

# ESH-EDH series

Hygienic Seals



**C** HUHNSEAL

# ESH when hygiene meets versatility

## Features

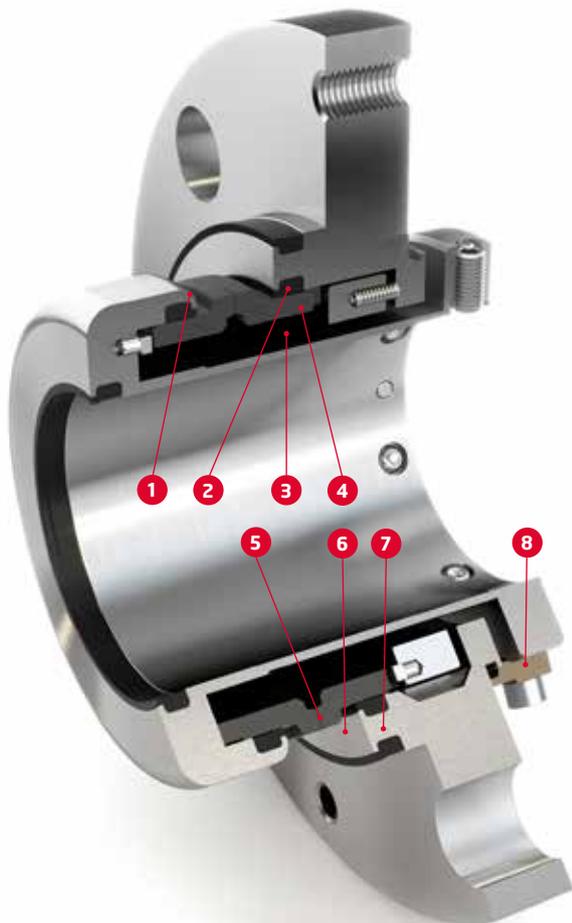
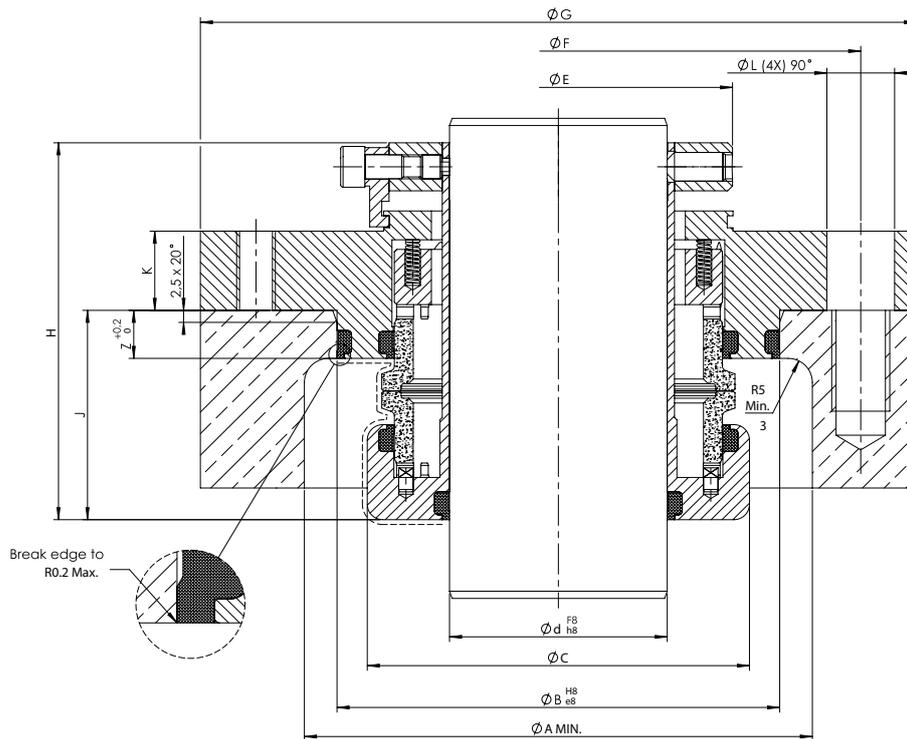
The ESH series has been developed by Huhnseal for applications in the Hygienic sector, where operational reliability, cleanability and long-term stability are essential requirements. The design follows a hygienic engineering approach, with geometries supporting CIP/SIP processes and reducing critical areas and product build-up, in line with EHEDG principles.

The ESH design concept combines a balanced construction, application-oriented material selection and original technical solutions developed by Huhnseal to ensure stable operation under variable process conditions, frequent cleaning cycles and significant axial movements or angular misalignment.

The cartridge execution simplifies installation and ensures repeatable axial positioning, making the ESH suitable for integration on a wide range of rotating equipment used in the processing of sensitive and high-viscosity food products.

*The dimensions shown represent standard configurations.  
Customized solutions are available to meet specific application requirements.*

Shaft Ø	A	B	C	d	E	F	G	H	J	K	L	Z
25	92	77,5	58,5	25	52	112	135	78,5	43,6	16,5	14	10
28	92	77,5	62	28	55	112	135	78,5	43,6	16,5	14	10
30	92	77,5	64	30	57	112	135	78,5	43,6	16,5	14	10
32	95	80	67	32	60	115	138	78,5	43,6	16,5	14	10
33	95	80	67	33	60	115	138	78,5	43,6	16,5	14	10
35	100	84,5	68,5	35	62	120	143	78,5	43,6	16,5	14	10
38	105	91,5	71,5	38	65	125	148	78,5	43,6	16,5	14	10
40	105	91,5	74	40	67	125	148	78,5	43,6	16,5	14	10
43	105	91,5	79	43	72	125	148	78,5	43,6	16,5	14	10
45	105	91,5	79	45	72	125	148	78,5	43,6	16,5	14	10
48	110	95	84	48	77	130	153	78,5	43,6	16,5	14	10
50	110	95	84	50	77	130	160	78,5	43,6	16,5	18	10
55	112	99,5	89	55	82	135	165	78,5	43,6	16,5	18	10
57	130	115	94	57	87	155	185	78,5	43,6	16,5	18	10
60	130	115	94	60	87	155	185	78,5	43,6	16,5	18	10
65	135	119	105	65	97	160	190	86,5	50,3	18	18	10
70	135	119	105	70	97	160	190	86,5	50,3	18	18	10
75	140	124	110	75	108	165	195	87,5	50,3	18	18	10
80	155	140	115	80	113	180	210	87,5	50,3	18	18	10
85	155	140	120	85	118	185	220	87,5	50,3	18	22	10
90	155	140	125	90	123	185	220	87,5	50,3	18	22	10
95	155	140	130	95	128	185	220	87,5	50,3	18	22	10
100	165	150	135	100	133	195	230	87,5	50,3	18	22	10
105	185	170	145	105	143	215	250	87,5	50,3	18	22	10
110	185	170	145	110	143	215	250	87,5	50,3	18	22	10
120	185	170	155	120	153	215	250	87,5	50,3	18	22	10
130	200	184,1	165	130	163	230	265	87,5	50,3	18	22	10
140	200	184,1	175	140	173	230	265	87,5	50,3	18	22	10
150	240	225	185	150	183	270	305	87,5	50,3	18	22	10
160	240	225	195	160	193	270	305	87,5	50,3	18	22	10



- 1 Hygienic design for CIP/SIP**  
Smooth and cleanable surfaces support effective CIP/SIP cleaning. Designed for hygienic (Sanitary) and Food & Beverage applications.
- 2 Patented Lip-O-Ring® on product side**  
The patented Lip-O-Ring® on the product side supports stable operation and a hygienic sealing concept.
- 3 Balanced design with large axial and tilting capability**  
Balanced seal design ensures controlled face loading and high stability. Allows particularly large axial movements and tilting compensation.
- 4 Food-grade, certifiable materials**  
Available with food-grade material combinations suitable for hygienic (Sanitary) and Food & Beverage processes.
- 5 Knife Edge configuration for viscous products**  
Knife Edge seal face geometry reduces product adhesion and build-up. Ideal for sticky and highly viscous Food & Beverage media.
- 6 Reduced dead zones - cleanable geometry**  
Optimized geometry minimizes dead spaces and product build-up, in line with EHEDG hygienic design principles.
- 7 Typical applications in hygienic / Sanitary Food & Beverage plants**  
Suitable for a wide range of rotating equipment in hygienic (Sanitary) and Food & Beverage processing, including pumps, mixers, agitators and
- 8 Cartridge execution**  
Cartridge design enables easy installation, safe handling and repeatable axial positioning.

# EDH when hygiene requires top safety

## Features

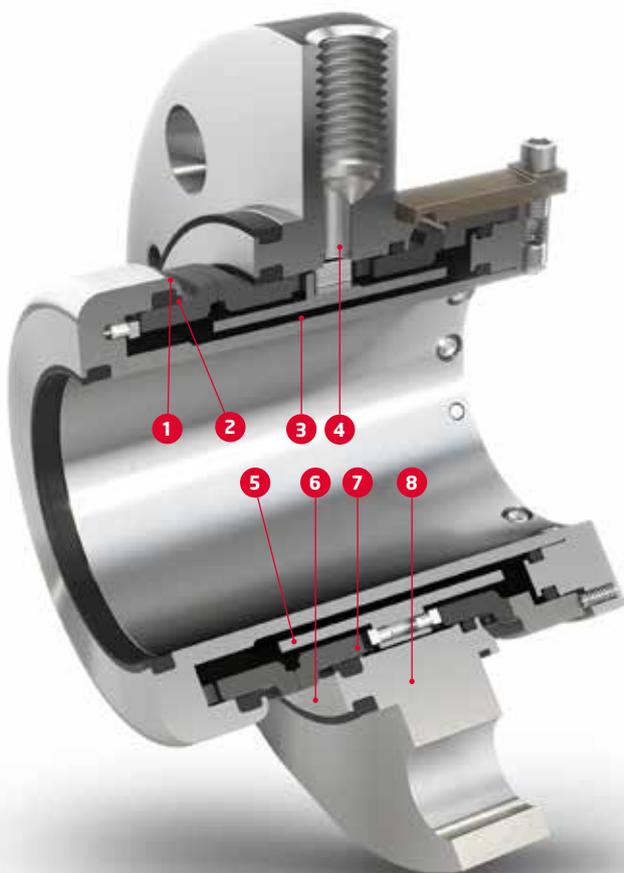
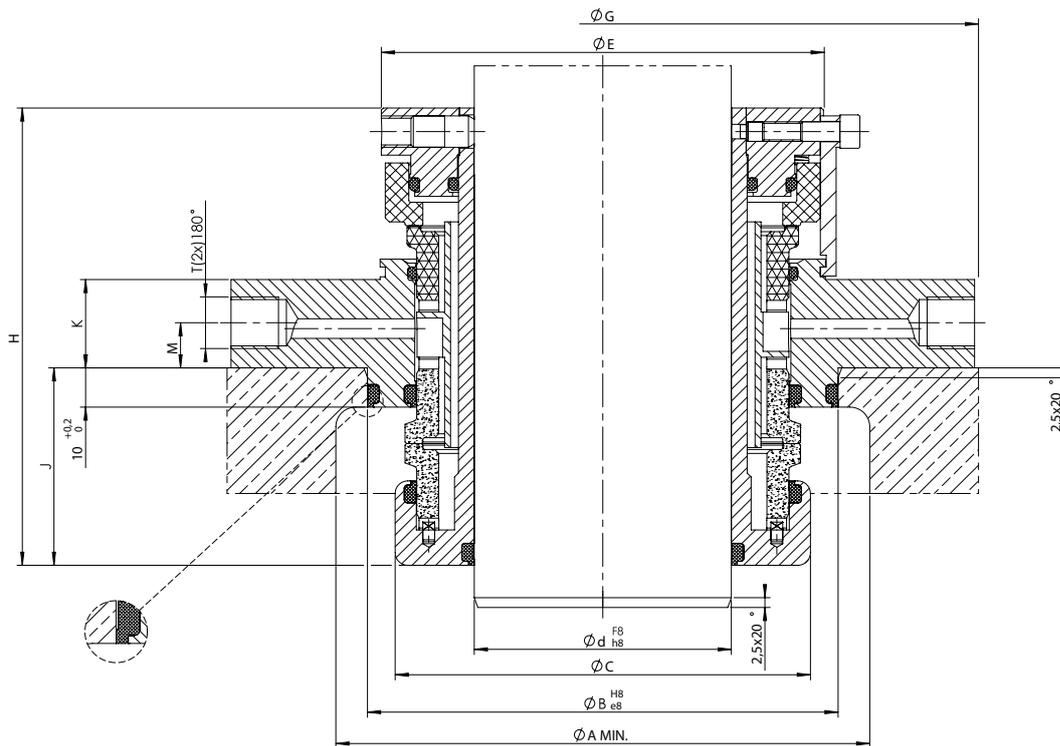
The EDH series has been developed by Huhnseal for applications in the Hygienic sector, where the highest levels of process integrity, cleanability and operational reliability are required. The design follows a hygienic engineering approach in accordance with EHEDG principles, supporting CIP/SIP processes and reducing critical areas and contamination risks.

The EDH design concept is based on a double, balanced configuration that enables separation between process and atmosphere through the use of a barrier or buffer fluid. This solution increases system safety in the event of product leakage and provides more controlled operating conditions at the seal faces, making it particularly suitable for applications where the seal may be required to operate under dry running or highly transient conditions.

The cartridge execution ensures safe handling, repeatable axial positioning and simplified installation, making the EDH suitable for integration on a wide range of rotating equipment used in highly hygienic processing environments with severe operating and cleaning requirements.

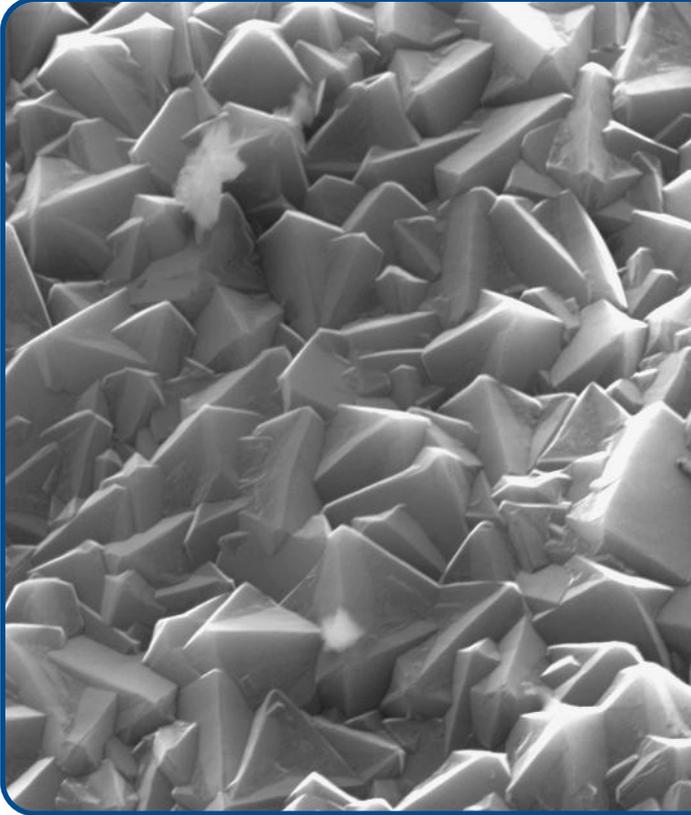
**The dimensions shown represent standard configurations.  
Customized solutions are available to meet specific application requirements.**

Size (d)	A	B	C	E	F	G	H	J	K	L	M	T
25	92	77,5	58,5	63	112	135	99,3	43,6	19,5	14	9,5	G 1/8"
28	92	77,5	62	66	112	135	99,3	43,6	19,5	14	9,5	G 1/8"
30	92	77,5	64	68	112	135	99,3	43,6	19,5	14	9,5	G 1/8"
32	95	80	67	71	115	138	99,3	43,6	19,5	14	9,5	G 1/8"
33	95	80	67	71	115	138	99,3	43,6	19,5	14	9,5	G 1/8"
35	100	84,5	68,5	73	120	143	99,3	43,6	19,5	14	9,5	G 1/8"
38	105	91,5	71,5	76	125	148	99,3	43,6	19,5	14	9,5	G 1/8"
40	105	91,5	74	78	125	148	99,3	43,6	19,5	14	9,5	G 1/8"
43	105	91,5	79	83	125	148	99,3	43,6	19,5	14	9,5	G 1/8"
45	105	91,5	79	83	125	148	99,3	43,6	19,5	14	9,5	G 1/8"
48	110	95	84	88	130	153	99,3	43,6	19,5	14	9,5	G 1/8"
50	108	95	84	88	130	160	99,3	43,6	19,5	18	9,5	G 1/8"
55	112	99,5	89	93	135	165	99,3	43,6	19,5	18	9,5	G 1/8"
57	130	115	94	98	155	185	99,3	43,6	19,5	18	9,5	G 1/8"
60	130	115	94	98	155	185	99,3	43,6	19,5	18	9,5	G 1/8"
65	135	119	105	112	160	190	116,5	50,3	22,5	18	11,5	G 1/4"
70	135	119	105	112	160	190	116,5	50,3	22,5	18	11,5	G 1/4"
75	140	124	110	117	165	195	116,5	50,3	22,5	18	11,5	G 1/4"
80	155	140	115	122	180	210	116,5	50,3	22,5	18	11,5	G 1/4"
85	155	140	120	127	185	220	116,5	50,3	22,5	22	11,5	G 1/4"
90	155	140	125	132	185	220	116,5	50,3	22,5	22	11,5	G 1/4"
95	155	140	130	137	185	220	116,5	50,3	22,5	22	11,5	G 1/4"
100	165	150	135	142	195	230	116,5	50,3	22,5	22	11,5	G 1/4"
110	185	170	145	152	215	250	116,5	50,3	22,5	22	11,5	G 1/4"
120	185	170	155	162	215	250	116,5	50,3	22,5	22	11,5	G 1/4"
130	200	184,1	165	172	230	265	116,5	50,3	22,5	22	11,5	G 1/4"



- 1 Hygienic design according to EHEDG principles**  
 Developed according to EHEDG hygienic design principles. Ensures high cleanability and reduced contamination risk.
- 2 Patented Lip-O-Ring® on product side**  
 The patented Lip-O-Ring® on the product side supports stable operation and a hygienic sealing interface.
- 3 Double balanced design with axial and tilting capability**  
 Double balanced configuration improves thermal stability and allows axial movements and tilting compensation.
- 4 Barrier or buffer fluid concept**  
 Double seal arrangement allows the use of a barrier or buffer fluid to separate process and atmosphere and stabilize seal operation.
- 5 Flushing Collar**  
 The flushing collar ensures a correct lubrication of the seal rings on the top of seal and eliminate the air pockets.
- 6 Designed for demanding hygienic processes**  
 Suitable for highly viscous, sticky or crystallizing products and for applications with frequent CIP/SIP cycles.
- 7 Engineered material combinations**  
 Material selections are optimized for both product and barrier sides, using food-grade and hygienic material families.
- 8 Typical applications in hygienic processing plants**  
 For rotating equipment such as pumps, mixers, agitators and process machines exposed to intensive CIP/SIP cleaning.

# Special Features



## Diamond Coating

Diamond Coating is an extremely hard surface with a very low coefficient of friction and excellent thermal conductivity.

It improves seal performance under poor lubrication or dry running conditions and allows reliable operation in abrasive applications without the need for flush systems.

Thanks to its surface properties, the coating protects the seal faces against premature wear even under critical operating conditions.

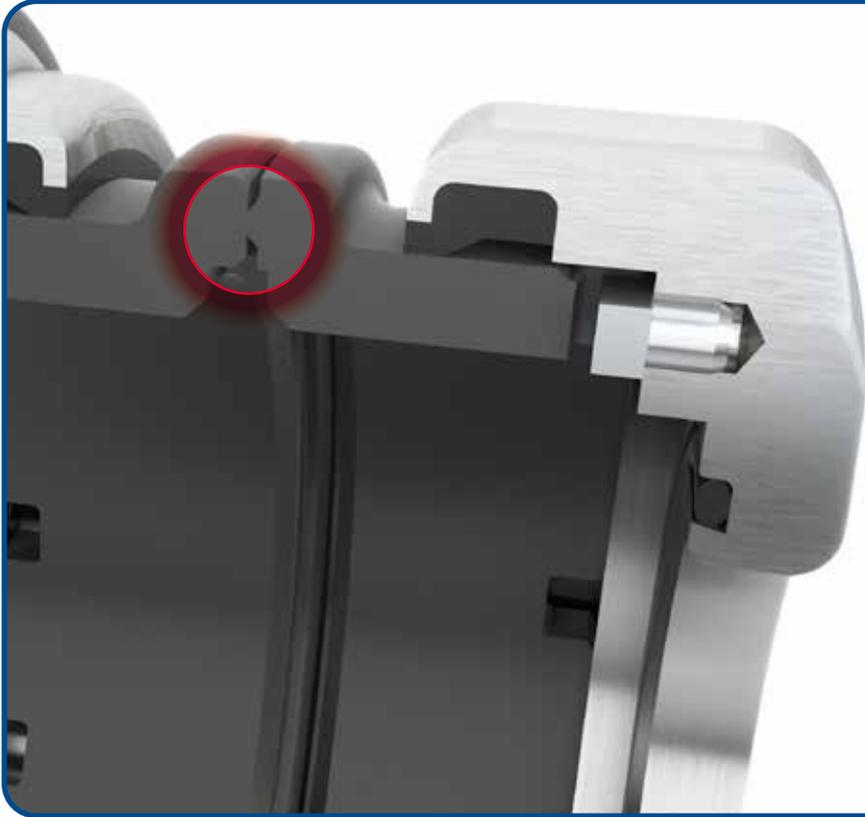
In high-pressure applications, the coating helps reduce the negative effects of high closing forces on the seal faces, increasing reliability and seal service life.



## Lip-o-Ring™

Patented hygienic elastomer profile that satisfies the highest cleanability demands on the seal.

The special geometry of the LIPORING prevents material/product deposits in the (o-ring) groove, facilitating the best possible CIP operation regarding the seal. This technology eliminates several crevasses (tough to clean areas using CIP) that exist with conventional sealing methods (gaskets and orings).



## Knife-Edge

The Knife-Edge feature is a special face geometry that allows the seal faces, that are in product contact, to better perform in higher viscosity products. These seal faces are designed to handle very sticky or crystallizing fluids (high sugar content) as well as difficult to seal polymers.

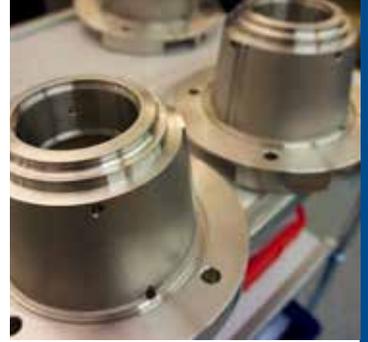
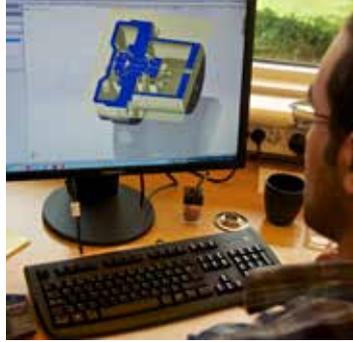
An important use of Knife-Edge technology is that, in specific situations, it will allow the use of a single seal where a double seal may have been used in the past.



## Axial, Radial and Angular Flexibility

Huhnseal has the capability to compensate for angular misalignment without generating undue stress on the mating faces which may degrade sealing performance. This feature minimizes the effects of excessive shaft deflection during operation of the equipment.

Huhnseal can design mechanical seals to tolerate relatively high axial shaft movement. This feature allows for rotating equipment expansion due to thermal cycling or necessary equipment adjustments that would normally affect the mechanical seal.



# Made in Sweden



Custom Technology Partner

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a member of



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a Story of Excellence

Hygienic Seal Rev.1

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