



Engineered Systems



DRY DISCONNECTS QUICK DISCONNECT FITTINGS

OPW Engineered Systems, part of the OPW Fluid Transfer Group, provides expert solutions for the safe handling, transfer, monitoring, measuring and protection of hazardous bulk products worldwide.



OPW Engineered Systems specializes in the engineering, designing and manufacturing of systems for the safe and efficient loading and unloading of critical hazardous materials: loading systems, swivel joints, instrumentation, quick and dry disconnect systems and safety breakaways

TABLE OF CONTENTS

DRY BREAK COUPLINGS

DRYLOK™	4-5
PERFORMANCE SPECIFICATIONS	6
KAMVALOK®	7-8
OPERATION	9
APPLICATIONS	10-11
COUPLERS – 1700 SERIES	12-13
D2000™ ACTUATOR	14
ADAPTORS – 1600 SERIES	15-16
2173AVN SERIES	17
1004D2 API COUPLER	17
PERFORMANCE SPECIFICATIONS	18

HOSE BREAKAWAY COUPLING	19
-------------------------	----

QUICK DISCONNECT FITTINGS & COUPLINGS

AUTOLOK™ SERIES	21
KAMLOK® TWIN-KAM™ SERIES	22
MISCELLANEOUS COUPLERS & ADAPTORS	23-24
KITS AND ACCESSORIES	25
PERFORMANCE SPECIFICATIONS	26
ORDERING CHART	27



**Drylok™
and
Kamvalok®**

**Autolok™
and
Kamlok®
With
Twin-Kam™**



OPW Engineered Systems offers the most complete line of dry disconnect and quick disconnect products in the industry. OPW's line of dry disconnect products include Drylok™ and the economical cam-and-groove coupler Kamvalok®. Both Drylok™ and Kamvalok® are suitable for a broad range of hazardous liquid transfer applications.

OPW's family of quick couplers include Kamlok®, the industry's most popular cam-and-groove unit and Autolok™ self-locking couplers. OPW's couplers feature the exclusive Twin-Kam™ arm design that prevents accidental spillage due to vibration, line pressure or mishandling.

Autolok, Drylok, Twin-Kam, Endura, GFL, Cliplok and Spring Ring are trademarks, and OPW®, Visi-Flo®, Kamvalok® and Kamlok® are registered trademarks of OPW Engineered Systems. Hastelloy® is a registered trademark owned by Haynes International, Inc. Viton® and Kalrez® are registered trademarks of DuPont Dow Elastomers. Teflon® is a registered trademark of DuPont. Chemraz® is a registered trademark of Green Tweed. Scully® and BICLOPS® are registered trademarks of Sculley Signal Co.





OVERVIEW

OPW Engineered Systems is a world-class manufacturer of dry disconnect couplings and quick disconnect fittings to meet your fluid handling applications. Our products are used in a wide range of applications including: petroleum products, fatty acids, liquefied gases, asphalt, solvents, and hazardous, corrosive chemicals, in industries such as:

- **Chemicals**
- **Petroleum**
- **Petrochemicals**
- **Asphalt**
- **Solvents**
- **Food**
- **Agriculture**
- **Metalworking**
- **Steel**

We are the experts in reducing the hazards involved with handling your products.

Proven Experience in Transfer Applications

Experience is a hallmark of our comprehensive product offerings. OPW Engineered Systems products have been used in many industries for the safe and efficient handling of fluids.

Complete Line

For more than 60 years, OPW Engineered Systems has provided innovative solutions for some of the most challenging liquid handling applications. We offer a broad range of materials, seals and sizes.

Quality Control for Dependable Operation

OPW dry disconnect couplings and fittings are manufactured in compliance with the highest standards of design, materials and construction. Our manufacturing and testing procedures meet or exceed industry standards. Products are rigorously tested to ensure high quality. CNC equipment is used to machine all critical dimensions within precise tolerances to ensure that each product meets our rigid engineering specifications.

Innovative Products Designed for Safety

Our products help keep employees out of harm's way as well as contain fugitive emissions, transfer VOC's without product or vapor loss, and in general further the efforts of responsible environmental management.

Rely on OPW Service and Support

We provide in-depth technical assistance and work with you in designing and selecting the best products for your application. Our sales representatives are knowledgeable about our products and skilled in coordinating the steps involved in solving your transfer problems. This personalized professional service ensures your satisfaction. Support personnel are also available to assist you.

OPW continually strives to maintain its leadership position in the industry by responding to your needs and supplying the high-quality, dependable systems you require.



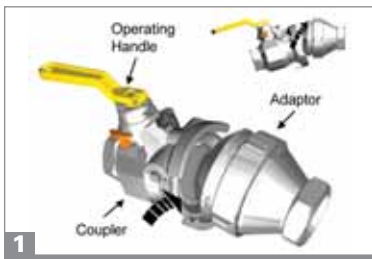


DRYLOK™

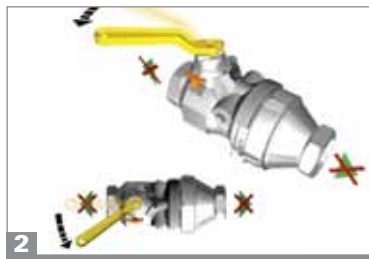
The Driest Disconnect Coupling for the Transfer of Hazardous Liquids

OPW's Drylok™ Dry Disconnect Coupling provides unprecedented safety in the transfer of hazardous liquids. With less than 1-cc of fluid loss from a 3-inch unit, Drylok™ is the driest disconnect in the industry. It meets or exceeds all of today's stringent emission and worker safety requirements set by EPA, OSHA, and others.

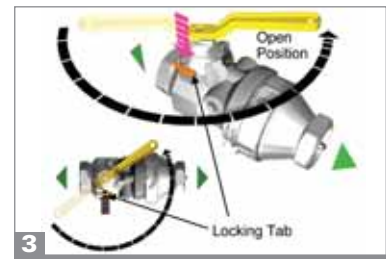
Drylok™ Operation Is Easy and Foolproof.



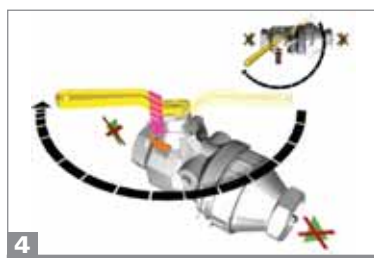
1 Push coupler onto adaptor by first engaging lower jaw of coupler under lip of adaptor and tilting the coupler upward to engage top jaw.



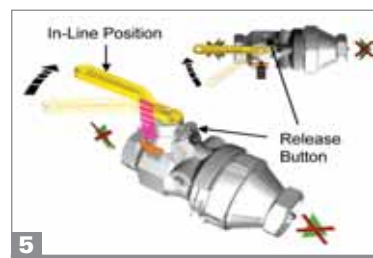
2 Turn handle counter-clockwise until lock engages. Coupler and adaptor are locked together but valve is closed.



3 Press button on coupler down and turn handle counter-clockwise until it locks. Valve is now open and product will flow.



4 To disconnect - press button on coupler and rotate handle clockwise until it locks. Valve is now closed.



5 Press button on coupler down and turn handle clockwise to the "In-Line" position. Press tab on opposite side of coupler to release the upper jaw and move coupler away.

IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

DRYLOK™

Drylok™ is designed to safely transfer hazardous corrosive, volatile liquids such as acids, solvents and petrochemicals. An interlocking handle averts accidental spills by preventing uncoupling while the valve is open. And, the unit's flat face minimizes fluid loss, further reducing exposure to risk during operation. Drylok™ is ideal for all kinds of hazardous fluids where product loss is a problem, such as high-pressure lines, high flow rates, slurries, and gases.

Benefits

Driest disconnect in the industry – less than 1-cc of fluid loss from a 3" unit.

Unprecedented safety – meets or exceeds all of today's stringent emission and worker safety requirements set by EPA, OSHA, and others. Drylok™ cannot be uncoupled while the valve is open.

Ideal for high-pressure line applications – can be opened and closed against 150 psi maximum head pressure.

Optimum flow rate – less obstruction in easy-flow interior optimizes the flow rate in high-pressure or high-viscosity applications.

Ease of use – simple lever action connects valve to coupler and opens and closes the flow. 360° orientation ensures proper seating and alignment. No clamps, clips, loops or tabs that can cause operator error.

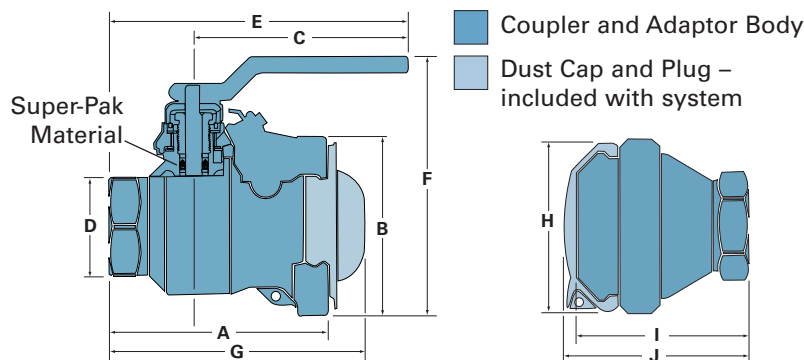
Features

- Available in 1", 2" and 3" sizes.
- Standard O-ring seals for longevity and economy.
- Adjustable packing nut with V-type material provides a continuous compression, emission-free seal on handle shaft.
- Available in 316 Stainless Steel, Alloy 20® or Hastelloy® C with NPT, BSP, ASME Flanged, BW, and SW end connections.
- AAR Approved.
- CRN Approved.

Dimensions

Size	A	B	C	D	E	F	G	H	I	J	Connected
1"	3-21/64" 85.6mm	2-15/32" 62.7mm	5-3/8" 136.5mm	1-7/8" 47.6mm	6-3/4" 171.5mm	4-37/64" 116.3mm	3-33/64" 89.3mm	2-5/32" 54.9mm	3-3/16" 81mm	3-3/4" 95.3mm	6-1/16" 153.9mm
2"	6-3/16" 173mm	5" 127mm	6" 152.4mm	2-3/4" 69.9mm	8-3/8" 212.7mm	7-1/4" 184.2mm	7-7/32" 183.4mm	5" 127mm	4-15/16" 125.4mm	5-5/16" 134.9mm	10-1/6" 255.5mm
3"	7-3/4" 196.9mm	6-3/16" 157.2mm	8-3/4" 222.3mm	4" 101.6mm	12" 304.8mm	8-31/32" 227.8mm	8-49/64" 197.3mm	5-1/2" 139.7mm	6-7/8" 174.6mm	7-17/64" 184.7mm	13-3/8" 339.7mm

Size indicates NPT Pipe Thread

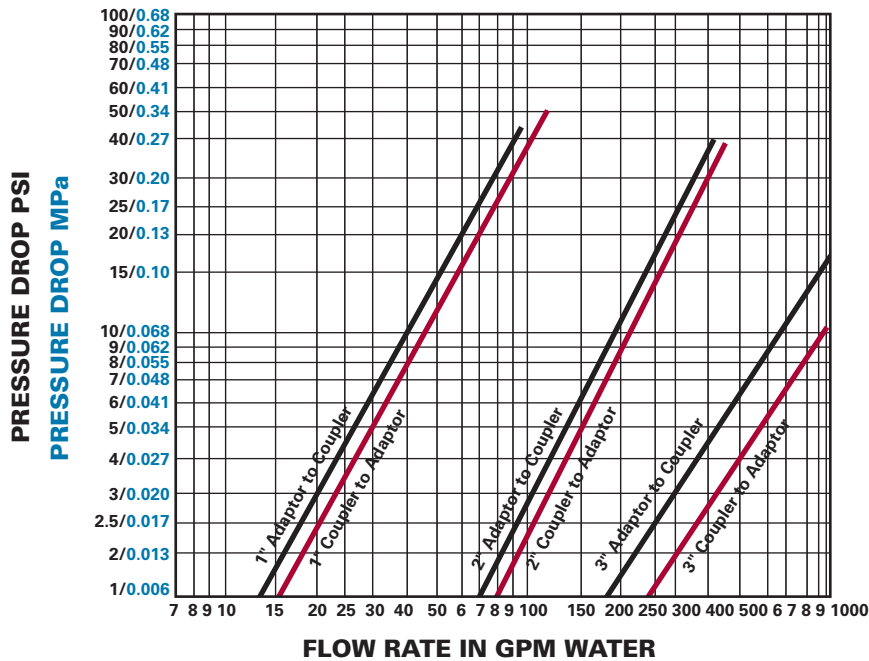


Super-Pak valve seal system on 2" and 3" models.*

*Super-Pak valve seal is a V-Type 75% Teflon® and graphite blend, pressure energized packing. The packing nut can be tightened to stop leaks and emissions.

Type	Number	Size	Weight
Coupler	5770	1"	2-1/4 lbs./1.0 kg
		2"	10-1/4 lbs./4.6 kg
		3"	14-1/2 lbs./6.5 kg
Adaptor	5670	1"	1-1/4 lbs./0.6 kg
		2"	7-1/2 lbs./3.4 kg
		3"	11-3/4 lbs./5.3 kg

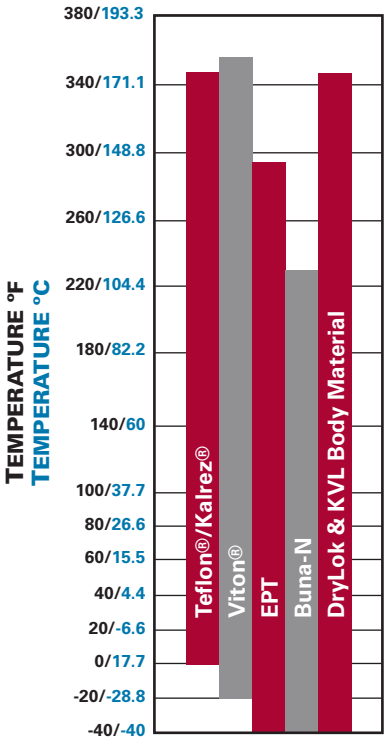
FLOW CHARACTERISTICS



PRESSURE RATING

The Drylok™ Coupler can be opened and closed against a maximum of 150 psi head pressure.

TEMPERATURE RATING/SEAL MATERIAL




Ordering Specifications

TYPE	N/A	O-RING	CONSTRUCTION MATERIAL	SIZE	STYLE
56 – Adaptor 57 – Coupler	70	B – Viton®-B C – Viton®-E E – EPDM F – Teflon® Encapsulated Viton®-A N – Buna-N T – Teflon® Encapsulated Silicone V – Viton®-A W – White Nitrile Y – Kalrez® (4079) Z – Kalrez® (6375)	7 – 316 Stainless Steel 8 – Alloy 20® 9 – Hastelloy®	10 – 1" 20 – 2" 30 – 3"	A – ASME Flange 150 lbs. B – Female BPT C – Cutaway D – DIN Flange N – Female NPT P – Sanitary Triclamp T – ASME Flange 300 lbs. W – Butt Weld X – Parking Adaptor

Example: 5670 – V 7 20 N

How To Order - Use this example as your guide to determine the part number of the Drylok™ coupling you need. Part numbers indicate coupling type, O-ring seal material, construction material and size.



**If your product is expensive,
hazardous, caustic, corrosive,
flammable or toxic...**

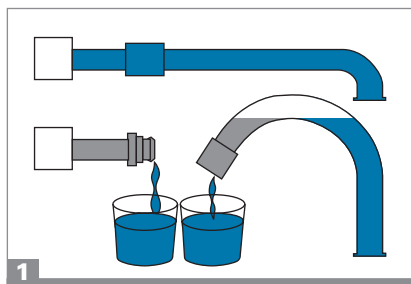
**You need the
OPW Kamvalok®
Dry Disconnect
Coupler and Adaptor.**



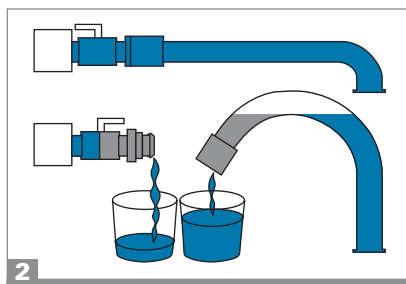
Because of its unique poppet action the OPW Kamvalok® Dry Disconnect virtually eliminates spillage of any residual liquid contained within the line after disconnection. Kamvaloks® are used at transfer points where product loss is unacceptable. Common applications include: paint, lacquers, inks, adhesives, fatty acids, pharmaceuticals, liquid soaps, petroleum products, solvents, ag-chemicals, vegetable oils, detergents, and many acids and caustics.

WHY USE KAMVALOKS®

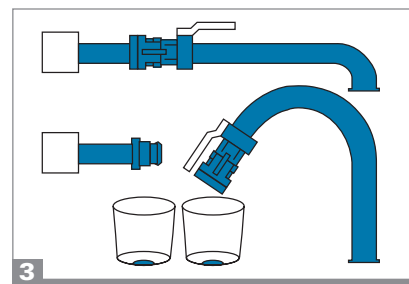
- If your product is corrosive, toxic, caustic or otherwise harmful Kamvaloks® will reduce the hazard associated with the transfer of these products.
- If your product is a VOC (Volatile Organic Compound) that has a high vapor pressure and tends to evaporate quickly, Kamvaloks® will keep the product in-line and out of the air.
- Kamvaloks® will contain fugitive emissions, transfer VOC's without vapor loss, help keep employees out of harm's way and help promote responsible environmental management.



Ordinary Quick Disconnect Couplings
Excessive amount of liquid spills out when coupling is disconnected.



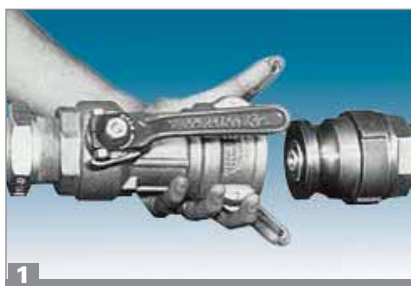
Ordinary Quick Disconnect Couplings Plus Ball Valve
Excessive amount of liquid spills out when coupling and ball valve are disconnected.



OPW Dry Disconnect Couplings
Virtually eliminates spillage of any residual liquid contained within the line after disconnection.

KAMVALOK® OPERATION

OPW Engineered Systems Kamvalok® Dry Disconnects are easy to operate. Connections and disconnects are accomplished by simply closing and opening two cam arms which lock into the machined groove around the circumference of the mating adaptor. The adaptor contains a spring-loaded poppet assembly that is actuated by the lever-action on the coupler.



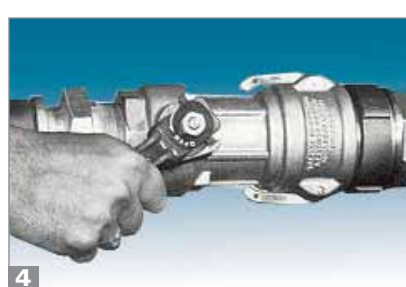
Couple In any Position



Cam Arms Lock Coupler and Adaptor Together



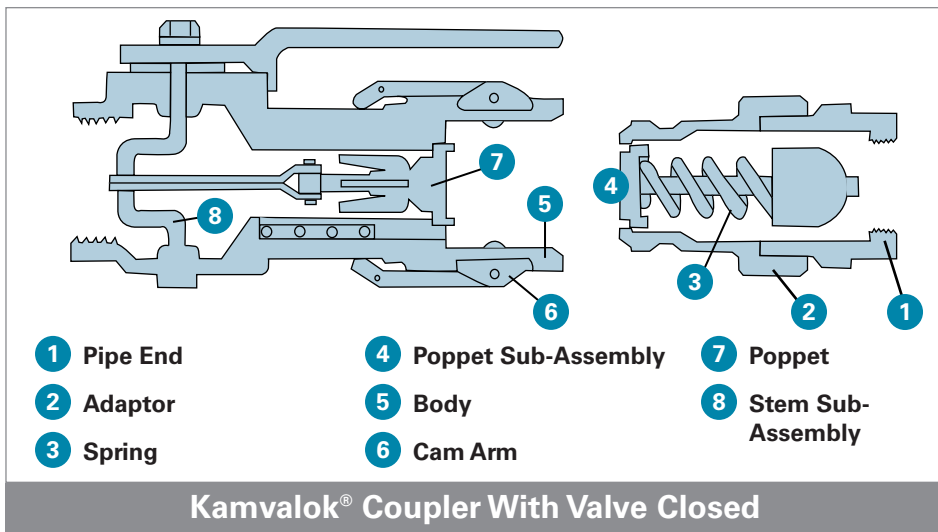
Lever Opens Valves



Full Flow Begins

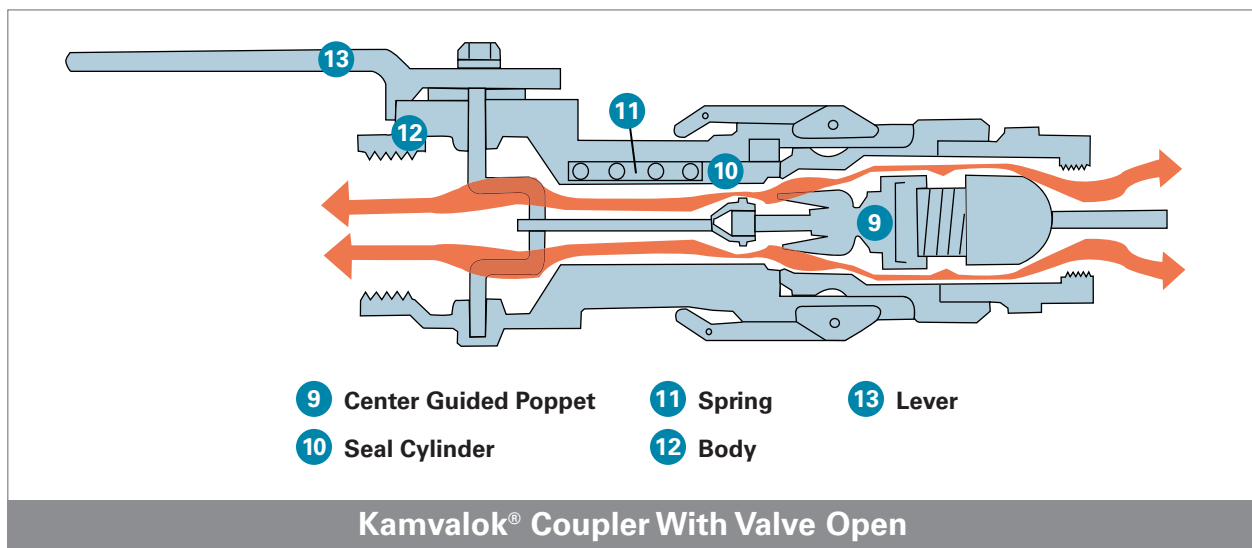
IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

The OPW Engineered Systems Kamvalok® Dry Disconnect is designed to automatically shut off in the event of an accidental disconnection of the coupler and adaptor. Should the Kamvalok® be accidentally disconnected due to operator error or accident while the lever is in the open position and product flow is in progress, the poppet in the adaptor will automatically close and the seal cylinder will immediately stop flow through the coupler. The first drawing below shows the Kamvalok® coupler and adaptor disengaged. The second drawing below shows the coupler and adaptor coupled and the lever opened. The coupler poppet mates with the adaptor poppet, pushing it open when the lever is actuated, allowing for the full flow of product.



This drawing demonstrates how, when the Kamvalok® adaptor is separated from the coupler its own spring-loaded poppet assembly holds the disc firmly in the closed position.

The drawing below shows the coupler and adaptor coupled and the lever opened. The coupler poppet mates with the adaptor poppet, pushing it open when the lever is actuated, allowing for the full flow of product.

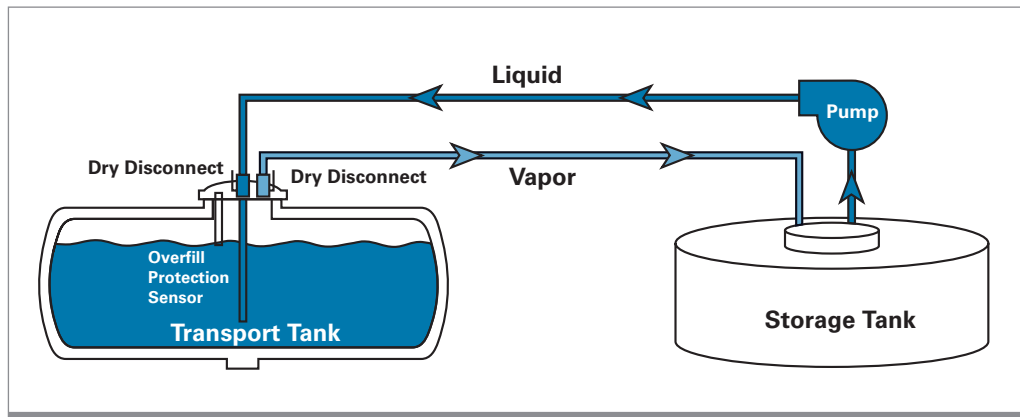


After the Kamvalok® adaptor and coupler are firmly coupled together, the coupler lever is turned to the OPEN position. This action moves the coupler poppet toward the adaptor poppet disc until the two mating discs make contact. By completely turning the lever to the full open position the coupler poppet is extended beyond the end of the coupler, depressing the adaptor poppet back into the adaptor body. This creates clearance for the liquid flow around both the coupler and adaptor discs. Guiding fins in the coupler and deflectors in the adaptor ensure even flow characteristics. When the lever is returned to the CLOSED position the poppets are closed and the disconnection can be made. With the exception of the minimal amount of liquid captured between the two discs, spillage is prevented.

KAMVALOK® APPLICATIONS

OPW Engineered Systems Kamvalok® Couplings and Adaptors Provide For Total Closed-Loop Loading Capabilities.

- Kamvalok® Dry Disconnect Couplings and Adaptors
- D2000™ Vapor Recovery Couplers
- Tank Trailer, Tank Car, IMO, and IBC Dry Disconnect Adaptors
- Autolok®/Kamlock® Quick Couplings



The benefit of closed-loop loading is that it protects people and property from dangerous and costly exposure by keeping hazardous liquids and vapors in-line and out of the environment. Closed-loop loading can help you meet the guidelines of responsible product stewardship and be in compliance with the Clean Air Act, SARATITLE III, OSHA, and other regulations.



OPW Kamvalok® components allow you to create closed-loop configurations on railcars.



Genuine OPW Kamvalok® Dry Disconnect Couplings help prevent product loss from routine and accidental uncouplings.



Through OPW's global distribution network, IMO users can create closed-loop systems using authentic OPW Kamvalok® products.

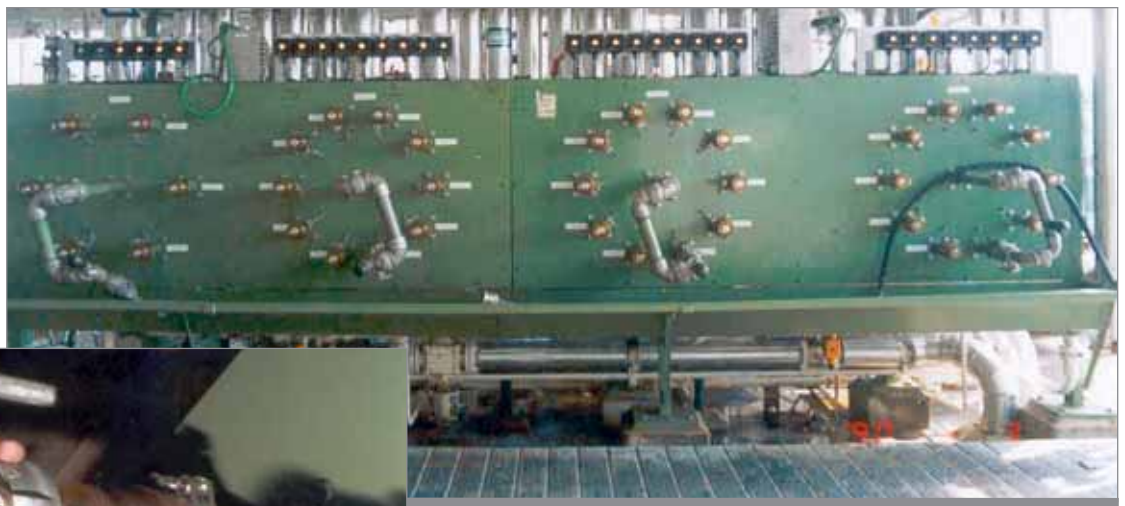


Major shippers of hazardous liquids choose specially designed fittings from OPW when converting tank car fleets.

IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.



Kamvalok® couplings and adaptors are specifically designed to automatically shut off in the event of an accidental disconnection of the coupling and adaptor. Kamvaloks® are used at transfer points where product loss is unacceptable, such as at this lube oil blending facility. Reliable and easy to operate, Kamvaloks® virtually eliminate spillage of any residual liquid contained in transfer lines after disconnection.



Kamvaloks® are very popular in custom blending operations because of their high reliability and ease of use. In major blending operations, OPW Kamvalok® couplings are commonly used in conjunction with the OPW rotary manifold system. As shown in the inset photo at a major petrochemical plant, the Kamvalok® couplings and adaptors are outfitted with interlock sensors to ensure against cross-contamination during the blending process.

1700D SERIES COUPLERS

OPW Kamvalok® Dry Disconnect Couplings are considered the standard of the industry. Used at liquid transfer points where product loss could occur, OPW Kamvaloks® provide a reliable solution to prevent spillage during connection or disconnection.

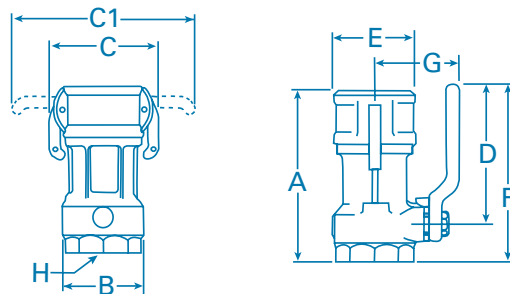
OPW Kamvalok® Dry Disconnect Couplings are used by manufacturers of paint, lacquers, inks, adhesives, fatty acids, pharmaceuticals, liquid soaps, and many other liquid products. They are particularly well suited for handling petroleum products, solvents, ag-chemicals, vegetable oils, detergents and many acids and caustics.

Benefits

- **Spill Protection** – Helps to reduce the hazards involved in the connection/disconnection process of transferring hazardous materials.
- **Provides For Total Closed-Loop Loading Capabilities** – When used with the OPW 2173N Vapor Recovery Dry Disconnect coupling protects people and property from dangerous and potentially costly exposure by keeping hazardous liquids and vapors in-line and out of the environment.
- **Dual Protection** – OPW Kamvaloks® provide automatic closure from both directions – the coupler and the adaptor.
- **Ease of Use** – The simple connection and disconnection design and lever actuated internal poppet configuration makes this the first choice for liquid transfer operations.

Features

- **Manufactured in compliance with the highest quality standards of design, materials and construction.**
- **Cam and Groove Design** – The cam and groove design makes connection and disconnection smooth and easy.
- **Lever Actuation** – The open/close lever action helps to ensure that liquid flow can only begin once the coupling and adaptor are securely coupled. The lever provides for smooth opening and closing even for high pressure applications.
- **360° Orientation** – The coupling can be connected in any orientation onto the adaptor.



Dimensions

SIZE IN INCHES (Nominal)	3/4"	1 1/2"	2"	3"
A Length of Body	5-3/8"	6-25/32"	7-9/32"	9-3/4"
B Diameter of Body	1-7/8"	2-15/16"	3-33/64"	5-1/2"
C Distance across Cam Arms – closed	2-3/4"	3-15/16"	4-5/16"	7-21/32"
C1 Distance across Cam Arms – open	4-7/8"	8-1/16"	8-9/16"	15-1/4"
D Centerline of Stem to end of Lever	3-1/8"	6"	6-1/16"	7-1/4"
E Diameter of Coupler End	1-7/8"	2-15/16"	3-1/8"	5-1/2"
F Length, Pipe End to end of Lever	NA	7-1/2"	7-11/16"	9-3/4"
G Centerline of Coupler to outside of Lever	2-1/8"	3-17/32"	3-17/32"	5-3/8"
H Pipe Thread (NPT)	3/4"	1-1/2"	2"	3"

Ordering Specifications

COUPLER	CONFIGURATION	O-RING SEAL	COUPLER TYPE	CONSTRUCTION MATERIAL	SIZE	STYLE
SERIES 17	1 – Aluminum Body, Plated Steel Internals 6 – Aluminum Body Stainless Steel Internals, 7 – Stainless Steel Body, Stainless Steel Internals	1 – Buna-N 2 – Viton®-A 3 – TFE/Silicone Core/Chemraz® 4 – EPT 6 – Chemraz® 7 – TFE/Viton® Core/Chemraz® 9 – Viton®-B	D	AL – Aluminum Body SS – Stainless Steel	15-1 1/2" FNPT 20-2" FNPT 30-3" FNPT	A – 150 lb. Flange GL – Greaseless KG – Krytox Grease KL – Keylok P – Sanitary Triclamp T – 300 lb. Flange

EXAMPLE:

1711D – AL 15 – A

1711ES & 1712ES SERIES COUPLERS

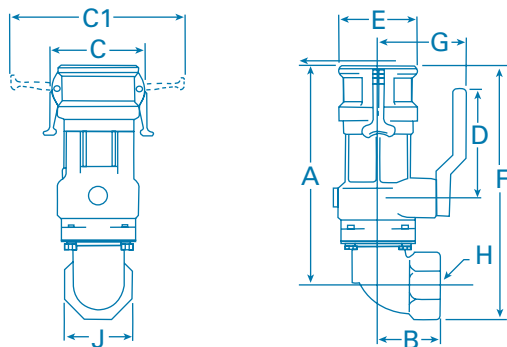
OPW Transport Series Dry Disconnect Couplings are used on multi-compartment petroleum, solvent and chemical product delivery trucks with an on-board pumping unit.

Benefits

- **Spill Protection** – Helps to reduce the hazard potential of spilled liquid during the connection/disconnection process. Special automatic shut-off design minimizes product loss in the event of an accidental disconnection.
- **Ease Of Use** – The built-in elbow/swivel design provides freedom of movement when used with a hose on tank trucks.

Features

- **Built-In Elbow/Swivel** – Provides freedom of movement when used with a hose on tank trucks.
- **Swivel** - 2" female NPT.
- **Poppeted Adaptor and Coupler** – Closes both ends of process during routine disconnect.
- **Built-In Valve** – For reliability of functionality. No additional valves required.
- **Quick Disconnect Cam and Groove Design** – Provides for smooth, easy connection/disconnection action.
- **360° Orientation** – The coupling can be connected in any orientation onto the adaptor.
- **Automatic Shut-Off Device** – Minimizes product loss in the event of accidental disconnection.
- **Lever Actuation** – For easy open/closing.
- **Manufactured in compliance with the highest quality standards of design, material, and construction.**
- **Available in Aluminum Plated Steel Internals with Buna-N Seals or Viton®.**



Dimensions

SIZE IN INCHES (Nominal)		2"
A	Top of Body to Centerline of Elbow	9-9/16"
B	Centerline of Elbow to End of Elbow	2-3/4"
C	Distance across Cam Arms when closed	4-3/8"
C1	Distance across Cam Arms when open	8"
D	Centerline of Stem to end of Lever	4-5/8"
E	Diameter of Coupler End	3-33/64"
F	Length of Unit	11-3/16"
G	Centerline of Coupler to outside of Lever	3-5/8"
H	Pipe Thread (NPT)	2"
J	Distance across Flats of Octagon	3"

Ordering Specifications

PRODUCT NO.	PRODUCT	SIZE	CONSTRUCTION	SEALS
1711ES-0200	90° Elbow/Swivel Coupler	2"	Aluminum, Acetal	Buna-N
1712ES-0200	90° Elbow/Swivel Coupler	2"	Aluminum, Acetal	Viton®

D2000™

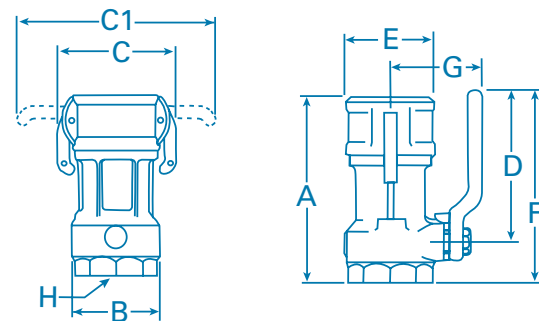
The OPW D2000™ Actuator Series is designed for those applications that require automatic closure from only one flow direction. Ideal for vapor recovery and suction pump applications.

Benefits

- **Ease of Use** – Lever-actuated, single poppet design provides for smooth, easy opening and closing operation.
- **Reliability and Durability** – Heavy duty aluminum or stainless steel construction (corrosion resistance comparable to 304 Stainless Steel).
- **Best Dry Disconnect Valve** – Easy to clean, easy to use, quality construction in a low-cost design.

Features

- **Single poppet design.**
- **Available in 1 1/2" and 2" sizes.**
- **Available in** – stainless steel or aluminum construction with a choice of seals, including Buna-N, Viton®, EPT, Teflon®, and Chemraz®.
- **Cam and Groove Design** – Provides for 360° coupling orientation and makes connection/disconnection smooth and easy.
- **Compatible with Kamvalok® adaptors.**



Dimensions

SIZE IN INCHES (Nominal)	3/4"	1 1/2"	2"	3"
A Length of Body	5-3/8"	6-25/32"	7-9/32"	9-3/4"
B Diameter of Body	1-7/8"	2-15/16"	3-33/64"	5-1/2"
C Distance across Cam Arms – closed	2-3/4"	3-15/16"	4-5/16"	7-21/32"
C1 Distance across Cam Arms – open	4-7/8"	8-1/16"	8-9/16"	15-1/4"
D Centerline of Stem to end of Lever	3-1/8"	6"	6-1/16"	7-1/4"
E Diameter of Coupler End	1-7/8"	2-15/16"	3-1/8"	5-1/2"
F Length, Pipe End to end of Lever	NA	7-1/2"	7-11/16"	9-3/4"
G Centerline of Coupler to outside of Lever	2-1/8"	3-17/32"	3-17/32"	5-3/8"
H Pipe Thread (NPT)	3/4"	1-1/2"	2"	3"

Ordering Specifications

Stainless Steel D2000™ Couplers - Female NPT

Prod. No.	Size/Description
2271D-SS15	1-1/2" Stainless Steel, Buna Seals
2271D-SS20	2" Stainless Steel, Buna Seals
2272D-SS15	1-1/2" Stainless Steel, Viton® Seals
2272D-SS20	2" Stainless Steel, Viton® Seals
2274D-SS15	1-1/2" Stainless Steel, EPT Seals
2274D-SS20	2" Stainless Steel, EPT Seals
2275D-SS15	1-1/2" Stainless Steel, Teflon® & Kalrez® Seals
2275D-SS20	2" Stainless Steel, Teflon® & Kalrez® Seals

Aluminum D2000™ Couplers - Female NPT

Prod. No.	Size/Description
2261D-AL15	1-1/2" Aluminum, Buna Seals
2261D-AL20	2" Aluminum, Buna Seals
2262D-AL15	1-1/2" Aluminum, Viton® Seals
2262D-AL20	2" Aluminum, Viton® Seals
2264D-AL15	1-1/2" Aluminum, EPT Seals
2264D-AL20	2" Aluminum, EPT Seals
2265D-AL15	1-1/2" Aluminum, Teflon® Silicone Seals
2265D-AL20	2" Aluminum, Teflon® Silicone Seals

1600AN

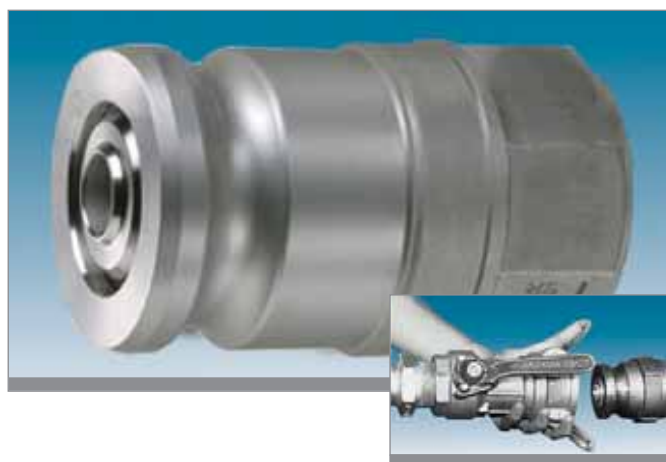
The 1600AN Series Adaptor is specifically designed to mate with OPW Kamvalok® Couplings to help prevent liquid spillage during the connection/disconnection process. The adaptor contains a spring-loaded poppet to assure fast closing and tight seal.

Benefits

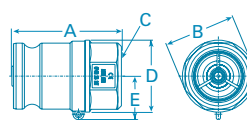
- **Single Piece Design** – Eliminates a possible leak path
- **Spill Prevention** – Poppet-actuated design can only be opened with a ® coupling; designed to provide a tight seal when closed.
- **Reliability of Operation** – The simple spring-loaded poppet design and heavy-duty construction provide for reliable, long-life operation.
- **Optimum Flow Rate** – Even flow and low pressure drop are achieved by a built-in deflector that reduces turbulence.

Features

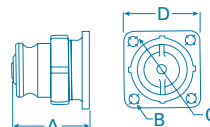
- **Heavy-Duty Construction** – Available in aluminum, and 316 stainless steel construction.
- **Female Threads** – Can be fitted to either a male pipe end or to a hose fitting.
- **Flanged End** – Available for specific operations, including in-plant and transportation.
- **Spring-Loaded Poppet Design** – Assures fast closing and tight seal.
- **Wide Range of Seals** – Available in Buna-N, Viton®, Teflon®, EPT, Chemraz®.



Dimensions



1611AN - 1679AN



1661SFN

SIZE IN INCHES (Nominal)

	1 1/2"	2"	3"
A	4-3/4"	4-15/16"	6-17/32"
B	2-1/2"	3-1/4"	4-1/2"
C	1-1/2"	2"	3"
D	2-21/32"	3-1/4"	4-7/8"

SIZE IN INCHES (Nominal)

	2"
A Overall Length	4-1/4"
B Diameter of Bolt Holes	9/16"
C Bolt Circle	4-1/2"
D Square Flange	4-1/4"

Ordering Specifications

Stainless Steel Adaptors - Female NPT

Prod. No.	Size/Description
1671AN-SS15	1-1/2" Buna Seal, Stainless Steel
1671AN-SS20	2" Buna Seal, Stainless Steel
1671AN-SS30	3" Buna Seal, Stainless Steel
1672AN-SS15	1-1/2" Viton® Seal, Stainless Steel
1672AN-SS20	2" Viton® Seal, Stainless Steel
1672AN-SS30	3" Viton® Seal, Stainless Steel
1673AN-SS15	1-1/2" Teflon® Silicone Seal, Stainless Steel
1673AN-SS20	2" Teflon® Silicone Seal, Stainless Steel
1673AN-SS30	3" Teflon® Silicone Seal, Stainless Steel
1674AN-SS15	1-1/2" EPT Seal, Stainless Steel
1674AN-SS20	2" EPT Seal, Stainless Steel
1674AN-SS30	3" EPT Seal, Stainless Steel
1676AN-SS15	1-1/2" Chemraz® Seal, Stainless Steel
1676AN-SS20	2" Chemraz® Seal, Stainless Steel
1676AN-SS30	3" Chemraz® Seal, Stainless Steel
1677AN-SS15	1-1/2" Teflon®-Viton® Seal, Stainless Steel
1677AN-SS20	2" Teflon®-Viton® Seal, Stainless Steel
1677AN-SS30	3" Teflon®-Viton® Seal, Stainless Steel
1679AN-SS15	1-1/2" Viton®-B Seal, Stainless Steel
1679AN-SS20	2" Viton®-B Seal, Stainless Steel
1679AN-SS30	3" Viton®-B Seal, Stainless Steel

Aluminum Adaptors - Female NPT

Prod. No.	Size/Description
1611AN-AL15	1-1/2" Buna Seal, Alum. & Stainless Steel
1611AN-AL20	2" Buna Seal, Alum. & Stainless Steel
1611AN-AL30	3" Buna Seal, Alum. & Stainless Steel
1612AN-AL15	1-1/2" Viton® Seal, Alum. & Stainless Steel
1612AN-AL20	2" Viton® Seal, Alum. & Stainless Steel
1612AN-AL30	3" Viton® Seal, Alum. & Stainless Steel
1612A-AL07	3/4" Viton® Seal, Alum. & Stainless Steel
1613AN-AL15	1-1/2" Teflon® Seal, Alum. & Stainless Steel
1613AN-AL20	2" Teflon® Seal, Alum. & Stainless Steel
1613AN-AL30	3" Teflon® Seal, Alum. & Stainless Steel
1614AN-AL15	1-1/2" EPT Seal, Alum. & Stainless Steel
1614AN-AL20	2" EPT Seal, Alum. & Stainless Steel
1614AN-AL30	3" EPT Seal, Alum. & Stainless Steel
1616AN-AL15	1-1/2" Chemraz® Seal, Alum. & Stainless Steel
1616AN-AL20	2" Chemraz® Seal, Alum. & Stainless Steel
1616AN-AL30	3" Chemraz® Seal, Alum. & Stainless Steel
1619A-AL07	3/4" Viton®-B Seal, Alum.
1619AN-AL15	1-1/2" Viton®-B Seal, Alum.
1619AN-AL20	2" Viton®-B Seal, Alum.
1619AN-AL30	3" Viton®-B Seal, Alum.

1600ANF

The OPW 1600ANF Series Adaptors are designed specifically for applications using an ASME flange.

The OPW 1673ANF, 1674ANF and 1676ANF Dry Disconnect Adaptors keep hazardous chemicals and vapors in-line and out of the environment.

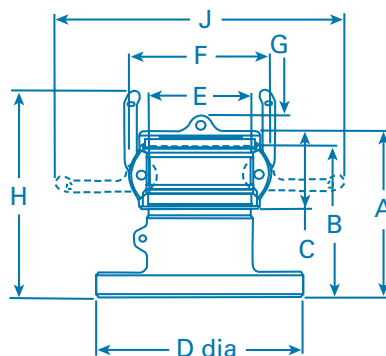
Rugged, yet quick and easy to install, the 1600ANF Series is ideal for closed-loop loading conversions.

Benefits

- **Spill Prevention** – The poppet-actuated design can only be opened with a Kamvalok® coupling; designed to provide a tight seal when closed.
- **Easy Access Connection** – Provides easy connection access for tank cars, tank trucks, intermodal tanks, and in-process operations.
- **Connects with D2000™ Actuating Coupler or Kamvalok® 1700 Series Dry Disconnect Couplings.**
- **Easy Cleaning** – Can be quickly disassembled.
- **Specifically designed for applications using ASME flanges.**

Features

- **Heavy-Duty Construction** – 316 Stainless Steel.
- **Available with raised face flange or optional tongue and groove design.**
- **Spring-Loaded Poppet Design** – Assures fast closing and tight seal.
- **Available in a Range of Seals** – Teflon®, EPT, Chemraz®, Buna-N and Viton®.
- **Available in 1 1/2", 2", and 3" sizes.**



1673ANF and 1673ANFT

SIZE IN INCHES (1672ANF)

	1/2 x 2"	2"	3"
A Overall Length	4-47/64"	4-29/32"	6-9/16"
B Length of Body	4-13/32"	4-31/64"	6-1/8"
C Length of Cap	2-5/64"	2-1/4"	2-5/16"
D Diameter of Flange	6"	6"	7-1/2"
E Diameter of Body	2-1/2"	3"	4-45/64"
F Width of Cap	3-9/16"	4-1/16"	5-33/64"
G Hgt of Chain Lug	1/2"	7/16"	1/2"
H Length with Arms	6-1/32"	6-3/32"	8-1/8"
Number of Bolt Holes	4	4	4
Diameter of Bolt Holes	3/4"	3/4"	3/4"
Diameter of Bolt Circle	4-3/4"	4-3/4"	6"
J Max width of Arms	7-1/8"	8"	11-3/32"

SIZE IN INCHES (1672ANFT)

	2"	3"
A Overall Length	5-5/32"	6-13/16"
B Length of Body	4-47/64"	6-6/8"
C Length of Cap	2-1/4"	2-5/16"
D Dia. of Flange	6-1/2"	8-1/4"
E Dia. of Body	2-63/64"	4-45/64"
F Width of Cap	4-1/16"	5-33/64"
G Height of Chain Lug	7/16"	1/2"
H Length with Arms	6-21/64"	8-3/8"
Number of Bolt Holes	8	8
Diameter of Bolt Holes	3/4"	7/8"
Diameter of Bolt Circle	5"	6-5/8"
J Maximum width of Arms	8-9/32"	11-3/32"

Ordering Specifications

Stainless Steel Adaptors - 150 Lb. ASME RF Flange

Prod. No.	Size/Description
1672ANF-SS15	1-1/2" Viton® Seal, SST Adaptor* w/2" Flange
1672ANF-SS20	2" Viton® Seal, SST Adaptor* w/2" Flange
1672ANF-SS30	3" Viton® Seal, SST Adaptor* w/3" Flange
1673ANF-SS1515	1-1/2" Teflon® Silicone Seal, SST Adaptor* w/1-1/2" Flange
1673ANF-SS15	1-1/2" Teflon® Silicone Seal, SST Adaptor* w/2" Flange
1673ANF-SS20	2" Teflon® Silicone Seal, SST Adaptor* w/2" Flange
1673ANF-SS30	3" Teflon® Silicone Seal, SST Adaptor* w/3" Flange
1674ANF-SS15	1-1/2" EPT Seal, SST Adaptor* w/2" Flange
1674ANF-SS20	2" EPT Seal, SST Adaptor* w/2" Flange
1674ANF-SS30	3" EPT Seal, SST Adaptor* w/3" Flange
1676ANF-SS15	1-1/2" Chemraz® Seal, SST Adaptor* w/2" Flange
1676ANF-SS20	2" Chemraz® Seal, SST Adaptor* w/2" Flange
1676ANF-SS30	3" Chemraz® Seal, SST Adaptor* w/3" Flange

Prod. No.	Size/Description
1677ANF-SS15	1-1/2" Teflon® Viton® Seal, SST Adaptor* w/2" Flange
1677ANF-SS20	2" Teflon® Viton® Seal, SST Adaptor* w/2" Flange
1677ANF-SS30	3" Teflon® Viton® Seal, SST Adaptor* w/3" Flange
1679ANF-SS15	1-1/2" Viton®-B Seal, SST Adaptor* w/2" Flange
1679ANF-SS20	2" Viton®-B Seal, SST Adaptor* w/2" Flange
1679ANF-SS30	3" Viton®-B Seal, SST Adaptor* w/3" Flange

Stainless Steel Adaptors - 300 Lb. ASME Tongue & Groove Flange

Prod. No.	Size/Description
1674ANFT-SS20	2" EPT Seal, SST Adaptor* w/2" Flange
1674ANFT-SS30	3" EPT Seal, SST Adaptor* w/3" Flange
1676ANFT-SS20	2" Chemraz® Seal, SST Adaptor* w/2" Flange
1676ANFT-SS30	3" Chemraz® Seal, SST Adaptor* w/3" Flange

IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

OPW 2173AVN

The OPW 2173AVN Vapor Recovery Dry Disconnect Coupling provides for easy access in recovering vapors for either top or bottom loading/unloading tank truck operations.

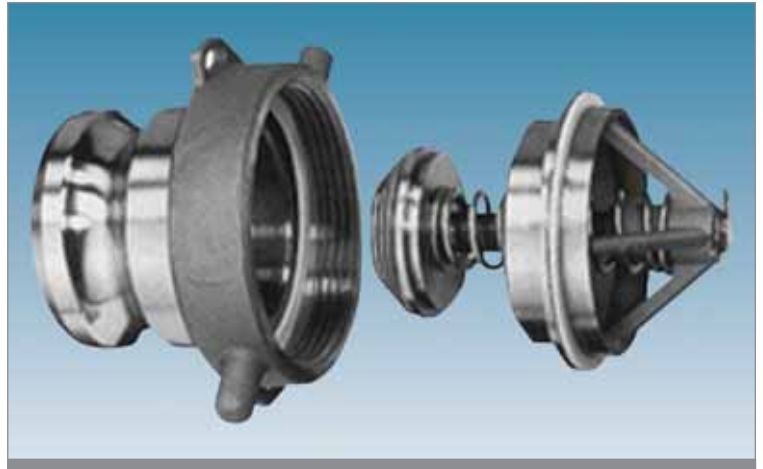
The OPW 2173AVN installs onto the QRB valve on tank trailers and can provide a dry disconnect connection for emergency evacuation of hazardous liquids in the case of roll-over.

Benefits

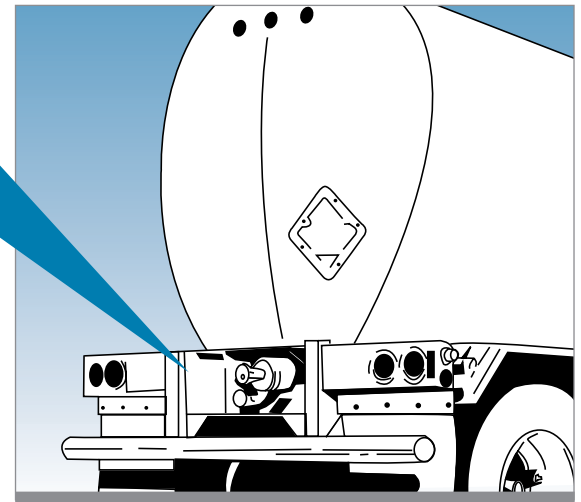
- **Closed-Loop Protection** – Helps protect people and the environment by providing a vapor and liquid tight seal during the connection/disconnection process specifically designed to contain VOC (Volatile Organic Compounds) products that have high vapor pressure that evaporates quickly. Contains fugitive emissions and transfers VOC's without vapor loss.
- **Roll-Over Safety** – Its low profile design keeps the fitting below roll-over plane to minimize damage in the event of a roll-over. Meets IMO profile dimensions.
- **Easy Emergency Evacuation** – Provides a dry disconnect connection for emergency evacuation of hazardous liquids in case of roll-over.
- **Quick and Easy Cleaning** – Designed for easy disassembly for routine cleaning.

Features

- **Vapor Hose Connection** – 2" Kamvalok® Dry Disconnect or D2000™ Actuating Couplers.
- **No trailer modifications required** – Easy attachment to existing MC307, DOT407, MC312, and DOT412 trailers.
- **3" straight thread mounting** with 2" dry disconnect cam and groove connection makes the ideal 3" x 2" adaptor for QRB valves.



OPW's 2173AVN Dry Disconnect Coupling installs on the QRB valve on the truck



1004D2 API Coupler

The OPW Engineered Systems 1004D2 is the standard in "drip-less" bottom loading couplers and a proven performer. The 1004D2 mates with all 4" bottom loading adaptors built in accordance with API RP-1004 requirements to significantly reduce liquid loss.

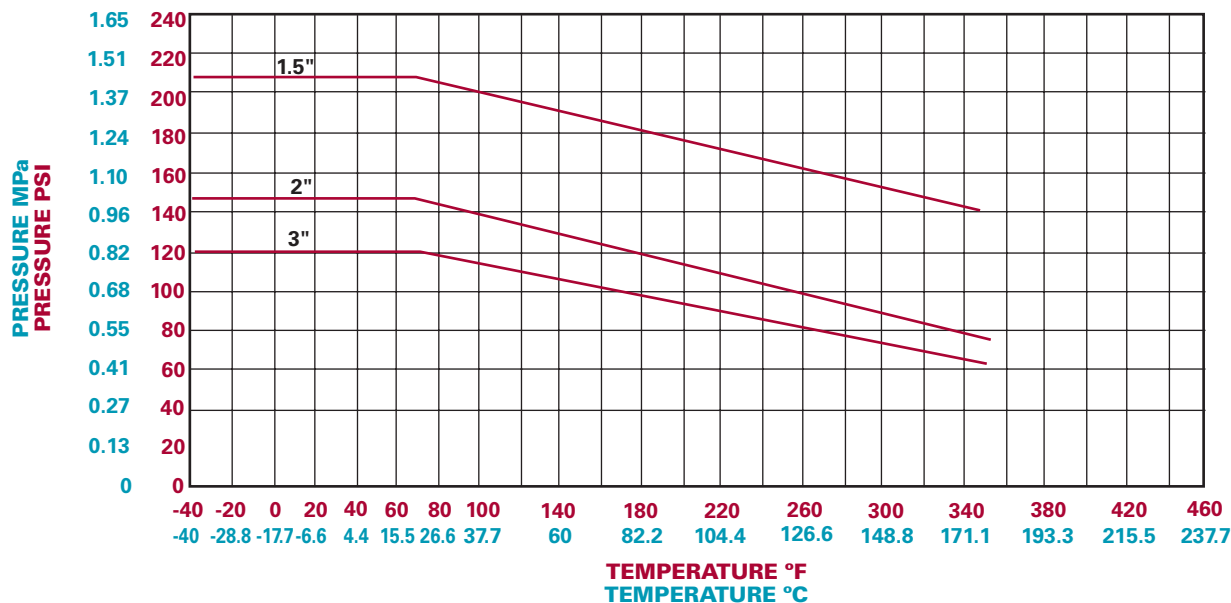
Benefits

- **Designed to effectively handle all fuels** – high performance Viton® seals are standard, providing excellent wear and fuel resistance. Other seals including Buna-N, Teflon®, Chemraz®, and Kalrez® are available.
- **Designed for "less mess" at your loading rack** – the new, easy self-aligning 5-Cam design ensures a tight connection to the adaptor and resists side forces.
- **Eliminates risk of nose seal "blow out"** – beveled for superior sealing.
- **Seal Kits** – include everything needed to change out all seals in the 1004D2 Bottom Loading Coupler. Available in high-performance Viton®, Buna-N and other seal materials.
- **Conversion Kits** - available to convert a 1004 to a 1004D2. Includes poppet, cylinder and beveled nose seal, shaft seal, cylinder seal and other items included in all OPW coupler repair kits. High performance Viton® or Buna-N.

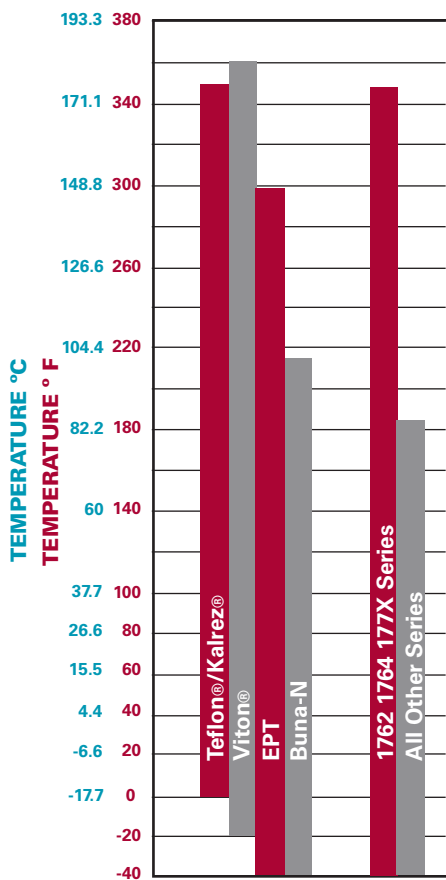


1700D SERIES & D2000™ SERIES

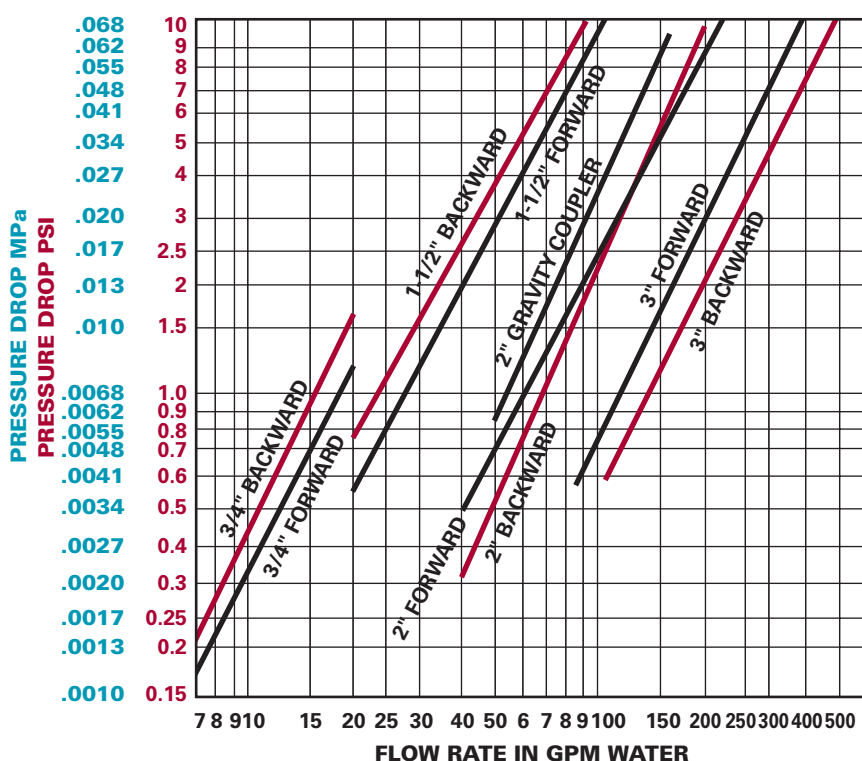
PRESSURE CHARACTERISTICS



TEMPERATURE CHARACTERISTICS



FLOW CHARACTERISTICS



LEGEND:

- Forward Flow From Coupler Through Adaptor
- Backward Flow From Adaptor Through Coupler

NOTE: For flow information on specific chemicals or liquid products, contact your OPW Representative or Factory Technical Customer Service.

IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

GT SERIES SAFETY BREAKAWAY

The OPW Engineered Systems Safety Breakaway Coupling is designed specifically to provide protection of equipment and people in the event of a drive-away/pull-away event.

Utilizing an innovative double-poppet design, the OPW Safety Breakaway shuts off the flow of liquid in both directions when separated, providing optimum safety during the transfer of hazardous products such as LPG, acids, solvents, petrochemicals, gasses, and other toxic liquids.

Benefits

- **Added Protection of People, Equipment and the Environment** – Double-poppet design automatically shuts off both ends of fluid flow when separated, and since it is designed to separate at any angle when subjected to a designated pull force, the breakaway saves expensive equipment from damage.
- **Durable and Reusable** – Available in a variety of materials, this rugged breakaway can be rebuilt for continued use after a separation.
- **High Flow Rate** – Utilizing a straight-line design, the OPW Safety Breakaway provides minimum flow restriction or pressure drop to deliver the ideal solution for high-flow applications.

Features

- **Available in 316L Stainless Steel, Alloy 20® and Hastelloy® C.**
- **Choice of End Connections** – NPT, BSP, ASME, Flange, and Butt Weld.
- **Order To Specification** – Designed to absorb normal line shock from external overload, shear bolts can be supplied in a variety of sizes and materials to meet specific pressure and load requirements.
- **Rebuild Kits Available** – Coupling can be rebuilt, reset and returned to operation.



**Styles may
vary by
size and
material**



US Patent #5,699,823; EU Patent #0764809; German Patent #69620525-68

Ordering Specifications

SERIES DESIGNATION	CONSTRUCTION MATERIALS	BREAK DIAMETER	END CONNECTIONS	SIZE	SEAL
GT	Body 6 – Aluminum 7 – 316 Stainless Steel 8 – Alloy 20® 9 – Hastelloy C®	Example: 120 (.120 in.) 130 (.130 in.) 150 (.150 in.)	A – ASME Flange 150 lbs. B – Female BSP D – DIN Flange N – Female NPT T – ASME Flange 300 lbs. W – Butt Weld Ends AN – 150 FlangeX Female NPT (Specify Each End)	020 – 2"	B – Viton®-B C – Viton®-E E – EPDM V – Viton®-A Y – Kalrez® 4079 Z – Kalrez® 6375
	Studs 6 – Aluminum 7 – 316 Stainless Steel 8 – Alloy 20® 9 – Hastelloy C®				

Example:

GT 7 7 120 N A 020 V



**Autolok™
Quick Disconnects**

Kamllok® Quick Disconnects



QUICK DISCONNECTS

OPW Engineered Systems offers a comprehensive line of quick disconnect products, including Autolok™ and the world's most popular cam and groove system - Kamlok®.

OPW's Kamlok® and Autolok™ quick disconnects offer the exclusive Twin-Kam™ arm design featuring a unique detent position for the prevention of accidental releases. The Twin-Kam™ arms are guaranteed for life and also include OPW's patented Spring-Ring™ feature that keeps the finger rings in the correct position for handling.

Autolok™ and Kamlok® couplers and caps come in a wide variety of size and configurations and provide the industry's safest, sturdiest, quickest coupler system on the market.



IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

Autolok™ Coupling Series

OPW Autolok® Quick Couplers are self-locking couplers that provide an added level of safety and convenience at the fluid connection. Autolok's® patented locking mechanism, built into the coupling arms, means you simply snap the locking arms shut with one smooth motion and the coupler stays secure and shut until you unlock it. No clips, pins or buttons.

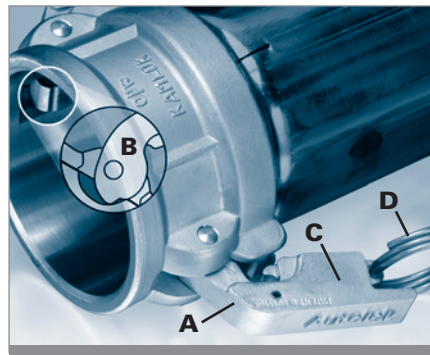
Autolok™ uses the patented Twin-Kam™ detents to hold the adaptor more securely to the coupler to provide added protection against accidental release.

Benefits

- **Extra Protection** – Self-locking arms, featuring exclusive Twin-Kam™ design provides extra protection against accidental release or uncoupling.
- **Easy Operation** – Arms lock automatically with a positive click. Release requires only an easy tug on the patented lock release mechanism. No clips to insert or remove. No spring-loaded button to push.
- **Guaranteed For Life (GFL™) Arms** – if our exclusive Twin-Kam™ arms ever break, they are replaced FREE.
- **Durable and Efficient** – Designed to ensure optimum flow rates. The heavy-duty, 316 Stainless Steel construction adds extra durability in harsh environments. GFL™ arms are guaranteed for life.

Features


- **Autolok™ Patented Arms** – Close just like a regular quick coupler but then lock themselves automatically.
- **Spring-Ring™ Finger Rings** – Patented design keeps rings from getting trapped under the arms, making secure closing a snap. An easy tug on the rings release and open the coupling.
- **Heavy-Duty Construction** – Available in 316 Stainless Steel.




- A** GFL™ arms guaranteed for life against breakage.
- B** Twin-Kam™ prevents unintentional arm release beyond 45° angle.
- C** Automatic self-locking arms guard against accidental uncoupling.
- D** Spring-Ring™ finger tips keep ring free from arm trapping.

Ordering Specifications


733 DL Coupler - Female NPT

	Prod. No.	Size
	733DL-SS05	1/2"
	733DL-SS07	3/4"
	733DL-SS10	1"
	733DL-SS12	1-1/4"
	733DL-SS15	1-1/2"
	733DL-SS20	2"
	733DL-SS25	2-1/2"
	733DL-SS30	3"
	733DL-SS40	4"


733 BL Coupler - Male NPT

	Prod. No.	Size
	733BL-SS05	1/2"
	733BL-SS07	3/4"
	733BL-SS10	1"
	733BL-SS12	1-1/4"
	733BL-SS15	1-1/2"
	733BL-SS20	2"
	733BL-SS25	2-1/2"
	733BL-SS30	3"
	733BL-SS40	4"

733 CL Coupler Hose Shank

	Prod. No.	Size
	733CL-SS05	1/2"
	733CL-SS07	3/4"
	733CL-SS10	1"
	733CL-SS12	1-1/4"
	733CL-SS15	1-1/2"
	733CL-SS20	2"
	733CL-SS25	2-1/2"
	733CL-SS30	3"
	733CL-SS40	4"

733 DCL Dust Cap*

	Prod. No.	Size
	733DCL-SS05	1/2"
	733DCL-SS07	3/4"
	733DCL-SS10	1"
	733DCL-SS12	1-1/4"
	733DCL-SS15	1-1/2"
	733DCL-SS20	2"
	733DCL-SS25	2-1/2"
	733DCL-SS30	3"
	733DCL-SS40	4"

See page 23 for Mating Adaptors

*Dust caps and plugs are NOT to be used in pressure applications.

KAMLOK® SERIES

OPW Engineered Systems Kamlok® Quick Disconnects are the industry-standard in cam and groove couplers for safety and ease of use.

All OPW Kamloks® feature the exclusive Twin-Kam™ arm design to prevent accidental release, and Spring-Ring™ to ensure proper position of finger rings for ease of operation.

Benefits

- **Long-Life Reliability** – Specially designed and manufactured with the highest alloys and gasket materials to endure the harshest environments.
- **Added Protection** – Exclusive features, such as Twin-Kam™ arms with special detent to secure arms in position to prevent accidental uncoupling.
- **Ease-of-Use** – Cam and groove design means smooth coupling and uncoupling while the patented Spring-Ring™ feature ensures that the finger rings do not get trapped under the coupling arms.
- **Best Value** – Built to the highest quality standards with special ease-of-use design features at the price point of other standard cam and groove couplers makes OPW Kamloks® the best overall value in the industry.

Features

- **Cam and Groove Design** – Provides for reliable, smooth operation in 360° orientation.
- **Exclusive Twin-Kam™ Arms** – Provides detent position that helps prevent unintentional arm release beyond 45°. Guaranteed For Life (GFL™) – if an arm breaks, it is replaced for FREE.
- **Spring-Ring™ Finger Rings** – Rings won't get trapped under the arms with this patented feature, so opening/closing is quick and easy every time.
- **Available in stainless steel in a wide variety of sizes.**
- **Arm Pins** – Rust-proof stainless steel.



Spring-Ring™ Finger Rings prevent rings from getting trapped under arms.



Detent position of Twin-Kam™ arms help prevent unintentional arm release.

Ordering Specifications

633 B Coupler - Male NPT



Prod. No.	Size
633B-SS05	1/2"
633B-SS07	3/4"
633B-SS10	1"
633B-SS12	1-1/4"
633B-SS15	1-1/2"
633B-SS20	2"
633B-SS25	2-1/2"
633B-SS30	3"
633B-SS40	4"

633 C Coupler - Hose Shank



Prod. No.	Size
633C-SS05	1/2"
633C-SS07	3/4"
633C-SS10	1"
633C-SS12	1-1/4"
633C-SS15	1-1/2"
633C-SS20	2"
633C-SS25	2-1/2"
633C-SS30	3"
633C-SS40	4"

633 D Coupler - Female NPT



Prod. No.	Size
633D-SS05	1/2"
633D-SS07	3/4"
633D-SS10	1"
633D-SS12	1-1/4"
633D-SS15	1-1/2"
633D-SS20	2"
633D-SS25	2-1/2"
633D-SS30	3"
633D-SS40	4"

634 B Dust Cap*



Prod. No.	Size
634B-SS05	1/2"
634B-SS07	3/4"
634B-SS10	1"
634B-SS12	1-1/4"
634B-SS15	1-1/2"
634B-SS20	2"
634B-SS25	2-1/2"
634B-SS30	3"
634B-SS40	4"

*Dust caps and plugs are NOT to be used in pressure applications.

See page 23 for Mating Adaptors

IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

ADAPTORS

OPW Engineered Systems offers a broad range of adaptors for Autolok™ and Kamlok® couplers, in a variety of sizes and configurations, including double couplers, reducing couplers, ASME flanges, spool adaptors, socket weld and butt weld couplers/adaptors.

Ordering Specifications

633 A Adaptor - Female NPT



Prod. No.	Size
633A-SS05	1/2"
633A-SS07	3/4"
633A-SS10	1"
633A-SS12	1-1/4"
633A-SS15	1-1/2"
633A-SS20	2"
633A-SS25	2-1/2"
633A-SS30	3"
633A-SS40	4"

633 F Adaptor - Male NPT



Prod. No.	Size
633F-SS05	1/2"
633F-SS07	3/4"
633F-SS10	1"
633F-SS12	1-1/4"
633F-SS15	1-1/2"
633F-SS20	2"
633F-SS25	2-1/2"
633F-SS30	3"
633F-SS40	4"

633 E Adaptor Hose Shank



Prod. No.	Size
633E-SS05	1/2"
633E-SS07	3/4"
633E-SS10	1"
633E-SS12	1-1/4"
633E-SS15	1-1/2"
633E-SS20	2"
633E-SS25	2-1/2"
633E-SS30	3"
633E-SS40	4"

634 A Dust Plug*



Prod. No.	Size
634A-SS05	1/2"
634A-SS07	3/4"
634A-SS10	1"
634A-SS12	1-1/4"
634A-SS15	1-1/2"
634A-SS20	2"
634A-SS25	2-1/2"
634A-SS30	3"
634A-SS40	4"

**Dust caps and plugs are NOT to be used in pressure applications.*

REDUCING COUPLERS & ADAPTORS

633 CH Coupler 3"x 2-1/2" Hose Shank (non locking)



Prod. No.	Size
633CH-SS3025	3" Coupler x 2-1/2" Hose Shank

633 EH Adapter 3"x 2-1/2" Hose Shank



Prod. No.	Size
633EH-SS3025	3" Coupler x 2-1/2" Hose Shank

633 DD Double Coupler (non locking)



Prod. No.	Size
633DD-SS1515	1-1/2" x 1-1/2"
633DD-SS2020	2" x 2"
633DD-SS2030	2" x 3"
633DD-SS3030	3" x 3"
633DD-SS3040	3" x 4"
633DD-SS4040	4" x 4"

633 DA Coupler/Adaptor (non locking)



Prod. No.	Size
633DA-SS2030	2" Coupler x 3" Adaptor
633DA-SS3020	3" Coupler x 2" Adaptor
633DA-SS3040	3" Coupler x 4" Adaptor
633DA-SS4030	4" Coupler x 3" Adaptor

633 AA Spool Adaptor



Prod. No.	Size
633AA-SS1010	1" x 1"
633AA-SS1212	1-1/4" x 1-1/4"
633AA-SS1515	1-1/2" x 1-1/2"
633AA-SS2020	2" x 2"
633AA-SS2030	2" x 3"
633AA-SS3030	3" x 3"
633AA-SS4040	4" x 4"

MISCELLANEOUS COUPLERS & ADAPTORS

Ordering Specifications

633 AW Adaptor w/Socket Weld End



Prod. No.	Size
633AW-SS05	1/2"
633AW-SS07	3/4"
633AW-SS10	1"
633AW-SS12	1-1/4"
633AW-SS15	1-1/2"
633AW-SS20	2"
633AW-SS25	2-1/2"
633AW-SS30	3"
633AW-SS40	4"

Note: When ordering size of bore (O. D. of tubing or pipe) must be specified.

733 DLW Socket Weld



Prod. No.	Size
733DLW-SS05	1/2"
733DLW-SS07	3/4"
733DLW-SS10	1"
733DLW-SS12	1-1/4"
733DLW-SS15	1-1/2"
733DLW-SS20	2"
733DLW-SS25	2-1/2"
733DLW-SS30	3"
733DLW-SS40	4"

Note: When ordering size of bore (O. D. of tubing or pipe) must be specified.

733 LDS Coupler (150 Lb. ASME Flange)



Prod. No.	Size
733LDS-SS05	1/2"
733LDS-SS07	3/4"
733LDS-SS10	1"
733LDS-SS12	1-1/4"
733LDS-SS15	1-1/2"
733LDS-SS20	2"
733LDS-SS25	2-1/2"
733LDS-SS30	3"
733LDS-SS40	4"

633 LAS Adaptor (150 Lb. ASME Flange)



Prod. No.	Size
633LAS-SS05	1/2"
633LAS-SS07	3/4"
633LAS-SS10	1"
633LAS-SS12	1-1/4"
633LAS-SS15	1-1/2"
633LAS-SS20	2"
633LAS-SS25	2-1/2"
633LAS-SS30	3"
633LAS-SS40	4"

633 FW Butt Weld



Prod. No.	Size
633FW-SS05	1/2"
633FW-SS07	3/4"
633FW-SS10	1"
633FW-SS12	1-1/4"
633FW-SS15	1-1/2"
633FW-SS20	2"
633FW-SS25	2-1/2"
633FW-SS30	3"
633FW-SS40	4"

Note: When ordering size of bore (O. D. of tubing or pipe) must be specified.

733 BLW Butt Weld



Prod. No.	Size
733BLW-SS05	1/2"
733BLW-SS07	3/4"
733BLW-SS10	1"
733BLW-SS15	1-1/2"
733BLW-SS20	2"
733BLW-SS25	2-1/2"
733BLW-SS30	3"
733BLW-SS40	4"

Note: When ordering size of bore (O. D. of tubing or pipe) must be specified.

Accessories

Style	Size	Part #
SST Chain with Hooks	12" Long	H31119M
	18" Long	H31120M
Brass Chain with "S" Hooks	6" Long	H06682M
	12" Long	H06683M
Zinc Plated Chain with Finger Ring	12" Long	H-1436
Spring Finger Ring	1" – 6"	H20550M

IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

TWIN-KAM™ KAMLOK® CAM ARM KITS

with Guaranteed For Life (GFL™) Twin-Kam™ Arms



CAUTION: We do not recommend the use of Twin-Kam™ arms on couplers not manufactured by OPW. Dimensional differences do exist and proper performance cannot be assured.

Kits for Kamlok® Couplers and Dust Caps

Kit #	Size
633ARK-SS07*	1/2" & 3/4"
633ARK-SS10	1"
633ARK-SS20	1-1/4" – 2-1/2"
633ARK-SS30	3", 4" & 5"

Parts Kit includes:

- 2 Cam Arms
- 2 Pins
- 2 Finger Rings
- Instructions

*Note: Finger Rings are not included with 1/2" and 3/4" Kit.

AUTOLOK™ CAM ARM KITS



Parts Kit includes:

- 2 Cam Arms
- 2 Finger Rings
- 2 Pins
- Instructions

Kit #	Size
733ARK-SS07	1/2" & 3/4"
733ARK-SS10	1"
733ARK-SS20	1-1/4" – 2-1/2"
733ARK-SS30	3" & 4"

ORIGINAL DESIGN REPAIR KITS



Parts Kit includes:

- 1 Cam Arm
- 1 Finger Ring
- 1 Pin
- Instructions

Kit #	Size
733WARK-SS05	3/4"
733WARK-SS10	1"
733WARK-SS20	1-1/4" – 2-1/2"
733WARK-SS30	3" & 4"

634 CLK CLIPLOK™ KITS Provides locking mechanism for standard units



Kit includes:

- 1 Cliplok™
- 2 Pins
- 2 Washers
- 3 Wavey Washers
- Instructions

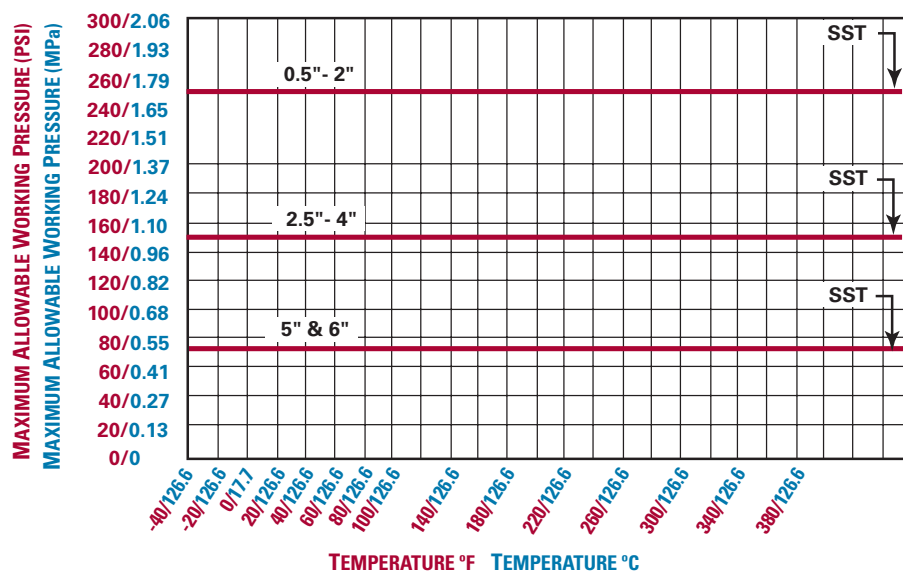
Kit #	Size
634CLK-1020	1-1/4" - 2-1/4"
634CLK-1070	3" - 5"

GASKETS FOR AUTOLOK™/KAMLOK® COUPLERS

COMPOUND	COMPOUND SYMBOL	COMPOUND	COMPOUND SYMBOL	COMPOUND	COMPOUND SYMBOL
BUNA-N (Standard)	GREEN STRIPES M	WHITE NEOPRENE	BLUE MARKS	TEFLON® ENVELOPE GASKET	VITON®-A RED DOT
E.P.T.	WHITE & YELLOW WHITE & GREEN N	TEFLON®*	NONE T	SILICON	
NEOPRENE	BLUE STRIPES P	VITON®-A	RED STRIPES V	TEFLON® ENCAP GASKET	VITON®-A
		TEFLON® ENVELOPE GASKET	BUNA-N WHT/ORANGE	TEFLON® ENCAP GASKET	SILICON

*Solid Teflon® gasket recommended for use with viscous fluid only.

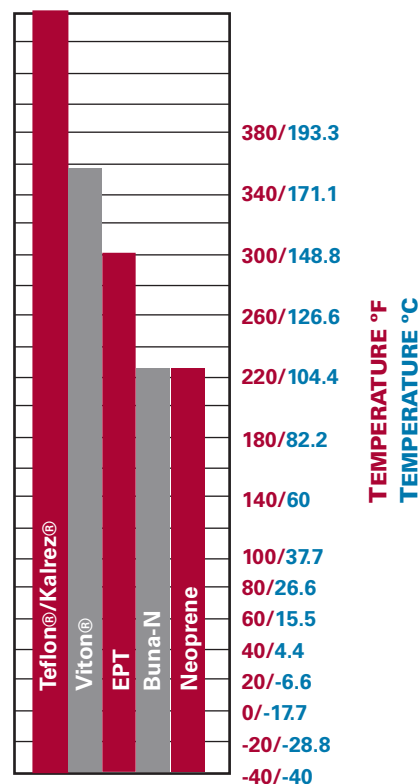
COUPLING TEMPERATURE CHARACTERISTICS



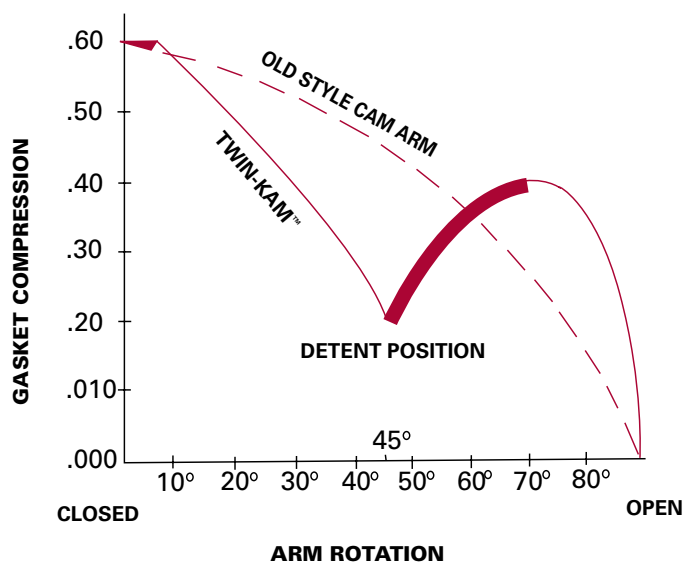
Kamlok®: All Lines Apply

Autolok™: 1/2"-2" SST and 2-1/2"-4" SST lines apply. Not available in 5" & 6".

COUPLING PRESSURE/TEMPERATURE



KAMLOK® TWIN-KAM™ COUPLERS



IMPORTANT: OPW products should be used in compliance with applicable federal, state, provincial, and local laws and regulations. Product selection should be based on physical specifications and limitations and compatibility with the environment and materials to be handled. OPW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE. All illustrations and specifications in this literature are based on the latest product information available at the time of publication. OPW reserves the right to make changes at any time in prices, materials, specifications and models and to discontinue models without notice or obligation.

Autolok™

Self-Locking Couplers

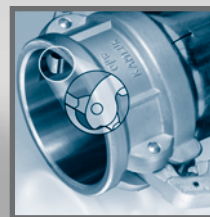
Autolok's automatic self-locking arms guard against accidental uncoupling.

GFL™ arms are guaranteed-for-life against breakage.

Kamlok®

Cam-And-Groove Couplers

Spring Ring™ finger rings won't get trapped under arms, assuring secure closure.



Twin-Kam™ feature on both Autolok and Kamlok provides a detent position that helps prevent unintentional arm release beyond a 45° angle.

OPW Quick Couplers

Your guide to the industry's most complete line of cam-and-groove couplers

Autolok™

733 DL Coupler - Female NPT

733 BL Coupler - Male NPT

733 CL Coupler - Hose Shank

733 DCL Dust Cap

Ordering Chart

Call OPW Customer Service for complete ordering information

733 Autolok
633 Kamlok

Locking Arm
(Autolok only)

Construction

Materials
AL - Aluminum
(Dust Caps & Plugs)
SS - Stainless Steel

733CL-SS20-B

Body Style

Sizes

05 - 1/2"
07 - 3/4"
10 - 1"
12 - 1-1/4"
15 - 1-1/2"
20 - 2"
25 - 2-1/2"
30 - 3"
40 - 4"

Gaskets*

B - BUNA-N (STD)
E - E.P.T.
N - NEOPRENE
W - WHITE NEOPRENE
T - TEFLON®
V - VITON-A®
X - TEFLON ENVELOPE-BUNA-N
F - TEFLON ENVELOPE-VITON-A
U - TEFLON ENCAP-VITON-A
S - TEFLON ENCAP-SILICON

*Call for other available gasket compounds

Kamlok®

633 D Coupler - Female NPT

633 C Coupler - Hose Shank

633 B Coupler - Male NPT

634 B Dust Cap

Adaptors

Sizes 1/2" - 4"

633 A - Female NPT

633 E - Hose Shank

633 F - Male NPT

634 A - Dust Plug

Miscellaneous Couplers & Adaptors

Sizes 1/2" - 4"

733 DLW Coupler -
Socket Weld

733 LDS Coupler -
150 lb. ASME Flange

733 BLW -
Butt Weld

633 AW Adaptor -
Socket Weld

633 LAS Adaptor -
150 lb. ASME Flange

633 FW -
Butt Weld

Reducing Couplers & Adaptors

Call OPW Customer Service for sizes and complete ordering information



633 CH 3" Coupler x 2-1/2" Hose Shank (Non Locking)



633 DD Double Coupler (Non Locking)



633 DA Coupler/Adaptor (Non Locking)



633 AA Double Adaptor



633 EH 3" Adaptor x 2-1/2" Hose Shank

OPW Fluid Transfer Group (OPWFTG), part of Dover Corporation (NYSE:DOV), is comprised of market-leading operating companies, each dedicated to designing, manufacturing and distributing world-class solutions for the safe handling and transporting of hazardous bulk products. In addition to these companies, OPWFTG has manufacturing plants in North America, Europe, Brazil and India; and sales offices in Singapore, and China.

Throughout the world, OPWFTG companies are hard at work ensuring the safe processing, loading, transporting and unloading of hazardous bulk products and safeguarding against costly petroleum and chemical spills, tank overfills and fugitive vapor emissions. Whether your need is in the chemical plant, at the terminal loading rack, or outfitting a fleet of rail tank cars, cargo tanks or dry-bulk trailers, OPWFTG systems set the standard for safety, performance and peace-of-mind assurance in the most rigorous and demanding applications. If the safe, profitable handling of hazardous liquids and dry bulk commodities such as gasoline and diesel, chlorine, chlor-alkali products, LPG, acids, cement, flour and starch, among others, is your concern, trust OPWFTG.

EXPERT SOLUTIONS FOR THE SAFE HANDLING & TRANSPORTING OF HAZARDOUS BULK PRODUCTS

	Applications	Processing	Load	Transporting		Unload
PETROLEUM	<ul style="list-style-type: none"> Gasoline Ethanol Alcohols Fuel Oil LPG 	<ul style="list-style-type: none"> Bellow Sealed Valves Sample Valves Lined Ball Valves Lined Butterfly Valves Industrial Valves ISO Rings Sight Flow Indicators Globe Valves Swivels Dry Disconnects 	<ul style="list-style-type: none"> Loading Arms Couplers Rack Monitors Dry Disconnects API Coupler Swivels 	Cargo Tanks <ul style="list-style-type: none"> Manholes Vapor Vents Electronics Internal Valves API Adaptors Sealed Parcel Pneumatic Controls Manifold Systems 	Rail Tank Cars <ul style="list-style-type: none"> Pressure Relief Valves Plug Valves Ball Valves Level Measurement Autoloks Kamvaloks Dryloks Rupture Disc Devices Angle Valves 	<ul style="list-style-type: none"> Drylok Couplers Adaptors Delivery Elbows Vapor Recovery Elbows Swivels
CHEMICALS	<ul style="list-style-type: none"> Chlorine Acids & Bases Amines Anhydrous Ammonia Propylene Butadiene Hazardous Liquids 	<ul style="list-style-type: none"> Bellow Sealed Valves Sample Valves Lined Ball Valves Lined Butterfly Valves Industrial Valves ISO Rings Sight Flow Indicators Globe Valves Swivels Dry Disconnects Quick Disconnects Epsilon 	<ul style="list-style-type: none"> Loading Arms Autoloks Kamvaloks Dryloks Loading Manholes Valves Actuators Swivels Epsilon 	Cargo Tanks <ul style="list-style-type: none"> Manholes Vapor Vents Electronics Internal Valves Sealed Parcel Epsilon 	Rail Tank Cars <ul style="list-style-type: none"> Safety Valves Plug Valves Ball Valves Level Measurement Autoloks Kamvaloks Dryloks Rupture Disc Devices Angle Valves Epsilon 	<ul style="list-style-type: none"> Loading Arms Autoloks Kamvaloks Dryloks Valves Actuators Safety Breakaways Swivels Epsilon
DRY BULK	<ul style="list-style-type: none"> Cement Flour/Starch Pharmaceuticals 	<ul style="list-style-type: none"> Industrial Valves Sight Flow Indicators Butterfly Valves Swivels 	<ul style="list-style-type: none"> Loading Arms Aerators Hatch Covers Swivels 	Cargo Tanks <ul style="list-style-type: none"> Manholes Check Valves Hopper Tees Butterfly Valves Aerators Weld Rings 	Rail Cars <ul style="list-style-type: none"> Manholes Hatches Access Ports Check Valves Hopper Tees Butterfly Valves Aerators Pressure Vacuum Valves 	<ul style="list-style-type: none"> Aerators Butterfly Valves Tank Hatches Pressure Relief Vacuum Relief Temperature Monitoring
INDUSTRIAL/GENERAL	<ul style="list-style-type: none"> Food Processing Pharmaceuticals Waste Water High-Purity Liquids Breweries Pulp and Paper Steel Processing 	<ul style="list-style-type: none"> Lined Ball Valves Lined Butterfly Valves Sample Systems Sight Flow Indicators ISO Rings Dry Disconnects Swivels Quick Disconnects High-Performance Butterfly Valves Epsilon 	<ul style="list-style-type: none"> Loading Arms Couplers Rack Monitors Swivels Dry Disconnects Quick Disconnects Butterfly Valves Epsilon 	Cargo Tanks <ul style="list-style-type: none"> Manholes Vapor Vents Electronics Weld Rings Hopper Tees Pneumatic Controls Sealed Parcel Dry Disconnects Epsilon 	Rail Tank Cars <ul style="list-style-type: none"> Safety Valves Plug Valves Ball Valves Level Measurement Autoloks Kamvaloks Dryloks Rupture Disc Devices Angle Valves Epsilon 	<ul style="list-style-type: none"> Loading Arms Couplers Rack Monitors Swivels Dry Disconnects Quick Disconnects Butterfly Valves Epsilon

Chemical & Industrial Processing Market Unit

- Food Processing
- Chemical Plants
- Petroleum Loading Stations
- Steel Processing, Pulp & Paper
- Waste Water Treatment
- Pharmaceutical
- Breweries
- High-Purity Liquids

Rail Market Unit

- Pressure & General Purpose Rail Tank Cars
- Dry Bulk Rail Cars
- Ethanol Rail Tank Cars

Cargo Tank Market Unit

- Gasoline & Diesel
- Dry Bulk
- Ethanol



2726 Henkle Drive
Lebanon, OH 45036 USA
Telephone: +1 513 696 1500
Fax: +1 513 932 9845
www.opw-es.com



7733 Gross Point Road
Skokie, IL 60077 USA
Telephone: +1 847 677 0333
Fax: +1 847 677 0138
www.midlandmfg.net



11172 State Highway O
Mineral Point, MO 63660 USA
Telephone: +1 573 438 5000
Fax: +1 573 438 4853
www.suresealinc.com



4304 Mattox Road
Kansas City, MO 64150 USA
Telephone: +1 816 741 6600
Fax: +1 816 741 1061
www.civacon.com

OPW FLUID TRANSFER GROUP - INDIA

36 Marol Co-op. Ind. Est. Ltd.
2nd Floor, M.V. Rd., Marol
Andheri (E), Mumbai - 400 059
Telephone: +91 22 2851 72 96 / 2851 73 55
Fax: +91 22 2851 73 33

OPW FLUID TRANSFER GROUP - SOUTH AMERICA

Rua Manuel Augusto de Alvarenga, 155
São Paulo, São Paulo, Brazil
CEP 04402-050
Telephone: +55 11 5564 6466
Fax: +55 11 5679 7960
www.opwftg.com.br/



Boekweitstraat 1, P.O. Box 32,
2150 AA Nieuw-Vennep, Netherlands
Telephone: +31 252 660 300
Fax: +31 252 687 258
www.opw-ftg.nl

OPW FLUID TRANSFER GROUP - CHINA

Suite 25 B,
Suntime International Mansion
450 Fushan Road,
Shanghai, China 200122
Tel: +011 86 21 5830 7595
Fax: +011 86 21 5830 7535

OPW FLUID TRANSFER GROUP - ASIA PACIFIC

Telephone: +65 9679 1762