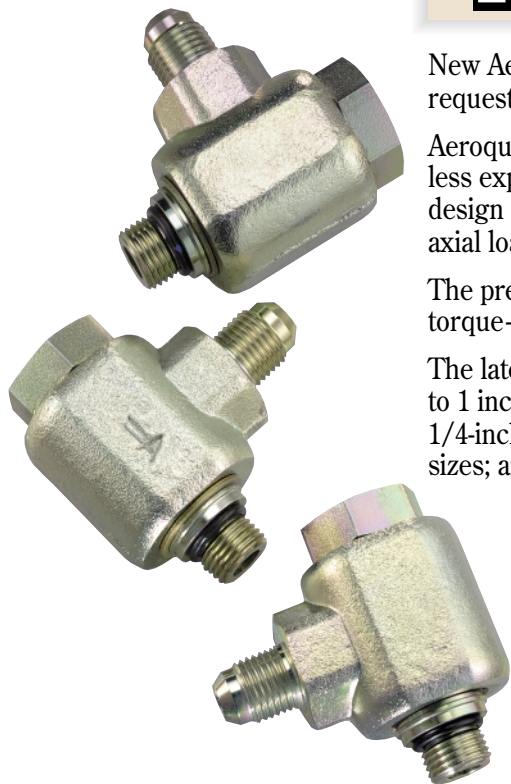


S W I V E L **J O I N T S**

FS65 Balanced-Pressure Series



Features and Benefits



New Aeroquip FS65 Balanced-Pressure Series swivel joints answer customer requests for a more cost competitive, compact product.

Aeroquip FS65 Series swivel joints feature compact forged casings that are less expensive to manufacture than brazing casings. Their balanced-pressure design distributes pressure evenly through the body of the joints, eliminating axial loading of the sleeve.

The pressure-balanced design allows the swivel joints to rotate with very low torque—even up to their fully rated operating pressure.

The latest swivel joint product from Eaton will be available in sizes 1/4 inch to 1 inch. The swivel joints have pressure capabilities up to 5,000 psi for the 1/4-inch and 3/8-inch sizes; 3,500 psi for the 1/2-inch, 5/8-inch, and 3/4-inch sizes; and 3,000 psi for the 1-inch size.

Features:

- Balanced-pressure design
- Low-drop dimensions
- Contamination seals
- 360-degree rotation
- Standard O-ring design and repair kits

Benefits:

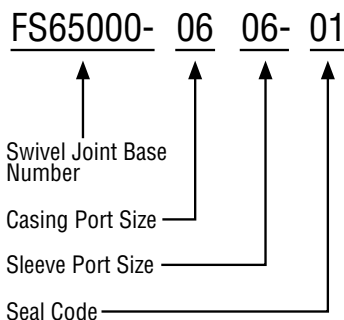
- Shows no significant increase in torque with introduction of pressure
- Fit in compact areas
- Prevent environmental contaminants from entering the swivel joints
- Prevents hose twisting, thus increasing hose life
- Allow quick and reliable field repairs

How to Order

When ordering a swivel joint, follow the steps below:

First, state the base part number, casing and sleeve port size, as shown.

Second, add the suffix code which indicates the seal required, as shown in the seal code chart below.



SEAL MATERIAL OPTIONS

SEAL CODE	MATERIAL	DESCRIPTION	APPLICATION
-01	Buna-N	O-Ring Seal	Hydraulic Oils, Water Glycol
-04	EPR	O-Ring Seal	Brake Fluids, Water, Phosphate Ester, Alcohols
-06	Viton™	O-Ring Seal	Chemicals, Gasoline, Aromatic Solvents

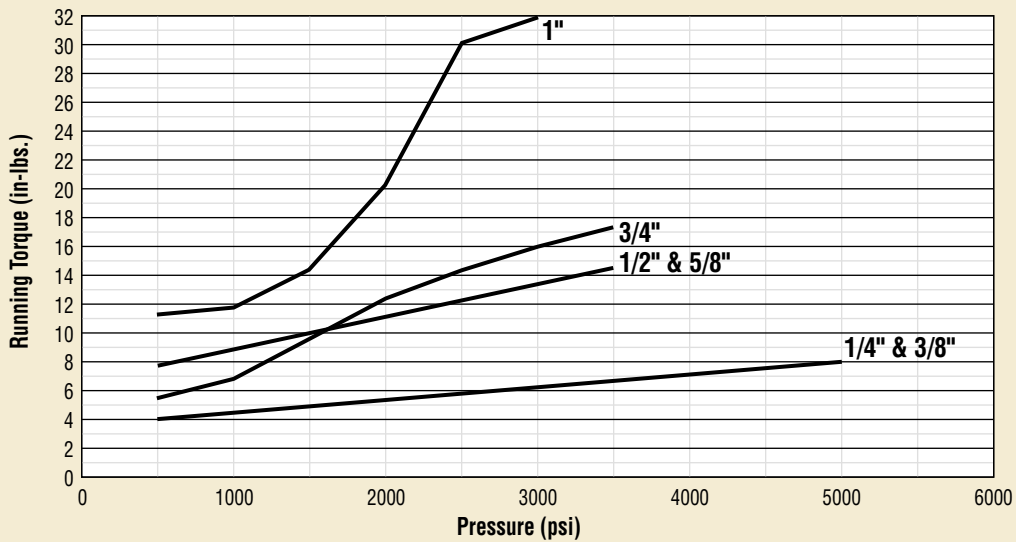
P Performance Testing

Aeroquip's FS65 Series swivel joints perform **best in class** when it comes to side-load testing, while impulsing at 133 percent of maximum operating pressure—and rotating through a 120-degree angular sweep forward and in reverse.

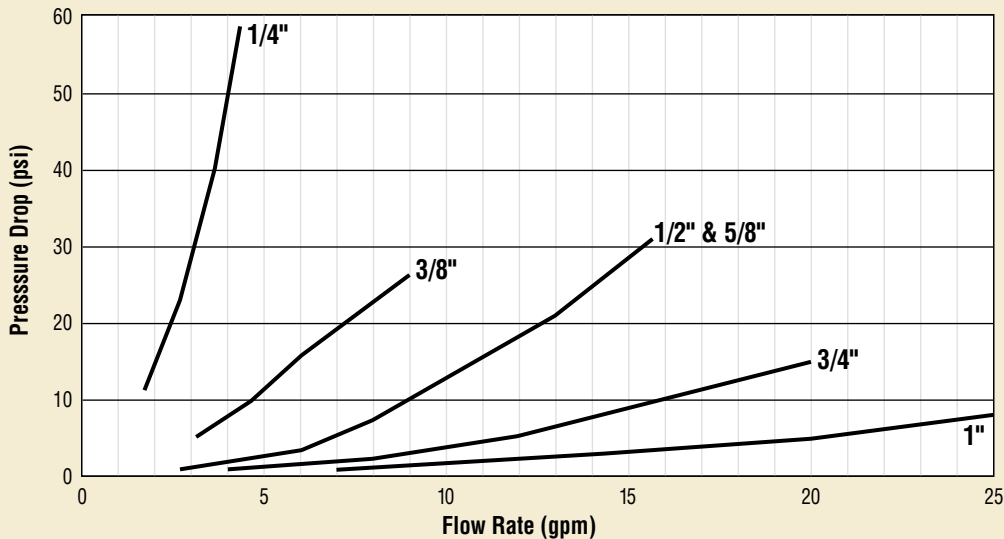
FS65 Series swivel joints passed the minimum requirements of 150,000 cycles for the 1/4-inch and 3/8-inch nominal sizes, and 200,000 cycles for the 1/2-inch through 1-inch sizes, while measuring zero leakage per SAE J1176.

Due to their superior-rated performance, FS65 Series swivel joints have replaced Aeroquip BD55 and FS55 Series swivel joints in 1/4-inch through 1-inch sizes.

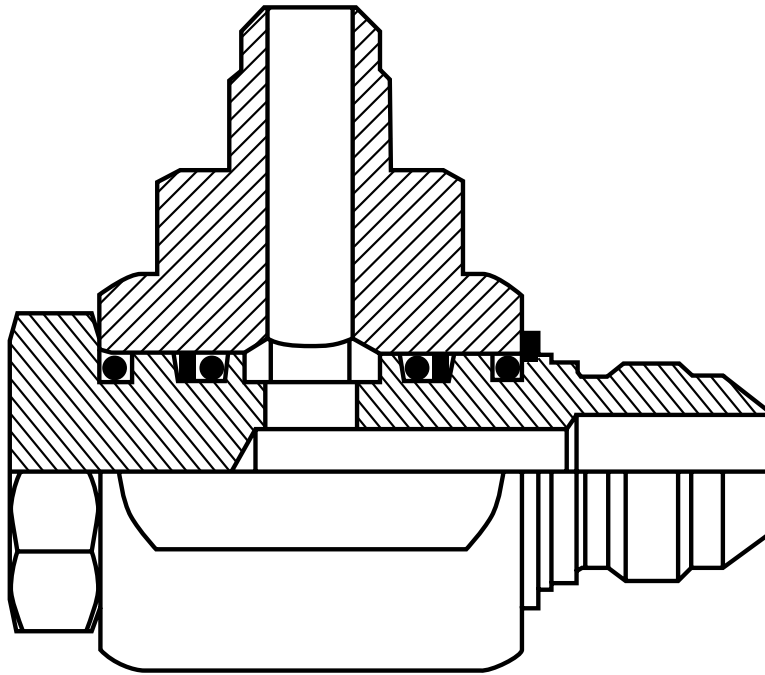
RUNNING TORQUE vs. PRESSURE



PRESSURE DROP vs. FLOW RATE



S Swivel Joints



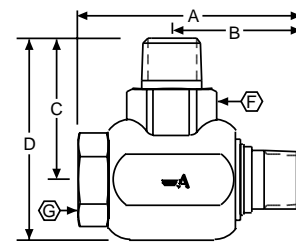
The Aeroquip FS65 Balanced-Pressure Series swivel joint, with its compact forged body design, is available in sizes from 1/4-inch to 1-inch. The latest swivel joint product from Eaton will be available in sizes 1/4 inch to 1 inch. The swivel joints have pressure capabilities up to 5,000 psi for the 1/4-inch and 3/8-inch sizes; 3,500 psi for the 1/2-inch, 5/8-inch, and 3/4-inch sizes; and 3,000 psi for the 1-inch size. The swivel joint's pressure-balanced design distributes pressure evenly through the body of the joint eliminating axial loading of the sleeve. This pressure-balanced design allows the FS65 series swivel joint to turn with very low torque even up to the fully rated operating pressure.

PRESSURE RATING FOR FS65 SERIES

Swivel SIZE	Operating Pressure (PSI)
1/4"	5000
3/8"	5000
1/2"	3500
5/8"	3500
3/4"	3500
1"	3000

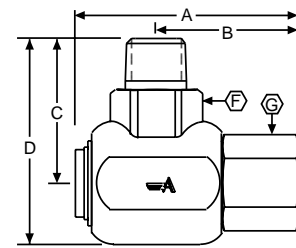
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65006-0404-01	1/4	1/4-18 NPTF	1/4-18 NPTF	2.60	1.49	1.60	2.29	24 mm	15/16
FS65006-0606-01	3/8	3/8-18 NPTF	3/8-18 NPTF	2.53	1.48	1.62	2.31	24 mm	15/16
FS65006-0808-01	1/2	1/2-14 NPTF	1/2-14 NPTF	2.88	1.54	1.89	2.66	29 mm	1
FS65006-1212-01	3/4	3/4-14 NPTF	3/4-14 NPTF	3.21	1.89	2.30	3.25	34 mm	1-1/4
FS65006-1616-01	1	1-11 1/2 NPTF	1-11 1/2 NPTF	3.91	2.27	2.60	3.68	43 mm	1-5/8

Male Pipe x Male Pipe



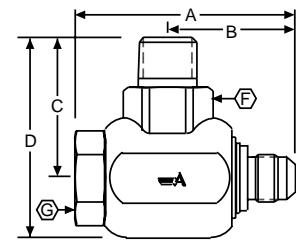
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65015-0404-01	1/4	1/4-18 NPTF	1/4-18 NPTF	2.49	1.59	1.66	2.35	24 mm	15/16
FS65015-0606-01	3/8	3/8-18 NPTF	3/8-18 NPTF	2.49	1.58	1.62	2.31	24 mm	15/16
FS65015-0808-01	1/2	1/2-14 NPTF	1/2-14 NPTF	3.14	1.97	1.62	2.39	29 mm	1-1/16
FS65015-1212-01	3/4	3/4-14 NPTF	3/4-14 NPTF	3.21	2.08	2.30	3.25	34 mm	1-5/16
FS65015-1616-01	1	1-11 1/2 NPTF	1-11 1/2 NPTF	3.84	2.53	2.60	3.68	43 mm	1-5/8

Male Pipe x Female Pipe



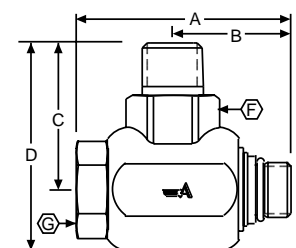
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65019-0404-01	1/4	1/4-18 NPTF	7/16-20 UNF-2A	2.58	1.46	1.60	2.29	24 mm	15/16
FS65019-0606-01	3/8	3/8-18 NPTF	9/16-18 UNF-2A	2.51	1.46	1.62	2.31	24 mm	15/16
FS65019-0808-01	1/2	1/2-14 NPTF	3/4-16 UNF-2A	2.87	1.52	1.89	2.66	29 mm	1
FS65019-1212-01	3/4	3/4-14 NPTF	1 1/16-12 UN-2A	3.31	1.99	2.30	3.25	34 mm	1-1/4
FS65019-1616-01	1	1-11 1/2 NPTF	1 5/16-12 UN-2A	3.86	2.23	2.60	3.68	43 mm	1-5/8

Male Pipe x Male JIC

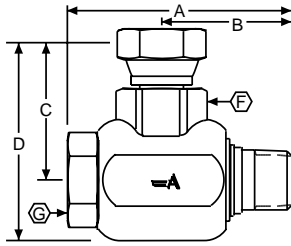


Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65022-0404-01	1/4	1/4-18 NPTF	7/16-20 UNF-2A	2.39	1.27	1.60	2.29	24 mm	15/16
FS65022-0606-01	3/8	3/8-18 NPTF	9/16-18 UNF-2A	2.35	1.30	1.62	2.31	24 mm	15/16
FS65022-0808-01	1/2	1/2-14 NPTF	3/4-16 UNF-2A	2.55	1.30	1.89	2.66	29 mm	1
FS65022-1212-01	3/4	3/4-14 NPTF	1 1/16-12 UN-2A	3.28	2.16	2.30	3.25	34 mm	1-1/4
FS65022-1616-01	1	1-11 1/2 NPTF	1 5/16-12 UN-2A	3.67	2.35	2.60	3.68	43 mm	1-5/8

Male Pipe x Male SAE O'Ring Boss

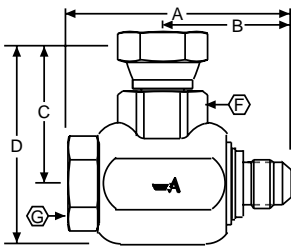


Female Pipe Swivel (NPSM) x Male Pipe



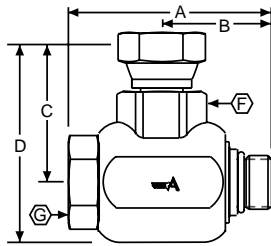
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65000-0404-01	1/4	1/4-18 NPSM	1/4-18 NPTF	2.60	1.49	1.45	2.14	24 mm	15/16
FS65000-0606-01	3/8	3/8-18 NPSM	3/8-18 NPTF	2.53	1.48	1.45	2.14	24 mm	15/16
FS65000-0808-01	1/2	1/2-14 NPSM	1/2-14 NPTF	2.88	1.54	1.62	2.39	29 mm	1
FS65000-1212-01	3/4	3/4-14 NPSM	3/4-14 NPTF	3.21	1.89	2.14	3.09	34 mm	1-1/4
FS65000-1616-01	1	1-11 1/2 NPSM	1-11 1/2 NPTF	3.91	2.27	2.40	3.48	43 mm	1-5/8

Female Pipe Swivel (NPSM) x Male JIC



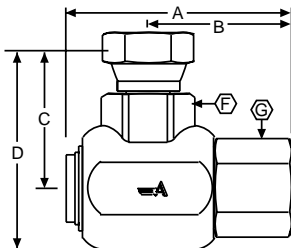
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65001-0404-01	1/4	1/4-18 NPSM	7/16-20 UNF-2A	2.58	1.46	1.45	2.14	24 mm	15/16
FS65001-0606-01	3/8	3/8-18 NPSM	9/16-18 UNF-2A	2.51	1.46	1.45	2.14	24 mm	15/16
FS65001-0608-01	3/8	3/8-18 NPSM	3/4-16 UNF-2A	2.61	1.56	1.45	2.14	24 mm	15/16
FS65001-0808-01	1/2	1/2-14 NPSM	3/4-16 UNF-2A	2.77	1.52	1.62	2.39	29 mm	1
FS65001-0810-01	1/2	1/2-14 NPSM	7/8-14 UNF-2A	2.88	1.62	1.62	2.39	29 mm	1
FS65001-1212-01	3/4	3/4-14 NPSM	1 1/16-12 UN-2A	3.31	1.99	2.14	3.09	34 mm	1-1/4
FS65001-1616-01	1	1-11 1/2 NPSM	1 5/16-12 UN-2A	3.86	2.23	2.40	3.48	43 mm	1-5/8

Female Pipe Swivel (NPSM) x Male SAE O'Ring Boss



Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65002-0404-01	1/4	1/4-18 NPSM	7/16-20 UNF-2A	2.39	1.27	1.45	2.14	24 mm	15/16
FS65002-0405-01	1/4	1/4-18 NPSM	1/2-20 UNF-2A	2.39	1.27	1.45	2.14	24 mm	15/16
FS65002-0606-01	3/8	3/8-18 NPSM	9/16-18 UNF-2A	2.35	1.30	1.45	2.14	24 mm	15/16
FS65002-0608-01	3/8	3/8-18 NPSM	3/4-16 UNF-2A	2.65	1.74	1.45	2.14	24 mm	15/16
FS65002-0808-01	1/2	1/2-14 NPSM	3/4-16 UNF-2A	2.55	1.30	1.62	2.39	29 mm	1
FS65002-0810-01	1/2	1/2-14 NPSM	7/8-14 UNF-2A	2.55	1.36	1.62	2.39	29 mm	1-1/16
FS65002-1212-01	3/4	3/4-14 NPSM	1 1/16-12 UN-2A	3.28	2.16	2.14	3.09	34 mm	1-1/4
FS65002-1616-01	1	1-11 1/2 NPSM	1 5/16-12 UN-2A	3.67	2.35	2.40	3.48	43 mm	1-5/8

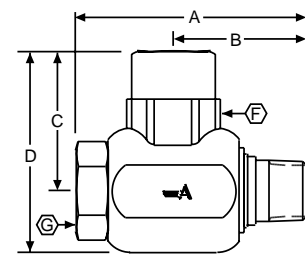
Female Pipe Swivel (NPSM) x Female Pipe



Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65005-0404-01	1/4	1/4-18 NPSM	1/4-18 NPTF	2.49	1.59	1.45	2.14	24 mm	15/16
FS65005-0606-01	3/8	3/8-18 NPSM	3/8-18 NPTF	2.49	1.58	1.45	2.14	24 mm	15/16
FS65005-0808-01	1/2	1/2-14 NPSM	1/2-14 NPTF	3.14	1.97	1.62	2.39	29 mm	1-1/16
FS65005-1212-01	3/4	3/4-14 NPSM	3/4-14 NPTF	3.21	2.08	2.14	3.09	34 mm	1-5/16
FS65005-1616-01	1	1-11 1/2 NPSM	1-11 1/2 NPTF	3.84	2.53	2.40	3.48	43 mm	1-5/8

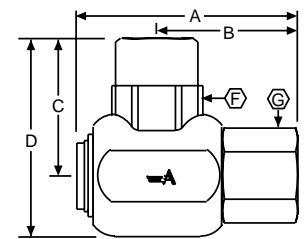
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65007-0404-01	1/4	1/4-18 NPTF	1/4-18 NPTF	2.60	1.49	1.58	2.27	24 mm	15/16
FS65007-0606-01	3/8	3/8-18 NPTF	3/8-18 NPTF	2.53	1.48	1.59	2.28	24 mm	15/16
FS65007-0808-01	1/2	1/2-14 NPTF	1/2-14 NPTF	2.88	1.54	1.88	2.65	29 mm	1
FS65007-1212-01	3/4	3/4-14 NPTF	3/4-14 NPTF	3.21	1.89	2.30	3.25	34 mm	1-1/4
FS65007-1616-01	1	1-11 1/2 NPTF	1-11 1/2 NPTF	3.91	2.27	2.62	3.70	43 mm	1-5/8

Female Pipe x Male Pipe



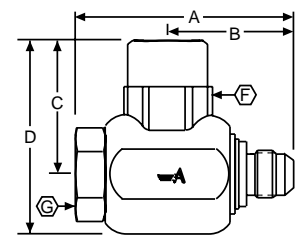
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65008-0404-01	1/4	1/4-18 NPTF	1/4-18 NPTF	2.49	1.59	1.58	2.27	24 mm	15/16
FS65008-0606-01	3/8	3/8-18 NPTF	3/8-18 NPTF	2.49	1.58	1.59	2.28	24 mm	15/16
FS65008-0808-01	1/2	1/2-14 NPTF	1/2-14 NPTF	3.14	1.97	1.88	2.65	29 mm	1-1/16
FS65008-1212-01	3/4	3/4-14 NPTF	3/4-14 NPTF	3.21	2.08	2.30	3.25	34 mm	1-5/16
FS65008-1616-01	1	1-11 1/2 NPTF	1-11 1/2 NPTF	3.84	2.53	2.62	3.70	43 mm	1-5/8

Female Pipe x Female Pipe



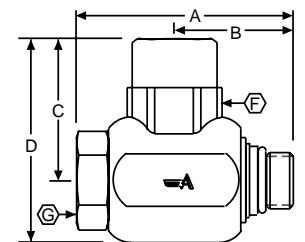
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65010-0404-01	1/4	1/4-18 NPTF	7/16-20 UNF-2A	2.58	1.46	1.58	2.27	24 mm	15/16
FS65010-0405-01	1/4	1/4-18 NPTF	1/2-20 UNF-2A	2.58	1.46	1.58	2.27	24 mm	15/16
FS65010-0606-01	3/8	3/8-18 NPTF	9/16-18 UNF-2A	2.51	1.46	1.59	2.28	24 mm	15/16
FS65010-0808-01	1/2	1/2-14 NPTF	3/4-16 UNF-2A	2.77	1.52	1.88	2.65	29 mm	1
FS65010-1212-01	3/4	3/4-14 NPTF	1 1/16-12 UN-2A	3.31	1.99	2.30	3.25	34 mm	1-1/4
FS65010-1616-01	1	1-11 1/2 NPTF	1 5/16-12 UN-2A	3.86	2.23	2.62	3.70	43 mm	1-5/8

Female Pipe x Male JIC

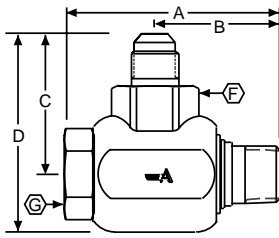


Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65011-0404-01	1/4	1/4-18 NPTF	7/16-20 UNF-2A	2.39	1.27	1.58	2.27	24 mm	15/16
FS65011-0405-01	1/4	1/4-18 NPTF	1/2-20 UNF-2A	2.39	1.27	1.58	2.27	24 mm	15/16
FS65011-0606-01	3/8	3/8-18 NPTF	9/16-18 UNF-2A	2.35	1.30	1.59	2.28	24 mm	15/16
FS65011-0808-01	1/2	1/2-14 NPTF	3/4-16 UNF-2A	2.55	1.30	1.88	2.65	29 mm	1
FS65011-0810-01	1/2	1/2-14 NPTF	7/8-14 UNF-2A	2.88	1.36	1.88	2.65	29 mm	1-1/16
FS65011-1212-01	3/4	3/4-14 NPTF	1 1/16-12 UN-2A	3.28	2.16	2.30	3.25	34 mm	1-1/4
FS65011-1616-01	1	1-11 1/2 NPTF	1 5/16-12 UN-2A	3.67	2.35	2.62	3.70	43 mm	1-5/8

Female Pipe x Male SAE O'Ring Boss

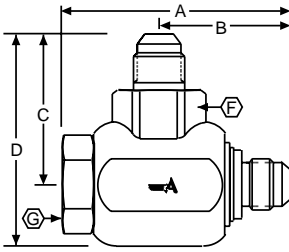


Male JIC x Male Pipe



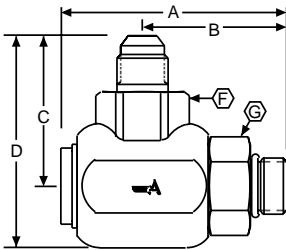
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65003-0404-01	1/4	7/16-20 UNF-2A	1/4-18 NPTF	2.60	1.49	1.66	2.35	24 mm	15/16
FS65003-0504-01	1/4	1/2-20 UNF-2A	1/4-18 NPTF	2.60	1.49	1.66	2.35	24 mm	15/16
FS65003-0606-01	3/8	3/8-18 NPSM	9/16-18 NPTF	2.53	1.48	1.67	2.36	24 mm	15/16
FS65003-0806-01	3/8	3/8-18 NPSM	3/4-16 NPTF	2.53	1.58	1.77	2.46	24 mm	15/16
FS65003-0808-01	1/2	3/4-16 UNF-2A	1/2-14 NPTF	2.88	1.54	1.89	2.66	29 mm	1
FS65003-1008-01	1/2	7/8-14 UNF-2A	1/2-14 NPTF	2.88	1.54	2.00	2.77	29 mm	1
FS65003-1212-01	3/4	1 1/16-12 UN-2A	3/4-14 NPTF	3.21	1.89	2.36	3.31	34 mm	1-1/4
FS65003-1616-01	1	1 5/16-12 UN-2A	1-11 1/2 NPTF	3.91	2.27	2.60	3.68	43 mm	1-5/8

Male JIC x Male JIC



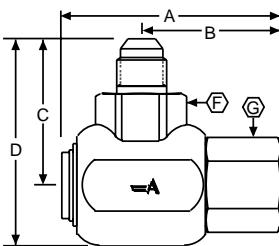
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65004-0404-01	1/4	7/16-20 UNF-2A	7/16-20 UNF-2A	2.56	1.46	1.66	2.35	24 mm	15/16
FS65004-0505-01	1/4	1/2-20 UNF-2A	1/2-20 UNF-2A	2.56	1.46	1.66	2.35	24 mm	15/16
FS65004-0606-01	3/8	9/16-18 UNF-2A	9/16-18 UNF-2A	2.51	1.46	1.67	2.36	24 mm	15/16
FS65004-0808-01	3/8	3/4-16 UNF-2A	3/4-16 UNF-2A	2.61	1.56	1.77	2.46	24 mm	15/16
FS65004-1010-01	5/8	7/8-14 UNF-2A	7/8-14 UNF-2A	2.87	1.62	2.00	2.77	29 mm	1
FS65004-1212-01	3/4	1 1/16-12 UN-2A	1 1/16-12 UN-2A	3.31	1.99	2.36	3.31	34 mm	1-1/4
FS65004-1616-01	1	1 5/16-12 UN-2A	1 5/16-12 UN-2A	3.86	2.23	2.60	3.68	43 mm	1-5/8

Male JIC x Male SAE O'Ring Boss



Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65009-0404-01	1/4	7/16-20 UNF-2A	7/16-20 UNF-2A	2.39	1.27	1.66	2.35	24 mm	15/16
FS65009-0505-01	1/4	1/2-20 UNF-2A	1/2-20 UNF-2A	2.39	1.27	1.66	2.35	24 mm	15/16
FS65009-0606-01	3/8	9/16-18 UNF-2A	9/16-18 UNF-2A	2.35	1.30	1.67	2.36	24 mm	15/16
FS65009-0808-01	3/8	3/4-16 UNF-2A	3/4-16 UNF-2A	2.65	1.74	1.77	2.46	24 mm	15/16
FS65009-1010-01	5/8	7/8-14 UNF-2A	7/8-14 UNF-2A	2.87	1.36	2.00	2.77	29 mm	1-1/16
FS65009-1212-01	3/4	1 1/16-12 UN-2A	1 1/16-12 UN-2A	3.28	2.16	2.36	3.31	34 mm	1-1/4
FS65009-1616-01	1	1 5/16-12 UN-2A	1 5/16-12 UN-2A	3.67	2.35	2.60	3.68	43 mm	1-5/8

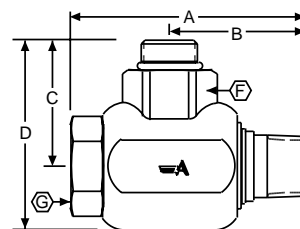
Male JIC x Female Pipe



Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65016-0404-01	1/4	7/16-20 UNF-2A	1/4-18 NPTF	2.49	1.59	1.66	2.35	24 mm	15/16
FS65016-0606-01	3/8	9/16-18 UNF-2A	3/8-18 NPTF	2.49	1.58	1.67	2.36	24 mm	15/16
FS65016-0808-01	1/2	3/4-16 UNF-2A	1/2-14 NPTF	3.14	1.97	1.89	2.66	29 mm	1-1/16
FS65016-1212-01	3/4	1 1/16-12 UN-2A	3/4-14 NPTF	3.21	2.08	2.36	3.31	34 mm	1-5/16
FS65016-1616-01	1	1 5/16-12 UN-2A	1-11 1/2 NPTF	3.84	2.53	2.60	3.68	43 mm	1-5/8

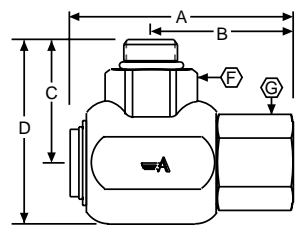
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65013-0404-01	1/4	7/16-20 UNF-2A	1/4-18 NPTF	2.60	1.49	1.40	2.09	24 mm	15/16
FS65013-0606-01	3/8	9/16-18 UNF-2A	3/8-18 NPTF	2.53	1.48	1.41	2.09	24 mm	15/16
FS65013-0808-01	1/2	3/4-16 UNF-2A	1/2-14 NPTF	2.88	1.54	1.58	2.35	29 mm	1
FS65013-1212-01	3/4	1 1/16-12 UN-2A	3/4-14 NPTF	3.21	1.89	2.12	3.07	34 mm	1-1/4
FS65013-1616-01	1	1 5/16-12 UN-2A	1-11 1/2 NPTF	3.91	2.27	2.37	3.45	43 mm	1-5/8

Male SAE O'Ring Boss x Male Pipe



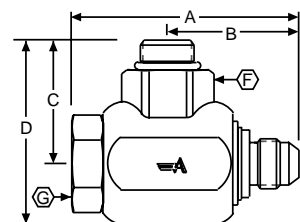
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65017-0404-01	1/4	7/16-20 UNF-2A	1/4-18 NPTF	2.49	1.59	1.40	2.09	24 mm	15/16
FS65017-0606-01	3/8	9/16-18 UNF-2A	3/8-18 NPTF	2.49	1.58	1.41	2.09	24 mm	15/16
FS65017-0808-01	1/2	3/4-16 UNF-2A	1/2-14 NPTF	3.14	1.97	1.58	2.35	29 mm	1-1/16
FS65017-1212-01	3/4	1 1/16-12 UN-2A	3/4-14 NPTF	3.21	2.08	2.12	3.07	34 mm	1-5/16
FS65017-1616-01	1	1 5/16-12 UN-2A	1-11 1/2 NPTF	3.84	2.53	2.37	3.45	43 mm	1-5/8

Male SAE O'Ring Boss x Male Pipe



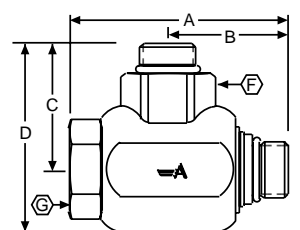
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65020-0404-01	1/4	7/16-20 UNF-2A	7/16-20 UNF-2A	2.58	1.46	1.40	2.09	24 mm	15/16
FS65020-0606-01	3/8	9/16-18 UNF-2A	9/16-18 UNF-2A	2.51	1.46	1.41	2.09	24 mm	15/16
FS65020-0808-01	1/2	3/4-16 UNF-2A	3/4-16 UNF-2A	2.87	1.52	1.58	2.35	29 mm	1
FS65020-1212-01	3/4	1 1/16-12 UN-2A	1 1/16-12 UN-2A	3.31	1.99	2.12	3.07	34 mm	1-1/4
FS65020-1616-01	1	1 5/16-12 UN-2A	1 5/16-12 UN-2A	3.86	2.23	2.37	3.45	43 mm	1-5/8

Male SAE O'Ring Boss x Male JIC

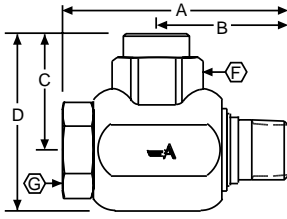


Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65023-0404-01	1/4	7/16-20 UNF-2A	7/16-20 UNF-2A	2.39	1.27	1.40	2.09	24 mm	15/16
FS65023-0606-01	3/8	9/16-18 UNF-2A	9/16-18 UNF-2A	2.35	1.30	1.41	2.09	24 mm	15/16
FS65023-0808-01	1/2	3/4-16 UNF-2A	3/4-16 UNF-2A	2.55	1.30	1.58	2.35	29 mm	1
FS65023-1212-01	3/4	1 1/16-12 UN-2A	1 1/16-12 UN-2A	3.28	2.16	2.12	3.07	34 mm	1-1/4
FS65023-1616-01	1	1 5/16-12 UN-2A	1 5/16-12 UN-2A	3.67	2.35	2.37	3.45	43 mm	1-5/8

Male SAE O'Ring Boss x Male JIC

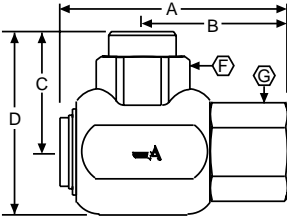


Female SAE O'Ring Boss x Male Pipe



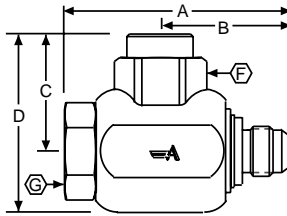
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65014-0404-01	1/4	7/16-20 UNF-2B	1/4-18 NPTF	2.60	1.49	1.37	2.06	24 mm	15/16
FS65014-0606-01	3/8	9/16-18 UNF-2B	3/8-18 NPTF	2.53	1.48	1.38	2.06	24 mm	15/16
FS65014-0808-01	1/2	3/4-16 UNF-2B	1/2-14 NPTF	2.88	1.54	1.54	2.31	29 mm	1
FS65014-1212-01	3/4	1 1/16-12 UN-2B	3/4-14 NPTF	3.21	1.89	2.02	2.97	34 mm	1-1/4
FS65014-1616-01	1	1 5/16-12 UN-2B	1-11 1/2 NPTF	3.91	2.27	2.32	3.40	43 mm	1-5/8

Female SAE O'Ring Boss x Female Pipe



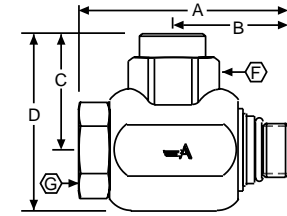
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65018-0404-01	1/4	7/16-20 UNF-2B	1/4-18 NPTF	2.49	1.59	1.37	2.06	24 mm	15/16
FS65018-0606-01	3/8	9/16-18 UNF-2B	3/8-18 NPTF	2.49	1.58	1.38	2.06	24 mm	15/16
FS65018-0808-01	1/2	3/4-16 UNF-2B	1/2-14 NPTF	3.14	1.97	1.54	2.31	29 mm	1-1/16
FS65018-1212-01	3/4	1 1/16-12 UN-2B	3/4-14 NPTF	3.21	2.08	2.02	2.97	34 mm	1-5/16
FS65018-1616-01	1	1 5/16-12 UN-2B	1-11 1/2 NPTF	3.84	2.53	2.32	3.40	43 mm	1-5/8

Female SAE O'Ring Boss x Male JIC



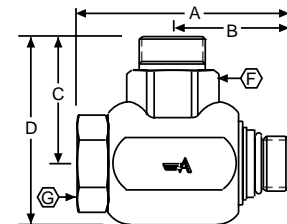
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65021-0404-01	1/4	7/16-20 UNF-2B	7/16-20 UNF-2A	2.58	1.46	1.37	2.06	24 mm	15/16
FS65021-0606-01	3/8	9/16-18 UNF-2B	9/16-18 UNF-2A	2.51	1.46	1.38	2.06	24 mm	15/16
FS65021-0808-01	1/2	3/4-16 UNF-2B	3/4-16 UNF-2A	2.87	1.52	1.54	2.31	29 mm	1
FS65021-1212-01	3/4	1 1/16-12 UN-2B	1 1/16-12 UN-2A	3.31	1.99	2.02	2.97	34 mm	1-1/4
FS65021-1616-01	1	1 5/16-12 UN-2B	1 5/16-12 UN-2A	3.86	2.23	2.32	3.40	43 mm	1-5/8

Female SAE O'Ring Boss x Male SAE O'Ring Boss



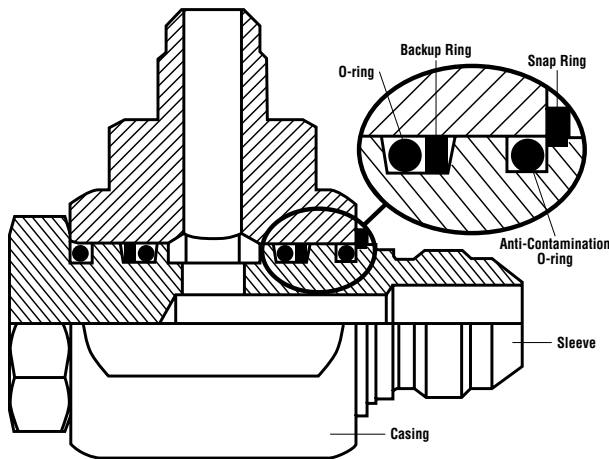
Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65024-0404-01	1/4	7/16-20 UNF-2B	7/16-20 UNF-2A	2.39	1.27	1.37	2.06	24 mm	15/16
FS65024-0606-01	3/8	9/16-18 UNF-2B	9/16-18 UNF-2A	2.35	1.30	1.38	2.06	24 mm	15/16
FS65024-0808-01	1/2	3/4-16 UNF-2B	3/4-16 UNF-2A	2.55	1.30	1.58	2.35	29 mm	1
FS65024-1212-01	3/4	1 1/16-12 UN-2B	1 1/16-12 UN-2A	3.28	2.16	2.02	2.97	34 mm	1-1/4
FS65024-1616-01	1	1 5/16-12 UN-2B	1 5/16-12 UN-2A	3.67	2.35	2.32	3.40	43 mm	1-5/8

Male ORS x Male O'Ring Boss



Part Number	Swivel Size	Casing Thread	Sleeve Thread	A	B	C	D	F	G
FS65025-0404-01	1/4	9/16-18 UN-2A	7/16-20 UNF-2A	2.39	1.27	1.44	2.13	24 mm	15/16
FS65025-0606-01	3/8	11/16-16 UNF-2A	9/16-18 UNF-2A	2.35	1.30	1.46	2.14	24 mm	15/16
FS65025-0808-01	1/2	13/16-16 UN-2A	3/4-16 UNF-2A	2.55	1.30	1.72	2.49	29 mm	1
FS65025-1212-01	3/4	1 3/16-12 UN-2A	1 1/16-12 UN-2A	3.28	2.16	2.25	3.20	34 mm	1-1/4
FS65025-1616-01	1	1 7/16-12 UN-2A	1 5/16-12 UN-2A	3.67	2.35	2.55	3.63	43 mm	1-5/8

S Swivel Joint Repair Kits - FS6500



Replacement seal kit consists of four O-Rings, two backup rings, and one snap ring.

Seal Type	SEAL KIT PART NUMBERS			
	SWIVEL SIZE			
	1/4" & 3/8"	1/2" & 5/8"	3/4"	1"
Buna-N (Code -01)	FS65-01013-01	FS65-01018-01	FS65-01019-01	FS65-01020-16-01
EPR (Code -04)	FS65-01013-04	FS65-01018-04	FS65-01019-04	FS65-01020-16-04
Viton™ (Code -06)	FS65-01013-06	FS65-01018-06	FS65-01019-06	FS65-01020-16-06

Since their internal components are identical, the 1/4-inch and 3/8-inch swivel joints use the same repair kit. The 1/2-inch and 5/8-inch sizes also use one repair kit.

FS65 Series Swivel Joint Repair Instructions

Disassembly:

1. Remove the retaining ring from the sleeve gland.
2. By hand, gently remove the sleeve from the casing.
3. Remove all O-rings and backup rings from the glands (take care not to scratch the glands or bearing surfaces).
4. Thoroughly clean and inspect the bearing surfaces of the sleeve and casing and the seal glands of the sleeve. If these surfaces appear to be galled, scratched, or worn in any way, the assembly must be replaced.

Assembly:

1. Assemble the seals to the sleeve as follows:
 - a. Lubricate the sleeve and O-rings with a silicon-based lubricant. The seal nearest the hex of the sleeve should be assembled first.
 - b. Assemble all four O-ring seals in the appropriate gland.
 - c. Lubricate the two backup rings.
 - d. Assemble the backup rings in the sealing glands. The backup rings should be positioned away from the pressure.

Caution: Backup rings must be expanded carefully to avoid damage. When in the gland, the skive-cut backup rings should be fully closed.

- e. The O-rings and backup rings should be fully seated in the sealing glands.
2. After lubricating the casing bearing surface with a silicon-based lubricant, reassemble the sleeve to the casing.
 3. Assemble the retaining rings in the gland formed by the sleeve and the casing face.

Sublet #8278
 Eaton Aeroquip®
 Quick Disconnect Couplings

JD914
FD89 FLUSH-FACE COUPLINGS

Aeroquip®

Aeroquip **FULL-FLOW**
FD14 Drain Coupling
 The correct, most direct approach to saving time and money.

Part of the Aeroquip **FLOCS®** Fast Lube Oil Change System

- Saves time and labor costs
- Minimizes messy spills
- Allows for change of when to fix
- Eliminates oil contamination
- Full flow rate fast coupling can be used with quick disconnect or pump system
- Eliminates need for a clean thread plug

Aeroquip®

**Faster.
 Safer.
 Cleaner.**

FLOCS®
 Fast Lube Oil Change System

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JA910
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DryBreak HIGH FLOW
 Aeroquip®

FD86 Series/1,000 PSI Dry Break—High Torque

The FD86 Series is a threaded tapered steel coupling offering the best seal and high torque technology available today. The standard opening pressure is 10,000 psi.

- Tapered valve and cone connection for fast fit and air lock-free.
- Threaded together design allows fitting to hose end without the need for a separate nut.
- Full flow rate and high torque with standard pressure in the 100 psi (7.0 bar) to 1,000 psi (70 bar) range.
- Full flow rate and high torque with standard pressure in the 100 psi (7.0 bar) to 1,000 psi (70 bar) range.
- Accurately provides consistent and precise seal of connection.
- Made to order opening pressures: 2,000 PSI for use in standard and high flow change-over to 10,000 PSI.
- Seal flange available for full-face mounting.
- Standard body material - 316 stainless steel.
- Standard body material - 2024 aluminum alloy.

Flow Data

Physical Characteristics

Opening Pressure (PSI)	Standard Body Material	Standard Body Material	Standard Body Material	Standard Body Material
2,000	316	316	316	316
10,000	316	316	316	316
10,000	316	316	316	316
10,000	316	316	316	316
10,000	316	316	316	316

DryBreak ISO INTERCHANGE
 Aeroquip®

The Aeroquip DryBreak Difference

DryBreak Industrial Interchange Coupling

DryBreak Valve for the 5600 Series (5611 Series & 5612 Series)

- Made with all standard tapered valve style ISO (5611 Series & 5612 Series).
- Economical tapered cone seat valve in the female coupling that allows disconnecting fast with one hand.
- Standard Dual Material - 316SS, Viton, and OPR available on request.
- Standard body material - 2024 aluminum alloy.

DryBreak Valve for the FD45 Series (FD451 Series & FD452 Series)

- Made with all standard tapered valve style ISO (FD451 Series & FD452 Series).
- Economical tapered cone seat valve in the female coupling that allows disconnecting fast with one hand.
- Standard Dual Material - 316SS, Viton, and OPR available on request.
- Standard body material - 2024 aluminum alloy.

Physical Characteristics

Opening Pressure (PSI)	Standard Body Material	Standard Body Material	Standard Body Material	Standard Body Material
10,000	316	316	316	316
10,000	316	316	316	316
10,000	316	316	316	316
10,000	316	316	316	316
10,000	316	316	316	316

Aeroquip®
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