



## Kamvalok® Overview

### The Industry Standard in Dry Disconnect Couplings

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 handle 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.

After the Kamvalok® adaptor and coupler are firmly coupled together, the coupler handle is turned to the OPEN position. This action moves the coupler poppet toward the adaptor poppet until the two mating poppets make contact. By completely turning the handle 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 poppets. Guiding fins in the coupler and deflectors in the adaptor ensure even flow characteristics. When the handle 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 poppets, spillage upon disconnect is prevented.

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.

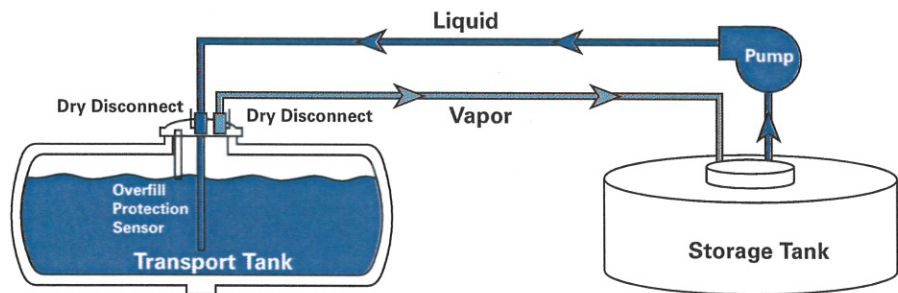


## Kamvalok® Applications

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.

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 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, SARA TITLE 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.



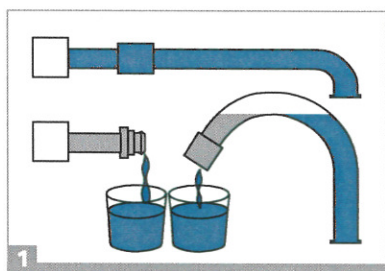
Through OPW's global distribution network, producers can create closed-loop systems using authentic OPW Kamvalok® products.



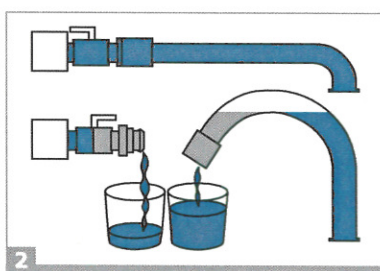
Major shippers of hazardous liquids choose specially designed fittings from OPW when converting tank car fleets.

## Why Use Kamvaloks®

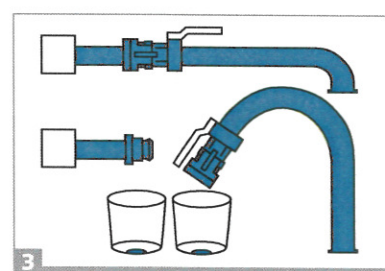
- If your product is corrosive, toxic, caustic or otherwise harmful, Kamvaloks® will reduce the hazard associated with the transfer of these products.
- If your product is a VOC (volatile organic compound) that has a high vapor pressure and tends to evaporate quickly, Kamvaloks® will keep the product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



**1**  
**Ordinary Quick Disconnect Couplings**  
 - Excessive amount of liquid spills out when coupling is disconnected.



**2**  
**Ordinary Quick Disconnect Couplings Plus Ball Valve** - Excessive amount of liquid spills out when coupling and ball valve are disconnected.



**3**  
**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 disconnections 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 handle-action on the coupler.



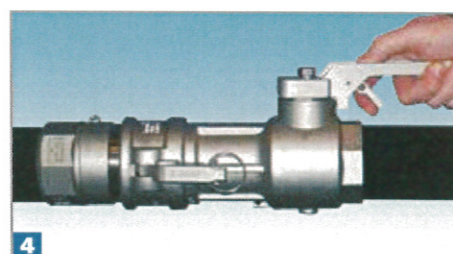
**1**  
**Coupler in any Position**



**2**  
**Cam Arms Lock Coupler and Adaptor Together**



**3**  
**Locking Handle Opens Valves**



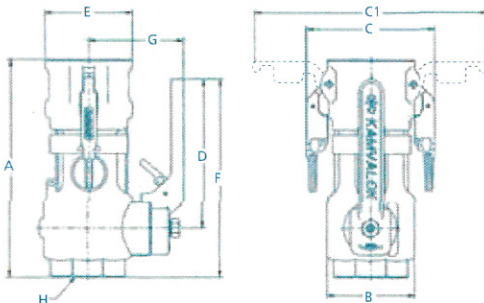
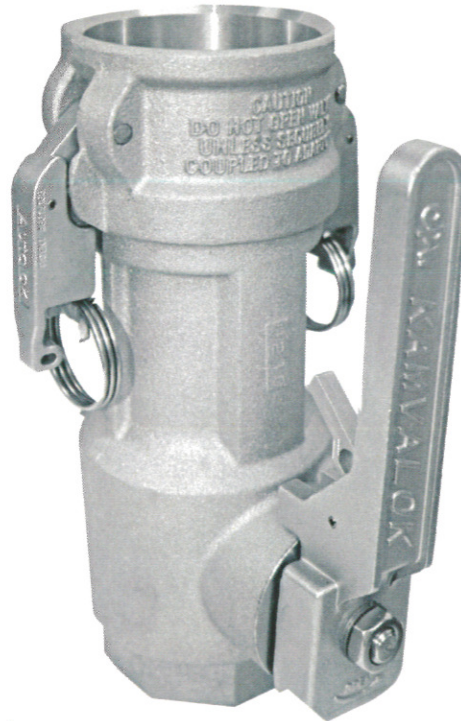
**4**  
**Handle Locks and Full Flow Begins**

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# 1700DL 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.



## Features & Benefits

- **Poppeted Seal Cylinder with Snap-on Nose Seal**
  - Keeps hazardous liquids in-line and out of the environment
  - Nose seal can be easily replaced without need for new seal cylinder
  - AUTOMATIC CLOSURE
- **Autolok® Locking Arms**
  - Provide added protection with an automatic locking mechanism
  - Uncoupling requires only an easy tug on the lock release
- **SST Locking Handle**
  - Handle locks in both the opened and closed positions to prevent accidental opening or closing of valve
- Refer to chart on page 22

## Dimensions

SIZES IN INCHES (Approximate)	1 1/2"	2"	3"
<b>A</b> Length of Body	8"	8.81"	10.03"
<b>B</b> Diameter of Body	3.12"	3.52"	5.50"
<b>C</b> Distance across Cam Arms - closed	4.75"	5.22"	7.34"
<b>C1</b> Distance across Cam Arms - open	8.94"	9.41"	14.78"
<b>D</b> Centerline of Shaft to end of Handle	6.06"	6.06"	6.06"
<b>E</b> Diameter of Coupler End	3.12"	3.52"	5.50"
<b>F</b> Length from Pipe End to end of Handle	7.98"	8.03"	8.56"
<b>G</b> Centerline of Coupler to top of Handle	3.56"	3.75"	4.53"
<b>H</b> Pipe Thread (NPT)	1.50" (DN40)	2" (DN50)	3" (DN80)

## Ordering Specifications

**TYPE**  
17 - Coupler

**CONFIGURATION**  
1 - Aluminum Body, Duplex Stainless Steel Internals  
7 - Stainless Steel Body, Duplex Stainless Steel Internals

**SIZE**  
15 - 1-1/2" DN40  
20 - 2" DN50  
30 - 3" DN80

**1711DL - AL15 - GL**

**O-RING SEAL**  
1 - Buna-N  
2 - Fluorocarbon  
3 - PTFE  
4 - EPDM  
6 - Chemraz®

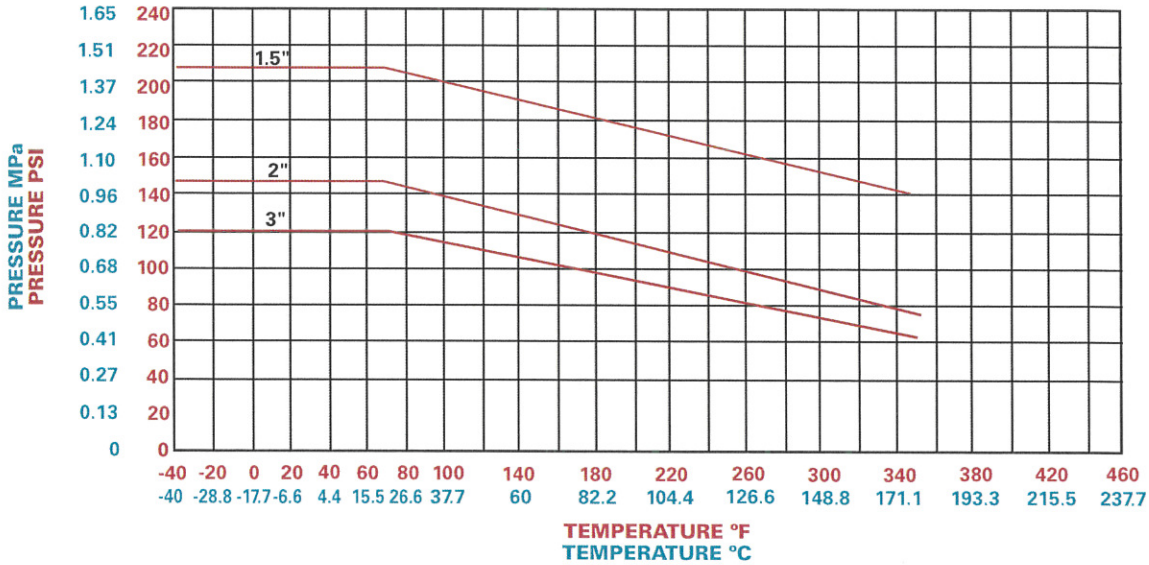
**DL - FNPT**  
**DBL - FBSPT**

**CONSTRUCTION MATERIAL**  
AL - Aluminum Body (ASTM A356-T6 B-26)  
SS - Stainless Steel Body (ASTM A351 CF3M 316L)

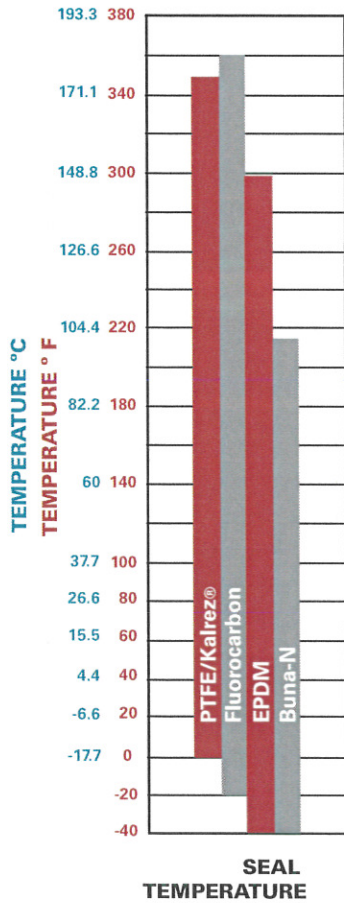
**STYLE**  
\* - Leave blank for FNPT  
A - 150 lb. Flange  
GL - Greaseless  
KL - Keylok  
T - 300 Lb. Flange

# 1700DL Series & D2000™ Series

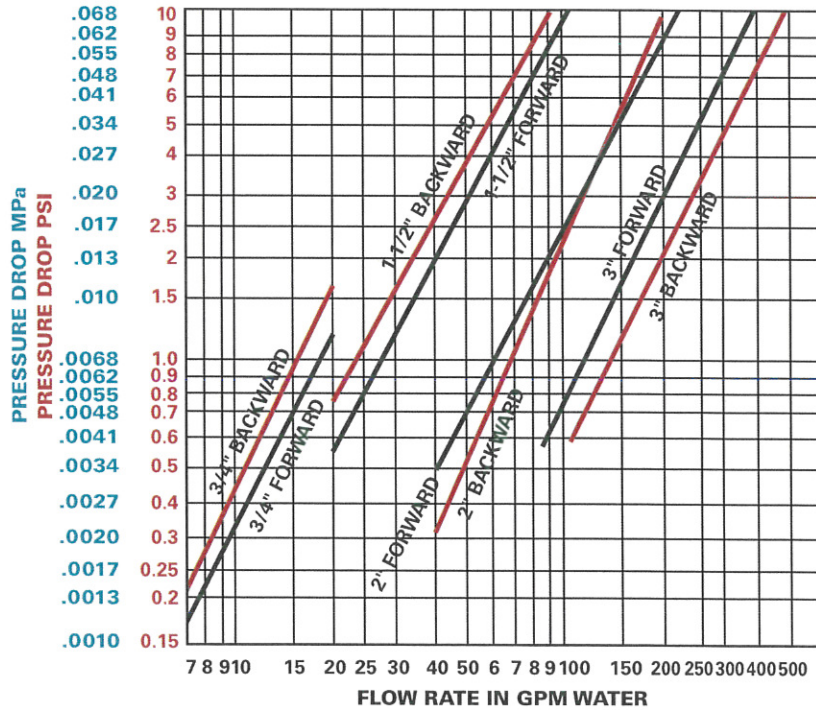
## Temperature/Pressure Characteristics



## 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.



# 1600AN

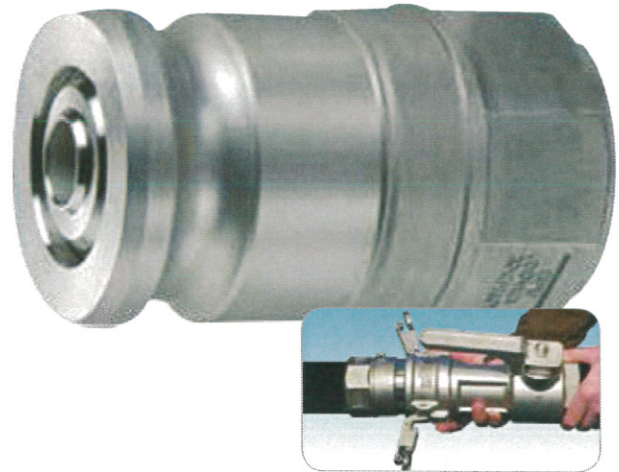
The 1600AN Series Adaptor is specifically designed to mate with OPW Kamvalok® Couplings to help prevent liquid spillage during the connection/disconnection process. The adaptor contains a spring-loaded poppet to assure fast closing and tight seal.

## Benefits

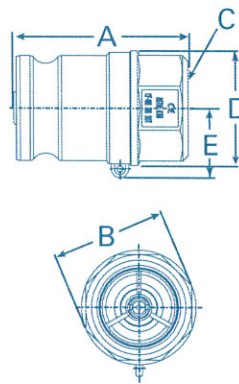
- **Single Piece Design** – Eliminates a possible leak path.
- **Spill Prevention** – Poppet-actuated design can only be opened with a Kamvalok® coupling; designed to provide a tight seal when closed.
- **Reliability of Operation** – The simple spring-loaded poppet design and heavy-duty construction 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 stainless steel construction. Stainless steel corrosion resistance comparable to 316 stainless steel.
- **Female Threads** – Can be fitted to either a male pipe end or to a hose fitting
- **Spring-Loaded Poppet Design** – Assures fast closing and tight seal
- **Wide Range of Seals** – Available in Buna-N, Fluorocarbon, PTFE, EPDM, Chemraz®



## Dimensions



SIZE IN INCHES (Nominal)

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

## Ordering Specifications

