



ACCURA SEALS & ENGINEERING

Manufacturers Of Mechanical Shaft Seals & Rubber Spares



Mechanical Seals

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We are close to you...

As time goes by, we feel extremely satisfied and proud to be able to contribute to and form part of a responsible, safe 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 expectations.

Who we are

History:

Founded in 2010, our company embarked on a journey driven by a vision to revolutionize the mechanical seal industry. Since our establishment, we have evolved into a global leader in mechanical seals. Through relentless innovation, exceptional quality, and customer-centricity, we have built a rich history of delivering reliable, customized solutions that optimize efficiency and exceed expectations.

Mission:

Our mission is to be a leading manufacturer of high-quality mechanical seals, delivering innovative and reliable sealing solutions that meet the diverse needs of our customers. We strive to exceed customer expectations by providing exceptional products, exceptional service, and exceptional value. Through continuous improvement and a commitment to excellence, we aim to contribute to the success and efficiency of industries worldwide.

Vision:

Our vision is to be the global benchmark for mechanical seals, recognized for our unwavering dedication to quality, performance, and customer satisfaction. We aspire to be the preferred choice for companies seeking superior sealing solutions that enhance their operational reliability, reduce downtime, and improve overall efficiency. By fostering a culture of innovation, collaboration, and sustainability, we aim to shape the future of sealing technology and make a positive impact on the industries we serve.

Strategy:

Reliability and **Availability** are at the core of our strategy. We are committed to meeting our obligations and ensuring timely product delivery, earning the trust of our customers as a reliable partner. With a focus on **Accessibility** and **Adaptability**, we offer expert guidance and tailored solutions through our extensive product range and efficient processes.

Accessibility:

Please feel free to reach out to us via traditional or modern communication channels. We are committed to promptly and effectively addressing your needs with tailored solutions.

Reliability:

We are regarded as a trusted partner by our customers due to our unwavering commitment to meeting our obligations.

Adaptability:

We offer expert advice and guidance to our customers, leveraging our design and manufacturing capabilities to customize products and services according to their specific requirements.

Availability:

Our extensive product range and efficient processes enable timely delivery of requested products.

Our Values:

We are guided by a set of core values: integrity, innovation, collaboration, customer-centricity, quality excellence, and environmental stewardship. With integrity as our foundation, we promote innovation through collaboration, prioritize customer needs, ensure quality excellence, and uphold our commitment to environmental stewardship.



We believe in:

INTEGRITY:

Conducting business with honesty, transparency, and adherence to ethical standards.

COLLABORATION:

Encouraging teamwork, cooperation, and open communication to foster a culture of collaboration that drives creativity, innovation, and overall organizational success.

INNOVATION:

Embracing a culture of continuous improvement, research, and development to drive advancements in mechanical seal technology.

ENVIRONMENTAL STEWARDSHIP:

Taking responsibility for sustainable practices, reducing environmental footprint, and contributing to a greener future.

CUSTOMER-CENTRICITY:

Placing the needs of customers at the forefront, understanding their challenges, and delivering tailored solutions that exceed expectations.

QUALITY EXCELLENCE:

Commitment to delivering products and services of the highest quality, adhering to stringent quality control measures and surpassing industry standards.





Food and pharma

The food and pharma sectors are especially demanding with respect to safety in their processes. It is very important to prevent contamination with the manufactured products and the halting of production lines during the entire work flow.

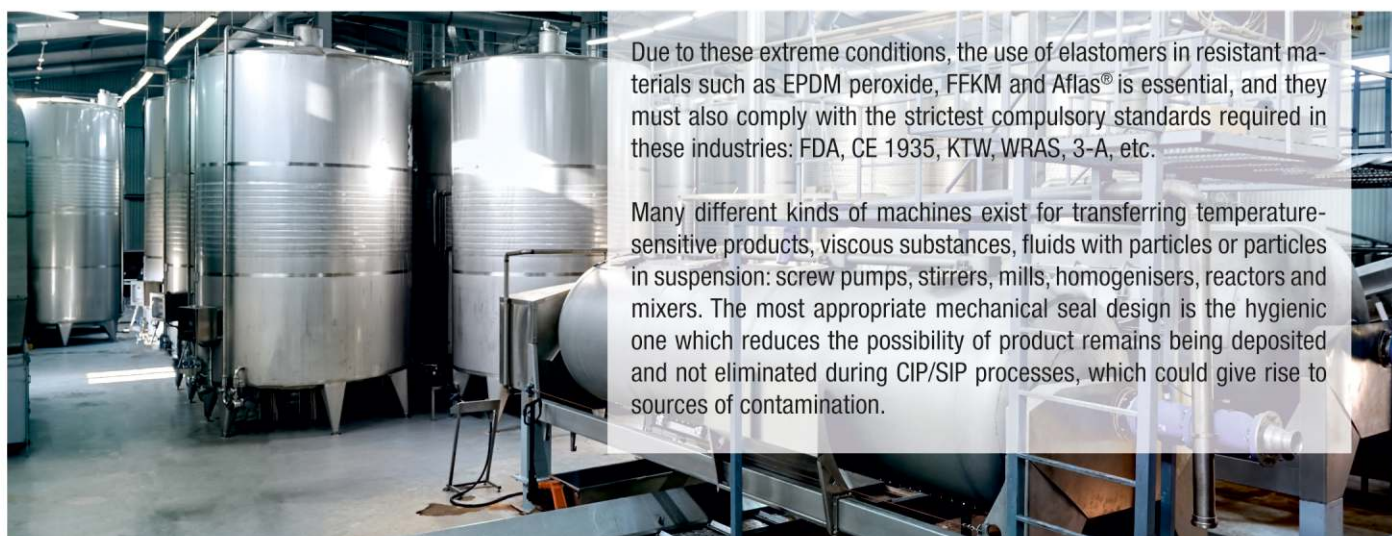
For this reason, the use of CIP (Cleaning in place) or SIP (Sterilisation in place) processes is quite usual.

The complex chemical mixtures (alkaline solutions) used in CIP processes may damage the seals of the mechanical seals in a short time, and in SIP, high temperatures reaching values of up to 150° C can destroy conventional elastomer materials.



Due to these extreme conditions, the use of elastomers in resistant materials such as EPDM peroxide, FFKM and Aflas® is essential, and they must also comply with the strictest compulsory standards required in these industries: FDA, CE 1935, KTW, WRAS, 3-A, etc.

Many different kinds of machines exist for transferring temperature-sensitive products, viscous substances, fluids with particles or particles in suspension: screw pumps, stirrers, mills, homogenisers, reactors and mixers. The most appropriate mechanical seal design is the hygienic one which reduces the possibility of product remains being deposited and not eliminated during CIP/SIP processes, which could give rise to sources of contamination.

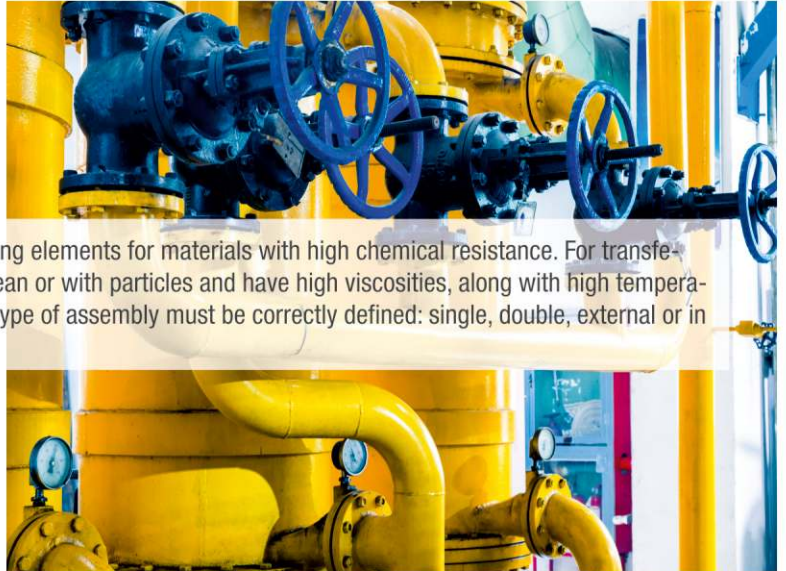


Applications	Requirements or critical conditions of the application	Type of seal recommended
Sauces:	Fluids containing particles	→ Wave spring seal (protected spring), conical spring seal, multispring seal (double) and single cartridge seal.
Sweets and chocolate	Viscous products Products with a high sugar content	→ Double cartridge seal, reservoirs, wave spring seal (protected spring) and bellows seal (metal).
Water and soft drinks:	Fluids without particles	→ Conical spring seal and bellows seal.
Beer:	CIP/SIP processes	→ Conical spring seal and wave spring seal (protected spring).
Dairy products (milk, yoghourts, butter, cheese, fats...)	Viscous products CIP/SIP processes	→ Wave spring seal (protected spring), conical spring seal and multispring seal (protected).
Creamy products, ointments, cosmetics, gels, etc	Viscous and sticky products	→ Multispring seal (double), double cartridge seal, reservoirs and wave spring seal (protected spring).

Determining the mechanical seal design and the appropriate materials for each application is essential in order to cut costs.

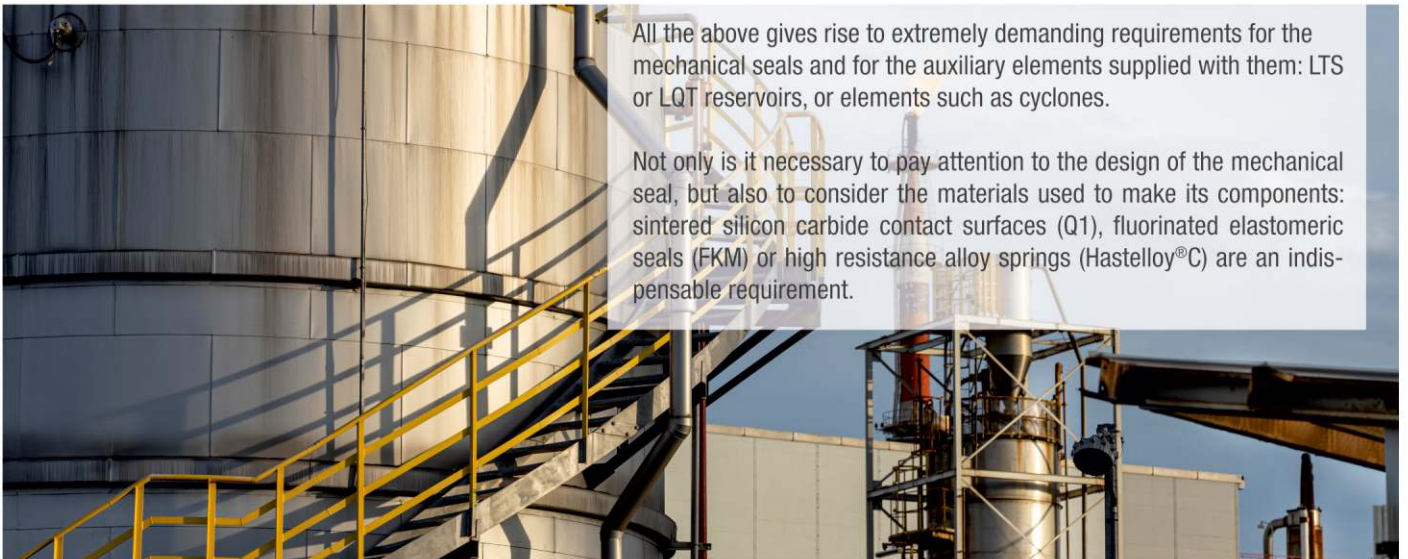


Chemical



In the chemical industry, the habitual processes require sealing elements for materials with high chemical resistance. For transferring very aggressive or corrosive chemical fluids that are clean or with particles and have high viscosities, along with high temperatures and pressures, the mechanical seal materials and the type of assembly must be correctly defined: single, double, external or in accordance with API plans.

Furthermore, the applications require sealing systems that guarantee safety, preventing the leakage of corrosive or flammable products that could enter the atmosphere. In this sector the ATEX certification is often required, to ensure equipment's safety when working in explosive environments.



All the above gives rise to extremely demanding requirements for the mechanical seals and for the auxiliary elements supplied with them: LTS or LQT reservoirs, or elements such as cyclones.

Not only is it necessary to pay attention to the design of the mechanical seal, but also to consider the materials used to make its components: sintered silicon carbide contact surfaces (Q1), fluorinated elastomeric seals (FKM) or high resistance alloy springs (Hastelloy®C) are an indispensable requirement.

Applications	Requirements or critical conditions of the application	Type of seal recommended
Chlorine and its by-products, acids, caustic products:	Corrosive fluids	→ Bellows seal (PTFE).
Detergents:	Viscous products	→ Multispring seal (double).
Fertilisers:	Chemically aggressive fluids	→ Bellows seal (PTFE).
Varnishes and paints:	Sticky products	→ Double cartridge seal, reservoirs and wave spring seal.
Pulp and paper:	Paste-like products	→ Double cartridge seal, reservoirs, multispring seal, (external arrangement) and wave spring seal.



Water treatment

In water treatment operations, different processes are carried out in order to obtain a product that complies with the stringent health and legal legislation of each country.

Even though water is the main element of the whole process and the main fluid used, the difficulties posed in sealing it are just as challenging as in other sectors.



During the different treatments to which water is subject, the mechanical seals may come into contact with sediments, organic matter, dissolved substances such as calcium and magnesium (hard water), sulphate and carbon dioxide (acid water), manganese (sewage water), nitrates (water contaminated by fertilisers), etc.

Although standard seals are often sufficient for most applications in this (supplying freshwater or transporting wastewater), in other cases the design of the mechanical seal and the materials must be carefully designed.

Applications	Requirements or critical conditions of the application	Type of seal recommended
Domestic water treatment		→ Bellows seal and conical spring seal.
Desanding/degreasing treatment	Fluids with a high particle content	→ Single cartridge seal, double cartridge seal, auxiliary elements (reservoirs cyclones) and wave spring seal.
Decanting		
Deodorising	Fluids containing chemicals: (sodium hypochlorite, sodium hydroxide, sulphuric acid)	→ Bellows Seal (PTFE).



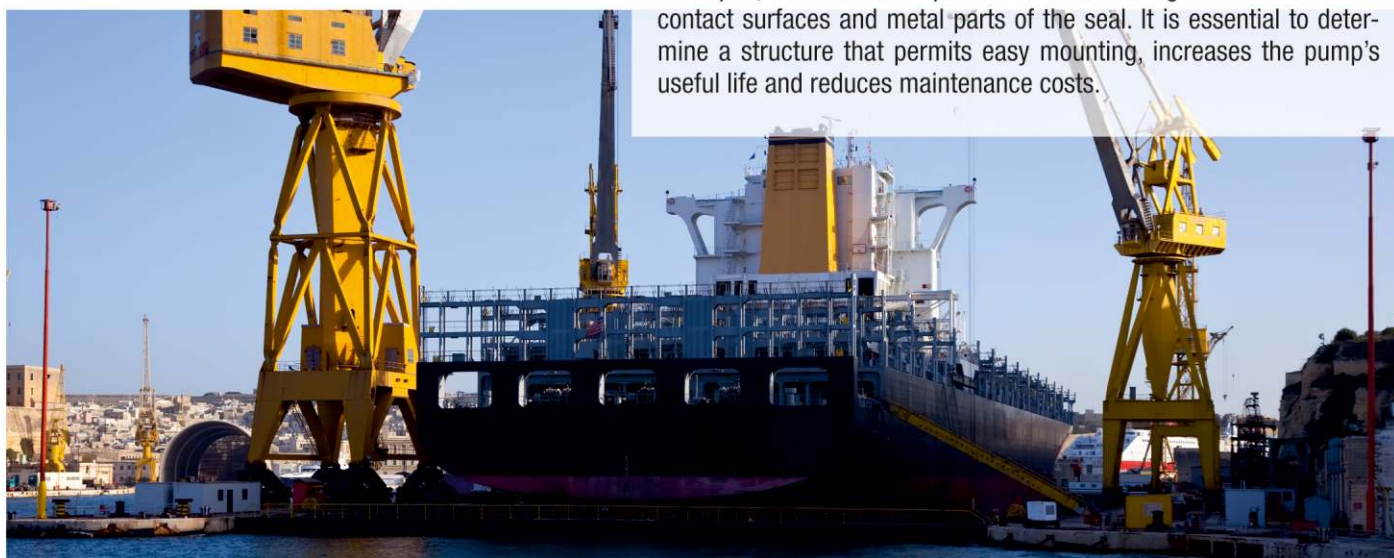
Maritime

Pumps installed on ships must be extremely reliable and durable. Use of different machines: cooling pumps, fire fighting pumps or boiler supply pumps, meaning that the types of mechanical seals used in this industry are quite diverse. The main applications are for:

- Cooling machinery
- Firefighting systems.
- Feeding boilers.
- Pumping ballast water.

A wide range of mechanical seal designs exist for this type of pumps, which operates in especially difficult conditions with high salt concentrations (this parameter varies, depending on the sea), at high pressures, etc.

Within this scope, not only is it important to locate spare parts to make the repair, but it is also important to select the right materials for the contact surfaces and metal parts of the seal. It is essential to determine a structure that permits easy mounting, increases the pump's useful life and reduces maintenance costs.



Applications	Requirements or critical conditions of the application	Type of seal recommended
Sea water:	High salt concentration High pressure	→ Multispring seal: Hastelloy®C materials multispring seal (balanced)
Sump pumps:	Complex assemblies	→ Single cartridge seal (split).
	High salt concentration	→ Single cartridge seal, axial spring seals: conical spring, wave spring seal and multispring seal.

Sector	Double cartridge seal	Single cartridge seal	Auxiliary elements	Wave spring seal	Multispring seals	Axial spring seals	Bellows seals
Food & Beverage	•	•	•	•	•	•	•
Pharmaceutical	•		•	•	•	•	
Chemical	•		•	•	•		•
Water treatment	•	•	•	•		•	•
Maritime		•		•	•	•	•

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 18$ to 100 mm $p = 16$ kg/cm²

$v = 20$ m/s $t = -15$ to $+200^\circ\text{C}^*$

(*) 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:

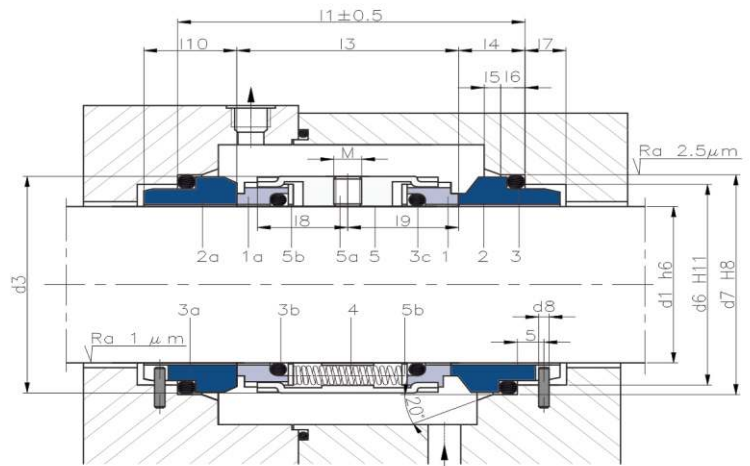
Double seal for working with barrier fluids in which the springs are isolated from the fluid product.

API 53A and AP I54 assemblies.

Recommended in applications with toxic, pollutant or potentially dangerous products in which safety is an important factor. Available with a pumping ring on the casing to reduce the temperature between the contact surfaces and facilitate the barrier fluid movement (AMS10-F). Available in a balanced version with a stepped shaft (AM10DB). Contact surface kits available.

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part					Stationary part									Total length
mm	d_3	l_3	l_8	l_9	M	d_6	d_7	d_8	l_4	l_5	l_6	l_7	l_{10}	l_1	
18	33	38	17.0	19.0	M5	27	33	3	11.5	2.0	5	9	19.5	61.0	
20	35	38	17.0	19.0	M5	29	35	3	11.5	2.0	5	9	19.5	61.0	
22	37	38	17.0	19.0	M5	31	37	3	11.5	2.0	5	9	19.5	61.0	
24	39	38	17.0	19.0	M5	33	39	3	11.5	2.0	5	9	19.5	61.0	
25	40	38	17.0	19.0	M5	34	40	3	11.5	2.0	5	9	19.5	61.0	
28	43	39	17.5	19.5	M6	37	43	3	11.5	2.0	5	9	19.5	62.0	
30	45	39	17.5	19.5	M6	39	45	3	11.5	2.0	5	9	19.5	62.0	
32	47	39	17.5	19.5	M6	42	48	3	11.5	2.0	5	9	19.5	62.0	
33	48	39	17.5	19.5	M6	42	48	3	11.5	2.0	5	9	19.5	62.0	
35	50	39	17.5	19.5	M6	44	50	3	11.5	2.0	5	9	19.5	62.0	
38	55	41	18.5	20.5	M6	49	56	4	14.0	2.0	6	9	22.0	69.0	
40	57	42	19.0	21.0	M6	51	58	4	14.0	2.0	6	9	22.0	70.0	
43	60	42	19.0	21.0	M6	54	61	4	14.0	2.0	6	9	22.0	70.0	
45	62	42	19.0	21.0	M6	56	63	4	14.0	2.0	6	9	22.0	70.0	
48	65	42	19.0	21.0	M6	59	66	4	14.0	2.0	6	9	22.0	70.0	
50	67	43	19.5	21.5	M6	62	70	4	15.0	2.5	6	9	23.0	73.0	
53	70	43	19.5	21.5	M6	65	73	4	15.0	2.5	6	9	23.0	73.0	
55	72	43	19.5	21.5	M8	67	75	4	15.0	2.5	6	9	23.0	73.0	
58	79	56	23.5	28.0	M8	70	78	4	15.0	2.5	6	9	23.0	86.0	
60	81	56	23.5	28.0	M8	72	80	4	15.0	2.5	6	9	23.0	86.0	
63	84	55	24.5	27.5	M8	75	83	4	15.0	2.5	6	9	-	85.0	
65	86	55	24.5	27.5	M8	77	85	4	15.0	2.5	6	9	23.0	85.0	
68	89	55	24.5	27.5	M8	81	90	4	18.0	2.5	7	9	26.0	91.0	
70	91	56	23.5	28.0	M8	83	92	4	18.0	2.5	7	9	26.0	92.0	
75	99	56	25.5	28.0	M8	88	97	4	18.0	2.5	7	9	26.0	92.0	
80	104	56	25.5	28.0	M8	95	105	4	18.2	3.0	7	9	26.2	92.5	
85	100	56	25.0	28.0	M8	100	110	4	18.2	3.0	7	9	26.2	92.5	
90	114	56	25.5	28.0	M8	105	115	4	18.2	3.0	7	9	26.2	92.5	
95	119	56	25.0	28.0	M8	110	120	4	17.2	3.0	7	9	25.2	90.5	
100	124	56	25.0	28.0	M8	115	125	4	17.2	3.0	7	9	25.2	90.5	

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

- Balanced
- Independent Rotation System
- Multispring
- External Mounting

OPERATING LIMITS:

$$d_1 = 18 \text{ to } 100 \text{ mm} \quad p = 10 \text{ kg/cm}^2$$

$$v = 20 \text{ m/s} \quad t = -15 \text{ to } +200^\circ\text{C} (*)$$

(*) 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.

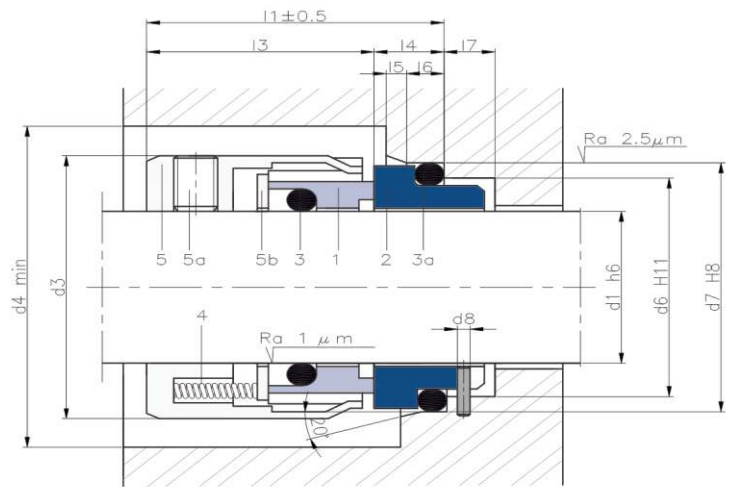
DESCRIPTION:

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 compliant with standard EN 12756.

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



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part			Stationary part							Total length
mm	d ₃	d ₄	l ₃	d ₆	d ₇	d ₈	l ₄	l ₅	l ₆	l ₇	l ₁
18	32	37	21.0	27	33	3	10.0	2.0	4	9	31
20	34	39	21.0	29	35	3	10.0	2.0	5	9	31
22	36	41	21.0	31	37	3	10.0	2.0	5	9	31
24	38	43	24.0	33	39	3	10.0	2.0	5	9	34
25	39	44	24.0	34	40	3	10.0	2.0	5	9	34
28	42	47	24.0	37	43	3	10.0	2.0	5	9	34
30	44	49	25.0	39	45	3	10.0	2.0	5	9	35
32	46	51	25.0	42	48	3	10.0	2.0	5	9	35
33	47	52	25.0	42	48	3	10.0	2.0	5	9	35
35	49	54	25.0	44	50	3	10.0	2.0	5	9	35
38	54	59	28.0	49	56	4	11.0	2.0	6	9	39
40	56	61	28.0	51	58	4	11.0	2.0	6	9	39
43	59	64	28.0	54	61	4	11.0	2.0	6	9	39
45	61	66	28.0	56	63	4	11.0	2.0	6	9	39
48	64	69	28.0	59	66	4	11.0	2.0	6	9	39
50	66	71	28.0	62	70	4	13.0	2.5	6	9	41
53	69	74	28.0	65	73	4	13.0	2.5	6	9	41
55	71	76	28.0	67	75	4	13.0	2.5	6	9	41
58	78	83	29.0	70	78	4	13.0	2.5	6	9	42
60	80	85	29.0	72	80	4	13.0	2.5	6	9	42
63	83	88	32.0	75	83	4	13.0	2.5	6	9	45
65	85	90	32.0	77	85	4	13.0	2.5	6	9	45
68	88	93	32.7	81	90	4	15.3	2.5	7	9	48
70	90	95	32.7	83	92	4	15.3	2.5	7	9	48
75	99	104	36.7	88	97	4	15.3	2.5	7	9	52
80	104	109	36.3	95	105	4	15.7	3.0	7	9	52
85	109	114	36.3	100	110	4	15.7	3.0	7	9	52
90	114	119	39.3	105	115	4	15.7	3.0	7	9	55
95	119	124	39.3	110	120	4	15.7	3.0	7	9	55
100	124	129	39.3	115	125	4	15.7	3.0	7	9	55

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 20$ to 100 mm $p = 12$ kg/cm²

$v = 20$ m/s $t = -40$ to $+200^\circ\text{C}^*$

(*) 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:

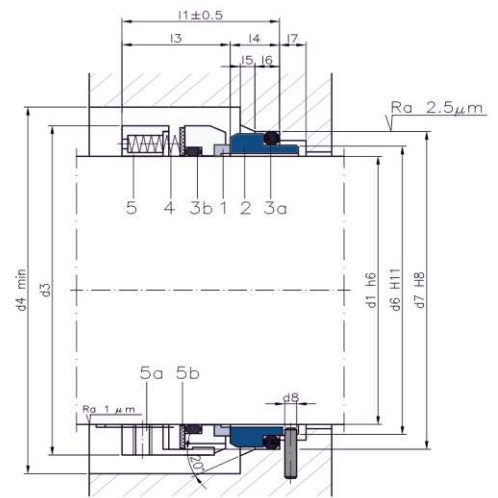
The contact surface of the rotating part can be detached, which makes this model extremely versatile as it is easy to exchange contact surfaces made of different materials.

Seal compliant with standard EN 12756.

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

AMS13



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part			Stationary part							Total length
mm	d_3	d_4	l_3	d_6	d_7	d_8	l_4	l_5	l_6	l_7	l_1
20	34	36	27.5	29.0	35.0	3.0	10.0	2.0	5.0	9.0	37.5
22	36	38	27.5	31.0	37.0	3.0	10.0	2.0	5.0	9.0	37.5
24	38	40	30.0	33.0	39.0	3.0	10.0	2.0	5.0	9.0	40.0
25	39	41	30.0	34.0	40.0	3.0	10.0	2.0	5.0	9.0	40.0
28	42	44	32.5	37.0	43.0	3.0	10.0	2.0	5.0	9.0	42.5
30	44	46	32.5	39.0	45.0	3.0	10.0	2.0	5.0	9.0	42.5
32	46	48	32.5	42.0	48.0	3.0	10.0	2.0	5.0	9.0	42.5
33	47	49	32.5	42.0	48.0	3.0	10.0	2.0	5.0	9.0	42.5
35	49	51	32.5	44.0	50.0	3.0	10.0	2.0	5.0	9.0	42.5
38	54	58	34.0	49.0	56.0	4.0	11.0	2.0	6.0	9.0	45.0
40	56	60	34.0	51.0	58.0	4.0	11.0	2.0	6.0	9.0	45.0
43	59	63	34.0	54.0	61.0	4.0	11.0	2.0	6.0	9.0	45.0
45	61	65	34.0	56.0	63.0	4.0	11.0	2.0	6.0	9.0	45.0
48	64	68	34.0	59.0	66.0	4.0	11.0	2.0	6.0	9.0	45.0
50	66	70	34.5	62.0	70.0	4.0	13.0	2.5	6.0	9.0	47.5
53	69	73	34.5	65.0	73.0	4.0	13.0	2.5	6.0	9.0	47.5
55	71	75	34.5	67.0	75.0	4.0	13.0	2.5	6.0	9.0	47.5
58	78	83	39.5	70.0	78.0	4.0	13.0	2.5	6.0	9.0	52.5
60	80	85	39.5	72.0	80.0	4.0	13.0	2.5	6.0	9.0	52.5
63	83	88	39.5	75.0	83.0	4.0	13.0	2.5	6.0	9.0	52.5
65	85	90	39.5	77.0	85.0	4.0	13.0	2.5	6.0	9.0	52.5
68	88	93	37.5	81.0	90.0	4.0	15.0	2.5	7.0	9.0	52.5
70	90	95	45.0	83.0	92.0	4.0	15.0	2.5	7.0	9.0	60.0
75	99	104	45.0	88.0	97.0	4.0	15.0	2.5	7.0	9.0	60.0
80	104	109	44.5	95.0	105.0	4.0	15.5	3.0	7.0	9.0	60.0
85	109	114	44.5	100.0	110.0	4.0	15.5	3.0	7.0	9.0	60.0
90	114	119	49.5	105.0	115.0	4.0	15.5	3.0	7.0	9.0	65.0
95	119	124	49.5	110.0	120.0	4.0	15.5	3.0	7.0	9.0	65.0
100	124	129	49.5	115.0	125.0	4.0	15.5	3.0	7.0	9.0	65.0

Dimensions subject to changes or modifications.

AMS14

SECTORS:



CHARACTERISTICS:

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

OPERATING LIMITS:

$d_1 = 18$ to 100 mm $p = 14$ kg/cm²

$v = 15$ m/s $t = -15$ to $+200^\circ\text{C}$ (*)

(*) 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.

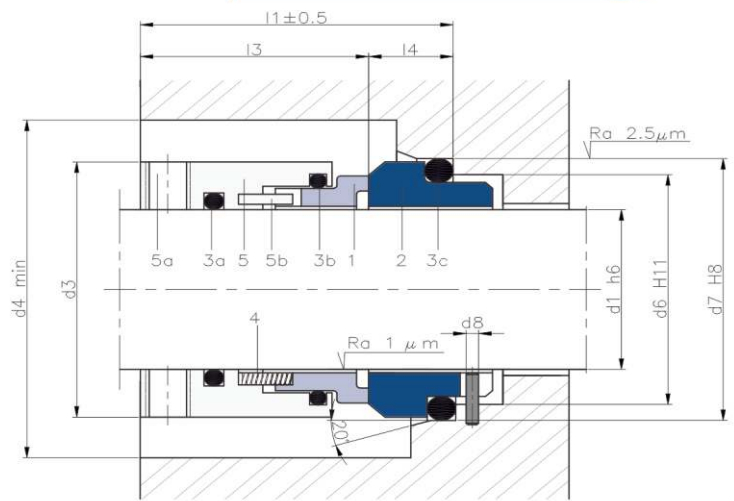
DESCRIPTION:

The springs are not in contact with the fluid. Ideal for working with particle-laden fluids in which standard designs tend to become blocked.

Internally balanced, with no need for a stepped shaft. 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 (changes in pressure).

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft mm	Rotary part			Stationary part				Total length l ₁
	d ₃	d ₄	l ₃	d ₆	d ₇	d ₈	l ₄	
18	33	36	32	27	33	3	13.5	45.5
20	35	38	32	29	35	3	13.5	45.5
22	37	40	32	31	37	3	13.5	45.5
24	39	42	32	33	39	3	13.3	45.3
25	40	43	32	34	40	3	13.0	45.0
28	43	46	32	37	43	3	12.5	44.5
30	45	48	32	39	45	3	12.0	44.0
32	47	50	42	42	48	3	12.0	54.0
33	48	51	42	42	48	3	12.0	54.0
35	50	53	42	44	50	3	12.0	54.0
38	55	58	42	49	56	3	13.0	55.0
40	57	60	42	51	58	3	13.0	55.0
43	60	63	42	54	61	4	13.0	55.0
45	62	65	42	56	63	4	13.0	55.0
48	65	68	42	59	66	4	13.0	55.0
50	67	70	42	62	70	4	13.5	55.5
53	70	73	42	65	73	4	13.5	55.5
55	72	75	42	67	75	4	13.5	55.5
58	79	82	42	70	78	4	13.5	55.5
60	81	84	42	72	80	4	13.5	55.5
65	86	89	42	77	85	4	13.5	55.5
68	89	92	42	81	90	4	13.5	55.5
70	91	94	42	83	92	4	14.5	56.5
75	99	102	48	88	97	4	14.5	62.5
80	104	107	48	95	105	4	15.0	63.0
85	109	112	48	100	110	4	15.0	63.0
90	114	117	48	105	115	4	15.0	63.0
95	119	122	48	110	120	4	15.0	63.0
100	124	127	48	115	125	4	15.0	63.0

DIMENSIONS CHART For Imperial Shaft Sizes

Shaft		Rotary part			Stationary part			Total length
(^u)	mm	d ₃	d ₄	l ₃	d ₆	d ₇	l ₄	l ₁
0.750	19.05	34	37	32	29.9	34.9	6.6	38.6
0.875	22.23	36	39	32	33.1	38.1	6.6	38.6
1.000	25.40	39	42	32	36.3	41.3	6.6	38.6
1.125	28.58	43	46	32	39.5	44.5	6.6	38.6
1.250	31.75	46	49	32	42.6	47.6	6.6	38.6
1.375	34.93	49	52	32	45.8	50.8	6.6	38.6
1.500	38.10	54	57	32	47.6	54	7.5	39.5
1.625	41.28	57	60	32	53.9	60.3	8.2	40.2
1.750	44.45	60	63	42	57.1	63.5	8.2	50.2
1.875	47.63	64	67	42	60.3	66.7	8.2	50.2
2.000	50.80	67	70	42	63.5	69.9	8.2	50.2
2.125	53.98	70	73	42	69.8	76.2	9.5	51.5
2.250	57.15	73	76	42	73	79.4	9.5	51.5
2.375	60.33	76	79	42	76.2	82.6	9.5	51.5
2.500	63.50	79	82	42	79.3	85.7	9.5	51.5
2.625	66.68	83	86	42	79.3	85.7	9.5	51.5
2.750	69.85	92	95	42	82.5	88.9	9.5	51.5
2.875	73.03	95	98	42	85.3	95.3	11.3	53.3
3.000	76.20	98	101	42	88.4	98.4	11.3	53.3
3.125	79.38	101	104	42	91.6	101.6	14.3	56.3
3.250	82.55	104	107	42	94.8	104.8	14.3	56.3
3.375	85.73	107	110	42	98	108	14.3	56.3
3.500	88.90	111	114	42	101.1	111.1	14.3	56.3
3.625	92.08	114	117	42	104.3	114.3	14.3	56.3
3.750	95.25	117	120	48	107.5	117.5	14.3	62.3
3.875	98.43	120	123	48	110.7	120.7	14.3	62.3
4.000	101.60	123	126	48	113.8	123.8	14.3	62.3

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 20 \text{ to } 100 \text{ mm}$ $p = 12 \text{ kg/cm}^2$

$v = 20 \text{ m/s}$ $t = -40 \text{ to } +200^\circ\text{C} (^{\circ})$

(*) 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.

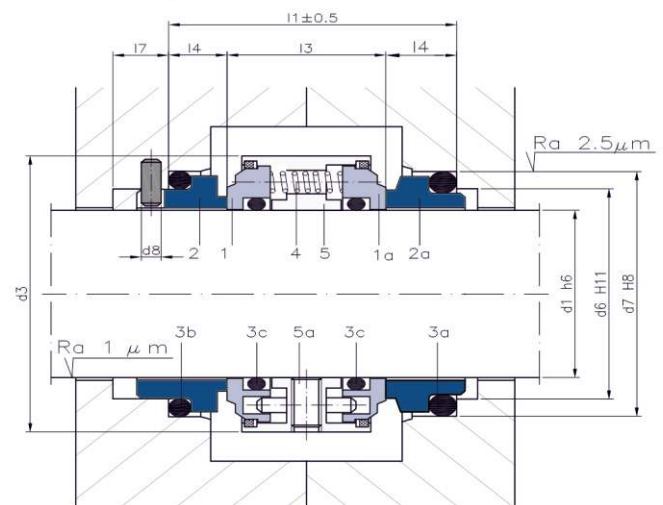
DESCRIPTION:

Double seal for working with barrier fluids in which the springs are isolated from the fluid product.
API 53A and AP I54 assemblies.

Recommended in applications with toxic, pollutant or potentially dangerous products in which safety is an important factor.

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part		Stationary part					Total length
mm	d ₃	l ₃	d ₆	d ₇	d ₈	l ₄	l ₇	l ₁
20	40	23	29	35	3	10	9	43
25	44.5	25	34	40	3	10	9	45
28	47.5	25	37	43	3	8.5	9	38
30	50	27	39	45	3	10	9	47
35	56	28.5	44	50	3	10	9	48.5
43	71	30	54	61	4	13	9	56
50	80	30	62	70	4	14	9	58
65	98	35	77	85	4	14	9	63
100	145	45	115	125	4	16	9	81

Dimensions subject to changes or modifications.

AMS20 / AMS20T

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 14$ to 100 mm $p = 10$ kg/cm²

$v = 20$ m/s $t = -15$ to $+200^\circ\text{C}$ (*)

(*) 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.

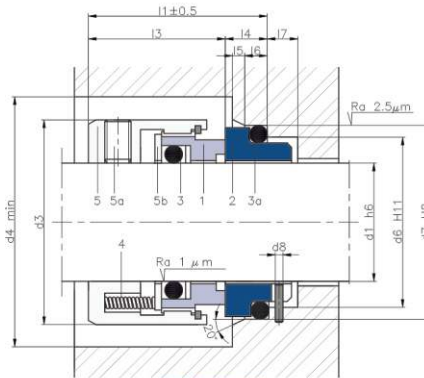
DESCRIPTION:

The set of springs placed around the contact surface of the rotating part generates a more uniform load than in models with a single spring.

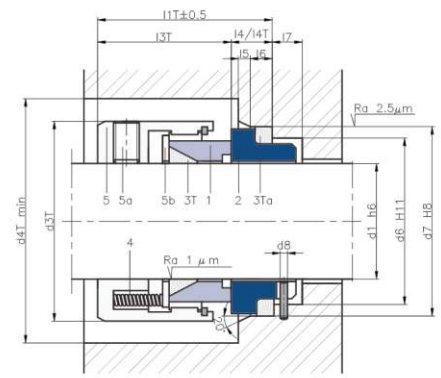
The AMS20 is suitable for many different applications. Seal compliant with standard EN 12756 (KU). The AMS20T uses a PTFE wedge as a secondary seal and is appropriate for highly aggressive chemicals and for thermal oils with high temperatures. The version in inches has a standard stationary PF. L22 part.

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



TYPE AMS20



TYPE AMS20T

DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part						Stationary part							Total length	
mm	d ₃	d _{3T}	d ₄	d _{4T}	l ₃	l _{3T}	d ₆	d ₇	d ₈	l ₄	l ₅	l ₆	l ₇	l ₁	l _{1T}
14	24	28.4	26	31	23	21	21	25	3	12	1.5	4	8.5	35	33
16	26	30.8	28	34	23	19	23	27	3	12	1.5	4	8.5	35	31
18	32	33.8	34	36.5	24	22	27	33	3	13.5	2	5	9	37.5	35
20	34	34.8	36	38	24	24	29	35	3	13.5	2	5	9	37.5	37.5
22	36	35.6	38	39	24	24	31	37	3	13.5	2	5	9	37.5	37.5
24	38	38.8	40	42	26.7	25	33	39	3	13.3	2	5	9	40	38.3
25	39	39.8	41	43	27	25	34	40	3	13	2	5	9	40	38
28	42	43.4	44	46	30	27	37	43	3	12.5	2	5	9	42.5	39.5
30	44	46.4	46	49	30.5	27	39	45	3	12	2	5	9	42.5	39
32	46	49.7	48	53	30.5	29	42	48	3	12	2	5	9	42.5	41
33	47	-	49	-	30.5	-	42	48	3	12	2	5	9	42.5	-
35	49	51.3	51	54	30.5	29	44	50	3	12	2	5	9	42.5	41
38	54	54.5	58	58	32	29	49	56	4	13	2	6	9	45	42
40	56	59.6	60	63	32	35	51	58	4	13	2	6	9	45	48
43	59	-	63	-	32	-	54	61	4	13	2	6	9	45	-
45	61	64.7	65	68	32	35	56	63	4	13	2	6	9	45	48
48	64	67.2	68	70	32	35	59	66	4	13	2	6	9	45	48
50	66	69.6	70	73	34	35	62	70	4	13.5	2.5	6	9	47.5	48.5
53	69	-	73	-	34	-	65	73	4	13.5	2.5	6	9	47.5	-
55	71	77.7	75	81	34	43	67	75	4	13.5	2.5	6	9	47.5	56.5
58	78	-	83	-	39	-	70	78	4	13.5	2.5	6	9	52.5	-
60	80	82.7	85	86	39	43	72	80	4	13.5	2.5	6	9	52.5	56.5
63	83	-	88	-	39	-	75	83	4	13.5	2.5	6	9	52.5	-
65	85	87.7	90	91	39	43	77	85	4	13.5	2.5	6	9	52.5	56.5
68	88	-	93	-	39	-	81	90	4	13.5	2.5	7	9	52.5	-
70	90	92.6	95	96	45.5	43	83	92	4	14.5	2.5	7	9	60	57.5
75	95	96.3	104	100	45.5	43	88	97	4	14.5	2.5	7	9	60	57.5
80	104	101.1	109	104	45	43	95	105	4	15	3	7	9	60	58
85	109	107.7	114	111	45	43	100	110	4	15	3	7	9	60	58
90	114	112.7	119	116	50	43	105	115	4	15	3	7	9	65	58
95	119	117.7	124	121	50	43	110	120	4	15	3	7	9	65	58
100	124	122.7	129	126	50	43	115	125	4	15	3	7	9	65	58

Dimensions subject to changes or modifications.

DIMENSIONS CHART For Imperial Shaft Sizes

Shaft		Rotary part						Stationary part				Total length	
(")	mm	d ₃	d _{3T}	d ₄	d _{4T}	l ₃	l _{3T}	d ₆	d ₇	l ₄	l _{4T}	l ₁	l _{1T}
0.500	12.70	23.8	26.7	27	29	23.8	20.6	20.4	25.4	5.9	7.9	29.7	28.5
0.625	15.88	27	30.7	30.2	34	23.8	19	26.8	31.8	6.6	10.3	30.4	29.3
0.750	19.05	30.2	34	33.3	37	23.8	22.2	29.9	34.9	6.6	10.3	30.4	32.5
0.875	22.23	33.3	37.2	36.5	40	23.8	23.8	33.1	38.1	6.6	10.3	30.4	34.1
1.000	25.40	36.5	40.3	39.7	43	25.4	25.4	36.3	41.3	6.6	11.1	32	36.5
1.125	28.58	39.7	43.5	42.9	46	25.4	27	39.5	44.5	6.6	11.1	32	38.1
1.250	31.75	42.9	48.3	46	51	25.4	27	42.6	47.6	6.6	11.1	32	38.1
1.375	34.93	49.2	51.5	52.4	54	35	28.6	45.8	50.8	6.6	11.1	41.6	39.7
1.500	38.10	49.2	54.6	52.4	58	28.6	28.6	47.6	54	7.5	11.1	36.1	39.7
1.625	41.28	57.2	61	60.3	64	29.4	35	53.9	60.3	8.2	12.7	37.6	47.7
1.750	44.45	58.7	64.2	61.9	67	35	35	57.1	63.5	8.2	12.7	43.2	47.7
1.875	47.63	63.5	67.3	66.7	70	35	35	60.3	66.7	8.2	12.7	43.2	47.7
2.000	50.80	66.7	70.5	69.9	73	35	35	63.5	69.9	8.2	12.7	43.2	47.7
2.125	53.98	71.4	76.9	74.6	80	43	43	69.8	76.2	9.5	14.3	52.5	57.3
2.250	57.15	72.2	80	75.4	83	35	43	73	79.4	9.5	14.3	44.5	57.3
2.375	60.33	76.2	83.2	79.4	86	43	43	76.2	82.6	9.5	14.3	52.5	57.3
2.500	63.50	79.4	86.4	82.6	89	35	43	79.3	85.7	9.5	14.3	44.5	57.3
2.625	66.68	82.6	89.6	85.7	92	43	43	79.3	85.7	9.5	15.9	52.5	58.9
2.750	69.85	85.7	92.7	88.9	96	43	43	82.5	88.9	9.5	15.9	52.5	58.9
2.875	73.03	88.9	95.9	92.1	99	43	43	85.3	95.3	11.3	15.9	54.3	58.9
3.000	76.20	92.1	97.5	95.3	100	43	43	88.4	98.4	11.3	15.9	54.3	58.9
3.125	79.38	95.3	100.7	98.4	104	43	43	91.6	101.6	14.3	19.8	57.3	62.8
3.250	82.55	98.4	105.4	101.6	108	43	43	94.8	104.8	14.3	19.8	57.3	62.8
3.375	85.73	101.6	108.6	104.8	111	43	43	98	108	14.3	19.8	57.3	62.8
3.500	88.90	104.8	111.8	108	115	43	43	101.1	111.1	14.3	19.8	57.3	62.8
3.625	92.08	108	115	111.1	118	43	43	104.3	114.3	14.3	19.8	57.3	62.8
3.750	95.25	111.1	118.1	114.3	121	43	43	107.5	117.5	14.3	19.8	57.3	62.8
3.875	98.43	114.3	121.3	117.5	124	43	43	110.7	120.7	14.3	19.8	57.3	62.8
4.000	101.60	117.5	124.5	120.7	127	43	43	113.8	123.8	14.3	19.8	57.3	62.8

AMS20B / AMS20BT

SECTORS:



CHARACTERISTICS:

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

OPERATING LIMITS:

$d_1 = 14$ to 100 mm $p = 60$ kg/cm²

$v = 25$ m/s $t = -15$ to $+200^\circ\text{C}$ (*)

(*) 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.

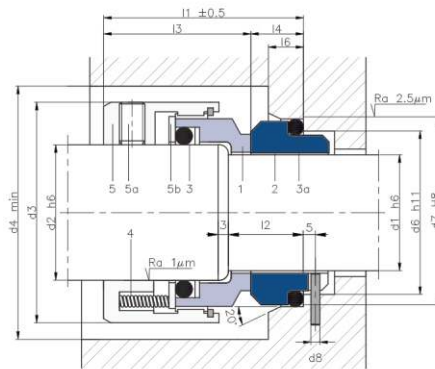
The set of springs placed around the contact surface of the rotating part generates a more uniform load than in models with a single spring.

It can be supplied with PTFE wedge for highly aggressive chemicals with high temperatures.

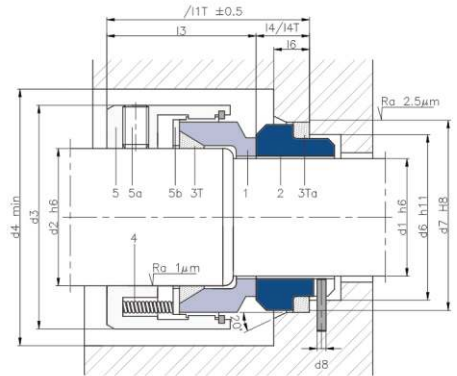
Seal compliant with standard EN 12756 (KB).

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



TYPE AMS20B



TYPE AMS20BT

DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part				Stationary part							Total length
mm	d ₂	d ₃	d ₄	l ₃	d ₆	d ₇	d ₈	l ₂	l ₄ /l _{4T}	l ₆	l ₇	l ₁ /l _{1T}
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
18	22	36	38	31.5	27	33	3	20	13.5	7	9	45
20	24	38	40	31.5	29	35	3	20	13.5	7	9	45
22	26	40	42	31.5	31	37	3	20	13.5	7	9	45
24	28	42	44	34.2	33	39	3	20	13.3	7	9	47.5
25	30	44	46	34.5	34	40	3	20	13	7	9	47.5
28	33	47	49	37.5	37	43	3	20	12.5	7	9	50
30	35	49	51	38	39	45	3	20	12	7	9	50
32	38	54	58	38	42	48	3	20	12	7	9	50
33	38	54	58	38	42	48	3	23	12	7	9	50
35	40	56	60	38	44	50	3	23	12	7	9	50
38	43	59	63	39.5	49	56	4	23	13	8	9	52.5
40	45	61	65	39.5	51	58	4	23	13	8	9	52.5
43	48	64	68	39.5	54	61	4	23	13	8	9	52.5
45	50	66	70	39.5	56	63	4	23	13	8	9	52.5
48	53	69	73	39.5	59	66	4	23	13	8	9	52.5
50	55	71	75	44	62	70	4	25	13.5	8.5	9	57.5
53	58	78	83	44	65	73	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
58	63	83	88	49	70	78	4	25	13.5	8.5	9	62.5
60	65	85	90	49	72	80	4	25	13.5	8.5	9	62.5
65	70	90	95	49	77	85	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
75	80	104	109	55.5	88	97	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.

DIMENSIONS CHART For Imperial Shaft Sizes

Shaft	Rotary part				Stationary part							Total length
(") mm	d ₂ (")	d ₂ mm	d ₃	d ₄	l ₃	d ₆	d ₇	l ₄	l _{4T}	l ₆	l ₇	l ₁ l _{1T}
0.875	22.23	1.000	25.40	39.67	41.67	33.32	36.3	41.3	6.6	11.1	39.92	44.42
1.000	25.40	1.125	28.58	42.85	44.85	34.93	39.5	44.5	6.6	11.1	41.53	46.03
1.125	28.58	1.250	31.75	47.63	35.75	34.93	42.6	47.6	6.6	11.1	41.53	46.03
1.125	28.58	1.375	34.93	50.8	38.93	36.5	45.8	50.8	6.6	11.1	43.1	47.6
1.250	31.75	1.500	38.10	53.98	42.10	36.5	47.6	54	7.5	11.1	44	47.6
1.375	34.93	1.625	41.28	60.33	45.28	44.45	53.9	60.3	8.2	12.7	52.65	57.15
1.500	38.10	1.750	44.45	63.5	48.45	44.45	57.1	63.5	8.2	12.7	52.65	57.15
1.625	41.28	1.875	47.63	66.68	51.63	44.45	60.3	66.7	8.2	12.7	52.65	57.15
1.750	44.45	2.000	50.80	69.85	54.80	44.45	63.5	69.9	8.2	12.7	52.65	57.15
1.875	47.63	2.125	53.98	76.2	58.98	52.37	69.8	76.2	9.5	14.3	61.87	66.67
2.000	50.80	2.250	57.15	79.38	62.15	52.37	73	79.4	9.5	14.3	61.87	66.67
2.125	53.98	2.375	60.33	82.55	65.33	52.37	76.2	82.6	9.5	14.3	61.87	66.67
2.250	57.15	2.500	63.50	85.73	68.50	52.37	79.3	85.7	9.5	14.3	61.87	66.67
2.375	60.33	2.625	66.68	88.9	71.68	52.37	79.3	85.7	9.5	15.9	61.87	68.27
2.500	63.50	2.750	69.85	92.08	74.85	52.37	82.5	88.9	9.5	15.9	61.87	68.27
2.625	66.68	2.875	73.03	95.25	78.03	52.37	85.3	95.3	11.3	15.9	63.67	68.27
2.750	69.85	3.000	76.20	96.82	81.20	52.37	88.4	98.4	11.3	15.9	63.67	68.27
2.875	73.03	3.125	79.38	100	84.38	52.37	91.6	101.6	14.3	19.8	66.67	72.17
3.000	76.20	3.250	82.55	104.78	87.55	52.37	94.8	104.8	14.3	19.8	66.67	72.17
3.125	79.38	3.375	85.73	107.95	90.73	52.37	98	108	14.3	19.8	66.67	72.17
3.250	82.55	3.500	88.90	111.13	93.90	52.37	101.1	111.1	14.3	19.8	66.67	72.17
3.375	85.73	3.625	92.08	114.3	97.08	52.37	104.3	114.3	14.3	19.8	66.67	72.17
3.500	88.90	3.750	95.25	117.48	100.25	52.37	107.5	117.5	14.3	19.8	66.67	72.17
3.625	92.08	3.875	98.43	120.65	103.43	52.37	110.7	120.7	14.3	19.8	66.67	72.17
3.750	95.25	4.000	101.60	123.83	106.60	52.37	113.8	123.8	14.3	19.8	66.67	72.17

AMS22

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 20$ to 100 mm $p = 12$ kg/cm²

$v = 20$ m/s $t = -40$ to $+200^\circ\text{C}$ (*)

(*) The temperature resistance depends on the material of the secondary seals used.

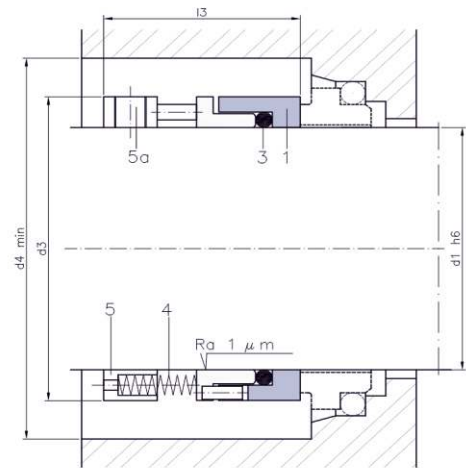
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

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.

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part		
mm	d_3	d_4	l_3
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
68	86	91	41
70	90	95	42
75	95	100	42
80	100	105	42
85	105	110	43
90	110	115	45
95	115	120	45
100	120	125	45

Dimensions subject to changes or modifications.

DIMENSIONS CHART For Imperial Shaft Sizes

Shaft	Rotary part		
(") mm	d_3	d_4	l_3
1.00 25.40	39.70	44.70	41.28
1.13 28.58	42.85	47.85	41.28
1.19 30.15	44.45	49.45	41.28
1.25 31.75	46.02	51.02	41.28
1.38 34.93	49.20	54.20	41.28
1.44 36.50	50.80	55.80	41.28
1.50 38.10	52.37	57.37	41.28
1.63 41.28	58.70	63.72	44.45
1.75 44.45	60.33	65.33	44.45
1.88 47.63	65.07	70.07	44.45
2.00 50.80	68.25	73.25	44.45
2.13 53.98	71.42	76.42	44.45
2.25 57.15	74.60	79.60	44.45
2.38 60.33	77.77	82.77	44.45
2.50 63.50	80.95	85.95	44.45
2.63 66.68	84.12	89.12	44.45
2.75 69.85	87.30	92.30	44.45
2.88 73.03	90.47	95.47	44.45
3.00 76.20	93.65	98.65	44.45
3.13 79.38	101.60	106.60	44.45
3.25 82.55	104.78	109.78	44.45
3.38 85.73	107.95	112.95	44.45
3.50 88.90	111.13	116.13	44.45
3.63 92.08	114.30	119.30	44.45
3.75 95.25	117.48	122.48	46.02
3.88 98.43	120.65	125.65	46.02
4.00 101.60	123.83	128.83	46.02
4.25 107.95	130.18	135.18	52.37
4.50 114.30	136.53	141.53	52.37

SECTORS:



CHARACTERISTICS:

- Balanced.
- Independent Rotation System
- Multispring

OPERATING LIMITS:

$$p = 50 \text{ kg/cm}^2 \quad v = 50 \text{ m/s}$$

$$t = -20 \text{ to } +140^\circ\text{C} (*)$$

(*) 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.

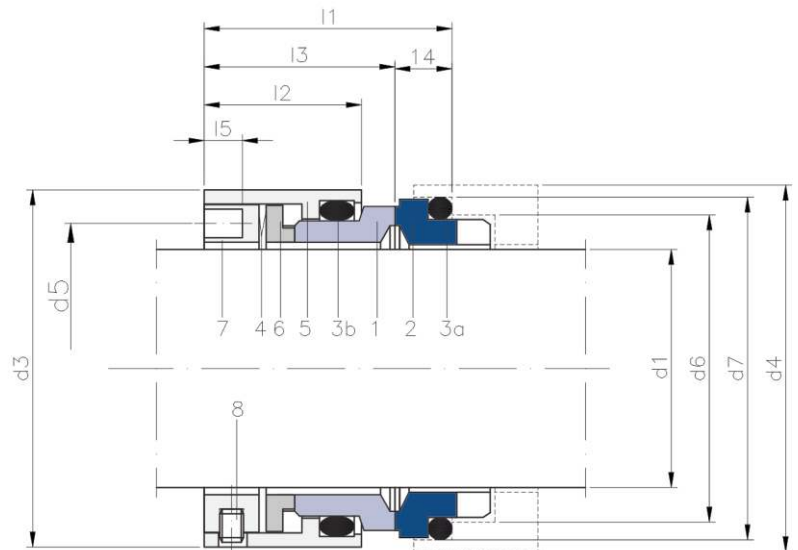
DESCRIPTION:

Balanced mechanical seal with protected springs to prevent them from blocking when in contact with sticky or viscous fluids. The O-ring on the shaft is static, thereby preventing "fretting" of the shaft.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3a O-ring
- 4 Spring
- 5 Metal frame
- 6 Ring
- 7 Metal frame
- 8 Setting clips

AMS26



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part									
mm	d ₃	d ₄	d ₅	d ₆	d ₇	l ₁	l ₂	l ₃	l ₄	l ₅
40	65	64	52	53.5	59	48.5	30	39	9.5	5
50	75	77	61	63.5	72	54.5	33	42.2	12.3	5
53	80	80	64	66.5	75	55	33.5	42.7	12.3	5
55	85	85	68	71.5	80	60	63.5	47.2	12.8	5
60	90	90	74	76.5	85	61.5	38	48.7	12.8	5
65	95	95	78	81.5	90	62	38	49.2	12.8	5
80	115	119	98	102	110.5	63.5	38	50	13.5	5

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

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

OPERATING LIMITS:

$d_1 = 25$ to 160 mm $p =$ Vacuum 6 kg/cm^2

$v = 2 \text{ m/s}$ $t = -20$ to $+150^\circ\text{C}^*$

(*) The temperature resistance depends on the material of the secondary seals used.

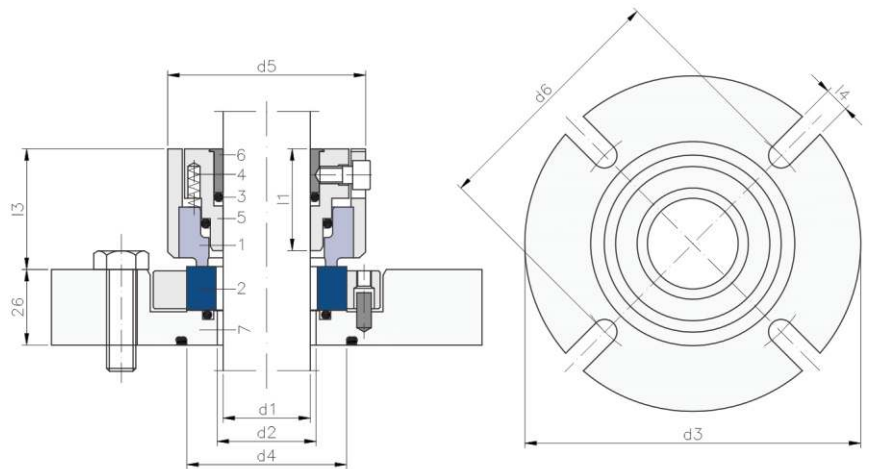
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

A multi-spring mechanical seal recommended for vertical stirrers with moderate speeds. The fixed part may have cooling/lubrication systems: flush and/or cooled flange connection.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 4 Springs
- 5 Metal frame
- 6 Sleeve
- 7 Flange



DIMENSIONS CHART For Imperial Shaft Sizes

Shaft		Rotary part			Stationary part					
(")	mm	l_1	l_3	d_5	d_2	d_3	d_4	$d_{6 \text{ min}}$	$d_{6 \text{ max}}$	l_4
1.00	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
-	30	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
-	40	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

Shaft		Rotary part			Stationary part					
(")	mm	l_1	l_3	d_5	d_2	d_3	d_4	$d_{6 \text{ min}}$	$d_{6 \text{ max}}$	l_4
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
100	-	43.5	44.5	138	104	228	125	175	210	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.

SECTORS:



CHARACTERISTICS:

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

OPERATING LIMITS:

$$d_1 = 25 \text{ to } 175 \text{ mm} \quad p = 15 \text{ kg/cm}^2$$

$$v = 2 \text{ m/s} \quad t = -20 \text{ to } +200^\circ\text{C} (*)$$

(*) The temperature resistance depends on the material of the secondary seals used.

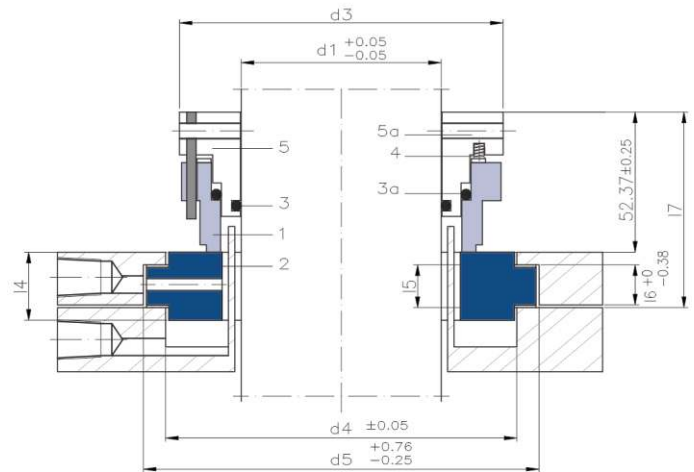
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

It can be used in vertical agitators with moderate speeds without the need to apply auxiliary lubrication systems. Adapted to DEBRIS cleaning systems.

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part	Stationary part					
mm	d ₃	d ₄	d ₅	l ₄	l ₅	l ₆	l ₇
25	635	47.6	57.9	20.6	12.7	11.9	69.0
28	66.6	50.8	61.1	20.6	12.7	11.9	69.0
30	69.8	53.9	67.5	22.2	12.7	11.9	69.0
32	69.8	53.9	67.5	22.2	12.7	11.9	69.0
33	73.0	57.1	70.6	22.2	12.7	11.9	69.0
35	73.0	57.1	70.6	22.2	12.7	11.9	69.0
38	76.2	63.5	77.0	22.2	12.7	11.9	69.0
40	79.3	66.6	80.2	22.2	12.7	11.9	69.0
43	82.5	69.8	83.3	22.2	12.7	11.9	69.0
45	85.7	73.0	89.7	25.4	15.9	15.1	73.0
50	88.9	79.3	96.0	25.4	15.9	15.1	73.0
53	92.0	79.3	99.2	25.4	15.9	15.1	73.0
55	95.2	85.7	102.4	25.4	15.9	15.1	73.0
58	98.4	88.9	105.6	25.4	15.9	15.1	73.0
60	98.4	88.9	105.6	25.4	15.9	15.1	73.0
63	101.6	92.0	108.7	25.4	15.9	15.1	73.0
65	104.7	95.2	111.9	25.4	15.9	15.1	73.0
68	107.9	98.4	115.1	25.4	15.9	15.1	73.0
70	107.9	98.4	115.1	25.4	15.9	15.1	73.0
75	114.3	103.3	119.8	25.4	15.9	15.1	73.0
80	120.6	111.1	127.8	25.4	15.9	15.1	73.0
85	123.9	114.3	131.1	25.4	15.9	15.1	73.0
90	130.2	120.7	137.3	25.4	15.9	15.1	73.0
95	133.3	123.8	140.5	25.4	15.9	15.1	73.0
100	139.7	133.3	150.0	25.4	15.9	15.1	73.0
105	142.9	136.5	153.2	25.4	15.9	15.1	73.0
110	149.2	142.8	159.5	25.4	15.9	15.1	73.0
115	155.5	149.2	165.9	25.4	15.9	15.1	73.0

Dimensions subject to changes or modifications.

DIMENSIONS CHART For Imperial Shaft Sizes

Shaft	Rotary part	Stationary part					
(") mm	d ₃	d ₄	d ₅	l ₄	l ₅	l ₆	l ₇
1.00 25.40	63.50	47.63	57.94	20.62	12.70	11.89	69.04
1.13 28.58	66.68	50.80	61.11	20.62	12.70	11.89	69.04
1.25 31.75	69.85	53.98	67.46	20.62	12.70	11.89	69.85
1.38 34.93	73.03	57.15	70.64	20.62	12.70	11.89	69.85
1.50 38.10	76.20	63.50	76.99	20.62	12.70	11.89	69.85
1.63 41.28	79.38	66.68	80.16	20.62	12.70	11.89	69.85
1.75 44.45	82.55	69.85	83.34	20.62	12.70	11.89	73.03
1.88 47.63	85.73	73.03	89.69	25.40	15.88	11.89	73.03
2.00 50.80	88.90	79.38	98.32	25.40	15.88	11.89	73.03
2.13 53.98	92.08	79.38	99.21	25.40	15.88	15.06	73.03
2.25 57.15	95.25	85.73	102.39	25.40	15.88	15.06	73.03
2.38 60.33	98.43	88.90	105.56	25.40	15.88	15.06	73.03
2.50 63.50	101.60	92.08	108.74	25.40	15.88	15.06	73.03
2.63 66.68	104.78	95.25	111.91	25.40	15.88	15.06	73.03
2.75 69.85	107.95	98.43	115.09	25.40	15.88	15.06	73.03
2.88 73.03	111.13	101.60	118.26	25.40	15.88	15.06	73.03
3.00 76.20	114.30	104.78	119.84	25.40	15.88	15.06	73.03
3.13 79.38	117.48	107.95	124.61	25.40	15.88	15.06	73.03
3.25 82.55	120.65	111.13	127.79	25.40	15.88	15.06	73.03
3.38 85.73	123.83	114.30	130.96	25.40	15.88	15.06	73.03
3.50 88.90	127.00	117.48	134.14	25.40	15.88	15.06	73.03
3.63 92.08	130.18	120.65	137.31	25.40	15.88	15.06	73.03
3.75 95.25	133.35	123.83	140.49	25.40	15.88	15.06	73.03
3.88 98.43	136.53	127.00	143.66	25.40	15.88	15.06	73.03
4.00 101.60	139.70	130.18	150.01	25.40	15.88	15.06	73.03
4.13 104.78	142.88	133.35	153.19	25.40	15.88	15.06	73.03
4.25 107.95	146.05	136.53	156.36	25.40	15.88	15.06	73.03
4.38 111.13	149.23	139.70	159.54	25.40	15.88	15.06	73.03
4.50 114.30	152.40	142.88	162.71	25.40	15.88	15.06	73.03

AMS29

SECTORS:



CHARACTERISTICS:

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

OPERATING LIMITS:

$d_1 = 18$ to 100 mm $p = 25$ kg/cm²

$v = 20$ m/s $t = -15$ to $+200^\circ\text{C}^{(*)}$

(*) 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.

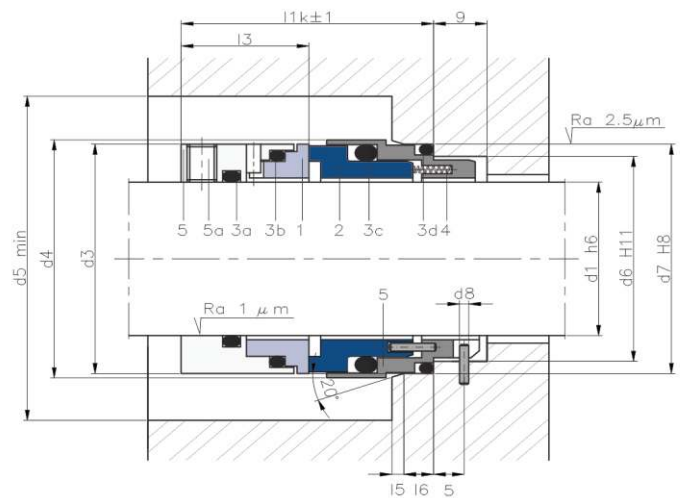
DESCRIPTION:

The fact that the springs are not in contact with the fluid makes this mechanical seal perfect for working with particle-laden fluids, as it prevents them from becoming blocked or obstructed.

Its structure and design makes it ideal for vacuum operations without having to use a retaining ring. It can be used with a single, tandem-mounted (API52) or back-to back (API53) mounting system. The O-ring resting on the shaft is not affected by any axial movement (changes in pressure) and therefore produces no wear on the surface of the shaft. Seal compliant with standard EN 12756 (KU).

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part			Stationary part						Total length
mm	d_3	d_4	l_3	d_5	d_6	d_7	d_8	l_5	l_6	l_{1k}
18	33	34.7	19.5	39.7	27	33	3	2.0	5	37.5
20	35	36.7	19.5	41.7	29	35	3	2.0	5	37.5
22	37	38.7	19.5	43.7	31	37	3	2.0	5	37.5
24	39	40.7	20.5	45.7	33	39	3	2.0	5	40.0
25	40	41.7	20.5	46.7	34	40	3	2.0	5	40.0
28	43	44.7	21.5	49.7	37	43	3	2.0	5	42.5
30	45	46.7	21.5	51.7	39	45	3	2.0	5	42.5
32	48	49.7	21.5	54.7	42	48	3	2.0	5	42.5
33	48	49.7	21.5	54.7	42	48	3	2.0	5	42.5
35	50	51.7	21.5	56.7	44	50	3	2.0	5	42.5
38	56	57.7	24.0	62.7	49	56	4	2.0	5	45.0
40	58	59.7	24.0	64.7	51	58	4	2.0	5	45.0
43	61	62.7	24.0	67.7	54	61	4	2.0	5	45.0
45	63	64.7	24.0	69.7	56	63	4	2.0	5	45.0
48	66	67.7	24.0	72.7	59	66	4	2.0	5	45.0
50	70	71.7	25.0	76.7	62	70	4	2.5	6	47.5
53	73	74.7	25.0	79.7	65	73	4	2.5	6	47.5
55	75	76.7	25.0	81.7	67	75	4	2.5	6	47.5
58	78	80.5	28.0	85.5	70	78	4	2.5	6	52.5
60	80	82.5	28.0	87.5	72	80	4	2.5	6	52.5
63	83	85.5	28.0	90.5	75	83	4	2.5	6	52.5
65	85	87.5	28.0	92.5	77	85	4	2.5	6	52.5
68	90	92.5	28.0	97.5	81	90	4	2.5	7	52.5
70	92	94.5	34.0	99.5	83	92	4	2.5	7	60.0
75	97	100.5	34.0	105.5	88	97	4	2.5	7	60.0
80	105	108.5	34.0	113.5	95	105	4	3.0	7	60.0
85	110	113.5	34.0	118.5	100	110	4	3.0	7	60.0
90	115	118.5	39.0	123.5	105	115	4	3.0	7	65.0
95	120	123.5	39.0	128.5	110	120	4	3.0	7	65.0
100	125	128.5	39.0	133.5	115	125	4	3.0	7	65.0

Dimensions subject to changes or modifications.

AWS10

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 14$ to 150 mm $p = 10$ kg/cm²

$v = 20$ m/s $t = -15$ to $+200^\circ\text{C}^*$

(* 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:

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.

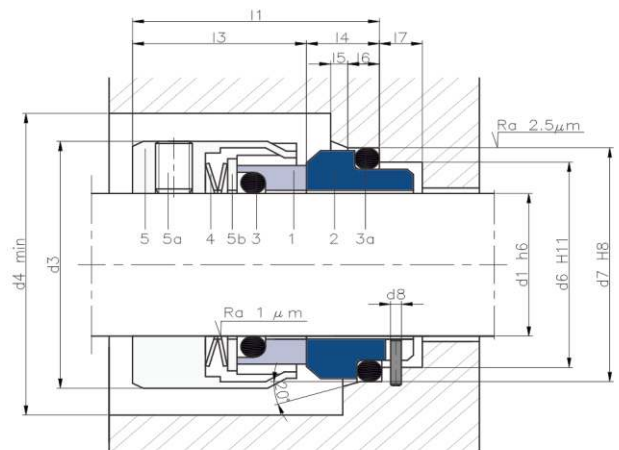
Standard L9 type stationary part.

Seal compliant with standard EN 12756 (KU).

Available with a pumping ring on the casing to reduce the temperature between the contact surfaces and facilitate the barrier fluid movement in the case of double mounting (AWS10-F).

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



Tolerance: l_1, d_1 14...25 mm ± 1.0 ; 28...63 mm ± 1.5 ; > 65 mm ± 2.0

DIMENSIONS CHART Dimensions in mm

Shaft mm	Rotary part			Stationary part							Total length l_1
	d_3	d_4	l_3	d_6	d_7	d_8	l_4	l_5	l_6	l_7	
14	25	30	25.0	21	25	3	10.0	1.5	4	8.5	35.0
16	27	32	25.0	23	27	3	10.0	1.5	4	8.5	35.0
18	33	38	26.0	27	33	3	11.5	2.0	4	9.0	37.5
20	35	40	26.0	29	35	3	11.5	2.0	5	9.0	37.5
22	37	42	26.0	31	37	3	11.5	2.0	5	9.0	37.5
24	39	44	28.5	33	39	3	11.5	2.0	5	9.0	40.0
25	40	45	28.5	34	40	3	11.5	2.0	5	9.0	40.0
28	43	48	31.0	37	43	3	11.5	2.0	5	9.0	42.5
30	45	50	31.0	39	45	3	11.5	2.0	5	9.0	42.5
32	47	52	31.0	42	48	3	11.5	2.0	5	9.0	42.5
33	48	53	31.0	42	48	3	11.5	2.0	5	9.0	42.5
35	50	55	31.0	44	50	3	11.5	2.0	5	9.0	42.5
38	55	60	31.0	49	56	4	14.0	2.0	6	9.0	45.0
40	57	62	31.0	51	58	4	14.0	2.0	6	9.0	45.0
43	60	65	31.0	54	61	4	14.0	2.0	6	9.0	45.0
45	62	67	31.0	56	63	4	14.0	2.0	6	9.0	45.0
48	65	70	31.0	59	66	4	14.0	2.0	6	9.0	45.0
50	67	72	32.5	62	70	4	15.0	2.5	6	9.0	47.5
53	70	75	32.5	65	73	4	15.0	2.5	6	9.0	47.5
55	72	77	32.5	67	75	4	15.0	2.5	6	9.0	47.5
58	79	84	37.5	70	78	4	15.0	2.5	6	9.0	52.5
60	81	86	37.5	72	80	4	15.0	2.5	6	9.0	52.5
63	84	89	37.5	75	83	4	15.0	2.5	6	9.0	52.5
65	86	91	37.5	77	85	4	15.0	2.5	6	9.0	52.5
68	89	94	34.5	81	90	4	18.0	2.5	7	9.0	52.5
70	91	96	42.0	83	92	4	18.0	2.5	7	9.0	60.0
75	99	104	42.0	88	97	4	18.0	2.5	7	9.0	60.0
80	104	109	41.8	95	105	4	18.2	3.0	7	9.0	60.0
85	109	114	41.8	100	110	4	18.2	3.0	7	9.0	60.0
90	114	119	46.8	105	115	4	18.2	3.0	7	9.0	65.0
95	119	124	47.8	110	120	4	17.2	3.0	7	9.0	65.0
100	124	129	47.8	115	125	4	17.2	3.0	7	9.0	65.0

Dimensions subject to changes or modifications.

Shaft mm	Rotary part			Stationary part							Total length l_1
	d_3	d_4	l_3	d_6	d_7	d_8	l_4	l_5	l_6	l_7	
105	138	143	47	122.2	134.3	5	20	2	10	--	67
110	143	148	47	128.2	140.3	5	20	2	10	--	67
115	148	153	47	136.2	148.3	5	20	2	10	--	67
120	153	158	47	138.2	150.3	5	20	2	10	--	67
125	158	163	47	142.2	154.3	5	20	2	10	--	67
130	163	168	47	146.2	158.3	5	20	2	10	--	67
135	168	173	47	152.2	164.3	5	20	2	10	--	67
140	173	178	47	156.2	168.3	5	20	2	10	--	67
145	178	183	47	161.2	173.3	5	20	2	10	--	67
150	183	189	47	168.2	180.3	5	22	2	10	--	69

* Multispring design manufacture for $d_1 > 100$ mm.

AWS10B

SECTORS:



CHARACTERISTICS:

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

OPERATING LIMITS:

$d_1 = 14$ to 100 mm $p = 25$ kg/cm²

$v = 20$ m/s $t = -50$ to $+220^\circ\text{C}^*$

(*) The temperature resistance depends on the material of the secondary seals used.

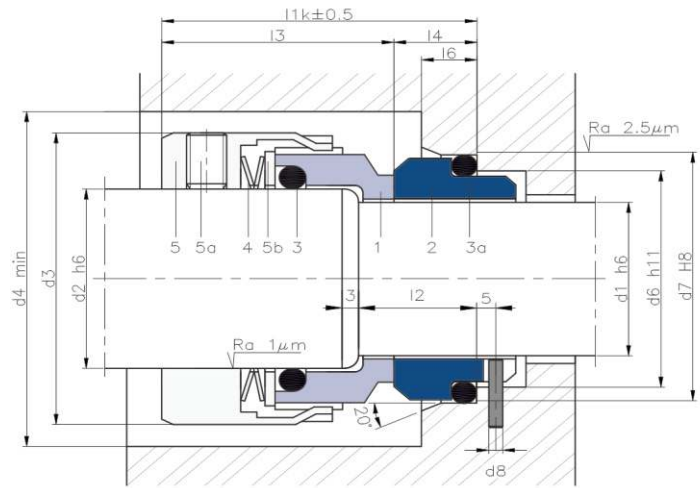
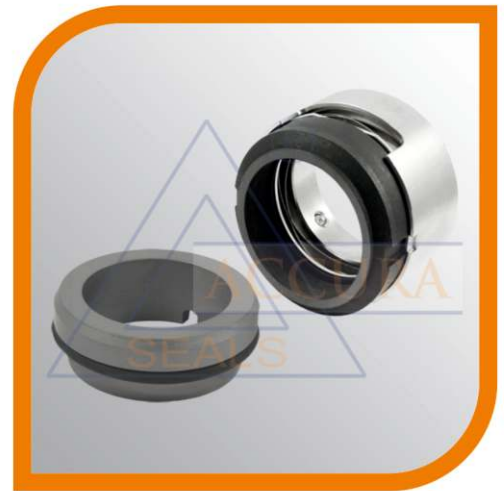
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

The balanced contact surface design allows the mechanical seal to be used in applications with high pressures without suffering premature wear. 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 A9 type fixed stationary part, standardised seal, compliant with EN 12756 (KB). The casing can incorporate a pumping ring to reduce the temperature between the contact surfaces and facilitate the barrier fluid movement in the case of double mounting (AWS10B-F).

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



DIMENSIONS CHART Dimensions in mm

Shaft		Rotary part				Stationary part						Total length
d_1	d_2	d_3	d_4	l_3	d_6	d_7	d_8	l_2	l_4	l_6	l_{1k}	
14	18	33	37	32.5	21	25	3	18	10.0	9	42.5	
16	20	35	39	32.5	23	27	3	18	10.0	9	42.5	
18	22	37	41	33.5	27	33	3	20	11.5	9	45.0	
20	24	39	43	33.5	29	35	3	20	11.5	9	45.0	
22	26	41	45	33.5	31	37	3	20	11.5	9	45.0	
24	28	43	47	36.0	33	39	3	20	11.5	9	47.5	
25	30	45	49	36.0	34	40	3	20	11.5	9	47.5	
28	33	48	52	38.5	37	43	3	20	11.5	9	50.0	
30	35	50	54	38.5	39	45	3	20	11.5	9	50.0	
32	38	55	59	38.5	42	48	3	20	11.5	9	50.0	
33	38	55	59	38.5	42	48	3	20	11.5	9	50.0	
35	40	57	61	38.5	44	50	3	20	11.5	9	50.0	
38	43	60	64	38.5	49	56	4	23	14.0	10	52.5	
40	45	62	66	38.5	51	58	4	23	14.0	10	52.5	
43	48	65	69	38.5	54	61	4	23	14.0	10	52.5	
45	50	67	71	38.5	56	63	4	23	14.0	10	52.5	
48	53	70	74	38.5	59	66	4	23	14.0	10	52.5	
50	55	72	76	42.5	62	70	4	25	15.0	11	57.5	
53	58	79	83	42.5	65	73	4	25	15.0	11	57.5	
55	60	81	85	42.5	67	75	4	25	15.0	11	57.5	
58	63	84	88	47.5	70	78	4	25	15.0	11	62.5	
60	65	86	90	47.5	72	80	4	25	15.0	11	62.5	
63	68	89	93	47.5	77	83	4	25	15.0	11	62.5	
65	70	91	95	47.5	75	85	4	25	15.0	11	62.5	
70	75	99	103	52.0	83	92	4	28	18.0	12	70.0	
75	80	104	108	52.0	88	97	4	28	18.0	12	70.0	
80	85	109	113	51.8	95	105	4	28	18.2	13	70.0	
85	90	114	118	56.8	100	110	4	28	18.2	13	75.0	
90	95	119	123	56.8	105	115	4	28	18.2	13	75.0	
95	100	124	128	57.8	110	120	4	28	17.2	13	75.0	
100	105	129	133	57.8	115	125	4	28	17.2	13	75.0	

Dimensions subject to changes or modifications.

AWS12

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 20$ to 100 mm $p = 10$ kg/cm²

$v = 20$ m/s $t = -15$ to $+200^\circ\text{C}^{(*)}$

(*) The temperature resistance depends on the material of the secondary seals used.

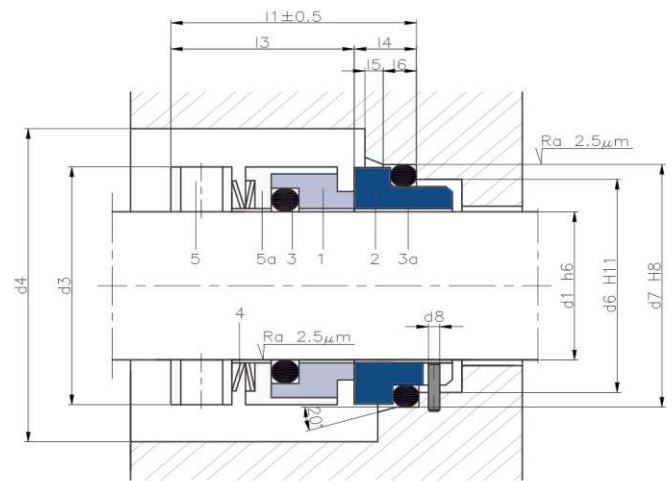
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Its mounting dimensions make it a perfect seal for installing in small spaces. The wave spring is not blocked or obstructed when working with fluids laden with particles and fibers, or viscous fluids. Standard L1 DIN stationary part.

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft mm	Rotary part			Stationary part						Total length l ₁
	d ₃	d ₄	l ₃	d ₆	d ₇	d ₈	l ₄	l ₅	l ₆	
20	31	36	20.5	29	35	3	10.0	2.0	5	30.5
22	33	38	20.5	31	37	3	10.0	2.0	5	30.5
24	36	41	22.5	33	39	3	10.0	2.0	5	32.5
25	39	44	23.5	34	40	3	10.0	2.0	5	33.5
28	42	47	23.5	37	43	3	10.0	2.0	5	33.5
30	44	49	24.5	39	45	3	10.0	2.0	5	34.5
32	46	51	24.5	42	48	3	10.0	2.0	5	34.5
33	47	52	24.5	42	48	3	10.0	2.0	5	34.5
35	49	54	24.5	44	50	3	10.0	2.0	5	34.5
38	53	58	27.0	49	56	4	11.0	2.0	6	38.0
40	55	60	28.0	51	58	4	11.0	2.0	6	39.0
43	58	63	28.0	54	61	4	11.0	2.0	6	39.0
45	60	65	28.0	56	63	4	11.0	2.0	6	39.0
48	63	68	28.0	59	66	4	11.0	2.0	6	39.0
50	66	71	27.0	62	70	4	13.0	2.5	6	39.0
53	69	74	27.0	65	73	4	13.0	2.5	6	39.0
55	71	76	27.0	67	75	4	13.0	2.5	6	39.0
58	77	82	29.0	70	78	4	13.0	2.5	6	42.0
60	79	84	29.0	72	80	4	13.0	2.5	6	42.0
63	82	87	32.0	75	83	4	13.0	2.5	6	45.0
65	84	89	32.0	77	85	4	13.0	2.5	6	45.0
68	87	92	33.5	81	90	4	15.0	2.5	7	48.5
70	89	94	32.0	83	92	4	15.0	2.5	7	47.0
75	94	99	32.0	88	97	4	15.0	2.5	7	47.0
80	100	105	32.5	95	105	4	15.5	3.0	7	48.0
85	105	110	32.5	100	110	4	15.5	3.0	7	48.0
90	112	117	38.5	105	115	4	15.5	3.0	7	54.0
95	117	122	38.5	110	120	4	15.5	3.0	7	54.0
100	122	127	38.5	115	125	4	15.5	3.0	7	54.0

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

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

OPERATING LIMITS:

$d_1 = 18$ to 100 mm $p = 35$ kg/cm²

$v = 20$ m/s $t = -15$ to $+200^\circ\text{C}$ (*)

(*) 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:

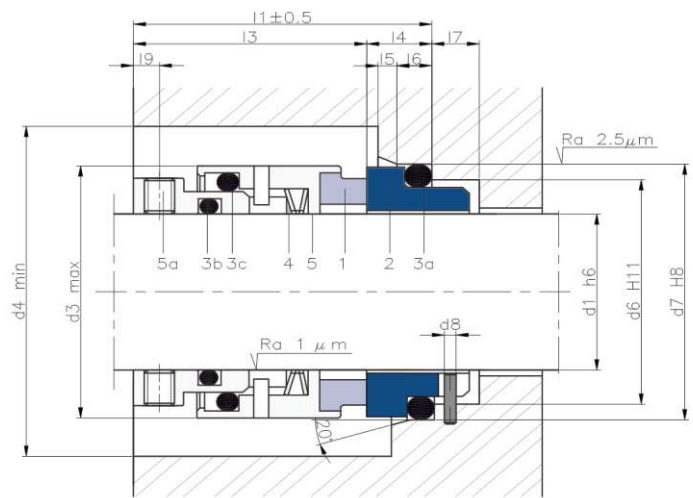
The wave spring is protected from the fluid. Ideal for using in cleaning processes since the possibility of particles adhering to the seal is considerably reduced. Internally balanced, with no need for a stepped shaft (AWS10B). Suitable for working in applications with high pressures. The O-ring resting on the shaft does not cause wear as there is no axial movement (changes in pressure).

Seal compliant with standard EN 12756 (KU).
Standard L16 type stationary part (AWS30).

COMPONENTS:

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

AWS30 / AWS30A



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part					Stationary part								Total length
mm	d_3	d_4	l_3	l_{3A}	l_9	d_6	d_7	d_8	l_4	l_{4A}	l_5	l_6	l_7	l_1
18	32	34	30.5	28.5	3.0	27	33	3	7.0	9.0	2.0	4	8.5	37.5
20	34	36	30.5	28.5	3.0	29	35	3	7.0	9.0	2.0	5	8.5	37.5
22	36	38	30.5	28.5	3.0	31	37	3	7.0	9.0	2.0	5	9.0	37.5
24	38	40	33.0	31.0	3.5	33	39	3	7.0	9.0	2.0	5	9.0	40.0
25	39	41	33.0	31.0	3.5	34	40	3	7.0	9.0	2.0	5	9.0	40.0
28	42	44	35.5	33.0	3.5	37	43	3	7.0	9.5	2.0	5	9.0	42.5
30	44	46	35.5	33.0	3.5	39	45	3	7.0	9.5	2.0	5	9.0	42.5
32	47	48	35.5	33.0	3.5	42	48	3	7.0	9.5	2.0	5	9.0	42.5
33	47	49	35.5	33.0	3.5	42	48	3	7.0	9.5	2.0	5	9.0	42.5
35	49	51	35.5	33.0	3.5	44	50	3	7.0	9.5	2.0	5	9.0	42.5
38	54	58	37.0	34.5	4.0	49	56	4	8.0	10.5	2.0	6	9.0	45.0
40	56	60	37.0	34.5	4.0	51	58	4	8.0	10.5	2.0	6	9.0	45.0
43	59	63	37.0	34.5	4.0	54	61	4	8.0	10.5	2.0	6	9.0	45.0
45	61	65	37.0	34.5	4.0	56	63	4	8.0	10.5	2.0	6	9.0	45.0
48	64	68	37.0	34.5	4.0	59	66	4	8.0	10.5	2.0	6	9.0	45.0
50	66	70	38.0	35.5	4.5	62	70	4	9.5	12.0	2.5	6	9.0	47.5
53	69	73	38.0	35.5	4.5	65	73	4	9.5	12.0	2.5	6	9.0	47.5
55	71	75	38.0	35.5	4.5	67	75	4	9.5	12.0	2.5	6	9.0	47.5
58	78	83	42.0	39.5	4.5	70	78	4	10.5	13.0	2.5	6	9.0	52.5
60	80	85	42.0	39.5	4.5	72	80	4	10.5	13.0	2.5	6	9.0	52.5
63	83	88	42.0	39.5	4.5	75	83	4	10.5	13.0	2.5	6	9.0	52.5
65	85	90	42.0	39.5	4.5	77	85	4	10.5	13.0	2.5	6	9.0	52.5
68	88	93	41.5	39.0	4.5	81	90	4	11.0	13.5	2.5	7	9.0	52.5
70	90	95	48.5	46.0	5.0	83	92	4	11.5	14.0	2.5	7	9.0	60.0
75	99	104	48.5	46.0	5.5	88	97	4	11.5	14.0	2.5	7	9.0	60.0
80	104	109	48.5	46.0	5.5	95	105	4	11.5	14.0	3.0	7	9.0	60.0
85	109	114	48.5	46.0	5.5	100	110	4	11.5	14.0	3.0	7	9.0	60.0
90	114	119	52.0	49.5	5.5	105	115	4	13.0	15.5	3.0	7	9.0	65.0
95	119	124	52.0	49.5	5.5	110	120	4	13.0	15.5	3.0	7	9.0	65.0
100	124	129	52.0	49.5	5.5	115	125	4	13.0	15.5	3.0	7	9.0	65.0

Dimensions subject to changes or modifications.

AWS31

SECTORS:



CHARACTERISTICS:

- Balanced.
- Shaft Fixing system Without screws.
- Independent Rotation System .

OPERATING LIMITS:

$d_1 = 20$ to 35 mm $p = 35$ kg/cm²

$v = 20$ m/s $t = -40$ to $+150^\circ\text{C}$ (*)

(*) The temperature resistance depends on the material of the secondary seals used.

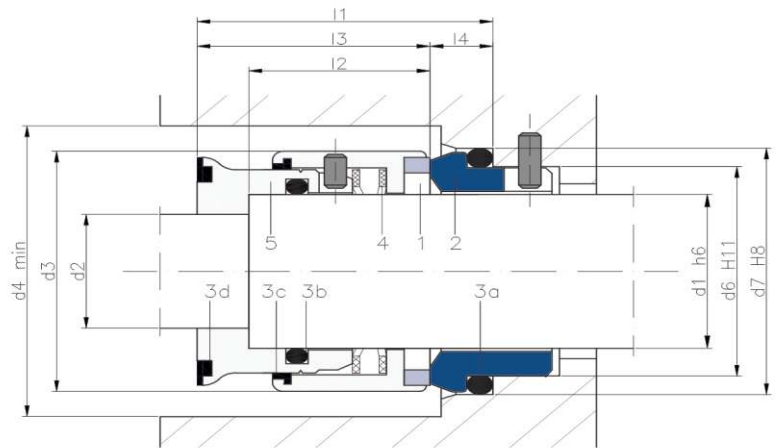
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

A wave spring mechanical seal in which the spring is isolated and protected from the product. Its hygienic design reduces the likelihood of traces of product being deposited on its surface, thereby eliminating the risk of contamination.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3a O-rings
- 3b O-rings
- 3c Elastomeric cup
- 3d Elastomeric cup
- 4 Spring
- 5 Metal frame



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part					Stationary part			Total length
mm	d_2	d_3	l_4	l_2	l_3	d_6	d_7	l_4	l_1
20	13.5	34	39	23	29	29	35	8.5	37.5
25	18.5	39	44	24.5	31.5	34	40	8.5	40
35	22.5	49	54	26	34	44	50	8.5	42.5

Dimensions subject to changes or modifications.

AWS70 / AWS71

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- System attached to the shaft by allen screws.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 15.8$ to 100 mm $p = 10$ kg/cm²

$v = 15$ m/s $t = -15$ to $+200^\circ\text{C}$ (*)

(*) The temperature resistance depends on the material of the secondary seals used.

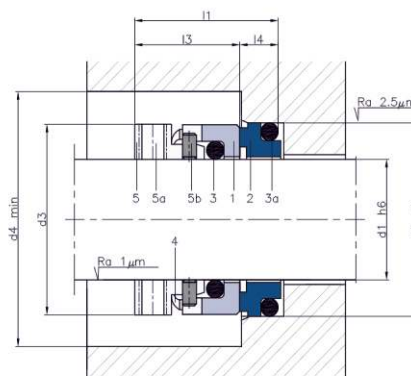
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

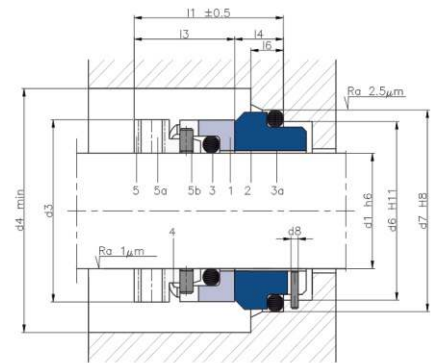
This mechanical seal is designed for internal and external mounting. Its small mounting size makes it ideal for using in lobe pumps. The wave spring cannot be blocked or obstructed when working with fluids laden with particles, sticky or viscous fluids. The fact that the rotating part of the mechanical seal is made of stainless steel (the most habitual combination) makes it a resistant, robust seal.

COMPONENTS:

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



TYPE AWS70



TYPE AWS71

DIMENSIONS CHART Dimensions in mm

(mm)	d_3	d_4	l_3	AWS70			AWS71					
				d_7	l_4	l_1	d_6	d_7	d_8	l_4	l_6	l_1
15.8	27	30	19.1	28.5	6.3	25.4	-	-	-	-	-	-
16	27	31	19.1	28.5	6.3	25.4	21	27	3	8.6	7	27.7
18	29	33	19.1	-	-	-	27	33	3	10	9	29.1
19.1	30	33	19.1	31.7	6.3	25.4	-	-	-	-	-	-
20	32	36	19.1	-	-	-	29	35	3	10	9	29.1
22	34	38	19.1	-	-	-	31	37	3	10	9	29.1
24	34	38	19.1	35.4	7.6	26.7	33	39	3	10	9	29.1
25	35	39	19.1	-	-	-	34	40	3	10	9	29.1
28	40	44	19.1	42	7.6	26.7	37	43	3	10	9	29.1
28.6	39.5	42.5	19.1	41.2	7.6	26.7	-	-	-	-	-	-
30	41	45	19.1	42.7	7.6	26.7	39	45	3	10	9	29.1
31.7	42.4	45.4	19.1	44.2	7.6	26.7	-	-	-	-	-	-
32	43	47	19.1	44.4	7.6	26.7	42	48	3	10	9	29.1
33	44	48	19.1	-	-	-	42	48	3	10	9	29.1
35	46	50	19.1	47.6	7.6	26.7	44	50	3	10	9	29.1
38	52	56	21.1	53.9	8.1	29.2	49	56	4	11	10	32.1
40	55	59	21.1	-	-	-	51	58	4	11	10	32.1
43	58	62	21.1	-	-	-	54	61	4	11	10	32.1
44.4	58.2	61.2	21.1	60.3	8.1	29.2	-	-	-	-	-	-
45	60	64	21.1	-	-	-	56	63	4	11	10	32.1
47.6	61.4	64.4	21.1	63.5	8.1	29.2	-	-	-	-	-	-
48	62	66	21.1	-	-	-	59	66	4	11	10	32.1
50	62	66	21.1	63.9	8.1	29.2	62	70	4	13	11	34.1
50.8	64.6	67.6	22.1	66.6	9.6	31.7	-	-	-	-	-	-
53	71	75	22.1	-	-	-	65	73	4	13	11	35.1
53.9	71	74	22.1	73	9.6	31.7	-	-	-	-	-	-
54	71	74	22.1	73.9	9.6	31.7	-	-	-	-	-	-
54.6	72	75	22.1	75	9.6	31.7	-	-	-	-	-	-
55	72	76	22.1	75	9.6	3.7	67	75	4	13	11	35.1
58	78	82	25.8	-	-	-	70	78	4	13	11	38.8
60	79	83	25.8	-	-	-	72	80	4	13	11	38.8
63	79.3	82.3	25.8	83	9.1	34.9	75	83	4	13	11	38.8
63.5	79.3	82.3	25.8	88.9	9.1	34.9	-	-	-	-	-	-
65	87	91	25.8	-	-	-	77	85	4	13	11	38.8
68	89	93	25.8	-	-	-	81	90	4	15.3	12	41.1
69.8	88.9	91.9	25.8	95.2	9.1	34.9	-	-	-	-	-	-
70	89	93	25.8	-	-	-	83	92	4	15.3	12	41.1
73	94	97	25.8	98.4	9.1	34.9	-	-	-	-	-	-
75	96	100	25.8	100.4	9.1	34.9	88	97	4	15.3	12	41.1
76.2	96.9	99.9	25.8	101.6	9.1	34.9	-	-	-	-	-	-
80	101	105	25.8	104	9.1	34.9	95	105	4	15.7	13	41.5
85	108	112	25.8	-	-	-	100	110	4	15.7	13	41.5
90	113	117	25.8	-	-	-	105	115	4	15.7	13	41.5
95	116	120	25.8	125	9.1	34.9	110	120	4	15.7	13	41.5
100	121	125	25.8	130	9.1	34.9	115	125	4	15.7	13	41.5

Dimensions subject to changes or modifications.

AFH / AFHC

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Single conical spring.
- Dependent on the rotation direction
- Exchangeable Contact Surfaces.

OPERATING LIMITS:

$d_1 = 10$ to 100 mm $p = 10$ kg/cm²

$v = 20$ m/s $t = -20$ to $+200^\circ\text{C}$ (*)

(*) 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:

A general-purpose single, robust seal in which the contact surfaces can be exchanged with each other. It can be used in industrial applications for clean fluids with low viscosities or with a low content of suspended solids that tend to produced sediments or adhere to the seal.

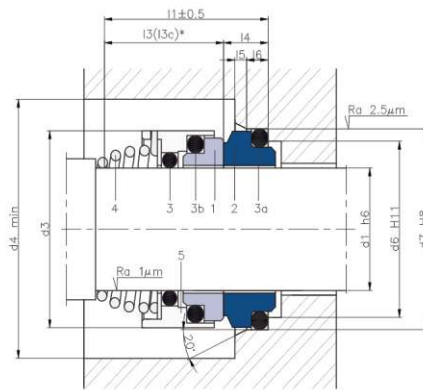
Types:

FH6: secondary seals made of PTFE.

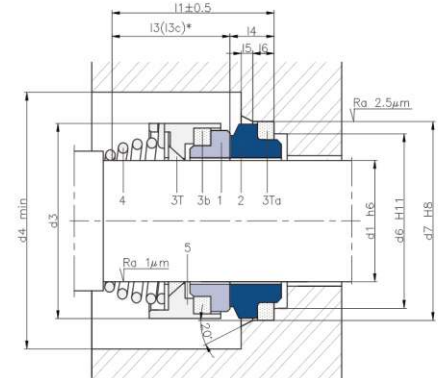
FHC: same structure as FH but the length is I3C.

COMPONENTS:

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



TYPE AFH



TYPE AFHC

DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part				Stationary part					Total length
mm	d_3	d_4	l_3	l_{3c}^*	d_6	d_7	l_4	l_5	l_6	l_1
10	20	22	20	15	14.0	18.1	5.5	1.2	3	25.5
12	22	25	22	18	16.5	20.6	5.5	1.2	3	27.5
14	25	28	27	22	19.0	23.1	6.0	1.2	3	33.0
15	29	32	27	22	21.0	26.9	7.0	1.5	4	34.0
16	29	32	28	23	21.0	26.9	7.0	1.5	4	35.0
18	33	36	30	24	25.0	30.9	8.0	1.5	4	38.0
20	33	36	30	25	25.0	30.9	8.0	1.5	4	38.0
22	38	41	30	25	30.0	35.4	8.0	2.0	4	38.0
24	38	41	32	27	30.0	35.4	8.0	2.0	4	40.0
25	40	45	33	27	33.0	38.2	8.5	2.0	4	41.5
26	40	45	33	27	33.0	38.2	8.5	2.0	4	41.5
28	46	50	36	29	38.0	43.3	9.0	2.0	4	45.0
30	46	50	37	30	38.0	43.3	9.0	2.0	4	46.0
32	46	50	37	30	38.0	43.3	9.0	2.0	4	46.0
34	56	62	48	39	45.0	53.5	11.5	2.0	6	59.5
35	56	62	48	39	45.0	53.5	11.5	2.0	6	59.5
36	56	62	48	39	45.0	53.5	11.5	2.0	6	59.5
38	63	70	48	39	52.0	60.5	11.5	2.0	6	59.5
40	63	70	48	39	52.0	60.5	11.5	2.0	6	59.5
42	63	70	48	39	52.0	60.5	11.5	2.0	6	59.5
43	63	70	48	41	52.0	60.5	11.5	2.0	6	59.5
45	69	75	51	41	57.0	65.5	11.5	2.0	6	62.5
48	69	75	51	41	57.0	65.5	11.5	2.0	6	62.5
50	76	83	55	45	64.0	72.5	11.5	2.0	6	66.5
55	76	83	57	47	64.0	72.5	11.5	2.0	6	68.5
60	84	90	61	49	72.0	79.3	11.5	2.0	6	72.5
65	89	96	63	51	77.0	84.5	11.5	2.0	6	74.5
70	94	101	63	51	82.0	89.5	11.5	2.0	6	74.5
75	100	106	68	57	87.0	94.5	11.5	2.0	6	79.5
80	105	111	70	59	92.0	99.5	11.5	2.0	6	81.5
85	115	125	72	59	98.0	105.5	13.5	2.5	6	85.5
90	120	132	75	62	105	111.5	13.5	2.5	6	88.5
95	126	137	75	62	110	116.5	13.5	2.5	6	88.5
100	130	143	85	75	114	119.5	13.5	2.5	6	98.5

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Single conical spring.
- Dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 10$ to 40 mm $p = 10$ kg/cm²

$v = 20$ m/s $t = -20$ to $+180^\circ\text{C}$ (*)

(*) 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:

An all-purpose mechanical seal.

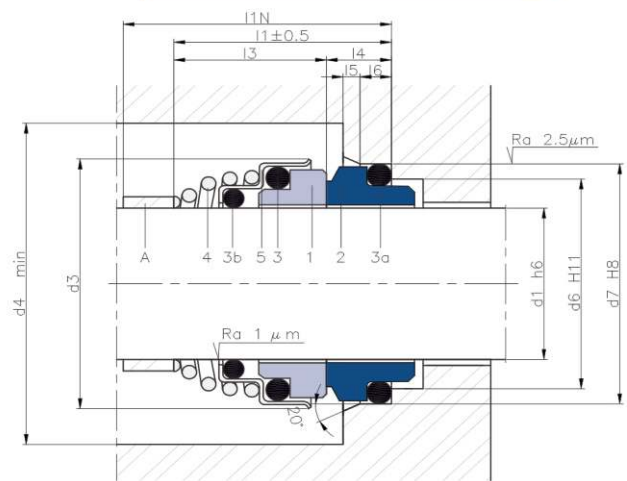
A single seal with a versatile design that can be used in applications with low demands: for pumping industrial wastewater and for household use.

Seal compliant with standard EN 12756 (NU).

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 3a O-rings
- 3b O-rings
- 4 Springs
- 5 Metal frame
- A Spacer not provided with the seal

AS15 and AS15DIN



AS18 / AS19

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Single conical Spring
- Dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 10$ to 80 mm $p = 10$ kg/cm²

$v = 20$ m/s $t = -20$ to $+200^\circ\text{C}^{(*)}$

(*) The temperature resistance depends on the material of the secondary seals used.

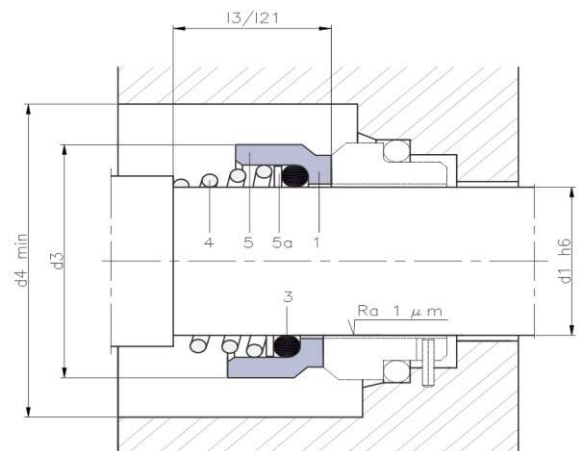
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Single mechanical seal with an extremely versatile and functional design. The 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.

COMPONENTS:

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



Type AS18: Working length of rotating part l_3 .

Type AS19: Working length of rotating part l_{21} .

DIMENSIONS CHART AS18 / AS19 Dimensions in mm

Shaft mm	Rotary part			
	d_3	d_4	l_3	l_{21}
10	19	24	15.5	15.5
12	21	26	16	15.5
14	23	28	16.5	15.5
15	24	29	-	15.5
16	26	31	18	17.5
18	29	34	19.5	18.5
20	31	36	22	20
22	33	38	21.5	21.5
24	35	40	23.5	23
25	36	41	26.5	24.5
26	37	42	-	24.5
28	40	45	26.5	24.5
30	43	48	26.5	24.5
32	46	51	28.5	28
33	47	52	28.5	-
35	49	54	28.5	28
38	53	58	33.5	31
40	56	61	36	34
42	59	64	-	35
43	59	64	38.5	-
45	61	66	39.5	36.5
48	64	69	46	42
50	66	71	45	43
53	69	74	47	-
55	71	76	49	47
58	76	81	55	50
60	78	83	55	51
63	83	88	55	-
65	84	89	55	52
68	88	93	55	53
70	90	95	57	54
75	98	103	62	55
80	100	105	61.8	58

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

- Balanced.
- Single conical spring
- Dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 10$ to 80 mm $p = 25$ kg/cm²

$v = 15$ m/s $t = -20$ to $+200^\circ\text{C}^{(*)}$

(*) 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:

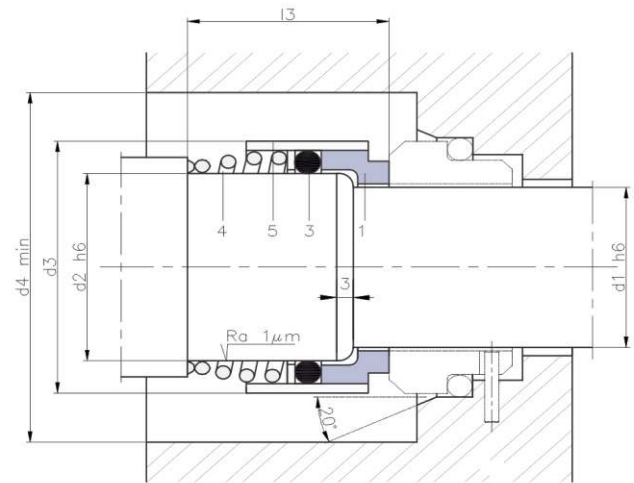
This mechanical seal has an extremely versatile and functional design and is suitable for working at pressures of up to 25 kg/cm².

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 1935/2004, etc.

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft mm	Rotary part			
	d_2	d_3	d_4	l_3
10	14	24	29	25.5
12	16	26	31	26.5
14	18	31	36	29.5
16	20	34	39	31.0
18	22	36	41	32.5
20	24	38	43	32.5
22	26	40	45	32.5
24	28	42	47	32.5
25	30	44	49	33.5
28	33	47	52	35.5
30	35	49	54	35.5
32	38	54	59	39.5
33	38	54	59	39.5
35	40	56	61	43.5
38	43	59	64	46.0
40	45	61	66	48.0
43	48	64	69	51.0
45	50	66	71	55.0
48	53	69	74	55.0
50	55	71	76	58.0
53	58	78	83	60.0
55	60	79	84	60.0
58	63	83	88	60.0
60	65	85	90	60.0
63	68	88	93	60.0
65	70	90	95	61.0
70	75	98	103	63.0
75	80	103	108	68.0
80	85	109	114	68.0

Dimensions subject to changes or modifications.

AS60IL / AS60IN

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Single Conical Spring
- Dependent on the rotation direction

OPERATING LIMITS:

$d_1 = 20$ to 100 mm $p = 10$ kg/cm²

$v = 20$ m/s $t = -40$ to $+180^\circ\text{C}$ (*)

(*) The temperature resistance depends on the material of the secondary seals used.

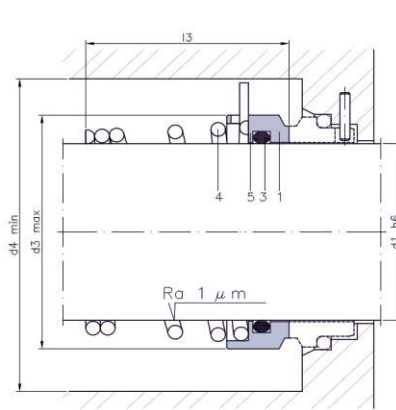
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

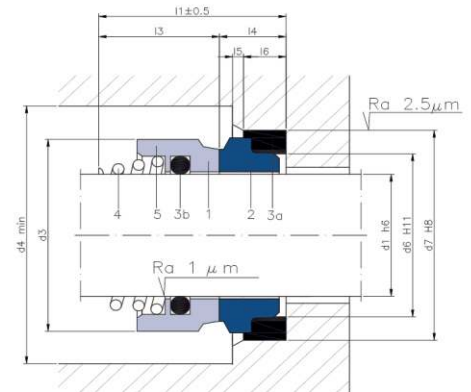
A versatile, robust single seal that is widely used in many different industrial and household applications.

COMPONENTS:

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



TYPE AS60IL



TYPE AS60IN

DIMENSIONS CHART AS60IL Dimensions in mm

Shaft mm	Rotary part		
	d_3	d_4	l_3
18	29	32	19.5
25	36	42.6	25
30	43	52	27
35	49	58.4	30
40	56	64.6	34
48	64	72.5	34
70	89.6	92	56

DIMENSIONS CHART AS60IN For Imperial Shaft Sizes

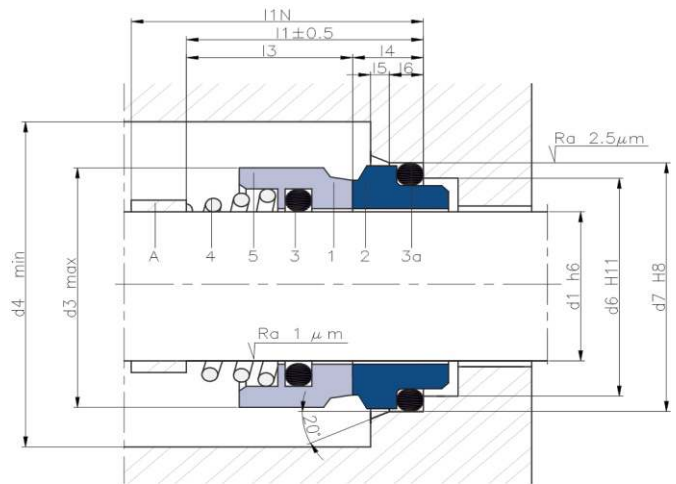
Shaft (") mm	Rotary part			Stationary part			Total length
	d_3	d_4	l_3	d_6	d_7	l_4	l_1
0.875 22.22	34.00	46.00	25.50	29.00	37.30	10.00	35.50
1.00 25.24	37.00	50.00	24.90	32.00	40.50	10.60	35.50
1.25 31.75	45.00	62.00	33.50	39.00	50.80	11.50	45.00

Dimensions subject to changes or modifications.

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

AS60DIN: standardised models in accordance with EN 12756 NU.

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 O-rings
- 3a O-rings
- 4 Springs
- 5 Metal frame
- A Spacer not provided with the seal



Dimensions subject to changes or modifications.

Shaft	Rotary part			Stationary part					Total length	
	d ₃	d ₄	l ₃	d ₆	d ₇	l ₄	l ₅	l ₆	l _{IN}	l _I
10	19.0	22	15	17	21	7	1.5	4	40	22
12	21.0	24	18	19	23	7	1.5	4	40	25
14	23.0	26	22	21	25	7	1.5	4	40	29
16	26.0	28	23	23	27	7	1.5	4	40	30
18	29.0	34	24	27	33	10	2.0	4	45	34
20	31.0	36	25	29	35	10	2.0	5	45	35
22	33.0	38	25	31	37	10	2.0	5	45	35
24	35.0	40	27	33	39	10	2.0	5	50	37
25	36.0	41	27	34	40	10	2.0	5	50	37
28	40.0	44	29	37	43	10	2.0	5	50	39
30	43.0	46	30	39	45	10	2.0	5	50	40
32	46.0	48	30	42	48	10	2.0	5	55	40
33	46.0	49	39	42	48	10	2.0	5	55	49
35	49.0	51	39	44	50	10	2.0	5	55	49
38	53.0	58	42	49	56	13	2.0	6	55	55
40	56.0	60	42	51	58	13	2.0	6	55	55
43	59.0	63	47	54	61	13	2.0	6	60	60
45	61.0	65	47	56	63	13	2.0	6	60	60
48	64.0	68	47	59	66	13	2.0	6	60	60
50	66.0	70	46	62	70	14	2.5	6	60	60
53	69.0	73	56	65	73	14	2.5	6	70	70
55	71.0	75	56	67	75	14	2.5	6	70	70
58	76.0	83	56	70	78	14	2.5	6	70	70
60	78.0	85	56	72	80	14	2.5	6	70	70
63	81.0	88	56	75	83	14	2.5	6	70	70
65	84.0	90	66	77	85	14	2.5	6	80	80
68	88.0	93	64	81	90	16	2.5	7	80	80
70	89.6	95	64	83	92	16	2.5	7	80	80
75	98.0	104	64	88	97	16	2.5	7	80	80
80	100.0	109	72	95	105	18	3.0	7	90	90
85	107.5	114	72	100	110	18	3.0	7	90	90
90	111.0	119	72	105	115	18	3.0	7	90	90
95	119.0	124	72	110	120	18	3.0	7	90	90
100	123.8	129	72	115	125	18	3.0	7	90	90

AS60B and AS60BDIN

SECTORS:



CHARACTERISTICS:

- Balanced.
- Single conical spring
- Dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 10$ to 100 mm $p = 50$ kg/cm²

$v = 20$ m/s $t = -20$ to $+200^\circ\text{C}$ (*)

(*) 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:

A versatile, robust single seal that is widely used in many different industrial and household applications. Suitable for working at high pressures.

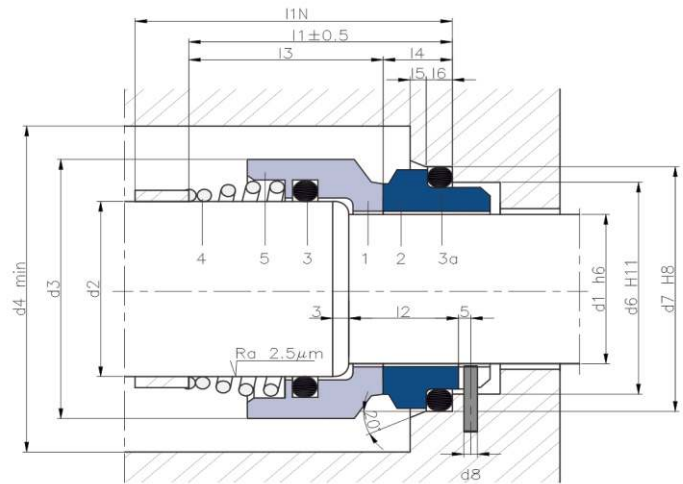
The rotating part, with a compact design, only permits the use of secondary seals made of elastic materials.

Types:

AS60BDIN: standardised models in accordance with EN 12756 NB.

COMPONENTS:

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



DIMENSIONS CHART AS60B Dimensions in mm

Shaft	Rotary part				Stationary part							Total length
mm	d ₂	d ₃	d ₄	l ₃	d ₆	d ₇	l ₂	l ₄	l ₅	l ₆	l ₇	l ₁
10	13	22	27	30	14.0	18.1	12.0	5.5	1.2	3	1.5	35.5
12	15	24	30	30	16.5	20.6	12.0	5.5	1.2	3	1.5	35.5
14	17	26	31	31	19.0	23.1	12.5	6.0	1.2	3	1.5	37.0
15	18	32	36	32	21.0	26.9	13.5	7.0	1.5	4	1.5	39.0
16	19	32	36	34	21.0	26.9	14.5	7.0	1.5	4	1.5	41.0
18	21	35	41	34	25.0	30.9	15.5	8.0	1.5	4	1.5	42.0
20	23	36	41	36	25.0	30.9	15.5	8.0	1.5	4	1.5	44.0
22	26	39	45	37	30.0	35.4	16.0	8.0	2.0	4	2.0	45.0
24	28	42	50	39	30.0	35.4	16.0	8.0	2.0	4	2.0	47.0
25	29	43	50	40	33.0	38.2	16.5	8.5	2.0	4	2.0	48.5
28	32	46	50	40	38.0	43.3	17.0	9.0	2.0	4	2.0	49.0
30	34	48	60	49	38.0	43.3	17.0	9.0	2.0	4	2.0	58.0
32	36	50	60	49	38.0	43.3	17.0	9.0	2.0	4	2.0	58.0
35	39	55	68	51	45.0	53.5	21.5	11.5	2.0	6	2.0	62.5
38	42	57	68	51	52.0	60.5	21.5	11.5	2.0	6	2.0	62.5
40	44	60	72	53	52.0	60.5	21.5	11.5	2.0	6	2.0	64.5
42	46	62	72	53	52.0	60.5	21.5	11.5	2.0	6	2.0	64.5
43	47	63	72	53	52.0	60.5	21.5	11.5	2.0	6	2.0	64.5
45	49	65	72	54	57.0	65.5	22.4	11.5	2.0	6	2.0	65.5
50	54	70	80	59	64.0	72.5	23.5	11.5	2.0	6	2.0	70.5
52	57	75	87	62	64.0	72.5	24.0	11.5	2.0	6	2.5	73.5
55	60	80	87	64	64.0	72.5	24.0	11.5	2.0	6	2.5	75.5
60	65	85	92	66	72.0	79.3	24.0	11.5	2.0	6	2.5	77.5
65	70	90	97	66	77.0	84.5	24.0	11.5	2.0	6	2.5	77.5
70	75	99	102	72	82.0	89.5	24.0	11.5	2.0	6	2.5	83.5
75	80	104	107	75	87.0	94.5	25.0	11.5	2.0	6	2.5	86.5
80	85	109	113	75	92.0	99.5	25.0	11.5	2.0	6	2.5	86.5
85	90	114	120	78	98.0	105.5	27.0	13.5	2.5	6	2.5	91.5
90	95	119	130	78	105.0	111.5	27.0	13.5	2.5	6	2.5	91.5
95	100	124	136	91	110.0	116.5	27.0	13.5	2.5	6	2.5	104.5
100	106	130	150	93	114.0	119.5	28.5	13.5	2.5	6	3.0	106.5

Dimensions subject to changes or modifications.

DIMENSIONS CHART AS60BDIN Dimensions in mm

Shaft	Rotary part				Stationary part							Total length
mm	d ₂	d ₃	d ₄	l ₃	d ₆	d ₇	d ₈	l ₂	l ₄	l ₅	l ₆	l _{1N} l ₁
10	14	24	26	43	17	21	3	18	7	1.5	4	50 50
12	16	26	28	43	19	23	3	18	7	1.5	4	50 50
14	18	32	34	39	21	25	3	18	7	1.5	4	55 46
16	20	34	36	40	23	27	3	18	7	1.5	4	55 47
18	22	36	38	41	27	33	3	20	10	2.0	5	55 51
20	24	38	40	43	29	35	3	20	10	2.0	5	60 53
22	26	40	42	43	31	37	3	20	10	2.0	5	60 53
24	28	42	44	50	33	39	3	20	10	2.0	5	60 60
25	30	44	46	50	34	40	3	20	10	2.0	5	60 60
28	33	47	49	55	37	43	3	20	10	2.0	5	65 65
30	35	49	51	55	39	45	3	20	10	2.0	5	65 65
32	38	54	58	55	42	48	3	20	10	2.0	5	65 65
33	38	54	58	55	42	48	3	20	10	2.0	5	65 65
35	40	56	60	55	44	50	3	20	10	2.0	5	65 65
38	43	59	63	62	49	56	4	23	13	2.0	6	75 75
40	45	61	65	62	51	58	4	23	13	2.0	6	75 75
43	48	64	68	62	54	61	4	23	13	2.0	6	75 75
45	50	66	70	62	56	63	4	23	13	2.0	6	75 75
48	53	69	73	72	59	66	4	23	13	2.0	6	85 85
50	55	71	75	71	62	70	4	25	14	2.5	6	85 85
53	58	78	83	71	65	73	4	25	14	2.5	6	85 85
55	60	80	85	71	67	75	4	25	14	2.5	6	85 85
58	63	83	88	71	70	78	4	25	14	2.5	6	85 85
60	65	85	90	81	72	80	4	25	14	2.5	6	95 95
63	68	88	93	81	75	83	4	25	14	2.5	6	95 95
65	70	90	95	81	77	85	4	25	14	2.5	6	95 95
70	75	99	104	79	83	92	4	28	16	2.5	7	95 95
75	80	104	109	89	88	97	4	28	16	2.5	7	105 105
80	85	109	114	87	95	105	4	28	18	3.0	7	105 105
85	90	114	119	87	100	110	4	28	18	3.0	7	105 105
90	95	119	124	87	105	115	4	28	18	3.0	7	105 105
95	100	124	129	87	110	120	4	28	18	3.0	7	105 105
100	105	129	134	87	115	125	4	28	18	3.0	7	105 105

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Single cylindrical spring.
- Dependent on the rotation direction.
- System attached to the shaft by allen screws.

OPERATING LIMITS:

$d_1 = 20$ to 100 mm $p = 12$ kg/cm²

$v = 15$ m/s $t = -20$ to $+200^\circ\text{C}$ (*)

(*) 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:

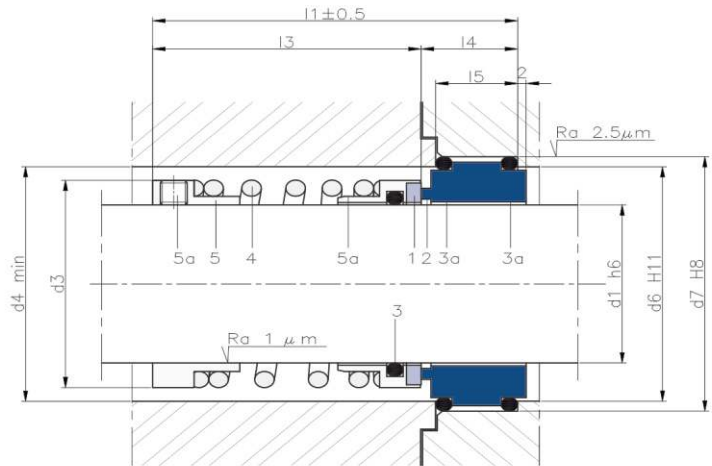
Single mechanical seal with an extremely versatile and functional design.

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.

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part			Stationary part				Total length
mm	d_3	d_4	l_3	d_6	d_7	l_4	l_5	l_1
20	34	36	46	36	42	23	18	69
22	36	38	46	38	44	23	18	69
24	38	40	46	40	46	23	18	69
25	39	41	47	41	47	23	18	70
28	42	44	49	44	50	23	20	72
30	44	46	49	46	52	23	20	72
32	46	48	52	48	54	23	18	75
33	47	49	52	49	55	23	18	75
35	49	51	55	51	57	23	18	78
38	54	58	57	58	64	25	20	82
40	56	60	57	60	66	25	20	82
43	59	63	57	63	69	25	20	82
45	61	65	57	65	71	25	20	82
48	64	68	64	68	74	25	20	89
50	66	70	68	70	76	25	20	93
53	69	73	69	73	79	25	20	94
55	71	75	71	75	81	25	20	96
58	76	83	71	83	89	28	20	99
60	78	85	74	85	91	28	22	102
63	81	88	74	88	94	28	22	102
65	83	90	78	90	96	28	22	106
68	86	93	78	93	99	30	22	106
70	90	95	79	95	101	30	24	109
75	95	104	84	104	110	30	24	114
80	100	109	84	109	115	31	24	115
85	105	114	84	114	120	31	25	115
90	110	119	90	119	125	31	24	121
95	115	124	90	124	130	31	25	121
100	121	129	90	129	135	31	25	121

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Single cylindrical spring.
- Dependent on the rotation direction.
- System attached to the shaft by allen screws.

OPERATING LIMITS:

$d_1 = 20$ to 100 mm $p = 12$ kg/cm²

$v = 15$ m/s $t = -20$ to $+200^\circ\text{C}$ (*)

(*) 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.

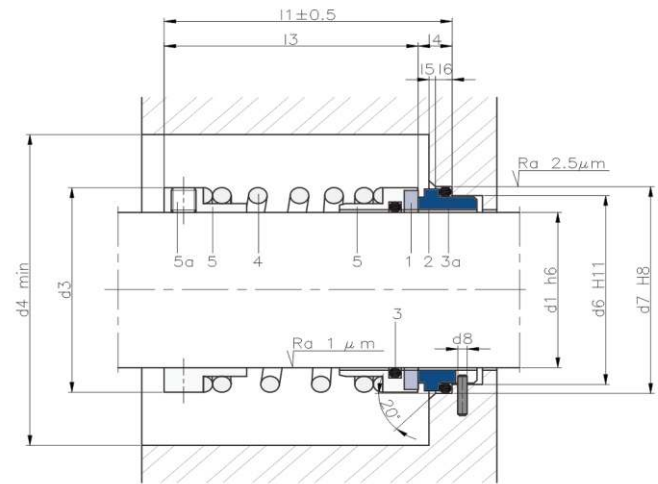
The fact that it is attached to the shaft with screws allows this seal to be installed in a large variety of applications with differing mounting dimensions.

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.

COMPONENTS:

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

AS40C



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part			Stationary part				Total length
mm	d_3	d_4	l_3	d_6	d_7	d_8	l_4	l_1
20	34.50	39.05	35.50	29.06	33.32	3.50	9.0	44.50
22	34.93	39.93	35.50	30.66	34.93	3.50	9.0	44.50
25	38.10	43.10	39.00	33.84	39.85	3.50	10.0	49.00
28	42.86	47.86	41.00	37.01	43.05	3.50	10.0	51.00
30	45.50	50.50	41.00	38.61	44.63	3.50	10.0	51.00
32	47.00	52.00	44.00	40.28	46.32	3.50	10.0	54.00
35	50.00	55.00	47.00	43.46	49.48	3.50	10.0	57.00
38	53.00	58.00	47.00	46.63	52.56	3.50	10.0	57.00
40	55.00	60.00	47.00	48.13	54.25	3.50	10.0	57.00
45	60.00	65.00	47.00	52.98	59.02	3.50	10.0	57.00
48	61.91	66.91	55.00	57.66	63.68	4.50	10.0	65.00
50	66.00	71.00	58.50	59.33	65.37	4.50	10.0	68.50
55	71.00	76.00	60.00	64.01	70.03	4.50	10.0	70.00
60	77.00	82.00	63.00	70.36	76.38	4.50	10.0	73.00
65	82.00	87.00	66.00	75.21	81.23	4.50	10.0	76.00
70	87.00	92.00	66.00	79.88	85.90	4.50	10.0	76.00
75	91.50	96.50	71.00	84.73	90.77	4.50	10.0	81.00
80	99.50	104.50	77.50	94.26	100.29	4.50	10.0	87.50
85	105.50	110.50	77.50	98.93	104.77	4.50	10.0	87.50
90	110.50	115.50	82.00	113.78	109.82	4.50	10.0	92.00
95	115.50	120.50	82.00	108.46	114.33	4.50	10.0	92.00
100	120.00	125.50	82.00	113.31	119.33	4.50	10.0	92.00

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

- Balanced.
- Spiral-wound metal bellows.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 18$ to 100 mm $p = 20$ kg/cm²

$v = 25$ m/s $t = -40$ to $+200^\circ\text{C}^{(*)}$

(*) The temperature resistance depends on the material of the secondary seals used.

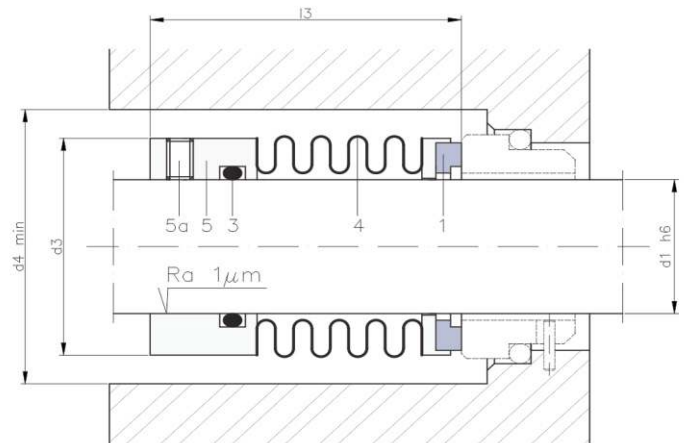
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Balanced by the bellows, without the need for a stepped shaft (models AWS10B, AMS20B). 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 (changes in pressure). Recommended for working with sticky or viscous fluids that require cleaning processes (CIP) or sterilisation processes (SIP) in situ due to the geometry of the spiral-wound bellows.

COMPONENTS:

- 1 Rotating contact surface
- 3 O-rings
- 4 Metal bellows
- 5 Set screws
- 6 Metal frame



DIMENSIONS CHART Dimensions in mm

Shaft mm	Rotary part		
	d_3	d_4	l_3
18	31	34	31.5
20	31	36	31.5
22	31	38	31.5
24	36	40	36.7
25	36	41	37
28	39	44	37.5
30	42	46	38
32	46	48	43
33	46	49	43
35	48.5	51	43
38	51.5	58	42
40	54	60	42
43	58.4	63	47
45	58.4	65	47
48	63.7	68	47
50	63.7	70	46.5
53	69	73	56.5
55	71	75	56.5
58	73.3	83	56.5
60	76.7	85	56.5
63	79.4	88	56.5
65	83	90	66.5
68	87.8	93	66.5
70	87.8	95	65.5
75	94	104	65.5
80	100.6	109	75
85	106	114	75
90	110.3	119	75
95	114.9	124	75
100	121.3	129	75

Dimensions subject to changes or modifications.

DIMENSIONS CHART For Imperial Shaft Sizes

Shaft (")	mm	Rotary part		
		d_3	d_4	l_3
0.750	19.05	31	34.9	31.5
0.875	22.23	36	38.1	37
1.000	25.40	39	41.3	37.5
1.125	28.58	42	44.5	38
1.250	31.75	46	47.6	43
1.375	34.93	48.5	50.8	43
1.500	38.10	51.5	57.2	42
1.625	41.28	58.4	60.3	47
1.750	44.45	58.4	63.5	47
1.875	47.63	63.7	66.7	46.5
2.000	50.80	63.7	69.9	46.5
2.125	53.98	69	73	56.5
2.250	57.15	73.3	76.2	56.5
2.375	60.33	76.7	79.4	56.5
2.500	63.50	79.4	82.6	56.5
2.625	66.68	83	85.7	66.5
2.750	69.85	87.8	96	65.5
2.875	73.03	94	99	65.5
3.000	76.20	94	100	65.5
3.125	79.38	100.6	104	75
3.250	82.55	100.6	108	75
3.375	85.73	106	111	75
3.500	88.90	110.3	115	75
3.625	92.08	114.9	118	75
3.750	95.25	114.9	121	75
3.875	98.43	121.3	124	75
4.000	101.60	121.3	127	75

SECTORS:



CHARACTERISTICS:

- Balanced.
- Welded metal bellows.
- Not dependent on the rotation direction.

OPERATING LIMITS:

$d_1 = 16$ to 100 mm $p = 20$ kg/cm²

$v = 25$ m/s $t = -40$ to $+200^\circ\text{C}$ (*)
 -40 to $+200^\circ\text{C}$ (up to
 400°C with a special
 design) (*)

(*) The temperature resistance depends on the material of the secondary seals used.

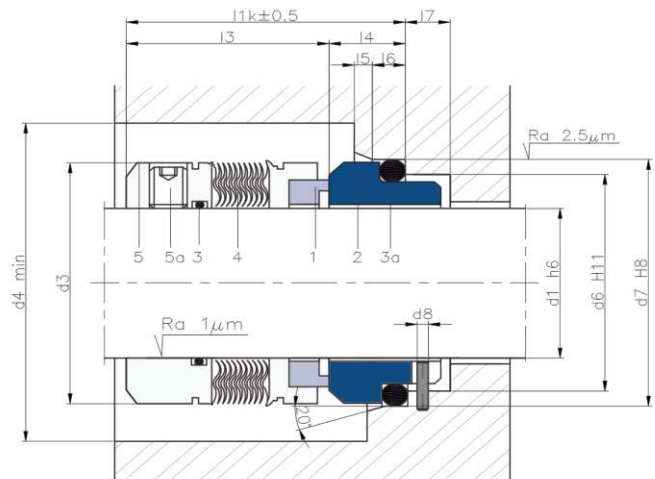
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Internally balanced, with no need for a stepped shaft (models AWS10B, AMS20B). 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 400°C please enquire) and very aggressive fluids in chemical and mechanical terms. Very often used in compressors.

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft mm	Rotary part		
	d_3	d_4	l_3
16	30	34	32.5
18	32	36	30.5
20	33.5	37.5	30.5
22	36.5	40.5	30.5
24	39	43	28.5
25	39.6	43	28.5
28	42.8	46.8	31
30	45	49	31
32	46	50	31
33	48	52	31
35	49.2	63.2	31
38	52.3	56.3	31
40	55.5	59.5	31
43	57.5	61.5	31
45	58.7	62.7	31
48	61.9	65.9	31
50	65	69	32.5
53	68.2	72.2	32.5
55	70	74	32.5
58	71.7	75.7	37.5
60	74.6	78.6	37.5
63	79	83	37.5
65	84.1	88.1	37.5
68	87.3	91.3	34.5
70	87.3	91.3	42
75	95	99	42
80	98.4	102.4	41.8
85	104.7	108.7	41.8
90	111	115	46.8
95	114	118	47.8
100	117.4	124	47.8

Dimensions subject to changes or modifications.

DIMENSIONS CHART For Imperial Shaft Sizes

Shaft (")	mm	Rotary part			Stationary part			Total length l_1
		d_3	d_4	l_3	d_6	d_7	l_4	
0.750	19.05	34	38	30.5	29.5	35	11.5	42
0.875	22.23	39	43	28.5	33.5	39	11.5	40
1.000	25.40	39.6	43.6	28.5	34.5	40	11.5	40
1.125	28.58	42.8	46.8	31	37.5	43	11.5	42.5
1.250	31.75	46	50	31	42.5	48	11.5	42.5
1.375	34.93	49.2	53.2	31	44.5	50	11.5	42.5
1.500	38.10	52.5	56.5	31	49.5	56	14	45
1.625	41.28	55.5	59.5	31	54.5	61	14	45
1.750	44.45	59.5	63.5	31	56.5	63	14	45
1.875	47.63	62.5	66.5	31	59.5	66	14	45
2.000	50.80	65	69	32.5	62.5	70	15	47.5
2.125	53.98	68.2	72.2	32.5	67.5	75	15	47.5
2.250	57.15	71.7	75.7	37.5	70.5	78	15	52.5
2.375	60.33	75	79	37.5	72.5	80	15	52.5
2.500	63.50	79	83	37.5	75.5	83	15	52.5
2.625	66.68	84.1	88.1	34.5	81.5	90	18	52.5
2.750	69.85	87.3	91.3	42	83.5	92	18	60
2.875	73.03	92	96	42	88.5	97	18	60
3.000	76.20	95	99	42	88.5	97	18	60
3.125	79.38	98.4	102.4	41.8	95.5	105	18.2	60
3.250	82.55	101.6	105.6	41.8	100.5	110	18.2	60
3.375	85.73	104.7	108.7	41.8	100.5	110	18.2	60
3.500	88.90	108	112	46.8	105.5	115	18.2	65
3.625	92.08	111	115	46.8	105.5	115	18.2	65
3.750	95.25	114	118	47.8	110.5	120	17.2	65
3.875	98.43	117.5	121.5	47.8	115.5	125	17.2	65
4.000	101.60	119	123	47.8	115.5	125	17.2	65

SECTORS:

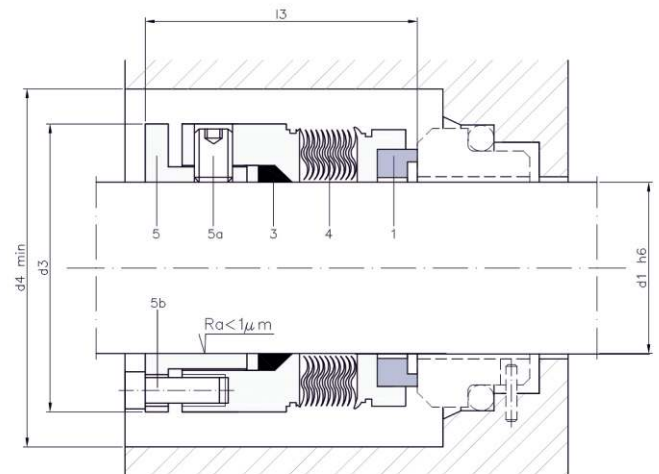
- Balanced.
- Graphite wedge
- Welded metal bellows.
- Not dependent on the rotation direction.

$d_f = 25 \text{ to } 100 \text{ mm}$ $p = 20 \text{ kg/cm}^2$
 $v = 25 \text{ m/s}$ $t = -75 \text{ to } +425^\circ\text{C} (^{\circ})$

The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

Internally balanced, with no need for a stepped shaft (models AWS10B, AMS20B). The graphite wedge allows applications at very high temperatures. 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 as well as with very aggressive fluids, both chemically and mechanically terms. Very often used in compressors.

- 1 Rotating contact surface
- 3 Graphite wedge
- 4 Metal bellows
- 5 Metal frame
- 5a Set screws
- 5b Tightening screw



Shaft	Rotary part		
mm	d ₃	d ₄	l ₃
25	41.28	46.28	38.89
28	44.45	49.45	39.67
32	47.63	52.63	40.46
35	50.80	55.80	40.46
38	53.98	58.98	40.46
40	57.15	62.15	40.46
45	60.33	65.33	41.28
48	63.50	68.50	41.28
50	66.68	71.68	42.06
55	69.85	74.85	42.06
60	76.20	81.20	43.66
65	82.55	87.55	44.45
70	88.90	93.90	45.24
75	96.82	101.82	47.63
80	101.60	106.60	47.63
85	107.95	112.95	47.63
90	111.13	116.13	47.63
95	117.48	122.48	47.63
100	123.83	128.83	47.63

Shaft		Rotary part		
(")	mm	d ₃	d ₄	l ₃
1.000	25.40	41.28	46.28	38.89
1.125	28.58	44.45	49.45	39.67
1.250	31.75	47.63	52.63	40.46
1.375	34.93	50.80	55.80	40.46
1.500	38.10	53.98	58.98	40.46
1.625	41.28	57.15	62.15	40.46
1.750	44.45	60.33	65.33	41.28
1.875	47.63	63.50	68.50	41.28
2.000	50.80	66.68	71.68	42.06
2.125	53.98	69.85	74.85	42.06
2.250	57.15	73.03	78.03	43.66
2.375	60.33	76.20	81.20	43.66
2.500	63.50	82.55	87.55	44.45
2.625	66.68	85.73	90.73	45.24
2.750	69.85	88.90	93.90	45.24
2.875	73.03	93.65	98.65	47.63
3.000	76.20	96.82	101.82	47.63
3.125	79.38	101.60	106.60	47.63
3.250	82.55	104.78	109.78	47.63
3.375	85.73	107.95	112.95	47.63
3.500	88.90	111.13	116.13	47.63
3.625	92.08	114.30	119.30	47.63
3.750	95.25	117.48	122.48	47.63
3.875	98.43	120.65	125.65	47.63
4.000	101.60	123.83	128.83	47.63

SECTORS:



CHARACTERISTICS:

- Balanced.
- Not dependent on the rotation direction.
- Single cylindrical spring.

OPERATING LIMITS:

$d_1 = 9.52$ to 101.60 mm $p = 14$ kg/cm²

$v = 13$ m/s $t = -20$ to $+200^\circ\text{C}$ (*)

(*) The temperature resistance depends on the material of the secondary seals used.

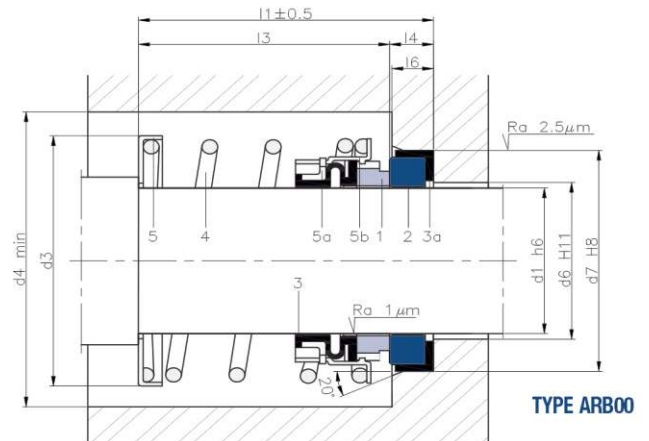
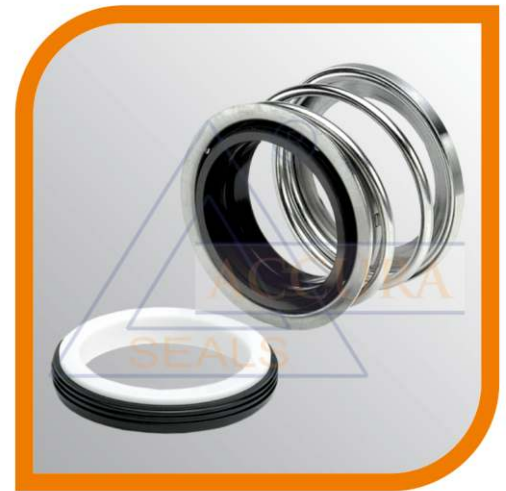
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Mechanical seal with a simple, compact design for all-purpose use and in particular in applications with moderate pressures (up to 14 kg/cm²) such as pumps and compressors.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a Elastomeric cup
- 4 Springs
- 5 Ring
- 5a Drive ring
- 5b Metal frame



DIMENSIONS CHART For Imperial Shaft Sizes

Shaft		Rotary part			Stationary part				Total length
(")	mm	d_3	d_4	l_3	d_6	d_7	l_4	l_6	l_1
3/8	9.52	28	32	25	11.0	24.6	8.7	7.1	33.7
1/2	12.70	32	36	25	13.5	27.8	8.7	7.1	33.7
5/8	15.88	35	39	25	17.0	30.9	10.5	8.7	35.5
3/4	19.05	40	44	25	20.0	34.1	10.5	8.7	35.5
13/16	20.63	41	45	25	22.0	35.7	10.5	8.7	35.5
7/8	22.22	43	47	25	23.0	37.3	10.5	8.7	35.5
1	25.40	47	51	25	26.5	40.5	10.5	8.7	35.5
1 1/8	28.57	56	60	33	29.5	47.6	12.0	10.3	45.0
1 1/4	31.75	59	63	33	32.5	50.8	12.0	10.3	45.0
1 3/8	34.92	63	67	33	36.5	54.0	12.0	10.3	45.0
1 1/2	38.10	67	71	33	39.5	57.1	12.0	10.3	45.0
1 5/8	41.27	71	75	33	42.5	60.3	12.0	10.3	45.0
1 3/4	44.45	74	78	41	46.0	63.5	12.0	10.3	53.0
1 7/8	47.62	77	81	41	49.0	66.7	12.0	10.3	53.0
2	50.80	81	85	41	52.0	69.8	13.5	12.0	54.5
2 1/8	53.97	84	88	41	55.5	73.1	13.5	12.0	54.5
2 1/4	57.15	88	92	41	58.5	76.2	13.5	12.0	54.5
2 3/8	60.32	91	95	41	61.5	79.4	13.5	12.0	54.5
2 1/2	63.50	94	98	41	65.0	82.5	13.5	12.0	54.5
2 5/8	66.67	100	104	49	68.0	92.1	16.0	14.3	65.0
2 3/4	69.85	103	107	49	71.0	95.2	16.0	14.3	65.0
2 7/8	73.02	108	112	52	74.5	98.4	16.0	14.3	68.0
3	76.20	111	115	52	77.5	101.6	16.0	14.3	68.0
3 1/8	79.37	118	122	56	80.5	111.1	20.0	18.3	76.0
3 1/4	82.55	121	125	56	84.0	114.3	20.0	18.3	76.0
3 3/8	85.72	125	129	56	87.0	117.5	20.0	18.3	76.0
3 1/2	88.90	128	132	56	90.5	120.6	20.0	18.3	76.0
3 5/8	92.07	131	135	59	93.5	123.8	20.0	18.3	79.0
3 3/4	95.25	134	138	59	96.5	127.0	20.0	18.3	79.0
3 7/8	98.42	139	143	62	100.0	130.2	20.0	18.3	82.0
4	101.60	142	146	62	103.0	133.3	20.0	18.3	82.0

Dimensions subject to changes or modifications.

ARB00U and ARB00L

SECTORS:



CHARACTERISTICS:

- Balanced.
- Not dependent on the rotation direction.
- Single cylindrical spring.

OPERATING LIMITS:

$d_1 = 9.52$ to 101.60 mm $p = 14$ kg/cm²

$v = 13$ m/s $t = -20$ to $+200^\circ\text{C}$ (*)

(*) The temperature resistance depends on the material of the secondary seals used.

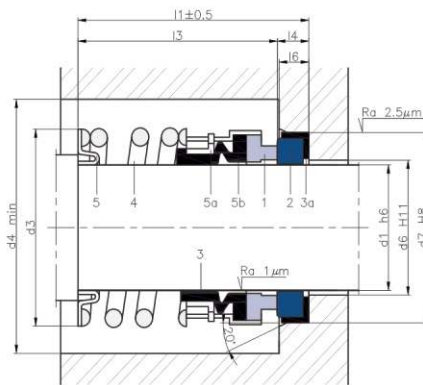
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

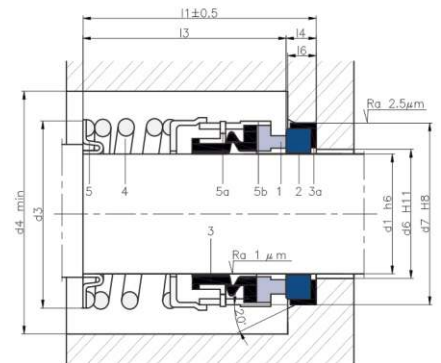
Mechanical seal with a simple, compact design for all-purpose use and in particular in applications with moderate pressures (up to 14 kg/cm²) such as pumps and compressors.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a Elastomeric cup
- 4 Springs
- 5 Ring
- 5a Drive ring
- 5b Metal frame



TYPE ARB00U



TYPE ARB00L

DIMENSIONS CHART ARB00U For Imperial Shaft Sizes

Shaft		Rotary part			Stationary part				Total length
(")	mm	d ₃	d ₄	l ₃	d ₆	d ₇	l ₄	l ₆	l ₁
5/8	15.88	27.8	31.8	33.3	23.80	31.75	10.3	8.7	43.6
3/4	19.05	30.9	34.9	33.3	26.98	34.93	10.3	8.7	43.6
7/8	22.23	34.1	38.1	33.3	30.15	38.10	10.3	8.7	43.6
1	25.40	38.1	42.1	39.7	33.32	41.28	11.1	9.5	50.8
1 1/8	28.58	41.3	45.3	41.3	36.50	44.44	11.1	9.5	52.4
1 1/4	31.75	46.0	50.0	41.3	39.70	47.63	11.1	9.5	52.4
1 3/8	34.93	47.6	51.6	42.9	42.84	50.80	11.1	9.5	54.0
1 1/2	38.10	50.8	54.8	42.9	46.05	53.98	11.1	9.5	54.0
1 5/8	41.28	57.2	61.2	50.8	50.80	60.33	12.7	11.1	63.5
1 3/4	44.45	60.4	64.4	50.8	53.97	63.50	12.7	11.1	63.5
1 7/8	47.63	63.5	67.5	54.0	57.15	66.68	12.7	11.1	66.7
2	50.80	66.7	70.7	54.0	60.32	69.85	12.7	11.1	66.7
2 1/8	53.98	71.4	75.4	60.3	60.32	76.20	14.2	12.7	74.5
2 1/4	57.15	74.6	78.6	60.3	61.90	79.38	14.2	12.7	74.5
2 3/8	60.33	78.3	82.3	63.5	67.39	82.55	14.2	12.7	77.7
2 1/2	63.50	81.0	85.0	63.5	68.25	85.73	14.2	12.7	77.7
2 5/8	66.68	85.7	89.7	69.9	71.42	85.73	15.8	14.5	85.7
2 3/4	69.85	88.9	92.9	69.9	74.60	88.90	15.8	14.5	85.7
2 7/8	73.03	92.1	96.1	73.0	77.77	95.25	15.8	14.5	88.8
3	76.20	95.3	99.3	73.0	80.95	98.43	15.8	14.5	88.8
3 1/8	79.38	101.6	105.6	79.4	84.12	101.60	19.8	16.6	99.2
3 1/4	82.55	104.8	108.8	79.4	87.30	104.78	19.8	16.6	99.2
3 3/8	85.73	108.0	112.0	79.4	90.47	107.95	19.8	16.6	99.2
3 1/2	88.90	111.1	115.1	79.4	93.65	111.13	19.8	16.6	99.2
3 5/8	92.08	114.3	118.3	82.6	96.82	114.30	19.8	16.6	102.4
3 3/4	95.25	117.7	121.7	82.6	100.00	117.48	19.8	16.6	102.4
3 7/8	98.43	120.7	124.7	85.7	103.17	120.65	19.8	16.6	105.5
4	101.60	123.8	127.8	85.7	106.35	123.85	19.8	16.6	105.5

Dimensions subject to changes or modifications.

DIMENSIONS CHART ARB00L For Imperial Shaft Sizes

Shaft		Rotary part			Stationary part				Total length
(")	mm	d ₃	d ₄	l ₃	d ₆	d ₇	l ₄	l ₆	l ₁
5/8	15.88	27.8	31.8	44	17.0	30.9	10.5	8.7	54.5
3/4	19.05	30.9	34.9	44	20.0	34.1	10.5	8.7	54.5
7/8	22.23	34.1	38.1	44	23.0	37.3	10.5	8.7	54.5
1	25.40	38.1	42.1	44	26.5	40.5	10.5	8.7	54.5
1 1/8	28.58	41.3	45.3	60	29.5	47.6	12.0	10.3	72.0
1 1/4	31.75	46.0	50.0	60	32.5	50.8	12.0	10.3	72.0
1 3/8	34.93	47.6	51.6	60	36.5	54.0	12.0	10.3	72.0
1 1/2	38.10	50.8	54.8	60	39.5	57.1	12.0	10.3	72.0
1 5/8	41.28	57.2	61.2	60	42.5	60.3	12.0	10.3	72.0
1 3/4	44.45	60.4	64.4	71	46.0	63.5	12.0	10.3	83.0
1 7/8	47.63	63.5	67.5	71	49.0	66.7	12.0	10.3	83.0
2	50.80	66.7	70.7	71	52.0	69.8	13.5	12.0	84.5
2 1/8	53.98	71.4	75.4	71	55.5	73.1	13.5	12.0	84.5
2 1/4	57.15	74.6	78.6	71	58.5	76.2	13.5	12.0	84.5
2 3/8	60.33	78.3	82.3	71	61.5	79.4	13.5	12.0	84.5
2 1/2	63.50	81.0	85.0	71	65.0	82.5	13.5	12.0	84.5
2 5/8	66.68	85.7	89.7	70	68.0	92.1	16.0	14.3	86.0
2 3/4	69.85	88.9	92.9	70	71.0	95.2	16.0	14.3	86.0
2 7/8	73.03	92.1	96.1	73	74.5	98.4	16.0	14.3	89.0
3	76.20	95.3	99.3	73	77.5	101.6	16.0	14.3	89.0
3 1/8	79.38	101.6	105.6	79	80.5	111.1	20.0	18.3	99.0
3 1/4	82.55	104.8	108.8	79	84.0	114.3	20.0	18.3	99.0
3 3/8	85.73	108.0	112.0	79	87.0	117.5	20.0	18.3	99.0
3 1/2	88.90	111.1	115.1	79	90.5	120.6	20.0	18.3	99.0
3 5/8	92.08	114.3	118.3	83	93.5	123.8	20.0	18.3	103.0
3 3/4	95.25	117.7	121.7	83	96.5	127.0	20.0	18.3	103.0
3 7/8	98.43	120.7	124.7	86	100.0	130.2	20.0	18.3	106.0
4	101.60	123.8	127.8	86	103.0	133.3	20.0	18.3	106.0

Dimensions subject to changes or modifications.

ARB01-ARB01S-ARB04-ARB04A and ARB06

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Not dependent on the rotation direction
- Single cylindrical spring.

OPERATING LIMITS:

$$d_1 = 9.52 \text{ to } 101.60 \text{ mm } p = 10 \text{ kg/cm}^2$$

$$v = 10 \text{ m/s}$$

$$t = -15 \text{ to } +200^\circ\text{C} (*)$$

(*) The temperature resistance depends on the material of the secondary seals used.

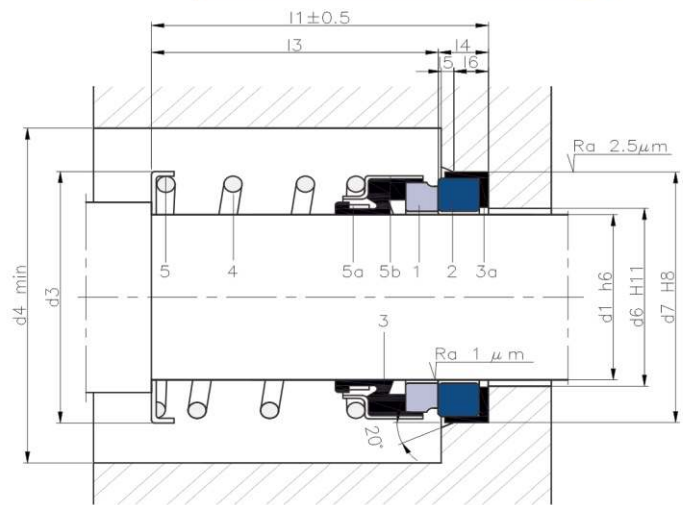
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Mechanical seal with a simple design for general use.
Type ARB04/ ARB04A are standardised models in accordance with EN 12756 (KU).

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a Elastomeric cup
- 4 Springs
- 5 Ring
- 5a Drive ring
- 5b Metal frame



DIMENSIONS CHART ARB01 For Imperial Shaft Sizes

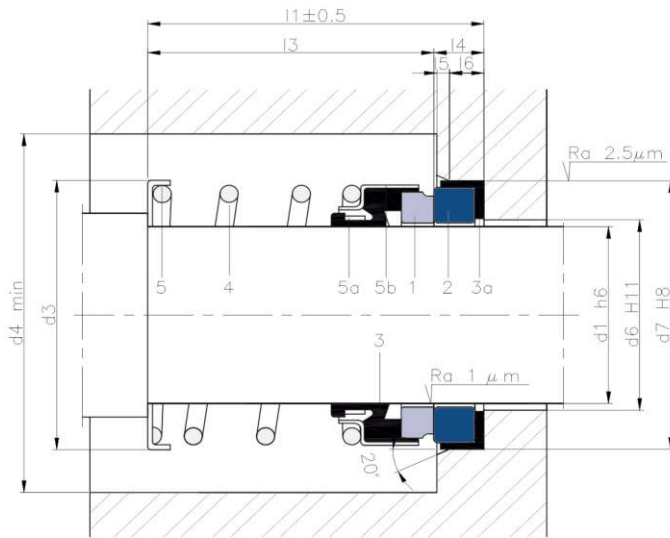
Shaft	Rotary part					Stationary part					Total length
	(")	mm	d ₃	d ₄	l ₃	d ₆	d ₇	l ₄	l ₅	l ₆	
3/8	9.52	23.80	28.80	22.20	15.90	22.22	6.3	1.3	5.1		28.50
1/2	12.70	23.80	28.80	20.60	19.05	25.40	8.0	1.3	5.1		28.60
5/8	15.88	26.50	31.50	22.20	22.20	31.75	10.3	1.3	7.5		32.50
3/4	19.05	30.50	35.50	22.20	25.40	34.93	10.3	1.3	7.5		32.50
7/8	22.20	34.00	39.50	24.00	28.60	38.10	10.3	1.3	7.5		34.30
1	25.40	40.00	45.00	25.40	31.80	41.28	11.0	1.3	8.3		36.40
1 1/8	28.60	44.50	49.50	27.00	35.70	44.45	11.0	1.3	8.3		38.00
1 1/4	31.75	46.50	52.00	27.00	38.90	47.66	11.0	1.3	8.3		38.00
1 3/8	34.92	51.50	56.50	28.50	42.10	50.80	11.0	1.3	8.3		39.50
1 1/2	38.10	54.00	60.00	28.50	45.20	54.00	11.0	1.3	8.3		39.50
1 5/8	41.27	58.00	63.00	35.00	48.80	60.30	12.7	1.3	9.8		47.70
1 3/4	44.45	61.50	66.50	35.00	51.60	63.50	12.7	1.3	9.8		47.70
1 7/8	47.62	65.50	70.50	38.00	54.80	66.65	12.7	1.3	9.8		50.70
2	50.80	70.50	75.50	38.00	58.00	69.85	12.7	1.3	9.8		50.70
2 1/8	53.97	75.00	80.00	43.00	62.00	76.20	14.3	1.3	11.4		57.30
2 1/4	57.15	79.00	84.00	43.00	65.00	79.40	14.3	1.3	11.4		57.30
2 3/8	60.32	82.00	87.00	46.00	68.00	82.55	14.3	1.3	11.4		60.30
2 1/2	63.50	87.00	92.00	46.00	71.20	85.70	14.3	1.3	11.4		60.30
2 5/8	66.68	88.00	96.50	49.20	71.00	85.70	15.9	1.3	13.2		65.10
2 3/4	69.85	90.00	98.00	49.20	74.60	88.90	15.9	1.3	13.2		65.10
2 7/8	73.03	95.00	104.00	52.40	77.80	95.25	15.9	1.3	13.2		68.30
3	76.20	99.00	104.00	52.40	81.00	98.43	15.9	1.3	13.2		68.30
3 1/8	79.38	104.00	109.00	55.50	80.10	101.60	19.8	1.3	15.4		74.90
3 1/4	82.55	109.00	114.00	55.50	87.30	104.78	19.8	1.3	15.4		74.90
3 3/8	85.73	109.00	114.00	55.50	90.50	107.95	19.8	1.3	15.4		74.90
3 1/2	88.90	114.00	119.00	55.50	93.60	111.13	19.8	1.3	15.4		74.90
3 5/8	92.08	119.00	124.00	58.70	96.80	114.30	19.8	1.3	15.4		78.50
3 3/4	95.25	119.00	124.00	58.70	100.00	117.48	19.8	1.3	15.4		78.50
3 7/8	98.43	124.00	129.00	61.90	103.10	120.65	19.8	1.3	15.4		81.70
4	101.60	124.00	129.00	61.90	106.30	123.83	19.8	1.3	15.4		81.70

Dimensions subject to changes or modifications.

DIMENSIONS CHART ARB01S For Imperial Shaft Sizes

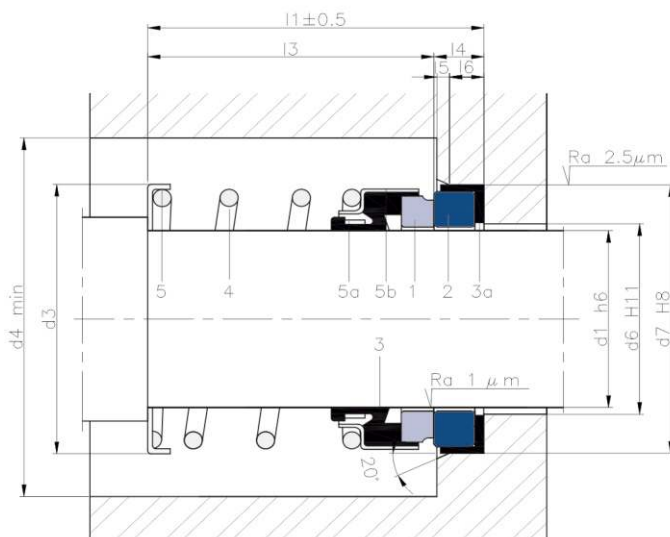
Shaft	Rotary part					Stationary part					Total length
	(")	mm	d ₃	d ₄	l ₃	d ₆	d ₇	l ₄	l ₅	l ₆	
3/8	9.52	22	27	25.4	16	24.6	8.7	1.3	6.2		34.1
1/2	12.70	26	31	25.4	19	27.8	8.7	1.3	6.2		34.1
5/8	15.88	32	37	25.4	22	30.9	10.3	1.3	9.0		35.7
3/4	19.05	36	41	25.4	25	34.1	10.3	1.3	9.0		35.7
7/8	22.20	39	44	25.4	28	37.3	10.3	1.3	9.0		35.7
1	25.40	42	47	25.4	32	40.5	10.3	1.3	9.0		35.7
1 1/8	28.60	46	51	33.3	36	47.6	12.0	1.3	9.2		45.5
1 1/4	31.75	49	54	33.3	39	50.8	12.0	1.3	9.2		45.5
1 3/8	34.92	54	59	33.3	42	53.9	12.0	1.3	9.2		45.5
1 1/2	38.10	59	64	33.3	45	57.1	12.0	1.3	9.2		45.5
1 5/8	41.27	61	66	33.3	48	60.3	12.0	1.3	9.2		45.5
1 3/4	44.45	64	69	40.5	52	63.5	12.0	1.3	9.2		52.5
1 7/8	47.62	66	71	40.5	55	66.7	12.0	1.3	9.2		52.5
2	50.80	69	74	40.5	58	69.8	13.5	1.3	10.7		54.0
2 1/8	53.97	78	83	41.0	62	73.1	13.5	1.3	10.7		54.5
2 1/4	57.15	80	85	41.0	65	76.2	13.5	1.3	10.7		54.5
2 3/8	60.32	83	88	41.0	68	79.4	13.5	1.3	10.7		54.5
2 1/2	63.50	85	90	41.0	71	82.5	13.5	1.3	10.7		54.5
2 5/8	66.68	90	95	49.0	78	92.1	15.9	1.3	13.2		64.9
2 3/4	69.85	95	100	49.0	81	95.2	15.9	1.3	13.2		64.9
2 7/8	73.03	99	104	49.0	84	98.4	15.9	1.3	13.2		64.9
3	76.20	99	104	49.0	88	101.6	15.9	1.3	13.2		64.9
3 1/8	79.38	104	109	56.0	94	111.1	20.0	1.3	17.2		76.0
3 1/4	82.55	109	114	56.0	97	114.3	20.0	1.3	17.2		76.0
3 3/8	85.73	109	114	56.0	100	117.5	20.0	1.3	17.2		76.0
3 1/2	88.90	114	119	56.0	103	120.6	20.0	1.3	17.2		76.0
3 5/8	92.08	119	124	59.0	106	123.8	20.0	1.3	17.2		79.0
3 3/4	95.25	119	124	59.0	109	127.0	20.0	1.3	17.2		79.0
3 7/8	98.43	124	129	62.0	113	130.2	20.0	1.3	17.2		82.0
4	101.60	124	129	62.0	116	133.3	20.0	1.3	17.2		82.0

Dimensions subject to changes or modifications.

DIMENSIONS CHART ARB04 / ARB04A Dimensions in mm


Shaft mm	Rotary part				Stationary part						Total length mm
	d ₃	d ₄	l ₃	l _{3A}	d ₆	d ₇	l ₄	l _{4A}	l ₅	l ₆	
10	20	25	23.9	--	17	21	8.6	--	1.5	4	32.5
12	22	27	23.9	26	19	23	8.6	6.5	1.5	4	32.5
14	24	29	26.4	--	21	25	8.6	--	1.5	4	35.0
16	26	31.5	26.4	24.7	23	27	8.6	10.3	1.5	4	35.0
18	32	37	27.5	--	27	33	10.0	--	2.0	4	37.5
20	34	39.5	27.5	--	29	35	10.0	--	2.0	5	37.5
22	36	41	27.5	26.5	31	37	10.0	11	2.0	5	37.5
24	38	45	30.0	29.0	33	39	10.0	11	2.0	5	40.0
25	39	45	30.0	29.0	34	40	10.0	11	2.0	5	40.0
28	42	49.5	32.5	31.5	37	43	10.0	11	2.0	5	42.5
30	44	52	32.5	31.5	39	45	10.0	11	2.0	5	42.5
32	46	52	32.5	31.5	42	48	10.0	11	2.0	5	42.5
33	47	55.5	32.5	31.5	42	48	10.0	11	2.0	5	42.5
35	49	56.5	32.5	31.5	44	50	10.0	11	2.0	5	42.5
38	54	60	34.0	--	49	56	11.0	--	2.0	6	45.0
40	56	63	34.0	32.3	51	58	11.0	12.7	2.0	6	45.0
43	59	66.5	34.0	32.3	54	61	11.0	12.7	2.0	6	45.0
45	61	66.5	34.0	32.3	56	63	11.0	12.7	2.0	6	45.0
48	64	70.5	34.0	32.3	59	66	11.0	12.7	2.0	6	45.0
50	66	75	34.5	34.8	62	70	13.0	12.7	2.5	6	47.5
53	69	79	34.5	33.2	65	73	13.0	14.3	2.5	6	47.5
55	71	81	34.5	33.2	67	75	13.0	14.3	2.5	6	47.5
58	78	84	39.5	38.2	70	78	13.0	14.3	2.5	6	52.5
60	80	87	39.5	38.2	72	80	13.0	14.3	2.5	6	52.5
63	83	91	39.5	38.2	75	83	13.0	14.3	2.5	6	52.5
65	85	92	39.5	36.5	77	85	13.0	16	2.5	6	52.5
68	88	96.5	37.2	36.5	81	90	15.3	16	2.5	7	52.5
70	90	98	44.7	44.0	83	92	15.3	16	2.5	7	60.0
75	99	104	44.7	--	88	97	15.3	--	2.5	7	60.0
80	104	109	44.3	--	95	105	15.7	--	3.0	7	60.0
85	109	114	44.3	--	100	110	15.7	--	3.0	7	60.0
90	114	119	49.3	--	105	115	15.7	--	3.0	7	65.0
95	119	124	49.3	--	110	120	15.7	--	3.0	7	65.0
100	124	129	49.3	--	115	125	15.7	--	3.0	7	65.0

Dimensions subject to changes or modifications.


DIMENSIONS CHART ARB06 Dimensions in mm

Shaft	Rotary part			Stationary part						Total length
mm	d ₃	d ₄	l ₃	d ₆	d ₇	l ₄	l ₅	l ₆	l ₁	
10	20	25	25.4	16.0	24.6	8.7	1.5	7.5	34.1	
12	22	27	25.4	19.0	27.8	8.7	1.5	7.5	34.1	
13	24	29	25.4	19.0	27.8	8.7	1.5	7.5	34.1	
14	24	29	25.4	22.2	30.9	10.3	1.5	7.5	34.1	
15	26	31	25.4	22.2	30.9	10.3	1.5	7.5	35.7	
16	26	31	25.4	22.2	30.9	10.3	1.5	7.5	34.1	
18	32	37	25.4	25.4	34.1	10.3	1.5	7.5	34.1	
19	34	39	25.4	25.4	34.1	10.3	1.5	7.5	34.1	
20	34	39	25.4	27.0	35.7	10.3	1.5	7.5	35.7	
22	36	41	25.4	28.6	37.3	10.3	1.5	7.5	34.1	
24	38	43	25.4	31.7	40.5	10.3	1.5	7.5	34.1	
25	39	44	25.4	31.7	40.5	10.3	1.5	7.5	35.7	
28	42	47	33.3	35.7	47.6	12.0	2.0	8.5	45.3	
30	44	49	33.3	38.9	50.8	12.0	2.0	8.5	45.3	
32	46	51	33.3	38.9	50.8	12.0	2.0	8.5	45.3	
33	47	52	33.3	42.1	54.0	12.0	2.0	8.5	45.3	
34	49	54	33.3	42.1	54.0	12.0	2.0	8.5	45.3	
35	49	54	33.3	42.1	54.0	12.0	2.0	8.5	45.3	
38	54	59	33.3	45.2	57.2	12.0	2.0	8.5	45.3	
40	56	61	33.3	48.8	60.3	12.0	2.0	8.5	45.3	
42	59	64	40.5	51.6	63.5	12.0	2.0	8.5	52.5	
43	59	64	40.5	51.6	63.5	12.0	2.0	8.5	52.5	
44	61	66	40.5	51.6	63.5	12.0	2.0	8.5	52.5	
45	61	66	40.5	51.6	63.5	12.0	2.0	8.5	52.5	
48	64	69	40.5	54.8	66.7	12.0	2.0	8.5	52.5	
50	66	71	40.5	58.0	69.8	12.0	2.0	8.5	52.5	
53	69	74	41.0	62.0	73.0	13.5	2.0	10.0	54.5	
55	71	76	41.0	65.0	76.2	13.5	2.0	10.0	54.5	
58	78	83	41.0	68.0	79.4	13.5	2.0	10.0	54.5	
60	80	85	41.0	68.0	79.4	13.5	2.0	10.0	54.5	
63	83	88	41.0	71.2	82.5	13.5	2.0	10.0	54.5	
65	85	90	49.0	78.3	92.1	15.9	2.0	12.0	64.9	
70	90	95	49.0	81.1	95.5	15.9	2.0	12.0	64.9	
75	99	104	49.0	88.1	101.6	15.9	2.0	12.0	64.9	
80	104	109	56.0	97.0	114.3	20.0	2.0	16.5	76.0	
85	109	114	56.0	100.0	117.5	20.0	2.0	16.5	76.0	
90	114	119	59.0	107.0	123.8	20.0	2.0	16.5	79.0	
95	119	124	59.0	110.0	127.0	20.0	2.0	16.5	79.0	
100	124	129	62.0	116.0	133.3	20.0	2.0	16.5	82.0	

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Not dependent on the rotation direction
- Single cylindrical spring.

OPERATING LIMITS:

$$d_1 = 9.52 \text{ to } 25.40 \text{ mm} \quad p = 7 \text{ kg/cm}^2$$

$$v = 10 \text{ m/s} \quad t = -15 \text{ to } +200^\circ\text{C} (*)$$

(*) The temperature resistance depends on the material of the secondary seals used.

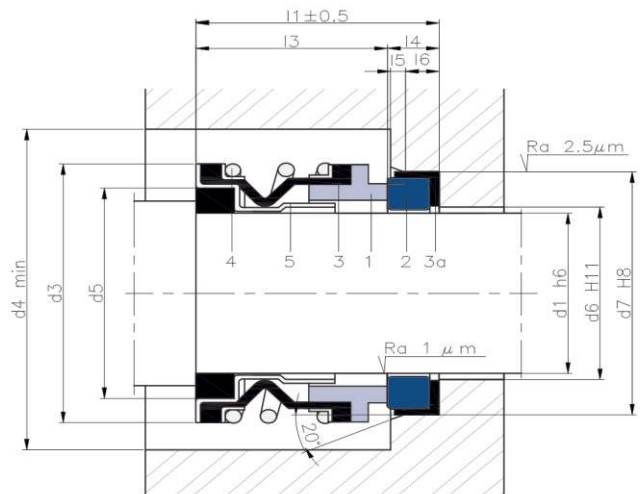
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Seal with a compact design for applications with low demands that require small diameters and often used for water pumps.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a Elastomeric cup
- 4 Spring
- 5 Metal frame



DIMENSIONS CHART For Imperial Shaft Sizes

Shaft		Rotary part				Stationary part					Total length
(")	mm	d ₃	d ₄	d ₅	l ₃	d ₆	d ₇	l ₄	l ₅	l ₆	l ₁
3/8	9.52	23.80	28.80	17.46	16.00	14.3	22.22	6.2	1.3	5.1	22.2
1/2	12.70	26.97	31.97	20.63	18.30	17.5	25.40	8.0	1.3	5.1	26.3
5/8	15.88	30.94	35.94	23.81	18.70	20.6	31.75	10.3	1.3	7.5	29.0
3/4	19.05	34.11	39.11	26.98	18.70	23.8	34.93	10.3	1.3	7.5	29.0
1	25.40	42.85	47.85	33.33	20.60	30.2	41.28	11.0	1.3	7.5	31.6

Dimensions subject to changes or modifications.

ARB03 - ARB03A - ARB03B

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Not dependent on the rotation direction
- Single cylindrical spring.

OPERATING LIMITS:

$d_1 = 10 - 30 \text{ mm}$ $p = 6 \text{ kg/cm}^2$

$v = 10 \text{ m/s}$ $t = -20 - +100^\circ\text{C} (*)$

(*) 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.

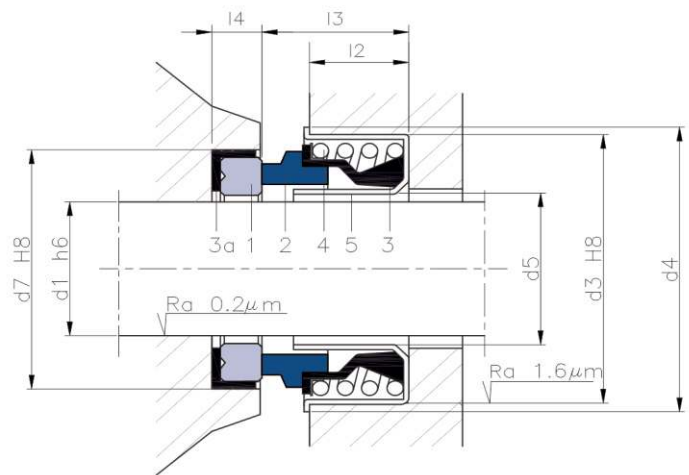
DESCRIPTION:

Mechanical seal with a compact design and small dimensions which is ideal for simple hydromassage or drinking water pumps.

The rotating part is attached to the pump impeller, rotates together with it. The stationary part is secured to the housing on its external diameter.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a Elastomeric cup
- 4 Spring
- 5 Metal frame

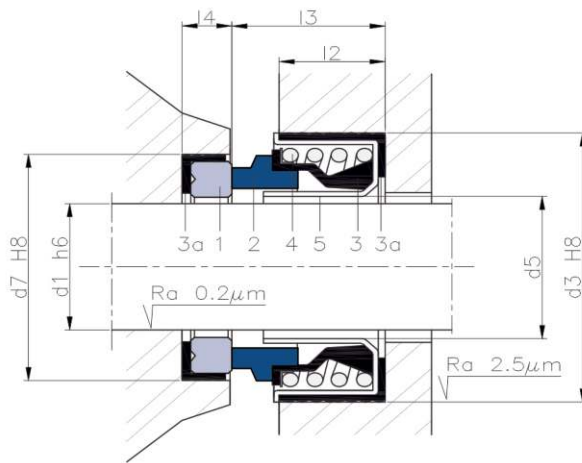


DIMENSIONS CHART For Imperial Shaft Sizes

Shaft		Rotary part		Stationary part				
(")	mm	d_7	l_4	d_3	d_4	d_5	l_2	l_3
1/2	13	25.0	7.5	28.5	32.0	14.5	8.0	13.2
1/2 B	13	25.0	5.0	28.5	32.0	14.5	8.0	13.2
1/2 C	13	25.0	5.0	30.0	34.5	14.0	7.5	13.2
5/8	16	31.7	10.0	36.5	41.0	17.5	8.5	16.3
5/8 B	16	31.0	5.0	36.5	41.0	17.5	8.5	16.3
3/4	19	35.0	10.0	40.0	43.0	21.5	9.5	16.0
3/4 B	19	35.0	5.0	40.0	43.0	21.5	9.5	16.0
1	25	41.0	11.0	47.0	51.0	26.5	11.0	18.0
1 1/8	29	48.0	8.5	52.0	57.0	31.0	11.0	18.5

Dimensions subject to changes or modifications.

ARB03A



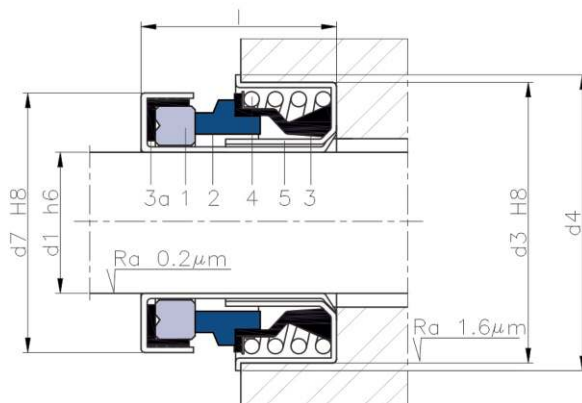
DIMENSIONS CHART ARB03A Dimensions in mm

TYPE ARB03A

Shaft	Rotary part		Stationary part			
mm	d ₇	l ₄	d ₃	d ₅	l ₂	l ₃
10	23.0	4	27	11.0	7.5	14.0
12	25.0	5	32	14.2	8.5	14.2
16	31.0	5	41	18.2	10.0	16.8
20	35.0	5	45	21.4	10.0	17.5
25	41.3	11	52	26.4	11.5	20.0
30	48.0	8	58	31.0	12.5	21.0

Dimensions subject to changes or modifications.

ARB03B



DIMENSIONS CHART ARB03B Dimensions in mm

TYPE ARB03B

Shaft	Rotary part		Stationary part	
mm	d ₃	d ₄	d ₇	l
12	30.00	35.0	25.0	17.7
12 B	28.55	32.0	25.0	17.7
12 C	33.40	38.0	25.0	17.5
13	30.00	35.0	25.0	17.7
15	36.50	41.5	30.0	20.0
16	36.50	41.5	30.0	20.0
16 B	38.10	41.3	28.5	20.0
20	40.00	43.7	37.0	22.0
20 B	38.00	43.7	37.0	22.0

Dimensions subject to changes or modifications.

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Not dependent on the rotation direction
- Single cylindrical spring.

OPERATING LIMITS:

$d_1 = 12 \text{ to } 25.4 \text{ mm}$ $p = 7 \text{ kg/cm}^2$

$v = 10 \text{ m/s}$ $t = -20 \text{ to } +100^\circ\text{C}^{(*)}$

(*) The temperature resistance depends on the material of the secondary seals used.

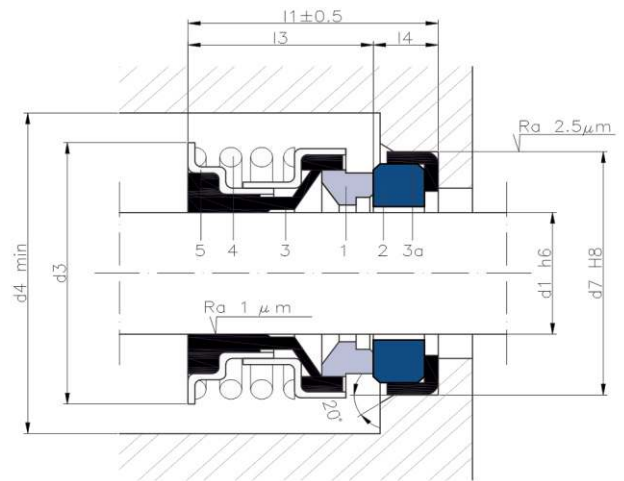
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Mechanical seal with a simple design for general use.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a Elastomeric cup
- 4 Spring
- 5 Ring
- 5a Drive ring
- 5b Metal frame



DIMENSIONS CHART For Imperial Shaft Sizes

Shaft		Rotary part			Stationary part		Total length
(")	mm	d_3	d_4	l_3	d_7	l_4	l_1
	12.00	23.30	28.30	16.30	24	4.5	20.8
	14.00	30.40	35.40	18.60	30	8.5	27.1
5/8	15.88	30.40	35.40	18.60	30	8.5	27.1
3/4	19.05	33.00	38.0	17.70	35	10.3	28.0
7/8	22.20	36.30	41.30	20.60	38	10.3	30.9
1	25.40	39.40	44.40	20.70	41.3	11.0	31.7

Dimensions subject to changes or modifications.

ARB17 - ARB17A - ARB17E - ARB17KU - ARB17NU

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Not dependent on the rotation direction
- Single cylindrical spring.

OPERATING LIMITS:

$d_1 = 10$ to 100mm $p = 12 \text{ kg/cm}^2$

$v = 10 \text{ m/s}$ $t = -15$ to $+200^\circ\text{C} (*)$

(*) 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:

A versatile, robust single seal that is widely used in many different industrial and household applications. The different type ARB 17 varieties can be combined with a wide range of stationary parts, thereby increasing its versatility due to the combination of different materials and working lengths.

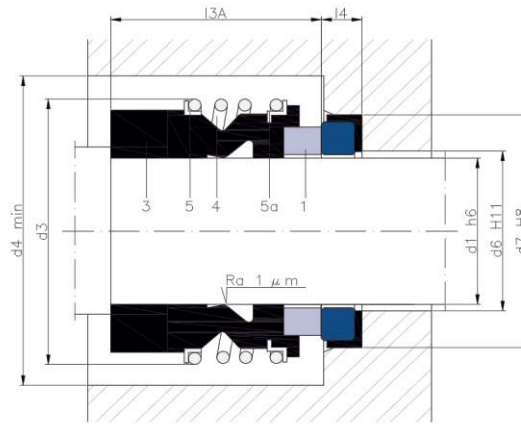
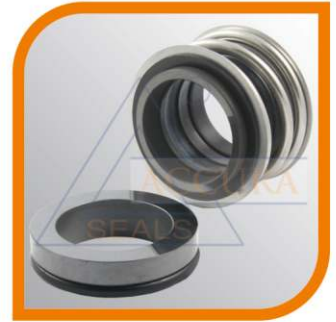
Types:

ARB17KU-L6 / ARB17KU-L60: standardised dimensions in accordance with standard EN 12756 (KU).

ARB17NU-L6 / ARB17NU-L60 : standardised dimensions in accordance with standard EN 12756(NU).

COMPONENTS:

- 1 Rotating contact surface
- 3 Bellows
- 4 Spring
- 5 Ring
- 5a Ring



TYPE AS60 IN

DIMENSIONS CHART ARB17A Dimensions in mm

Shaft	Rotary part				Stationary part		
mm	d_1	d_3	d_4	l_{3A}	d_6	d_7	l_4
15	15	28	33	17	29	35	4
20	20	37	42	21.5	29	35	7.5
25	25	41	46	23	34	40	7.5
30	30	48	53	24	45	51	9.5
45	45	65	70	30	58	65	12.5
55	55	80	85	43	67	76.5	14

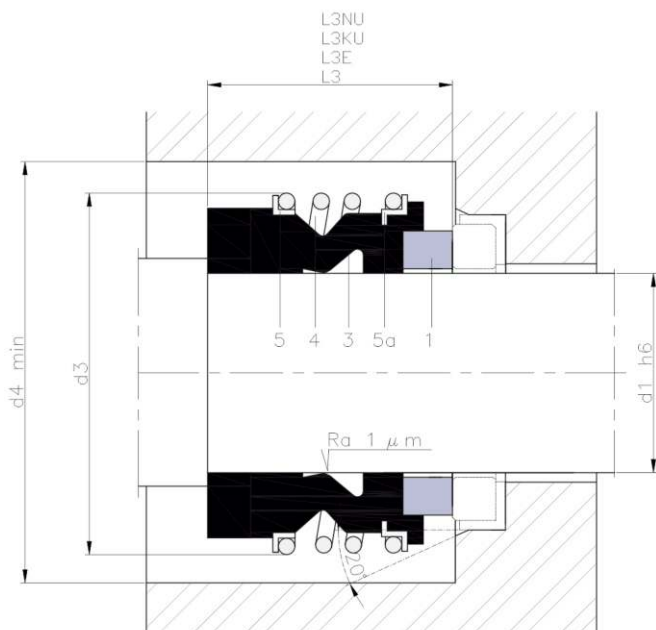
Dimensions subject to changes or modifications.

DIMENSIONS CHART ARB17 - ARB17E - ARB17KU - ARB17NU Dimensions in mm

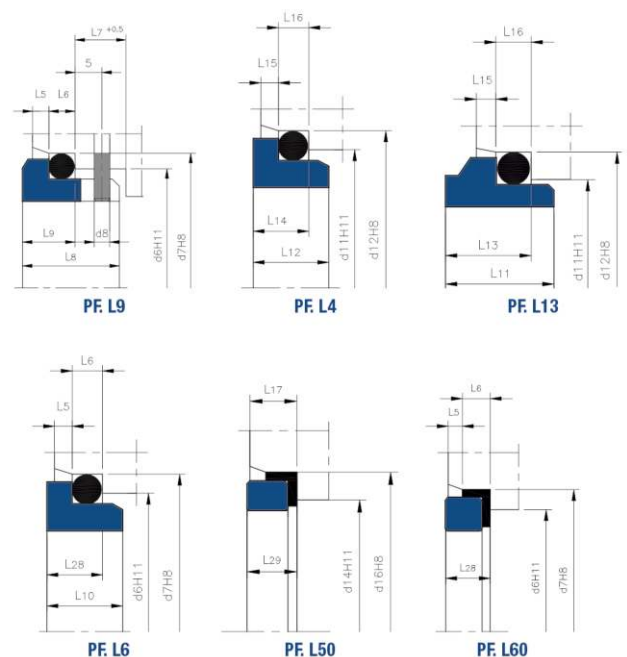
Shaft	Rotary part						Stationary part																					
mm	d ₃	d ₄	l ₃	l _{3E}	l _{3KU}	l _{3NU}	d ₆	d ₇	d ₈	d ₁₁	d ₁₂	d ₁₄	d ₁₆	l ₅	l ₆	l ₇	l ₈	l ₉	l ₁₀	l ₁₁	l ₁₂	l ₁₃	l ₁₄	l ₁₅	l ₁₆	l ₁₇	l ₂₈	l ₂₉
10	22.5	25.0	14.5	25	25.9	33.4	17	21	3	15.5	19.2	11.0	24.60	1.5	4	8.5	17.5	10.0	7.5	--	7.5	--	6.6	1.2	3.8	7.5	6.6	9.0
12	25.0	27.5	15.0	25	25.9	33.4	19	23	3	17.5	21.6	13.5	27.80	1.5	4	8.5	17.5	10.0	7.5	--	6.5	--	5.6	1.2	3.8	7.5	6.6	9.0
14	28.5	32.0	17.0	25	28.4	33.4	21	25	3	20.5	24.6	17.0	30.95	1.5	4	8.5	17.5	10.0	7.5	--	6.5	--	5.6	1.2	3.8	9.0	6.6	10.5
15	28.5	32.0	17.0	25	--	--	--	--	--	20.5	24.6	17.0	30.95	--	--	--	--	--	--	--	7.5	--	6.6	1.2	3.8	9.0	--	10.5
16	28.5	32.0	17.0	25	28.4	33.4	23	27	3	22.0	28.0	17.0	30.95	1.5	4	8.5	17.5	10.0	7.5	--	8.5	--	7.5	1.5	5.0	9.0	6.6	10.5
18	32.0	34.5	19.5	25	30.0	37.5	27	33	3	24.0	30.0	20.0	34.15	2.0	5	9.0	19.5	11.5	8.5	12.5	9.0	10.0	8.0	1.5	5.0	9.0	7.5	10.5
20	37.0	39.5	21.5	25	30.0	37.5	29	35	3	29.5	35.0	21.5	35.70	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	9.0	7.5	10.5
22	37.0	39.5	21.5	25	30.0	37.5	31	37	3	29.5	35.0	23.0	37.30	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	9.0	7.5	10.5
24	42.5	45.0	22.5	25	32.5	42.5	33	39	3	32.0	38.0	26.5	40.50	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	9.0	7.5	10.5
25	42.5	45.0	23.0	25	32.5	42.5	34	40	3	32.0	38.0	26.5	40.50	2.0	5	9.0	19.5	11.5	8.5	12.5	8.5	9.5	7.5	1.5	5.0	9.0	7.5	10.5
28	49.0	51.5	26.5	33	35.0	42.5	37	43	3	36.0	42.0	29.5	47.65	2.0	5	9.0	19.5	11.5	8.5	14.0	10.0	11.0	9.0	1.5	5.0	10.5	7.5	12.0
30	49.0	51.5	26.5	33	35.0	42.5	39	45	3	39.2	45.0	32.5	50.80	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	10.5	7.5	12.0
32	53.5	56.0	27.5	33	35.0	47.5	42	48	3	42.2	48.0	32.5	50.80	2.0	5	9.0	19.5	11.5	8.5	14.0	11.5	11.0	10.5	1.5	5.0	10.5	7.5	12.0
33	53.5	56.0	27.5	33	35.0	47.5	42	48	3	44.2	50.0	36.5	54.00	2.0	5	9.0	19.5	11.5	8.5	14.5	12.0	11.5	11.0	1.5	5.0	10.5	7.5	12.0
35	57.0	59.5	28.5	33	35.0	47.5	44	50	3	46.2	52.0	36.5	54.00	2.0	5	9.0	19.5	11.5	8.5	14.5	12.0	11.5	11.0	1.5	5.0	10.5	7.5	12.0
38	59.0	61.5	30.0	33	36.0	46.0	49	56	4	49.2	55.0	39.5	57.15	2.0	6	9.0	22.0	14.0	10.0	14.5	11.3	11.5	10.3	1.5	5.0	10.5	9.0	12.0
40	62.0	64.5	30.0	33	36.0	46.0	51	58	4	52.2	58.0	42.5	60.35	2.0	6	9.0	22.0	14.0	10.0	14.5	11.8	11.5	10.8	1.5	5.0	10.5	9.0	12.0
43	65.5	68.0	30.0	41	36.0	51.0	54	61	4	53.3	62.0	46.0	63.50	2.0	6	9.0	22.0	14.0	10.0	17.0	13.2	14.3	12.0	2.0	6.0	10.5	9.0	12.0
45	68.0	70.5	30.0	41	36.0	51.0	56	63	4	55.3	64.0	46.0	63.50	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	10.5	9.0	12.0
48	70.5	73.0	30.5	41	36.0	51.0	59	66	4	59.7	68.4	49.0	66.70	2.0	6	9.0	22.0	14.0	10.0	17.0	12.8	14.3	11.6	2.0	6.0	10.5	9.0	12.0
50	74.0	74.5	30.5	41	38.0	50.5	62	70	4	60.8	69.3	52.0	69.85	2.5	6	9.0	23.0	15.0	10.5	17.0	12.8	14.3	11.6	2.0	6.0	12.0	9.5	13.5
53	78.5	82.5	33.0	41	36.5	59.0	65	73	4	63.8	72.3	55.5	73.05	2.5	6	9.0	23.0	15.0	12.0	17.0	13.5	14.3	12.3	2.0	6.0	12.0	11.0	13.5
55	81.0	85.5	35.0	41	36.5	59.0	67	75	4	66.5	75.4	58.5	76.20	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	12.0	11.0	13.5
58	85.5	89.5	37.0	41	41.5	59.0	70	78	4	69.5	78.4	61.5	79.40	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	12.0	11.0	13.5
60	85.5	92.5	38.0	41	41.5	59.0	72	80	4	71.5	80.4	61.5	79.40	2.5	6	9.0	23.0	15.0	12.0	18.0	14.5	15.3	13.3	2.0	6.0	12.0	11.0	13.5
65	93.5	97.5	40.0	49	41.5	69.0	77	85	4	76.5	85.4	68.0	92.10	2.5	6	9.0	23.0	15.0	12.0	18.0	14.2	15.3	13.0	2.0	6.0	14.5	11.0	16.0
68	96.5	100.5	40.0	49	41.2	68.7	81	90	4	82.7	91.5	71.0	95.25	2.5	7	9.0	26.2	18.0	12.5	19.0	14.9	16.0	13.7	2.0	6.0	14.5	11.3	16.0
70	99.5	103.5	40.0	49	48.7	68.7	83	92	4	83.0	92.0	71.0	95.25	2.5	7	9.0	26.2	18.0	12.5	18.0	14.2	15.3	13.0	2.0	6.0	14.5	11.3	16.0
75	107.0	111.0	40.0	52	48.7	68.7	88	97	4	90.2	99.0	77.5	101.60	2.5	7	9.0	26.2	18.0	12.5	18.0	15.2	15.3	14.0	2.0	6.0	14.5	11.3	16.0
80	112.0	116.0	40.0	56	48.0	78.0	95	105	4	95.2	104.0	84.0	114.30	3.0	7	9.0	26.2	18.2	13.0	19.0	16.2	16.3	15.0	2.0	6.0	18.5	12.0	20.0
85	120.0	124.0	41.0	56	46.0	76.0	100	110	4	100.2	109.0	87.0	117.50	3.0	7	9.0	26.2	18.2	15.0	19.0	16.0	16.3	14.8	2.0	6.0	18.5	14.0	20.0
90	127.0	131.0	45.0	59	51.0	76.0	105	115	4	105.2	114.0	93.5	123.85	3.0	7	9.0	26.2	18.2	15.0	19.0	16.0	16.3	14.8	2.0	6.0	18.5	14.0	20.0
95	132.0	136.0	46.0	59	51.0	76.0	110	120	4	111.6	120.3	96.5	127.00	3.0	7	9.0	25.2	17.2	15.0	20.0	17.0	17.3	15.8	2.0	6.0	18.5	14.0	20.0
100	137.0	141.0	47.0	59	51.0	76.0	115	125	4	114.5	123.3	103.0	133.35	3.0	7	9.0	25.2	17.2	15.0	20.0	17.0	17.3	15.8	2.0	6.0	18.5	14.0	20.0

Dimensions subject to changes or modifications.

The usual stationary part types:



TYPE ARB17 - TYPE ARB17E - TYPE ARB17KU - TYPE ARB17NU



Tolerances I, d, 10... 12 mm ± 0.5 ; 14... 18 mm ± 1.0 ; 20... 25 mm ± 1.5 ; 28... 100 mm ± 2.0

ARB25-R - ARB25KU-R and ARB25NU-R

SECTORS:



CHARACTERISTICS:

- Balanced.
- Not dependent on the rotation direction
- Single cylindrical spring.

OPERATING LIMITS:

$d_1 = 10$ to 100 mm $p = 20$ kg/cm²

$v = 15$ m/s $t = -15$ to $+200^\circ\text{C}$ (*)

(*) 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:

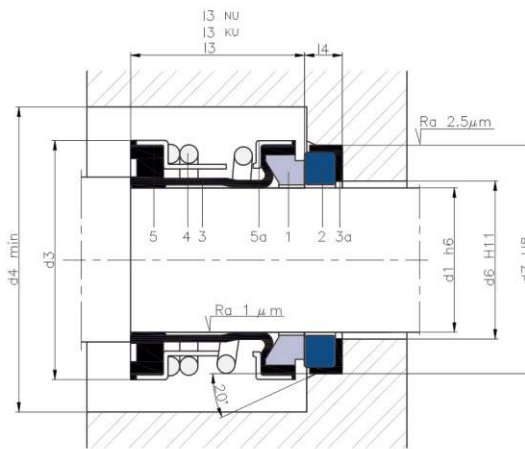
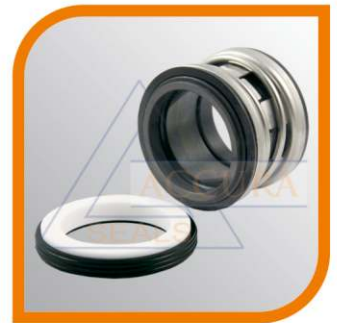
An extremely versatile general-use mechanical seal. It has metal tabs that reduce fatigue and tension in the rubber bellows when in the working position. A balanced seal without the need for a stepped shaft. The seal can operate in applications with high pressures without suffering premature wear.

Types:

ARB25KU-R and ARB25NU-R: standardised dimensions in accordance with standard EN 12756 (KU and NU respectively).

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a Elastomeric cup
- 4 Springs
- 5 Ring
- 5a Metal frame



DIMENSIONS CHART Dimensions in mm

Shaft mm	Rotary part					Stationary part		
	d ₃	d ₄	l ₃	l _{3KU}	l _{3NU}	d ₆	d ₇	l ₄
10	20	22	15	27.5	35.0	15	21	5.0
12	22	24	15	26.5	34.0	17	23	6.0
14	24	26	15	29.0	34.0	19	25	6.0
15	25	27	15	29.0	34.0	20	26	6.0
16	26	28	15	29.0	34.0	23	27	6.0
18	32	34	20	31.5	39.0	25	33	6.0
20	34	36	20	31.5	39.0	27	35	6.0
22	36	38	20	31.5	39.0	29	37	6.0
24	38	40	20	34.0	44.0	31	39	6.0
25	39	41	20	34.0	44.0	32	40	6.0
28	42	44	26	36.5	44.0	35	43	6.0
30	44	46	26	35.5	43.0	37	45	7.0
32	46	48	26	35.5	48.0	40	48	7.0
33	47	49	26	35.5	48.0	40	48	7.0
35	49	51	26	34.5	47.0	42	50	8.0
38	54	58	30	37.0	47.0	47	56	8.0
40	56	60	30	37.0	47.0	49	58	8.0
43	59	63	30	37.0	52.0	52	61	8.0
45	61	65	30	37.0	52.0	54	63	8.0
48	64	68	30	35.0	50.0	57	66	10.0
50	66	70	30	37.5	50.0	60	70	10.0
53	69	73	30	37.5	50.0	63	73	10.0
55	71	75	30	37.5	50.0	65	75	10.0
58	78	83	33	42.5	60.0	68	78	10.0
60	80	85	33	40.5	58.0	70	80	12.0
63	83	88	33	40.5	58.0	73	83	12.0
65	85	90	33	40.5	68.0	75	85	12.0
68	88	93	33	40.5	68.0	79	90	12.0
70	90	95	33	48.0	68.0	81	92	12.0
75	99	104	40	48.0	68.0	86	97	12.0
80	104	109	40	47.5	77.5	92	105	12.5
85	109	114	40	47.5	77.5	97	110	12.5
90	114	119	40	52.5	77.5	102	115	12.5
95	119	124	40	52.5	77.5	117	120	12.5
100	124	129	40	52.5	77.5	122	125	12.5

Dimensions subject to changes or modifications.

DIMENSIONS CHART For Imperial Shaft Sizes

Shaft (")	mm	Rotary part			Stationary part	
		d ₃	d ₄	l ₃	d ₇	l ₄
0.375	9.53	20	22	15	22.23	7.9
0.500	12.70	24	26	15	25.40	7.9
0.625	15.88	26	28	15	31.75	10.3
0.750	19.05	32	34	20	34.93	10.3
0.875	22.23	36	38	20	38.10	10.3
1.000	25.40	39	41	20	41.28	11.1
1.125	28.58	42	44	26	44.45	11.1
1.250	31.75	46	48	26	47.63	11.1
1.375	34.93	49	51	26	50.80	11.1
1.500	38.10	54	58	30	53.98	11.1
1.625	41.28	56	60	30	60.33	12.7
1.750	44.45	61	65	30	63.50	12.7
1.875	47.63	64	68	30	66.68	12.7
2.000	50.80	66	70	30	69.85	12.7
2.125	53.98	69	73	30	76.20	14.3
2.250	57.15	78	83	33	79.38	14.3
2.375	60.33	80	85	33	82.55	14.3
2.500	63.50	83	88	33	85.73	14.3
2.625	66.68	88	93	33	85.73	15.9
2.750	69.85	90	95	33	88.90	15.9
2.875	73.03	96	101	33	95.25	15.9
3.000	76.20	99	104	40	98.43	15.9
3.125	79.38	103	108	40	101.60	19.8
3.250	82.55	104	109	40	104.78	19.8
3.375	85.73	108	114	40	107.95	19.8
3.500	88.90	112	117	40	111.13	19.8
3.625	92.08	114	119	40	114.30	19.8
3.750	95.25	118	124	40	117.48	19.8
3.875	98.43	122	127	40	120.65	19.8
4.000	101.60	124	129	40	123.83	19.8

AR / ARB31

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Not dependent on the rotation direction
- Single cylindrical spring.

OPERATING LIMITS:

$d_1 = 6 \text{ to } 70 \text{ mm}$ $p = 6 \text{ kg/cm}^2$
 $v = 10 \text{ m/s}$ $t = -20 \text{ to } +140^\circ\text{C} (*)$

(*) The temperature resistance depends on the material of the secondary seals used.

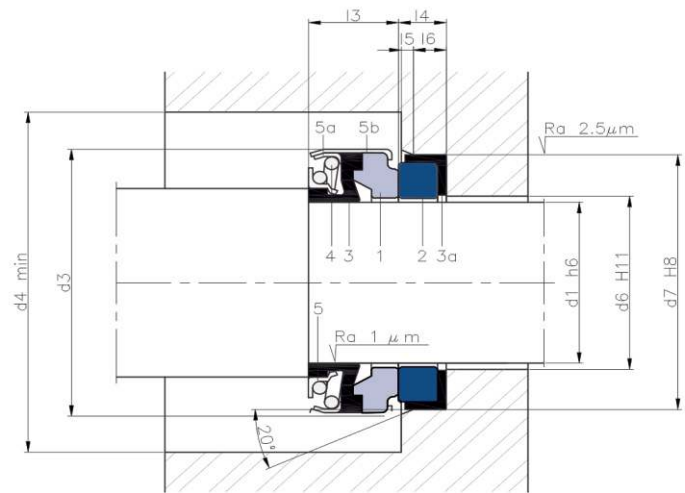
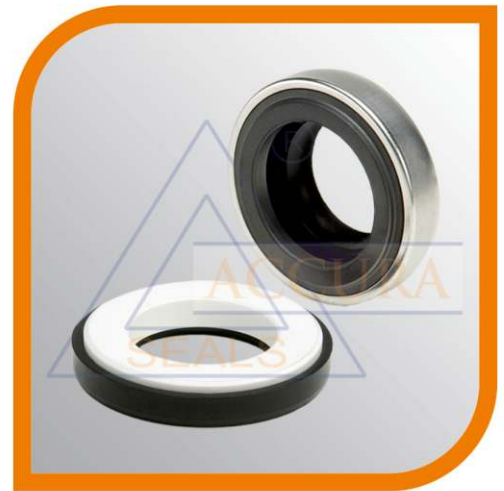
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Economic mechanical seal with small dimensions, used in large household pump productions for recirculating water or for working conditions with low demands.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a Elastomeric cup
- 4 Spring
- 5 Ring
- 5a Blocking ring
- 5b Metal frame



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part				Stationary part				
mm	d_3	d_4	l_3		d_6	d_7	l_4	l_5	l_6
6	18	23	8.0	+0.5	8	22.0	4.0	0.5	3.5
6 A	18	23	11.0	+0.5	8	22.0	4.0	0.5	3.5
8	20	23	11.0	+0.5	10	22.0	4.0	0.5	3.5
8 A	20	27	11.0	+0.5	10	26.0	5.5	1.0	5.0
8 B	24	27	11.0	+0.5	10	26.0	8.0	1.0	6.0
10	24	27	11.0	+0.5	12	26.0	8.0	1.0	6.0
11	24	27	11.0	+0.5	13	26.0	8.0	1.0	6.0
11 A	24	27	13.0	+0.5	13	26.0	8.0	1.0	6.0
12 A	24	27	11.0	+0.5	14	26.0	8.0	1.0	6.0
12 B	24	27	12.8	+0.7	14	26.0	8.0	1.0	6.0
12 C	24	27	13.0	+0.7	14	26.0	5.5	1.0	6.0
13	24	27	12.8	+0.7	15	26.0	8.0	1.0	6.0
13 A	24	27	13.0	+0.7	15	26.0	5.5	1.0	6.0
14 A	32	35	12.8	+0.7	16	29.5	8.0	1.0	6.0
14 B	28	30	12.8	+0.7	18	28.5	7.5	1.0	5.5
14 C	28	30	13.0	+0.7	18	28.5	8.0	1.0	5.5
15	32	35	12.8	+0.7	17	29.5	8.0	1.0	6.0
15 A	28	35	13.0	+0.7	17	30.0	8.0	1.0	6.0
16 A	32	35	12.8	+0.7	18	29.5	8.0	1.0	6.0
16 B	39	43	12.8	+0.7	18	38.0	8.0	1.0	6.0
17	39	43	12.8	+0.7	19	42.0	8.0	1.0	6.0
18	39	43	12.8	+0.7	20	42.0	8.0	1.0	6.0
19	39	43	12.8	+0.7	21	42.0	8.0	1.0	6.0
20 A	39	43	12.8	+0.7	22	42.0	8.0	1.0	6.0
20 B	42	47	12.8	+0.7	22	45.0	10.0	1.0	8.0
22	42	47	12.8	+0.7	24	45.0	10.0	1.0	8.0
22 A	39	47	13.0	+0.7	24	42.0	8.0	1.0	8.0
23	47	52	13.5	+1.0	25	50.0	10.0	1.0	8.0
24	47	52	13.5	+1.0	26	50.0	10.0	1.0	8.0
25 A	42	52	13.5	+1.0	27	50.0	10.0	1.0	8.0
25 B	47	52	13.5	+1.0	27	50.0	10.0	1.0	8.0
25 C	42	52	13.0	+1.0	27	45.0	10.0	1.0	8.0
26	47	52	13.5	+1.0	29	50.0	10.0	1.0	8.0
27	47	52	13.5	+1.0	30	50.0	10.0	1.0	8.0
28	54	60	15.0	+1.0	31	57.0	10.0	1.0	8.0
30	54	60	15.0	+1.0	33	57.0	10.0	1.0	8.0
32	54	60	15.0	+1.0	35	57.0	10.0	1.0	8.0
35	60	70	16.0	+1.0	38	63.0	10.0	1.0	8.0
38	65	75	18.0	+1.0	41	68.0	12.0	2.0	9.0
40	65	75	18.0	+1.0	43	68.0	12.0	2.0	9.0
45	70	80	20.0	+1.0	48	73.0	12.0	2.0	9.0
50	75	95	23.0	+1.0	53	88.0	15.0	2.0	12.0
55	85	95	23.0	+1.0	95	88.0	15.0	2.0	12.0
60	105	115	30.0	+1.0	63	110.0	15.0	2.0	12.0
65	105	115	30.0	+1.0	68	110.0	15.0	2.0	12.0
70	105	115	32.0	+1.0	73	110.0	15.0	2.0	12.0

Dimensions subject to changes or modifications.

ARB50

SECTORS:



CHARACTERISTICS:

- Balanced.
- Not dependent on the rotation direction
- Single cylindrical spring.

OPERATING LIMITS:

$d_1 = 14$ to 100 mm $p = 20 \text{ kg/cm}^2$

$v = 15$ m/s $t = -15$ to $+200^\circ\text{C}^*$

(*) 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:

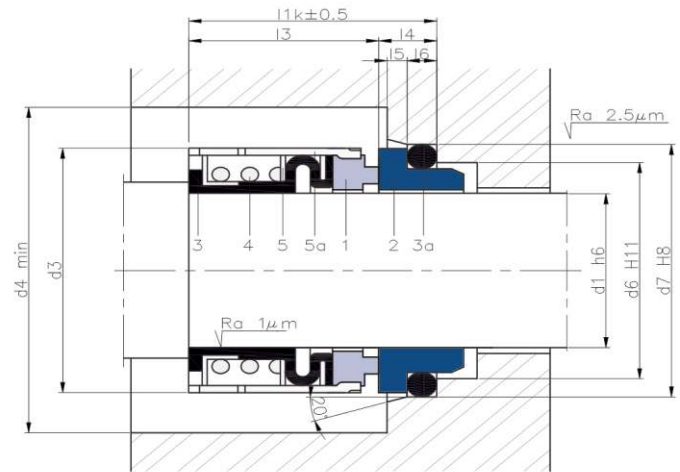
A balanced seal without the need for a stepped shaft.

The casing of the rotating part protects the bellows from abrasion and from the rotation transmission tensions, and the spring from blocking in the event of being contaminated by fibers and particles.

It is recommended for use with highly viscous or sticky fluids containing fibers or particles, or with fluids that produce a chemical attack on the shaft.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a O-ring
- 4 Spring
- 5 Ring
- 5a Metal frame



DIMENSIONS CHART Dimensions in mm

Shaft	Rotary part			Stationary part					Total length
mm	d_3	d_4	l_3	d_6	d_7	l_4	l_5	l_6	l_{1k}
14	24	26	23.0	21	25	12.0	1.5	4	35.0
16	26	28	23.0	23	27	12.0	1.5	4	35.0
18	32	34	24.0	27	33	13.5	2.0	4	37.5
20	34	36	24.0	29	35	13.5	2.0	5	37.5
22	36	38	24.0	31	37	13.5	2.0	5	37.5
24	38	40	26.7	33	39	13.5	2.0	5	40.2
25	39	41	27.0	34	40	13.0	2.0	5	40.0
28	42	44	30.0	37	43	12.5	2.0	5	42.5
30	44	46	30.5	39	45	12.0	2.0	5	42.5
32	46	48	30.5	42	48	12.0	2.0	5	42.5
33	47	49	30.5	42	48	12.0	2.0	5	42.5
35	49	51	30.5	44	50	12.0	2.0	5	42.5
38	54	58	32.0	49	56	13.0	2.0	6	45.0
40	56	60	32.0	51	58	13.0	2.0	6	45.0
43	59	63	32.0	54	61	13.0	2.0	6	45.0
45	61	65	32.0	56	63	13.0	2.0	6	45.0
48	64	68	32.0	59	66	13.0	2.0	6	45.0
50	66	70	34.0	62	70	13.5	2.5	6	47.5
53	69	73	34.0	65	73	13.5	2.5	6	47.5
55	71	75	34.0	67	75	13.5	2.5	6	47.5
58	78	83	39.0	70	78	13.5	2.5	6	52.5
60	80	85	39.0	72	80	13.5	2.5	6	52.5
63	83	88	39.0	75	83	13.5	2.5	6	52.5
65	85	90	39.0	77	85	13.5	2.5	6	52.5
68	88	93	39.0	81	90	13.5	2.5	7	52.5
70	90	95	45.5	83	92	14.5	2.5	7	60.0
75	95	104	45.5	88	97	14.5	2.5	7	60.0
80	104	109	45.0	95	105	14.5	2.5	7	60.0
85	109	114	45.0	100	110	14.5	2.5	7	60.0
90	110	119	50.0	105	115	15.0	3.0	7	65.0
95	119	124	50.0	110	120	15.0	3.0	7	65.0
100	124	129	50.0	115	125	15.0	3.0	7	65.0

Dimensions subject to changes or modifications.

ATB16

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Not dependent on the rotation direction.
- External mounting.

OPERATING LIMITS:

$d_1 = 25$ to 100 mm $p = 12 \text{ kg/cm}^2$

$v = 16$ m/s $t = -40$ to $+200^\circ\text{C}$ (*)

(*) The temperature resistance depends on the material of the secondary seals used.

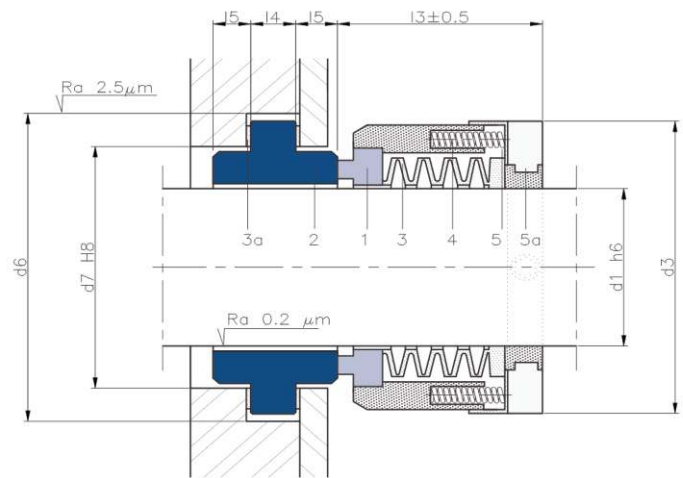
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

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.

COMPONENTS:

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



DIMENSIONS CHART Dimensions in mm

Shaft mm	Rotary part		Stationary part			
	d_3	l_3	d_6	d_7	l_4	l_5
20	57	31	51	40.6	8	4.8
25	61	33	54	42.86	8.0	4.8
28	67	36	65	50.80	11.0	8.0
30	70	37	68	53.98	11.0	8.0
32	70	37	68	53.98	11.0	8.0
33	73	38	71	57.15	11.0	8.0
35	73	38	71	57.15	11.0	8.0
38	76	38	78	63.50	11.0	8.0
40	80	40	81	66.68	11.0	8.0
43	83	40	84	69.85	11.0	8.0
45	83	40	84	69.85	11.0	8.0
48	89	43	97	79.38	14.3	9.5
50	89	43	97	79.38	14.3	9.5
53	103	53	100	82.55	14.3	9.5
55	107	53	103	85.73	14.3	9.5
58	110	53	106	88.90	14.3	9.5
60	110	53	106	88.90	14.3	9.5
63	113	53	110	92.08	14.3	9.5
65	116	53	113	95.25	14.3	9.5
68	118	53	116	98.43	14.3	9.5
70	118	53	116	98.43	14.3	9.5
75	126	53	121	103.19	14.3	9.5
80	150	73	132	114.30	14.3	9.5
85	156	73	138	120.65	14.3	9.5
90	163	73	144	127.00	14.3	9.5
95	163	73	144	127.00	14.3	9.5
100	169	73	151	133.35	14.3	9.5

Dimensions subject to changes or modifications.

DIMENSIONS CHART For Imperial Shaft Sizes

Shaft (") mm	Rotary part		Stationary part			
	d_3	l_3	d_6	d_7	l_4	l_5
0.875 22.23	57	31	51	40.6	8	4.8
1.000 25.40	61	33	54	42.9	8	4.8
1.125 28.58	67	36	65	50.8	11	8
1.250 31.75	70	37	68	54	11	8
1.375 34.93	73	38	71	57.2	11	8
1.500 38.10	76	38	78	63.5	11	8
1.625 41.28	80	40	84	69.9	11	8
1.750 44.45	83	40	84	69.9	11	8
1.875 47.63	86	43	97	79.4	14.3	9.5
2.000 50.80	89	43	97	79.4	14.3	9.5
2.125 53.98	103	53	103	95.7	14.3	9.5
2.250 57.15	107	53	106	88.9	14.3	9.5
2.375 60.33	110	53	106	88.9	14.3	9.5
2.500 63.50	113	53	110	92.1	14.3	9.5
2.625 66.68	116	53	116	98.4	14.3	9.5
2.750 69.85	118	53	116	98.4	14.3	9.5
2.875 73.03	122	53	121	103.2	14.3	9.5
3.000 76.20	126	53	121	103.2	14.3	9.5
3.250 82.55	150	73	138	120.7	14.3	9.5
3.500 88.90	156	73	144	127	14.3	9.5
3.750 95.5	163	73	144	127	14.3	9.5
4.000 101.0	169	73	151	133.4	14.3	9.5

SECTORS:



CHARACTERISTICS:

- Unbalanced.
- Single Cylindrical Spring
- Not dependent on the rotation direction.

OPERATING LIMITS:

$$d_1 = 8 \text{ to } 40 \text{ mm} \quad p = 12 \text{ kg/cm}^2$$

$$v = 10 \text{ m/s} \quad t = -20 \text{ to } +120^\circ\text{C}^{(*)}$$

(*) The temperature resistance depends on the material of the secondary seals used.

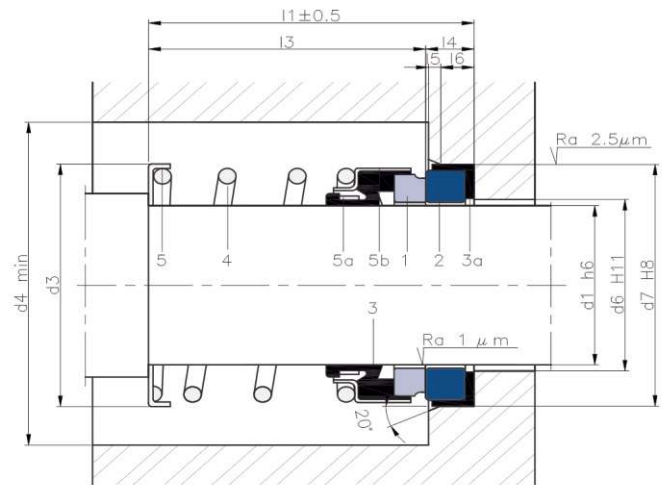
The operating limits are defined by the PV factor which is determined for the sealing system characteristics and those of the application.

DESCRIPTION:

Mechanical seal with a simple design for general use.

COMPONENTS:

- 1 Rotating contact surface
- 2 Stationary contact surface
- 3 Bellows
- 3a Elastomeric Cup
- 4 Spring
- 5 Ring
- 5a Drive ring
- 5b Metal frame



DIMENSIONS CHART Dimensions in mm

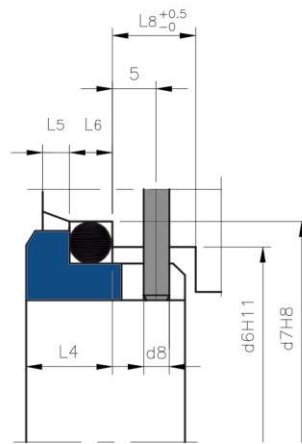
Shaft mm	Rotary part			Stationary part					Total length l ₁
	d ₃	d ₄	l ₃	d ₆	d ₇	l ₄	l ₅	l ₆	
8	22	27	15.5	14	26.00	5.5	0.5	4.5	21.0
10	22	27	15.5	14	26.00	5.5	0.5	4.5	21.0
11	22	27	15.5	14	26.00	5.5	0.5	4.5	21.0
12	22	27	15.5	14	26.00	5.5	0.5	4.5	21.0
13 A	28	33	18.0	17	29.50	8.0	1.0	6.0	26.0
13 B	32	37	13.0	17	29.50	8.0	1.0	6.0	21.0
14 B	28	33	18.0	17	29.50	8.0	1.0	6.0	26.0
14 C	28	33	22.0	19	23.10	6.0	1.2	3.0	28.0
14 A	32	37	13.0	17	29.50	8.0	1.0	6.0	21.0
15 A	28	33	18.0	17	29.50	8.0	1.0	6.0	26.0
15 B	32	37	13.0	17	29.50	8.0	1.0	6.0	21.0
16 C	28	33	18.0	17	29.50	8.0	1.0	6.0	26.0
16 F	28	33	23.0	21	26.90	7.0	1.5	4.0	30.0
16 E	31	36	29.0	17	29.50	8.0	1.0	6.0	37.0
16 A	32	37	13.0	17	29.50	8.0	1.0	6.0	21.0
16 D	32	37	13.0	17	42.00	8.0	1.0	6.0	21.0
16 B	33	38	16.3	17	29.50	8.0	1.0	6.0	24.0
18 A	32	37	24.0	20	42.00	8.0	1.0	6.0	32.0
18 B	32	37	24.0	25	30.90	8.0	1.5	4.0	32.0
19.05	32	37	19.0	22	35.00	10.2	1.2	7.8	24.0
19.05	32	37	22.0	22	35.00	10.2	1.2	7.8	32.2
20 A	32	37	22.0	22	42.00	8.0	1.0	6.0	30.0
20 B	44	49	14.0	22	42.00	8.0	1.0	6.0	22.0
22 A	39	44	25.0	30	35.40	8.0	2.0	4.0	33.0
22	44	49	14.0	23	42.00	8.0	1.0	6.0	22.0
25.4	42	47	27.2	29	41.25	11.0	1.5	8.5	38.2
30 B	52	57	28.0	33	52.00	12.0	1.5	8.5	40.0
30 A	60	65	22.0	33	52.00	12.0	1.5	8.5	34.0
31.75	52	57	49.2	34	47.62	11.0	1.5	8.5	60.2
40	63	68	35.0	45	68.00	12.0	1.5	8.5	47.0

Dimensions subject to changes or modifications.

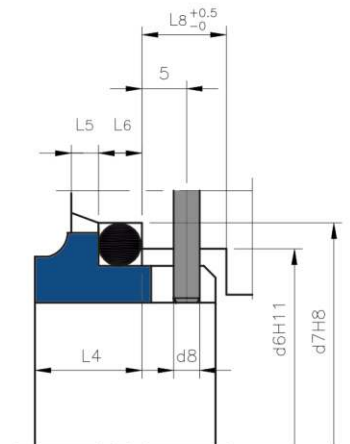
STATIONARY PARTS

With anti-rotation pin and housing
dimensions EN 12756

d ₁	d ₆	d ₇	d ₈	l ₅	l ₆	l ₈	L16	L1 DIN	L9
10	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



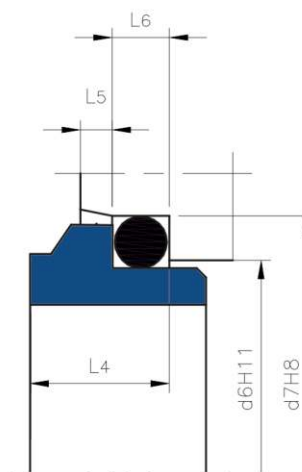
PF. L1 DIN
PF. L9
PF. L16



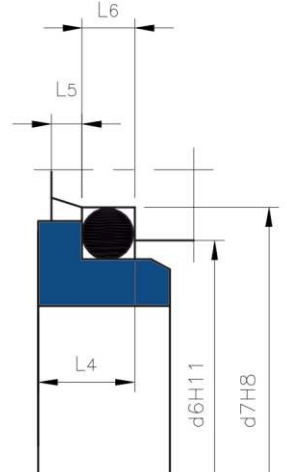
PF. L9 (*)

Without anti-rotation pin and housing
dimensions EN 12756

d ₁	d ₆	d ₇	L606/ L6	LDIN	l ₅	l ₆
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



PF. L DIN (*)
PF. L606



PF. L DIN
PF. L6

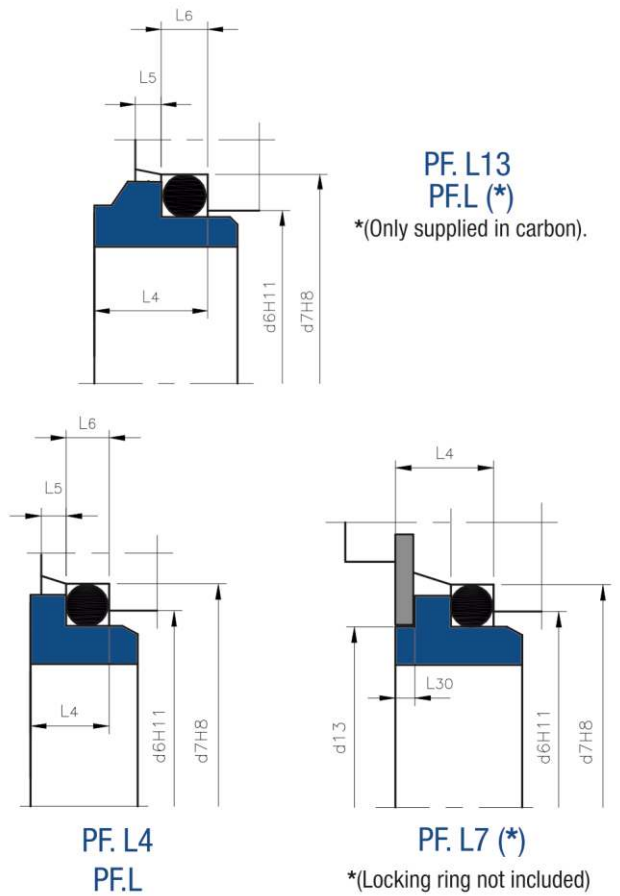
*) (Only supplied in carbon).

STATIONARY PARTS

Without Anti-Rotation Pin

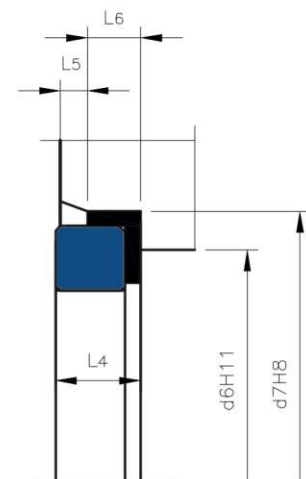
d ₁	L4/L7/L13	L	L4/L7/L13	L	L7	L	L4/L7	L13			L7
d ₁	d ₆	d ₇	d ₁₃								
10	15,5	14	19,2	18,1	17	5,5	6,6	-	1,5	4	2
12	17,5	16,5	21,6	20,6	19	5,5	5,6	-	1,5	4	1
14	20,5	19	24,6	23,1	21,5	6	5,6	-	1,5	4	1
16	22	21	28	26,9	24	7	7,5	-	1,5	4	1,5
18	24	25	30	30,9	27,5	7	8	10	2	5	2
20	29,5	25	35	30,9	32	8	7,5	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

With O-Ring



d ₁	R / L60 / CDIN		L50				R	L60	CDIN	L50
d ₁	d ₆	d ₇	d ₆	d ₇	l ₅	l ₆				
10	17	21	11.0	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	17,0	30,95	1,5	4	6	6,6	8,6	10,5
16	23	27	17,0	30,95	1,5	4	6	6,6	8,6	10,5
18	27	33	20,0	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	23,0	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	46,0	63,5	2	6	8	9	11	12
45	56	63	46,0	63,5	2	6	8	9	11	12
48	59	66	49,0	66,7	2	6	10	9	11	12
50	62	70	52,0	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	68,0	92,1	2,5	6	12	11	13	16
68	81	90	71,0	95,25	2,5	7	12	11,3	15,3	16
70	83	92	71,0	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	84,0	114,3	3	7	12,5	12	15,7	20
85	100	110	87,0	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	103,0	133,35	3	7	12,5	14	15,7	20

With cup

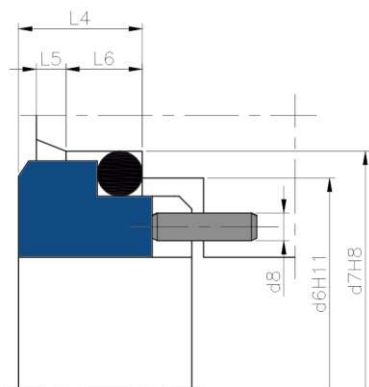


PF. R
PF. C DIN
PF. L50
PF. L60

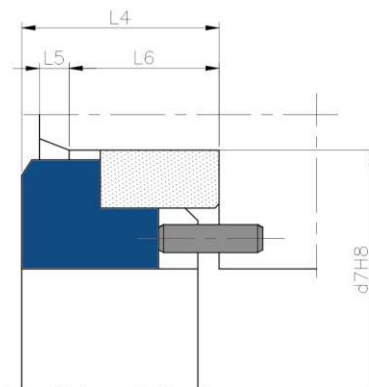
STATIONARY PARTS

In inches

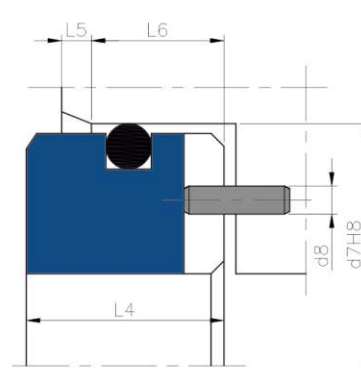
		L12	L12/L22/A/C11		L12 / L22 / A	L12/L22/A/C11		A / C11 / L22	L12
d ₁ (")	mm	d ₆ mm	d ₇ inch	mm	d ₈ mm	l ₅ mm	l ₆ mm	l ₄ mm	mm
0,250	6,350	14,45	0,75	19,05	3	-	-	-	5,92
0,375	9,525	17,63	0,88	22,23	3	1,5	4,9	7,92	5,92
0,500	12,700	20,80	1,00	25,40	3	1,5	4,9	7,92	5,92
0,625	15,875	27,15	1,25	31,75	3	1,5	7,3	10,31	6,62
0,750	19,050	30,33	1,38	34,93	3	2	6,8	10,31	6,62
0,875	22,225	33,50	1,50	38,10	3	2	6,8	10,31	6,62
1,000	25,400	36,68	1,63	41,28	3	2	7,6	11,10	6,62
1,125	28,575	39,85	1,75	44,45	3	2	7,6	11,10	6,62
1,250	31,750	43,03	1,88	47,63	3	2	7,6	11,10	6,62
1,375	34,925	46,20	2,00	50,80	3	2	7,6	11,10	6,62
1,500	38,100	47,98	2,13	53,98	4	2	7,6	11,10	7,53
1,625	41,275	54,33	2,38	60,33	4	2	9,1	12,70	8,2
1,750	44,450	57,50	2,50	63,50	4	2	9,1	12,70	8,2
1,875	47,625	60,68	2,63	66,68	4	2	9,1	12,70	8,2
2,000	50,800	63,85	2,75	69,85	4	2,5	8,6	12,70	8,2
2,125	53,975	70,20	3,00	76,20	4	2,5	10,2	14,27	9,53
2,250	57,150	73,38	3,13	79,38	4	2,5	10,2	14,27	9,53
2,375	60,325	76,55	3,25	82,55	4	2,5	10,2	14,27	9,53
2,500	63,500	79,73	3,38	85,73	4	2,5	10,2	14,27	9,53
2,625	66,675	79,73	3,38	85,73	4	2,5	11,8	15,88	9,53
2,750	69,850	82,90	3,50	88,90	4	2,5	11,8	15,88	9,53
2,875	73,025	85,65	3,75	95,25	4	2,5	11,8	15,88	11,33
3,000	76,200	88,83	3,88	98,43	4	3	11,3	15,88	11,33
3,125	79,375	92,00	4,00	101,60	4	3	13,7	19,84	14,33
3,250	82,550	95,18	4,13	104,78	4	3	13,7	19,84	14,33
3,375	85,725	98,35	4,25	107,95	4	3	13,7	19,84	14,33
3,500	88,900	101,53	4,38	111,13	4	3	13,7	19,84	14,33
3,625	92,075	104,70	4,50	114,30	4	3	13,7	19,84	14,33
3,750	95,250	107,88	4,63	117,48	4	3	13,7	19,84	14,33
3,875	98,425	111,05	4,75	120,65	4	3	13,7	19,84	14,33
4,000	101,600	114,23	4,88	123,83	4	3	13,7	19,84	14,33



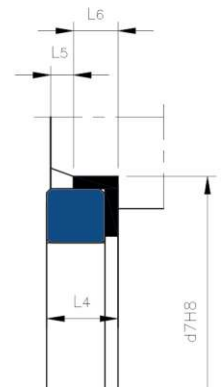
PF. L12



PF. L22



PF. A



PF. C11

REPAIR WORKSHOP, QUALITY CONTROL

Repair workshop



Accura's modern, adequate equipment enables it to execute repair and transformation operations on mechanical seals and cartridges.

The process commences by diagnosing the condition of the part, and after this, we execute the necessary processes for cleaning, polishing and lapping the contact surfaces, grinding parts and replacing components, etc.



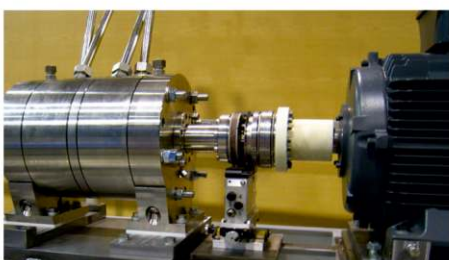
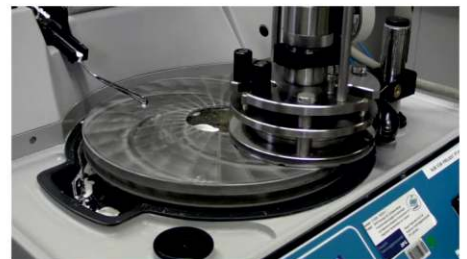
After carrying out these operations, the sealing of the repaired parts is checked by pressure test, to ensure that the part is ready for operation in any application that requires sealing of the highest standard.

We also offer additional services such as a diagnostic report on the sample received and a detailed analysis of the faults observed or laser marking of parts to facilitate their identification and traceability.

Quality control, checking and testing

All the mechanical seals manufactured or repaired by Accura are subject to the strictest quality controls. We guarantee their operation in the most demanding applications.

Furthermore, if the customer wishes, we can provide other services such as sealing controls in static or dynamic conditions and at different pressures before delivering the product. Working along this line we perform static sealing controls on all our cartridges before delivering them to the customer.



GENERAL INFORMATION

Certifications:



GENERAL INFORMATION

Selecting the mechanical seals

The following information should be taken as a general reference and for preliminary guidance purposes in selecting the mechanical seals. For technical or economic reasons, other types of mechanical seals can be provided, made of different materials from those described here. For a selection that is more precise and in keeping with the special requirements of each application and each customer, please contact your ACCURA sales team.

The selection of the mechanical seal configuration, depending on the fluid and the working conditions, is set out in the "Sectors" section.

When selecting the materials of the mechanical seal, the following criteria can be followed:

• Contact surfaces:

The materials used for the contact surfaces are classified as "hard" and "soft". The "hard" ones include steel, carbide, oxide and ceramic. "Soft" materials include carbon and PTFE. As a general rule, combinations with one surface made of a hard material and the other of a soft material or both surfaces of a hard material are used.

- "Soft"- "hard" material combinations:

Whenever possible, it is best to use a combination of hard-soft materials as this has a series of advantages in comparison with a combination of hard materials. The most common are:

- **BV, BX → Economic combination:** normally used in applications involving running water. It is not suitable for dry operation, and in operations with little lubrication or with sudden changes in temperature. Ceramic has very low thermal conductivity and, since it undergoes enormous increases in temperature, it may cause fractures due to thermal shock.

- **BF, BG → "Soft" combination:** stainless steel, despite being considered "hard", may be marked and damaged by contaminant particles found in working fluids. The friction coefficient is not optimum but the material has an excellent capacity to conduct and evacuate the heat generated. In addition, the steel surface has great tenacity in the face of oscillation or knocks which could occur during assembly and while the application is in operation.

- **BQ, BU → "Hard" combination:** it has a good friction coefficient and is suitable for difficult working conditions.

- **AQ, AU → Combination for high temperatures:** antimony-impregnated carbon is suitable for working in conditions without solids in suspension of up to 350° C.

- "Hard"- "hard" material combinations:

When working with fluids containing particles in suspension, fluids which can chemically attack carbon impregnation or which require a durable assembly, it is best to use a combination of hard materials. The most common are:

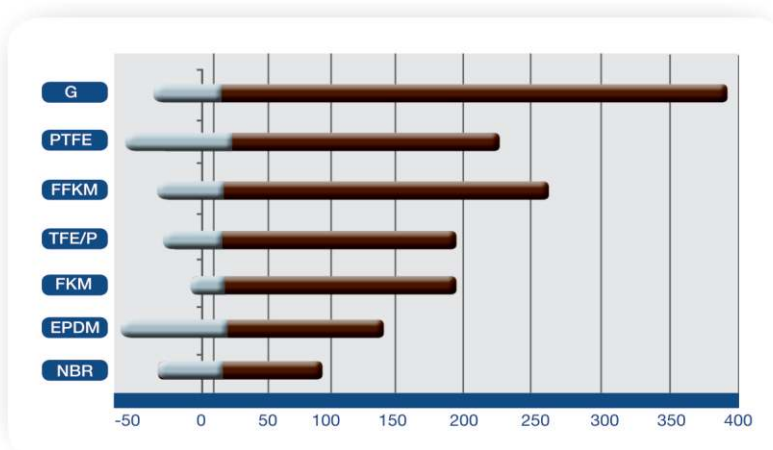
- **QQ → Silicon-Silicon:** This is the hard combination most often used. It has greater chemical resistance and the best friction coefficient of all the hard combinations. However, it is also the most fragile material and has the greatest risk of being damaged during assembly. Different silicon carbide grades can be used to obtain special performances in the surfaces (Q_1 , Q_6).

- **UU → Tungsten-Tungsten:** This is the most resistant option in mechanically aggressive working conditions. It has good resistance to impact, to vibrations, and to a large variety of chemicals. It is usually more expensive than silicon. Its friction coefficient is greater and so it is advisable to ensure good lubrication. This combination is widely used in wastewater and fluids loaded with particles such as sand or silt.

Secondary seals

The material used for the secondary seals is selected based on two criteria: the working temperature and the potential chemical attack of the working fluid.

With respect to the working temperature, the following graph is given as a guide:



NBR is the most economical material and the one with the lowest useful working temperature range and graphite is the most suitable material for working at high temperatures. Within the elastomer group, FFKM is the material that is most resistant to temperature, allowing temperatures of 320° C to be reached in some special compounds, on demand.

GENERAL INFORMATION

Materials Codes

Contact surfaces (position 1 and 2)

SYNTHETIC CARBONS

A:	Antimony-impregnated carbon
B:	Resin-impregnated carbon
B ₂ :	Resin-impregnated carbon
B ₃ :	Pure non-impregnated carbon
B ₅ :	Hot pressed carbon

METALS

E:	Chromium steel; AISI 420 (1.4021 ; 1.4028)
F ₁ :	Nickel-chromium steel; AISI 431 (1.4057)
G:	Nickel-chromium-molybdenum steel; AISI 316 (1.4401)
D:	Duplex stainless steel (1.4462 ; 1.4162)
Z:	Nickel-chromium-molybdenum steatite steel
C:	Brass

CARBIDES

U:	Tungsten carbide with welded / inserted nickel
U ₁ :	Solid tungsten carbide with nickel
Q ₁ :	Sintered silicon carbide with no free silicon
Q ₂ :	Sintered silicon carbide
Q ₆ :	Sintered silicon carbide with carbon

CERAMIC MATERIALS

V:	Alumina oxide 99,5%
V ₂ :	Alumina oxide 95%
X:	Steatite

SYNTHETIC MATERIALS

Y:	Glass-filled PTFE
Y ₁ :	PTFE-graphite

Secondary seals (position 3)

ELASTOMERS

P:	Nitrile butadiene rubber (NBR)
H:	Hydrogenated nitrile butadiene rubber (HNBR).
N:	Chloroprene rubber (CR)
E:	Ethylene-propylene diene monomer (EPDM)
X:	Ethylene-propylene diene monomer peroxide (EPDMPX)
S:	Methyl-vinyl silicon rubber (MVQ)
V:	Fluorocarbon (FKM or Viton® Rubber)
K:	Perfluorocarbon rubber (FFKM)
M:	Viton® Rubber coated with PTFE (FEP-FKM / FEP-MVQ)
A:	Tetrafluoro-ethylene Propylene Rubber (TFE/P or Aflas®)

NON-ELASTOMERS

G:	Graphite
T:	PTFE

Springs and other metal parts (position 4 and 5)

E:	Chromium steel; AISI 420 (1.4021; 1.4028)
F:	Nickel-chromium steel; AISI 304 (1.4301)
F ₁ :	Nickel-chromium steel; AISI 431 (1.4057)
G:	Nickel-chromium-molybdenum steel; AISI 316 (1.4401)
G ₂ :	AM350 nickel-chromium-molybdenum steel. AM350.
L:	Nickel-chromium-molybdenum steel; AISI 316L (1.4404)
D:	Nickel-chromium-molybdenum duplex stainless steel (1.4462)
M:	Hastelloy® C276
M ₂ :	Inconel® 718
M ₄ :	Monel® 400
B:	Brass
G3:	Alloy® 20
G4:	316 Ti (1.4571)

Synthetic carbons

Synthetic carbons are the materials most often used due to their intrinsic characteristics: they are self-lubricating, economical and have good chemical resistance. There are several types:

Code A: Antimony-impregnated carbon.

It has less chemical resistance than resin-impregnated carbon but is used due to its resistance to high temperatures (350°C). It is recommended for high pressure applications with hydrocarbons, thermal oils or gases.

Code B: Resin-impregnated carbon.

The most standard and economical. It can withstand temperatures of up to 180°C.

Code B₂: Resin-impregnated carbon.

A mechanised carbon with a more compact internal structure which gives it greater chemical resistance than type B graphite.

Code B₃: Non-impregnated carbon.

A carbon with no resin or metal content with a very high resistance to temperature (3000° C) and chemicals.

Ceramic materials

Ceramic materials have extremely high purity, are very resistant to wear and have high chemical resistance. However, they become fragile in the presence of sudden changes in temperature (thermal shock).

• Code X: Steatite.

Its composition is silica oxide (SiO₂) 52%, magnesium oxide (MgO) 23%, alumina oxide (Al₂O₃) 5.1%. It is ochre in colour and used in clean water applications. An economical material. Has low chemical resistance and low thermal conductivity, for which reason it does not dissipate heat well. Low resistance to thermal shock.

• Code V: Alumina oxide with a purity of 99.5%.

It is chemically inert and has excellent resistance to wear. Due to its purity, it can withstand a higher degree of thermal shock than other types of ceramic. It is recommended in clean water operations, in combination with graphite (B).

Low thermal conductivity and poor heat dissipation. Low resistance to thermal shock.

GENERAL INFORMATION

Metal carbides

Metal carbides are extremely hard materials manufactured by sintering. They have high chemical and wear resistance and are used in environments with solids or particles which can attack soft materials such as carbon.

- **Code U: Inserted / welded tungsten carbide.**

An extremely hard and tenacious material. It is appropriate for applications with a pH of more than 6 (in the case of welded parts).

Good behaviour with respect to wear under severe conditions. Good thermal conductivity. High elastic modulus, meaning it is not likely to become deformed, especially in high pressure applications. Limited chemical resistance, especially to acid products. A very high density material, which can be critical in high speed rotating operations.

Limited capacity to withstand dry operation conditions or extremely limited lubrication conditions, especially when working with the same material.

- **Código U₁: Solid tungsten carbide with nickel.**

An extremely hard and tenacious material. Limited chemical resistance, especially to acid products. Suitable for applications with pH values above 2. Good behaviour with respect to wear under severe conditions. Good thermal conductivity. High elastic modulus, meaning it is not likely to become deformed in comparison with metal materials. A very high density material, which can be critical in high speed rotating operations.

Limited capacity to withstand dry operation conditions or extremely limited lubrication conditions, especially when working with the same material.

- **Code Q: Silicon carbide.**

Good resistance to wear and to friction in heavy duty work. It is the perfect material for working in contact with abrasive and corrosive fluids, and at high pressures. Its main characteristics are as follows:

-High thermal conductivity, comparable to tungsten carbide.

-Low resistance to thermal shock.

-High elasticity modulus.

-Good chemical resistance.

-Lower density than tungsten carbide.

May be subject to chemical attack by certain strong alkaline products. For that reason it is important to choose the most appropriate silicon carbide grade:

Q₁: Contains no free silicon. It has the best chemical resistance of all carbides, but low tenacity. Its friction characteristics are poorer than grade Q₂, but higher than those of tungsten carbide.

Q₂: Contains free silicon. It has the best friction characteristics of all silicon carbides. Some acid or alkaline substances may cause lamination in free silicon but in general, it is more inert than tungsten carbide.

Q₆: Has a silicon and graphite carbide base. This mixture combines the high resistance to wear of silicon carbide and the lubricant properties of graphite.

Silicon carbide normally runs against resin-impregnated graphite (B), but metal carbons may also be used for high performance (hot water applications). The silicon carbide and carbon combination is frequently used, providing long life in a wide range of conditions due to its excellent resistance to thermal shock.

In applications with abrasives, it is advisable to use silicon carbide against tungsten carbide, which is the most effective combination due to its resistance to wear and friction.

Silicon carbide may work against itself in very abrasive conditions but the friction characteristics are not as good as silicon carbide against tungsten carbide.

When silicon carbide is used against itself, the best results are obtained using different types, for instance Q₁ against Q₂ or Q₂ against Q₆.

When hard material is worked against hard, the limited conditions of the application may give rise to sudden changes in surface temperature and dry operation. Although this occurs with a short space of time, it is best to use silicon carbide with graphite-impregnated silicon carbide (Q₆). Due to its graphite content, this combination is resistant to the absence of lubrication for a limited time.

Metals

- **Code E: AISI 420 chromium steel.** This is tempered stainless steel with a surface hardness of less than 50 HRc. It is used with fluids such as water or oils.

- **Code F: Nickel-chromium steel AISI 304.** Stainless steel used to manufacture springs and auxiliary parts.

- **Code F₁: Nickel-chromium steel.** Stainless steel with good chemical resistance, used for fluids such as water, oils, chemicals, etc.

- **Code G: AISI 316 nickel-chromium-molybdenum steel.** Stainless steel with very good chemical resistance used with water, oils, hydrocarbons and chemicals.

- **Code G₂: AM350 nickel-chromium-molybdenum steel.** Specifically for metal bellows that must work at high temperatures up to +300°C.

- **Code L: Nickel-chromium-molybdenum steel; AISI 316L.** Stainless steel with excellent chemical resistance. It provides a homogeneous surface with no pores and is recommended for hygienic applications.

- **Code Z: Nickel-chromium-molybdenum stellite steel.** To obtain it, the steel surface is treated with plasma, leaving a thickness of 0.2 to 0.3 mm. with considerable surface hardness and increased resistance to wear.

- **Code D: Nickel-molybdenum duplex stainless steel,** used for highly corrosive environments: marine, industrial, etc.

- **Code M: Hastelloy® C276.** A nickel, chromium and molybdenum alloy with great mechanical resistance and excellent chemical resistance for general use. It is used to make springs or auxiliary parts.

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- **Code M₂: Inconel®718.** A nickel (53%), chromium (18%), tantalum-niobium (5%) and molybdenum (3%) alloy. Good resistance to corrosion and excellent resistance to extreme temperatures, both high (600°C) and low (-250°C).
- **Code M₄: Monel®400.** A nickel (63%) and copper (23%) alloy. High resistance to corrosion in saline, caustic and acid environments (hydrochloric acid, hydrofluoric acid, sulphuric acid) and at high and low temperatures. Good mechanical properties. Due to its copper content, it has low resistance to nitric acid and ammonia. Very often used in the naval sector.

Synthetic or plastic materials

These materials are widely recommended for cases in which carbon lacks the adequate chemical resistance. They are manufactured with a PTFE base mixed with different additives and have very high chemical resistance. They withstand temperatures of up to +240°C. Their use is limited to low pressures and speeds (PV factor).

- **Code Y:** Glass-filled
- **Code Y₁:** Graphite-filled PTFE

Secondary seals

- **Code P: Nitrile butadiene rubber NBR.**

For working with water, oil, grease, etc. Temperature resistance from -30°C to +100°C.

- **Code H: Hydrogenated NBR.**

Excellent resistance to lubricants and products refrigerants at temperatures of up to +150°C.

- **Code N: Chlorobutadiene rubber Neoprene® or CR.**

For fluids such as refrigerants, ozone, glycols, etc. Temperature resistance of from -40°C to +100°C.

- **Code E: Ethylene-propylene diene monomer EPDM.**

Good behaviour in the presence of hot water, steam, acetone, alcohol, etc. Temperature resistance from -40°C to +120°C.

- **Code X: Ethylene-propylene rubberhardened with peroxide (EPDMPX).** Good behaviour in the presence of hot water, steam, acetone, alcohol, etc. In contact with steam up to +130°C in continuous operation and peaks of +150°C.

- **Code S: Methyl-vinyl silicon rubber MVQ.**

Indicated for applications at low temperatures from -60°C to +200°C.

- **Code V: FKM.**

High chemical and temperature resistance. Withstands temperatures of -15°C to +200°C except in hot water applications, in which case the temperature should not exceed 120°C.

- **Code K: Perfluorelastomer rubber FFKM.**

Excellent chemical resistance to a wide range of working fluids. Withstands temperatures ranging from -30 to +250 or +320°C depending on the type.

- **Code M: FEP encapsulated seals.**

Their chemical resistance is similar to that of PTFE. They are suitable for working at high temperatures ranging from -15°C to +200°C. Their main problem is the plastic behaviour of their surface, which makes them difficult to assemble in closed housings and they have a greater risk of being damaged.

- **Code A: Tetrafluoroethylene rubber, Aflas® or TPE/P.**

A material with high chemical resistance to most products and suitable for working with steam at temperatures up to +170°C and lubricants at temperatures up to +200°C.

- **Code G:**

Non-elastomer material with a graphite base used for high temperature applications. Withstands temperatures up to +400°C.

- **Code T: Polytetrafluorethylene PTFE.**

High chemical resistance to practically all substances. Withstands temperatures ranging from -200°C to +260°C.

CHEMICAL RESISTANCE CHART

Chemical resistance chart

The information in the following table refers to the chemical compatibility of mechanical seals with fluids, and should be considered as a general guideline for an initial orientation in the selection of a mechanical seal. For technical or economic reasons, other types of mechanical seals with different materials than those indicated here may be proposed.

Fluid	Materials					
	I	II	III	IV	V	•
	Rotary face	Stationary face	Elastomers	Springs	Other metal parts	Notes
Acetaldehyde	B	V	T	G	G	D
Acetic acid < 30 %	B	V	E	G	G	
Acetic acid ester (Propyl acetate)	B	V	T	G	G	
Acetic acid, glacial	B	V	T	G	G	
Acetic anhydride	B	V	T	G	G	
Acetone	F1	B	E	G	F1	
Acetyl chloride	V	B	V	G	G	
Acetyl salicylic acid	B	V	E	G	G	
Acetylene	V	B	E	G	G	D
Acrylonitrile	Q	Q	T	G	G	D
Adipic acid	G	B	V	G	G	
Alum (ammonia)	Q	Q	P	G	G	
Alum (chrome)	X	B	P	G	G	
Alum (potash)	Q	Q	P	G	G	
Aluminium	V	B	E	G	G	
Aluminium acetate	Q	Q	E	G	F	
Aluminium chloride	V	B	V	G	G	
Aluminium nitrate	V	B	P	G	G	
Aluminium sulphate	Q	Q	V	G	G	
Ammonia and oil	V	B	N	G	G	
Ammonia gas	X	B	E	G	G	D
Ammonia liquid	X	B	E	G	F	
Ammonium acetate < 10%	V	B	E	G	G	
Ammonium bromide < 10%	X	B	P	G	G	
Ammonium carbonate	V	B	E	G	G	D
Ammonium chloride	V	B	E	G	G	D
Ammonium hydrogen carbonate < 10%	V	B	E	G	G	
Ammonium hydroxide	F1	B	E	G	F1	D
Ammonium nitrate	Q	B	P	G	G	
Ammonium pebulfate < 20 %	V	B	P	G	G	
Ammonium phosphate < 15%	V	B	P	G	G	
Ammonium sulfide	V	B	P	G	G	
Ammonium sulphate < 10 %	Q	Q	P	G	G	
Amyl acetate	V	B	E	G	G	
Amyl alcohol	F1	B	E	G	F1	
Amyl benzoate	F1	B	E	G	F1	
Amyl butyrate	F1	B	E	G	F1	
Amyl formate	F1	B	E	G	F1	
Amyl nitrate	F1	B	E	G	F1	
Amyl propionate	F1	B	E	G	F1	
Aniline	G	B	T	G	G	
Anthracene	Q	Q	V	G	G	
Arachic oil (peanut oil)	V	B	P	G	G	
Arsenic acid	V	B	V	G	G	D
Ascorbic acid	V	B	E	G	G	
Barium chloride	V	B	E	M2	M2	D
Barium hydroxide	V	B	P	G	G	
Barium nitrate	Q	Q	P	G	G	
Barium sulfide	V	B	P	G	G	
Barium sulphate	V	B	E	G	G	
Beer	X	B	V	G	F	
Benzene (benzol)	F1	B	V	G	F1	
Benzoic acid	V	B	V	G	G	
Borax (solution)	Q	Q	E	G	G	
Boric acid	Q	Q	P	G	G	
Brine	Q	B2	V	G	G	
Bromomethane	F1	B	V	G	F1	D
Butadiene	V	B	E	G	G	D
Butane	F1	B	V	G	F1	
Buthyl alcohol	X	B	P	G	F	
Butter	X	B	P	G	F	
Butyl benzoate	F1	B	E	G	F1	
Butyl butyrate	F1	B	E	G	F1	

Fluid	Materials					
	I	II	III	IV	V	•
	Rotary face	Stationary face	Elastomers	Springs	Other metal parts	Notes
Butyl cellosolve	Y	V	T	G	G	
Butyl formate	F1	B	E	G	F1	
Butyl lactate	F1	B	E	G	F1	
Butyl phosphate	F1	B	E	G	F1	
Butyl phthalate	F1	B	E	G	F1	
Butylamine	B	V	T	G	G	
Butylene	F1	B	V	G	F1	
Butyric acid	V	B	T	G	G	
Calcium acetate	V	B	E	G	G	
Calcium carbonate	Q	Q	P	G	G	
Calcium chloride	Q	B2	V	G	G	
Calcium hydrogen sulphate < 10%	X	B	P	G	F	
Calcium hydroxide > 10 %	Q	Q	P	G	G	*
Calcium hypochlorite 10 %	C1	V	E	G	G	
Calcium nitrate	X	B	P	G	G	
Calcium phosphate	B	V	P	G	G	
Calcium sulfide	V	B	P	G	G	
Camphor	Q	Q	T	G	G	
Carbinol	X	B	P	G	G	
Carbitol	G	B	T	G	G	
Carbolic acid	G	B	V	G	G	
Carbon dioxide	Q	B	P	G	G	
Carbon disulfide	G	B	T	G	G	D
Carbon monoxide	G	B	E	G	G	D
Carbon tetrachloride	V	B	V	G	G	
Carbonic acid	Q	B	E	G	G	
Carbonic anhydride	V	B	P	G	G	D
Castor oil	V	B	P	G	G	
Cellulose acetate	V	B	T	G	G	D
Cheese	Q	Q	V	G	F	D
Choline, dry	Y	V	V	G	G	*D
Chlorine solvents	V	B	T	G	G	
Chlorine, wet	Y	V	V	M1	M1	*
Chlorobenzene	G	B	V	G	G	
Chloroethane	F1	B	V	G	F1	
Chloroform	Q	B	V	G	F	
Chloromethane	G	B	V	G	G	
Chloropentane	G	B	V	G	G	
Chromic acid	Q	Q	V	G	G	D
Citric acid	X	B	E	G	G	
Cocoon oil	V	B	P	G	G	
Cod liver oil	V	B	P	G	G	
Coffee	X	B	P	G	F	
Copper chloride	Q	Q	V	G	G	*
Copper cyanide	V	B2	P	G	G	D
Copper sulphate	V	B	P	G	G	
Cresol	G	B	T	G	G	
Cresylic acid	G	B	V	G	G	
Cumene	G	B	V	G	G	
Decahydronaphthalene F1	B	V	G	F1		
Diacetone alcohol	G	B	E	G	G	
Dichloroacetic acid	Y	B	T	M1	M1	
Dichlorobenzene	G	B	V	G	G	
Dichloroethane	G	B	T	G	G	
Dichloroethylene	G	B	V	G	G	
Dichloromethane	G	B	V	G	G	
Diethanolamine	G	B	T	G	G	
Diethyl carbonate	V	B	E	G	G	
Diethyl phthalate	G	B	T	G	G	
Diethylamine	G	B	T	G	G	
Diethylene glycol	F1	B	P	G	F1	
Dimethyl sulphoxide	G	V	B	G	G	
Dimethyl formamide	B	V	T	G	G	
Dimethyl phthalate	G	B	V	G	G	
Dinitrochlorobenzene	G	B	T	G	G	

CHEMICAL RESISTANCE CHART

	Materials					
	I	II	III	IV	V	•
Fluid	Rotary face	Stationary face	Elastomers	Springs	Other metal parts	Notes
Dioctyl phthalate	G	B	T	G	G	
Dirty water	Q	Q	P	G	F	
Distilled water	X	B	P	G	F	
Drinking water	X	B	P	G	F	
Epichlorohydrin	V	B	T	M2	M2	D
Essences	G	B	E	G	G	
Ethane	Q	B	V	G	F	
Ethanodiol	X	B	P	G	F	
Ethanol	X	B	P	G	F	
Ethanolamine	G	B	T	G	G	
Ethyl acetate	V	B	T	G	G	
Ethyl alcohol (etanol)	X	B	P	G	F	
Ethyl benzoate	G	B	V	G	G	
Ethyl butyrate	G	B	E	G	G	
Ethyl chloride	B	V	T	G	G	
Ethyl formate	F1	B	E	G	F1	
Ethyl phthalate	F1	B	E	G	F1	
Ethyl propionate	F1	B	E	G	F1	
Ethyl sulphate	F1	B	E	G	F1	
Ethylene oxide (gas T)	V	B	T	G	G	D
Ethylene	Q	B	V	G	F	
Ethylene chloride	V	B	T	G	G	
Ethylene glycol	X	B	E	G	F	
Fat	Q	Q	P	G	F	
Fatty acids	V	B	V	G	G	
Ferric chloride	Y	V	P	G	G	*
Ferric sulphate < 20 %	B	V	P	G	G	
Ferrous sulphate < 20 %	B	V	P	G	G	
Food products	Q	Q	P	G	G	*
Formaldehyde	V	B	T	G	G	D
Formic acid	B	V	E	M1	M1	
Formic acid > 40° C	Q1	B2	K	G	G	
Freon 11	Q	B2	T	G	F	
Freon 112	F1	B	V	G	F1	
Freon 113	X	B	N	G	F	
Freon 114	X	B	N	G	F	
Freon 115	X	B	N	G	F	
Freon 12	X	B	N	G	F	
Freon 13	X	B	N	G	F	
Freon 14	X	B	N	G	F	
Freon 21	Q	B2	T	G	F	
Freon 22	F1	B	N	G	F1	
Freon 31	F1	B	N	G	F1	
Freon 32	F1	B	N	G	F1	
Freon TF	X	B	P	G	F	
Fruit (juice)	V	B	P	G	G	
Fumaric acid	V	B	P	G	G	
Furfural	Q	Q	T	G	G	
Furfuryl alcohol	Q	Q	T	G	G	
Gallic acid	V	B2	V	G	G	
Gas oil	X	B	V	G	F	
Gas town	V	B	V	G	G	D
Gelatine	Q	Q	P	G	F	
Glucose	F1	B	V	G	F1	
Glycerine	Q	B2	P	G	F	
Glycol ethylene	X	B	E	G	F	
Grain oil	V	B	P	G	G	
Grape juice	Q	Q	P	G	F	
Heavy water	G	B	P	G	G	
Helium	V	B	E	G	G	D
Heptane	G	B	V	G	G	
Hexane	G	B	V	G	G	
Hexanone	G	B	T	G	G	
Hdraulic oil	F1	A	P	G	F1	
Hydrazine	V	B	E	G	G	*
Hydrochloric acid	V	B2	V	G	G	*
Hydrocyanic	V	B2	V	G	G	
Hydrocyanic acid	V	B	E	G	G	
Hydrofluoric acid 40 %	T	Y	T	G	T	*/D
Hydrogen	F1	B	P	G	F1	D
Hydrogen peroxide	Y	V	V	G	G	D
Hydrogen sulphide	Y	V	V	G	G	
Ice-cream	V	B2	P	G	G	
Ink	V	B	V	G	G	
Iodine	Y	V	V	G	G	
Isoamyl alcohol	V	B	E	G	G	
Kerosene	F1	B	V	G	F1	
Lactic acid	G	B	V	G	G	

	Materials					
	I	II	III	IV	V	•
Fluid	Rotary face	Stationary face	Elastomers	Springs	Other metal parts	Notes
Lard	Q	Q	P	G	F	
Lead nitrate	V	B2	P	G	G	
Linseed oil	V	B	P	G	G	
Liquers	G	B	V	G	G	
Lubricants	F1	A	P	G	F1	
Lubricating oil	F1	A	E	G	F1	
Lysoform	G	B	T	G	G	
Magnesium chloride > 5%	V	B	E	M1	M1	
Magnesium hydroxide < 10 %	V	B	E	G	G	
Magnesium sulphate	V	B	E	G	G	
Maleic acid	V	B	V	G	G	
Maleic anhydride	Q	B	T	G	G	
Malic acid	V	M	P	G	G	
Malonic acid	G	B	P	G	G	
Manganese chloride	G	B	V	G	G	
Manganese nitrate	V	B	E	G	G	
Manganese sulphate	G	B	V	G	G	
Mayonnaise	Q	Q	P	G	F	
Mercaptane (ethyl mercaptane)	V	B	T	G	G	D
Mercury chloride	V	B	E	G	G	D
Mercury nitrate	V	B	V	G	G	
Methane	Q	B2	T	G	F	D
Methanol	G	B	E	G	G	
Methyl acetate	G	B	T	G	G	
Methyl acrylate	G	B	T	G	G	
Methyl alcohol (methanol)	X	B	P	G	F	
Methyl benzoate	G	B	V	G	G	
Methyl bromide	V	B	V	G	G	
Methyl butyrate	G	B	T	G	G	
Methyl formate	G	B	T	G	G	
Methyl methacrylate	G	B	T	G	G	
Methyl propionate	G	B	T	G	G	
Methylamine	G	B	T	G	G	
Methyl-butyl ketone	V	B	E	G	G	
Methylchloride	G	B	V	G	G	D
Methylene chloride	G	B	T	G	G	
Methylene oxide	G	B	T	G	G	
Methyl-ethyl ketone	G	B	E	G	G	
Methyl-isobutyl ketone	G	B	E	G	G	
Milk 100 ° C	V	B	E	G	G	
Mineral oil	F1	A	P	G	F1	
Molasses	Q	Q	P	G	F	
Naphtalene	Q	Q	V	G	F	
Naphtha	F1	A	V	G	F1	
Nickel chloride	V	B	P	G	G	
Nickel sulphate	V	B	P	G	G	
Nitric acid < 20 %	V	B2	V	G	G	
Nitric acid > 20 %	Q	Q	T	G	G	
Nitro benzene	G	B	T	G	G	
Nitro solvents	V	B	T	G	G	
Nitrocellulose	Q	Q	T	G	F	
Nitrogen	V	B	P	G	G	D
Nitroglycerine	F1	B	V	G	F1	
Nonil phenol	G	B	V	G	G	
Octyl alcohol	F1	B	E	G	F1	
Oil (cutting soluble)	F1	A	P	G	F1	
Oil (domestic fuel)	Q	Q	P	G	F	
Oil (paraffin base)	V	B2	V	G	G	
Oil (transformer)	F1	A	P	G	F1	
Oil and ammonium	F1	B	N	G	F1	
Oleic acid	V	B	T	G	G	
Olive oil	V	B	P	G	G	
Oven gas	G	B2	V	G	G	D
Oxalic acid	V	B	E	G	G	
Oxygen (gas)	Y	V	V	G	G	*/D
Ozone	Y	V	E	G	G	D
P.V.A. (polyvinyl acetate)	Q	Q	E	G	G	
P.V.C. (polyvinyl chloride)	Q	Q	E	G	G	
Palmitic acid	V	B	V	G	G	
Paraffins	F1	B	V	G	F1	
Pentane	F1	B	V	G	F1	
Perchloro ethylene	V	B	V	G	G	
Petrol < 97 octanes	V	B	P	G	G	
Petrol > 97 octanes	V	B	V	G	G	
Petroleum	Q	Q	V	G	G	

CHEMICAL RESISTANCE CHART

	Materials					
	I	II	III	IV	V	•
Fluide	Rotary face	Stationary face	Elastomers	Springs	Other metal parts	Notes
Petroleum (kerosene)	F1	B	V	G	F1	
Petroleum ether	F1	B	V	G	F1	
Petroleum oil	F1	A	P	G	F1	
Phenol	G	B	V	G	G	
Phenolctyl	G	B	T	G	G	
Pheny chloride	G	B	V	G	G	
Phosphoric acid < 10 %	V	B2	E	G	G	
Phosphoric acid concentrated	V	Y	V	M1	M1	
Phthalic acid	V	B	T	G	G	D
Phthalic anhydride	Q	Q	T	G	G	
Picric acid	V	B	V	G	G	
Potassium acetate	V	B	E	G	G	
Potassium bromide	Q	Q	T	G	G	
Potassium carbonate	V	B	P	G	G	
Potassium chlorate	V	B	T	G	G	
Potassium chloride	V	B	P	M2	M2	
Potassium cyanide	V	B	P	G	G	D
Potassium hydrogen carbonate	V	B	P	G	G	
Potassium phosphate	V	B	V	G	G	
Potassium silicate	V	B	P	G	G	
Potassium sulphate	V	B	P	G	G	
Propane	F1	B2	P	G	F1	
Propellant	G	B	T	G	G	
Propil acetate	Y	V	T	G	G	
Propionate butyl	F1	B	E	G	F1	
Propionic acid	B	V	T	G	G	
Propyl benzoate	F1	B	E	G	F1	
Propyl butyrate	F1	B	E	G	F1	
Propyl formate	F1	B	E	G	F1	
Propyl phthalate	F1	B	E	G	F1	
Propyl propionate	F1	B	E	G	F1	
Propylene	Q	B	V	G	G	D
Propylene glycol	F1	B	V	G	F1	
Propylene oxide	V	B	T	G	G	D
Pyridine	G	B	T	G	G	
Pyrogalllic acid	V	B	V	G	G	
Rapeseed oil	G	B	V	G	G	
Resin (alkyd)	Q	Q	V	G	G	D
Resin (melamine)	Q	Q	T	G	G	D
Resin (phenolic)	Q	Q	V	G	G	D
Salicylic acid		V	B	E	G	G
Sandy water (high concentration)	Q	Q	P	G	F	
Sea (salt) water	V	B	P	G	G	
Silicone liquid	Q	B	E	G	F	
Silicone oil	F1	A	E	G	F1	
Soap solution	X	B	P	G	F	
Sodium acetate >10%	V	B	E	G	G	D
Sodium carbonate	V	B	P	G	G	
Sodium chloride < 10%	V	B	E	G	G	D
Sodium citrate	Q	Q	E	G	G	
Sodium cyanide	V	B	P	G	G	D
Sodium dichromate	Y	B	T	G	G	
Sodium disulfite	V	B	P	G	G	
Sodium hydrogen carbonate	V	B	P	G	G	
Sodium hydrogen sulphate < 20%	V	B	P	G	G	
Sodium hydroxide < 10 %	Q	Q	E	G	F	
Sodium hydroxide > 10 %	Q	Q	E	G	F	D
Sodium hypochlorite	Y	V	V	M1	M1	*
Sodium nitrate	V	B	E	G	G	
Sodium silicate	Q	Q	P	G	G	
Sodium sulfide	V	B	P	G	G	
Sodium sulfide < 2 %	V	B	P	G	G	
Sodium sulphate	Q	Q	P	G	G	
Sodium tetraborate	Q	Q	E	G	G	
Sodium thiocyanate	V	B	P	G	G	D
Sodium thiosulfate	V	B	E	G	G	
Soyabean oil	V	B	P	G	G	
Starch	Q	Q	E	G	F	*
Stearic acid	V	B	T	G	G	
Stoddard solvent	G	B	V	G	G	
Styrene	Q	Q	T	G	G	
Succinic acid	V	B	E	G	G	
Sugar juice	V	B	P	G	G	

	Materials					
	I	II	III	IV	V	•
Fluide	Rotary face	Stationary face	Elastomers	Springs	Other metal parts	Notes
Sugar juice < 10 %	Q	Q	P	G	G	
Sugar juice > 10 %	Q	Q	P	G	G	*/D
Sulphonated oils	V	B2	V	G	G	
Sulphuric acid < 10 %	V	B2	V	G	G	
Sulphuric acid < 35 %	Y	V	V	M	M	
Sulphuric acid concentrated	Y	V	V	M	M	*
Tannic acid	V	B	P	G	G	
Tannin	V	B	P	G	G	
Tartaric acid	V	B	P	G	G	
Tetrachloro ethane	V	B	V	G	G	
Tetrachloro ethylene	V	B	V	G	G	
Tetrahydrofuron	V	B	T	G	G	
Thermic oil	F1	A	V	G	F1	
Toluene	V	B	V	G	G	
Tomatoe juice	Q	Q	P	G	G	
Tooth paste	Q	Q	P	G	F	*
Trichloro acetic acid < 50 %	V	B2	T	G	G	
Trichloro ethane	G	B	T	G	G	
Trichloro ethylene	V	B	V	G	G	
Tricresyl phosphate	V	B	E	G	G	
Triethanolamine	G	B	T	G	G	
Triethylamine	V	B	P	G	G	
Turpentine	X	B	P	G	F1	
Turpentine	X	B	P	G	F	
Urea	V	B	T	G	G	D
Urea formaldehyde resins	Q	Q	T	G	G	D
Varnish	Q	Q	V	G	G	D
Varnish (solvent nitro)	Q	Q	T	G	G	D
Vegetable oil	F1	A	P	G	F1	
Vinegar	F1	B	E	G	F1	
Vinyl acetate	G	B	T	G	G	
Vinyl chloride	Q	Q	T	G	G	D
Viscose	Q	Q	T	G	G	D
Water	X	B	P	G	F	
Water (de-ionised)	G	B	P	G	G	
Water (demineralised)	X	B	P	G	F	
Water (detergent)	X	B	P	G	F	
Water (mud)	Q	Q	P	G	F	
Water (sandy)	Q	Q	P	G	F	
Water (soapy)	X	B	P	G	F	
Water < 140 °C	Q	B2	E	G	F	
Water < 90 °C	V	B	P	G	F	
Water and oil (emulsion)	F1	A	P	G	F1	
Wax	F1	B	V	G	F1	
Whisky	X	B	P	G	F	
Wine	X	B	P	G	F	
Xylene (xylol)	V	B	V	G	G	
Zinc chloride	V	B	P	G	G	
Zinc cyanide	V	B	P	G	G	D
Zinc nitrate	V	B	P	G	G	
Zinc sulphate 2 %	V	B	P	G	G	D

D: Back to back double seal assembly (with barrier fluid compatible with the product at a pressure of 1,5 to 2 Bar above the pressure of the pressure to be sealed).

*: Consult a technical office.

COMPATIBILITY CHART

Compatibility chart

ACCURA	CRANE	BURGMANN	AES	VULCAN	ROTEN	OTHERS
MULTISPRING SEALS						
AMS11	-	M74	-	-	-	-
AMS20 / AMS20T	109 / 909 / 8 / 8T / 58U / 9 / 9	-	M01 / M03	1609	90	Flowserve 8, Usseal VGMD, Usseal X Usseal W
AMS20B / AMS20BT	9B / 8-1 / 8B / 58B / 59B / 109B	-	M04	1609B / 1609BS	-	-
AMS13	-	-	-	-	-	FLUITEN UM3A
AMS14	-	HJ4	-	-	-	DEPAC 186, Flowserve BPO, Chesterton 891
AMS15D	-	-	-	-	877	-
AMS22	-	-	-	-	-	Flowserve Dura R0
AMS28 / AMS27	32	-	-	-	-	-
AMS29	-	HRN	-	-	-	DEPAC 196, CHETRA 208, 210
AMS10D	-	M74D	-	-	822	-
WAVE SPRING SEALS						
AWS10	-	M7N / M78N	W07 DM	1677	-	Flowserve Europac 600, Latty U68
AWS10B	-	H7N	-	1678	-	Latty B68
AWS12	R33	-	-	1633	-	-
AWS30 / AWS30A	-	HJ92 / HJ977GN	M02 / H010	1609B / 40L	EHS	Chesterton 40S, 880, Latty B23
AWS70 / AWS71	80-87 / 80(D / FP)	-	W01 / W02	1688 / 1688L	7 / UN 7	Flowserve 168
AXIAL SPRING SEALS						
AS18 / AS19	-	M3N	T01	8 / 8 DIN	L4B	Flowserve CRO, 38, Latty U1000, Usseal VGME-2, Usseal VGME-3
AS60IN / AS60IL	-	-	-	-	2E	-
AS60	-	-	T03	12	2	Flowserve 42
AS60DIN	-	-	T03 DIN	12 DIN	UN 2	Flowserve 42D
AS18B	-	H12N	T02	8B	-	Flowserve CRO / 39 Usseal VGME-1
AS60B / AS60BDIN	-	-	-	-	E / UN E	-
AS15	-	-	T04	13	3	Flowserve 43, Usseal VGMB
AS15DIN	-	-	T04 DIN	13 DIN	UN 3	Flowserve 43D, Usseal VGMC-13
AFH / AFHC	-	-	-	7	5/5H2	-
AS40A	RD / 8TD / 8RTD / 1507	-	P080	98	U2	Flowserve ARO, FRO
AS40C	RD / 8TD / 8RTD / 1507	-	-	97	U2	Flowserve ARO, FRO
BELLOWS SEALS						
AR / ARB31	PR / DR	-	B01	18	37B / L5	Flowserve 118, Usseal VGMA
ARB00	2	-	P02 / P04U	A2 / A4	-	Flowserve 52, 31, Usseal D
ARB00L	1A (N SEAT)	MG910 / D1-G50	P01 / P01T	A1 / 10	51	Flowserve 100, Usseal U
ARB00U	1 (US)	MG901 / D1-G55	P05 U	A5 / 22	-	Flowserve 51, Usseal E
ARB01	21 / 43 CU short	MG921 / D1-G55	P04 / P04T	11	21A	Usseal C
ARB01S	-	MG920 / D1-G50	P02, P02T	20	-	Flowserve 200
ARB04 / ARB06	521	MG912 / D1-G60	P03	24	52 / L4K	Flowserve 240, Usseal VGMG
PNL	-	-	-	-	-	-
ARB02	6	-	B-04 / B-04 U	65	16	Flowserve PAC SEAL 16, Usseal A/AV
ARB03 / ARB03A / ARB03B	6A / 7	A2	B-03 / B03 U	75	68	Flowserve 68, 170, Usseal B/BV
ARB17	-	MG1	B02	A19	L3	Flowserve 190, Usseal VGMC-1
ARB17A	-	-	-	-	NTA	-
ARB17E	-	MG1S20	BP02	1520	-	Flowserve 150
ARB17KU	-	MG12	B012	A192	L3K	Flowserve 192, Usseal VGMC-12
ARB17NU	-	MG13	B013	A193	L3N	Flowserve 193
ARB25	2100 S	-	B05	14 DIN	-	Flowserve 140, Usseal G
ARB25KU	2100 KU	-	B052	142DIN	-	Flowserve 142, Usseal G
ARB25NU	2100 NU	-	B053	153DIN	-	Flowserve 143, Usseal G
ARB50	502(NSEAT)	-	B07	1724	-	Usseal I
ARB84	-	MBS100 / MFL	BSAI / BSAIG	-	-	Chesterton 286, Latty B17SH
ARB85	680	M FL85N	-	-	-	Chesterton 886, Latty B17
ARB86	609	-	-	-	-	-
ATB16	20 / 10T	-	-	-	-	Flowserve TBR

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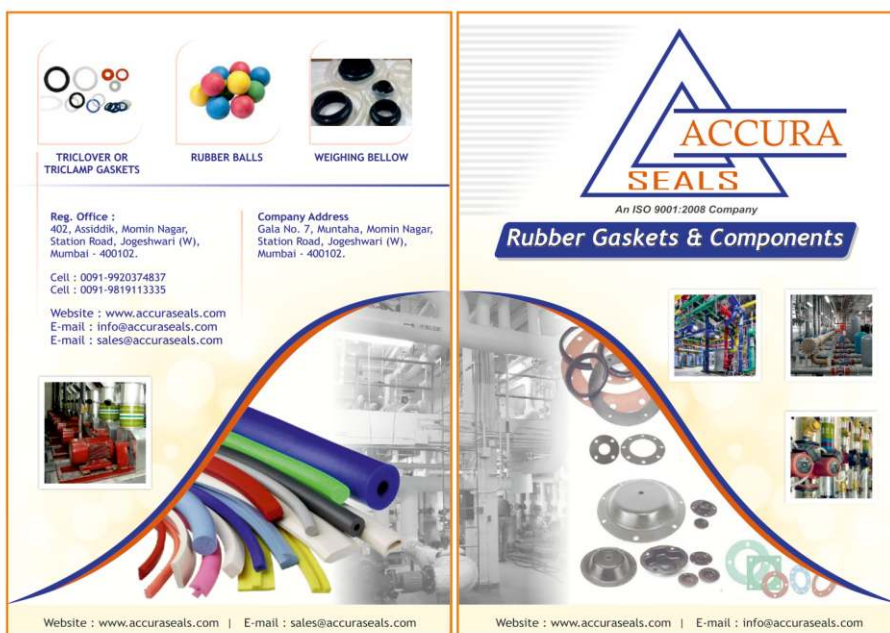
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Website : www accuraseals.com

Reg. Office :
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Station Road, Jogeshwari (W),
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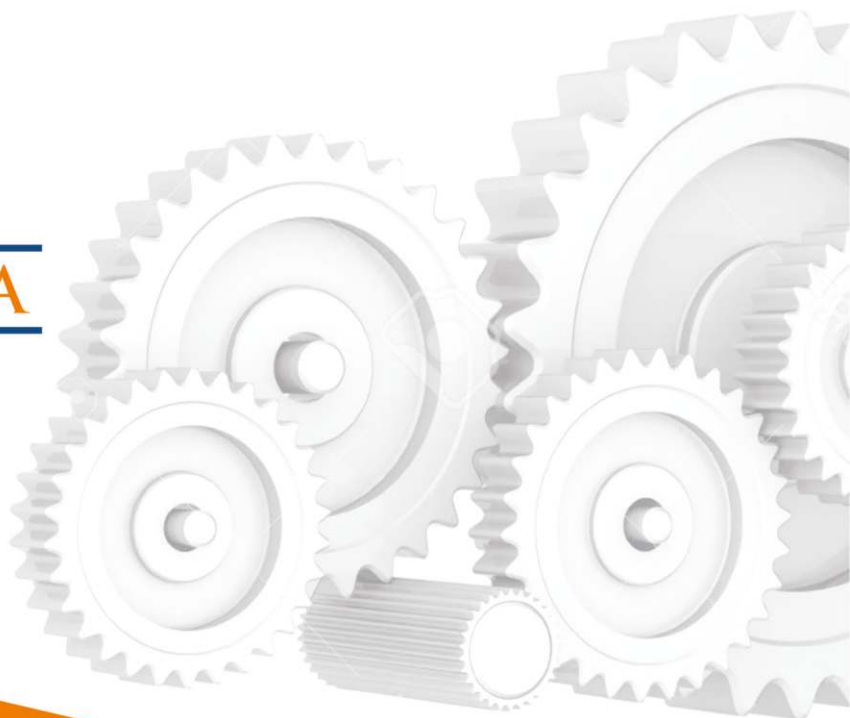
Reg. Office :
402, Assiddik, Momin Nagar,
Station Road, Jogeshwari (W),
Mumbai - 400102.

Company Address
Gala No. 7, Muntaha, Momin Nagar,
Station Road, Jogeshwari (W),
Mumbai - 400102.

Cell : 0091-9920374837
Cell : 0091-9819113335
Website : www accuraseals.com
E-mail : info@accuraseals.com
E-mail : sales@accuraseals.com

Website : www accuraseals.com | E-mail : sales@accuraseals.com

Website : www accuraseals.com | E-mail : info@accuraseals.com



Company Address

Gala No. 7, Muntaha ,
Momin Nagar, Station Road,
Jogeshwari (W), Mumbai - 400102.

Workshop Address

F-107, Shreepal Industrial Estate, Near
Gulshan Hotel, Oshiwara, S.V. Road,
Jogeshwari (W), Mumbai - 400102.

Registered Office.

402, Assiddik, Momin Nagar,
Station Road, Jogeshwari (W),
Mumbai - 400102.

Saudi Arabia Branch

Falcon Industrial Solutions
Factory, Arifi Industrial Area,
Al-Jubail 31951, Saudi Arabia

Cell : +966 59 2282624

E-mail : sales@fisksa.com

Cell : 0091-9920374837

Cell : 0091-9819113335

E-mail : info@accuraseals.com

Website : www.accuraseals.com