

ESH-EDH series

Hygienic Mechanical Seals



Get technical support

CHUHNSEAL

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.

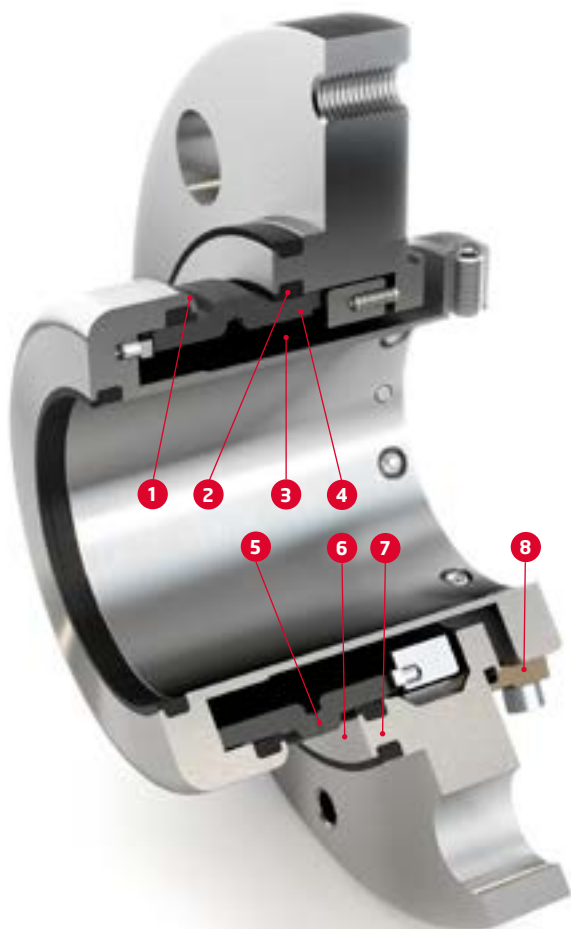
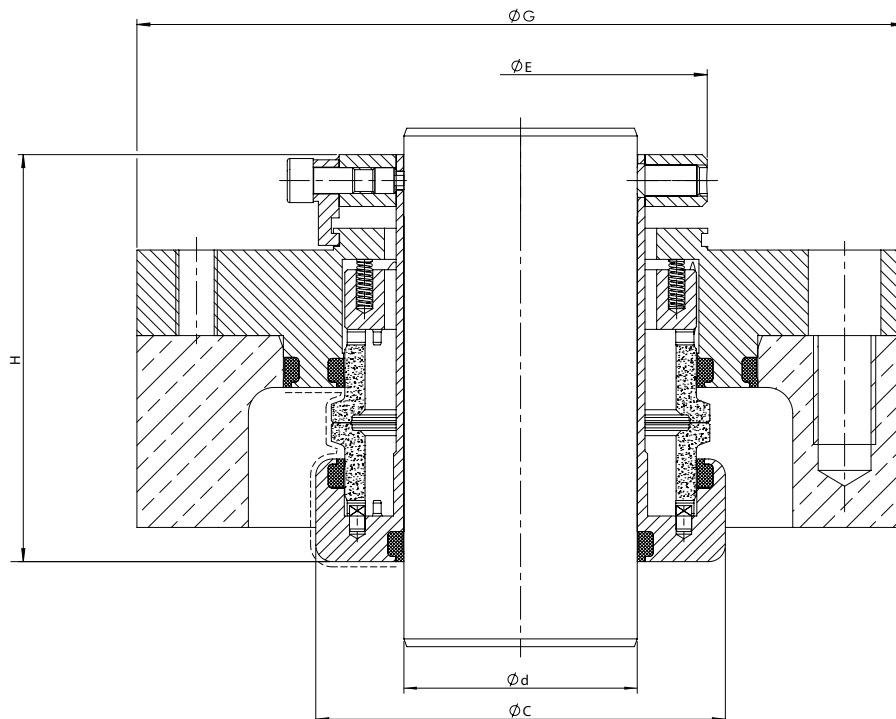
The ESH design concept combines a balanced construction, application-oriented material selection and original technical solutions developed by Huhnseal to ensure stable operation under variable process conditions, frequent cleaning cycles and significant axial movements or angular misalignment.

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.
For dimensions not included in this table, please contact our technical service.
Customized solutions are available to meet specific application requirements.*

Shaft Ø (d)	C	E	G	H
25	58,5	52	135	78,5
28	62	55	135	78,5
30	64	57	135	78,5
32	67	60	138	78,5
33	67	60	138	78,5
35	68,5	62	143	78,5
38	71,5	65	148	78,5
40	74	67	148	78,5
43	79	72	148	78,5
45	79	72	148	78,5
48	84	77	153	78,5
50	84	77	160	78,5
55	89	82	165	78,5
57	94	87	185	78,5
60	94	87	185	78,5
65	105	97	190	86,5
70	105	97	190	86,5
75	110	108	195	87,5
80	115	113	210	87,5
85	120	118	220	87,5
90	125	123	220	87,5
95	130	128	220	87,5
100	135	133	230	87,5
105	145	143	250	87,5
110	145	143	250	87,5
120	155	153	250	87,5
130	165	163	265	87,5
140	175	173	265	87,5
150	185	183	305	87,5
160	195	193	305	87,5





- 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.

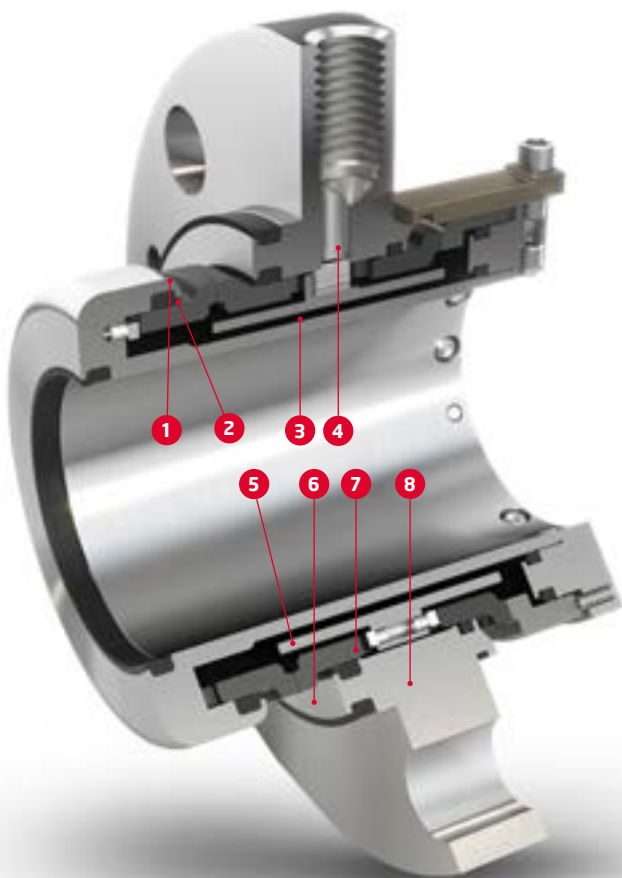
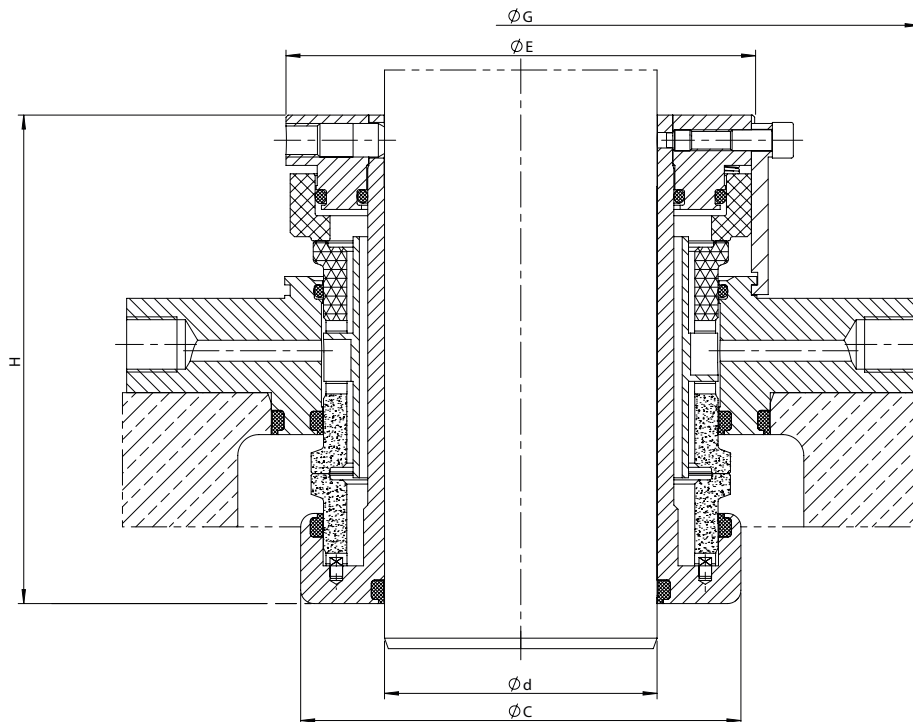
The EDH design concept is based on a double, balanced configuration that enables separation between process and atmosphere through the use of a barrier or buffer fluid. This solution increases system safety in the event of product leakage and provides more controlled operating conditions at the seal 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.

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Customized solutions are available to meet specific application requirements.*

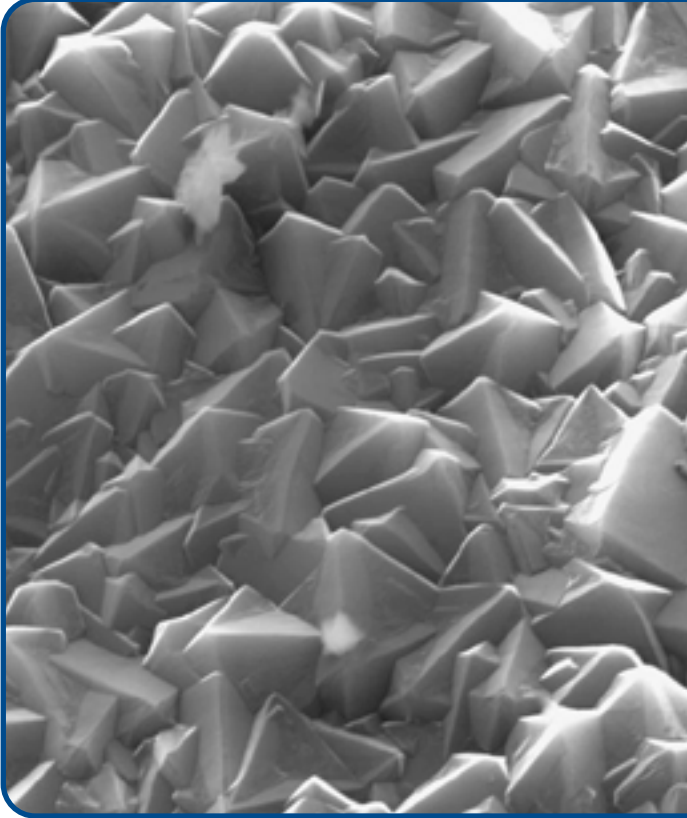
Shaft Ø (d)	C	E	G	H
25	58,5	63	135	99,3
28	62	66	135	99,3
30	64	68	135	99,3
32	67	71	138	99,3
33	67	71	138	99,3
35	68,5	73	143	99,3
38	71,5	76	148	99,3
40	74	78	148	99,3
43	79	83	148	99,3
45	79	83	148	99,3
48	84	88	153	99,3
50	84	88	160	99,3
55	89	93	165	99,3
57	94	98	185	99,3
60	94	98	185	99,3
65	105	112	190	116,5
70	105	112	190	116,5
75	110	117	195	116,5
80	115	122	210	116,5
85	120	127	220	116,5
90	125	132	220	116,5
95	130	137	220	116,5
100	135	142	230	116,5
110	145	152	250	116,5
120	155	162	250	116,5
130	165	172	265	116,5





- 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.

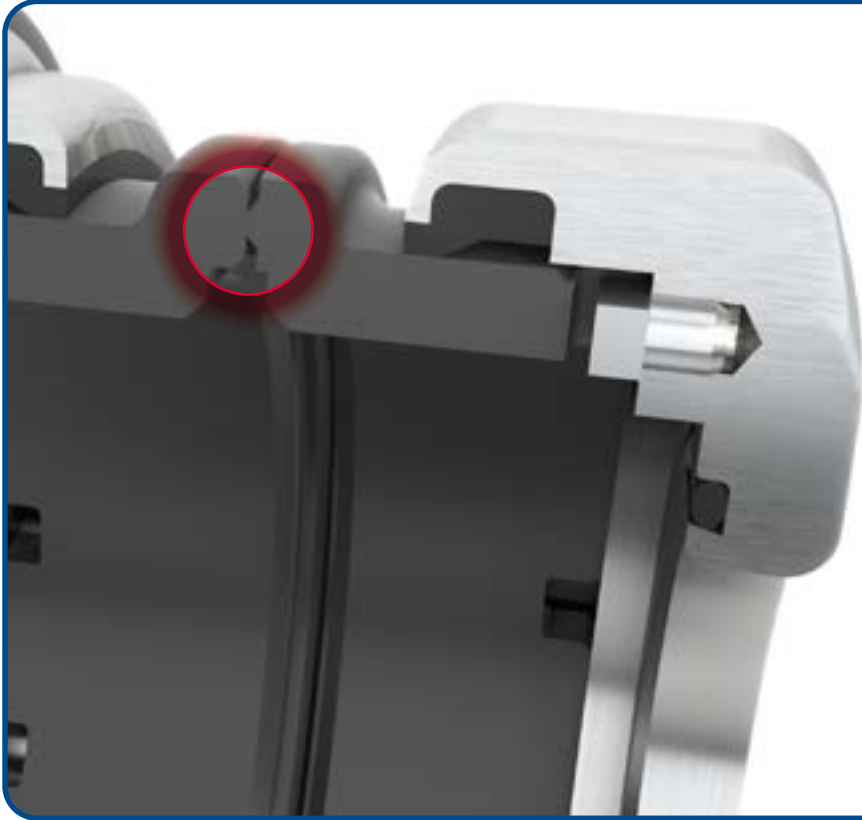
In high-pressure applications, the coating helps reduce the negative effects of high closing forces on the seal faces, increasing reliability and seal service life.



Lip-o-Ring™

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

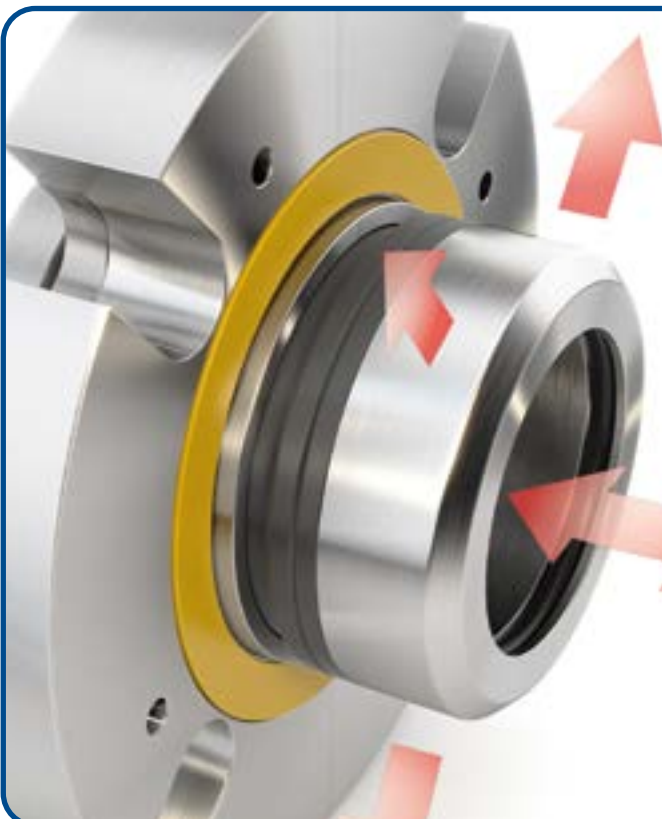
The special geometry of the LIPORING prevents material/product deposits in the (o-ring) groove, facilitating the best possible CIP operation regarding the seal. This technology eliminates several crevasses (tough to clean areas using CIP) that exist with conventional sealing methods (gaskets and orings).



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.

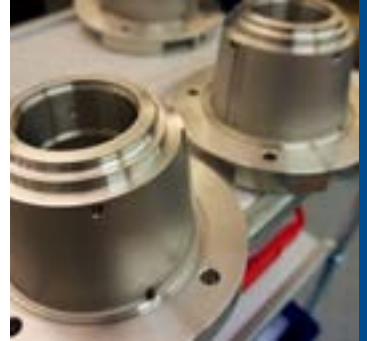
An important use of Knife-Edge technology is that, in specific situations, it will allow the use of a single seal where a double seal may have been used in the past.



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

Headquarters

Järvgatan 1 - 261 44 Landskrona - Sweden

Delivery address:

Box 288 - 261 23 Landskrona - Sweden

Tel: +46 418 44 99 40 - Fax: +46 418 44 99 69

sales@huhnseal.com

www.huhnseal.com

a member of



Meccanotecnica
Umbra

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Get technical support

ITALY

Huhnseal / Meccanotecnica Umbra S.p.A.

Via G. Agnelli, 7

06042 Campello sul Clitunno (PG) ITALY

Phone: +39 0743 2791

sales.italy@huhnseal.com

GERMANY

Huhnseal GmbH

Am Merbelsroder Weg 1

98673 Auengrund OT Schwarzbach Germany

Phone: +49 0151 26662280

sales.germany@huhnseal.com

CHINA

Huhnseal / Meccanotecnica Umbra (Qing dao)

North of No 8 road, jiao zhou wan

industrial park, Jiao zhou, Qing dao, PRC

Phone: +86 138 64289 712

Fax: +86 531 86057 318

sales.china@huhnseal.com

USA

Huhnseal USA Inc.

Seguin Rd. Suite F - Pharr, TX 78577

Phone: +1 956 782 2400

sales.usa@huhnseal.com

TURKEY

Huhnseal / Mecanotécnica Umbra Turkey

İktiteli Organize Sanayi Bölgesi Eskoop Sanayi Sitesi C-6 Blok

No:292-294 - Başakşehir / İSTANBUL

Phone: +90 212 671 82 49 / +90 212 671 82 50

Fax: +90 212 671 82 48

sales.turkey@huhnseal.com

BRAZIL

Huhnseal / Mecanotécnica do Brasil Ltda

R. João Maria Goes, 171

83060-206 São José dos Pinhais - PR - Brasil

Phone: +55 41 9943 5559

Fax: +55 41 3381 2621

sales.brazil@huhnseal.com

INDIA

Huhnseal / Meccanotecnica India Pvt.Ltd.

C-23 & C-24, SIPCOT Industrial Complex,

Pallapatti Village, Nilakottai Taluk,

Dindigul District - 624 201, Tamil Nadu, India

Phone: +91 8870478123 / 9384099094

sales.india@huhnseal.com

INDIA

Huhnseal / Meccanotecnica India Pvt.Ltd.

351, Survey No. 28/3/1,

Near Jambhulwadi lake, Ambegaon - Khurd

Pune - 411046 Maharashtra, India

Phone: +91 9384099094

sales.india@huhnseal.com

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