

NOVAFLEX

PROVIDING HOSE & DUCT SOLUTIONS



TODD Dry-Break & Safety Break-Away Couplings

Applications:

- Road / Rail tanker loading / discharge
- ISO retrofit & new build
- IBC containers
- Offshore rig supply
- Pharmaceutical processing
- Vapor Recovery
- Ship to shore / ship / rig transfer
- Ship manifold exchange
- Bulk loading / discharge
- Paints & inks
- Marine refuelling
- Bitumen transfer
- Brewery
- Food feedstock
- Hazardous waste transfer
- Aviation bunkering
- Exchange manifolds
- Blending pits
- Rail locomotive refuelling
- Tank top / bottom loading
- etc...

How it works

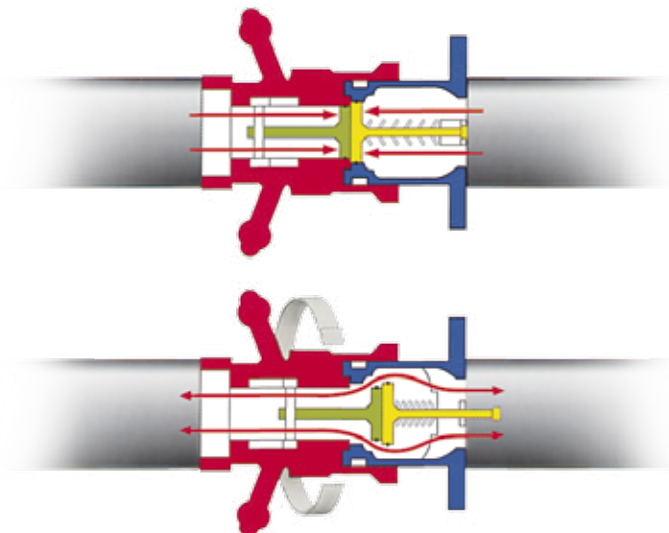
Turning the hose unit 15° clockwise locks the units together.

The valves are still closed and are not opened until a further rotation of 90° has been performed and then the product flow is guaranteed. To close the valve and to unlock the units, reverse the procedure.

More than 30 years of expertise has gone into the design and manufacture of Todo-Matic® range of Dry-Break® couplings.

In sizes from ¾" to 6" and a wide range of material options, Todo-Matic® Dry-Break® couplings offer advanced fluid handling solutions for a diverse range of industries. Major offshore exploration, chemical, pharmaceutical and petrochemical companies rely on Todo-Matic® couplings to safely transfer their most aggressive or valuable products. Designed for safe and easy use with minimum operator intervention. Todo-Matic® couplings offer an unbeatable combination of technical, safety and performance features.

- **Valves open and close automatically on connection and disconnection.**
- **Simple single action operation, no levers or switches to operate.**
- **Valves are guaranteed closed prior to disconnection.**
- **Minimal residual loss on disconnection (e.g. maximum 0.35cc for 2" DN50).**
- **Will connect and disconnect under pressure and flow where necessary.**
- **Extremely reliable, very few moving parts.**
- **Robust construction, no external operational components.**
- **Available with selectivity system to prevent cross contamination.**
- **Reduces spillages to virtually zero**
- **Dramatically improves both operational and fugitive emission performance**
- **Reduces the possibility of human error in transfer operations**
- **Improves efficiency**



Todo-matic® Size Range



1" Todo-Matic® (DN19 - DN32, Ø56 mm)

Todo-Matic® Dry Break® couplings in 1" size are designed for smaller bore applications where compact dimensions are required. One handed operation, high flow rate and minimal release on disconnection make Todo-Matic® perfect for transferring high value or sensitive medias with confidence. The addition of selectivity to prevent product cross contamination expands the operational possibilities in manifold exchange applications.



2" Todo-Matic® (DN40 - DN50, Ø70 mm)

Our 2" coupling size probably covers the most diverse selection of applications in the Todo-Matic family. Available in a range of material and connection configurations, Todo-Matic 2" is designed for rapid and safe transfers. Offshore chemical dosing, pharmaceutical feedstock and aggressive chemical vapor transfer are just some of the challenging applications Todo-Matic couplings see on a daily basis.

Todo-Matic® Dry-Break® Couplings feature:

- Valves that open and close automatically on connection and disconnection.
- Simple single action operation, no levers or switches to operate.
- Fast seal changes - seals replaced on site by operators in minutes.
- Valves are guaranteed closed prior to disconnection.
- Minimal residual loss on disconnection e.g. maximum 0.35cc for 2" DN50).
- Will connect and disconnect under pressure and flow where necessary.



2½" Todo-Matic® (DN65 - DN80, Ø105 mm)

The 2½" Todo-Matic® coupling is generally used in road tanker and aviation applications transferring a variety of liquids and vapors. Just like all Todo-Matic® couplings, the 2½" is available in a full range of materials to offer compatibility with most applications. A strong integral swivel, ergonomic design and rugged construction ensure Todo-Matic® couplings are equipped for the real world.



3" Todo-Matic® (DN80, Ø119 mm)

A true 3" coupling, similar in size to the 2½" but with greater flow. Typically used for road and rail tank loading/discharge, in plant chemical transfers etc. Tough construction, ease of handling, no spillage and high flow made this coupling form the natural choice for N.A.T.O refuelling standardization.



Hose unit with flange

All sizes of the hose unit are also available with flange.

Todo-matic® Size Range



4" Todo-Matic® (DN100, Ø164 mm)

Without exception, the most compact, light weight, high flow 4" self sealing coupling system available. Used extensively for offshore ship to rig transfers of fuels and drinking water, aviation fuel bunkering, rail tank loading/discharge, chemicals etc. Rapid, positive connection and disconnection make Todo-Matic the standard for barge to ferry re-fuelling and multiple rail tank discharge.

6" Todo-Matic® (DN150, Ø238 mm)

The same features and method of operation as the rest of the range make 6" Todo-Matic® the ideal ship / barge to shore connection. Much faster and safer than any flange coupling means not only environmental standards compliance but real turn around time savings. Full marine construction with rotating lifting loop as standard. As with all Todo-Matic® couplings, the 6" is equally suitable for flexible hose or loading arm applications.

Todo-Matic® Dry-Break® Couplings feature:

- Extremely reliable, very few moving parts.
- Robust construction, no external operational components.
- Available with selectivity system to prevent cross contamination.
- Reduces spillages to virtually zero.
- Dramatically improves both operational and fugitive emission performance.
- Reduces the possibility of human error in transfer operations.
- Improves efficiency.

Todo-matic® Dry-Break Chemical Coupling for Aggressive Acids

Todo-Matic stainless steel Dry-Break chemical coupling in 2 inch diameter is specifically for aggressive chemicals. Excellent for sulfuric acid applications. The coupling uses a patented valve mechanism which allows a disconnection or connection under a maximum pressure up to 363 psi. The minimum burst pressure is 1813 psi. The total loss on disconnection of fluid between the valve halves is only 0.35 mil. Seal wear has been substantially reduced due to the use of advanced seating and coating technologies. Further sizes to follow.



Todo Two Way Ball Valves



Similar in design to the one way valve, the two way performs a different function. Usually used as a compartment or tank switching valve, the two way valve has three ports — one inlet and two outlets. The valve directs the flow from the inlet to either of the two outlets. Features apply equally to both one way and two way designs. Available with a wide selection of end connections and actuation configurations.

Diameters:

2" - 4" DN 50 — DN 100

Connections: BSP, NPT Weld Prepared in Aluminum and Steel Flanged TW in Aluminum

Standard Materials: Aluminum Alloy

Standard Seals: Viton/PTFE

Todo Hose Swivels



Todo Hose Swivels:

- Simple design, low maintenance
- Very compact
- High flow rate/low pressure drop
- Full range of sizes, materials and connections
- Stainless steel bearings and single "O" ring seal for reliability

Reduce premature hose failures due to torque stress

Todo hose swivels allow free hose movement without imparting torque stresses to the assembly (one of the biggest causes of premature hose failure). 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.

Swivel Diameter: 3/4" - 4" DN 19 - DN 100

Connections: BSP NPT and Flanged

Materials: Aluminum Alloy, 316L Stainless Steel, Gunmetal, Brass

Seals: A full range of elastomeric seals available.

FKM as standard.

Pressure Tight Cap



Designed to enhance operator safety & containment security in chemical & gas transport. Pressure indicator, depressurization, customs / tamper seal feature, automatic locking, certified closure. Manually lockable (with padlock). WP: PN 25. Sizes: 2" - 4" and 2" gas adapter.

Dust Plugs & Dust Caps



Available in stainless steel, brass / gun-metal and aluminium. There are also versions available in rubber. Dust plugs / caps should be used to prevent ingress of dirt or water. Sizes: 3/4" - 6". Rubber only in 1" and 2".

Safety-Break Away Couplings



2" & 3" Safety Break-Away Coupling

Todo safety break away coupling offers optimum safety without work loss. It is available in 2' and 3 inch diameter in stainless steel 316L with a threaded (ISO/NPT) or flanged connection. The valves in both halves close automatically before the coupling disconnects completely, eliminating any possible product loss. The unique valve mechanism guarantees a high flow rate and a low pressure drop. The Todo break away coupling will release at any angle of pull. The ultra compact design of this coupling enables easy re-setting on site with one person.

- High flow rate/low pressure drop
- Valves in both halves close automatically before the main fluid seal releases to the atmosphere
- Ultra compact design encapsulated shear bolts for protection from external damage
- Will release at any angle of pull easily re-set on site with one person
- Operates independently of shut off safety systems
- Does not require an external power source
- Used on loading arms and hose

Liquid Propane Gas Couplings



Liquid Propane Gas Coupling

Todo-LPG coupling is designed specifically for the transfer of Liquid Propane Gas in both liquid and vapor phases. This coupling is available in both stainless steel and brass with a thread or flange connection in 1 inch, 2 inch & 3 inch diameter.

Technical information:

Maximum working pressure: 25 Bar-G / 363 psi

Minimum burst pressure: 125 Bar-G /1813 psi

Maximum connection/disconnection pressure up to 25 Bar-G /363 psi static

Dust caps and plugs are included.

Total loss on disconnection: 0.35cc. (dependent on adapter specification)

Materials:

1" coupler and adapter - brass and stainless steel

2" coupler-316L stainless steel, 2" adapter-duplex stainless steel

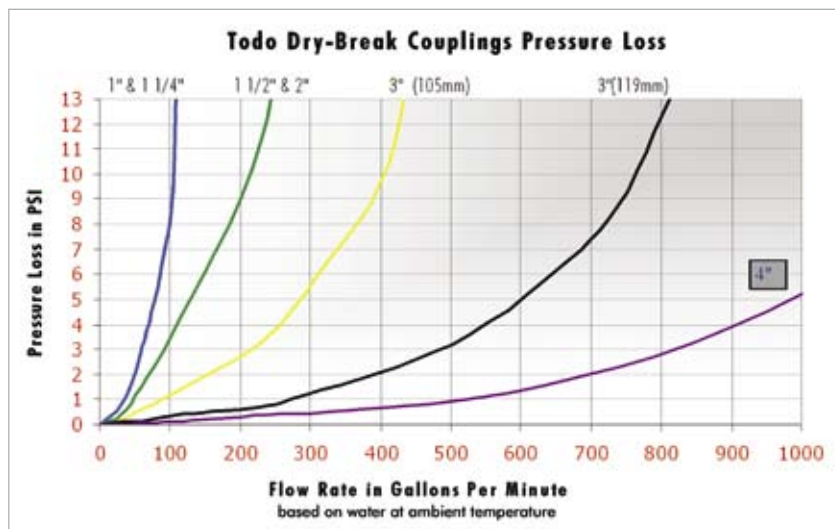
3" coupler and adapter - stainless steel 316L

Seals: fluoroelastomer and NBR (others available to order)

Operating Temperature: -40°F to +212°F (-40°C to +100°C)



Hose Unit Coupler Specifications



Data Tank Unit/Adapter					
Connection		D-Socket	C-Measures		
B SP NPT	Flange	Diameter (mm)	BSP	NPT	Flange
3/4"	ASA, DIN, TW, TTMA	56	95	100	-
1"	..	56	77	85	-
1 1/4"	..	56	77	82	-
1 1/2"	..	56	83	86	-
1 1/2"	..	70	105	108	81
2"	..	70	100	102	81
2 1/2"	..	105	134	142	112
3"	..	105	134	142	112
3"	..	119	134	142	112
4"	..	164	162	172	140
6"	..	238	230	245	200

Data Hose Unit/Coupler						
A-Connection	B-Socket	Weight=kg/lb			C-Measures	
BSP NPT	Diameter (mm)	Aluminium	Brass/Gun Metal	Stainless Steel	BSP (mm)	NPT (mm)
3/4"	56	0,6/1,3	1,6/3,5	1,5/3,3	125	130
1"	56	0,6/1,3	1,5/3,3	1,4/3,1	125	133
1 1/4"	56	0,6/1,3	1,6/3,5	1,5/3,3	136	141
1 1/2"	56	0,7/1,5	1,8/4,0	1,7/3,7	141	144
1 1/2"	70	1,1/2,4	2,6/5,7	2,4/5,3	159	162
2"	70	1,2/2,6	2,8/6,2	2,5/5,5	164	166
2 1/2"	105	4,3/9,5	8,8/19,4	7,4/16,3	190	198
3"	105	4,2/9,2	8,5/18,7	7,2/15,8	190	198
3"	119	4,9/11,8	10,2/22,4	8,8/19,4	190	198
4"	164	9,5/21,0	20,6/45,3	17,6/39,0	220	230
6"	238	28/62	50/110	45/99	310	325

Technical Details

Sizes:	1" (DN19 - DN32) to 6" (DN150).
Materials:	Aluminium, brass and stainless steel 316L, other on request.
Seals:	FKM (Viton®), NBR (Nitrile), EPDM, Chemraz®, Kalrez®. Other materials on request.
Working pressure:	PN 10 - PN 25.
Test pressure:	Working pressure +50%.
Safety factor:	5:1
End connections:	BSP- and NPT-threads. DIN-, ASA-, TW- and TTMA-flanges (available for both tank and hose units). Other threads and flanges on request.
Compatibility:	NATO STANAG 3756. Viton® and Kalrez® is registered trademarks of DuPont. Chemraz® is a registered trademark of Green-Tweed.

Certificates / Approvals

TODO-MATIC® couplings carry the highest level of certification and approvals available. VdTÜV under test approval mark TÜ.AGG.162-93 towards ADR, RID, IMDG and TA-Luft classifications. European directives 97/23/EC (PED) and 94/9/EC (ATEX) compliant. Manufactured under EN ISO 9001:2000. TSSA approved.