



The Right Connection®



Loading Arms

dixonvalve.com

Customer Service

877.963.4966

Loading Arms



Style 30, short radius

Style 30, long radius

Style 40

Style 50

Style 70

Applications:

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

Sizes:

- 2", 3", 4"

Features:

- Three arm swivel options: o-ring, v-ring, or split flange
- Two base swivel options: v-ring or split flange
- Fast delivery for many sizes and styles
- Engineered with easy service in mind
- D-handle/ball 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, allowing for clearance
- 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
- Many different end connections offered as well as accessories; contact Dixon for more information

Materials:

- Arm: carbon steel, aluminum, 316 stainless steel
- Counterbalance/Base Swivel: 316 stainless steel, carbon steel
- Seals: Buna-N, FKM-A, NPRN, PTFE, and more upon request
- Hose: 321/316/304 stainless steel or composite

Available options:

- All styles: a-frame, scissor, horizontal, pantograph, supported/unsupported boom, etc.

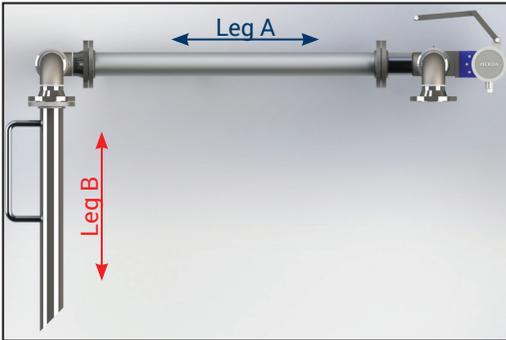
Section 1: Configuration(s)

a.

A-frame

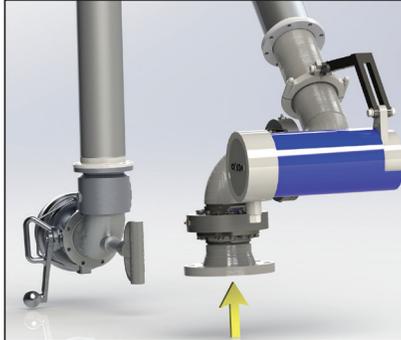


Horizontal (top load)

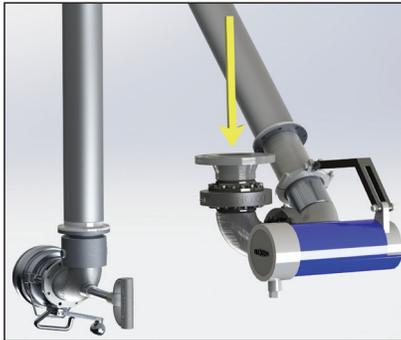


b.

Upfeed

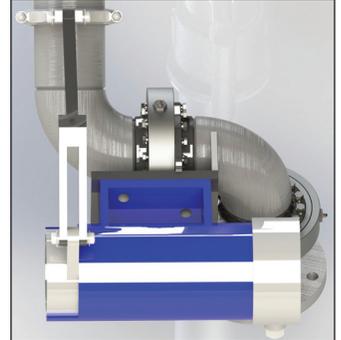


Downfeed

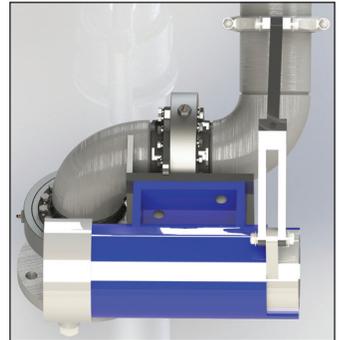


c.

Left-hand



Right-hand



d.

Other style arm: _____

Section 2: Component Measurements and Material

(Measure from center of swivel to center of swivel to the whole foot, i.e. 48", 60", etc.)

Leg A Length: _____ Material: carbon steel aluminum stainless steel

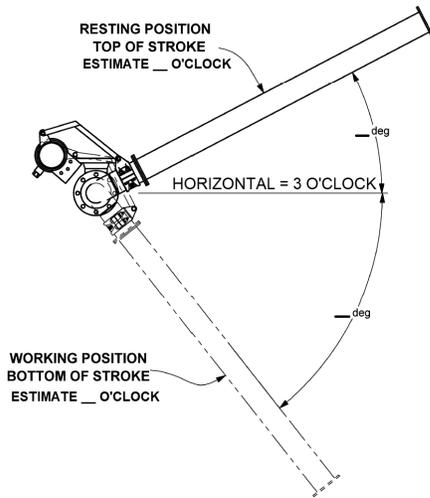
Leg B Length: _____ Material: carbon steel aluminum metal hose stainless steel
 composite hose

Custom options are available. Contact Dixon Specialty Products at 888.226.4673 or load-arms@dixonvalve.com.

Section 3: Application Information

- a. End user name: _____ Phone: _____
 Contact person: _____ Email: _____
 Distributor name: _____ Phone: _____
 Contact person: _____ Email: _____
- b. Quantity: _____
- c. Pipe size: 2" 3" 4" other: _____ "
- d. Base swivel: split flange style v-ring style
- e. Riser stand pipe connection: 150 ANSI flange 300 ANSI flange TTMA flange other: _____
- f. Type of media: asphalt fuel other: _____
- g. Terminal end connections (optional items for each media):
- | | | | |
|---------------------------------------|--------------------------------------|--|--------------------------------------|
| <input type="checkbox"/> 45° pipe cut | <input type="checkbox"/> bucket hook | <input type="checkbox"/> deflector | <input type="checkbox"/> handle |
| <input type="checkbox"/> API coupler | <input type="checkbox"/> breakaway | <input type="checkbox"/> flange extension | <input type="checkbox"/> sight glass |
| <input type="checkbox"/> D-handle | <input type="checkbox"/> ball handle | <input type="checkbox"/> locking mechanism | |
- h. Seals (Dixon can recommend based on media): Buna-N FKM-A PTFE EPDM

Section 4: Site Limitations



- a. Ceiling or roof height from riser pipe connection distance:

- b. Additional items (vapor hoses, drip buckets, hold-down chains, etc.) and estimated weight (pounds):

- c. Range of motion required (list approximate range of motion desired by clock method or degree method):

Sketches/Notes:

Custom options are available. Contact Dixon Specialty Products at 888.226.4673 or load-arms@dixonvalve.com.

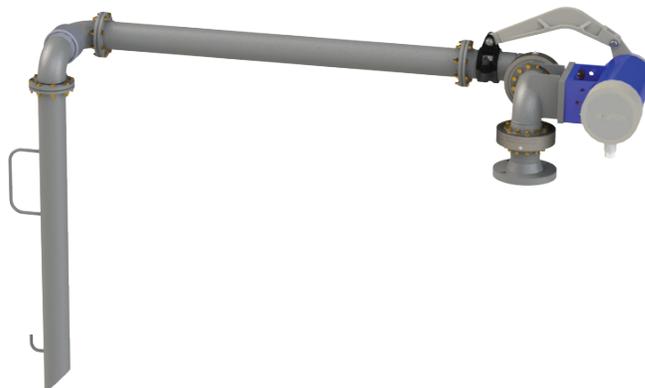
Top Loading Arms

Sizes:

- 2", 3", 4"

Features:

- Three arm swivel options: o-ring, v-ring, or split flange
- Two base swivel options: v-ring or split flange
- Left- or right-handed
- 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
- Fast delivery for many sizes and styles
- Engineered with easy service in mind
- Many different end connections and accessories; contact Dixon for more information



Materials:

- Arm: carbon steel, aluminum, 316 stainless steel
- Counterbalance/Base Swivel: 316 stainless steel, carbon steel
- Seals: Buna-N, FKM-A, NPRN, PTFE, and more upon request

Locking Mechanism

Application:

- Used in asphalt applications to help reduce sudden arm movement caused by clogged pipes or pressure changes

Material:

- Carbon steel



LA-LOCKINGASSEM
Locking Mechanism

Scissor Style Arms

Application:

- Extended reach for horizontal loading

Sizes:

- 2", 3", 4"

Features:

- Three arm swivel options: o-ring, v-ring, or split flange
- Two base swivel options: v-ring or split flange
- Left- or right-handed
- Fast delivery for many sizes and styles
- Engineered with easy service in mind
- 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
- Larger range of motion able to hit multiple fill points
- Many different end connections and accessories; contact Dixon for more information



Materials:

- Arm: carbon steel, aluminum, 316 stainless steel
- Counterbalance/base Swivel: 316 stainless steel or carbon steel
- Seals: Buna-N, FKM-A, NPRN, PTFE, and more upon request

Bottom Loading Arms

**Sizes:**

- 2", 3", 4"

Features:

- Three arm swivel options: o-ring, v-ring, or split flange
- Two base swivel options: v-ring or split flange
- Left- or right-handed
- Torsion spring counterbalance:
 - Ball screw adjustment mechanism for easy, safe adjustment
 - Multiple spring rates available for different load requirements
 - Multiple grease ports for ease of service
- Fast delivery for many sizes and styles
- Engineered with easy service in mind
- Many different end connections and accessories; contact Dixon for more information

Materials:

- Arm: carbon steel, aluminum, 316 stainless steel; optional drop leg with metal or composite hose
- Counterbalance/base Swivel: 316 stainless steel, carbon steel
- Seals: Buna-N, FKM-A, NPRN, PTFE, and more upon request

Loading Arm Base Swivels

**Sizes:**

- 2", 3", 4"

Features:

- Three arm swivel options: o-ring, v-ring, or split flange
- Two base swivel options: v-ring or split flange
- Left- or right-handed
- Torsion spring counterbalance:
 - Ball screw adjustment mechanism for easy, safe adjustment
 - Multiple spring rates available for different load requirements
 - Multiple grease ports for ease of service
- Fast delivery for many sizes and styles
- Engineered with easy service in mind
- Many different end connections and accessories; contact Dixon for more information

Materials:

- Counterbalance/base Swivel: 316 stainless steel, carbon steel
- Seals: Buna-N, FKM-A, NPRN, PTFE, and more upon request

Loading Arm Legs/Spools

Sizes:

- 2", 3", 4"

Features:

- Inlet and outlet: TTMA flanged
- Connections: TTMA flanged, 150# flanged, MNPT, FNPT, weld connection, and 300 lb. flange

Materials:

- Arm: carbon steel, aluminum, 316 stainless steel; optional drop leg with metal or composite hose
- Special piping upon request



Counterbalance

Features:

- Includes pivot arm (shown) and spring to help prevent possible pinch point
- Easy-adjust tension bolt, carbon steel housing
- Carbon steel

Description	Part Number
light-duty white torsion spring, right hand	ESB1/A
medium-duty yellow torsion spring, right hand	ESB1/B
heavy-duty red torsion spring, right hand	ESB1/C
light-duty black torsion spring, left hand	ESB1/E
medium-duty grey torsion spring, left hand	ESB1/F
heavy-duty orange torsion spring, left hand	ESB1/G



ESB1/A

Counterbalance Arm Accessories

Features:

- Clamps connect pivot arm bar to the counterbalance
- Pivot arm guard helps eliminate possible pinch point

Materials:

- Clamp: iron
- Pivot arm: nylon-based, fiber-reinforced plastic

Size	Description	Part Number
2"	clamp	ESB-CLAMP-2
3"	clamp	ESB-CLAMP-3
4"	clamp	ESB-CLAMP-4
---	pivot arm guard	ESB1-PGUARD



ESB1-PGUARD



ESB-CLAMP-3

Top Loading Valves and Accessories

Applications:

- Manual or remote controlled valve mounts before the loading arm horizontal leg to control flow
- Use in top loading fuels and other low viscosity media

Features:

- BSP threaded vacuum breaker standard
- TTMA flanges on both ends standard
- Manually operated "deadman" style with spring-loaded handle
- Optional remote handle available

Materials:

- Valve: aluminum
- Vacuum breaker body: brass
- Vacuum breaker housing: aluminum
- Seals: FKM

Size	Description	Part Number
3"	top loading valve with vacuum breaker	TLV-300TFVBVIAL
4"	top loading valve with vacuum breaker	TLV-400TFVBVIAL
3"	valve remote, handle, and bracket kit with bar	TLRVK-300AL
3"	valve remote, handle, and bracket kit	AT1350-3
4"	valve remote, handle, and bracket kit	AT1350-4
½"	vacuum breaker, BSP threads	VB-050-BSP
½"	vacuum breaker, NPT threads	VB-050-NPT



TLV-400TFVBVIAL



TLRVK-300AL



VB-050-BSP

Top Loading Diffusers/T-Deflectors



TLD-300S



TLTD-400S

Application:

- Installed on drop leg of a top load loading arm to distribute media evenly to help reduce splash

Features:

- Diffusers distribute media evenly 360°
- T-deflectors distribute media to the sides of the tank, railcar, or tote

Material:

- Aluminum

Size	Description	Part #
3"	360° Diffuser	TLD-300S
	T-deflector	TLTD-300S
4"	360° Diffuser	TLD-400S
	T-deflector	TLTD-400S

Loading Arm Support Braces



LA_BRACE3

Application:

- Support the load on the arm for applications with a long reach or high moment load

Features:

- Pillow-bearing support with turnbuckle for easy adjusting
- Clamp included for easy loading arm attachment

Material:

- Carbon steel

Size	Description	Part #
3"	360° Diffuser	LA-BRACE3
4"	T-deflector	LA-BRACE4

Split Flange Swivel Handles and Locks



LA-SFLOCKTHK-S



100*HAN-AL



ATN100X7

Applications:

- Locks the loading arm into a horizontal position
- Not to be used vertically

Feature:

- Single or multiple hole design

Material:

- Carbon steel

Description	Part Number
Locking single hole T-handle kit for split flange swivel joints	LA-SFLOCKTHK-S
Locking multiple hole T-handle kit for split flange swivel joints	LA-SFLOCKTHK-M
Ball handle for loading arm swivels	100BHAN-AL
D-handle for loading arm swivels	100DHAN-AL
1" Schedule 80 nipple 7" OAL	ATN100X7

O-Ring Swivel Joints

Applications:

- Commonly used in aluminum loading/unloading arm applications

Sizes:

- 1" - 4"

Features:

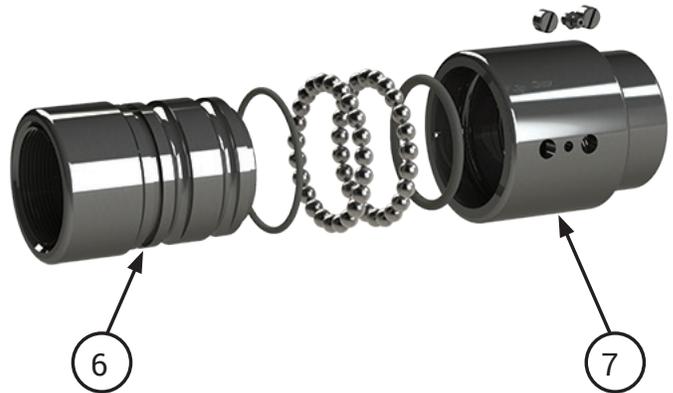
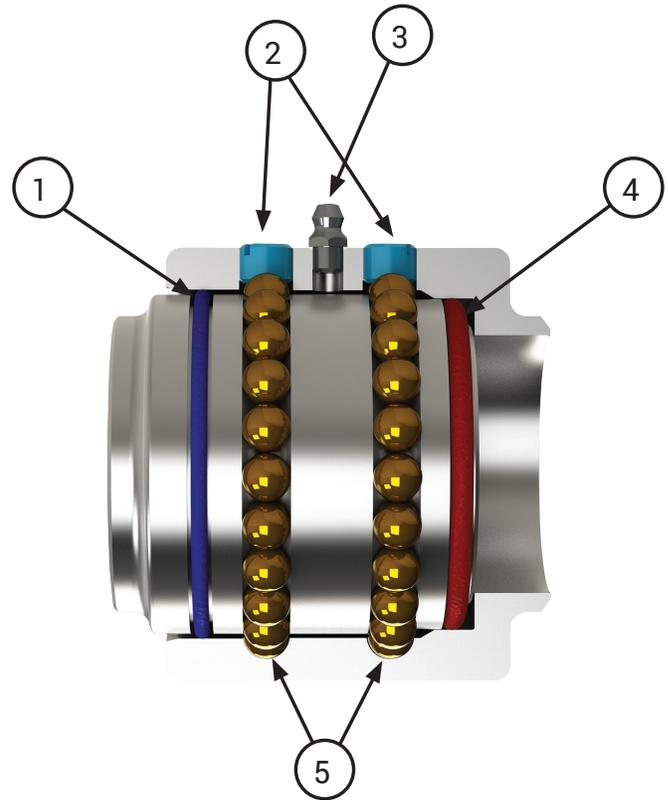
- O-ring pressure seal ensures a leak-proof seal and smooth rotation with lower torque
- Smooth moving seal for high-volume drum and tote loading
- Available working pressure ratings up to 1000 PSI
- Swivel end configurations: 150 lb. and 300 lb. flanges, FNPT, MNPT, butt weld, TTMA, and others upon request

Materials:

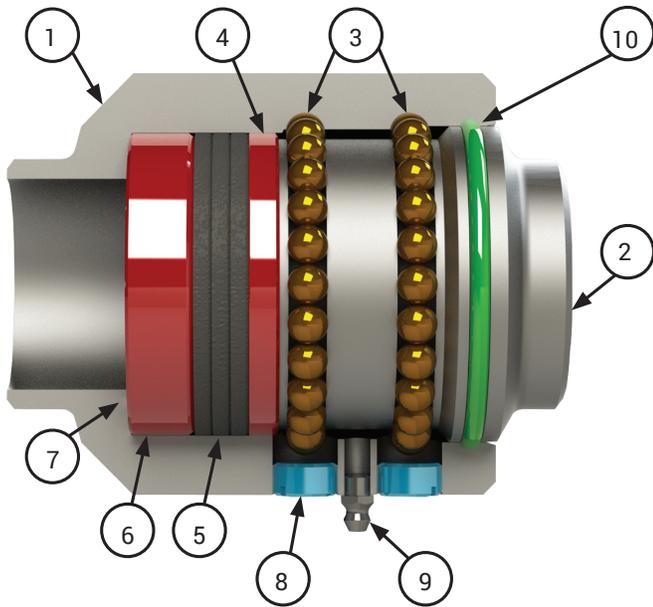
- Available in carbon steel, 316L stainless steel, aluminum, brass, and malleable iron

Bill of Materials:

1. O-ring (dust) seal
2. Ball retainer screw
3. Grease fitting
4. O-ring (pressure) seal
5. Ball bearings
6. Sleeve
7. Body



V-Ring Swivel Joints



Applications:

- V-ring, also known as chevron packing, is a multiple lip seal known for its reliability and long life
- Designed to seal even under misalignment caused by race wear from years of service. The three lip seals and the ability to seal even if the unit is in misalignment result in longer time between service periods, increasing up-time efficiencies, and lowering maintenance costs

Sizes:

- 2" - 12"

Features:

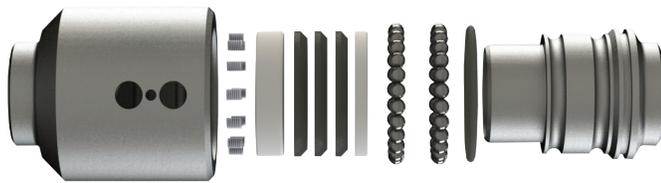
- Spring loaded triple v-ring sealing system ensures a leak-proof seal at high or low pressure and extends seal life
- Swivels are shipped standard with the following:
 - Buna-N pressure seals and dust seals
 - Carbon steel ball bearings
 - PTFE retainers are standard in V-ring swivels
- Available working pressure ratings up to 1000 PSI

Materials:

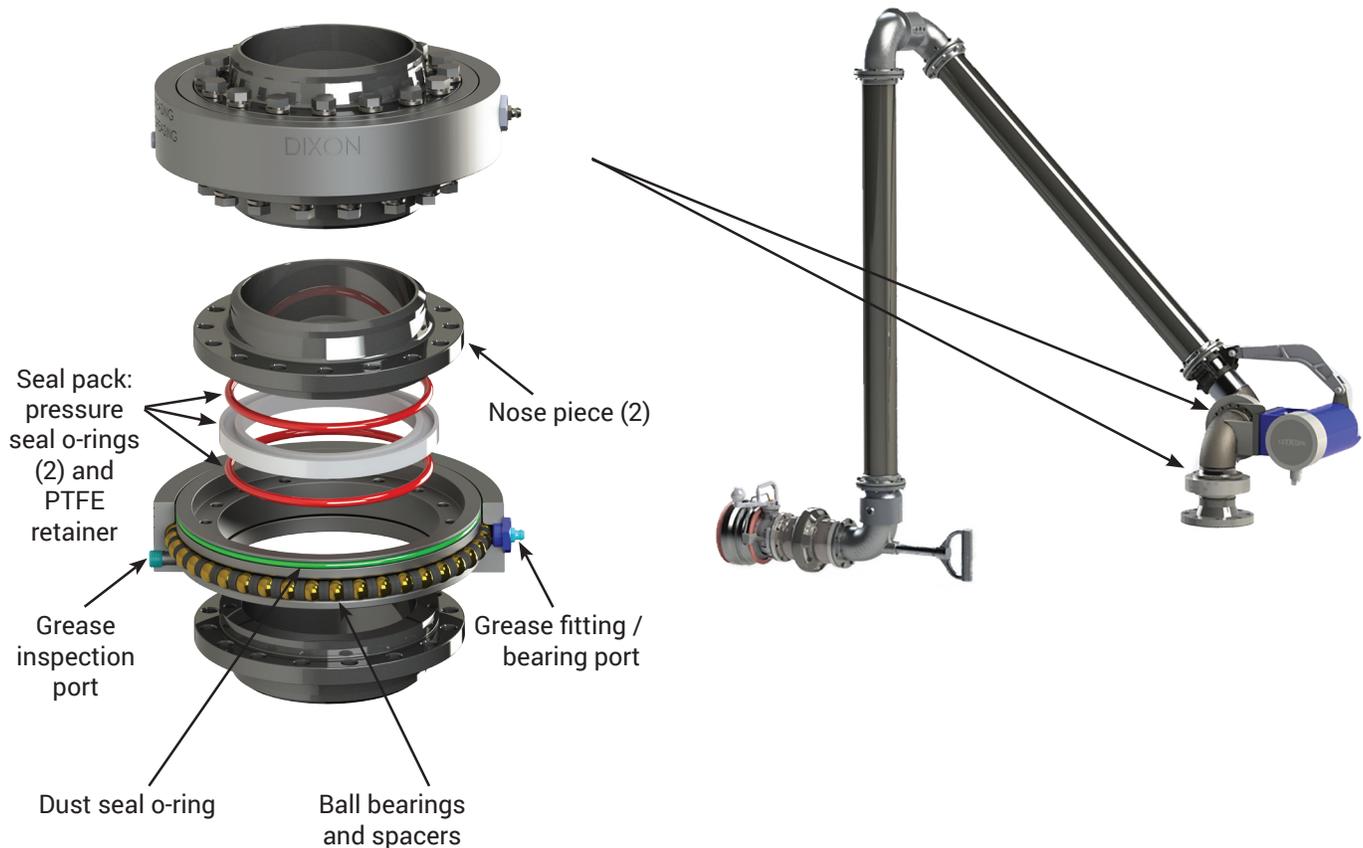
- Carbon steel, 316L stainless steel, and aluminum

Bill of Materials:

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)



Split Flange Swivels



Applications:

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

Sizes:

- 2", 3", 4"

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 downtime
- In-stream seal separates the wetted area from the ball bearings, allowing for longer bearing pack life compared to conventional swivels
- Wide-set bearing race for higher moment loads
- Compact design for low-profile applications
- Full penetration weld

Materials:

- Bearing pack: through hardened forged high-carbon alloy
- Material contact surfaces: stainless steel or carbon steel nose pieces
- Seals: FKM A, PTFE, and more upon request

Specifications:

- Pressure rating: up to **600 PSI**
- Standard temperature range is **-40°F to 250°F (-40° to 121°C)**; other temperature ranges can be met upon request, depending on seal material (with standard Buna-N seals: **250°F (121°C)**)

Available options:

- Swivel end configurations: 150 lb. and 300 lb. flanges, FNPT, MNPT, butt weld, TTMA, and others upon request



The Right Connection®

Dixon® is recognized as the premier manufacturer and supplier of hose fittings and accessories spanning a wide range of industrial uses. Dixon's range includes products for food, dairy processing, beverage and brewery, mobile tankers, mining, construction, chemical processing, petroleum, oilfields, refining, and manufacturing.

Dixon Specialty Products

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