

Swivel Joints

SAFETY

Dixon's Swivel Joints are designed to give years of dependable service for their intended use. The proper selection of a Swivel Joint for a particular application is of the utmost importance.

Users must consider the size, temperature, application, media, and the total weight supported by the Swivel Joint. Dixon recommends that each Swivel Joint be inspected and properly maintained on a regular basis. Dixon also recommends that Swivel Joints be tested each time they are reassembled.

If any problem is detected, the Swivel Joint should be removed from service immediately.

Dixon is available to consult, train and recommend the proper Swivel Joint for a given application. Dixon strongly recommends that distributors and end users utilize Dixon's technical staff to answer any questions.

Dixon can be contacted at 1-800-355-1991.



This Safety Alert logo, which appears throughout our catalog, is used as a reminder that the user should carefully review for safety the appropriateness of the product for the media, application and environment in which it will be used.

Features and Benefits:

- Full 360° rotational movement offers the maximum in flexibility.
- Wide spacing between dual ball bearing raceways ensures greater load-bearing capacity.
- The precision-machined design ensures alignment and years of trouble-free service.
- An O-Ring dust seal is used to protect the ball races and seal chamber from all outside elements.
- The radius elbow design ensures a smooth flow pattern.

DIXON color coding system for Seal identification:

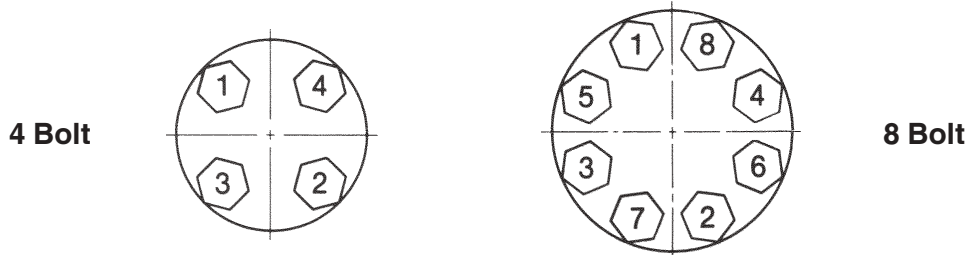
BU	<i>Buna-N</i>	red stripe
VI	<i>Viton</i>	green stripe
TF	<i>Teflon</i>	natural
EP	<i>Ethylene Propylene</i>	green & white stripes

All weights and dimensions are approximate and subject to change without notice. Consult the factory when critical.

FLANGE INFORMATION

Flange Bolt Tightening Sequence

(Use Appropriate Gaskets and Bolts)



Dimensions of 150 LB. ASA Steel Flanges

Nominal Pipe Size	Flange O.D.	Thickness*	O.D. of Raised Face	Dia. of Bolt Circle	# of Bolts	Dia. of Bolt Holes	Dia. of Bolts
1"	4 1/2"	9/16"	2"	3 1/8"	4	5/8"	1/2"
1 1/2"	5"	11/16"	2 7/8"	3 7/8"	4	5/8"	1/2"
2"	6"	3/4"	3 5/8"	4 3/4"	4	3/4"	5/8"
2 1/2"	7"	7/8"	4 1/8"	5 1/2"	4	3/4"	5/8"
3"	7 1/2"	15/16"	5"	6"	4	3/4"	5/8"
4"	9"	15/16"	6 3/16"	7 1/2"	8	3/4"	5/8"
5"	10"	15/16"	7 5/16"	8 1/2"	8	7/8"	3/4"
6"	11"	1"	8 1/2"	9 1/2"	8	7/8"	3/4"
8"	13 1/2"	1 1/8"	10 5/8"	11 3/4"	8	7/8"	3/4"

* 1/16" raised face is included in the thickness.

ORDERING INFORMATION

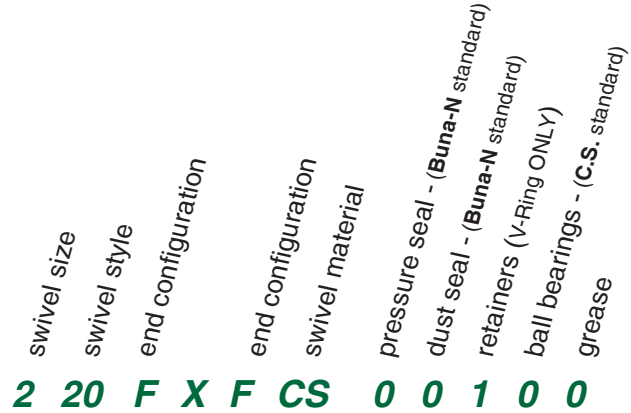
To select the proper Swivel Joint you need the following information:

size _____ style (shape) _____
 end configuration _____ material _____
 maximum working pressure _____ temperature range _____
 product being handled (if a chemical, advise concentration) _____
 if for constant rotation, advise RPM _____
 if for suction service, advise maximum vacuum in inches of Mercury (Hg) _____

Options available:

- Any combination of end configurations.
- Alternative seal materials: Viton, Teflon, Ethylene Propylene and FDA Buna.
- Alternative ball bearing materials: 440 Stainless Steel and 316 Stainless Steel.
- Alternative grease materials: FDA approved/food grade and Silicone.
- Drain holes or counter balance lugs.
- Swivels for Oxygen service, Steam service and submerged service can be specifically designed for unique applications by special order.

DIXON Swivel Joint part numbering system:



Dixon always recommends the use of Stainless Steel ball bearings when building a swivel for submerged service. The standard Carbon Steel ball bearings may rust together, making it impossible to disassemble the swivel, which may effect its operation.

Every Swivel Joint is built to order, due to this, they are not generally returnable. Return requests will be reviewed on a case by case basis. Restocking charges will be applicable on all returns. Restocking charges include 15%, PLUS any additional costs incurred.

POR = Price On Request

PRESSURE RECOMMENDATIONS

Dixon Swivels are recommended for use at the following **maximum** Non-Shock Cold Working Pressures (NSCWP) provided in **PSI**, at ambient temperatures (70°F)

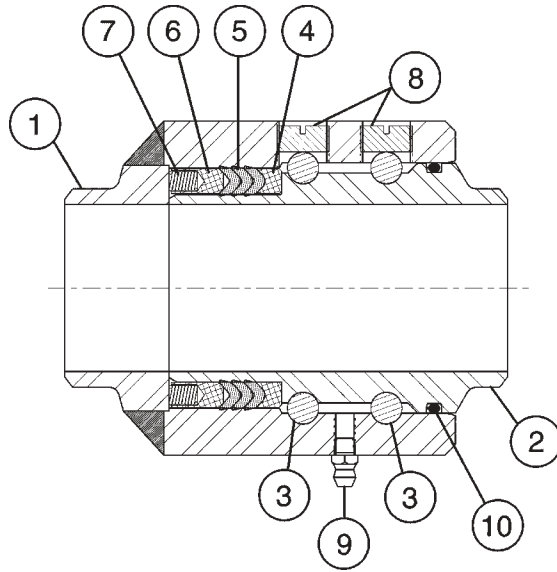
	(V-Ring) Carbon Steel CS	(O-Ring) Carbon Steel OC	(V-Ring) Stainless Steel SS	(O-Ring) Stainless Steel OS	Aluminum AL	Brass BR	Malleable Iron MI
1"	---	1000	---	1000	150	---	---
1¼"	---	---	---	---	150	---	---
1½"	---	1000	---	1000	150	300	600
2"	1000	1000	1000	1000	150	300	600
3"	1000	1000	1000	1000	150	300	600
4"	1000	---	1000	---	150	---	---
6"	1000	---	---	---	150	---	---
8"	---	---	---	---	150	---	---

When using flanged ends, the pressure rating will be reduced to coincide with that of the flange being used. Carbon Steel and Stainless Steel 150# flanges are recommended for use at 275 maximum PSI at ambient temperature (70°F).

PARTS IDENTIFICATION LISTS

V- RING TYPE

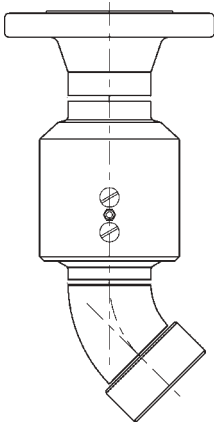
- 1) Body
- 2) Sleeve
- 3) Ball Bearings
- 4) Seal Retainer
- 5) V-Ring (Pressure) Seal
- 6) Spring Retainer
- 7) Spring
- 8) Ball Retainer Screw
- 9) Grease Fitting
- 10) O-Ring (Dust) Seal



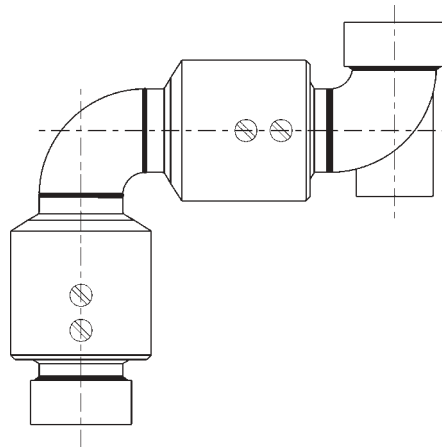
Other available end configurations:

- Male NPT threads, 300# ASA flanges, Tank Car thread with gasket, TTMA Tank Truck flanges, British Pipe threads.

SPECIAL OPTIONS



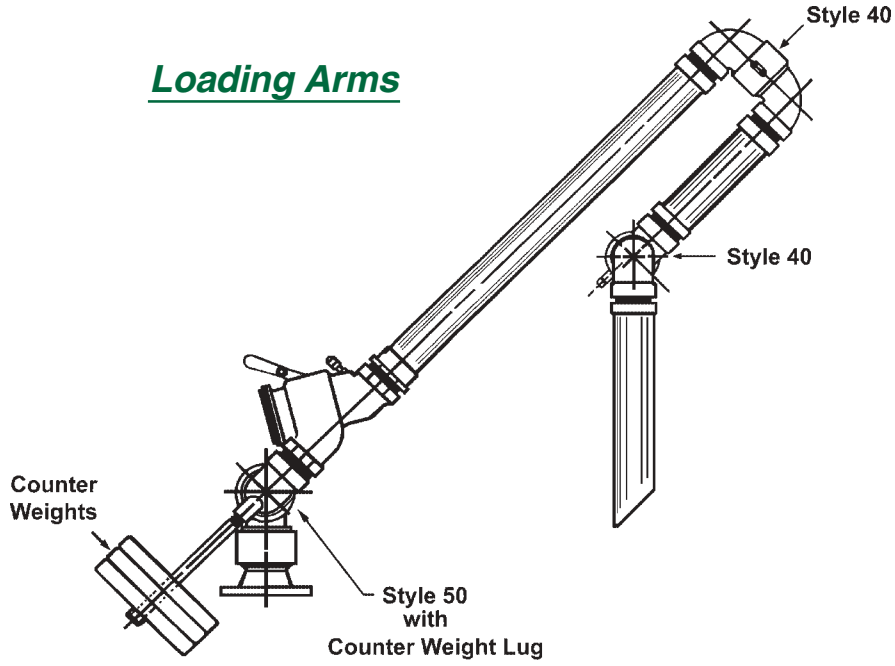
45° Swivel assembly
(style 30 shown)



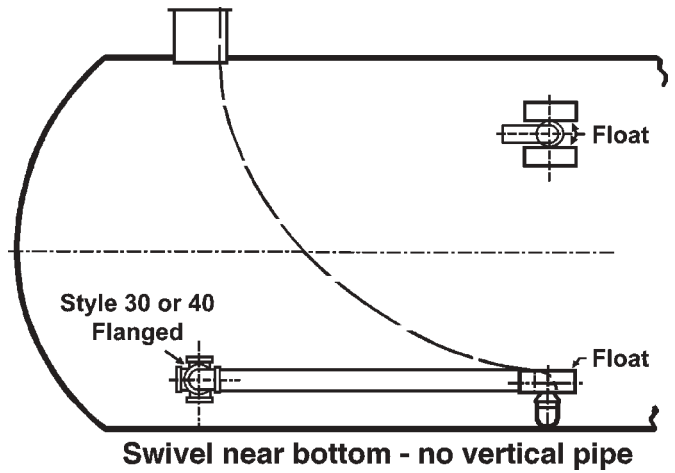
Swivel assembly with
Counterweight Lug
(style 50 shown)

TYPICAL APPLICATIONS For V-Ring Swivels

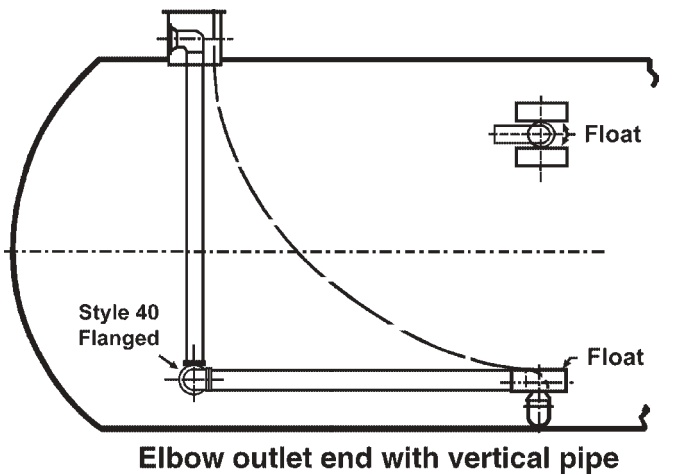
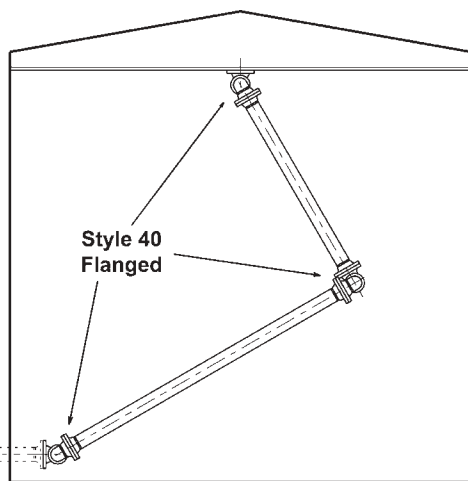
Loading Arms



Floating Suction

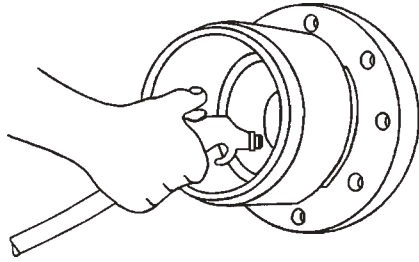


Floating Roof Drains

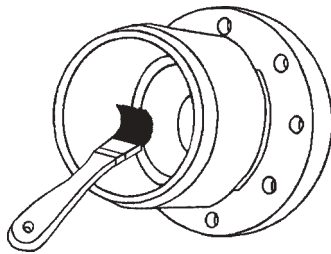


Swivel Joints

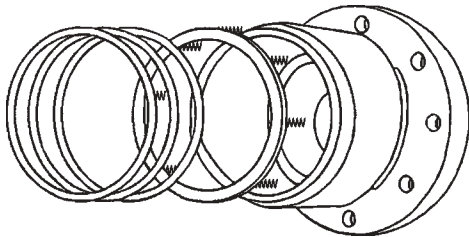
SEAL REPLACEMENT PROCEDURE for 'V' Ring Swivels



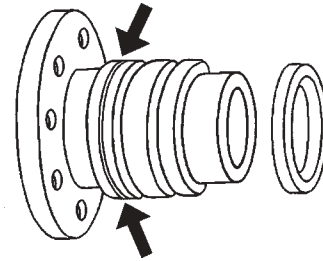
1 Remove the ball retainer screws. Add a sufficient amount of solvent into each raceway to flush out the lubricant. Rotate the sleeve, catching the balls as they fall out. When all the balls have been removed, the body and sleeve can be separated. Discard old seals. Thoroughly clean the body, sleeve retainer, spring retainer and springs.*



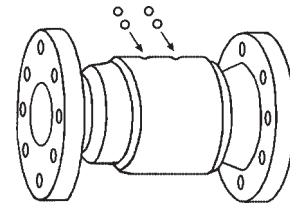
2 Lubricate the body unit with a Moly lubricant or equivalent.



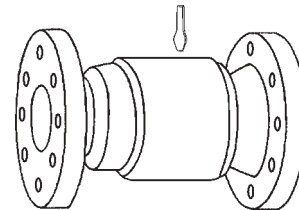
3 Place the assembled spring retainer unit (spring end first) into the body. Place the set of 'V' rings onto the spring retainer. Be sure 'V' rings are installed with the sealing lips facing toward the retainer. Lubricate the body and seals with a Moly lubricant or equivalent.



4 Set the dust seal into 'O' ring groove on the sleeve. Place the seal retainer on the sleeve with the grooved end facing the 'V' rings. Lubricate the sleeve with grease.



5 Insert sleeve into body, compressing swivel joint together until ball races of body and sleeve are in alignment (Do not rotate either unit while compressing). Care should be taken to avoid pinching or scoring of 'V' rings. Drop balls into raceway holes, rotating the sleeve slowly as you load. To make space for all the balls, insert a screw driver into the raceway while continuing to rotate the sleeve in one direction (Be careful not to damage the threads). This will cause the balls to jam up, making room for the remaining balls. Now reverse the rotation of the sleeve and insert the remaining balls.



6 Reinstall ball retainer screws until tight. If this interferes with the smooth rotation of the ball bearings, then back off 1/8 - 1/4 turn. A thread locking sealant is recommended to prevent screws from backing off. After pressure testing, the unit is ready for installation.

SAFETY
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* The last coil of the springs has been upset (OD slightly larger). When upset end is inserted into the holes provided in the spring retainer, the springs remain secure.

CAUTION: Body and sleeve are matched during manufacturing. Do not mix components with other units.

Swivel Joints

OPTIONAL SEALS For V-Ring Swivels

When ordering seals other than the standard *Buna-N*, add the following, *per plane of rotation*, to the standard swivel price.

V-Ring - Pressure Seals					
	2"	3"	4"	6"	8"
<i>Viton</i>	\$ 38.50	\$ 72.00	\$ 108.25	\$ 153.60	\$ 270.00
<i>Teflon (SS)</i>	38.50	72.00	108.25	153.60	270.00
<i>Teflon (CS & AL)†</i>	101.25	139.55	207.70	260.00	270.00
<i>EPR</i>	15.35	30.70	66.15	101.65	-----

† includes changing to Teflon Retainers

O-Ring - Dust Seals					
	2"	3"	4"	6"	8"
<i>Viton</i>	\$ 9.55	\$ 12.60	\$ 16.40	\$ 43.60	\$ 55.25
<i>EPR</i>	7.70	9.55	11.55	31.00	-----

* *Carbon Steel* V-Ring Swivels come standard with *Aluminum* retainers. These must be compatible with the material flowing through the swivel. Teflon retainers are available when required. Consult the factory for pricing.

Note: When a change of seals is ordered, only the pressure seal is changed unless specifically requested by the customer.

REBUILD KITS For V-Ring Swivels

V-Ring Swivels ‡: Each kit contains: 3 V-Rings in the material indicated, 1 *Buna-N* dust seal, 2 ball retainer screws, 1 grease plug and 10 ball bearings. All other parts **POR**.

Size	<i>Buna</i>	Price	<i>Viton</i>	Price	<i>Teflon</i>	Price	<i>EPR</i>	Price
2"	2RKVBU	\$ 49.35	2RKVVI	\$ 87.60	2RKVTF	\$ 87.60	2RKVEP	\$ 61.20
3"	3RKVBU	63.30	3RKVVI	135.55	3RKVTF	135.55	3RKVEP	89.10
4"	4RKVBU	87.50	4RKVVI	193.85	4RKVTF	193.85	4RKVEP	145.75
6"	6RKVBU	162.45	6RKVVI	315.75	6RKVTF	315.75	6RKVEP	222.00
8"	8RKVBU	265.35	8RKVVI	535.20	8RKVTF	535.20	8RKVEP	-----

‡ The Spring Retainer and Seal Retainer are not included in the V-Ring Swivel Rebuild Kits.

Consult the factory for pricing and proper material selection of retainers.

Note: All Rebuild Kits are *per plane of rotation*.

OPTIONAL BALL BEARINGS For V-Ring Swivels

Add the following, *per plane of rotation*, to the standard swivel price.

Ball Bearings	2"	3"	4"	6"	8"
<i>440 Stainless Steel</i>	\$ 39.40	\$ 48.85	\$ 66.20	\$ 211.70	\$ 410.00
<i>316 Stainless Steel</i>	63.00	78.10	105.85	257.00	912.90

REPLACEMENT BALL BEARINGS For V-Ring Swivels

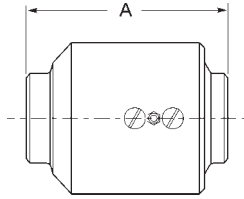
Prices are *per Ball Bearing*.

Size	Qty <i>Per Plane of Rotation</i>	<i>Carbon Steel</i> (Standard)		<i>440 Stainless Steel</i>		<i>316 Stainless Steel</i>	
		Part #	Price	Part #	Price	Part #	Price
2"	50	38CSBA	\$ 0.15	38SSBA	\$ 1.00	38SSBA-316	\$ 1.50
3"	62	38CSBA	0.15	38SSBA	1.00	38SSBA-316	1.50
4"	84	38CSBA	0.15	38SSBA	1.00	38SSBA-316	1.50
6"	96	12CSBA	0.50	12SSBA	2.75	12SSBA-316	3.25
8"	84	34CSBA	2.55	34SSBA	7.50	34SSBA-316	13.00

Swivel Joints

SINGLE PLANE 'V' - Ring STYLE 20

Weld end x Weld end



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)
					A
2"	220WXW	CS - Carbon STL	\$ 490.00	9.2	5.5/16"
		SS - Stainless STL	876.00	9.2	
		AL - Aluminum	-----	---	
3"	320WXW	CS - Carbon STL	593.00	12.9	5.3/4"
		SS - Stainless STL	1362.00	13.1	
		AL - Aluminum	-----	---	
4"	420WXW	CS - Carbon STL	772.00	24.4	7"
		SS - Stainless STL	1670.00	25.1	
		AL - Aluminum	-----	---	
6"	620WXW	CS - Carbon STL	1766.00	54.5	8.3/8"
		SS - Stainless STL	4145.00	56.5	
		AL - Aluminum	1280.00	21.6	
8"	820WXW	CS - Carbon STL	2694.00	78.3	8.5/8"
		SS - Stainless STL	7376.00	92.3	
		AL - Aluminum	2934.00	35.3	

SAFETY
ALERT

CAUTION: Weld End Swivel Joints should be completely disassembled prior to welding, so as not to damage the seals. Care should be taken to avoid distortion of seal and ball race diameters.

Swivels are shipped standard with the following components:

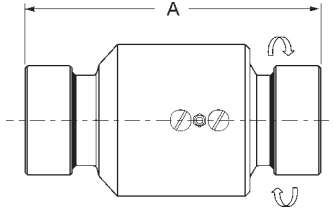
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

SINGLE PLANE 'V' - Ring STYLE 20

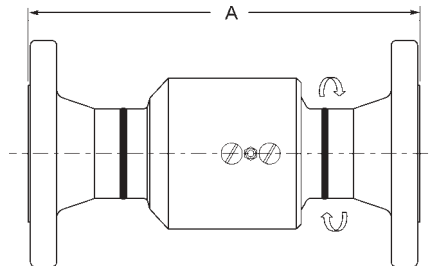
Female NPT x Female NPT



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)
					A
2"	220FXF	CS - Carbon STL	\$ 470.00	12.7	8.11/16"
		SS - Stainless STL	950.00	12.2	
		AL - Aluminum	-----	---	
3"	320FXF	CS - Carbon STL	671.00	17.0	10"
		SS - Stainless STL	1461.00	18.4	
		AL - Aluminum	-----	---	
4"	420FXF	CS - Carbon STL	870.00	36.7	11.3/4"
		SS - Stainless STL	2071.00	37.7	
		AL - Aluminum	-----	---	
6"	620FXF	CS - Carbon STL	1895.00	67.5	12.1/8"
		SS - Stainless STL	6385.00	69.5	
		AL - Aluminum	1736.00	25.8	
8"	820FXF	CS - Carbon STL	-----	---	12.7/8"
		SS - Stainless STL	-----	---	
		AL - Aluminum	-----	---	

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150# ASA Flange x 150# ASA Flange

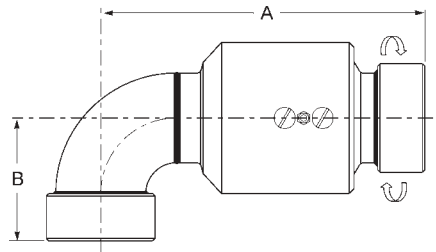


Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)
					A
2"	220FGXFG	CS - Carbon STL	\$ 595.00	21.7	10.5/16"
		SS - Stainless STL	1425.00	21.1	
		AL - Aluminum	-----	---	
3"	320FGXFG	CS - Carbon STL	840.00	36.0	11.1/4"
		SS - Stainless STL	1990.00	35.3	
		AL - Aluminum	-----	---	
4"	420FGXFG	CS - Carbon STL	992.00	57.4	13"
		SS - Stainless STL	2585.00	58.1	
		AL - Aluminum	-----	---	
6"	620FGXFG	CS - Carbon STL	1860.00	104.2	15.3/8"
		SS - Stainless STL	5850.00	106.2	
		AL - Aluminum	2300.00	39.0	
8"	820FGXFG	CS - Carbon STL	3155.00	162.3	16.5/8"
		SS - Stainless STL	9400.00	170.3	
		AL - Aluminum	4558.00	61.0	

Swivel Joints

SINGLE PLANE 'V' - Ring STYLE 30

Female NPT x Female NPT



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Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
2"	230FXF	CS - Carbon STL	\$ 476.00	12.1	9"	3.11/16"
		SS - Stainless STL	1022.00	12.1		
		AL - Aluminum	-----	---		
3"	330FXF	CS - Carbon STL	775.00	20.6	10.7/8"	5.1/8"
		SS - Stainless STL	1723.00	21.3		
		AL - Aluminum	-----	---		
4"	430FXF	CS - Carbon STL	930.00	42.4	13.3/8"	6.3/8"
		SS - Stainless STL	2375.00	44.4		
		AL - Aluminum	-----	---		
6"	630FXF	CS - Carbon STL	2221.00	84.3	16.1/4"	7.7/8"
		SS - Stainless STL	7056.00	84.2		
		AL - Aluminum	2438.00	31.5		
8"	830FXF	CS - Carbon STL	POR	140.4	18.3/4"	10.1/8"
		SS - Stainless STL	-----	---		
		AL - Aluminum	-----	---		

Swivels are shipped standard with the following components:

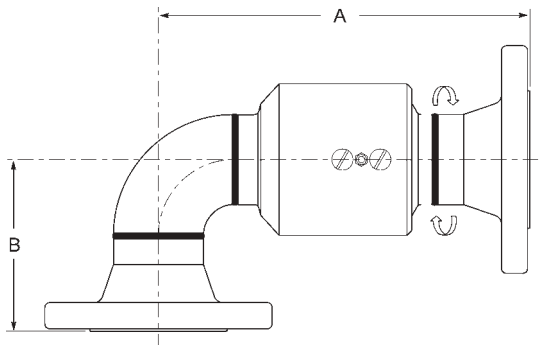
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

SINGLE PLANE 'V' - Ring STYLE 30

150# ASA Flange x 150# ASA Flange



30

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
2"	230FGXFG	CS - Carbon STL	\$ 655.00	22.7	9.13/16"	4.1/2"
		SS - Stainless STL	1485.00	22.1		
		AL - Aluminum	-----	---		
3"	330FGXFG	CS - Carbon STL	975.00	39.4	11.1/2"	5.3/4"
		SS - Stainless STL	2203.00	38.2		
		AL - Aluminum	-----	---		
4"	430FGXFG	CS - Carbon STL	1150.00	63.6	14"	7"
		SS - Stainless STL	2952.00	64.8		
		AL - Aluminum	-----	---		
6"	630FGXFG	CS - Carbon STL	2140.00	121.0	17.7/8"	9.1/2"
		SS - Stainless STL	6490.00	120.9		
		AL - Aluminum	3001.00	44.7		
8"	830FGXFG	CS - Carbon STL	3660.00	196.3	20.5/8"	12"
		SS - Stainless STL	11543.00	207.9		
		AL - Aluminum	5654.00	76.6		

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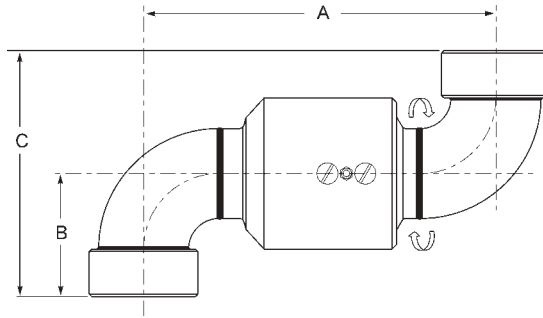
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

SINGLE PLANE 'V' - Ring STYLE 40

Female NPT x Female NPT



40

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
2"	240FXF	CS - Carbon STL	\$ 596.00	13.1	9.5/16"	3.11/16"	7.3/8"
		SS - Stainless STL	1350.00	13.1			
		AL - Aluminum	-----	---			
3"	340FXF	CS - Carbon STL	915.00	24.0	11.3/4"	5.1/8"	10.1/4"
		SS - Stainless STL	2030.00	24.2			
		AL - Aluminum	-----	---			
4"	440FXF	CS - Carbon STL	1085.00	48.6	15"	6.3/8"	12.3/4"
		SS - Stainless STL	2680.00	51.1			
		AL - Aluminum	-----	---			
6"	640FXF	CS - Carbon STL	2450.00	101.1	20.3/8"	7.7/8"	15.3/4"
		SS - Stainless STL	-----	98.9			
		AL - Aluminum	3141.00	39.0			
8"	840FXF	CS - Carbon STL	POR	174.4	24.5/8"	10.1/8"	20.1/4"
		SS - Stainless STL	-----	195.6			
		AL - Aluminum	-----	75.8			

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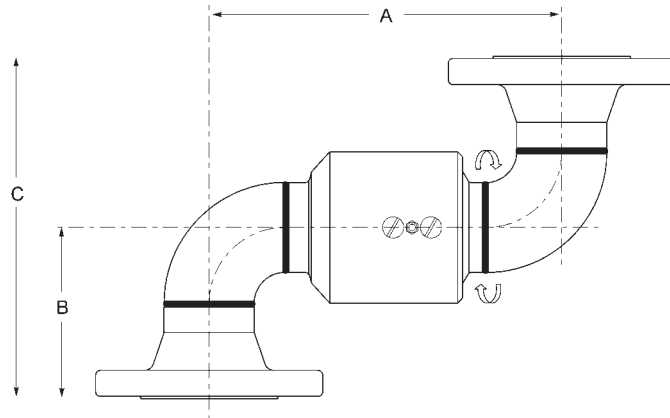
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

SINGLE PLANE 'V' - Ring STYLE 40

150# ASA Flange x 150# ASA Flange



40

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
2"	240FGXFG	CS - Carbon STL	\$776.00	23.7	9.5/16"	4.1/2"	9"
		SS - Stainless STL	1860.00	23.1			
		AL - Aluminum	-----	---			
3"	340FGXFG	CS - Carbon STL	1120.00	42.8	11.3/4"	5.3/4"	11.1/2"
		SS - Stainless STL	2600.00	41.1			
		AL - Aluminum	-----	---			
4"	440FGXFG	CS - Carbon STL	1300.00	69.8	15"	7"	14"
		SS - Stainless STL	3311.00	71.5			
		AL - Aluminum	-----	---			
6"	640FGXFG	CS - Carbon STL	2460.00	137.8	20.3/8"	9.1/2"	19"
		SS - Stainless STL	7155.00	135.6			
		AL - Aluminum	3703.00	52.2			
8"	840FGXFG	CS - Carbon STL	4156.00	230.3	24.5/8"	12"	24"
		SS - Stainless STL	14200.00	245.5			
		AL - Aluminum	6750.00	92.2			

Swivels are shipped standard with the following components:

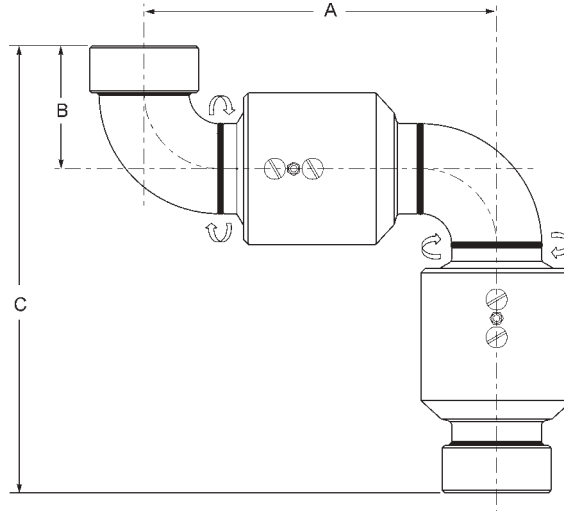
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

DOUBLE PLANE 'V' - Ring STYLE 50

Female NPT x Female NPT



50

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
2"	250FXF	CS - Carbon STL	\$ 930.00	22.8	9.5/16"	3.11/16"	12.11/16"
		SS - Stainless STL	1875.00	23.3			
		AL - Aluminum	-----	---			
3"	350FXF	CS - Carbon STL	1270.00	36.9	11.3/4"	5.1/8"	16"
		SS - Stainless STL	3000.00	37.3			
		AL - Aluminum	-----	---			
4"	450FXF	CS - Carbon STL	1725.00	73.0	15"	6.3/8"	19.3/4"
		SS - Stainless STL	3754.00	76.2			
		AL - Aluminum	-----	---			
6"	650FXF	CS - Carbon STL	3990.00	155.6	20.3/8"	7.7/8"	24.1/8"
		SS - Stainless STL	-----	155.4			
		AL - Aluminum	-----	60.6			
8"	850FXF	CS - Carbon STL	POR	252.7	24.5/8"	10.1/8"	28.7/8"
		SS - Stainless STL	-----	287.9			
		AL - Aluminum	-----	111.1			

Swivels are shipped standard with the following components:

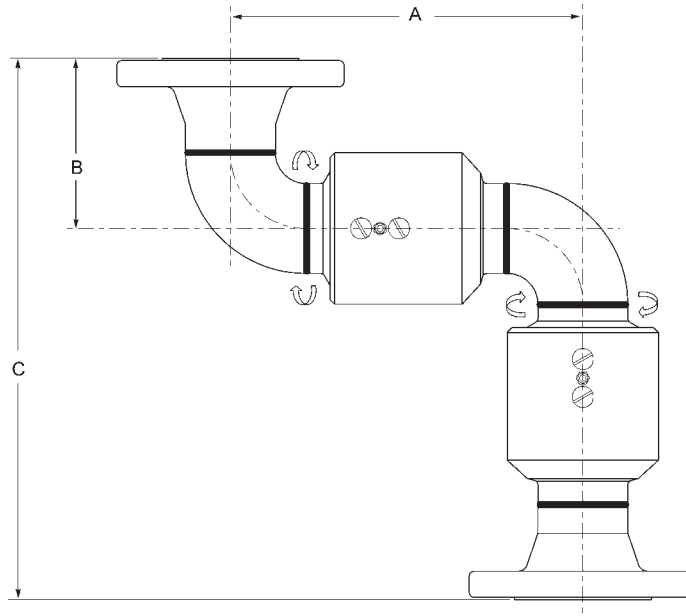
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

DOUBLE PLANE 'V' - Ring STYLE 50

150# ASA Flange x 150# ASA Flange



50

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
2"	250FGXFG	CS - Carbon STL	\$1050.00	32.8	9.5/16"	4.1/2"	14.5/16"
		SS - Stainless STL	2310.00	32.2			
		AL - Aluminum	-----	---			
3"	350FGXFG	CS - Carbon STL	1480.00	55.7	11.3/4"	5.3/4"	17.1/4"
		SS - Stainless STL	3500.00	54.3			
		AL - Aluminum	-----	---			
4"	450FGXFG	CS - Carbon STL	1933.00	94.2	15"	7"	21"
		SS - Stainless STL	4477.00	96.6			
		AL - Aluminum	-----	---			
6"	650FGXFG	CS - Carbon STL	3965.00	192.3	20.3/8"	9.1/2"	27.3/8"
		SS - Stainless STL	11000.00	192.1			
		AL - Aluminum	5056.00	73.8			
8"	850FGXFG	CS - Carbon STL	6785.00	308.6	24.5/8"	12"	32.5/8"
		SS - Stainless STL	POR	337.8			
		AL - Aluminum	9684.00	127.5			

Swivels are shipped standard with the following components:

Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

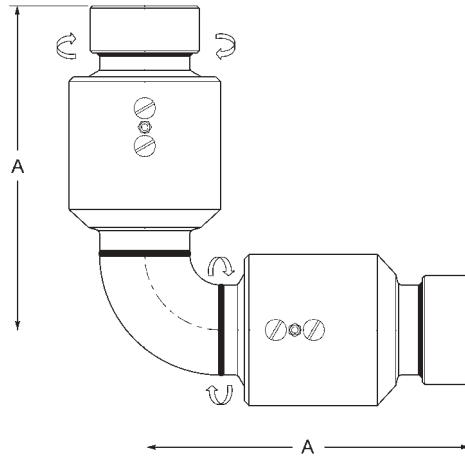
Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

DOUBLE PLANE 'V' - Ring STYLE 60

Female NPT x Female NPT

60



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)
					A
2"	260FXF	CS - Carbon STL	\$ 896.00		9"
		SS - Stainless STL	1750.00		
		AL - Aluminum	-----	---	
3"	360FXF	CS - Carbon STL	1150.00		10.7/8"
		SS - Stainless STL	2550.00		
		AL - Aluminum	-----	---	
4"	460FXF	CS - Carbon STL	1566.00		13.3/8"
		SS - Stainless STL	3456.00		
		AL - Aluminum	-----	---	
6"	660FXF	CS - Carbon STL	3700.00		16.1/4"
		SS - Stainless STL	-----	---	
		AL - Aluminum	-----	---	
8"	860FXF	CS - Carbon STL	POR		18.3/4"
		SS - Stainless STL	-----	---	
		AL - Aluminum	-----	---	

Swivels are shipped standard with the following components:

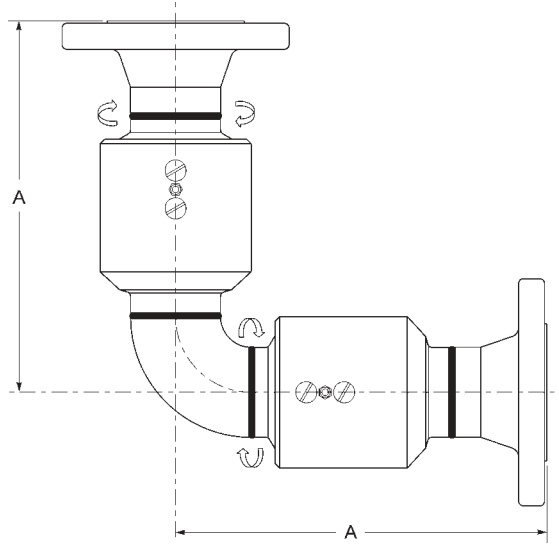
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

DOUBLE PLANE 'V' - Ring STYLE 60

150# ASA Flange x 150# ASA Flange



60

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)
					A
2"	260FGXFG	CS - Carbon STL	\$ 975.00		9.13/16"
		SS - Stainless STL	2180.00		
		AL - Aluminum	-----	---	
3"	360FGXFG	CS - Carbon STL	1340.00		11.1/2"
		SS - Stainless STL	3200.00		
		AL - Aluminum	-----	---	
4"	460FGXFG	CS - Carbon STL	1880.00		14"
		SS - Stainless STL	4146.00		
		AL - Aluminum	-----	---	
6"	660FGXFG	CS - Carbon STL	3670.00		17.7/8"
		SS - Stainless STL	10400.00		
		AL - Aluminum	4353.00		
8"	860FGXFG	CS - Carbon STL	6230.00		20.5/8"
		SS - Stainless STL	19496.00		
		AL - Aluminum	8669.00		

Swivels are shipped standard with the following components:

Buna N for Pressure Seals and Dust Seals.

Carbon Steel for Ball Bearings.

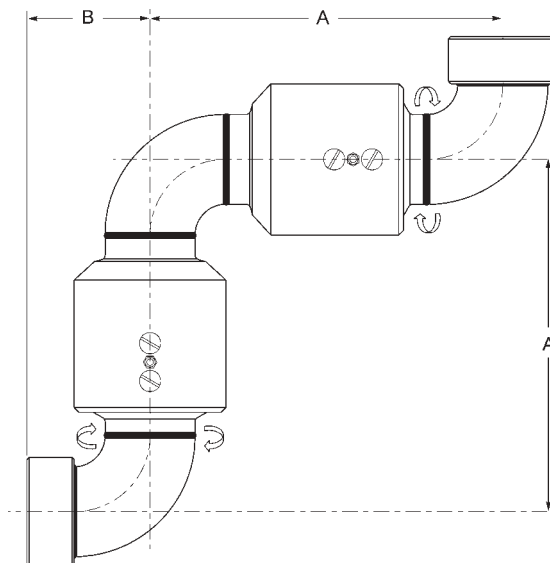
Aluminum for Retainers in Carbon Steel Swivels.

Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

DOUBLE PLANE 'V' - Ring STYLE 70

Female NPT x Female NPT



70

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
2"	270FXF	CS - Carbon STL	\$998.00	23.7	9.5/16"	3.11/16
		SS - Stainless STL	1910.00	24.35		
		AL - Aluminum	-----	---		
3"	370FXF	CS - Carbon STL	1425.00	40.3	11.3/4"	5.1/8"
		SS - Stainless STL	3400.00	40.2		
		AL - Aluminum	-----	---		
4"	470FXF	CS - Carbon STL	1778.00	79.2	15"	6.3/8"
		SS - Stainless STL	4051.00	82.9		
		AL - Aluminum	-----	---		
6"	670FXF	CS - Carbon STL	4300.00	172.4	20.3/8"	7.7/8"
		SS - Stainless STL	-----	---		
		AL - Aluminum	-----	---		
8"	870FXF	CS - Carbon STL	POR	286.7	24.5/8"	10.1/8"
		SS - Stainless STL	-----	---		
		AL - Aluminum	-----	---		

Swivels are shipped standard with the following components:

Buna N for Pressure Seals and Dust Seals.

Carbon Steel for Ball Bearings.

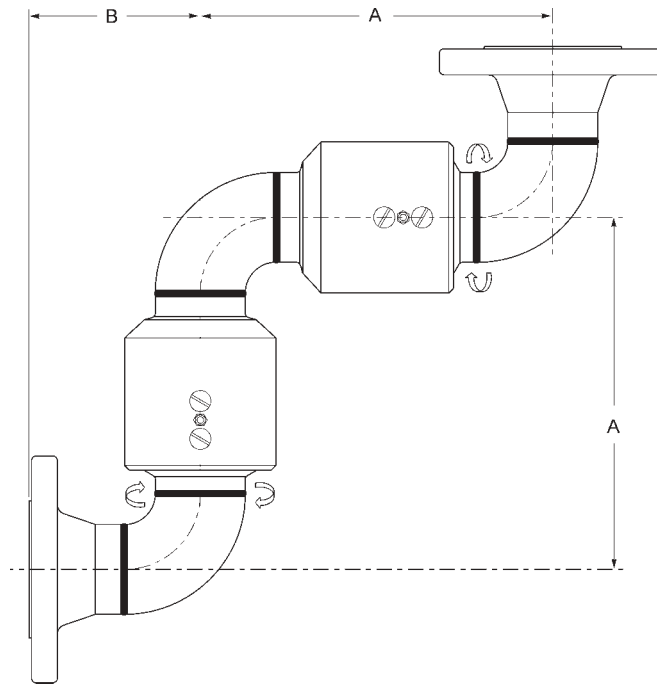
Aluminum for Retainers in Carbon Steel Swivels.

Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

DOUBLE PLANE 'V' - Ring STYLE 70

150# ASA Flange x 150# ASA Flange



70

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
2"	270FGXFG	CS - Carbon STL	\$1120.00	33.8	9.5/16"	4.1/2"
		SS - Stainless STL	2420.00	33.2		
		AL - Aluminum	-----	---		
3"	370FGXFG	CS - Carbon STL	1600.00	59.1	11.3/4"	5.3/4"
		SS - Stainless STL	3725.00	57.2		
		AL - Aluminum	-----	---		
4"	470FGXFG	CS - Carbon STL	2080.00	100.4	15"	7"
		SS - Stainless STL	4900.00	103.3		
		AL - Aluminum	-----	---		
6"	670FGXFG	CS - Carbon STL	4270.00	209.1	20.3/8"	9.1/2"
		SS - Stainless STL	11555.00	206.8		
		AL - Aluminum	5758.00	81.5		
8"	870FGXFG	CS - Carbon STL	7279.00	342.6	24.5/8"	12"
		SS - Stainless STL	24683.00	375.4		
		AL - Aluminum	POR	143.0		

Swivels are shipped standard with the following components:

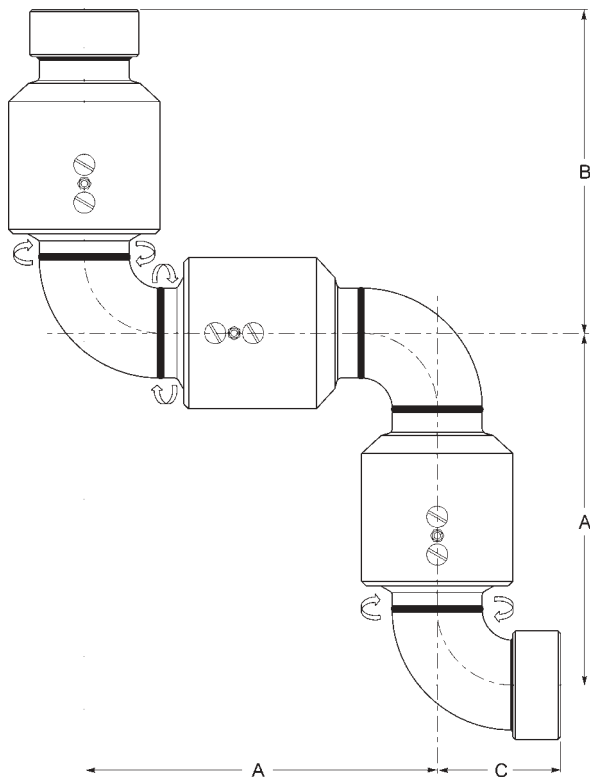
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

TRIPLE PLANE 'V' - Ring STYLE 80

Female NPT x Female NPT



80

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
2"	280FXF	CS - Carbon STL	\$1600.00	33.0	9.5/16"	9.9/16"	3.11/16"
		SS - Stainless STL	1860.00	33.5			
		AL - Aluminum	-----	---			
3"	380FXF	CS - Carbon STL	2008.00	53.2	11.3/4"	10.7/8"	5.1/8"
		SS - Stainless STL	4759.00	53.3			
		AL - Aluminum	-----	---			
4"	480FXF	CS - Carbon STL	2647.00	103.6	15"	13.3/8"	6.3/8"
		SS - Stainless STL	5783.00	108.0			
		AL - Aluminum	-----	---			
6"	680FXF	CS - Carbon STL	6076.00	226.9	20.3/8"	16.1/4"	7.7/8"
		SS - Stainless STL	POR	226.6			
		AL - Aluminum	-----	89.0			
8"	880FXF	CS - Carbon STL	POR	365.0	24.5/8"	18.3/4"	10.1/8"
		SS - Stainless STL	POR	414.8			
		AL - Aluminum	-----	162.0			

Swivels are shipped standard with the following components:

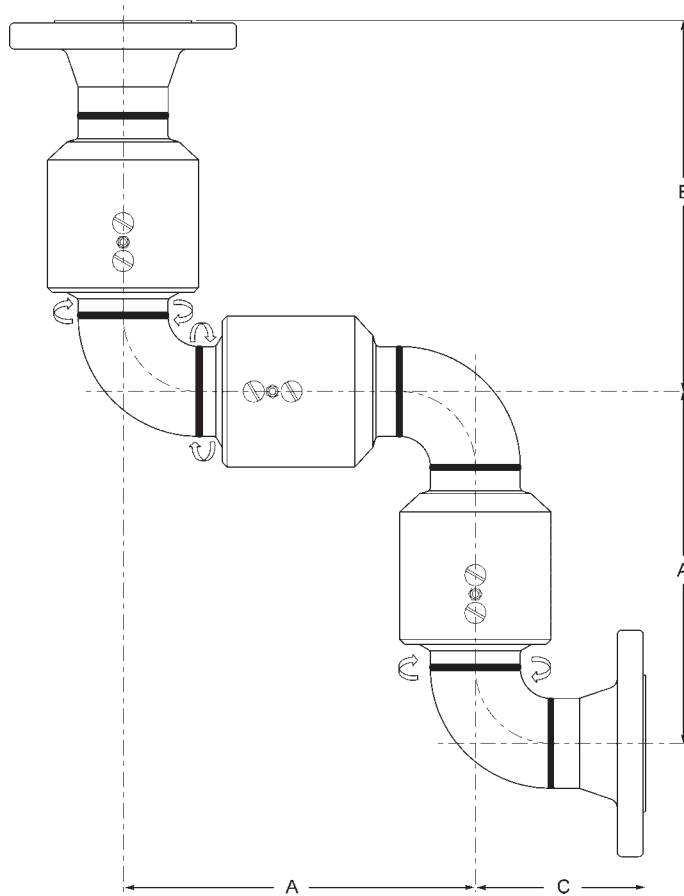
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

TRIPLE PLANE 'V' - Ring STYLE 80

150# ASA Flange x 150# ASA Flange



80

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
2"	280FGXFG	CS - Carbon STL	\$1661.00	43.1	9.5/16"	9.13/16"	4.1/2"
		SS - Stainless STL	3561.00	42.4			
		AL - Aluminum	-----	---			
3"	380FGXFG	CS - Carbon STL	2218.00	72.0	11.3/4"	11.1/2"	5.3/4"
		SS - Stainless STL	5259.00	70.3			
		AL - Aluminum	-----	---			
4"	480FGXFG	CS - Carbon STL	2855.00	124.8	15"	14"	7"
		SS - Stainless STL	6506.00	128.4			
		AL - Aluminum	-----	---			
6"	680FGXFG	CS - Carbon STL	6051.00	263.6	20.3/8"	17.7/8"	9.1/2"
		SS - Stainless STL	POR	263.3			
		AL - Aluminum	POR	102.2			
8"	880FGXFG	CS - Carbon STL	POR	420.9	24.5/8"	20.5/8"	12"
		SS - Stainless STL	POR	467.6			
		AL - Aluminum	POR	178.0			

Swivels are shipped standard with the following components:

Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

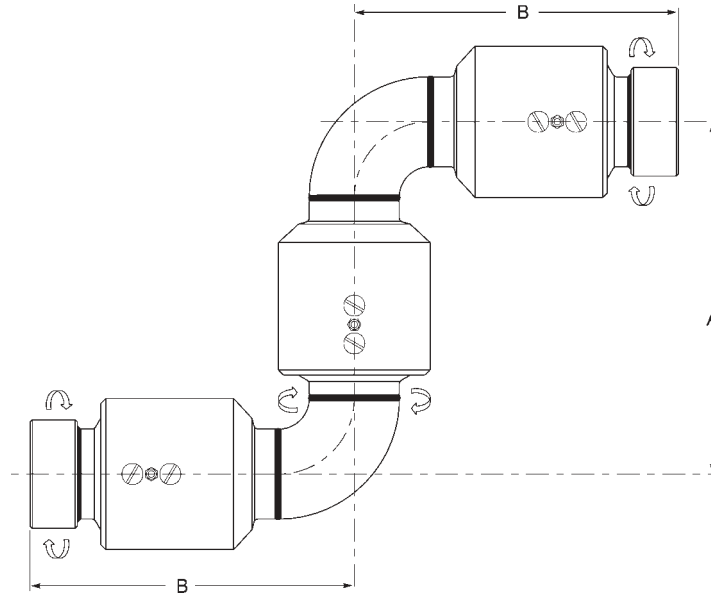
Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

TRIPLE PLANE 'V' - Ring STYLE 10

Female NPT x Female NPT

10



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
2"	210FXF	CS - Carbon STL	\$1264.00	32.0	9.5/16"	9"
		SS - Stainless STL	2400.00	32.5		
		AL - Aluminum	-----	---		
3"	310FXF	CS - Carbon STL	1625.00	49.8	11.3/4"	10.7/8"
		SS - Stainless STL	3970.00	50.4		
		AL - Aluminum	-----	---		
4"	410FXF	CS - Carbon STL	2365.00	97.4	15"	13.3/8"
		SS - Stainless STL	4828.00	101.3		
		AL - Aluminum	-----	---		
6"	610FXF	CS - Carbon STL	5530.00	210.2	20.3/8"	16.1/4"
		SS - Stainless STL	-----	---		
		AL - Aluminum	-----	---		
8"	810FXF	CS - Carbon STL	POR	331.0	24.5/8"	18.3/4"
		SS - Stainless STL	-----	---		
		AL - Aluminum	-----	---		

Swivels are shipped standard with the following components:

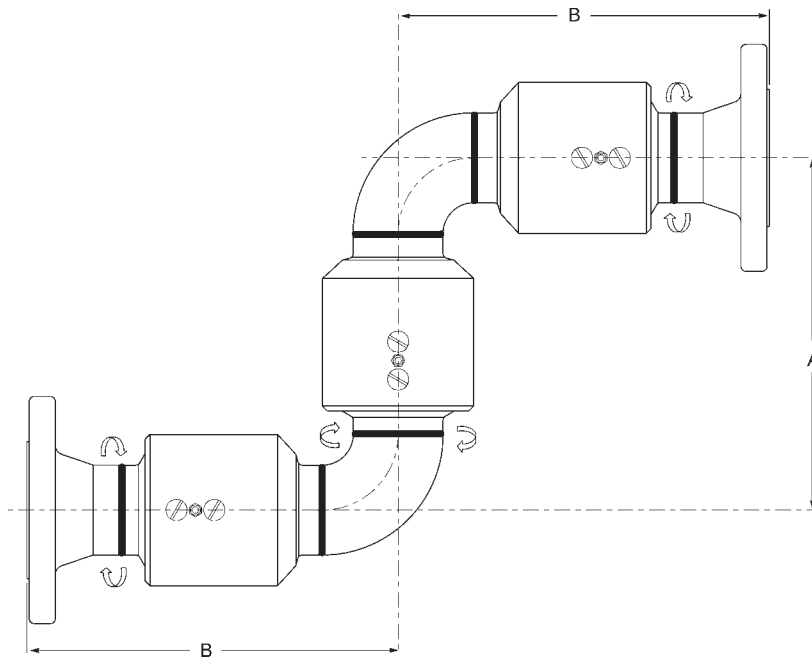
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

Swivel Joints

TRIPLE PLANE 'V' - Ring STYLE 10

150# ASA Flange x 150# ASA Flange



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
2"	210FGXFG	CS - Carbon STL	\$1324.00	42.1	9.5/16"	9.13/16"
		SS - Stainless STL	2760.00	41.4		
		AL - Aluminum	-----	---		
3"	310FGXFG	CS - Carbon STL	1840.00	68.6	11.3/4"	11.1/2"
		SS - Stainless STL	4400.00	67.4		
		AL - Aluminum	-----	---		
4"	410FGXFG	CS - Carbon STL	2566.00	118.6	15"	14"
		SS - Stainless STL	5643.00	121.7		
		AL - Aluminum	-----	---		
6"	610FGXFG	CS - Carbon STL	5470.00	222.1	20.3/8"	17.7/8"
		SS - Stainless STL	14845.00	233.9		
		AL - Aluminum	POR	97.2		
8"	810FGXFG	CS - Carbon STL	POR	386.9	24.5/8"	20.5/8"
		SS - Stainless STL	POR	430.1		
		AL - Aluminum	POR	162.8		

Swivels are shipped standard with the following components:

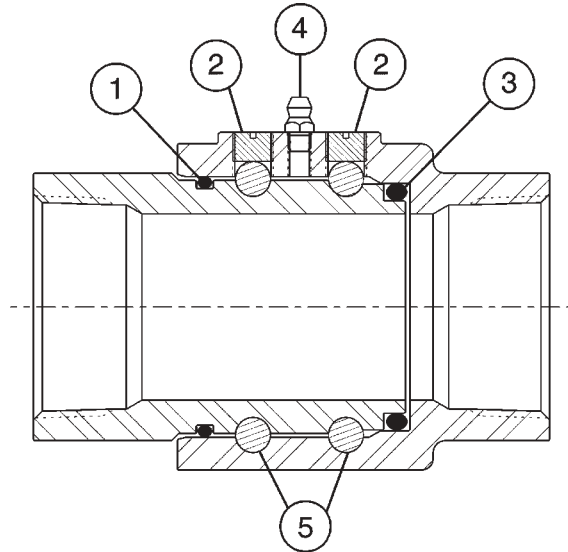
Buna N for Pressure Seals and Dust Seals.
Carbon Steel for Ball Bearings.

Aluminum for Retainers in Carbon Steel Swivels.
Teflon for Retainers in Stainless Steel Swivels.

PARTS IDENTIFICATION LISTS

O-RING TYPE

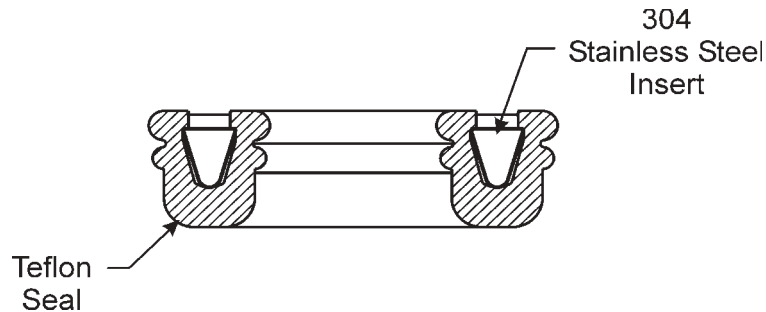
- 1) O-Ring (Dust) Seal
- 2) Ball Retainer Screw
- 3) O-Ring (Pressure) Seal
- 4) Grease Fitting
- 5) Ball Bearings



Other available end configurations:

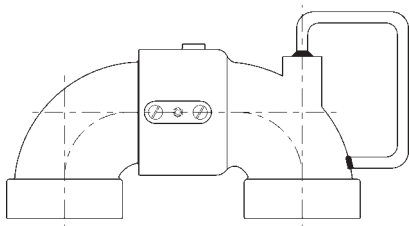
- Male NPT threads, Tank Car thread with gasket, TTMA Tank Truck flanges.

SPRING-LOADED TEFLON PRESSURE SEAL For O-Ring Swivels

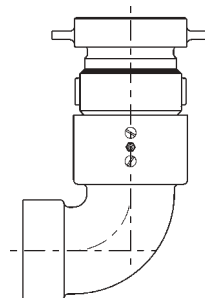


Cross Sectional View of Seal
(for use in sizes 1" - 3")

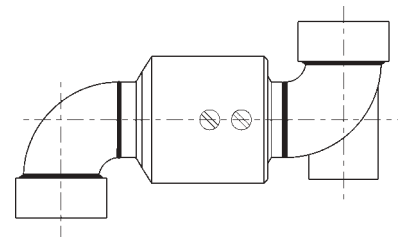
SPECIAL OPTIONS For O-Ring Swivels



Swivel with Handle
(style 40 shown)

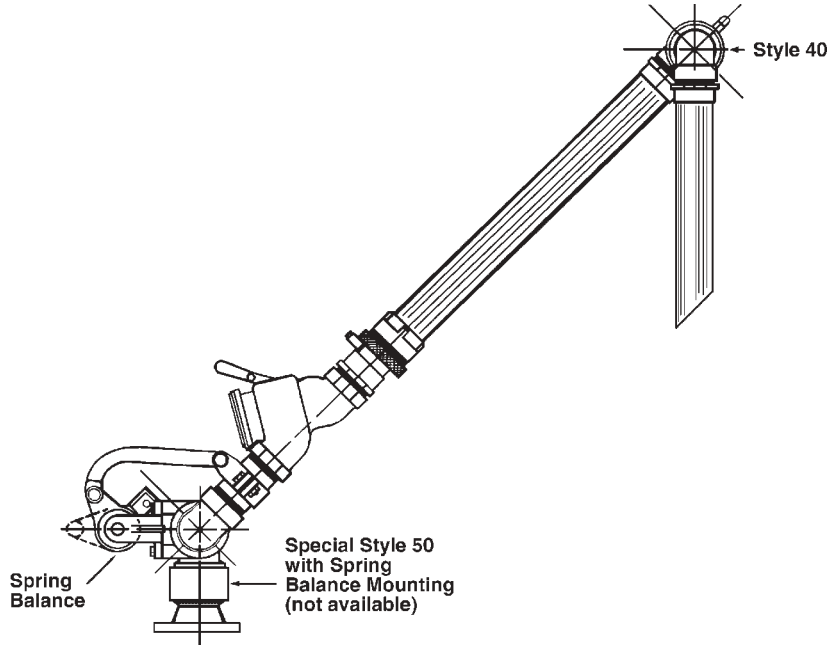


Tank Car Swivel
(style 30 shown)

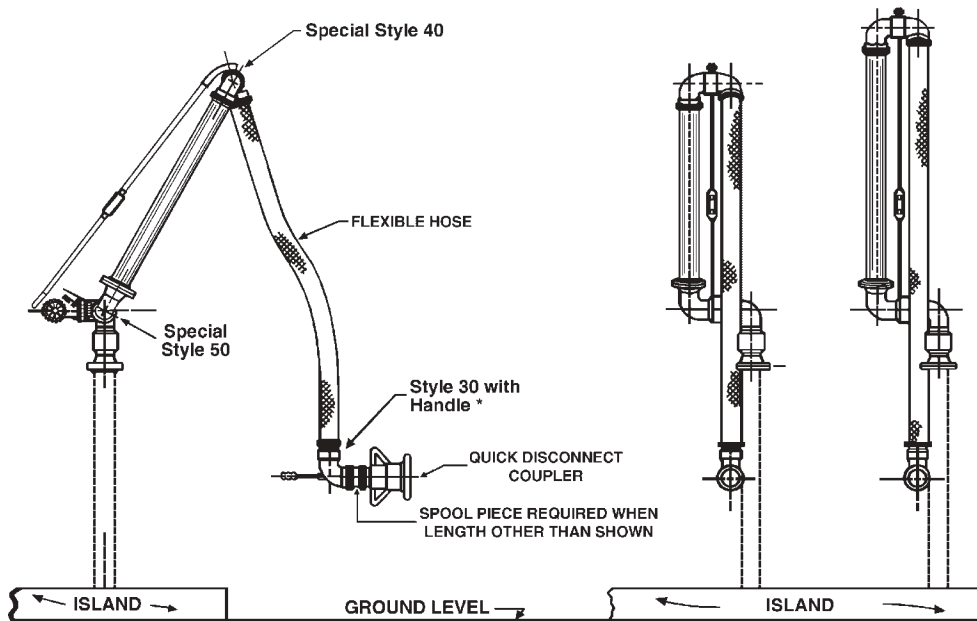


Swivel assembly with
Counterweight Lug
(style 40 shown)

TYPICAL APPLICATIONS For O-Ring Swivels



Loading Arms



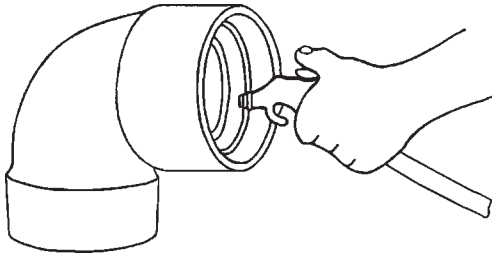
Hose Loaders

* style 60 may also be found in this application

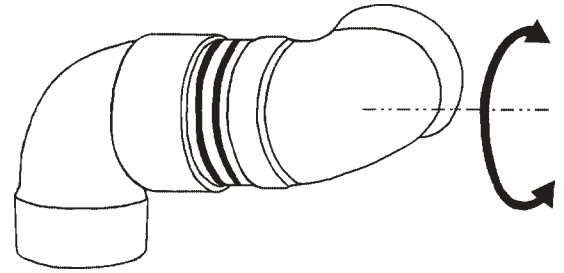
Swivel Joints

SEAL REPLACEMENT PROCEDURE for 'O' Ring Swivels

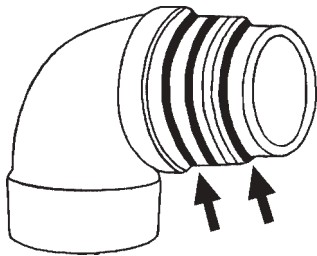
NOTE: Instructions not for assembly with Spring-loaded Teflon Pressure Seal. Consult the Factory.



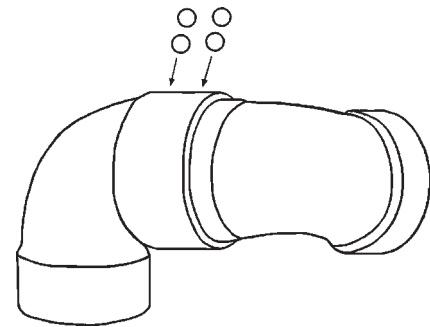
1 Remove the ball retainer screws. Add a sufficient amount of solvent into each raceway to flush out the lubricant. Rotate the sleeve, catching the balls as they fall out. When all the balls have been removed, the body and sleeve can be separated. Discard old seals. Thoroughly clean the body and sleeve.



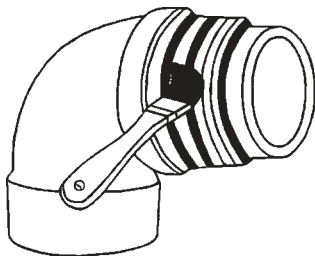
4 Insert the sleeve into the body, slowly rotate the sleeve while inserting into the body.



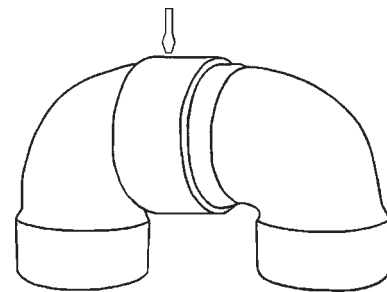
2 Install the new 'O' rings on the sleeve, dust seal to the rear, product (pressure) seal up front.



5 When the sleeve is fully inserted, feed the ball bearings into the raceways while rotating the sleeve. To make space for all the balls, insert a screw driver into the raceway, while continuing to rotate the sleeve in one direction (Be careful not to damage the threads). This will cause the balls to jam up, making room for the remaining balls. Now reverse rotation of sleeve and insert the remaining balls.



3 Lubricate the body and the sleeve with grease.



6 Reinstall ball retainer screws until tight. If this interferes with the smooth rotation of the ball bearings, then back off 1/8 - 1/4 turn. A thread locking sealant is recommended to prevent screws from backing off. After pressure testing, the unit is ready for installation.

SAFETY
ALERT

CAUTION: Body and sleeve are matched during manufacturing. Do not mix components with other units.

Swivel Joints

OPTIONAL SEALS For O-Ring Swivels

When ordering seals other than the standard *Buna-N*, add the following, *per plane of rotation*, to the standard swivel price.

O-Ring - Pressure Seals						
	1"	1 1/4" & 1 1/2"	2"	3"	4"	
<i>Viton</i>	\$ 5.35	\$ 7.15	\$ 9.55	\$ 12.60	\$ 16.40	
<i>Spring-loaded Teflon</i>	67.60	80.35	90.85	118.25	----	
<i>EPR</i>	3.90	5.80	7.70	9.55	11.55	

O-Ring - Dust Seal						
	1"	1 1/4" & 1 1/2"	2"	3"	4"	
<i>Viton</i>	\$ 5.35	\$ 7.15	\$ 9.55	\$ 12.60	\$ 16.40	
<i>EPR</i>	3.90	5.80	7.70	9.55	11.55	

Note: When a change of seals is ordered, only the pressure seal is changed unless specifically requested by the customer.

REBUILD KITS For O-Ring Swivels

O-Ring Swivels: Each kit contains: 1 O-Ring (Pressure Seal) in the material indicated, 1 *Buna-N* Dust Seal, 2 ball retainer screws, 1 grease plug and 10 ball bearings. All other parts **POR**.

Size	<i>Buna</i>	Price	<i>Viton</i>	Price	<i>Spring-loaded Teflon</i>	Price	<i>EPR</i>	Price
1"	1RKOB	\$ 11.90	1RKOV	\$ 18.80	1RKOTF	\$ 79.50	1RKOEP	-----
1 1/4" & 1 1/2"	150RKOB	12.40	150RKOV	19.35	150RKOTF	92.60	150RKOEP	\$ 13.20
2"	2RKOB	15.20	2RKOV	26.80	2RKOTF	106.00	2RKOEP	17.65
3"	3RKOB	17.70	3RKOV	30.10	3RKOTF	136.00	3RKOEP	20.90
4"	4RKOB	22.90	4RKOV	42.70	-----	-----	4RKOEP	31.00

Note: All Rebuild Kits are *per plane of rotation*.

OPTIONAL BALL BEARINGS For O-Ring Swivels

Add the following, *per plane of rotation*, to the standard swivel price.

Ball Bearings	1"	1 1/4" & 1 1/2"	2"	3"	4"
<i>440 Stainless Steel</i>	\$ 8.40	\$11.80	\$ 36.25	\$ 47.25	\$ 63.00
<i>316 Stainless Steel</i>	35.75	50.00	58.00	75.60	100.08

REPLACEMENT BALL BEARINGS For O-Ring Swivels

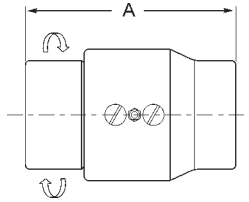
Prices are *per Ball Bearing*.

Size	Qty <i>Per Plane of Rotation</i>	<i>Carbon Steel</i> (Standard)		<i>440 Stainless Steel</i>		<i>316 Stainless Steel</i>	
		<i>Part #</i>	Price	<i>Part #</i>	Price	<i>Part #</i>	Price
1"	40	14CSBA	\$ 0.15	14SSBA	\$ 0.40	14SSBA-316	\$ 1.25
1 1/4" & 1 1/2"	56	14CSBA	0.15	14SSBA	0.40	14SSBA-316	1.25
2"	46	38CSBA	0.15	38SSBA	1.00	38SSBA-316	1.50
3"	60	38CSBA	0.15	38SSBA	1.00	38SSBA-316	1.50
4"	80	38CSBA	0.15	38SSBA	1.00	38SSBA-316	1.50

Swivel Joints

SINGLE PLANE 'O' - Ring STYLE 20

Female NPT x Female NPT



20

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)
					A
1"	120FXF	OC - Carbon STL	\$ 226.00	2.8	3.15/16"
		OS - Stainless STL	550.00	2.5	
		AL - Aluminum	160.00	1.1	3.15/16"
		BR - Brass	-----	---	
		MI - Malleable Iron	-----	---	
1¼"	12520FXF	OC - Carbon STL	-----	---	-----
		OS - Stainless STL	-----	---	-----
		AL - Aluminum	175.00	1.4	3.31/32"
		BR - Brass	-----	---	
		MI - Malleable Iron	-----	---	
1½"	15020FXF	OC - Carbon STL	330.00	---	4"
		OS - Stainless STL	842.00	---	
		AL - Aluminum	173.00	1.4	4"
		BR - Brass	245.00	4.3	
		MI - Malleable Iron	185.00	3.8	
2"	220FXF	OC - Carbon STL	373.00	6.3	5.9/16"
		OS - Stainless STL	884.00	6.8	
		AL - Aluminum	242.00	3.5	5.9/16"
		BR - Brass	328.00	8.5	
		MI - Malleable Iron	259.00	7.5	
3"	320FXF	OC - Carbon STL	528.00	8.6	5.7/8"
		OS - Stainless STL	1450.00	9.0	
		AL - Aluminum	278.00	4.0	5.29/32"
		BR - Brass	477.00	11.1	
		MI - Malleable Iron	390.00	9.7	
4"	420FXF	OC - Carbon STL	-----	---	-----
		OS - Stainless STL	-----	---	-----
		AL - Aluminum	420.00	7.3	7.5/8"
		BR - Brass	-----	---	
		MI - Malleable Iron	-----	---	

Swivels are shipped standard with the following components:

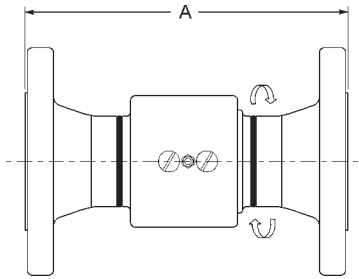
Buna N for Pressure Seals and Dust Seals.

Carbon Steel for Ball Bearings.

Swivel Joints

SINGLE PLANE 'O' - Ring STYLE 20

150# ASA Flange x 150# ASA Flange



20

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)
					A
1"	120FGXFG	OC - Carbon STL	\$ 292.00	7.8	7.9/32"
		OS - Stainless STL	689.00		
		AL - Aluminum	-----		
1½"	1520FGFG	OC - Carbon STL	553.00		8.1/16"
		OS - Stainless STL	POR		
		AL - Aluminum	POR		
2"	220FGXFG	OC - Carbon STL	550.00	16.6	8.17/32"
		OS - Stainless STL	1295.00		
		AL - Aluminum	758.00		
3"	320FGXFG	OC - Carbon STL	766.00		9.5/8"
		OS - Stainless STL	1882.00		
		AL - Aluminum	880.00		
4"	420FGXFG	OC - Carbon STL	-----	10.0	11.5/32"
		OS - Stainless STL	-----		
		AL - Aluminum	1117.00		
				13.0	13.5/16"

Swivels are shipped standard with the following components:

Buna N for Pressure Seals and Dust Seals.

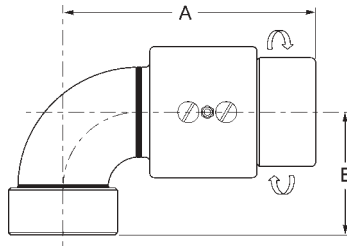
Carbon Steel for Ball Bearings.

Swivel Joints

SINGLE PLANE 'O' - Ring STYLE 30

Female NPT x Female NPT

30



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
1"	130FXF	OC - Carbon STL	\$ 286.00	3.6	4.13/32"	2.3/16"
		OS - Stainless STL	598.00	3.0	5.29/32"	2.11/16"
		AL - Aluminum	-----	---	-----	-----
		BR - Brass	-----	---	-----	-----
		MI - Malleable Iron	-----	---	-----	-----
1½"	15030FXF	OC - Carbon STL	365.00	5.0	5.7/16"	3.15/32"
		OS - Stainless STL	860.00	5.6		
		AL - Aluminum	185.00	1.7	4.11/16"	3"
		BR - Brass	260.00	5.2		
		MI - Malleable Iron	195.00	4.6		
2"	230FXF	OC - Carbon STL	420.00	7.6	6.21/32"	3.1/4"
		OS - Stainless STL	1022.00	6.3		
		AL - Aluminum	245.00	4.1	6.3/16"	2.7/8"
		BR - Brass	350.00	9.9		
		MI - Malleable Iron	284.00	8.8		
3"	330FXF	OC - Carbon STL	670.00	13.4	8.9/64"	4.13/16"
		OS - Stainless STL	1673.00	13.2		
		AL - Aluminum	335.00	5.2	7.1/16"	3.7/8"
		BR - Brass	571.00	15.4		
		MI - Malleable Iron	434.00	13.0		
4"	430FXF	OC - Carbon STL	-----	---	-----	-----
		OS - Stainless STL	-----	---	-----	-----
		AL - Aluminum	435.00	9.2	9.1/8"	4.3/4"
		BR - Brass	-----	---		
		MI - Malleable Iron	-----	---		

Swivels are shipped standard with the following components:

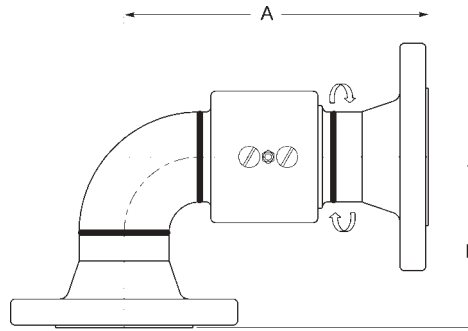
Buna N for Pressure Seals and Dust Seals.

Carbon Steel for Ball Bearings.

Swivel Joints

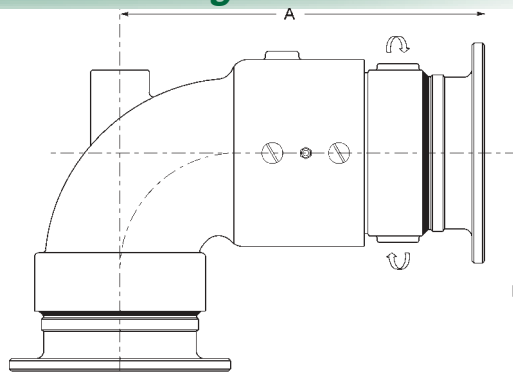
SINGLE PLANE 'O' - Ring STYLE 30

150# ASA Flange x 150# ASA Flange



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
1"	130FGXFG	OC - Carbon STL	\$ POR		6.3/32"	3.3/16"
		OS - Stainless STL	POR		6.19/32"	3.11/16"
		AL - Aluminum	----	---	----	----
1½"	1530FGFG	OC - Carbon STL	499.00		7.7/8"	4.11/16"
		OS - Stainless STL	985.00		7.1/32"	5.11/32"
		AL - Aluminum	POR			
2"	230FGXFG	OC - Carbon STL	580.00		8.1/32"	4.1/2"
		OS - Stainless STL	1385.00		8.5/8"	5.9/32"
		AL - Aluminum	772.00			
3"	330FGXFG	OC - Carbon STL	875.00		9.7/8"	5.3/4"
		OS - Stainless STL	2245.00		9.11/16"	6.15/32"
		AL - Aluminum	925.00	12.8		
4"	430FGXFG	OC - Carbon STL	----	---	----	----
		OS - Stainless STL	----	---		
		AL - Aluminum	1130.00		11.31/32"	7.19/32"

Tank Truck Flange x Tank Truck Flange



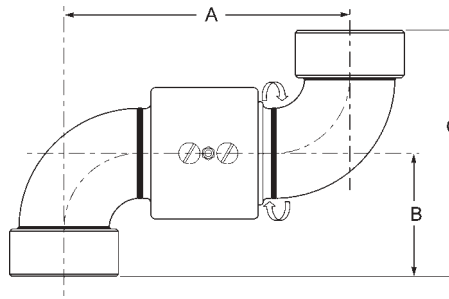
Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
2"	230TFXTF	OC - Carbon STL	\$ POR			
		OS - Stainless STL	POR			
		AL - Aluminum	POR			
3"	330TFXTF	OC - Carbon STL	POR			
		OS - Stainless STL	POR			
		AL - Aluminum	475.00		8.3/4"	5.9/16"
4"	430TFXTF	OS - Carbon STL	----	---	----	----
		OS - Stainless STL	----	---		
		AL - Aluminum	630.00		10.15/16"	6.9/16"

Swivel Joints

SINGLE PLANE 'O' - Ring STYLE 40

Female NPT x Female NPT

40



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
1"	140FXF	OC - Carbon STL	\$ 336.00	4.4	4.59/64"	2.3/16"	4.3/8"
		OS - Stainless STL	664.00		5.59/64"	2.11/16"	5.3/8"
		AL - Aluminum	-----	---	-----	-----	-----
		BR - Brass	-----	---	-----	-----	-----
		MI - Malleable Iron	-----	---	-----	-----	-----
1½"	15040FXF	OC - Carbon STL	413.00		7.11/16"	3.15/32"	6.15/16"
		OS - Stainless STL	1041.00	7.0			
		AL - Aluminum	210.00	2.3	6.1/8"	3"	6"
		BR - Brass	285.00	6.8			
		MI - Malleable Iron	221.00	6.2			
2"	240FXF	OC - Carbon STL	545.00	8.5	7.17/32"	3.1/4"	6.1/2"
		OS - Stainless STL	1270.00				
		AL - Aluminum	270.00	4.5	6.11/16"	2.7/8"	5.3/4"
		BR - Brass	388.00	11.2			
		MI - Malleable Iron	358.00	9.1			
3"	340FXF	OC - Carbon STL	810.00	17.7	10.1/8"	4.13/16"	9.5/8"
		OS - Stainless STL	2100.00				
		AL - Aluminum	377.00	5.9	8.1/4"	3.7/8"	7.3/4"
		BR - Brass	655.00	18.0			
		MI - Malleable Iron	560.00	15.0			
4"	440FXF	OC - Carbon STL	-----	---	-----	-----	-----
		OS - Stainless STL	-----	---	-----	-----	-----
		AL - Aluminum	478.00	10.2	10.5/8"	4.3/4"	9.1/2"
		BR - Brass	-----	---			
		MI - Malleable Iron	-----	---			

Swivels are shipped standard with the following components:

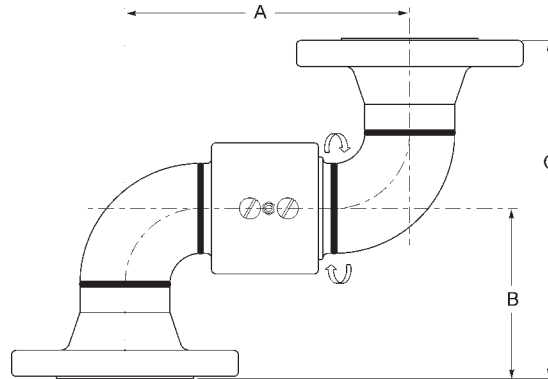
Buna N for Pressure Seals and Dust Seals.

Carbon Steel for Ball Bearings.

Swivel Joints

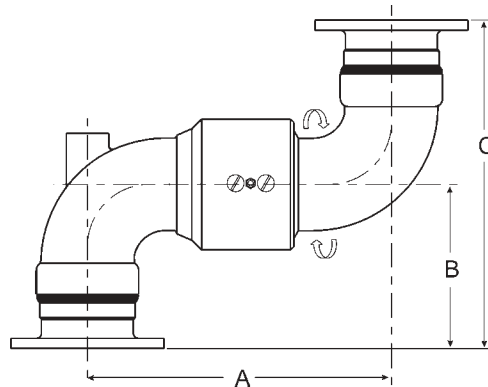
SINGLE PLANE 'O' - Ring STYLE 40

150# ASA Flange x 150# ASA Flange



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
1"	140FGXFG	OC - Carbon STL	\$ POR		4.59/64"	3.3/16"	6.3/8"
		OS - Stainless STL	POR		5.59/64"	3.11/16"	7.3/8"
		AL - Aluminum	-----	---	-----	-----	-----
1½"	1540FGFG	OC - Carbon STL	546.00		7.11/16"	4.11/16"	9.3/8"
		OS - Stainless STL	1175.00		6.1/8"	5.11/32"	5.11/16"
		AL - Aluminum	POR		6.1/8"	5.11/32"	5.11/16"
2"	240FGXFG	OC - Carbon STL	690.00		7.17/32"	4.1/2"	9"
		OS - Stainless STL	1750.00		6.11/16"	5.9/32"	10.9/16"
		AL - Aluminum	785.00		6.11/16"	5.9/32"	10.9/16"
3"	340FGXFG	OC - Carbon STL	1080.00		10.1/8"	5.3/4"	11.1/2"
		OS - Stainless STL	2575.00		8.1/4"	6.5/8"	13.1/4"
		AL - Aluminum	969.00		8.1/4"	6.5/8"	13.1/4"
4"	440FGXFG	OC - Carbon STL	-----	---	-----	-----	-----
		OS - Stainless STL	-----	---	-----	-----	-----
		AL - Aluminum	1170.00		10.5/8"	7.9/16"	15.1/8"

Tank Truck Flange x Tank Truck Flange



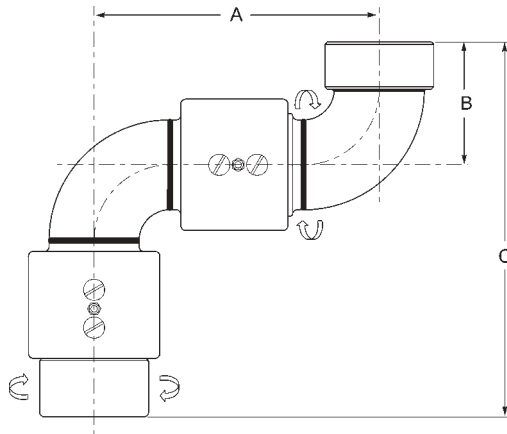
Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
2"	240TFXTF	OC - Carbon STL	\$ POR				
		OS - Stainless STL	POR				
		AL - Aluminum	POR				
3"	340TFXTF	OC - Carbon STL	POR				
		OS - Stainless STL	POR				
		AL - Aluminum	605.00	7.3	8.1/4"	5.9/16"	11.1/8"
4"	440TFXTF	OC - Carbon STL	-----	---	-----	-----	-----
		OS - Stainless STL	-----	---	-----	-----	-----
		AL - Aluminum	775.00	17.0	10.5/8"	6.9/16"	13.1/8"

Swivel Joints

DOUBLE PLANE 'O' - Ring STYLE 50

Female NPT x Female NPT

50



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
1"	150FXF	OC - Carbon STL	\$ 550.00	7.3	4.59/64"	2.3/16"	6.3/32"
		OS - Stainless STL	993.00		5.59/64"	2.11/16"	7.19/32"
		AL - Aluminum	-----	---	-----	-----	-----
		BR - Brass	-----	---	-----	-----	-----
		MI - Malleable Iron	-----	---	-----	-----	-----
1½"	15050FXF	OC - Carbon STL	660.00	9.0	7.11/16"	3.15/32"	8.29/32"
		OS - Stainless STL	1650.00		6.1/8"	3"	7.11/16"
		AL - Aluminum	450.00	---	---	---	
		BR - Brass	-----	---	---	---	
		MI - Malleable Iron	-----	---	---	---	
2"	250FXF	OC - Carbon STL	765.00	7.8	7.17/32"	3.1/4"	9.29/32"
		OS - Stainless STL	1786.00		6.11/16"	2.7/8"	9.1/16"
		AL - Aluminum	460.00	13.2	---	---	---
		BR - Brass	680.00	---	---	---	
		MI - Malleable Iron	540.00	---	---	---	
3"	350FXF	OC - Carbon STL	855.00	21.8	10.1/8"	4.13/16"	12.61/64"
		OS - Stainless STL	2990.00		8.1/4"	3.7/8"	10.29/32"
		AL - Aluminum	554.00	9.4	---	---	---
		BR - Brass	-----	---	---	---	
		MI - Malleable Iron	730.00	21.5	---	---	---
4"	450FXF	OC - Carbon STL	-----	15.0	-----	-----	-----
		OS - Stainless STL	-----		10.5/8"	4.3/4"	13.7/8"
		AL - Aluminum	750.00	---	---	---	
		BR - Brass	-----	---	---	---	
		MI - Malleable Iron	-----	---	---	---	

Swivels are shipped standard with the following components:

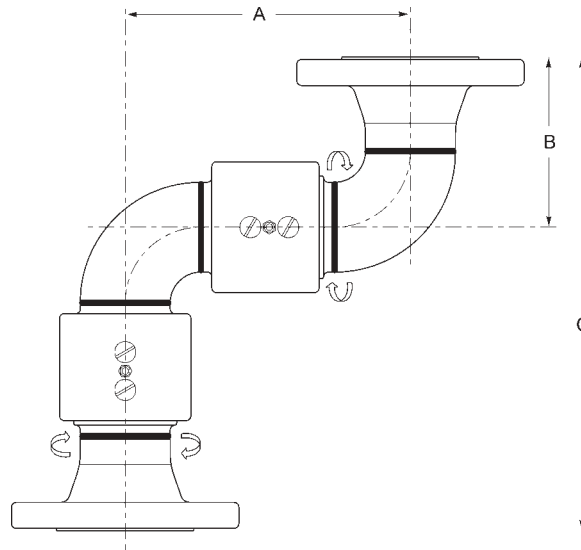
Buna N for Pressure Seals and Dust Seals.

Carbon Steel for Ball Bearings.

Swivel Joints

DOUBLE PLANE 'O' - Ring STYLE 50

150# ASA Flange x 150# ASA Flange



50

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	C
1"	150FGXFG	OC - Carbon STL	\$ POR		4.59/64"	3.3/16"	9.19/64"
		OS - Stainless STL	POR		5.59/64"	3.11/16"	10.19/64"
		AL - Aluminum	----		---	----	----
1½"	1550FGFG	OC - Carbon STL	546.00		7.11/16"	4.11/16"	12.9/16"
		OS - Stainless STL	1175.00		6.1/8"	5.11/32"	12.3/8"
		AL - Aluminum	POR		6.1/8"	5.11/32"	12.3/8"
2"	250FGXFG	OC - Carbon STL	690.00		7.17/32"	4.1/2"	12.17/32"
		OS - Stainless STL	1750.00		6.11/16"	5.9/32"	13.29/32"
		AL - Aluminum	785.00		6.11/16"	5.9/32"	13.29/32"
3"	350FGXFG	OC - Carbon STL	1080.00		10.1/8"	5.3/4"	15.5/8"
		OS - Stainless STL	2575.00		8.1/4"	6.15/32"	16.3/32"
		AL - Aluminum	969.00		8.1/4"	6.15/32"	16.3/32"
4"	450FGXFG	OC - Carbon STL	----		----	----	----
		OS - Stainless STL	----		----	----	----
		AL - Aluminum	1170.00		10.5/8"	7.19/32"	19.9/16"

Swivels are shipped standard with the following components:

Buna N for Pressure Seals and Dust Seals.

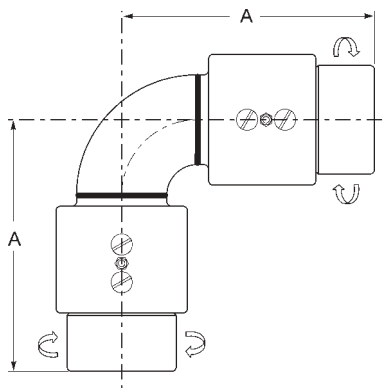
Carbon Steel for Ball Bearings.

Swivel Joints

DOUBLE PLANE 'O' - Ring STYLE 60

Female NPT x Female NPT

60



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)
					A
1"	160FXF	OC - Carbon STL	\$ 530.00	7.0	4.13/32"
		OS - Stainless STL	943.00		4.29/32"
		AL - Aluminum	-----	---	-----
		BR - Brass	-----	---	-----
		MI - Malleable Iron	-----	---	-----
1½"	15060FXF	OC - Carbon STL	640.00		5.7/16"
		OS - Stainless STL	1470.00	7.7	
		AL - Aluminum	397.00		
		BR - Brass	-----	---	4.11/16"
		MI - Malleable Iron	-----	---	
2"	260FXF	OC - Carbon STL	622.00		6.21/32"
		OS - Stainless STL	POR		
		AL - Aluminum	434.00	6.9	
		BR - Brass	675.00	14.3	6.7/32"
		MI - Malleable Iron	458.00		
3"	360FXF	OC - Carbon STL	1009.00	19.4	8.9/64"
		OS - Stainless STL	1714.00		
		AL - Aluminum	535.00	8.6	
		BR - Brass	-----	---	7.1/32"
		MI - Malleable Iron	615.00	18.6	
4"	460FXF	OC - Carbon STL	-----	---	-----
		OS - Stainless STL	-----	---	
		AL - Aluminum	698.00	13.4	
		BR - Brass	-----	---	9.1/8"
		MI - Malleable Iron	-----	---	

Swivels are shipped standard with the following components:

Buna N for Pressure Seals and Dust Seals.

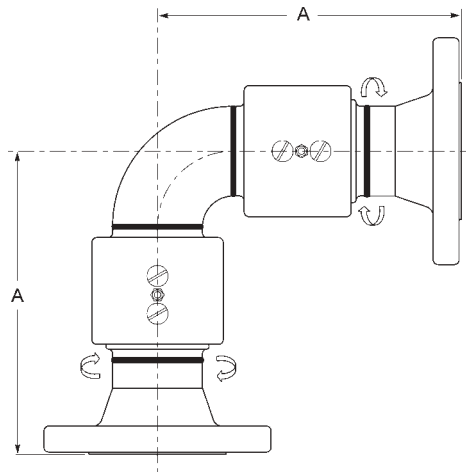
Carbon Steel for Ball Bearings.

Swivel Joints

DOUBLE PLANE 'O' - Ring STYLE 60

150# ASA Flange x 150# ASA Flange

60



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)
					A
1"	160FGXFG	OC - Carbon STL	\$ POR		6.7/64"
		OS - Stainless STL	POR		6.39/64"
		AL - Aluminum	-----	---	-----
1½"	1560FGFG	OC - Carbon STL	POR		7.7/8"
		OS - Stainless STL	POR		7.1/32"
		AL - Aluminum	POR		
2"	260FGXFG	OC - Carbon STL	778.00		8.1/32"
		OS - Stainless STL	2145.00		8.5/8"
		AL - Aluminum	POR		
3"	360FGXFG	OC - Carbon STL	POR		9.7/8"
		OS - Stainless STL	3161.00		9.5/8"
		AL - Aluminum	1121.00		
4"	460FGXFG	OC - Carbon STL	-----	---	-----
		OS - Stainless STL	-----	---	
		AL - Aluminum	1398.00		11.31/32"

Swivels are shipped standard with the following components:

Buna N for Pressure Seals and Dust Seals.

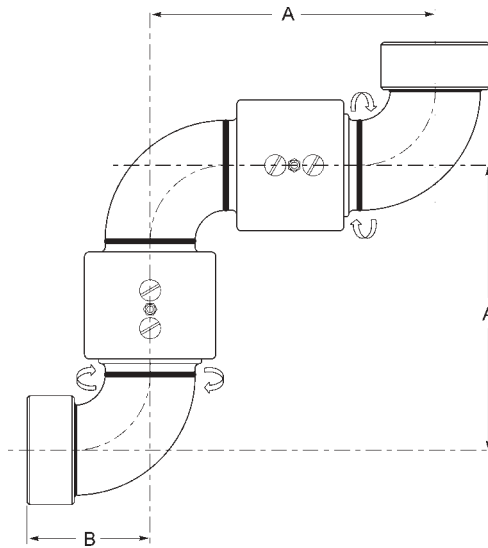
Carbon Steel for Ball Bearings.

Swivel Joints

TRIPLE PLANE 'O' - Ring STYLE 70

Female NPT x Female NPT

70



Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)		
					A	B	
1"	170FXF	OC - Carbon STL	\$ 640.00	7.6	4.59/64"	2.3/16"	
		OS - Stainless STL	1130.00		5.59/64"	2.11/16"	
		AL - Aluminum	-----		---	-----	-----
		BR - Brass	-----		---	-----	-----
		MI - Malleable Iron	-----		---	-----	-----
1½"	15070FXF	OC - Carbon STL	658.00	3.8	7.11/16"	3.15/32"	
		OS - Stainless STL	1765.00		6.1/8"	3"	
		AL - Aluminum	443.00		---	---	
		BR - Brass	-----		---	---	
		MI - Malleable Iron	-----		---	---	
2"	270FXF	OC - Carbon STL	800.00	16.4	7.17/32"	3.1/4"	
		OS - Stainless STL	1905.00		6.11/16"	2.7/8"	
		AL - Aluminum	486.00	7.8	---	---	
		BR - Brass	650.00		---	---	
		MI - Malleable Iron	577.00		---	---	
3"	370FXF	OC - Carbon STL	1299.00	10.1	10.1/8"	4.13/16"	
		OS - Stainless STL	3278.00		8.1/4"	3.7/8"	
		AL - Aluminum	600.00		---	---	
		BR - Brass	-----		---	---	
		MI - Malleable Iron	844.00		---	---	
4"	470FXF	OC - Carbon STL	-----	16.7	-----	-----	
		OS - Stainless STL	-----		10.5/8"	4.3/4"	
		AL - Aluminum	805.00		---	---	
		BR - Brass	-----		---	---	
		MI - Malleable Iron	-----		---	---	

Swivels are shipped standard with the following components:

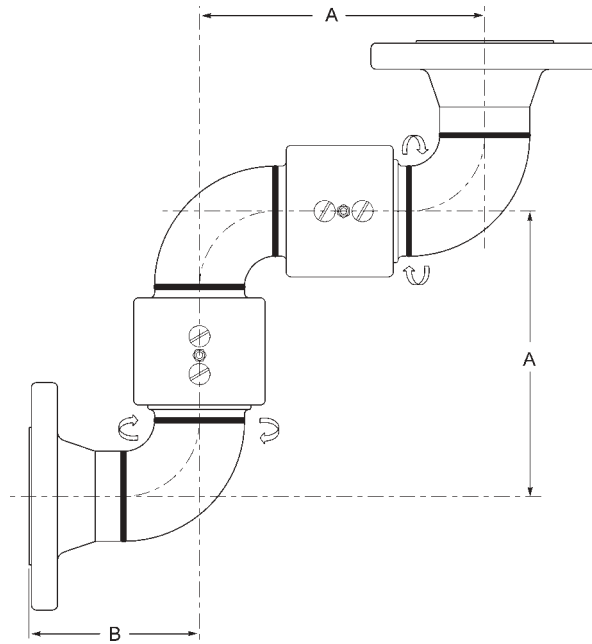
Buna N for Pressure Seals and Dust Seals.

Carbon Steel for Ball Bearings.

Swivel Joints

TRIPLE PLANE 'O' - Ring STYLE 70

150# ASA Flange x 150# ASA Flange



70

Size	Part #	Material	Price	Weight (lbs)	Dimensions (inches)	
					A	B
1"	170FGXFG	OC - Carbon STL	\$ POR		4.59/64"	3.3/16"
		OS - Stainless STL	POR		5.59/64"	
		AL - Aluminum	-----	---	-----	-----
1½"	1570FGFG	OC - Carbon STL	499.00		7.11/16"	4.11/16"
		OS - Stainless STL	985.00			
		AL - Aluminum	POR		6.1/8"	5.11/32"
2"	270FGXFG	OC - Carbon STL	580.00		7.17/32"	4.1/2"
		OS - Stainless STL	1385.00			
		AL - Aluminum	772.00		6.11/16"	5.9/32"
3"	370FGXFG	OC - Carbon STL	875.00		10.1/8"	5.3/4"
		OS - Stainless STL	2245.00			
		AL - Aluminum	925.00		8.1/4"	6.15/32"
4"	470FGXFG	OC - Carbon STL	-----	---	-----	-----
		OS - Stainless STL	-----	---		
		AL - Aluminum	1130.00		10.5/8"	7.19/32"

Swivels are shipped standard with the following components:

Buna N for Pressure Seals and Dust Seals.

Carbon Steel for Ball Bearings.

style

'O' Ring - type swivels

- The O-Ring pressure seal ensures a leak-proof seal at either high or low pressure and smoother rotation at lower torques than multiple seal designs.
- Spring-loaded Teflon pressure seals are available up through 3".
- Carbon Steel and Stainless Steel O-Ring type swivels provide greater strength and corrosion resistance when needed for lower torque applications.

style

'V' Ring - type swivels

- The spring-loaded triple V-Ring sealing system ensures a leak proof seal at either high or low pressure and an extended seal life compared to the conventional single O-Ring design.
- The 3" - 8" Carbon Steel swivels are manufactured from a special grade of Carbon Steel with flame hardened dual raceways for greater load bearing capacity and longer life.
- The Stainless Steel swivels are manufactured in 316 grade Stainless Steel for superior corrosion resistance.

Technical information

USE WITH HOSE

The use of Swivel Joints to compensate for twist in hose (i.e. Style 20 or Style 60) should be carefully reviewed, since **the hose must be sufficiently stiff to generate the torque needed to actuate the swivel before it kinks.**

In many installations, the twist is caused by lateral movement that can be eliminated by the use of a swivel joint that addresses the lateral movement (i.e. Style 40 or Style 30).

Where this is not possible, the use of Hose Swivels may be a solution. Hose Swivels are generally Non-Ball Bearing Designs that require less torque to initiate rotation; however, Hose Swivels are not designed for load bearing service.

Some hoses are unable to generate even the low torque required for a Hose Swivel; many metal hoses fall into this group. Other hoses are stiff enough to turn almost any swivel; many armored hoses fall into this group.

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