



#### **Factories:**

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#### **Distribution Centers:**

Chestertown, MD • Dallas, NC • Gloversville, NY • Houston, TX • Itasca, IL • Kansas City, MO • Peachtree City, GA • Pewaukee, WI • Portland, OR • Rancho Cucamonga, CA • Salt Lake City, UT • Tampa, FL • Twinsburg, OH

#### **Terms**

Net 30 Days

## **Cash Discounts**

Invoices dated 1st to the 14th of the month are subject to a 1% discount if paid by the 25th of the month. Invoices dated the 15th to the end of the month are subject to a 1% discount if paid by the 10th of the following month.

## **Claims**

All claims must be made within 10 days of receipt of merchandise.

## **Drop Ship Fees**

Dixon will charge a flat fee of \$5.00 on all drop shipments less than \$100.

#### **Minimum Order and Invoice**

All orders for less than \$35.00 Net Value will be subject to a Minimum Net Charge of \$35.00 plus transportation.

#### **Prepaid Freight Allowance**

All shipments are FOB factory or branch and shipped collect unless otherwise specified. Orders totaling \$1,500.00 net value or more for immediate shipment to a single location within the continental United States will be shipped freight free. Any items back ordered against the same order will also be shipped prepaid as they become available. Method of shipment will be the most economical means available to Dixon and does not include priority shipments such as air freight.

#### **Returns**

Material shipped as ordered may be returned only with Dixon's permission. A Credit Memo will be issued subject to a minimum 15% handling charge (using the distributor's net price in effect at the time of purchase). Total returns in 1 year cannot exceed 5% of the previous year's purchases. Certain products are excluded from this general return policy; contact Dixon for information on specific products.

#### **Prompt Payment**

Orders receive preferred treatment when the account is paid promptly. Orders may be temporarily held if any unpaid invoice is over 30 days. We reserve the right to take out of the shipping and production schedules orders from accounts with unpaid invoices of 60 days or more.



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## **We Commit**

- To ensure that internal and external customer needs are identified and that our products and services meet these needs
- To fully meet and exceed the requirements of the ISO 9001 Quality Program
- To strive for quality in each and every phase of our business
- To exceed competitor's quality
- To provide systems and training for all Dixon employees
- To create an environment that will allow each employee to do it right the first time, and accept the responsibility for quality in each and every task they perform
- That no employee will ever be called on to do anything morally, legally or ethically wrong



## **Dixon Bayco® Fuel Compatibility Chart**

## **Biofuel Compatible**

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## **Fuel Product 1**

Dixon Bayco Product	Page	Description	Gasoline	Diesel	ULSD	Crude Oil	E10	E20	E85	E100	B2	B20	B100
4500-Series	8	two piece API drop adapter with sight glass, Baylast™ seals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>✓</b>
4500V-Series	8	two piece API drop adapter with sight glass, FKM seals	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
4530 & 4540	8	API drop adapter without sight glass, Baylast seals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4530V & 4540V	8	API drop adapter without sight glass, FKM seals	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
4530SG & 4540SG	8	one piece API drop adapter with sight glass, nitrile rubber seals		✓	✓	NR2	✓	✓	✓	✓	✓	✓	NR
4530SGV & 4540SGV	8	one piece API drop adapter with sight glass, FKM seals	✓	✓	✓	✓	NR	NR	NR	NR	✓	✓	✓
5200SFI & 5200SFI-3	7	TTMA flanged sight glass with Baylast seals	✓	✓	✓	NR2	✓	✓	✓	✓	✓	✓	✓
5200SFIV & 5200SFIV-3	7	TTMA flanged sight glass with FKM seals	✓	✓	✓	NR2	NR	NR	NR	NR	✓	✓	✓
5204	7	API valve with sight glass, Baylast seals	✓	✓	✓	NR2	✓	✓	NR	NR	✓	✓	✓
5204C	7	API valve with sight glass and removable handle, Baylast seals	✓	✓	✓	NR2	✓	✓	NR	NR	✓	✓	✓
5204L	7	API load only valve with sight glass, Baylast seals	✓	✓	✓	NR2	✓	✓	NR	NR	✓	✓	✓
5204LNG	7	API load only valve without sight glass, Baylast seals	✓	✓	✓	NR2	✓	✓	✓	✓	✓	✓	✓
5204NG	7	API valve without sight glass, Baylast seals	✓	✓	✓	NR2	✓	✓	✓	✓	✓	✓	✓
5204NGC	7	API valve without sight glass, removable handle, Baylast seals	<b>✓</b>	<b>✓</b>	<b>✓</b>	NR2	✓	✓	<b>✓</b>	✓	✓	✓	<b>✓</b>
5204NGV	7	API valve without sight glass, FKM seals	✓	✓	✓	NR2	NR	NR	NR	NR	✓	✓	<b>✓</b>
5204SFI	7	API valve with inline tube sight glass, Baylast seals	<b>✓</b>	<b>✓</b>	<b>✓</b>	NR2	<b>√</b>	✓	✓	<b>√</b>	✓	✓	<b>✓</b>
5204SNG	7	API valve without sight glass, Baylast seals, stainless spring	<b>✓</b>	<b>✓</b>	✓	<b>√</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>√</b>	<b>√</b>	<b>✓</b>
5204TNG	7	API valve without sight glass, PTFE seals	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	NR1	✓
5500BL	32	API rack coupling Baylast seals	✓	✓	✓	NR	✓	✓	✓	✓	✓	✓	NR
5500B	32	API rack coupling FKM-B seals		✓	✓	NR	✓	✓	✓	✓	✓	✓	<b>√</b>
5500G	32	API rack coupling FKM gflt seals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6000, 6200, 6500 & 6600 Series Drop Elbows	14-17	petroleum drop elbows and inlets, nitrile rubber seals	<b>✓</b>	<b>✓</b>	1	NA	✓	<b>✓</b>	<b>✓</b>	✓	✓	✓	NR
Vapor or Product Hose Couplings	22	petroleum vapor hose couplings, nitrile rubber seals	<b>✓</b>	<b>✓</b>	✓	✓	<b>✓</b>	✓	<b>✓</b>	✓	✓	✓	NR
Vapor or Product Hose Couplings	22	petroleum vapor hose couplings, FKM seals	<b>✓</b>	<b>✓</b>	~	✓	NR	NR	NR	NR	~	<b>✓</b>	~
VR4000 & VR4100 Series Vapor Valves	21	petroleum vapor valves	<b>✓</b>	~	~	✓	✓	✓	~	<b>✓</b>	✓	~	✓
VR6100, VR6200 & VR6500 Vapor Elbows	20	petroleum vapor elbows and inlets	✓	✓	✓	NA	✓	✓	<b>✓</b>	NA	✓	✓	NA
VR6030SQ & VR6035SQ	22	sequential vapor vent valves, Baylast seals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
300GTTFCB & 400GTTFCE	13	cork nitrile rubber TTMA gasket	✓	✓	✓	✓	✓	NR	NR	NR	✓	NR	NR
300GTTFBL & 400GTTFBL	. 13	TTMA Baylast gasket	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
400GTTFK	13	Klinger® style TTMA gasket	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
40321TF, 40322TF & 40323TF	13	PTFE soft core TTMA gaskets	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>√</b>	<b>✓</b>	<b>✓</b>	~	<b>✓</b>	✓	✓	<b>✓</b>
40364BL & 40323BL	13	Baylast sump gaskets	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FT151, FT202, FT101	50, 53, 59	FloTech™ sensors	<b>√</b>	<b>✓</b>	✓	✓	✓	✓	<b>✓</b>	✓	✓	✓	<b>✓</b>
FT150S, FT100S	60	FloTech stainless steel sensors	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>✓</b>

Notes NA NR NR1 NR2

Not Applicable (this product is not used in this application)

Not Recommended

Not Recommended cost and tendency for PTFE to become damaged from particulate material is not justified for this application

Not Recommended crude oil contains acids that are corrosive to steel parts

Ultra low sulfur diesel (ULSD) is a term used to describe a standard for defining diesel fuel with substantially lowered sulfur contents

As of 2006, almost all of the petroleum based diesel fuel available in Europe and North America is of a ULSD type

Oil in its natural state, as it comes from the ground. Crude oil can contain various other chemicals and gases, many of which can be

corrosive.

10% Ethanol, 90% Gasoline

85% Ethanol, 15% Gasoline

100% Ethanol

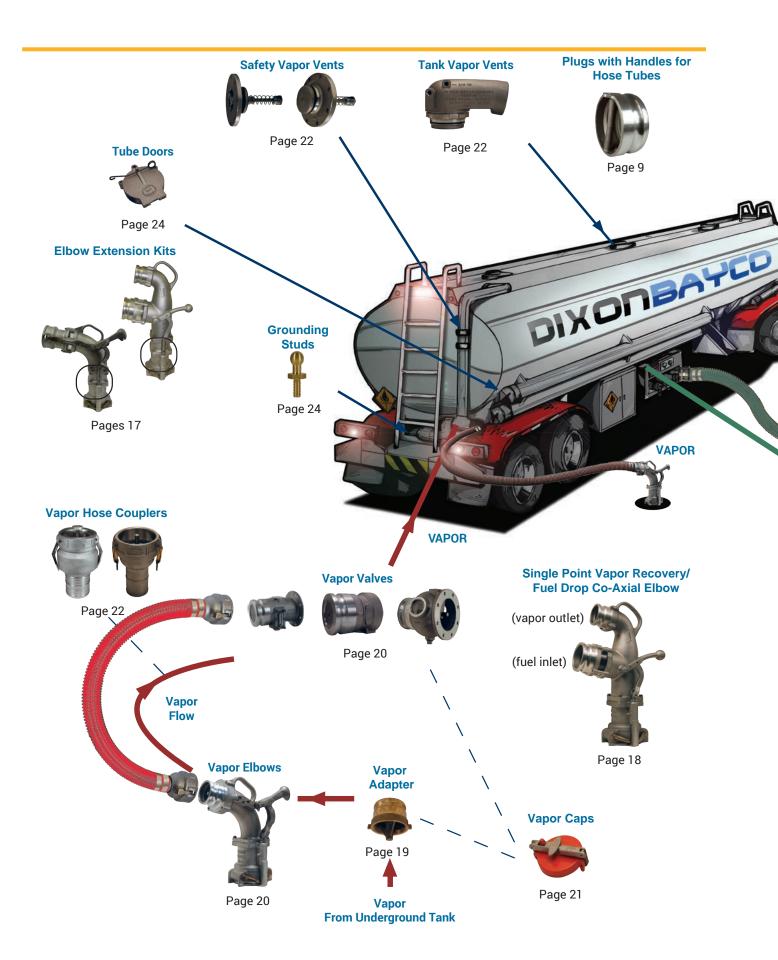
28 Bio diesel, 98% diesel (normally ULSD as above)

20% Bio diesel, 80% diesel (normally ULSD as above) ÜLSD

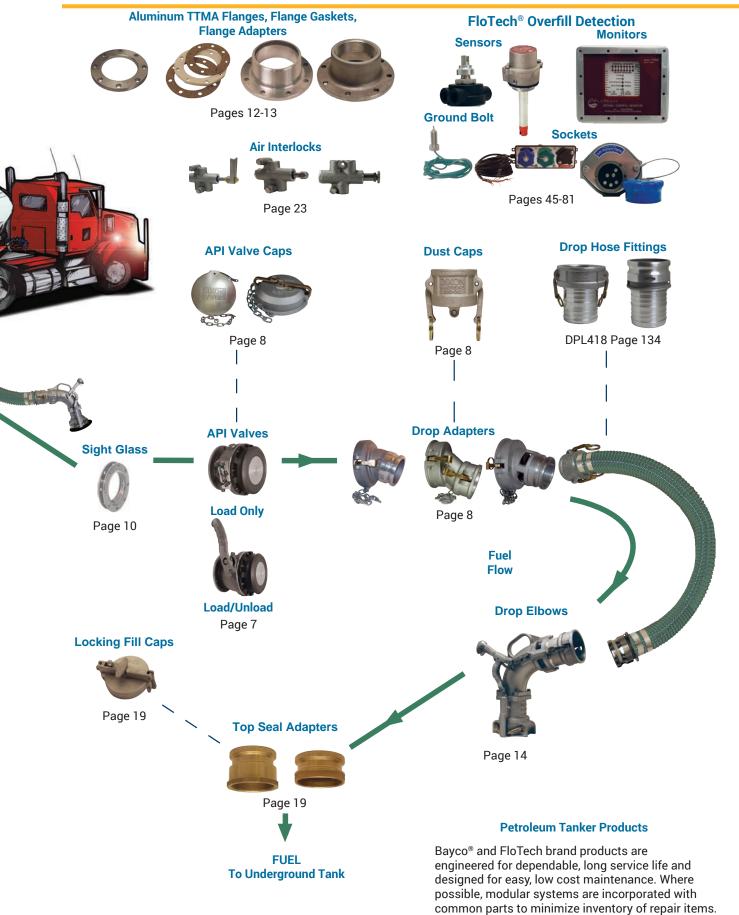
Crude Oil

E10 E20 E85 E100 B2 B20

Petroleum companies often put additives in fuels, additives can affect compatibility with fittings and seals, Please contact Dixon® for more information. FKM GFLT is compatible with all liquids listed above and available from Dixon by special quotation. Baylast is a proprietary seal compound from Dixon







## Dixon Bayco® Bottom Loading, Gasket and Seal Recommendations For Alternative Fuels

Dixon® has completed several years of testing and engineering evaluation to ensure our products are compatible with all modern motor fuels in use today.

Dixon uses a proprietary seal compound that we refer to by the trade name Baylast™. Baylast has been tested both in the lab and field with excellent results. Baylast was developed so we could offer a single seal material compatible with the wide range of alternative fuels used today. Many Dixon Bayco products have been using Baylast seals to ensure compatibility with alternate fuels including E100 Ethanol, E85 Ethanol, B2 Biodiesel, B100 Biodiesel, Ultra Low Sulfur Diesel, and standard refined gasoline and diesel products with excellent results. Our tests indicate that Baylast performs well down to -40°F (-40°C).

There are mechanical and temperature considerations that must be understood to determine which seal material is suitable for a specific application. A good example is PTFE, it has a very wide chemical compatibility range but is a poor seal material for mechanical reasons. Using FKM-B, or FKM GF is one solution to ensure compatibility, but FKM has limitations regarding mechanical suitability for seal applications with moving joints. One critical and well known limitation to FKM is cold temperatures. FKM will become hard at low temperatures and seals with moving parts tend to weep liquid.

On the opposing page is our fuel compatibility chart which outlines our recommendation for each Dixon Bayco product and type of fuel.

Should you have any questions or need additional technical support, please call Dixon at 877.963.4966

## **Supertanker™ Program**



Bottom load system problems keeping you awake? Our simple guarantee let's you rest easy. Every last valve, vent, adapter, sensor...the complete Supertanker™ package.

- five-year warranty on hardware
- five-year warranty on FloTech™ overfill
- unmatched service in the industry
- · we will come on-site, if that is what you need

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Visit dixonvalve.com/supertanker for more information



#### **API Valves**

#### **Application**

 Used for bottom loading and unloading of petroleum tankers, API valves are typically mounted to the piping below each tank compartment, using the built-in 4" TTMA flange connection

#### Two styles are available:

- 1) Load only (without handle) which permits terminal loading only. Tanker unloading would be achieved through another tank connection
- 2) Load/unload (with a handle) which permits both terminal loading, and fuel unloading through the valve

#### Features

- Unique fluid flow sight level <sup>1</sup>
- Ergonomically curved handle operates on a short 62 degree stroke (removable on some models 1)
- Any required maintenance is simplified, Dixon Bayco® API Valves can be completely rebuilt without the need to remove the valve from the tanker ¹.
- Nose ring is anodized hard coat aluminum for years of trouble free service. Nose ring can be rotated to provide a fresh connection surface
- Biofuel compatible, up to E100 (100% ethanol) <sup>1</sup> and B100 (100% biodiesel)
- For detailed fuel compatibility, please refer to the chart shown on page 3
- Maximum working pressure: 75 PSI
- Units with sight glass maximum: 140°F (60°C)

#### **Materials**

 Aluminum body, and handle, ¹ anodized hard coat aluminum nose ring, stainless steel hardware, Baylast™¹, FKM¹ and PTFE seals, ¹ nylon sight glass, ¹ acrylic full body sight glass

#### **Approvals**

 Manufactured to American Petroleum Institute standard API RP-1004, which allows for positive connection to drop adapters and rack couplers such as the Dixon Bayco 5300/5400-Series rack coupler

<sup>1</sup> Dependent upon part #, see part number list below for more details

#### Load/Unload Valves

Part #	Description	Temperature Range	Fuel Compatibility	
5204NG	fixed handle with Baylast seals (no sight glass)		gasoline and diesel,	
5204NGC	Canadian API with Baylast seals (no sight glass)		up to E100 and B100 biofuels	
5204	fixed handle, Baylast seals and sight glass	-40°F to 140°F (-40°C to 60°C)		
5204P	fixed handle, Baylast seals and sight glass, drilled/tapped boss		gasoline and diesel, up to E20 and B100 biofuels	
5204C	Canadian API with Baylast seals and sight glass		Diorueis	
5204SNG	fixed handle, Baylast seals and stainless steel spring (no sight glass)	40051 00005	crude oil, gasoline and diesel, up to E20 and B100 biofuels	
5204TNG	fixed handle with PTFE seals (no sight glass)	-40°F to 200°F (-40°C to 93°C)	B100 biodiesel	
5204NGV	fixed handle with FKM seals (no sight glass)		gasoline and diesel, up to B100 biodiesel	
5204SFI	fixed handle, Baylast seals and inline full body sight glass	-40°F to 140°F	gasoline and diesel,	
5204SFI-P	fixed handle, Baylast seals and inline full body sight glass, drilled/tapped	(-40°C to 60°C)	up to E100 and B100 biofuels	



5204



5204SFI

## **Load Only Valves**

Part #	Description	Temperature Range	Fuel Compatibility
5204LNG	Baylast seals (no sight glass)	-40°F to 200°F	gasoline and diesel, up to E100 and B100 biofuels
5204LSNG	Baylast seals (no sight glass) with stainless spring	(-40°C to 93°C)	crude oil, gasoline and diesel, up to E20 and B100 biofuels
5204L	Baylast seals and sight glass	-40°F to 140°F (-40°C to 60°C)	gasoline and diesel, up to E20 and B100 biofuels



5204L

NOTE: See page 13 for TTMA flange gaskets. See pages 84-85 for bill of materials and repair kits

Biofuel compatible, see fuel compatibility chart on page 3 for more information



# **API Dust Caps**









5205	5000-24	5000-25	5000-24L

Part #	Description
5205	aluminum API cap with flat nitrile rubber gasket, with nylon quick release lever
5000-24 <sup>1</sup>	aluminum API cap with O-ring Baylast™ seal, with brass cam arms
5000-25	nylon API cap with flat nitrile rubber seal, with plated steel padlockable roller lever
5000-24L <sup>1</sup>	aluminum API cap with 0-ring Baylast seal, with brass locking cam arms

<sup>&</sup>lt;sup>1</sup> FKM seal available

NOTE: See pages 86-87 for repair parts

## **API Drop Adapters**

## Specification

• Maximum allowable operating pressure: 75 PSI











4540	4540SG	4502	4540F	4504ASSM

Part #	Description	Temperature Range	Fuel Compatibility	
4530	API to 3" drop adapter, Baylast O-ring seal			
4530G	API to 3" drop adapter no sight glass, nitrile rubber flat gasket		gasoline and diesel,	
4530SG	API to 3" drop adapter, Baylast flat gasket, inline sight glass	-40°F to 200°F	up to E100 and	
4540	API to 4" drop adapter, Baylast O-ring seal	(-40°C to 93°C)	B100 biofuels	
4540G	API to 4" drop adapter no sight glass, nitrile rubber flat gasket	( 10 0 10 00 0,		
4540V	API to 4" drop adapter, FKM O-ring seal		gasoline and diesel, up to B100 biodiesel	
4540SG	API to 4" drop adapter, Baylast flat gasket, one piece, inline sight glass		gasoline and diesel,	
4502	API to 4" drop adapter, nitrile rubber seals, two piece design with sight glass		up to E100 and B100 biofuels	
4540SGV	API to 4" drop adapter, FKM flat gasket, inline sight glass  -40°F to 140°F (-40°C to 60°C)		gasoline and diesel, up to B100 biodiesel	
4540F	API to 4" drop coupler, nitrile rubber gasket	(-40 0 10 00 0)		
4502ASSM	API to 4" drop adapter, Baylast O-ring with sight glass, two piece design		gasoline and diesel, up to E100 and	
4504ASSM	API to 4" drop coupler, nitrile rubber gasket with sight glass, two piece design		B100 biofuels	
112054	4" replacement flat gasket			



# **Heavy Duty Chain for API Gravity Drop Adapter**



40447ST

Part #	Description
40447ST	17" heavy duty chain

## **Gravity Drop Adapter Dust Caps**







Part #	Description
4540DC	4" nylon lightweight cap
4540DC-1200	4" nylon lightweight cap with chain
VR4050PLRK1	replacement gasket

NOTE: Not intended to be pressurized



# **Dust Plugs with Handle**

Part #	Size	Description
300-DP-ALPH	3"	
400-DP-ALPH	4"	aluminum dust plug





300-DP-ALPH

400-DP-ALPH

## **TTMA Flanged Sight Flow Indicators**

#### **Features**

- Due to the proprietary blending of petroleum products, Dixon® recommends that the thermoplastic tubing and the gaskets be immersion tested in the product to be handled to ensure compatibility (not compatible with crude oil)
- · Durable cast aluminum housing replaces competitions all acrylic sight glass commonly found on tank trucks
- Larger I.D. 4-3/8" flow indicator allows tank truck flanged butterfly valves to connect to either end of the indicator
- Allows for visual identification of the fuel grade prior to opening the valve
- · Works with tank truck flanged butterfly valves found on gasoline trucks
- · Low cost sight glass tube can be easily replaced

#### **Specifications**

Maximum working pressure: 150 PSI, TTMA flanges: 100 PSI







5200-SFI shown mounted on petroleum tank

5200-SFI

5200-SPC

Part #	Description	Temperature Range	Fuel Compatibility
5200-SFI-3	3" TTMA flange sight flow, 1-3/4" width, 3-1/2" I.D.		gasoline and diesel, up to E100 and B100 biofuels
5200C-SFI-3 <sup>1</sup>	3" TTMA flange sight flow, 1-3/4" width, 3-1/2" I.D., stainless retain ring		gasoline and diesel, up to E100 and B100 biofuels, crude oil
5200-SFI	4" TTMA flange sight flow, 1-3/4" width, 4-3/8" I.D.	-40°F to 140°F	gasoline and diesel,
5200-SFIV	4" TTMA flange sight flow, 1-3/4" width, 4-3/8" I.D., FKM seals	(-40°C to 60°C)	up to E100 and B100 biofuels
5200C-SFI <sup>1</sup>	4" TTMA flange sight flow, 1-3/4" width, 4-3/8" I.D., stainless retain ring		gasoline and diesel up to E100 and B100 biofuels, crude oil
5200-SPC	4" aluminum TTMA pattern solid flanged spacer (no sight glass)		all fuels

<sup>&</sup>lt;sup>1</sup> Compatible with crude oil

NOTE: Maximum flange bolt torque is 200 in-lbs (inch pounds)





5201-SFI



5201-CA

Part #	Description	Fuel Compatibility
5201-SFI	4" TTMA flange sight flow, 3-1/4" width, 4-3/8" I.D.	gasoline and diesel,
5201-SFI-3	3" TTMA flange sight flow, 3-1/4" width, 3-1/2" I.D.	up to E100 and B100 biofuels

Part #	Description	Fuel Compatibility
5201CA	4" hose inline sight glass with 4" cam & groove adapter x coupler	gasoline and diesel,
5201CA-3	3" sight flow indicator 3" coupler x 3" adapter	up to E100 and B100 biofuels
5201CC	sight flow indicator 4" coupler x 4" coupler	biou biolueis

NOTE: See page 90 for sight glass repair kits



## **Product Indicators**

#### **Features**

- Weight: 1-1/2 lbs
- Dimensions: 8" x 3" x 2-1/2" (L x W x H)
- Capable of displaying 8 user selectable product identification labels
  Can be mounted in typical locations near API with standard bolt hole pattern
- Customizable label sheets are sold in packs of 10

## Material

· Polished cast aluminum





DBPI080

DBPI080-MINI

Part #	Description
DBPI080	petroleum product indicator (includes empty, ethanol, diesel, U.L.S.D., reg. unleaded, plus unleaded, premium unleaded, jet fuel)
40544AL	product indicator mounting bracket for DBPI080
40462VY	product indicator base label
DBPI080-MINI	mini petroleum product indicator, 4.5" x 2.125" x 2.25", weight 10 oz











TTF4AL-4MT

TTF4AL-4EMT

TTF4AL-4FT

TTF4AL

TTF400SP

Part #	Description
TTF3AL-3MT	3" TTMA flange x 3" male NPT, 2-1/2" overall length
TTF4AL-3MT	4" TTMA flange x 3" male NPT, 2-1/2" overall length
TTF4ALHC-3MT	4" TTMA flange x 3" male NPT, 2-1/2" overall length, hardcoated
TTF4AL-3EMT	4" TTMA flange x 3" male NPT, 5-1/2" overall length
TTF4AL-3FT	4" TTMA flange x 3" female NPT, 2-1/2" overall length
TTF4AL-4MT	4" TTMA flange x 4" male NPT, 2-1/2" overall length
TTF4ALHC-4MT	4" TTMA flange x 4" male NPT, 2-1/2" overall length, hardcoated
TTF4AL-4EMT	4" TTMA flange x 4" male NPT, 5-1/2" overall length
TTF3AL-3FT	3" TTMA flange x 3" female NPT, 2-1/2" overall length
TTF4AL-4FT	4" TTMA flange x 4" female NPT, 2-1/2" overall length
TTF3AL	3" TTMA butt weld on flange
TTF4AL	4" TTMA butt weld on flange
TTF300SP	3" TTMA socket weld on flange
TTF400SP	4" TTMA socket weld on flange

## **Cam & Groove x TTMA Flanges**









400-ALT-AL

4022ALTAL

400-DLT-AL

4022DLTAL

Part #	Description
300-ALT-AL	3" cam & groove adapter (straight) x 3" TTMA flange
3040ALTAL	3" cam & groove adapter (straight) x 4" TTMA flange
400-ALT-AL	4" cam & groove adapter (straight) x 4" TTMA flange
40022ALTAL	4" cam & groove adapter (22-1/2°) x 4" TTMA flange
600-ALT-AL	6" cam & groove adapter (straight) x 6" TTMA flange
300-DLT-AL	3" cam & groove coupler (straight) x 3" TTMA flange
3040DLTAL	3" cam & groove coupler x 4" round tank truck flange
400-DLT-AL	4" cam & groove coupler (straight) x 4" TTMA flange
40022DLTAL	4" cam & groove coupler (22-1/2°) x 4" TTMA flange
600-DLT-AL	6" cam & groove coupler (straight) x 6" TTMA flange

## **Dimensions of Tank Truck Flanges (TTMA Drilling)**

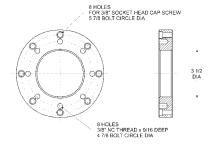
Nominal Pipe Size	Flange O.D.	Thickness <sup>1</sup>	Diameter of Bolt Circle	Number of Bolts	Diameter of Bolt Holes	Diameter of Bolts
3"	5-5/8"		4-7/8"	8		
4"	6-5/8"	3/8"	5-7/8"	8	7/16"	3/8"
6"	8-7/8"		8-1/8"	12		

<sup>&</sup>lt;sup>1</sup> Listed thickness is for aluminum flanges



# **TTMA Flange Reducer**



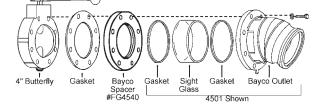


4443	

Part #	Description
4443	4" TTMA x 3" TTMA reducer flange

# **TTMA Butterfly Valve Spacer**





FG4540

Part #	Description
FG4540	4" TTMA flange spacer

# **API and TTMA Flange Gaskets**



Part #	Size	Description	O.D.	I.D.	Thickness	Bolt Circle	Fuel Compatibility	
200GTTFBL	2"	TTMA-Baylast™	4-1/2"	2-5/8"	1/8"	3-3/4"		
300GTTFCB		TTMA-cork/nitrile rubber		3-1/2"			gasoline and diesel,	
300GTTFBL		TTMA-Baylast	5-5/8"	3-5/8"	1/8"	4 7 /0"	up to E10 and B2 biofuels	
300GTTFK	3"	TTMA Klinger nylon		3-1/2"		4-7/8"		
40321TF	3	TTMA-PTFE with soft fiber core	5-29/32"	3-1/2"	3/32"		gasoline and diesel, up to E100 and B100 biofuels	
40364TF		API sump-PTFE with soft fiber core	7-1/4"	5"	5/32"	6-1/4"		
40364BL		API sump-Baylast	7-1/4	5	1/8"	0-1/4		
400GTTFCB		TTMA-cork/nitrile rubber		4-9/16"			gasoline and diesel, up to E10 and B2 biofuels	
400GTTFBL		TTMA-Baylast	6-5/8"	4-5/8"	1/8"	F 7 (0)		
400GTTFK		TTMA Klinger nylon		4-9/16"		5-7/8"		
40322TF	4"	TTMA-PTFE with soft fiber core	6-7/8"	4-5/8"	3/32"		gasoline and diesel, up to E100 and B100 biofuels	
40323TF		API sump-PTFE with soft fiber core	8-3/8"	5-7/8"	5/32"		up to E100 and B100 biolders	
40323BL		API sump-Baylast	8-1/4"	6-1/8"	1/8"	7-1/4"	gasoline and diesel, up to E10 and B2 biofuels	

## 6200 and 6500-Series - Fuel Delivery Elbows

#### **Features**

#### 6200-Series

- Available in standard or tall heights to accommodate deep fill boxes
- · Rugged modular cast aluminum construction
- Most parts are common throughout the Bayco® elbow line, making any necessary maintenance a breeze
- Grease nipple enables the greasing of the lever stem, and acetal bushings help keep everything moving smoothly, even in the harshest of conditions
- Bolt on inlets allow the inlet to be changed without having to worry about galling of threaded inlets
- Ball handle lever enables the operator to easily and positively engage the solid bronze locking arms, onto the underground adapter
- Biofuel compatible up to E100 (100% ethanol) and B20 (20% biodiesel). For detailed fuel compatibility, please refer to the chart shown on page 3



- Heavy-duty bolt on arm attachment plate increases the strength of the lever pivot. There are no impact susceptible pivot bolts, or casting bosses to break
- Arm hinge points use a double yoke design, which increases the arm strength
- elbow disconnections while the elbow is in service. No need for the operator to engage the locking mechanism, just move the handle to the closed position and the lock automatically engages. Releasing the lock is equally as easy, just grip the handle and lift. The locking mechanism has lots of free clearance so it will not be affected by dirt, ice or snow. (Elbow disconnections can occur on other elbow designs, from either operators bumping the release mechanism, or from a hydraulic surge when the underground storage tank overfill valve slams shut)
- · Ergonomic handle can be mounted on either side of the elbow



6500A



6500XA

	The state of the s	
A	В	
	6:	200A



· ·	2007 02007		0000	
Part #	Description		B Ground Clearance	Fuel Compatibility
6200	standard height elbow only, without inlet connection			
6200C	standard height elbow with 3" adapter inlet			
6200A	standard height elbow with 4" adapter inlet			
6200B	standard height elbow with 3" coupler inlet		10-7/8"	
6200D	standard height elbow with 4" coupler inlet			
6200T	elbow with anti-spill sleeve without inlet connection			
6200AT	elbow with 4" adapter inlet and anti-spill sleeve			
6200X	tall height elbow only, without inlet connection			
6200XC	tall height elbow with 3" adapter inlet			
6200XA	tall height elbow with 4" adapter inlet		13-3/4"	
6200XB	tall height elbow with 3" coupler inlet	21"		
6200XD	tall height elbow with 4" coupler inlet			
6200XT	tall elbow with anti-spill sleeve without inlet connection			gasoline and
6200XAT	tall elbow with 4" adapter inlet and anti-spill sleeve		diesel, up	
6500	standard height full feature elbow only, without inlet connection			to E100 and
6500C				B20 biofuels
6500A	•			
6500B	standard height full feature elbow with 3" coupler inlet	17-3/4"	10-7/8"	
6500D	standard height full feature elbow with 4" coupler inlet			
6500T	elbow with locking handle and anti-spill sleeve without inlet connection			
6500AT	elbow with locking handle, 4" adapter inlet and anti-spill sleeve			
6500X	tall height full feature elbow only, without inlet connection			
6500XC	tall height full feature elbow with 3" adapter inlet		13-3/4"	
6500XA	tall height full feature elbow with 4" adapter inlet			
6500XB				
6500XD				
6500XT	tall height full feature elbow with locking handle, no inlet, with anti-spill sleeve	1		
6500XAT	AT tall elbow with locking handle, 4" adapter inlet and anti-spill sleeve			

NOTE: See page 92-93 for repair kits and replacement parts

Product instruction sheets and technical data can be viewed on our website at dixonvalve.com





## 6600-Series - Auto Shut Off Elbow Release



#### **Applications**

• Most underground storage tanks (UST) have an automatic overfill prevention device located in the standpipe under the fill adapter. This automatic overfill device has an internal valve that is tripped closed when the UST fuel level reaches a high level. When this overfill valve is tripped the internal valve can slam shut causing a pressure surge. If the drive neglects to properly lock the elbow on the fill adapter and a an overfill occurred this can in turn cause the elbow to pop off the fuel inlet.

#### **Features**

- Rugged modular cast aluminum construction, with internal automatic shut off valve
- · Many parts are common throughout the Bayco elbow line, making any necessary maintenance a breeze
- Grease nipple enables the greasing of the lever stem, and acetal bushings help keep everything moving smoothly, even in the harshest of conditions
- Inlet probes are standard, and are available with or without outlet poppet valves
- Bolt on outlets allow the outlet to be changed without having to worry about galling of threads. See below for replacement outlets
- Same rugged design as out 6200 and 6500-Series elbows
- Biofuel vapor compatible, up to E85 (85% Ethanol) and B20 (20% bio diesel). For detailed fuel compatibility, please refer to the chart shown on page 3

#### Materials

 Aluminum body and handle, bronze locking arms, stainless steel hardware, Baylast™ and nitrile rubber seals, and acetal bushings

#### **Specification**

· Manufactured to connect to in ground fuel station vapor adapters and cam & groove vapor hose connections

Part #	Description
6600LA	shut off elbow, 4" adapter inlet left hand, with flapper
6600LB	shut off elbow, 3" coupler inlet left hand, with flapper
6600LC	shut off elbow, 3" adapter inlet left hand, with flapper
6600LD	shut off elbow, 4" coupler inlet left hand, with flapper
6600RA	shut off elbow, 4" adapter inlet right hand, with flapper
6600RB	shut off elbow, 3" coupler inlet right hand, with flapper
6600RC	shut off elbow, 3" adapter inlet, right hand with flapper
6600RD	shut off elbow, 4" coupler inlet, right hand, with flapper
6610LA	shut off elbow, 4" adapter inlet left hand, with no flapper
6610LB	shut off elbow, 3" coupler inlet left hand, with no flapper
6610LC	shut off elbow, 3" adapter inlet left hand, with no flapper
6610LD	shut off elbow, 4" coupler inlet left hand, with no flapper
6610RA	shut off elbow, 4" adapter inlet right hand, with no flapper
6610RB	shut off elbow, 3" coupler inlet right hand, with no flapper
6610RC	shut off elbow, 3" adapter inlet, right hand with no flapper
6610RD	shut off elbow, 4" coupler inlet, right hand, with no flapper

NOTE: To prevent a possible spill Bayco 6600-Series elbow has an internal valve that will prevent a spill. Should the elbow pop off the fill adapter an internal valve will automatically close preventing the contents of the hose from spilling.

# A B

6530D

## **Fuel Delivery Elbows**



	6530

Part #	Description	Α	В	Fuel Compatibility
6530A	3" tightfill elbow with 4" inlet adapter			
6530B	3" tightfill elbow with 3" coupler inlet			gasoline and
6530C	3" tightfill elbow with 3" inlet adapter	15"	9-1/2"	diesel, up to E100
6530D	3" tightfill elbow with 4" coupler inlet and B20 biofuels			
6530LA	3" tightfill elbow with 4" inlet adapter and locking handle			

## **Fuel Delivery Connectors**

## **Straight Drop Fuel Delivery Connectors**

Part #	Description	Overall Height
6303	4" top seal with 3" adapter inlet	17-5/8"
6304	4" top seal with 4" adapter inlet	16-3/16"
6303NPT	4" top seal with 3" male NPT inlet	19-3/4"
6304NPT	4" top seal with 4" male NPT inlet	19-3/16"

NOTE: See page 93 for repair kits and replacement parts

## **Fuel Delivery Elbow Inlets**

Part #	Description	Fuel Compatibility
6000-9	fuel delivery gasket repair kit	
6000-16	3" adapter inlet	
6000-17	4" adapter inlet	gasoline and diesel,
6000-15	3" coupler inlet	up to E100 and B20 biofuels
6000-14	4" coupler inlet	DEO BIOTACIO
6000-20	4" female NPT inlet	

NOTE: These inlets are for 6000, 6200, and 6500-Series fuel delivery elbows only, for the 6400-Series coaxial elbow inlets, refer to the inlets shown on page 17

# Side Seal Fuel Delivery Elbows

Part #	Description
6000AS	side seal elbow without inlet connection
6000ASC	side seal elbow with 3" adapter inlet
6000ASA	side seal elbow with 4" adapter inlet
6000ASB	side seal elbow with 3" coupler inlet
6000ASD	side seal elbow with 4" coupler inlet
6000AST	side seal elbow without inlet connection, with anti-spill sleeve
6000ASAT	side seal elbow with 4" adapter inlet, with anti-spill sleeve
6000ASAL	side seal elbow with 4" adapter inlet, with locking ring
6000ASR	optional add on locking ring, prevents levers from moving

NOTE: See page 96 for repair kits and replacement parts



6304NPT



6000-17



6000-14



6000-20



6000ASC





## **Side Seal to Top Seal Adapter**

Part #	Description	Fuel Compatibility
6000-SSA	side seal to top seal connection adapter	gasoline and diesel, up to E100 and B20 biofuels

6000SSA







spacer kits shown assembled to elbows

Part #	Description
6000EXT	3" height extension kit for 6200, 6500, VR6000 and VR6500 elbows. Kit includes: body and stem extensions, 4 stainless steel nuts and bolts, and stem pin
6400EXT	3" height extension kit for 6400 coaxial elbows. Kit includes: body and stem extensions, 4 stainless steel nuts and bolts, stem pin and replacement vapor tube

# **Tank Cabinet "Dummy" Weld-on Adapters**





Part #	Description
AL4051-BORE	4" fuel delivery: cabinet weld-on adapter blank
400AWSPAL	4" vapor recovery: cabinet weld-on adapter blank

AL4051-BORE

400AWSPAL

# **Coaxial Elbow - Replacement Fuel Inlets and Vapor Outlets**







6000-17C

6000-26C

6000-14C

	3000 200
Part #	Description
6000-16C	3" adapter fuel inlet
6000-17C	4" adapter fuel inlet
6000-15C	3" coupler fuel inlet
6000-14C	4" coupler fuel inlet
6400-4	3" adapter vapor outlet
6000-26C	3" male NPT vapor outlet

NOTE: These inlets are for 6400-Series coaxial elbows only, for 6000, 6200, and 6500-Series delivery elbows, refer to the inlets shown on page 16

## Single Point Coaxial - Delivery/Vapor Recovery Elbows

#### **Features**

- · Available in standard or tall heights to accommodate deep fill boxes
- · Rugged modular cast aluminum construction
- Many parts are common throughout the Bayco® elbow line, making any necessary maintenance a breeze
- Grease nipple enables the greasing of the lever stem, and acetal bushings help keep everything moving smoothly, even in the harshest of conditions
- Bolt-on inlets allow the inlet to be changed without having to worry about galling of threaded inlets. See below for replacement inlets
- Ball handle lever enables the operator to easily and positively engage the solid bronze locking arms, onto the underground adapter
- Top connection is the vapor outlet; lower connection is the fuel delivery inlet
- Biofuel compatible up to E100 (100% ethanol) and B20 (20% biodiesel). For detailed fuel compatibility, please refer to the chart shown on page 3

NOTE: Coaxial inlets are not interchangeable with other Bayco elbow inlets





6400

6400X

Part #	Description	A Overall Height	B Ground Clearance	Fuel Compatibility
6430	standard height elbow with 3" adapter fuel inlet, 3" adapter vapor outlet			
6430F	standard height elbow with 3" coupler fuel inlet, 3" adapter vapor outlet			
6400	standard height elbow with 4" adapter fuel inlet, 3" adapter vapor outlet	23-3/4"	11-3/4"	
6400F	standard height elbow with 4" coupler fuel inlet, 3" adapter vapor outlet			
6400FNPT	standard height elbow with 4" coupler fuel inlet, 3" male NPT vapor outlet			gasoline and diesel,
6430X	tall height elbow with 3" adapter fuel inlet, 3" adapter vapor outlet			up to E100 and B20 biofuels
6430XF	tall height elbow with 3" coupler fuel inlet, 3" adapter vapor outlet			biorueis
6400X	tall height elbow with 4" adapter fuel inlet, 3" adapter vapor outlet	26-3/4"	14-3/4"	
6400XF	tall height elbow with 4" coupler fuel inlet, 3" adapter vapor outlet			
6400XFNPT	tall height elbow with 4" coupler fuel inlet, 3" male NPT vapor outlet			

NOTE: Elbow options are shown on page 17. See page 94 for repair kits and replacement parts

Biofuel compatible, see fuel compatibility chart on page 3 for more information



## Fuel Station, In-Ground Tank Adapters and Caps

#### **Application**

 When fuel is delivered to the fuel station, the fuel delivery and vapor recovery elbows, are connected to the in-ground tank adapters. There are two types that do not interchange, 1) is for fuel delivery using either standard or coaxial delivery elbows. 2) Is for the vapor recovery elbows. The delivery adapter is threaded onto the in-ground tank fuel inlet, and the vapor adapter is threaded to the in-ground tank vapor outlet connection. To prevent contamination and fuel evaporation, the tank adapters are capped with T-handle caps when not in use.

#### **Features**

 Manufactured with 4" pipe threads to connect to in-ground fuel station tanks, and then provide an interface to connect the top seal fuel drop or vapor recovery elbows

#### **Delivery Adapters (top seal)**

- Available with 4" NPS or 4" NPT threads, with 3-1/2" or 2-3/8" heights
- Rugged bronze or Bayloy cast construction

#### **Delivery Adapter Caps**

- Designed to fit fuel delivery adapters only
- · Rugged durable construction aluminum or bronze bodies, with bronze push-pull T-handle
- Protect the delivery adapter, and prevent fuel contamination evaporation and tampering
- Padlockable

#### Features (cont.)

#### **Vapor Adapters**

- · Rugged bronze or Bayloy cast construction
- With outlet poppet valves to prevent fuel vapors from escaping. Poppet opens when vapor elbow is connected
- · Can be used as vapor valve on a fuel tanker (does not have mount for air interlock)

#### **Vapor Adapter Caps**

- Designed to fit fuel vapor adapters and truck mounted vapor valves
- · Colored orange to signify vapor connection
- Durable and lightweight construction aluminum or nylon bodies, with push-pull T-handle
- Protect the vapor adapter, and prevent fuel contamination and tampering
- Biofuel compatible, up to E100 (100% ethanol) and B20 (20% biodiesel). For detailed fuel compatibility, please refer to the chart shown on page 3 /
- Padlockable

#### **Materials**

 Adapters are either produced from bronze <sup>1</sup> or Bayloy <sup>1</sup>. Caps are produced in aluminum 1, bronze 1 or nylon 1, nitrile rubber seals.









BZ4051	BZ4051S	BSS4051	SA4050AL

Part #	Description
BSS4051	bronze fuel delivery tank adapter, 4" female NPT, 1-21/32" height, side seal
BZ4051	bronze fuel delivery tank adapter, 4" female NPT, 3-1/2" height, top seal
BY4051	Bayloy fuel delivery tank adapter, 4" female NPT, 3-1/2" height, top seal
BZ4051S	bronze fuel delivery tank adapter, 4" female NPS, 2-3/8" height, top seal
SA4050AL	aluminum fuel delivery adapter cap, bronze push-pull T-handle, nitrile rubber gasket
SA4050BZ	bronze fuel delivery adapter cap, bronze push-pull T-handle, nitrile rubber gasket
TI 4070B7	bronze fuel delivery adapter cap, bronze twin lever handle









VR4086 VR4050AL VR4050PL

Part #	Description
VR4086	bronze vapor recovery tank adapter, 4" FNPT, 3-5/8" height, with vapor poppet
VR4086-BY	Bayloy vapor recovery tank adapter, 4" FNPT, 3-5/8" height, with vapor poppet
VR4050AL	aluminum vapor recovery cap, colored vapor orange, push-pull T-handle, nitrile rubber gasket
VR4050PL	nylon vapor recovery cap, colored vapor orange, push-pull T-handle, nitrile rubber gasket
VR4050ALC	aluminum vapor recovery cap, colored vapor orange, push-pull T-handle, nitrile rubber gasket, with chain
VR4050PL-1200	nylon vapor recovery cap, colored vapor orange, push-pull T-handle, nitrile rubber gasket, with chain

NOTE: See page 101 for repair kits and replacement parts

Product instruction sheets and technical data can be viewed on our website at dixonvalve.com Biofuel vapor compatible

## **Dual Point - Vapor Recovery Elbows**

#### **Application**

In many areas fuel stations are equipped with dual point tank connections, one connection is for the fuel delivery, and the
other connection is for the vapor recovery connection. The vapor elbow bottom connection is connected to the fuel station
on a ground tank vapor adapter and the top connection to the vapor hose, which returns the fuel vapors back to the tanker

#### Features

- · Rugged modular cast aluminum construction
- Many parts are common throughout the Bayco® elbow line, making any necessary maintenance a breeze
- Grease nipple enables the greasing of the lever stem, and acetal bushings help keep everything moving smoothly, even in the harshest of conditions
- Inlet probes are standard, and are available with or without outlet poppet valves
- Bolt on outlets allow the outlet to be changed without having to worry about galling of threads. See below for replacement outlets
- VR6100-Series features a simple to connect push-on style connection
- VR6200 and VR6500-Series features an ergonomic ball handle lever, which on the 6500-Series can be mounted either on the left or right side
- VR6500-Series features heavy duty bolt on arm attachment plate increases the strength of the lever pivot. There are no impact susceptible pivot bolts, or casting bosses to break
- VR6500-Series features, arm hinge points use a double yoke design which increases the arm strength
- Biofuel vapor compatible, up to E85 (85% ethanol) and B20 (20% biodiesel). For detailed fuel compatibility, please refer to the chart shown on page 3

#### **Materials**

 Aluminum body and handle, bronze locking arms ¹, stainless steel hardware, Baylast™ and nitrile rubber seals, and acetal bushings

#### **Specifications**

 Manufactured to connect to in ground fuel station vapor adapters and cam & groove vapor hose connections

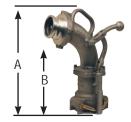








VR6100NP



VR6200



VR6500

Part #	Description	Outlet Poppet Valve	A Overall Height	B Ground Clearance	Vapor Compatibility
VR6000NP	D-handle, 3" adapter outlet	No	17-1/4"	10-3/4"	
VR6100NP	push-on style, 3" adapter outlet	No	18-3/4"	12-1/2"	
VR6200NPBU	ball lever handle, without adapter outlet	No	17-1/4"	10-3/4"	
VR6200	ball lever handle, 3" adapter outlet	Yes	17-1/4"	10-3/4"	
VR6200NP	ball lever handle, 3" adapter outlet	No	17-1/4"	10-3/4"	
VR6200PNP	ball lever handle, 3" adapter outlet with height extension, see page 13 for more info	No	20-1/4"	13-3/4"	gasoline and
VR6200ANP	ball lever handle, 4" adapter outlet	No	17-1/4"	10-3/4"	diesel, up to E85
VR6200NPB	ball lever handle, 3" coupler outlet	No	17-1/4"	10-3/4"	and B20 biofuels
VR6200NPBP	ball lever handle, 3" coupler outlet with height extension, see page 13 for more info	No	20-1/4"	13-3/4"	and bzo biolders
VR6200NPDP	ball lever handle, 4" coupler outlet with height extension, see page 13 for more info	No	20-1/4"	13-3/4"	
VR6500	heavy duty ball lever handle, 3" adapter outlet	Yes	17-1/4"	11-1/4"	
VR6500NP	heavy duty ball lever handle, 3" adapter outlet	No	17-1/4"	11-1/4"	
VR6500LPNP	heavy duty ball lever locking handle, 3" adapter outlet	No	20-1/4"	13-3/4"	
VR6000-6	replacement 3" adapter outlet, for elbows with or without poppets				
6000-17	replacement 4" adapter outlet, for elbows without poppets, requires liquid sealant to seal to elbow body				gasoline and
6000-15	replacement 3" coupler outlet, for elbows without poppets, requires liquid sealant to seal to elbow body				diesel, up to E100 and B20 biofuels
6000-14	replacement 4" coupler outlet, for elbows without poppets, requires liquid sealant to seal to elbow body				

NOTE: See page 97-100 for repair kits and replacement parts

Biofuel compatible, see fuel compatibility chart on page 3 for more information





## **Vapor Return Valves**

#### **Features**

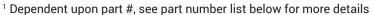
- · Rugged cast aluminum construction
- Variety of tank connections to suit any application, including 4" TTMA flange, 3" and 4" female NPT and 4" female NPS
- Air interlock mounting pad (VR4000 requires 5000AIV, other models can use the 5000AI, 5000AIS or 5000AIST interlock valves)
- VR4000 is a bulb design which allows for maximum vapor flow, also features 2 large acrylic sight glasses and a drain plug
- Available with or without poppets. Poppeted versions prevent vapor from escaping from the tanker
- · Easy seal replacement while still on the tanker
- Biofuel vapor compatible, up to E100 (100% ethanol) and B20 (20% biodiesel). For detailed fuel compatibility, please refer to the chart shown on page 3

#### Materials

 Aluminum body and nitrile rubber seals, nylon ¹ or acrylic ¹ sight glass if equipped

#### **Specifications**

 Manufactured to connect to vapor hose couplings













VR3100

VR4000

VR4100

VR4100F

VR4100F-SFI

***************************************		V11-1000	•		***************************************	VII.41001 011
Part #	Adapter Size	Tanker Connection	Inlet Poppet Valve	Sight Glass	Description	Vapor Compatibility
VR3100	4"	3" female NPT	Yes	No		
VR3100NP	4		No	No		
VR4100	4"	4" f I - NIDT	Yes	No		
VR4100NP	4"	4" female NPT	No	No		
VR4100S	4"	4" 4" female NPS Yes No vapor valve, low profile design	Yes	No		
VR4100NPS	4"			gasoline and diesel,		
VR4100F			Yes	Yes	low profile design	up to E100 and
VR4100FNG			Yes	No		B20 biofuels
VR4100F-SFI		4" TTMA flange	Yes	Yes		
VR4100F-NGNP	4"		No	No		
VR4100FNP			No	Yes		
VR4000			Yes	Yes	bulb design for maximum flow (if required use 5000AIV interlock valve)	

NOTE: See page 102-103 for repair kits and replacement parts

## **Orange Vapor Caps**







VR4050PL

VR4050PL-1200

VR4050AL

Part #	Description	Vapor Compatibility
VR4050AL	aluminum vapor recovery adapter cap, color orange, push-pull T-handle, nitrile rubber gasket	
VR4050PL	nylon vapor recovery adapter cap, color orange, push-pull T-handle, nitrile rubber gasket	gasoline and
VR4050ALC	aluminum vapor recovery adapter cap, color orange, push-pull T-handle, nitrile rubber gasket, with chain	diesel,up to E100 and B20 biofuels
VR4050PL-1200	nylon vapor recovery adapter cap, color orange, push-pull T-handle, nitrile rubber gasket, with chain	B20 Siorucio

NOTE: See page 101 for repair kits and replacement parts

## **Vapor Hose Couplings**

**Vapor** Compatibility

gasoline and diesel, up to E100 and

B20 biofuels

Part # VRC3000AL	Coupler Size 3" 4"	Connection Type and Size 3" hose	Poppet Valve	Probe	
VRC3000AL	-	3" hose			
	A"		No	Yes	Г
VR4030CS-AL <sup>1</sup>	4	3" hose	Yes	Yes	
VR4040CS-AL	4"	4" hose	Yes	Yes	
VR4030CS-AL45	4"	3" 45° hose	Yes	Yes	
VR4040CS-AL45	4"	4" 45° hose	Yes	Yes	
VR4040CS-ALS45	4"	4" 45° hose swivel			
VR4040CS-4MNPT	4"	4" male NPT	Yes	Yes	
4020-CVR-AL	4"	2" hose	No	Yes	
4030-CVR-AL	4"	3" hose	No	Yes	
400-CVR-AL	4"	4" hose	No	Yes	
4030-DVR-AL	4"	3" female NPT	No	Yes	
400-DVR-AL	4"	4" female NPT	No	Yes	
4030-DAVR-AL	4"	3" cam & groove adapter	No	Yes	
400-DDVR-AL	4"	4" cam & groove coupler	No	Yes	
VR4030CS-NP	4"	3" hose	No	Yes	
VR4030CS-SH	4"	3" hose	Yes	Yes	
VR4040CSRK1		seal repair kit			
VR4040CSRK2		cam arm repair kit			
VRHK <sup>1</sup>		handle kit			
VRHK-C <sup>1</sup>		compact handle kit			

VR4030CS-AL



VR4040CS-AL



VR4030CS-AL45

NOTE: See page 104-106 for repair kits and replacement parts

<sup>1</sup> VR4030CS-AL will not work with Civacon 633LVH vapor valve and requires poppet style vapor valve on tank truck to open

## **Sequential Vapor Vents**

#### **Features**

- · Can be installed to open in sequence with another pneumatically controlled device such as the emergency valve, or open independently by simply plugging the lower of the 2 ports (use a 1/4" male NPT plug)
- · Flange adapter available to adapt 3" TTMA (VR6035SQ) version to a Parker style vent
- Any necessary maintenance is easy to perform

· Rugged cast aluminum construction

#### Specefication

• Temperature range: -40°F to 160°F (-40°C to 71°C)



VR6030SQ



VR6035SQ



40193AI

Part #	Description	Vapor Compatibility
VR6030SQ	for 16" manhole, with threaded mounting ring	
VR6035SQ	for 20" manhole, with 3" TTMA flange	gasoline and diesel, up to E100 and B100 biofuels
40193AL	VR6035SQ adapter flange for Parker style vents	

NOTE: See page 107-108 for repair kits and replacement parts

## **Outbreathing and Inbreathing Vents**

Part #	Description	Vapor Compatibility
VRP3500	outbreathing, opens at no greater than 1 PSI (MC306)	gasoline and
VRP3600	outbreathing, opens at no less than <b>0 PSI</b> (DOT406)	diesel, up to E100
VRV3501	inbreathing, opens at 1-1/2" Hg (vacuum)	and B100 biofuels

VRV3501

VRP3500 VRP3600

NOTE: See page 109 repair kits and replacement parts



## **Air Interlock Valves**

## **Specifications**

• Temperature range: -40°F to 158°F (-40°C to 70°C)

· Maximum working pressure: 150 PSI

## **Standard Air Interlock Valves**



	0000/11/1	
Part #	Description	
5000AI	1" button plunger pneumatic interlock, Baylast™ seals	
5000AIST	1-1/2" button plunger pneumatic interlock, Baylast seals	
5000AIR	roller ball plunger pneumatic interlock, ideal for use on cabinet doors, Baylast seals	
5000AIS	1" button plunger pneumatic/electronic interlock, ideal for connecting to lights or the overfill detection system, Baylast seals	tion
5000AIV	paddle plunger pneumatic interlock, for use on VR4000 vapor valve, Baylast seals	
5000AIHD	heavy duty, high flow air ports, same foot print as 5000Al, Baylast seals	
5000AIRHD	roller end for various angles, large air ports, Baylast seals	
5000AIVHD	heavy duty air interlock with paddle plunger, Baylast seals	

NOTE: See page 110-112 for repair kits and replacement parts

## **Heavy Duty 6-Port Air Interlock Valves**

## **Specification**

• Temperature range: -40°F to 158°F (-40°C to 70°C)



Part #	Description				
5006AIHD	heavy duty, high flow air ports, Baylast seals				
5006AIRHD	roller end for various angles, large air ports, Baylast seals				
5006AIVHD	heavy duty air interlock with paddle plunger, Baylast seals				

## **Air Interlock Valve Accessories**





DB300PMB

5000S

Part #	Description				
DB300PMB	mount 5000Al air interlock on 3" pipe				
DB400PMB	mount 5000Al air interlock on 4" pipe				
5000S	air interlock limit switch kit				
5000AIVS	air interlock with limit switch and cable				
5000AISHD	air interlock limit switch heavy duty and cable				
5000AISTHD	heavy duty air interlock with 1-1/2"				
40048WI	cable, air interlock switch				

## **Hose Tube Doors**

#### **Application**

· When not in use fuel delivery hoses are often stored in tubes that run the length of the tanker, to keep the hoses in the storage tubes they have a welded cap on one end and a hinged tube door welded on the other end

#### **Features**

- Keeps fuel delivery hoses neatly and safely stored in the designated storage tubes
- Helps to protect the expensive delivery hoses and fittings from road dirt, salt and other environmental factors
- Padlockable

Part #	Description
TDF6	6" hose tube door
TDF7	7" hose tube door
TDF8	8" hose tube door

NOTE: See page 110 for repair kits and replacement parts

#### Materials

· Aluminum body, nitrile rubber seals, stainless steel door closure spring and hardware, nylon bushings

#### Specification

Manufactured to weld to 6", 7" or 8" hose tubes





TDF7

TDF8

## **Static Grounding Balls**

#### **Application**

· To help prevent static electric sparking when loading or unloading tankers containing flammable products, the tanker is grounded using a grounding cable with spring clip attached to a tank mounted static grounding ball

· Helps eliminate static electricity sparking

#### **Materials**

· Brass or stainless steel

Part #	Description	
GS1	brass grounding ball	
GS1-2	brass grounding ball with lock washer and stainless steel nut	
GS2	416 SS grounding ball	

Manufactured with 3/8"-16UN-3A thread



GS1





GS1-2

GS<sub>2</sub>

## **Tanker Pipe Caps**

#### **Features**

- · Includes 12" heavy duty chain with S hook
- · Pin lugs allow easy tightening
- · Working pressure of up to 150 PSI

Part #	Description
PC30	3" female NPSL pipe threaded aluminum cap
L2286	nitrile rubber gasket



PC30



## **One Way Full Flow Ball Valves**

#### **Application**

 One way full flow ball valves are often used to control the flow of products from tanker compartments

#### **Features**

- · High flow with low pressure drop
- Working pressure of 150 PSI at 70°F (21°C)
- · Valve spindle can be disassembled with valve installed

Part #	Size	Description
1WAYBV200	2"	
1WAYBV300	3"	female NPT
1WAYBV400	4"	
1WAYBV200SW	2"	1 1 40 1 1
1WAYBV300SW	3"	schedule 40 socket weld
1WAYBV200VIC 2"		
1WAYBV300VIC	3"	grooved connections

#### **Materials**

 Aluminum body, aluminum and stainless steel wetted parts, FPM (FKM and PTFE seals)

#### **Specifications**

 Manufactured with 2", 3" or 4" female NPT, socket weld to Schedule 40 or grooved ends



## **Two Way 3 Port Diverting Ball Valves**

#### **Application**

· Two way diverting ball valves are often used to divert or mix products between tanker compartments

#### Features

- 3 ports allow easy flow diversion between tanker compartments
- · High flow with low pressure drop
- Working pressure of 150 PSI at 70°F (21°C)
- Valve spindle can be disassembled with valve installed

-			
Ī	Part #	Size	Description
	2WAYBV200	2"	
	2WAYBV300	3"	female NPT
	2WAYBV400	4"	
	2WAYBV200SW	2"	1 1 40 1 1
	2WAYBV300SW	3"	schedule 40 socket weld
	2WAYBV200VIC3	2"	
2	2WAYBV300VIC3	3"	grooved connections

#### **Materials**

 Aluminum body, aluminum and stainless steel wetted parts, FPM (FKM and PTFE seals)

#### **Specifications**

 Manufactured with 2", 3" or 4" female NPT, socket weld to Schedule 40 or grooved ends



## **Cam & Groove Style Dry Disconnect Couplings**

#### Application

Dry disconnects help prevent spillage from normal or accidental disconnection of the connection. A spring loaded sealing device is designed to snap closed should the valve become disconnected with the poppet open, significantly limiting liquid loss

#### **Features**

- Helps eliminate the possibility of costly spills
- Compatible with most other brands of cam & groove style dry disconnects
- Special configurations can be designed for your application
- Female NPT or 150# flanged connections

#### **DBA Adapters**

- Two-piece adapter design for easy rebuilding of adapters
- Stainless steel parts have a stainless steel piston
- Adapters below are used with the DBC or D2C couplers shown on pages 28 and 29
- Use standard cam & groove dust caps sized one size larger than the dry disconnect size, see chart below for dust cap size selection

- Large paddle type locking cam arms standard on 3" fittings, allow for an easy grip
- DBC series have automatic closing poppet assembly
- Heavy duty stainless steel crank and link provide long service life
- Stainless steel handle assembly allows exposure to corrosive chemicals or wash down service
- Strong handle attachment prevents bending of crank assembly
- Aluminum couplers have stainless steel internal parts
- EZ Boss-Lock<sup>™</sup> cam arms standard on all 1-1/2" and 2" fittings, provide high security from accidental opening due to vibration or snagging. Very easy to use, • Canadian registration number CRN just close the arms and they lock, to open simply lift the lever (possible even with gloves on)

#### **Materials**

· Zinc, aluminum or stainless steel bodies with nitrile rubber 1, FKM 1, FKM-B 1, PTFE encapsulated silicone 1, EPT (EPDM)1, FFKM, PTFE encapsulated FKM and PTFE seals, see part number chart for full seal selection. Stainless steel corrosion resistance is equivalent to 304 stainless steel

#### **Specifications**

- · Manufactured to interchange with other cam & groove type dry disconnect couplings
- Contact Dixon® at 877.963.4966 for working pressures at temperatures other than 70°F (21°C) and for chemical compatibility, size and material selection

#### **Approvals**

#OH14044 all provinces, 3" size rated to 80 PSI for CRN required applications

Dependent upon part #, see part number list below for more details

Female NPT Adapters



DBA71-200



DBA11-300

Temate III Triadpecto									
Female NPT Size		Seal Material	Max PSI @ 70°F (21°C)	Aluminum Part #	Zinc/Aluminum Part #	Competitor Part #	Stainless Steel Part # <sup>2</sup>	Competitor Part #	
1-1/2"	2"		210		DBA11-150	1611AN-AL15	DBA71-150	1671AN-SS15	
2"	2-1/2"	nitrile rubber	150	DBA61-200	DBA11-200	1611AN-AL20	DBA71-200	1671AN-SS20	
3"	4"		120		DBA11-300	1611AN-AL30	DBA71-300	1671AN-SS30	
1-1/2"	2"		210		DBA12-150	1612AN-AL15	DBA72-150	1672AN-SS15	
2"	2-1/2"	FKM	150	DBA62-200	DBA12-200	1612AN-AL20	DBA72-200	1672AN-SS20	
3"	4"		120		DBA12-300	1612AN-AL30	DBA72-300	1672AN-SS30	
1-1/2"	2"	DTEE	210	DBA63-150		1613AN-AL15	DBA73-150	1673AN-SS15	
2"	2-1/2"	PTFE encapsulated	150	DBA63-200		1613AN-AL20	DBA73-200	1673AN-SS20	
3"	4"	silicone	120	DBA63-300		1613AN-AL30	DBA73-300	1673AN-SS30	
1-1/2"	2"		210	DBA64-150		1614AN-AL15	DBA74-150	1674AN-SS15	
2"	2-1/2"	EPDM	150	DBA64-200		1614AN-AL20	DBA74-200	1674AN-SS20	
3"	4"		120	DBA64-300		1614AN-AL30	DBA74-300	1674AN-SS30	
1-1/2"	2"		210	DBA66-150		1616AN-AL15	DBA76-150	1676AN-SS15	
2"	2-1/2"	FFKM	150	DBA66-200		1616AN-AL20	DBA76-200	1676AN-SS20	
3"	4"		120	DBA66-300		1616AN-AL30	DBA76-300	1676AN-SS30	
1-1/2"	2"		210	DBA67-150		1617AN-AL15	DBA77-150	1677AN-SS15	
2"	2-1/2"	PTFE encapsulated FKM	150	DBA67-200		1617AN-AL20	DBA77-200	1677AN-SS20	
3"	4"		120	DBA67-300		1617AN-AL30	DBA77-300	1677AN-SS30	
2"	2-1/2"	FKM-GFLT	150				DBA78-200		
3"	4"	FKM-B	120	DBA69-300		1619AN-AL30	DBA79-300	1679AN-SS30	

NOTE: See pages 115-117 for repair kits and replacement parts

<sup>&</sup>lt;sup>2</sup> Stainless steel corrosion resistance is comparable to 304 stainless steel



DBA12-1520

## **Jump Size Female NPT Adapters**

Female NPT Size		Dry Disconnect Body Size		Max PSI @ 70°F (21°C)	Zinc/Aluminum Part #	Competitor Part #
2"	2"	1-1/2"	nitrile rubber	150	DBA11-1520	
			FKM	150	DBA12-1520	

NOTE: See pages 115 for replacement parts



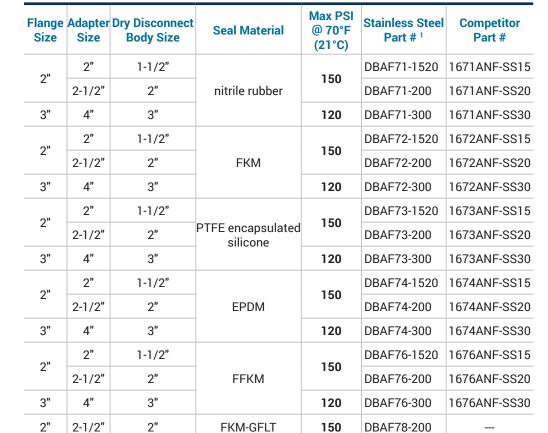
DBAV73-2030

## **Female NPS Vapor Adapter**

Female NPSM Size		Adapter Size	Dry Disconnect Body Size	Seal Material	Max PSI @ 70°F (21°C)	Stainless Steel Part # 1	Competitor Part #
	3"	2-1/2"	2"	PTFE	150	DBAV73-2030	2173AVN

NOTE: See page 118 for replacement parts

## 150# Flange Adapters





DBAF72-200

NOTE: See page 119 for replacement parts

<sup>&</sup>lt;sup>1</sup> Stainless steel corrosion resistance is comparable to 304 stainless steel



## **Cam & Groove Style Dry Disconnect Couplings**

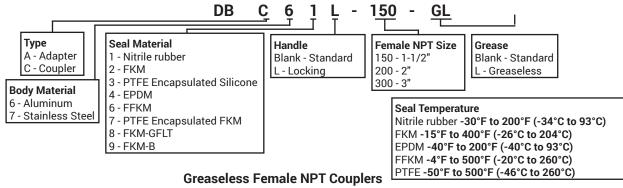
**Female NPT Couplers** 



DBC61-150

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Female NPT Size	Coupler Size	Seal Material	Max PSI @ 70°F (21°C)	Aluminum Part #	Competitor Part # (New and Old)	Stainless Steel Part # 1	Competitor Part # (New and Old)
1-1/2"	1-1/2"		210	DBC61-150	1711DL-AL15/1761D-AL15	DBC71-150	1771DL-SS15/1771D-SS15
2"	2-1/2"	nitrile rubber	150		1711DL-AL20/1761D-AL20	DBC71-200	1771DL-SS20/1771D-SS20
3"	4"		120	DBC61-300	1711DL-AL30/1761D-AL30	DBC71-300	1771DL-SS30/1771D-SS30
1-1/2"	2"		210	DBC62-150	1712DL-AL15/1762D-AL15	DBC72-150	1772DL-SS15/1772D-SS15
2"	2-1/2"	FKM	150		1712DL-AL20/1762D-AL20	DBC72-200	1772DL-SS20/1772D-SS20
3"	4"		120	DBC62-300	1712DL-AL30/1762D-AL30	DBC72-300	1772DL-SS30/1772D-SS30
3"	3"		120	DBC62LVPR-300			
1-1/2"	2"	PTFE encapsulated silicone	210	DBC63-150	1713DL-AL15/1763D-AL15	DBC73-150	1773DL-SS15/1773D-SS15
2"	2-1/2"		150	DBC63-200	1713DL-AL20/1763D-AL20	DBC73-200	1773DL-SS20/1773D-SS20
3"	4"		120	DBC63-300	1713DL-AL30/1763D-AL30	DBC73-300	1773DL-SS30/1773D-SS30
1-1/2"	2"		210	DBC64-150	1714DL-AL15/1764D-AL15	DBC74-150	1774DL-SS15/1774D-SS15
2"	2-1/2"	EPDM	150	DBC64-200	1714DL-AL20/1764D-AL20	DBC74-200	1774DL-SS20/1774D-SS20
3"	4"		120	DBC64-300	1714DL-AL30/1764D-AL30	DBC74-300	1774DL-SS30/1774D-SS30
1-1/2"	2"		210	DBC66-150	1716DL-AL15/1766D-AL15	DBC76-150	1776DL-SS15/1776D-SS15
2"	2-1/2"	FFKM	150	DBC66-200	1716DL-AL20/1766D-AL20	DBC76-200	1776DL-SS20/1776D-SS20
3"	4"		120	DBC66-300	1716DL-AL30/1766D-AL30	DBC76-300	1776DL-SS30/1776D-SS30
1-1/2"	2"	PTFE	210	DBC67-150	1717DL-AL15/1767D-AL15	DBC77-150	1777DL-SS15/1777D-SS15
2"	2-1/2"	encapsulated	150	DBC67-200	1717DL-AL20/1767D-AL20	DBC77-200	1777DL-SS20/1777D-SS20
3"	4"	FKM	120	DBC67-300	1717DL-AL30/1767D-AL30	DBC77-300	1777DL-SS30/1777D-SS30
2"	2-1/2"	FKM-GFLT	150			DBC78-200	
3"	4"	FKM-B	120	DBC69-300	1719DL-AL30/1769D-AL30	DBC79-300	1779DL-SS30/1779D-SS30



Female NPT Size	Coupler Size	Seal Material	Max PSI @ 70°F (21°C)	Stainless Steel Part # 1	Competitor Part # (New and Old)
1-1/2"	2"	DTFF amountated FI/M	210	DBC77-150-GL	1777DL-SS15-GL/177D-SS15-GL
2"	2-1/2"	PTFE encapsulated FKM	150	DBC77-200-GL	1777DL-SS20-GL/177D-SS20-GL

<sup>&</sup>lt;sup>1</sup> Stainless steel corrosion resistance is comparable to 304 stainless steel

## **Female NPT Swivel Couplers**



Female NPT Size	Female NPT Coupler Size Seal Material		Max PSI @ 70°F (21°C)	Aluminum Part #	Competitor Part # (New and Old)
2"	2-1/2"	nitrile rubber		DBS61-200	1711ESL-AL20/1711ES-0200
		FKM	150	DBS62-200	1712ESL-AL20/1712ES-0200
		PTFE encapsulated silicone		DBS63-200	

DBS61-200

NOTE: See pages 120-136 for repair kits and replacement parts



## **Valve Handle Locking Kits**

Part #	Description
DBCL-200	valve handle locking kit for 1-1/2" and 2" couplers
DBCL-300	valve handle locking kit for 3" couplers



**DBCL-200** 

## **Cam & Groove Style Dry Disconnect D2C Couplings**

## **Application**

 Dry disconnects help prevent spillage from normal or accidental disconnection of the connection. D2C-Series couplings are similar to the DBC-Series as shown on page 28, except the D2C do not have an internal seal cylinder, therefore the couplings do not automatically close. The D2C couplers are suited to vapor recovery, suction pump and applications where it is necessary to easily drain the hose or piping for cleaning. They can also be used when product retention in hose or pipe is desired, but environmental damage from an open coupling is not a threat

#### **Features**

- · Helps eliminate the possibility of costly spills
- Compatible with most other brands of cam & groove style dry disconnects
- Special configurations can be designed for your application
- Female NPT
- Couplers below are used with the DBA adapters shown on pages 26 and 27
- Use standard cam & groove dust plugs, sized one size larger than the dry disconnect size, see chart below for dust plug size selection
- Stainless steel valve handle locking kit included on valve handle
- EZ Boss-lock™ automatic locking cam arms provide added security from accidental opening due to cam arms getting snagged or vibration. Very easy to use, just close the arms and they lock, to open simply lift the lever (possible even with gloves on)

#### **Materials**

 316 stainless steel bodies with nitrile rubber <sup>1</sup>, FKM <sup>1</sup>, FKM-B <sup>1</sup>, PTFE encapsulated silicone <sup>1</sup>, EPT (EPDM) <sup>1</sup>, FFKM, PTFE encapsulated FKM seals, see part number chart for full seal selection

#### **Specifications**

- Contact Dixon® at 877.963.4966 for working pressures at temperatures other than 70°F (21°C) and for chemical compatibility, size, and material selection
- Use with Dixon Bayco® DBA-Series adapters. Manufactured to interchange with other cam & groove type dry disconnect couplings
- Dependent upon part #, see part number list below for more details



D2C71-150



D2C71-200

## **Female NPT Couplers**

	1 01110	ile iii i ooupicio			
Female NPT Size	Coupler Size	Seal Material	Max PSI @ 70°F (21°C)	Stainless Steel Part #	Competitor Part #
1-1/2"	2"	nitrile rubber	210	D2C71-150	2271D-SS15
2"	2-1/2"	nitrile rubber	150	D2C71-200	2271D-SS20
1-1/2"	2"	FIZA	210	D2C72-150	2272D-SS15
2"	2-1/2"	FKM	150	D2C72-200	2272D-SS20
1-1/2"	2"	PTFE encapsulated	210	D2C73-150	2273D-SS15
2"	2-1/2"	silicone	150	D2C73-200	2273D-SS20
1-1/2"	2"	EDDM	210	D2C74-150	2274D-SS15
2"	2-1/2"	EPDM	150	D2C74-200	2274D-SS20

NOTE: See page 137 for repair kits and replacement parts

## **Bayonet Style Dry Disconnect Couplings**

#### **Application**

Bayonet dry disconnect fittings are ideally suited for the spill-less transfer of petroleum products such as fuel oil, lube oil
blending, and tank truck delivery. The design of the Bayco® bayonet dry disconnect system ensures a spill free connection,
fluid cannot flow until couplings are connected together and the valve is opened. The coupling can then not be disconnected
until the valve handle is closed

#### **Features**

- Helps eliminate the possibility of costly spills
- Compatible with most other brands of bayonet style dry disconnects
- Female NPT
- Rubber dust caps and plugs with stainless steel chains are available to protect the adapters and couplers from contamination and damage
- Maximum operating pressure: 85 PSI at 75°F (24°C), for pressure ratings at other temperatures contact Dixon®

#### Materials

 Adapters have anodized aluminum<sup>1</sup>, brass<sup>1</sup> or stainless steel<sup>1</sup> bodies with either anodized aluminum<sup>1</sup> or brass<sup>1</sup> poppet valves. Couplers are aluminum. Adapters and couplers are available with either nitrile rubber or FKM seals<sup>1</sup>

#### **Specifications**

- Manufactured to interchange with other brands of bayonet type dry disconnect couplings
- Canadian registration number CRN #OH14055 all provinces
- <sup>1</sup> Dependent upon part #, see part number list below for more details







BA32-200



BA62-300

## **Female NPT Adapters**

Female NPT Size	Seal Material	Description	Part #	Competitor Part #	Rubber Dust Cap Part #
1"	nitrile rubber	hrose hady and namet valve	BA31-100	J71-ABBN0-A	BA31-100
I	FKM	brass body and poppet valve	BA32-100	J71-ABVN0-A	BA32-100
2"	nitrile rubber	stainless steel body with brass poppet valve	BA31-200	J72A-BBN0-B/J72A-ABN0-B	BAC-200
	FKM	stainless steel body with brass poppet valve	BA32-200	J72A-BVN0-B/J72A-AVN0-B	BAC-200
3"	nitrile rubber	hroee hady and namet valve	BA31-300	J73A-BBN0-B	BAC-300
	FKM	brass body and poppet valve	BA32-300	J73A-BVN0-B	BAC-300
3"	nitrile rubber	and dized aluminum hady and nannet valva	BA61-300	J73A-ABNO-B	BAC-300
	FKM	anodized aluminum body and poppet valve	BA62-300	J73A-AVN0-B	BAC-300

NOTE: See page 138 for replacement parts



BSS62-100



BSS61-300



BS61-300

## **Female NPT Couplers**

Female NPT Size	Seal Material	Description	Part #	Competitor Part #	Rubber Dust Plug Part #
1"	nitrile rubber	anodized aluminum body with straight swiveling	BSS61-100	J71C-ABN1E004	BSS61-100
	FKM	NPT connection	BSS62-100	J71C-AVN1E004	BSS62-100
2"	nitrile rubber	anodized aluminum body with straight non-swiveling	BC61-200	J72C-ABNO-B	BCP-200
	FKM	NPT connection	BC62-200	J72C-AVNO-B	BCP-200
2"	nitrile rubber	aluminum body with straight swiveling NPT	BSS61-200	J72C-ABN1-B	BCP-200
	FKM	connection	BSS62-200	J72C-AVN1-B	BCP-200
2"	nitrile rubber	rubber	BS61-200	J72C-ABN2-B	BCP-200
	FKM	aluminum body with 90° swiveling NPT connection	BS62-200	J72C-AVN2-B	BCP-200
3"	nitrile rubber	aluminum body with straight swiveling NPT	BSS61-300	J73C-ABN1-B	BCP-300
3	FKM	connection	BSS62-300	J73C-AVN1-B	BCP-300
0"	nitrile rubber	alumainuma kardu with 00° awiyaling NDT aannaati an	BS61-300	J73C-ABN2-B	BCP-300
3"	FKM	aluminum body with 90° swiveling NPT connection	BS62-300	J73C-AVN2-B	BCP-300

NOTE: See pages 139-142 for repair kits and replacement parts



## **Bayonet Style Dry Disconnect Caps and Plugs**

#### **Application**

 Bayonet dry disconnect caps and plugs keep dirt, debris and water out of couplers preventing build up on the sealing surface that will cause seals to fail prematurely

#### **Features**

- · Simple to use
- · Low cost
- · Durable and flexible rubber
- · Prevents contamination of product

#### **Materials**

• The caps have a stainless steel chain to secure them to the adapter chain lug. The plugs have a stainless steel chain to secure them to the coupler





**BAC-300** 

BCP-300

Size	Description	Part #
2"	a a comban mbo m	BCP-200
3"	coupler plug	BCP-300
2"	adenter con	BAC-200
3"	adapter cap	BAC-300

## **5900-Series Safety Breakaway Coupling**



#### **Application**

• Designed to protect loading arms and hoses used in petroleum loading applications

#### **Features**

- · Designed to shear and separate protecting the loading arm or hose and preventing spillage of liquid product
- Shear bolts are replaceable allowing the fitting to be reassembled and put back in service
- Poppet design holds open permitting low pressure drop flow through the coupling, should the coupling shear as a result of a
  drive away, the internal poppets will snap shut preventing spillage and loss of product
- · Compact, fits behind any API loading coupler
- PTFE seal option is typically used in fuel applications to resist long term exposure to fuel additives
- Break force varies with line pressure, refer to the maintenance & operating instructions for 5900-Series breakaway couplings

## Materials

- · Seal material options include nitrile rubber, FKM-GFLT, and PTFE
- Aluminum A356T6

Size	Seal Material	Part #
	nitrile rubber	5900ALBN400A
4"	FKM encapsulated PTFE	5900ALTV400A
	FKM-GFLT	5900ALVG400A

## **5500-Series API Couplers**

#### **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

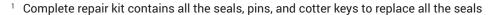
#### Materials

- 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 <sup>1</sup> Part #	Replaceable Nose Seal Part #
	Baylast	5500BL	5500RK2	5500RK8
	EPDM	5500E	5500RK3	5500RK9
4" A DI	FFKM	5500K	5500RK6	5500RK12
4" API	FKM-B	5500B	5500RK1	5500RK7
coupler	FKM-GFLT	5500G	5500RK5	5500RK11
	Fluorosilicone	5500F	5500RK4	5500RK10
	Hifluor	5500H	5500RK19	5500RK20



NOTE: Stainless steel handles and locking handle kit options are available please contact Dixon for a quote

#### **API Coupler Repair Kits**

Description	Part #
small parts kit for 5500-Series rack coupler	5500RK21
aluminum replacement handle kit with bolt and nut	5500RK22
stainless steel replacement handle kit with bolt and nut	5500RK23
locking handle kit	5500RK24
aluminum short handle replacement kit with bolt and nut	5500RK25
replacement poppet kit with links, pins, and cotter pin	5500RK26
replacement seal cylinder-no seal	5500RK27
replacement FKM-GFLT bearing kit for 5500	5500RK51
hanger for API rack coupler	5204H



Normal wear and tear items (including seals) not covered<sup>1</sup>





5500-Series



Replaceable nose seal: Replace without removal from the loading arm



5500RK24



## **Aluminum Groove Clamps**

#### **Features**

- · Lightweight yet rugged. Unlike steel groove clamps that secure the pipe ends with high clamping force against the tubing/piping walls, the Dixon® aluminum bolted clamp takes the full bolt force and locks into the groove of the tube/pipe, preventing distortion of the tube/pipe diameter
- Precision forged to provide an exact fit and great appearance
- · Lock nuts prevent loosening in applications with vibration

#### **Specifications**

Temperature ratings FKM-B: 20°F to 300°F (-7°C to 149°C), Baylast™ and nitrile rubber. -20°F to 180°F (-29°C to 82°C)



DBV-BN400

Size	Seal	Part #	Max. PSI	Approx. Weight Lbs.	Bolt Torque <sup>1</sup>	Fuel Compatibility
	nitrile rubber	DBV-BN200				gasoline and diesel only
2"	FKM-B	DBV-VB200	-		gasoline and diesel, up to E100 and	
	Baylast	DBV-BL200			20 % lb a	B100 biofuels
	nitrile rubber	DBV-BN300	170 1.1 120 1.5	1.1		gasoline and diesel only
3"	FKM-B	DBV-VB300				gasoline and diesel, up to E100 and
	Baylast	DBV-BL300				B100 biofuels
	nitrile rubber	DBV-BN400		20 ft lbs	gasoline and diesel only	
4"	FKM-B	DBV-VB400		<b>120</b> 1.5		gasoline and diesel, up to E100 and
	Baylast	DBV-BL400				B100 biofuels
5"	nitrile rubber	DBV-BN500				gasoline and diesel only
	FKM-B	DBV-VB500	75	2		gasoline and diesel, up to E100 and
	Baylast	DBV-WB500		_		B100 biofuels



Bolts must be tightened evenly to prevent gasket pinching and clamp breaking. DO NOT tighten one side then the other. Over-torquing will not improve sealing and may result in failure of the clamps. DO NOT torque bolts over 30 ft-lbs.

# **Groove x Groove Painted Iron Clamps with Baylast Gasket**

#### **Features**

- · Painted red
- · Baylast rated for biodiesel, ethanol, diesel, gas, and ULSD
- Groove x groove



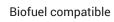
L02BL

Size	Seal	Maximum PSI	Part #
2"	Baylast	F00	L02BL
	FKM-B	500	L02VB
3"	Baylast	200	L03BL
3	FKM-B	300	L03VB
4"	Baylast	200	L04BL
4	FKM-B	300	L04VB

## **Replacement Clamp Gaskets**



Clamp Size	Part #	Seal	Fuel Compatibility					
2"	G200T							
3"	G300T	nitrile rubber (1 orange stripe)	gasoline and diesel only					
4"	G400T							
2"	G200VB		gasoline and diesel, up to E100 and B100 biofuels					
3"	G300VB	FKM-B (2 red stripe)						
4"	G400VB							
2"	G200BL							
3"	G300BL	Baylast (2 orange stripes)						
4"	G400BL							





## **Big Mouth™ Diesel Nozzles**

#### **Features**

- This nozzle is not to be used with gravity flow tanks
- · Lightweight but strong
- Micro-touch valve provides smooth operation and exceptional flow control
- · Roto-matic latch pin provides positive auto shut-off
- · Pure PTFE packing eliminates stem leaks
- · Super tough nylon hand guard

#### Features (cont.)

- Snap-on handle cover makes changing scuff guards easy
- With trigger hold-open clip

## **Approval**

· Non Underwriters Listed nozzle



Female NPT Inlet	Spout Size	Intended Service	Approximate Flow Rate @ 20 PSI (GPM)	Approximate Weight Lbs.	Scuff Guard Color	Part #
1"	1-1/8"	diesel	27	3	yellow	DFN100

## **Fuel Master™ Diesel Nozzles**

#### **Features**

- High flow capacity
- Micro-touch valve provides smooth operation and exceptional flow control
- · Roto-matic latch pin provides positive auto shut-off
- · Pure PTFE packing eliminates stem leaks
- · Super tough nylon hand guard

#### Features (cont.)

- Easy to change 'locknut style' spout assembly
- · With trigger hold-open clip

#### **Approval**

· Non Underwriters Listed nozzle



DFN100HF



DFN100SF

#### **Approximate Female Approximate Scuff Guard Spout** Intended **Flow Rate NPT** Part # Size Service @ 20 PSI Weight Lbs. Color Inlet (GPM) 35 DFN100HF 1" 1-3/16" diesel 3-1/2 green 45 DFN100SF

## **DEF Automatic Shutoff Nozzles**

#### **Application**

 Designed for diesel exhaust fluid, aluminum body double coated inside and out with PTFE baked on at 500°F (260°C)

#### **Materials**

- · Spout: stainless steel
- · Wetted parts: stainless, acetal, PTFE
- · Seals are FKM-A

BSPP Inlet	Spout Size	Intended Service	Approximate Flow Rate @ 20 PSI (GPM)	Approximate Weight Lbs.	Scuff Guard Color	Part #
3/4"	13/16"	diesel	30	3-1/2	blue	DEFN075







#### **Application**

 Tough, reliable and easy to operate automatic nozzle for fueling trucks, buses, off-road equipment and fuel oil delivery



· Lightweight Tenzaloy aluminum casting

#### **Specification**

- · Good flow rating of 75 GPM at 30 PSI
- Replaces 1124D and 1144D

Female NPT Inlet	Spout Size	Intended Service	Approximate Flow Rate @ 30 PSI (GPM)	Approximate Weight Lbs.	Part #
1 1 / 4"					DNOG5-NL <sup>1</sup>
1-1/4"	1-3/8"	diesel	75	6-7/8	DNOG5
1-1/2"					DNOG6

<sup>&</sup>lt;sup>1</sup> The DNOG5-NL is a 1-1/4" nozzle without the locking handle

## **Replacement Nozzles**

Replacement for	Description	Part #
DNOG6	spout assembly with O-ring for fueler; nut not included	SF1N
	nut for DNOG6	NUT-106

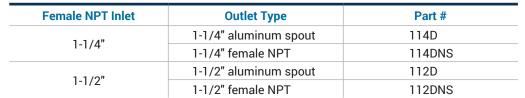
## **Pressure Nozzles for Bulk Delivery**

#### **Features**

- · Easy opening dash pot design with shock-less closing
- Available with or without an aluminum spout (brass spouts optional)
- · Detachable and replaceable trigger ratchet



• High flow design, 1-1/2" nozzle (112D) provides 100 GPM flow at approx 10 PSI



### **Replacement Spouts**

Male NPT Size	Description	Part #
1-1/4"	replacement aluminum spout	1143A
1-1/4	optional brass spout	1143B
1-1/2"	replacement aluminum spout	1125A
Female NPT inlet: 1-1/2", outlet type: 1-1/4"	1-1/2" spout crimped to 1-1/4"	1125A-125NPT
1-1/2"	optional brass spout	1125B

NOTE: See page 144-145 for repair kits and replacement parts



112D



112DNS



## **Large Capacity Low Pressure Gravity Nozzle**

Female NPT Inlet	<b>Outlet Type</b>	Part #
1-1/4"	1-1/4" aluminum spout	1250-94

NOTE: See page 146 for repair kits and replacement parts

## **Ball Nozzles for Bulk Delivery**

#### Application

 Ball nozzles have a very high flow rate and low pressure drop and are ideal for bulk oil and fuel deliveries, they are basically a full port ball valve with an inlet swivel and outlet spout

#### **Features**

- Full 1" flow path through the ball is computer designed and higher than any known competitors, which results with very low pressure drop permitting higher flow rates at lower pressure, reducing foaming or product backups
- Unique swivel design permits leak-free service, even at temperatures as low as -40°F (-40°C) at 100 PSI
- · Comes standard with 3 PSI check valve, helps ensure residual fuels within the delivery hose and nozzle are contained (optional 5 PSI check valve kit is available, order field replaceable kit BL-RK11 for 1-1/4" and 1-1/2" ball nozzles, and kit BL-RK112 for 2" super ball nozzles)
- · Available with field replaceable outlet spout or guick fill swivel nut

#### **Materials**

• Black anodized aluminum main body, with aluminum spout, polished stainless steel handle and latch, Bayloy inlet swivel, hardened carbon steel swivel ball race, through hardened chrome steel ball bearings, nitrile rubber and PTFE seals, acetal valve seat and stainless steel valve ball

#### **Specification**

· Manufactured to connect to NPT threaded hose connections

NOTE: All fuels contain additives, which vary by fuel brand and season. Please contact Dixon® with a list of all additives and we will advise of any known compatibility issues



DI 073



DLOZONO





BLUTZ	BLUTZINS	BL002/BL0	04 BL920
Female NPT Swivel Inlet		Outlet Type	Part #
		I CII .	DLOCO

Female NPT Swivel Inlet	Outlet Type	Part #
	quick fill nut	BL062
1-1/4"	1-1/4" aluminum spout	BL066
	1-1/4" female NPT	BL066NS
	1-1/4" aluminum spout	BL068
	1-1/4" female NPT	BL068NS
1 1 (0)	quick fill nut	BL064
1-1/2"	1-1/2" aluminum spout	BL072
	1-1/2" female NPT	BL072NS
	2" aluminum spout	BL918
0.11	1-1/2" aluminum spout	BL919
2"	2" aluminum spout	BL920

### **Replacement Spouts and Quick Fill Swivel Nuts**

The state of the s			
Male NPT Size	Description	Part #	
	replacement aluminum spout	1143A	
1-1/4"	replacement brass spout	BLS125	
	bronze quick fill nut adapter for BL066NS and BL068NS	BL002	
	replacement aluminum spout	1125A	
1-1/2"	replacement brass spout	BLS150	
	bronze quick fill nut adapter for BL072NS	BL001	
2"	replacement aluminum spout	391137	
	replacement bronze quick fill nut adapter for BL062 and BL064	BL005	



BL002

NOTE: See pages 149-152 for repair kits and replacement parts



## **Standard Low Pressure Gravity Utility Nozzles**

#### **Application**

 These delivery nozzles are manual operation (do not have an automatic flow shut off) ideally suited for low pressures (maximum 25 PSI) such as agricultural and 12 volt truck utility pumps, or gravity flow applications

#### **Features**

- · Rugged design
- · Good flow rating, provides 95 GPM flow at approximately 20 PSI
- Choice of 3/4" or 1" inlets, and a variety of outlets and spouts

#### Materials

• Die cast zinc body, plated steel trigger and aluminum spout, nitrile rubber seals

#### **Specifications**

· Manufactured to connect to NPT threaded hose connections

NOTE: All fuels contain additives which can vary by fuel brand and season. Please contact Dixon® with a list of all additives and we will advise of any known compatibility issues



Female NPT Inlet	Outlet Type	Part #
0.74".1	3/4" straight spout	900S34
3/4" ¹	3/4" bent spout	900B34
	1" UNS female thread (nozzle body only)	900
1"	3/4" straight spout	900W34S
	3/4" bent spout	900W34B
	1" straight spout	900S
	1" bent spout	900B

<sup>&</sup>lt;sup>1</sup> Nozzles with 3/4" female NPT inlet, use a steel bushing to achieve 3/4" female NPT inlet

### **Replacement Spouts**



neplacement opouts	
Description	Part #
3/4" replacement straight spout	234-80-4
3/4" replacement bent spout	234-80-5
1" replacement straight spout	875-4
1" replacement bent spout	875-5

## **Male x Female NPT Nozzle Swivels**

#### **Sizes**

- 3/4" and 1"
- 1-1/4" to 2"

#### **Materials**

- Aluminum body, brass hex nut, FKM/nitrile rubber seals, nylon cord retainer
  Bayloy body, hardened carbon steel swivel ball race, through hardened chrome steel ball bearings, nitrile rubber and PTFE seals

#### **Specifications**

- 150 PSI maximum rating
- Manufactured to connect to NPT threaded hose and nozzle connections

Size	Description	Part #
3/4"		DAWS34
1"	male NPT x female NPT	DAWS10
1-1/4"		SWMF125
1-1/2"		SWMF150
2"		SWMF200



SWMF150

NOTE: All fuels contain additives which can vary by fuel brand and season. Please contact Dixon® with a list of all additives and we will advise of any known compatibility issues

#### Male NPT x Hose Shank Swivel

Size	Description	Part #
1-1/2"	male NPT x hose shank, nitrile rubber seal	1565U



NOTE: See page 148 for repair kits and replacement parts

1565U



## **Breakaways**

#### **Application**

• Provides breakaway protection for high capacity fueling operations such as truck and bus terminals, mining, off-road fueling and fuel oil delivery



DAB34 (4)

#### **Features**

- Nitrile rubber seals
- · Unique ball valves seal both ends when separated
- · Design provides consistent and reliable performance
- Lightweight
- Easy to repair
- 3/4" is Underwriter's Listed

#### Material

Aluminum body

Size	Number of Brass Break Rings	Separation Force (lbs)	Part #
3/4"	0	325	DAB34
1"	2	325	DAB1

### **Application**

 Provides breakaway protection for high capacity fueling operations such as truck and bus terminals, mining, off-road fueling and fuel oil delivery

#### **Features**

- FKM/nitrile rubber seals
- · Check valve, PTFE ball seals both ends when separated

## Material

· Nickel plated aluminum body

Size	Number of Brass Break Rings	Separation Force (lbs)	Part #
1-1/4"	4	500	DAB14
1-1/2"	4	600	DAB15
2"	6	800	DAB2



DAB15

## **Automatic Pressure/Vacuum Relief Caps for Stationary Tanks**

#### Application

These caps are threaded into the top of stationary (non-mobile) above ground fuel storage tanks, where they serve two
purposes: a) They can be used as a thread in and lockable fuel filler cap. b) They protect the tank from expansion or
implosion, the internal relief valve is normally closed, but opens to relieve internal pressure or vacuum

#### **Features**

- Normally closed vent stops fuel evaporation and airborne contaminants
- Protects tank from pressure or vacuum build-up.
   Relieves pressure at 2 PSI and vacuum at 0.7 HG at a rate of 20 SCFM
- · Can be used as a fuel filler cap
- · Padlockable to prevent fuel theft and tampering

#### **Materials**

· Die cast zinc body, brass screen

#### **Specifications**

Manufactured to thread into both NPS and NPT tank openings

Male NPT	Part #
2"	2000L
2-1/2"	2500L

NOTE: Not intended for use on mobile tanks. To ensure that the cap can properly vent, the vent cap must be kept free of any debris i.e. dirt, snow, ice, rags etc.



2500L

## **Standard Vent Caps for Stationary Tanks**

#### **Features**

- Always open vent
- · Protects tank from pressure or vacuum build-up
- · Can be used as a fuel filler cap

Male NPS	Part #
2-1/2"	2500SFV

NOTE: Not intended for use on mobile tanks. To ensure that the cap can properly vent, the vent cap must be kept free of any debris i.e. dirt, snow, ice, rags etc.





2500SFV

## **Automatic Pressure/Vacuum Relief Caps for Mobile Tanks**

#### Features

- Normally closed vent, stops fuel evaporation and airborne contaminants
- Protects tank from pressure or vacuum build-up. Relieves pressure at 7.5-9 PSI and vacuum at .33 HG
- · Can be used as a fuel filler cap
- · Padlockable to prevent fuel theft and tampering

Male NPS	Part #
2"	200-PV-9

NOTE: To ensure that the cap can properly vent, the vent cap must be kept free of any debris i.e. dirt, snow, ice, rags etc.





200-PV-9



## **Dixon® Cam & Groove Styles**



#### Dixon

#### **Features**

- · Precision machined to rigid tolerances
- Durable stainless steel cam arm pins will not rust or bind, providing greater strength and safety
- Recess holds gasket firmly in place ensures proper placement
- · Long shank design allows proper banding, thus eliminating the major cause of hose damage



#### **Dixon Global**

#### **Features**

- Interchanges with all products produced to A-A-59326D
- · All couplers include locking safety clip
- · Aluminum couplers available with brass or stainless steel cam arms
- Brass fittings are produced by forging process providing greater structural integrity and mechanical strength



#### **Boss-Lock**

## Features

- The cast-in lugs allow safety clips to be attached once the lugs are passed through slots in the special cam lever arms, providing a patented safety feature. The clips prevent the coupler from being unlocked until they are removed, providing a positive locking action.
- Boss-Lock investment stainless steel cam arms are guaranteed! Should you break a
  Boss-Lock investment stainless steel cam arm, return it to the nearest warehouse for a
  free replacement.
- The pull ring safety clip simplifies the locking action on Boss-Lock couplers. No more inserting clips or dangling lanyards, just a twist and it's locked, giving you a low-profile positive locking action.



#### **EZ Boss-Lock**

#### **Features**

- No more fumbling with clamps, wire, clips, or pins, just close the handles and the locking mechanism is engaged
- Extremely easy to open, the release lever is under your thumb when you want to open the fitting; ergonomic
- Can be supplied with custom shanks; also available with swaged and PF shanks for hard-tocouple chemical hoses
- EZ Boss-Lock investment stainless steel cam arms are guaranteed! Should you break one, return it to the nearest warehouse for a free replacement.

## **Dixon® Cam & Groove Styles**

#### **Vent-Lock® Safety**

#### **Features**

- Safety release cam & groove couplings permit the release of static pressure when disconnecting hose assemblies
- Venting system protects operator from being sprayed with hazardous or non-hazardous fluids or solids
- Does not interchange with standard cam & groove products; use only with Vent-Lock L-style fittings





### **Venting EZ Boss-Lock**

#### **Features**

- Unique Dixon system for safely venting systems under pressure
- Utilizes EZ Boss-Lock cam arms in addition to EZLink® tabs that create a secondary positive locking mechanism
- · Connects to standard cam & groove adapters
- Design allows for a more ergonomic and safe experience for user



## **EZLink® Armless**

#### **Features**

- Automatic couplers push-to-connect, providing a reliable connection
- Coupler tabs cannot be pushed to disconnect when pressurized to 20 PSI or over
- · Low profile allows easy connection and disconnection in tight applications
- · Coupler push tabs can be locked with safety pins and/or zip tie



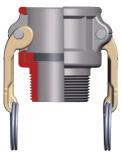


## **Cam & Groove Configurations**

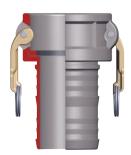
Configurations are representative of the Dixon® line of cam & groove.



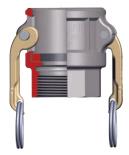
**Type A** adapter x female NPT



**Type B** coupler x male NPT



**Type C** coupler x hose shank



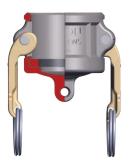
**Type D** coupler x female NPT



**Type E** adapter x hose shank



**Type F** adapter x male NPT



Type DC<sup>1</sup> dust cap



Type DP<sup>1</sup> dust plug

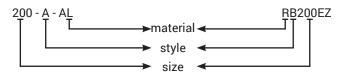


<sup>1</sup> Dust caps and dust plugs are not to be used in pressure applications for safety and environmental reasons.

## **AWARNING**

Under no circumstances should cam & groove couplings be used for compressed air or steam service!

## **Ordering System**



Size represents the coupler or adapter and hose or pipe end (i.e. 200 = 2"). If the coupling is a jump size, the coupler or adapter is the first size (i.e. 4030-C is 4" coupler to 3" hose shank).

## **Operation of Cam & Groove**

- 1. To make connection, slide the adapter into the coupler and, with normal hand pressure, press the cam levers down.
- 2. Uncoupling is as quick and simple as coupling. Just lift the cam arms and remove the adapter.

## **Specifications on Dixon® Cam & Groove**

#### **Specifications**

- Dixon, Boss-Lock, and EZ Boss-Lock cam & groove couplers and adapters are produced to interchange with all product produced to Commercial Item Description A-A-59326D.
- No standard exists for the 1/2", 5", and 8" fittings, and generally these sizes do not interchange with other manufacturers' products.
- Dust caps and dust plugs are **not** to be used in pressure applications for safety and environmental reasons.
- Designed for use with liquids; consult Dixon for specific recommendations.

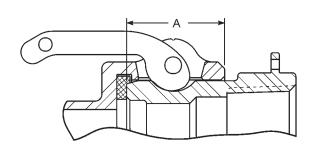
#### **Pressure Ratings**

Recommendations based on the use of mating Dixon fittings at ambient temperature **70°F (21°C)** with standard nitrile rubber seal installed. For use at elevated temperature or other unusual operating conditions, consult Dixon. Dixon, Boss-Lock, and EZ Boss-Lock couplers' and adapters' maximum working pressures are as follows:



Size	1/2"	3/4" thru 2"	2-1/2"	3"	4"	5" and 6"	8"
PSI	150	250	150	125	100	75	50
PSI (working pressure with King Crimp® ferrule system)	150	250	150	150	150	75	50

## Cam & Groove Nominal Take-Up Lengths



<b>Coupling Size</b>	Dimension A
1/2"	0.97"
3/4"	0.97"
1"	1.20"
1-1/4"	1.44"
1-1/2"	1.50"
2"	1.81"
2-1/2"	1.82"
3"	1.78"
4"	1.84"
5"	2.00"
6"	2.13"
8"	2.06"
8"	3.22"

NOTE: For more information on sizes and styles see Dixon Product List 2022



## FloTech® Overfill Detection System



All FloTech electronics manufactured after January 1, 2015 are covered by our 5 year warranty.

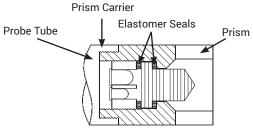
#### FloTech® Overfill Detection Products

#### Application

 The overfill detection system used on petroleum cargo tanks typically consists of a sensor mounted in each tank compartment, an onboard monitor located near the bottom loading valves and an API compatible socket. The overfill system is intended to detect a pending overfill condition inside the cargo tank compartment and signal the loading rack to close the fuel supply control valve, to prevent a spill of product. These systems are required by law as part of the bottom loading system and considered a secondary emergency shut off device. The overfill system is typically triggered when the primary metering system fails to load the cargo tank compartment with the correct volume of product

#### **Features**

- Knowledge and experienced design: Dixon® electronic staff are seasoned veterans when it comes to overfill systems. Our employees have years of experience in electronics, manufacturing and most important, with in-the-field trouble shooting of overfill terminal and tanker installations. That is why we have focused on easy, drop-in replacement features with improved probe life, and why we have included heavy duty hardware made from premium, corrosion resistant materials
- Trouble free probes and sensors: FloTech brand probes/sensors do not use epoxy bonded prisms as a means to seal the prism. Therefore, they are not subject to malfunction due to epoxy/prism interface separation. FloTech brand probes/ sensors incorporate a double elastomer design which seals and secures the sensitive optic prism tip. The elastomer seals are flexible allowing thermal expansion and resistance to steam cleaning and petroleum chemical attack



- · "Best in Class" technical support: Our goal is to provide the most reliable overfill components and system available on the market today. Over the years the FloTech brand has earned a reputation for reliable overfill components compatible with other common systems. Don't take our word on this; ask one of our many customers!
- Easy Installation: FloTech brand items are shipped with easy to follow installation instructions and manuals (also available online at dixonvalve.com under the Resources menu, select Petroleum and Dry bulk products). If you need a little extra help call our North American toll free technical service hot line at 877.582.3569 (or from other parts of the world, dial 001-513-874-8499). In fact, call us with any overfill system questions (regardless of the brand) and we will work with you to help solve the problem. FloTech brand components are manufactured to be installed easily, even on other systems. We designed them to be drop-in compatible with API systems being used around the world
- Products in stock, delivered on time: FloTech brand products are stocked at Dixon locations throughout the world. Most orders can be processed and delivered within 24 hours. We know that downtime costs you money so we do everything we can to ensure you receive your parts when you need them
- A great product with an unparalleled warranty: FloTech brand products are covered by a five year limited warranty. The warranty is part of the total system that makes FloTech overfill detection the best choice for your operation. See limited warranty on the inside back cover for details
- Biofuel compatible: up to E100 (100% ethanol) and B100 (100% biodiesel). For detailed fuel compatibility, please refer to the chart shown on page 3
- Probes are rated to 36 PSIG per 49 CFR 178.345-5 temperature range -40°F (-40°C) to 160°F (71°C) refractive index range 1.37 to 1.60 viscosity less than 1000 SSU

#### **Materials**

Dependent upon the component, see each product section for materials

#### **Specifications**

 Manufactured to American Petroleum Institute standard API RP-1004, which allows for drop in interchange ability with other brands

> Biofuel compatible, see fuel compatibility chart on page 3 for more information Product instruction sheets and technical data can be viewed on our website at dixonvalve.com





## FloTech® Checkmate Overfill/Retain Plug-n-Play System



#### **Application**

The reason for many overfill system breakdowns is failed or poor wiring connections. The required amperage within the overfill system is so low that any poorly wired or corroded wiring connections tend to fail (the low current cannot pass through corrosion or poor connections). To remove the possibility of wiring system problems, Dixon® has introduced the FloTech Plug-n-Play system, all the wire connections are prewired and tested at the factory using high quality weather proof cables and plugs. Plug-n-Play system installation takes a fraction of the time to install when compared to conventional systems, just mount all the components and simply plug them all together

- Prewired cables and plugs on sensors, wiring harnesses, onboard Dependent upon the component, see each product monitor and sockets, make it simple to install our Plug-n-Play system in much less time than conventional systems
- Secure and weather tight connections all the time remove the possibility of poor wiring connections. Sealed connectors pass IP67 and DIN40050 salt spray tests
- · Easy installation: literally Plug-n-Play, just mount the components and plug them all together
- Biofuel compatible up to E100 (100% ethanol) and B100 (100% biodiesel)

section for materials

#### **Specification**

 Manufactured to American Petroleum Institute standard API RP-1004, which allows for interchangeability

## **Monitors with Integrated Dual Sockets**

#### **Features**

- · Integrated optic and thermistor dual sockets with onboard monitor all in one aluminum case
- Takes less space than utilizing separate sockets and monitor
- Prewired and factory tested with Plug-n-Play cabling and plugs, eliminates hours of manual crimped wire connections and removes the problems and worries associated with connection problems
- Includes water-tight integrated fuse holder, all stainless steel hardware and terminal blocks prevent corrosion
- Built-in configurable high current relay output for pump or signal control
- Color coded display shows well on trailers
- Sockets come standard with Flotech unique guaranteed for life stainless steel wear rings

## **Available Integrated Options:**

- Top (overfill) only monitoring, or both top (overfill) and bottom (retain) monitoring
- Pre-wired ground bolt
- Pre-wired pressure sensor which can be used to interlock brakes or vapor vents
- Pre-wired Trailer Identification Module
- Pre-wired dual male pin power cord

		n-Play ections		Availa	able Acces	sories Installe	ed	Soc	kets
Part #	Top Overfill Detection	Bottom Retain Detection	Ground Bolt	Pressure Sensor Switch	Trailer ID Module	Dual Male Pin-Power Cord	Stainless Steel 'Guaranteed for Life' Wear Rings		Thermistor
FT208-390							✓		10 contact pins, 4 J-slots
FT208-390G			✓				✓	5 contact	
FT208-390GS			1	1			✓	pins,	
FT208-390GST			1	1	✓		1		
FT208-390GT			1		<b>✓</b>		✓		







# FloTech® Checkmate Overfill/Retain Plug-n-Play System Monitors with Integrated Dual Sockets (continued)



		n-Play ections		Avai	lable Acces	ssories Installe	d	Soc	kets
Part #	Top Overfill Detection	Bottom Retain Detection	Ground Bolt	Pressure Sensor Switch	Trailer ID Module	Dual Male Pin-Power Cord	Stainless Steel 'Guaranteed for Life' Wear Rings		Thermistor
FT208-390P	1						1		
FT208-390PG	1		1				✓		
FT208-390PGS	1		1	1			1		
FT208-390PGST	1		1	✓	1		✓		
FT208-390PGT	1		1		1		✓		10 contact pins, 4 J-slots
FT208-390PGS0	1		1	1		✓	✓	5 contact pins, 3 J-slots	
FT208-390PGST0	1		1	1	✓	✓	✓		
FT208-390PP	1	✓					✓		
FT208-390PPG	1	✓	1				✓		
FT208-390PPGS	1	✓	1	1			✓		
FT208-390PPGST	1	✓	1	1	1		✓		
FT208-390PPGT	1	✓	✓		1		✓		
FT208-390PPGS0	✓	✓	✓	✓		✓	✓		
FT208-390PPGSTO	1	✓	✓	✓	1	✓	✓		
FT208-391P	1						✓		
FT208-391PG	1		1				✓		
FT208-391PGS	1		✓	✓			✓		
FT208-391PGST	1		1	1	✓		✓		
FT208-391PGT	1		1		1		✓		10 contact
FT208-391PP	1	✓					✓	pins, 4 J-slots	pins 4 J-slots
FT208-391PPG	1	✓	✓				✓		
FT208-391PPGS	1	✓	✓	1			✓		
FT208-391PPGST	1	✓	1	1	1		✓		
FT208-391PPGT	1	✓	1		1		1		

NOTE: See pages 153-155 for repair kits and replacement parts

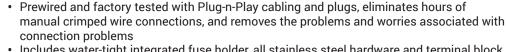


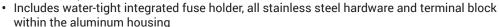


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## FloTech® Checkmate Overfill/Retain Plug-n-Play System Stand Alone Monitors

#### **Features**





- High tech color-coded display shows well on trailers
- Monitors include advanced diagnostic capabilities as well as signal translation abilities for all socket types (optic, thermistor or float). The system offers true load at any rack compatibility



• Top (overfill) only monitoring, or both top (overfill) and bottom (retain) monitoring



monitor

ALAM DITERACE

FT295

Part #	Checkmate Monitor with Plug-N-Play Connectors
FT208P	top overfill protection only
FT208PP	top overfill and bottom retain detection
FT208PPC	top overfill and bottom retain detection, for Canadian 'b' trains
FT208PSS	dual pressure switches
FT208LCM	checkmate load control monitor
FT295	alarm interface module assembly

NOTE: See page 155 for repair kits and replacement parts

#### **Stand Alone Socket Assemblies**

#### **Features**

- Pre-wired and factory tested with Plug-n-Play cables and plugs, eliminates hours of manual crimping, and removes the problems and worries associated with connection problems
- Aluminum housings, with either aluminum hardcoat or stainless steel wear rings, stainless steel contact pins
- · Dual and triple socket assemblies take less space than multiple single sockets

### **Available Integrated Options:**

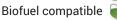
- Pre-wired internal ground wire (dual or triple socket assemblies)
- Pre-wired Trailer Identification Module (dual or triple socket assemblies)
- FT300P and FT301P sockets are available with Flotech unique guaranteed for life stainless steel wear rings as options. Plug-n-Play dual and triple sockets come standard with guaranteed for life stainless steel wear rings



FT390PG-20

Part #	Socket	API Optic	Thermistor	Optic J560	Internal Ground Wire
FT300P	single socket	5 contact pins and 3 J-slot			
FT300PG	single socket	5 contact pins and 3 J-slot			✓
FT300GT	API optic socket with cap,	ground wire and TIM to the s	ingle sockets with aluminum	n hardcoat J	-slot section
FT301P	single socket		8 contact pins and 4 J-slot		
FT306P	single socket			✓	
FT390PG-20 <sup>1</sup>	dual socket, 20' cable	5 contact pins and 3 J-slot	10 contact pins and 4 J-slot		1
FT390PGT-20	dual socket, 20' cable				1
FT394P <sup>1</sup>	triple socket	5 contact pins and 3 J-slot	10 contact pins and 4 J-slot	1	
FT394PG <sup>1</sup>	triple socket	5 contact pins and 3 J-slot	10 contact pins and 4 J-slot	✓	1
FT394VP <sup>1</sup>	triple socket vertical arrangement	5 contact pins and 3 J-slot	10 contact pins and 4 J-slot	✓	
FT394VPG <sup>1</sup>	triple socket vertical arrangement	5 contact pins and 3 J-slot	10 contact pins and 4 J-slot	✓	✓
FT395P-20 <sup>2</sup>	triple socket, 20' cable	5 contact pins and 4 J-slot	10 contact pins and 4 J-slot	✓	
FT395PG-20 <sup>2</sup>	triple socket, 20' cable	-	10 contact pins and 4 J-slot		1
FT391P-20	dual socket, 20' of Plug-n-Play cable, 4 J-slot				
FT391PG-20	dual socket, 20' of Plug-n-Play cable, 4 J-slot, internal ground wire				

NOTE: See pages 156-161 for repair kits and replacement parts



<sup>&</sup>lt;sup>1</sup>, <sup>2</sup> Guaranteed for life stainless steel wear rings included (U.S. <sup>1</sup>, Canada <sup>2</sup>)

## FloTech® Checkmate Overfill/Retain Plug-n-Play System Overfill Sensors

#### **Features**

- Overfill detection sensors are intended to detect a pending overfill condition inside the fuel tank compartment. When they are wetted (come in contact with the fuel) they signal the fuel loading rack to close the fuel supply control valve, to prevent a spill of product
- Prewired and factory tested with Plug-n-Play cabling and plugs, eliminates hours of manual crimped wire connections, and removes the problems and worries associated with connection problems. Easy to install, just mount the housing into the tank and plug the cables together
- Trouble free probes: FloTech brand probes incorporate a double elastomer design which seals and secures the sensitive glass optic prism tip. The elastomer seals are flexible allowing thermal expansion and resistance to steam cleaning and petroleum chemical attack
- · Custom lengths available upon request
- The FT151P-Series sensor housing contains a Plug-n-Play probe in a cast aluminum housing. The sensor housing has a 2" NPT mounting thread, heavy duty stainless steel hardware, and FKM probe seal. Install into either a 2" NPT threaded port or a 2-3/8" diameter tank opening using the gasket and locking nut provided. All screws and rings are heavy duty stainless steel for easy assembly and long life



Part #	Description	Replacement Probes
FT151P	housing with 7" Plug-n-Play overfill detection probe, with Plug-n-Play harness connector	FT150P
FT151P-12	housing with 12" Plug-n-Play overfill detection probe, with Plug-n-Play harness connector	FT150P-12
FT151P-18	housing with 18" Plug-n-Play overfill detection probe, with Plug-n-Play harness connector	FT150P-18

NOTE: See page 162 for repair kits and replacement parts

#### **Retain Sensors**

#### **Features**

- Retain sensors inform the loading terminal if the tank compartments are empty, or if there is product left in the tank prior to re-loading the tank (product has been retained)
- Prewired and factory tested with Plug-n-Play cabling and plugs, eliminates hours of manual crimped wire connections, and removes the problems and worries associated with connection problems. Easy to install, just mount the housing into the tank and plug the cables together
- Trouble Free Probes: FloTech brand probes/sensors incorporate a double elastomer design
  which seals and secures the sensitive optic prism tip. The elastomer seals are flexible
  allowing thermal expansion and resistance to steam cleaning and petroleum chemical attack
- The FT152 sensor is a bottom retain detection sensor. Sensor is shipped with a 1/2" NPT weld-on aluminum half coupling for mounting. The main sensor portion is stainless steel to prevent galling in the tank. The wiring box is plastic to prevent corrosion



Part #	Description
FT152P	housing with Plug-n-Play retain probe, with Plug-n-Play harness connector

NOTE: See page 163 for repair kits and replacement parts





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## FloTech® Checkmate Overfill/Retain Plug-n-Play System Wiring Harnesses



#### **Features**

- Pre-wired and factory tested with Plug-n-Play cabling and plugs, eliminates hours of
  manual crimped wire connections, and removes the problems and worries associated with
  connection problems. Easy to install, just mount all the components (sensors, sockets,
  monitors) onto the tank and plug them into the pre-configured harness
- Plug-n-Play cable harnesses come pre-configured for the type of tank (truck mounted tanks
  or for full length tank trailers) the number of tank compartments, standard harnesses have
  been designed to fit most standard tank configurations
- · Custom length harnesses are available
- Secure and weather tight connections all the time, remove the possibility of poor wiring connections. Sealed connectors pass IP67 and DIN40050 salt spray tests

### Overfill Detection Plug-n-Play Cable Harnesses for Full Length Tank Trailers

Part #	Description
FT20801	one compartment tank trailer. Overfill detection (top) cable harness with Plug-n-Play connections
FT20802	two compartment tank trailer. Overfill detection (top) cable harness with Plug-n-Play connections
FT20803	three compartment tank trailer. Overfill detection (top) cable harness with Plug-n-Play connections
FT20804	four compartment tank trailer. Overfill detection (top) cable harness with Plug-n-Play connections
FT20805	five compartment tank trailer. Overfill detection (top) cable harness with Plug-n-Play connections
FT20806	six compartment tank trailer. Overfill detection (top) cable harness with Plug-n-Play connections

## Retain Detection Plug-n-Play Cable Harnesses for Full Length Tank Trailers

Part #	Description
FT20801S	one compartment tank trailer. Retain (bottom) cable harness with Plug-n-Play connections
FT20802S	two compartment tank trailer. Retain (bottom) cable harness with Plug-n-Play connections
FT20803S	three compartment tank trailer. Retain (bottom) cable harness with Plug-n-Play connections
FT20804S	four compartment tank trailer. Retain (bottom) cable harness with Plug-n-Play connections
FT20805S	five compartment tank trailer. Retain (bottom) cable harness with Plug-n-Play connections
FT20806S	six compartment tank trailer. Retain (bottom) cable harness with Plug-n-Play connections

### Overfill Detection Plug-n-Play Cable Harnesses for Truck Mounted Tanks

Part #	Description
FT20801TWS	one compartment truck mounted tank. Overfill detection (top) cable harness with Plug-n-Play connections
FT20802TWS	two compartment truck mounted tank. Overfill detection (top) cable harness with Plug-n-Play connections
FT20803TWS	three compartment truck mounted tank. Overfill detection (top) cable harness with Plug-n-Play connections
FT20804TWS	four compartment truck mounted tank. Overfill detection (top) cable harness with Plug-n-Play connections
FT20805TWS	five compartment truck mounted tank. Overfill detection (top) cable harness with Plug-n-Play connections
FT20806TWS	six compartment truck mounted tank. Overfill detection (top) cable harness with Plug-n-Play connections

#### **Monitor to Harness Extensions**

Part #	Description
FT20800-EXT-2FT	2' monitor to harness extension
FT20800-EXT-8	8' monitor to harness extension
FT20800-EXT-25	25' monitor to harness extension
FT20800-EXT-36	36' monitor to harness extension

## FloTech® Checkmate Overfill Detection (Black and White 2 Wire) Systems (Top Detection Only)

#### **Features**

- FloTech brand overfill system kits provide everything needed to install a new overfill system on your tank. One to eight
  compartment kits are available from our inventory. Systems include: 1 FT208 monitor, 1 FT151 overfill sensor per
  compartment, FT404 cable and FT402 strain reliefs (cable glands)
- · Other probe lengths are available

	3
Part #	Description
FT2801	checkmate, 1 compartment system (top only)-7" probes
FT2802	checkmate, 2 compartment system (top only)-7" probes
FT2803	checkmate, 3 compartment system (top only)-7" probes
FT2804	checkmate, 4 compartment system (top only)-7" probes
FT2805	checkmate, 5 compartment system (top only)-7" probes
FT2806	checkmate, 6 compartment system (top only)-7" probes
FT2807	checkmate, 7 compartment system (top only)-7" probes
FT2808	checkmate, 8 compartment system (top only)-7" probes
FT2801-12	checkmate, 1 compartment system (top only)-12" probes
FT2802-12	checkmate, 2 compartment system (top only)-12" probes
FT2803-12	checkmate, 3 compartment system (top only)-12" probes
FT2804-12	checkmate, 4 compartment system (top only)-12" probes
FT2805-12	checkmate, 5 compartment system (top only)-12" probes
FT2806-12	checkmate, 6 compartment system (top only)-12" probes
FT2807-12	checkmate, 7 compartment system (top only)-12" probes
FT2808-12	checkmate, 8 compartment system (top only)-12" probes



NOTE: Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers

## FloTech Checkmate Overfill Detection (Black and White 2 Wire) Systems (Top and Bottom)

#### **Features**

- FloTech brand overfill system kits provide everything needed to install a new overfill system on your tank. One to eight compartment kits are available from our inventory. Systems include: (1) FT208 monitor, (1) FT151 overfill sensor and (1) FT152 retain sensor per compartment, FT404-150 cable and FT403 strain reliefs (cable glands)
- Other probe lengths are available

Part #	Description
FT2811	checkmate, 1 compartment system (overfill and retain)-7" probes
FT2812	checkmate, 2 compartment system (overfill and retain)-7" probes
FT2813	checkmate, 3 compartment system (overfill and retain)-7" probes
FT2814	checkmate, 4 compartment system (overfill and retain)-7" probes
FT2815	checkmate, 5 compartment system (overfill and retain)-7" probes
FT2816	checkmate, 6 compartment system (overfill and retain)-7" probes
FT2817	checkmate, 7 compartment system (overfill and retain)-7" probes
FT2818	checkmate, 8 compartment system (overfill and retain)-7" probes
FT2811-12	checkmate, 1 compartment system (overfill and retain)-12" probes
FT2812-12	checkmate, 2 compartment system (overfill and retain)-12" probes
FT2813-12	checkmate, 3 compartment system (overfill and retain)-12" probes
FT2814-12	checkmate, 4 compartment system (overfill and retain)-12" probes
FT2815-12	checkmate, 5 compartment system (overfill and retain)-12" probes
FT2816-12	checkmate, 6 compartment system (overfill and retain)-12" probes
FT2817-12	checkmate, 7 compartment system (overfill and retain)-12" probes
FT2818-12	checkmate, 8 compartment system (overfill and retain)-12" probes



NOTE: Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers



## FloTech® Checkmate Overfill/Retain (Black and White 2 Wire) System **Replacement Parts**

#### **Checkmate Onboard Monitors**

- Easy to follow programming guide for up to eight compartments top only or top and bottom service with the same monitor
- Monitor can be programmed up to 100,000 times without sending it back to the factory
- Stainless steel terminal blocks resist rusting of contacts
- Stainless steel hardware is used on all products
- Powder coated color matched components for exceptional appearance
- Auxiliary input for Hobbs type switches
- · Power control relay output
- Drop-in compatibility with competitors products, see compatibility chart on pages 76-79
- Wide input power 12-24 VDC
- · Monitors include advanced diagnostic capabilities as well as signal translation abilities for all socket types (optic, thermistor or float). The system offers true load at any rack compatibility

#### **Available integrated options**

Optional FloTech feature (patent pending) is only available on checkmate model onboard monitors. Data Link™ gives maintenance staff the ability to download the performance and diagnostic history of the overfill system. Plug the FloTech hand-held diagnostic terminal, into the checkmate monitor and download to your PC. A time and date stamped report is generated, showing the history of every wetted or failed sensor, rack connection, auxiliary input and load/unload data



FT208

Part #	Description
FT208	checkmate programable monitor and housing
FT207	checkmate programable replacement monitor only (no housing)

NOTE: See page 168 for repair kits and replacement parts Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers

#### **Overfill Detection Sensors**

#### **Features**

- The FloTech thermo-optic 2 wire probe is electronically and mechanically compatible for drop-in replacement of other commonly used 2-wire probes with black and white wires. Providing the fast response and reliability of optic technology in a thermistor application
- Custom probe lengths available upon request
- The sensor housing contains a black and white 2 wire probe in a cast aluminum housing. The sensor housing has a 2" NPT mounting thread, heavy duty stainless steel hardware, and FKM probe seal. Install into either a 2" NPT threaded port or 2-3/8" diameter tank opening using the gasket and locking nut provided



FT151

Part #	Description	Replacement Probes
FT151	housing with 7" black and white 2 wire overfill detection probe	FT150
FT151-12	housing with 12" black and white 2 wire overfill detection probe	FT150-12
FT151-18	housing with 18" black and white 2 wire overfill detection probe	FT150-18

#### **Retain Sensors**

#### **Features**

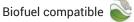
- Retain sensors inform the loading terminal if the tank compartments are empty, or if there is product left in the tank prior to re-loading the tank (product has been retained)
- Sensor is shipped with a 1/2" NPT weld-on aluminum half coupling for mounting. The main sensor portion is stainless steel to prevent galling in the tank. The wiring box is nylon to prevent corrosion and is removable to facilitate installation. Our three port housing design is compatible with previous in-line and parallel dual port housing



FT152

Part #	Description
FT152	housing with black and white 2 wire retain probe

NOTE: See page 165 for repair kits and replacement parts



## FloTech® ROM Type Overfill Detection (Red and Black 2 Wire) Systems (Top Detection Only)

#### **Features**

- FloTech brand overfill system kits provide everything needed to install a new overfill system on your tank. One to six compartment kits are available from our inventory. Systems include: 1 FT204P monitor, 1 FT202 overfill sensor per compartment, FT401 (100') cable and FT402 (20 pieces) strain reliefs (cable glands). Sockets, inline fuse, and instruction booklet sold separately
- · Other probe lengths are available

Part #	Description
FT2101	ROM type, 1 compartment system (top only)-7" probes
FT2102	ROM type, 2 compartment system (top only)-7" probes
FT2103	ROM type, 3 compartment system (top only)-7" probes
FT2104	ROM type, 4 compartment system (top only)-7" probes
FT2105	ROM type, 5 compartment system (top only)-7" probes
FT2106	ROM type, 6 compartment system (top only)-7" probes
FT2101-12	ROM type, 1 compartment system (top only)-12" probes
FT2102-12	ROM type, 2 compartment system (top only)-12" probes
FT2103-12	ROM type, 3 compartment system (top only)-12" probes
FT2104-12	ROM type, 4 compartment system (top only)-12" probes
FT2105-12	ROM type, 5 compartment system (top only)-12" probes
FT2106-12	ROM type, 6 compartment system (top only)-12" probes



## FloTech ROM Type Overfill/Retain Detection (Red and Black 2 Wire) Systems (Top and Bottom)

#### **Features**

- FloTech brand overfill system kits provide everything needed to install a new overfill system on your tank. One to six compartment kits are available from our inventory. Systems include: 1 FT204P monitor, 1 FT202 overfill sensor, and 1 FT206 retain sensor per compartment, FT401 (100') cable and FT403 (30 pieces) strain reliefs (cable glands). Sockets, inline fuse, and instruction booklet sold separately
- · Other probe lengths are available

Part #	Description
FT2001	ROM type, 1 compartment system (overfill and retain)-7" probes
FT2002	ROM type, 2 compartment system (overfill and retain)-7" probes
FT2003	ROM type, 3 compartment system (overfill and retain)-7" probes
FT2004	ROM type, 4 compartment system (overfill and retain)-7" probes
FT2005	ROM type, 5 compartment system (overfill and retain)-7" probes
FT2006	ROM type, 6 compartment system (overfill and retain)-7" probes
FT2001-12	ROM type, 1 compartment system (overfill and retain)-12" probes
FT2002-12	ROM type, 2 compartment system (overfill and retain)-12" probes
FT2003-12	ROM type, 3 compartment system (overfill and retain)-12" probes
FT2004-12	ROM type, 4 compartment system (overfill and retain)-12" probes
FT2005-12	ROM type, 5 compartment system (overfill and retain)-12" probes
FT2006-12	ROM type, 6 compartment system (overfill and retain)-12" probes





## FloTech® ROM Type Overfill/Retain (Red and Black 2 Wire) System Replacement Parts

### **ROM Type Onboard Monitors**

#### Features

- · Easy to follow programming guide for up to six compartments top only or top and bottom service with the same monitor
- Monitor can be programmed up to 100,000 times without sending it back to the factory
- · As the monitor is programmed for the number of compartments, terminators are not required
- · Stainless steel terminal blocks resist rusting of contacts
- · Stainless steel hardware is used on all products
- Powder coated color matched components for exceptional appearance
- Auxiliary input
- Wide input power 12-24 VDC
- Drop-in compatibility with competitors products, see compatibility chart on pages 76-79
- Monitors include advanced diagnostic capabilities as well as signal translation abilities for all socket types (optic, thermistor or float). The system offers true load at any rack compatibility



Part #	Description
FT204P	FloTech ROM type programmable monitor and housing
FT203P	FloTech ROM type programmable replacement monitor only (no housing)
FT203P-SPEC	FloTech ROM type programmable replacement monitor with 8-hole cover (no housing or frame)

FT204P

NOTE: See page 167 for repair kits and replacement parts

#### **Overfill Detection Sensors**

#### **Features**

- Overfill detection sensors are intended to detect a pending overfill condition inside the fuel tank compartment. When they
  are wetted (come in contact with the fuel) they signal the fuel loading rack to close the fuel supply control valve, to prevent a
  spill of product
- The FloTech optic 2 wire probe is electronically and mechanically compatible for drop-in replacement of other commonly used 2-wire probes with red and black wires, such as the Civacon ROM system
- All FloTech brand probes are trouble-free probes they come with a unique dual elastomer seal for the glass optic prisms.
  The elastomer seals are flexible allowing thermal expansion and resistance to steam cleaning and temperature changes,
  along with resistance to petroleum chemical attack. The replacement probes have a smooth tapered tip design for easy
  replacement installation into the sensor housing without gasket damage
- · Custom probe lengths available upon request
- The sensor housing contains a red and black 2 wire probe, in a cast aluminum housing. The sensor housing has a 2" NPT mounting thread, heavy duty stainless steel hardware, and FKM probe seal. Install into either a 2" NPT threaded port or 2-3/8" diameter tank opening using the gasket and locking nut provided. All screws and rings are heavy duty stainless steel for easy assembly and long life



Part #	Description	Replacement Probes
FT202	housing with 7" red and black 2 wire overfill detection probe	FT201
FT202-12	housing with 12" red and black 2 wire overfill detection probe	FT201-12
FT202-18	housing with 18" red and black 2 wire overfill detection probe	FT201-18

NOTE: See page 164 for repair kits and replacement parts
Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers

FT202

## FloTech® ROM Type Overfill/Retain (Red and Black 2 Wire) System Replacement Parts

**Retain Sensors** 



#### **Features**

- The FT206 is a retain detection sensor shipped with a 1/2" NPT weld-on aluminum half coupling for mounting. The main
  portion is stainless steel to prevent galling in the tank. The wiring box is plastic to prevent corrosion and is removable to
  facilitate installation. The side ports come out of the same side (like the overfill sensors) to make wiring easier. The FT206
  is compatible with Civacon model 1000 and the Civacon ROM System. Our three port housing design is compatible with
  previous inline and parallel dual port housings
- Trouble free probes: FloTech brand probes/sensors incorporate a double elastomer design which seals and secures the sensitive optic prism tip. The elastomer seals are flexible allowing thermal expansion and resistance to steam cleaning and petroleum chemical attack

Part #	Description
FT206	housing with red and black 2 wire retain probe

NOTE: See page 165 for repair kits and replacement parts
Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers



## FloTech® FT151RL ROM Link™ Replacement Parts

#### **Application**

The FT151RL is designed to replace the complete ROM Link sensor assembly. Simply remove the Civacon sensor housing
from the manhole lid and install the FloTech FT151RL or FT151RL-12. Plug the FT151RL into the wiring harness using our
connector adapter and the change out is complete

#### **Features**

- Trouble free probes: FloTech brand probes incorporate a double elastomer design which seals and secures the sensitive glass optic prism tip. The elastomer seals are flexible allowing thermal expansion and resistance to steam cleaning and petroleum chemical attack
- Unlike our competitors, FloTech probes do not use internal coil cord connectors which consistently fail in moisture. All FloTech Plug-n-Play probes are prewired to our harness connector, which has proven itself in moisture
- FloTech sensor housings have a sturdy bolt on cap to better seal out water
- The FT151RL includes an adapter connector to permit interchange between Civacon's ROM Link system and the FloTech FT150RL sensor
- · Custom lengths available upon request
- The FT151RL sensor housing contains a Plug-n-Play probe. The sensor housing has a 2" NPT mounting thread, heavy duty stainless steel hardware, and FKM probe seal. Install into either a 2" NPT threaded port or a 2-3/8" diameter tank opening using the gasket and locking nut provided. All screws and rings are heavy duty stainless steel for easy assembly and long life

#### **Materials**

· Aluminum housing with stainless steel hardware

#### **Specification**

• Drop in replacement for the Civacon ROM Link sensors 1554-007 and 1554-0012



Part #	Description
FT151RL	housing with 7" Plug-n-Play overfill detection probe, with Plug-n-Play harness and ROM link jumper cable connector
FT151RL-12	housing with 12" Plug-n-Play overfill detection probe, with Plug-n-Play harness and ROM link jumper cable connector
FT152RL	retain sensor with Plug-n-Play harness and ROM link jumper cable
Part #	Replacement Probes
i αit π	neplacement ribbes
FT150P	replacement 7" Plug-n-Play probe for FT151RL only
	<u>'</u>
FT150P	replacement 7" Plug-n-Play probe for FT151RL only
FT150P FT150P-12	replacement 7" Plug-n-Play probe for FT151RL only replacement 12" Plug-n-Play probe for FT151RL-12 only

NOTE: Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers

Product instruction sheets and technical data can be viewed on our website at dixonvalve.com





## FloTech® API Optic Overfill Detection (5 Wire) Systems

#### **Application**

The FloTech API Optic 5 wire system is perfectly suited for both new and existing tank installations. The components have a
long list of features which make them more reliable than competitor products; the result is years of trouble free service. The
FloTech API Optic 5 wire system is a conventionally wired system, which requires wiring connections to be made using crimp
connectors. If a simple plug together system is desired, please see our Checkmate Plug-n-Play system as shown on pages 47-51

#### **Features**

- See the features and benefits of each of the system components
- Biofuel compatible up to E100 (100% ethanol) and B100 (100% biodiesel)



#### Materials

• Dependent upon the component, see each product section for materials

## FloTech API Optic Overfill Detection (5 Wire) Systems (Top Detection Only)



#### **Features**

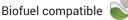
- FloTech brand overfill system kits provide everything needed to install a new overfill system on your tank. One to six compartment kits are available from our inventory. System includes: 1 FT103 monitor, 1 FT101 overfill sensor per compartment, FT400 cable, and FT402 strain reliefs (cable glands)
- · Other probe lengths are available

Part #	Description
FT1001	API optic 5 wire, 1 compartment overfill detection system (top only)-7" probes
FT1002	API optic 5 wire, 2 compartment overfill detection system (top only)-7" probes
FT1003	API optic 5 wire, 3 compartment overfill detection system (top only)-7" probes
FT1004	API optic 5 wire, 4 compartment overfill detection system (top only)-7" probes
FT1005	API optic 5 wire, 5 compartment overfill detection system (top only)-7" probes
FT1006	API optic 5 wire, 6 compartment overfill detection system (top only)-7" probes
FT1001-12	API optic 5 wire, 1 compartment overfill detection system (top only)-12" probes
FT1002-12	API optic 5 wire, 2 compartment overfill detection system (top only)-12" probes
FT1003-12	API optic 5 wire, 3 compartment overfill detection system (top only)-12" probes
FT1004-12	API optic 5 wire, 4 compartment overfill detection system (top only)-12" probes
FT1005-12	API optic 5 wire, 5 compartment overfill detection system (top only)-12" probes
FT1006-12	API optic 5 wire, 6 compartment overfill detection system (top only)-12" probes

## Straight Systems Without Monitor - Wire Directly to Socket Part # Description

rait #	Description
FT901	API optic 5 wire straight, 1 compartment overfill detection system (top only)-7" probes
FT902	API optic 5 wire straight, 2 compartment overfill detection system (top only)-7" probes
FT903	API optic 5 wire straight, 3 compartment overfill detection system (top only)-7" probes
FT904	API optic 5 wire straight, 4 compartment overfill detection system (top only)-7" probes
FT905	API optic 5 wire straight, 5 compartment overfill detection system (top only)-7" probes

NOTE: Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers





# FloTech® API Optic Overfill Detection (5 Wire) Systems Replacement Parts





FT103

#### **Features**

- · Stainless steel terminal blocks resist rusting of contacts
- · Stainless steel hardware is used on all products
- Powder coated color matched components for exceptional appearance
- Drop-in compatibility with competitors products, see compatibility chart on pages 76-79
- Signal translation ability, allows the connection all socket types (optic, thermistor or float) the system offers true load at any rack compatibility

Part #	Description	
FT102	FloTech API optic 5 wire replacement monitor only (no housing)	
FT103	FloTech API optic 5 wire monitor and housing	

NOTE: See page 166 for repair kits and replacement parts



FT101

#### **Overfill Detection Sensors**

#### **Features**

- The FloTech API optic 5 wire probe is electronically and mechanically compatible for drop-in replacement of other commonly used 5 wire probes
- · Custom probe lengths available upon request
- The sensor housing contains a 5 wire probe, in a cast aluminum housing. The sensor housing has a 2" NPT mounting thread, heavy duty stainless steel hardware, and FKM probe seal. Install into either a 2" NPT threaded port or 2-3/8" diameter tank opening using the gasket and locking nut provided

Part #	Description	Replacement Probes
FT101	housing with 7" - 5 wire overfill detection probe	FT100
FT101-12	housing with 12" - 5 wire overfill detection probe	FT100-12
FT101-18	housing with 18" - 5 wire overfill detection probe	FT100-18

NOTE: See page 164 for repair kits and replacement parts

Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers

## **Stainless Steel Probe and Sensor Housings**

#### **Black and White 2 Wire**

#### **Features**

- The FloTech® stainless steel probes and sensor housings are designed to be used with chemicals. All wetted services are 316 stainless steel or PTFE. These probes are designed to thread onto a DOT 407 tank 3" clean out nipple
- All FloTech brand probes are trouble free probes, they come with a unique dual elastomer seal for the glass optic prisms. The elastomer seals are flexible allowing thermal expansion and resistance to steam cleaning and temperature changes, along with resistance to petroleum chemical attack. The replacement probes have a smooth tapered tip design for easy replacement installation into the sensor housing without gasket damage
- Custom probe lengths can be available by using 3/4" pipe nipples upon request



FT150S

#### Specification

Maximum working pressure 900 PSI at 70°F (21°C)

Part #	Description
FT150S	7" 316 stainless steel, black and white 2 wire, overfill detection probe only (no housing)
FT191S	stainless steel probe housing, 3" female NPS thread (housing only, order probe separately)
FT150SP	7" 316 stainless steel, black and white 2 wire probe, plug and play connection

NOTE: See page 165 for repair kits and replacement parts

#### 5 Wire

#### **Features**

- The FloTech stainless steel probes and sensor housings are designed to be used with chemicals. All wetted services are 316 stainless steel or PTFE. These probes are designed to thread onto a DOT 407 tank 3" clean out nipple. Sensor length can be adjusted using 3/4" NPT pipe nipples
- All FloTech brand probes are trouble free probes: they come with a unique dual elastomer seal for the glass optic prisms. The elastomer seals are flexible allowing thermal expansion and resistance to steam cleaning and temperature changes, along with resistance to petroleum chemical attack. The replacement probes have a smooth tapered tip design for easy replacement installation into the sensor housing without gasket damage
- Custom probe lengths available upon request



FT191S and FT100S

#### Specification

60

Maximum working pressure 900 PSI at 70°F (21°C)

Part #	Description
FT100S	7" 316 stainless steel 5 wire overfill detection probe only (no housing)
FT191S	stainless steel probe housing, 3" female NPS thread (housing only, order probe separately)

NOTE: See page 165 for repair kits and replacement parts



## **Single Sockets with Aluminum Hardcoat J-slot**









FT300

FT300GW

FT301

FT302

#### **Features**

- Single face plate sockets have hard coated aluminum alloy J-slot wear rings, these ensure a long service life. Single sockets with "guaranteed for life" stainless steel wear rings are also available
- Stainless steel hardware and contact pins prevent corrosion
- Sockets and caps are color coded with industry standardized colors which allows for easy identification of socket type (optic sockets are blue, thermistor sockets are green, and float sockets are red, colored caps are included for optic and thermistor models only)

Part #	Description
FT300	optic socket API/WOGA, 6 pin and 3 J-slot (US)
FT300GW	optic socket API/WOGA, 6 pin and 3 J-slot with ground wire
FT300GT	API optic socket with cap, ground wire and TIM
FT307	optic socket, 6 pin and 4 J-slot (Canada)
FT306	optic socket, J560 pin type
FT301	thermistor socket, API, 8 pin and 4 J-slot (US)
FT301GW	thermistor socket, API, 8 pin and 4 J-slot with ground wire
FT301GT	API compatible thermistor socket with cap, ground wire and TIM
FT304	thermistor socket, 10 pin and 4 J-slot (Canada/Europe)
FT305	thermistor socket, J560 pin type
FT302	float, API, J560 pin type socket

## **Replacement Face Plates and Dust Caps**

Part #	Description
FT310	API optic face plate assembly, 6 pin, 3 J-slot (US) with dust cap
FT317	optic pattern face plate assembly, 6 pin, 4 J-slot (Canada) with dust cap
FT316	optic replacement face plate, J560 type with dust cap
FT311	API thermistor face plate assembly, 8 pin, 4 J-slot (US) with dust cap
FT314	thermistor face plate assembly, 10 pin 4 J-slot (Canada/Europe) with dust cap
FT315	thermistor replacement face plate, J560 type with dust cap
FT320	replacement blue optic dust cap
FT321	replacement green thermistor dust cap
FT322	replacement black dust cap

NOTE: See pages 170-171 for repair kits and replacement parts

Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers



## Single Sockets with GFL (Guaranteed for Life) Stainless Steel J-slot Wear Rings







FT301SS

#### **Features**

- · Available on any configuration J-slot socket
- Tougher and more corrosion resistant than any other on the market
- · Guaranteed for life against wear
- US patent 6,824,423

Part #	Description
FT300SSGW	optic socket API/WOGA, 6 pin and 3 J-slot, GFL stainless J-slot wear ring with ground wire
FT307SS	optic socket, 6 pin and 4 J-slot, GFL stainless J-slot wear ring (Canada)
FT301SS	thermistor socket, API, 8 pin and 4 J-slot, GFL stainless J-slot wear ring (US)
FT300SS	optic socket API/WOGA, 6 pin and 3 J-slot, GFL stainless J-slot wear ring (US)
FT301SSGW	thermistor socket, API, 8 pin and 4 J-slot, GFL stainless J-slot wear ring with ground wire
FT304SS	thermistor socket, 10 pin and 4 J-slot, GFL stainless J-slot wear ring (Canada/Europe)

## **Replacement Face Plates and Dust Caps**

Part #	Description
FT310SS	API optic face plate assembly, 6 pin, 3 J-slot, GFL stainless J-slot wear ring (US) with dust cap
FT317SS	optic pattern face plate assembly, 6 pin, 4 J-slot, GFL stainless J-slot wear ring (Canada) with dust cap
FT311SS	API thermistor face plate assembly, 8 pin, 4 J-slot, GFL stainless J-slot wear ring (US) with dust cap
FT314SS	thermistor face plate assembly 10 pin, 4 J-slot, GFL stainless J-slot wear ring (Canada/Europe) with dust cap
FT320	replacement blue optic dust cap
FT321	replacement green thermistor dust cap

NOTE: See pages 170-171 for repair kits and replacement parts

Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers



## **EZ-Cept Double Sockets**



FT390

#### **Features**

- · Stainless steel hardware and contact pins prevent corrosion
- Sockets are color coded with industry standardized colors allowing for easy identification of socket type (optic sockets are blue, thermistor sockets are green, and float sockets are red, colored caps are included for optic and thermistor models only)
- · Guaranteed for Life J-slot: Our unique stainless steel alloy J-slot ring will probably outlast your trailer
- Prewired ready for tank installation, no more long hours wiring and troubleshooting your socket connections. Simply bolt to the trailer and connect to the terminal block in the on board monitor
- Internal ground wire and ID chip ready: Both internal ground wire and ID chip are normally mounted inside the EZ-Cept housing to protect from the corrosive elements. Or if desired, the bolt can be mounted to the trailer frame and the wire connected to the EZ-Cept internal wire terminal
- Corrosion resistant hard powder coated housing, stainless steel hardware and contacts and our unique keep dry enclosure
  design keeps your trailer in service and corrosion at bay
- The EZ-Cept has so many innovative features it is covered by US patent 6,824,423

Part #	Description
FT390	optic 5 pin, 3 J-slot, and thermistor 10 pin, 4 J-slot, horizontal mount, GFL stainless J-slot wear rings (US)
FT390V	optic 5 pin, 3 J-slot, and thermistor 10 pin, 4 J-slot, vertical mount, GFL stainless J-slot wear rings (US)
FT390G	optic 5 pin, 3 J-slot, and thermistor 10 pin, 4 J-slot, horizontal mount, GFL stainless J-slot wear rings, internal ground wire (US)
FT390GT	optic 5 pin, 3 J-slot, and thermistor 10 pin, 4 J-slot, horizontal mount, GFL stainless J-slot wear rings, internal ground wire Trailer Identification Module chip (US)
FT390T	optic 5 pin, 3 J-slot, and thermistor 10 pin, 4 J-slot, horizontal mount, GFL stainless J-slot wear rings, Trailer Identification Module chip (US)
FT390-20	optic 5 pin, 3 J-slot, and thermistor 10 pin, 4 J-slot, horizontal mount, GFL stainless J-slot wear rings, 20' of cable (US)
FT390G-20	optic 5 pin, 3 J-slot, and thermistor 10 pin, 4 J-slot, horizontal mount, GFL stainless J-slot wear rings, internal ground wire, 20' of cable (US)
FT391	optic 5 pin, 4 J-slot, and thermistor 10 pin, 4 J-slot, horizontal mount, GFL stainless J-slot wear rings (Canada)
FT391V	optic 5 pin, 4 J-slot, and thermistor 10 pin, 4 J-slot, vertical mount, GFL stainless J-slot wear rings (Canada)

NOTE: See pages 172-173 for repair kits and replacement parts

Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers

## **EZ-Cept Triple Sockets**



#### **Features**

- · Stainless steel hardware and contact pins prevent corrosion
- Sockets are color coded with industry standardized colors allowing for easy identification of socket type (optic sockets are blue, thermistor sockets are green, and float sockets are red, colored caps are included for optic and thermistor models only)
- Unique stainless steel alloy J-slot ring is guaranteed for life
- Pre-wired ready for tank installation, simply bolt to the trailer and connect to the terminal block in the on board monitor
- Internal ground wire and ID chip ready: Both internal ground wire and ID chip are normally mounted inside the EZ-Cept housing to protect from the corrosive elements. Can also be mounted to the trailer frame and the wire connected to the EZ-Cept internal wire terminal
- · Corrosion resistant hard powder coated housing, stainless steel hardware and contacts and our unique keep dry enclosure design keeps your trailer in service and corrosion at bay
- The EZ-Cept has so many innovative features it is covered by US patent 6,824,423

Part #	Description
FT393	optic 5 pin, 3 J-slot, thermistor 10 pin, 4 J-slot, and float J560, horizontal mount, GFL stainless J-slot wear rings (US)
FT394	optic 5 pin, 3 J-slot, thermistor 10 pin, 4 J-slot, and optic J560, horizontal mount, GFL stainless J-slot wear rings (US)
FT394G	optic 5 pin, 3 J-slot, thermistor 10 pin, 4 J-slot, and optic J560, horizontal mount, internal ground wire, GFL stainless J-slot wear rings (US)
FT394V-G	optic 5 pin, 3 J-slot, thermistor 10 pin, 4 J-slot, and optic J560, vertical mount, internal ground wire, GFL stainless J-slot wear rings (US)
FT395	optic 5 pin, 4 J-slot, thermistor 10 pin, 4 J-slot, and optic J560, horizontal mount, GFL stainless J-slot wear rings (Canada)
FT395G	optic 5 pin, 4 J-slot, thermistor 10 pin, 4 J-slot, and optic J560, horizontal mount, internal ground wire, GFL stainless J-slot wear rings (Canada)
FT395V	optic 5 pin, 4 J-slot, thermistor 10 pin, 4 J-slot, and optic J560, vertical mount, internal ground wire, GFL stainless J-slot wear rings (Canada)
FT395VG	optic 5 pin, 4 J-slot, thermistor 10 pin, 4 J-slot, and optic J560, vertical mount, internal ground wire, GFL stainless J-slot wear rings (Canada)

NOTE: See pages 174-175 for repair kits and replacement parts

Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers

#### **Socket Cleaner**

## **Application**

 Used to clean dirty or corroded overfill socket contact blocks

#### **Features**

- · Improves electrical connection and reduces drop out of permit signal
- · Simple handheld contact cleaner
- 3M Scotch-Brite™ pad

Part #	Description
FT406	socket cleaner



#### **Multi-Wrench**

#### **Application**

Used for threading, and unthreading lock nuts
 Hard coated for corrosion resistance

#### **Features**

- Laser etched

Part #	Description
40530AL	multi-sided wrench for installing FT9000/VR6030SQ









## **Grounding Ball and Bolt**









FT450	FT451	FT452	FT452-002

Part #	Description
FT450	ground verification bolt
FT451	ground verification ball
FT452	ground wire for single sockets
FT452-002	ground wire for dual sockets

NOTE: See page 176 for repair kits and replacement parts

Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers

# FloTech® Checkmate Overfill/Retain (Black and White 2 Wire) System Sensor Dummy



Part #	Description	
FT155	thermistor sensor dummy (each dummy adds up to 5 compartments)	
11030PS	hobb switch, vent/brake interlock	

## FloTech® Trailer Identification Modules

#### **Application**

· Designed as a drop in replacement for the Trailer Identification Module, providing you with longer life and reduced costs



Part #	Description
FT470	Trailer Identification Module

#### **Cables and Strain Reliefs**

#### **Features**

66

FloTech cable is specially produced with tin plated wire, which when connected correctly using crimp connections, will
provide years of trouble-free service





FT400

FT402

Part #	Description	System Type
FT400	100' of 5 conductor cable, 18 AWG	
FT400-500	500' of 5 conductor cable, 18 AWG	5 wire API optic
FT400-1000	1000' of 5 conductor cable, 18 AWG	
FT401	100' of 7 conductor cable, 20 AWG	
FT401-150	150' of 7 conductor cable, 20 AWG	red and black 2 wire ROM type
FT401-1000	1000' of 7 conductor cable, 20 AWG	
FT404	100' of 11 conductor cable, 20 AWG	
FT404-150	150' of 11 conductor cable, 20 AWG	black and white 2 wire checkmate/thermistor type
FT404-1000	1000' of 11 conductor cable, 20 AWG	

#### **Cable Strain Reliefs (Glands)**

Part #	Description
FT402	20 piece pack of strain relief fittings, 1/2" NPT
FT403	30 piece pack of strain relief fittings, 1/2" NPT
FT405-500	500 piece pack of strain relief fittings, 1/2" NPT

## **Cable Tools and Supplies**

Part #	Description
FT9023	professional cable stripping tool
FT9024	professional cable crimping tool
FT9021	100 piece pack of crimp connectors
FT9022	2.8 oz tube of GE RTV103 silcone for sealing crimped wired connections
FT9025	terminal pins, 14-16 AWG, 100 pieces

NOTE: Due to the very low current used in overfill systems it's extremely important to use the correct type of cable. The use of other types of cabling often leads to failed overfill systems due mostly to corroded connections







## **Optic System Testers**

#### **Application**

· Used to trouble shoot overfill system circuits

#### **Features**

- · Will work with any optic overfill system
- The FT520 optic test kit includes a tester and test lead set to test 5 wire optic pulse, 5 wire optic probes, 2 wire optic probes, Plug-n-Play optic probes as well as onboard monitor and socket outputs. It uses the same permissive signal verification as an optic rack monitor. Optional FT521, FT522, FT523 optic test plugs are available for an entire trailer Go, No/Go test, 2 9-volt batteries (included)

#### Materials

· Durable plastic case, heavy duty cable connectors and test leads



FT520

Part #	Description
FT520	optic system tester, 5 piece set of test leads, batteries and instructions
FT520CASE	optional storage case for FT520
FT520WOGA	optic system tester, with FT521 API optic 6 pin and 3 J-slot plug, batteries and instructions
FT520WOGACASE	optional storage case for FT520WOGA
FT521	API optic test plug, 6 pin and 3 J-slot
FT522	optic test plug, 6 pins and 2 or 4 J-slot (plug fits both 2 and 4 J-slot sockets)
FT523	optic test plug J560 type
10622	Plug-n-Play test lead set
FT9037	replacement test lead set for FT520



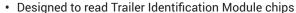
FT520WOGA

## **Trailer Identification Module Chip Readers**

#### **Application**

 Designed to read and test Trailer Identification Modules mounted inside API compatible overfill sockets





- · Solid aluminum construction
- · Backlit LCD display
- Interchangeable optic or thermistor J-slot screws
- · Provides long battery life

Part #	Description
FT530	Trailer Identification Module chip reader



## FloTech® Truck Testers

#### **Application**

 Allows complete testing of ground bolt grounding systems. Tests ground bolt in forward and reverse just like the rack monitor

#### **Features**

- · Reads Trailer Identification Modules and displays the serial number on the screen
- Automatic mode allows all four tests, or any combination, to run for a complete test of the trailer
- LCD screen displays the final test results and a pass/fail indication for easy rapid testing of the overfill system
- One man "Wet Test" feature FT555 signals an audible alarm sounding a number of beeps that match the wetted sensor
- Microprocessor controlled with designed in flexibility to expand into a number of applications
- Requires two D cell flashlight batteries that can be changed through a side battery access door

Part #	Description				
FT555	truck tester				
FT555PA	truck tester with handle and test leads (US)				
FT555PW	truck tester with handle and test leads (EU)				
FT555CNVT	convert FT555 to FT555PA				





FT555PA

## FloTech FT590-Series Rack Monitor Testers

#### **Application**

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· Simulates single component overfill system. Used to test rack monitor operation

Part #	Description			
FT590TG	2 wire themistor rack tester with grounding bolt			
FT590TGT	2 wire themistor rack tester thermistor TIM and grounding bolt			
FT5900G	5 wire optic rack tester with ground bolt			
FT5900GT	5 wire optic rack tester with ground bolt and TIM			



FT590TG



## **API Compatible Loading Rack Cords**

#### **Application**

API loading rack cords are used to connect the loading rack monitor to the socket on the fuel tanker

#### **Features**

- FT600 and FT620 are compatible with API thermistor and optic configurations
- · Cords available in coiled or straight lengths
- · Cord features a heavy highly visible safety orange jacket to meet trip hazard requirements
- · Cord is bonded mechanically and has superior abrasion and oil resistance
- Plug body is color coded optic blue or thermistor green
- · Button contacts are made from 316 stainless steel to prevent corrosion or galling
- Cord sets are interchangeable with Civacon

#### Materials

· Reinforced nylon plugs with stainless steel contact pins and hardware. Heavy duty and highly visible safety orange cord

## **API Optic Cord Assemblies**



FT620

Part #	Description				
FT620	blue plug with 6 contact pins and 3 J-slot, on a 30' coiled blue cable				
FT620S	blue plug with 6 contact pins and 3 J-slot, on a 20' straight blue cable				
FT620P	blue plug with 6 contact pins and 3 J-slot on a 30' blue coiled cord and 7 pin connector aluminum J560 plug				
FT620SP	API optic plug, aluminum J560 plug with 30' straight cable				
FT620X620	optic dual plug cord				
FT621	replacement blue plug assembly with 6 contact pins and 3 J-slot				
FT622	replacement 30' blue coiled cord, optic 6 conductor				
FT623	optic plug storage hanger				
FT624	replacement 20' blue straight cord, optic 6 conductor				

NOTE: See pages 177 for repair kits and replacement parts

Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers

## **API Thermistor Cord Assemblies**



FT600

Part #	Description				
FT600	green plug with 8 contact pins and 4 J-slot, on a 30' coiled orange cable				
FT600P	green plug with 8 contact pins and 4 J-slot, on a 30' orange coiled cord and 13 pin connector nylon J560 plug				
FT600S	green plug with 8 contact pins and 4 J-slot, on a 20' straight orange cable				
FT600C	green plug with 10 contact pins and 4 J-slot, on a 30' coiled orange cable				
FT600CP	green plug with 10 contact pins and 4 J-slot, on a 30' coiled orange cord and 13 pin connector nylon				
FT600SC	green plug with 10 contact pins and 4 J-slot, on a 20' straight orange cable				
FT601	replacement green plug assembly with 8 contact pins and 4 J-slot				
FT601-10	replacement green plug assembly with 10 contact pins and 4 J-slot				
FT602	replacement 30' orange coiled cord, thermistor 10 conductor				
FT603	thermistor plug storage hanger				
FT604	replacement 20' orange straight cord, thermistor 10 conductor				
FT606	thermistor 30' coiled replacement cord 8 pin				
FT607	thermistor 20' straight replacement cord 8 pin				
FT680CNO	deadman switch assembly with coiled cord				

NOTE: See page 178 for repair kits and replacement parts

Please refer to chart on pages 76-79 for cross references to other manufacturer part numbers





## FloTech® Junction Boxes

#### **Application**

FT7500-Series junction boxes are designed to provide a convenient, safe, and protected
point of service for rack cord accessories. When installed correctly, the junction box will
protect rack cords from excessive wear and tear, and cord connections from water and
corrosion while in harsh environments

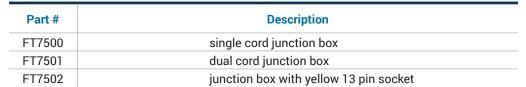
#### **Features**

- Water-tight construction helps prevent condensation and moisture from causing corrosion on the with rack connections
- Twelve position terminal block for quick replacement of various cord types including optic, thermistor, ground, and deadman cables
- Large internal volume allows ample room for wiring and easy installation
- Mesh cord grip reduces cable strain and prevent cable pull-out
- Integrated cord hook holds the cable while not in use

#### Material

70

· Powder coated weather-resistant aluminum





FT7502

## **Junction Box and Cord Assembly Accessories**

Part # Junction Box	Junction Book Core	Pook Cord	Termination L	I anath	Cord	Cord Cord Type	Conductors	API Plug	
	Вох	Rack Cord			Color			Color	J-Slots
FT7600	FT7500	FT600	flying leads	30'	orange coiled coiled coiled coiled straight straight coiled	8		4	
FT7600C	FT7500	FT600C	flying leads	30'		coiled	10	green	4
FT7600CP	FT7502	FT600CP	yellow 13 pin plug	30'		coiled	10		4
FT7600P	FT7502	FT600P	yellow 13 pin plug	30'		coiled	8		4
FT7600S	FT7500	FT600S	flying leads	20'		straight	8		4
FT7600SC	FT7500	FT600SC	flying leads	20'		straight	10		4
FT7600SP	FT7502	FT600SP	yellow 13 pin plug	20'		straight	8		4
FT7605C	FT7500	FT605C	flying leads	30'		coiled	6		4
FT7620	FT7500	FT620	flying leads	30'		coiled	6	I. I	3
FT7620P	FT7502	FT620P	metal J560	30'	blue	coiled	6		3
FT7620S	FT7500	FT620S	flying leads	20'		straight	6	blue	3
FT7620SP	FT7502	FT620SP	metal J560	20'		straight	6		3
FT7630	FT7500	FT630	flying leads	30'		coiled	10	black	4
FT7630D	FT7503	FT630D	D connector	30'		coiled	10		4
FT7640-3	FT7500	FT640-3	flying leads	30'		coiled	10		3
FT7640-4	FT7500	FT640-4	flying leads	30'		coiled	10		4



#### FloTech® FT7000-Series Rack Control Monitor



FT7000

#### **Applications**

- · Overfill prevention, ground verification, trailer identification, data communication
- · Automatic, continuous and self-checking micro based control
- Per NPFA rules, FT7000 FloTech RCM provides secondary overfill protection for loading of petroleum or chemical liquids into cargo or rail tanks. It is designed for hazardous locations using EXd explosion proof enclosure and intrinsically safe electronics. FT7000 RCM holds US and international safety approvals and certifications
- FloTech FT7000 RCM was designed for high reliability with redundant test circuits and output relays. Relay operation is
  monitored to determine proper operation. FT7000 RCM has the ability for redundant communication of monitor status
  independent of relay status. Permits can be verified via a digital communication path not dependent on relay status

#### **Features**

- FT7000 RCM provides robust communication of monitor overfill status, ground verification, trailer identification data and events via RS-485 and Modbus compliant. All function in one unit with ability to connect through existing TAS
- Overfill, ground, and trailer identification in one enclosure
- Auto switching between optic and thermistor (2 wire or 5 wire) sensors
- · Compatible with all analog and digital sensors
- Monitor up to (8) 2 wire or (12) 5 wire sensors
- · Various plug cord and junction box assemblies compatible with worldwide standards
- · Visual display of all functions

#### Material

Explosion proof IP54 weathertight aluminum powder coated housing

#### **Approvals**

Certified to the following standards:

- CSA C22.2 No. 61010-1-12, No. 30-M1986, No. 157-92, No. 60079-0:11, No. 60079-1:11, No. 60079-1:14
- UL 61010-1, UL 1203, UL 913, UL 60079-0, UL 60079-1, UL 60079-11
- IEC 60079-0, IEC 60079-1, IEC 60079-11, IEC 60529
- EN 60079-0, EN 60079-1, EN 60079-11

#### Compatible with

Sensors	Identification	Earthing/Ground Devices
<ul> <li>5 wire optic sensors; 1-12 sensors</li> <li>2 wire black and white thermistor sensors; 1-8 sensors</li> <li>2 wire grey-grey universal thermistor sensors; 1-8 sensors</li> <li>2 wire analog thermistor sensors; 1-8 sensors</li> <li>onboard monitors</li> </ul>	• Trailer Identification Modules	<ul><li>ground bolt/bolt/wire</li><li>ground loop/restive bond</li></ul>

NOTE: Not compatible with float type sensors, or 3 wire analog thermistor sensors

### **Fuel Tanker Overfill Detection**

### **API Rack Cord Assemblies**

			API		Cord		J-Slot		Pin			Breakaway Plug	
FloTech® Part #	Civacon Part #	Scully Part #	Thermistor	Optic	20' Straight	30' Coiled	3	4	6	8	10	Optic J560 Aluminum	Thermistor 13 Pin Plas- tic
FT600	7300SR-7300	21818	✓			1		1		1			
FT600C	7300CSR-7300	31090	1			1		1			1		
FT600P	7320SR-7320		✓			1		1		1			✓
FT600S	7300-STRAIGHT	20830	✓		1			1		1			
FT600SC	7300C-STRAIGHT		✓		1			1			1		
FT620	7100SR-7100	21831		1			1		1				
FT620P	7100-J560			1			1		1			✓	
FT620S	7100-STRAIGHT	21764		1	1		1		1				

### **API Rack Cord Parts**

FloTech	Civocon	Caully	API API		Cord			J-Slot		Pin	
Part #	Civacon Part #	Scully Part #	Thermistor	Optic	20' Straight	30' Coiled	3	4	6	8	10
FT601	7310SR-7310		✓					1		1	
FT603	7350-7350		✓					1			
FT621	7110SR-7110	21766		✓			1		1		
FT622	7220-7220	31099		✓		✓	1				
FT623	7150-7150			✓			1				



# Reelcraft® Static Discharge Reels



### **Application**

Used to ground equipment in hazardous atmospheres, such as fuel trucks or carts transferring flammable materials. When properly clamped to ground, the static discharge reel dissipates static electrical buildup, reduces chances of sparking and the potential for explosion

#### **Features**

- Supplied with a 3/32" O.D. steel aircraft cable
- DC resistance is approximately one ohm per 50' of steel cable

Part #	Description
G3050	single 7 x 7 stranded steel grounding wire

# FloTech® Replacement Parts

Part #	Previous Part #	Description	Refer to Page
FT9000		sensor housing 2" NPT with parallel ports, complete with all hardware	164
FT9000P		Plug-n-Play sensor housing 2" NPT with parallel ports, complete with all hardware	162
FT9001		complete sensor housing gasket and O-ring kit	162, 164
FT9002		complete sensor housing gasket, O-ring and hardware kit	164
FT9003		replacement on-board monitor housing	166, 167
FT9004		replacement on-board monitor hardware kit	166, 167
10142	FT9005	replacement on-board bezel 5 wire (FT103)	166
10143	FT9006	replacement on-board bezel 2 wire (FT204)	167
10031	FT9007	replacement socket rear housing	157, 158, 169, 171
FT9008		replacement socket contact block with pins FT300 optic series	156, 171
FT9009		replacement socket contact block with pins FT301 thermistor series	156, 171
FT9010		replacement socket contact block with 10 pins FT304 thermistor series	171
FT9011		replacement sensor housing cap with screws and lock washers	162, 164
10128		replacement 2" NPT sensor housing lock nut	162, 164
FT9013		replacement socket faceplate 4 J-slot, no contact block or hardware	156, 171
FT9020		socket pin, screw and crimp lug	156, 171
FT9021		crimp connector 100 pieces per bag	66
FT9022		GE RTV 103 silicone rubber sealant 2.8 oz. tube	66
FT9023		stripping tool for cable jacket	66
FT9024		crimp tool for splice connections	66
FT9025		terminal pin, 14-16 AWG 100 pieces	66
250-G-BU	FT9026, 40090BN	sensor flat gasket for 2" NPT through punched hole in man lid	162, 164
10125	FT9027	sensor housing probe, FKM O-ring	162, 164
10119	FT9029	J560 contact block, 7 way	158, 161, 169, 175
FT9030		fuse holder with 1/4" amp fuse	166
FT9031		fuse holder with 1/2" amp fuse	167, 168
10038	FT9032	socket face plate gasket	157, 158, 169, 171



# FloTech® Replacement Parts (continued)

Part #	Previous Part #	Description	Refer to Page
10183	FT9033	sensor housing, lower no hardware	164
FT9034		replacement socket face plate 3 J-slot, no contact block or hardware	156, 171
10459	FT9035	program module for FT204P and FT208	154, 155, 167, 168
FT9036		FT208 replacement bezel kit	155, 168
FT9037		FT520 test lead set	67
10357	FT9038	fuse 1/4" Amp - for FT103	166
10358	FT9039	fuse 1/2" Amp - for FT208 and FT204	155, 167, 168
FT9040		checkmate housing with lid	155, 168
10366HC-002	FT9041	replacement 3 J-slot, aluminum socket nose ring	157, 171
10366HC-001	FT9042	replacement 4 J-slot, aluminum socket nose ring	157, 171
10366SS-002	FT9043	replacement 3 J-slot, stainless socket nose ring	154, 157, 159, 161, 171, 173, 175
10366SS-001	FT9044	replacement 4 J-slot, stainless socket nose ring	154, 157, 159, 161, 171, 173, 175
10432NP	FT9045	replacement gasket for the FT208-Series checkmate lid	154, 155, 168
FT9046		bag of 10 replacement socket pins	156, 171
10126	FT9049	sensor cap O-ring	162, 164
10347	FT9050	threaded half coupling 1/2" for retain probe	163, 165
FT9051		replacement short contact block for FT390/393 optic, 6 pin	154, 159, 160
FT9052		replacement short contact block for FT390/393 thermistor, 10 pin	154, 159, 160
10131	FT9053	replacement gasket for bezel on monitors FT103/204P	166, 167
10470AL	FT9054	replacement lid frame for monitors FT103/204P	166, 167
FT9059		replacement face plate and bezel assembly for FT204P	167
10368SS	FT9061	replacement contact pin for FT390/393-Series socket	154, 157, 159, 161, 173, 175
FT9062		nose ring assembly, thermistor, 4 J-slot, 10 pin contact block, pin, and hardware for FT390 and FT393	154, 159, 160, 173
FT9063		nose ring assembly, optic, 3 J-slot, 6 pin contact block, pin, and hardware for FT390 and FT393	154, 159, 160, 173
FT9064		bezel for FT203P-SPEC	167
FT9065		bezel gasket for FT203P-SPEC	167
FT9068		replacement contact block attachment screws and washers (4 each)	154, 156, 159, 160, 163, 165, 171, 173, 175

# **Competitor Cross Reference Chart**

### **Liquid Level Sensors**

FloTech® Part #	Civacon Part #	Scully Part #	Description
FT100	5300N-7	09209	replacement probe, optic, 5-wire, 7" long
FT100-12	5300N-12	09214	replacement probe, optic, 5-wire, 12" long
FT100-18	5300N-18	09217	replacement probe, optic, 5-wire, 18" long
FT100S	1410RS-0060		replacement stainless steel probe, optic, 5-wire, 7" long
FT101	5310N-7	09208	sensor, optic, 5-wire, 2" NPT housing, 7" probe
FT101-12	5310N-12	09213	sensor, optic, 5-wire, 2" NPT housing with 12" probe
FT101-18	5300N-18	09216	sensor, optic, 5-wire, 2" NPT housing with 18" probe
FT150	5650-7	09409	replacement probe, thermo-optic, 7" long, 2-wire (black and white)
FT150-12	5650-12	09414	replacement probe, thermo-optic, 12" long, 2-wire (black and white)
FT150-18	5650-18	09417	replacement probe, thermo-optic, 18" long, 2-wire (black and white)
FT151	5610-7	09408	sensor, thermo-optic, 2" NPT housing, 7" probe, 2-wire (black and white)
FT151-12	5610-12	09413	sensor, thermo-optic, 2" NPT housing,12" probe, 2-wire (black and white)
FT151-18	5610-18	09416	sensor, thermo-optic, 2" NPT housing,18" probe, 2-wire (black and white)
FT151RL	1554-007		sensor, ROM Link™ replacement thermo-optic, 2" NPT housing, 7" probe, 2-wire (black and white)
FT151RL-12	1554-012		sensor, ROM Link replacement thermo-optic, 2" NPT housing, 12" probe, 2-wire (black and white)
FT152		08819	thermo optic retain sensor (black and white)
FT155	1920-5	08298, 08542	thermistor dummy, 5 compartment
FT201	5350-7		replacement ROM type, 7" top probe, 2-wire (red and black)
FT201-12	5350-12		replacement ROM type, 12" top probe, 2-wire (red and black)
FT201-18	5350-18		replacement ROM type, 18" top probe, 2-wire (red and black)
FT202	5610RB-7		top sensor ROM type, 2" NPT housing, 7" probe, 2-wire (red and black)
FT202-12	5610RB-12		top sensor ROM type, 2" NPT housing,12" probe, 2-wire (red and black)
FT202-18	5610RB-18		top sensor ROM type, 2" NPT housing,18" probe, 2-wire (red and black)
FT206	1000R, 1001R		retain sensor ROM type, 1/2" NPT sensor (red and black)
FT9000			probe housing

#### **Onboard Monitors**

	Chiboard Workers									
FloTech Part #	Civacon Part #	Scully Part #	Description							
FT102	3150-3150	08563	replacement module API compatible							
FT103	3100-3100	08687	API compatible on-board monitor, with housing							
FT203P	3252-3252		replacement module, ROM type on-board monitor							
FT203PSPEC	3250, 3252		replacement module, ROM type on-board monitor with 8 hole cover and frame							
FT204P	3202-3202, 3202R-3202		ROM type on-board monitor, with housing							
FT207		09100, 09111, 09584, 09585	replacement module, checkmate on-board monitor							
FT208		09109, 09107, 09562, 09566	checkmate programmable monitor for top, or top and bottom sensors							

Civacon and ROM Link are registered trademarks of Civacon/Dover Corporation



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# Competitor Cross Reference Chart (continued) Sockets

FloTech®	Civacon	Scully	Description
Part #	Part #	Part #	Description
FT300	4103-4103	7974	API compatible optic socket with cap (6 pin, 3 J-slot)
FT301	4400-4400	7720	API compatible thermistor socket with cap (8 pin, 2/4 J-slot)
FT302	4600-4600	8116	API compatible float socket
FT303	4201-4201	7976	optic pattern with thermistor J-slot, and cap (6 pin, 2/4 J-slot) (U.S.)
FT304	4403-4403	7716	Canadian/European thermistor socket with cap (10 pin, 4 J-slot)
FT305	4500-4500	7681	thermistor socket, J560 type
FT306	4300-4300	8199	optic socket, J560 type
FT307	4201-4201	7976	optic pattern with thermistor J-slot and cap (6 pin, 2/4 J-slot) (Canada)
FT310	4110-4110	21790	API optic face plate assembly with cap
FT311	4111-4111	20770	API thermistor face plate assembly with cap
FT314		20768	Canadian/European thermistor replacement face plate with cap
FT320	4150-4150	8575	blue optic dust cap
FT321	4450-4450	8474	green thermistor dust cap
FT390	4820L and 4820R	9060	EZ-Cept dual socket assembly
FT390G	4822L and 4822R		EZ-Cept dual socket assembly with ground bolt

### **Hardware and System Testers**

FloTech	Civacon	Scully	Description	
Part #	Part #	Part #	Description	
FT400	2100-2100	22056	5 conductor cable 100'	
FT400-500	2200-2200		5 conductor cable 500'	
FT401	2310-2310	27382	7 conductor cable 100'	
FT401-1000	2401-2401		7 conductor cable 1000'	
FT401-150	2300-2300		7 conductor cable 150'	
FT402	2510-2510		20 strain relief fittings, 1/2" NPT	
FT403	2530-2530		30 strain relief fittings, 1/2" NPT	
FT450	GS1000	8560	stainless steel grounding bolt	
FT451		8274	stainless steel grounding ball	
FT470		08836	trailer indentification module	
FT520	1391-1391		optic system tester	
FT521	1396-1396		API optic test plug, 6 pins and 3 J-slot	
FT522	1395-1395		optic test plug, 6 pins and 2 or 4 J-slot (plug fits both 2 and 4 J-slot sockets)	
FT523	1397-1397		optic test plug J560 type	
FT555		08938	truck tester	

### **API Rack Cords**

FloTech Part #	Civacon Part #	Scully Part #	Description
Fait#	Falt #	rait #	API Optic Cord Assemblies
FT620	7100SR-7100	21831	blue plug with 6 contact pins and 3 J-slot, on a 30' coiled orange cable
FT620S	7100-STRAIGHT	21764	blue plug with 6 contact pins and 3 J-slot, on a 20' straight orange cable
FT620P	7100-J560		blue plug with 6 contact pins and 3 J-slot on a 30' orange coiled cord and J560 plug
FT621	7110SR-7110	21766	replacement blue plug assembly with 6 contact pins and 3 J-slot
FT622	7220-7220	31099	replacement 30' orange coiled cord, optic 6 conductor
FT623	7150-7150		optic plug storage hanger
FT624		31098	replacement 20' orange straight cord, optic 6 conductor
			API Thermistor Cord Assemblies
FT600	7300SR-7300	21818	green plug with 8 contact pins and 4 J-slot, on a 30' coiled orange cable
FT600P	7320SR-7320		green plug with 8 contact pins and 4 J-slot on a 30' orange coiled cord and 13 pin connector
FT600S	7300-STRAIGHT	20830	green plug with 8 contact pins and 4 J-slot, on a 20' straight orange cable
FT600C	7300CSR-7300	31092	green plug with 10 contact pins and 4 J-slot, on a 30' coiled orange cable
FT600SC	7300C-STRAIGHT		green plug with 10 contact pins and 4 J-slot, on a 20' straight orange cable
FT601	7310SR-7310	20769	replacement green plug assembly with 8 contact pins and 4 J-slot
FT601-10		8959	replacement green plug assembly with 10 contact pins and 4 J-slot
FT602		31097	replacement 30' orange coiled cord, thermistor 10 conductor
FT603	7350-7350		thermistor plug storage hanger
FT604		20834	replacement 20' orange straight cord, thermistor 10 conductor

Civacon and ROM Link are registered trademarks of Civacon/Dover Corporation

# **Competitor Cross Reference Chart (continued)**

### **Onboard Systems**

FloTech® Part #	Civacon Part #	Scully Part #	Description
FT1001	2001-2001	08328L1	API compatible 1 compartment system 7" probes
FT1001-12	2001S-0012		API compatible 1 compartment system 12" probes
FT1002	2002-2002		API compatible 2 compartment system 7" probes
FT1002-12	2002S-0012		API compatible 2 compartment system 12" probes
FT1003	2003-2003		API compatible 3 compartment system 7" probes
FT1003-12	2003S-0012		API compatible 3 compartment system 12" probes
FT1004	2004-2004	8305	API compatible 4 compartment system 7" probes
FT1004-12	2004S-0012		API compatible 4 compartment system 12" probes
FT1005	2005-2005	8306	API compatible 5 compartment system 7" probes
FT1005-12	2005S-0012		API compatible 5 compartment system 12" probes
FT1006	2006-2006		API compatible 6 compartment system 7" probes
FT1006-12	2006S-0012		API compatible 6 compartment system 12" probes
FT2001	3021-3021		ROM type, 1 compartment system, overfill and retain, 7" probes
FT2001-12	3021S-0012		ROM type, 1 compartment system, overfill and retain, 12" probes
FT2002	3022-3022		ROM type, 2 compartment system, overfill and retain, 7" probes
FT2002-12	3022S-0012		ROM type, 2 compartment system, overfill and retain, 12" probes
FT2003	3023-3023		ROM type, 3 compartment system, overfill and retain, 7" probes
FT2003-12	3023S-0012		ROM type, 3 compartment system, overfill and retain, 12" probes
FT2004	3024-3024		ROM type, 4 compartment system, overfill and retain, 7" probes
FT2004-12	3024S-0012		ROM type, 4 compartment system, overfill and retain, 12" probes
FT2005	3025-3025		ROM type, 5 compartment system, overfill and retain, 7" probes
FT2005-12	3025S-0012		ROM type, 5 compartment system, overfill and retain, 12" probes
FT2006	3026-3026		ROM type, 6 compartment system, overfill and retain, 7" probes
FT2006-12	3026S-0011		ROM type, 6 compartment system, overfill and retain, 12" probes
FT2101	3031-3031		ROM type, 1 compartment system, overfill only, 7" probes
FT2101-12	3031S-0012		ROM type, 1 compartment system, overfill only, 12" probes
FT2102	3032-3032		ROM type, 2 compartment system, overfill only, 7" probes
FT2102-12	3032S-0012		ROM type, 2 compartment system, overfill only, 12" probes
FT2103	3033-3033		ROM type, 3 compartment system, overfill only, 7" probes
FT2103-12	3033S-0012		ROM type, 3 compartment system, overfill only, 12" probes
FT2104	3034-3034		ROM type, 4 compartment system, overfill only, 7" probes
FT2104-12	3034S-0012		ROM type, 4 compartment system, overfill only, 12" probes
FT2105	3035-3035		ROM type, 5 compartment system, overfill only, 7" probes
FT2105-12	3035S-0012		ROM type, 5 compartment system, overfill only, 12" probes
FT2106	3036-3036		ROM type, 6 compartment system, overfill only, 7" probes
FT2106-12	3036S-0012		ROM type, 6 compartment system, overfill only, 12" probes

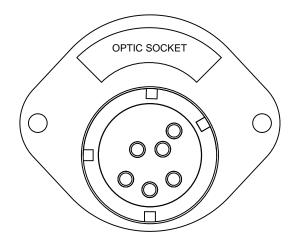


# **Competitor Cross Reference Chart (continued)**

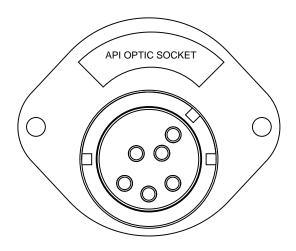
### **Onboard Systems**

FloTech® Part #	Civacon Part #	Scully Part #	Description			
FT2801		08251, 09640	checkmate system, 1 compartment system, overfill only, 7" probes			
FT2802		08352, 09641	checkmate system, 2 compartment system, overfill only, 7" probes			
FT2803		08352,09642	checkmate system, 3 compartment system, overfill only, 7" probes			
FT2804		08354, 09643	checkmate system, 4 compartment system, overfill only, 7" probes			
FT2805		08355, 09644	checkmate system, 5 compartment system, overfill only, 7" probes			
FT2806		08356	checkmate system, 6 compartment system, overfill only, 7" probes			
FT2807		08380	checkmate system, 7 compartment system, overfill only, 7" probes			
FT2808		08381	checkmate system, 8 compartment system, overfill only, 7" probes			
FT2811		08361	checkmate system, 1 compartment system, overfill and retain, 7" probes			
FT2812		08362	checkmate system, 2 compartment system, overfill and retain, 7" probes			
FT2813		03363	checkmate system, 3 compartment system, overfill and retain, 7" probes			
FT2814		08364	checkmate system, 4 compartment system, overfill and retain, 7" probes			
FT2815		08365	checkmate system, 5 compartment system, overfill and retain, 7" probes			
FT2816		08366	checkmate system, 6 compartment system, overfill and retain, 7" probes			
FT2817		08382	checkmate system, 7 compartment system, overfill and retain, 7" probes			
FT2818		08383	checkmate system, 8 compartment system, overfill and retain, 7" probes			

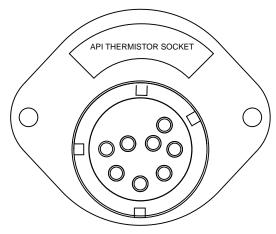
#### **Socket Profiles**



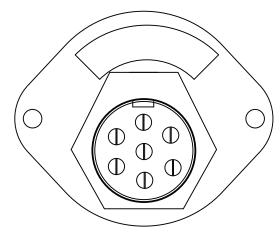
FT303 optic socket (US) FT313 replacement faceplate FT307 optic socket (Eastern Canada) FT317 replacement faceplate



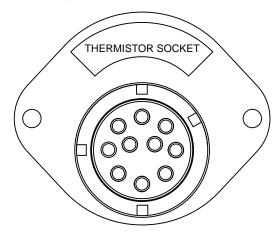
FT300 API optic socket (US) FT310 replacement faceplate



FT301 API thermistor socket (US) FT311 replacement faceplate assembly



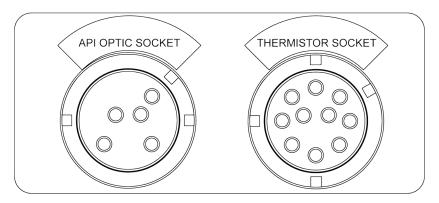
FT302 float J560 socket (US)
FT312 replacement faceplate float J560 socket
FT305 thermistor J560 socket (US)
FT315 replacement faceplate thermistor J560 socket
FT306 optic J560 socket (western Canada)
FT316 replacement faceplate optic J560 socket



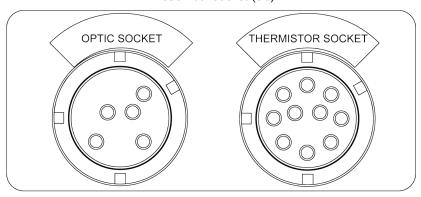
FT304 thermistor socket (Canada) FT314 replacement faceplate



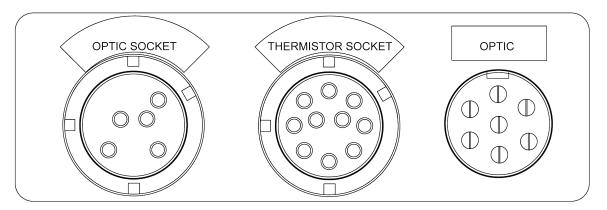
### **Socket Profiles**



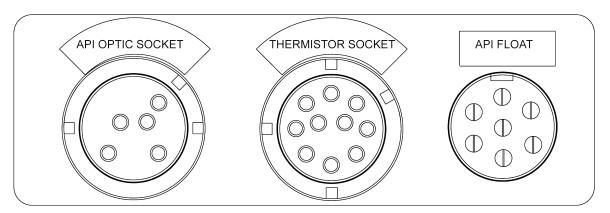
FT390 Dual socket (US)



FT391 Dual socket (Canada)

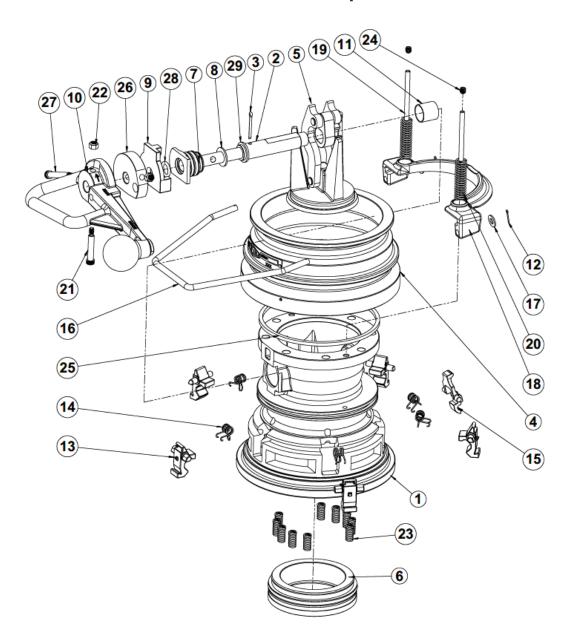


FT395 Triple socket (Canada)



FT393 Triple socket (US)

# **5500-Series API Coupler**



**Repair Kits** 

Description	Part #
small parts kit for 5500-Series rack coupler	5500RK21
aluminum replacement handle kit with bolt and nut	5500RK22
stainless steel replacement handle kit with bolt and nut	5500RK23
locking handle kit	5500RK24
aluminum short handle replacement kit with bolt and nut	5500RK25
replacement poppet kit with links, pins, and cotter pin	5500RK26
replacement seal cylinder-no seal	5500RK27
replacement FKM-GFLT bearing kit for 5500	5500RK51



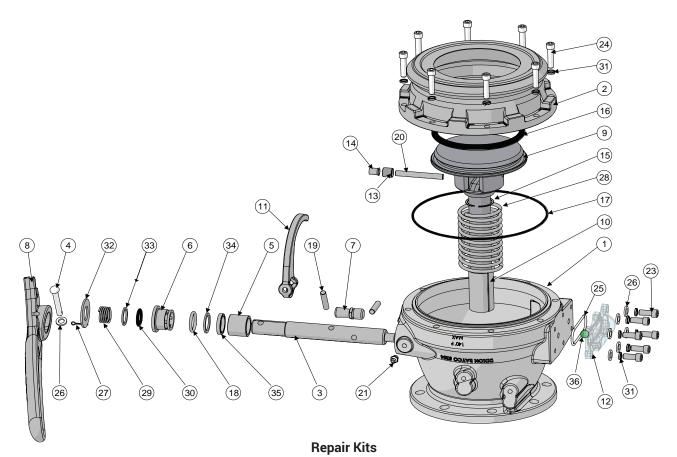
### **5500-Series API Coupler**

See 5500-Series explosion diagram on preceding page

### Bill of Materials Qty of Components per Unit

<b>DIII 01</b>		qty	٠. ،		.po.				
Item #	Description	Part #	5500BL	5500E	5500K	5500B	5500G	5500F	5500H
1	body	341933	1	1	1	1	1	1	1
2	shaft	391876	1	1	1	1	1	1	1
3	cotter pin	112307	1	1	1	1	1	1	1
4	sleeve assembly	400764	1	1	1	1	1	1	1
5	valve assembly	400739	1	1	1	1	1	1	1
6A	nose seal assembly-FKM B	400741				1			
6B	nose seal assembly-EPDM	400745		1					
6C	nose seal assembly-silicone	400746						1	
6D	nose seal assembly-FKM GFLT	400742					1		
6E	nose seal assembly-Baylast	400743	1						
6F	nose seal assembly-FFKM	400767	<u> </u>		1				<b></b>
6G	nose seal assembly-Hifluor	400769							1
7A	bearing assembly-FKM B	400747				1			<u> </u>
7B	bearing assembly-EPDM	400751		1					
7C	bearing assembly-silicone	400752		<u>.</u>				1	
7D	bearing assembly-FKM GFLT	400748					1		
7E	bearing assembly-Baylast	400749	1						
7F	bearing assembly-FFKM	400766	<u> </u>		1				
7G	bearing assembly-Hifluor	400770							1
8	bearing washer	112601	1	1	1	1	1	1	<u> </u>
9	locking plate	112589	<u>†</u>	1	1	1	1	1	1
10A	handle	341937	1	1	1	1	1	1	1
10A	handle lockable assembly	400740		<u>'</u>			<u>'</u>		<u> </u>
10C	stainless steel handle	112627							
10D	handle SS lockable assembly	400765				-			<del></del>
10E	short handle	341941							
11		391142	1	1	1	1	1	1	1
12	spacer cotter pin	111563	2	2	2	2	2	2	2
13	interlocking cam	112147	5	5	5	5	5	5	5
14		112147		6	6		6	6	
15	torsion spring latch	112240	6 1		1	6 1	1	1	6
16	release	391875	1	1	1	1	1	1	1
17	release washer	112602	2	2	2	2	2	2	2
18									_
	bail bail pin	341935	1	2	2	2	2	1	2
19	-	112619	2					2	_
20	bail spring	112150	2	2	2	2	2	2	2
21	shoulder screw	112621	1	1	1	1	1	1	1
22	lock nut	112620	10	10	1	1	1	1	1
23	comp. spring	112617		10			10		10
24	set screw	112622	2	2	2	2	2	2	1
25	dust ring	112173	1	1	1	1	1	1	1
26	sleeve lock	112625	1	1	1	1	1	1	1
27	shoulder screw	112626	1	1	1	1	1	1	1
28A	O-ring 208, FKM B	112603				1			
28B	O-ring 208, EPDM	112611		1					
28C	O-ring 208, silicone	112613						1	
28D	O-ring 208, FKM GFLT	112605					1		
28E	O-ring 208, Baylast	112607	1						
28F	O-ring 208, FFKM	112643			1				
_28G	O-ring 208, Hifluor	112653							1
29	INSIDE SHAFT WASHER	112159	1	1	1	1	1	1	1

# **5204-Series, API Bottom Load Valves**



Part #	Description	Includes Item #
5204K1	Baylast™ poppet O-ring	16A
5204K2	complete rebuild kit: Baylast™ O-rings, bearings	6, 10, 13, 14, 16A, 17A, 18A, 25A, 30, 32, 35
5204KV2	complete rebuild kit: FKM poppet O-ring, Baylast O-rings, bearings	6, 10, 13, 14, 16B, 17A, 18A, 25A, 30, 32, 35
5204K3	anodized nose ring with Baylast gasket, screws, and lock washers	2, 17A, 24, 31
5204K5	detachable handle assembly (for 5204C and 5204NGC)	not illustrated
5204K6	PTFE encapsulated seal kit, poppet O-ring, nose O-ring, shaft O-ring, and sight glass O-ring	16C, 17B, 18B, 25B
5204K7	fixed handle assembly	4, 6, 8A, 26, 27, 29, 32
5204K8	sight glass repair kit	12, 25A, 36
5204K9	sight glass cover kit (to convert units with sight glass to non-sight glass)	not illustrated
5204K11	nose ring replacement 8 hex bolts and 8 washers kit	24, 31
5204K12	sight glass replacement hardware, 6 hex bolts, 6 lock washers, and 4 washers kit	23, 26, 31
5204K13	full body sight glass, seals, and retainer kit for 5204SFI	38, 39, 40

NOTE: See 5204-Series bill of materials on the following page



### **5204-Series, API Bottom Load Valves**

See 5204-Series explosion diagram on preceding page

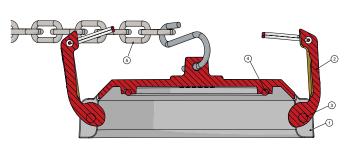
#### **Bill of Materials**

### **Qty of Components per Unit**

Bill of Materials Qty of Components per only					<u> </u>						
Item #	Description	Part #	5204	5204NG	5204TNG	5204SNG	5204NGV	5204C	5204NGC	5204L	5204LNG
1	body-pipe end		1	1	1	1	1	1	1	1	1
2	nose ring	use kit 5204K3	1	1	1	1	1	1	1	1	1
3	shaft	390812	1	1	1	1	1	1	1		
4	handle pin	111559	1	1	1	1	1				
5	shaft spacer	390813	1	1	1	1	1	1	1		
6	shaft bearing	111557	1	1	1	1	1	1	1		
7	stop pin	5204-SP	1	1	1	1	1	1	1		
8A	fixed handle	use kit 5204K7	1	1	1	1	1				
8B	removeable handle	use kit 5204K5						1	1		
9A	poppet (load/unload versions)	341755	1	1	1	1	1	1	1		
9B	poppet (load only versions)	341756								1	1
10	poppet bearing	341801	1	1	1	1	1	1	1	1	1
11	cam	111550	1	1	1	1	1	1	1		
12	sight glass	use kit 5204K8	1					1		1	
13	poppet roller	390815	1	1	1	1	1	1	1		
14	poppet roller bearing	111556	1	1	1	1	1	1	1		
15	retaining ring	111560	1	1	1	1	1	1	1	1	1
16A	Baylast™ poppet O-ring	5204K1	1	1		1		1	1	1	1
16B	FKM poppet O-ring	5204KV1					1				
16C	PTFE encapsulated poppet O-ring	use kit 5204K6			1						
17A	nose ring O-ring	111554	1	1		1	1	1	1	1	1
17B	PTFE nose O-ring	use kit 5204K6			1						
18A	shaft O-ring	111552	1	1		1	1	1	1		
18B	PTFE shaft O-ring	use kit 5204K6			1						
19	shaft and cam roll pin	6000-12	2	2	2	2	2	2	2		
20	pin roller	111566	1	1	1	1	1	1	1		
21	grease fitting	111561	1	1	1	1	1	1	1		
23	sight glass screw	use kit 5204K12	6					6		6	
24	nose ring screw	use kit 5204K11	8	8	8	8	8	8	8	8	8
25A	Baylast sight glass O-ring	use kit 5204K8	1					1		1	
25B	PTFE sight glass O-ring	use kit 5204K6									
26	washer	111562	1	1	1	1	1	6		6	
27	cotter pin	111563	1	1	1	1	1				
28A	main spring-steel	111564	1	1			1	1	1	1	1
28B	main spring-stainless steel	111542			1	1					
29	handle spring	111565	1	1	1	1	1	1	1		
30	dust seal O-ring	111553	1	1	1	1	1	1	1		
31	lock washer 1/4"	111569	14	8	8	8	8	14	8	14	8
32	handle shaft spring washer	111573	1	1	1	1	1	1	1		
33	handle shaft washer	111574	1	1	1	1	1	1	1		
34	back-up ring	111579	1	1	1	1	1	1	1		
35	U-cup seal	111580	1	1	1	1	1	1	1		
36	float ball indicator	use kit 5204K8	1					1			
38 1	retaining ring	use kit 5204K13									
39 <sup>1</sup>	SFI sight glass	use kit 5204K13									
40 ¹	SFI sight glass O-ring (Baylast)	use kit 5204K13									
-	3 3 3 3 3 3 7		1	1	1	1	1	1	1		1

<sup>&</sup>lt;sup>1</sup> Not illustrated, parts for 5204-SFI

### 5000-24 API Dust Caps



### **Bill of Materials**

ltem #	Description	Part #	Qty
1	body		1
2	cam arm and ring	300-HRP-BR	2
3	cam arm pin	5000-24	2
4A	Baylast™ O-ring (standard)	4500-5	1
4B	FKM O-ring (optional)	4500-7	1
5	18" chain and S hook	5205-RK4	1

### **Repair Kits**

	-	
Part #	Part # Description	
4500RK	cam arms, pins and Baylast O-ring seal (standard)	
4500RK-V	cam arms, pins and FKM O-ring seal (optional)	2, 3, 4B
5205-RK4	18" chain and S hook	5

### **5205 API Dust Caps**



#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	slotted pin	use kit 5205-RK3	1
3	roller	use kit 5205-RK3	1
4	gasket	use kit 5205-RK1	1
5	S hook	use kit 5205-RK4	1
6	18" chain	use kit 5205-RK4	1
7	spring pin	use kit 5205-RK2	1
8	plastic cam arm	use kit 5205-RK2	1

### **Repair Kits**

	• • • • • • • • • • • • • • • • • • •	
Part #	Description	Item #
5205-RK1	gasket kit	4
5205-RK2	cam arm and pin	7, 8
5205-RK3	roller and pin	2, 3
5205-RK4	chain and S hook	5, 6



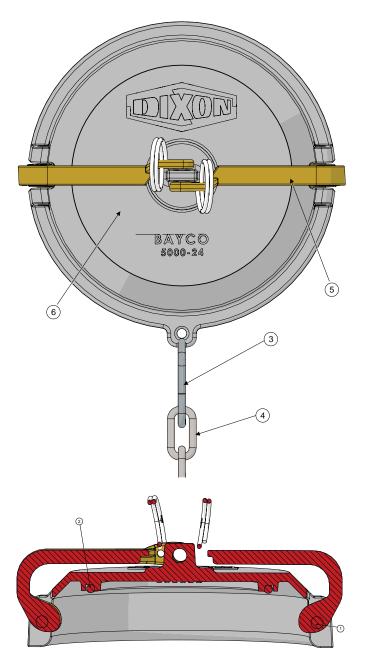
# 5000-24L Lockable API Caps

#### **Bill of Materials**

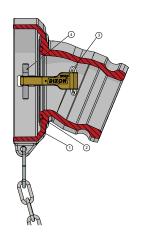
Item #	Description	Part #	Qty
1	pin	325-P	2
2	NBR O-ring	4500-5	1
3	S hook	112167	1
4	chain 18"	500-15	1
5	lockable arm with ring	341836	2
6	API dust cap		1

### **Repair Kit**

Part #	Description	Item #
5000-24LRK	arm and seal repair kit	1, 2, 5



# **4530 and 4540-Series Gravity Drop Adapters**



#### **Bill of Materials**

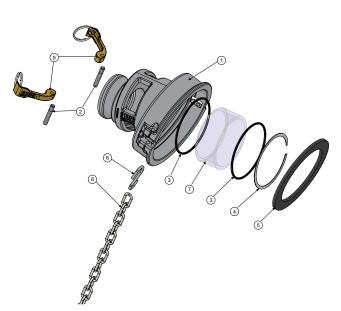
Item #	Description	Part #	Qty
1	body		1
2A	Baylast™ O-ring (standard)	4500-5	1
2B	FKM O-ring (standard)	4500-7	1
3	cam arm and ring	300-HRP-BR	2
4	cam pin	300-HRP-BR	2
	18" chain and S hook	5205-RK4	1

### **Repair Kits**

Part #	Description	
4500RK	cam arms, rings, pins and Baylast O-ring	2A, 3, 4
4500RK-V	cam arms, rings, pins and FKM O-ring	2B, 3, 4
5205-RK4	8" security chain and S hook	

### 4530SG and 4540SG (with Sight Glass) Gravity Drop Adapters



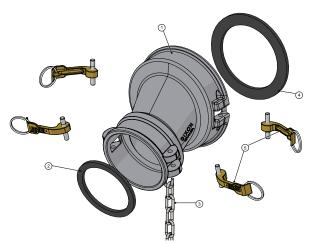


Item #	Description	Part #	Qty
1	body		1
2	cam arm pin	L519-15	2
3	Baylast O-ring	112052	2
4	retaining ring	112053	1
5	Baylast main gasket	4540SG-RK2	1
6	S hook	use kit 5205-RK4	1
7	sight glass	use kit 4540SG-RK1	1
8	18" chain	use kit 5205-RK4	1
9	cam arm and ring	ACAR34BZ	2

### **Repair Kits**

Part #	Description	Item #
4540SG-RK1	4540SG-RK1 sight glass repair kit (fits 3" and 4")	
4540SG-RK2	OSG-RK2 Baylast main gasket (fits 3" and 4")	
4540SG-RK2-V FKM main gasket (fits 3" and 4")		5B
4540SG-RK3	cam arms and pins (fits 3" and 4")	2, 9
5205-RK4	chain and S hook	6, 8

# **4540F Gravity Drop Adapters**



#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	4" NBR fuel gasket	400-G-BF	1
3	18" chain with S hook	5205-RK4	1
4	Baylast main gasket	4540SG-RK2	1
5	brass cam arm, pin and finger ring (kit)	300-HRP-BR	4



### 4500 Drop Adapter Mounting Ring for 2-Piece Gravity Drop Adapters

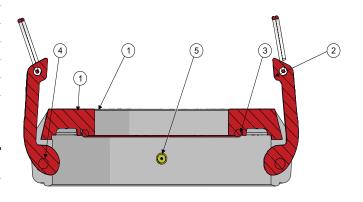
4500, 4502 and 4504 Main Body Inlet

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	cam arm and ring	300-HRP-BR	2
3A	Baylast™ O-ring (standard)	4500-5	1
3B	FKM O-ring (optional)	4500-7	1
4	cam arm pin	300-HRP-BR	2
5	rivet	390564	1

### **Repair Kits**

-		
Part #	Description	Item #
4500RK	cam arms, rings, pins and Baylast O-ring (standard)	2, 3A, 4
4500RK-V	cam arms, rings, pins and FKM O-ring (optional)	2, 3B, 4



### **4500-Series Drop Adapter Outlets**

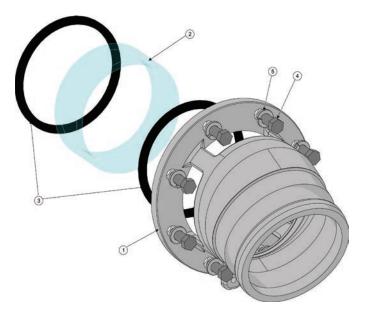
4501, 4502, 4503 and 4504

#### **Bill of Materials**

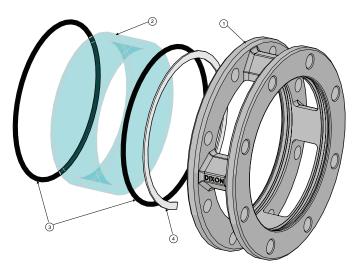
Item #	Description	Part #	Qty
1	body		1
2	sight glass	see below	2
3A	Baylast gasket	4433	2
3B	FKM gasket	4426	1
4	stainless bolt	4427	8
5	stainless washer	WASHER.375-SS	8
not illustrated	coupler gasket for 4504	400-G-BF	1
not illustrated	cam arm and ring for 4504	ACAR34BZ	
not illustrated	cam arm pin for 4504	L519-12	2

### **Repair Kits**

Part #	Description	Item #
4400SGK	sight glass and Baylast gaskets for 4501 and 4504	2, 3A
4400SGK-V	sight glass and FKM gaskets for 4501 and 4504	2, 3B
4502SGK	sight glass and Baylast gaskets for 4502 and 4503	2, 3A
4502SGK-V	sight glass and FKM gaskets for 4502 and 4503	2, 3B



# 5200-SFI-Series, Sight Glass



#### **Bill of Materials**

Item #	Description	Part #
1A	body 3"-1-3/4"	241667
1B	body 3"-3-1/4"	242055
1C	body 4"-3-3/4"	241964
1D	body 4"-3-1/4"	242028
2A	sight glass	391149
2B	sight glass	391859
2C	sight glass	390843
2D	sight glass	390844
3A	3" Baylast™ O-ring	111692
3B	3" FKM O-ring	112097
3C	4" Baylast O-ring	112028
3D	4" FKM O-ring	112098
4A	3" retaining ring	112056
4B	3" retaining ring	40419SS
4C	4" retaining ring	112055
4D	4" retaining ring	40420SS

### **Repair Kits**

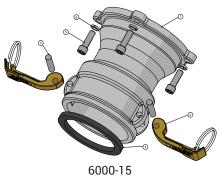
Part #	Description	Includes Item #
5200-SFI-3-RK1	sight glass for 5200-SFI-3	2C, 3A, 4A
5200-SFI-RK1	sight glass for 5200-SFI	2D, 3C, 4C
5200-SFIV-RK1	sight glass for 5200-SFIV	2D, 3D, 4C
5200-SFI-3V-RK1	sight glass for 5200-SFI-3V	2C, 3B, 4A
5201-SFI-3-RK1	sight glass for 5201-SFI-3	2B, 3A, 4A
5201-SFI-RK1	sight glass for 5201-SFI	2A, 3C, 4C

### **Drop Elbow Inlets**

Fits 6000, 6200, and 6500-Series Elbows 6000-14 and 6000-15 Female Coupler Inlets







#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	cam arm and ring	300-HRP-BR	2
3A	4" cam arm pin	300-HRP-BR	2
3B	3" cam arm pin	300-HRP-BR	2
4A	4" gasket (6000-14)	400-G-BF	1
4B	3" gasket (6000-15)	300-G-BF	1
5	hex screw	use kit 6000NPHK	4
6	lock washer	use kit 6000NPHK	4

### Repair Kit

Part #	Description	Includes Item #
6000NPHK	adapter kit includes (4) bolts and (4) lock washers	5, 6

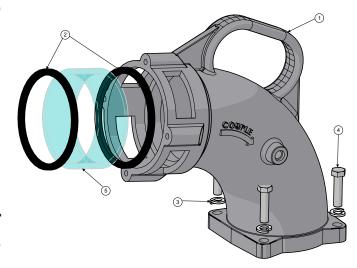


# **Top "D" Handle Elbows**

### Fits 6000 Elbow Only

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body	6200-1	1
2A	Baylast™ gasket	4433	2
2B	FKM gasket (optional)	4426	2
3	lock washer	use kit 6000EHK	4
4	bolt	use kit 6000EHK	4
5	sight glass	use kit 6200SGK	1



### **Repair Kits**

Part #	Description	Includes Item #
6200SGK	sight glass and Baylast seal	2, 5
6000EHK	bolts and washers	3, 4

# **Bottom Unit, for "D" Handle Elbows**

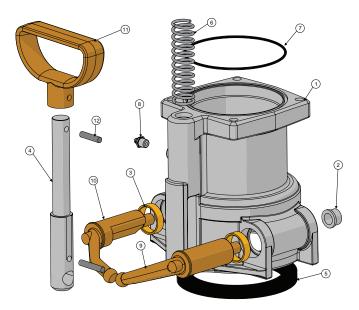
Fits 6000, 6303 and 6304

### **Bill of Materials**

Item #	Description	Part #	Qty
1	body	use kit 6030	1
2	small bushing	use kit 6200BK	2
3	large bushing	use kit 6200BK	2
4	handle stem	6000-7	1
5	main gasket	6000-9	1
6	spring	112012	1
7	O-ring	AS156	1
8	grease nipple	NIPPLE/1	1
9	right arm	use kit 6200ARK	1
10	left arm	use kit 6200ARK	1
11	handle	6000-8	1
12	handle pin	6000-13	1
13	pin	6000-12	1

# **Repair Kits**

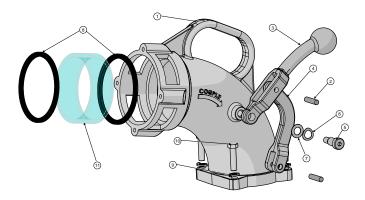
Part # 6030	Description complete bottom unit	Includes Item # all
6200ARK	L and R arms, main gasket, O-rings, small and large bushings	2, 3, 5, 7, 9, 10
6200BK	2 small and 2 large bushings	2, 3



### **Top Side Lever Elbows**

### Fits 6200 Elbow Only





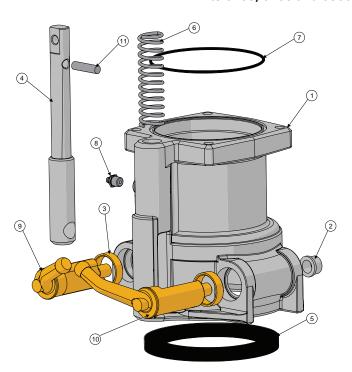
Item #	Description	Part #	Qty
1	body	6200-1	1
2	pin	PIN5/16X 1 1/4P	2
3	handle	use kit 6200-15ASSM	1
4	handle linkage	use kit 6200-15ASSM	1
5 ¹	shoulder bolt	use kit 6200SBK	1
6 ¹	wave washer	use kit 6200SBK	2
7 1	SS flat washer	use kit 6200SBK	1
8A	Baylast™ gasket	4433	2
8B	FKM gasket (optional)	4426	2
9	lock washer	use kit 6000EHK	4
10	bolt	use kit 6000EHK	4
11	sight glass	use kit 6200SGK	1
12 <sup>2</sup>	bushing	use kit 6200SHK	1
13 <sup>2</sup>	stud	use kit 6200SHK <sup>2</sup>	1
14 <sup>2</sup>	nylon washer	use kit 6200SHK <sup>2</sup>	2
15 <sup>2</sup>	nut	use kit 6200SHK <sup>2</sup>	1

### **Repair Kits**

Part #	Description	Includes Item #
6200-15ASSM	handle, linkage	2, 3, 4
6200SGK	sight glass and Baylast seals	8, 11
6000EHK	bolts and lock washers	9, 10
6200SBK <sup>1</sup>	shoulder bolt pivot, wave washer and flat washer	5, 6, 7
6200SHK <sup>2</sup>	stud pivot, nylon washers, bushing and nut	12, 13, 14, 15

### **Bottom Unit, for Side Lever Elbows**

Fits 6200, 6400 and 6500 Standard and Tall Elbows



#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body	use kit 6230 or 6230X	1
2	small bushing	use kit 6200BK	2
3	large bushing	use kit 6200BK	2
4A	handle stem (standard)	6200-7	1
4B	handle stem (tall)	6200-7X	1
5	main gasket	6000-9	1
6	spring	112012	1
7	O-ring	AS156	1
8	grease nipple	NIPPLE/1	1
9	right arm	use kit 6200ARK	1
10	left arm	use kit 6200ARK	1
11	pin	PIN5/16X 1 1/4P	1

#### **Repair Kits**

Part #	Description	Includes Item #
6230	complete bottom unit	all
6230X	complete tall bottom unit	dii
6200ARK	L and R arms, main gasket, O-rings,	2, 3, 5, 7,
UZUUANN	small and large bushings	9, 10
6200BK	small and large bushings	2, 3

 $<sup>^{\</sup>rm 1}$  items 5 through 7 are for newer version with shoulder bolt pivot only  $^{\rm 2}$  for older version with stud and nut pivot use items 12 through 15 instead

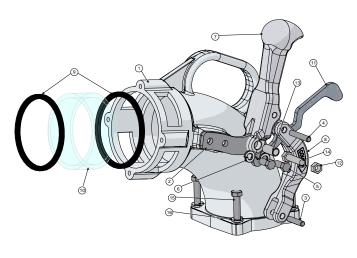


### **Top Side Lever Elbows**

### Fits 6500 Elbow Only

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body	341709	1
2	mounting plate	use kit 6500AHK	1
3	lower lever pin	111728	1
4	upper lever pin	111727	1
5	plate screw	112242	3
6	washer	WASHER.375-SS	3
7	handle	use kit 6500-RK1	1
8	linkage	use kit 6500-RK1	1
9A	Baylast™ gasket	4433	2
9B	FKM gasket (optional)	4426	2
10	sight glass	use kit 6200SGK	1
11	locking latch	use kit 6500-RK1	1
12	lock nut	111730	1
13	bushing	390841	1
14	screw	111729	1
15	bolt	use kit 6000EHK	4
16	lock washer	use kit 6000EHK	4



For bottom end replacement parts, please see below

### **Repair Kits**

Part #	Description	Includes Item #
6200SGK	sight glass and Baylast seals	9A, 10
6000EHK	bolts and washers	15, 16
6500-RK1	handle, linkage, lock latch, nut, bushing, pins	2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14
6500AHK	mounting plate, screws and lock washers	2, 5, 6, 14

# 6303 and 6304-Series Straight Drop Fittings

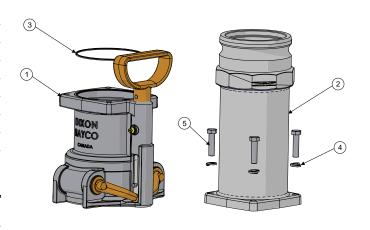
6303 (3" inlet), 6304 (4" inlet)

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	complete bottom unit	6030	1
2A	4" adapter inlet tube	6304-1	1
2B	4" MNPT inlet tube	400460	1
2C	3" adapter inlet tube	6300-3	1
2D	3" MNPT inlet tube	400588	1
3	O-ring	AS156	1
4	lock washer	use kit 6000EHK	4
5	bolt	use kit 6000EHK	4

#### **Elbow Hardware Kit**

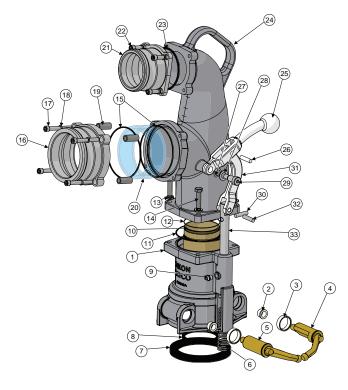
Part #	Description	Includes Item #
6000EHK	lock washer, bolt	4, 5



### 6400-Series Coaxial Drop Elbow with 3" Male Vapor Outlet

6400 (4" Male Inlet), 6400F (4" Female Inlet), 6430 (3" Male Inlet), 6430F (3" Female Inlet)





#### **Inlet Adapter and Coupler Kits**

Part #	Description	Includes Item #
6000-14C	4" coupler inlet kit	16B, 17, 18
6000-15C	3" coupler inlet kit	16D, 17, 18
6000-16C	3" adapter inlet kit	16C, 17, 18
6000-17C	4" adapter inlet kit	16A, 17, 18
6000-26C	3" male NPT vapor outlet	21B

### **Repair Kits**

Part #	Description	Includes Item #
6230	complete bottom unit	1-7, 9, 11, 32, 33A
6230X	complete tall bottom unit	1-7, 9, 11, 32, 33B
6400ARK	L and R arms, main gasket, O-rings, small and large bushings	2-5, 7, 8, 11, 12
6200BK	small and large bushings	2, 3
6400SGK	sight glass and seal	15, 20
6200-15ASSM	handle, lever, and pin	25, 26, 31
6000EHK	bolts and washers	13, 14
6400-DTK	tube, O-ring, and U-cup seal	8, 10, 12
6200SHK <sup>2</sup>	pivot stud, bushing, washer, and lock nut	34-37
6200SBK <sup>1</sup>	shoulder bolt pivot, wave washer, and flat washer	27-29
6400EXT-3	tall tube, O-ring, and U-cup seal	8, 10, 12

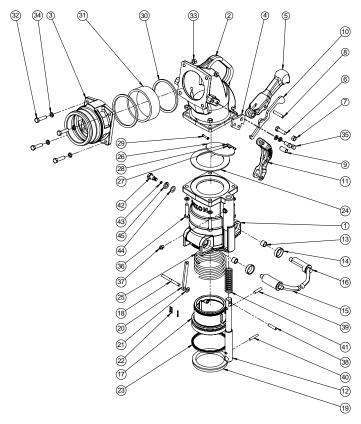
IA	Dill of Waterials			
Item #	Description	Part #	Qty	
1	bottom body	use kit 6230 or 6230X	1	
2	small bushing	use kit 6400ARK	2	
3	large bushing	use kit 6400ARK	2	
4	right arm	use kit 6400ARK	1	
5	left arm	use kit 6400ARK	1	
6	stem spring	112012	1	
7	main gasket	6000-9	1	
8	tube U-cup seal	U-CUP-2/75	1	
9	grease nipple	NIPPLE/1	1	
10	tube	use kit 6400-DTK or 6400EXT-3	1	
11	O-ring	AS156	1	
12	tube O-ring	O-RING#39	2	
13	lock washer	use kit 6000EHK	4	
14	bolt	use kit 6000EHK	4	
15	inlet O-ring	AS156	2	
16A	4" adapter fuel inlet (6400)	use kit 6000-17C	1	
16B	4" coupler fuel inlet (6400F)	use kit 6000-14C	1	
16C	3" adapter fuel inlet (6430)	use kit 6000-16C	1	
16D	3" coupler fuel inlet (6430F)	use kit 6000-15C	1	
17	inlet bolt	SC5/16-18X2.5P	4	
18	inlet bolt lock washer	111723	4	
19	inlet bolt spacer	6544CA-1	4	
20	sight glass	use kit 6400SGK	1	
21A	3" adapter vapor outlet	6400-4	1	
21B	3" male NPT vapor outlet	6000-26C	1	
22	vapor adapter bolt	4432	4	
23	vapor adapter O-ring	110601	1	
24	top coaxial elbow body	6400-1	1	
25	handle	use kit 6200-15ASSM	1	
26	handle pin	PIN5/16X 1 1/4P	1	
27	wave washer <sup>1</sup>	use kit 6200SBK 1	1	
28	SS flat washer 1	use kit 6200SBK 1	1	
29	shoulder bolt 1	use kit 6200SBK 1	1	
30	set screw	SC3/8NCX1/2	1	
31	linkage	use kit 6200-15ASSM	1	
32	stem pin	PIN5/16X 1 1/4P	1	
33A	lever stem (standard)	6200-7	1	
33B	lever stem (tall)	6200-7X	1	
34	pivot lock nut <sup>2</sup>	use kit 6200SHK <sup>2</sup>	1	
35	washer <sup>2</sup>	use kit 6200SHK <sup>2</sup>	2	
36	pivot stud <sup>2</sup>	use kit 6200SHK <sup>2</sup>	1	
37	pivot bushing <sup>2</sup>	use kit 6200SHK <sup>2</sup>	1	

<sup>&</sup>lt;sup>1</sup> items 27, 28, and 29 are for the newer version with a shoulder bolt pivot only

<sup>&</sup>lt;sup>2</sup> for the older version with stud and nut pivot, use items 34 through 37 instead



# 6600-Series Shut Off Elbow Repair Kits



**Repair Kits** 

Part #	Description	Includes Item #
6600RK1	shut off elbow handle kit	4, 5, 6, 7,8 ,9, 10, 11, 34, 35
6600RK2	sleeve kit for shut off elbow with flapper	17, 18, 19, 20, 21, 22, 23, 42, 43, 44,45
6600RK3	sleeve kit for shut off elbow without flapper	17, 19, 23, 42, 43, 44, 45
6600RK4	shut off elbow flapper kit	26, 27, 28, 29
6600RK5	shut off elbow complete seal kit	19, 23, 24, 30, 43
6600RK6	shut off elbow cam arm kit	13, 14, 15, 16
6600RK7	shut off elbow cam arm bushing kit	13, 14

**Bill of Materials** 

Item #	Description	Part #	Qty
31	sight glass only	use kit 6200SGK	1
30	baylast™ seal	use kit 6200SGK	2
4-11	handle subassembly	use kit 6600RK1	1
35	bolt hex 3/8"-16 x 3/4" LG UNC	use kit 6600RK1	2
34	washer .375" ss	use kit 6600RK1	2
17-23	sleeve subassembly	use kit 6600RK3	1
42	lock screw shut off elbow	use kit 6600RK3	1
45	washer lock .500" ss	use kit 6600RK3	1
44	flat washer 1/2" 304 ss	use kit 6600RK3	1
43	O-ring 2-010 baylast	use kit 6600RK3	1
26-28	flapper subassembly	use kit 6600RK4	1
29	3/16" clevis pin	use kit 6600RK4	1
19	main gasket-shutoff elbow	use kit 6600RK5	1
24	flapper gasket-shutoff elbow	use kit 6600RK5	1
23	lip seal	use kit 6600RK5	1
43	O-ring 2-010 baylast	use kit 6600RK5	1
30	baylast seal	use kit 6600RK5	2
15	cam arm - left	use kit 6600RK6	1
16	cam arm - right	use kit 6600RK6	1
13	small bushing	use kit 6600RK6 or 6600RK7	2
14	large bushing	use kit 6600RK6 or 6600RK7	2

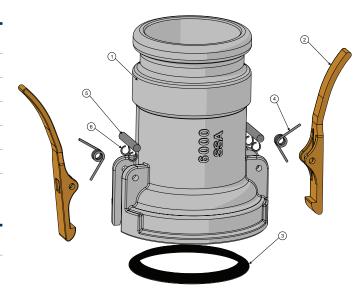
# 6000-SSA-Series 4" Side Seal Adapters

### **Bill of Materials**

		41011410	
Item #	Description	Part #	Qty
1	body		1
2	coupler arm	use kit 6000SSHK	2
3	lip seal gasket	L2373	1
4	spring	L2312	2
5	pin	L2311	2
6	retaining ring	TRUARC-5100-25	4

### Repair Kit

Part #	Description	Includes Item #
6000SSHK	arms, springs, pins, and retaining rings	2, 4, 5, 6



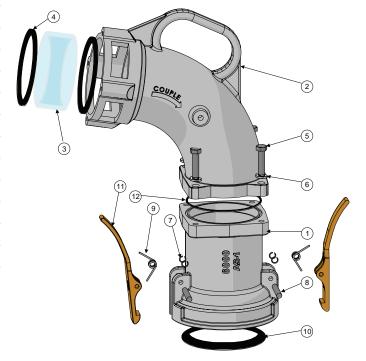
### **6000AS-Series Side Seal Elbows**

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	bottom body	use kit 6030AS	1
2	top body	6200-1	1
3	sight glass	use kit 6200SGK	1
4A	Baylast™ seal	4433	2
4B	FKM seal	4426	2
5	bolt	use kit 6000EHK	4
6	lock washer	use kit 6000EHK	4
7	retaining ring	TRUARC-5100-25	4
8	pin	L2311	2
9	spring	L2312	2
10	lip seal	L2373	1
11	arm	use kit 6000SSHK	2
12	O-ring	AS156	1

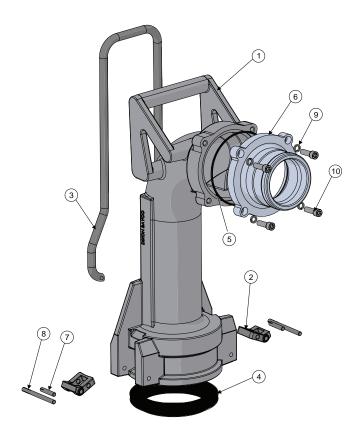
### **Repair Kits**

Part #	Description	Includes Item #
6000ASK	lip seal and body O-ring	10, 12
6030AS	complete replacement bottom unit	1, 7, 8, 9, 10, 11, 12
6200SGK	sight glass and Baylast seals	3, 4
6000EHK	lock washers and bolts	5, 6
6000SSHK	arms, springs, pins, and reining rings	7, 8, 9, 11
6000ASR	arm lock ring	not illustrated





# **VR6100-Series Vapor Elbows**



### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	cam	use kit VR6100CAK	2
3	lift handle	112138-L	1
4	seal	112245	1
5	O-ring	use kit VR6000-6	1
6	adapter 3"	use kit VR6000-6	1
7	grooved pin .25X1.25 SS	use kit VR6100CAK	2
8	grooved pin .25X3 SS	use kit VR6100CAK	2
9	lock washer	use kit 6000NPHK	4

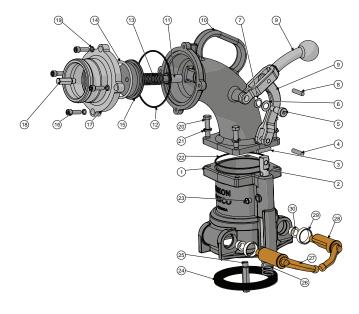
### **Repair Kits**

	-	
Part #	Description	Includes Item #
VR6100CAK	(2) cam and pin kit	2, 7, 8
6000NPHK	adapter kit includes (4) bolts and (4) lock washers	9, 10
112245	seals	4

### **VR6200-Series Vapor Elbows**

#### **Bill of Materials**

Dill of Materials			
Item #	Description	Part #	Qty
1	bottom body	use kit VR6230	1
2	stem	6200-7	1
3	stem stop pin	PIN5/16X11/4P	1
4	stem link pin	PIN5/16X11/4P	1
5	shoulder bolt pivot	use kit 6200SBK <sup>1</sup>	1
6	SS flat washer	use kit 6200SBK <sup>1</sup>	1
7	wave washer	use kit 6200SBK <sup>1</sup>	1
8	handle pin	PIN5/16X11/4P	1
9	handle and linkage	use kit 6200-15ASSM	1
10	top elbow body	VR6000-1	1
11	poppet bushing	VR6000-3	1
12	outlet O-ring only	110319	1
13	poppet spring	L1110-L2287	1
14	FKM poppet seal	O-RING-AS-334	1
15	poppet valve	VR6000-4	1
16	outlet adapter bolt	use kit 6000NPHK	4
17	outlet adapter with outlet O-ring	VR6000-6	1
18	poppet valve stand off	VR6000-5	1
19	lock washer	use kit 6000NPHK	4
20	bolt	use kit 6000EHK	4
21	lock washer	use kit 6000EHK	4
22	body O-ring	AS156	1
23	grease nipple	NIPPLE/1	1
24	main seal gasket	6000-9	1
25	probe	VR6000-7	1
26	stem spring	112012	1
27	left arm	VR6000-9	1
28	right arm	VR6000-8	1
29	large bushing	use kit 6200BK	2
30	small bushing	use kit 6200BK	2
31	pivot bushing	use kit 6200SHK <sup>2</sup>	1
32	pivot stud	use kit 6200SHK <sup>2</sup>	1
33	pivot lock nut	use kit 6200SHK <sup>2</sup>	1
34	nylon washer	use kit 6200SHK <sup>2</sup>	2



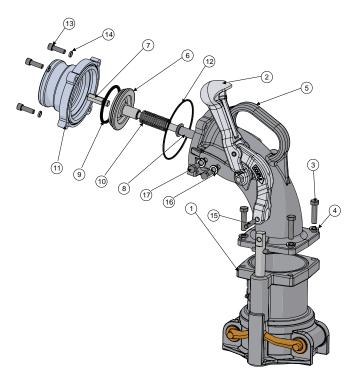
### **Repair Kits**

Tropom Tare			
Part #	Description	Includes Item #	
VR6230	complete bottom unit	1, 2, 3, 22-30	
6200BK	small (2) and large (2) bushing kit	29, 30	
6000EHK	body lock washers and bolts	20, 21	
6200SHK <sup>2</sup>	pivot stud, bushing, washers, and lock nut	31-34	
6000NPHK	adapter kit includes (4) bolts and (4) lock washers	16, 19	
6200-15ASSM	handle, linkage, and pin	8, 9	
6200SBK <sup>1</sup>	shoulder pivot bolt, wave washer, and flat washer	5-7	
VR6200ARK	arm and seal repair kit	14, 22, 24, 27-30	

 $<sup>^{\</sup>rm 1}$  items 5 through 7 are for newer version with shoulder bolt pivot only,  $^{\rm 2}$  for older version with stud and nut pivot use items 31 through 34 instead



# **VR6500-Series Vapor Elbows**



### **Bill of Materials**

Item #	Description	Part #	Qty
1	complete bottom body	VR6230	1
2	handle assembly	use kit VR6500RK1	1
3	body bolt	use kit 6000EHK	4
4	body lock washer	use kit 6000EHK	4
5	elbow body	341784	1
6	poppet valve	VR6000-4	1
7	poppet valve stand off	VR6000-5	1
8	poppet bushing	VR6000-3	1
9	FKM O-ring	O-RING-AS-334	1
10	poppet spring	L1110-L2287	1
11	outlet adapter and O-ring	VR6000-6	1
12	outlet O-ring	110319	1
13	outlet adapter bolt	use kit 6000NPHK	4
14	outlet lock washer	use kit 6000NPHK	4
15	lower lever pin	111728	1
16	side plate lock washer	WASHER.375-SS	2
17	side plate bolt	112242	2

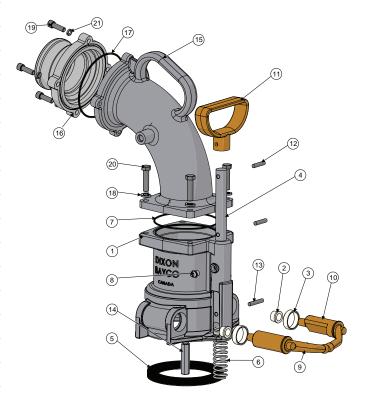
### **Repair Kits**

	Tropom Tuto		
Part #	Description	Includes Item #	
VR6500RK1	handle, linkage, mounting plate, bolt, nut, bushing, and pins	2	
6000EHK	(4) body bolts and washers	3, 4	
6000NPHK	adapter kit includes (4) bolts and (4) lock washers	13, 14	

# **VR6000NP-Series Vapor Elbows**

#### **Bill of Materials**

Bill of Materials			
Item #	Description	Part #	Qty
1	bottom body	VR6000-2	1
2	small bushing	use kit 6200BK	2
3	large bushing	use kit 6200BK	2
4	handle stem	390842	1
5	main seal gasket	6000-9	1
6	spring	112012	1
7	O-ring	AS156	1
8	grease nipple	NIPPLE/1	1
9	right arm	VR6000-8	1
10	left arm	VR6000-9	1
11	D-handle	6000-8	1
12	D-handle pin	6000-13	1
13	spring pin	6000-12	1
14	probe	VR6000-7	1
15	elbow body	VR6000-1	1
16	outlet adapter and O-ring	VR6000-6	1
17	outlet O-ring (only)	110319	1
18	body lock washer	use kit 6200EHK	4
19	outlet adapter bolt	use kit 6000NPHK	4
20	body hex bolt	use kit 6200EHK	4
21	outlet adapter lock washer	use kit 6000NPHK	4

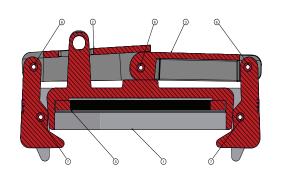


### **Repair Kits**

Part #	Description	Includes Item #
6200BK	small (2) and large (2) large bushing kit	2, 3
6000EHK	body lock washers and bolts	18, 20
6000NPHK	adapter kit includes (4) bolts and (4) lock washers	19, 21
400637	complete bottom unit	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14



### **SA4050AL Caps**

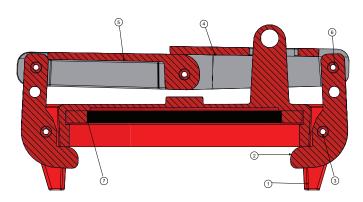


#### **Bill of Materials**

Item #	Description	Part #	Qty
1	cap body		1
2	top large lever	4050AL	1
3	minor lever	4062AL	1
4	cam arm	4063	2
5	gasket	400-G-BU	1
6	lever pin	4066	3
7	cam arm pin	4068	2

# 4" Vapor Caps

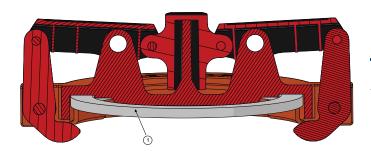
**VR4050AL** 



#### **Bill of Materials**

Item #	Description	Part #	Qty
1	cap body		1
2	cam arm	VR4075	2
3	arm pin	4068	2
4	top large lever	VR4077	1
5	minor lever	VR4076	1
6	lever pin	4066	3
7	NBR gasket	400-G-BU	1

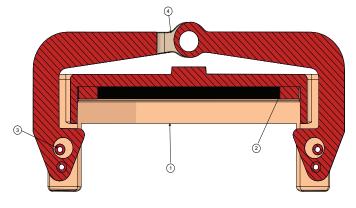
# **VR4050PL-Series 4" Nylon Vapor Caps**



#### **Bill of Materials**

Item #	Description	Part #	Qty
1	gasket	VR4050PLRK1	1

# **TL4070BZ-Series Bronze Caps**



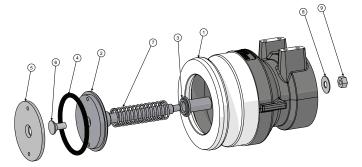
#### **Bill of Materials**

Item #	Description	Part #	Qty
1	cap body		1
2	NBR gasket	400-G-BU	1
3	arm pin	4068	4
4	arm (lever)	4071	2

# **VR3100-Series 3" Vapor Hose Valves**

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	valve	341827	1
3	bushing	VR6000-3	1
4	FKM O-ring	O-RING-AS-334	1
5	valve plate	VR4100-3	1
6	screw	SC5-16NCX.75FSS	1
7	valve spring	SPRING-L5123	1



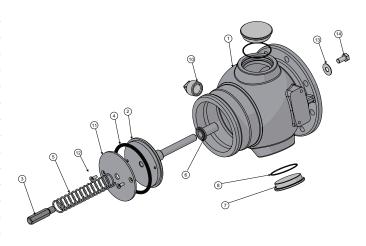
### **Repair Kit**

Part #	Description	Includes Item #
VR4100RK1	valve, bushing, O-ring, valve plate, screw, and spring	2, 3, 4, 5, 6, 7

### **VR4000-Series 4" Vapor Hose Valves**

#### **Bill of Materials**

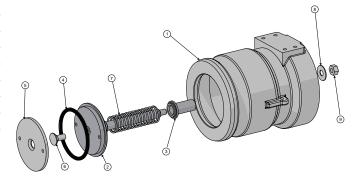
Item #	Description	Part #	Qty
1	body		1
2	valve	VR4000-2	1
3	valve standoff	VR4000-3	1
4	valve O-ring	O-RING-AS339-V	1
5	spring	SPRG/L4432	1
6	bushing	VR6000-3	1
7	sight glass	VR4000-4	2
8	sight glass O-ring	O-RING#132	2
9	retaining ring	RING-VH-225	2
10	plug	110748	1
11	valve plate	VR4000-5	1
12	valve plate screws	SC1024375-SS	2
13	washer	112270	1
14	hex cap screw	112269	1



### **VR4100-Series 4" Vapor Hose Valves**

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	valve	341827	1
3	bushing	VR6000-3	1
4	FKM O-ring	O-RING-AS-334	1
5	valve plate	VR4100-3	1
6	screw	SC5-16NCX.75FSS	1
7	valve spring	SPRING-L5123	1
8	washer	112270	1
9	nut	112271	1

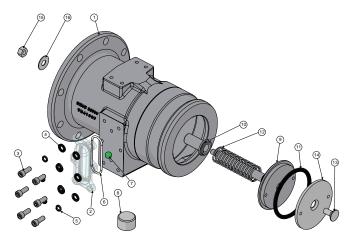


### **Repair Kit**

Part #	Description	Includes Item #
VR4100RK1	valve, bushing, O-ring, valve plate, screw, and spring	2, 3, 4, 5, 6, 7



# **VR4100F-Series Vapor Hose Valves**



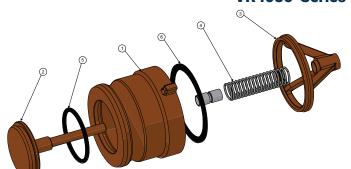
### **Repair Kits**

Part #	Description	Includes Item #
5204K8	sight glass, O-ring, float ball	2, 6, 7
5204K12	hex bolts (6), lock washers (6), washers (4) kit	3, 4, 5

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	sight glass	111575	1
3	sight glass bolts	111570	6
4	sight glass washer	111562	4
5	sight glass lock washer	111569	6
6	sight glass O-ring	111733	1
7	sight glass float ball	111572	1
8	3/4" body plug	112044	1
9	valve	341827	1
10	bushing	VR6000-3	1
11	FKM valve O-ring	O-RING-AS-334	1
12	valve spring	SPRING-L5123	1
13	screw	SC5-16NCX.75FSS	1
14	valve plate	VR4100-3	1
15	washer	112271	1
16	nut	112270	1

### **VR4086-Series Vapor Adapters**

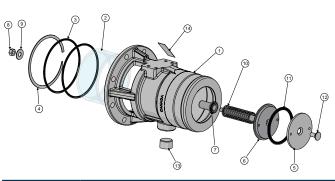


#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	valve	340331	1
3	valve spider	340304	1
4	spring	110892	1
5	FKM O-ring	O-RING-AS-334	1
6	body gasket	G4000AS	1

# **VR4100F-SFI-Series Vapor Hose Couplers**

#### **Bill of Materials**



Part #	Description	Includes Item #
VR4100F-SFI	vapor return valve TTMA flange with in-line sight glass	2, 3, 4

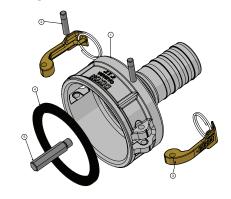
Item #	Description	Part #	Qty
1	body	341832	1
2	sight glass	391855	1
3	O-ring	112280	2
4	retaining ring	112281	1
5	plate	390663	1
6	valve	341827	1
7	bushing	390146	1
8	nut	112271	1
9	washer	112270	1
10	spring	111197	1
11	O-ring FKM	110691	1
12	screw	110842	1
13	plug	112044	1
14	warning label	112205	1

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# **4020-CVR-AL Vapor Hose Couplers**

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	pin	325-P	2
3	cam arm with ring	300-HR-BR	2
4	gasket 4"	400-G-BU	1
5	probe	VR6000-7	1

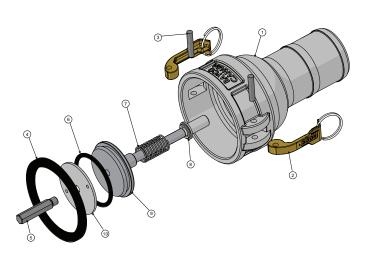


### **VR4030CS-AL Vapor Hose Couplers**

4" x 3" with poppet

### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	cam arm and ring	300-HRP-BR	2
3	cam pin	300-HRP-BR	2
4	NBR coupler gasket	400-G-BU	1
5	probe	VR6000-7	1
6	FKM valve O-ring	O-RING-AS-334	1
7	spring	SPRG/L4238	1
8	bushing	VR6000-3	1
9	valve	VR4030CS-1	1
10	valve plate	VR4030CS-4	1



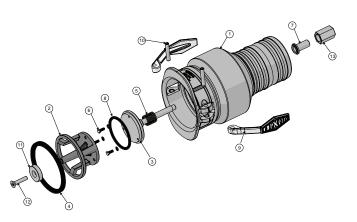
### **Repair Kit**

Part #	Description	Includes Item #
VAC4030RK	replacement cam arms, rings, pins, coupler gasket, and valve 0-ring	2, 3, 4, 6



# VR4040CS-AL and VR4040CS-4MNPT





#### **Bill of Materials**

Item #	Description	Part #	Q	ty
item #	Description	Part #	AL	MNPT
1	h a du	341818	1	
1	body	341870		1
2	cage	341819	1	1
3	poppet	341820	1	1
4	NBR gasket	112262	1	1
5	spring	112263	1	1
6	machine screw with washer	112506/112507	3	3
7	bushing	390146	1	1
8	O-ring FKM	110691	1	1
9	paddle arm	40215SS	2	2
10	cam arm pin	40218SS	2	2
11	button	391860	1	1
12	poppet stop	391868	1	1
13	screw	112416	1	1
14	lock washer	111706	3	3

#### **Repair Kits**

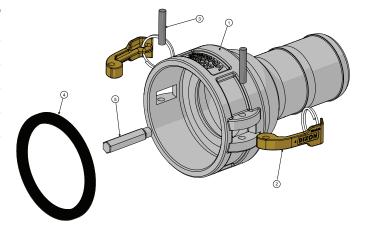
	•		
Part #	Description	Includes Item #	
VR4040CSRK1	seal repair kit	4, 6, 8	
VR4040CSRK2	cam arm repair kit	9, 10	
VR4040CSRK3	internal repair kit	2, 3, 5, 6, 7, 8, 11, 12, 13	
VR4040CSB	vapor coupler body complete kit		
VR4030-AL45	3" x 45° hose shank kit		
VR4040-AL45	4" x 45° hose shank kit		
VR4040-ALS45	4" x 45° hose shank kit with swivel		

# **VR4030CS-NP Vapor Hose Couplers**

4" x 3" without Poppet

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	cam arm and ring	300-HRP-BR	2
3	cam arm pin	300-HRP-BR	2
4	NBR coupler gasket	400-G-BU	1
5	probe	VR4030CS-3	1

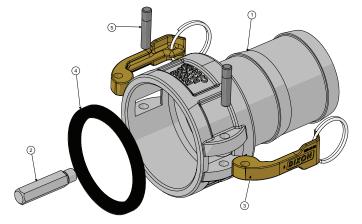


# **VRC3000AL Vapor Hose Couplers**

3" x 3"

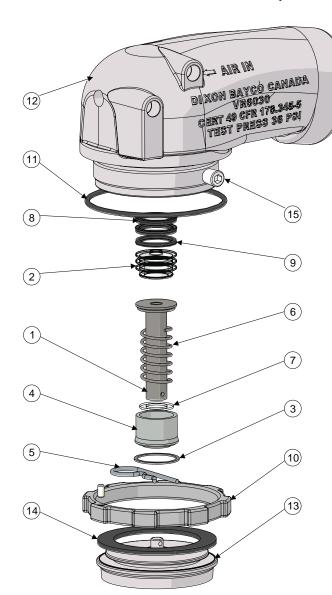
#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	probe	L4217	1
3	cam arm and ring	300-HRP-BR	2
4	NBR coupler gasket	300-G-BU	1
5	cam arm pin	300-HRP-BR	2





# **VR6030SQ-Series Sequential Vapor Vents**



### **Bill of Materials**

Item #	Description	Part #	Qty
1	stem	400636	1
2	piston	use kit VR6030RK2	1
3	retaining ring	111681	1
4	bearing	390822	1
5	hitch pin	111680	1
6	spring	111679	1
7	bearing seal washer	111683	1
8	top lip seal	111686	2
9	bottom lip seal	111687	1
10A	mounting ring	390826	1
10B	mounting ring set screw	111693	1
11	O-ring	111692	1
12	body		1
13	poppet	341643	1
14A	Baylast™ poppet gasket	VR6030RK3	1
14B	FKM poppet gasket	VR6030RKV3	1
15	pipe plug	111694	1

#### **Repair Kits**

nepail Kits			
Part #	Description	Includes Item #	
VR6030RK1	seal kit with Baylast poppet seal	2, 3, 5, 8, 9, 11, 14A	
VR6030RKV1	seal kit with FKM poppet seal	2, 3, 5, 8, 9, 11, 14B	
VR6030RK2	piston assembly	2, 8, 9	
VR6030RK3	Baylast poppet gasket	14	
VR6030RKV3	FKM poppet gasket	14	

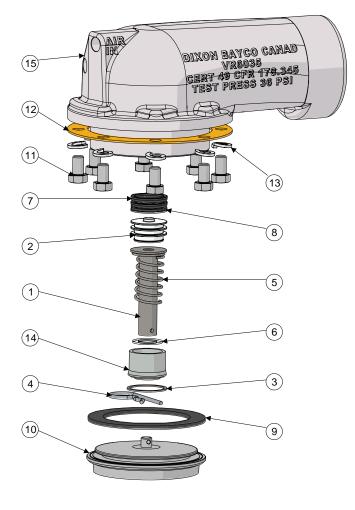
# **VR6035SQ-Series Sequential Vapor Vents**

### **Bill of Materials**

	Dill C. Materialo			
Item #	Description	Part #	Qty	
1	stem assembly	400636	1	
2	piston	use kit VR6030RK2	1	
3	retaining ring	111681	1	
4	cotter pin	111680	1	
5	spring	111679	1	
6	bearing seal washer	111683	1	
7	lip seal	111686	2	
8	lip seal	111687	1	
9A	Baylast™ poppet gasket	use kit VR6035RK3	1	
9B	FKM poppet gasket	use kit VR6035RKV3	1	
10	poppet	341641	1	
11	hex bolt	use kit VR6035RK4	8	
12	body gasket	111689	1	
13	lock washer	use kit VR6035RK4	8	
14	stem bearing	390822	1	
15	body		1	

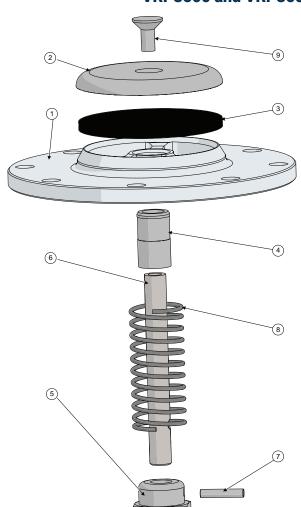
### **Repair Kits**

Part #	Description	Includes Item #
VR6035RK1	seal kit with Baylast poppet seal	2, 3, 4, 7, 8, 9A, 12
VR6035RKV1	seal kit with FKM poppet seal	2, 3, 4, 7, 8, 9B, 12
VR6035RK2	piston assembly	2, 7, 8
VR6035RK3	Baylast poppet gasket	9A
VR6035RKV3	FKM poppet gasket	9B
VR6035RK4	(8) bolts and lock washers	11, 13





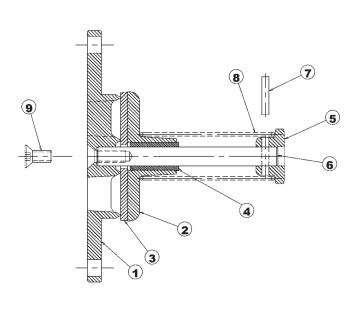
# VRP3500 and VRP3600-Series Outbreathing Vents



# **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	gasket base	VRP3500-2	1
3	gasket	VRV3501-3	1
4	bushing	VRP3500-4	1
5	spring retainer	VRV3501-5	1
6A	shaft for VRP3500	VRP3501-6	1
6B	shaft for VRP3600	390552	1
7	shaft pin	110717	1
8	spring	SPRG-L4506	1
9	screw	SC5-16NCX.75FSS	1

# **VRV3501-Series Inbreathing Vents**



#### **Bill of Materials**

	2 0	2 0		
Item #	Description	Part #	Qty	
1	body		1	
2	gasket base	VRV3501-2	1	
3	gasket	VRV3501-3	1	
4	bushing	VRV3501-4	1	
5	spring retainer	VRV3501-5	1	
6	shaft	VRV3501-6	1	
7	pin	110717	1	
8	spring	SPRG-L4506	1	
9	screw	SC5-16NCX.75FSS	1	
7 8	pin spring	110717 SPRG-L4506	SS	

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### **TDF-Series Tube Doors**

### **Repair Kits**

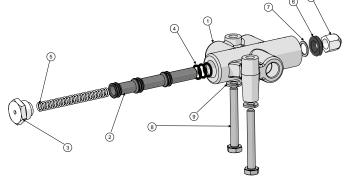
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Part #	Description	
TDF68RK	6" and 8" repair kit, includes stainless steel spring, bushings, and pin	
TDF7RK	7" repair kit, includes stainless steel spring, bushings, pin, and washer	
SPRG-A4630	stainless steel spring only	



#### 5000AIR-Series Roller Ball End Air Interlock Valves

#### **Bill of Materials**

Dill of Materials			
Item #	Description	Part #	Qty
1	body		1
2	piston	use kit 5000AIRSK	1
3	end plug	use kit 5000AIRSK	1
4	NBR O-ring	use kit 5000AIRSK	3
5	spring	use kit 5000AIRSK	1
6	urethane wiper	use kit 5000AIRSK	1
7	retaining ring	110755	1
8	mounting bolts	use kit 5000AIHK	2
9	lock washer	use kit 5000AIHK	2
10	roller ball assembly	5000AIRRK1	1



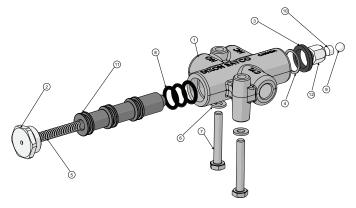
#### **Repair Kits**

Part #	Description	Includes Item #
5000AIHK	mounting bolts and lock washers	8, 9
5000AIRSK	piston and seal kit	2, 3, 4, 5, 6
5000AIRRK1	roller ball	10

# **5000AIRHD-Series Heavy Duty Roller Ball End Air Interlock Valves**

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	end plug	391848	1
3	wiper	112260	1
4	retaining ring	112261	1
5	spring	110897	1
6	lock washer	110928	2
7	mounting bolts	111196	2
8	O-ring	111883	3
9	ball	100202	1
10	bearing	390104	1
11	piston	391858	1
12	roller head cap	390105	1



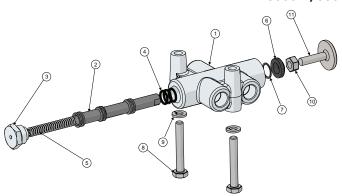
#### **Repair Kits**

Part #	Description	Includes Item #
5000AIHK	mounting bolts and lock washers	6, 7
5000AIRHDSK	piston and seal kit	2, 3, 5, 8, 11
5000AIRRK1	roller ball	9



# **5000AI-Series Button Plunger End Air Interlock Valves**

5000AI, 5000AIS and AIST



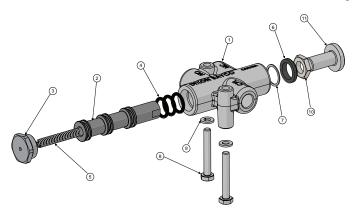
#### **Repair Kits**

Part #	Description	Includes Item #	
5000AIHK	mounting bolt, lock washer	8, 9	
5000AISK	piston, end plug, spring, O-ring, rod wiper	2, 3A, 4, 5, 6	
5000AIRK1	plunger end, nut	10, 11A	
5000ST	1-1/2" plunger button and nut	10, 11B	
5000S	electronic switch attachment kit	3B	
5000AISK1	seal kit O-ring wiper only	4, 6	
5000AIRK2	plunger button extension and sleeve kit		
112024	NBR O-ring	4	

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	piston	use kit 5000AISK	1
3A	end plug (5000Al, 5000AIST)	use kit 5000AISK	1
3B	electronic switch kit (not illustrated, for 5000AIS)	5000S	1
4	NBR O-ring	use kit 5000AISK	3
5	spring	use kit 5000AISK	1
6	urethane wiper	use kit 5000AISK	1
7	retaining ring	RING-WH-50	1
8	mounting bolt	use kit 5000AIHK	2
9	lock washer	use kit 5000AIHK	2
10	plunger nut	NUT.25HX-SS	1
11A	1" SS plunger button (5000AI)	use kit 5000AIRK1	1
11B	1-1/2" SS plunger button (5000AIST)	use kit 5000ST	1

# **5000AIHD-Series Heavy Duty Air Interlock Valve**



### **Repair Kits**

Part #	Description	Includes Item #		
5000AIHK	mounting bolts and lock washers	8, 9		
5000AIHDSK	piston and seal kit	2, 3, 4, 5, 6		
5000AIHDSK1	seal kit O-ring and wiper only	4, 6		
5000AIHDRK1	1" plunger assembly	10, 11A		
5000STHD	1-1/2" plunger assembly	10, 11B		
111553	O-ring	4		

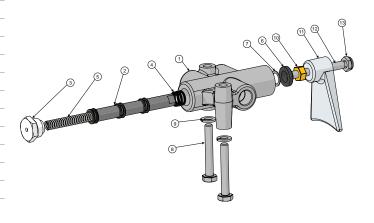
#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	piston	use kit 5000AIHDSK	1
3	end plug	use kit 5000AIHDSK	1
4	O-ring	use kit 5000AIHDSK	3
5	spring	use kit 5000AIHDSK	1
6	wiper	use kit 5000AIHDSK	1
7	retaining ring	112251	1
8	mounting bolts	use kit 5000AIHK	2
9	lock washer	use kit 5000AIHK	2
10	nut	390909	1
11A	1" plunger end	use kit 5000AIHDRK1	1
11B	1-1/2" plunger end	use kit 5000STHD	1

### **5000AIV-Series Paddle End Air Interlock Valves**

#### **Bill of Materials**

	01		
Item #	Description	Part #	Qty
1	body		1
2	piston	use kit 5000AISK	1
3	end plug	use kit 5000AISK	1
4	NBR O-ring	use kit 5000AISK	3
5	spring	use kit 5000AISK	1
6	urethane wiper	use kit 5000AISK	1
7	retaining ring	110755	1
8	mounting bolt	use kit 5000AIHK	2
9	lock washer	use kit 5000AIHK	2
10	paddle nut	NUT.25HX-SS	1
11	paddle plunger	5000AI-2	1
12	paddle plunger stud	5000AI-5	1
13	paddle plunger lock nut	112370	1



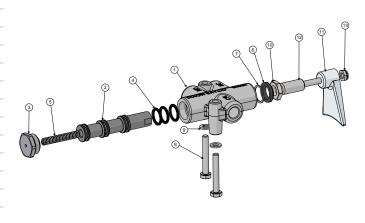
### **Repair Kits**

Part #	Description	Includes Item #
5000AIHK	mounting bolt, lock washer	8, 9
5000AISK	piston, end plug, spring, O-ring, rod wiper	2, 3, 4, 5, 6

# **5000AIVHD-Series Heavy Duty Paddle End Air Interlock Valves**

#### **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	piston	use kit 5000AIHDSK	1
3	end plug	use kit 5000AIHDSK	1
4	O-ring	use kit 5000AIHDSK	1
5	spring	use kit 5000AIHDSK	1
6	wiper	use kit 5000AIHDSK	1
7	retaining ring	WH-77	1
8	mounting bolts	use kit 5000AIHK	2
9	lock washer	use kit 5000AIHK	2
10	nut	390909	3
11	paddle end	341142	1
12	stud	390910	1
13	lock nut	112370	1



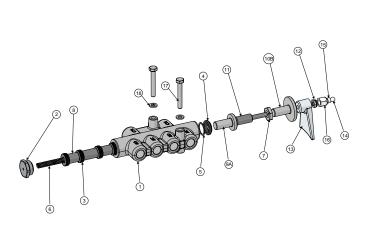
### **Repair Kits**

Part #	Description	Includes Item #
5000AIHK	mounting bolt, lock washer	8, 9
5000AIHDSK	piston and seal kit	2, 3, 4, 5, 6



# **5006AIHD-Series Heavy Duty Air Interlock Valves**

### **Bill of Materials**

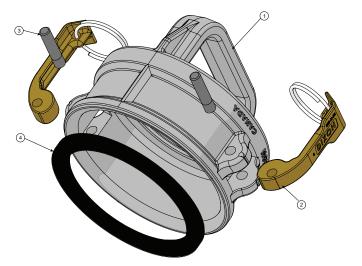


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Part #	Description	Includes Item #
5006AIHDSK	piston and seal kit for 5006AIHD and 5006AIVHD	2, 3, 4, 6, 8A
5006AIRHDSK	piston and seal kit for 5006AIRHD	2, 3, 4, 6, 8B

Item#	Description	5006AIHD	5006AISTHD	5006AIVHD	5006AIRHD
1	body	1	1	1	1
2	end plug	1	1	1	1
3	O-ring	5	5	5	5
4	wiper	1	1	1	1
5	retaining ring	1	1	1	1
6	spring	1	1	1	1
7	hex jam nut	1	1	1	1
8A	piston	1	1	1	
8B	piston for air				1
9A	1" plunger end	1			
10B	1-1/2" plunger end		1		
11	paddle plunger stud			1	
12	nylon locknut			1	
13	paddle plunger			1	
14	ball				1
15	bearing				1
16	roller head cap				1
17	mounting bolt	2	2	2	2
18	lock washer	2	2	2	2

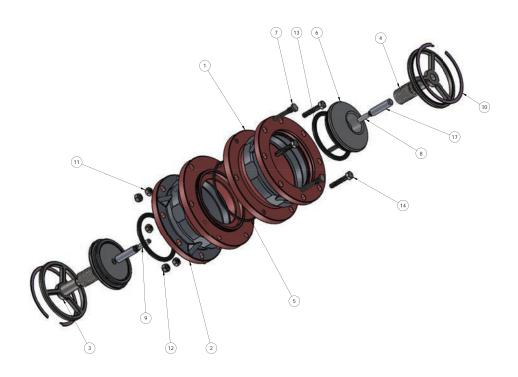
# **400-DC-ALPH Dust Caps with Handle**



### **Bill of Materials**

Item #	Description	Part #	Qty
1	dust cap with handle	400-DC-ALPH	1
2	cam arm with ring	300-HR-BR	2
3	pin	325-P	2
4	4" gasket	400-G-BU	1

# **5900-Series Safety Breakaway Couplings**



# **Repair Kits**

Part #	Description	Includes Item #
5900-KIT-4BN	Baylast™ seal kit for 4" 5900 breakaway	5A, 13A
5900-KIT-4TV	PTFE/FKM seal kit for 4" 5900 breakaway	5B, 13B
5900-KIT-4VG	FKM-GLFT seal kit for 4" 5900 breakaway	5C, 13C
5900-KIT-B4A	repl break bolts for 5900-Series breakaway	7, 11, 12

### **Bill of Materials**

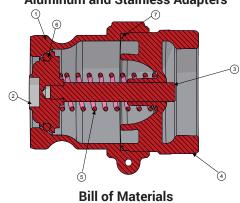
Item #	Description	Part #	Qty
1	groove coupler	40647XX-02	1
2	flange coupler	40647XX-01	1
3	spider	40625SS	2
4	spring	40629SS	2
5A	Baylast O-ring	40634BN	1
5B	PTFE/FKM O-ring	40634TV	1
5C	FKM-GFLT O-ring	40634VG	1
6	poppet	40648XX	2
7	break bolt	40636SS	3
8	poppet spacer	40632SS	1
9	poppet spacer	40631SS	1
10	snap ring	40628ST	2
11	5/16"-18 nut	40638SS	6
12	5/16"-18 nylock nut	40639SS	3
13A	Baylast O-ring	40633BN	2
13B	PTFE/FKM O-ring	40633TV	2
13C	FKM-GFLT O-ring	40633VG	2
14	5/16"-18 X 1.75" HHCS	40637ST	3
15	drive screw	30702SS	2
16	name plate	40635SS	1
17	poppet stem	40678AL	2

Item #



### **DBA Cam & Groove Dry Disconnects**

#### **Aluminum and Stainless Adapters**



Qty

# 1-1/2" Aluminum Adapter (DBA6x), Zinc Adapter (DBA1x) DBA1x-150, DBA6x-150, and DBA1x-1520

Part #

use kit DBAK2-150 1

use kit DBAK4-150 1

use kit DBAK3-

150, DBAK6-150 or DBAK7-150

**Description** 

aluminum adapter body 1A 40129AL 1 (DBA6x-150) zinc adapter body 1B 1 40129ZA (DBA1x-150 and DBA1x-1520) 1 2 poppet 40130AL stem 40133BR 3A 1 (DBA1x-150 and DBA1x-1520) stem (for DBA6x-150) 40133SS-001 1 3B 1 thread end body 40131AL 4A thread end body 4B 40303AL 1 (for DBA1x1520) 1 5 poppet spring 40132SS poppet O-ring NBR use kit DBAK1-150 1 6A 6B poppet O-ring FKM use kit DBAK2-150 1 6C poppet O-ring PTFE/silicone use kit DBAK3-150 1 6D poppet O-ring EPDM use kit DBAK4-150 1 6E poppet O-ring FFKM use kit DBAK6-150 1 6F poppet O-ring PTFE/FKM use kit DBAK7-150 1 7A body O-ring PTFE use kit DBAK1-150 1

#### 1-1/2" Stainless Adapter DBA7x-150

Item #	Description	Part #	Qty
1	stainless adapter body	40129SS	1
2	poppet	40130SS	1
3	stem	40133SS-002	1
4	thread end body	40131SS	1
5	poppet spring	40132SS	1
6A	poppet O-ring NBR	use kit DBAK1-150	1
6B	poppet O-ring FKM	use kit DBAK2-150	1
6C	poppet O-ring PTFE/silicone	use kit DBAK3-150	1
6D	poppet O-ring EPDM	use kit DBAK4-150	1
6E	poppet O-ring FFKM	use kit DBAK6-150	1
6F	poppet O-ring PTFE/FKM	use kit DBAK7-150	1
7A	body O-ring PTFE	use kit DBAK1-150	1
7B	body O-ring FKM	use kit DBAK2-150	1
7C	body O-ring PTFE	use kit DBAK3-150, DBAK6-150 or DBAK7-150	1
7D	body O-ring EPDM	use kit DBAK4-150	1

1

7B

7C

7D

body O-ring FKM

body O-ring PTFE

body O-ring EPDM

### Aluminum and Stainless Adapters Bill of Materials

### 2" Aluminum Adapter (DBA6x), Zinc Adapter (DBA1x) DBA1x-200, DBA6x-200

# 2" Stainless Adapter DBA7x-200

ltem #	Description	Part #	Qty
1A	aluminum adapter body (DBA6x-200)	40001AL	1
1B	zinc adapter body (DBA1x-200)	40001ZA	1
2	poppet	40002AL	1
3A	stem (for DBA1x-200)	40005BR	1
3B	stem (for DBA6x-200)	40005SS-001	1
4	thread end body	40003AL	1
5	poppet spring	40004SS	1
6A	poppet O-ring NBR	use kit DBAK1-200	1
6B	poppet O-ring FKM	use kit DBAK2-200	1
6C	poppet O-ring PTFE/silicone	use kit DBAK3-200	1
6D	poppet O-ring EPDM	use kit DBAK4-200	1
6E	poppet O-ring FFKM	use kit DBAK6-200	1
6F	poppet O-ring PTFE/FKM	use kit DBAK7-200	1
7A	body O-ring PTFE	use kit DBAK1-200	1
7B	body O-ring FKM	use kit DBAK2-200	1
7C	body O-ring PTFE	use kit DBAK3-200, DBAK6-200 or DBAK7-200	1
7D	body O-ring EPDM	use kit DBAK4-200	1

Item #	Description	Part #	Qty
1	stainless adapter body	40001SS	1
2	poppet	40002SS	1
3	stem	40005SS-002	1
4	thread end body	40003SS	1
5	poppet spring	40004SS	1
6A	poppet O-ring NBR	use kit DBAK1-200	1
6B	poppet O-ring FKM	use kit DBAK2-200	1
6C	poppet O-ring PTFE/silicone	use kit DBAK3-200	1
6D	poppet O-ring EPDM	use kit DBAK4-200	1
6E	poppet O-ring FFKM	use kit DBAK6-200	1
6F	poppet O-ring PTFE/FKM	use kit DBAK7-200	1
7A	body O-ring PTFE	use kit DBAK1-200	1
7B	body O-ring FKM	use kit DBAK2-200	1
7C	body O-ring PTFE	use kit DBAK3-200, DBAK6-200 or DBAK7-200	1
7D	body O-ring EPDM	use kit DBAK4-200	1



### Aluminum and Stainless Adapters Bill of Materials

### 3" Aluminum Adapter (DBA6x), Zinc Adapter (DBA1x) DBA1x-300, DBA6x-300

# 3" Stainless Adapter DBA7x-300

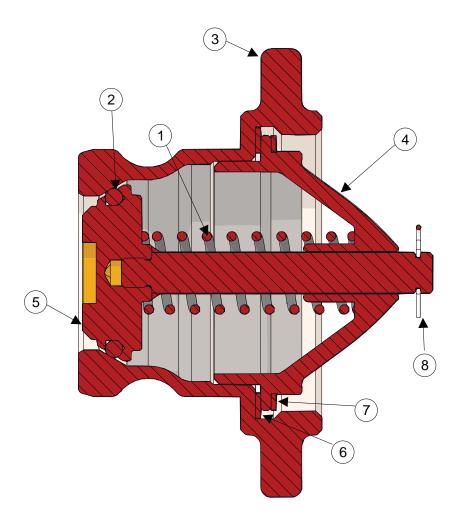
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Item #	Description	Part #	Qty	
1	aluminum adapter body	40180AL	1	
1B	zinc adapter body	40180ZA	1	
2	poppet	40182AL	1	
3	stem	40183BR	1	
4	thread end body	40181AL	1	
5	poppet spring	40184SS	1	
6A	poppet O-ring NBR	use kit DBAK1-300	1	
6B	poppet O-ring FKM	use kit DBAK2-300	1	
6C	poppet O-ring PTFE/silicone	use kit DBAK3-300	1	
6D	poppet O-ring EPDM	use kit DBAK4-300	1	
6E	poppet O-ring FFKM	use kit DBAK6-300	1	
6F	poppet O-ring PTFE/FKM	use kit DBAK7-300	1	
6G	poppet O-ring FKM-B	use kit DBAK9-300	1	
7A	body O-ring PTFE	use kit DBAK1-300	1	
7B	body O-ring FKM	use kit DBAK2-300	1	
7C	body O-ring PTFE	use kit DBAK3-300, DBAK6-300 or DBAK7-300	1	
7D	body O-ring EPDM	use kit DBAK4-300	1	
7E	body O-ring FKM-B	use kit DBAK9-300	1	

Item #	Description	Part #	Qty
1	stainless adapter body	40180SS	1
2	poppet	40182SS	1
3	stem	40183SS	1
4	thread end body	40181SS	1
5	poppet spring	40184SS	1
6A	poppet O-ring NBR	use kit DBAK1-300	1
6B	poppet O-ring FKM	use kit DBAK2-300	1
6C	poppet O-ring PTFE/silicone	use kit DBAK3-300	1
6D	poppet O-ring EPDM	use kit DBAK4-300	1
6E	poppet O-ring FFKM	use kit DBAK6-300	1
6F	poppet O-ring PTFE/FKM	use kit DBAK7-300	1
6G	poppet O-ring FKM-B	use kit DBAK9-300	1
7A	body O-ring PTFE	use kit DBAK1-300	1
7B	body O-ring FKM	use kit DBAK2-300	1
7C	body O-ring PTFE	use kit DBAK3-300	1
7D	body O-ring EPDM	use kit DBAK4-300	1
7E	body O-ring FKM-B	use kit DBAK9-300	1

### **Repair Kits**

Part #	Description	Includes Item #
DBAK1-150	1-1/2" NBR seals	6A, 7A
DBAK2-150	1-1/2" FKM seals	6B, 7B
DBAK3-150	1-1/2" PTFE/silicone seals	6C, 7C
DBAK4-150	1-1/2" EPDM seals	6D, 7D
DBAK6-150	1-1/2" PTFE/FFKM seals	6E, 7C
DBAK7-150	1-1/2" PTFE/FKM seals	6F, 7C
DBAK1-200	2" NBR seals	6A, 7A
DBAK2-200	2" FKM seals	6B, 7B
DBAK3-200	2" PTFE/silicone seals	6C, 7C
DBAK4-200	2" EPDM seals	6D, 7D
DBAK6-200	2" PTFE/FFKM seals	6E, 7C
DBAK7-200	2" PTFE/FKM seals	6F, 7C
DBAK1-300	3" PTFE seals	6A, 7A
DBAK2-300	3" FKM seals	6B, 7B
DBAK3-300	3" PTFE/silicone seals	6C, 7C
DBAK4-300	3" EPDM seals	6D, 7D
DBAK6-300	3" PTFE/FFKM seals	6E, 7C
DBAK7-300	3" PTFE/FKM seals	6F, 7C
DBAK9-300	3" FKM-B seals	6G, 7E

**Stainless Vapor Adapter** 

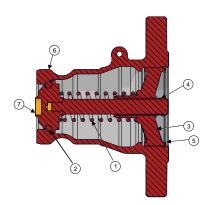


2" x 3" Stainless Vapor Adapter Bill of Materials DBAV73-200

Item #	Description	Part #	Qty
1	spring	40004SS	1
2	poppet O-ring PTFE/silicone	40006TS	1
3	adapter body	not available	
4	bridge	40175SS	1
5	poppet assembly	40187SSSS	1
6	large body gasket	40190TF	1
7	small body gasket	40191TF	1
8	poppet clip	40192SS	1



### **Stainless Flange Adapters**



2" Flange x 1-1/2" Stainless Adapter Bill of Materials DBAF7x-1520

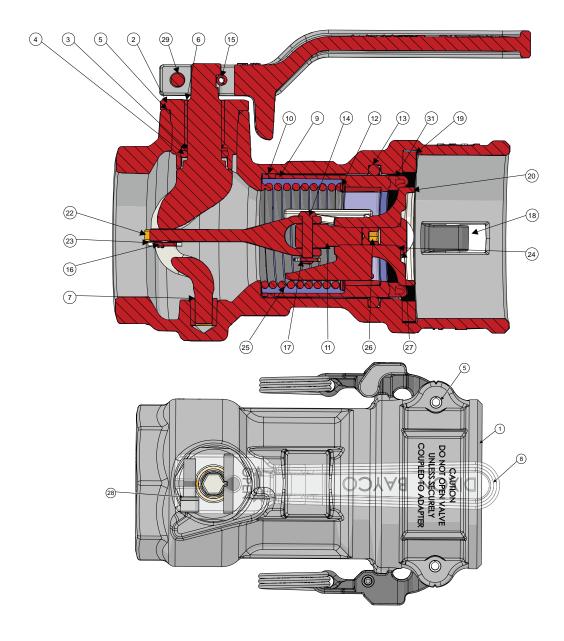
2" Flange x 2" Stainless Adapter Bill of Materials DBAF7x-200

Item #	Description	Part #	Qty	Item #	Description	Part #	Qty
1	spring	40004SS	1	1	spring	40004SS	1
2A	poppet O-ring NBR	40134BN	1	2A	poppet O-ring NBR	40006BN	1
2B	poppet O-ring FKM	40134VI	1	2B	poppet O-ring FKM	40006VI	1
2C	poppet O-ring PTFE/silicone	40134TS	1	2C	poppet O-ring PTFE/silicone	40006TS	1
2D	poppet O-ring EPDM	40134EP	1	2D	poppet O-ring EPDM	40006EP	1
2E	poppet O-ring FFKM	40134KR	1	2E	poppet O-ring FFKM	40006KR	1
3	bridge	40341SS	1	3	bridge	40341SS	1
4	bearing	40343TF	1	4	bearing	40343TF	1
5	retaining ring	40344SS	1	5	retaining ring	40344SS	1
6	body		1	6	body		1
7	poppet assembly	40347SSSS	1	7	poppet assembly	40342SSSS	1

### 3" Flange x 3" Stainless Adapter Bill of Materials DBAF7x-300

Item #	Description	Part #	Qty
1	spring	40184SS	1
2A	poppet O-ring NBR	40185BN	1
2B	poppet O-ring FKM	40185VI	1
2C	poppet O-ring PTFE/silicone	40185TS	1
2D	poppet O-ring EPDM	40185EP	1
2E	poppet O-ring FFKM	40185KR	1
3	bridge	40360SS	1
4	bearing	40362TF	1
5	retaining ring	40361SS	1
6	body		1
7	poppet assembly	40359SSSS	1

### **Aluminum and Stainless Couplers**



Bill of materials and repair kits can be found on the following pages

DBC6x-150 see page 121, 122 DBC7x-150 see page 123, 124 DBC6x-200 see page 125, 126 DBC7x-200 see page 127, 128 DBC6x-300 see page 130, 131 DBC7x-300 see page 132, 133 DBS6x-200 see page 135, 136



### 1-1/2" Aluminum Couplers Bill of Materials DBC6x-150

#### Refer to Drawing on Page 120

Item #	Description	Part #	Qty	Item #	Description	Part #	Qty
1	body		1	14	link rivet	40086SS	1
2	stuffing box	40074SS	1	15	groove pin	40087SS	1
3	back up ring	40075TF	1	16	crank shaft cotter pin	40088SS	1
4A	crank shaft O-ring NBR (for DBC61-150)	40076BN	1	17	link cotter pin	40088SS	1
4B	crank shaft 0-ring FKM (for DBC62-150)	40076VI	1	18	EZ Boss-Lock™ cam arm	40089SS	2
4C	crank shaft O-ring FFKM	40076KR	1	19A	cam gasket NBR (for DBC61-150)	200-G-BU	1
40	(for DBC63-150)	40070Kh	<u> </u>	19B	cam gasket FKM (for DBC62-150)	200-G-VI	1
4D	crank shaft O-ring EPDM (for DBC63-150, DBC66-150, and DBC67-150)	40076EP	1	19C	cam gasket PTFE/silicone (for DBC63-150)	200-G-TES	1
5	stuffing box PTFE 0-ring	40077TF	1	19D	cam gasket EPR (for DBC64-150)	200-G-EPR	1
6	large crank shaft bearing	40078FG	1	19E	cam gasket PTFE/FKM (for DBC66-150 and DBC67-150)	200-G-TFVI	1
7	small crank shaft bearing	40079SS	1	20	poppet	40114SS	1
8	lever (handle)	40080SS	1	21	crank shaft	40115SS	1
9A	seal cylinder (for DBC61-150)	40117ALBN	1	22	link arm	40116SS	1
9B	seal cylinder (for DBC62-150)	40117ALVI	1	23	link washer	40094SS	1
9C	seal cylinder (for DBC63-150, DBC66-150, and DBC67-150)	40169SS	1	24	poppet screw PTFE O-ring	40122TF	1
9D	seal cylinder (for DBC64-150)	40117ALEP	1	25	cylinder spring	DBCxx-150RK8	1
10	PTFE button	40082TF	6	26	set screw	40124SS	1
11	yoke	40118SS	1	27	poppet screw (round head)	40125SS	1
12	PTFE bushing	40119TF	1	28	lock washer	40099SS	1
13A	body O-ring NBR (for DBC61-150)	40120BN	1	29	socket head cap screw	40100SS	1
13B	body O-ring FKM (for DBC62-150)	40120VI	1	30	cam arm spring pin	40101SS	2
13C	body O-ring PTFE/silicone (for DBC63-150)	40120TS	1	31	nose seal (for DBC63-150, DBC66-150, and DBC67-150)	40171TF	1
13D	body O-ring EPDM (for DBC64-150)	40120EP	1				
13E	body O-ring FFKM (for DBC66-150)	40120KR	1				
13F	body O-ring PTFE/FKM (for DBC67-150)	40120TV	1				

# 1-1/2" Aluminum Couplers Repair Kits

Part #	Description	Includes Item #
DBCx1-150RK1 (NBR)	seal kit, NBR crank shaft O-ring, PTFE stuffing box O-ring, NBR body O-ring, NBR cam gasket, PTFE O-ring (for DBC61-150)	4A, 5, 13A, 19A, 24
DBCx2-150RK1 (FKM)	seal kit, FKM crank shaft O-ring, PTFE stuffing box O-ring, FKM body O-ring, FKM cam gasket, PTFE O-ring (for DBC62-150)	4B, 5, 13B, 19B, 24
DBCx3-150RK1 (PTFE and FFKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, PTFE/silicone body O-ring, PTFE/silicone cam gasket, PTFE O-ring (for DBC63-150)	4C, 5, 13C, 19C, 24
DBCx4-150RK1 (EPDM)	seal kit, EPDM crank shaft O-ring, PTFE stuffing box O-ring, EPDM body O-ring, EPR cam gasket, PTFE O-ring (for DBC64-150)	4D, 5, 13D, 19D, 24
DBCx6-150RK1 (FFKM and PTFE/FKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, FFKM body O-ring, PTFE/FKM cam gasket, PTFE O-ring (for DBC66-150)	4C, 5, 13E, 19E, 24
DBCx7-150RK1	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, PTFE/FKM body O-ring, PTFE/FKM cam gasket, PTFE O-ring (for DBC67-150)	4C, 5, 13F, 19E, 24
DBC61-150RK2	NBR seal cylinder, PTFE buttons, and PTFE bushing (for DBC61-150)	9A, 10, 12
DBC62-150RK2	FKM seal cylinder, PTFE buttons, and PTFE bushing (for DBC62-150)	9B, 10, 12
DBCx3-150RK2	PTFE nose seal , PTFE buttons, and PTFE bushing (for DBC63-150, DBC66-150, and DBC67-150)	10, 12, 31
DBC64-150RK2	EPDM seal cylinder, PTFE buttons, and PTFE bushing (for DBC64-150)	9D, 10, 12
DBCxx-150RK4	link kit, link rivet, cotter pins, link washer, link arm, and yoke (for all 1-1/2" aluminum)	11, 14, 16, 17, 22, 23
DBCxx-150RK5	stuffing box kit, stuffing box, PTFE O-ring, and large crank shaft bearing (for all 1-1/2" aluminum)	2, 5, 6
DBCxx-150RK6	lever (handle) kit, lever, groove pin, lock washer, and socket head cap screw (for all 1-1/2" aluminum)	8, 15, 28, 29
DBCxx-150RK7	crank shaft kit, crank shaft, cotter pin, and washer (for all 1-1/2" aluminum)	16, 21, 23
DBCxx-150RK8	main cylinder spring	25
DBCxx-150RK9	poppet kit, poppet, round head screw, set screw, and PTFE washer (for all 1-1/2"aluminum)	20, 24, 26, 27
DBCL-200	optional add on padlockable lever kit, handle (for all 1-1/2")	not illustrated



## 1-1/2" Stainless Couplers Bill of Materials DBC7x-150

### Refer to Drawing on Page 120

Item #	Description	Part #	Qty	Item #	Description	Part #	Qty
1	body		1	14	link rivet	40086SS	1
2	stuffing box	40074SS	1	15	groove pin	40087SS	1
3	back up ring	40075TF	1	16	crank shaft cotter pin	40088SS	1
4A	crank shaft O-ring NBR (for DBC71-150)	40076BN	1	17	link cotter pin	40088SS	1
4B	crank shaft O-ring FKM (for DBC72-150)	40076VI	1	18	EZ Boss-Lock™ cam arm	40089SS	2
4C	crank shaft O-ring FFKM (for DBC73- 150, DBC76-150, and DBC77-150)	40076KR	1	19A	cam gasket NBR (for DBC71-150)	200-G-BU	1
4D	crank shaft O-ring EPDM (for DBC74-150)	40076EP	1	19B	cam gasket FKM (for DBC72-150)	200-G-VI	1
5	stuffing box PTFE O-ring	40077TF	1	19C	cam gasket PTFE/silicone (for DBC73-150)	200-G-TES	1
6	large crank shaft bearing	40078FG	1	19D	cam gasket EPDM (for DBC74-150)	200-G-EPR	1
7	small crank shaft bearing	40079SS	1	19E	cam gasket PTFE/FKM (for DBC76-150 and DBC77-150)	200-G-TFVI	1
8	lever (handle)	40080SS	1	20	poppet	40114SS	1
9A	seal cylinder (for DBC71-150)	40117SSBN	1	21	crank shaft	40115SS	1
9B	seal cylinder (for DBC72-150)	40117SSVI	1	22	link arm	40116SS	1
9C	seal cylinder (for DBC73-150, DBC76-150, and DBC77-150)	40169SS	1	23	link washer	40094SS	1
9D	seal cylinder (for DBC74-150)	40117SSEP	1	24	poppet screw PTFE O-ring	40122TF	1
10	PTFE button	40082TF	6	25	cylinder spring	DBCxx-150RK8	1
11	yoke	40118SS	1	26	set screw	40124SS	1
12	PTFE bushing	40119TF	1	27	poppet screw (round head)	40125SS	1
13A	body O-ring NBR (for DBC71-150)	40120BN	1	28	lock washer	40099SS	1
13B	body O-ring FKM (for DBC72-150)	40120VI	1	29	socket head cap screw	40100SS	1
13C	body O-ring PTFE/silicone (for DBC73-150)	40120TS	1	30	cam arm spring pin	40101SS	2
13D	body O-ring EPDM (for DBC74-150)	40120EP	1	31	nose seal (for DBC73-150, DBC76-150,	40171TF	1
13E	body O-ring FFKM (for DBC76-150)	40120KR	1		and DBC77-150)		
13F	body O-ring PTFE/FKM (for DBC77-150)	40120TV	1				

# 1-1/2" Stainless Couplers Repair Kits

Part #	Description	Includes Item #
DBCx1-150RK1 (NBR)	seal kit, NBR crank shaft O-ring, PTFE stuffing box O-ring, NBR body O-ring, NBR cam gasket, PTFE O-ring (for DBC71-150)	4A, 5, 13A, 19A, 24
DBCx2-150RK1 (FKM)	seal kit, FKM crank shaft O-ring, PTFE stuffing box O-ring, FKM body O-ring, FKM cam gasket, PTFE O-ring (for DBC72-150)	4B, 5, 13B, 19B, 24
DBCx3-150RK1 (PTFE/silicone and FFKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, PTFE/silicone body O-ring, PTFE/silicone cam gasket, PTFE O-ring (for DBC73-150)	4C, 5, 13C, 19C, 24
DBCx4-150RK1 (EPDM)	seal kit, EPDM crank shaft O-ring, PTFE stuffing box O-ring, EPDM body O-ring, EPR cam gasket, PTFE O-ring (for DBC74-150)	4D, 5, 13D, 19D, 24
DBCx6-150RK1 (FFKM and PTFE/FKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, FFKM body O-ring, PTFE/FKM cam gasket, PTFE O-ring (for DBC76-150)	4C, 5, 13E, 19E, 24
DBCx7-150RK1	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, PTFE/FKM body O-ring, PTFE/FKM cam gasket, PTFE O-ring (for DBC77-150)	4C, 5, 13F, 19E, 24
DBC71-150RK2	NBR seal cylinder, PTFE buttons, and PTFE bushing (for DBC71-150)	9A, 10, 12
DBC72-150RK2	FKM seal cylinder, PTFE buttons, and PTFE bushing (for DBC72-150)	9B, 10, 12
DBCx3-150RK2	PTFE nose seal, PTFE buttons, and PTFE bushing (for DBC73-150, DBC76-150, and DBC77-150)	10, 12, 31
DBC74-150RK2	EPDM seal cylinder, PTFE buttons, and PTFE bushing (for DBC74-150)	9D, 10, 12
DBCxx-150RK4	link kit, link rivet, cotter pins, link washer, link arm, and yoke (for all 1-1/2" stainless steel)	11, 14, 16, 17, 22, 23
DBCxx-150RK5	stuffing box kit, stuffing box, PTFE O-ring, and large crank shaft bearing (for all 1-1/2" stainless steel)	2, 5, 6
DBCxx-150RK6	lever (handle) kit, lever, groove pin, lock washer, and socket head cap screw (for all 1-1/2" stainless steel)	8, 15, 28, 29
DBCxx-150RK7	crank shaft kit, crank shaft, cotter pin, and washer (for all 1-1/2" stainless steel)	16, 21, 23
DBCxx-150RK8	main cylinder spring	25
DBCxx-150RK9	poppet kit, poppet, round head screw, set screw, and PTFE O-ring (for all 1-1/2" stainless steel)	20, 24, 26, 27
DBCL-200	optional add on padlockable lever kit (handle) (for all 1-1/2")	not illustrated



# 2" Aluminum Couplers Bill of Materials DBC6x-200

### Refer to Drawing on Page 120

Item #	Description	Part #	Qty
1	body		1
2	stuffing box	40074SS	1
3	back up ring	40075TF	1
4A	crank shaft O-ring NBR (for DBC61-200)	40076BN	1
4B	crank shaft O-ring FKM (for DBC62-200)	40076VI	1
4C	crank shaft O-ring FFKM (for DBC63-200, DBC66-200, and DBC67-200)	40076KR	1
4D	crank shaft O-ring EPDM (for DBC64-200)	40076EP	1
5	stuffing box PTFE 0-ring	40077TF	1
6	large crank shaft bearing	40078FG	1
7	small crank shaft bearing	40079SS	1
8	lever (handle)	40080SS	1
9A	seal cylinder (for DBC61-200)	40081ALBN	1
9B	seal cylinder (for DBC62-200)	40081ALVI	1
9C	seal cylinder (for DBC63-200, DBC66-200, and DBC67-200)	40168SS	1
9D	seal cylinder (for DBC64-200)	40081ALEP	1
10	PTFE button	40082TF	6
11	yoke	40083SS	1
12	PTFE bushing	40084TF	1
13A	body O-ring NBR (for DBC61-200)	40085BN	1
13B	body O-ring FKM (for DBC62-200)	40085VI	1
13C	body O-ring PTFE/silicone (for DBC63-200)	40085TS	1
13D	body O-ring EPDM (for DBC64-200)	40085EP	1
13E	body O-ring FFKM (for DBC66-200)	40085KR	1
13F	body O-ring PTFE/FKM (for DBC67-200)	40085TV	1

Item #	Description	Part #	Qty
14	link rivet	40086SS	1
15	groove pin	40087SS	1
16	crank shaft cotter pin	40088SS	1
17	link cotter pin	40088SS	1
18	EZ Boss-Lock™ cam arm	40089SS	2
19A	cam gasket NBR (for DBC61-200)	250-G-BU	1
19B	cam gasket FKM (for DBC62-200)	250-G-VI	1
19C	cam gasket PTFE/silicone (for DBC63-200)	250-G-TES	1
19D	cam gasket EPR (for DBC64-200)	250-G-EPR	1
19E	cam gasket PTFE/FKM (for DBC66-200 and DBC67-200)	250-G-TFVI	1
20	poppet	40091SS	1
21	crank shaft	40092SS	1
22	link arm	40093SS	1
23	link washer	40094SS	1
24	poppet screw PTFE O-ring	40095TF	1
25	cylinder spring	DBCxx-200RK8	1
26	set screw	40097SS	1
27	poppet screw (round head)	40098SS	1
28	lock washer	40099SS	1
29	socket head cap screw	40100SS	1
30	cam arm spring pin	40101SS	2
31	nose seal (for DBC63-200, DBC66-200, and DBC67-200)	40170TF	1

# 2" Aluminum Couplers Repair Kits

Part #	Description	Includes Item #
DBCx1-200RK1 (NBR)	seal kit, NBR crank shaft O-ring, PTFE stuffing box O-ring, NBR body O-ring, NBR cam gasket, PTFE O-ring (for DBC61-200)	4A, 5, 13A, 19A, 24
DBCx2-200RK1 (FKM)	seal kit, FKM crank shaft O-ring, PTFE stuffing box O-ring, FKM body O-ring, FKM cam gasket, PTFE O-ring (for DBC62-200)	4B, 5, 13B, 19B, 24
DBCx3-200RK1 (PTFE/silicone and FFKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, PTFE/silicone body O-ring, PTFE/silicone cam gasket, PTFE O-ring (for DBC63-200)	4C, 5, 13C, 19C, 24
DBCx4-200RK1 (EPDM)	seal kit, EPDM crank shaft O-ring, PTFE stuffing box O-ring, EPDM body O-ring, EPR cam gasket, PTFE O-ring (for DBC64-200)	4D, 5, 13D, 19D, 24
DBCx6-200RK1 (FFKM and PTFE/FKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, FFKM body O-ring, PTFE/FKM cam gasket, PTFE O-ring (for DBC66-200)	4C, 5, 13E, 19E, 24
DBCx7-200RK1 (FFKM and PTFE/FKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, PTFE/FKM body O-ring, PTFE/FKM cam gasket, PTFE O-ring (for DBC67-200)	4C, 5, 13F, 19E, 24
DBC61-200RK2	NBR seal cylinder, PTFE buttons, and PTFE bushing (for DBC61-200)	9A, 10, 12
DBC62-200RK2	FKM seal cylinder, PTFE buttons, and PTFE bushing (for DBC62-200)	9B, 10, 12
DBCx3-200RK2	PTFE nose seal, PTFE buttons, and PTFE bushing (for DBC63-200, DBC66-200, and DBC67-200)	10, 12, 31
DBC64-200RK2	EPDM seal cylinder, PTFE buttons, and PTFE bushing (for DBC64-200)	9D, 10, 12
DBCxx-200RK4	link kit, link rivet, cotter pins, link washer, link arm, and yoke (for all 2" aluminum)	11, 14, 16, 22, 23
DBCxx-200RK5	stuffing box kit, stuffing box, PTFE O-ring, and large crank shaft bearing (for all 2" aluminum)	2, 5, 6
DBCxx-200RK6	lever (handle) kit, lever, groove pin, lock washer, and socket head cap screw (for all 2" aluminum)	8, 15, 28, 29
DBCxx-200RK7	crank shaft kit, crank shaft, cotter pin, and washer (for all 2" aluminum)	16, 21, 23
DBCxx-200RK8	main cylinder spring	25
DBCxx-200RK9	poppet kit, poppet, round head screw, set screw, and PTFE O-ring (for all 2" aluminum)	20, 24, 26, 27
DBCL-200	optional add on padlockable lever kit, handle (for all 2")	not illustrated



# 2" Stainless Couplers Bill of Materials DBC7x-200

### Refer to Drawing on Page 120

Item #	Description	Part #	Qty
1	body		1
2	stuffing box	40074SS	1
3	back up ring	40075TF	1
4A	crank shaft O-ring NBR (for DBC71-200)	40076BN	1
4B	crank shaft O-ring FKM (for DBC72-200)	40076VI	1
4C	crank shaft O-ring FFKM (for DBC73-200, DBC77-200, DBC76-200)	40076KR	1
4D	crank shaft O-ring EPDM (for DBC74-200)	40076EP	1
5	stuffing box PTFE 0-ring	40077TF	1
6	large crank shaft bearing	40078FG	1
7	small crank shaft bearing	40079SS	1
8	lever (handle)	40080SS	1
9A	seal cylinder (for DBC71-200)	40081SSBN	1
9B	seal cylinder (for DBC72-200)	40081SSVI	1
9C	seal cylinder (for DBC73-200, DBC76-200, DBC77-200)	40168SS	1
9D	seal cylinder (for DBC74-200)	40081SSEP	6
10	PTFE button	40082TF	1
11	yoke	40083SS	1
12	PTFE bushing	40084TF	1
13A	body O-ring NBR (for DBC71-200)	40085BN	1
13B	body O-ring FKM (for DBC72-200)	40085VI	1
13C	body O-ring PTFE/silicone (for DBC73-200)	40085TS	1
13D	body O-ring EPDM (for DBC74-200)	40085EP	1
13E	body O-ring FFKM (for DBC76-200)	40085KR	1
13F	body O-ring PTFE/FKM (for DBC77-200)	40085TV	1

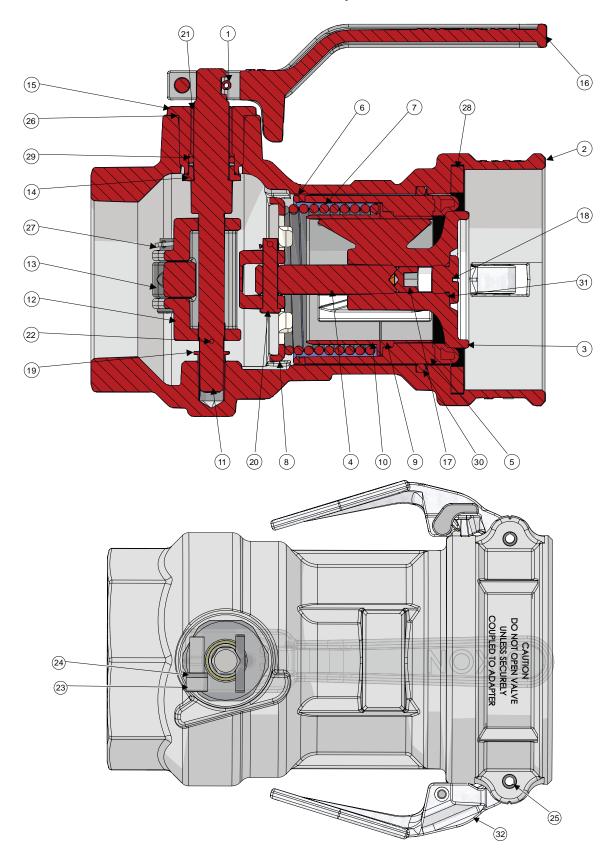
Item #	Description	Part #	Qty
14	link rivet	40086SS	1
15	groove pin	40087SS	1
16	crank shaft cotter pin	40088SS	1
17	link cotter pin	40088SS	2
18	EZ Boss-Lock™ cam arm	40089SS	1
19A	cam gasket NBR (for DBC71-200)	250-G-BU	1
19B	cam gasket FKM (for DBC72-200)	250-G-VI	1
19C	cam gasket PTFE/silicone (for DBC73-200)	250-G-TES	1
19D	cam gasket EPR (for DBC74-200)	250-G-EPR	1
19E	cam gasket PTFE/FKM (for DBC76-200, DBC77-200)	250-G-TEV	1
20	poppet	40091SS	1
21	crank shaft	40092SS	1
22	link arm	40093SS	1
23	link washer	40094SS	1
24	poppet screw PTFE O-ring	40095TF	1
25	cylinder spring	40096SS	1
26	set screw	40097SS	1
27	poppet screw (round head)	40098SS	1
28	lock washer	40099SS	1
29	socket head cap screw	40100SS	1
30	cam arm spring pin	40101SS	2
31	nose seal (for DBC73-200, DBC76-200, and DBC77-200)	40170TF	1

# 2" Stainless Couplers Repair Kits

Part #	Description	Includes Item #
DBCx1-200RK1 (NBR)	seal kit, NBR crank shaft O-ring, PTFE stuffing box O-ring, NBR body O-ring, NBR cam gasket, PTFE O-ring (for DBC71-200)	4A, 5, 13A, 19A, 24
DBCx2-200RK1 (FKM)	seal kit, FKM crank shaft O-ring, PTFE stuffing box O-ring, FKM body O-ring, FKM cam gasket, PTFE O-ring (for DBC72-200)	4B, 5, 13B, 19B, 24
DBCx3-200RK1 (PTFE/silicone and FFKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, PTFE/silicone body O-ring, PTFE/silicone cam gasket, PTFE O-ring (for DBC73-200)	4C, 5,13C, 19C, 24
DBCx4-200RK1 (EPDM)	seal kit, EPDM crank shaft O-ring, PTFE stuffing box O-ring, EPDM body O-ring, EPR cam gasket, PTFE O-ring (for DBC74-200)	4D, 5, 13D, 19D, 24
DBCx6-200RK1 (FFKM and PTFE/FKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, FFKM body O-ring, PTFE/FKM cam gasket, PTFE O-ring (for DBC76-200)	4C, 5, 13E, 19E, 24
DBCx7-200RK1 (PTFE/FKM and FFKM)	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, PTFE/FKM body O-ring, PTFE/FKM cam gasket, PTFE O-ring (for DBC77-200)	4C, 5, 13F, 19E, 24
DBC71-200RK2	NBR seal cylinder, PTFE buttons, and PTFE bushing (for DBC71-200)	9A, 10, 12
DBC72-200RK2	FKM seal cylinder, PTFE buttons, and PTFE bushing (for DBC72-200)	9B, 10, 12
DBCx3-200RK2	PTFE nose seal, PTFE buttons, and PTFE bushing (for DBC73-200, DBC76-200, and DBC77-200)	10, 12, 31
DBC74-200RK2	EPDM seal cylinder, PTFE buttons, and PTFE bushing (for DBC74-200)	9D, 10, 12
DBCxx-200RK4	link kit, link rivet, cotter pins, link washer, link arm, yoke (for all 2" SS)	11, 14, 16, 17, 22, 23
DBCxx-200RK5	stuffing box kit, stuffing box, PTFE O-ring, and large crank shaft bearing (for all 2" SS)	2, 5, 6
DBCxx-200RK6	lever (handle) kit, lever, groove pin, lock washer, and socket head cap screw (for all 2" SS)	8, 15, 28, 29
DBCxx-200RK7	crank shaft kit, crank shaft, cotter pin, and washer (for all 2" SS)	16, 21, 23
DBCxx-200RK8	main cylinder spring	25
DBCxx-200RK9	poppet kit, poppet, round head screw, set screw, and PTFE O-ring (for all 2" SS)	20, 24, 26, 27
DBCL-200	optional add on padlockable lever kit (handle) (for all 2")	not illustrated



3" Aluminum Couplers



# 3" Aluminum Couplers Bill of Materials DBC6x-300

# Refer to Drawing on Page 129

Item #	Description	Part #	Qty	Item #	Description	Part #	Qty
1	groove pin	40087SS	1	23	lever (handle) screw	40216SS	1
2	body		1	24	lever (handle) lock washer	40217SS	1
3	poppet	40195SS	1	25	cam arm pin	40218SS	2
4	stem	40196SS	1	26	PTFE O-ring	40219TF	1
5A	seal cylinder (for DBC61-300)	40197ALBN	1	27	cotter pin	40221SS	2
5B	seal cylinder (for DBC62-300)	40197ALVI	1	28A	NBR coupler gasket (for DBC61-300)	DBCx1-300RK3	1
5C	seal cylinder (for DBC63-300, DBC66-300, and DBC67-300)	40304SS	1	28B	FKM coupler gasket (for DBC62-300)	DBCx2-300RK3	1
5D	seal cylinder (for DBC64-300)	40197SSEP	1	28C	PTFE/silicone coupler gasket (for DBC63-300)	DBCx3-300RK3	1
5E	seal cylinder (for DBC69-300)	40197SSVB	1	28D	EPDM coupler gasket (for DBC64-300)	DBCx4-300RK3	1
6	PTFE button	40198TF	8	28E	PTFE/FKM coupler gasket (for DBC66-300 and DBC67-300)	40222TV	1
7	cylinder spring	DBCxx-300RK8	1	28F	FKM-B coupler gasket (for DBC69-300)	DBCx9-300RK3	1
8	poppet spring seat	40200AL	1	29A	NBR O-ring (for DBC61-300)	40223BN	1
9	PTFE bushing	40201TF	1	29B	FKM O-ring (for DBC62-300)	40223VI	1
10	poppet spring guide	40202SS	1	29C	FFKM O-ring (for DBC63-300, DBC66-300, and DBC67-300)	40223KR	1
11	shaft	40203SS	1	29D	EPDM O-ring (for DBC64-300)	40223EP	1
12	yoke	40204SS	1	29E	FKM-B O-ring (for DBC69-300)	40223VB	1
13	link	40205SS	1	30A	NBR O-ring (for DBC61-300)	40224BN	1
14	shaft retainer	40206SS	1	30B	FKM 0-ring (for DBC62-300)	40224VI	1
15	stuffing box	40207SS	1	30C	PTFE/silicone O-ring (for DBC63-300)	40224TS	1
16	lever (handle)	40208SS	1	30D	EPDM O-ring (for DBC64-300)	40224EP	1
17	set screw	40209SS	1	30E	FFKM O-ring (for DBC66-300)	40224KR	1
18	poppet screw	40210SS	1	30F	PTFE/FKM O-ring (for DBC67-300)	40224TV	1
19	PTFE bearing	40211TF	1	30G	FKM-B O-ring (for DBC69-300)	40224VB	1
20	clevis pin	40212SS	2	31	PTFE O-ring	40235TF	1
21	bearing	40213FG	1	32	locking paddle arm	40285SSSS	2
22	cotter pin	40214SS	1	33	nose seal (for DBC63-300, DBC66-300, and DBC67-300)	40305TF	1



# 3" Aluminum Couplers Repair Kits

Part #	Description	Includes Item #
DBCx1-300RK1 (NBR)	seal kit, NBR stuffing box O-ring, PTFE stuffing box to body O-ring, NBR body O-ring, NBR cam gasket, PTFE poppet screw O-ring (for DBC61-300)	26, 28A, 29A, 30A, 31
DBCx2-300RK1 (FKM)	seal kit, FKM stuffing box O-ring, PTFE stuffing box to body O-ring, FKM body O-ring, FKM cam gasket, PTFE poppet screw O-ring (for DBC62-300)	26, 28B, 29B, 30B, 31
DBCx3-300RK1 (PTFE/silicone and FFKM)	seal kit, FFKM stuffing box O-ring, PTFE stuffing box to body O-ring, PTFE/silicone body O-ring, PTFE/silicone cam gasket, PTFE poppet screw O-ring (for DBC63-300)	26, 28C, 29C, 30C, 31
DBCx4-300RK1 (EPDM)	seal kit, EPDM stuffing box O-ring, PTFE stuffing box to body O-ring, EPDM body O-ring, EPDM cam gasket, PTFE poppet screw O-ring (for DBC64-300)	26, 28D, 29D, 30D, 31
DBCx6-300RK1 (FFKM and PTFE/FKM)	seal kit, FFKM stuffing box O-ring, PTFE stuffing box to body O-ring, FFKM body O-ring, PTFE/FKM cam gasket, PTFE poppet screw O-ring (for DBC66-300)	26, 28E, 29C, 30E, 31
DBCx7-300RK1 (PTFE/FKM and FFKM)	seal kit, FFKM stuffing box O-ring, PTFE stuffing box to body O-ring, PTFE/FKM body O-ring, PTFE/FKM cam gasket, PTFE poppet screw O-ring (for DBC67-300)	26, 28E, 29C, 30F, 31
DBCx9-300RK1 (FKM-B)	seal kit, FKM-B stuffing box O-ring, PTFE stuffing box to body O-ring, FKM-B body O-ring, FKM-B cam gasket, PTFE poppet screw O-ring (for DBC69-300)	26, 28F, 29E, 30G, 31
DBC61-300RK2	NBR seal cylinder, PTFE buttons, and PTFE bushing (for DBC61-300)	5A, 6, 9
DBC62-300RK2	FKM seal cylinder, PTFE buttons, and PTFE bushing (for DBC62-300)	5B, 6, 9
DBCx3-300RK2	PTFE nose seal, PTFE buttons, and PTFE bushing (for DBC63-300, DBC66-300, and DBC67-300)	6, 9, 33
DBC64-300RK2	EPDM seal cylinder, PTFE buttons, and PTFE bushing (for DBC64-300)	5D, 6, 9
DBC69-300RK2	FKM-B seal cylinder, PTFE buttons, and PTFE bushing (for DBC69-300)	5E, 6, 9
DBCx1-300RK3	NBR coupler gasket	28A
DBCx2-300RK3	FKM coupler gasket	28B
DBCx3-300RK3	PTFE/silicone coupler gasket	28C
DBCx4-300RK3	EPDM coupler gasket	28D
DBCx9-300RK3	FKM-B coupler gasket	28F
DBCxx-300RK4	link kit, clevis pin, cotter pin, stem, link, and yoke (for all 3" aluminum)	4, 12, 13, 20, 22, 27
DBCxx-300RK5	stuffing box kit, stuffing box, PTFE O-ring, and bearing	15, 21, 26
DBCxx-300RK6	lever (handle) kit, lever, groove pin, lock washer, and socket head cap screw (for all 3" aluminum)	1, 16, 23, 24
DBCxx-300RK7	shaft kit, shaft, cotter pin, bearing, shaft retainer	11, 14, 19, 22
DBCxx-300RK8	main cylinder spring	7
DBCxx-300RK9	poppet kit, poppet and screw, set screw, and PTFE O-ring	3, 17, 18, 31

# 3" Stainless Couplers Bill of Materials DBC7x-300

# Refer to Drawing on Page 129

Item #	Description	Part #	Qty	ltem #	Description	Part #	Qty
1	groove pin	40087SS	1	23	lever (handle) screw	40216SS	1
2	body		1	24	lever (handle) lock washer	40217SS	1
3	poppet	40195SS	1	25	cam arm pin	40218SS	2
4	stem	40196SS	1	26	PTFE O-ring	40219TF	1
5A	seal cylinder NBR (for DBC71-300)	40197SSBN	1	27	cotter pin	40221SS	2
5B	seal cylinder FKM (for DBC72-300)	40197SSVI	1	28A	NBR coupler gasket (for DBC71-300)	DBCx1-300RK3	1
5C	stainless cylinder (for DBC73-300, DBC76-300, and DBC77-300)	40304SS	1	28B	FKM coupler gasket (for DBC72-300)	DBCx2-300RK3	1
5D	seal cylinder EPDM (for DBC74-300)	40197SSEP	1	28C	PTFE/silicone coupler gasket (for DBC73-300)	40222TS	1
5E	seal cylinder FKM-B (for DBC79-300)	40197SSVB	1	28D	EPDM coupler gasket (for DBC74-300)	40222EP	1
6	PTFE button	40198TF	8	28E	PTFE/FKM coupler gasket (for DBC76-300 and DBC77-300)	40222TV	1
7	cylinder spring	DBCxx-300RK8	1	28F	FKM-B coupler gasket (for DBC79-300)	DBCx9-300RK3	1
8	spring seat	40200SS	1	29A	NBR O-ring (for DBC71-300)	40223BN	1
9	PTFE bushing	40201TF	1	29B	FKM O-ring (for DBC72-300)	40223VI	1
10	spring guide	40202SS	1	29C	FFKM O-ring (for DBC73-300, DBC76-300, and DBC77-300)	40223KR	1
11	shaft	40203SS	1	29D	EPDM O-ring (for DBC74-300)	40223EP	1
12	yoke	40204SS	1	29E	FKM-B O-ring (for DBC79-300)	40223VB	1
13	link arm	40205SS	1	30A	NBR O-ring (for DBC71-300)	40224BN	1
14	shaft retainer	40206SS	1	30B	FKM O-ring (for DBC72-300)	40224VI	1
15	stuffing box	40207SS	1	30C	PTFE/silicone O-ring (for DBC73-300)	40224TS	1
16	lever (handle)	40208SS	1	30D	EPDM 0-ring (for DBC74-300)	40224EP	1
17	set screw	40209SS	1	30E	FFKM O-ring (for DBC76-300)	40224KR	1
18	poppet screw	40210SS	1	30F	PTFE/FKM O-ring (for DBC77-300)	40224TV	1
19	PTFE bearing	40211TF	1	30G	FKM-B O-ring (for DBC79-300)	40224VB	1
20	clevis pin	40212SS	2	31	PTFE O-ring	40235TF	1
21	bearing	40213FG	1	32	locking paddle arm	40285SSS	2
22	cotter pin	40214SS	1	33	PTFE nose seal (for DBC73-300, DBC76-300, and DBC77-300)	40305TF	1

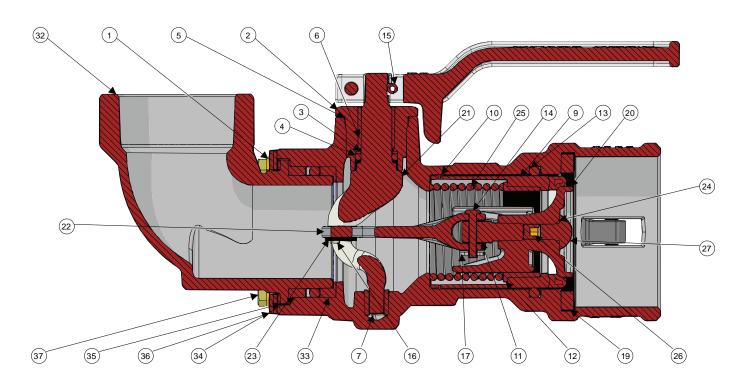


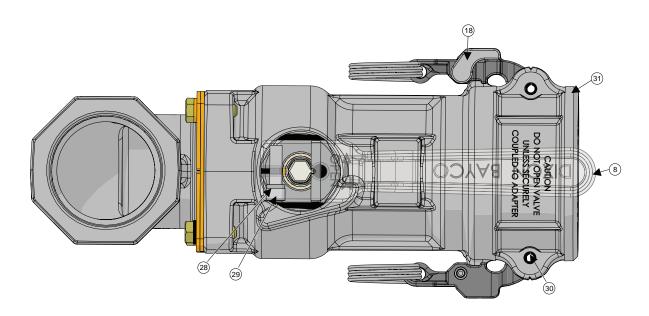
# 3" Stainless Couplers Repair Kits

Part #	Description	Includes Item #
DBCx1-300RK1 (NBR)	seal kit, NBR stuffing box O-ring, PTFE stuffing box to body O-ring, NBR body O-ring, NBR cam gasket, PTFE poppet screw O-ring (for DBC71-300)	26, 28A, 29A, 30A, 31
DBCx2-300RK1 (FKM)	seal kit, FKM stuffing box O-ring, PTFE stuffing box to body O-ring, FKM body O-ring, FKM cam gasket, PTFE poppet screw O-ring (for DBC72-300)	29B, 30B, 31
DBCx3-300RK1 (PTFE/silicone and FFKM)	seal kit, FFKM stuffing box O-ring, PTFE stuffing box to body O-ring, PTFE/silicone body O-ring, PTFE/silicone cam gasket, PTFE poppet screw O-ring (for DBC73-300)	26, 28C, 29C, 30C, 31
DBCx4-300RK1 (EPDM)	seal kit, EPDM stuffing box O-ring, PTFE stuffing box to body O-ring, EPDM body O-ring, EPDM cam gasket, PTFE poppet screw O-ring (for DBC74-300)	26, 28D, 29D, 30D, 31
DBCx6-300RK1 (FFKM and PTFE/FKM)	seal kit, FFKM stuffing box O-ring, PTFE stuffing box to body O-ring, FFKM body O-ring, PTFE/FKM cam gasket, PTFE poppet screw O-ring (for DBC76-300)	26, 28E, 29C, 30E, 31
DBCx7-300RK1 (PTFE/FKM and FFKM)	seal kit, FFKM stuffing box O-ring, PTFE stuffing box to body O-ring, PTFE/FKM body O-ring, PTFE/FKM cam gasket, PTFE poppet screw O-ring (for DBC77-300)	29C, 30F, 31
DBCx9-300RK1 (FKM-B)	seal kit, FKM-B stuffing box O-ring, PTFE stuffing box to body O-ring, FKM-B body O-ring, FKM cam gasket, PTFE poppet screw O-ring (for DBC79-300)	26, 28F, 29E, 30G, 31
DBC69-300RK2	FKM-B seal cylinder, PTFE buttons, and PTFE bushing (for DBC79-300)	5E, 6, 9
DBC71-300RK2	NBR seal cylinder, PTFE buttons, and PTFE bushing (for DBC71-300)	5A, 6, 9
DBC72-300RK2	FKM seal cylinder, PTFE buttons, and PTFE bushing (for DBC72-300)	5B, 6, 9
DBCx3-300RK2	PTFE nose seal, PTFE buttons, and PTFE bushing (for DBC73-300, DBC76-300, and DBC77-300)	6, 9, 33
DBC74-300RK2	EPDM seal cylinder, PTFE buttons, and PTFE bushing (for DBC74-300)	5D, 6, 9
DBCx1-300RK3	NBR coupler gasket	28A
DBCx2-300RK3	FKM coupler gasket	28B
DBCxx-300RK4	link kit, clevis pin, cotter pin, stem, link arm, and yoke (for all 3" SS)	4, 12, 13, 20, 22, 27
DBCxx-300RK5	stuffing box kit, stuffing box, PTFE O-ring, and bearing (for all 3" SS)	15, 21, 26
DBCxx-300RK6	lever (handle) kit, lever, groove pin, lock washer and socket head cap screw (for all 3" SS)	1, 16, 23, 24
DBCxx-300RK7	shaft kit, shaft, cotter pin bearing, shaft retainer (for all 3" SS)	11, 14, 19, 22
DBCxx-300RK8	main cylinder spring	7
DBCxx-300RK9	poppet kit, poppet, poppet screw, set screw, and PTFE O-ring (for all 3" SS)	3, 17, 18, 31

# **DBS 90° Swivel Cam & Groove Dry Disconnects**

2" Aluminum 90° Swivel Couplers





Section A - A



# **DBS 90° Swivel Cam & Groove Dry Disconnects**

### 2" Aluminum 90° Swivel Couplers Bill of Materials DBS6x-200

Item #	Description	Part #	Qty	Item #	Description	Part #	Qty
1	lock washer	10111	4	18	EZ Boss-Lock™ cam arm	40089SS	2
2	stuffing box	40074SS	1	19A	cam gasket NBR (for DBS61-200)	250-G-BU	1
3	back up ring	40075TF	1	19B	cam gasket FKM (for DBS62-200)	250-G-VI	1
4A	crank shaft O-ring NBR (for DBS61-200)	40076BN	1	19C	cam gasket PTFE/silicone (for DBS63-200)	250-G-TES	1
4B	crank shaft O-ring FKM (for DBS62-200)	40076VI	1	20	poppet	40091SS	1
4C	crank shaft O-ring FFKM (for DBS63-200)	40076KR	1	21	crank shaft	40092SS	1
5	stuffing box PTFE O-ring	40077TF	1	22	link arm	40093SS	1
6	large crank shaft bearing	40078FG	1	23	link washer	40094SS	1
7	small crank shaft bearing	40079SS	1	24	poppet screw PTFE O-ring	40095TF	1
8	lever (handle)	40080SS	1	25	cylinder spring	DBCxx-200RK8	1
9A	seal cylinder (for DBS61-200)	40081ALBN	1	26	set screw	40097SS	1
9B	seal cylinder (for DBS62-200)	40081ALVI	1	27	poppet screw (round head)	40098SS	1
9C	seal cylinder (for DBS63-200)	40168SS	1	28	lock washer	40099SS	1
10	PTFE button	40082TF	6	29	socket head cap screw	40100SS	1
11	yoke	40083SS	1	30	cam arm spring pin	40101SS	2
12	PTFE bushing	40084TF	1	31	main body		1
13A	body and swivel NBR O-ring (for DBS61-200)	40085BN	2	32	elbow body		1
13B	body and swivel FKM 0-ring (for DBS62-200)	40085VI	2	33	bottom bearing	40106AC	1
13C	body and swivel PTFE/ silicone O-ring (for DBS63-200)	40085TS	2	34	top bearing	40108AC	1
14	link rivet	40086SS	1	35	washer	40109AC	1
15	groove pin	40087SS	1	36	flange retainer	40110ST	4
16	crank shaft cotter pin	40088SS	1	37	screw	40111SS	4
17	link cotter pin	40088SS	1	not illustrated	nose seal (for DBS63-200)	40170TF	1

# **DBS 90° Swivel Cam & Groove Dry Disconnects**

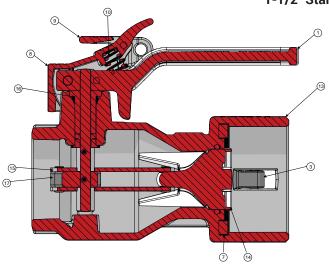
# 2" Aluminum 90° Swivel Couplers Repair Kits

Part #	Description	Includes Item #
DBS62-200RK1	seal kit, FKM crank shaft O-ring, PTFE stuffing box O-ring, FKM body and swivel O-rings, FKM cam gasket, PTFE O-ring (for DBS62-200)	4B, 5, 13B, 19B, 24
DBS61-200RK1	seal kit, NBR crank shaft O-ring, PTFE stuffing box O-ring, NBR and swivel body O-rings, NBR cam gasket, PTFE O-ring (for DBS61-200)	4A, 5, 13A, 19A, 24
DBS63-200RK1	seal kit, FFKM crank shaft O-ring, PTFE stuffing box O-ring, PTFE/silicone body and swivel O-rings, PTFE/silicone cam gasket, PTFE O-ring (for DBS63-200)	4C, 5, 13C, 19C, 24
DBS61-200RK4	swivel rebuild kit, NBR body O-ring, top and bottom bearings, washer, flange retainers, and screws (for DBS61-200)	13A, 33, 34, 35, 36, 37
DBS62-200RK4	swivel rebuild kit, FKM body O-ring, top and bottom bearings, washer, flange retainers, and screws (for DBS62-200)	13B, 33, 34, 35, 36, 37
DBS63-200RK4	swivel rebuild kit, PTFE/silicone body O-ring, top and bottom bearings, washer, flange retainers, and screws (for DBS63-200)	13C, 33, 34, 35, 36, 37
DBS61-200RK10	swivel seal kit, NBR body O-ring, top and bottom bearings (for DBS61-200)	13A, 33, 34, 35
DBS62-200RK10	swivel seal kit, FKM body O-ring, top and bottom bearings (for DBS62-200)	13B, 33, 34, 35
DBS63-200RK10	swivel seal kit, PTFE/silicone body 0-ring, top and bottom bearings (for DBS63-200)	13C, 33, 34, 35
DBC61-200RK2	NBR seal cylinder, PTFE buttons, and PTFE bushing (for DBS61-200)	9A, 10, 12
DBC62-200RK2	FKM seal cylinder, PTFE buttons, and PTFE bushing (for DBS62-200)	9B, 10, 12
DBCx3-200RK2	PTFE nose seal, PTFE buttons, and PTFE bushing (for DBS63-200)	10, 12, + items not illustrated
DBCxx-200RK4	link kit, link rivet, cotter pins, link washer, link arm, and yoke (for all 2")	11, 14, 16, 17, 22, 23
DBCxx-200RK5	stuffing box kit, stuffing box, PTFE O-ring, and large crank shaft bearing (for all 2")	2, 5, 6
DBCxx-200RK6	lever (handle) kit, lever, groove pin, lock washer, and socket head cap screw (for all 2")	8, 15, 28, 29
DBCxx-200RK7	crank shaft kit, crank shaft, cotter pin, and washer (for all 2")	16, 21, 23
DBCxx-200RK8	main cylinder spring (for all 2")	25
DBCxx-200RK9	poppet kit, poppet, round head screw, set screw, and PTFE O-ring (for all 2")	20, 24, 26, 27
DBCL-200	optional add on padlockable lever kit, handle (for all 2")	not illustrated

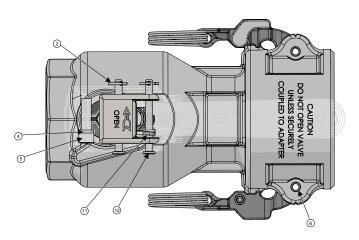


# **D2C Cam & Groove Actuator Style Dry Disconnects**

# 1-1/2" Stainless Couplers



1-1/2" Stainless Coupler Bill of Materials D2C7x-150



2" Stainless Coupler Bill of Materials D2C7x-200

D2C7X-15U				D2G7X-200			
Item #	Description	Part #	Qty	Item #	Description	Part #	Qty
1	lever	40080SS	1	1	lever	40080SS	1
2	lever cotter pin	40088SS	2	2	lever cotter pin	40088SS	2
3	EZ-Boss-Lock cam arm	40089SS	2	3	EZ-Boss-Lock cam arm	40089SS	2
4	lock washer	40099SS	1	4	lock washer	40099SS	1
5	socket head screw	40100SS	1	5	socket head screw	40100SS	1
6	cam arm spring pin	40101SS	2	6	cam arm spring pin	40101SS	2
7A	cam gasket NBR (for D2C71-150)	200-G-BU	1	7A	cam gasket NBR (for D2C71-200)	250-G-BU	1
7B	cam gasket FKM (for D2C72-150)	200-G-VI	1	7B	cam gasket FKM (for D2C72-200)	250-G-VI	1
7C	cam gasket PTFE/silicone (for D2C73-150)	200-G-TES	1	7C	cam gasket PTFE/silicone (for D2C73-200)	250-G-TES	1
7D	cam gasket EPDM (for D2C74-150)	200-G-EPDM	1	7D	cam gasket EPDM (for D2C74-200)	250-G-EPDM	1
8	lever latch	40225SS	1	8	lever latch	40225SS	1
9	lever lock	40226SS	1	9	lever lock	40226SS	1
10	lever lock compression spring	40230SS	1	10	lever lock compression spring	40230SS	1
11	lever lock torsion spring	40231SS	1	11	lever lock torsion spring	40231SS	1
12	lever clevis pin	40232SS	2	12	lever clevis pin	40232SS	2
13	body		1	13	body		1
14	poppet	40287SS	1	14	poppet	40298SS	1
15	poppet link arm	40288SS	2	15	poppet link arm	40299SS	2
16	bearing	40289FG	1	16	bearing	40289FG	1
17	poppet cam	40290SS	1	17	poppet cam	40300SS	1
18	poppet lever shaft	40291SS	1	18	poppet lever shaft	40291SS	1
19	poppet link rivet	40292SS	2	19	poppet link rivet	40292SS	2
20	poppet lever shaft spring pin	40293SS	2	20	poppet lever shaft spring pin	40293SS	2
21	spacer	40294SS	1	21	spacer	40294SS	1
22	poppet O-ring PTFE/FKM	40295TV	1	22	poppet O-ring PTFE/FKM	40301TV	1
23A	lever shaft O-ring NBR (for D2C71-150)	40296BN	1	23A	lever shaft O-ring NBR (for D2C71-200)	40296BN	1
23B	lever shaft O-ring FKM (for D2C72-150)	40296VI	1	23B	lever shaft O-ring FKM (for D2C72-200)	40296VI	1
23C	lever shaft O-ring FFKM (for D2C73-150)	40296KR	1	23C	lever shaft O-ring FFKM (for D2C73-200)	40296KR	1
23D	lever shaft O-ring EPDM (for D2C74-150)	40296EP	1	23D	lever shaft O-ring EPDM (for D2C74-200)	40296EP	1

# **Dry Disconnect Bayonet Style Adapters**

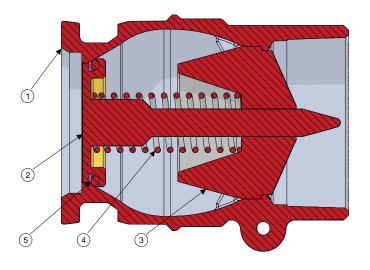
2" and 3" Adapters

### 2" Stainless Adapter Bill of Materials BA3x-200

Item #	Description	Part #	Qty
1	stainless body	40053SS	1
2	brass poppet	40054BR	1
3	stainless deflector	40055SS	1
4	stainless spring	40056SS	1
5A	NBR O-ring (for BA31-200)	BA31-200RK1	1
5B	FKM O-ring (for BA32-200)	BA32-200RK1	1

### 3" Aluminum Adapter Bill of Materials BA6x-300

Item #	Description	Part #	Qty
1	aluminum body	40278AL	1
2	aluminum poppet	40279AL	1
3	aluminum deflector	40280AL	1
4	stainless steel spring	40281SS	1
5A	NBR O-ring (for BA61-300)	BA31-300RK1	1
5B	FKM O-ring (for BA62-300)	BA32-300RK1	1



### 3" Bronze Adapter Bill of Materials BA3x-300

Item #	Description	Part #	Qty
1	bronze body	40278BR	1
2	bronze poppet	40279BR	1
3	bronze deflector	40280BR	1
4	stainless steel spring	40281SS	1
5A	NBR O-ring (for BA31-300)	BA31-300RK1	1
5B	FKM O-ring (for BA32-300)	BA32-300RK1	1

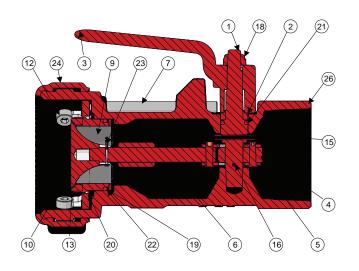


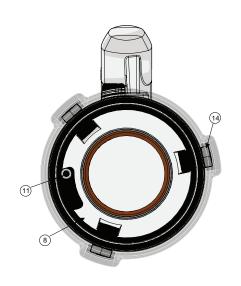
# **Dry Disconnect Bayonet Style Couplers**

2" Straight Non-Swiveling Couplers

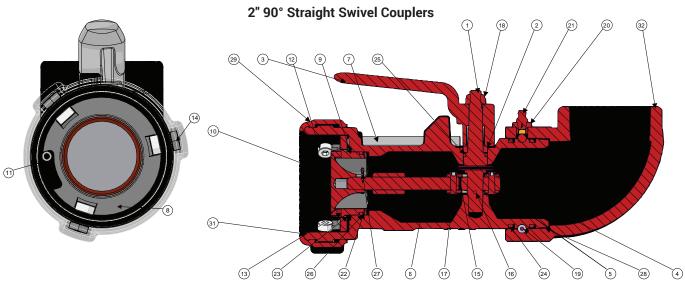
### 2" Stainless Coupler Bill of Materials BC6x-200

BC0X-200				
Item #	Description	Part #	Qty	
1	lever shaft	40138SS	1	
2	lever shaft follower	40139SS	1	
3	lever	40140SS	1	
4	poppet link arm	40141SS	1	
5	bent link	40142SS	2	
6	stem	40143SS	1	
7	interlocking pin	40144SS	1	
8	lock ring	40145SS	1	
9	nose piece	40146HC	1	
10	poppet	40147CA	1	
11	coiled pin	40148SS	1	
12	bayonet stud	40149SS	3	
13A	nose seal NBR (for BC61-200)	40150BN	1	
13B	nose seal FKM (for BC62-200)	40150VI	1	
14	jam nut	40151SS	3	
15	spring pin	40152SS	1	
16	coiled pin	40153SS	1	
17	rivet	40154SS	2	
18	lock nut	40155SS	1	
19	wave spring	40159SS	2	
20	wave spring washer	40160SS	1	
21A	shaft O-ring NBR (for BC61-200)	40162BN	1	
21B	shaft O-ring FKM (for BC62-200)	40162VI	1	
22A	poppet O-ring NBR (for BC61-200)	40163BN	1	
22B	poppet O-ring FKM (for BC62-200)	40163VI	1	
23	cotter pin	40164SS	1	
24	bumper ring	40166VY	1	
25	label	40167AL	1	
26	body		1	





# **Dry Disconnect Bayonet Style Couplers**



The 90° swivel coupler (BS-Series) is illustrated above. The straight swivel coupler (BSS-Series) uses the same components, except it does not have #21A grease nipple, it utilizes a #21B set screw plug

#### Bill of Materials BS6x-200 and BSS6x-200

Item #	Description	Part #	Qty
1	lever shaft	40138SS	1
2	follower	40139SS	1
3	lever (handle)	40140SS	1
4	link	40141SS	1
5	belt link	40142SS	2
6	stem	40143SS	1
7	interlocking pin	40144SS	1
8	lock rink	40145SS	1
9	nose piece	40146HC	1
10	poppet	40147CA	1
11	coiled pin	40148SS	1
12	bayonet stud	40149SS	3
13A	NBR nose seal (BS61-200)	40150BN	1
13B	FKM nose seal (BS62-200)	40150VI	1
14	jam nut	40151SS	3
15	spring pin	40152SS	1
16	grooved pin	40153SS	1
17	rivet	40154SS	2
18	lock nut	40155SS	1

Item #	Description	Part #	Qty
19	ball bearing	40156SS	32
20	ball plug	40157BR	1
21A	grease fitting (BS6x-200)	40158ST	1
21B	set screw (BSS6x-200)	40178SS	1
22	wave spring	40159SS	2
23	wave spring washer	40160SS	1
24A	NBR swivel 0-ring (BS and BSS61-200)	40161BN	2
24B	FKM swivel O-ring (BS and BSS62-200)	40161VI	2
25A	NBR stem O-ring (BS and BSS61-200)	40162BN	1
25B	FKM stem O-ring (BS and BSS62-200)	40162VI	1
26A	NBR nose O-ring (BS and BSS61-200)	40163BN	1
26B	FKM nose O-ring (BS and BSS62-200)	40163VI	1
27	cotter pin	40164SS	1
28	front bearing strip	40165NY	1
29	bumper ring	40166VY	1
30	label	40161AL	1
31	main body		1
32	swivel body		1

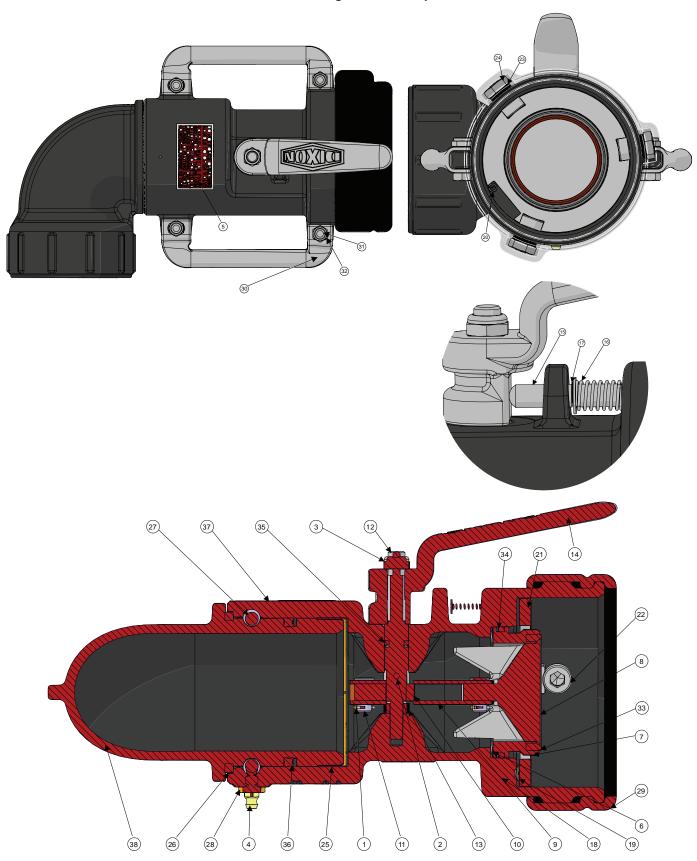
### **Repair Kits**

Part #	Description	Includes Item #
BS61-200RK1	seal repair kit, NBR nose seal, spring pin, grooved pin, NBR swivel O-rings, NBR stem O-ring, NBR nose body O-ring, cotter pin, bearing strip, and bumper ring	13A, 15, 16, 24A, 25A, 26A, 27, 28, 29
BS62-200RK1	seal repair kit, FKM nose seal, spring pin, grooved pin, FKM swivel O-rings, FKM stem O-ring, FKM nose body O-ring, cotter pin, bearing strip, and bumper ring	13B, 15, 16, 25A, 25B, 26B, 27, 28, 29
BS61-200RK2	swivel seal repair kit, NBR swivel O-rings, and bearing strip	24A, 28
BS62-200RK2	swivel seal repair kit, FKM swivel O-rings, and bearing strip	24B, 28



# **BA/BS/BSS-Series Bayonet Style Dry Disconnects**

3" 90° and Straight Swivel Couplers



# **BA/BS/BSS-Series Bayonet Style Dry Disconnects**

### 3" 90° and Straight Swivel Couplers

The 90° swivel coupler (BS-Series) is illustrated on page 141 The straight swivel coupler (BSS-Series) uses the same components

### 3" Swivel Aluminum Coupler Bill of Materials BS6x-300 and BSS6x-300

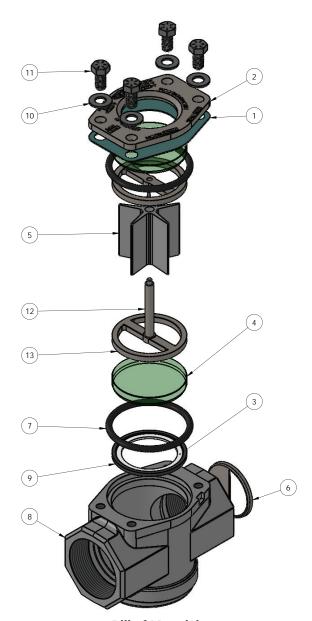
#### **Repair Kits**

Item #	Description	Part #	Qty
1	-	40088SS	2
2	cotter pin	40086SS 40152SS	1
3	spring pin lock nut	40152SS 40155SS	1
4	grease fitting	40158ST	1
5	label	40167AL	1
6	wave spring	40167AL 40246SS	1
7	nose piece	4024033 40247HC	1
8	•	40247HC 40248CA	1
	poppet bent link	10011	
9		40249SS	2
10	drive link	40250SS	1
11	clevis pin	40251SS	2
12	stem	40252SS	1
13	stem spacer	40253AL	1
14	lever (handle)	40254SS	1
15	interlock pin	40255SS	1
16	compression spring	40256SS	1
17	retaining ring	40257ST	1
18	compression spring	40258SS	3
19	eyelet	40259BR	3
20	spring pin	40260SS	1
21	lock ring	40261SS	1
22	bayonet stud	40262SS	3
23	lock washer	40263SS	3
24	nut	40264SS	3
25	bearing strip	40265NY	1
26	dust seal	40266FL	1
27	ball bearings	40267SS	27
28	ball plug	40268BR	1
29	bumper ring	40269VY	1
30	grip handle	40270SS	2
31	bolt	40271SS	4
32	lock nut	40272SS	4
33A	NBR nose seal	40273BN	1
33B	FKM nose seal	40273VI	1
34A	NBR nose body 0-ring	40274BN	1
34B	FKM nose body O-ring	40274VI	2
35A	NBR stem 0-ring	40275BN	1
35B	FKM stem 0-ring	40275VI	1
36A	NBR quad ring	40276BN	1
36B	FKM quad ring	40276VI	1
37	main body		1
38	swivel body		1

	<u> </u>	
Part #	Description	Includes Item #
BS61-300RK1	seal repair kit, NBR nose seal, spring pin, NBR swivel O-rings, NBR stem O-ring, NBR nose body O-ring, cotter pin, bearing strip, and bumper ring	1, 2, 25, 29, 33A, 34A, 35A
BS62-300RK1	seal repair kit, FKM nose seal, spring pin, FKM swivel O-rings, FKM stem O-ring, FKM nose body O-ring, cotter pin, bearing strip, and bumper ring	1, 2, 25, 26, 29, 33B, 34B, 35B, 36B
BS61-300RK2	swivel seal repair kit, NBR swivel O-rings, and bearing strip	25, 26, 36A
BS62-300RK2	swivel seal repair kit, FKM swivel O-rings, and bearing strip	25, 26, 36B
BS62-300RK3	complete rebuild kit BS62-300	2, 6, 7, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 29, 33B, 34B, 35B



# **DB14 and DB15-Series Breakaways**



**Bill of Materials** 

Item #	Description	Part #	Qty
1	gasket	40612FI	1
2	сар	40611SS	1
3	spacer	40614TF	1
4	sight glass	40616GL	2
5	flywheel	40619	1
6	flow diverter	40618SS	1
7	O-ring	40617	2
8	body machined	40613SS	1

Item #	Description	Part #	Qty
9	seal	40615	1
10	washer	40610ST	4
11	bolt	40609ST	4
12	shaft	40620SS	1
13	retaining bridge	40621SS	2

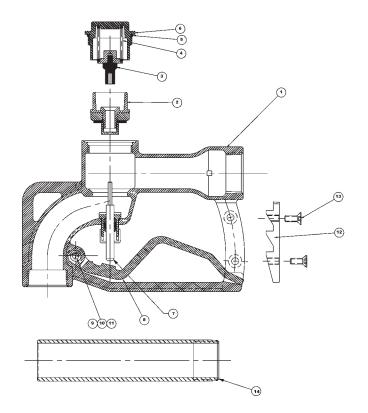
# 112D and 112DNS (1-1/2") Bulk Delivery Nozzles

## **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	main poppet assembly	use kit 112DSK	1
3	secondary poppet assembly	use kit 112DSK	1
4	poppet spring	SPRG-L368	1
5	NBR cap O-ring	O-RING#132	1
6	bronze cap	112DAL-9	1
7	valve stem assembly	use kit 112DSK	1
8	trigger	use kit 114/2D-TK	1
9	trigger bushing	114DAL-10	1
10	trigger pin	PIN-L389-SS	1
11	trigger cotter pin	110746	1
12	ratchet plate	340164	1
13	ratchet plate screws	110798	2
14	spout	1125A	1



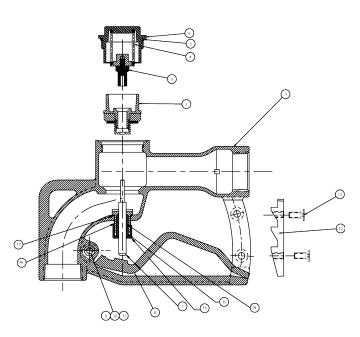
Part #	Description	Includes Item #
112DSK	main poppet, 2nd poppet, cap O-ring, valve stem	2, 3, 5, 7
1125A	1-1/2" aluminum spout	14
1125B	1-1/2" brass spout (optional)	
114/2D-TK	trigger, pin, cotter pin, bushing	8, 9, 10, 11
114DAL-AV-19	blank plate to replace ratchet plate if ratchet not required (optional)	





# 114D and 114DNS (1-1/4") Bulk Delivery Nozzles

#### **Bill of Materials**



Bill of Materials			
Item #	Description	Part #	Qty
1	body		1
2	main poppet assembly	use kit 114DSK	1
3	secondary poppet assembly	use kit 114DSK	1
4	poppet spring	SPRG-L368	1
5	NBR cap O-ring	0-RING-AS-129	1
6	bronze cap	114DAL-2	1
7	valve stem assembly	use kit 114DSK	1
8	trigger	use kit 114/2D-TK	1
9	trigger bushing	114DAL-10	1
10	trigger pin	PIN-L389-SS	1
11	trigger cotter pin	110746	1
12	ratchet plate	340164	1
13	ratchet plate screws	110798	2
14	aluminum spout	use kit 1143A	1
15	sleeve stem packing	SLVL358-1	1
16	valve stem guide and O-ring	use kit 114DSK	1
17	valve stem 0-ring	0-RING-AS016	1
18	valve stem packing	STEMPACK-L360	2
19	valve stem nut	NUTL357-1	1

#### **Repair Kits**

	-1	
Part #	Description	Includes Item #
114DSK	main and secondary poppets, cap O-ring, valve stem assembly and packing, sleeve stem packing, and nut	2, 3, 5, 7, 15, 16, 17, 18, 19
114/2D-TK	trigger, pin, bushing, and cotter pin	8, 9, 10, 11
1143A	aluminum spout	14
1143B	optional brass spout	replaces 14
114DAL-AV-19	optional blank plate to replace ratchet plate, if ratchet not desired	replaces 12

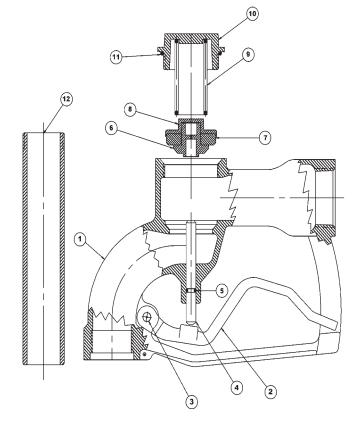
# 1250-94-Series Gravity Nozzles

#### **Bill of Materials**

Dill of Materials			
Description	Part #	Qty	
body		1	
trigger	use kit 1250TK	1	
trigger pin	use kit 1250TK	1	
valve stem plunger	use kit 1250SK	1	
plunger O-ring	500-7A2	1	
valve base	use kit 1250SK	1	
valve seal	use kit 1250SK	1	
valve plate	use kit 1250SK	1	
valve spring	SPRG-L368	1	
aluminum cap	1250-2	1	
NBR O-ring cap	O-RING#132	1	
aluminum spout	1250-3	1	
	Description  body trigger trigger pin valve stem plunger plunger O-ring valve base valve seal valve plate valve spring aluminum cap NBR O-ring cap	Description  Part #  body  trigger  trigger  use kit 1250TK  trigger pin  use kit 1250TK  valve stem plunger  use kit 1250SK  plunger O-ring  500-7A2  valve base  use kit 1250SK  valve seal  use kit 1250SK  valve spring  SPRG-L368  aluminum cap  1250-2  NBR O-ring cap  O-RING#132	



Part #	Description	Includes Item #
1250TK	trigger, pin	2, 3
1250SK	plunger, O-rings, valve seal, valve base, valve plate	4, 5, 6, 7, 8, 11



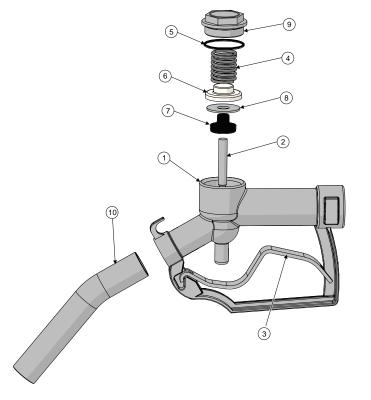
# **900-Series Utility Nozzles**

#### **Bill of Materials**

2 0			
Item #	Description	Part #	Qty
1	body		1
2	plunger	use kit 900SK	1
3	trigger	use kit 900TK	1
4	valve spring	SPRG-972	1
5	cap O-ring	112099	1
6	holder valve gasket	use kit 900SK	1
7	holder button gasket	use kit 900SK	1
8	valve seal	use kit 900SK	1
9	сар	875-3	1
10A	1" spout	875-4	1
10B	3/4" spout	234-80-4	1
10C	1" bent spout	875-5	1
10D	3/4" bent spout	234-80-5	1
not illustrated	3/4" FNPT inlet reducer	900RB	1

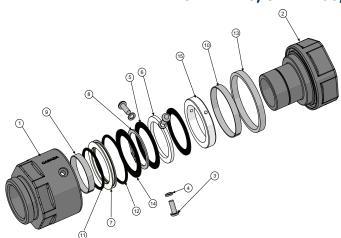
#### **Repair Kits**

Part #	Description	Includes Item #
900TK	trigger	3
900SK	plunger assembly, valve assembly, cap O-ring	2, 4, 5, 6, 7, 8, 9

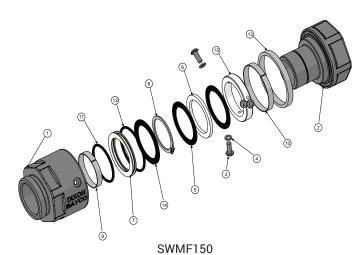


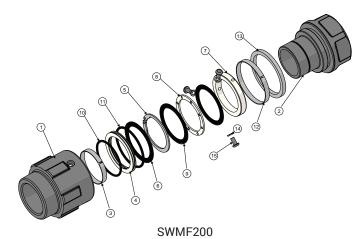


# SWMF125, SWMF150, and SWMF200 Swivels



SWMF125





**Bill of Materials** SWMF125 and SWMF150

Item #	Description	Part #	Qty
1	female body		1
2	male body		1
3	screw	use kit SWMF-RK2	3
4	lock washer	use kit SWMF-RK2	3
5	thrust bearing	use kit SWMF-RK3	1
6	thrust washer	use kit SWMF-RK3	2
7	O-ring holder	use kit SWMF-RK2 or SWMF-RK3	1
8	retaining ring	use kit SWMF-RK3	1
9	front bearing	use kit SWMF-RK2 or SWMF-RK3	1
10	rear bearing	use kit SWMF-RK2 or SWMF-RK3	1
11	O-ring	use kit SWMF-RK2 or SWMF-RK3	1
12	O-ring	use kit SWMF-RK2 or SWMF-RK3	1
13	felt ring	use kit SWMF-RK2 or SWMF-RK3	1
14	support washer	use kit SWMF-RK3	1
15	support ring	use kit SWMF-RK3	1

#### **Bill of Materials**

#### **SWMF200**

Item #	Description	Part #	Qty
1	female body		1
2	male body		1
3	front bearing	use kit SWMF-RK22 or SWMFRK32	3
4	O-ring holder	use kit SWMF-RK22 or SWMFRK32	3
5	retaining ring	use kit SWMF-RK32	1
6	support washer	use kit SWMF-RK32	1
7	support ring	use kit SWMF-RK32	1
8	thrust washer	use kit SWMF-RK32	2
9	thrust bearing	use kit SWMF-RK32	1
10	O-ring	use kit SWMF-RK22 or SWMFRK32	1
11	large O-ring	use kit SWMF-RK22 or SWMFRK32	1
12	rear bearing	use kit SWMF-RK22 or SWMFRK32	1
13	felt ring	use kit SWMF-RK22 or SWMFRK32	1
14	lock washer	use kit SWMF-RK32	3
15	screw	use kit SWMF-RK32	3

#### **Repair Kits**

Part #	Description	Includes Item #
SWMF-RK1	swivel grease nipple kit	
SWMF-RK2	swivel seal and wear kit	3, 4, 7, 9, 10, 11, 12, 13
SWMF-RK3	complete swivel rebuild kit	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
SWMF-RK22	swivel seal and wear kit	3, 4, 10, 11, 12, 13
SWMF-RK32	complete rebuild kit	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

#### **Hose Shank and Check Valve Swivels**

#### **Check Valve NPT Swivel**

Part #	Description
1280	1-1/4" MNPT x 1-1/4" FNPT
1580U	1-1/2" MNPT x 1-1/2" FNPT
1580R	1-1/4" MNPT x 1-1/2" FNPT

#### Hose x MNPT Swivel

Part #	Description
1265	1-1/4" MNPT x 1-1/4" hose shank
1565U	1-1/2" MNPT x 1-1/2" hose shank
1570	1-1/2" MNPT x 1-3/8" hose shank



## **Repair Kits**

Part #	Description
1200SK	seal kit and retaining ring for 1280, 1265, and 1580R
1500SK	seal kit and retaining ring for 1565U, 1580U
1570RK	seal kit and retaining ring for 1570



## 500AV and 525AV Angle Valves

#### **Repair Kit**

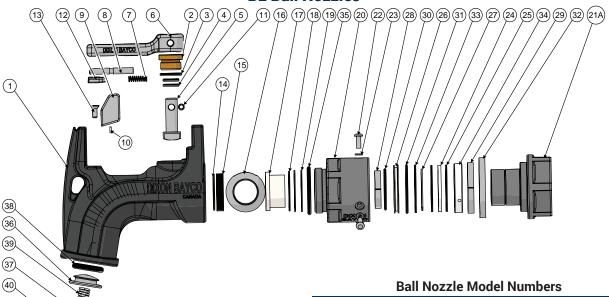
Part #	Description
500K	stem guide assembly, plunger assembly, O-ring, and cotter pin



(42) (41) (43)



## **BL Ball Nozzles**



Part #	Description
BL062	1-1/4" NPT inlet x swivel adapter outlet
BL062-BSPP	1-1/4" BSPP inlet x swivel adapter outlet
BL064	1-1/2" NPT inlet x swivel adapter outlet
BL064-BSPP	1-1/2" BSPP inlet x swivel adapter outlet
BL066	1-1/4" NPT inlet x 1-1/4" spout outlet
BL066-BSPP	1-1/4" BSPP inlet x 1-1/4" spout outlet
BL068	1-1/2" NPT inlet x 1-1/4" spout outlet
BL068-BSPP	1-1/2" BSPP inlet x 1-1/4" spout outlet
BL072	1-1/2" NPT inlet x 1-1/2" spout outlet
BL072-BSPP	1-1/2" BSPP inlet x 1-1/2" spout outlet

NOTE: All inlet connections are female

#### **Repair Kits**

Part #	Description	Includes Item #
SWMF-RK1	inlet swivel grease nipple kit (optional)	not illustrated
SWMF-RK2	inlet swivel seal and wear kit	22, 23, 26, 28, 29, 30, 31, 32
SWMF-RK3	complete inlet swivel rebuild kit	22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34
SWMF-RK4	1-1/2" FNPT replacement inlet swivel	20, 21B, 22 (3), 23 (3), 24, 25 (2), 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
SWMF-RK5	1-1/4" FNPT replacement inlet swivel	20, 21A, 22 (3), 23 (3), 24, 25 (2), 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
SWMF-RK6	1-1/2" BSPP replacement inlet swivel	20, 21C, 22 (3), 23 (3), 24, 25 (2), 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
BL005	swivel outlet (BL062, BL064)	43, 44, 45, 46
BL-RK4	ball valve shaft seal kit	2, 3, 4, 5
BL-RK10	complete ball nozzle seal kit	3, 4, 14, 15, 17, 35, 38, 43, 44
BL-RK11	optional check valve 5 PSI spring kit	39B, 43
BL-RK12	standard check valve 3 PSI cartridge kit	36, 37, 38, 39A, 40, 41, 42, 43
BL-RK13	trigger kit	6, 7, 8, 9, 10, 11, 12, 13 (2)

## **BL Ball Nozzles**

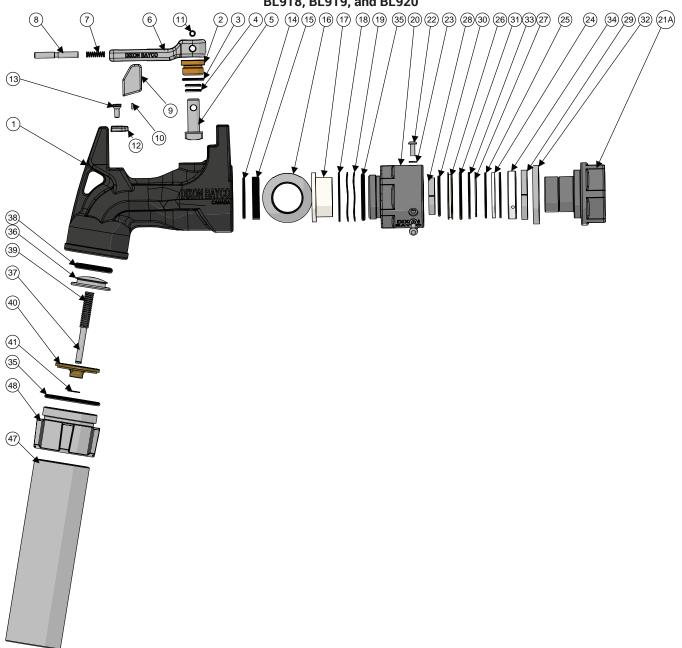
## **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	bronze guide shaft	use kit BL-RK4	1
3	O-ring	use kit BL-RK4 or BL-RK10	1
4	O-ring	use kit BL-RK4 or BL-RK10	2
5	shaft lever	use kit BL-RK4	1
6	lever	use kit BL-RK13	1
7	compression spring	use kit BL-RK13	1
8	shaft latch	use kit BL-RK13	1
9	latch	use kit BL-RK13	1
10	screw	use kit BL-RK13	1
11	pin	use kit BL-RK13	1
12	lever plate	use kit BL-RK13	1
13	screw	use kit BL-RK13	2
14	O-ring	use kit BL-RK10	1
15	seal	use kit BL-RK10	1
16	ball	BL062-2	1
17	ball seat	use kit BL-RK10	1
18	washer	111719	1
19	wave spring	110902	2
20	swivel body	use kit SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
21A	swivel inlet 1-1/4" NPT	use kit SWMF-RK5	1
21B	swivel inlet 1-1/2" NPT	use kit SWMF-RK4	1
21C	swivel inlet 1-1/2" BSPP	use kit SWMF-RK6	1
22	screw	use kit SWMF-RK2, SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	3
23	lock washer	use kit SWMF-RK2, SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	3
24	thrust bearing	use kit SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
25	thrust washer	use kit SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	2
26	O-ring holder	use kit SWMF-RK2, SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
27		use kit SWMF-RK2, SWMF-RK3, SWMF-RK5 or SWMF-RK6	1
	retaining ring		1
28	font bearing	use kit SWMF-RK2, SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	
29	rear bearing	use kit SWMF-RK2, SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
30	O-ring	use kit SWMF-RK2, SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
31	O-ring	use kit SWMF-RK2, SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
32	dust seal	use kit SWMF-RK2, SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
33	support washer	use kit SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
34	support ring	use kit SWMF-RK3, SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
35	O-ring	use kit SWMF-RK4, SWMF-RK5 or SWMF-RK6	1
36	poppet	use kit BL-RK12	<u>l</u>
37	stem	use kit BL-RK12	l
38	O-ring	use kit BL-RK10 or BL-RK12	<u>l</u>
39A	compression spring (3 PSI)	use kit BL-RK12	1
39B	compression spring (5 PSI)	use kit BL-RK11	1
40	bridge	use kit BL-RK12	1
41	retaining ring	use kit BL-RK12	1
42	washer	use kit BL005, BL-RK10, BL-RK11 or BL-RK12	1
43	O-ring	use kit BL005, BL-RK10 or BL-RK12	1
44	O-ring	use kit BL005	1
45	swivel nut	use kit BL005	1
46	swivel adapter	use kit BL005	1
47A	spout 1-1/4"	1143A	1
47B	spout 1-1/2"	1125A	1
48A	spout adapter 1-1/4" NPT	341703	1
48B	spout adapter 1-1/2" NPT	BL007	1



# **BL Super Ball Nozzles**





#### **Repair Kits**

Description	Includes Item #
inlet swivel grease nipple kit (optional)	not illustrated
inlet swivel seal and wear kit	22, 23, 26, 28, 29, 30, 31, 32
complete inlet swivel rebuild kit	22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34
2" FNPT replacement inlet swivel	20, 21 A, 22 (3), 23 (3), 24, 25 (2), 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
1-1/2" FNPT replacement inlet swivel	20, 21B, 22 (3), 23 (3), 24, 25 (2), 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
ball valve shaft seal kit	2, 3, 4, 5
complete ball nozzle seal kit	3, 4, 14, 15, 17, 35, 38
optional check valve 5 PSI spring kit	35, 39B
standard check valve 3 PSI cartridge kit	35, 36, 37, 38, 39, 40, 41
trigger kit	6, 7, 8, 9, 10, 11, 12, 13 (2)
	inlet swivel grease nipple kit (optional) inlet swivel seal and wear kit complete inlet swivel rebuild kit 2" FNPT replacement inlet swivel 1-1/2" FNPT replacement inlet swivel ball valve shaft seal kit complete ball nozzle seal kit optional check valve 5 PSI spring kit standard check valve 3 PSI cartridge kit

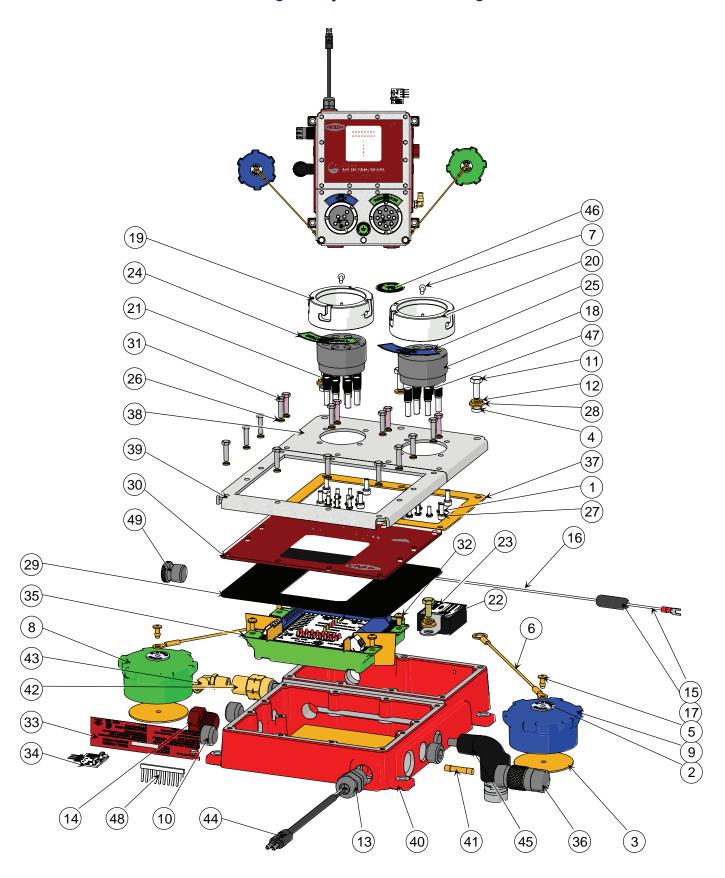
# **BL Super Ball Nozzles**

## **Bill of Materials**

Item #	Description	Part #	Qty
1	body		1
2	bronze guide shaft	use kit BL-RK42	1
3	O-ring	use kit BL-RK42 or BL-RK102 (includes item 35)	2
4	O-ring	use kit BL-RK42 or BL-RK102 (includes item 35)	1
5	shaft lever	use kit BL-RK42	1
6	lever	use kit BL-RK13	1
7	compression spring	use kit BL-RK13	1
8	shaft latch	use kit BL-RK13	1
9	latch	use kit BL-RK13	1
10	screw	use kit BL-RK13	1
11	pin	use kit BL-RK13	1
12	lever plate	use kit BL-RK13	1
13	screw	use kit BL-RK13	2
14	O-ring	use kit BL-RK102	1
15	seal	use kit BL-RK102	1
16	ball	112091	1
17	ball seat	use kit BL-RK102	1
18	washer	112092	1
19	wave spring	112090	2
20	swivel body	use kit SWMF-RK42 or SWMF-RK52	1
21A/21B	swivel inlet	use kit SWMF-RK42 or SWMF-RK52	1
22	screw	use kit SWMF-RK22, SWMF-RK42 or SWMF-RK52	3
23	lock washer	use kit SWMF-RK22, SWMF-RK42 or SWMF-RK52	3
24	thrust bearing	use kit SWMF-RK42 or SWMF-RK52	1
25	thrust washer	use kit SWMF-RK42 or SWMF-RK52	2
26	O-ring holder	use kit SWMF-RK22, SWMF-RK32, SWMF-RK42 or SWMF-RK52	1
27	retaining ring	use kit SWMF-RK32 (includes items 22, 23, 24, 25, 33, 34), SWMF-RK42 or SWMF-RK52	1
28	front bearing	use kit SWMF-RK22, SWMF-RK32, SWMF-RK42 or SWMF-RK52	1
29	rear bearing	use kit SWMF-RK22, SWMF-RK32, SWMF-RK42 or SWMF-RK52	1
30	0-ring	use kit SWMF-RK22, SWMF-RK32, SWMF-RK42 or SWMF-RK52	1
31	0-ring	use kit SWMF-RK22, SWMF-RK32, SWMF-RK42 or SWMF-RK52	1
32	dust seal	use kit SWMF-RK22, SWMF-RK32, SWMF-RK42 or SWMF-RK52	1
33	support washer	use kit SWMF-RK42 or SWMF-RK52	1
34	support ring	use kit SWMF-RK42 or SWMF-RK52	1
35	0-ring	use kit SWMF-RK42 or SWMF-RK52	1
36	poppet	use kit BL-RK122	1
37	stem	use kit BL-RK122	1
38	O-ring	use kit BL-RK102 (includes item 35) or BL-RK122	1
39A/39B	compression spring	use kit BL-RK112 or BL-RK122	1
40	bridge	use kit BL-RK122	1
41	retaining ring	use kit BL-RK122	1
47A/47B		391137 (2")/1125A (1-1/2")	1
48A/48B	•	341780 (NPT)/341781 (BSPP)	1



FT208-39xP-Series Plug-n-Play Monitors with Integrated Dual Sockets



# **Plug-n-Play Monitors with Integrated Dual Sockets**

#### **Bill of Materials**

#### **Quantity of Components Per Unit**

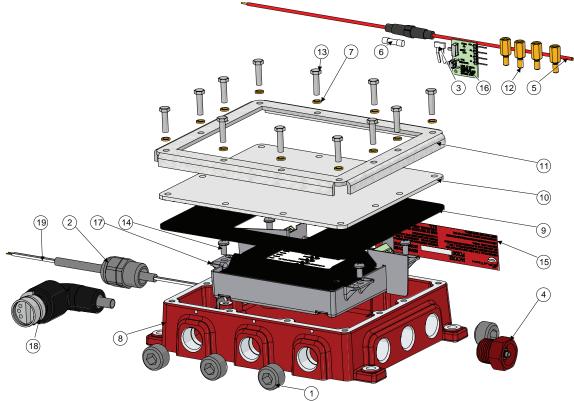
Item #	Description	Part #	FT208-390P	FT208-390PG	FT208-390PGS	FT208-390PGS0		FT208-390PGSTO														_	_	FT208-		FT208-391PPGT
1	stainless steel screw	10086	15	15	15	15	15	15	15	15	15	15	15	15	5	15	15	15	15	15	15	15	15	15	15	15
2	aluminum name plate - socket washer	use kit FT320 or FT321	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	aluminum washer 2.500" x .0625"	use kit FT320 or FT321	2	2	2	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2			2
4	stainless steel spacer	10089	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2			2
5	aluminum rivet .1875"	use kit FT320 or FT321	2		2	2	2	2	2	2	2	2				2	2	2	2	2	2	2	2			2
6	stainless steel cable - socket 8"	use kit FT320 or FT321	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	stainless steel screw - contact block	10094	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	vinyl dust cap - thermistor (green)	use kit FT321	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	vinyl dust cap - optic (blue)	use kit FT320	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	polypropylene pipe plug	10103	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	4	4	4	3	3	3	3	3
11	stainless steel screw	10110	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12	stainless steel lock washer	10111	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
13	polyamide strain relief	10139				1		1					1		1											
14	reset switch assy	10200A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	ground wire assembly	10735-002		1	1	1	1	1	1		1	1		-		1		1	1	1	1		1	1	1	1
16	ground wire assembly	10735-002		1	1	1	1	1	1		1	1		_	_	1		1	1	1	1		1	1	1	1
17	ground wire assembly	10735-002		1	1	1	1	1	1		1	1		1	1	1		1	1	1	1		1	1	1	1_
18	plastic contact block - socket short	10254	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	stainless steel ring 4 J-slot	10366SS-001 (was FT9044)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2
20	stainless steel ring 3 J-slot	10366SS-002 (was FT9043)	1	1	1	1	1	1	1	1	1	1	1	1	1	1										
21	stainless steel socket pin - short	10368SS (was FT9061)	15	15	15	15	15	15	15	15	15	15	15	15	5	15	15	15	15	15	15	15	15	15	15	15
22	ground wire assembly	10735-002		1	1	1	1	1	1		1	1		1	1	1		1	1	1	1		1	1	1	1
23	Trailer Identification Module	10372					1	1	1					1	1	1				1	1				1	1
24	aluminum name plate - thermistor	10373AL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	aluminum name plate - optic	10374AL	1	1	1	1	1	1	1	1	1	1	1	-	-	1	1	1	1	1	1	1	1	1	$\rightarrow$	1_
26	stainless steel lock washer	10375SS	_	_		_	_			_	_	_	$\rightarrow$	24 2	_	-	_	$\rightarrow$	_	_		_	_	24 2	_	
27	stainless steel screw	10376SS	8	8	8	8	8	8	8	8	8	8				8	8	8		8	8	8	8	8		8
28	stainless steel washer	10382SS	2			2	2	2	2	2	2	2	2	_	_	2	2	2	2	2	2	2	2	2		2
29	neoprene gasket	10432NP (was FT9045)	1	1	1	1	1	1	1	1	1	1	1	-	-	1	1	1	1	1	1	1	1	1	$\overline{}$	1
30	acrylic bezel	10433PL	1	10	1	1	1.0	1	1	1	1	1	1	_	$\overline{}$	1	1	_	1	1	1	1	1	1	$\overline{}$	1
31	stainless steel screw	10436SS	-	16	_	-	_	_	_	_	$\overline{}$	$\rightarrow$	$\rightarrow$	16	-	$\overline{}$	_	$\rightarrow$	$\overline{}$	$\overline{}$			16	16	16	16
32	stainless steel screw - sems	10437SS	4	-	4	4	4	4	4	4	4	4	4	_		4	4	4	4	4	4	4	4	4	4	4
33 34	chrome mylar label	10438A	1	1	1	1	1	1	1	1	1	1	1	-	$\rightarrow$	1	1	1	1	1	1	1	1	1	_	1
35	programming board assembly potted OBM	10459 (was FT9035) 10465	1		1	1	1	1	1	1	1	1	1	-	$\rightarrow$	1	1	1	1	1	1	1	1	1	1	+
36	fuse holder assembly	10596PLAC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>+</u>
37	cork gasket - lid	10590FLAC 10597CK	i	1	1	1	1	1	1	1	1	1	1	1	1	1	1	$\rightarrow$	1	1	1	1	1	1	1	<u>+</u>
38	aluminum faceplate	10598AL	i	i	1	1	1	1	1	1	1	1	1	1	1	1	i	i	i	i	i	1	1	1	1	†
39	aluminum frame	10599AL	i	1	1	1	1	1	1	1	1	1	1	i	1	1	i	i	i	1	1	1	1	1	$\rightarrow$	†
40	aluminum housing	10600AL	i	1	1	1	1	1	1	i	1	1	i	1	1	1	i	<del>†</del>	1	1	1	1	i	†	1	†
41	glass fuse 1/2" amp	10601	i	1	1	1	1	1	1	1	i	1	i	1	-	1	i	i	1	1	1	1	i	$\frac{1}{1}$	1	†
42	brass pressure switch	10602BR	<u> </u>		1	1	1	1				i	i	1	i I				i	1			i	$\frac{1}{1}$	$\dot{1}$	<u>-</u>
43	brass dot air brake swivel fitting	10603BR			1	1	1	1				1	i	1	i				i	i			i	$\frac{1}{1}$	1	
44	power wire Plug-n-Play	10612				1	<u>.</u>	1					i		i											
45	OBM plug elbow assy (Plug-n-Play)		1	1	1	1	1	1	1	2	2	2	2	_		2	1	1	1	1	1	2	2	2	2	2
46	aluminum label - ground bolt	10621AL	i	i	1	1	1	1	1	1	1	1	1	1	-	1	i	i	1	1	1	1	1	-	1	1
47	plastic black button insert	BLACK BUTTON INSERT	6	_			6	6		6	6		6				6			6	6		$\rightarrow$		-	6
48	jumper cross connector	10196	1	1					1	1	1						1				1	1	1		-	1
49	acetal plug	10606AC-002		1					-		-	_	_	_			i			$\rightarrow$		1				1
	1									- 1	- 1	- 1	1			- 1	- 1	- 1			- 1	- 1	- 1			•

#### **Repair Kits**

Part #	Description	Includes Item #
FT320	blue (optic) vinyl cap assembly	2, 3, 5, 6, 9
FT321	green (thermistor) vinyl cap assembly	2, 3, 5, 6, 8
FT9051	contact assembly for FT390/393 optic 5 pin	1, 7, 18, 21
FT9052	contact assembly for FT390/393 thermistor 10 pin	1, 7, 18, 21
FT9062	nose ring contact assbly, thermistor 4 J-slot, 10 pin	1, 7, 18, 19, 21
FT9063	nose ring contact assembly, optic 3 J-slot, 6 pin	1, 7, 18, 20, 21
FT9068	contact block attachment screws and washers (4 each)	26, 27



# FT208P-Series Plug-n-Play Stand Alone Monitors

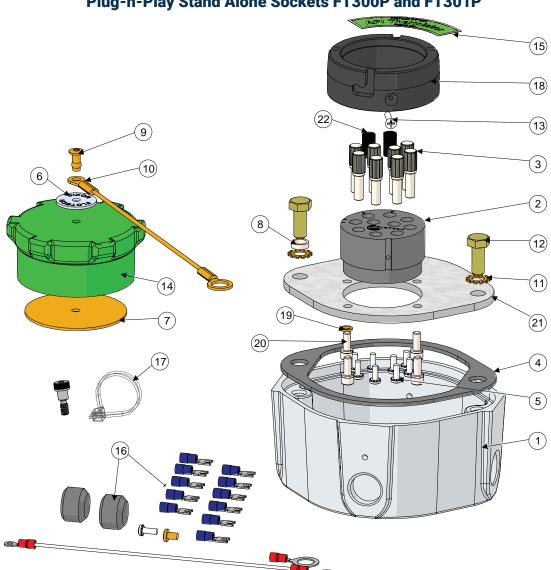


**Bill of Materials** 

ltem #	Description	Part #	FT208P	FT208PP	FT208PPC
1	polypropylene pipe plug	10103	6	4	3
2	polyamide strain relief	10139	1	1	2
3	jumper-cross connector	10196	1	1	1
4	reset switch assembly	10200A	1	1	1
5	plastic fuse holder	10356	1	1	1
6	brass/glass fuse-1/2" amp	10358 (was FT9039)	1	1	1
7	stainless steel lock washer	10375SS	12	12	12
8	aluminum box	10430AL	1	1	1
9	neoprene gasket	10432NP (was FT9045)	1	1	1
10	acrylic bezel	10433PL	1	1	1
11	aluminum frame	10434AL	1	1	1
12	aluminum standoff (old style boxes)	10435AL	4	4	
13	stainless steel screw	10436SS	12	12	12
14	stainless steel screw-stems	10437SS	4	4	4
15	chrome mylar label	10438A	1	1	1
16	programming board assembly	10459 (was FT9035)	1	1	1
17	potted OBM	10465	1	1	1
18	OBM plug elbow assy (Plug-n-Play)	10616SSBN	1	3	3
19	power cable	10639	1	1	

## **Repair Kits**

Part #	Description	Includes Item #
FT9036	lid, bezel, screws and lockwashers	7, 9, 10, 11, 13
FT9040	checkmate housing with lid	1, 7-14



Plug-n-Play Stand Alone Sockets FT300P and FT301P

Ranair Kite

Part #	Description	Includes Item #
FT320	blue (optic) vinyl cap assembly	6, 7, 9, 10, 14B
FT321	green (thermistor) vinyl cap assembly	6, 7, 9, 10, 14A
FT310	face plate assembly-API optic ALH wear ring 6 pin 3 J-slot (US)	2-16, 18-22
FT310SS	face plate assembly-API optic SS GFL wear ring 6 pin 3 J-slot (US)	2-16, 18-22
FT311	face plate assembly-API thermistor ALH wear ring 8 pin 4 J-slot (US)	2-22
FT311SS	face plate assembly-API thermistor SS GFL wear ring 8 pin 4 J-slot (US)	2-22
FT9008	contact block for FT300 optic	2, 3, 5, 13
FT9009	contact block for FT301 thermistor	2, 3, 5, 13
FT9013	faceplate 4 J-slot (without contact block or hardware)	4, 15B, 18A, 19-21
FT9020	socket pin, screw and crimp lug	3, 5
FT9034	3 J-slot (without contact block and hardware)	4, 15A, 18B, 19-21
FT9046	socket contact pins and screws	3, 5
FT9068	contact block attachment screws and washers (4 each)	19, 20
0387P-OP, 10387P-TH	wiring harness (Plug-n-Play) 20'	Refer to page 155 for imag
10605PL	plastic clip	Refer to page 155 for imag

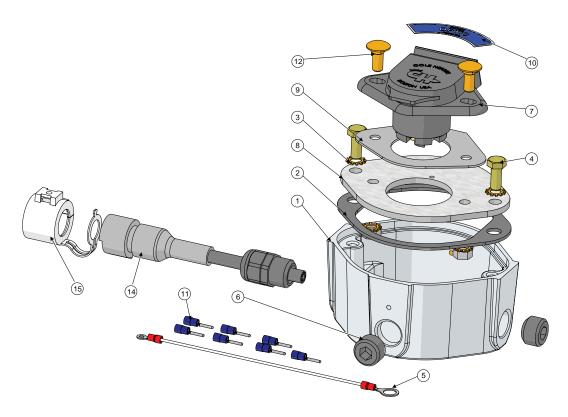


# Plug-n-Play Stand Alone Sockets FT300P and FT301P

## **Bill of Materials**

Item #	Description	Part #	FT300P	FT301P	FT310	FT310SS	FT311	FT311SS
1	aluminum housing	10031 (was FT9007)	1	1				
2	plastic contact block	10690PL-001	1	1	1	1	1	1
3	stainless steel socket pin	10368SS	6	8	6	6	8	8
4	neoprene gasket	10038 (was FT9032)	1	1	1	1	1	1
5	stainless steel screw	10086	6	8	6	6	8	8
6	aluminum name plate-socket washer	use cap kit FT320 or FT321	1	1	1	1	1	1
7	aluminum washer 2.500" x .0625"	use cap kit FT320 or FT321	1	1	1	1	1	1
8	stainless steel spacer	10089	1	1	1	1	1	1
9	aluminum rivet .1875"	use cap kit FT320 or FT321	1	1	1	1	1	1
10	stainless steel cable-socket 8"	use cap kit FT320 or FT321	1	1	1	1	1	1
11	stainless steel lock washer	10092	2	2	2	2	2	2
12	stainless steel screw	10093	2	2	2	2	2	2
13	stainless steel screw-contact block	10094	1	1	1	1	1	1
14A	vinyl dust cap-thermistor (green)	use cap kit FT321		1			1	1
14B	vinyl dust cap-optic (blue)	use cap kit FT320	1		1	1		
15A	aluminum name plate-FT300	10099	1		1	1		
15B	aluminum name plate-FT301	10100		1			1	1
16	assembly hardware	10106	1	1	1	1	1	1
17	nylon clamp assembly	10264		1			1	1
18A	ALH wear ring-4 J-slot	10366HC-001 (was FT9042)		1			1	
18B	ALH wear ring-3 J-slot	10366HC-002 (was FT9041)	1		1			
18C	stainless steel wear ring-4 J-slot	10366SS-001 (was FT9044)						1
18D	stainless steel wear ring-3 J-slot	10366SS-002 (was FT9043)				1		
19	stainless steel lock washer	10375SS	4	4	4	4	4	4
20	stainless steel screw	10376SS	4	4	4	4	4	4
21	aluminum socket plate	10431AL	1	1	1	1	1	1
22	plastic black button insert	BLACK BUTTON INSERT	6	6	6	6	6	6
23	wiring harness (Plug-n-Play) 20'	10387P-20	1	1				
24	plastic clip	10605PL	1	1				

# Plug-n-Play Stand Alone Sockets FT306P-5



**Bill of Materials** 

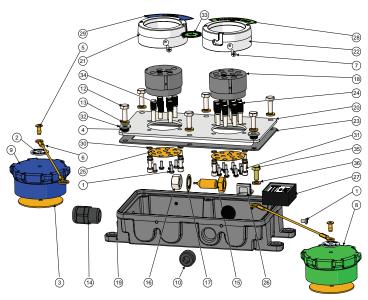
Item #	Description	Part #	FT208P	FT208PPC
1	aluminum housing	10031 (was FT9007)	1	
2	neoprene gasket	10038 (was FT9032)	1	1
3	stainless steel lock washer	10092	4	4
4	stainless steel screw	10093	2	2
5	wire, assembly, socket	10095	1	1
6	polypropylene pipe plug	10103	2	2
7	J560 type socket	10119 (was FT9029)	1	1
8	aluminum face plate	10120	1	1
9	neoprene gasket	10121	1	1
10	aluminum name plate-optic	10235	1	1
11	terminal pin	10123	7	7
12	stainless steel carriage bolt	10507SS	2	2
13	stainless steel nut	10508SS	2	2
14	wiring harness (Plug-n-Play) 20'	10387P-20	1	
15	plastic clip	10605PL	1	

**Repair Kit** 

Part #	Part # Description	
FT316	face plate assembly-optic J560 socket	2-13



# Plug-n-Play Stand Alone Sockets FT390PG-20



**Bill of Materials** 

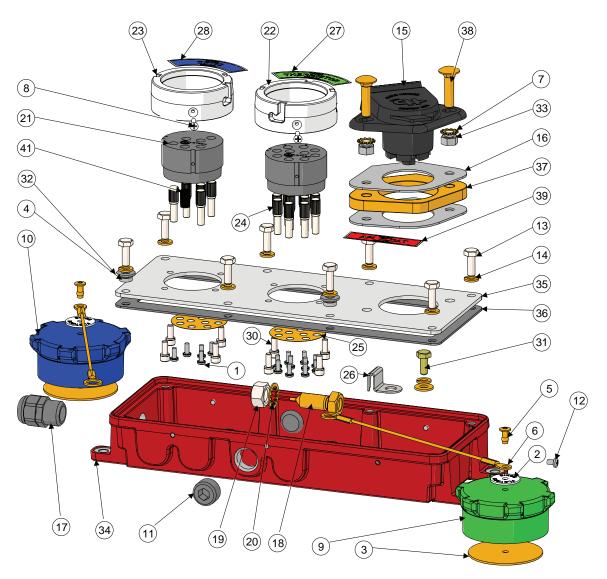
Item #	Description	Part #	Qty
1	stainless steel screw	10086	16
2	aluminum name plate-socket washer	use kit FT320 or FT321	2
3	aluminum washer 2.500" x .0625"	use kit FT320 or FT321	2
4	stainless steel spacer	10089	2
5	aluminum rivet .1875"	use kit FT320 or FT321	2
6	stainless steel cable-socket 8"	use kit FT320 or FT321	2
7	stainless steel screw-contact block	10094	2
8	vinyl dust cap-green	use kit FT321	1
9	vinyl dust cap-blue	use kit FT320	1
10	polypropylene pipe plug	10103	2
11	steel screw-plug	10105	3
12	stainless steel screw	10110	6
13	stainless steel lock washer-1/4"	10111	7
14	stainless steel ground bolt	10223	1
15	stainless steel nut-ground bolt 1/2"-13	10224	1

### **Repair Kits**

Part #	Description	Includes Item #
FT320	blue (optic) vinyl cap assembly	2, 3, 5, 6, 9
FT321	green (thermistor) vinyl cap assembly	2, 3, 5, 6, 8
FT9051	contact block assembly for	1,7, 17, 23,
F19001	FT390/FT393 optic 5 pin	24
FT9052	contact block assembly for	1,7, 17, 23,
F1900Z	FT390/FT393 thermistor 10 pin	24
FT9062	nose ring,contact assembly,	1, 7, 17, 20,
F19002	thermistor 4 J-slot, 10 pin	23, 24
ETOOGO	nose ring,contact assembly, optic 3	1, 7, 17, 21,
FT9063	J-slot, 6 pin	23, 24
FT9068	contact block attachment screws and washers (4 each)	28, 29

Item #	Description	Part #	Qty
16	stainless steel lock washer internal tooth	10225	1
17	plastic contact block-socket short	10254	2
18	aluminum box-dual socket	10364AL-001	1
19	aluminum faceplate-dual socket	10365AL	1
20	stainless steel socket-thermistor	10366SS-001	1
21	stainless steel socket-optic	10366SS-002	1
22	cork gasket-lid	10367CK	1
23	stainless steel socket pin-short	10368SS (was FT9061)	16
24	vinyl label-socket contact	10369VY	2
25	stainless steel bracket-ground bolt	10370SS	1
26	aluminum name plate-thermistor	10373AL	1
27	aluminum name plate-optic	10374AL	1
28	stainless steel lock washer	10375SS	8
29	stainless steel screw	10376SS	8
30	stainless steel screw	10377SS	1
31	stainless steel washer	10382SS	2
32	wiring harness (Plug-n-Play) 20'	10387P-20	1
33	plastic clip	10605PL	1
34	aluminum label-ground bolt	10621AL	1
35	plastic black button insert	BLACK BUTTON INSERT	6

Plug-n-Play Stand Alone Sockets FT394P and FT395P-Series



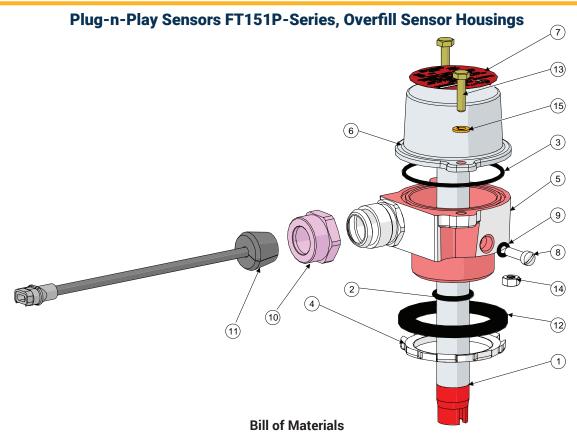
**Repair Kits** 

	-	
Part #	Description	Includes Item #
FT320	blue (optic) vinyl cap assembly	2, 3, 5, 6, 10
FT321	green (thermistor) vinyl cap assembly	2, 3, 5, 6, 9
FT9051	contact block assembly for FT390/FT393 optic 5 pin	1, 8, 21, 24, 25
FT9052	contact block assembly for FT390/FT393 thermistor 10 pin	1, 8, 21, 24, 25
FT9062	nose ring contact assembly, thermistor 4 J-slot, 10 pin	1, 8, 21, 22, 24, 25
FT9063	nose ring contact assembly, optic 3 J-slot, 6 pin	1, 8, 21, 23, 24, 25
FT9068	contact block attachment screws and washers (4 each)	29, 30



# Plug-n-Play Stand Alone Sockets FT394P and FT395P-Series Bill of Materials

		Bill of Materials					
Item #	Description	Part #	FT394P	FT394VP	FT394PG	FT394VPG	FT395PG-20
1	stainless steel screw	10086	16	16	16	16	16
2	aluminum name plate-socket washer	10087	2	2	2	2	2
3	aluminum washer 2.500" x .0625"	use kit FT320 or FT321	2	2	2	2	2
4	stainless steel spacer	use kit FT320 or FT321	2	2	2	2	2
5	aluminum rivet .1875"	use kit FT320 or FT321	2	2	2	2	2
6	stainless steel cable-socket 8"	use kit FT320 or FT321	2	2	2	2	2
7	stainless steel lock washer	10092	2	2	2	2	2
8	stainless steel screw-contact block	10094	2	2	2	2	2
9	vinyl dust cap-thermistor (green)	use kit FT321	1	1	1	1	1
10	vinyl dust cap-optic (blue)	use kit FT320	1	1	1	1	1
11	polypropylene pipe plug	10103	2	2	2	2	2
12	steel screw-plug	10105	4	4	4	4	4
13	stainless steel screw	10110	8	8	8	8	8
14	stainless steel lock washer-1/4"	10111	9	9	9	9	9
15	J560 socket	10119 (was FT9029)	1	1	1	1	1
16	neoprene gasket, float socket	10121	2	2	2	2	2
17	polyamide strain relief	10139	1	1	1	1	1
18	stainless steel ground bolt	10223			1	1	
19	stainless steel nut-ground bolt 1/2"-13	10224			1	1	
20	stainless steel lock washer internal tooth	10225			1	1	
21	plastic contact block-socket short	10254	2	2	2	2	2
22	stainless steel wear ring-4 J-slot	10366SS-001 (was FT9044)	1	1	1	1	2
23	stainless steel wear ring-3 J-slot	10366SS-002 (was FT9043)	1	1	1	1	n/a
24	stainless steel socket pin-short	10368SS (was FT9061)	16	16	16	16	16
25	vinyl label-socket contact	10369VY	2	2	2	2	2
26	stainless steel bracket-ground bolt	10370SS	1	1	1	1	1
27	aluminum name plate-thermistor	10373AL	1	1	1	1	1
28	aluminum name plate-optic	10374AL	1	1	1	1	1
29	stainless steel lock washer	10375SS	8	8	8	8	8
30	stainless steel screw	10376SS	8	8	8	8	8
31	stainless steel screw	10377SS	1	1	1	1	1
32	stainless steel washer	10382SS	2	2	2	2	2
33	stainless steel nut	10508SS	2	2	2	2	2
34	aluminum box-3 socket	10525AL	1	1	1	1	1
35	aluminum faceplate-3 socket	10526AL	1	1	1	1	1
36	cork gasket-lid	10527CK	1	1	1	1	1
37	acetal spacer	10529AC	1	1	1	1	1
38	stainless steel carriage bolt	10530SS	2	2	2	2	2
39	aluminum name plate-optic (blue)	10558AL	1	1	1	1	1
40	aluminum label - ground bolt	10621AL			1	1	<u></u>
41	plastic black button insert	BLACK BUTTON INSERT	6	6	6	6	6
42	wiring harness (Plug-n-Play) 20'	10387P-20	1	1	1	1	1
43	plastic clip	10605PL	1	1	1	1	1
-5	Pigguo oub	100001 L	1 .				



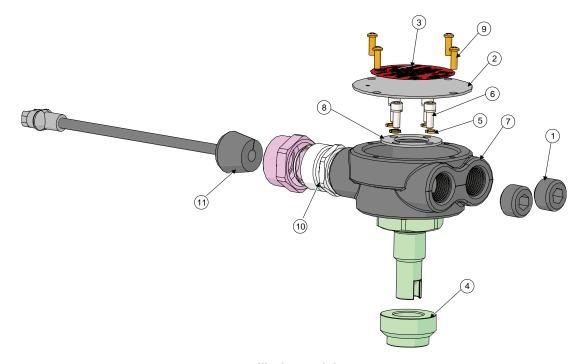
ltem #	Description	Part #	Qty
1	assembly sensor, thermistor-optic	10109-PP	1
2	O-ring	10125	1
3	O-ring	10126	1
4	lock nut	10128	1
5	sensor housing	10183-P&P	1
6	sensor housing cap	10185	1
7	label	10204	1
8	screw with nylon insert	10212	1
9	0-ring	10213	1
10	cord grip assembly	10248	1
11	bushing	10638	1
12	gasket	250-G-BU	1
13	screw	10841SS	2
14	nut	10124	2
15	lock washer-1/4"	10111	2

#### **Repair Kits**

Part #	Description	Includes Item #
FT150P	Plug-n-Play overfill detection probe-7"	1
FT150-12P	Plug-n-Play overfill detection probe-12"	1
FT150-18P	Plug-n-Play overfill detection probe-18"	1
FT9000P	complete Plug-n-Play sensor housing (without probe)	2-14
FT9001	sensor housing gasket and O-ring kit	5, 6, 7, 13
FT9011	sensor housing cap with screws and lock washers	3, 9, 13, 14



# Plug-n-Play Sensors FT152P Retain Sensor Housings



#### **Bill of Materials**

Item #	Description	Part #	Qty
1	polypropylene pipe plug	10103	2
2	aluminum retain sensor lid	10134	1
3	mylar label-retain sensor	10343	1
4	aluminum threaded collar	10347 (was FT9050)	1
5	stainless steel lock washer	10375SS	4
6	stainless steel screw	10376SS	4
7	nylon retain sensor housing	10471NY-P&P	1
8	aluminum back-up plate	10476AL	1
9	stainless steel screw	10477SS	4
10	aluminum cord grip assembly	10248	1
11	rubber bushing	10638	1

### Repair Kit

Part #	Description	Includes Item #
FT9068	contact block attachment screws and washers (4 each)	5, 6

NOTE: Probe is not replaceable, if probe needs replacing, a complete FT152P needs to be ordered

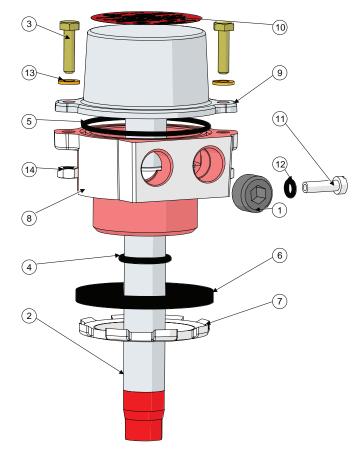
# FT101, FT151, and FT202-Series Overfill Sensor Housings

#### **Bill of Materials**

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Item #	Description	Part #	Qty
1	pipe plug	10103	1
2	assembly, sensor 5 wire	10107A	1
3	screw	10841SS	2
4	O-ring	10125	1
5	O-ring	10126	1
6	gasket	250-G-BU	1
7	lock nut	10128	1
8	sensor housing	10183	1
9	sensor housing cap	10185	1
10	label-retain sensor	10203	1
11	screw with nylon insert	10212	1
12	O-ring	10213	1
13	lock washer-1/4"	10111	2
14	nut	10124	2

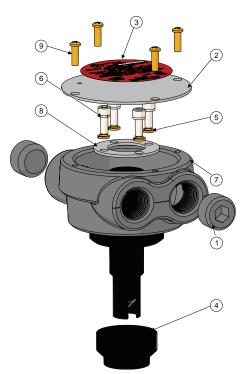
## **Repair Kits**

Part #	Description	Includes Item #
FT100	5 wire overfill detection probe, 7"	2
FT100-12	5 wire overfill detection probe, 12"	2
FT100-18	5 wire overfill detection probe, 18"	2
FT150	black and white 2 wire overfill detection probe, 7"	2
FT150-12	black and white 2 wire overfill detection probe, 12"	2
FT150-18	black and white 2 wire overfill detection probe, 18"	2
FT201	red and black 2 wire overfill detection probe, 7"	2
FT201-12	red and black 2 wire overfill detection probe, 12"	2
FT201-18	red and black 2 wire overfill detection probe, 18"	2
FT9000	complete sensor housing (without probe)	1, 3-13
FT9001	sensor housing gasket and O-ring kit	5-7, 13
FT9002	sensor housing gasket, O-ring and hardware kit	1, 3-8, 12, 13
FT9011	sensor housing cap with screws and lock washers	3, 9, 13, 14





# FT152 and FT206 Retain Sensor Housings



#### **Bill of Materials**

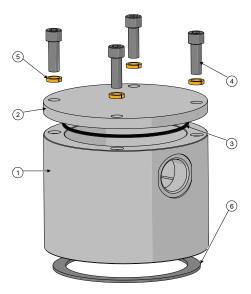
Item #	Description	Part #	Qty
1	polypropylene pipe plug	10103	2
2	aluminum retain sensor lid	10134	1
3	mylar label-retain sensor	10343	1
4	aluminum threaded collar	10347 (was FT9050)	1
5	stainless steel lockwasher	10375SS	4
6	stainless steel screw	10376SS	4
7	nylon retain sensor housing	10471NY	1
8	aluminum back-up plate	10476AL	1
9	stainless steel screw	10477SS	4

#### **Repair Kits**

Part #	Description	Includes Item #
FT9055	hardware kit	2, 3
FT9068	contact block attachment screws and washers (4 each)	5, 6

NOTE: Probe is not replaceable

## **FT191S Overfill Sensor Housings**

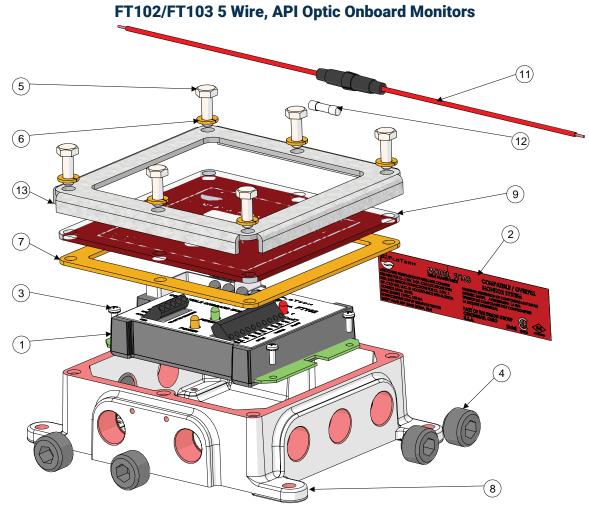


#### **Bill of Materials**

Item #	Description	Part #	Qty
1	3" stainless steel NPSM housing	10540SS	1
2	aluminum housing lid	10541AL	1
3	NBR O-ring	10542BN	1
4	stainless steel screw	10554SS	4
5	stainless steel lock washer	40099SS	4
6	PTFE gasket	40190TF	1

#### **Stainless Steel Probes**

Part #	Description
FT100S	5 wire overfill detection, 316 stainless steel probe only, 7"
FT150S	black and white 2 wire overfill detection, 316 stainless steel probe only, 7"



**Bill of Materials** 

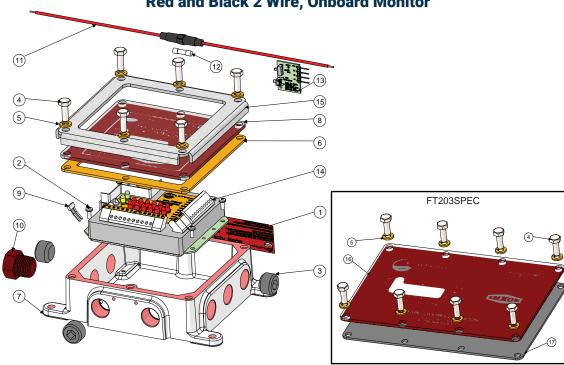
Item #	Description	Part #	FT102	FT103
1	5 wire onboard monitor assembly	10077	1	1
2	chrome mylar label	10079		1
3	stainless steel screw	10086	4	4
4	polypropylene pipe plug	10103		5
5	stainless steel screw	10110	6	6
6	stainless steel lockwasher-1/4"	10111	6	6
7	neoprene gasket	10131 (was FT9053)	1	1
8	aluminum onboard monitor housing	10136		1
9	acrylic bezel	10142 (was FT9005)	1	1
10	PVC L.E.D. cover	10207	5	5
11	plastic fuse holder	10356	1	1
12	brass/glass fuse-1/4" amp	10357 (was FT9039)	1	1
13	aluminum frame lid	10470AL	1	1

## **Repair Kits**

Part #	Description	Includes Item #
FT9003	monitor housing	3-10, 13
FT9004	monitor hardware kit	5, 6, 7, 9, 13
FT9030	fuse holder with 1/4" amp fuse	11, 12



# FT203/FT204-Series ROM Type Red and Black 2 Wire, Onboard Monitor



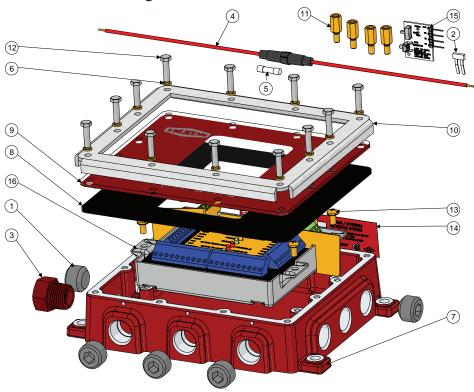
#### **Bill of Materials**

Item #	Description	Part #	FT203P	FT203SPEC	FT204P
1	chrome mylar label	10078			1
2	stainless steel screw	10086	4	4	4
3	polypropylene pipe plug	10103			3
4	stainless steel screw	10110	6	8	6
5	stainless steel lock washer-1/4"	10111	6	8	6
6	neoprene gasket	10131 (was FT9053)	1		1
7	aluminum onboard monitor housing	10136			1
8	acrylic bezel	10143 (was FT9006)	1		1
9	jumper-cross connector	10196	1	1	1
10	reset switch assembly	10200A			1
11	plastic fuse holder	10356	1	1	1
12	brass/glass fuse-1/2" amp	10358 (was FT9039)	1	1	1
13	programming board assembly	10459 (was FT9035)	1	1	1
14	OBM assy potted	10460	1	1	1
15	aluminum frame lid	10470AL (was FT9054)	1		1
16	bezel for Civacon 3250 and 3252 boxes	10520PL		1	
17	neoprene gasket for 10520PL	10521NP (was FT9065)		1	

#### **Repair Kits**

Part #	Description	Includes Item #
FT9003	monitor housing	2-8, 15
FT9004	monitor hardware kit	4-6, 8, 15
FT9031	fuse holder with 1/2" amp fuse	11, 12
FT9059	faceplate and bezel for FT204P	4, 5, 6, 8, 15
FT9064	gasket and bezel for FT203 SPEC	16, 17

# FT207/FT208-Series Checkmate Black and White 2 Wire, Programmable Onboard Monitor



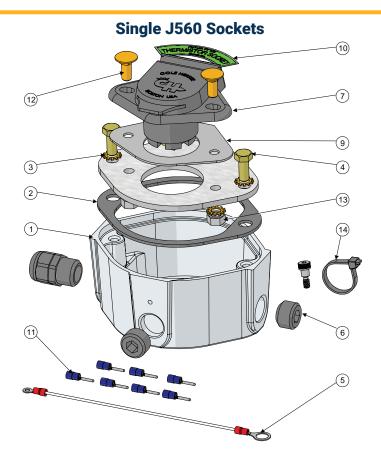
#### **Bill of Materials**

Item #	Description	Part #	FT207	FT208
1	polypropylene pipe plug	10103		5
2	jumper-cross connector	10196	1	1
3	reset switch assembly	10200A		1
4	plastic fuse holder	10356	1	1
5	brass/glass fuse-1/2" amp	10358 (was FT9039)	1	5
6	stainless steel lock washer	10375SS	12	12
7	aluminum box	10430AL		1
8	neoprene gasket	10432NP (was FT9045)	1	1
9	acrylic bezel	10433PL (was FT9036)	1	1
10	aluminum frame	10434AL	1	1
11	aluminum standoff (only used in older units)	10435AL		4
12	stainless steel screw	10436SS	12	12
13	stainless steel screw-stems	10437SS	4	4
14	chrome mylar label	10438A		1
15	programming board assembly	10459 (was FT9035)	1	1
16	potted OBM	10465	1	1

## **Repair Kits**

Part #	Description	Includes Item #
FT9031	fuse holder with 1/2" amp fuse	11, 12
FT9036	lid, bezel, screws and lockwashers	6, 8, 9, 10, 12
FT9040	checkmate housing with lid	1, 6-13





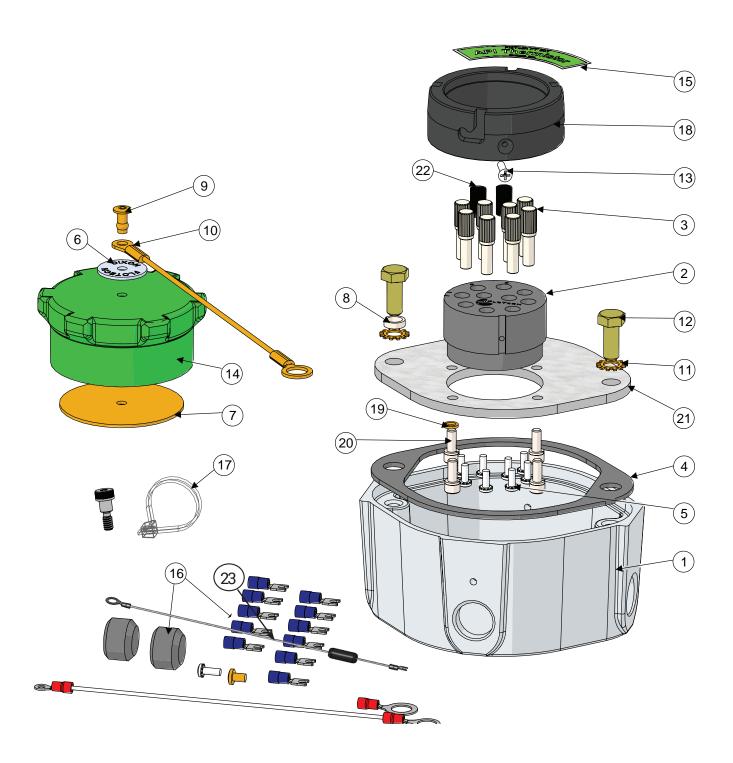
#### **Bill of Materials**

Item #	Description	Part #	FT302	FT305	FT306	FT312	FT315	FT316
1	aluminum housing	10031 (was FT9007)	1	1	1			
2	neoprene gasket	10038 (was FT9032)	1	1	1	1	1	1
3	stainless steel lock washer	10092	4	4	4	4	4	4
4	stainless steel screw	10093	2	2	2	2	2	2
5	wire, assembly, socket	10095	1	1	1	1	1	1
6	polypropylene pipe plug	10103	2	2	2	2	2	2
7	J560 type socket	10119 (was FT9029)	1	1	1	1	1	1
8	aluminum face plate	10120	1	1	1	1	1	1
9	neoprene gasket	10121	1	1	1	1	1	1
10A	aluminum name plate-float	10122	1					
10B	aluminum name plate-optic	10235			1		1	1
10C	aluminum name plate-thermistor	10244		1				
11	terminal pin	10123	7	7	7	7	7	7
12	stainless steel carriage bolt	10507SS	2	2	2	2	2	2
13	stainless steel nut	10508SS	2	2	2	2	2	2
14	nylon clamp assembly	10264		1			1	

## **Repair Kits**

Part #	Description	Includes Item #
FT312	face plate assembly-API float J560 socket	2-14
FT315	face plate assembly-thermistor J560 socket	2-14
FT316	face plate assembly-optic J560 socket	2-14

# FT30x-Series Single J-slot Sockets



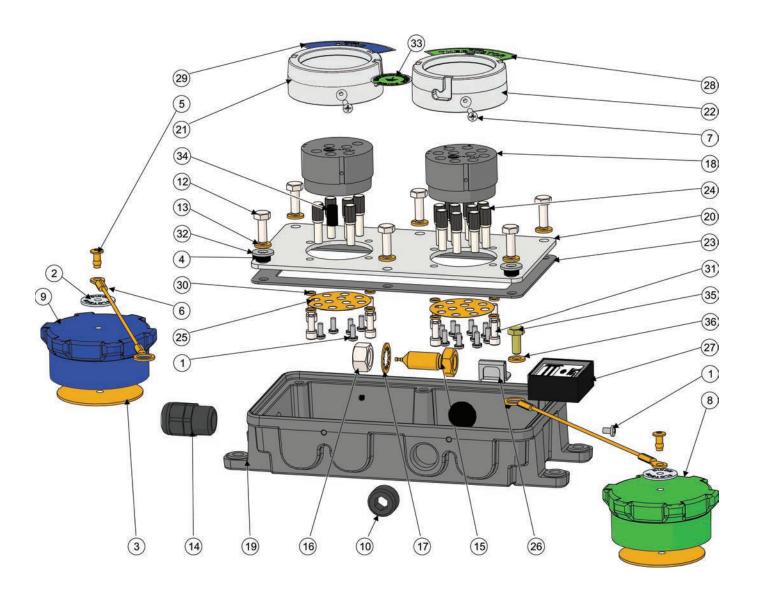


# FT30x-Series Single J-slot Sockets Bill of Materials

																					_		
Item #	Description	Part #	FT300	FT300SS	FT300GW	FT301	FT301SS	FT303	FT303SS	FT304	FT304SS	FT307	FT307SS	FT310	FT310SS	FT311	FT311SS	FT313	FT313SS	FT314	FT314SS	FT317	FT317SS
1	aluminum housing	10031 (was FT9007)	1	1	1	1	1	1	1	1	1	1	1										
2	plastic contact block	10690PL-001	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	stainless steel socket pin	10368SS	6	6	6	8	8	6		10		6	6	6	6	8	8	6	6	10	10	6	6
4	neoprene gasket	10038 (was FT9032)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	stainless steel screw	10086	6	6	6	8	8	6	6	10	10	6	6	6	6	8	8	6	6	10	10	6	6
6	aluminum name plate-socket washer	use cap kit FT320 or FT321	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	aluminum washer 2.500" x .0625"	use cap kit FT320 or FT321	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	stainless steel spacer	10089	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	aluminum rivet .1875"	use cap kit FT320 or FT321	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	stainless steel cable-socket 8"	Use cap kit FT320 or FT321	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	stainless steel lock washer	10092	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	stainless steel screw	10093	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	stainless steel screw-contact block	10094	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14A	vinyl dust cap-thermistor (green)	use cap kit FT321				1	1			1	1					1	1			1	1		
14B	vinyl dust cap-optic (blue)	use cap kit FT320	1	1	1			1	1			1	1	1	1			1	1			1	1
15A	aluminum name plate-FT300	10099	1	1										1	1								
15B	aluminum name plate-FT301	10100				1	1									1	1						
15C	aluminum name plate-FT303	10228						1	1									1	1				
15D	aluminum name plate-FT304	10101								1	1									1	1		
15E	aluminum name plate-FT307	10283										1	1									1	1
15F	aluminum name plate-FT300GW	10099-002			1																		
16	assembly hardware	10106	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	nylon clamp assembly	10264				1	1			1	1					1	1			1	1		
18A	ALH wear ring-4 J-slot	10366HC-001 (was FT9042)				1		1		1		1				1		1		1		1	
18B	ALH wear ring-3 J-slot	10366HC-002 (was FT9041)	1		1									1									
18C	stainless steel wear ring-4 J-slot	10366SS-001 (was FT9043)					1		1		1		1				1		1		1		1
18D	stainless steel wear ring-3 J-slot	10366SS-002 (was FT9044)		1											1								
19	stainless steel lock washer	10375SS	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
20	stainless steel screw	10376SS	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
21	aluminum socket plate	10431AL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	plastic black button insert	BLACK BUTTON INSERT	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
23	ground wire assembly	10735			.1																		

Part #	Description	Includes Item #
FT320	blue (optic) vinyl cap assembly	6, 7, 9, 10, 14B
FT321	green (thermistor) vinyl cap assembly	6, 7, 9, 10, 14A
FT310	face plate assembly-API optic ALH wear ring 6 pin 3 J-slot (US)	2-16, 18-22
FT310SS	face plate assembly-API optic SS GFL wear ring 6 pin 3 J-slot (US)	2-16, 18-22
FT311	face plate assembly-API thermistor ALH wear ring 8 pin 4 J-slot (US)	2-22
FT311SS	face plate assembly-API thermistor SS GFL wear ring 8 pin 4 J-slot (US)	2-22
FT313	face plate assembly-optic ALH wear ring 6 pin 4 J-slot (US)	2-16, 18-22
FT313SS	face plate assembly-optic SS GFL wear ring 6 pin 4 J-slot (US)	2-16, 18-22
FT314	face plate assembly-thermistor ALH wear ring 10 pin 4 J-slot (Canada)	2-22
FT314SS	face plate assembly-thermistor SS GFL wear ring 10 pin 4 J-slot (Canada)	2-22
FT317	face plate assembly-optic ALH wear ring 6 pin 4 J-slot (Canada)	2-16, 18-22
FT317SS	face plate assembly-optic SS GFL wear ring 6 pin 4 J-slot (Canada)	2-16, 18-22
FT9008	contact block for FT300 optic	2, 3, 5, 13
FT9009	contact block for FT301 thermistor	2, 3, 5, 13
FT9010	contact block for FT304 10 pin thermistor	2, 3, 5, 13
FT9013	faceplate 4 J-slot (no contact block or hardware)	4, 15B, 18A, 19, 21
FT9020	socket pin, screw and crimp lug	3, 5
FT9034	faceplate 3 J-slot, (without contact block and hardware)	4, 15A, 18B, 19, 21
FT9046	socket contact pins, and screws	3, 5
FT9068	contact block attachment screws and washers (4 each)	19, 20

# FT390/FT391-Series EZ-Cept Double Sockets





# FT390/FT391-Series EZ-Cept Double Sockets

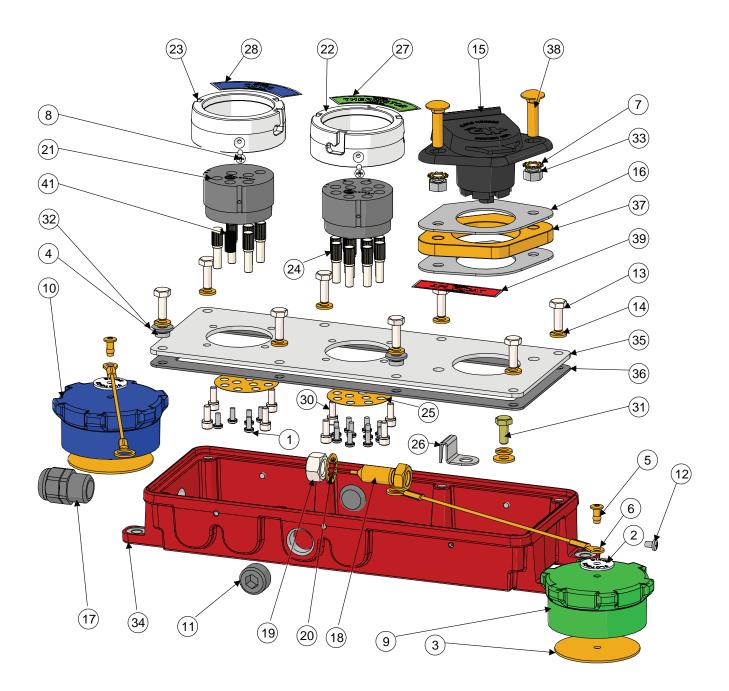
#### **Bill of Materials**

		Dill of materials									
ltem #	Description	Part #	FT390	FT390V	FT390G	FT390GT	FT390T	FT390-20	FT390G-20	FT391	FT391V
1	stainless steel screw	10086	15	15	15	15	_	15	15	15	15
2	aluminum name plate-socket washer	use kit FT320 or FT321	2	2	2	2	2	2	2	2	2
3	aluminum washer 2.500" x .0625"	use kit FT320 or FT321	2	2	2	2	2	2	2	2	2
4	stainless steel spacer	10089	2	2	2	2	2	2	2	2	2
5	aluminum rivet .1875"	use kit FT320 or FT321	2	2	2	2	2	2	2	2	2
6	stainless steel cable-socket 8"	use kit FT320 or FT321	2	2	2	2	2	2	2	2	2
7	stainless steel screw-contact block	10094	2	2	2	2	2	2	2	2	2
8	vinyl dust cap-thermistor (green)	use kit FT321	1	1	1	1	1	1	1	1	1
9	vinyl dust cap-optic (blue)	use kit FT320	1	1	1	1	1	1	1	1	1
10	polypropylene pipe plug	10103	2	2	2	2	2	2	2	2	2
11	steel screw-plug	10105	3	3	3	3	3	3	3	3	3
12	stainless steel screw	10110	6	6	6	6	6	6	6	6	6
13	stainless steel lock washer-1/4"	10111	6	6	6	6	6	6	6	6	6
14	polyamide strain relief	10139	1	1	1	1	1	1	1	1	1
15	stainless steel ground bolt	10223	<u>'</u>		1	1			1		
16	stainless steel nut-ground bolt 1/2"-13	10224			1	1			1		
17	stainless steel lock washer internal tooth	10225			1	1			1		
18	plastic contact block-socket short	10254	2	2	2	2	2	2	2	2	2
19	aluminum box-dual socket	10364AL-001	1	1	1	1	1	1	1	1	1
20	aluminum faceplate-dual socket	10365AL	1	1	1	1	1	1	1	1	1
21	stainless steel wear ring-3 J-slot	10366SS-002	1	1	1	1	1	1	1		<u> </u>
22	stainless steel wear ring-3 J-slot	10366SS-001	1	1	1	1	1	1	1	2	2
23	cork gasket-lid	1036033-001 10367CK	1	1	1	1	1	1	1	1	1
24	stainless steel socket pin-short	10368SS (was FT9061)	15	_	_	_	_	-	-	15	-
25	vinyl label-socket contact	1036535 (Was F19001)	2	2	2	2	2	2	2	2	2
26	stainless steel bracket-ground bolt	10309V1 10370SS	1	1	1	1	1	1	1	1	1
27	trailer identification module	1037033				1	1			1	Ė
28	aluminum name plate-thermistor	10372 10373AL	1	1	1	1	1	1	1	1	1
29	aluminum name plate-optic	10374AL	1	1	1	1	1	1	1	1	1
30	stainless steel lock washer	10374AL 10375SS		8	8	8	8	8	8	8	8
31	stainless steel lock washer	10376SS	8	8	8	8	8	8	8	8	8
			2	2	2	2	2	2	2	2	2
32	stainless steel washer	10382SS									
33	ground bolt label	10621AL			1	1			1		
34	plastic black button insert	BLACK BUTTON INSERT	6	6	6	6	6	6	6	6	6
35A	stainless steel screw	10110	1	1		1	1		1	7	1
35B	stainless steel screw	10377SS	1	1	1			1	1	1	1
36	stainless steel lock washer-1/4"	10111	1	1	1	1	1	1	1	1	1
not illustrated	20' cable, factory wired to sockets	10387-20						1	1		

### **Repair Kits**

Part #	Part # Description				
FT320	blue (optic) vinyl cap assembly	2, 3, 5, 6, 9			
FT321	green (thermistor) vinyl cap assembly	2, 3, 5, 6, 8			
FT9051	contact block assembly for FT390/FT393 optic 5 pin	1, 7, 18, 24, 25			
FT9052	contact block assembly for FT390/FT393 thermistor 10 pin	1, 7, 18, 24, 25			
FT9062	nose ring, contact assembly, thermistor 4 J-slot, 10 pin	1, 7, 18, 22, 24, 25			
FT9063	nose ring, contact assembly, optic 3 J-slot, 6 pin	1, 7, 18, 21, 24, 25			
FT9068	contact block attachment screws and washers (4 each)	30, 31			

# FT393/394/395-Series EZ-Cept Triple Sockets





# FT393/394/395-Series EZ-Cept Triple Sockets

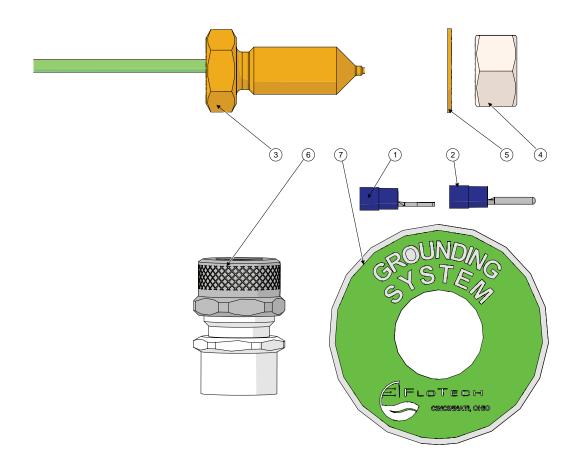
## **Bill of Materials**

Item#	Description	Part #	FT393	FT394	FT394G	FT394V-G	FT395	FT395V	FT395G	FT395V-G
1	stainless steel screw	10086	15		15	15		15	15	15
2	aluminum name plate-socket washer	10087	2	2	2	2	2	2	2	2
3	aluminum washer 2.500" x .0625"	use kit FT320 or FT321	2	2	2	2	2	2	2	2
4	stainless steel spacer	use kit FT320 or FT321	2	2	2	2	2	2	2	2
5	aluminum rivet .1875"	use kit FT320 or FT321	2	2	2	2	2	2	2	2
6	stainless steel cable-socket 8"	use kit FT320 or FT321	2	2	2	2	2	2	2	2
7	stainless steel lock washer	10092	2	2	2	2	2	2	2	2
8	stainless steel screw-contact block	10094	2	2	2	2	2	2	2	2
9	vinyl dust cap-thermistor (green)	use kit FT321	1	1	1	1	1	1	1	1
10	vinyl dust cap-optic (blue)	use kit FT320	1	1	1	1	1	i	1	1
11	polypropylene pipe plug	10103	2	2	2	2	2	2	2	2
12	steel screw-plug	10105	4	4	4	4	4	4	4	4
13	stainless steel screw	10110	8	8	8	8	8	8	8	8
14	stainless steel lock washer-1/4"	10111	9	9	9	9	9	9	9	9
15	J560 socket	10119 (was FT9029)	1	1	1	1	1	1	1	1
16	neoprene gasket, float socket	10121	2	2	2	2	2	2	2	2
17	polyamide strain relief	10139	1	1	1	1	1	1	1	1
18	stainless steel ground bolt	10223			1	1			1	1
19	stainless steel ground bolt 1/2"-13	10224			1	1			1	1
20	stainless steel lock washer internal tooth	10225	<b></b>		1	1			1	1
21	plastic contact block-socket short	10254	2	2	2	2	2	2	2	2
22	stainless steel wear ring-4 J-slot	10366SS-001 (was FT9044)	1	1	1	1	2	2	2	2
23	stainless steel wear ring 4 5 slot	10366SS-002 (was FT9043)	1	1	1	1				
24	stainless steel wear mig 5 5 slot	10368SS (was FT9061)		_		-		15		
25	vinyl label-socket contact	10369VY	2	2	2	2	2	2	2	2
26	stainless steel bracket-ground bolt	10370SS	1	1	1	1	1	1	1	1
27	aluminum name plate-thermistor	103733L	1	1	1	1	1	1	1	1
28	aluminum name plate thermistor	10374AL	1	1	1	1	1	1	1	1
30	stainless steel screw	10374AL	8	8	8	8	8	8	8	8
31	stainless steel screw	1037655 10377SS	1	1	1	1	1	1	1	1
32	stainless steel washer	10382SS	2	2	2	2	2	2	2	2
33	stainless steel washer	10508SS	2	2	2	2	2	2	2	2
34	aluminum box-3 socket	10525AL	1	1	1	1	1	1	1	1
35	aluminum faceplate-3 socket	10525AL 10526AL	1	1	1	1	1	1	1	1
36	cork gasket-lid	10520AL 10527CK	1	1	1	1	1	1	1	1
37	acetal spacer	10527CK 10529AC	1	1	1	1	1	1	1	1
38	stainless steel carriage bolt	10539AC 10530SS	2	2	2	2	2	2	2	2
39A	aluminum name plate-optic (blue)	10558AL		1	1	1	1	1	1	1
39A 39B	aluminum name plate-optic (blue)	10531AL	1				-			1
40	aluminum label-ground bolt	10621AL			1	1			1	1
41					_	6			1	
41	plastic black button insert	BLACK BUTTON INSERT	6	6	О	O	6	6	6	1

## **Repair Kits**

Part #	Description	Includes Item #
FT320	blue (optic) vinyl cap assembly	2, 3, 5, 6, 9
FT321	green (thermistor) vinyl cap assembly	2, 3, 5, 6, 10
FT9051	contact block assembly for FT390/FT393 optic 5 pin	1, 8, 21, 24, 25
FT9052	contact block assembly for FT390/FT393 thermistor 10 pin	1, 8, 21, 24, 25
FT9062	nose ring, contact assembly, thermistor 4 J-slot, 10 pin	1, 8, 21, 22, 24, 25
FT9063	nose ring,contact assembly, optic 3 J-slot, 6 pin	1, 8, 21, 22, 24, 25
FT9068	contact block attachment screws and washers (4 each)	29, 30

## **FT450 Ground Bolt**

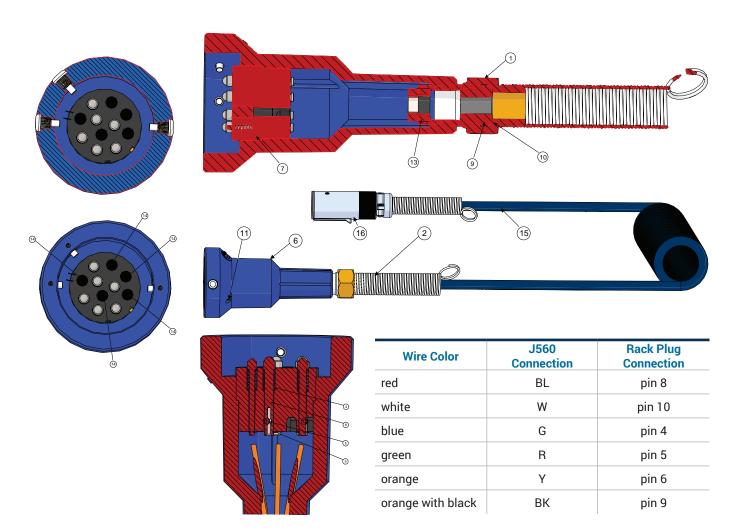


**Bill of Materials** 

Item #	Description	Part #	Qty
1	locking spade	10102	1
2	terminal pin	10123	1
3	stainless steel ground bolt	10223	1
4	stainless steel nut-ground bolt 1/2"-13	10224	1
5	stainless steel lock washer internal tooth	10225	1
6	strain relief 1/2" NPT	10229	1
7	aluminum label-ground bolt	10562	1

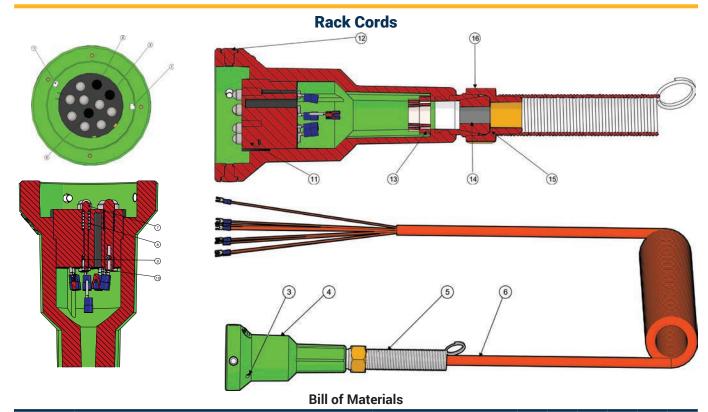


## **Rack Cords - FT620P**



#### **Bill of Materials**

ltem#	Description	Part #	Qty	Material
1	strain relief nut	10249	1	aluminum
2	spring	10250	1	stainless steel
3	retaining ring	10252	6	steel
4	spring	10253	6	stainless steel
5	set screw	10260	6	stainless steel
6	body	10523NY-003	1	nylon
7	contact block-long	10524PL-001	1	plastic
8	plug pin	10550SS	6	stainless steel
9	cord grip bushing	10715NP	1	neoprene
10	cord grip washer	10716ST	1	plated steel
11	screw	10717SS	1	stainless steel
13	pinch-on double ear clamp	1518R	1	stainless steel
14	black button insert	BLACK BUTTON INSERT	5	plastic
15	assembly 30' coil	10290-002	1	316 stainless stee
16	J560 plug	10285-003	1	reinforced nylon



Item #	Description	Part #	FT600	FT600C	FT600S	FT600SC	FT620	FT620S
1	bayonet stud	10718SS	2	4	2	4	3	3
2	plastic black pin insert	BLACK BUTTON INSERT	3	1	3	1	5	5
3	stainless screw	10717SS	1	1	1	1	5	1
4A	green thermistor glass reinforced nylon plug body	10523NY-004	1	1	1	1		
4B	blue optic glass reinforced nylon plug body	10523NY-003					1	1
5	stainless, cable bend restrictor spring	10250	1	1	1	1	1	1
6A	thermistor cable assembly 30' coiled (US)	10259	1					
6B	thermistor cable assembly 30' coiled (Canada)	10259-C		1				
6C	thermistor cable assembly 20' straight (US)	10259-S			1			
6D	thermistor cable assembly 20' straight (Canada)	10259-CS				1		
6E	optic cable assembly 30' coiled (US)	10290					1	
6F	optic cable assembly 30' straight (US)	10290-S						1
7	plug pin	10550SS	8	10	8	10	6	6
8	stainless plug spring	10253	8	10	8	10	6	6
9	set screw	10260	8	10	8	10	6	6
10	retaining ring	10252	8	10	8	10	6	6
11	long plastic contact block	10524PL-001	1	1	1	1	1	1
12	aluminum bayonet pin plug	10718PLUG	2	4	2	4		
13	stainless double ear pinch on clamp	SINGLE1518R	1	1	1	1	1	1
14	cord grip bushing	10715NP	1	1	1	1	1	1
15	cord grip washer	10716ST	1	1	1	1	1	1
16	aluminum strain relief nut	10249	1	1	1	1	1	1

## **Repair Kits**

Part #	Description	Includes Item #
FT601	thermistor plug assembly, 8 pin 4 J-slot (US)	1-4A, 5, 7-11, 14-16
FT601-10	thermistor plug assembly, 10 pin 4 J-slot (Canada)	1-4A, 5, 7-11, 14-16
FT602	30' orange coiled cord, thermistor 10 conductor	6B, 13
FT604	20' orange straight cord, thermistor 10 conductor	6D, 13
FT621	optic plug assembly, 6 pin 3 J-slot (US)	1-4B, 5, 7-11, 14-16
FT622	30' orange coiled cord, optic 6 conductor	6E, 13
FT624	20' orange straight cord, optic 6 conductor	6F, 13

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