

Dixon® Terminal Products

Various refined petroleum products are distributed through terminals to tank trucks, barges, or railcars. Dixon products are successfully utilized in many of these transfer applications, from dry disconnects and API couplers, to rack cords and vapor recovery couplers.

Table of Contents

Dixon Terminal Illustrations 4-9

- Terminal Process Illustration 4-5
- Tank Truck: Bottom Loading/Unloading Illustration 6-7
- Railcar: Top Loading Illustration 8
- Tank Truck: Top Loading Illustration 9

Overfill Protection Systems 10-30

- FT590-Series Terminal Test Equipment 10
- Junction Boxes and Cords 11
- Rack Monitors..... 11
- ADS Spillguard® System 12
- A100 Outalarm™ with Probe..... 13-15
- A210 Spillguard systems 16-17
- A200 Spillgaurd Capacitance Probes..... 18-19
- Multi-point Ultrasonic Sensors 20-21
- Wireless Spillguard System 22
- A240 Ground Verification Monitor 23
- A540 Ground Clamp and Junction Box 24
- Outage Gauges, Rods, and Cables..... 25-27
- Accessories, Materials, and Sensor Selection Guidelines 28-30

Railcar Components 31-33

Loading Arms 34-49

- Introduction and Counterweight..... 34-36
- Loading Arm Styles and Configurations 37-44

 - A-Frame with Rigid Drop Pipe 37
 - A-Frame with Drop Hose 38
 - Horizontal Hose Loader..... 39
 - Fixed Reach..... 40
 - Telescoping..... 41
 - Scissor Style 42
 - Unsupported Boom..... 43
 - Supported Boom..... 44

- Ordering Guide 45-46
- Swivels 47-49

 - Base Swivels with Counterbalance 47
 - Split Flange 48
 - O-Ring 49
 - V-Ring 49

Loading Arm Components 50-66

- 5500-Series Couplers and Accessories..... 50-51
- TTMA Flange Extensions 52
- Safety Break-aways 53-54
- Bayloc® Cam & Groove Style Dry Disconnects 55-56
- Vapor Recovery Couplers, Plates, and Splash Guards 57-60
- TTMA Flange Adapters and Gaskets 60-62
- Betts Wet-R-Dry Valves 62
- TTMA Flanged Sight Flow Indicator 62
- Swivels 63
- Valves and Accessories 64-66

Our Commitment to the Terminal Market

Through innovation, superior product design, and application expertise our objective is to be the easiest company to do business with in the terminal market. We maintain high inventory levels and strive for short lead times while providing training and support before, during, and after the sale. The on-site training at the end-user level will focus on high-quality manufactured products that extend service life and minimize downtime.

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 Manufacturers' (ARPM) recommendations and be inspected regularly (before each use) to ensure that they are not damaged or have become loose. Visit arpminc.com for more information.

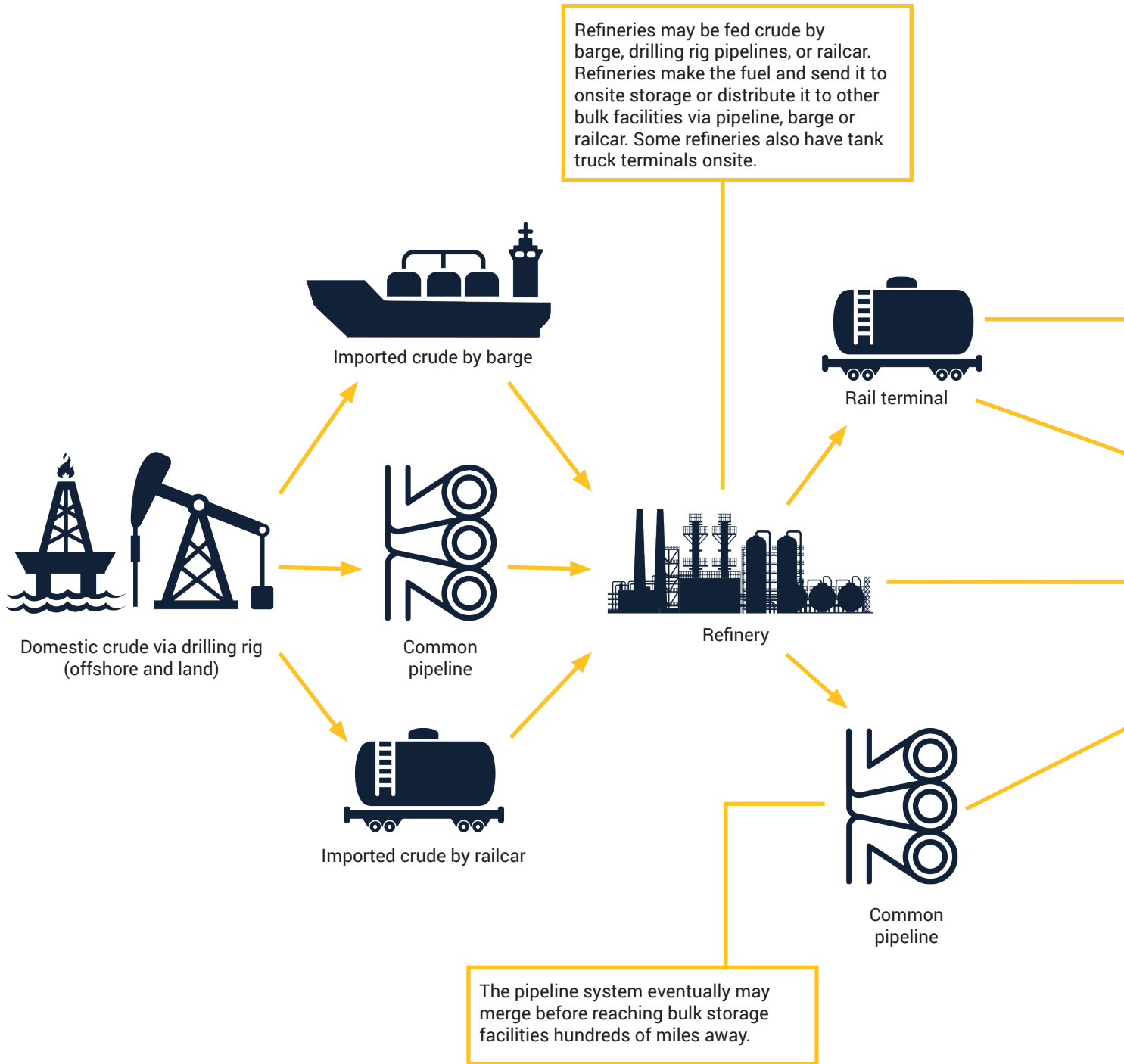
Where safety devices are integral to the coupling, they must be working and utilized. The use of supplementary safety devices such as safety clips or safety cables are recommended.

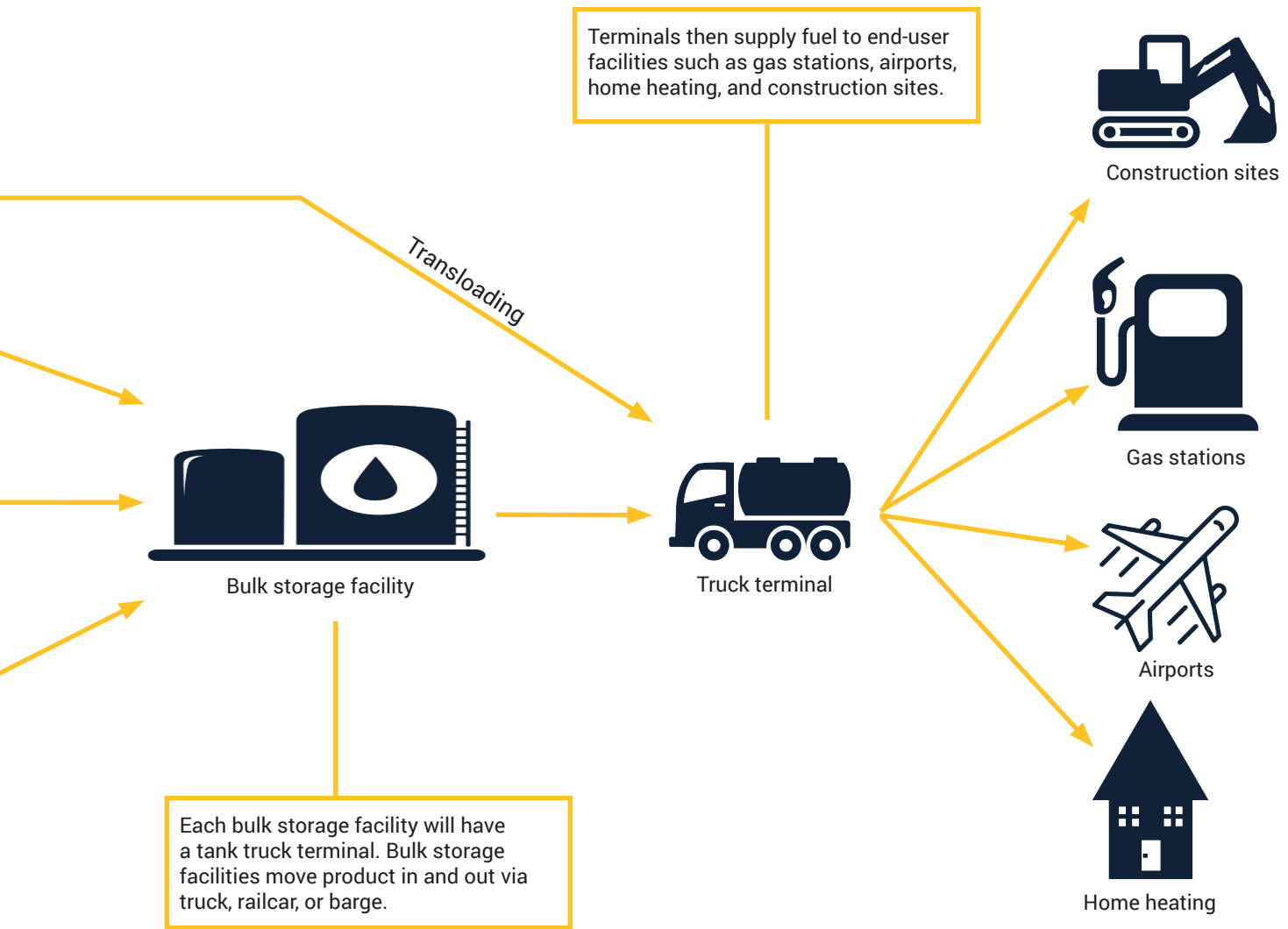
If any problem is detected, couplings must be removed from service immediately.

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's testing and recommendation services. Call 877.963.4966 or visit dixonvalve.com to learn more.

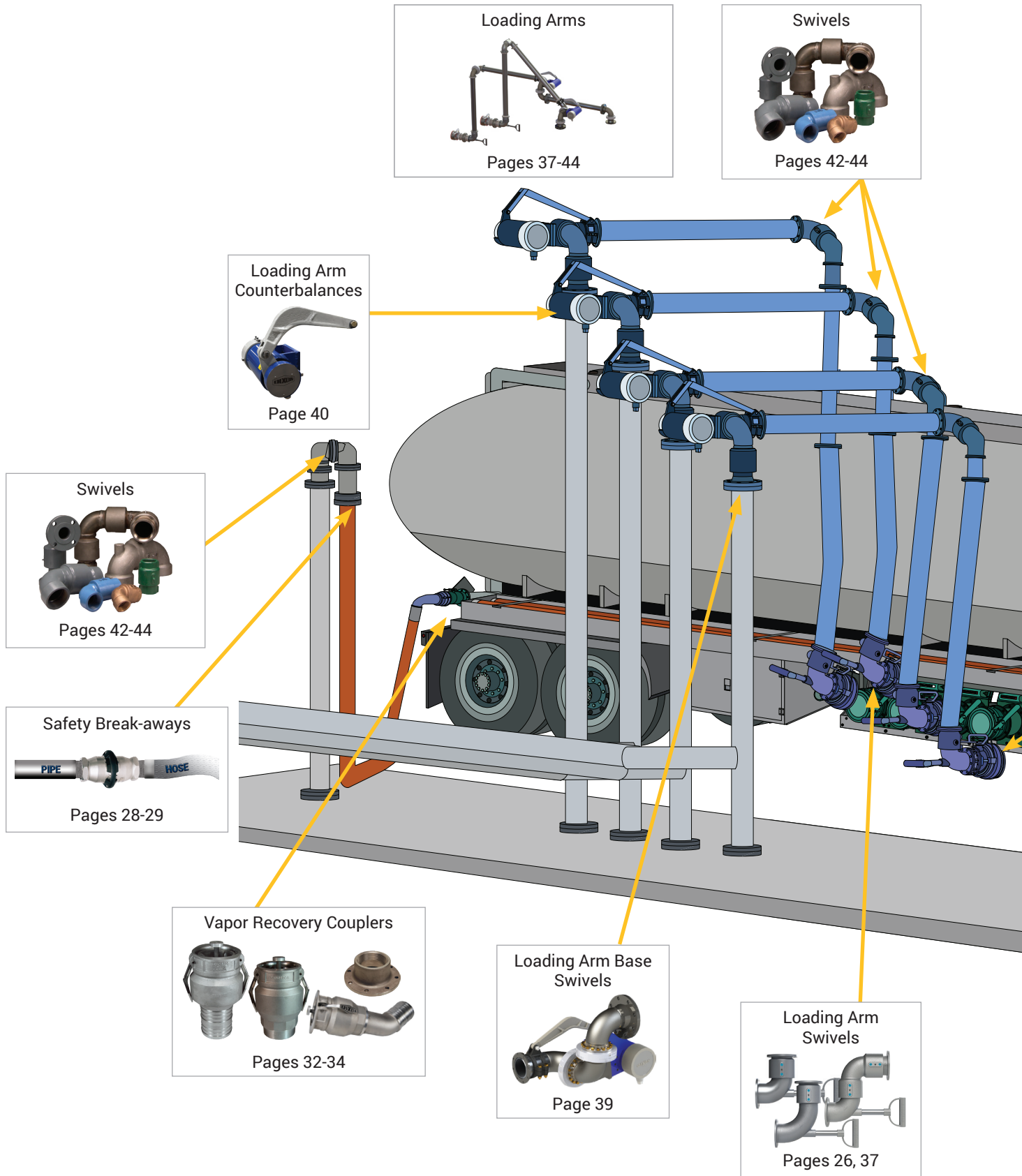
Terminal Process

The illustration below provides a general overview of the terminal process.





Tank Truck: Bottom Loading/Unloading



Loading Arms
Pages 37-44

Swivels
Pages 42-44

Loading Arm Counterbalances
Page 40

Swivels
Pages 42-44

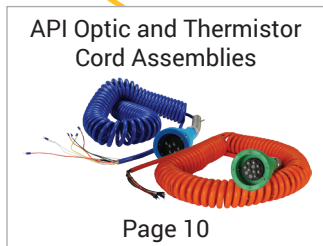
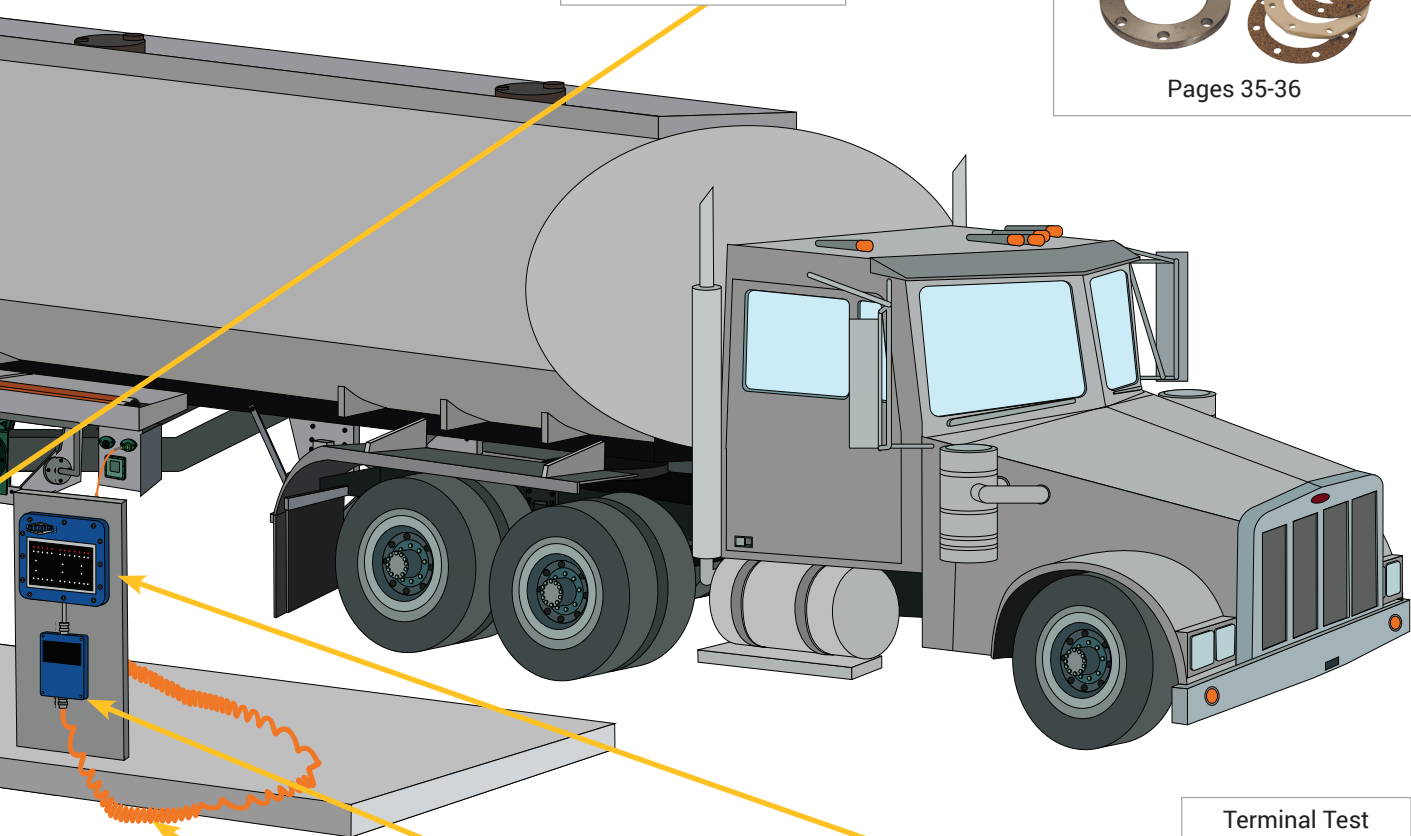
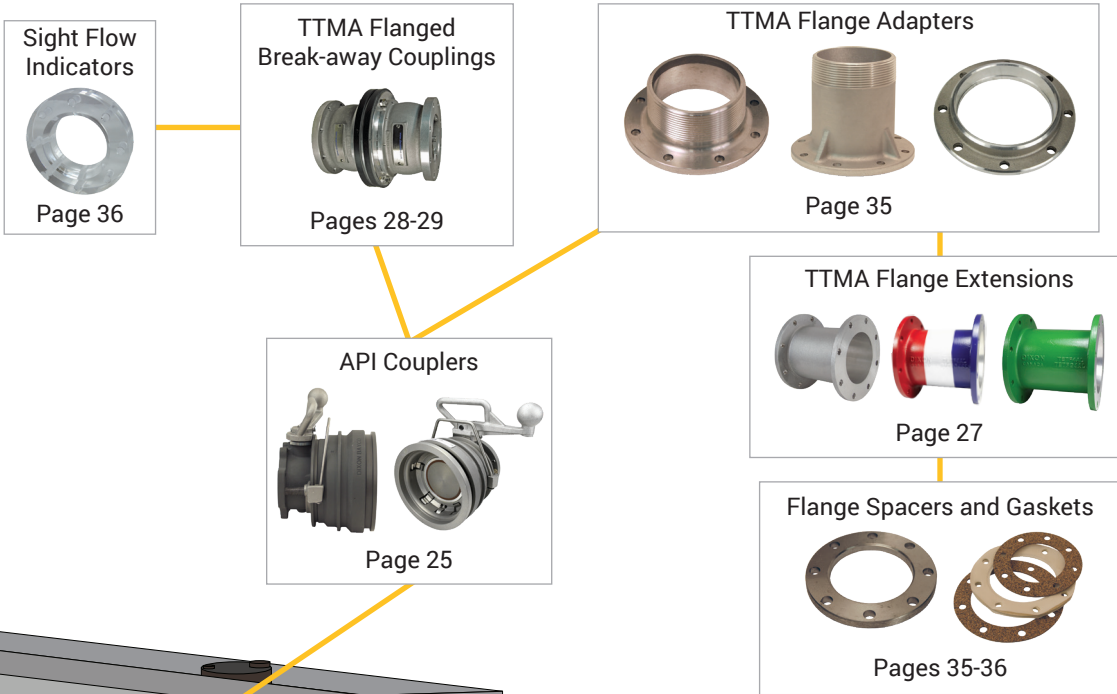
Safety Break-aways
Pages 28-29

Vapor Recovery Couplers
Pages 32-34

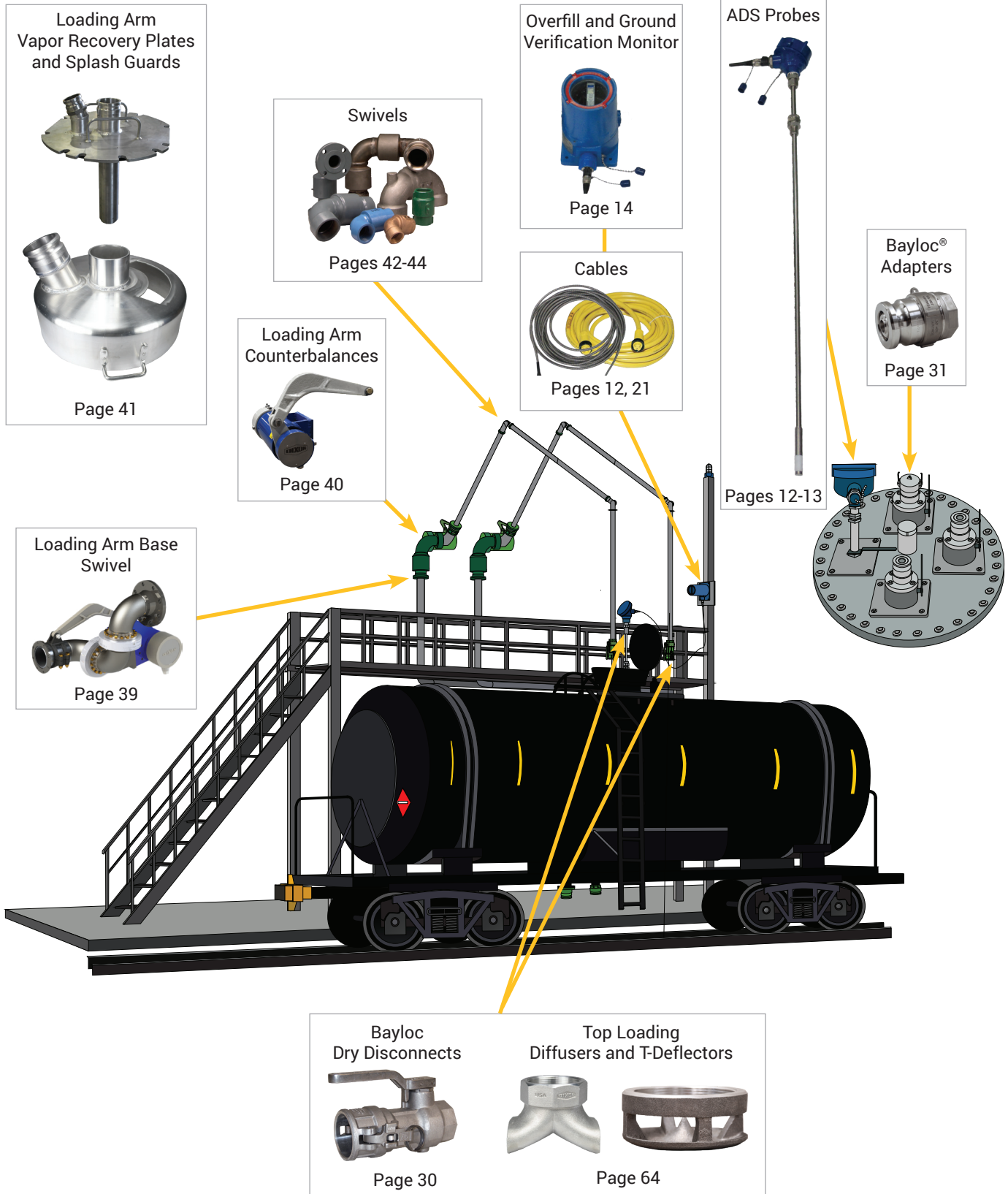
Loading Arm Base Swivels
Page 39

Loading Arm Swivels
Pages 26, 37

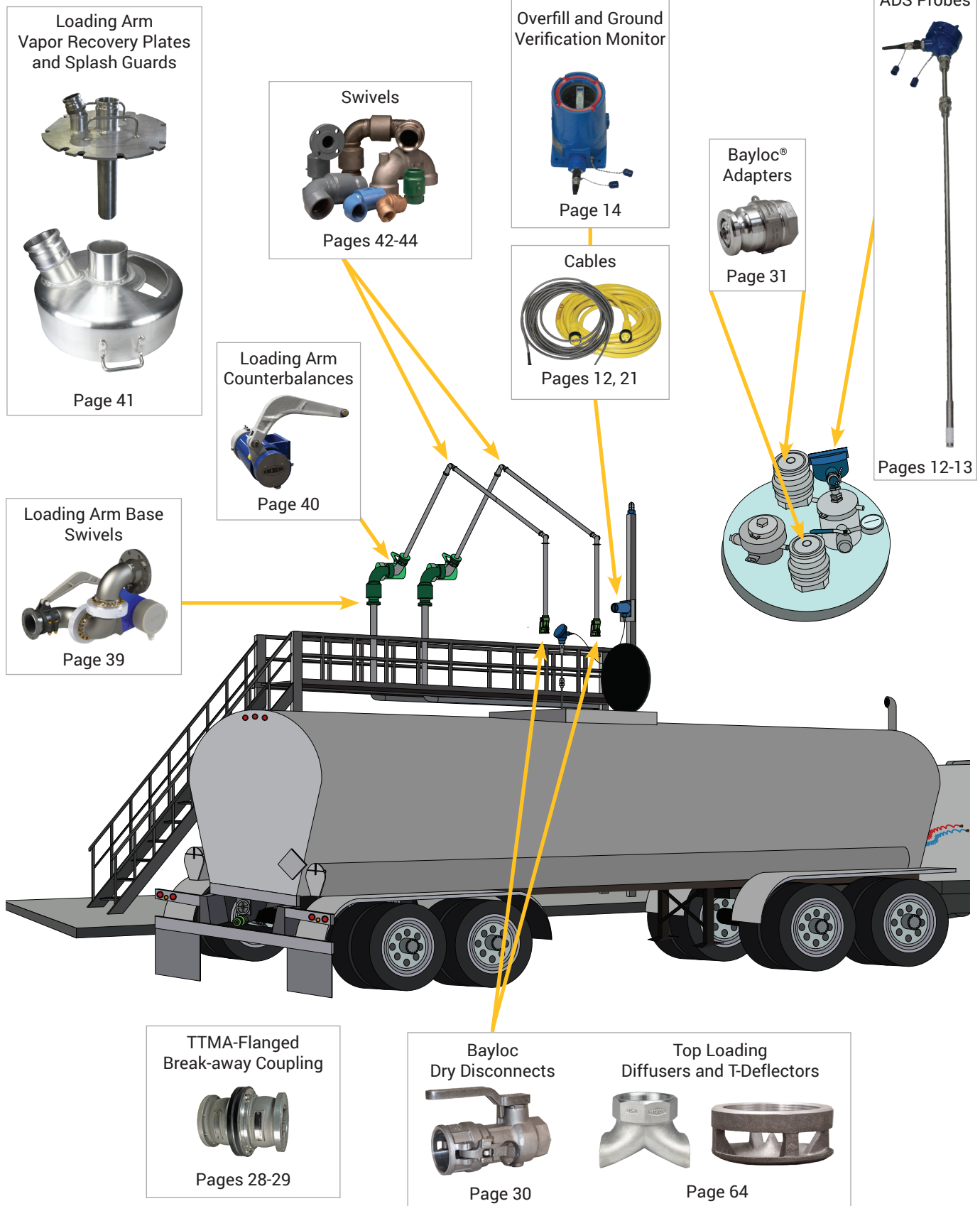
Tank Truck: Bottom Loading/Unloading



Railcar: Top Loading



Tank Truck: Top Loading



Overfill Protection Rack Monitors



Rack Monitor System



Rack Monitor (FT7000)

Application

- Installed on the gantry to control the loading process of petroleum fuels or other hazardous liquid into cargo tanks

Features

- Automatically switches between 2-wire or 5-wire type sensors
- Compatible with analog 2-wire thermistor type sensors
- Redundant relay outputs prevent single point failures
- Data management via RS485 port
- Wireless bypass key system
- Ground verification
- Reads trailer identification modules

Approvals

- Meets API RP1004 and EN13922 standards
- Suitable for Class I, Division 1, Group CD and Class I, Zone 1, and Group IIB

FT590-Series Terminal Test Equipment

Applications

- Verifies terminal overfill monitor performance and reads the trailer identification modules
- Displays 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 it will cause the terminal overfill monitor to switch permissive
- Tester contains a liquid level sensor, API compatible socket, ground bolt, and trailer identification module, all wired 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



FT590OG



FT590TG



FT530

| Description | Part # |
|---------------------------------------------------------------------------|----------|
| rack tester thermistor with ground bolt | FT590TG |
| rack tester thermistor with ground bolt and trailer identification module | FT590TGT |
| rack tester optic with ground bolt | FT590OG |
| rack tester optic with ground bolt and trailer identification module | FT590OGT |
| trailer identification module reader | FT530 |

API-Compatible Systems

Features

- Plug is color-coded (5-wire optic) blue or (2-wire optic / 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®

Materials

- Plug body: reinforced nylon
- Button contacts: 316 stainless steel
- All other hardware: stainless steel

Order Guide

| Part # | Rack Monitor Description |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| FT7000 | rack monitor, auto switch between 2-wire / 5-wire sensors, ground verification, and trailer identification modules; API RP 1004 / EN13922 |
| Safe-T Connect Junction Box Description | |
| FT7600 | 8-pin, 4J, green API plug, and 30' safety orange coiled cable |
| FT7600C | 10-pin, 4J, green API plug, and 30' safety orange coiled cable |
| FT7600P | 8-pin, 4J, green API plug, 30' safety orange coiled cable, and Plug-n-Play connector |
| FT7600S | 8-pin, 4J, green API plug, and 20' safety orange straight cable |
| FT7620 | 6-pin, 3J, blue API plug, and 30' blue coiled cable |
| FT7620P | 6-pin, 3J, blue API plug, 30' blue coiled cable, and Plug-n-Play connector |
| FT7620S | 6-pin, 3J, blue API plug, and 20' blue straight cable |
| FT7630 | 10-pin, 4J, black plug per EN13922, and 30' blue shielded coiled cable |
| FT7630D | 10-pin, 4J, black plug per EN13922, and 30' blue shielded coiled cable with Dixon Bayco break-away |
| Junction Box Description | |
| FT7500 | single cord junction box |
| FT7501 | dual cord junction box |
| FT7502 | junction box with Cole Hersee yellow 13-pin break-away |
| FT7503 | junction box with D-type pigtail break-away |
| FT7504 | junction box w/ aluminum D-connector break-away |
| Rack Cord Description | |
| FT600 | 8-pin, 4J, API thermistor plug, and 30' safety orange coiled cable |
| FT600C | 10-pin, 4J, API thermistor plug, and 30' safety orange coiled cable |
| FT600D | API thermistor plug w/ 30' coiled cable w/ aluminum D-connector break-away |
| FT600CD | API thermistor plug w/ 30' coiled cable w/ 13P CA 4J 10-pin aluminum D-connector break-away |
| FT600P | 8-pin, 4J, API thermistor plug, and 30' safety orange coiled cable with 13-pin Plug-n-Play |
| FT600S | 8-pin, 4J, API thermistor plug, and 20' safety orange straight cable |
| FT620D | API optic plug w/30' coiled cable w/ aluminum D-connector break-away |
| FT620 | 6-pin, 3J, API optic plug, and 30" blue coiled cable |
| FT620P | 6-pin, 3J, API optic plug, 30' blue coiled cable and Plug-n-Play connector |
| FT620S | 6-pin, 3J, API optic plug, and 20' blue straight cable |
| FT630 | 10-pin, 4J, black plug per EN13922, and 30' blue shielded coiled cable |
| FT630D | 10-pin, 4J, black plug per EN13922, 30' blue shielded coiled cable, and Dixon Bayco break-away |



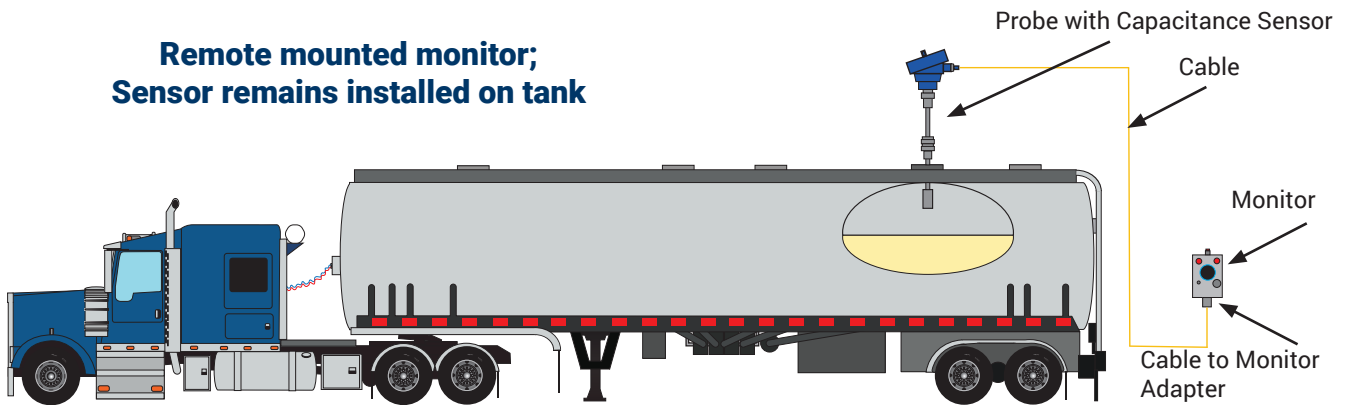
A100 Outalarm® Self-Contained Portable Outage Alarm

**Visual and audible alerts
when probe makes contact**



Mobile Tank Gauging with Remote A100 Monitor

**Remote mounted monitor;
Sensor remains installed on tank**



Cable
A200CB3P25



Cable to Monitor Adapter
A100CBLMTR-002



Monitor
A100MTR



ADS Capacitance probes have been used for

- Petroleum products - gasoline, diesel, kerosene, and jet fuel
- Bio-diesel
- Water-based products
- Water/petroleum waste
- Ether
- Esters
- Surfactants
- Sulfuric acid
- Amines
- Molten sulfur
- Sodium hydroxide
- Methyl diphenyl diisocyanate (MDI)
- Vinyl chloride monomer
- Alcohol and methanol
- Brine

Probe with Capacitance
Sensor, A200PC36-A-A100M

Capacitance probes work with all liquids with a dielectric constant 1.8 or higher.

Dixon® Industrial Fluid Control* manufactures products specifically designed for liquid terminal operations. Our standard product offering is shown on the following pages. However, numerous additional applications, materials, and custom designs are available. For technical information or assistance with ordering these products, please call 513.874.8499 or 877.582.3569 or visit dixonvalve.com.

*Formerly Automated Design Service, Inc. (ADS)

ADS Outalarm®'s with Probe

Applications

- Specifically designed for liquid terminal operation on batch loading and overfill protection, tank cars, tanks trucks, marine barges; suitable for open and closed domes

Sizes

- 24", 36", 48", and 60" probe lengths standard, other lengths available

Features

- Self-contained; no wires, tubing, or external power
- Rugged weather-and corrosion-resistant construction
- No moving parts, tip sensitive phase shift digital capacitance sensor for conductive and non-conductive fluid; conductivity sensor available for conductive fluids
- Requires no calibration or adjustment
- Adjustable insertion length through a standard 1/2" NPT fitting
- High-intensity audible and flashing visual outputs
- Full, hard graduated laser engraved rod
- A100 operates up to 5000 hours on a single Lithium-ion battery in standby mode
- Fail-safe, continuous battery monitor goes to alarm state on low battery
- Battery current drain <0.23 mA during standby; <60 mA in alarm state

Materials

- Wetted materials: 316 stainless steel, PTFE standard, and other materials available

Specifications

- Minimum dielectric constant 1.8 of sensing medium
- Temperature range:
 - capacitance probe: -4°F to 250°F (-20°C to 121°C)
 - high-temperature capacitance probe: -4°F to 325°F (-20°C to 162°C)
 - outalarm monitor: -4°F to 140°F (-20°C to 60°C)
- Activation point: 1/4" into liquid surface
- Compatible with most liquid or dry bulk material with a dielectric constant of 1.8 or greater
- Horn intensity: 101 dB at 2'
- Light output: 3 each 3000 mcd high-intensity red flashing LEDs
- Pressure rating on standard unit: **50 PSI**: consult Dixon for applications up to **300 PSI**
- CSA North America, ATEX, and IECEx approval for Class I Div I, Groups A,B,C, D, and Class I Zone 0 Groups IIC hazardous locations



A100 capacitance probe

A100 Probes

| Length | Capacitance Part # 250°F (121°C) Maximum | Hi-Temperature Capacitance Part # 325°F (163°C) Maximum |
|--------|---------------------------------------------|------------------------------------------------------------|
| 24" | A100C24ASXE (Replaced A100C24A) | A100A24ASXE (Replaced A100HC24A) |
| 36" | A100C36ASXE (Replaced A100C36A) | A100A36ASXE (Replaced A100HC36A) |
| 48" | A100C48ASXE (Replaced A100C48A) | A100A48ASXE (Replaced A100HC48A) |
| 60" | A100C60ASXE (Replaced A100C60A) | A100A60ASXE (Replaced A100HC60A) |

NOTE: Other lengths available, please contact Dixon at 877.582.3569 for quotes.

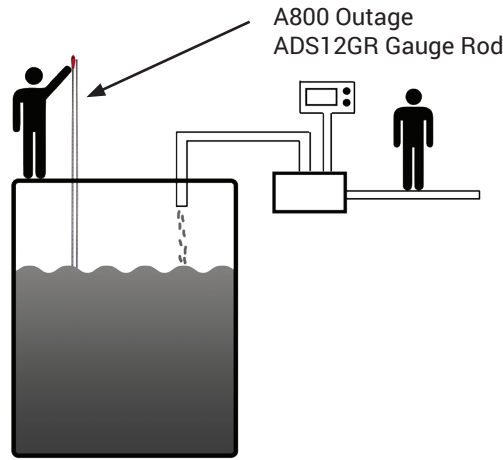
For conductivity probe applications, we will need to know the material being sensed when quoting and/or what you want the probe tuned to.

A100 ADS Outalarm®'s with Probe Part Number Key

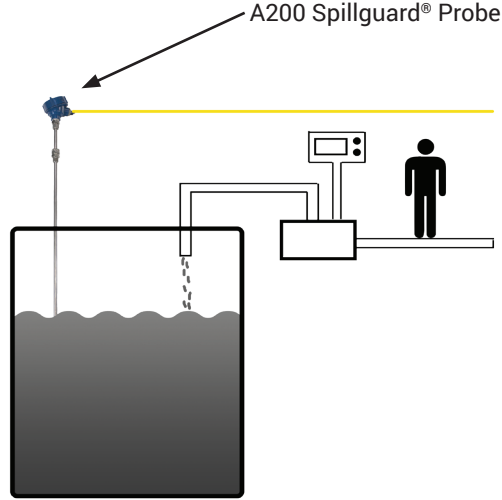
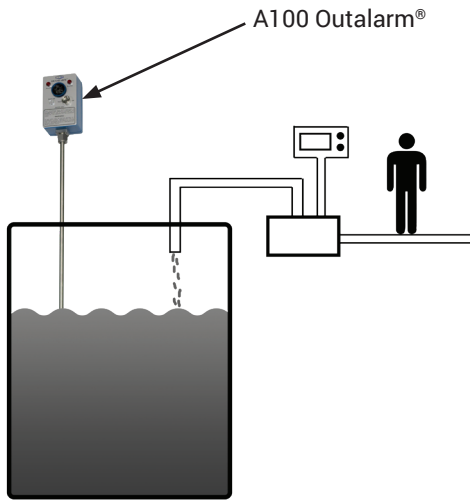
| Dixon® ADS Outalarm with Probe Part Number Key | | Series | Sensing Type | Sensor Probe Length | Pressure Fitting | Shaft Material | Approved Environment |
|-------------------------------------------------------------------------------------------------------------------------|-------------|--------|--------------|---------------------|------------------|----------------|----------------------|
| | | A100 | A-C | 0-99 | A-B-C-H | H/S | XE |
| Series | Code | | | | | | |
| ADS Outalarm with Probe | A100 | ← | | | | | |
| Sensing Type | Code | | | | | | |
| High temperature 325°F (162°C) N.O. capacitance | A | ← | | | | | |
| Standard temperature 250°F (121°C) N.O. capacitance | C | | | | | | |
| For conductivity, pressure, or tilt, contact a Dixon representative | | | | | | | |
| Sensor Probe Length | Code | | | | | | |
| 0-99 sensor probe length in inches | 0-99 | ← | | | | | |
| Pressure Fitting | Code | | | | | | |
| 50 PSI gland 1/2" NPT, stainless steel | A | ← | | | | | |
| 150 PSI gland 1/2" NPT, stainless steel | B | | | | | | |
| 300 PSI gland 1/2" NPT, stainless steel | C | | | | | | |
| 50 PSI 1/2" NPT, Hastelloy® | H | | | | | | |
| Material | Code | | | | | | |
| Hastelloy probe shaft | H | ← | | | | | |
| Stainless steel probe shaft | S | | | | | | |
| Optional Approved Environment | Code | | | | | | |
| Equipment that has been classified as safe for use in hazardous areas, leave blank for non-approved assemblies | XE | ← | | | | | |

ADS Tank Overfill Prevention Methods

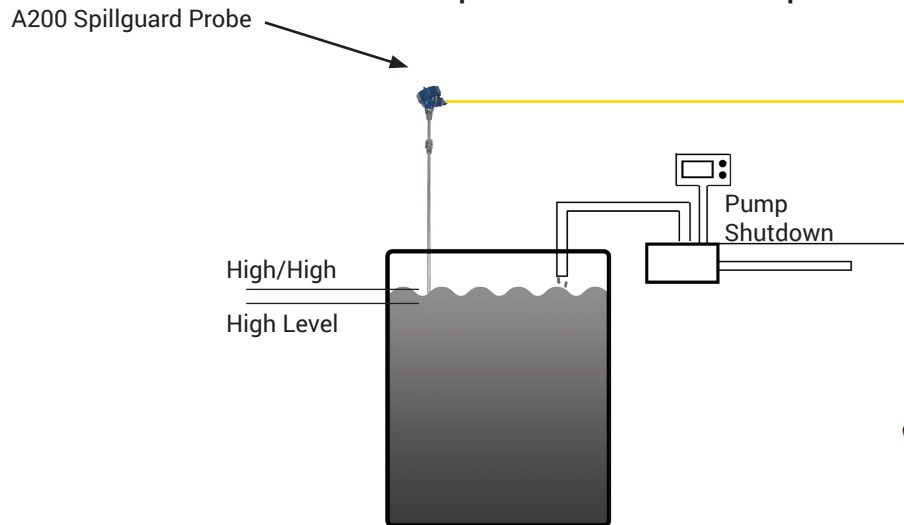
Manual Operator Gauging



Overflow Alarm



Multi-point Overfill with PLC Pump Shutdown



ADS Spillguard® Systems - Monitors

Applications

- Shutdown and alarm system for tank cars, tank trucks, barges, and ships; suitable for open and closed domes

Sizes

- Standard cable lengths: 15', 25', and 50', other lengths available
- Insertion lengths 4" to 60" standard, other lengths available

Features

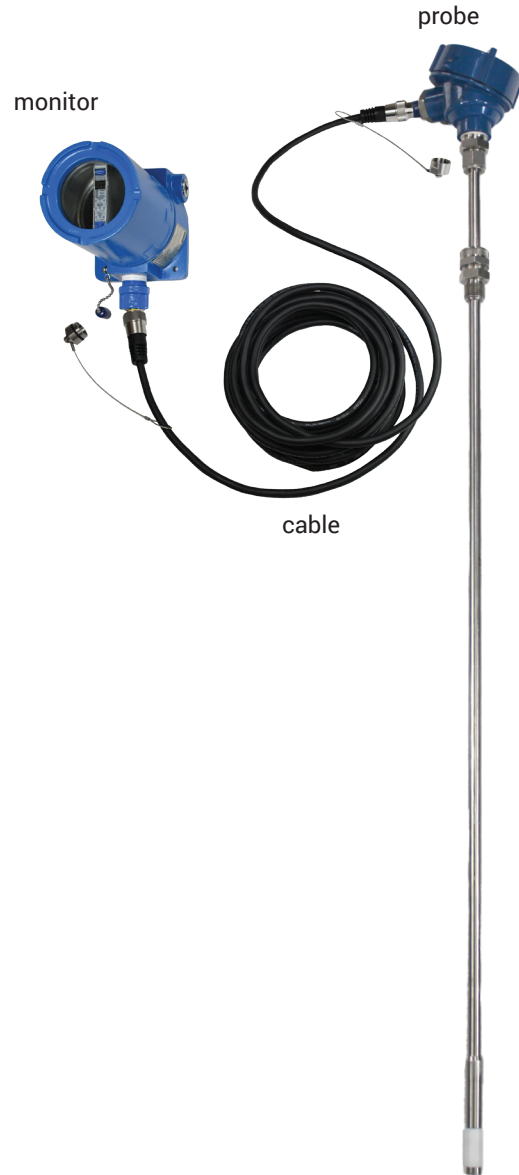
- Rugged, explosion-proof, weather-, chemical-, and corrosion-resistant
- LED status lights visible through glass cover
- Inserts into tank through standard 1/2" NPT fitting
- Probe can be portable or permanently installed in the vessel
- Laser engraved graduated rod with 1/4" graduations
- IP67 rated probe connector
- Fail-safe design, unit trips in the event of an open or shorted cable or loss of power
- Choice of capacitance, conductivity, or single-point ultrasonic sensors
- Input power: 120 VAC, 240 VAC, or 24 VDC, 2.5 watts
- Output relay de-energizes on high level, broken or shorted sensor cables, or loss of power
- Low voltage and current sensor, designed to safely operate in hazardous environments
- Optional self-test feature, tilt and ground verification interlocks, and latching circuit available

Materials

- IP66 and NEMA 4X rated explosion-proof aluminum monitor housing
- Stainless steel probe connector

Specifications

- Monitor: -4°F to 150°F (-20°C to 70 °C)
- Minimum dielectric constant 1.8
- Probe pressure rating: **50 PSI** with standard fitting; consult Dixon® for applications up to **300 PSI**
- Output relay dry contacts 2 form C (2PDT) rated 2 amps at 120/240 VAC, 1 form C (SPDT) with optional latching circuit and reset switch
- Monitor constructed from CSA/ATEX components
- Monitor designed for installation in Class I Division 1 Group BCD and Class I Zone 1 Group IIC hazardous locations
- Monitor designed for connection to probe operating in Class I Division 1 Group ABCD and Class I Zone 0 Group IIC hazardous locations



A210 Spillguard Monitors

| Monitor Options | 24V DC Part # | 120V DC Part # |
|----------------------------------------------------|--------------------------------|---------------------------------|
| A210 Spillguard monitor | A210S0243 (Replaced A210-24) | A210S1203 (Replaced A210-120) |
| A210 Spillguard monitor with external reset switch | A210SR0243 (Replaced A210R-24) | A210SR1203 (Replaced A210SR103) |
| A212 Spillguard dual control monitor | A212S0243 (Replaced A212-24) | A212S1203 (Replaced A212-120) |

A21 ADS Spillguard® Monitor Part Number Key

| Dixon® A21 ADS Spillguard Monitor Part Number Key | | Series | Single or Dual Channel | Optional Special Operation | Supply Voltage | Connector |
|-----------------------------------------------------|-------------|--------|------------------------|----------------------------|----------------|-----------|
| | | A21 | 0-2-4 | A-B-G-S-R | 024-120 | 0-1-3-5-W |
| Series | Code | | | | | |
| ADS Spillguard Monitor | A21 | ← | | | | |
| Single Or Dual Channel | Code | | | | | |
| Single channel | 0 | ← | | | | |
| Dual channel | 2 | | | | | |
| Four channel | 4 | | | | | |
| Optional Special Operation | Code | | | | | |
| Auto reset latching | A | ← | | | | |
| Bypass timer (not approved for hazardous locations) | B | | | | | |
| Ground verification | G | | | | | |
| Standard operation | S | | | | | |
| Resettable latching circuit | R | | | | | |
| Supply Voltage | Code | | | | | |
| 24VDC supply | 024 | ← | | | | |
| 120VAC supply | 120 | | | | | |
| Connector | Code | | | | | |
| No connector (conduit) | 0 | ← | | | | |
| Ten position | 1 | | | | | |
| Three position | 3 | | | | | |
| Five position | 5 | | | | | |
| Wireless | W | | | | | |

ADS Spillguard® Systems - A200 Capacitance Probes

Capacitance Probes



Application

- For materials with dielectric constant > 1.8, liquids, powders, and slurries

Features

- 1/2" NPT sliding fitting standard, 3/4" fitting optional
- Open dome adapter and washout fitting available
- Tilt sensor optional

Materials

- Probe: 316 stainless steel
- Housing: NEMA 4X, IP66

Specifications

- Capacitance probe: -4°F to 250°F (-20°C to 121°C)
- High temperature capacitance probe: -4°F to 325°F (-20°C to 162°C)
- Monitor designed for installation in Class I Division 1 Group BCD and Class I Zone 1 Group IIC hazardous locations
- Monitor designed for connection to probe operating in Class I Division 1 Group ABCD and Class I Zone 0 Group IIC hazardous locations

| Length | Capacitance Part # 250°F (121°C) Maximum | Hi-Temperature Capacitance Part # 250°F (121°C) Maximum |
|--------|---------------------------------------------|------------------------------------------------------------|
| 24" | A200C324AS (Replaced A200PC24A) | A200A324AS (Replaced A100PHC24A) |
| 36" | A200C336AS (Replaced A200PC36A) | A200A336AS (Replaced A100PHC36A) |
| 48" | A200C348AS (Replaced A200PC48A) | A200A348AS (Replaced A100PHC48A) |
| 60" | A200C360AS (Replaced A200PC60A) | A200A360AS (Replaced A100PHC60A) |

NOTE: Please see page 19 for the part number key.

Other lengths available, please contact Dixon® at 877.582.3569 for quotes. For conductivity probes for conductive fluids we will need to know material being sensed when quoting and/or what you want the probe tuned to.

A200 ADS Spillguard® Probes Part Number Key

| Dixon® A200 ADS Spillguard Probes Part Number Key | | Series | Sensing Type | Connector | Sensor Probe Length | Pressure Fitting | Shaft Material |
|---------------------------------------------------------------------------|-------------|--------|--------------|-----------|---------------------|------------------|----------------|
| | | A200 | A/C | 0-1-3-5 | 0-99 | A-B-C-H | H-S |
| Series | Code | ← | ← | ← | ← | ← | ← |
| ADS Spillguard Probes | A200 | | | | | | |
| Sensing Type | Code | ← | ← | ← | ← | ← | ← |
| High temperature 325°F (162°C) N.O. capacitance | A | | | | | | |
| Standard temperature 250°F (121°C) N.O. capacitance | C | | | | | | |
| For conductivity, pressure, or tilt, contact a Dixon representative | | | | | | | |
| Connector | Code | ← | ← | ← | ← | ← | ← |
| Wireless | 0 | | | | | | |
| Ten position connector | 1 | | | | | | |
| Three position connector | 3 | | | | | | |
| Five position connector | 5 | | | | | | |
| Sensor Probe Length | Code | ← | ← | ← | ← | ← | ← |
| Sensor probe length in inches | 0-99 | | | | | | |
| Pressure Fitting | Code | ← | ← | ← | ← | ← | ← |
| 50 PSI standard 1/2" NPT, stainless steel | A | | | | | | |
| 150 PSI gland 1/2" NPT, stainless steel | B | | | | | | |
| 300 PSI gland 1/2" NPT, stainless steel | C | | | | | | |
| 50 PSI 1/2" NPT, Hastelloy® | H | | | | | | |
| Shaft Material | Code | ← | ← | ← | ← | ← | ← |
| Hastelloy probe shaft | H | | | | | | |
| Stainless steel probe shaft | S | | | | | | |

ADS Multi-Point Ultrasonic Sensors

Applications

- For use when multiple detection points are required such as dribble mode, pump shutoff, overfill alarm, and where splashing is a concern

Features

- Intrinsically safe design class I, Div 1, Groups A, B, C, and D
- Up to five detection points available
- Rugged "tube in tube" ultrasonic sensor welded construction
- Individual level and pressure outputs
- Silicone strain gauge pressure transducer available, welded diaphragm, 0-50 PSIA standard range, single set point or alarm outside of a gap
- Tilt option
- Ground verification option
- Full hard heavy wall probe shaft, laser engraved scale up to 96" long

Material

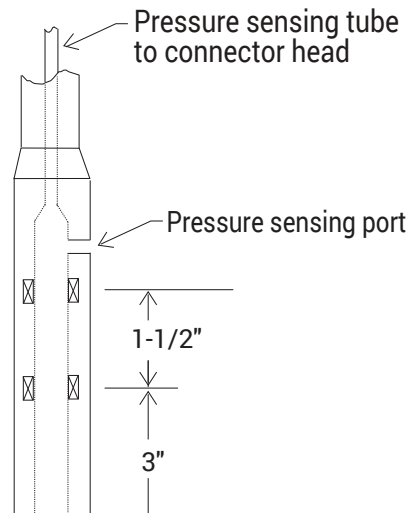
- Wetted material: 316 stainless steel

Specifications

- Operating temperature range: **-40°F (-40°C) to 250°F (121°C)**
- Monitor designed for installation in Class I Division 1 Group BCD and Class I Zone 1 Group IIC hazardous locations
- Monitor designed for connection to probe operating in Class I Division 1 Group ABCD and Class I Zone 0 Group IIC hazardous locations



Example:
3 point ultrasonic sensor



Sensor O.D. is
7/8"

ADS Multi-Point Ultrasonic Sensors Part Number Key

| Dixon® ADS Multi-Point Ultrasonic Sensors Part Number Key | | Series | Sensor Length | Pressure Option | Tilt Option | Liquid Sensor Points ¹ | Custom Number |
|--------------------------------------------------------------|-------------|--------|---------------|-----------------|-------------|-----------------------------------|---------------|
| | | A330U | 08-60 | P | T | 1-5 | XXXXX |
| Series | Code | ← | ← | ← | ← | ← | ← |
| ADS Multi-Point Ultrasonic Sensor | A330U | | | | | | |
| Sensor Length | Code | | | | | | |
| 8" | 08 | | | | | | |
| 12" | 12 | | | | | | |
| 13" | 13 | | | | | | |
| 24" | 24 | | | | | | |
| 26" | 26 | | | | | | |
| 36" | 36 | | | | | | |
| 48" | 48 | | | | | | |
| 60" | 60 | | | | | | |
| Pressure Option | Code | | | | | | |
| Pressure | P | | | | | | |
| Tilt Option | Code | | | | | | |
| Tilt | T | | | | | | |
| Liquid Sensor Points¹ | Code | | | | | | |
| 1 detection point | 1 | | | | | | |
| 2 detection points | 2 | | | | | | |
| 3 detection points | 3 | | | | | | |
| 4 detection points | 4 | | | | | | |
| 5 detection points | 5 | | | | | | |
| Custom Assigned Number by Dixon | Code | | | | | | |
| Custom Number | xxxxx | | | | | | |

¹ Contact Dixon at 877.582.3569 for distance between sensor points. Probes with three or more detection points require a custom monitor.

Wireless ADS Spillguard® Systems



Probe



Controller



Battery Charger

Applications

- Shutdown and alarm system for tank cars, tank trucks, barges, and ships
- Suitable for open and closed domes

Sizes

- Insertion lengths: 4" to 60" standard; other lengths available

Features

- Rugged, explosion-proof, weather, chemical, and corrosion-resistant
- LED status lights visible through receiver glass cover
- Probe inserts into tank through standard 1/2" NPT process connection
- Probe is portable
- Laser engraved graduated rod with 1/4" graduations
- Fail-safe design: unit trips in the event of lost wireless communications
- Choice of capacitance, conductivity, or single or dual point ultrasonic sensors
- Input power: 120 VAC, 240 VAC, or 24 VDC
- Output relays de-energize on wetted sensor, broken wireless link, or loss of power and when charging
- Integral tilt interlock
- Lithium-ion battery powered
- 168 hrs (7 days) battery life
- Bluetooth 5.0
- Wireless range 115 ft.

Materials

- Monitor and probe housings: IP66 NEMA 4X rated explosion-proof aluminum
- Wetted sensor parts: PTFE and stainless steel

Specifications

- Capacitance sensor
- Minimum dielectric constant: 1.8
- Temperature range:
 - Capacitance probe: -4°F to 250°F (-20°C to 121°C)
 - High-temperature capacitance probe: -4°F to 325°F (-20°C to 162°C)
- Probe pressure rating: **50 PSI** with standard fitting; consult Dixon® for applications up to **300 PSI**
- Output relay dry contacts 2 form C (2PDT) rated 2 amps at 120/240 VAC, 1 form C (SPDT) for fault status
- Monitor constructed from CSA/ATEX components
- Monitor designed for installation in Class I Division 1 Group BCD and Class I Zone 1 Group IIC hazardous locations
- Probe designed to operate in Class I Division 1 Group BCD and Class I Zone 1 Group IIC hazardous locations

| Description | Part # |
|--------------------------------------------------------|--------------|
| 36" capacitance probe with tilt function | A200CTW36AS |
| 24VDC receiver for installation in Hazardous locations | A212S024WXE |
| 24VDC charger for installation in Hazardous Locations | A200CHG024XE |

NOTE: Additional lengths available, for technical assistance or help with your application, please contact Dixon at 877.582.3569.

A240-Series Ground Verification Monitor

Applications

- Tank truck and railcar loading facilities
- Drum and barrel filling sites
- Loading of stationary tanks

Features

- Bright red and green indicators communicate A240-series ground monitor status
- Convenient user terminal blocks make installation easy
- Environmentally sealed enclosure provides long service life even in outdoor environments
- Integrates easily into process control systems
- Provides and verifies ground bond through a single connection

Specifications

- Temperature rating: **-40°F to 140°F (-40°C to 60°C)**
- Ingress protection: IEC 60529 IP 66
- NEMA rating: NEMA Type 4, 4X, 7, 9
- Conduit entries: three
- Suitable for installation in hazardous locations: Class I, Division 1 & 2, Groups B, C, and D hazardous locations, Class II, Division 1 & 2, Groups E, F, and G hazardous locations, and Class III hazardous locations
- Suitable for connection to hazardous locations: Class I, Division 1 & 2, Groups A, B, C, and D hazardous locations and Class I, Zone 0, 1 & 2, Groups IIC, IIB, and IIA hazardous locations
- Ground connection threshold: relay is energized when ground clamp connection is less than 10Ω
- Number of output relays: one
- Output relay configuration: one set of FORM C contacts (Normally Open, Common, and Normally Closed contacts)
- Output relay contact rating: 4Amp at 250VAC
- Monitor constructed from CSA/ATEX components
- Monitor designed for installation in Class I Division 1 Group BCD and Class I Zone 1 Group IIC hazardous locations
- Monitor designed for connection to probe operating in Class I Division 1 Group ABCD and Class I Zone 0 Group IIC hazardous locations



| Description | Part # |
|------------------------------------|---------|
| ground verification monitor 120VAC | A240120 |
| ground verification monitor 24VDC | A240024 |

A540-Series Ground Clamp and Junction Box

Applications

- Tank truck and railcar loading facilities
- Drum and barrel filling sites
- Loading of stationary tanks

Features

- Clamp is tethered to the cable by a stainless steel strap that protects the connection from strain and wear
- Pull-out resistant cord grip on junction box holds cable tighter the harder it is pulled
- Junction box creates convenient service point for hazardous location installations
- Coiled cable (in blue or black) provides compact storage
- Strong clamping force penetrates grime and remains connected during loading process
- Provides ground and a ground-verification signal in a single clamp



Materials

- Jacket: thermoplastic elastomer
- Teeth: stainless steel

Specifications

- Temperature rating: **-40°F to 194°F (-40°C to 90°C)**
- Ingress protection: weatherproof, rain-tight, and dust tight
- Conduit entries: one 3/4" trade size hole and a factory-installed cable on the bottom
- Suitable for installation in hazardous locations: Class I, Division 1 & 2, Groups A, B, C, and D hazardous locations, Class II, Division 1 & 2, Groups E, F, and G hazardous locations and Class III hazardous locations
- Recommended wire between controller and the clamp: 18 GA stranded copper wire (THHN)
- Extended working length of cable: 30 ft.

| Description | Part # |
|---------------------------------------------|-------------|
| ground clamp and junction box (blue cable) | A540CSB0251 |
| ground clamp and junction box (black cable) | A540CSX0251 |

ADS Outage Gauges

Applications

- Set level fill point for manual / visual fill control
- Measure outage requirements on mobile tanks

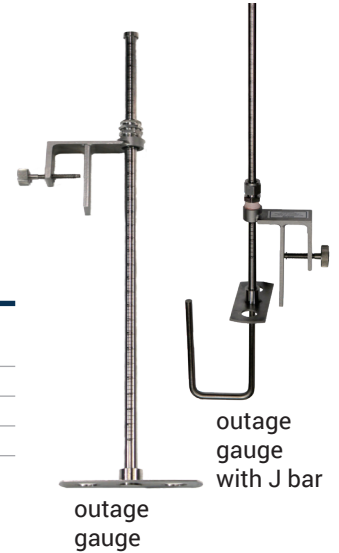
Feature

- Open dome bracket

Material

- 316 stainless steel

| Length | Standard Outage Gauge Part # | Outage Gauge with J Bar Part # |
|--------|---------------------------------|-----------------------------------|
| 2' | A800OG2 | A8000GJ2 |
| 3' | A800OG3 | A8000GJ3 |
| 4' | A800OG4 | A8000GJ4 |
| 5' | A800OG5 | A8000GJ5 |



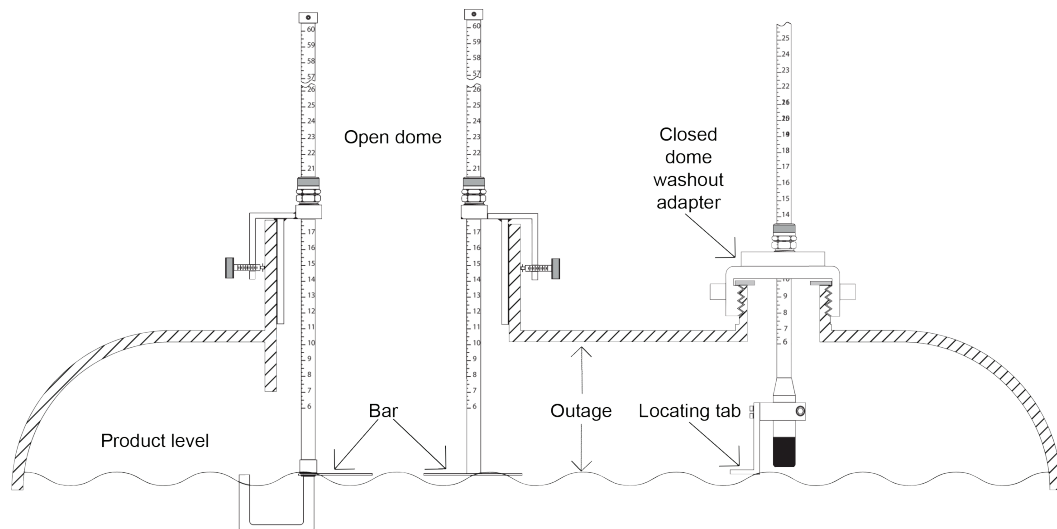
laser engraving closeup

Setting Outage on Closed Dome with A100LT Locating Tab

1. Screw the washout adapter onto the washout nozzle.
2. Withdraw gauge rod until tab touches inside shell of tank. Note reading on rod.
3. Add desired outage to reading and push down rod to the calculated reading.
4. The probe sensor is now at the desired outage.

Setting Outage on Open Dome Operation

1. Clamp bracket to vertical section of dome.
2. Withdraw gauge rod until bar touches inside shell of tank. Note reading on rod.
3. Add desired outage to reading and push down rod to the calculated reading.
4. The bar is now at the desired outage.
5. For tanks with manway protruding past shell, use J-bar gauge.



ADS Gauge Rods



Application

- Used to gauge liquid levels in any mobile tank

Size

- 1/2" x .065 weight

Features

- Laser engraved scale with 1/4" graduations
- Rods come in two sections that screw together at the midpoint
- Foot marks inscribed on rod at 1' intervals below the inch mark
- Heavy duty plastic handle

Material

- 316 stainless steel



laser engraving closeup

| Description | Part # | Part # w/ Sliding Innage Bar |
|----------------------------------|---------|------------------------------|
| gauge rod, 4' length, one-piece | ADS4GR | ADS4GR-IB |
| gauge rod, 8' length, two-piece | ADS8GR | ADS8GR-IB |
| gauge rod, 12' length, two-piece | ADS12GR | ADS12GR-IB |

ADS Spillguard® Cables

Features

- 3 or 5 pin connector
- 316 stainless steel armored cable, yellow rubber cable, or extreme life cable
- Custom lengths available, please call 877.582.3569 for more information



Armored Cables

| Length | 3 Pin Part # | 5 Pin Part # |
|--------|--------------|-------------------------|
| 15' | A200CA3P15 | A200CA5P15 ¹ |
| 20' | A200CA3P20 | A200CA5P20 ¹ |
| 25' | A200CA3P25 | A200CA5P25 ¹ |
| 50' | A200CA3P50 | A200CA5P50 ¹ |

¹ Legacy part numbers



Rubber Cables

| Length | 3 Pin Part # |
|--------|-------------------------|
| 25' | A200CB3P25 ¹ |
| 30" | A200CB3P30 |

¹ Legacy part numbers

Note: For use with (-M) mini connectors only.



Heavy Duty Cables

| Length | 3 Pin Part # | 5 Pin Part # |
|--------|---------------|---------------|
| 15' | A400ESS0315XE | A400ESS0515XE |
| 25' | A400ESS0325XE | A400ESS0525XE |
| 50' | A400ESS0350XE | A400ESS0550XE |

NOTE: Please see page 27 for part number key.

A400 Heavy Duty Cable Part Number Key

| Dixon® A400 Extreme Life Cable Part Number Key | | Series | Jacket Material | Male End Orientation | Female End Orientation | Number Of Conductors/ Connector Pins | Cable Length In Feet | Approved Environment |
|----------------------------------------------------------------------------------------------------------------|-------------|--------|-----------------|----------------------|------------------------|--------------------------------------|----------------------|----------------------|
| | | A400 | A-C-E-P | F-R-S | F-R-S | 03-05-10 | 15-25-50 | XE |
| Series | Code | ← | | | | | | |
| Extreme Life Cable | A400 | | | | | | | |
| Jacket Material | Code | ← | | | | | | |
| Armored PVC | A | | | | | | | |
| Coiled TPU | C | | | | | | | |
| Extreme life | E | | | | | | | |
| Polyvinyl-Chloride (PVC) | P | | | | | | | |
| | | | | | | | | |
| Male End Orientation | Code | ← | | | | | | |
| Flying leads | F | | | | | | | |
| Right angle connector | R | | | | | | | |
| Straight connector | S | ← | | | | | | |
| Female End Orientation | Code | | | | | | | |
| Flying leads | F | | | | | | | |
| Right angle connector | R | ← | | | | | | |
| Straight connector | S | | | | | | | |
| | | | | | | | | |
| Number Of Conductors/ Connector Pins | Code | ← | | | | | | |
| Three position cable | 03 | | | | | | | |
| Five position cable | 05 | | | | | | | |
| Ten position cable | 10 | | | | | | | |
| Cable Length In Feet | Code | ← | | | | | | |
| 15 feet | 15 | | | | | | | |
| 25 feet | 25 | | | | | | | |
| 50 feet | 50 | | | | | | | |
| Optional Approved Environment | Code | ← | | | | | | |
| Equipment that has been classified as safe for use in hazardous areas, leave blank for non-approved assemblies | XE | | | | | | | |

ADS Parts and Accessories

ADS Open Dome Adapters



A100DA

Features

- Flexible design fits most domes
- 1/2" and 3/4" NPT port for Outalarm® probes

| NPT Size | Stainless Steel Part # |
|----------|------------------------|
| 1/2" | A100DA |
| 3/4" | A100DB |



A100TTA

Tank Washout Caps

| Description | Part # |
|-----------------------------------------|---------|
| tank truck 3" washout adapter, 1/2" NPT | A100TTA |
| tank truck 3" washout adapter, 3/4" NPT | A100TTB |
| washout cap with swivel | A200SA |
| washout cap with swivel and 2" vent | A200SVA |



A200SA



A210CR-3

Cable Junction Boxes

| Description | Part # |
|--------------------------|----------|
| 3 pin cable junction box | A210CR-3 |
| 5 pin cable junction box | A210CR-5 |

Additional Parts & Accessories



A210PZH-24

| Description | Part # |
|------------------------------------------------------------------------------------|-------------|
| 1" cam & groove coupler and 1/2" NPT bushing, stainless steel | A100CA1050 |
| 1" cam & groove coupler with 1/2" NPT bushing and 1" NPT vent tee, stainless steel | A100CA1050V |
| A100 / 200 splash guard, with 1-1/8" diameter poly | A100SG-POLY |
| locating tab for A100 / 200 probes | A100LT |
| replacement A100 monitor only | A100MTR |
| cable to monitor adapter | A100CLMTR |
| A210 Piezo horn 24V DC | A210PZH-24 |
| tri-color external signal light 24V DC | A210-24TC |
| tri-color external signal light 120V AC | A210-120TC |



A210-12TC

Dielectric Constant Common Materials

| Fluid | Dielectric Constant |
|----------------------------|---------------------|
| Acetal | 3.8 |
| Acetaldehyde | 15 |
| Acetamide | 59.2 |
| Acetic acid | 6.2 |
| Acetone | 20.7 |
| Acetophenone | 18 |
| Acetyl bromide | 16.2 |
| Acetyl chloride | 15.9 |
| Acetylacetone | 23 |
| Acetylene dibromide | 7.2 |
| Acetylene tetrabromide | 5.6 |
| Aconite acid ester | 6.3 |
| Adipic acid | 1.8 |
| Aerosile | 1 |
| Aether | 4 |
| Alcohol, allyl | 20.6 |
| Alcohol, cetyl | 3.6 |
| Alcohol, diacetone | 18.2 |
| Alcohol, ethyl (ethanol) | 24.3 |
| Alcohol, methyl (methanol) | 33.1 |
| Alcohol, propyl | 21.8 |
| Allyl chloride | 8.2 |
| Allyl iodide | 6.1 |
| Aluminum bromide | 3.4 |
| Ammonia | 15 |
| Ammonia solution 25% | 31.6 |
| Amyl amine | 4.5 |
| Aniline | 7.3 |
| Anisole | 4.5 |
| Antimony hydride | 1.8 |
| Argon | 1.5 |
| Arsine | 2.1 |
| Arsone | 2.3 |
| Azoxybenzene | 5.2 |
| Benzene | 2.3 |
| Bromine | 3.1 |
| Butane | 1.4 |
| Butanoic acid | 3 |
| Caproic acid | 2.6 |
| Caprylic acid | 2.5 |
| Carbon disulfide | 2.64 |
| Carbon tetrachloride | 2.23 |
| Castor Oil | 4.7 |
| Chlorine, chlor fluid | 2 |
| Chlor benzene | 5.7 |
| Chloroform | 4.8 |
| Coconut oil, refined | 2.9 |
| Cotton seed oil | 3.1 |
| Cresol | 10.6 |
| Cumene | 2.4 |
| Decane | 2 |
| Diesel oil, fuel | 2.1 |
| Dodecane | 2 |
| Ether | 4.3 |

| Fluid | Dielectric Constant |
|---------------------------------|---------------------|
| Ethylamine | 6.3 |
| Ethylene glycol | 37 |
| Fish oil | 2.6 |
| Fluorobenzene | 6.4 |
| Furan | 3 |
| Furfural | 42 |
| Gasoline, gas | 2 |
| Glycerine | 47 - 68 |
| Glycerol | 42.5 |
| Glycerol water | 37 |
| Glycol | 37 |
| Heptane | 1.9 |
| Hexane | 2 |
| Hexanol | 13.3 |
| Hydrazine | 52 |
| Iodine | 11.1 |
| Isopropanol | 18 |
| Jet fuel | 1.7 |
| Kerosene | 1.8 |
| Linoleic acid | 2.6 - 2.9 |
| Linseed oil | 3.2 - 3.5 |
| Methane | 1.7 |
| Naphthalene | 2.5 |
| Octane | 2 |
| Oil | 2 |
| Olive oil | 3.1 |
| Oxygen | 1.51 |
| Palmitic acid | 2.3 |
| Palm seed oil | 1.8 |
| Paraffin | 1.6 |
| Pentane | 1.8 |
| Phenol | 4.3 |
| Pentanol | 14.8 |
| Phosgene | 4.7 |
| Phosphorus liquid | 3.9 |
| Pinene | 2.7 |
| Propane | 1.6 |
| Propanol, propyl alcohol | 2.2 |
| Propylene | 11.9 |
| Propyl Ether | 3.3 |
| Pyridine | 1.12 |
| Resorcinol | 3.2 |
| Stearic acid | 2.3 |
| Styrene | 2.4 |
| Terpinene | 2.7 |
| Toluene | 2.0 - 2.4 |
| Transformer oil | 2.1 |
| Turpentine (wood), white spirit | 2.2 |
| Vinegar | 24 |
| Water | 10 |
| Water, demineralized | 29.3 |
| Water, heavy | 78.3 |
| Water - oil emulsion | 24 |
| Wine | 25 |

A comprehensive list is available on dixonvalve.com.

Sensor Selection Guidelines

Capacitance

Capacitance probes work with all liquids with a dielectric constant minimum of 1.8 or higher (Higher numbers on dielectric chart are good, 3-100 makes no difference to sensor)

- Temperature does affect the dielectric constant
- Solution and chemical compatibility to be monitored also need to be considered
 - Note: Some high-viscosity, sticky materials may adhere to the sensor and cause the sensor to read wet

Ultrasonic

- For multi-point applications – up to 5 sense points
- Ideal for areas where splashing is a problem
- Pressure sensing options available - specify pressure at time of order

Conductivity

All conductivity probe orders must include product used and/or specific tuning requested. Standard conductivity tuning is 200K Ohm.

These two liquids are the most common for conductivity probe use:

- Alcohol: Low in conductivity, requires 2 megOhm tune
- HCL: High in conductivity requires 10K Ohm tune¹

¹ HCL fumes are very invasive. Capacitance sensors not recommended. Use conductivity sensors only 

Conductivity probes are an alternative to capacitance probes if the liquid is conductive and there is risk of the capacitance probe being falsely tripped from splashing.

Dual electrode conductivity probes are good for liquids that may stick to the electrode. The exposed electrodes can easily be wiped off between loads.

NOTE: There are always exceptions to these basic rules. Please call Dixon at 877.582.3569 if you have any questions regarding your application.

Railroad Tank Car Connections

Features

- All swivel nuts have standard 5" Railroad Tank Car thread
- Supplied with a nitrile rubber gasket in the threaded end, other gaskets available



Style A

| Male Adapter | Swivel Nut | Elbow | 316 Stainless Steel Part # | Aluminum Part # |
|--------------|------------|-------|----------------------------|-----------------|
| 3" | 5" | 120° | RTCA30 | --- |
| 4" | 5" | 110° | RTCA40 ¹ | ATCA40 |

¹ Parts are produced as a welded fabrication

NOTE: Stainless steel railroad tank car connections are not compatible with aluminum and brass.



110° elbow

Style F

Features

- 4" TTMA flange can be bolted to sight glass; API adapter or other dry disconnect
- Supplied with PTFE nitrile rubber envelope gasket

| TTMA Flange | Swivel Nut | Elbow | Aluminum Part # |
|-------------|------------|-------|------------------------|
| 4" | 5" | 110° | ATCF40 ¹ |
| | 5" | 90° | ATCF40-90 ¹ |

¹ Part is produced as a welded fabrication

NOTE: For flange dimensions, diagrams, and additional information, please reference dixonvalve.com.



110° elbow

Style GF

Feature

- 4" TTMA flange can be bolted to sight glass; API adapter or other dry disconnect

| TTMA Flange | Boss-lock Coupler | Elbow | Aluminum Part # |
|-------------|-------------------|-------|-----------------|
| 4" | 4" | 110° | ATCGF40 |
| | 4" | 90° | ATCGF40-90 |

NOTE: For flange dimensions, diagrams, and additional information, please reference dixonvalve.com.



Screen

Features

- Stainless steel screen encapsulated in a nitrile rubber gasket
- For use in Style GF elbows

| Size | Hole Size | 316L Stainless Steel Part # |
|------|-----------|-----------------------------|
| 4" | 1" | 400-G-BUSS |

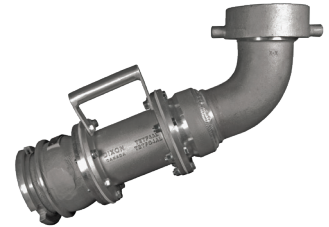
Railroad Unloading Assemblies

Features

- Robust aluminum body construction
- Removable, easy-carry handle
- Safe and reliable - valves will not open unless fittings are properly connected
- Multiple configurations available; consult Dixon® for pricing and availability

Assembly with Dixon MannTek Dry Disconnect Adapter

| Adapter Size | Swivel Nut Size | Aluminum Part # |
|--------------|-----------------|-----------------|
| 4" | 5" | ATC40ASSDDA |

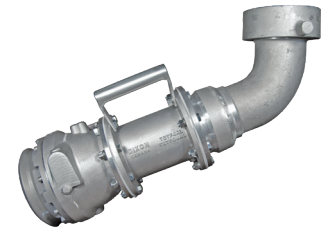


Assembly with API Adapter

Feature

- Stainless steel springs on the adapter and coupler for corrosion resistance

| Adapter Size | Swivel Nut Size | Aluminum Part # |
|--------------|-----------------|-----------------|
| 4" | 5" | ATC40ASSAPI |



Dixon Tank Car Adapters

Features:

- Standard 5" Railroad Tank Car thread
- Supplied with a nitrile rubber gasket in the threaded end

| Size | 356T6 Aluminum Part # | Brass Part # | Iron Part # | 316 Stainless Steel Part # |
|------|-----------------------|--------------|-------------|----------------------------|
| 2" | 200-TCA-AL | --- | --- | 200-TCA-SS |
| 3" | 300-TCA-AL | 300-TCA-BR | --- | 300-TCA-SS |
| 4" | 400-TCA-AL | 400-TCA-BR | --- | 400-TCA-SS |

NOTE: Stainless steel adapters are not compatible with the aluminum and brass adapters.



rocker lug



pin lug

45° Swivel

Features

- Standard 5" Railroad Tank Car thread
- 45° tank car swivel adapter
- Unit has a long handle brass swivel nut and a swivel retaining ring
- Supplied with a nitrile rubber gasket in the threaded end; see next page for more gaskets

| Size | 356T6 Aluminum Part # |
|------|-----------------------|
| 4" | 40A-45TCAL |



Railroad Tank Car Connections



Style T

| Male NPT | Swivel Nut | Elbow | Iron Part # | Aluminum Part # |
|----------|------------|-------|-------------|-----------------|
| 3" | 5" | 120° | TCT30 | ATCT30 |
| 4" | 5" | 110° | TCT40 | ATCT40 |



Style T

| Male NPT | Swivel Nut | Elbow | 316 Stainless Steel Part # |
|----------|------------|-------|----------------------------|
| 3" | 5" | 120° | RTCT30 |
| 4" | 5" | 110° | RTCT40 |

NOTE: Components that make up these assemblies are not interchangeable between stainless steel and the other materials.



Dixon® Coupler x Tank Car Thread

Features

- Part is produced as a welded fabrication
- Coupler supplied with a nitrile rubber gasket, other gaskets available
- Use Dixon replacement handles only



| Coupler | Male Tank Car Thread | Aluminum Part # |
|---------|----------------------|-----------------|
| 4" | 5" | 400DWX5TC |

EZ Boss-Lock x Coupler Tank Car Thread

Features

- Part is produced as a welded fabrication
- Coupler supplied with a nitrile rubber gasket, other gaskets available
- Use EZ Boss-Lock replacement handles only


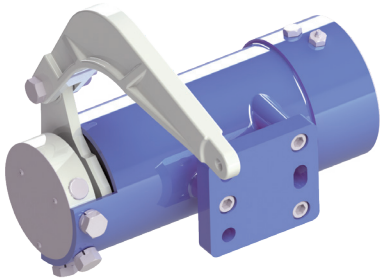
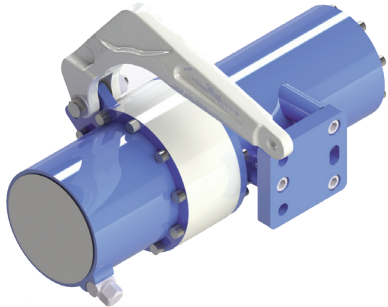


| Coupler | Male Tank Car Thread | Aluminum Part # |
|---------|----------------------|-----------------|
| 4" | 5" | AD400ALEZMTC |

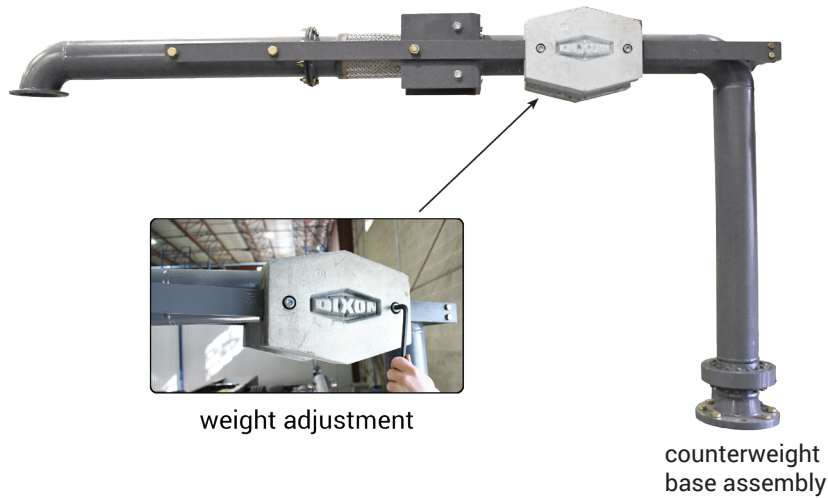
Loading Arm Introduction

A loading arm is a dynamic system allowing for the transfer of media such as liquids, liquified gas, or dry bulk from one storage vessel to another. Consisting of a combination of swivel joints, pipe and/or hose legs, a counterbalance, and various end connections, loading arms can be configured for both top loading and bottom loading applications. Dixon® loading arms are ideal for a wide range of applications, transferring product to and from tank trucks or rail cars as well as to drums and totes.

Dixon's Counterbalance Options

| | Counterweight | ESB1 Torsion Spring Counterbalance | ESB2 Torsion Spring Counterbalance |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| |  |  |  |
| Description | <ul style="list-style-type: none"> • A classic and reliable means of supporting the weight of a loading arm • Utilizes a lever-and-fulcrum system with heavy metal weights that counteract the weight of the loading arm • Stores fully extended in the horizontal position | <ul style="list-style-type: none"> • A helical torsion spring inside a metal housing mounted on a loading arm base swivel • When a load pushes the spring downward, the spring exerts an upward balancing force to support the loading arm • Can be stored in various positions based on arm configuration and space requirements | <ul style="list-style-type: none"> • A heavy-duty helical torsion spring inside a metal housing mounted on a loading arm base swivel • Designed to support larger, heavier loading arms • Utilizes the same balancing method and offers the same storage benefits as the ESB1 |
| Adjustment | <ul style="list-style-type: none"> • Uses 2 or 4 weights depending on the reach and weight of the loading arm • The balancing force can be precisely adjusted for various reach and load applications by sliding the weights in and out along a rail | <ul style="list-style-type: none"> • The balancing force can be precisely adjusted for various load applications by tightening or loosening the adjustment bolt • Multiple spring rates are available to accommodate various reach and load applications | |
| Benefits and Applications | <ul style="list-style-type: none"> • Counterweights are ideal for tight spaces, locations loading multiple products, or where arm crossover may be necessary | <ul style="list-style-type: none"> • Spring balances allow for a variety of arm configurations, as well as a wide range of applications including bulk chemicals, food & beverage, and petroleum | |

Counterweight Loading Arms



Applications

- Bottom loading bulk liquids and other loading products
- Suitable for fuel loading racks and other loading products requiring multiple arms to crossover

Size

- 4" nominal pipe size

Features

- No springs
- Split flange base swivel
- 2 or 4 adjustable counterweights
- Easy adjustment, operation, and maintenance

Materials

- Carbon steel schedule 40 pipe construction
- 321 stainless steel flex joint with 304 stainless steel braid
- FKM or nitrile rubber seals

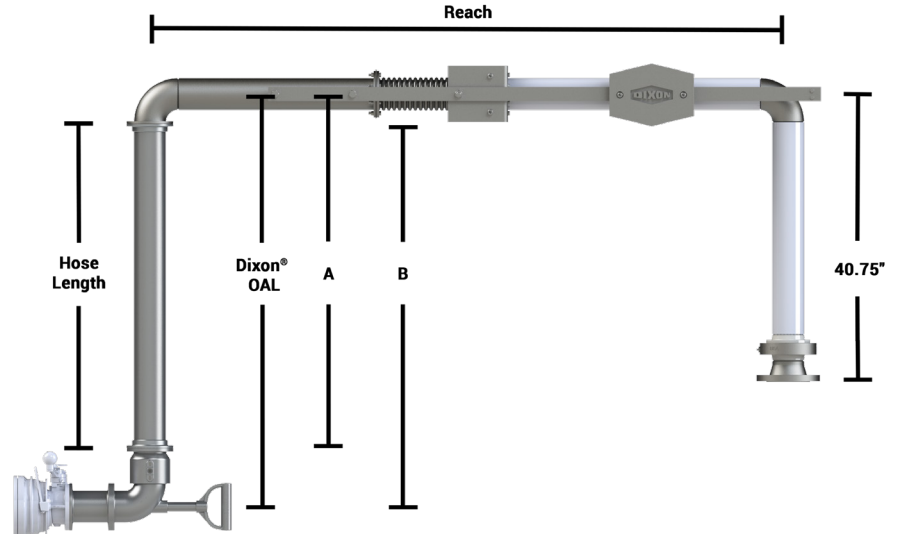
Specifications

- Composite or stainless steel braided drop hose
- Style 30 loading swivel
- D-handle or ball handle on loading swivel
- TTMA extension or color coded TTMA extension
- Safety break-away
- Sight glass
- Wet-R-Dri™ valve
- 5500-series API coupler

| Counterweights | Reach Dimension | Part # | |
|----------------|-----------------|----------------------|---------------|
| | | Nitrile Rubber Seals | FKM Seals |
| 2 | 78" | CW2-LA4-078-0 | CW2-LA4-078-1 |
| 2 | 90" | CW2-LA4-090-0 | CW2-LA4-090-1 |
| 2 | 102" | CW2-LA4-102-0 | CW2-LA4-102-1 |
| 2 | 114" | CW2-LA4-114-0 | CW2-LA4-114-1 |
| 4 | 78" | CW4-LA4-078-0 | CW4-LA4-078-1 |
| 4 | 90" | CW4-LA4-090-0 | CW4-LA4-090-1 |
| 4 | 102" | CW4-LA4-102-0 | CW4-LA4-102-1 |

NOTE: The counterweight base assemblies shown above do not contain the drop leg or the bottom unit. 114" reach is only available with 2 weights.

Counterweight Reference Sheet



Shown with available options including: composite hose, ball handle, Wet-R-Dri valve, color coded TTMA extension, sight flow indicator, and 5500-series API coupler

| Hose Length | Dixon OAL | A | B | Reach / Part # | | | |
|-------------|-----------|------|------|------------------------------|------------------------------|------------------------------|------------------------------|
| | | | | 78" | 90" | 102" | 114" |
| 76" | 89" | 80" | 84" | WV4078EV076M1ED ¹ | WV4090EV076M1ED ¹ | WV20A2EV076M1ED ² | WV20B4EV076M1ED ² |
| 80" | 93" | 84" | 88" | WV4078EV080M1ED ¹ | WV4090EV080M1ED ¹ | WV20A2EV080M1ED ² | WV20B4EV080M1ED ² |
| 92" | 105" | 96" | 100" | - | WV4090EV092M1ED ¹ | WV20A2EV092M1ED ² | WV20B4EV092M1ED ² |
| 96" | 109" | 100" | 104" | - | WV4090EV096M1ED ¹ | WV20A2EV096M1ED ² | WV20B4EV096M1ED ² |
| 108" | 121" | 112" | 116" | - | WV4090EV0A8M1ED ¹ | WV40A2EV0A8M1ED ¹ | WV20B4EV0A8M1ED ² |
| 112" | 125" | 116" | 120" | - | WV4090EV0B2M1ED ¹ | WV40A2EV0B2M1ED ¹ | WV20B4EV0B2M1ED ² |
| 124" | 137" | 128" | 132" | - | WV4090EV0C4M1ED ¹ | WV40A2EV0C4M1ED ¹ | WV20B4EV0C4M1ED ² |
| 128" | 141" | 132" | 136" | - | WV4090EV0C8M1ED ¹ | WV40A2EV0C8M1ED ¹ | WV20B4EV0C8M1ED ² |

¹ 4 weights

² 2 weights

NOTE: Part numbers listed above include FKM seals, stainless steel braided metal hose, Style 30 with D-handle, TTMA extension, and 5500-series API coupler. Other hose lengths are available upon request.

A-Frame Loading Arm with Rigid Drop Pipe



Sizes

- 3" and 4"

Features

- Torsion spring counterbalance offered in left or right hand
- Base swivels offered: carbon steel V-ring, carbon steel split flange, or 316 stainless steel split flange
- Style 50 loading swivel
- Available accessories include safety break-away, Wet-R-Dri™ valve, ball handle (see pages 62-66)

Materials

- Pipe leg materials offered: aluminum, carbon steel, and 316 stainless steel
- Available seals include: nitrile rubber, FKM, low temperature FKM, PTFE, EPDM, and food-grade nitrile

Specifications

- Standard configurations below include carbon steel base swivels, ESB1 torsion spring counterbalance, TTMA extension, 5500-series API, and D-handle
- Other options available upon request

| Size | Description | Part # |
|------|-------------------------------------------------------------------|------------------|
| 3" | 60" x 60" aluminum legs, V-ring base swivel, FKM seals, API | AV3A46JAK48H6ED |
| | 60" x 60" aluminum legs, split flange base swivel, FKM seals, API | AV3G46JAK48H6ED |
| 4" | 60" x 60" aluminum legs, V-ring base swivel, FKM seals, API | BV4A44JAU46H6ED |
| | 60" x 60" aluminum legs, split flange base swivel, FKM seals, API | BV4G44JAU46H6ED* |
| | 60" x 72" aluminum legs, V-ring base swivel, FKM seals, API | BV4A44JAU58H6ED |
| | 60" x 72" aluminum legs, split flange base swivel, FKM seals, API | BV4G44JAU58H6ED |

*Shown in image above

A-Frame Loading Arm with Drop Hose



Sizes

- 3" and 4"

Features

- Torsion spring counterbalance offered in left or right hand
- Base swivels offered: carbon steel V-ring, carbon steel split flange, or 316 stainless steel split flange
- Style 30 loading swivel; style 50 available upon request
- Available accessories include safety break-away, Wet-R-Dri™ valve, ball handle (see pages 62-66)

Materials

- Pipe leg materials offered: aluminum, carbon steel, and 316 stainless steel
- Available seals include: nitrile rubber, FKM, low temperature FKM, PTFE, EPDM, and food-grade nitrile
- Drop hose available in composite and stainless steel metal

Specifications

- Standard configurations below include carbon steel base swivels, ESB1 torsion spring counterbalance, TTMA extension, 5500-series API, and D-handle
- Other options available upon request

| Size | Description | Part # |
|------|----------------------------------------------------------------------------------------|------------------|
| 3" | 60" aluminum leg A x 72" metal drop hose, V-ring base swivel, FKM seals, API | AV3A46JAK59M1ED |
| | 60" aluminum leg A x 72" metal drop hose, split flange base swivel, FKM seals, API | AV3A46JAK59M1ED |
| | 60" aluminum leg A x 72" composite drop hose, V-ring base swivel, FKM seals, API | AV3G46JAK59C1ED |
| | 60" aluminum leg A x 72" composite drop hose, split flange base swivel, FKM seals, API | AV3G46JAK59C1ED |
| 4" | 60" aluminum leg A x 60" metal drop hose, V-ring base swivel, FKM seals, API | BV4A44JAU46M1ED |
| | 60" aluminum leg A x 60" metal drop hose, split flange base swivel, FKM seals, API | BV4G44JAU46M1ED |
| | 60" aluminum leg A x 60" composite drop hose, V-ring base swivel, FKM seals, API | BV4A44JAU46C1ED |
| | 60" aluminum leg A x 60" composite drop hose, split flange base swivel, FKM seals, API | BV4G44JAU46C1ED |
| | 60" aluminum leg A x 72" metal drop hose, V-ring base swivel, FKM seals, API | BV4A44JAU58M1ED |
| | 60" aluminum leg A x 72" metal drop hose, split flange base swivel, FKM seals, API | BV4G44JAU58M1ED* |
| | 60" aluminum leg A x 72" composite drop hose, V-ring base swivel, FKM seals, API | BV4A44JAU58C1ED |
| | 60" aluminum leg A x 72" composite drop hose, split flange base swivel, FKM seals, API | BV4G44JAU58C1ED |

*Shown in image above

Horizontal Hose Loader



Sizes

- 3" and 4"

Features

- Torsion spring counterbalance offered in left or right hand
- Base swivels offered: carbon steel V-ring, carbon steel split flange, or 316 stainless steel split flange
- Style 30 loading swivel; style 50 available upon request
- Available accessories include safety break-away, Wet-R-Dri™ valve, ball handle (see pages 62-66)

Materials

- Pipe leg materials offered: aluminum, carbon steel, and 316 stainless steel
- Available seals include: nitrile rubber, FKM, low temperature FKM, PTFE, EPDM, and food-grade nitrile
- Drop hose available in composite hose and stainless steel metal hose

Specifications

- Standard configurations below include carbon steel base swivels, ESB1 torsion spring counterbalance, TTMA extension, 5500-series API, and D-handle
- Other options available upon request

| Size | Description | Part # |
|------|----------------------------------------------------------------------------------------|------------------|
| 3" | 52" aluminum leg A x 72" metal drop hose, V-ring base swivel, FKM seals, API | AV3A43MV061M1ED |
| | 52" aluminum leg A x 72" metal drop hose, split flange base swivel, FKM seals, API | AV3G43MV061M1ED |
| | 52" aluminum leg A x 72" composite drop hose, V-ring base swivel, FKM seals, API | AV3A43MV061C1ED |
| | 52" aluminum leg A x 72" composite drop hose, split flange base swivel, FKM seals, API | AV3G43MV061C1ED |
| 4" | 52" aluminum leg A x 72" metal drop hose, V-ring base swivel, FKM seals, API | BV4A42MV059M1ED |
| | 52" aluminum leg A x 72" metal drop hose, split flange base swivel, FKM seals, API | BV4G42MV059M1ED* |
| | 52" aluminum leg A x 72" composite drop hose, V-ring base swivel, FKM seals, API | BV4A42MV059C1ED |
| | 52" aluminum leg A x 72" composite drop hose, split flange base swivel, FKM seals, API | BV4G42MV059C1ED |

*Shown in image above

Fixed Reach Loading Arm



Sizes

- 2", 3", 4", and 6"

Features

- Torsion spring counterbalance offered in left or right hand
- Base swivels offered: carbon steel V-ring, carbon steel split flange, or 316 stainless steel split flange
- Available accessories include tee deflector, diffuser, top loading valve with or without remote handle kit, various handles, locking mechanism (see pages 62-66)

Materials

- Pipe leg materials offered: aluminum, carbon steel, and 316 stainless steel
- Available seals include: nitrile rubber, FKM, low temperature FKM, PTFE, EPDM, and food-grade nitrile

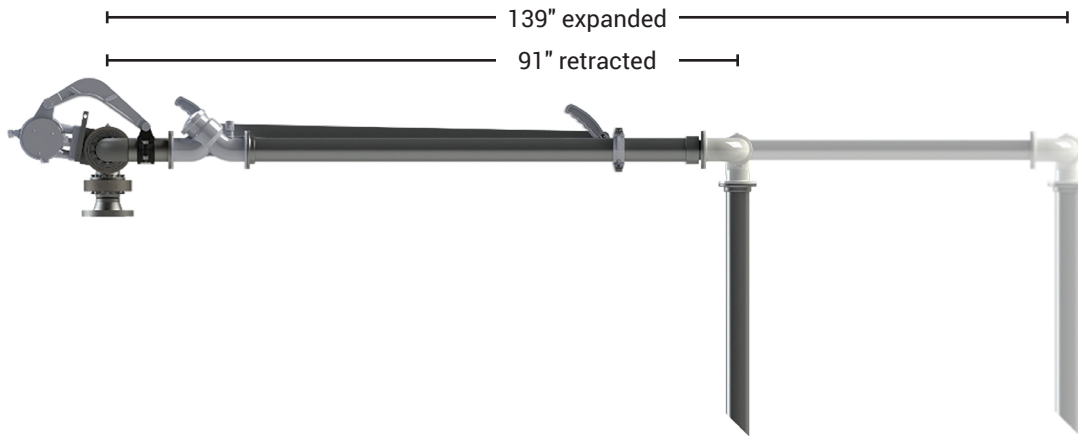
Specifications

- Standard configurations below include ESB1 torsion spring counterbalance
- Other options available upon request

| Size | Description | Part # |
|------|--------------------------------------------------------------------------------------------------------------------------------|------------------|
| 2" | 60" x 48" 316 stainless steel legs, 316 stainless steel split flange base swivel, 45° cut, PTFE seals | AP2D48QUA45QC00 |
| 3" | 120" x 48" carbon steel legs, carbon steel split flange base and apex swivels LA handle, bucket hook, 45° cut, FKM seals | CV3GA8AFK45ACJ0 |
| 4" | 120" x 48" aluminum legs, carbon steel split flange base swivel, top loading valve, LA handle, bucket hook, 45° cut, FKM seals | CV4G90JAU42HCJY* |

*Shown in image above

Telescoping Loading Arm



Sizes

- 3" and 4"

Features

- Torsion spring counterbalance offered in left or right hand
- Base swivels offered: carbon steel V-ring or carbon steel split flange
- Available accessories include tee deflector, top loading valve with or without remote handle kit, various handles (see pages 62-66)

Materials

- Pipe leg materials offered: aluminum
- Available swivel seals include: nitrile rubber and FKM

Specifications

- Standard configurations below include carbon steel split flange base swivel, ESB1 torsion spring counterbalance, 45° cut end connection
- Other options available upon request

| Size | Description | Part # |
|------|----------------------------------------------------------------------------------|------------------|
| 3" | telescoping x 42" overall length, FKM seals and top loading valve | AV3GB49AK37HC0Y |
| | telescoping x 42" overall length, FKM seals, top loading valve and remote handle | BV3GB49AK37HC0N |
| | telescoping x 48" overall length, FKM seals and top loading valve | BV3GB49AK43HC0Y |
| | telescoping x 48" overall length, FKM seals, top loading valve and remote handle | BV3GB49AK43HC0N* |

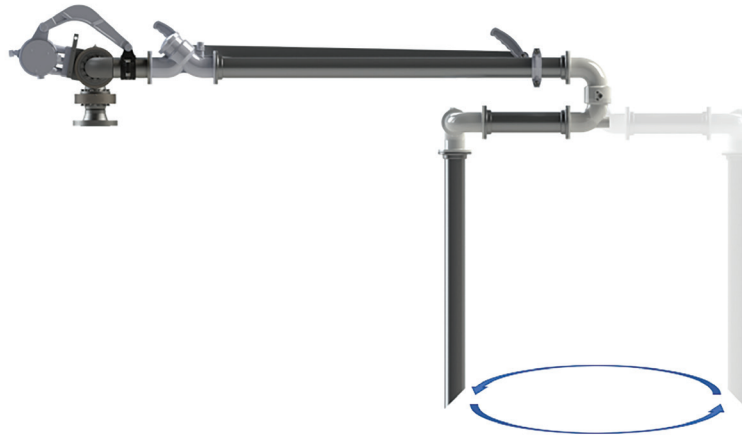
NOTE: Telescoping loading arms are for open discharge only.

Telescoping Arm Replacement Parts

| Size | Description | Part # |
|------|--------------------------------------------------------------|-----------------|
| 3" | 3" aluminum telescoping leg, 66" retracted and 114" extended | 3SAL0-TFXTF-114 |
| | 3" nitrile rubber telescoping leg seal replacement kit | 3RKT |

*Shown in image above

Scissor Style Loading Arm



Sizes

- 2", 3", and 4"

Features

- Torsion spring counterbalance offered in left or right hand
- Base swivels offered: carbon steel V-ring, carbon steel split flange, or 316 stainless steel split flange
- Available accessories include tee deflector, diffuser, top loading valve with or without remote handle kit, various handles, locking mechanism (see pages 62-66)

Materials

- Pipe leg materials offered: aluminum, carbon steel, 316 stainless steel
- Available swivel seals include: nitrile rubber, FKM, low temperature FKM, PTFE, EPDM, or food-grade nitrile

Specifications

- Standard configurations below include carbon steel split flange base swivel, aluminum legs, top load valve, remote handle kit, and FKM seals
- Other options available upon request

| Size | Description | Part # |
|------|---------------------------------------------------------------------------------------------------|------------------|
| 3" | 84" x 48" drop leg with 24" scissor leg, 45° cut end, top loading valve, remote handle kit | AVBG59JAK43HC0N |
| | 108" x 48" drop leg with 36" scissor leg, 45° cut end, top loading valve, remote handle kit | BVCG83JAK43HC0N |
| 4" | 84" x 48" drop leg with 24" scissor leg, 45° cut end, top loading valve, remote handle kit | CVFG55JAU42HC0N* |
| | 108" x 48" drop leg with 36" scissor leg, 45° cut, heavy CB, top loading valve, remote handle kit | PVGG79JAU42HC0N |

*Shown in image above

Unsupported Boom Loading Arm



Sizes

- 2", 3", 4", and 6"

Features

- Torsion spring counterbalance offered in left or right hand
- Base swivels offered: carbon steel V-ring, carbon steel split flange, or 316 stainless steel split flange
- Available accessories include tee deflector, diffuser, top loading valve with or without remote handle kit, various handles, and locking mechanism (see pages 62-66)

Materials

- Pipe and arm swivel materials offered: aluminum, carbon steel, and 316 stainless steel
- Available seals include: nitrile rubber, FKM, low temperature FKM, PTFE, EPDM, or food-grade nitrile

Specifications

- Standard configurations below include carbon steel split flange base swivel and ESB1 torsion spring
- Other options available upon request

| Size | Description | Part # |
|------|-------------------------------------------------------------------------------------------------------|------------------|
| 3" | aluminum 78" x 48" drop leg w/ 45° cut, 48" carbon steel boom leg, FKM seals | HVDU64JAK43HC00 |
| | carbon steel 90" x 60" drop leg w/ 45° cut, 60" carbon steel boom leg, FKM seals | JVEU78AFK57AC00 |
| 4" | aluminum 78" x 48" drop leg w/ 45° cut, 48" carbon steel boom leg, FKM seals | HVHU62JAU43HC00* |
| | carbon steel 90" x 60" drop leg w/ 45° cut, 60" carbon steel boom leg, FKM seals | KVJU75AFU56AC00 |
| 6" | carbon steel 78" x 48" drop leg w/ 45° cut, 48" carbon steel boom leg, FKM seals, ESB2 counterbalance | Q02660AC642AC00 |

*Shown in image above

Supported Boom Loading Arm



Sizes

- 2", 3", 4", and 6"

Features

- Torsion spring counterbalance offered in left or right hand
- Base swivels offered: carbon steel V-ring, carbon steel split flange, or 316 stainless steel split flange
- Available accessories include tee deflector, diffuser, top loading valve with or without remote handle kit, various handles, and locking mechanism (see pages 62-66)
- Includes triangulated bracing with pillow block bearing to support longer, heavier arms

Materials

- Pipe and arm swivel materials offered: aluminum, carbon steel, and 316 stainless steel
- Available seals include: nitrile rubber, FKM, low temperature FKM, PTFE, EPDM, or food-grade nitrile

Specifications

- Standard configurations below include split flange base swivel and ESB1 torsion spring counterbalance
- Other options available upon request

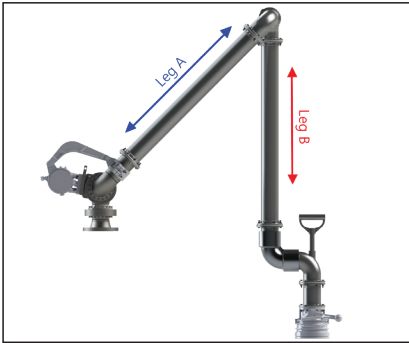
| Size | Description | Part # |
|------|--------------------------------------------------------------------------------------------------------|------------------|
| 2" | stainless steel base swivel, stainless steel 60" x 48" drop leg w/ 45° cut, 49" boom leg, PTFE seals | H02148QUA45QC00 |
| 3" | carbon steel base swivel, aluminum 78" x 48" drop leg w/ 45° cut, carbon steel 69" boom leg, FKM seals | H02564JAK43HC00 |
| 4" | carbon steel base swivel, aluminum 78" x 48" drop leg w/ 45° cut, carbon steel 69" boom leg, FKM seals | H01362JAU42HC00* |

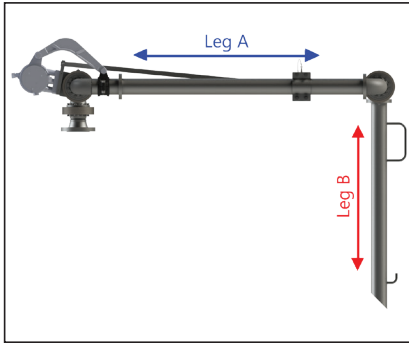
*Shown in image above

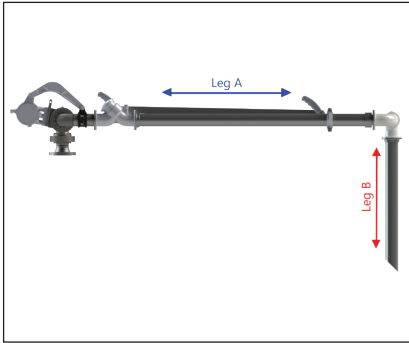
Section 1: Customer Information

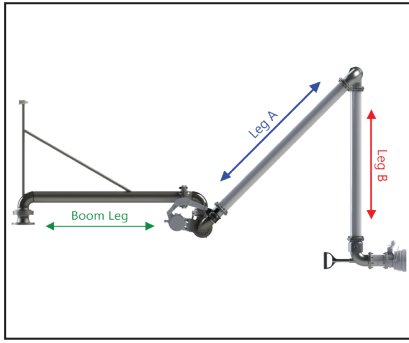
| | | | |
|--------------------------|-------|----------------|-------|
| Distributor name: | _____ | Phone: | _____ |
| Contact person: | _____ | Email: | _____ |
| Distributor city, state: | _____ | Customer code: | _____ |
| End user name: | _____ | Phone: | _____ |
| Contact person: | _____ | Email: | _____ |

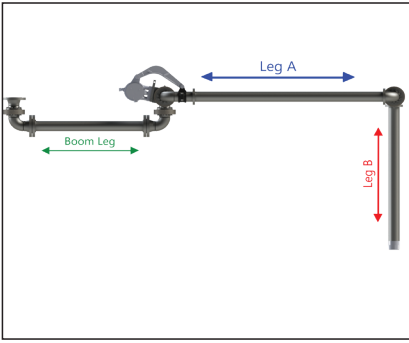
Section 2: Configuration(s)

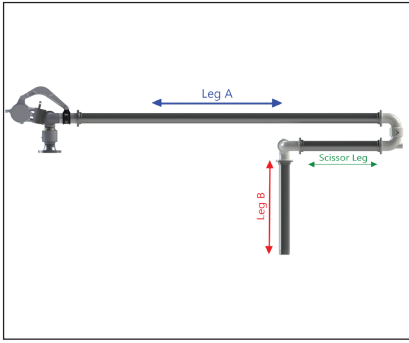
a. A-frame 

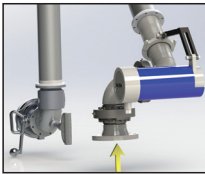
Fixed Reach (top load) 

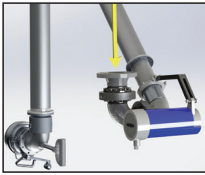
Telescoping* (*Leg A only available in one standard length) 

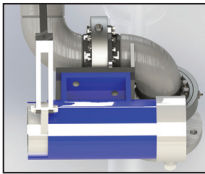
Supported boom 

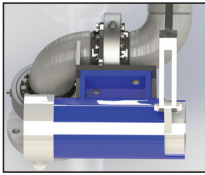
Unsupported boom 

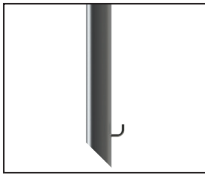
Scissor 

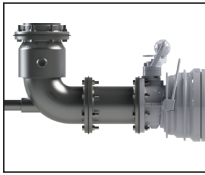
b. Upfeed 

Downfeed 

c. Left-hand 

Right-hand 

d. Top load 

Bottom load 

e. Other style/configurations:

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

Loading Arms

Section 3: Component Measurements and Materials

(Measure from centerline of swivel to centerline of swivel. Round to the nearest inch, i.e. 48", 60", etc.)

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

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

Boom/Scissor
 Leg Length: _____ Material: carbon steel stainless steel aluminum (scissor only)

Section 4: Load Arm Information

- a. Quantity: _____
- b. Pipe size: 2" 3" 4" other: _____"
- c. Base swivel: split flange style v-ring style
- d. Riser stand pipe connection: Class 150 ANSI flange Class 300 ANSI flange other: _____
- e. Type of media: asphalt fuel other: _____
- f. Seals (Dixon can recommend based on media): Nitrile rubber PTFE FKM-A
 low temperature FKM EPDM other: _____
- g. Environment conditions: temperature range _____ °F to _____ °F operating PSI : _____
- h. End connections (check all that apply):

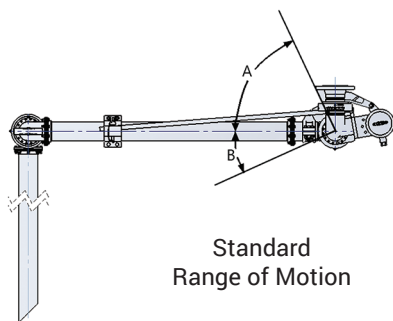
| | | | |
|----------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------|--------------------------------------------|
| <input type="checkbox"/> 45° pipe cut | <input type="checkbox"/> cam & groove coupler | <input type="checkbox"/> top loading valve | <input type="checkbox"/> sight glass |
| <input type="checkbox"/> API coupler w/ flange extension | <input type="checkbox"/> cam & groove adapter | <input type="checkbox"/> top loading valve w/ remote handle kit | <input type="checkbox"/> D-handle |
| <input type="checkbox"/> tee-deflector | <input type="checkbox"/> dry disconnect | <input type="checkbox"/> butterfly (Wet-R-Dri™) valves | <input type="checkbox"/> ball handle |
| <input type="checkbox"/> male NPT | <input type="checkbox"/> TTMA flange | <input type="checkbox"/> locking mechanism | <input type="checkbox"/> bucket hook |
| <input type="checkbox"/> other: _____ | | <input type="checkbox"/> loading arm handle | <input type="checkbox"/> safety break-away |
| | | <input type="checkbox"/> other: _____ | |
- i. Add-ons (check all that apply):

Section 5: Site Limitations

Providing the following information will help ensure that the loading arm performs as expected when in service.

- a. Ceiling or roof height from riser pipe connection distance: _____
- b. Additional items being added by the customer (vapor hoses, drip buckets, hold-down chains, etc.) and estimated weight (pounds): _____

A: 65 degrees
B: 24 degrees



Sketches/Notes:

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

Base Swivels with Counterbalance

Sizes

- Carbon steel V-ring: 3", 4", and 6"
- Carbon steel split flange: 2", 3", and 4"
- 316 stainless steel split flange: 2", 3", and 4"

Features

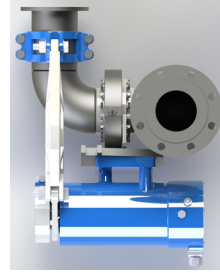
- Torsion spring counterbalance offered in right or left hand
- Style 50 or 70 available for base swivels based on configuration and flow of media
- Connecting arm and clamp included

Materials

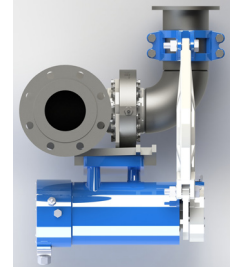
- Base swivel materials offered: carbon steel and 316 stainless steel
- Available seals include: nitrile rubber, FKM, low temperature FKM, PTFE, EPDM, or food-grade nitrile

Specifications

- Standard configurations below include carbon steel split flange base swivel, ESB1 torsion spring counterbalance, 150# flange inlet, and TTMA flange outlet
- Connection options include: 150# flange, 300# flange, and TTMA flange
- Other options available upon request



left hand style

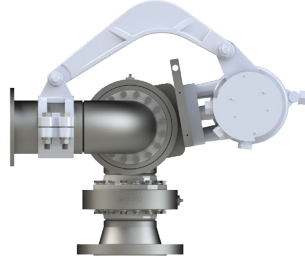


right hand style

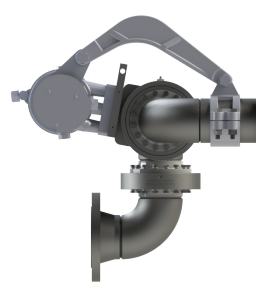
| Orientation | Seals | Counterbalance Spring | 3" Part # | 4" Part # |
|-------------|----------------|-----------------------|----------------|----------------|
| UFRH | Nitrile rubber | A | AB3G0000000000 | AB4G0000000000 |
| | | B | BB3G0000000000 | BB4G0000000000 |
| | | C | CB3G0000000000 | CB4G0000000000 |
| | FKM | A | AV3G0000000000 | AV4G0000000000 |
| | | B | BV3G0000000000 | BV4G0000000000 |
| | | C | CV3G0000000000 | CV4G0000000000 |
| UFLH | Nitrile rubber | E | EB3G0000000000 | EB4G0000000000 |
| | | F | FB3G0000000000 | FB4G0000000000 |
| | | G | GB3G0000000000 | GB4G0000000000 |
| | FKM | E | EV3G0000000000 | EV4G0000000000 |
| | | F | FV3G0000000000 | FV4G0000000000 |
| | | G | GV3G0000000000 | GV4G0000000000 |



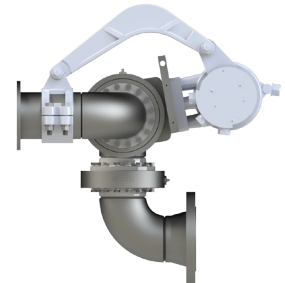
upfeed right-hand (UFRH)



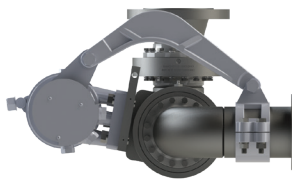
upfeed left-hand (UFLH)



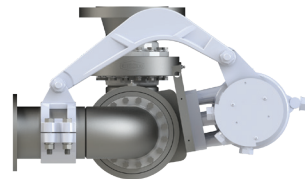
horizontal upfeed right-hand (HUFRRH)*



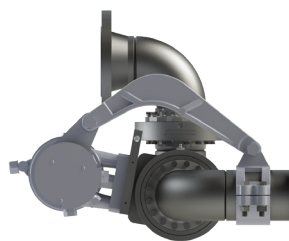
horizontal upfeed left-hand (HUFLH)*



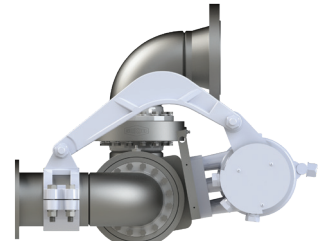
downfeed right-hand (DFRRH)*



downfeed left-hand (DFLH)*



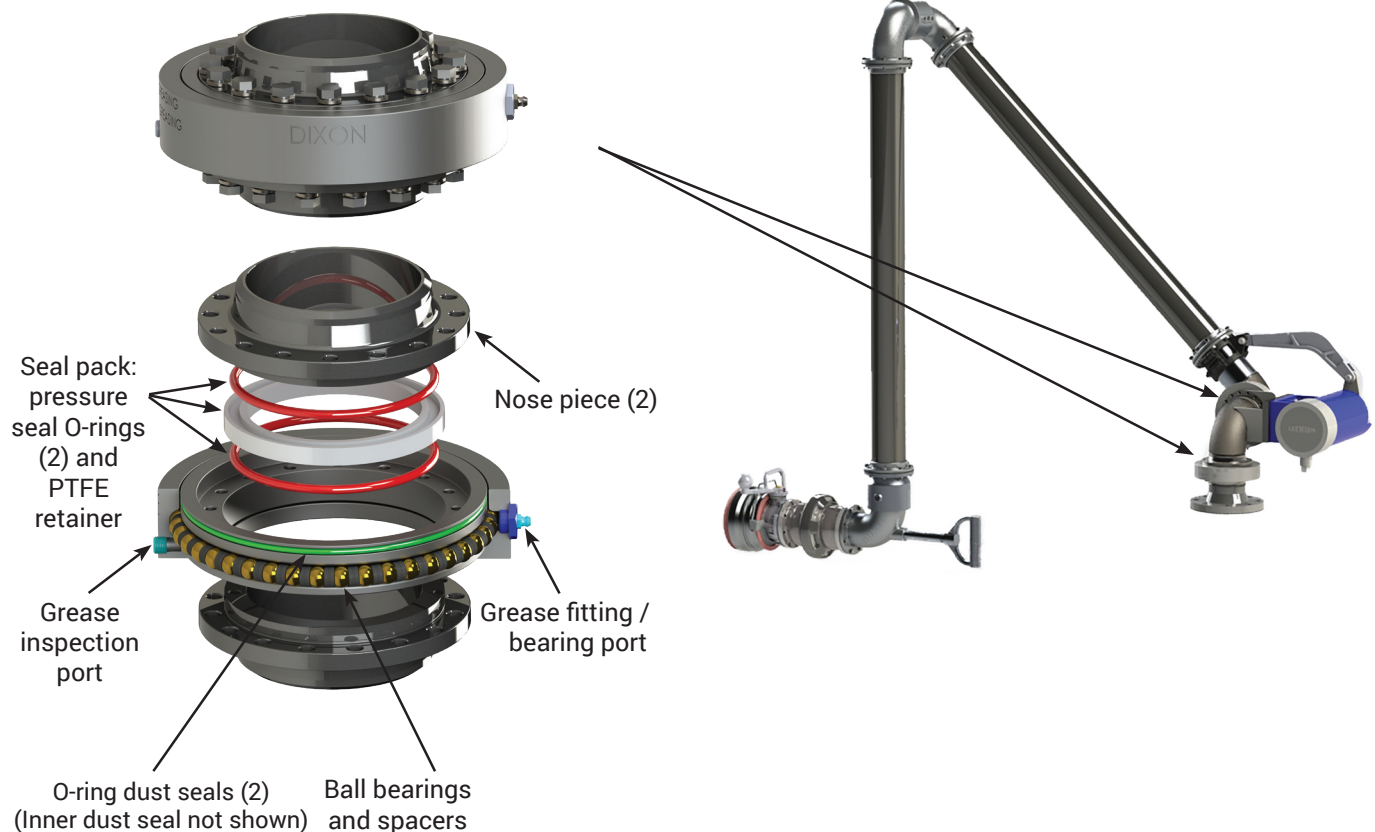
horizontal downfeed right-hand (HDFRRH)*



horizontal downfeed left-hand (HDFLH)*

*Not listed in chart above, contact Dixon® for details

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", and 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, carbon steel, or aluminum nose pieces
- Seals: FKM-A, PTFE, and more upon request

Specifications

- Pressure rating: up to **600 PSI**
- Standard temperature range with Baylast seals is **-30°F to 212°F (-34°C to 100°C)**; contact factory for other temperature requirements

Available options

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

Loading Arms

O-Ring Swivel Joints

Applications

- Commonly used in aluminum loading/unloading arm applications

Sizes

- 1" - 4"

Features

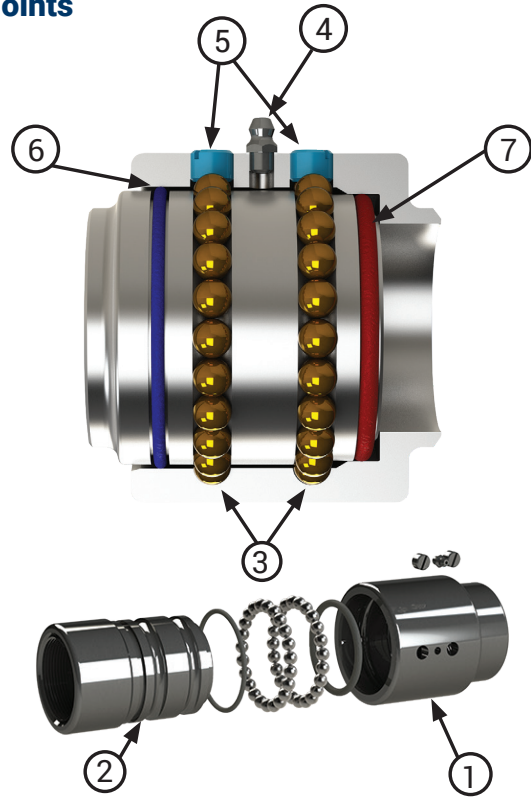
- O-ring pressure seal ensures a leak-proof seal and smooth rotation with lower torque
- Smooth moving seal for high-volume drum and tote loading
- Available working pressure ratings up to 1,000 PSI, based on material and end connections
- Available end connections include: 150 lbs. and 300 lbs. flanges, FNPT, MNPT, butt weld, TTMA, and others upon request
- End connections and materials offered may vary based on size, contact Dixon® for details

Materials

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

Bill of Materials

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



V-Ring Swivel Joints

Applications

- V-ring, also known as chevron packing, is a multiple lip seal known for its reliability and long life
- The three V-ring seals are designed to seal even under misalignment caused by race wear from years of service. This design results in longer time between service periods, increased up-time efficiencies, and lower maintenance costs.

Sizes

- 2" - 12"

Features

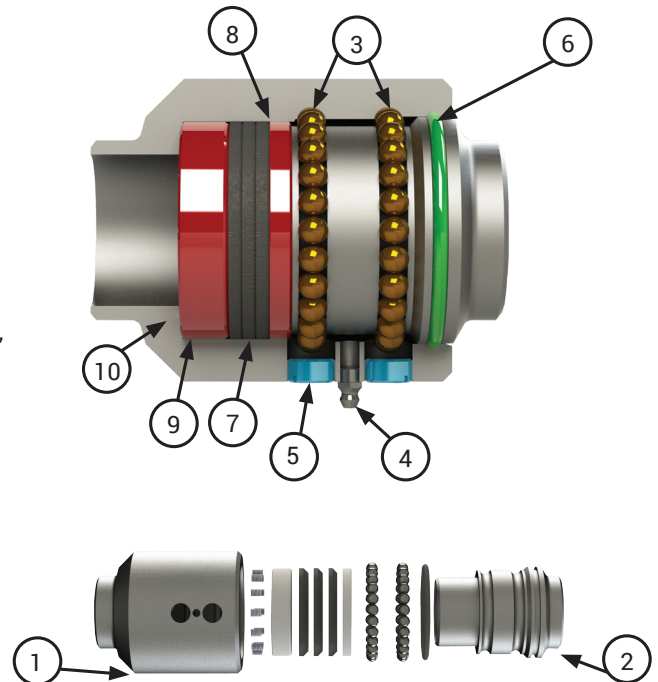
- Spring-loaded triple V-ring sealing system ensures a leak-proof seal at high or low pressure and extends seal life
- Swivels are shipped standard with the following:
 - Nitrile rubber pressure seals and dust seals
 - Carbon steel ball bearings
 - PTFE retainers in V-ring swivels
- Available working pressure ratings up to **1,000 PSI**
- End connections and materials offered may vary based on size, contact Dixon® for details

Materials

- Available materials include carbon steel, 316L stainless steel, and aluminum

Bill of Materials

1. Body
2. Sleeve
3. Ball bearings
4. Grease fitting
5. Ball retainer screw
6. O-ring (dust seal)
7. V-ring (pressure seal)
8. Seal retainer
9. Spring retainer
10. Springs



5500-Series API Couplers



*Normal wear and tear items (including seals) not covered



5500-Series



Replaceable nose seal:
Replace without removal
from the loading arm

Application

- Combined with API adapters, these couplers are suitable for railcar and tank truck loading or unloading

Features

- Locking five-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 the loading arm
- Fully interlocked collar cannot be opened when connected and cannot be disconnected when opened
- Replaceable seal design while coupler is on loading arm
- 4" TTMA inlet mounting flange connection
- Ball-end handle for easy and comfortable operation
- No special tools needed for maintenance
- Reference dixonvalve.com for bill of materials and a complete list of repair kits

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: Baylast, EPDM, FFKM, FKM-B, FKM-GFLT, fluorosilicone, and Hifluor

Specifications

- Seal operating temperature:
 - Baylast™: -20°F to 250°F (-28°C to 121°C)
 - EPDM: -40°F to 250°F (-40°C to 120°C)
 - FFKM: 0°F to 400°F (-18°C to 204°C)
 - FKM-B: -10°F to 400°F (-23°C to 204°C)
 - FKM-GFLT: -20°F to 400°F (-28°C to 204°C)
 - Fluorosilicone: -50°F to 300°F (-40°C to 149°C)
 - Hifluor: 23°F to 350°F (-5°C to 176°C)
- Flow rate: 600 GPM at 3 PSI pressure drop, maximum flow rate: 1,000 GPM
- Fully compliant with API RP1004:2003 specifications
- Burst tested: 450 PSI

| Description | Seal Material | Part # | Complete Repair Kit* | Replaceable Nose Seal |
|----------------|----------------|--------|----------------------|-----------------------|
| 4" API coupler | Baylast | 5500BL | 5500RK2 | 5500RK8 |
| | EPDM | 5500E | 5500RK3 | 5500RK9 |
| | FFKM | 5500K | 5500RK6 | 5500RK12 |
| | FKM-B | 5500B | 5500RK1 | 5500RK7 |
| | FKM-GFLT | 5500G | 5500RK5 | 5500RK11 |
| | Fluorosilicone | 5500F | 5500RK4 | 5500RK10 |
| | Hifluor | 5500H | 5500RK19 | 5500RK20 |

NOTE: Complete repair kit contains all the seals, pins, and cotter keys to replace all the seals.

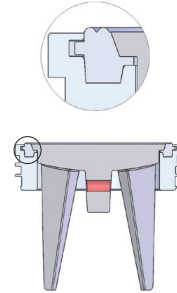
5500-Series API Coupler Accessories

Seal Design

Benefits

- The burst pressure of the new nose seal is **450 PSI**, which is greater than that of the bonded nose seal at **150 PSI**
- Removable seal design is keyed in place and tested to **450 PSI** without seal ejection.

5500-Series



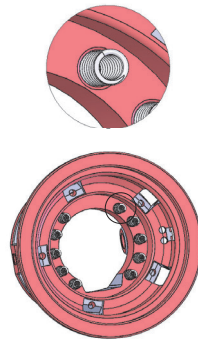
Coiled Inconel® Springs

Improvement

- 10 Inconel coiled springs have been added. Coiled springs put more pressure on the nose seal-to-truck API adapter to help prevent leaks.

Benefit

- This will solve the occasional rusting and breaking issues.



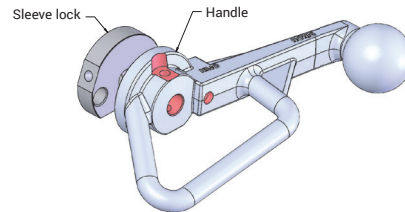
Two-Piece Handle

Improvement

- Two-piece handle is attached to the coupler with two separate cross pins.

Benefit

- Should the handle cross pins be sheared away, the interlock will remain operational, preventing the coupler from opening.



Accessories

Part #: 5501

- API coupler drain valve

Benefits

- Allows the operator to drain a loading arm easily and safely.
- Fits all API bottom loading couplers



Part #: 5204H

- Hanger for API rack coupler parking brake

Benefit

- Neatly store and secure loading arms while not in use



TTMA Flange Extensions



TETF4AL



TETFG4AL

Applications

- Used to connect an API coupler to a loading arm
- Provides a specified parting point to prevent excessive damage to the loading arm

Features

- Adds a 6" space to allow for clearance between the loading arm and the tank truck
- Color coded for product identification
- Other colors available upon request. Consult Dixon® for more details

Materials

- Aluminum, powder coated aluminum



TETF4AL-W



TETF4AL-B



TETF4AL-G



TETF4AL-R



TETF4AL-Y



TETF4AL-G/Y



TETF4AL-R/W/B

| Size | Description | Part # |
|------|---------------------------------------------------------------------|---------------|
| 4" | TTMA flange extension | TETF4AL |
| | TTMA flange extension with groove | TETFG4AL |
| | TTMA flange extension with 1/2" female NPT port | TETF4ALFP50 |
| | TTMA flange extension with 3/4" female NPT port | TETF4ALFP75 |
| | TTMA flange extension | TETF4AL |
| | TTMA flange extension; color-coded white | TETF4AL-W |
| | TTMA flange extension; color-coded blue | TETF4AL-B |
| | TTMA flange extension; color-coded green | TETF4AL-G |
| | TTMA flange extension; color-coded red | TETF4AL-R |
| | TTMA flange extension; color-coded yellow | TETF4AL-Y |
| | TTMA flange extension; color-coded orange | TETF4AL-O |
| | TTMA flange extension; color-coded black | TETF4AL-BLK |
| | TTMA flange extension; color-coded combination green and yellow | TETF4AL-G/Y |
| | TTMA flange extension; color-coded combination blue and white | TETF4AL-B/W |
| | TTMA flange extension; color-coded combination blue and red | TETF4AL-B/R |
| | TTMA flange extension; color-coded combination white and red | TETF4AL-W/R |
| | TTMA flange extension; color-coded combination red, white, and blue | TETF4AL-R/W/B |

TTMA Flange Extension Reducing Spools



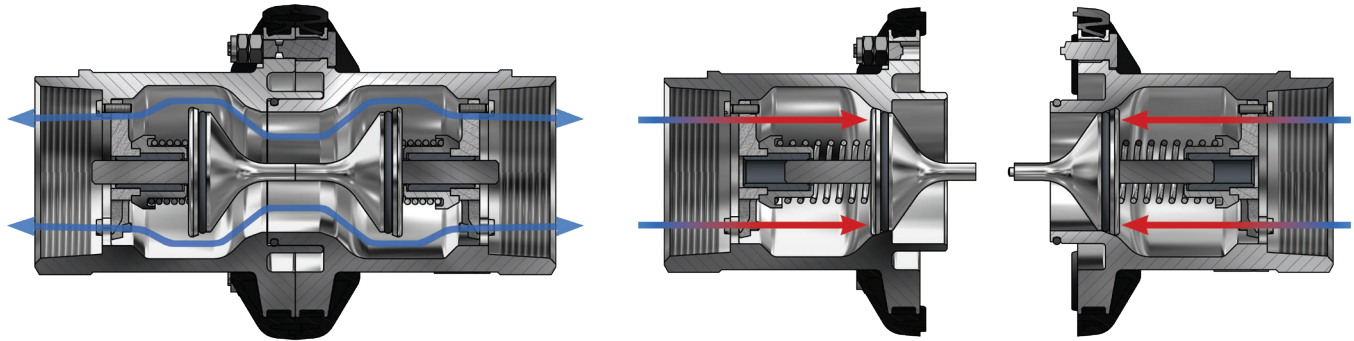
TETF3x4AL

| Size | Description | Material | Part # |
|---------|--------------------------------------|-----------------|-----------|
| 3" x 4" | TTMA flange extension reducing spool | aluminum | TETF3X4AL |
| | TTMA flange extension reducing spool | carbon steel | TETF3X4CS |
| | TTMA flange extension reducing spool | stainless steel | TETF3X4SS |

Safety Break-aways

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 force 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, the valves are able to close. The two valves close rapidly, minimizing exposure to personnel and the environment.

Dixon TTMA Flanged Break-away Coupling

Application

- Installs between an API coupler and loading arm

Features

- Minimizes spillage and damage associated with drive-away and pull-away incidents
- Passive security against situations where a hose or loading arm could be subjected to inadvertent excessive loads
- Coupling automatically senses excessive load, closes the valves and disconnects
- High flow rate/low pressure drop
- FKM/FPM is standard seal



SBC400ALTMA

| Size | Material | Part # |
|------|----------|----------------|
| 4" | Aluminum | SBC400ALTTMA |
| | | SBC400ALTTMACP |

Safety Break-aways

Industrial Version



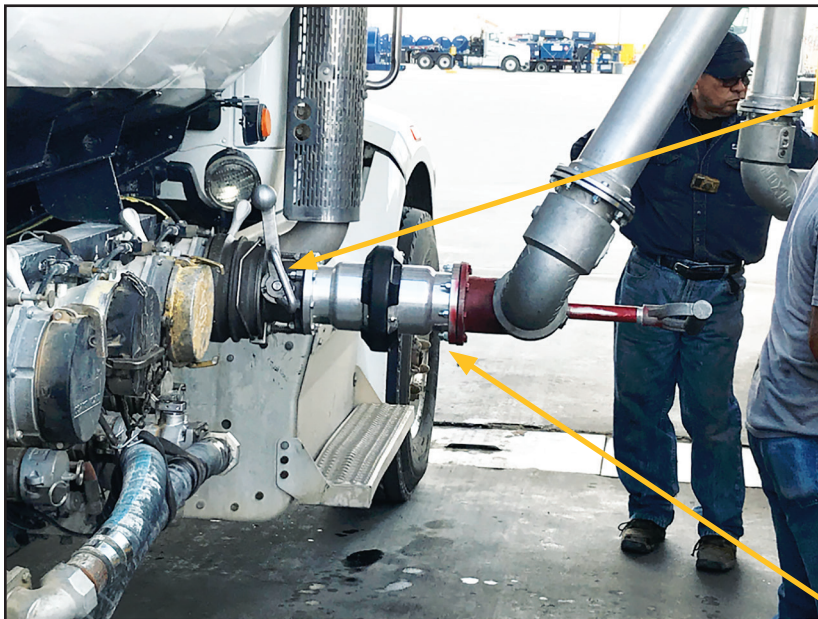
Applications

- 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, or manifold) and a hose

Features

- Coupling automatically senses an excessive load, closes the valves, and disconnects
- Passive security against situations where a hose or loading arm could be subjected to inadvertent excessive loads
- High flow rate/low pressure drop
- FKM (FPM) seal standard
- Optional non-disclosure design is available; contact Dixon®

| Size | Width | Overall Length | Material | Part # |
|------|-------|----------------|---------------------|----------|
| 4" | 8.6" | 12" | aluminum | SBC400AL |
| | | | 316 stainless steel | SBC400SS |



API coupler

Safety break-away coupling

Products in use at a facility

Bayloc® Cam and Groove Style Dry Disconnects

Application

- Helps prevent spillage from normal or accidental disconnects

Sizes

- 1-1/2", 2", and 3" female NPT adapters x 2", 2-1/2", and 4" coupler with adapter
- 2", 2-1/2", and 4" couplers/adapters x 2" and 3" flange

Features

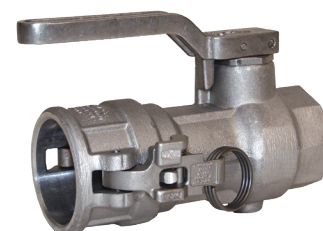
- Compatible with most cam and groove style dry disconnects
- Spring-loaded sealing device "snaps" closed should the coupling become disconnected with the poppet open
- Two-piece adapter design allows easy rebuilding of adapters
- EZ Boss-Lock cam arms provide security against accidental opening
- Automatic closing poppet assembly
- Stainless steel handle allows product exposure to corrosive chemicals or washdown service
- Fully interchangeable with Kamvalok® style fitting

Materials

- Stainless steel or aluminum
- Seals: NBR - Nitrile rubber, FKM, PTFE, and EPDM
- Contact Dixon for information on chemical compatibility, size, material selection, and special configurations

Coupler x Female NPT

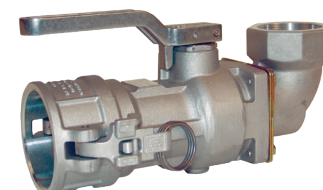
| Female NPT | Coupler Size | Seal Material | Maximum PSI at 70°F (21°C) | Aluminum Part # | Stainless Steel* Part # |
|------------|--------------|-------------------------------------|----------------------------|-----------------|-------------------------|
| 1-1/2" | 2" | Nitrile rubber | 210 | DBC61-150 | DBC71-150 |
| 2" | 2-1/2" | | 150 | DBC61-200 | DBC71-200 |
| 3" | 4" | | 120 | DBC61-300 | DBC71-300 |
| 1-1/2" | 2" | FKM | 210 | DBC62-150 | DBC72-150 |
| 2" | 2-1/2" | | 150 | DBC62-200 | DBC72-200 |
| 3" | 4" | | 120 | DBC62-300 | DBC72-300 |
| 1-1/2" | 2" | PTFE Encapsulated Silicone and FFPM | 210 | DBC63-150 | DBC73-150 |
| 2" | 2-1/2" | | 150 | DBC63-200 | DBC73-200 |
| 3" | 4" | | 120 | DBC63-300 | DBC73-300 |
| 1-1/2" | 2" | EPDM | 210 | DBC64-150 | DBC74-150 |
| 2" | 2-1/2" | | 150 | DBC64-200 | DBC74-200 |
| 3" | 4" | | 120 | DBC64-300 | DBC74-300 |
| 1-1/2" | 2" | FFPM and PTFE† | 210 | --- | DBC76-150 |
| 2" | 2-1/2" | | 150 | DBC66-200 | DBC76-200 |
| 3" | 4" | | 120 | DBC66-300 | DBC76-300 |
| 1-1/2" | 2" | PTFE Encapsulated FKM and FFKM | 210 | --- | DBC77-150 |
| 2" | 2-1/2" | | 150 | --- | DBC77-200 |
| 3" | 4" | | 120 | --- | DBC77-300 |
| 3" | 4" | FKM-B | 120 | DBC69-300 | DBC79-300 |



Straight configuration coupler

Greaseless Coupler x Female NPT

| Female NPT | Coupler Size | Seal Material | Stainless Steel* Part # |
|------------|--------------|--------------------------------|-------------------------|
| 1-1/2" | 2" | PTFE Encapsulated FKM and FFKM | DBC77-150-GL |
| 2" | 2-1/2" | | DBC77-200-GL |



90° configuration coupler

Coupler x 90° Swivel Female NPT

| Female NPT | Coupler Size | Seal Material | Aluminum Part # |
|------------|--------------|-------------------------------------|-----------------|
| 2" | 2-1/2" | Nitrile rubber | DBS61-200 |
| 2" | 2-1/2" | FKM | DBS62-200 |
| 2" | 2-1/2" | PTFE Encapsulated Silicone and FFPM | DBS63-200 |

*Stainless steel corrosion resistance is equivalent to 304 stainless steel
FFPM gasket, main seal O-ring and handle O-ring, PTFE seals on cylinder assembly, stuffing box, and seal under poppet screw

Bayloc® Cam and Groove Style Dry Disconnects

Application

- Helps prevent spillage from normal or accidental disconnects

Sizes

- 1-1/2", 2", and 3" female NPT adapters x 2", 2-1/2", and 4" coupler with adapter
- 2", 2-1/2", and 4" couplers/adapters x 2" and 3" flange

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
- Automatic closing poppet assembly
- Fully interchangeable with Kamvalok® style fitting

Materials

- Stainless steel or aluminum
- Seals: NBR - Nitrile rubber, FKM, PTFE, and EPDM
- Contact Dixon® for information on chemical compatibility, size, material selection, and special configurations

Adapter x Female NPT

| Female NPT | Adapter Size | Seal Material | Maximum PSI at 70°F (21°C) | Aluminum Part # | Stainless Steel Part # |
|------------|--------------|----------------------------|----------------------------|-----------------|------------------------|
| 1-1/2" | 2" | Nitrile rubber | 210 | DBA11-150 | DBA71-150 |
| 2" | 2-1/2" | | 150 | DBA11-200 | DBA71-200 |
| 3" | 4" | | 120 | DBA11-300 | DBA71-300 |
| 1-1/2" | 2" | FKM | 210 | DBA12-150 | DBA72-150 |
| 2" | 2-1/2" | | 150 | DBA12-200 | DBA72-200 |
| 3" | 4" | | 120 | DBA12-300 | DBA72-300 |
| 1-1/2" | 2" | PTFE Encapsulated Silicone | 210 | DBA63-150 | DBA73-150 |
| 2" | 2-1/2" | | 150 | DBA63-200 | DBA73-200 |
| 3" | 4" | | 120 | DBA63-300 | DBA73-300 |
| 1-1/2" | 2" | EPDM | 210 | DBA64-150 | DBA74-150 |
| 2" | 2-1/2" | | 150 | DBA64-200 | DBA74-200 |
| 3" | 4" | | 120 | DBA64-300 | DBA74-300 |
| 1-1/2" | 2" | FFPM | 210 | DBA66-150 | DBA76-150 |
| 2" | 2-1/2" | | 150 | DBA66-200 | DBA76-200 |
| 3" | 4" | | 120 | DBA66-300 | DBA76-300 |
| 1-1/2" | 2" | PTFE Encapsulated FKM | 210 | --- | DBA77-150 |
| 2" | 2-1/2" | | 150 | --- | DBA77-200 |
| 3" | 4" | | 120 | --- | DBA77-300 |
| 3" | 4" | FKM-B | 120 | DBA69-300 | --- |



DBA adapter



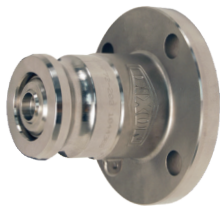
DBA jump size adapter

Jump Size Adapter x Female NPT

| Female NPT | Adapter Size | Seal Material | Maximum PSI at 70°F (21°C) | Aluminum Part # |
|------------|--------------|----------------|----------------------------|-----------------|
| 2" | 2" | Nitrile rubber | 150 | DBA11-1520 |
| 2" | 2" | FKM | 150 | DBA12-1520 |

Adapter x 150# ASA Flange

| Flange Size | Adapter Size | Seal Material | Maximum PSI at 70°F (21°C) | Stainless Steel Part # |
|-------------|--------------|----------------------------|----------------------------|------------------------|
| 2" | 2" | FKM | 150 | DBAF72-1520 |
| | | PTFE Encapsulated Silicone | | DBAF73-1520 |
| | | EPDM | | DBAF74-1520 |
| | | FFPM | | DBAF76-1520 |
| 2" | 2-1/2" | FKM | 150 | DBAF72-200 |
| | | PTFE Encapsulated Silicone | | DBAF73-200 |
| | | EPDM | | DBAF74-200 |
| | | FFPM | | DBAF76-200 |
| 3" | 4" | FKM | 150 | DBAF72-300 |
| | | PTFE Encapsulated Silicone | | DBAF73-300 |
| | | EPDM | | DBAF74-300 |
| | | FFPM | | DBAF76-300 |



DBA flange adapter

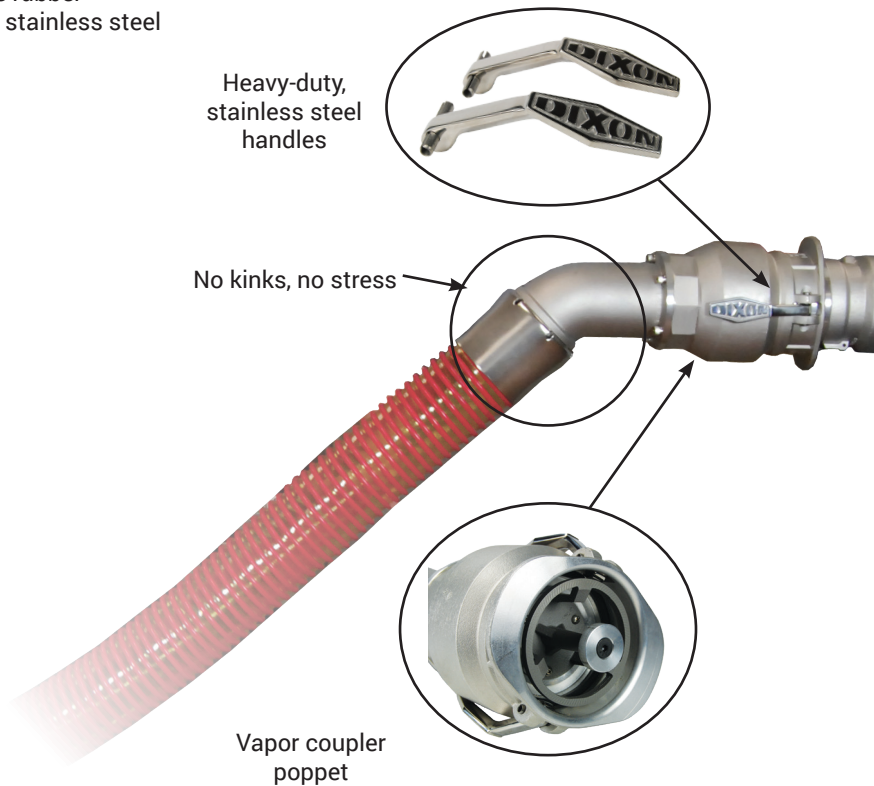
Vapor Recovery Couplers

Features

- "Floating bridge" poppet design allows optimal flow
- Machined hose shank ensures easier insertion into hose and better sealing
- Durable and easy-to-couple
- 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° angle version relieves stress common to vapor hoses, swivel version also available

Materials

- Coupler: aluminum
- Seal: Nitrile rubber
- Cam arms: stainless steel



VR4040CS-AL



VR4030CS-AL45 & VR4040CS-AL45



VR4040CS-ALS45

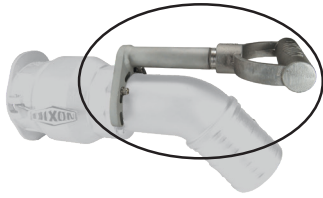


VR4040CS-4MNPT
(TTF4AL-4FT sold separately)

| Description | Part # |
|---------------------------------------|----------------|
| 4" coupler x 4" hose shank | VR4040CS-AL |
| 4" coupler x 3" 45° hose shank | VR4030CS-AL45 |
| 4" coupler x 4" 45° hose shank | VR4040CS-AL45 |
| 4" coupler x 4" 45° hose shank swivel | VR4040CS-ALS45 |
| 4" coupler x 4" MNPT connection | VR4040CS-4MNPT |
| 4" coupler x 4" female NPT | VR4040CS-4FNPT |
| 4" coupler x 3" hose shank | VR4030CS-SH |
| seal repair kit | VR4040CSRK1 |
| cam arm repair kit | VR4040CSRK2 |

Handle kit sold separately on page 58.

Vapor Recovery Coupler Handle Kits



VRHK
(vapor recovery coupler handle kit sold separately)



VRHK-C

| Description | Part # |
|--------------------|--------|
| handle kit | VRHK |
| compact handle kit | VRHK-C |

Bayloc® Dry Disconnect Vapor Recovery Couplers

Application

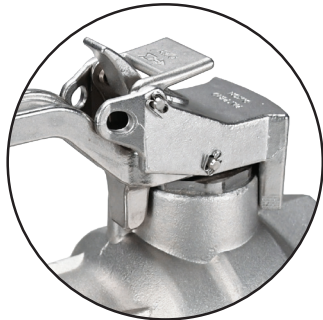
- Bayloc dry disconnect, modified with a seal cylinder device, forms a secondary seal against truck adapter and maintains pressure on seals despite wear resulting from normal use

Features

- Locking handle
- Designed to meet California Air Resources Board (CARB) vapor emission requirements
- Dual seal against truck adapter provides vapor tight operation

Materials

- Aluminum
- FKM seals



| Description | Part # |
|----------------------|---------------|
| 3" coupler x 4" FNPT | DBC62LVPR-300 |

Vapor Recovery Plates and Splash Guards

Application

- Vapor recovery plates are used to prevent unwanted emissions and to recover vapors that occur when products are being top loaded
- Splash guards are also used in top-loading applications, to reduce unwanted splash of products such as asphalt or other media while being loaded

Sizes

- Designed to work with 2", 3", and 4" loading arms

Features

- Design based on customers' needs and can be highly customized
- Available features include: threaded NPT ports, viewing ports, and handles
- Available connections include: cam & groove fittings, TTMA flanges, NPT threaded connections

Materials

- Vapor plate available materials include: aluminum and stainless steel
- Vapor plate gasket available materials include: nitrile rubber and FKM
- Splash guard available materials include: aluminum



vapor recovery plate



splash guard

Vapor Recovery Couplers

Features

- Not intended for liquid service; for vapor recovery only
- For use with vapor recovery hose
- VR4030CS-AL has an FKM O-ring poppet seal

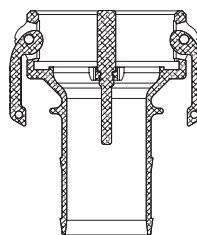


Materials

- Coupler: aluminum
- Arms: bronze with stainless steel pins
- Finger rings: plated carbon steel
- Gasket: Nitrile rubber

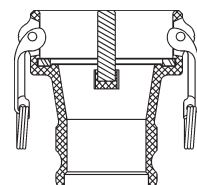
Coupler With Probe x Hose Shank

| Coupler Size | Hose Shank Size | Part # |
|--------------|-----------------|-------------|
| 4" | 3" | 4030-CVR-AL |
| | 4" | 400-CVR-AL |



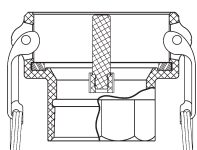
Coupler With Probe x Adapter

| Coupler Size | Adapter Size | Part # |
|--------------|--------------|--------------|
| 4" | 3" | 4030-DAVR-AL |

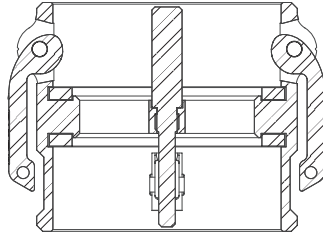


Coupler With Probe x Female NPT

| Coupler Size | Female NPT Size | Part # |
|--------------|-----------------|-------------|
| 4" | 3" | 4030-DVR-AL |
| | 4" | 400-DVR-AL |

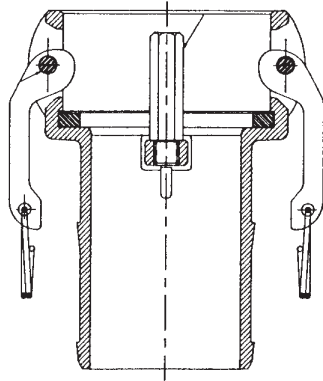


Coupler With Probe x Coupler With Probe



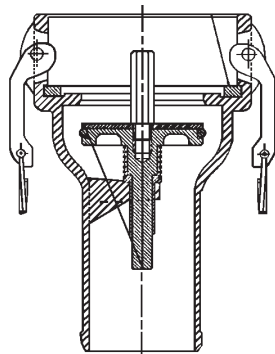
| Coupler Size | Coupler Size | Part # |
|--------------|--------------|-------------|
| 4" | 4" | 400-DDVR-AL |

Coupler With Probe x Hose Shank



| Coupler Size | Hose Shank Size | Part # |
|--------------|-----------------|-----------|
| 3" | 3" | VRC3000AL |

Coupler With Poppet* And Probe x Hose Shank



| Coupler Size | Hose Shank Size | Part # |
|--------------|-----------------|--------------|
| 4" | 3" | VR4030CS-AL* |

*Only works with tank trucks that have poppet adapters.



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

Material

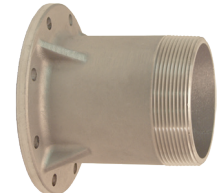
- Aluminum



TTF4AL-4MT

Male Threaded

| TTMA Flange | Male NPT | Overall Length | Part # |
|-------------|----------|----------------|------------|
| 3" | 3" | 2-1/2" | TTF3AL-3MT |
| 4" | 3" | 2-1/2" | TTF4AL-3MT |
| | 4" | 2-1/2" | TTF4AL-4MT |



TTF4AL-4EMT

Extended Length Male Threaded

| TTMA Flange | Male NPT | Overall Length | Part # |
|-------------|----------|----------------|-------------|
| 4" | 3" | 5-1/2" | TTF4AL-3EMT |
| | 4" | 5-1/2" | TTF4AL-4EMT |



TTF4AL-4FT

Female Threaded

| TTMA Flange | Female NPT | Overall Length | Part # |
|-------------|------------|----------------|------------|
| 4" | 3" | 2-1/2" | TTF4AL-3FT |
| | 4" | 2-1/2" | TTF4AL-4FT |



TTF400SP

Slip-On

| TTMA Flange | Pipe Size | Part # |
|-------------|-----------|----------|
| 4" | 4" | TTF400SP |

Universal Flange Gaskets

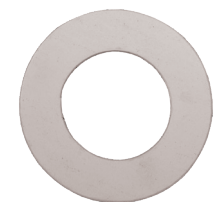
Features

- Standard drop-ring type, all 1/16" thick
- For flange dimensional information and diagrams, please reference dixonvalve.com

| Size | Neoprene Part # | Klingsil® C-4401 Part # |
|--------|-----------------|-------------------------|
| 1" | NG10 | AG10 |
| 1-1/4" | NG15 | AG15 |
| 1-1/2" | NG20 | AG20 |
| 2" | NG25 | AG25 |
| 2-1/2" | NG30 | AG30 |
| 3" | NG35 | AG35 |
| 4" | NG40 | AG40 |
| 5" | NG50 | --- |
| 6" | NG60 | AG60 |
| 8" | NG80 | AG80 |



Neoprene



Klingsil® C-4401

Round TTMA Flange Gaskets



Cork and PTFE envelope

| Size | OD | ID | THK | Material | Part # |
|------|--------|---------|-------|-----------------------------------|-----------|
| 3" | 5-5/8" | 3-1/2" | 1/8" | cork/nitrile rubber | 300GTTFCB |
| 3" | 5-5/8" | 3-1/2" | 1/16" | PTFE envelope with Klinger filler | 300GTTFTK |
| 3" | 5-5/8" | 3-1/2" | 1/8" | Klingersil® C-4401 | 300GTTFK |
| 3" | 5-5/8" | 3-5/8" | 1/8" | Baylast | 300GTTFBL |
| 3" | 5-7/8" | 3-1/2" | 1/4" | PTFE with fiber core | 40321TF |
| 4" | 6-5/8" | 4-9/16" | 1/8" | cork/nitrile rubber | 400GTTFCB |
| 4" | 6-5/8" | 4-9/16" | 1/16" | PTFE envelope with Klinger filler | 400GTTFTK |
| 4" | 6-5/8" | 4-9/16" | 1/8" | Klingersil® C-4401 | 400GTTFK |
| 4" | 6-5/8" | 4-5/8" | 1/8" | Baylast | 400GTTFBL |
| 4" | 6-7/8" | 4-9/16" | 1/4" | PTFE with fiber core | 40322TF |

Betts Wet-R-Dri Valves

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



WD401ALVB

| Size | Description | Part # |
|------|-------------------------------------------------------------|-----------|
| 3" | TTMA Wet-R-Dri valve with manually-operated detent handle | WD301ALVB |
| 3" | TTMA Wet-R-Dri valve with manually-operated metering handle | WD304ALVB |
| 4" | TTMA Wet-R-Dri valve with manually-operated detent handle | WD401ALVB |
| 4" | TTMA Wet-R-Dri valve with manually-operated metering handle | WD404ALVB |

TTMA Flanged Sight Flow Indicators

Features

- For use with ethanol
- Tank truck flange gaskets and dimensional information at dixonvalve.com

Material

- Acrylic

Specifications

- 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



TT4ASG-ETH

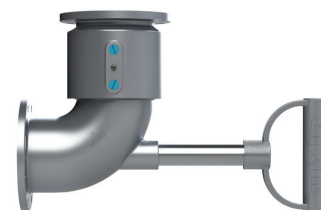
| Size | Nominal Width | Part # |
|------|---------------|------------|
| 3" | 1-3/4" | TT3ASG-ETH |
| 4" | 1-3/4" | TT4ASG-ETH |

Loading Arm Swivels

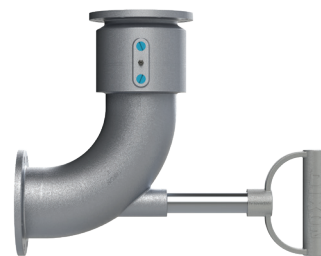
Features

- TTMA-flanged aluminum loading arm swivel
- Optional D-handle or ball handle is used to guide the connection of the API load coupler to the adapter on the tank truck
- Optional 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 and other TTMA flanged accessories
- Available seals include: nitrile rubber, FKM, low temperature FKM, EPDM, or food-grade nitrile

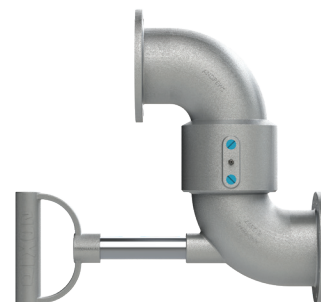
| Description | Handle | Seal | 3" Part # | 4" Part # |
|-----------------------|-------------|----------------|-----------------|-----------------|
| style 20 | no handle | Nitrile rubber | 320TFXTFAL00000 | 420TFXTFAL00000 |
| | | FKM | 320TFXTFAL11000 | 420TFXTFAL11000 |
| style 30 short radius | D-handle | Nitrile rubber | 33HTFXTFAL00000 | 43HTFXTFAL00000 |
| | | FKM | 33HTFXTFAL11000 | 43HTFXTFAL11000 |
| | ball handle | Nitrile rubber | 33BTFXTFAL00000 | 43BTFXTFAL00000 |
| | | FKM | 33BTFXTFAL11000 | 43BTFXTFAL11000 |
| | no handle | Nitrile rubber | 330TFXTFAL00000 | 430TFXTFAL00000 |
| | | FKM | 330TFXTFAL11000 | 430TFXTFAL11000 |
| style 30 long radius | D-handle | Nitrile rubber | --- | 43HTFTFLAL00000 |
| | | FKM | --- | 43HTFTFLAL11000 |
| | ball handle | Nitrile rubber | --- | 43BTFTFLAL00000 |
| | | FKM | --- | 43BTFTFLAL11000 |
| | no handle | Nitrile rubber | --- | 430TFTFLAL00000 |
| | | FKM | --- | 430TFTFLAL11000 |
| style 40 | D-handle | Nitrile rubber | 34HTFXTFAL00000 | 44HTFXTFAL00000 |
| | | FKM | 34HTFXTFAL11000 | 44HTFXTFAL11000 |
| | ball handle | Nitrile rubber | 34BTFXTFAL00000 | 44BTFXTFAL00000 |
| | | FKM | 34BTFXTFAL11000 | 44BTFXTFAL11000 |
| | no handle | Nitrile rubber | 340TFXTFAL00000 | 440TFXTFAL00000 |
| | | FKM | 340TFXTFAL11000 | 440TFXTFAL11000 |
| style 50 | D-handle | Nitrile rubber | 35HTFXTFAL00000 | 45HTFXTFAL00000 |
| | | FKM | 35HTFXTFAL11000 | 45HTFXTFAL11000 |
| | ball handle | Nitrile rubber | 35BTFXTFAL00000 | 45BTFXTFAL00000 |
| | | FKM | 35BTFXTFAL11000 | 45BTFXTFAL11000 |
| | no handle | Nitrile rubber | 350TFXTFAL00000 | 450TFXTFAL00000 |
| | | FKM | 350TFXTFAL11000 | 450TFXTFAL11000 |



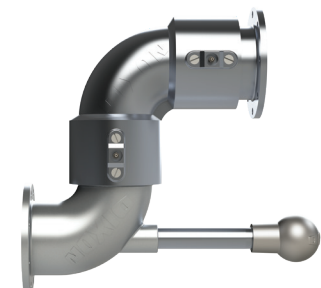
style 30, short radius



style 30, long radius



style 40



style 50

Loading Arm Swivel Replacement Parts

| Description | Part # |
|----------------------------------|------------|
| 1" schedule 80 aluminum nipple | ATN100X7 |
| ball-style handle | 100BHAN-AL |
| D-Style heavy-duty shovel handle | 100DHAN-AL |
| Nitrile rubber seal kit | 4RKOBV |
| FKM-A seal kit | 4RKOVIV |



Loading Arm Legs/Spools and Hoses

Sizes

- 1-1/2", 2", 3", 4", and 6"

Features

- Available connections include: TTMA flange, 150# flange, 300# flange, MNPT, FNPT, and weld end
- Additional options include: ports, jump sizes, handle, and bucket hooks

Materials

- Pipe: carbon steel, 316 stainless steel, and aluminum
- Hose: stainless steel metal and composite



Swivel Handles

Feature

- Threads into the elbow of a swivel

Material

- Aluminum



100*HAN-AL



ATN100X7

| Description | Part # |
|-----------------------------------------|------------|
| ball handle for loading arm swivels | 100BHAN-AL |
| D-handle for loading arm swivels | 100DHAN-AL |
| 1" Schedule 80 nipple 7" overall length | ATN100X7 |

Top Loading Diffusers and T-Deflectors

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
- Female NPT threaded

Materials

- Aluminum and stainless steel



diffuser



T-deflector

| Size | Description | Part # |
|------|-----------------------------|-------------|
| 2" | aluminum T-deflector | 200-TLTD-AL |
| | stainless steel T-deflector | 200-TLTD-SS |
| 3" | aluminum 360° diffuser | TLD-300S |
| | aluminum T-deflector | 300-TLTD-AL |
| 4" | stainless steel T-deflector | 300-TLTD-SS |
| | aluminum 360° diffuser | TLD-400S |
| | aluminum T-deflector | 400-TLTD-AL |
| | stainless steel T-deflector | 400-TLTD-SS |

Split Flange Swivel Locking Kits

Applications

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

Feature


- Single or multiple hole design

Material

- Carbon steel



| Description | Part # |
|-------------------------------------------------------------------|----------------|
| 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 |

Warning: This item is only intended to restrain the rotation during storage and is limited to a maximum of 12 in-lbs. of torque. 

Locking Mechanism / Lock Bar Assembly

Application

- Used in top loading applications to help reduce sudden arm movement caused by pressure changes
- Contact Dixon® for more details

Material

- Carbon steel



Counterbalances

Features

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

| Description | Part # |
|-----------------------------------------------|--------|
| 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 Connecting Arm Clamps

Feature

- Clamps link counterbalance connecting arm to the primary leg

Materials

- 2" clamp: stainless steel
- 3" and 4" clamp: iron

| Size | Description | Part # |
|------|-------------------------------------------------|-------------|
| 2" | counterbalance connecting arm clamp for 2" pipe | ESB-CLAMP-2 |
| 3" | counterbalance connecting arm clamp for 3" pipe | ESB-CLAMP-3 |
| 4" | counterbalance connecting arm clamp for 4" pipe | ESB-CLAMP-4 |



ESB-CLAMP-3

Top Loading Valves and Accessories

Applications

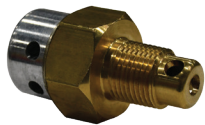
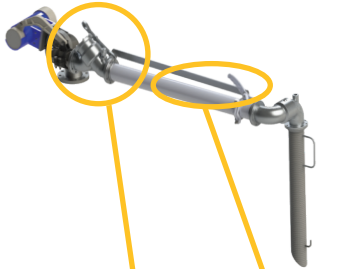
- Manual or remote controlled valve mounts before the loading arm horizontal leg to control flow
- Used in top loading fuels and other low viscosity media

Features

- Adjustable closure rate
- 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 # |
|------|--------------------------------------------------------|-------------------------|
| 2" | top loading valve with FNPT and vacuum breaker | TLV-200FTVBVIAL |
| 2" | top loading valve with TTMA flanges and vacuum breaker | TLV-200TFVBVIAL |
| 3" | top loading valve with TTMA flanges and vacuum breaker | TLV-300TFVBVIAL |
| 4" | top loading valve with TTMA flanges and vacuum breaker | TLV-400TFVBVIAL |
| 2" | valve remote, handle, and bracket kit with bar | TLRVK-200X58AL |
| 3" | valve remote, handle, and bracket kit with bar | TLRVK-300X58AL |
| 4" | valve remote, handle, and bracket kit with bar | TLRVK-400X58AL |
| 2" | valve remote, handle, and bracket kit | AT1350-2 |
| 3" | valve remote, handle, and bracket kit | AT1350-3 |
| 4" | valve remote, handle, and bracket kit | AT1350-4 |
| 1/2" | vacuum breaker, BSP threads | VB-050-BSP ¹ |
| 1/2" | vacuum breaker, NPT threads | VB-050-NPT |

¹ Replacement vacuum breaker for top loading valve.

Limited Warranty

DIXON VALVE AND COUPLING COMPANY, LLC (herein called "Dixon") warrants the products described herein and manufactured by Dixon to be free from defects in material and workmanship for a period of one (1) year from date of shipment by Dixon under normal use and service. Its sole obligation under this warranty being limited to repairing or replacing, as hereinafter provided, at its option any product found to Dixon's satisfaction to be defective upon examination by it, provided that such product shall be returned for inspection to Dixon's factory within three (3) months after discovery of the defect. The repair or replacement of defective products will be made without charge for parts or labor. This warranty shall not apply to: (a) parts or products not manufactured by Dixon, the warranty of such items being limited to the actual warranty extended to Dixon by its supplier; (b) any product that has been subject to abuse, negligence, accident, or misapplication; (c) any product altered or repaired by others than Dixon; and (d) to normal maintenance services and the replacement of service items (such as washers, gaskets, and lubricants) made in connection with such services. To the extent permitted by law, this limited warranty shall extend only to the buyer and any other person reasonably expected to use or consume the goods who is injured in person by any breach of the warranty. No action may be brought against Dixon for an alleged breach of warranty unless such action is instituted within one (1) year from the date the cause of action accrues. This limited warranty shall be construed and enforced to the fullest extent allowable by applicable law.

Other than the obligation of Dixon set forth herein, Dixon disclaims all warranties, express or implied, including but not limited to any implied warranties of merchantability or fitness for a particular purpose, and any other obligation or liability. The foregoing constitutes Dixon's sole obligation with respect to damages, whether direct, incidental, or consequential, resulting from the use or performance of the product.

Some products and sizes may be discontinued when stock is depleted or may require a minimum quantity for ordering.

About This Catalog and Our Products

This catalog is intended as a product offering. It is not intended to be a user or technical manual. Information in this catalog is subject to change without notice. All users and distributors of products sold through this catalog should contact Dixon with questions of use, compatibilities, coupling procedures, and life of product. Our full-time engineering and test staff are always available to recommend uses and to assist distributors and users with any questions.



Safety



Safety logos, which appear throughout our catalog, are used as a reminder that the user should carefully review for the appropriateness of the product for the media, application, and environment in which it will be used.

NOTE: Because of the health hazards associated with contamination and lead content in drinking water systems, Dixon couplings, unless otherwise specifically approved, are not recommended for potable water service and should not be used in applications where drinking water will contact the wetted surfaces of the coupling.

All Dixon products are shipped in cartons with the following warning:

"WARNING: This product contains lead, a chemical known to the State of California to cause cancer and birth defects or other reproductive harm."

Trademark

Kamvalok® is a registered trademark of OPW Engineered Systems.
Delrin® and Zytel® are registered trademarks of DuPont Nemours and Company.
Kalrez® is a registered trademark of DuPont Dow Elastomers.

All other trademarks appearing in the Dixon illustrated price list are the property of their respective owners.

Copyright

Copyright © 2024 by Dixon Valve and Coupling Company, LLC

All rights reserved. This book is copyrighted material. Use, reproduction or copying of it by anyone other than Dixon® is strictly forbidden without its express written consent.

NOTE: Reasonable care has been taken in preparing this catalog. Dixon Valve & Coupling Company, LLC reserves the right to make corrections.

