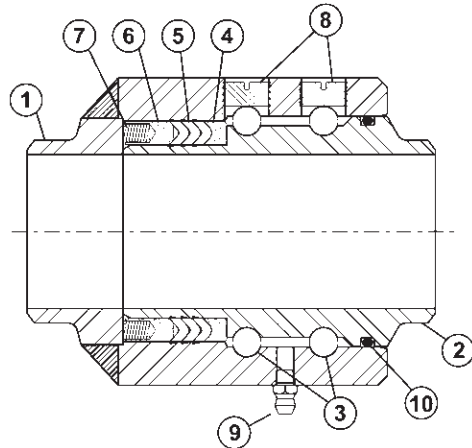


V-Ring Swivel Joints

V-Ring Parts Identification List

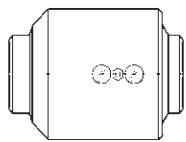
1. body
2. sleeve
3. ball bearings
4. seal retainer
5. V-ring (pressure) seal
6. spring retainer
7. spring
8. ball retainer screw
9. grease fitting
10. O-ring (dust) seal



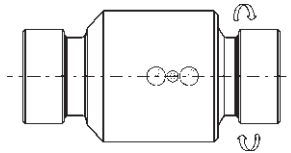
V-Ring Features:

- 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 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.
- available with pressure ratings to 1,000 PSI
- available in carbon steel, stainless steel and aluminum
- **optional 100% full penetration welding available**

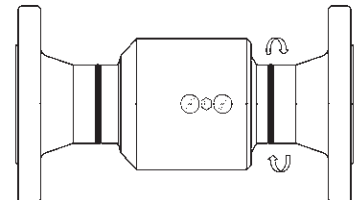
Single Plane V-Ring Style 20



weld end x weld end
sizes 2" - 8"

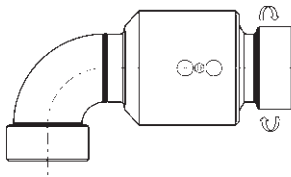


female NPT x female NPT
sizes 2" - 6"

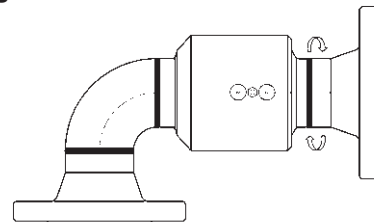


150# ASA flange x 150# ASA flange
sizes 2" - 8"

Single Plane V-Ring Style 30

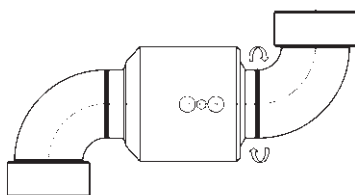


female NPT x female NPT
sizes 2" - 6"

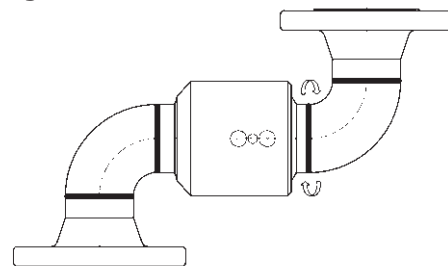


150# ASA flange x 150# ASA flange
sizes 2" - 8"

Single Plane V-Ring Style 40

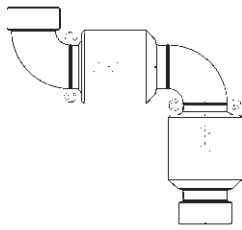


female NPT x female NPT
sizes 2" - 6"

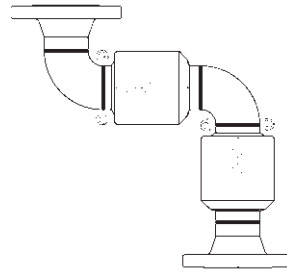


150# ASA flange x 150# ASA flange
sizes 2" - 8"

Double Plane V-Ring Style 50

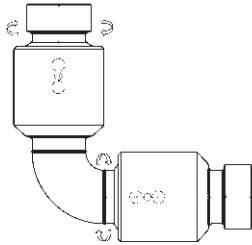


female NPT x female NPT
sizes 2" - 6"

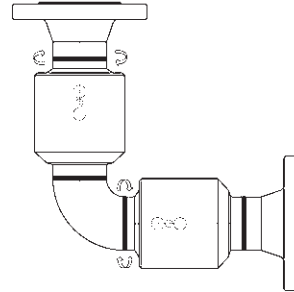


150# ASA flange x 150# ASA flange
sizes 2" - 8"

Double Plane V-Ring Style 60

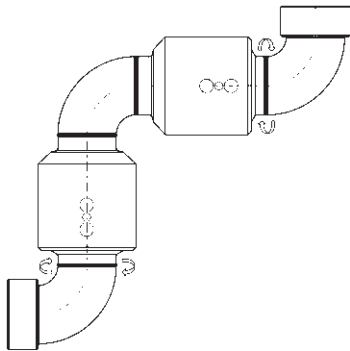


female NPT x female NPT
sizes 2" - 6"

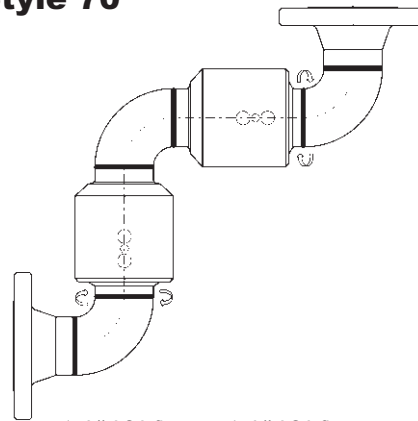


150# ASA flange x 150# ASA flange
sizes 2" - 8"

Double Plane V-Ring Style 70

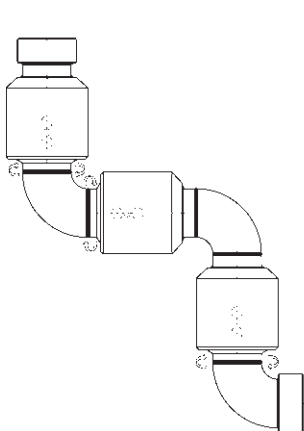


female NPT x female NPT
sizes 2" - 6"

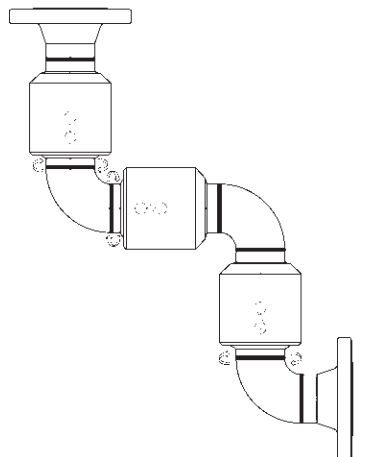


150# ASA flange x 150# ASA flange
sizes 2" - 8"

Triple Plane V-Ring Style 80

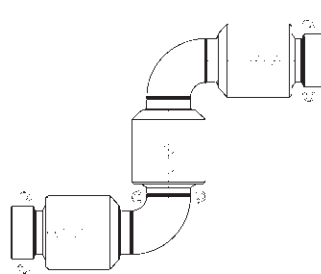


female NPT x female NPT
sizes 2" - 6"

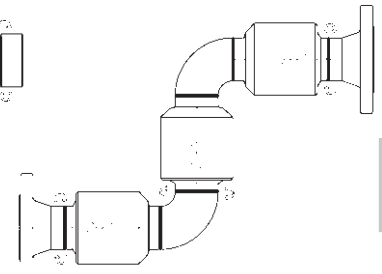


150# ASA flange x 150# ASA flange
sizes 2" - 8"

Triple Plane V-Ring Style 10



female NPT x female NPT
sizes 2" - 6"

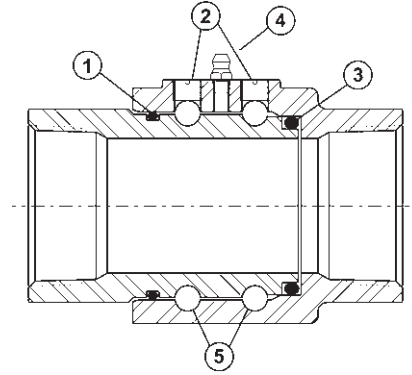


150# ASA flange x 150# ASA flange
sizes 2" - 8"

O-Ring Swivel Joints

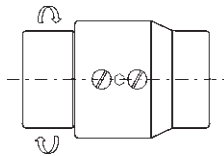
O-Ring Parts Identification List

1. O-ring (dust) seal
2. ball retainer screw
3. O-ring (pressure) seal
4. grease fitting
5. ball bearings

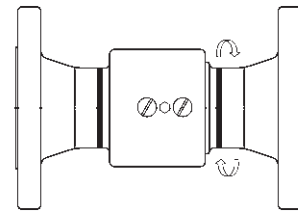


- The O-ring pressure seal ensures a leak-proof seal at either high or low pressure and smoother rotation at lower torques than multiple seal designs.
- Spring-loaded Teflon® pressure seals are available up through 3".
- Carbon steel and stainless steel O-ring type swivels provide greater strength and corrosion resistance needed for lower torque applications.
- available in carbon steel, stainless steel, aluminum, brass and iron
- **optional 100% full penetration welding available**

Single Plane O-Ring Style 20

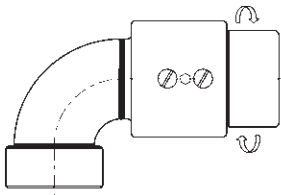


female NPT x female NPT
sizes 1" - 4"

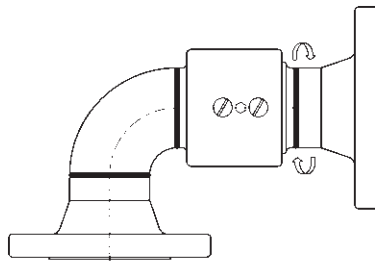


150# ASA flange x 150# ASA flange
sizes 1" - 4"

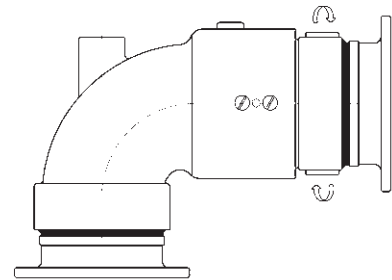
Single Plane O-Ring Style 30



female NPT x female NPT
sizes 1" - 4"

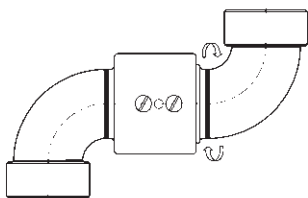


150# ASA flange x 150# ASA flange
sizes 1" - 4"

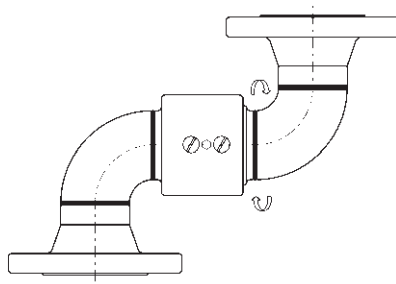


tank truck flange x tank truck flange
sizes 2" - 4"

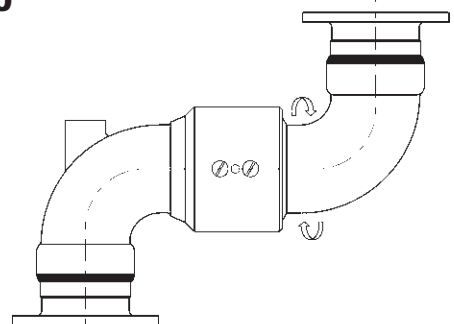
Single Plane O-Ring Style 40



female NPT x female NPT
sizes 1" - 4"

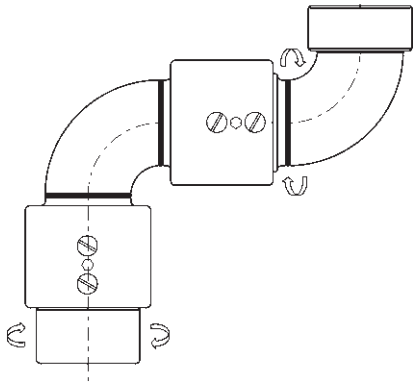


150# ASA flange x 150# ASA flange
sizes 1" - 4"

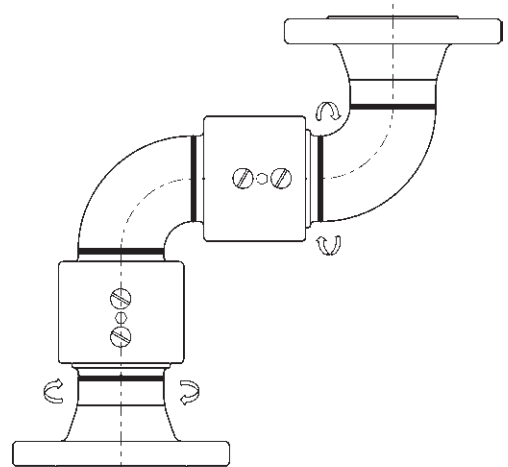


tank truck flange x tank truck flange
sizes 2" - 4"

Double Plane O-Ring Style 50

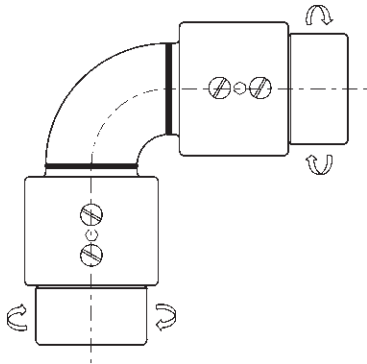


female NPT x female NPT
sizes 1" - 4"

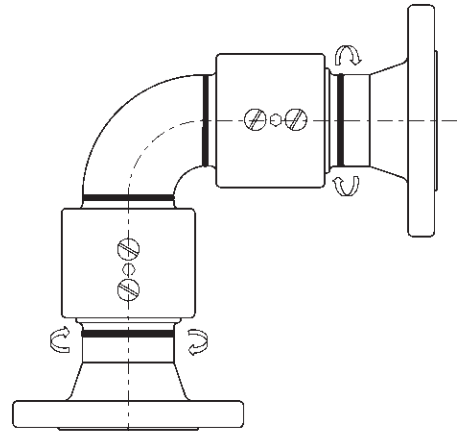


150# ASA flange x 150# ASA flange
sizes 1" - 4"

Double Plane O-Ring Style 60

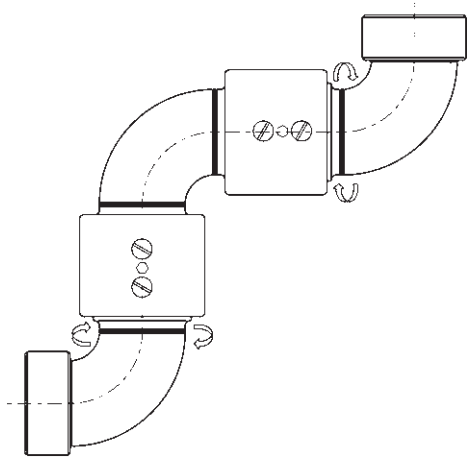


female NPT x female NPT
sizes 1" - 4"

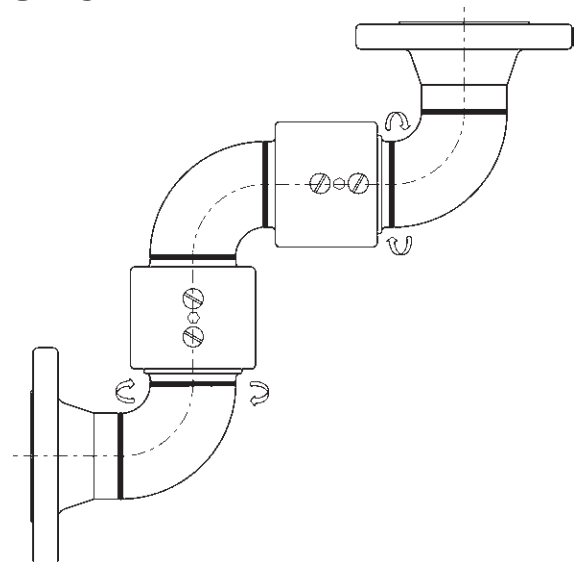


150# ASA flange x 150# ASA flange
sizes 1" - 4"

Triple Plane O-Ring Style 70



female NPT x female NPT
sizes 1" - 4"



150# ASA flange x 150# ASA flange
sizes 1" - 4"

Ordering Information - Swivels

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, please advise concentration) _____

If for constant rotation, advise RPM: _____

If for suction service, advise maximum vacuum in inches of Mercury (Hg): _____

Our factory sales and engineering staff will be happy to help you evaluate your swivel application. Please call 800.355.1991.

	swivel size	swivel style	end configuration	end configuration	swivel material	pressure seal (Buna-N standard)	dust seal (Buna-N standard)	retainers (V-Ring ONLY)	ball bearings (carbon steel standard)	grease	
Example	<u>2</u>	<u>20</u>	<u>F</u>	X	<u>F</u>	<u>CS</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
	[A]	[B]	[C]		[C]	[D]	[E]	[F]	[G]	[H]	[I]

[A] Size
[B] Style (see diagrams)

[C] End Connections	W Weld End	F Female End	FG 150# ASA Flange	TF Tank Truck Flange	PF 300# ASA flange (not available on aluminum)
[D] Material	CS (V-Ring) carbon steel	SS (V-Ring) stainless steel	AL aluminum	BR brass	MI malleable iron
	OC (O-Ring) carbon steel	OS (O-Ring) stainless steel			

Code #	[E] Pressure Seal	[F] Dust Seal	[G] Retainers	[H] Ball Bearings	[I] Grease
0	Buna-N (standard)	Buna-N (standard)	No retainers (O-ring swivels)	Carbon steel (standard)	Standard
1	Viton®	Viton®	Aluminum (standard in CS V-ring)	440 grade stainless	FDA approved/ Food grade
2	Teflon®	---	Teflon® (standard in SS V-ring)	316 grade stainless	Silicone (required with EPR seals)
3	Ethylene Propylene (requires silicone grease)	Ethylene Propylene (requires silicone grease)	---	---	---
4	FDA Buna (O-ring only)	FDA Buna	---	---	---

The swivel should be packed so that the surfaces coming in contact with the fluid being handled are compatible with that fluid. In the case of the use of the swivel in submerged service this would include the dust seals and ball bearings.

Dixon always recommends the use of stainless steel ball bearings when building a swivel for submerged service since the standard carbon steel bearings could rust together making it impossible to disassemble the swivel and possibly affecting its operation.



Safety Break-away Couplings - Breaking Bolt Series Industrial Version

The breaking bolt industrial breakaway coupling is designed to minimize spillage and damage associated with drive away and pull away incidents

- designed to be installed between a fixed point (pipe, pump, manifold) and a hose
- coupling automatically senses an excessive load, closes the valves and disconnects
- high flow rate / low pressure drop
- female NPT is standard, optional ANSI / DIN flanges or male NPT are available
- stainless steel or aluminum
- working pressure: stainless steel 360 PSI and aluminum 230 PSI at ambient temperature (70°F)
- Viton® is standard seal



Size	Width	Length	Weight in Lbs.		Flow Rate/GPM
			Stainless	Aluminum	
2"	4.5"	7"	5	3	200
3"	6.8"	11"	18	8	650
4"	8.3"	12"	34	14	800
5"	10.6"	14"	71	27	1100
6"	12"	16"	101	35	1500
8"	13.5"	17.7"	157	66	3700

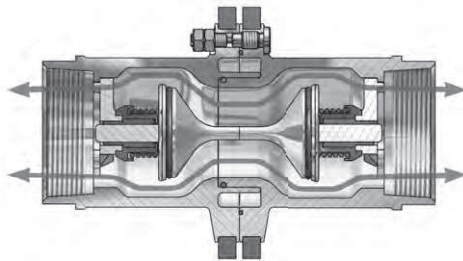
Size	DN	Stainless Steel		Aluminum	
		Part #	Price/E	Part #	Price/E
2"	50	SBC200SS	\$3667.83	SBC200AL	\$1711.86
3"	80	SBC300SS	6484.88	SBC300AL	3324.84
4"	100	SBC400SS	9960.10	SBC400AL	5085.11
5"	125	SBC500SS	0	SBC500AL	0
6"	150	SBC600SS	33608.90	SBC600AL	24709.70
8"	200	SBC800SSFL¹	0	---	---

¹ 150# flange

How it Works

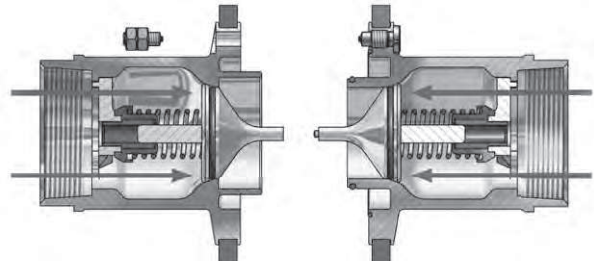
Safety break-away couplings have three external break bolts. In the case of axial tension all of the bolts take up the force corresponding to the break force on the hose with a safety margin.

Non-axial forces concentrate the tension forces more strongly on one bolt, so that the safety break-away coupling reacts in a natural way to the reduction of the hose break forces.



BEFORE emergency disconnect

The safety break-away valve consists of two halves, each with a valve that has a o-ring seal.



AFTER emergency disconnect

When the safety break-away couplings separate, it allows the valves to close. The two valves close rapidly, minimizing exposure to personnel and the environment.

Optional Non-Closure Design

The non-closure design is an economical alternative which allows the coupling to break away due to pull-away/drive-away incidents thus protecting piping systems and equipment. This design allows spillage of product in these instances due to the lack of valving in the coupling.

Useful in applications where non-hazardous product is being conveyed and where there are no environmental concerns. Available in both Industrial and Marine versions. Consult the factory for more information.

TTMA Series Flange Adapters

- provides a simple and easy way to quickly convert threaded components to a standard TTMA flange configuration
- more durable than welded fabrications due to the solid cast lightweight aluminum design
- design improves flow through adapter even on the 3" reducer
- compact size reduces the overall space needed to install
- for flange drilling standards, see page 669

Male Threaded



TTMA flange x male NPT

TTMA flange x standard male NPT

TTMA Flange	Male NPT	Overall Length	Aluminum	
			Part #	Price/E
3"	3"	2½"	TTF3AL-3MT	\$82.45
4"	3"	2½"	TTF4AL-3MT	62.05
4"	4"	2½"	TTF4AL-4MT	57.55

Extended Length - Male Threaded



TTMA flange x male NPT extended length

TTMA flange x extended length male NPT

TTMA Flange	Male NPT	Overall Length	Aluminum	
			Part #	Price/E
4"	3"	5½"	TTF4AL-3EMT	\$82.45
4"	4"	5½"	TTF4AL-4EMT	96.25

Female Threaded



TTMA flange x female NPT

TTMA flange x female NPT

TTMA Flange	Female NPT	Overall Length	Aluminum	
			Part #	Price/E
4"	3"	2½"	TTF4AL-3FT	\$73.80
4"	4"	2½"	TTF4AL-4FT	73.55

Slip-on



TTMA flange x socket weld

TTMA flange x socket weld

TTMA Flange	Pipe Size	Aluminum	
		Part #	Price/E
4"	4"	TTF400SP	\$67.00

Round Tank Truck Flange Gaskets (TTMA)



Size	OD	ID	THK	Material	Part #	Price/E
3"	5-5/8"	3-1/2"	1/8"	Cork / Buna	300GTTFCB	\$3.40
3"	5-5/8"	3-1/2"	1/16"	Teflon® envelope with Klinger filler	300GTTFTK	15.10
3"	5-5/8"	3-1/2"	1/8"	Klingsil® C-4401	300GTTFFK	9.35
3"	5-7/8"	3-1/2"	1/4"	Teflon® with fiber core	40321TF	21.30
4"	6-5/8"	4-9/16"	1/8"	Cork / Buna	400GTTFCB	4.40
4"	6-5/8"	4-9/16"	1/16"	Teflon® envelope with Klinger filler	400GTTFTK	20.75
4"	6-5/8"	4-9/16"	1/8"	Klingsil® C-4401	400GTTFFK	17.80
4"	6-7/8"	4-9/16"	1/4"	Teflon® with fiber core	40322TF	25.60

API Couplers

Dixon Bayco's API coupler is completely modular so the coupler can be built with various face seal combinations to be compatible with different alternative fuel / performance levels and applications. Two models are available: bonded nose seal and replaceable nose seal.

- 4" TTMA inlet mounting flange
- 5 cam design for easy alignment and tight connection
- ball-end handle for easy, comfortable operation
- no special tools needed for maintenance

- shaft seals can be changed without removing coupler from loading arm
- link, shaft, pin and crank: hardened 17-4PH stainless steel
- cam: stainless steel

Technical Specifications:

- weight: 20 lbs.
- maximum working pressure: **150 PSI**
- peak surge pressure: 350 PSI
- operating temperature: **-20°F to 400°F** (Viton-B® seals)
- maximum flow rate: 600 GPM
- pressure drop: 3 to 4 PSI



Replacement parts are available, contact Dixon for more information.

API coupler with bonded nose seal

Seal Material	Part #	Price/E
Buna	5300	\$2275.00
Viton-B®	5300B	2502.50
Viton® GFLT	5300G	2616.00

API coupler with replaceable nose seal

Seal Material	Part #	Price/E
Buna	5400	\$2364.00
Viton-B®	5400B	2600.40
Viton® GFLT	5400G	2718.00

API Load Only Valve

When used with an API coupler (shown above), the API Load only Valve can be used as a high volume Dry-Disconnect connection, suitable for applications such as rail car loading or unloading.



Description	Part #	Price/E
load only API valve without sight glass, ALH nose ring	5204LNG	\$516.05

API Compatible Rack Cords

- cord is available in coiled or straight lengths
- highly visible safety orange jacket to meet trip hazard requirements
- cord is bonded mechanically and has superior abrasion and oil resistance
- cord sets are interchangeable with Scully and Civacon
- plug body is machined from 6061 aluminum and is color coded Optic Blue or Thermistor Green
- button contacts are made from 316 stainless steel to prevent corrosion
- all other hardware is stainless steel
- all wiring is compatible with standard Scully color codes and wiring number configurations
- the 9 pin conductor is shielded to be compatible with Scully VIP system



Model FT600

API Thermistor Assemblies

Description	Part #	Price/E
plug with 30' coiled cable	FT600	\$1036.00
plug with 30' coiled cord for Canada	FT600C	1036.00
plug with 20' straight cable	FT600S	985.85
plug with 20' straight cord for Canada	FT600SC	985.85

replacement parts and accessories

Description	Part #	Price/E
replacement plug body	FT601	\$535.35
replacement plug body for Canada	FT601-10	535.35
replacement 30' coiled cable	FT602	436.95
plug hanger	FT603	311.50

Model FT620

API Optic Assemblies

Description	Part #	Price/E
plug with 30' coiled cable	FT620	\$1036.00
plug with 20' straight cable	FT620S	985.85

replacement parts and accessories

Description	Part #	Price/E
replacement plug body	FT621	\$551.45
replacement 30' coiled cable	FT622	450.10
plug hanger	FT623	320.85



Dixon Vapor Recovery Couplers

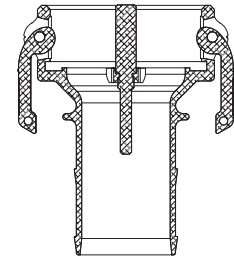
SAFETY
ALERT

- Not intended for liquid service, for vapor recovery *only*.
- cast aluminum body
- bronze arms with stainless steel pins
- plated carbon steel finger rings
- Buna-N gasket



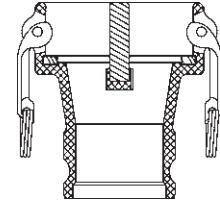
coupler with probe x hose shank

Coupler Size	Hose Shank Size	Aluminum	
		Part #	Price/E
4"	3"	4030-CVR-AL	\$129.10
4"	4"	400-CVR-AL	137.00



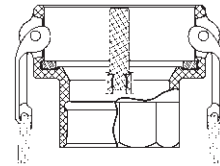
coupler with probe x adapter

Coupler Size	Adapter Size	Aluminum	
		Part #	Price/E
4"	3"	4030-DAVR-AL	\$138.90



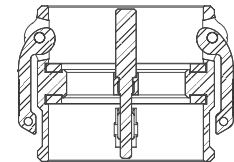
coupler with probe x female NPT

Coupler Size	Female NPT Size	Aluminum	
		Part #	Price/E
4"	3"	4030-DVR-AL	\$144.00
4"	4"	400-DVR-AL	147.00



coupler with probe x coupler with probe

Coupler Size	Coupler Size	Aluminum	
		Part #	Price/E
4"	4"	400-DDVR-AL	\$157.10



Dixon Bayco Vapor Recovery Couplers

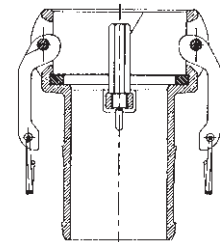
SAFETY
ALERT

- Not intended for liquid service, for vapor recovery *only*.
- for replacement handles use part number **CARP34BZ** page 63
- for use with 3" vapor hose
- cast aluminum body, bronze arms with stainless steel pins and finger rings
- Buna-N gasket



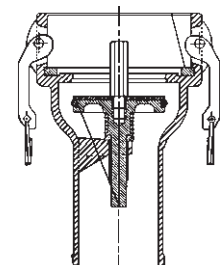
coupler with probe x hose shank

Coupler Size	Hose Shank Size	Aluminum	
		Part #	Price/E
3"	3"	VRC3000AL	\$135.75



coupler with poppet and probe x hose shank

Coupler Size	Hose Shank Size	Aluminum	
		Part #	Price/E
4"	3"	VR4030CS-AL¹	\$200.95



SAFETY
ALERT

- The VR4030CS-AL has a Viton® O-ring poppet seal.
- ¹ The VR4030CS-AL will interchange with all competitor vapor valves *except* Civacon #633LVH (special bulb design).

TTMA Flange Extensions

Flange extensions are used on load arms to connect the API load coupler to the load arm.

- adds a 6" space between the load arm and the tank truck
- Flange extension with groove provides a specified parting point to prevent excessive damage to the loading arm.

Size	Description	Aluminum	
		Part #	Price/E
4"	TTMA flange extension	TETF4AL	\$127.00
4"	TTMA flange extension with groove	TETFG4AL	132.00



TETF4AL



TETFG4AL

Type 35 Loading Arm Swivel

- TTMA loading arm swivel with D style shovel handle
- TTMA flanges on both ends
- shovel handle is used to guide the API load coupler onto the adapter on the tank truck
- long radius elbow improves the flow into the API load coupler and provides spacing between the load arm and the tank truck
- can be used with flange extensions above



style 40

Size	Description	Aluminum	
		Part #	Price/E
4"	style 44H tank truck x Buna tank truck flange	44HTFXTFAL00000	\$1400.00
4"	style 44H tank truck x Viton® tank truck flange	44HTFXTFAL11000	1400.00
4"	style 30 tank truck x Buna tank truck flange	43HTFXTFAL00000	1200.00
4"	style 30 tank truck x Viton® tank truck flange	43HTFXTFAL11000	1200.00



style 30

Type 35 Loading Arm Swivel Replacement Parts

- two repair kits are required for style 50

Size	Description	Part #	Price/E
4"	aluminum nipple	ATN100x7	\$20.00
	D style shovel handle	100DHAN-AL	30.80
	Buna repair kit	4RKOBU	35.00
	Viton® repair kit	4RKOVIVI	53.00