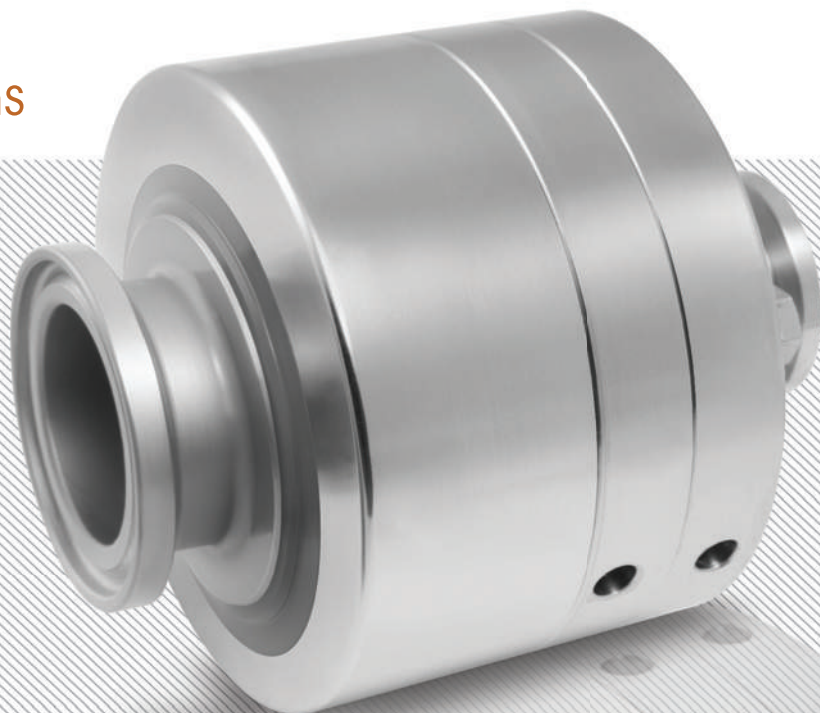


**SANITARY + SINGLE FLOW**  
**Rotary Union Solutions**



# SCS Series

**HYGIENIC CLAMP  
FERRULE CONNECTION  
SIZE OPTIONS**

3/4"

1"

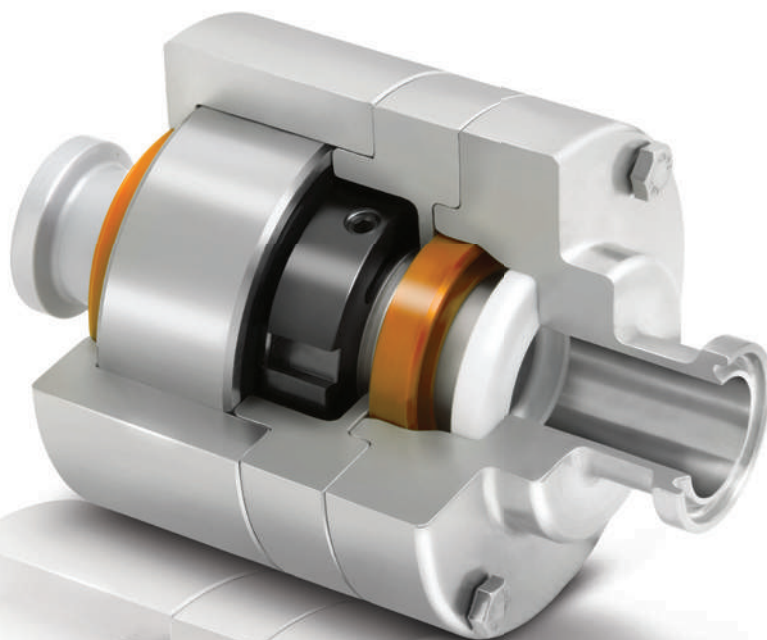
1 1/2"

2"

2 1/2"

3"

4"



# SCS SERIES

## Contents

- 3** What is a Rotary Union?
- 4** SCS Series Overview
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- 17** Installation & Mounting

## About DSTI

Dynamic Sealing Technologies, Inc. (DSTI) is a global leader in rotary unions and swivel joints used to provide reliable fluid transfer and sealing for energy, defense and industrial applications.

Learn more at [www.dsti.com](http://www.dsti.com)

## Did You Know?

» DSTI Exports Rotary Union Products to Over 50 Countries



## What is a Rotary Union?

A rotary union (or swivel joint) is a mechanism used to transfer fluid (under pressure or vacuum) from a stationary inlet to a rotating outlet, preserving and isolating the fluid connection.

Rotary unions are engineered to endure a wide range of temperatures and pressures for a variety of conditions and environments. In addition, rotary unions may integrate multiple passages and handle different types of fluid simultaneously.

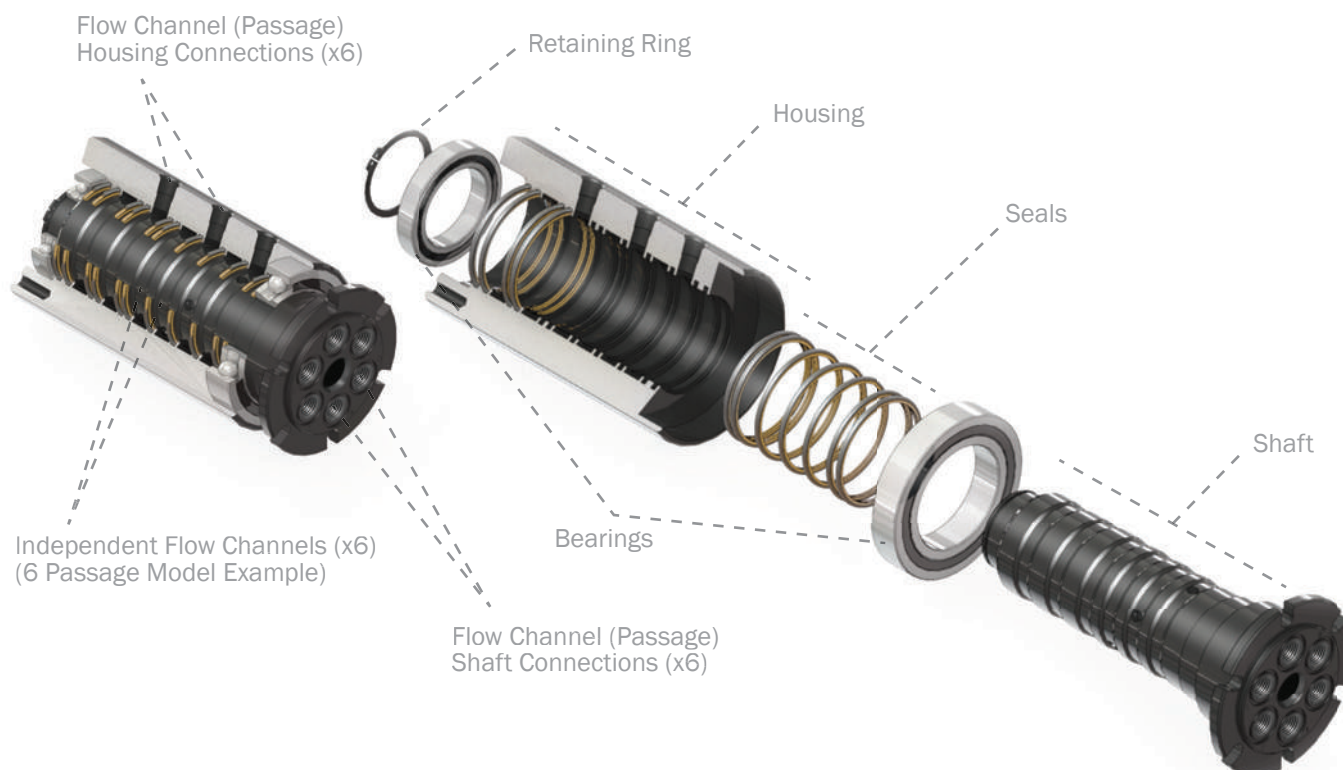
See examples at [www.dsti.com/industries](http://www.dsti.com/industries)

## How do I choose the best rotary union for my application?

*Tell us about your requirements so we can make a recommendation:*

- 1) Type of media(s) / fluid(s) to be transferred
- 2) Number of independent flow channels (passages)
- 3) Operating pressure
- 4) Operating temperature
- 5) Operating speed
- 6) Shaft & housing connection type
- 7) Flow channel (passage) size
- 8) Torque & load requirements
- 9) Duty cycle\*

*\*Does the temperature, speed or pressure fluctuate or change during operation? If so, please provide the detailed ranges for each parameter and time durations of each condition.*



# SCS SERIES

## SCS Series Overview



- + Hygienic Clamp Ferrule Connections
- + FDA Compliant Materials For Use With CIP (Clean-in-Place) Systems
- + Food Grade Seals and Bearing Lubricant
- + Engineered to Minimize Fluid Stagnation Points
- + Exclusive DSTI Sealing Technology
- + 316 Stainless Steel Shaft and Housing
- + ASME-BPE & DIN 32676 Connections Available

## ON THE WEB

Download STEP, DWG, and PDF resources.  
View interactive 3D models and more!

Learn more at [www.dsti.com](http://www.dsti.com)



## How to Order: Create your Part Number

### EXAMPLE

**SCS** — **6** **05** **01** **0**

**0** No Thru-bore

**01** 1 Flow Passage

**05** 3/4" Tri-Clamp Ferrule Connection  
■ Type A, ASME-BPE or **DN 15**, Series A, DIN 32676

**06** 1" Tri-Clamp Ferrule Connection  
■ Type A, ASME-BPE or **DN 20**, Series A, DIN 32676

**08** 1 1/2" Tri-Clamp Ferrule Connection  
■ Type B, ASME-BPE or **DN 32**, Series A, DIN 32676

**09** 2" Tri-Clamp Ferrule Connection  
■ Type B, ASME-BPE or **DN 50**, Series A, DIN 32676

**10** 2 1/2" Tri-Clamp Ferrule Connection  
■ Type B, ASME-BPE or **DN 65**, Series A, DIN 32676

**11** 3" Tri-Clamp Ferrule Connection  
■ Type B, ASME-BPE or **DN 80**, Series A, DIN 32676

**13** 4" Tri-Clamp Ferrule Connection  
■ Type B, ASME-BPE or **DN 100**, Series A, DIN 32676

**6** Product Series (SCS)

**NOTE** Thru-bore option is not available on the SCS Series.

**NOTE** All SCS Series models contain one passage.

### EXAMPLES

#### SCS-605010

- SCS model with one 3/4" Type A ASME-BPE Connection passage

#### SCS-613010

- SCS model with one 4" Type B ASME-BPE Connection passage

#### SCSM-609010

- SCS model with one 2" DN 50, Series A, DIN 32676 Connection

### SEE PAGE 6 FOR MORE DETAILS

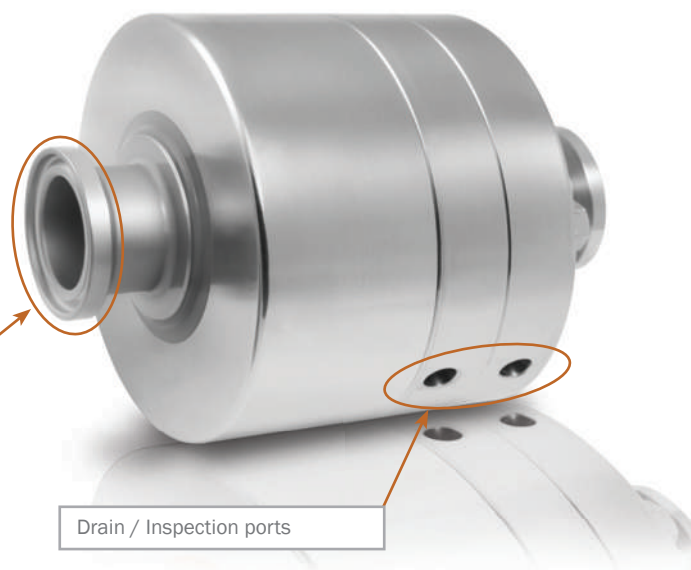
**SCS** SCS Series (Type A or B, ASME - BPE Connection)

**SCSM** SCS Series (Series A, DIN 32676)

Tri-Clamp Ferrule Connection.

Install this end up to meet 3A requirements.

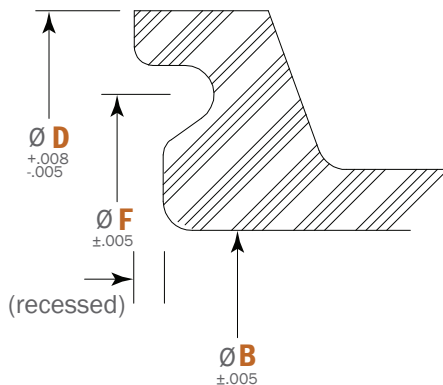
Drain / Inspection ports



# SCS SERIES

## Hygienic Clamp Ferrule Connections

TYPE A, ASME BPE-2009



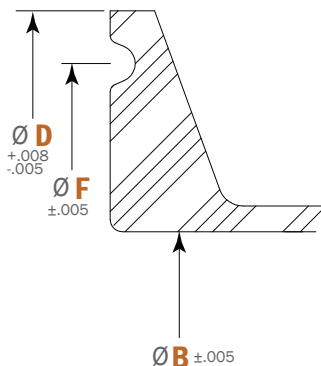
SIZE	B	D	F
.75"	0.620" [15.75mm]	0.984" [25mm]	0.800" [20.32mm]
1"	0.870" [22.1mm]	1.339" [34mm]	1.160" [29.46mm]

EXAMPLE

**SCS-605010**

SCS model with one ¾" Type A  
ASME-BPE Connection passage

TYPE B, ASME BPE-2009



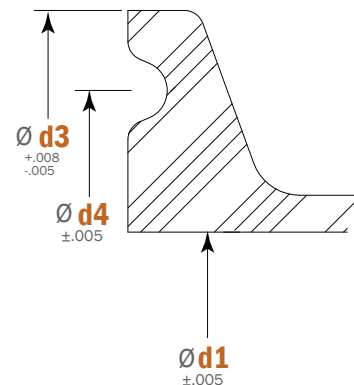
SIZE	B	D	F
1.5"	1.37" [34.8mm]	1.984" [50.39mm]	1.718" [43.64mm]
2"	1.87" [47.5mm]	2.516" [63.91mm]	2.218" [56.34mm]
2.5"	2.37" [60.2mm]	3.047" [77.4mm]	2.781" [70.64mm]
3"	2.87" [72.9mm]	3.579" [90.91mm]	3.218" [81.74mm]
4"	3.834" [97.4mm]	4.682" [119mm]	4.344" [110.3mm]

EXAMPLE

**SCS-613010**

SCS model with one 4" Type B  
ASME-BPE Connection passage

SERIES A, DIN 32676



SIZE	d1	d3	d4
DN 15	0.630" [16mm]	1.339" [34mm]	1.083" [27.5mm]
DN 20	0.787" [20mm]	1.339" [34mm]	1.083" [27.5mm]
DN 32	1.260" [32mm]	1.988" [50.5mm]	1.713" [43.5mm]
DN 50	1.969" [50mm]	2.520" [64mm]	2.224" [56.49mm]
DN 65	2.598" [66mm]	3.583" [91mm]	3.287" [83.49mm]
DN 80	3.189" [81mm]	4.173" [106mm]	3.819" [97mm]
DN 100	3.937" [100mm]	4.685" [119mm]	4.331" [110mm]

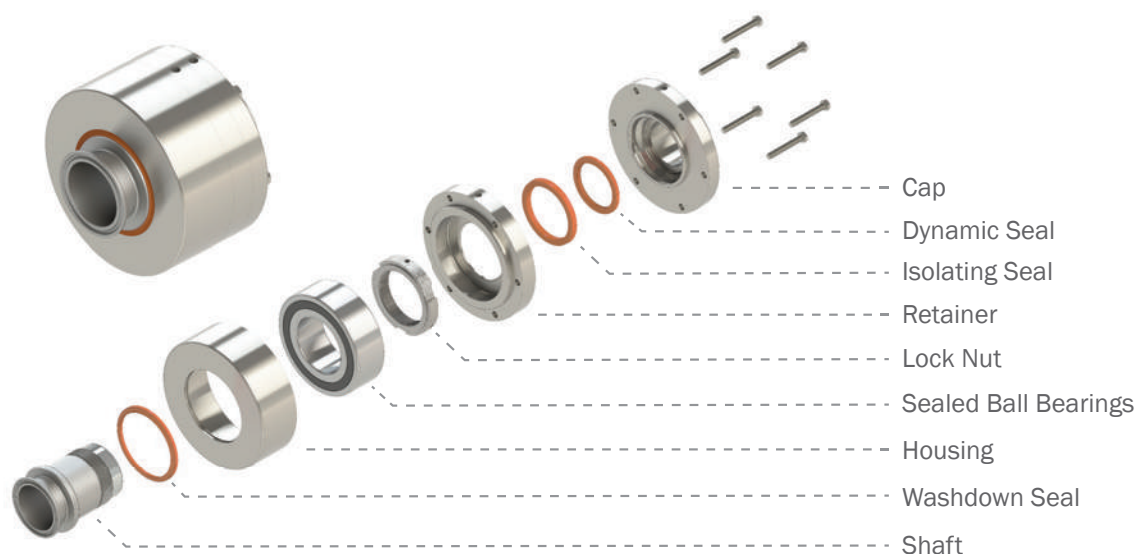
EXAMPLE

**SCSM-609010**

SCS model with one DN 50,  
Series A, DIN 32676 Connection



## Specifications & Operating Information



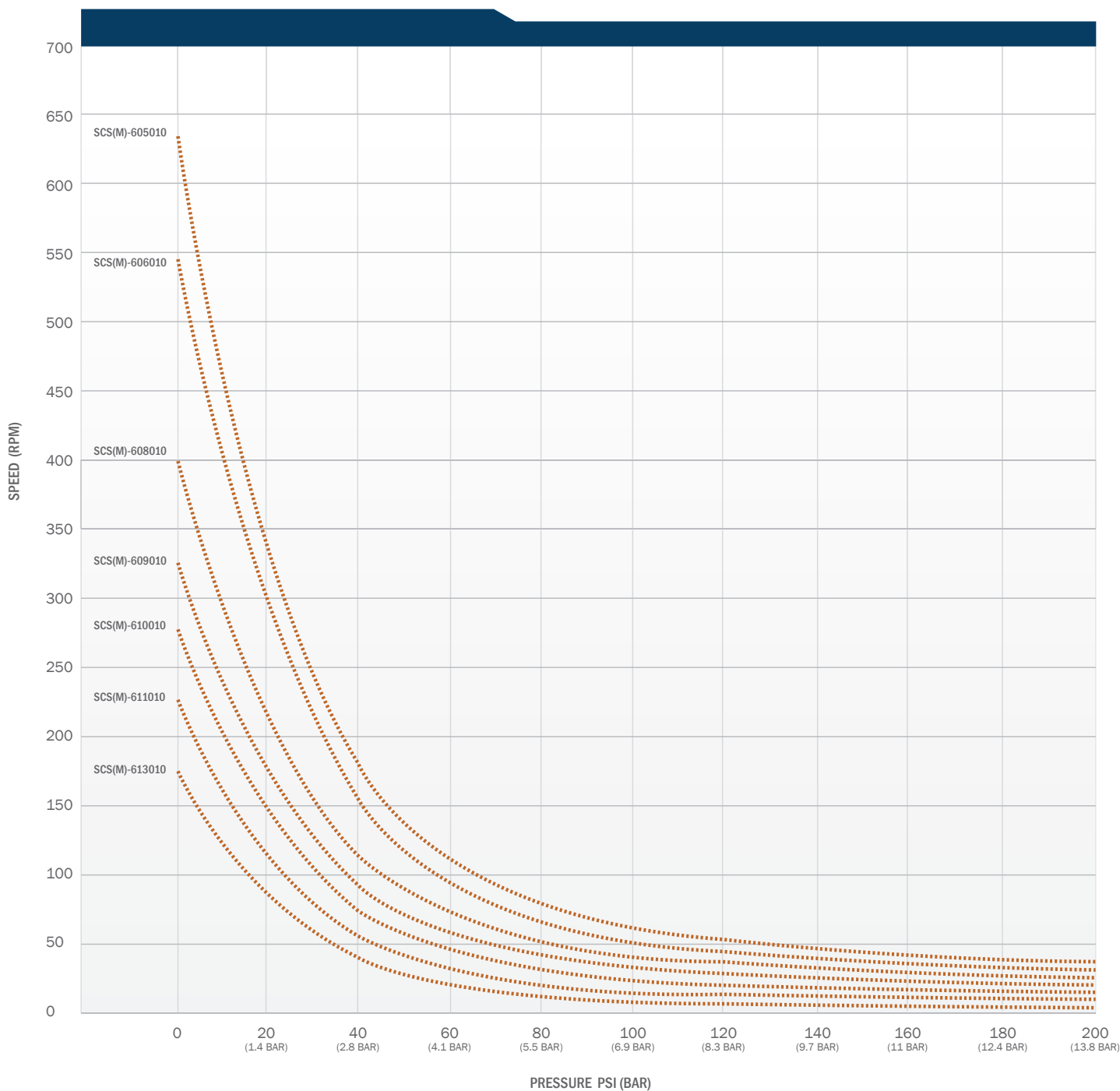
Flow Passage Options	1
Media Types	Suitable for Food-Grade use
Passage Sizes	$\frac{3}{4}$ ", 1", 1 $\frac{1}{2}$ ", 2", 2 $\frac{1}{2}$ ", 3", 4"
Connection Type	Type A or B ASME BPE-2009 (Series A, per DIN 32676 )
Max. Operating Pressure	200 PSI (14 BAR) <sup>1</sup>
Max. Vacuum	24 HG <sup>1</sup>
Max. Rotational Speed	Consult with DSTI for specific speed and pressure evaluation based on application.
Operating Temperature	0° F to 220° F (-18° C to 105° C) <sup>2</sup>
Body Material Type	316 Stainless Steel
Slip Ring Options	Not Applicable
Mounting Options	The SCS Series rotary unions connect at the ferrule clamp connection inlet and outlet.

<sup>1</sup> Values are dependent on a combination of all application parameters. Please consult with DSTI.

<sup>2</sup> High temperature applications may require alternative seal materials. Please consult with DSTI.

# SCS SERIES

## Performance Data: Pressure vs. Allowable Speed\*



\* This data is to be used as a general guideline. Data based on generic food grade media as the media type. Please consult DSTI about your specific application.



## Performance Data: Pressure vs. Torque\*

### PRESSURE PSI (BAR)

MODEL	0	20 (1.4 BAR)	40 (2.8 BAR)	60 (4.1 BAR)	80 (5.5 BAR)	100 (6.9 BAR)
<b>SCS-605010</b>	14.5 [1.64]	14.8 [1.67]	15.2 [1.72]	15.6 [1.76]	16.0 [1.81]	16.4 [1.85]
<b>SCS-606010</b>	28.5 [3.22]	28.8 [3.25]	29.2 [3.30]	29.6 [3.34]	30.0 [3.39]	30.4 [3.43]
<b>SCS-608010</b>	44.3 [5.01]	44.7 [5.05]	45.1 [5.10]	45.5 [5.14]	45.9 [5.19]	46.3 [5.23]
<b>SCS-609010</b>	43.6 [4.93]	44.0 [4.97]	44.4 [5.01]	44.8 [5.06]	45.2 [5.12]	45.6 [5.15]
<b>SCS-610010</b>	55.3 [6.25]	55.7 [6.29]	56.0 [6.33]	56.4 [6.37]	56.8 [6.42]	57.2 [6.46]
<b>SCS-611010</b>	79.3 [8.96]	79.7 [9.00]	80.1 [9.05]	80.5 [9.09]	80.9 [9.14]	81.2 [9.17]
<b>SCS-613010</b>	89.3 [10.08]	89.7 [10.13]	90.1 [10.18]	90.5 [10.23]	90.9 [10.27]	91.3 [10.32]

MODEL	120 (8.3 BAR)	140 (9.7 BAR)	160 (11 BAR)	180 (12.4 BAR)	200 (13.8 BAR)
<b>SCS-605010</b>	16.8 [1.90]	17.2 [1.94]	17.6 [1.99]	18.0 [2.03]	18.4 [2.08]
<b>SCS-606010</b>	30.8 [3.48]	31.2 [3.53]	31.6 [3.57]	32.0 [3.62]	32.4 [3.66]
<b>SCS-608010</b>	46.6 [5.27]	47.0 [5.31]	47.4 [5.36]	47.8 [5.40]	48.2 [5.45]
<b>SCS-609010</b>	45.9 [5.19]	46.3 [5.23]	46.7 [5.28]	47.1 [5.32]	47.5 [5.37]
<b>SCS-610010</b>	57.6 [6.51]	58.0 [6.55]	58.4 [6.60]	58.8 [6.64]	59.2 [6.69]
<b>SCS-611010</b>	81.6 [9.23]	82.0 [9.26]	82.4 [9.31]	82.8 [9.36]	83.2 [9.40]
<b>SCS-613010</b>	91.7 [10.36]	92.0 [10.39]	92.4 [10.44]	92.8 [10.48]	93.2 [10.53]

PRESSURIZED TORQUE  
( INCH POUND [NEWTON METER] )

\* This data is to be used as a general guideline. Please consult DSTI about your specific application.

# SCS SERIES

## Performance Data: Frictional Loss at Allowable Speed @ Pressure (btu/min)\*

### PRESSURE PSI (BAR)

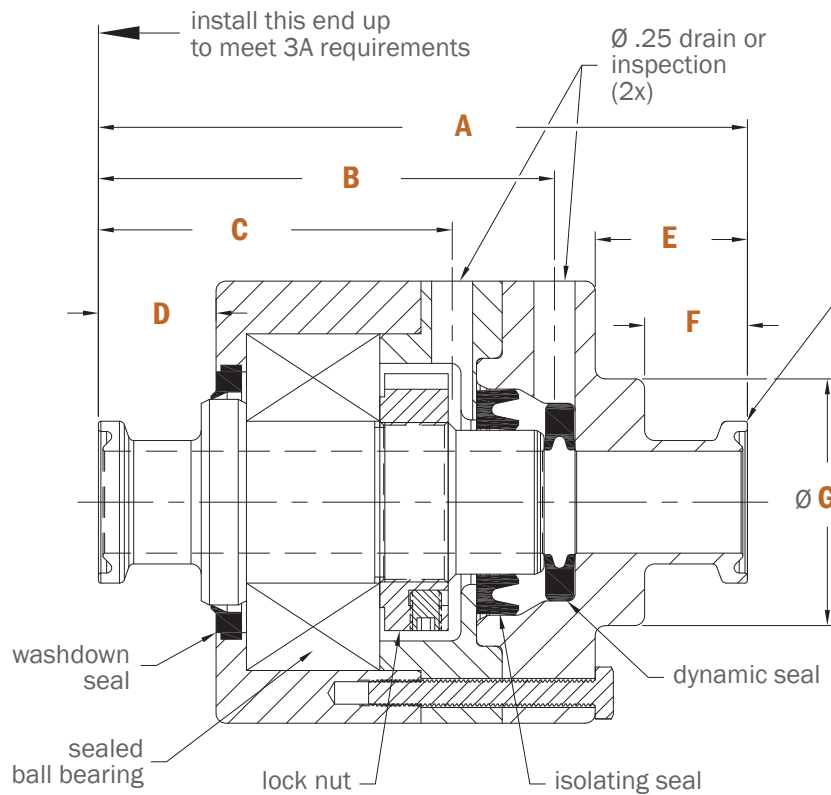
MODEL	0	20 (1.4 BAR)	40 (2.8 BAR)	60 (4.1 BAR)	80 (5.5 BAR)	100 (6.9 BAR)
SCS-605010	6.27 [108.92]	3.22 [55.93]	1.65 [28.70]	1.13 [19.62]	0.87 [15.08]	0.71 [12.36]
SCS-606010	10.57 [183.71]	5.36 [93.12]	2.71 [47.19]	1.83 [31.88]	1.39 [24.22]	1.13 [19.63]
SCS-608010	12.13 [210.82]	6.12 [106.34]	3.09 [53.63]	2.07 [36.06]	1.57 [27.78]	1.27 [22.01]
SCS-609010	9.45 [164.26]	4.77 [82.87]	2.40 [41.80]	1.62 [28.11]	1.22 [21.27]	0.99 [17.16]
SCS-610010	9.91 [172.29]	4.99 [86.75]	2.51 [43.68]	1.69 [29.32]	1.27 [22.14]	1.03 [17.84]
SCS-611010	12.13 [210.82]	6.09 [105.93]	3.06 [53.22]	2.05 [35.65]	1.55 [26.87]	1.24 [21.60]
SCS-613010	10.39 [180.63]	5.22 [90.71]	2.62 [45.55]	1.75 [30.50]	1.32 [22.97]	1.06 [18.46]

MODEL	120 (8.3 BAR)	140 (9.7 BAR)	160 (11 BAR)	180 (12.4 BAR)	200 (13.8 BAR)
SCS-605010	0.61 [10.55]	0.53 [9.25]	0.48 [8.28]	0.43 [7.52]	0.40 [6.92]
SCS-606010	0.95 [16.57]	0.83 [14.38]	0.73 [12.74]	0.66 [11.47]	0.60 [10.44]
SCS-608010	1.06 [18.50]	0.92 [15.99]	0.81 [14.10]	0.73 [12.64]	0.66 [11.47]
SCS-609010	0.83 [14.97]	0.72 [12.91]	0.63 [11.38]	0.57 [10.18]	0.51 [9.22]
SCS-610010	0.86 [14.97]	0.74 [12.91]	0.65 [11.38]	0.59 [10.18]	0.53 [9.22]
SCS-611010	1.04 [18.09]	0.90 [15.58]	0.79 [13.69]	0.70 [12.23]	0.64 [11.06]
SCS-613010	0.89 [15.45]	0.76 [13.30]	0.67 [11.68]	0.60 [10.43]	0.54 [9.43]

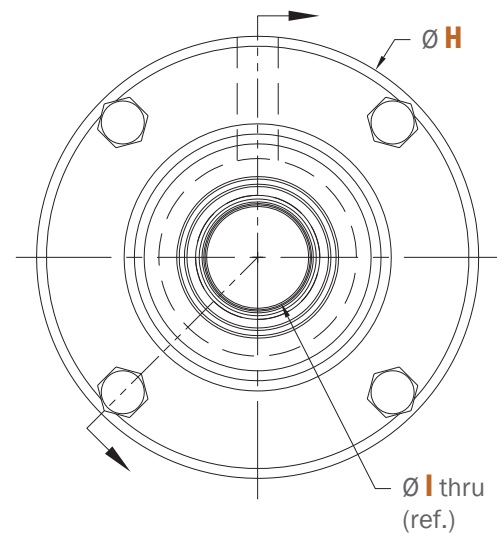
FRICIONAL LOSS  
(BTU PER MINUTE [WATTS])

\* This data is to be used as a general guideline. Please consult DSTI about your specific application.  
1 foot pound per minute (ft-lb/min) = 0.0013 btu per minute (btu/min) [0.023 watts (W)]

## SCS 3/4" Connection: Dimensions

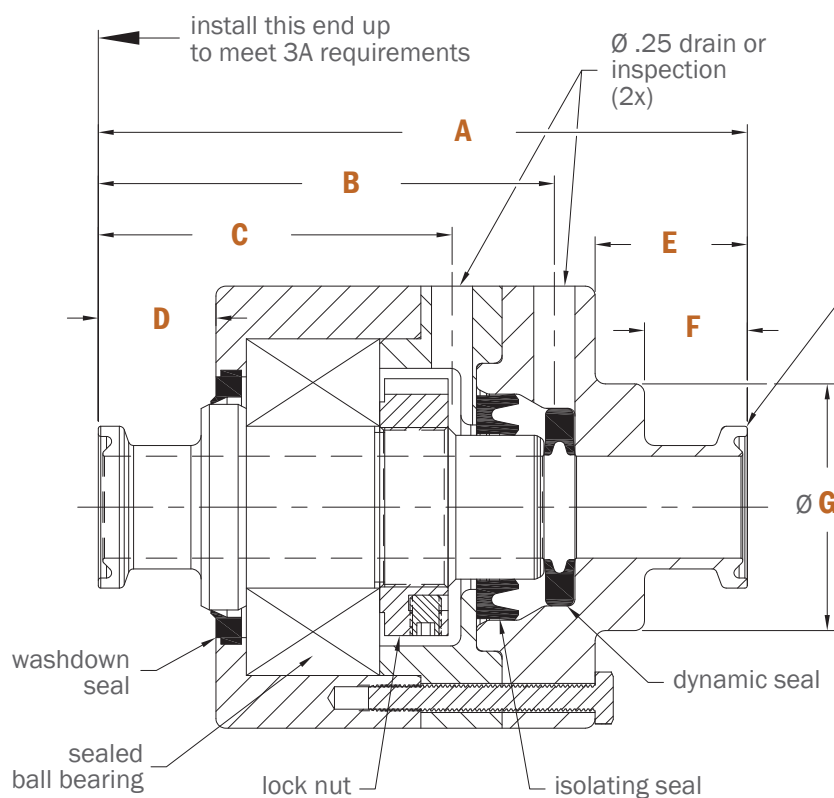


P/N	SCS-605010 [SCSM-605010]
A	3.95" [100.2mm]
B	2.77" [70.4mm]
C	2.15" [54.6mm]
D	0.72" [18.2mm]
E	0.93" [23.5mm]
F	0.63" [15.9mm]
G	1.50" [38.1mm]
H	2.69" [68.2mm]
I	0.62" [16.0mm]

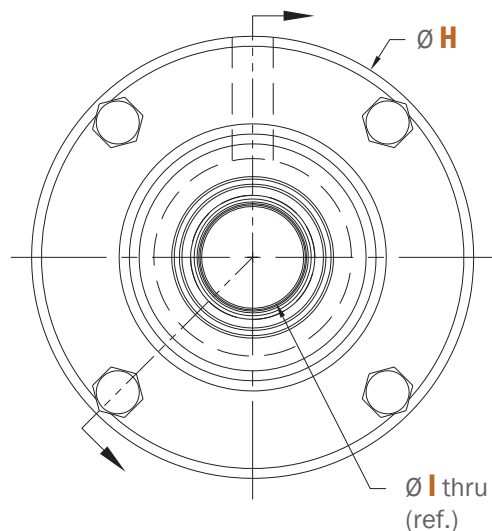


# SCS SERIES

## SCS 1" Connection: Dimensions



P/N	SCS-606010 [SCSM-606010]
A	4.10" [104.0mm]
B	2.87" [72.9mm]
C	2.25" [57.2mm]
D	0.72" [18.2mm]
E	0.92" [23.4mm]
F	0.63" [15.9mm]
G	1.75" [44.5mm]
H	3.44" [87.4mm]
I	0.87" [20.0mm]

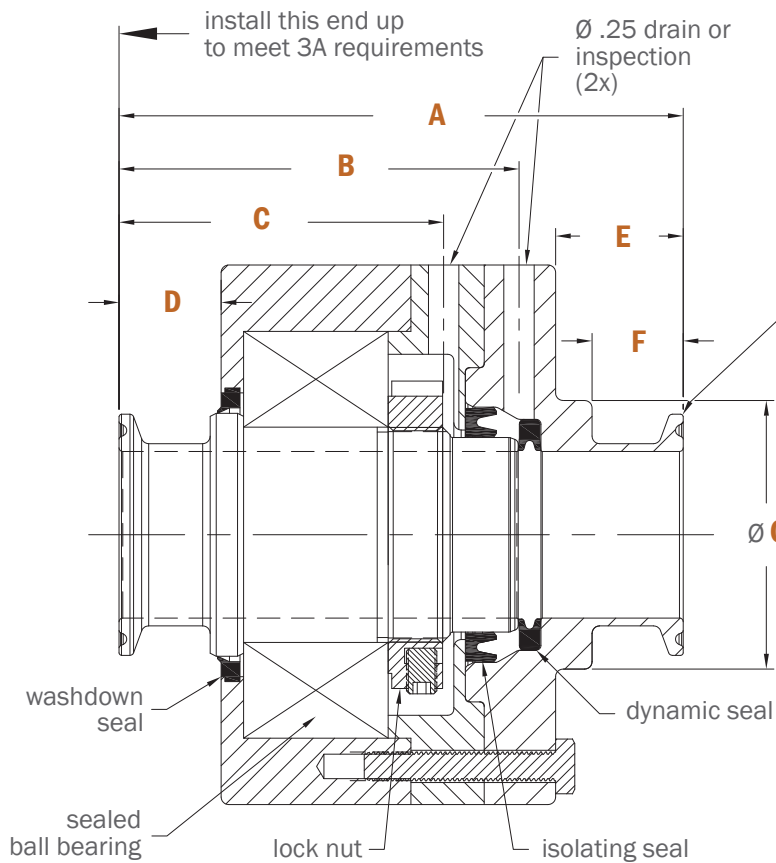




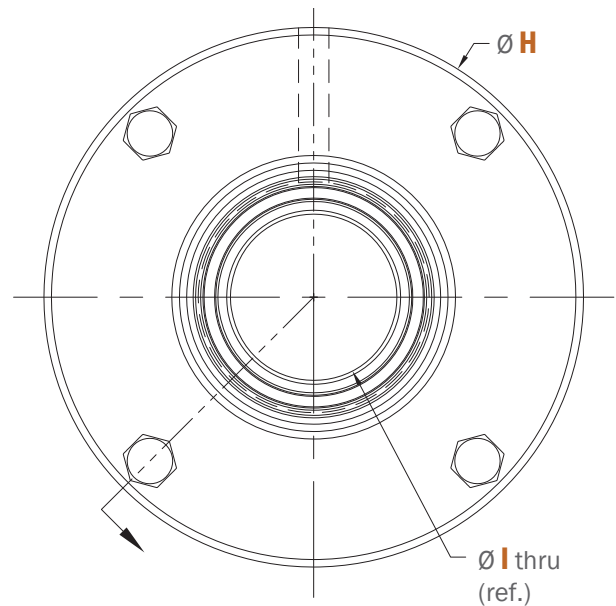
# SCS SERIES

phone 866.700.3784 | web [www.dsti.com](http://www.dsti.com)

## SCS 1 1/2" Connection: Dimensions

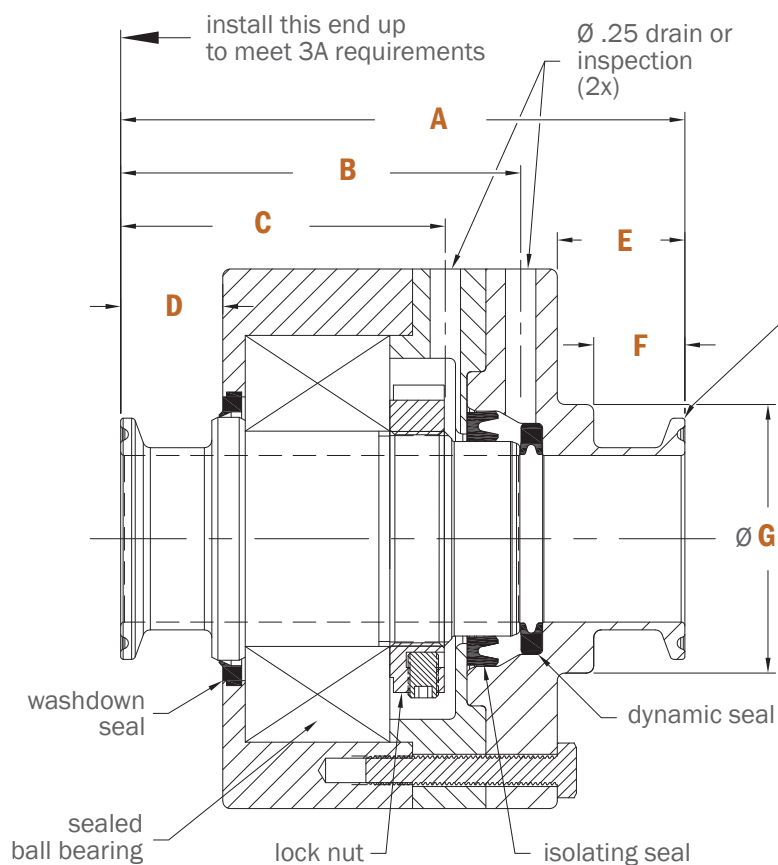


P/N	SCS-608010 [SCSM-608010]
A	4.64" [117.9mm]
B	3.29" [83.6mm]
C	2.67" [67.8mm]
D	0.84" [21.3mm]
E	1.05" [26.7mm]
F	0.75" [19.1mm]
G	2.21" [56.1mm]
H	4.44" [112.8mm]
I	1.37" [32.0mm]



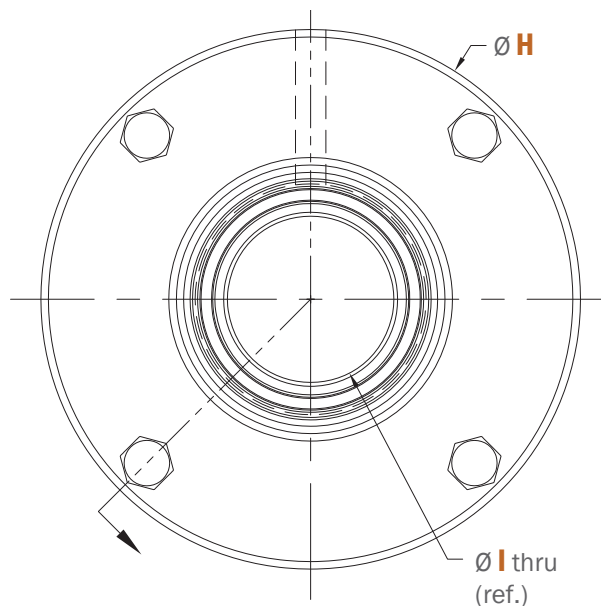
# SCS SERIES

## SCS 2" Connection: Dimensions



hygienic clamp ferrule  
2" type B per ASME-BPE 2009  
[DN 50, series A, DIN 32676]  
(2x)

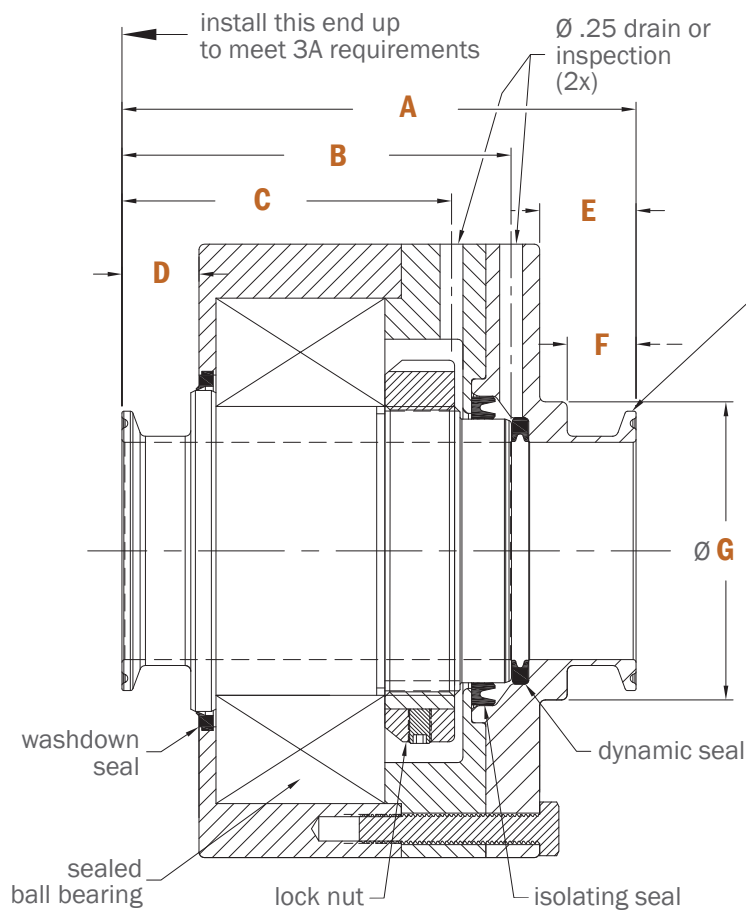
See PAGE 6 for details



P/N SCS-609010 [SCSM-609010]

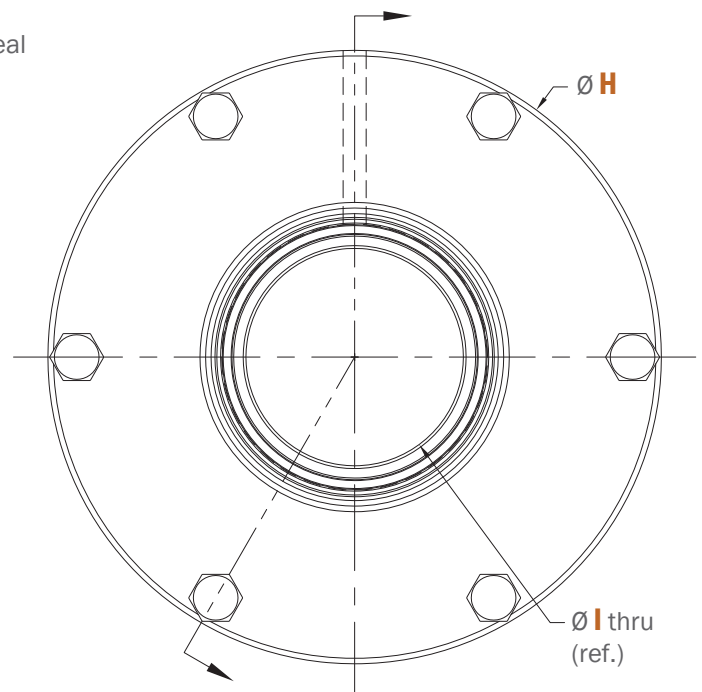
A	4.99" [126.7mm]
B	3.63" [92.2mm]
C	2.98" [75.6mm]
D	0.84" [21.3mm]
E	1.05" [26.7mm]
F	0.75" [19.1mm]
G	2.75" [69.9mm]
H	5.44" [138.2mm]
I	1.87" [50.0mm]

## SCS 2 1/2" Connection: Dimensions



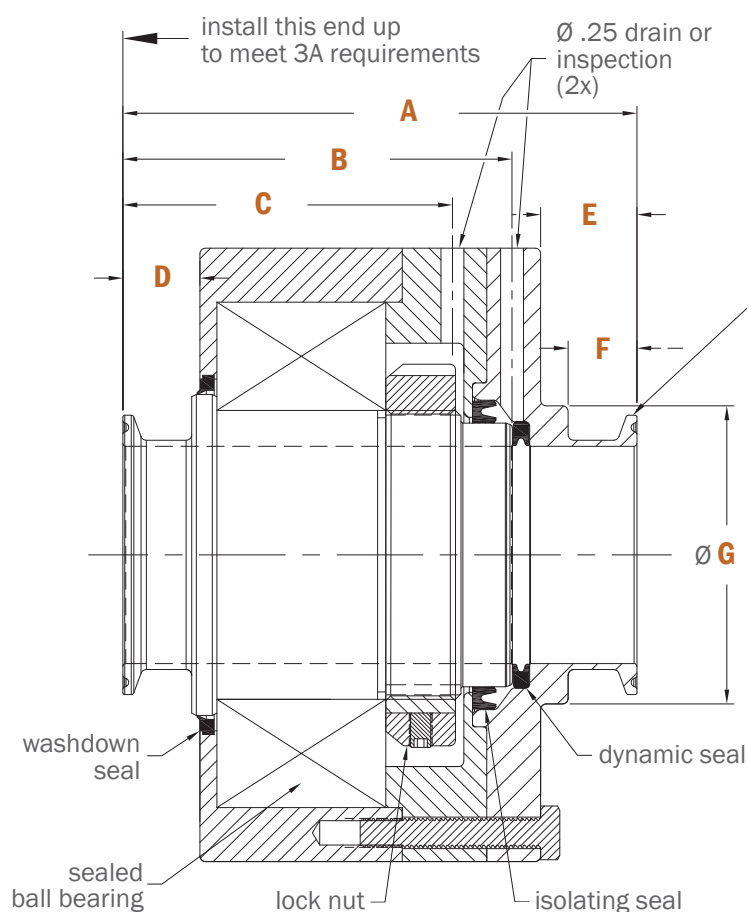
**P/N SCS-610010 [SCSM-610010]**

<b>A</b>	5.61" [142.4mm]
<b>B</b>	4.24" [107.8mm]
<b>C</b>	3.59" [91.3mm]
<b>D</b>	0.84" [21.3mm]
<b>E</b>	1.05" [26.7mm]
<b>F</b>	0.75" [19.1mm]
<b>G</b>	3.25" [82.6mm]
<b>H</b>	6.69" [169.9mm]
<b>I</b>	2.37" [66.0mm]



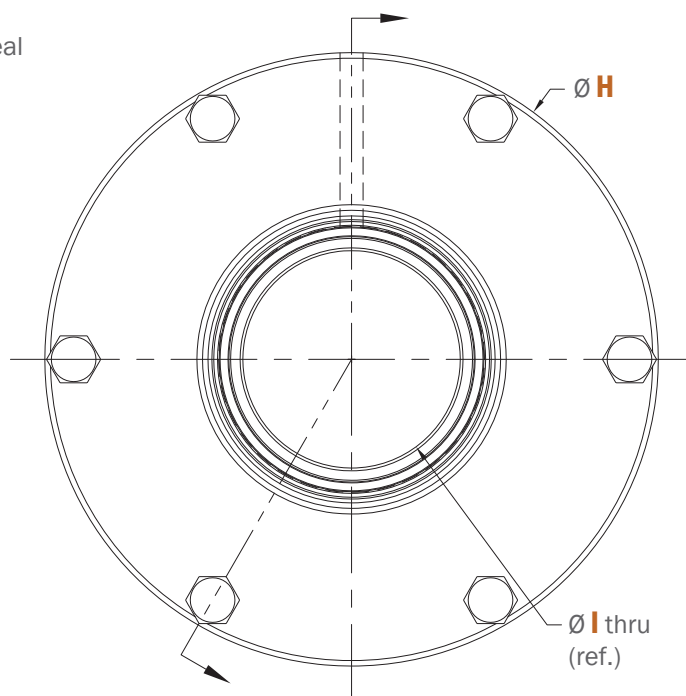
# SCS SERIES

## SCS 3" Connection: Dimensions



hygienic clamp ferrule  
3" type B per ASME-BPE 2009  
[DN 80, series A, DIN 32676]  
(2x)

See **PAGE 6** for details

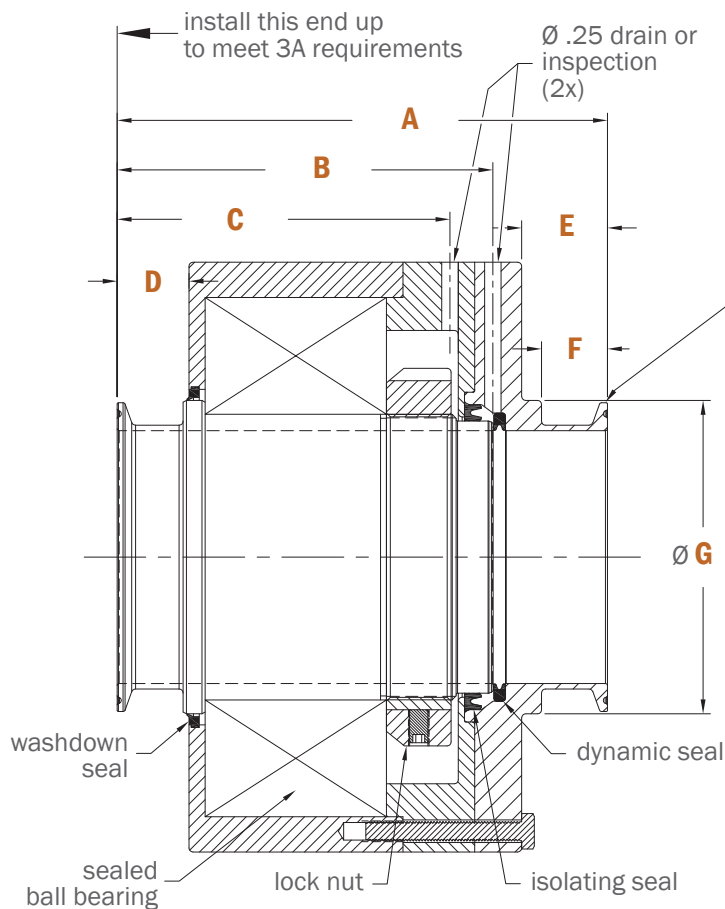


**P/N** SCS-611010 [SCSM-611010]

<b>A</b>	6.81" [173.1mm]
<b>B</b>	5.20" [132.1mm]
<b>C</b>	4.56" [115.8mm]
<b>D</b>	1.09" [27.7mm]
<b>E</b>	1.30" [33.0mm]
<b>F</b>	1.00" [25.4mm]
<b>G</b>	3.75" [95.3mm]
<b>H</b>	7.94" [201.7mm]
<b>I</b>	2.87" [81.0mm]



## SCS 4" Connection: Dimensions

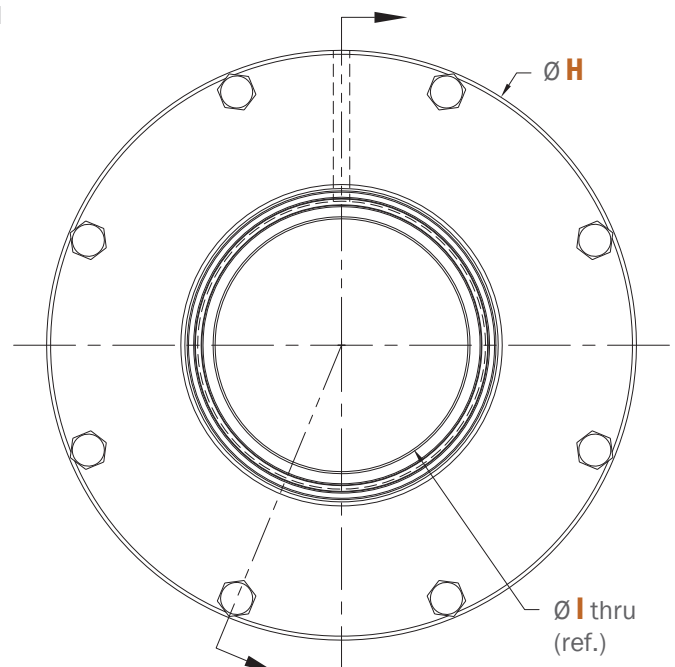


hygienic clamp ferrule  
4" type B per ASME-BPE 2009  
[DN 100, series A, DIN 32676]  
(2x)

See **PAGE 6** for details

**P/N SCS-613010 [SCSM-613010]**

<b>A</b>	7.43" [188.8mm]
<b>B</b>	5.70" [144.7mm]
<b>C</b>	5.05" [128.2mm]
<b>D</b>	1.09" [27.7mm]
<b>E</b>	1.30" [33.0mm]
<b>F</b>	1.00" [25.4mm]
<b>G</b>	4.75" [120.7mm]
<b>H</b>	8.94" [227.1mm]
<b>I</b>	3.83" [100.0mm]



# SCS SERIES

## Installation & Mounting

THESE INSTRUCTIONS ARE INTENDED TO BE USED AS A GENERAL GUIDE, PLEASE CONSULT THE FACTORY TO DISCUSS ANY SPECIFIC QUESTIONS RELATED TO YOUR INSTALLATION.

### PREPARATION:

Remove the rotary union from the shipping container. Inspect the entire assembly, including all passage connections to make sure that they are clean and no visual damage occurred during transport.

### RECOMMENDED ROTARY UNION INSTALLATION PRACTICE:

As this device is mounted in line between two pipes, alignment of the pipes is critical. These pipes may have a wide variation of temperature during normal operation and cleaning, some flexibility must be included in the installation to absorb thermal expansion of the piping system. The sanitary flanged connections are the “torque arm” in this design. Make sure adequate / compatible gasket seals are installed between the flange connections. Orient drain / inspection ports as required. If the union is installed with a vertical centerline, note orientation mark, “this end up” and the arrow, in the etch on the union. Make sure clamp collars are tight.

### INITIAL START-UP:

After rotary union is installed, a dry run is recommended to assure proper mounting of the rotating union assembly. Begin rotation of the equipment, and verify that while rotating at the maximum operating speed there is no visible movement of the rotary union assembly due to misalignment.

### WARRANTY:

*DSTI Warrants, for a period of 2 years from the date of original delivery, its products to be free from defects in material and workmanship. DSTI's obligation under this warranty is limited to repair or replacement at it's factory of any part or parts of said products which shall be returned to DSTI with transportation charges prepaid and which DSTI's examination shall disclose to it's satisfaction to have been defective. Under no circumstances shall DSTI be held liable for loss, damage, cost of repair or consequential damages of any kind in connection with the sale, use or repair of any product purchased from DSTI. Warranty is subject to change.*



## Notes



# Proven Expertise. Trusted Solutions.

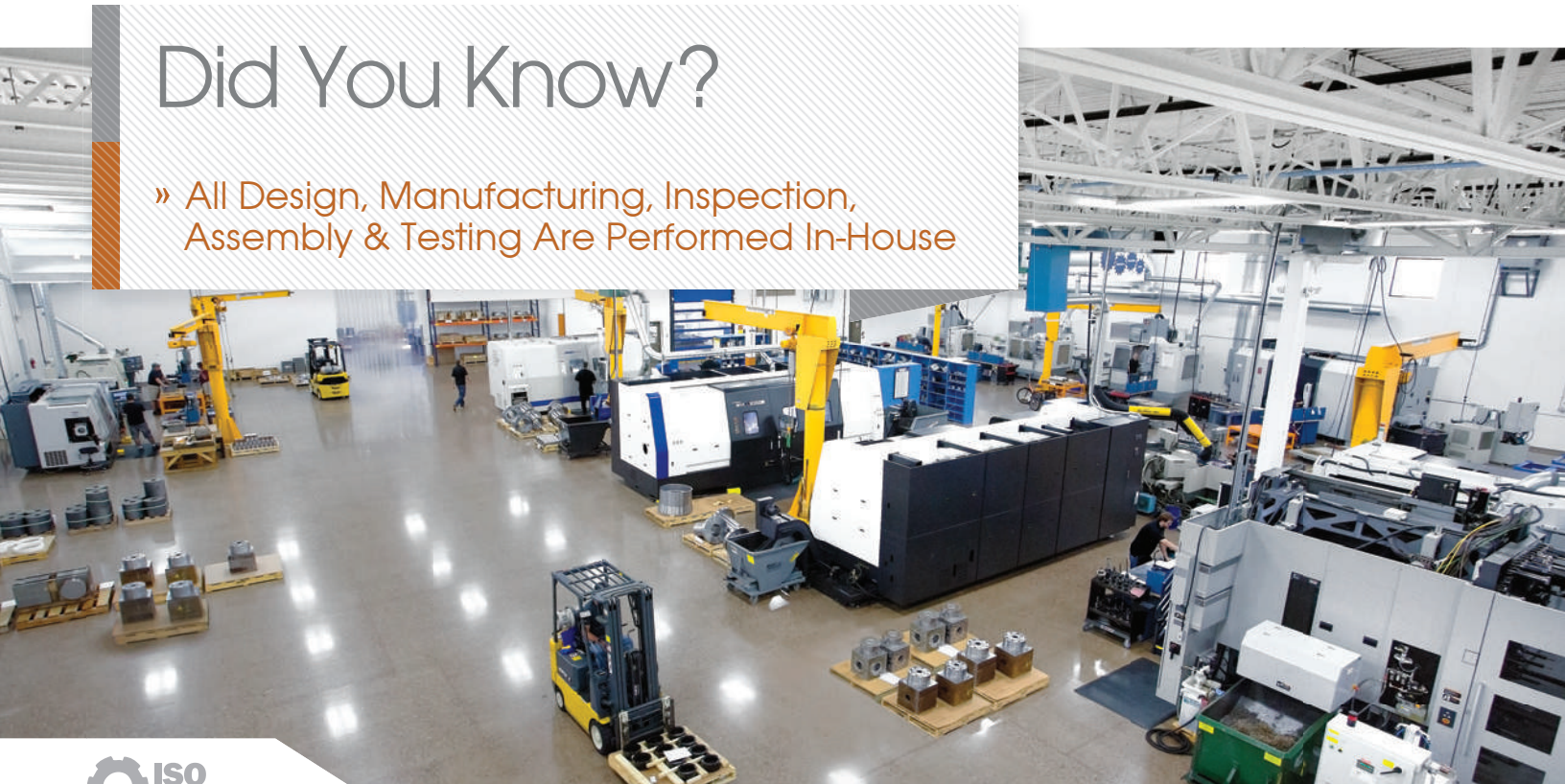
Adhering to stringent quality assurance procedures and verification processes, our team designs and manufactures purpose-built rotary union and electrical slip ring products tailored to meet application-specific performance requirements.

DSTI has partnered with GE, NASA, 3M, Halliburton, the U.S. Army and numerous other organizations and fortune 500 companies – with hundreds of unique and specialized designs successfully operating in a diverse range of critical environments and applications.



## Did You Know?

» All Design, Manufacturing, Inspection, Assembly & Testing Are Performed In-House



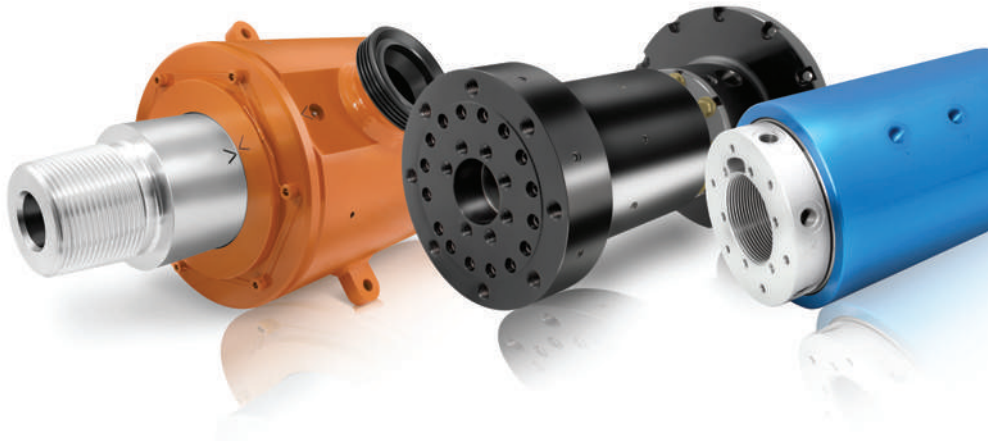


# Engineered to your Needs

At DSTI, our product solutions are directly influenced by the industries we serve. If an existing product isn't a perfect fit for our customers' applications, we provide specialized design and manufacturing services to meet the needs of their specifications.

To see examples of our specialized solutions, please visit:

[www.dsti.com/industries](http://www.dsti.com/industries)



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