

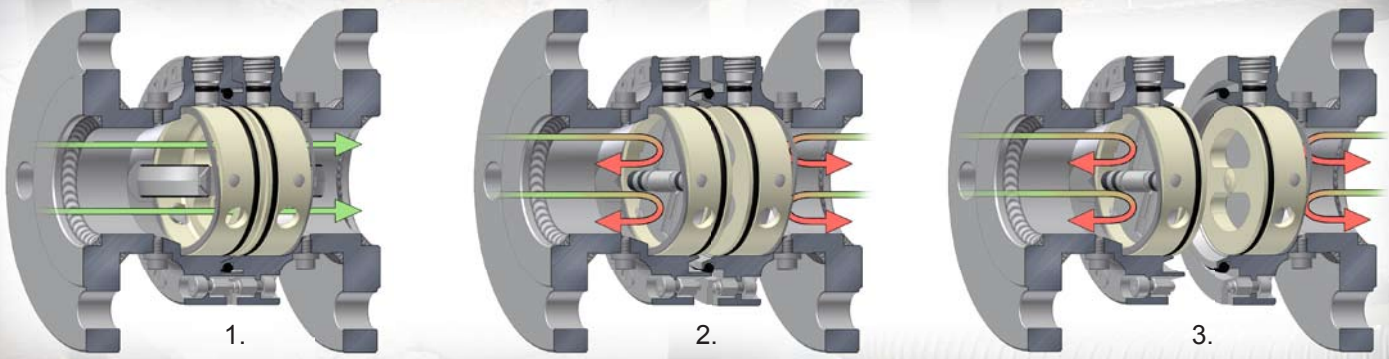


The TODO® Safety Break Away couplings are designed to eliminate spillage and damage associated with drive / pull away incidents.

The consequences of such incidents can be very serious without breakaway protection and occur more frequently than you would think. The effectiveness of alternative protection systems is often compromised by human error.

Measures such as brake interlocks, barriers and even removing the keys from a tanker driver can all be defeated, either intentionally or otherwise. The TODO® Safety Break Away coupling system removes the human error element in this area of product transfer.

The TODO® Safety Break Away coupling uses a double valve arrangement that ensures closure of both halves before the main seal release to atmosphere. The coupling halves seal automatically as soon as a movement greater than 1.5 mm is detected between the halves. This important feature removes the possibility of incomplete closure in partial break away or excessive strain conditions.



HOW IT WORKS

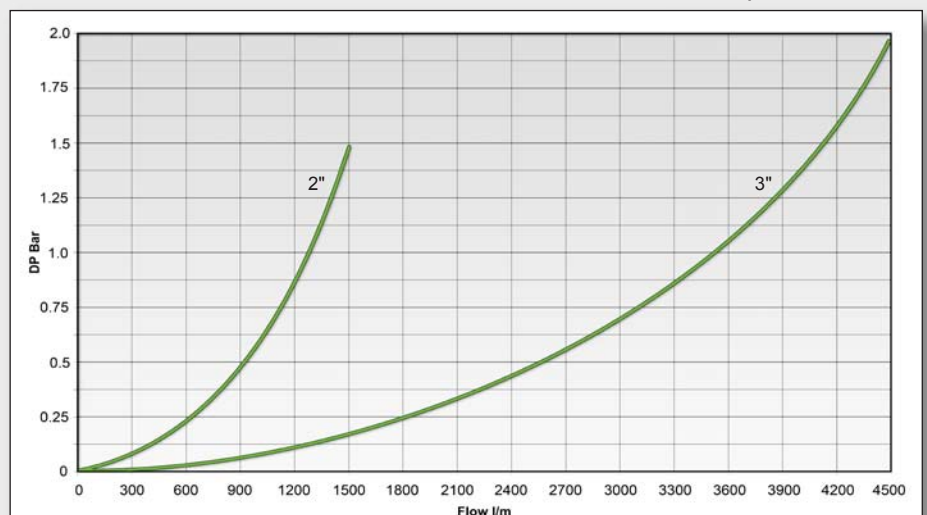
The coupling (normal operating condition, 1) automatically senses an excessive load, closes its valves (2) and then permits disconnection (3).

FEATURES

- Exceptionally high flow rate / low pressure drop.
- Valves in both halves close automatically before the main fluid seal releases to atmosphere.
- Ultra compact design.
- Encapsulated shear bolts.
- Operates independently of shut off safety systems and does not require an external power source.
- Will release at any angle of pull.
- Marine midhose versions available.
- Easy to re-set on site with one person.

FLOW CAPACITY

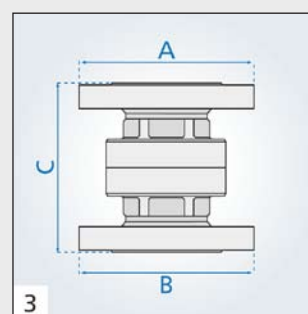
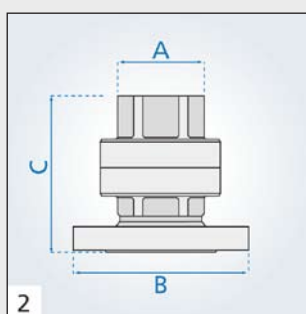
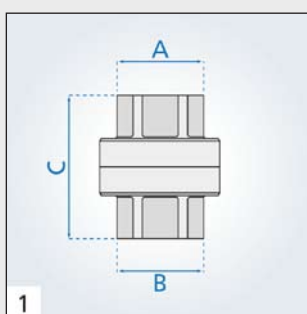
TODO® SAFETY BREAK AWAY couplings offer exceptionally high flow capacity for their size. Media: water. Temperature: 20°C.



Alternative designs of coupling often need to step up at least one size to achieve comparable flow rates.



DIMENSIONS EXAMPLES (OTHERS AVAILABLE)



Size	Picture	Connections		Dimensions (mm)			Weight Kg
		One side	Other side	A	B	C**	
DN 50	1	2" BSP or NPT FT	2" BSP or NPT FT	76	76	142	4.90
DN 50	2	2" BSP or NPT FT	Flange DN 50	76	A.S.*	152	7.55
DN 50	3	Flange DN 50	Flange DN 50	A.S.*	A.S.*	162	10.25
DN 80	1	3" BSP or NPT FT	3" BSP or NPT FT	104	104	171	8.45
DN 80	2	3" BSP or NPT FT	Flange DN 80	104	A.S.*	181	12.05
DN 80	3	Flange DN 80	Flange DN 80	A.S.*	A.S.*	190	15.65

* According Standard.

** Dimensions of the units with flanges can vary because of different flange-standards.

TECHNICAL DETAILS

Sizes: 2" (DN50) to 3" (DN80).
 Materials: Stainless Steel AISI 316L.
 Seals: FKM (Viton®) as standard, EPDM and FFKM on request.
 Working pressure: PN 25 bar.
 Test pressure: 37.5 bar.
 Break envelope: 90° 3D in all directions from centre reference plane.
 End connections: BSP- and NPT-threads, different kind of flanges.

Viton® is a registered trademark of DuPont Performance Elastomers.

CERTIFICATES / APPROVALS

European directives 97/23/EC (PED).
 Manufactured under EN ISO 9001:2000.



TODO PRODUCTS OVERVIEW



TODO-MATIC® The first choice for the safe handling of hazardous, valuable or environmentally sensitive media. TODO-MATIC® are available in aluminium, gunmetal and stainless steel 316L with special materials such as hastelloy C276 available to order.
Sizes: 1" (DN 25) to 6" (DN 150).



TODO-GAS® The TODO-GAS® couplings are designed especially for the transfer of LPG in both liquid and vapour phases. The couplings are available in stainless steel and brass / gunmetal with thread or flange connection. Handling and operation are as simple as for the TODO-MATIC® DRY-BREAK® coupling.
Sizes: 1" (DN 25), 2" (DN 50) and 3" (DN 80).



TODO® SAFETY BREAK AWAY couplings Designed specifically to minimise spillage and damage associated with drive / pull away incidents. Also allows rapid removal of the mobile tankage in emergency situations. The coupling automatically senses an excessive load, closes its valves and then permits disconnection. Very high flow rate / low pressure drop. *Sizes: 2" (DN 50) and 3" (DN 80).*



TODO-45 aviation couplings An ISO 45 standard ground unit from TODO® and a special version of the TODO-MATIC® 2½" coupling available for connection to ground units conforming to standard ISO 45. This gives, for the first time, an economical alternative to ISO 45 standard hose couplers for aviation fuel transfers.



PTC - Safety Pressure Tight Cap The TODO® PTC is specifically designed to enhance operator safety and containment security in chemical and gas transport. Designed in close collaboration with leading chemical and gas companies, the PTC offers safety and operational benefits beyond those offered by existing closure technologies. *Sizes: 2" (DN 50) to 4" (DN 100).*



BALL VALVES These lightweight ball valves were the first products to be developed by TODO®. This valve offers obvious weight saving benefits for the road tanker industry but can also be used in a variety of plant applications. A wide selection of end connectors are available and valve changeover is rapid due to the simple sandwich design. All sizes are available with pneumatic actuation in either single or double acting form. *Sizes: 2" (DN 50) to 4" (DN 100).*



FUEL NOZZLES The TODO® fuel delivery nozzles are specifically designed to deliver high volumes with total security. Rugged cast aluminium alloy body, high strength swivel and robust handle all help this nozzle to offer reliable long term performance.
Size: 1½" (DN 40).



API couplings TODO® API hose couplers and tank adaptors are interchangeable with other products manufactured to standard API RP 1004. The TODO® hose coupler is a high pressure design with five claw closure connection for strength and two interlocks for security and safety. The moulded lipseal configuration is used for long leak-free performance. TODO® API tank adaptors are available with or without operating handles or sightglasses.
Size 4" (DN 100).



SWIVELS Developed originally as part of the TODO-MATIC® coupling construction then subsequently as a stand alone product, the TODO® swivel has proved itself in the toughest applications for over 20 years. Used mainly to allow free hose movement without imparting torque stresses to the assembly (one of the biggest causes of premature hose failure). *Sizes: ¾" (DN 19) to 4" (DN 100).*

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