



# Petrochemical Life Cycle ③ Terminal

The content in this phase of the Petrochemical Life Cycle is focused on the numerous transfer applications in the oil and gas field. Featured are the Dixon® products used within the Terminal segment.

Please refer to the Dixon® Price List or [dixonvalve.com](http://dixonvalve.com) for specific part numbers and various other products used in the transfer and control of liquids, gases and dry materials.

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## Safety

Dixon™ couplings and retention devices are designed to work safely for their intended use. The selection of the proper hose, coupling and retention device, and the proper application of the coupling to the hose are of utmost importance.

Users must consider the size, temperature, application, media, pressure and hose and coupling manufacturer's recommendations when selecting the proper hose assembly components. Dixon™ recommends that all hose assemblies be tested in accordance with the Association for Rubber Products Manufacturer's (ARPM) recommendations and be inspected regularly (before each use) to ensure that they are not damaged or have become loose. Visit [ARPMINC.com](http://ARPMINC.com) for more information.

Where safety devices are integral to the coupling, they must be working and utilized. The use of supplementary safety devices such as safety clips or safety cables are recommended.

If any problem is detected, couplings must be removed from service immediately.

Dixon™ is available to consult, train and recommend the proper selection and application of all fittings we sell. We strongly recommend that distributors and end users make use of Dixon Testing and Recommendation Services. Call 877.963.4966 or click [dixonvalve.com](http://dixonvalve.com) to learn more.

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# Dixon® Terminal Products

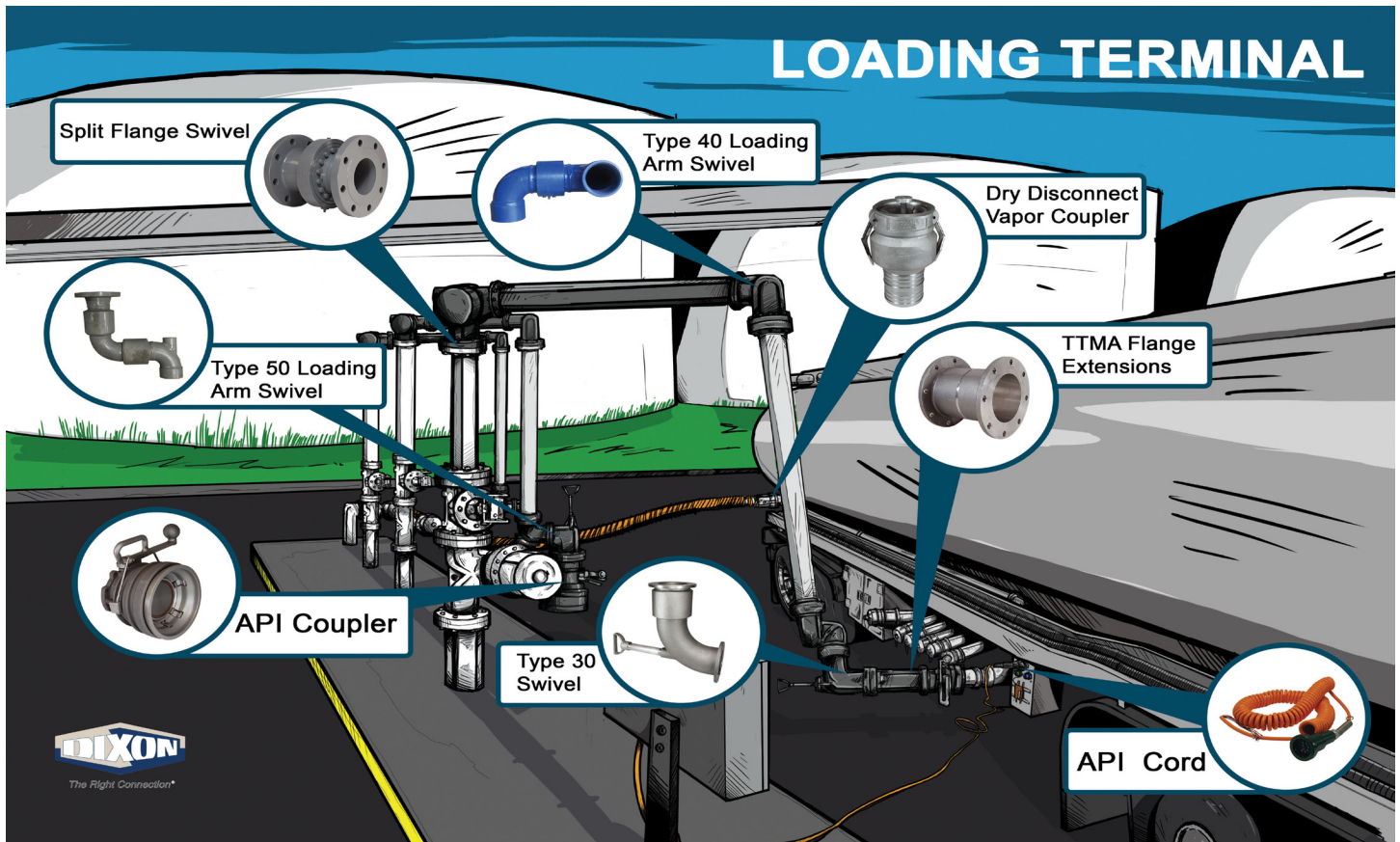
Through innovation, superior product design, and application expertise our objectives are to be the easiest company to do business within the Terminal market. We will maintain the best inventory levels and lead times in the industry while providing training and support before, during, and after the sale. The onsite training at the end user level will focus on high quality manufactured products that extend service life and minimize downtime.



## Terminal Process

Various refined petroleum products are distributed through Terminals to either tanker truck, barge or rail car. Dixon® products are successfully utilized in many of these transfer applications, from dry disconnects and API couplers to rack cords and vapor recovery couplers.

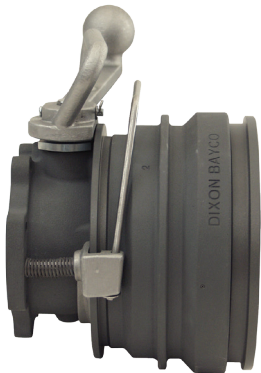
**Dixon® is the right connection!**



# API Fittings - 5300/5400 Series

**NOW WITH  
EXCLUSIVE  
5 YEAR  
MECHANICAL  
WARRANTY\***

\* Normal wear & tear items  
(including seals) not covered



5300 series shown



(nose seal replaceable without removal from the loading arm)



(bonded nose seal which offers long life and cannot be washed out)

**Application:**

- combined with API adapters, these couplers are suitable for rail car and tank truck loading or unloading

**Materials:**

- body: hard coated anodized 356T6 aluminum
- shroud: hard coated anodized 356T6 aluminum with stainless steel insert
- link, shaft, pin and crank: hardened 17-4PH stainless steel
- cam: CF8M stainless steel
- poppet and bearing: Bayloy
- seals: Buna, FKM-B, FKM-GFLT

**Features:**

- locking 5 cam design provides easy alignment and tight connection
- modular design allows various face seal combinations to be compatible with different alternative fuels, performance levels and applications
- shaft seals can be changed without removing coupler from loading arm
- fully interlocked collar cannot be opened when connected and cannot be disconnected when opened
- choice of a bonded nose seal, or a replaceable nose seal which allows quick seal replacement
- 4" TTMA inlet mounting flange connection
- ball-end handle for easy, comfortable operation
- no special tools needed for maintenance
- Chemical Compatibility (FKM-B seals):
  - gasoline
  - diesel
  - jet fuel
  - avgas
  - 100% ethanol
  - 100% methanol
  - 100% biodiesel
  - any blend of the above fluids
  - crude oil
- Chemical Compatibility (Buna seals):
  - gasoline
  - diesel
  - avgas
  - 100% ethanol
  - 100% methanol
  - B2 to B20 biodiesel blends

**Specifications:**

- operating temperature:
  - FKM-B: -10°F to 400°F (-23°C to 204°C), FKM-GFLT: -20°F to 400°F (-28°C to 204°C), Buna seals: -20°F to 250°F (-28°C to 121°C)
- flow rate 600 GPM at 3 PSI pressure drop. Max flow rate 1000 GPM.
- fully compliant with API RP1004:2003 specifications

Size	Seal Material	Bonded Nose Seal Part #	Maximum Working Pressure	Replaceable Nose Seal Part #	Maximum Working Pressure
4"	Buna	<b>5300</b>	<b>150</b>	<b>5400</b>	<b>75</b>
	FKM-B	<b>5300B</b>	<b>150</b>	<b>5400B</b>	<b>75</b>
	FKM-GFLT	<b>5300G</b>	<b>100</b>	<b>5400G</b>	<b>75</b>
	FKM-B	<b>5300BC</b> <sup>1</sup>	<b>150</b>	---	--

<sup>1</sup> designed for high sulfur crude oil service

- Reference the Dixon Bayco Petroleum and Overfill catalog for bill of materials and complete list of repair kits.

**repair kits**

Description	Part #
buna shaft seal kit (for 5300 and 5400)	<b>5354K1</b>
FKM-B shaft seal kit (for 5300B and 5400B)	<b>5354K3</b>
bonded buna nose seal (for 5300)	<b>5354K7</b>
bonded FKM-B nose seal (for 5300B)	<b>5354K9</b>
buna replaceable nose seal kit (for 5400)	<b>5354K13</b>
FKM-B replaceable nose seal kit (5400B)	<b>5354K15</b>



# Dry Gas

**Applications:**

- primary application for dry gas couplings is in the handling of LPG - Propane and Butane
- designed for safe loading and discharge of bobtails or intermediate bulk delivery trucks and transfer to and from rail cars

**Materials:**

- stainless steel and brass / gunmetal (*produced to US government bronze specification G*)
- composite (Polyeten PE-HD 300) plug provides protection in harsh environments
- FKM (FPM) seals

**Features:**

- reliable and easy to maintain
- one piece adapter
- minimizes the risk of cold burns
- minimizes spillage and product loss
- minimizes health risks
- keeps the environment free of hazardous vapors and liquids
- compatible with existing dry disconnect couplings
- quick and easy to connect, can be connected to a tank unit with pressures up to **225 PSI** at ambient temperature **70°F (21°C)**
  - if the pressure is higher you can equip the couplings with a pressure relief valve
  - the easy to connect pressure relief valve dissipates trapped fluid pressure into the hose coupler without spillage

**Specifications:**

- can be coupled to a tank unit with pressures up to **225 PSI**
- working pressure: **360 PSI** at ambient temperature **70°F (21°C)**
- female NPT, female ACME and ASA flanges

## Coupler - Hose Unit

coupler x female NPT with FKM (FPM) seals

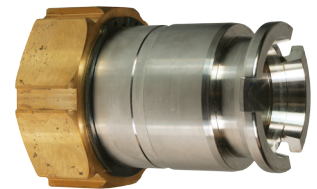
Female NPT	Body Size	316 Stainless Steel Part #
2"	71 mm	<b>DGC200SS</b>



## Adapter - Tank Unit

adapter x female ACME with FKM (FPM) seals

Female ACME	Body Size	316 Stainless Steel Part #
3/4"	71 mm	<b>DGA200SS325</b>



## Mann-Tek Style



3" coupler pictured

### Application:

- applications where it is important to minimize product loss when connecting / disconnecting hose assemblies

### Sizes:

- ¾", 1", 1½", 2", 3", 4" and 6"

### Materials:

- coupling: aluminum, brass / gunmetal or stainless steel
- seat: PDM, NBR - Buna / Nitrile, Kalrez®, Chemraz®, FKM

### Features:

- no need to drain hoses or pipe systems
- no loss or spillage of liquids at connection or disconnection
- valve cannot be opened until the unit is coupled
- safe and reliable due to rugged construction

### Specifications:

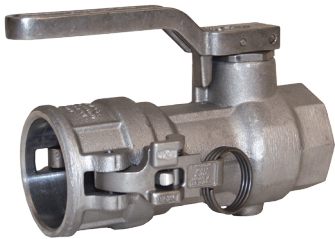
- compatible with Mann-Tek, and Todo-matic® and other products produced according to NATO, standards STANAG 3756
- working pressure:
  - aluminum: **230 PSI** up to 4"
  - brass/ gunmetal : **230 PSI** up to 4"
  - stainless steel: **360 PSI**

### Standards:

- produced according to NATO, standards STANAG 3756 and ATOFINA SGM 2049.TUY.C



## Bayloc™ Cam and Groove Style



straight configuration coupler

### Application:

- helps prevent spillage from normal or accidental disconnects

### Sizes:

- 1½", 2" and 3" female NPT adapters x 2", 2½" and 4" coupler and adapter
- 2", 2½" and 4" couplers / adapters x 2" and 3" flange

### Materials:

- stainless steel or aluminum
- seal: NBR - Buna / Nitrile, FKM, PTFE, EPDM
- call Dixon® for information on chemical compatibility, size, material selection and special configurations

### Features:

- compatible with most cam and groove style dry disconnects
- spring loaded sealing device "snaps" closed should the coupling become disconnected with the poppet open
- two-piece adapter design allows easy rebuilding of adapters
- EZ Boss-Lock™ cam arms provide security against accidental opening
- automatic closing poppet assembly
- stainless steel handle allows product exposure to corrosive chemicals or wash down service
- fully interchangeable with Kamvalok® style fitting



DBA adapter

# Bayonet Style

**Applications:**

- designed for use in the fuel and lube oil service industry

**Sizes:**

- 2" and 3"

**Materials:**

- coupler: anodized aluminum
- adapter: aluminum, brass or stainless steel
- seal: BR - Buna / Nitrile, FKM

**Features:**

- compatible with Emco Wheaton™ Dry Break
- for information on repair kits visit [dixonvalve.com](http://dixonvalve.com)

**Specifications:**

- the maximum pressure rating is **85 PSI at 70°F (21°C)**, for pressure ratings at other temperatures contact Dixon®



coupler x straight female NPT -  
BC62-200



coupler x 90° swivel female NPT -  
BS62-200



adapter x female NPT  
- BA32-200



# VAPOR RECOVERY COUPLERS

**Materials:**

- coupler: aluminum
- seal: Buna N

**Features:**

- 'floating bridge' poppet design allows optimal flow
- machined hose shank ensures easier insertion into hose and better sealing
- durable, easy to couple stainless cam arms unlike brass
- big wings ensure contact with air interlock button on tanker helping prevent drive-offs
- change poppet seal without removing the coupler from the hose
- secure to hose with traditional band clamps or built in crimp collar
- 4" MNPT version allows for either cam and groove or threaded flange option
- 45° version relieves stress common to vapor hoses (swivel version also available)



VR4040CS-AL



VR4030CS-SH



VR4040CS-4MNPT  
(TTF4AL-4FT sold separately)



VR4030CS-AL45 & VR4040CS-AL45



VR4040CSB



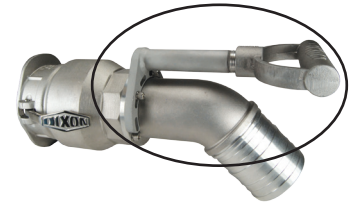
VR4030-AL45



VR4040-AL45



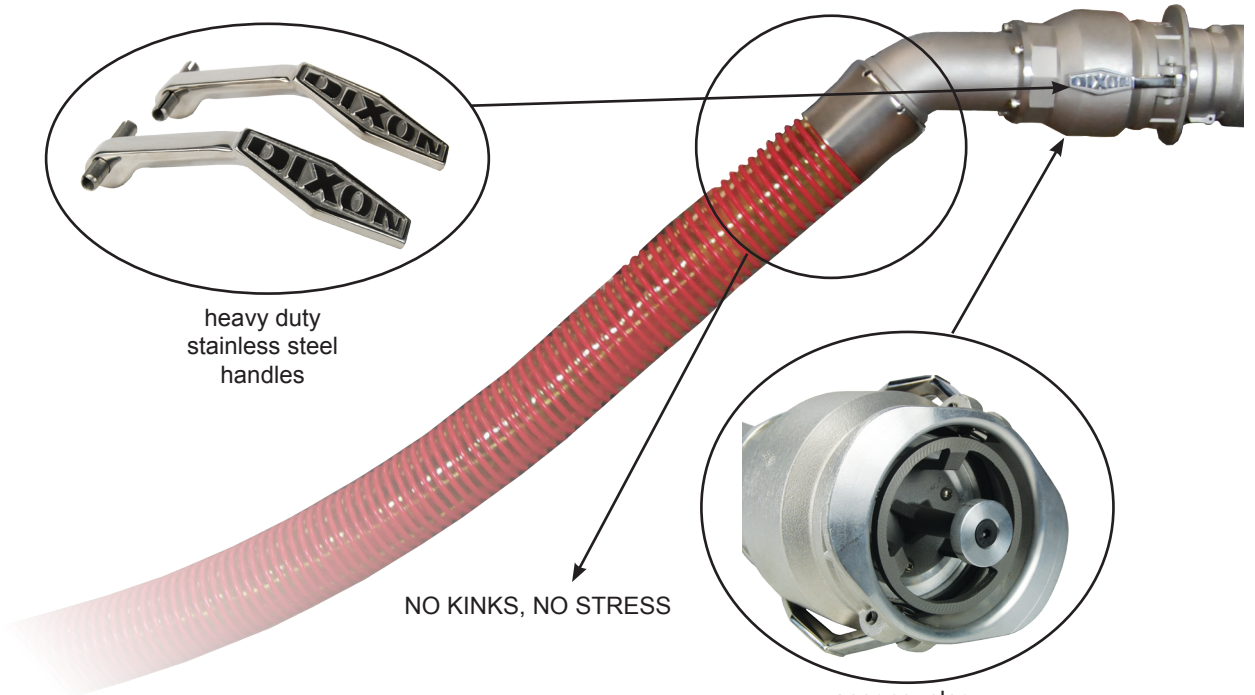
VR4040CS-ALS45



VRHK  
(vapor recovery coupler handle kit  
sold separately)



heavy duty  
stainless steel  
handles



NO KINKS, NO STRESS

vapor coupler  
poppet

**Materials:**

- arms: bronze with stainless steel pins
- finger rings: plated carbon steel
- gasket: Buna-N

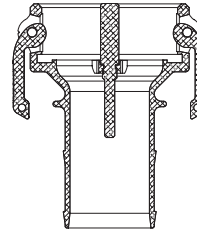
**Features:**

- not intended for liquid service, for vapor recovery *only*
- for use with vapor recovery hose



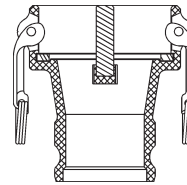
**coupler with probe x hose shank**

Coupler Size	Hose Shank Size	Aluminum Part #
4"	3"	<b>4030-CVR-AL</b>
4"	4"	<b>400-CVR-AL</b>



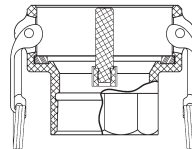
**coupler with probe x adapter**

Coupler Size	Adapter Size	Aluminum Part #
4"	3"	<b>4030-DAVR-AL</b>



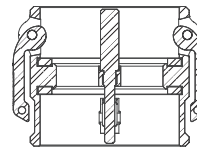
**coupler with probe x female NPT**

Coupler Size	Female NPT Size	Aluminum Part #
4"	3"	<b>4030-DVR-AL</b>
4"	4"	<b>400-DVR-AL</b>



**coupler with probe x coupler with probe**

Coupler Size	Coupler Size	Aluminum Part #
4"	4"	<b>400-DDVR-AL</b>



**Materials:**

- body: cast aluminum
- arms: bronze with stainless steel pins and finger rings
- gasket: Buna-N

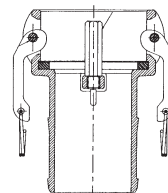
**Features:**

- not intended for liquid service, for vapor recovery *only*
- for use with 3" vapor recovery hose
- VR4030CS-AL has a FKM O-ring poppet seal



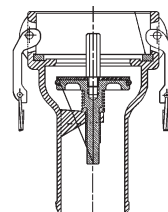
**coupler with probe x hose shank**

Coupler Size	Hose Shank Size	Aluminum Part #
3"	3"	<b>VRC3000AL</b>



**coupler with poppet and probe x hose shank**

Coupler Size	Hose Shank Size	Aluminum Part #
4"	3"	<b>VR4030CS-AL<sup>1</sup></b>



<sup>1</sup> only works with tank trucks that have popped adapters



# VAPOR RECOVERY ADAPTERS



VR4086



VR4050AL



VR4050PL

**Application:**

- used on tank trucks to connect to vapor hose couplings

**Size:**

- 4"

**Materials:**

- bronze and ZN-AL alloy

**Features:**

- for use with dual point vapor elbows (VR6200 series)
- can also be used as vapor valve on tanker but does not have air interlock mount
- popped vapor collar at station vapor outlet
- low profile design
- replacement parts are available, contact Dixon® for more information

Description	Part #
bronze vapor recovery tank adapter, 4" FNPT, 3 $\frac{5}{8}$ " height, with vapor poppet	<b>VR4086</b>
bayloy™ vapor recovery tank adapter, 4" FNPT, 3 $\frac{5}{8}$ " height, with vapor poppet	<b>VR4086-BY</b>
aluminum vapor recovery cap, colored vapor orange, push-pull T handle, buna gasket	<b>VR4050AL</b>
nylon vapor recovery cap, colored vapor orange, push-pull T handle, Buna gasket	<b>VR4050PL</b>
aluminum vapor recovery cap, colored vapor orange, push-pull T handle, Buna gasket, with chain	<b>VR4050ALC</b>
nylon vapor recovery cap, colored vapor orange, push-pull T handle, Buna gasket, with chain	<b>VR4050PLC</b>

Reference Dixon Bayco Petroleum and Overfill catalog for repair kits and replacement parts. Product instruction sheets and technical data can be viewed on our website at [dixonvalve.com](http://dixonvalve.com)

## Vapor Recovery Repair Kits

Description	Part #
seal repair kit	<b>VR4040CSRK1</b>
cam arm repair kit	<b>VR4040CSRK2</b>
internal part kit	<b>VR4040CSRK3</b>
4" x 45° hose shank kit	<b>VR4040-AL45</b>
3" x 45° hose shank kit	<b>VR4030-AL45</b>
vapor coupler body complete kit	<b>VR4040CSB</b>
case repair	<b>VR4040CSRK4</b>
3" straight hose shank	<b>VR4030-AL</b>



# API Compatible

**Materials:**

- plug body: reinforced nylon
- button contacts: 316 stainless steel to prevent corrosion
- all other hardware: stainless steel

**Features:**

- plug is color coded Optic Blue or Thermistor Green
- highly visible safety orange jacket to meet trip hazard requirements
- cord is bonded mechanically and resistant to abrasion and oil
- cord sets are interchangeable with Scully and Civacon
- 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
- for mating socket consult Dixon®



## FT590 Series Terminal Test Equipment

**Application:**

- verify performance of terminal overfill monitors and read the trailer identification modules
- this tester will verify operation and display the unique serial number you need to enter into the terminal automation system

**Features:**

- rack monitor testers and mini trailer overfill system have the same API compatible signals
- when connected to the API plug will cause the Terminal Overfill Monitor to switch permissive
- tester contains a liquid level sensors, API compatible socket, ground bolt and trailer identification module all rewired into one unit
- FloTech FT530 is a self contained microprocessor capable of reading the serial number embedded into the trailer identification module located in the trailer socket

Description	Part #
rack tester thermistor with ground bolt	<b>FT590TG</b>
rack tester thermistor with ground bolt and trailer identification module	<b>FT590TGT</b>
rack tester optic with ground bolt	<b>FT590OG</b>
rack tester optic with ground bolt and trailer identification module	<b>FT590OGT</b>
trailer identification module reader	<b>FT530</b>



FT530



FT590OG



FT590TGT

# API RACK CORD CROSS REFERENCE CHART

## API Rack Cord Assemblies

FloTech Part #	Civacon Part #	Scully Part #	API		Cord		J-Slots			Pins			Breakaway Plug	
			Thermistor "Green"	Optic "Blue"	20' Straight	30' Coiled	2	3	4	6	8	10	Optic "J560" Aluminum	Thermistor 13 Pin Plastic
<b>FT600</b>	7300SR-7300	21818	✓			✓	✓				✓			
<b>FT600-4</b>	---	---	✓			✓			✓		✓			
<b>FT600C</b>	7300CSR-7300	31092	✓			✓			✓			✓		
<b>FT600C-2</b>	7300C-7300	---	✓			✓	✓					✓		
<b>FT600P</b>	7320SR-7320	---	✓			✓	✓				✓			✓
<b>FT600P-4</b>	---	---	✓			✓			✓		✓			✓
<b>FT600S</b>	7300-STRAIGHT	20830	✓		✓		✓				✓			
<b>FT600SC</b>	7300C-STRAIGHT	---	✓		✓				✓			✓		
<b>FT600CP</b>	---	---	✓			✓			✓			✓		✓
<b>FT600SP</b>	---	---	✓				✓				✓			✓
<b>FT605C</b>	---	---		✓		✓			✓		✓			
<b>FT620</b>	7100SR-7100	21831		✓		✓		✓		✓	✓			
<b>FT620P</b>	7100-J560	---		✓		✓		✓		✓	✓		✓	
<b>FT620X620</b>	---	---		✓		✓		✓		✓	✓			
<b>FT620S</b>	7100-STRAIGHT	21764		✓	✓			✓		✓	✓			

## API Rack Cord Parts

FloTech Part #	Description	API		Cord		J-Slots			Pins			
		Thermistor "Green"	Optic "Blue"	20' Straight	30' Coiled	2	3	4	6	8	10	
<b>FT601</b>	replacement green plug assembly, 2 J-slots, 8 pins	✓				✓					✓	
<b>FT601-4</b>	replacement green plug assembly, 4 J-slots, 8 pins	✓						✓			✓	
<b>FT601-10</b>	replacement green plug assembly, 4 J-slots, 10 pins	✓						✓				✓
<b>FT602</b>	replacement 30' coiled cord, Thermistor 10 conductor	✓			✓							
<b>FT603</b>	Thermistor plug storage hanger	✓						✓				
<b>FT604</b>	replacement 20' straight cord, Thermistor 10 conductor	✓		✓								
<b>FT621</b>	replacement blue plug assembly, 3 J-slots, 6 pins		✓					✓		✓		
<b>FT622</b>	replacement 30' coiled cord, optic 6 conductor		✓		✓			✓		✓		
<b>FT623</b>	optic plug storage hanger		✓					✓				
<b>FT624</b>	replacement 20' straight cord, optic 6 conductor		✓	✓								

# Breaking Bolt Series

## Marine Version

**Applications:**

- designed to minimize spillage and damage associated with pull-away incidents
- typical applications include: ship-to-offshore platform and ship-to-ship product transfer operations
- **designed to be installed within a hose string where the coupling will have a length of hose attached to both sides**

**Materials:**

- body: 316T1 stainless steel
- O-rings: FKM (FPM)

**Features:**

- coupling automatically senses an excessive load, closes the valves and disconnects, release is executed when force causes bolts to break
- optional non-closure design is available, contact Dixon®

**Specification:**

- working pressure: **360 PSI** at ambient temperature **70°F (21°C)**



Size	Width	Length	Weight in Lbs.	Flow Rate/ GPM
2"	4.5"	7"	5.7	200
3"	6.8"	11"	18.8	650
4"	8.3"	12"	34.1	800
5"	10.6"	14"	71	1100
6"	12"	16"	101	1500
8"	13.5"	17.7"	157	3700

### 150# Flange x 150# Flange

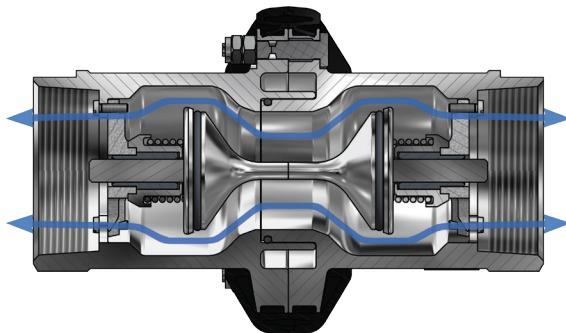
Size	DN Size	316 Stainless Steel Part #
2"	50	<i>MSBC200SSFL</i>
3"	80	<i>MSBC300SSFL</i>
4"	100	<i>MSBC400SSFL</i>
5"	125	<i>MSBC500SSFL</i>
6"	150	<i>MSBC600SSFL</i>
8"	200	<i>MSBC800SSFL</i>



### How it Works

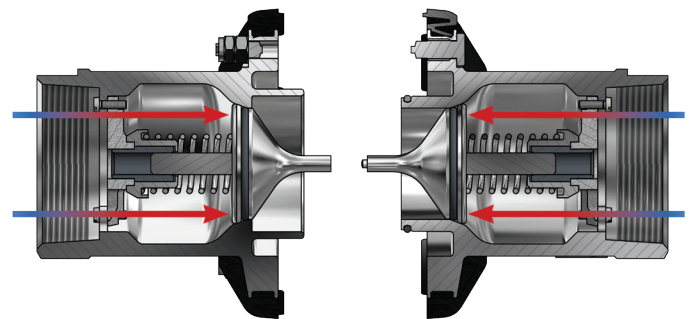
Safety break-away couplings have three external break bolts. In the case of axial tension all of the bolts take up the force corresponding to the break force on the hose with a safety margin. Non-axial forces concentrate the tension forces more strongly on one bolt, so that the safety break-away coupling reacts in a natural way to the reduction of the hose break forces.

**A tanker barge unloads by using 2, 8" dock hoses using 2, 3500 gpm pumps. If the tide switches and causes the barge to shift and the hose to pull away, 7000 gpm spills. How fast can the nearby operator close the 8" gate valves 1 minute, 5 minutes or 10 minutes? Having a Dixon® marine safety break-away ensures less than 1 gallon of product will be spilled.**



**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.



## Industrial Version



Size	Width	Length	Weight in Lbs.	Flow Rate/ GPM
4"	8.3"	12"	14	800

### Applications:

- designed to minimize spillage and damage associated with pull-away incidents
- typical applications: loading rack
- **designed to be installed between a fixed point (pipe, pump, manifold) and a hose**

### Features:

- coupling automatically senses an excessive load, closes the valves and disconnects
- high flow rate / low pressure drop
- FKM (FPM) is standard seal
- optional non-disclosure design is available, contact Dixon®

### Specification:

- working pressure: stainless steel **360 PSI** and aluminum **230 PSI** at ambient temperature **70°F (21°C)**

## TTMA Flanged Breakaway Coupling



### Application:

- installs between an API coupler and loading arm

### Features:

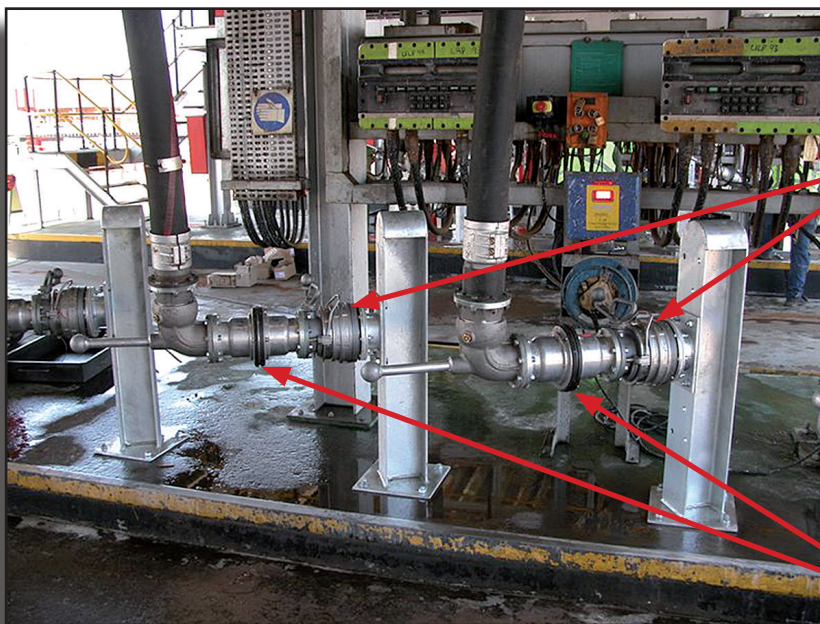
- minimizes spillage and damage associated with drive away and pull away incidents
- coupling automatically senses excessive load, closes the valves and disconnects
- high flow rate / low pressure drop
- FKM/FPM is standard seal

### Specification:

- **230 PSI** at ambient temperature **70°F (21°C)**

Size	Aluminum Part #
4"	<b>SBC400ALTTMA</b>

## Products in use at a Facility



API couplers

Safety breakaway couplings

# TTMA Series Flange Adapters

**Features:**

- simply and easily converts threaded components to a standard TTMA flange configuration
- solid cast lightweight aluminum design is more durable than welded fabrications
- design improves flow through adapter
- compact size reduces the overall space needed to install

## Male Threaded

TTMA flange x standard male NPT

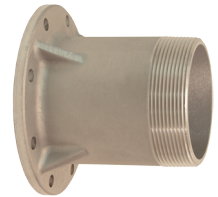
TTMA Flange	Male NPT	Overall Length	Aluminum Part #
3"	3"	2½"	<b>TTF3AL-3MT</b>
4"	3"	2½"	<b>TTF4AL-3MT</b>
4"	4"	2½"	<b>TTF4AL-4MT</b>



## Extended Length - Male Threaded

TTMA flange x extended length male NPT

TTMA Flange	Male NPT	Overall Length	Aluminum Part #
4"	3"	5½"	<b>TTF4AL-3EMT</b>
4"	4"	5½"	<b>TTF4AL-4EMT</b>



## Female Threaded

TTMA flange x female NPT

TTMA Flange	Female NPT	Overall Length	Aluminum Part #
4"	3"	2½"	<b>TTF4AL-3FT</b>
4"	4"	2½"	<b>TTF4AL-4FT</b>



## Slip-on

TTMA flange x socket weld

TTMA Flange	Pipe Size	Aluminum Part #
4"	4"	<b>TTF400SP</b>



# Round Tank Truck Flange Gaskets (TTMA)



Size	OD	ID	THK	Material	Part #
3"	5 <sup>5</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>8</sub> "	Cork / Buna	<b>300GTTFCB</b>
3"	5 <sup>5</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>16</sub> "	PTFE envelope with Klinger filler	<b>300GTTFTK</b>
3"	5 <sup>5</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>8</sub> "	Klingersil® C-4401	<b>300GTTFK</b>
3"	5 <sup>5</sup> / <sub>8</sub> "	3 <sup>5</sup> / <sub>8</sub> "	1 <sup>1</sup> / <sub>8</sub> "	Baylast™	<b>300GTTFBL</b>
3"	5 <sup>7</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>4</sub> "	PTFE with fiber core	<b>40321TF</b>
4"	6 <sup>5</sup> / <sub>8</sub> "	4-9/16"	1 <sup>1</sup> / <sub>8</sub> "	Cork / Buna	<b>400GTTFCB</b>
4"	6 <sup>5</sup> / <sub>8</sub> "	4-9/16"	1 <sup>1</sup> / <sub>16</sub> "	PTFE envelope with Klinger filler	<b>400GTTFTK</b>
4"	6 <sup>5</sup> / <sub>8</sub> "	4-9/16"	1 <sup>1</sup> / <sub>8</sub> "	Klingersil® C-4401	<b>400GTTFK</b>
4"	6 <sup>5</sup> / <sub>8</sub> "	4 <sup>5</sup> / <sub>8</sub> "	1 <sup>1</sup> / <sub>8</sub> "	Baylast™	<b>400GTTFBL</b>
4"	6 <sup>7</sup> / <sub>8</sub> "	4-9/16"	1 <sup>1</sup> / <sub>4</sub> "	PTFE with fiber core	<b>40322TF</b>

## Betts Wet-R-Dri™ Valve



**Application:**

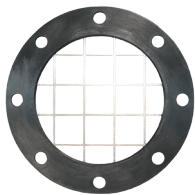
- designed for handling liquid, gaseous or dry products

**Features:**

- positive stop in the open and closed position
- detent spring and ball assist in holding the disc in the open and closed position

Size	Description	Part #
3"	TTMA Wet-R-Dri™ valve manually operated detent handle	<b>WD301ALVB</b>
3"	TTMA Wet-R-Dri™ valve manually operated metering handle	<b>WD304ALVB</b>
4"	TTMA Wet-R-Dri™ valve manually operated detent handle	<b>WD401ALVB</b>
4"	TTMA Wet-R-Dri™ valve manually operated metering handle	<b>WD404ALVB</b>

## TTMA Flange Screen



**Materials:**

- stainless steel screen is encapsulated in an FKM gasket

Size	Description	Stainless Steel Part #
4"	screen with 1" square holes	<b>TTFS4SS</b>

# TTMA Sight Flow Indicators

**Features:**

- due to the proprietary blending of petroleum products, Dixon® recommends that the thermoplastic tubing and the gaskets be immersion tested in the product to be handled to ensure compatibility (not compatible with crude oil)
- for tank truck flange gaskets go to [dixonvalve.com](http://dixonvalve.com)
- tank truck flange dimensional information at [dixonvalve.com](http://dixonvalve.com)



**Specification:**

- maximum flange bolt torque is 200 in-lb (inch pounds)



**TTMA pattern flanged acrylic sight flow indicators**

Size	Nominal Width	Acrylic Part #
3"	1¾"	<b>TT3ASG-ETH</b> <sup>1</sup>
4"	1¾"	<b>TT4ASG-ETH</b> <sup>1</sup>



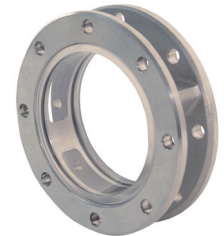
<sup>1</sup> for use with ethanol

**TTMA pattern flanged short sight flow indicators**

**Features:**

- allows for visual identification of the fuel grade prior to opening the valve
- works with tank truck flanged butterfly valves found on gasoline trucks
- low cost sight glass tube can be easily replaced
- durable cast aluminum housing replaces competitions all acrylic sight glass

Size	Width	Aluminum Part #
4"	1¾"	<b>5200-SFI</b>



**sight flow indicator with 4¾" flow**

**Features:**

- allows for visual identification of the fuel grade prior to opening the valve
- works with tank truck flanged butterfly valves found on gasoline trucks
- larger ID 4¾" flow indicator allows tank truck flanged butterfly valves to connect to either end of the indicator

**Specification:**

- rated to **150 PSI**

Size	Width	Aluminum Part #	Opt Qty
4"	3¼"	<b>5201-SFI</b>	5



**replacement parts**

Description	Part #
replacement Baylast™ O-rings, sight glass & retaining ring	<b>5201-SFI-RK1</b>
Buna-N O-ring	<b>O249BU</b>

**sight flow indicator with 4" flow**

**Features:**

- allows for visual identification of the fuel grade prior to opening the valve
- 4" flow diameter

Size	Aluminum Part #	Opt Qty
4"	<b>4-1460-AL</b>	10

**replacement parts**

Description	Part #	Opt Qty
plexiglass insert	<b>4PSG</b>	10
Buna-N O-ring	<b>O246BU</b>	10





## Low Pressure Swivels



### Applications:

- used wherever a leak-proof swivel connection is needed in pipelines or in combination with hoses to eliminate hose twisting
- industries range from petroleum, petrochemical, refining, mining, distilling, paint, farm irrigation and fertilizing, wastewater treatment plants and food and beverage process equipment
- Dixon®'s swivel joints are found in blending plants, drum filling applications, fluid and dry bulk transfer, vacuum trucks, oil and gas trucks and water trucks; larger swivels can be found in the steel industry and marine bulk transfer

### Materials:

- seal options: Buna, FKM, PTFE, EPDM, FDA Buna, FFKM
- ball bearing materials: carbon steel, 440 stainless steel, and 316 stainless steel
- grease materials: Lithium, FDA approved/food grade and silicone

### Features:

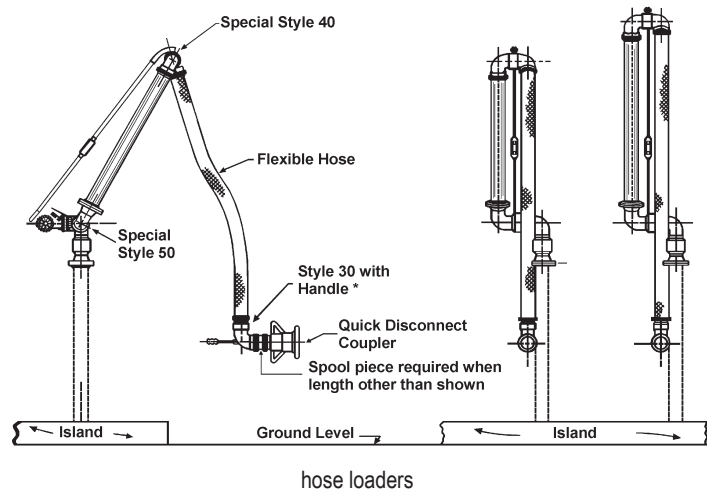
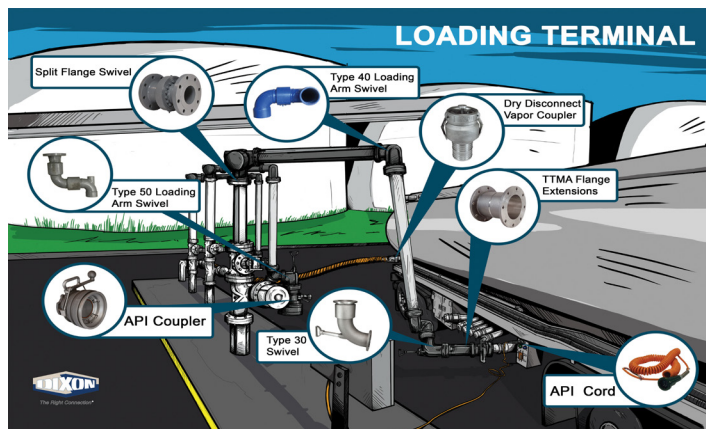
- full 360° rotational movement
- wide spacing between dual ball bearing raceways ensures greater load bearing capacity
- precision-machined design ensures alignment and years of trouble-free service
- O-ring dust seal protects the ball races and seals chamber from outside elements
- radius elbow design ensures a smooth flow pattern
- hydrostatic testing is performed on all swivels before shipment
- re-build kits available

### Specifications:

- end configurations: female NPT, 150# flanges, TTMA flange, grooved, weld end and many other variations
- swivels that include oxygen, steam or submerged service can be specifically designed for unique applications (special order)
- 100% full penetration weld
- custom swivel options available, contact Dixon® at 888.226.4673

Swivel configurator available on [dixonvalve.com](http://dixonvalve.com)

## Typical Applications



# Loading Arms



## Applications:

- used in the transfer of liquids and dry bulk in refineries, chemical plants, rail terminals, truck terminals, tote and drum filling and food industry

## Sizes:

- 2", 3", 4" and more upon request

v

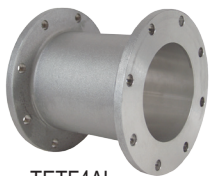
## Materials:

- various materials available including: hardened carbon steel, 316L stainless steel and aluminum
- seals: Buna, EPDM, FKM A and B, PTFE, Baylast and more on request
- counterbalance housing: steel

## Features:

- three options for sealing swivels: O-ring, V-ring and Split Flange
- fast delivery for many sizes and styles
- engineered with easy service in mind
- wide variety of end configurations available
- torsion spring counterbalance:
  - ball screw adjustment mechanism for easy and safe adjustment
  - multiple spring rates available for different load requirements
  - multiple grease ports for ease of service
- selection guide and configuration tool available at [dixonvalve.com/loadingarms](http://dixonvalve.com/loadingarms)

# TTMA Flange Extensions



TETF4AL



TETFG4AL

**Application:**

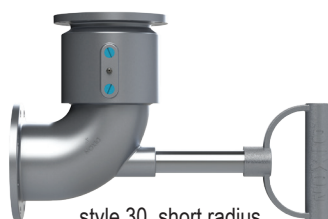
- used on load arms to connect an API load coupler to the load arm, provides a specified parting point to prevent excessive damage to the loading arm

**Feature:**

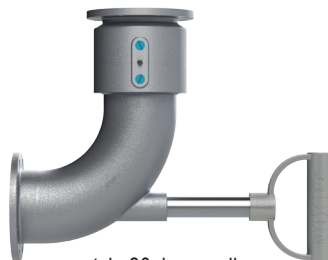
- adds a 6" space between the load arm and the tank truck

Size	Description	Aluminum Part #
4"	TTMA flange extension	<b>TETF4AL</b>
4"	TTMA flange extension with groove	<b>TETFG4AL</b>

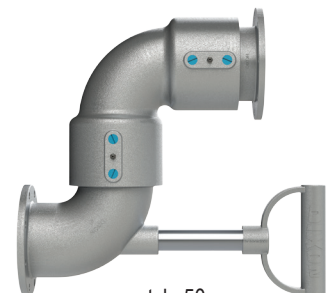
# Loading Arm Swivels



style 30, short radius



style 30, long radius



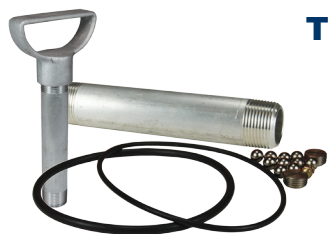
style 50

**Features:**

- TTMA loading arm swivel with heavy duty D style shovel handle
- 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
- FKM swivel seals are compatible with ethanol blended fuel
- can be used with flange extensions above
- TTMA flanges on both ends

Size	Description	Aluminum Part #
4"	Style 30 short radius, with handle, TTMA x TTMA flanges w/ Buna seals	<b>43HTFXTFAL00000</b>
	Style 30 short radius, with handle, TTMA x TTMA flanges w/ FKM seals	<b>43HTFXTFAL11000</b>
	Style 30 short radius, without handle, TTMA x TTMA flanges w/ Buna seals	<b>430TFXTFAL00000</b>
	Style 30 short radius, without handle, TTMA x TTMA flanges w/ FKM seals	<b>430TFXTFAL11000</b>
	Style 30 long radius, with handle, TTMA x TTMA flanges w/ Buna seals	<b>43HTFTFLAL00000</b>
	Style 30 long radius, with handle, TTMA x TTMA flanges w/ FKM seals	<b>43HTFTFLAL11000</b>
	Style 30 long radius, without handle, TTMA x TTMA flanges w/ Buna seals	<b>430TFTFLAL00000</b>
	Style 30 long radius, without handle, TTMA x TTMA flanges w/ FKM seals	<b>430TFTFLAL11000</b>
	Style 50 with handle, TTMA x TTMA flanges w/ Buna seals	<b>45HTFXTFAL00000</b>
	Style 50 with handle, TTMA x TTMA flanges w/ FKM seals	<b>45HTFXTFAL11000</b>
	Style 50 without handle, TTMA x TTMA flanges w/ Buna seals	<b>450TFXTFAL00000</b>
	Style 50 without handle, TTMA x TTMA flanges w/ FKM seals	<b>450TFXTFAL11000</b>

## Type 35 Loading Arm Swivel Replacement Parts



Description	Part #
4" schedule 80 aluminum nipple	<b>ATN100X7</b>
D Style heavy duty shovel handle	<b>100DHAN-AL</b>
buna seal kit	<b>4RKOBU</b>
FKM seal kit	<b>4RKOVIVI</b>

# Split Flange Swivels

## Application:

- used in industries from petroleum, blending plants, petrochemical, refining, mining, distilling, paint plants, farm irrigation and fertilizing, wastewater treatment, food and beverage process equipment and marine

## Sizes:

- 2", 3" and 4"

## Materials:

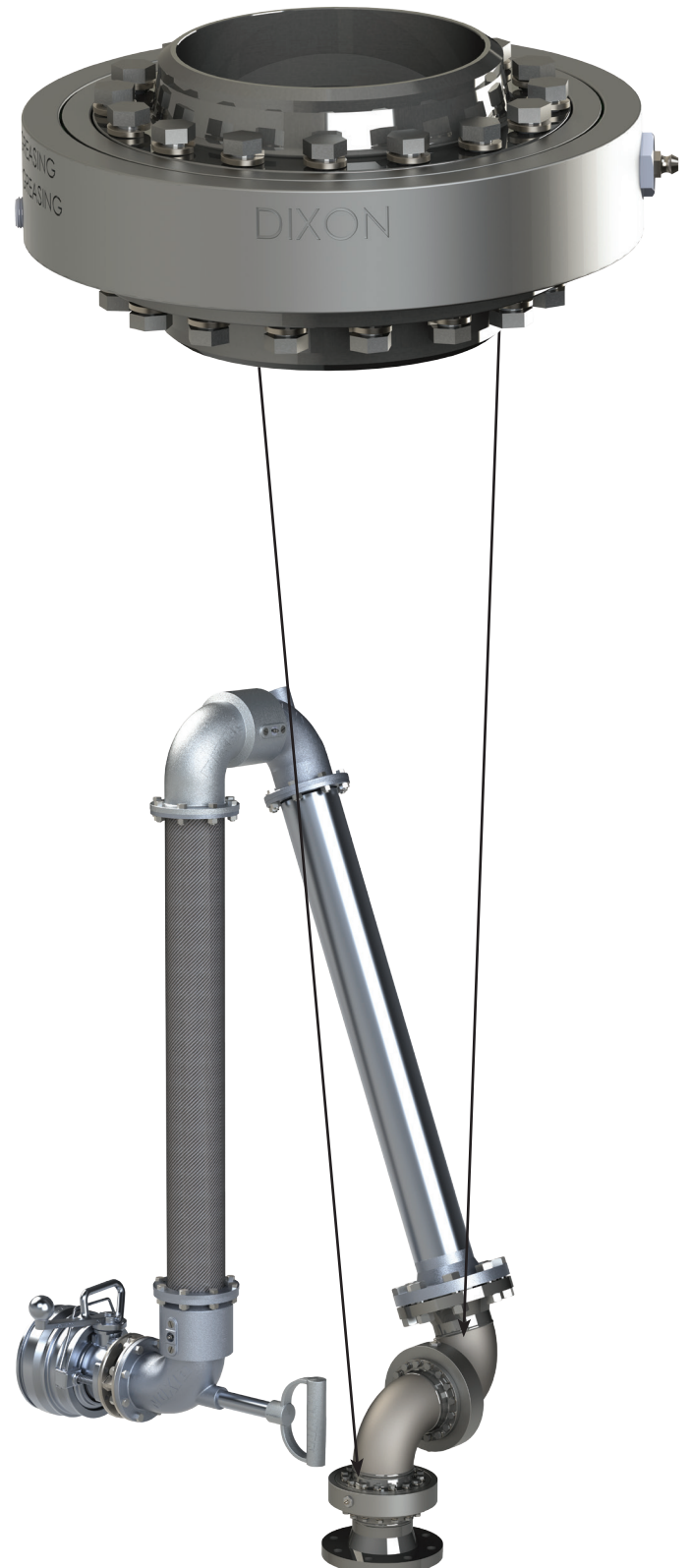
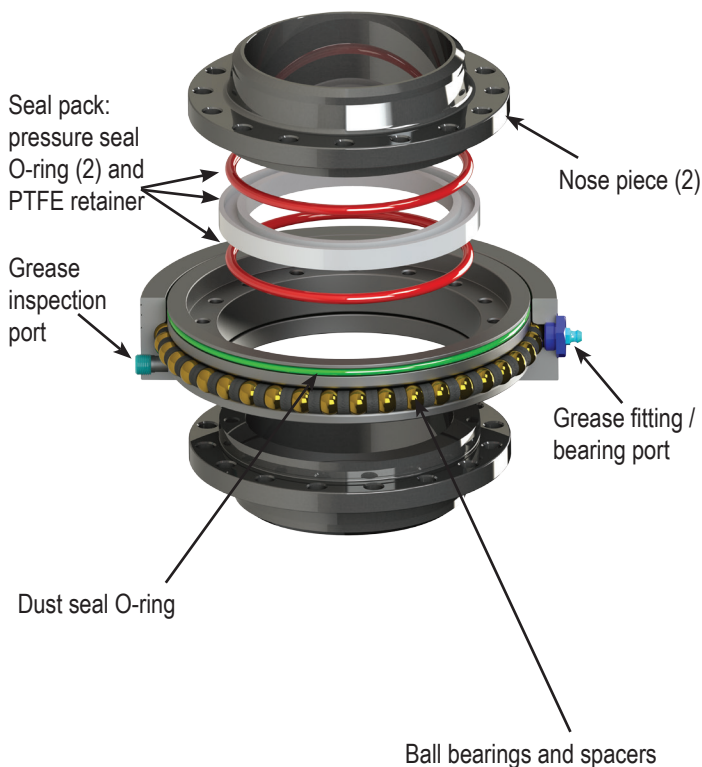
- bearing pack: through hardened forged high carbon alloy
- material contact surfaces: stainless steel or carbon steel nose pieces

## Features:

- bearing pack design allows easy seal change without removing the ball bearings
- simple maintenance: remove one nose piece, replace seal pack, and reinstall with little down-time
- instream seal separates the wetted area from the ball bearings allowing for longer bearing pack life over conventional swivels
- wide set bearing race for higher moment loads
- compact design for low profile applications

## Specifications:

- pressure rating: up to **600 PSI**
- temperature: **-40°F to 450°F (-40°C to 232°C)** depending on seal material with standard seals: **350°F (176°C)**
- stock end configurations: 150 lb. and 300 lb. flanges, FNPT, butt weld, others per request
- stock seals: Baylast™, FKM, PTFE, others per request
- full penetration weld







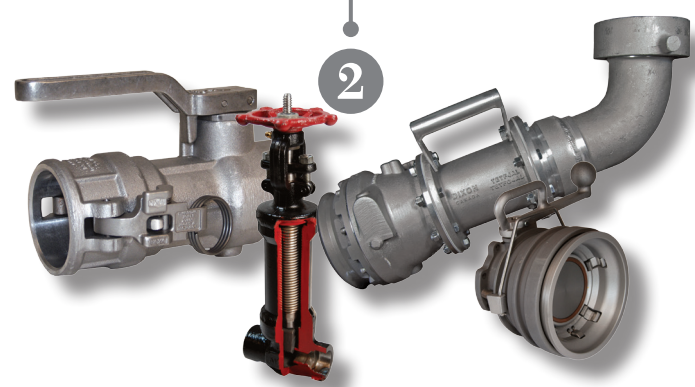
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**REFINING**



**TRANSPOR**



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- Split Flange Swivel



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