

DA Coupling for ethylene oxide

According to EN 1092-1:2001

General information

DDCouplings tank unit and hose unit with a special flange for gases, according to the standard: EN1092-1:2001 Type E: Spigot, BSP threads or with NPT threads.

The Stainless Steel construction has all moving parts pivoted in self lubricated bearings, the coupling function has been optimised for non-lubricating media.

Sizes: DN 50, 2" (70mm) for gas service, DN 80, 3" (119mm) for liquid service.

Operation

The couplings are operated by connecting the hose unit onto the tank unit and rotating it clockwise. This action secures the units together and forms a gas-tight and leak-proof seal. At the same time the internal valves open, allowing the product to flow through.

Each tank unit contains a 'fail safe' spring loaded valve seating on a tapered seat. The valve is controlled by the action of coupling and uncoupling the base unit.

Materials

Body: Stainless steel EN 10283-1.4409+AT

Sealing material: Chemraz® 505

Others available on request.

Approvals

DDCouplings® in stainless steel have been approved and certified by APRAGAZ in pressure stage PN25 bar for gaseous media, e.g. Ethylene Oxide and Propylene Oxide.

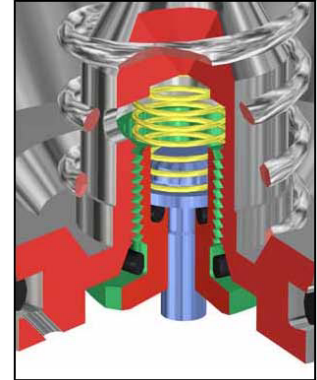
Tank unit and hose unit: Apragaz 0302/P5832

Tank unit, hose unit and cap: TÜV: TÜ-AGG-304-99.

Option

Pressure Relief Valve

This system dissipates trapped fluid pressure into the hose coupler without spillage, to allow easy connection



Non-Projecting Spindle

Tank units with no parts projecting from the coupling in connected position. For mounting directly onto ball valves, etc.



Material certificate 3.1 B upon request.

It must be specify with the purchase order.

Standards

All the DDCouplings® are produced in accordance to international standards:

- Female connection: NATO STANAG 3756, AUTOFINA SGM 2049. TUY.C.
- Flanged connection: EN 1092-1:2001 type: raised flange face PN 25/40 (and Standard DIN PN 25/40 and ASA 300 psi, only for the hose unit).
- Thread connection: BSP (ISO 228), NPT (B1.20.3).

Spillage during disconnection

The tests are carried out with a more accurate system, which consists in connecting and disconnecting the coupling to different hoses and tanks, at least 10 connections of each type. Between each connection and disconnection, it is used an absorbent material to absorb all the water that can be removed from the couplers. On a scale of 0,01 grams.

Product: water

Temperature: room temperature

DN 50, 2" (70 mm): 0,5 ml

DN 80, 3" (119 mm): 1,3 ml

Working pressure and temperature

Working pressure (WP): PN 25, from -20 °C to -60°C

Maximum coupling pressure (without pressure relief valve): 7 bar

Differential pressure: is the difference between the product pressure in the hose unit and the product pressure in the tank unit.

Safety factor: 5:1 (min. 125 bar).

Security pressure cap in stainless steel

The security pressure cap for tank units has been designed to maximize the security of the product and the worker.

Features:

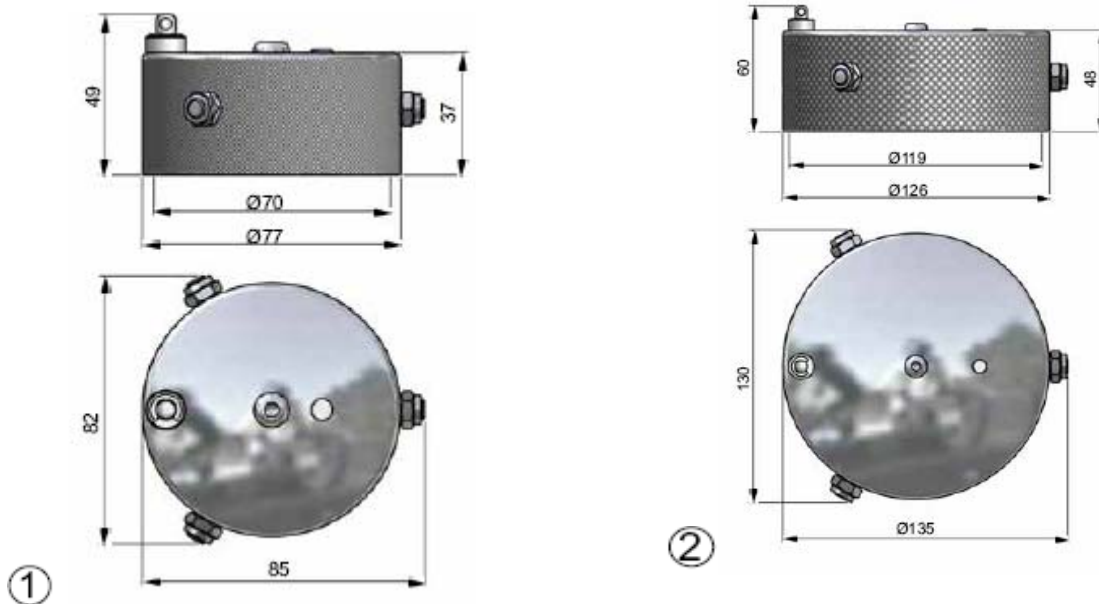
- Pressure gauge
- Depressurization
- Sealed to prevent handling
- Automatic locking
- Manual closing with a padlock



Available in DN 50, 2" (70 mm) and DN 80, 3" (119 mm).

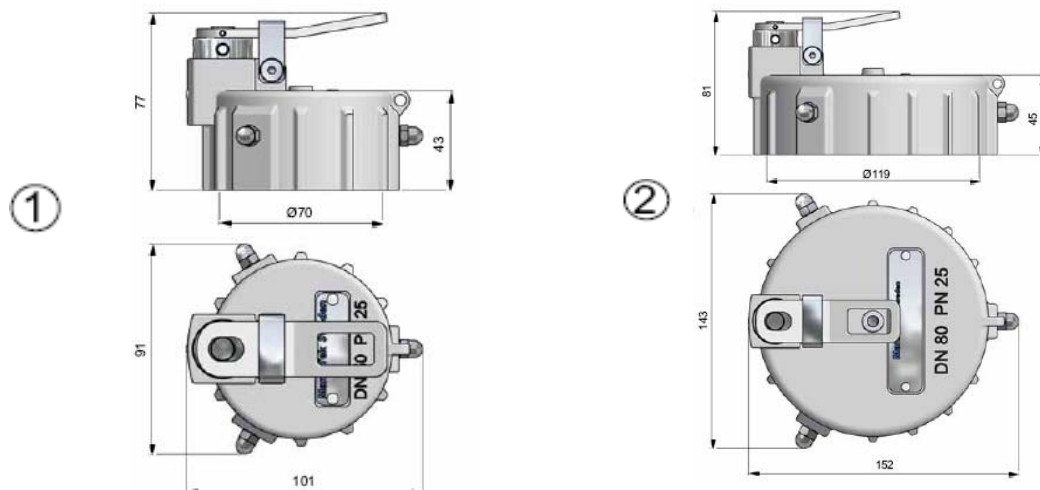
Dustcap for tank unit in stainless steel (available also in composite PE-HD300)

Code nr.	Size	Weight
C200B4417	① DN 50, 2" (70 mm)	0,4 kg
C400B4417	② DN 80, 3" (119 mm)	1.3 kg



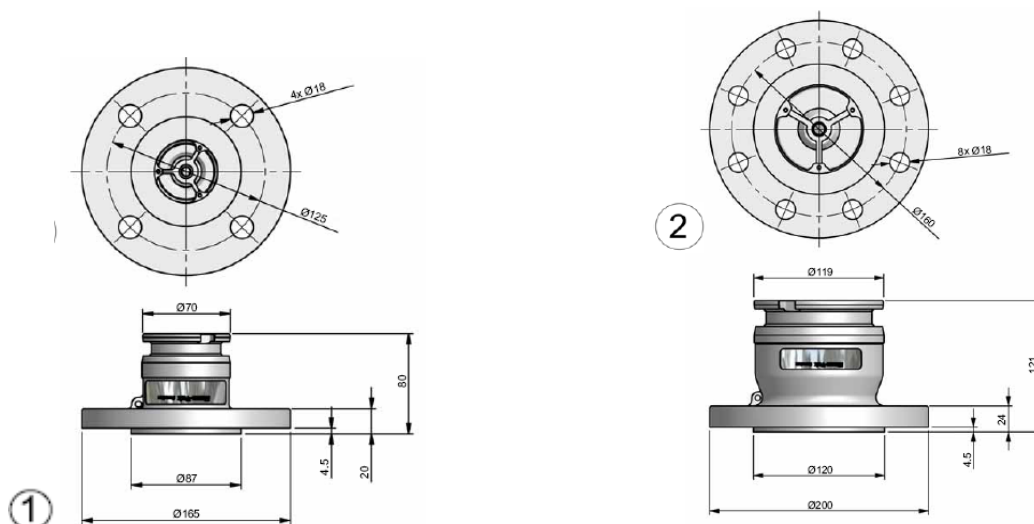
Security pressure cap in stainless steel (WP: 25 bar, for tank units)

Code nr.	Size	Weight
R200A4417	① DN 50, 2" (70 mm)	1,0 kg
R400A4417	② DN 80, 3" (119 mm)	1,9 kg



Tank unit, flange EN 1092-2001 type: raised face

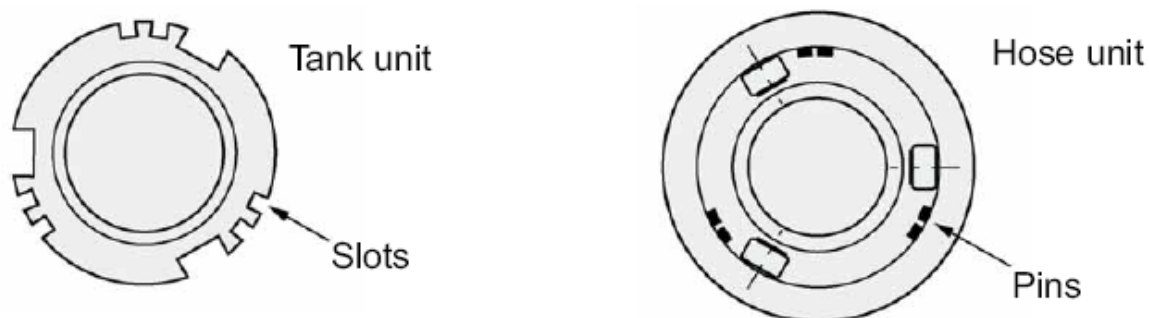
Code nr.	Size	Connection	Weight
T229B4417	① DN 50, 2" (70 mm)	PN 25/40 EN 1092-2001 type: raised face	3,1 kg
T435B4417	② DN 80, 3" (119 mm)	PN 25/40 EN 1092-2001 type: raised face	6,3 kg



Selectivity

To avoid any contamination of the product caused by connecting the hose unit to the wrong tank unit, there are selective versions available of hose and tank units.

Each unit has a selective number of positions designated by a code number, according to each measure of coupling.



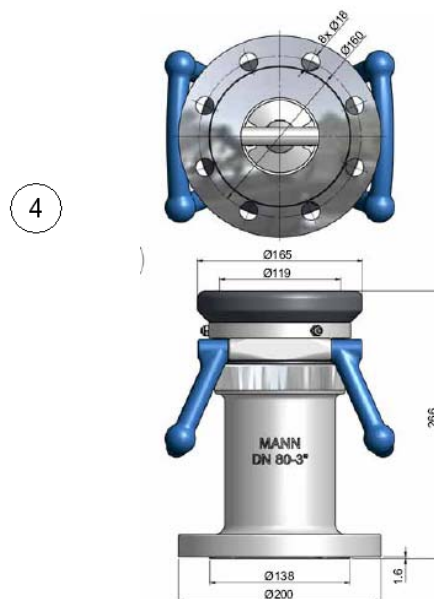
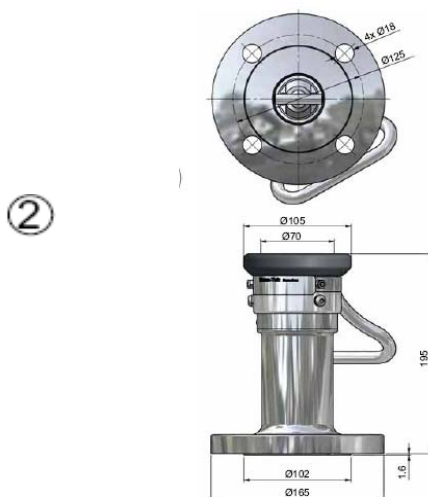
Size	Product	Selective position
2"- DN 50 (70 mm)	Ethylene oxide	V (3)
2"- DN 50 (70 mm)	Propylene oxide	W (4)
3"- DN 80 (119 mm)	Ethylene oxide	M (34)
3"- DN 80 (119 mm)	Propylene oxide	N (35)

Hose unit, threaded version (BSP) and flanged (DIN PN 25/40)

Code nr.	Connection	Size
① S210A4417A	DN50 BSP	2" (70 mm)
② S228A4417	DN50 PN25/40	2" (70 mm)

Code nr.	Connection	Size
③ A414A4417A	DN80 BSP	3" (119 mm)
④ S434A4417	DN80 PN25/40	3" (119 mm)

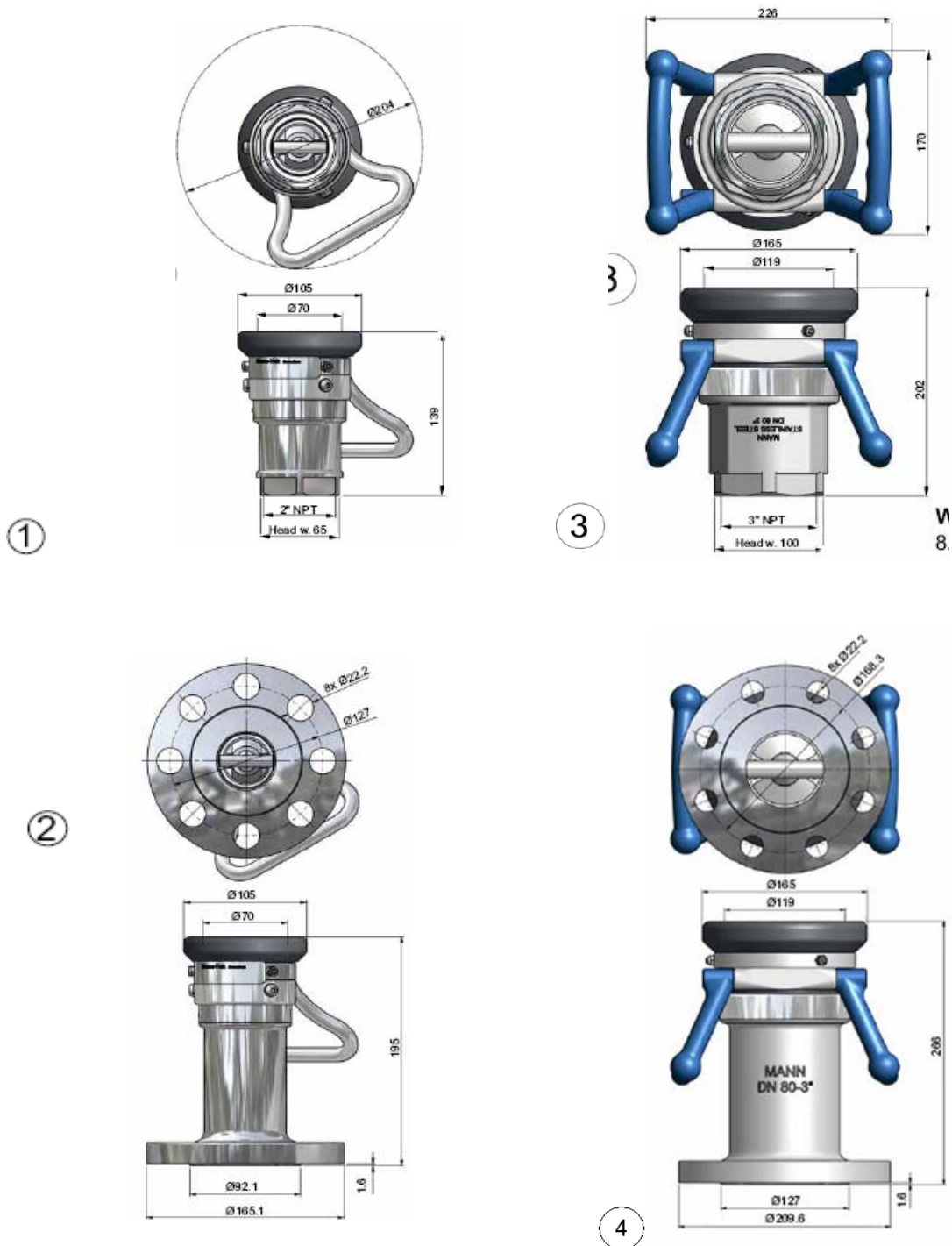
Roscas: BSP=ISO 228, NPT=B1.20.3



Hose unit, threaded version (NPT) and flanged version (ASA 300 psi)

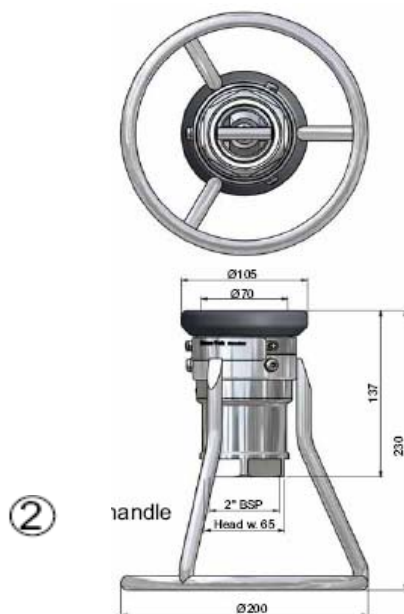
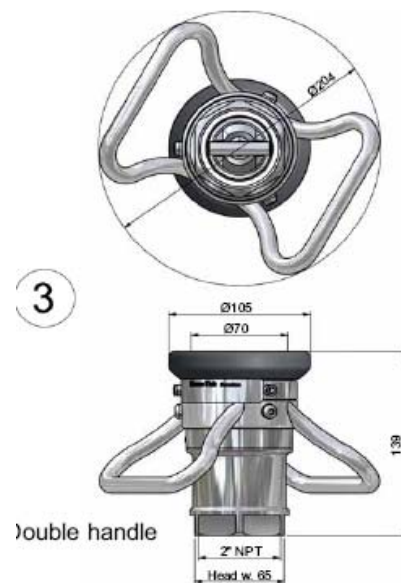
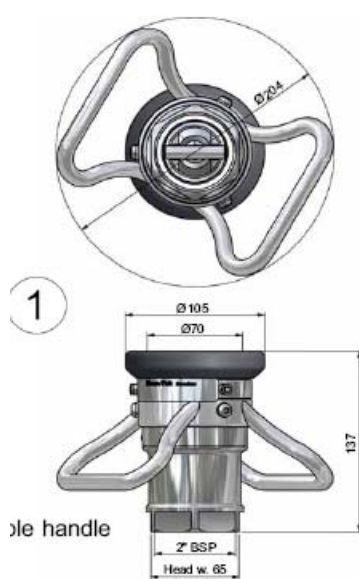
Code nr.	Connection	Size	Code nr.	Connection	Size
① S211A4417	DN50 NPT	2" (70 mm)	③ S415A4417	DN80 NPT	3" (119 mm)
② S258A4417	DN50 ASA300psi	2" (70 mm)	④ S462A4417	DN80 ASA300psi	3" (119 mm)

Roscas: BSP=ISO 228, NPT=B1.20.3



2" Hose unit, double handle/round handle (also available with flanged connections)

Code nr.	Connection	Size	Code nr.	Connection	Size
① S210A4417AO	DN50 BSP	2" (70 mm)	③ S211A4417O	DN50 NPT	2" (70 mm)
② A210A4417AM	DN50 BSP	2" (70 mm)	④ S211A4417M	DN50 NPT	2" (70 mm)



2" Hose unit, flanged version with round handle (DIN PN 25/40 and ASA 300psi)

Code nr.	Connection	Size
① S228A4417M	DN50 PN25/40	2" (70 mm)

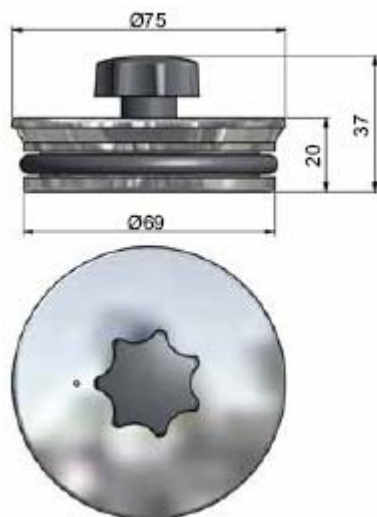


Code nr.	Connection	Size
② S258A4417M	DN 50 ASA300	2" (70 mm)



Dustplug (for hose unit) in stainless steel (also available in composite PE-HD300)

Code nr.	Size	Weight
① P200A4417	DN 50 (70 mm)	0,7 kg



Code nr.	Size	Weight
② S258A4417M	DN80 (119 mm)	2 kg



Reliable combinations of materials

Couplings are designed and built to have resistance to the media transferred through them. Therefore, all DDCouplings® are tailored to the requirements of each application, ensuring that all materials of the body and internal working parts are fully resistant.



Aluminium

All wetted parts in Aluminium and stainless steel.

Typical applications:

- Military use
- Petrol handling
- Aviation fuel



Brass / Gun Metal

All wetted parts in Brass / Gunmetal and stainless steel. Typical applications:

- Marine refueling
- Petrol handling
- Tanker loading



Stainless Steel

All wetted parts in stainless steel and Hastelloy.

Typical applications:

- Chemical industry
- Pharmaceutical industry
- Waste transfer

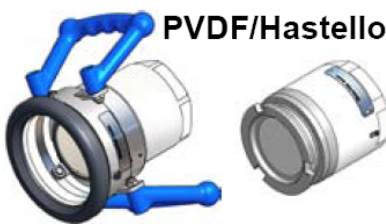


PEEK

All wetted parts in PEEK and Hastelloy.

Typical applications:

- Hydrochloric acid



PVDF/Hastelloy

All wetted parts in PVDF/Hastelloy.

Typical applications:

- Hydrochloric acid



Hastelloy

All wetted parts in Hastelloy. Typical applications:

- Hydrochloric acid



Titan

All wetted parts in Titan. Used in special applications



Duplex

All wetted parts in Duplex. Used in special applications.

Unique design gives several advantages

- **Easy to handle**

Push and turn – free flow

Turn and pull - closed

- **Time saving**

No need to drain hoses or pipe systems.

- **Economical**

No loss or spillage of liquids at connection or disconnection.

- **Safe**

The valve cannot be opened until the unit is coupled.

- **Environmentally friendly**

Accidental spillage eliminated.

- **Reliability**

No loss or spillage of liquids at connection or disconnection.

Kill the spill!

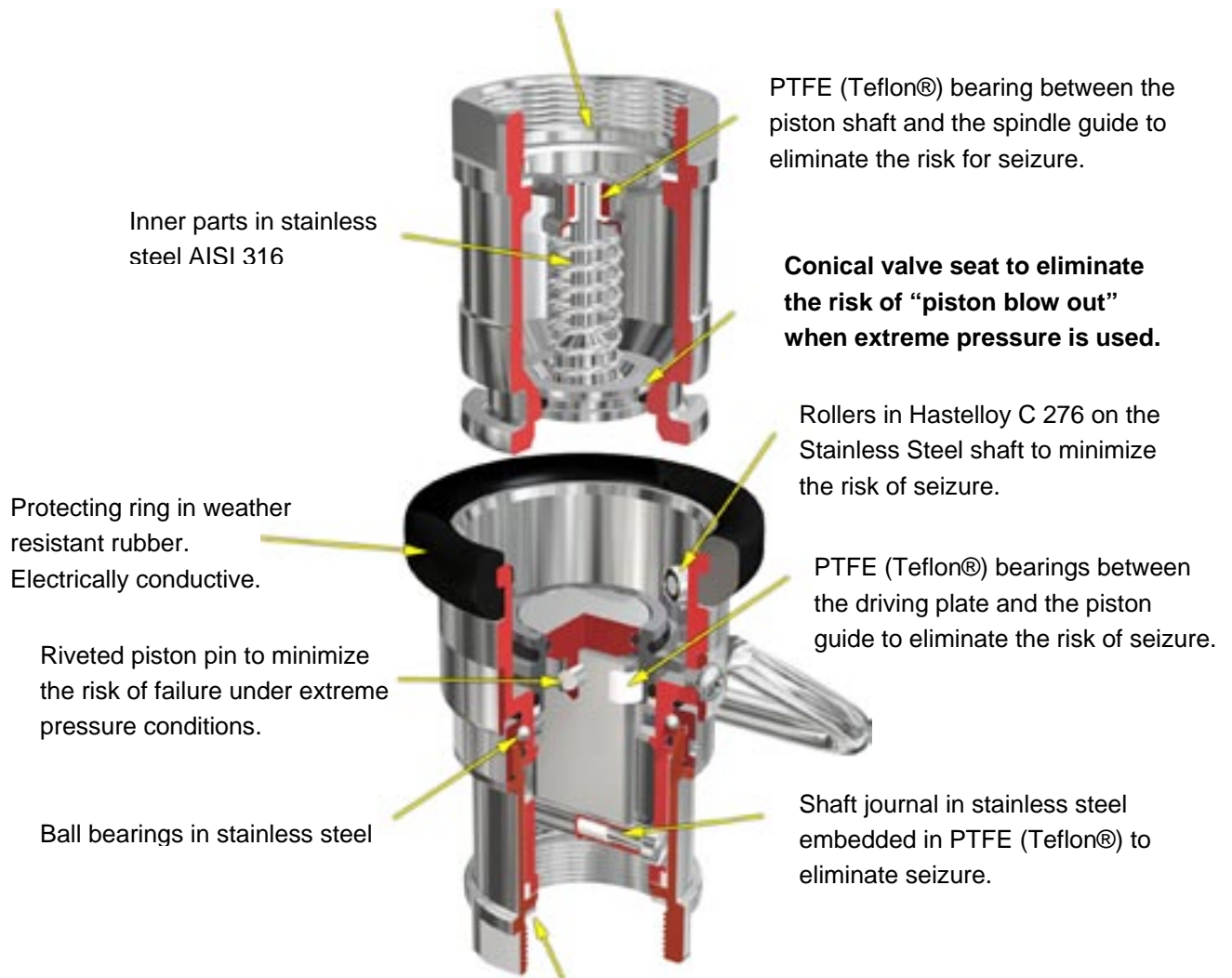
Mann-Tek couplings should be used for transfer fluids, gases or dusts, where the spills of product could be dangerous or expensive. They are needed especially in areas of zero tolerance when your product spill:

- Has a great value
- The environmental methods required for cleanup the spill are expensive
- Is expensive recycling or distribute
- Is dangerous for the environment
- Can be a health risk
- Is prone to accidental spills and losses

The dry disconnect couplings DDCouplings® are designed for quick connection and disconnection without spillage in hoses and pipes. They are used by manufacturers of inks, adhesives, fatty acids, pharmaceuticals, liquid soaps, chemicals, agricultural and a wide variety of special acids and caustics.

Cut-away drawing, stainless steel version

The Tank unit is supplied with parallel BSP threads and flat sealing surface.
This allows the use of the full thread length for screwed-on parts.
Also available with tapered internal NPT threads and parallel S60X6 threads.



The Hose unit is supplied with parallel BSP threads and flat sealing surface.
This allows the use of the full thread length for screwed on-parts.
Also available with tapered internal NPT threads and parallel S60X6 threads.

Applications

Oil & Chemical

- Bulk loading / discharge
- Tanker top / bottom loading
- Loading arms
- Exchange manifolds
- Blending pits
- Bunkering
- Rail car outlets
- Paints & inks
- In-process products transfer
- Rail locomotive refuelling



Marine

- Ship to shore transfer
- Ship to ship transfer
- Ship to rig transfer
- Well head material supply
- Rig gas exchange
- Rig temporary vent lines
- Ship manifold exchange
- Marine refuelling



Specialized

- Bulk powder transfer (fine non-abrasive only)
- Nuclear coolant and gas
- Aviation bunkering
- Natural gas
- Brewery finished products
- Food feedstock
- Pharmaceutical feedstock
- Hazardous waste transfer
- IBC container outlets
- Bitumen transfer
- ISO retrofit & new build
- Refuelling race cars



Available range of dry disconnect couplings, DDCoupling

Size: The couplings are available in sizes ¾" (DN 20) to 4" (DN00), with BSP and NPT threads. Other threads are available on request (S60X6, Acme, etc.).

The tank units and Hose units are also available in flanged connections (DIN, ANSI, TW, TTMA, EN 1092-1:2001).

Materials: Aluminium, brass/gunmetal, stainless steel, Hastelloy C and PEEK. Other materials on request.

Seals: FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (nitrile). Other materials on request.

Working pressure: PN 10 - PN 25

Selectivity in order to avoid mixing products: To avoid product contamination caused by connecting a hose unit to the wrong tank unit, selective versions of the hose and tank units are available. Each unit has a number of selective positions, designated by a coded part number according to the coupling size - specify when placing order.

Electrical conductivity: All DDCouplings® except couplings in PEEK and PVDF have electrical conductivity (<10 ohms).

Interchangeability: DDCouplings have Compatibility with other existing brands. DDCouplings in sizes 2" (Ø70 mm) and 3" (119 mm) are according to ATOFINA SGM 2049.TUY.C. DDCouplings in sizes 2"(Ø70 mm), 2½" (Ø105 mm), 3" (Ø119 mm) and 4" (Ø164 mm) are according to NATO STANAG 3756.

Special models: With integrated break-away, pressure relief valve, etc. on request.



Dry aviation couplings of 2 1/2", ISO 45/MS 24484

The Dry Aviation Couplings are designed for use in aviation and military refuelling systems with a maximum working pressure of 10 bar (150 psi).

All units can also be used as bottom loading or primary points refuelling vehicles. They are manufactured to accept the international standard: 2 1/2" the point bayonet, hose end refuelling nozzles, according to: ISO 45/MS24484 / NATO STANAG 3105 /British Aerospace Specification 2C14.

Available in military RAL colours.

Materials: All the wet parts are in aluminium and stainless steel.

Flanges: ASA, DIN, TTMA, TW. Other on request.

Threads: BSP and NPT.

Seals material: FPM (Viton®).

Other materials on request.

Full-Flow – ball valves

Made for oil tankers.

Material: aluminium.

Size: from 2" to 4", PN 10.

Connections: Different types of flange connections.



SBCouplings, breaking bolt

Safety Break-away couplings are used to prevent pull away accidents, protect terminal and loading/unloading equipment and eliminated unwanted product release.

Materials: aluminium, brass/gun metal, stainless steel.

Size: from 1 1/2" to 4", PN 16.

Connections: female threads.

SBCouplings, cable release

Safety Break-away couplings are used to prevent pull away accidents, protect terminal and loading/unloading equipment and eliminated unwanted product release.

Materials: stainless steel.

Size: from 1 1/2" to 4" / 6" to 8", PN 25.

Connections: female threads (from 1 1/2" to 4"), flanged connections (from 6" to 8").



Swivel joints

Materials: aluminium, brass/gun metal, stainless steel.

Size: From 3/4" to 4", PN 10 - PN 25.

Connections: BSP and NPT.