



The EPSILON™ coupling system is designed to prevent chemical spills and reduce fugitive emissions of volatile organic compounds (VOC's), particularly in the process facility and during transfer to and from truck tanks and railroad tank cars.

During in-plant chemical transfers, EPSILON™ Chemical Containment System will provide your plant with process flexibility while also improving operator safety and enhancing environmental compliance and reducing overall capital expenditures and operating costs.



Manifold station with EPSILON™ adapters.

EPSILON™ is a low spill coupling, based on a double ball valve system integrating a sophisticated safety design in sizes of 1", 2" and 3". The design is constructed to handle a pressure of 25 Bar and temperature up to 240°C and is available with end connections complying to DIN and ANSI standards.

All wetted materials are 316 stainless steel (1.4401) with TFM or PFA seals. Haselloy® C is also available for use with more aggressive fluids.

Beyond the common advantages of a ball valve design, EPSILON™ provides for flow through an unrestricted flowpath and double shut off reliability in the coupling connection.

SAFETY:

EPSILON™ coupling is equipped with safety interlocks, which force the valves to open and close only with a deliberate action, preventing accidental opening of the valve.

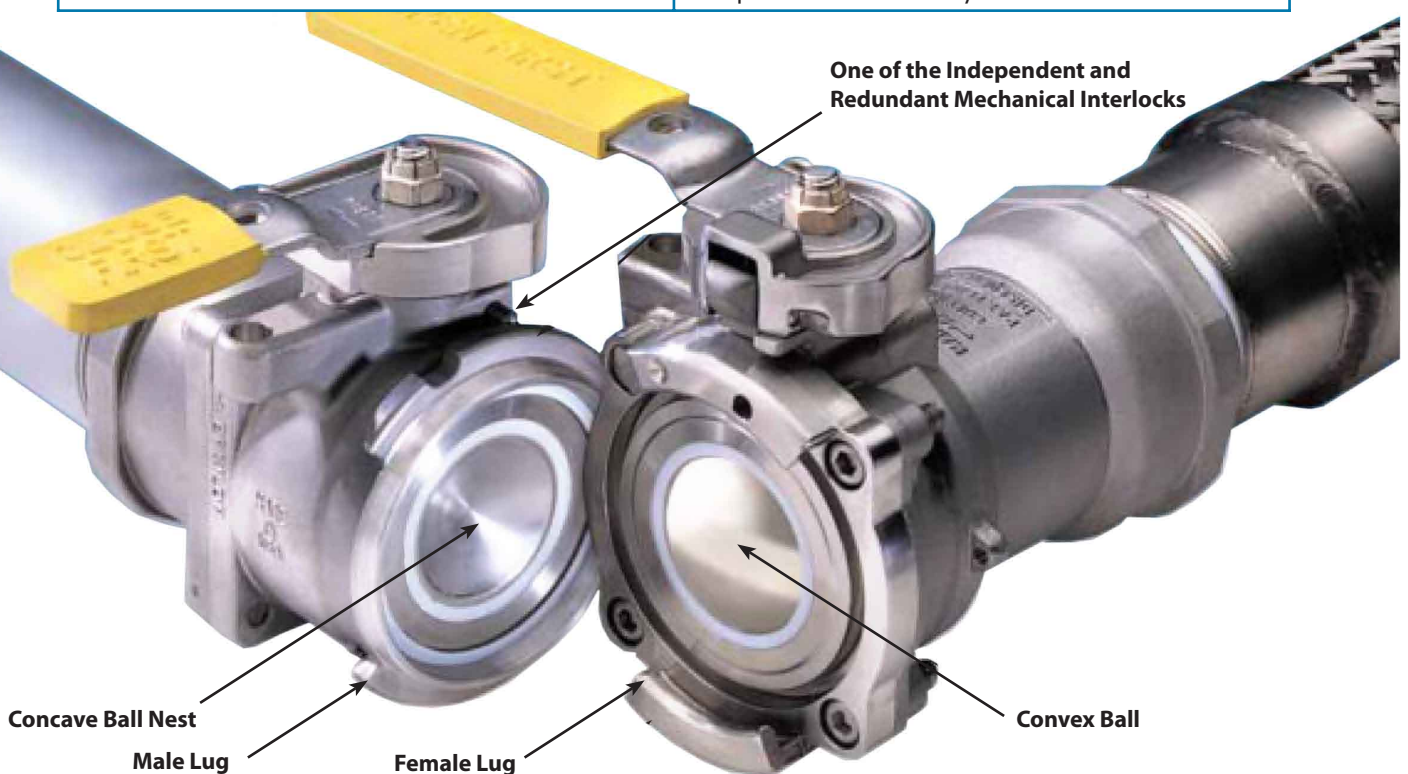
ENVIRONMENT:

EPSILON™ is a low spill system, specified to less than 1 ml spillage for the 2" coupling (2000 cycles test average 0.6 ml) and less than 0.7 ml for the 1" coupling.

MAINTENANCE:

EPSILON™ was not only engineered for easy operations, but also for quick replacement of the transfer seal without any lockout. No special tools are required for replacement of seals.

FEATURE	BENEFIT
Concave/Convex Ball Valve Construction	
Small cavity between mating halves	<ul style="list-style-type: none"> • Minimizes fluid exposure during uncoupling
Positive shut-off on both mating halves	<ul style="list-style-type: none"> • Allows coupling disconnection under pressure
	<ul style="list-style-type: none"> • Prevents accidental release of potentially hazardous fluids
Straight-through flow path	<ul style="list-style-type: none"> • Provides unrestricted high flow in either direction
	<ul style="list-style-type: none"> • Minimizes pressure drop
Wetted surfaces are 316 stainless steel or Hastelloy® alloy	<ul style="list-style-type: none"> • Significantly reduces corrosion in caustic environments
Spring Energized/Spring Loaded PTFE Seals	
Energized PTFE spring seals provides load for all sealing surfaces	<ul style="list-style-type: none"> • Insures ultra low emissions even at low media pressures
	<ul style="list-style-type: none"> • Broad chemical/media compatibility
	<ul style="list-style-type: none"> • Robust sealing capability for extended use (connect/disconnect cycles)
Male to Female Interface Connections use a Lug and Flange Design	
Ramped Lug and Flange interfaces	<ul style="list-style-type: none"> • Provides easy alignment of mating valves for connection
Quarter turn locking mechanism	<ul style="list-style-type: none"> • Eliminates the need for special tools
	<ul style="list-style-type: none"> • Easy coupling connection
	<ul style="list-style-type: none"> • Eliminates cross threads and over tightening
Independent and Redundant Safety Locks	
Redundant mechanical interlocks	<ul style="list-style-type: none"> • Eliminate accidental coupling disconnection during media transfer
	<ul style="list-style-type: none"> • Allows for safe coupling disconnection even under full transfer pressure
	<ul style="list-style-type: none"> • Stops catastrophic chemical release
	<ul style="list-style-type: none"> • Improves worker safety



Standard Port Types

A	Female NPT (Pipe Thread)	G	ANSI 600 lb. Flange
B	Female BSP (Whitworth Straight Thread)	J	DIN EN 1092-1/11 (B1 Facing), PN16
C	Sch. 40 Butt Weld	K	DIN EN 1092-1/11 (B2 Facing), PN16
D	ANSI 150 lb. Flange	L	DIN EN 1092 -1/11(B1 Facing), PN40
E	ANSI 300 lb. Flange	M	DIN 11850 Butt Weld
F	Tri-Clover Flange	N	JIS 10K

Part Number Descriptions

Example Part Number =

ZE 32 A S 32 A 0 1 2 3 2

OPW Engineered Systems Part Number Prefix — ZE

Base Valve Size (in Sixteenths of an inch) — 32

- 16 = 1" (DN 50)
- 32 = 2" (DN 50)
- 48 = 3" (DN 80)

System Half — A

- A = Adaptor half
- H = Hose half (or Coupler)
- U = Ultralow Spill

Material of Construction — S

- S = 316 Stainless Steel
- H = Hastelloy® C-276 (wetted components)
- A = All Hastelloy® C-276 Construction

End Connection Size — 32

- 12 = 3/4" (DN 20)
- 16 = 1" (DN 25)
- 24 = 1-1/2" (DN 40)
- 32 = 2" (DN 50)
- 48 = 3" (DN 80)

End Connection Type — A

- A = FNPT
- B = FBSP
- C = Sch. 40 Butt Weld
- D = ANSI 150 lb. Flange
- E = ANSI 300 lb. Flange
- F = Tri-Clover (Sanitary Flange)
- G = ANSI 600 lb. Flange
- J = DIN 2633 Form C
- K = DIN 2633 Form E
- L = DIN EN 1092 -1/11(B1 Facing), PN40
- M = DIN 11850 Range 1 Butt Weld
- N = JIS 10K
- P = DIN 11850 Range 2 Butt Weld
- Q = DIN 11850 Range 3 Butt Weld

Seal

- 1 = TFM
- 2 = PFA

Key

- 0 = None
- 1 = 1
- 2 = 2
- 3 = 3
- 4 = 4
- 5 = 5
- 6 = 2-3
- 7 = 2-3-4
- 8 = 3-4

Protective Cap

- 1 = Dust
- 2 = Pressure

Handle

- 1 = Standard
- 2 = Raised
- 3 = Long Coupler
- 4 = 6" Welded

Cavity Filler

- 0 = No
- 1 = Yes

Approvals

EPSILON™ couplings are approved/listed for pressure service through a comprehensive set of international agencies.

CRN

(Canadian Registration Number) issued by TSSA for EPSILON™ couplings.



(Association of American Railroads) approved EPSILON™ couplings.



Süd-Munich approved EPSILON™ couplings.