



## When You Don't Have Time To Waste Time

The unrestricted flow path of the Epsilon® Dry Disconnect Coupling from OPW Engineered Systems enables chemical manufacturers and handlers to experience optimized loading and unloading times

By David Gibble

It's an ancient adage nearly as old as time itself: "Time is money." Of course, adages are only able to become ancient if there is a healthy dose of truth in them. In the case of chemical manufacturing and transport, "time is money" is relevant because the quicker a process can be completed satisfactorily, the more beneficial it is to the bottom line.

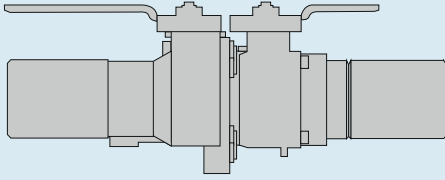
There are many transfer points among the chemical manufacture and supply chain, and at all of these junctures hoses are required to transfer the chemical product from storage tanks to transport vehicles, be they barge, railcar or truck, and vice versa. Many of these transfer points are in constant use with trucks or railcars arriving hourly to either deliver or depart with a load. This means that the loading process must be performed as efficiently and time-consciously as possible.

To optimize loading and unloading times, all pieces of equipment that are used must perform in the most efficient manner possible. This includes the couplings that are used to connect hoses to the various storage tanks and transport vehicles. Traditionally, the type of dry-disconnect coupling used in these operations featured a design that includes a poppet at the disconnection point. When needing to maximize fluid-transfer times, the presence of this poppet acts as a brake on the entire process. This is because the shape of the poppet forces the fluid being transferred to have to travel around it, which decreases the flow rate and, by extension, increases loading and unloading times.

Chemical manufacturers and shippers who have had to deal with this operational shortcoming have an alternative, however.

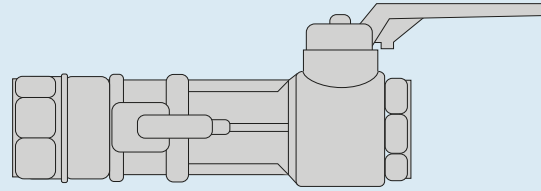
## A 2" Epsilon can deliver the same flow rate as a competitive 3" coupling

### EPSILON - 2"



- 150 gallons per minute (568 liters)
- No flow restrictions during transfer
- No product loss / spillage

### Poppeted - 3"



- 150 gallons per minute (568 liters)
- Flow is restricted by poppet during transfer
- Possible product loss / spillage at disconnect

It is called the Epsilon® Dry Disconnect Coupling from OPW Engineered Systems, Lebanon, OH. Instead of flow-restricting poppets, the Epsilon coupling offers a ball-valve design that creates a straight-through flow path, which provides unrestricted flow in either direction. In addition, this unrestricted flow path minimizes pressure drop, with less than 1 psi in pressure dropped realized at a flow rate of 150 gallons per minute (568 liters per minute). The Epsilon is so flow-friendly that a 2" coupling can deliver the same flow rate as a competitive 3" coupling.

The Epsilon was engineered not only for efficiency, but also with safety and ease of maintenance in mind. Multiple safety interlocks eliminate unintentional spills and catastrophic chemical releases that threaten worker safety and the environment. The Epsilon safety interlocks force the valve to open and close only with a deliberate action, preventing accidental opening of the valve. The Epsilon also allows for quick replacement of the transfer seal without any lockout, and no special tools are required for replacement of the seals.

### Other standard-setting features and benefits that enable the Epsilon Dry Disconnect Coupling to stand apart from the competition include:

- Ball-valve design that nearly eliminates the risk of chemical spills during the uncoupling process
- Multiple safety interlocks that allow operation only through a deliberate action by the user
- Seals, stems and bearings are easily replaced for like-new performance with minimal downtime
- Wetted components available in 316 stainless steel or Hastelloy C
- Spring-loaded and spring-energized PTFE, TFM or PFA seals
- Optional keyed interface isolates transfer lines, preventing product cross-contamination
- Available in 1", 2" and 3" sizes

### About the Author:

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