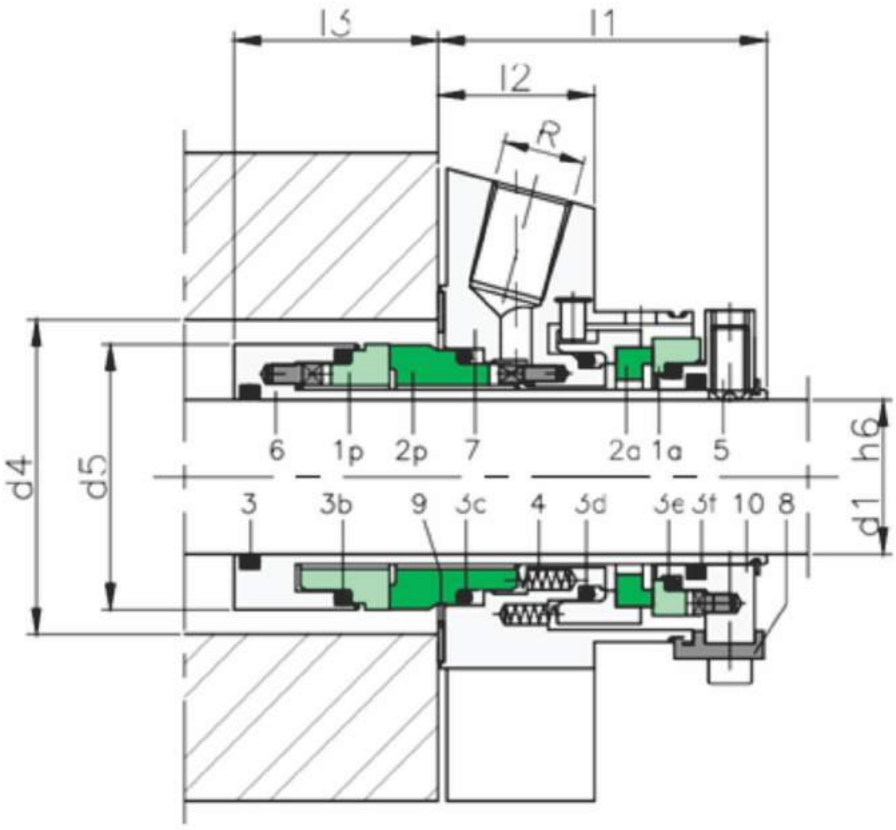
Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- For unstepped shafts
- Single seal
- Balanced
- Independent of direction of rotation
- Encapsulated rotating spring

DESCRIPTION

A double cartridge with a "face to face" arrangement which permits operation with barrier fluid in excessive pressure with respect to the working fluid (P1+1.5-2 Kgr/cm2)
The sleeve includes a pumping ring that facilite the barrier fluid movement. The connections of Liquid barreir IN and OUT have to be connected according the rotation direction.



COMPONENTS

1p Rotating contact surface product side
2p Stationary contact surface product side
1a Rotating contact surface atmospheric side
2a Stationary contact surface atmospheric side
3 O-rings
4 Springs
5 Set screws
6 Sleeve
7 Flange
8 Setting clips
9 Flat gasket
10 Drive ring

DIMENSIONS IN INCHES

Shaft										
(")	mm	d_3	d_4 mín	d_4 máx	d_5	d_6	l_1	l_2	l_3	l_4
1,000	**25,4**	**105,0**	**44,0**	**51,0**	**43,0**	**62,0**	**53,4**	**25,42**	**33,1**	**13,2**
1,125	28,6	105,0	47,6	52,1	46,0	61,0	53,4	25,4	33,1	13,2
1,250	31,8	110,0	51,0	57,0	49,8	70,1	53,4	25,4	33,1	13,2
1,375	34,9	113,0	56,3	61,5	53,0	72,1	53,4	25,4	33,1	13,2
1,500	38,1	123,0	57,0	66,0	56,0	74,9	53,4	25,4	33,1	13,2
1,625	41,3	123,0	60,3	68,6	59,5	78,5	53,4	25,4	33,1	14,2
1,750	44,5	138,0	64,0	73,0	62,5	82,0	53,4	25,4	33,1	14,2
1,875	47,6	138,0	67,0	75,0	65,6	85,1	53,4	25,4	33,1	14,2
2,000	50,8	148,0	69,0	78,0	68,0	87,1	53,4	25,4	33,1	14,2
2,125	53,98	148,0	73,0	87,0	72,0	97,0	53,4	25,4	33,1	18,0
2,250	57,2	157,0	76,2	90,4	75,2	100,1	53,4	25,4	33,1	18,0
2,375	60,3	157,0	79,4	91,0	78,0	102,1	53,4	25,4	33,1	18,0
2,500	63,5	163,0	83,8	96,5	81,6	106,2	53,4	25,4	33,1	18,0
2,625	66,7	163,0	85,7	100,0	84,8	109,3	53,4	25,4	33,1	18,0
2,750	69,9	178,0	95,0	108,0	93,0	118,4	53,4	25,4	33,1	18,0
2,875	73,0	190,0	101,6	118,0	100,0	129,0	108,0	25,4	44,1	18,0
3,000	76,2	190,0	101,6	118,0	100,0	129,0	108,0	28,0	44,1	18,0
3,125	79,4	195,0	108,0	124,0	106,4	135,0	108,0	28,0	44,1	18,0
3,250	82,6	195,0	108,0	124,0	106,4	135,0	108,0	28,0	44,1	18,0
3,375	85,7	198,0	111,1	128,0	109,5	139,0	108,0	28,0	44,1	22,0
3,500	88,9	198,0	114,3	140,1	112,7	142,0	108,0	28,0	44,1	22,0
3,625	92,1	205,0	117,5	135,0	115,9	145,0	108,0	28,0	44,1	22,0
3,750	95,3	208,0	120,7	138,0	119,1	148,0	108,0	28,0	44,1	22,0
4,000	101,6	218,0	127,0	144,0	125,4	154,0	108,0	28,0	44,1	22,0

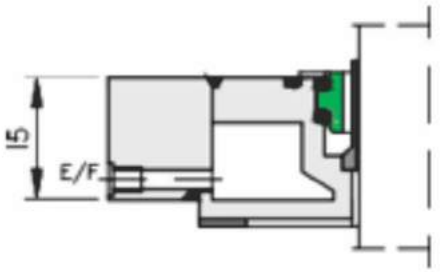
Dimensions subject to changes or modifications.

CHARACTERISTICS

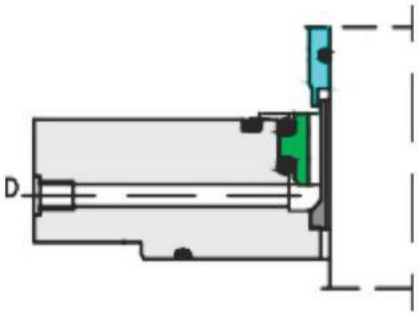
- Balanced.
- System attached to the shaft by allen screws
- Not dependent on the rotation direction.
- External mounting.

SECTOR

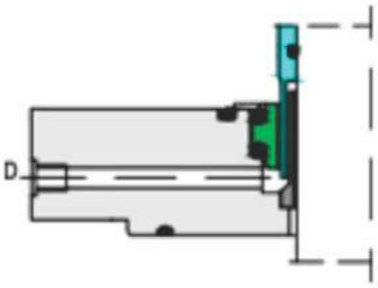
- Chemical industry
- Pharmaceutical industry
- Food and beverage industry
- Reactors
- Polymerization agitators
- Mixers



Type A: Cooling flange. It can also be used as a heating **C**flange (Tmax= + 350 °C)



Leakage drain. It can also be used alternatively as a flush.



Polymerisation barrier. It can also be used alternatively as a leakage drain or a flush.

OPEARTING RANGE

Vessel pressure: p = vacuum (7 mbara) … 5 bar (73 PSI)
Vessel temperature: t = –30 °C … +175 °C
(–22 °F … +347 °F)
Sliding velocity: vg = max. 1.0 m/s (3 ft/s)
Allowable gas consumption: 2 Nl/h

(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

ADVANTAGE

- AD510 includes housing
- Options: Cooling jacket on the flange side of the boilerwith carbon throttle and version with gas flushing and lip seal

SEAL FACE MATERIALS.

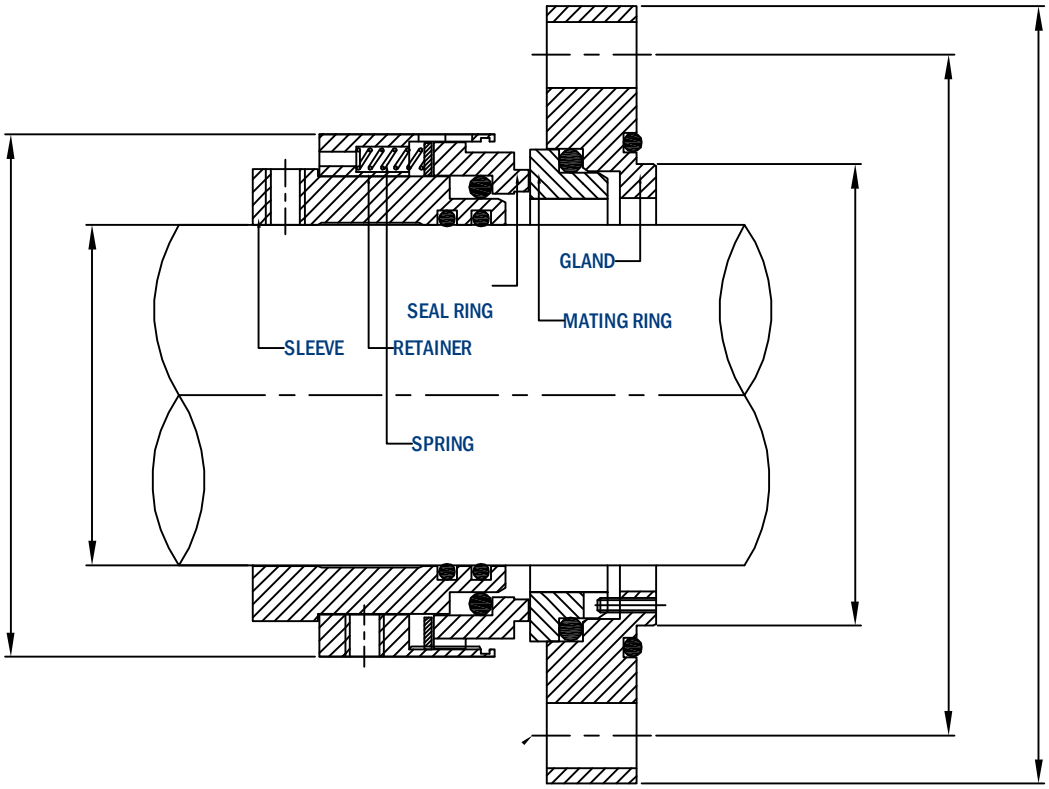
Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- Dry running
- Single seal
- Independent of direction of rotation

DESCRIPTION

Multispring mechanical seal for vertical agitators with moderate speeds. The stationary part can use lubrications systems: flush connection or/and refrigeration flange.



DIMENSIONS IN INCHES

Shaft		Rotary				Stationery				
(“)	mm	l1	l3	d5	d2	d3	d4	d6	d8	l4
1,000	25	40,5	41,5	68	34	148	-	100	132	11
1,125	28	40,5	41,5	68	34	148	55	100	132	11
1,250	32	40,5	41,5	73	39	153	60	105	137	11
1,375	35	40,5	41,5	73	39	153	60	105	137	11
1,500	38	40,5	41,5	78	44	158	65	110	142	11
1,625	45	40,5	41,5	83	49	163	68	115	152	11
1,750	-	40,5	41,5	83	49	163	68	115	152	11
1,875	48	40,5	41,5	88	54	178	73	125	160	14
1,125	50	40,5	41,5	88	54	178	73	125	160	14
2,000	55	40,5	41,5	93	59	183	78	130	165	14
2,125	-	40,5	41,5	93	59	183	78	130	165	14
2,250	60	40,5	41,5	98	64	188	85	135	170	14
2,375	65	40,5	44,5	103	69	193	90	140	175	14
2,500	-	40,5	44,5	103	69	193	90	140	175	14
6,625	70	43,5	44,5	108	74	198	95	145	180	14
2,750	-	43,5	44,5	108	74	198	95	145	180	14
2.875	75	43,5	44,5	113	79	203	100	150	185	14
3,000	80	43,5	44,5	118	84	208	105	155	190	14
3,250	85	43,5	44,5	123	89	213	110	160	195	14
3,500	90	43,5	44,5	128	94	218	115	165	200	14
3,750	95	43,5	44,5	133	99	223	120	170	205	14
4,000	105	43,5	44,5	143	109	233	130	180	215	14
4,250	110	43,5	44,5	148	114	238	135	185	220	14
4,500	115	43,5	44,5	153	119	267	140	196	243	18
4,750	125	43,5	44,5	163	129	277	150	206	253	18
5,000	140	43,5	44,5	178	144	297	165	221	273	18
5,250	-	43,5	44,5	178	144	297	165	221	273	18
5,500	-	43,5	44,5	178	144	297	165	221	273	18
5,750	150	43,5	44,5	188	154	307	175	231	283	18
6,000	160	43,5	44,5	198	164	317	185	241	283	18
6,250	-	43,5	44,5	198	164	317	185	241	293	18

Dimensions subject to changes or modifications.

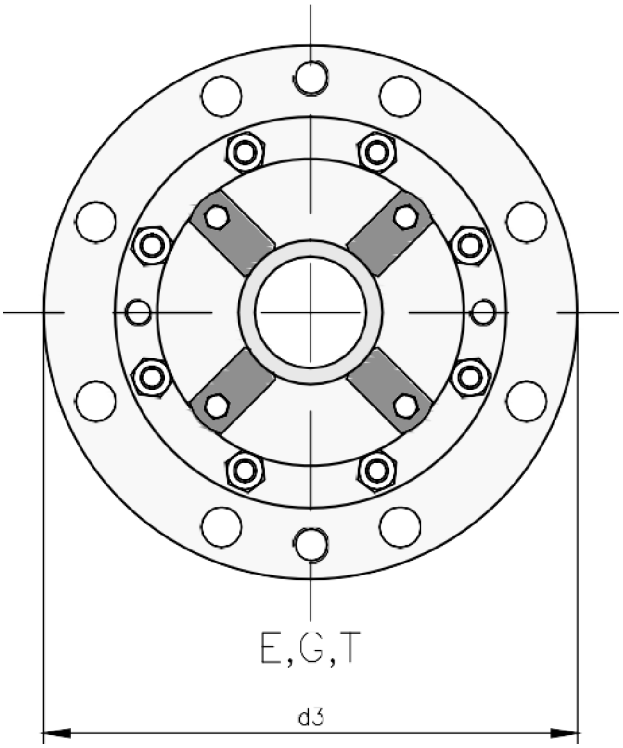
ETEX R200S / R300

CHARACTERISTICS

•Balanced.
•Multispring.
•Not dependent on the rotation direction.
•Barrier fluid connections.

SECTOR

- Pharmaceutical industry
- Power plant technology
- Pulp and paper industry
- Water and waste water technology
- Mining industry
- Food and beverage industry
- Sugar industry
- Contaminated, abrasive and solids containing media
- Thick juice (70 … 75 % sugar content)
- Raw sludge, sewage slurries
- Raw sludge pumps
- Thick juice pumps
- Conveying and bottling of dairy products



OPEARTING RANGE

Pressure: p = vacuum … 10 bar (145 PSI)
Temperature: t = –30 °C … +200 °C (–22 °F … +392 °F)
Rotational speed: n = max. 200 min–1
Axial movement: max. 0.3 mm

(*) The temperature resistance depends on the material of the secondary seals used.
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

ADVANTAGE

- Cartridge unit
- Double seal with integrated bearing
- Unbalanced
- Independent of direction of rotation

SEAL FACE MATERIALS.

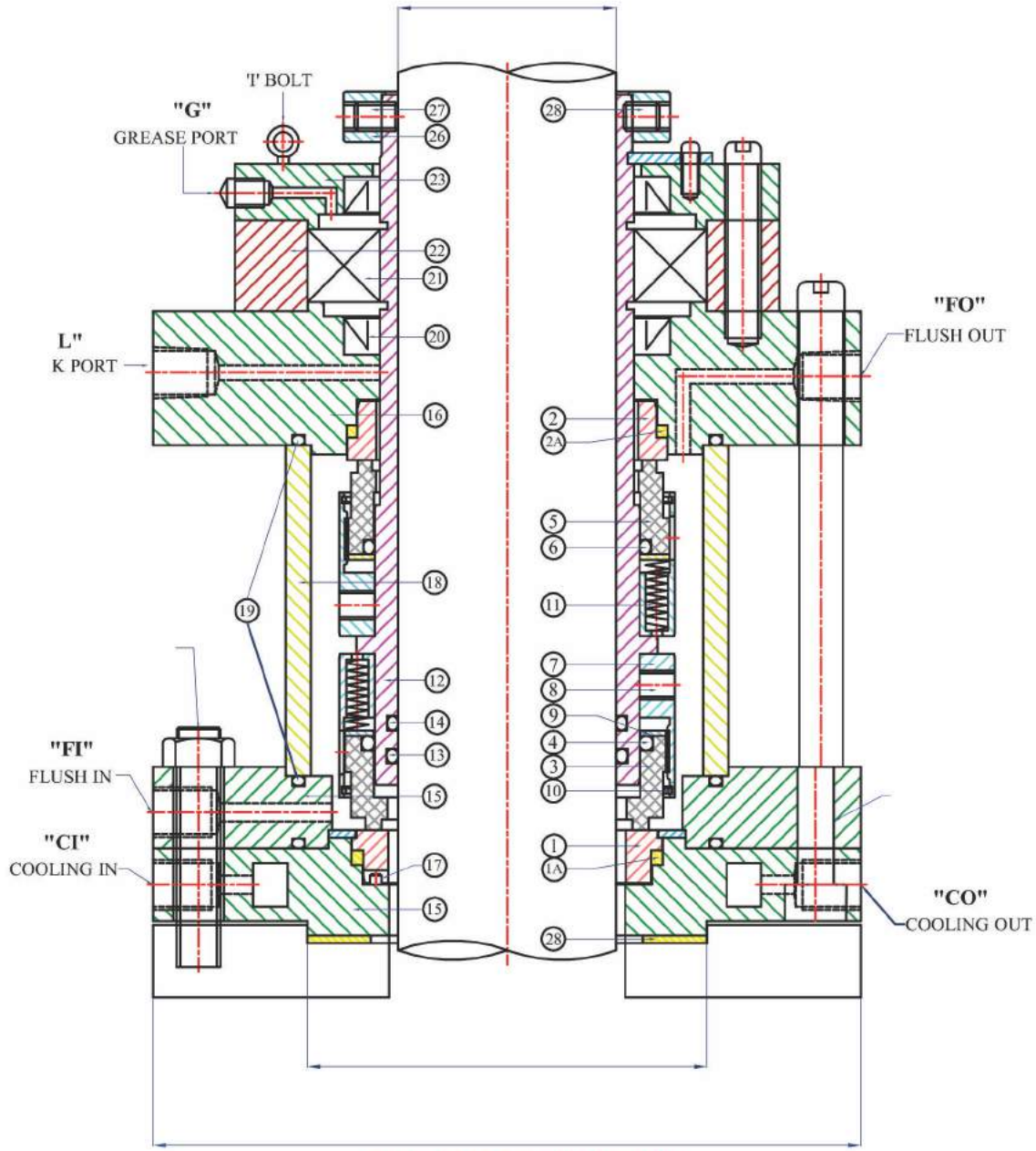
Antimony impregnated carbon graphite
Resin impregnated carbon graphite
Sintered silicon carbide
Reaction bonded silicon carbide
Tungsten carbide

FEATURES

- Cartridge unit
- Double seal with integrated bearing
- Balanced
- Independent of direction of rotation

DESCRIPTION

Special double cartridge for reactors and agitators.
The internal structure "Back to Back" is continuously lubricated by a liquid barrier, which must be pressurized between 1.5 and 2 kg / cm2 above the working fluid.

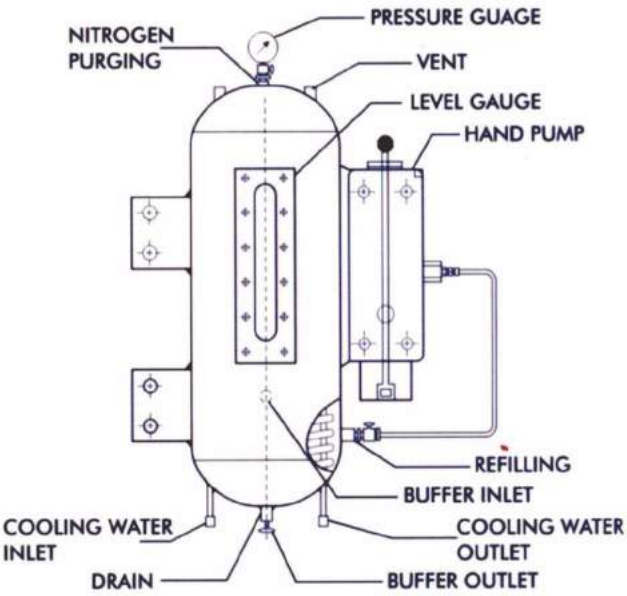


DIMENSIONS IN INCHES

Shaft												
d_1	d2 mm	d_3	d_4	d_5	d_6	nxd_7	l1	l2	l_3	M_1	M_2	A,B
40	38	175	90	110	145	4 x 18	15	136	28	M12	M16	G3/8
50	48	240	135	176	210	8 x 18	17	149	28	M12	M16	G3/8
60	58	240	135	176	210	8 x 18	17	156	28	M12	M16	G3/8
80	78	275	155	204	240	8 x 22	20	189	34	M16	M20	G1/2
100	98	305	190	234	270	8 x 22	20	190	34	M16	M20	G1/2
125	120	330	215	260	295	8 x 22	20	205	40	M20	M20	G1/2
140	135	395	250	313	350	12 x 22	20	222	40	M20	M20	G1/2
160	150	395	265	313	350	12 x 22	25	219,5	40	M20	M20	G1/2
180	170	445	310	364	400	12 x 22	25	230	45	M24	M20	G1/2
200	190	445	310	364	400	12 x 22	25	237,5	45	M24	M20	G1/2
220	210	505	340	422	460	16 x 22	25	249,5	50	M24	M20	G1/2

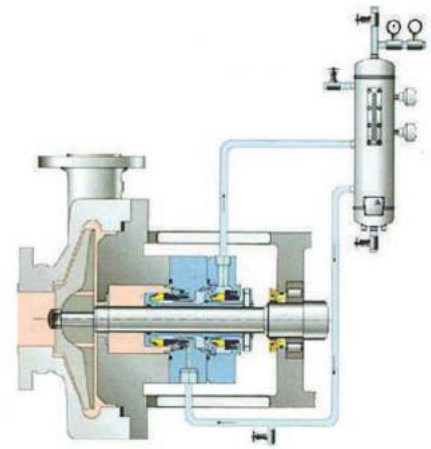
Dimensions subject to changes or modifications.

THERMOSYPHON POT



DIMENSIONS IN INCHES

Depending on the design, application and mode of operation, supply systems are required to flush, cool and pressurize mechanical seals and magnetic couplings and provide leakage compensation. **ETANNOR** supplies a complete range of solutions from a single source including design, production, commissioning and service. The portfolio includes a complete range of API compliant supply systems.



QUENCH SYSTEMS

- Versions with polyethylene or stainless steel tanks
- API 682 versions
- Circulation of buffer fluid possible

THERMOSIPHON SYSTEMS

- Comprehensive modularized product range
- Sterilizable versions
- API 682 versions for Plan 52 and 53A

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