

# Mechanical Seal Support Systems



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**HUHNSEAL**

## General Description

The objective of a Seal Support System is to lengthen the life of the mechanical seal and protect the process and/or environment. Huhnseal Mechanical Seal Support Systems ensure reliability and flexibility, covering all industrial needs, including standard, hygienic, pharmaceutical and aseptic applications.

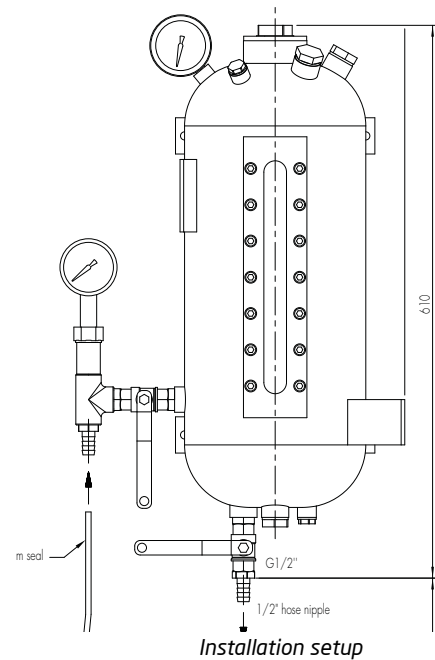
The modular and scalable range offers reservoirs that are PED certified. The media recirculates through the seal by thermal convection or forced circulation. Ideally, the media flow enters at the bottom of the seal and exits through the top, allowing proper ventilation. The tank walls and coils serve as a heat exchanger to cool/heat the media as needed for the specific application. Please consult your Huhnseal salesman or application engineer for your specific application.



## Basic Package

The basic package comprises all components for proper operation of Mechanical Seal Support Systems.

Item	Description
<b>Tank</b>	Volume: 12 liters, approx. media volume 7 liters Max. Operating Pressure: 16 bar Material: EN. 1.4436 / AISI 316
<b>Sight Glass</b>	For media level inspection
<b>Cooling Coils</b>	Fixed Cooling Coil is standard in every tank
<b>Manometer</b>	Displays Pressure in the tank
<b>Thermometer</b>	Displays media temperature in the seal return line
<b>Ball valves</b>	On the "in" and "out" ports, these are used to stop flow and isolate the seal during maintenance
<b>Fittings</b>	G-Series pipe thread hose fittings for "in" and "out" ports. Including NPT adapters for North American market
<b>Plugs for option ports</b>	All unused ports are plugged and sealed.















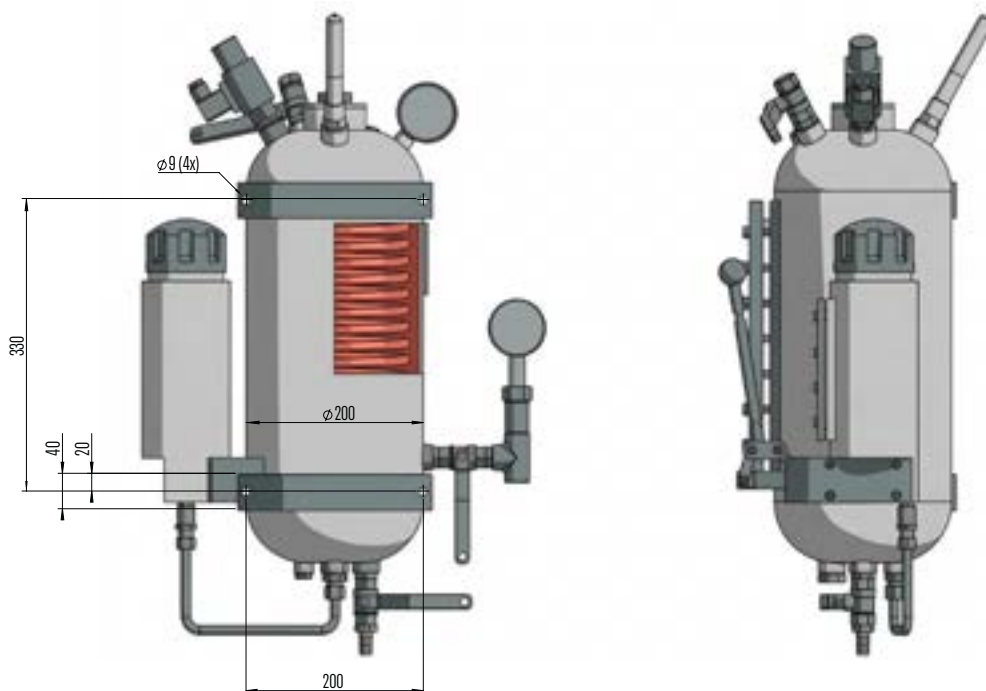
## Mechanical Seal Support Systems Designation Key

VESSEL DESCRIPTION	VESSEL PRESSURE RATING (Bar)	OPTIONS	ATEX REQUIRED
TS12: Basic Package	16	A) Temperature Switch	ATEX
	30	B) Temperature Transmitter PT-100	
	60	C) Level Switch	
		D) Level Transmitter	
		E) Pressure Switch	
		F) Pressure Transducer	
		G) Circulating Pump	
		H) Hand Pump	
		I) Safety Valve	
		J) Extra Ball Valve for Compressed Air	

Example 1: TS12 - 16 - AH - ATEX / Example 2: TS12 - 30 - E

### Instrumentation and Control Options

Option	Description	Option	Description
<b>Temperature Switch</b> 	<ul style="list-style-type: none"> <li>Upper Limit 80 C°</li> <li>Used to monitor the media temperature in the seal return line. It switches if the media temperature goes above a predefined value.</li> <li>Can be used to trigger an alarm.</li> </ul>	<b>Pressure Transducer</b> 	<ul style="list-style-type: none"> <li>Used to monitor the media pressure in the tank.</li> <li>Can be used to trigger an alarm if the pressure reaches limit values.</li> </ul>
<b>Temperature Transmitter</b> 	<ul style="list-style-type: none"> <li>Used to monitor the media temperature in the seal return line.</li> <li>Can be used to trigger an alarm if the media gets too hot.</li> </ul>	<b>Circulating Pump</b> 	<ul style="list-style-type: none"> <li>To be used if mechanical seal has no pumping device and thermal convection does not supply adequate media flow for mechanical seal lubrication and cooling.</li> </ul>
<b>Level Switch</b> 	<ul style="list-style-type: none"> <li>It will switch on high or low level.</li> <li>Can be used to trigger an alarm.</li> </ul>	<b>Hand Pump</b> 	<ul style="list-style-type: none"> <li>Used for manual pressurizing of the tank if no other means is available on site.</li> <li>Also allows for media refilling during operation.</li> </ul>
<b>Level Transmitter</b> 	<ul style="list-style-type: none"> <li>Used to monitor the media level in the tank.</li> <li>Can be used to trigger an alarm if the level reaches limit values.</li> </ul>	<b>Safety Valve</b> 	<ul style="list-style-type: none"> <li>Releases pressure in the tank if it exceeds a given value.</li> </ul>
<b>Pressure Switch</b> 	<ul style="list-style-type: none"> <li>It will switch on high or low pressure.</li> <li>It can be used to trigger an alarm.</li> </ul>	<b>Extra Ball Valve</b> 	<ul style="list-style-type: none"> <li>Used for the tank pressurizing by compressed air.</li> </ul>
<b>Stand</b> 	<ul style="list-style-type: none"> <li>Used to support the tank</li> <li>Material: stainless steel</li> </ul>	<b>ATEX Requirement</b> 	<ul style="list-style-type: none"> <li>Compliant electrical and electronic components</li> </ul>



Above are examples of possible configurations

#### Mounting Pattern and Main Dimensions

*Disclaimer: Specifications and dimensions given in this document represent the state of engineering at the time of releasing. Modifications can take place and materials or components replaced by others without prior notice*

## Model Range



**TS6-16**  
*Compact*

6 liter system, basic configuration with reservoir, sight glass, cooling coil, thermometer, pressure gauge and valves. Compact solution for standard applications.



**TS12**  
*Standard (16 / 30 / 60 bar)*

12 liter system available with 3 pressure classes: 16, 30 and 60 bar. Configurable and modular options according to API Plans. Designed for general industrial applications.



**TS12-12L**  
*Hygienic*

12 liter system with integrated circulation pump, transmitters and flow switch. Removable flanged bottom for cleanability. Ideal for hygienic applications in the Food & Beverage sector.



**TS12-04**  
*Aseptic*

Pharmaceutical aseptic system, equipped with diaphragm valves, sterilizing filters and pressure transmitters. Intended to be used in pharmaceutical and other aseptic applications.

### Compliance with API Plans

Huhnseal Support Systems are designed to support API 682 plans, both in pressurized and non-pressurized configurations.

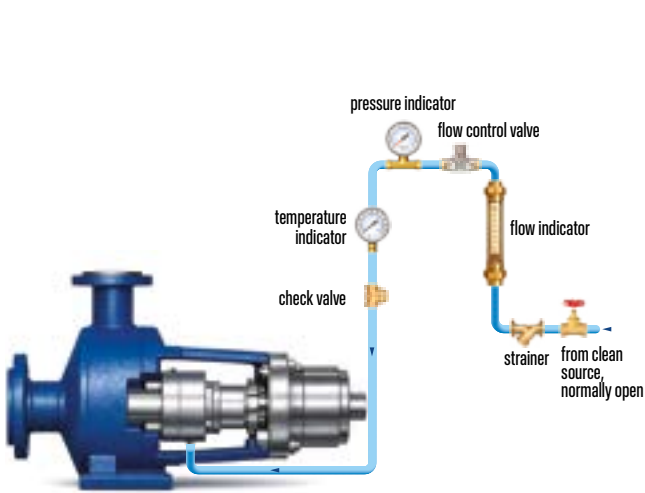
### Support System Comparison

Model	Volume	Pressure	Applications
TS6-16	6 L	16 bar	Standard
TS12-16/30/60	12 L	16/30/60 bar	Standard
TS12-12L Hygienic	12 L	4 bar	Hygienic
TS12-04 Aseptic	12 L	1-6 bar	Pharma, Aseptic

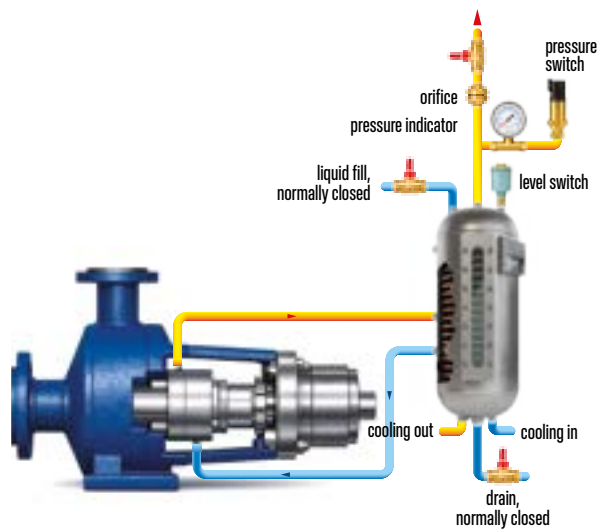
### Other Capabilities

The Huhnseal Mechanical Seal Support System range also includes custom systems (tank size, 53B systems, etc), gas control panels, and monitoring systems.

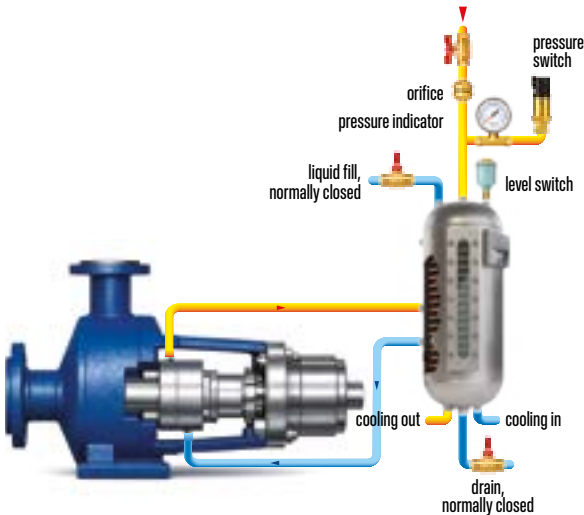
# API Plans



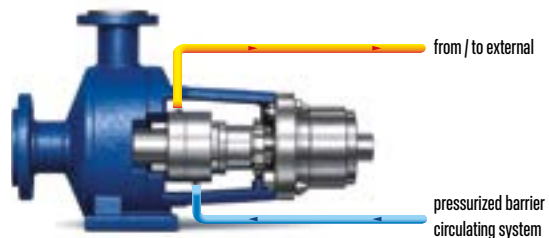
**Plan 32**  
External flush injected into the seal chamber. Used for dirty, abrasive or crystallizing fluids. Improves cooling and cleanliness.



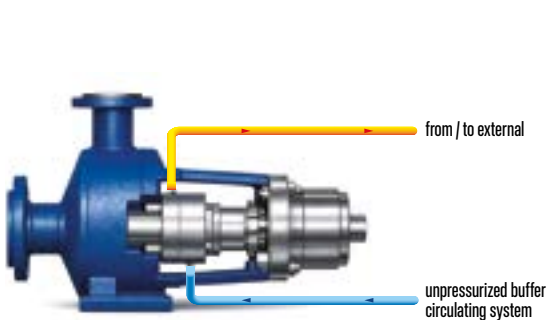
**Plan 52**  
Unpressurized dual seal buffer system. Suitable for moderately hazardous fluids where emission reduction is required. Used for applications to reduce possibility of contaminating process. The Process lubricates the inboard faces.



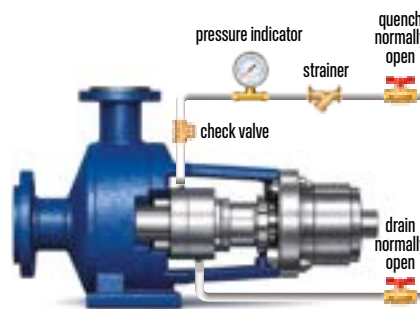
**Plan 53A**  
Pressurized barrier system with gas-blanketed reservoir. Used for hazardous, toxic or flammable fluids to ensure containment. Pressurized above process pressure. The barrier lubricates inboard seal faces with cool, clean fluid.



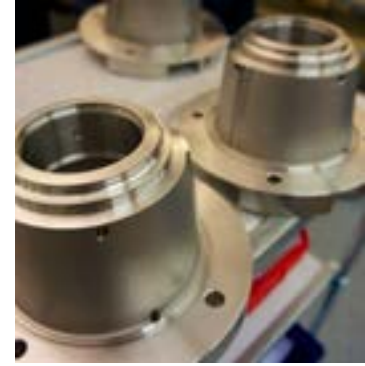
**Plan 54**  
Pressurized barrier system with external pump circulation. Selected for severe services or high heat loads.



**Plan 55**  
External continuous buffer circulation system. Provides improved thermal management compared to Plan 52. External continuous unpressurized buffer.



**Plan 62**  
External quench on atmospheric side. Prevents crystallization and product buildup. Not a primary containment system.



# 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](mailto:sales@huhnseal.com)

[www.huhnseal.com](http://www.huhnseal.com)

a member of



Meccanotecnica  
Umbra

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**Get technical support**

#### USA

**Huhnseal USA Inc.**

9105 Seguin Dr. Suite F - Pharr, TX 78577

Phone: +1 956 782 2400

[sales.usa@huhnseal.com](mailto:sales.usa@huhnseal.com)

#### GERMANY

**Huhnseal GmbH**

Am Merbelsroder Weg 1

98673 Auengrund OT Schwarzbach Germany

Phone: +49 0151 26662280

[sales.germany@huhnseal.com](mailto:sales.germany@huhnseal.com)

#### 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](mailto:sales.italy@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](mailto:sales.china@huhnseal.com)

#### TURKEY

**Huhnseal / Meccanotecnica Umbra Turkey**

İkiteli 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](mailto:sales.turkey@huhnseal.com)

#### BRAZIL

**Huhnseal / Meccanotecnica 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](mailto: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](mailto: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](mailto:sales.india@huhnseal.com)

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