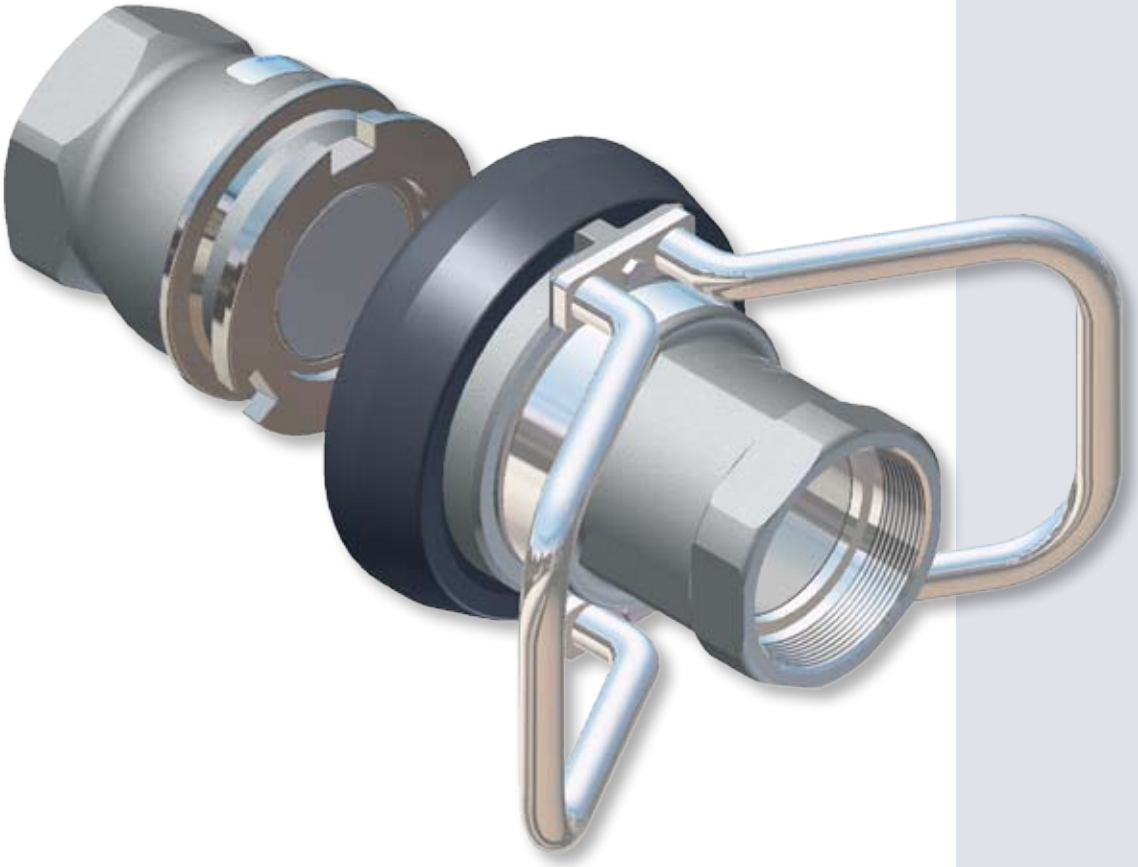
Mann Tek

DDCouplings®

Dry Disconnect Couplings



Technical Information

Art. nr: PR-010801-0112 Version: 090921

KilltheSpill

About Mann Tek

Mann Teknik AB is a Swedish company located in Mariestad, Sweden.

Mann Teknik AB produces and markets products for safe and environmentally friendly handling of aggressive fluids for the chemical and petrochemical industries.

The main product is the Dry Disconnect Couplings, DDCouplings®, for spill free liquid handling. The products are marketed through independent representatives in more than 30 countries.

Mann Teknik AB have many years of experience in designing, producing and marketing of DDCouplings® all since 1977.

Mann Teknik AB has shown a high rate of growth during the past years and is now a major player in its specialised field of operation. This is due to a determined expansion into growing markets and recognition by customers of the robust design and reliable quality of the products.

Mann Teknik AB are certified to ISO9001:2000. The products are CE-labeled. The main products are certified to PED, the European Pressure Equipment Directive and ATEX, the European directive for Equipment intended for use in Potentially Explosive Atmospheres.

The products are produced in accordance with several important standards, e.g. the NATO STANAG 3756

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Table of Content

DDCouplings® are used in a wide range of applications from tanker loading to aviation bunkering.

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

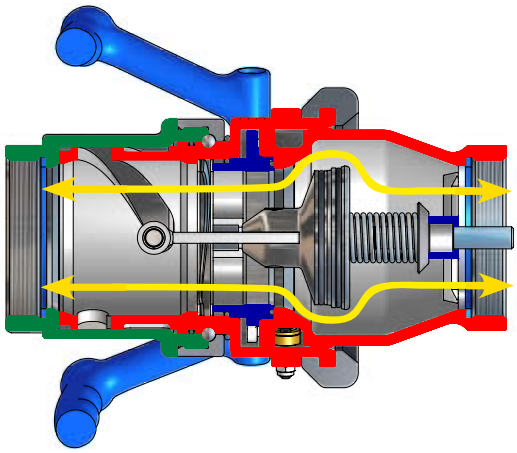
- Bulk powder transfer
(fine non-abrasive only)
- Nuclear coolant and gas
- Aviation bunkering
- Natural gas
- Brewery finished products
- Food feedstock
- Pharmaceutical feedstock
- Hazardous waste transfer
- IBC container outlets
- Bitumen transfer
- ISO retrofit & new build
- Refuelling race cars

How it works - The coupling function

The principle of operation is similary for all types of Mann Tek Couplings

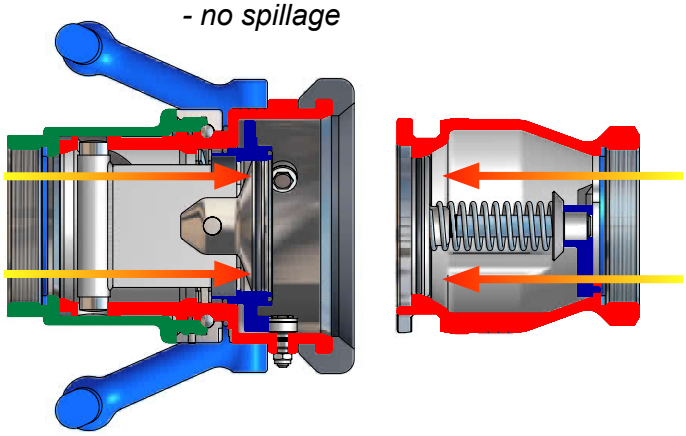
To connect

Push and turn
- it's coupled
- *full flow*



To disconnect

Turn and pull
- it's released
- *no spillage*



When connecting the DD-Coupling the hose unit will slide easily over the tank unit. The three rollers engage in the three slots.

To allow the hose unit to lock, rotate the hose unit clockwise approximately 100° whilst gently pushing towards the tank unit.

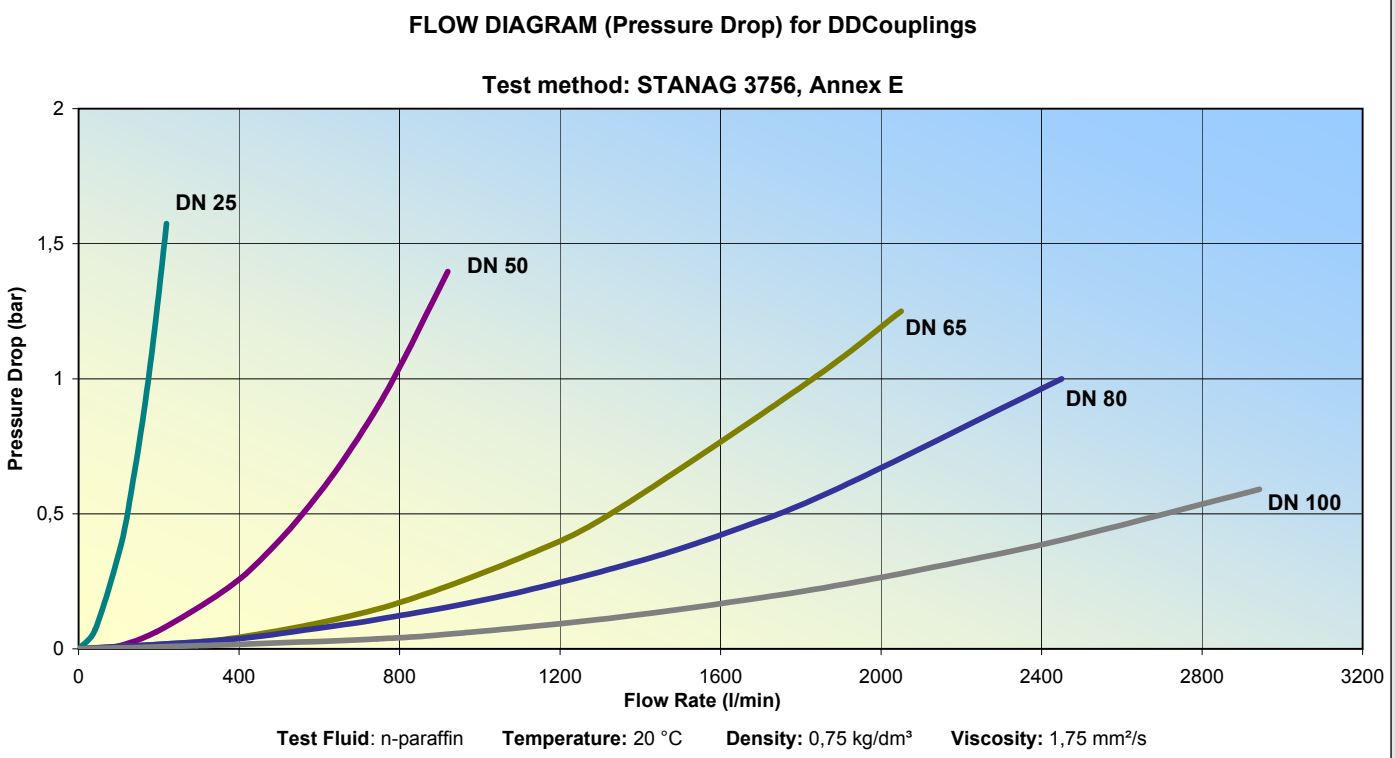
To stop the flow and unlock the units, reverse the procedure.

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.

Flow diagram Pressure Drop Curve:

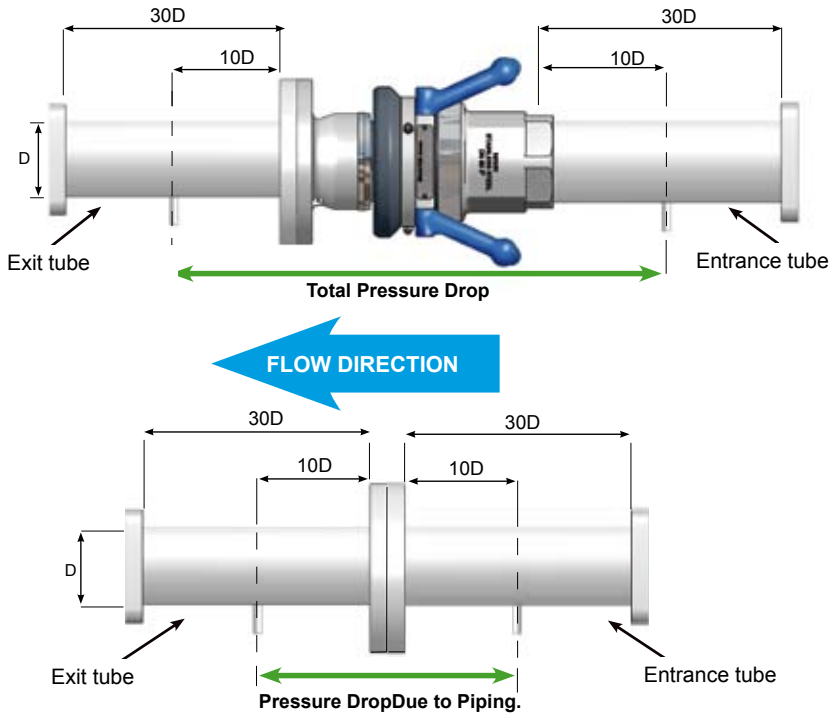
Flow test have been done on all sizes of the DDCoupling sortiment. The results in the flow diagram below.



Test Fluid: n-paraffin **Temperature:** 20 °C **Density:** 0,75 kg/dm³ **Viscosity:** 1,75 mm²/s

Pressure Drop Measurement - Illustration

Illustration Pressure Drop Measurement
According to NATO STANAG 3756, Annex E



Pressure Drop DDCoupling = △P

Pressure Drop Mann Tek DDCoupling = Total Pressure Drop - Pressure Drop Due to Piping

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

Brass / Gun Metal

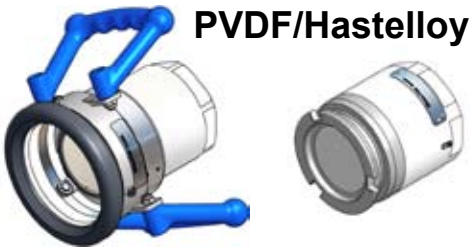
Stainless Steel

Titan

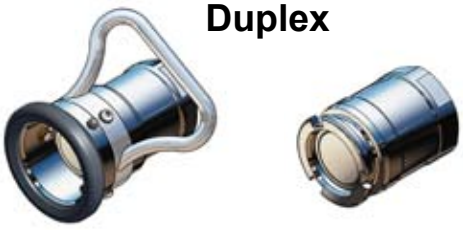
Hastelloy

PEEK

PVDF/Hastelloy



Duplex



DDCouplings Dry Disconnect Couplings
Stainless Steel

All wetted parts in Stainless Steel and Hastelloy. Typical applications:
- Chemical industry
- Pharmaceutical industry
- Waste transfer

DDCouplings Dry Disconnect Couplings
PEEK / Hastelloy

All wetted parts in PEEK and Hastelloy. Typical applications:
- Hydrochloric acid

DDCouplings Dry Disconnect Couplings
Brass / Gunmetal

All wetted parts in Brass / Gunmetal and Stainless Steel. Typical applications:
- Marine refueling
- Petrol handling
- Tanker loading

DDCouplings Dry Disconnect Couplings
Hastelloy

All wetted parts in Hastelloy. Typical applications:
- Hydrochloric acid

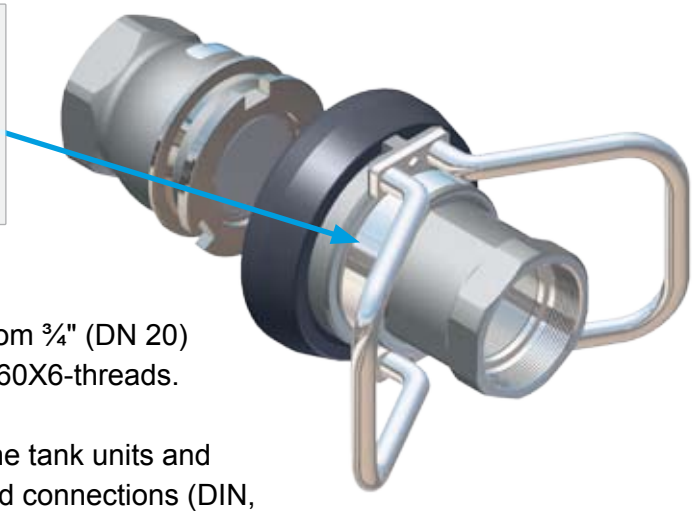
DDCouplings Dry Disconnect Couplings
Aluminium

All wetted parts in Aluminium and Stainless Steel. Typical applications:
- Military use
- Petrol handling
- Aviation fuel

DDCouplings Dry Disconnect Couplings
Other materials

Other materials on request. For example Titan, PVDF and Duplex, .

Integral Swivel - facilitates coupling orientation, allows hose to relax in natural position.
Rotation 360°



Size:
The couplings are available in sizes from ¾" (DN 20) to 6" (DN 150) with BSP-, NPT- and S60X6-threads.

Other threads available on request. 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.
All inner parts in Stainless Steel, SS 316.

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

Working pressure: PN 10 - PN 25.

Selectivity - 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® have electrical conductivity (<10 ohms).

Interchangeability:
Compatibility with other existing brands according to NATO STANAG 3756 and
ATOFINA SGM 2049.TUY.C.

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

Recommendations and Approvals

Mann Tek

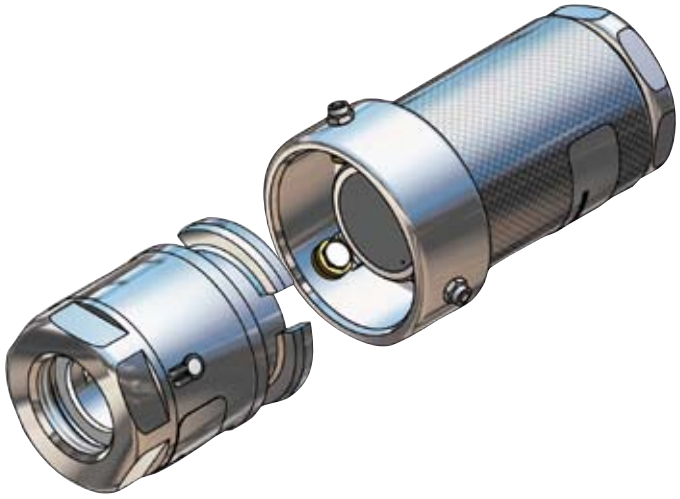
DDCouplings®

Dry Disconnect Couplings

1"(Ø56 mm)

Tank unit/Adapter and Hose unit / Coupler

Technical information



1" (Ø56 mm)

Tank unit/ Adapter and Hose unit / Coupler

Material	Maximum working pressure	Test pressure	Minimum Burs Pressure	
Aluminium	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi	
Brass/Gun Metal	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi	
Stainless Steel	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi	
Titan	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi	
Hastelloy	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi	
Peek	6 bar / 87 psi	9 bar / 131 psi	45 bar / 653 psi	

Connections

3/4"and 1 1/4" in BSP, NPT and Flanged inlet

Recommended for any application where spillage needs to be minimized.

Applications

For industrial process plant, road and rail tankers, ISO containers, Pharmaceutical and Petrochemical industries etc.

Recommended for all types of mini bulk liquid product transfer, including container and drum filling, or on any application where spillage needs to be minimized.

Media

Petroleum products: Gasolin, diesel, oil etc.
Chemical products: Ethylene Oxide, Propylene Oxide, Acrylonitrile, Butadiene, Ammonia, Vilyl Chloride, Toluene, Xylene, Sulphuric, Acid, Phenol etc.

Dry powder: Chokolade powder e.t.c.

Material

Aluminium, Brass/Gunmetal, Stainless Steel, Hastelloy C and PEEK. Other materials on request.

Seals

Standard seals in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile). Other materials on request.

High Flow Rates / Low Pressure Drop

Allows maximum product transfer with minimal losses

Maximum Flow Rates

200 litres/minute

Selectivity

- 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.

Interchangeability:

Compatibility with other existing brands for example TODO (Gardner Denver).

1" (Ø56 mm) Tank unit / Adapter

Connection[1] Inch/DN	Material[2]	Seal[3]		Weight[4]		Code No
		O-ring	Flat seal	kg	lbs	
F 3/4" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)	0,3	0.66	T101A1101B
F 1" BSP						T103A1101B
F 1 1/4" BSP						T105A1101B
F 3/4" NPT						T102A1101
F 1" NPT						T104A1101
F 1 1/4" NPT						T106A1101
F 3/4" BSP	Brass		PUR (Vulkollan®)	0,7	1.54	T101A2201B
F 1" BSP						T103A2201B
F 1 1/4" BSP						T105A2201B
F 3/4" NPT						T102A2201
F 1" NPT						T104A2201
F 1 1/4" NPT						T106A2201
F 3/4" BSP	SS		PTFE Teflon®	0,7	1.54	T101A4401A
F 1" BSP						T103A4401A
F 1 1/4" BSP						T105A4401A
F 3/4" NPT						T102A4401
F 1" NPT						T104A4401
F 1 1/4" NPT						T106A4401
F 3/4" BSP	Titan		PTFE Teflon®	0,4	0.88	T101A6601A
F 1" BSP						T103A6601A
F 1 1/4" BSP						T105A6601A
F 3/4" NPT						T102A6601
F 1" NPT						T104A6601
F 1 1/4" NPT						T106A6601
F 3/4" BSP	Hastelloy		PTFE Teflon®	0,8	1.76	T101A7701A
F 1" BSP						T103A7701A
F 1 1/4" BSP						T105A7701A
F 3/4" NPT						T102A7701
F 1" NPT						T104A7701
F 1 1/4" NPT						T106A7701
F 3/4" BSP	PEEK		PTFE Teflon®	0,1	0.22	T101A9901A
F 1" BSP						T103A9901A
F 1 1/4" BSP						T105A9901A
F 3/4" NPT						T102A9901
F 1" NPT						T104A9901
F 1 1/4" NPT						T106A9901

Tank unit / Adapter 1" (Socket Ø56 mm)

We make specials

Other materials, connections and sealings on request

Compatible with TODO (Gardner Denver).

[1] Female thread BSP=ISO 228, NPT=ANSI B1.20.3

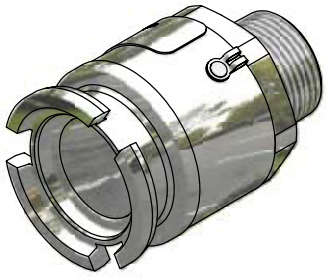
[2] **Mtrl**: Al=Aluminium EN 1092, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

[3] Standard seal. Other on request.

[4] Weight in kg and lbs

1" (Ø56 mm) Tank unit / Adapter - Male thread

Connection[1] Inch/DN	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
M 3/4" BSP	Al	Standard: FPM/FKM (Viton®) Other on request			T169A1101
M 3/4" NPT					T170A1101
M 1" BSP					T171A1101
M1" NPT					T172A1101
M 3/4" BSP	Brass				T169A1101
M 3/4" NPT					T170A1101
M 1" BSP					T171A1101
M 1" NPT					T172A1101
M 3/4" BSP	SS				T169A4401
M 3/4" NPT					T170A4401
M 1" BSP					T171A4401
M 1" NPT					T172A4401



According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

1) Female thread BSP=ISO 228, NPT=ANSI B1.20.3

2) **Mtrl**: Al=Aluminium EN 1092, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

4) Weight in kg and lbs

1" (Ø56 mm) Tank unit / Adapter, Flanged inlet

Flange[1]	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
undrilled	Al	Standard: FPM/FKM (Viton®) Other o	1,1	2.42	T118A1101
DN 25 PN 10 / 16 Type A					T123A1101
DN 25 PN 25 / 40 Type A					T124A1101
1" ANSI 150 PSI					T151A1101
1 " ANSI 300 PSI					T152A1101
undrilled	Brass		1,6	3.53	T118A2201
DN 25 PN 10 / 16 Type B					T123A2201
DN 25 PN 25 / 40 Type B					T124A2201
1" ANSI 150 PSI					T151A2201
1" ANSI 300 PSI					T152A2201
undrilled	SS		1,5	3.31	T118A4401
DN 25 PN 10 / 16 Type B					T123A4401
DN 25 PN 25 / 40 Type B					T124A4401
1" ANSI 150 PSI					T151A4401
1" ANSI 300 PSI					T152A4401
undrilled	Titan		0,8	1.76	T118A6601
DN 25 PN 10 / 16 Type B					T123A6601
DN 25 PN 25 / 40 Type B					T124A6601
1" ANSI 150 PSI					T151A6601
1" ANSI 300 PSI					T152A6601
DN 25 PN 10 / 16 Type B	Hastelloy		1,7	3.75	T123A7701
DN 25 PN 25 / 40 Type B					T124A7701
1" ANSI 150 PSI					T151A7701
1" ANSI 300 PSI					T152A7701
undrilled	PEEK		0,2	0.44	T118A9901
DN 25 PN 10 / 16 Type B					T123A9901
DN 25 PN 25 / 40 Type B					T124A9901
1 " ANSI 150 PSI					T151A9901
1" ANSI 300 PSI					T152A9901

Tank unit / Adapter, Flanged inlet

1" (Socket Ø56 mm)

We make specials

Other materials, connections and sealings on request

Compatible with TODO (Gardner Denver).

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 1092, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

4) Weight in kg and lbs

Dust cap for 1" (Ø56mm) Tank unit / Adapter

Dust Cap for Tank unit

Use the Mann Tek Dust Cap to prevent ingress of dirt and water in the couplings. The material in the Dust Cap is Composite, Aluminium and Stainless steel

Inch DN	Material [1]	Seal [2]	Weight [3]		Code No
			Kg	lbs	
3/4"-1" DN 20-25	Co	Standard: FPM Viton®	0,13	0.287	C100A2201
	Al		0,22	0.485	C100A1101
	SS		0,59	1.301	C100A4401

Sealing cap for 1" (Ø56mm) Tank unit / Adapter

Sealing Cap for Tank unit

Sometimes a simple protection of the DDC Tank Unit against pollution is not sufficient. International regulations can require a sealing function of the cap as an additional safety factor in case of worn out gaskets in the tank unit. The sealing cap is a cheap solution to fulfil these requirements.

Inch DN	Material [1]	Seal [2]	Weight [3]		Code No
			Kg	lbs	
3/4"-1" DN 20-25	SS	Standard: FPM Viton®	0,59	1.301	C100P4401

[1] Mtrl: Co=Composite (Polyetylen), Al=Aluminium EN 755, SS=Stainless Steel EN 10272

[2] Standard sealings FPM (Viton®). Other on request.

[3] Weight in kg and lbs

1" (Ø56 mm) Hose unit / Coupler

Connection[1] Inch/DN	Material[2]	Seal[3]		Weight[4]		Code No
		O-ring	Flat seal	kg	lbs	
F 3/4" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)	0,5	1.10	S101A1101B
F 1" BSP						S103A1101B
F 1 1/4" BSP						S105A1101B
F 3/4" NPT						S102A1101
F 1" NPT						S104A1101
F 1 1/4" NPT						S106A1101
F 3/4" BSP	Brass		PUR (Vulkollan®)	1,4	3.09	S101A2201B
F 1" BSP						S103A2201B
F 1 1/4" BSP						S105A2201B
F 3/4" NPT						S102A2201
F 1" NPT						S104A2201
F 1 1/4" NPT						S106A2201
F 3/4" BSP	SS		PTFE Teflon®	1,3	2.87	S101A4401A
F 1" BSP						S103A4401A
F 1 1/4" BSP						S105A4401A
F 3/4" NPT						S102A4401
F 1" NPT						S104A4401
F 1 1/4" NPT						S106A4401
F 3/4" BSP	Titan		PTFE Teflon®	0,7	1.54	S101A6601A
F 1" BSP						S103A6601A
F 1 1/4" BSP						S105A6601A
F 3/4" NPT						S102A6601
F 1" NPT						S104A6601
F 1 1/4" NPT						S106A6601
F 3/4" BSP	Hastelloy		PTFE Teflon®	1,5	3.31	S101A7701A
F 1" BSP						S103A7701A
F 1 1/4" BSP						S105A7701A
F 3/4" NPT						S102A7701
F 1" NPT						S104A7701
F 1 1/4" NPT						S106A7701
F 3/4" BSP	PEEK		PTFE Teflon®	0,3	0.66	S101A9901A
F 1" BSP						S103A9901A
F 1 1/4" BSP						S105A9901A
F 3/4" NPT						S102A9901
F 1" NPT						S104A9901
F 1 1/4" NPT						S106A9901

Hose unit / Coupler 1" (Socket Ø56 mm)

We make specials

Other materials, connections and sealings on request

Compatible with TODO (Gardner Denver).

[1] Female thread BSP=ISO 228, NPT=ANSI B1.20.3

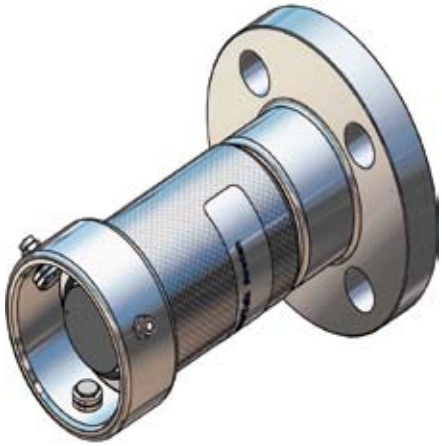
[2] **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

[3] Standard seal. Other on request.

[4] Weight in kg and lbs

1" (Ø56 mm) Hose unit / Coupler, Flanged inlet

Flange[1]	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
undrilled	Al	Standard: FPM/FKM (Viton®) Other on request	1,1	2.42	S118A1101
DN 25 PN 10 / 16 Type A					S123A1101
DN 25 PN 25 / 40 Type A					S124A1101
3/4" ANSI 150 PSI					S149A1101
1" ANSI 150 PSI					S151A1101
1 " ANSI 300 PSI					S152A1101
undrilled	Brass		1,6	3.53	S118A2201
DN 25 PN 10 / 16 Type B					S123A2201
DN 25 PN 25 / 40 Type B					S124A2201
3/4" ANSI 150 PSI					S149A2201
1" ANSI 150 PSI					S151A2201
1" ANSI 300 PSI					S152A2201
undrilled	SS		2,2	4.85	S118A4401
DN 25 PN 10 / 16 Type B					S123A4401
DN 25 PN 25 / 40 Type B					S124A4401
3/4" ANSI 150 PSI					S149A4401
1" ANSI 150 PSI					S151A4401
1" ANSI 300 PSI					S152A4401
undrilled	Titan		1,2	2.65	S118A6601
DN 25 PN 10 / 16 Type B					S123A6601
DN 25 PN 25 / 40 Type B					S124A6601
1" ANSI 150 PSI					S151A6601
1" ANSI 300 PSI					S152A6601
DN 25 PN 10 / 16 Type B	Hastelloy		2,5	5.5	S123A7701
DN 25 PN 25 / 40 Type B					S124A7701
1" ANSI 150 PSI					S151A7701
1" ANSI 300 PSI					S152A7701
undrilled	PEEK		0,5	1.10	S118A9901
DN 25 PN 10 / 16 Type B					S123A9901
DN 25 PN 25 / 40 Type B					S124A9901
1 " ANSI 150 PSI					S151A9901
1" ANSI 300 PSI					S152A9901



Hose unit / Coupler, Flanged inlet

1" (Socket Ø56 mm)

We make specials

Other materials, connections and sealings on request

Compatible with TODO (Gardner Denver).

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

4) Weight in kg and lbs

1" (Ø56 mm) Dust plug for Hose unit and Dust cap for Tank unit

Dust Plug for Hose unit

Use the Mann Tek Dust Plug to prevent ingress of dirt and water in the couplings.
The material in the Dust Plug is Composite, Aluminium and Stainless Steel.

Inch DN	Material [1]	Seal [2]	Weight [3]		Code No
			Kg	lbs	
3/4"-1" DN 20-25	Co	Standard: FPM Viton®	0,06	0.137	P100A2201
	Al		0,12	0.265	P100A1101
	SS		0,32	0.705	P100A4401

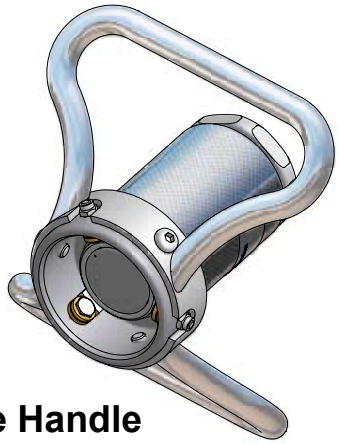
[1] Mtrl: Co=Composite (Polyetylen), Al=Aluminium EN 755, SS=Stainless Steel EN 10272

[2] Standard sealings FPM (Viton®). Other on request.

[3] Weight in kg and lbs

1" (Ø56mm) Hose unit / coupler - Double and single handle

How to Order **Code No:** Code No. Hose Unit + Code No handle



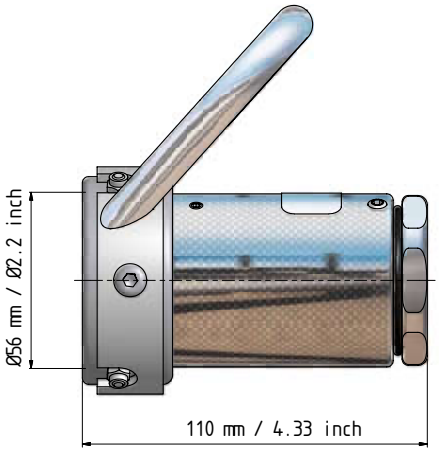
Double Handle

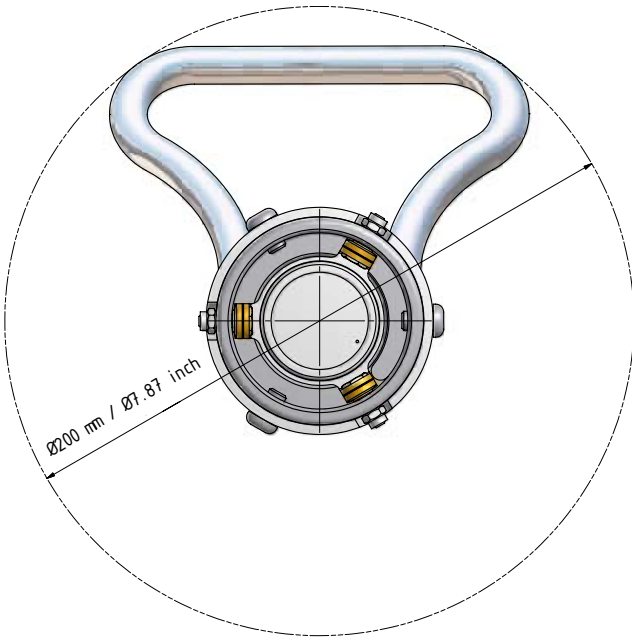
Code No handle: H-S1-44-O1

Single Handle

Code No handle: H-S1-44-S1

Measurement in mm





Mann Tek

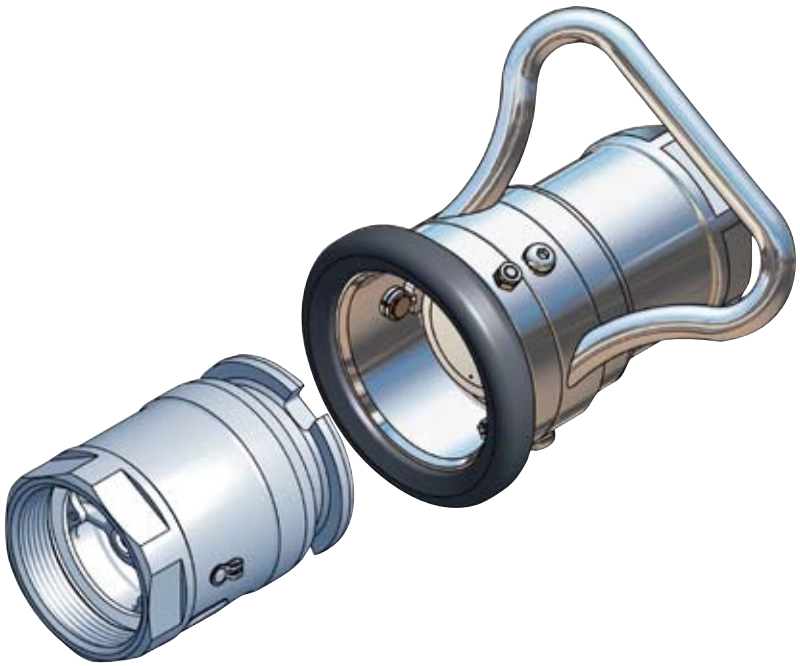
DDCouplings®

Dry Disconnect Couplings

2"(Ø70 mm)

Tank unit/Adapter and Hose unit / Coupler

Technical information



2" (Ø70 mm)

Tank unit/ Adapter and Hose unit / Coupler

Material	Maximum working pressure	Test pressure	Minimum Burs Pressure
Aluminium	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi
Brass/Gun Metal	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi
Stainless Steel	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi
Titan	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi
Hastelloy	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi
Peek	6 bar / 87 psi	9 bar / 131 psi	45 bar / 653 psi

Connections

1½" and 2" in BSP, NPT and Flanged inlet

Recommended for any application where spillage needs to be minimized.

Applications

For industrial process plant, road and rail tankers, ISO containers, IBC containers, Pharmaceutical and Petrochemical industries etc.

Recommended for any application where spillage needs to be minimized.

Media

Petroleum products: Gasolin, diesel, oil etc.
Chemical products: Ethylene Oxide, Propylene Oxide, Acrylonitrile, Butadiene, Ammonia, Vilyl Chloride, Toluene, Xylene, Sulphuric, Acid, Phenol etc.
Gas:
Dry powder: Chokolade powder e.t.c.

Material

Aluminium, Brass/Gunmetal, Stainless Steel, Hastelloy C and PEEK. Other materials on request.

Seals

Standard seals in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile). Other materials on request.

High Flow Rates / Low Pressure Drop

Allows maximum product transfer with minimal losses

Maximum Flow Rates

900 litres/minute

Selectivity

- 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.

Interchangeability:

Compatibility with other existing brands for example TODO (Gardner Denver), Avery Hardoll and Emco Wheaton

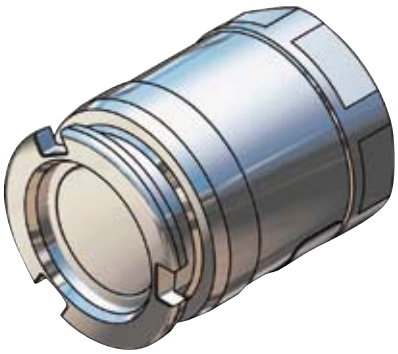
Coupling standard: NATO STANAG 3756

2" (Ø70 mm) Tank unit / Adapter - Female thread

Connection[1] Inch/DN	Material[2]	Seal[3] O-ring	Seal[3] Flat seal	Weight[4] kg	Weight[4] lbs	Code No
F 1½" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)			T207A1101B
F 2" BSP						T210A1101B
F S60x6						T2108A1101B
F W2"-7						T2112A1101B
F 1½" NPT						T208A1101
F 2" NPT						T211A1101
F 1½" BSP	Brass		PUR (Vulkollan®)			T207A2201B
F 2" BSP						T210A2201B
F S60x6						T2108A2201B
F W2"-7						T2112A2201B
F 1½" NPT						T208A2201
F 2" NPT						T211A2201
F 1½" BSP	SS		PTFE Teflon®			T207A4401A
F 2" BSP						T210A4401A
F S60x6						T2108A4401A
F 1½" NPT						T208A4401
F 2" NPT						T211A4401
F 1½" BSP	Titan		PTFE Teflon®			T207A6601A
F 2" BSP						T210A6601A
F 1½" NPT						T208A6601
F 2" NPT						T211A6601
F 1½" BSP	Hastelloy		PTFE Teflon®			T207A7701A
F 2" BSP						T210A7701A
F 1½" NPT						T208A7701
F 2" NPT						T211A7701
F 1½" BSP	PEEK		PTFE Teflon®			T207A9901A
F 2" BSP						T210A9901A
F 1½" NPT						T208A9901
F 2" NPT						T211A9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



1) Female thread BSP=ISO 228, NPT=ANSI B1.20.3

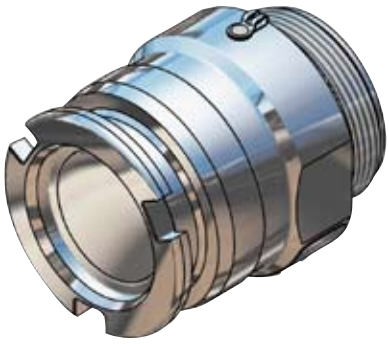
2) **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272 Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

4) Weight in kg and lbs

2" (Ø70 mm) Tank unit / Adapter - Male thread

Connection[1] Inch/DN	Material[2]	Seal[3] O-ring	Weight[4] kg	Weight[4] lbs	Code No
M 2" BSP	Al	Standard: FPM/FKM (Viton®) Other on request			T278A1101
M 2" NPT					T279A1101
M W2"-7					T2123A1101
M 2" BSP	Brass				T278A2201
M 2" NPT					T279A2201
M W2"-7					T2123A2201
M 2" BSP	SS				T278A4401
M 2" NPT					T279A4401



According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

1) Male thread BSP=ISO 228, NPT=ANSI B1.20.3

2) **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272 Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

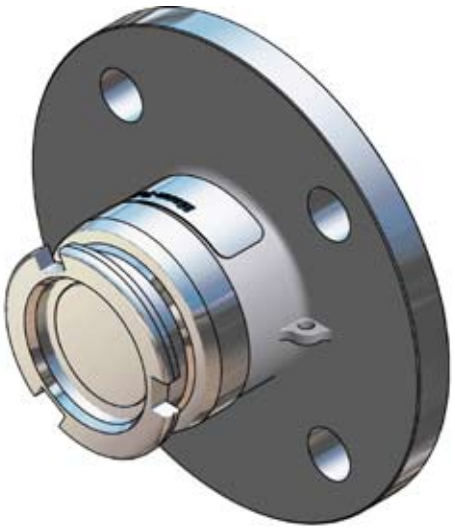
4) Weight in kg and lbs

2" (Ø70 mm) Tank unit / Adapter, Flanged inlet

Flange[1]	Mate-rial[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
undrilled Ø165 mm	Al	Standard: FPM/FKM (Viton®) Other on request			T219B1101
DN 40 PN 10 / 16 Type A					T227B1101
1½" ANSI 150 PSI					T255B1101
DN 50 PN 10 / 16 Type A					T230B1101
2" ANSI 150 PSI					T255B1101
TW1 / 80					T265B1101
undrilled Ø165 mm	GM				T219B2201
DN 40 PN 10 / 16 Type B					T227B2201
DN 40 PN 25 / 40 Type B					T228B2201
1½" ANSI 150 PSI					T255B2201
1½ " ANSI 300 PSI					T256B2201
DN 50 PN 10 / 16 Type B					T230B2201
DN 50 PN 25 / 40 Type B					T231B2201
2" ANSI 150 PSI					T255B2201
2 " ANSI 300 PSI					T256B2201
TW1 / 80					T265B2201
undrilled Ø165 mm	SS				T219B4401
undrilled Ø165 mm **)					T219B4401F
DN 40 PN 10 / 16 Type B					T227B4401
DN 40 PN 10 / 16 Type B **)					T227B4401F
DN 40 PN 25 / 40 Type B					T228B4401
DN 40 PN 25 / 40 Type B **)					T228B4401F
1½" ANSI 150 PSI					T255B4401
1½" ANSI 150 PSI **)					T255B4401F
1½ " ANSI 300 PSI					T256B4401
1½ " ANSI 300 PSI **)					T256B4401F
DN 50 PN 25 / 40*) Type E					T229B4401
DN 50 PN 10 / 16 Type B					T230B4401
DN 50 PN 10 / 16 Type B **)					T230B4401F
DN 50 PN 25 / 40 Type B					T231B4401
DN 50 PN 25 / 40 Type B **)					T231B4401F
2" ANSI 150 PSI					T255B4401
2" ANSI 150 PSI **)					T255B4401F
2 " ANSI 300 PSI					T256B4401
2 " ANSI 300 PSI **)					T256B4401F
TW1 / 80					T265B4401

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



*) Type E, EN 1092-1:2001 Spigot
**) Flange with standard thickness

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

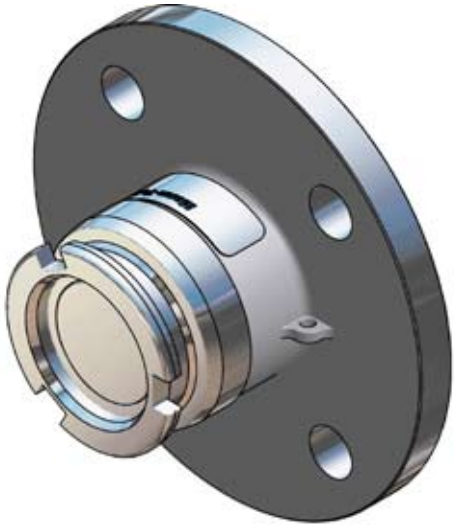
4) Weight in kg and lbs

2" (Ø70 mm) Tank unit / Adapter, Flanged inlet

Flange[1]	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
undrilled Ø165 mm	Titan	Standard: FPM/FKM (Viton®) Other on request			T219A6601
DN 40 PN 10 / 16 Type B					T227A6601
DN 40 PN 25 / 40 Type B					T228A6601
1½" ANSI 150 PSI					T255A6601
1½ " ANSI 300 PSI					T256A6601
DN 50 PN 10 / 16 Type B					T230A6601
DN 50 PN 25 / 40 Type B					T231A6601
2" ANSI 150 PSI					T255A6601
2 " ANSI 300 PSI					T256A6601
undrilled Ø165 mm	Hastelloy				T219A7701
DN 40 PN 10 / 16 Type B					T227A7701
DN 40 PN 25 / 40 Type B					T228A7701
1½" ANSI 150 PSI					T255A7701
1½ " ANSI 300 PSI B					T256A7701
DN 50 PN 10 / 16 Type B					T230A7701
DN 50 PN 25 / 40 Type B					T231A7701
2" ANSI 150 PSI					T255A7701
2 " ANSI 300 PSI					T256A7701
undrilled Ø165 mm	PEEK				T219A9901
DN 40 PN 10 / 16 Type B					T227A9901
1½" ANSI 150 PSI					T255A9901
DN 50 PN 10 / 16 Type B					T230A9901
2" ANSI 150 PSI					T255A9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

4) Weight in kg and lbs

2" (Ø70 mm) Dust cap for Tank unit / Adapter

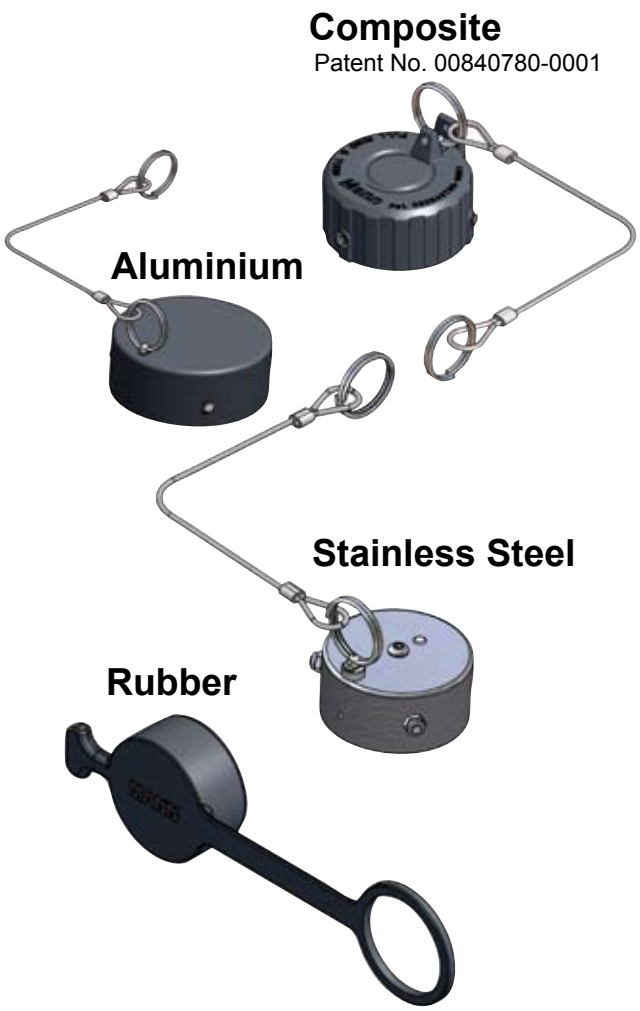
Dust Cap for Tank unit/Adapter

Use the Mann Tek Dust Cap to prevent ingress of dirt and water in the couplings. The material in the Dust Cap is Composite, Aluminium and Stainless steel

Inch DN	Material [1]	Seal [2]	Code No
1½"-2" DN 40-50	Co	NBR Nitrile®	C200E2202
	Al	Standard: FPM Viton®	C200A1101
	SS		C200B4401
	Rubber		C200D1300

[1] Mtrl: Co=Composite (Polyetylen), Al=Aluminium EN 755, SS=Stainless Steel EN 10272

[2] Standard sealings FPM (Viton®). Other on request.



2" (Ø70 mm) Sealing Cap Tank unit / Adapter

Sealing Cap for Tank unit/Adapter

Sometimes a simple protection of the DDC Tank Unit against pollution is not sufficient. International regulations can require a sealing function of the cap as an additional safety factor in case of worn out gaskets in the tank unit. The sealing cap is a cheap solution to fulfil these requirements.

Inch DN	Material [1]	Seal [2]	Code No
1½"-2" DN 40-50	Al	Standard: FPM Viton®	C200P1101
	SS		C200P4401

[1] Mtrl: SS=Stainless Steel EN 10272, Al=Aluminium EN 755

[2] Standard sealings FPM (Viton®). Other on request.

2" (Ø70 mm) Pressure Cap for Tank unit / Adapter

3rd closure (valve) on Rail tankers, Containers and Tank trucks

The pressure caps are allowed by ADR/RID regulations as 3rd closure on Rail tankers, Containers and Tank trucks. Meaning that the Pressure Cap can be used instead of the traditional Ball Valves.

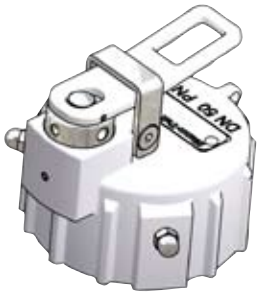
Pressure Cap for Tank unit - Working Pressure PN 25 bar / 363 psi

The Mann Tek Pressure Cap for Tank units / Adapters is designed to maximize operator safety and containment safety.

Features

- Pressure indicator
- Depressurization
- Customs / tamper seal feature
- Automatic locking
- Manually lockable (with padlock)

Inch DN	Material [1]	Seal [2]	Code No
1½"-2" DN 40-50	**SS**	Standard: **FPM** Viton®	**R200A4401**



[1] Mtrl: SS=Stainless Steel EN 10272, Al=Aluminium EN 755
[2] Standard sealings FPM (Viton®). Other on request.

2" (Ø70 mm) Hose unit / Coupler - Female thread

Connection[1] Inch/DN	Material[2]	Seal[3] O-ring	Seal[3] Flat seal	Weight[4] kg	Weight[4] lbs	Code No
F 1½" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)			S207A1101B
F 1½" BSP-Big mouth*)						S207A1101BI
F 2" BSP						S210A1101B
F 2" BSP-Big mouth*)						S210A1101BI
F 1½" NPT						S208A1101
F 1½" NPT-Big mouth*)						S208A1101I
F 2" NPT						S211A1101
F 2" NPT-Big mouth*)						S211A1101I
F 1½" BSP	Brass		PUR (Vulkollan®)			S207A2201B
F 1½" BSP-Big mouth*)						S207A2201BI
F 2" BSP						S210A2201B
F 2" BSP-Big mouth*)						S210A2201BI
F 1½" NPT						S208A2201
F 1½" NPT-Big mouth*)						S208A2201I
F 2" NPT						S211A2201
F 2" NPT-Big mouth*)						S211A2201I
F 1½" BSP	SS		PTFE Teflon®			S207A4401A
F 2" BSP						S10A4401A
F 1½" NPT						S208A4401
F 2" NPT						S211A4401
F 1½" BSP	Titan		PTFE Teflon®			S207A6601A
F 2" BSP						S210A6601A
F 1½" NPT						S208A6601
F 2" NPT						S211A6601
F 1½" BSP	Hastelloy		PTFE Teflon®			S207A7701A
F 2" BSP						S210A7701A
F 1½" NPT						S208A7701
F 2" NPT						S211A7701
F 1½" BSP	PEEK		PTFE Teflon®			S207A9901A
F 2" BSP						S210A9901A
F 1½" NPT						S208A9901
F 2" NPT						S211A9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

*)Adapted for older models of EMCO Wheaton couplings

1) Female thread BSP=ISO 228, NPT=ANSI B1.20.3
2) **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272, Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK
3) Standard seal. Other on request.
4) Weight in kg and lbs

2" (Ø70 mm) Hose unit / Coupler - Male thread

Connection[1] Inch/DN	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
M 2" BSP	**Al**	**Standard: FPM/FKM** (Viton®) **Other on request**			**S278A1101**
M 2" NPT					**S279A1101**
M S60x6					**S2109A1101**
M W2"-7					**S2123A1101**
M 2" BSP	**Brass**				**S278A2201**
M 2" NPT					**S279A2201**
M S60x6					**S2109A2201**
M W2"-7					**S2123A2201**
M 2" BSP	**SS**				**S278A4401**
M 2" NPT					**S279A4401**
M S60x6					**S2109A4401**

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

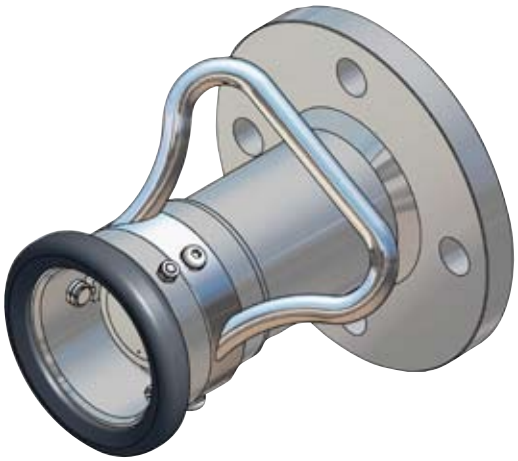
[1] Male thread BSP=ISO 228, NPT=ANSI B1.20.3
[2] **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK
[3] Standard seal. Other on request.
[4] Weight in kg and lbs

2" (Ø70 mm) Hose unit / Coupler, Flanged inlet

Flange[1]	Mate-rial[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
undrilled Ø165 mm	Al	Standard: FPM/FKM (Viton®) Other on request			S219A1101
DN 40 PN 10 / 16 Type A					S227A1101
1½" ANSI 150 PSI					S255A1101
DN 50 PN 10 / 16 Type A					S230A1101
2" ANSI 150 PSI					S255A1101
TW1 / 80					S265A1101
undrilled Ø165 mm	GM				S219A2201
DN 40 PN 10 / 16 Type B					S227A2201
DN 40 PN 25 / 40 Type B					S228A2201
1½" ANSI 150 PSI					S255A2201
1½ " ANSI 300 PSI					S256A2201
DN 50 PN 10 / 16 Type B					S230A2201
DN 50 PN 25 / 40 Type B					S231A2201
2" ANSI 150 PSI					S255A2201
2 " ANSI 300 PSI					S256A2201
TW1 / 80					S265A2201
undrilled Ø165 mm	SS				S219A4401
undrilled Ø165 mm **)					S219A4401F
DN 40 PN 10 / 16 Type B					S227A4401
DN 40 PN 10 / 16 Type B **)					S227A4401F
DN 40 PN 25 / 40 Type B					S228A4401
DN 40 PN 25 / 40 Type B **)					S228A4401F
1½" ANSI 150 PSI					S255A4401
1½" ANSI 150 PSI **)					S255A4401F
1½ " ANSI 300 PSI					S256A4401
1½ " ANSI 300 PSI **)					S256A4401F
DN 50 PN 25 / 40*) Type E					S229A4401
DN 50 PN 10 / 16 Type B					S230A4401
DN 50 PN 10 / 16 Type B **)					S230A4401F
DN 50 PN 25 / 40 Type B					S231A4401
DN 50 PN 25 / 40 Type B **)					S231A4401F
2" ANSI 150 PSI					S255A4401
2" ANSI 150 PSI **)					S255A4401F
2 " ANSI 300 PSI					S256A4401
2 " ANSI 300 PSI **)					S256A4401F
TW1 / 80					S265A4401

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



*) Type E, EN 1092-1:2001 Spigot
**) Flange with standard thickness

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

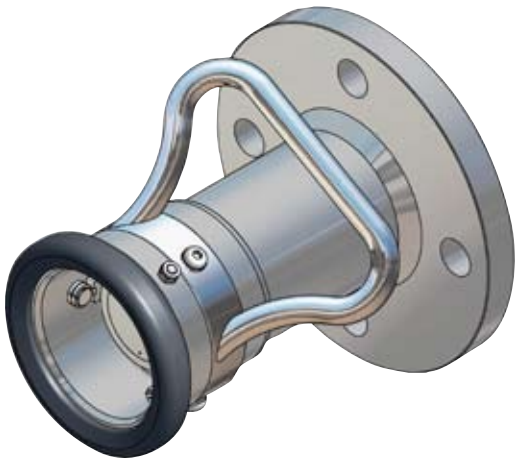
4) Weight in kg and lbs

2" (Ø70 mm) Hose unit / Coupler, Flanged inlet

Flange[1]	Mate-rial[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
undrilled Ø165 mm	TI	Standard: FPM/FKM (Viton®) Other on request			S219A6601
DN 40 PN 10 / 16 Type B					S227A6601
DN 40 PN 25 / 40 Type B					S228A6601
1½" ANSI 150 PSI					S255A6601
1½ " ANSI 300 PSI					S256A6601
DN 50 PN 10 / 16 Type B					S230A6601
DN 50 PN 25 / 40 Type B					S231A6601
2" ANSI 150 PSI					S255A6601
2 " ANSI 300 PSI					S256A6601
undrilled Ø165 mm	Ha				S219A7701
DN 40 PN 10 / 16 Type B					S227A7701
DN 40 PN 25 / 40 Type B					S228A7701
1½" ANSI 150 PSI					S255A7701
1½ " ANSI 300 PSI					S256A7701
DN 50 PN 10 / 16 Type B					S230A7701
DN 50 PN 25 / 40 Type B					S231A7701
2" ANSI 150 PSI					S255A7701
2 " ANSI 300 PSI					S256A7701
undrilled Ø165 mm	PE				S219A9901
DN 40 PN 10 / 16 Type B					S227A9901
1½" ANSI 150 PSI Type B					S255A9901
DN 50 PN 10 / 16 Type B					S230A9901
2" ANSI 150 PSI					S255A9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)
2) **Mtrl**: Al=Aluminium EN 755, Br=Brass EN 12164, SS=Stainless Steel EN 10272
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK
3) Standard seal. Other on request.
4) Weight in kg and lbs

Viton® (FPM) and Teflon® (FPM/KPM) are registered trademarks of DuPont, DuPont Elastomers. Vulkollan® is registered trademark of Bayer AG

2" (Ø70 mm) Dust plug for Hose unit / Coupler

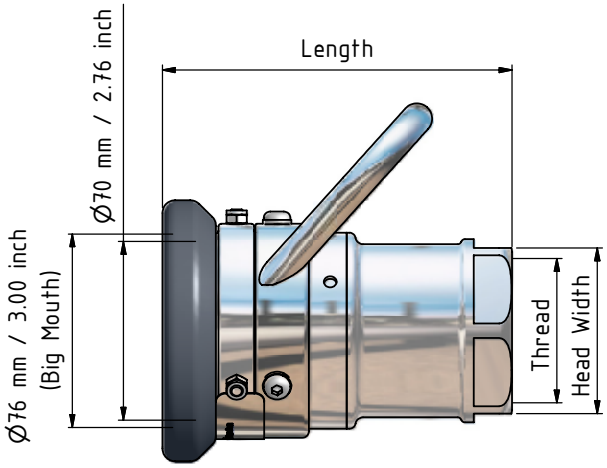
Dust Plug for Hose unit/Coupler

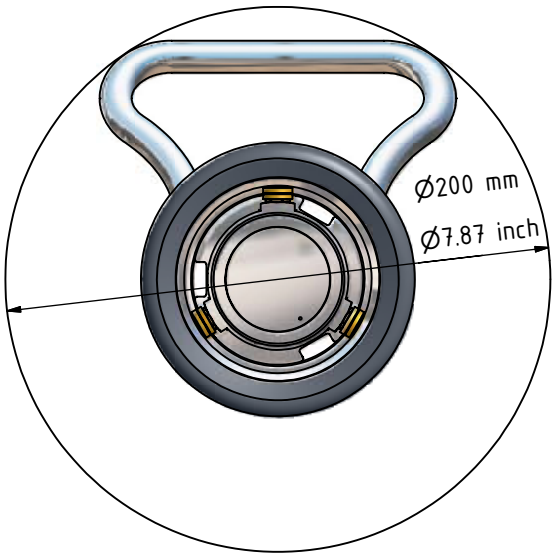
Use the Mann Tek Dust Plug to prevent ingress of dirt and water in the couplings. The material in the Dust Plug is Composite, Aluminium and Stainless Steel.

Inch DN	Material [1]	Seal [2]	Code No
1½"-2" DN 40-50	Co	Standard: FPM Viton®	P200A2201
	Al		P200A1101
	SS		P200A4401

2" (Ø70mm) Hose unit / Coupler - "Big mouth"

Adapted for older models of EMCO Wheaton Couplings





How to Order **Code No:** Hose Unit Code No. + I

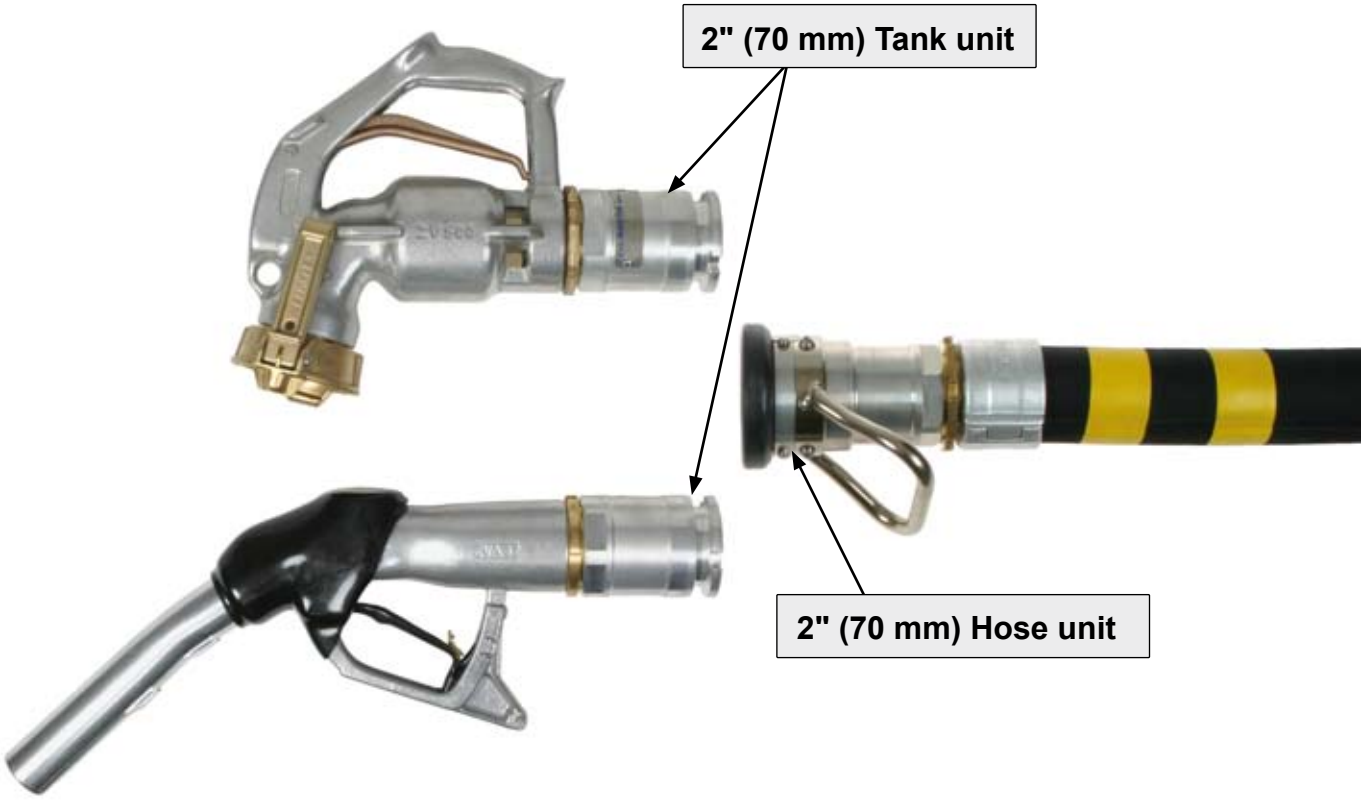
Environment friendly refuelling of locomotives with Mann Tek DDCouplings

Solution for refuelling

Using Mann Tek 2" (70 mm) DDC Dry Disconnect Couplings a change of non-automatic and automatic nozzles is possible on site, using only one hose reel.

Advantages

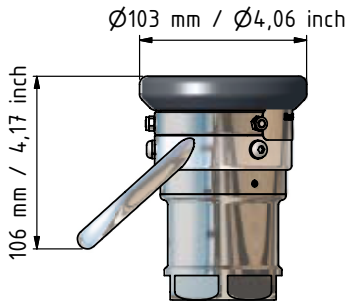
- Only one hose reel for different nozzles.
- Tank unit and hose unit close automatically when seperated.
  No liquid will flow out from the hose or nozzle
- Coupling is effected nya a simple rotation movement, up to max. 7 bar.
  The integrated swivel within the hose unit will avoid torsion of the hose.
- Almost all parts are made of aluminium to reduce weight.

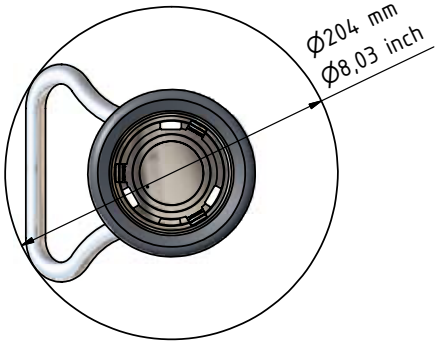


Refuelling of locomotives with DDCouplings

2" (Ø70 mm) Hose unit / coupler - Handles

Standard





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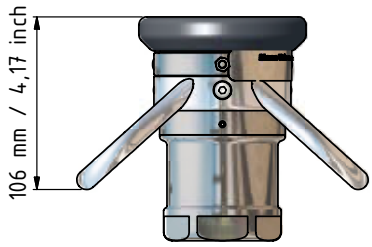
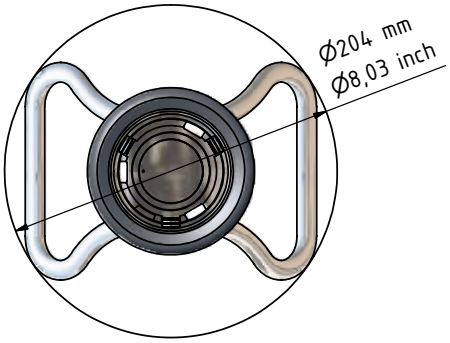
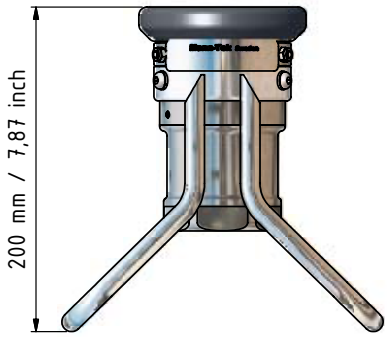
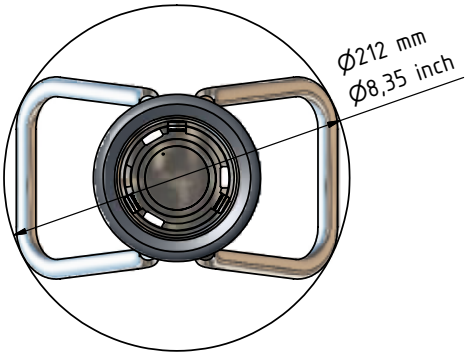


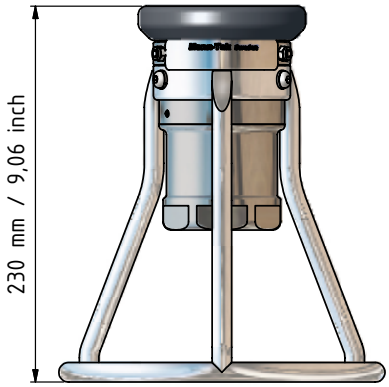


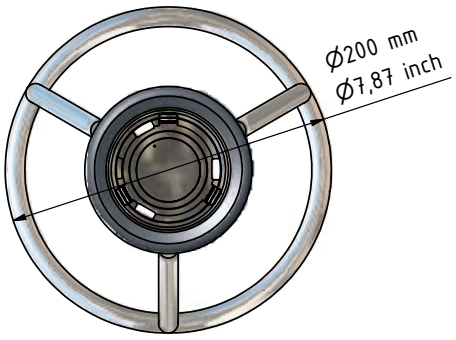
H-S2-44-L2





H-S2-44-M1





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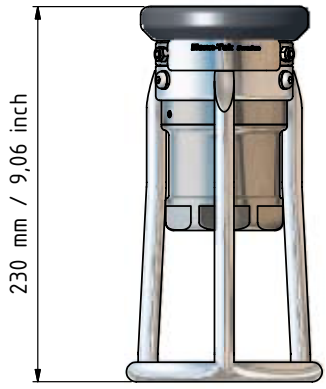
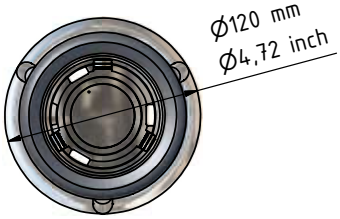




Mann Tek

DDCouplings®

Dry Disconnect Couplings

2½" (Ø105 mm)

Tank unit/Adapter and Hose unit / Coupler

Technical information

2½" (Ø105 mm)

Tank unit/ Adapter and Hose unit / Coupler

Material	Maximum working pressure	Test pressure	Minimum Burs Pressure	
Aluminium	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi	
Brass/Gun Metal	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi	
Stainless Steel	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi	
Titan	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi	
Hastelloy	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi	
Peek	6 bar / 87 psi	9 bar / 131 psi	45 bar / 653 psi	

Connections

2½" and 3" in BSP, NPT and Flanged inlet

Recommended for any application where spillage needs to be minimized.

Applications

The 2" (105 mm) DDCoupling is recommended for road tanker bottom loading for a varity of fluids or on any application where product contamination and spillage needs to be minimized.

Media

Petroleum products: Gasolin, diesel, oil etc.
Chemical products: Ethylene Oxide, Propylene Oxide, Acrylonitrile, Butadiene, Ammonia, Vilyl Chloride, Toluene, Xylene, Sulphuric, Acid, Phenol etc.
Gas:
Dry powder: Chokolade powder e.t.c.

Material

Aluminium, Brass/Gunmetal, Stainless Steel, Hastelloy C and PEEK. Other materials on request.

Seals

Standard seals in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile). Other materials on request.

High Flow Rates / Low Pressure Drop

Allows maximum product transfer with minimal losses

Maximum Flow Rates

1500 litres/minute

Selectivity

- 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.

Interchangeability:

Compatibility with other existing brands for example TODO (Gardner Denver), Avery Hardoll and Emco Wheaton.

Coupling standard: NATO STANAG 3756

2½" (Ø105 mm) Tank unit / Adapter - Female thread

Connection[1] Inch/DN	Material[2]	Seal[3]		Weight[4]		Code No
		O-ring	Flat seal	kg	lbs	
F 2½" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)			T312D1101B
F 3" BSP						T314D1101B
F 2½" NPT						T313D1101
F 3" NPT						T315D1101
F 2½" BSP	GM		PUR (Vulkollan®)			T312D2201B
F 3" BSP						T314D2201B
F 2½" NPT						T313D2201
F 3" NPT						T315D2201
F 2½" BSP	SS		PTFE Teflon®			T312B4401A
F 3" BSP						T314B4401A
F 2½" NPT						T313B4401
F 3" NPT						T315B4401
F 2½" BSP	Hastelloy		PTFE Teflon®			T312A7701A
F 3" BSP						T314A7701A
F 2½" NPT						T313A7701
F 3" NPT						T315A7701
F 2½" BSP	PEEK		PTFE Teflon®			T312A9901A
F 3" BSP						T314A9901A
F 2½" NPT						T313A9901
F 3" NPT						T315A9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

1) Female thread BSP=ISO 228, NPT=ANSI B1.20.3

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

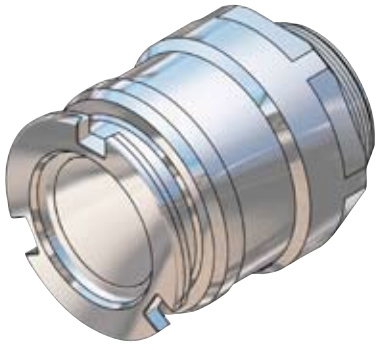
4) Weight in kg and lbs

2½" (Ø105 mm) Tank unit / Adapter - Male thread

Connection[1] Inch/DN	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
M 2½" BSP	Al	Standard: FPM/FKM (Viton®) Other on request			T380A1101
M 3" BSP					T382A1101
M 2½" NPT					T381A1101
M 3" NPT					T383A1101
M 2½" BSP	GM				T380A2201
M 3" BSP					T382A2201
M 2½" NPT					T381A2201
M 3" NPT					T383A2201
M 2½" BSP	SS				T380A4401
M 3" BSP					T382A4401
M 2½" NPT					T381A4401
M 3" NPT					T383A4401

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



[1] Male thread BSP=ISO 228, NPT=ANSI B1.20.3

[2] **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

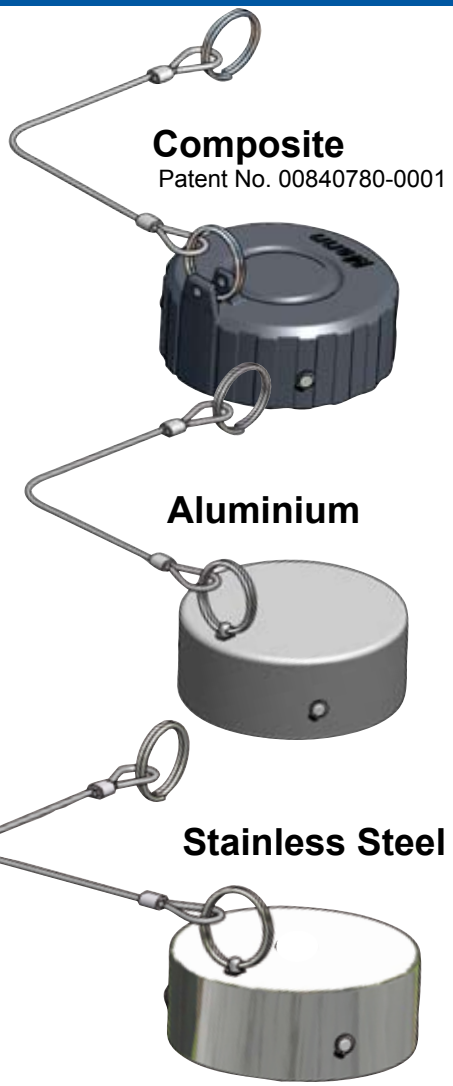
[3] Standard seal. Other on request.

[4] Weight in kg and lbs

2½" (105 mm) Dust cap for Tank unit / Adapter

Dust Cap for Tank unit

Use the Mann Tek Dust Cap to prevent ingress of dirt and water in the couplings. The material in the Dust Cap is Composite, Aluminium and Stainless steel



Inch DN	Material [1]	Seal [2]	Code No
2½" DN 65	Co	NBR Nitrile®	C300E2202
	Al	Standard: FPM Viton®	C300A1101
	SS		C300B4401

[1] Mtrl: Co=Composite (Polyetylen), Al=Aluminium EN 755, SS=Stainless Steel EN 10272
[2] Standard sealings FPM (Viton®). Other on request.

Viton® (FPM) and Teflon® (FPM/KPM) are registered trademarks of DuPont, DuPont Elastomers. Vulkollan® is registered trademark of Bayer AG

2½" (105 mm) Sealing Cap for Tank unit / Adapter

Sealing Cap for Tank unit/Adapter

Sometimes a simple protection of the DDC Tank Unit against pollution is not sufficient. International regulations can require a sealing function of the cap as an additional safety factor in case of worn out gaskets in the tank unit. The sealing cap is a cheap solution to fulfil these requirements.

Inch DN	Material [1]	Seal [2]	Code No
2½" DN 65	SS	Standard: FPM Viton®	C300P4401

[1] Mtrl: SS=Stainless Steel EN 10272
[2] Standard sealings FPM (Viton®). Other on request.

Viton® (FPM) and Teflon® (FPM/KPM) are registered trademarks of DuPont, DuPont Elastomers. Vulkollan® is registered trademark of Bayer AG

2½" (105 mm) Pressure Cap for Tank unit / Adapter

3rd closure (valve) on Rail tankers, Containers and Tank trucks

The pressure caps are allowed by ADR/RID regulations as 3rd closure on Rail tankers, Containers and Tank trucks. Meaning that the Pressure Cap can be used instead of the traditional Ball Valves.

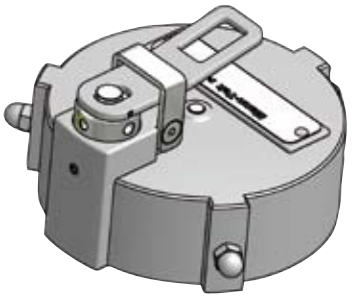
Pressure Cap for Tank unit - Working Pressure PN 25 bar / 363 psi

The Mann Tek Pressure Cap for Tank units / Adapters is designed to maximize operator safety and containment safety.

Features

- Pressure indicator
- Depressurization
- Customs / tamper seal feature
- Automatic locking
- Manually lockable (with padlock)

Inch DN	Material [1]	Seal [2]	Code No
2½" DN 65	**SS**	Standard: **FPM** Viton®	**R300A4401**



[1] Mtrl: SS=Stainless Steel EN 10272
[2] Standard sealings FPM (Viton®). Other on request.

2½" (Ø105 mm) Tank unit / Adapter, Flanged inlet

Flange[1]	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
undrilled Ø210 mm	Al	Standard: FPM/FKM (Viton®) Other on request			T320D1101
DN 65 PN 10 / 16 Type A					T333D1101
DN 80 PN 10 / 16 Type A					T336D1101
2½" ANSI 150 psi					T359D1101
3" ANSI 150 psi					T361D1101
TW1 (DN 80)					T365D1101
TW3 (DN 100)					T366D1101
3" TTMA					T367D1101
4" TTMA					T368D1101
undrilled Ø210 mm	GM				T320D2201
DN 65 PN 10 / 16 Type B					T333D2201
DN 65 PN 25 / 40 Type B					T334D2201
DN 80 PN 10 / 16 Type B					T336D2201
DN 80 PN 25 / 40 Type B					T337D2201
2½" ANSI 150 psi					T359D2201
2½" ANSI 300 psi					T360D2201
3" ANSI 150 psi					T361D2201
3" ANSI 300 psi					T362D2201
TW1 (DN 80)					T365D2201
TW3 (DN 100)					T366D2201
3" TTMA					T367D2201
4" TTMA					T368D2201
undrilled Ø210 mm	SS				T320B4401
undrilled Ø210 mm **)					T320B4401F
DN 65 PN 25 / 40 Type E *)					T332B4401
DN 65 PN 10 / 16 Type B					T333B4401
DN 65 PN 10 / 16 Type B **)					T333B4401F
DN 65 PN 25 / 40 Type B					T334B4401
DN 65 PN 25 / 40 Type B **)					T334B4401F
DN 80 PN 10 / 16 Type E *)					T335B4401
DN 80 PN 10 / 16 Type B					T336B4401
DN 80 PN 10 / 16 Type B **)					T336B4401F
DN 80 PN 25 / 40 Type B					T337B4401
DN 80 PN 25 / 40 Type B **)					T337B4401F
2½" ANSI 150 psi					T359B4401
2½" ANSI 150 psi **)					T359B4401F
2½" ANSI 300 psi					T360B4401
2½" ANSI 300 psi **)					T360B4401F
3" ANSI 150 psi					T361B4401
3" ANSI 150 psi **)					T361B4401F
3" ANSI 300 psi					T362B4401
3" ANSI 300 psi **)					T362B4401F
TW1 (DN 80)					T365B4401
TW3 (DN 100)					T366B4401
3" TTMA					T367B4401
4" TTMA					T368B4401

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

*) Type E, EN 1092-1:2001 Spigot
**) Flange with standard thickness

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213

3) Standard seal. Other on request.

4) Weight in kg and lbs

2½" (Ø105 mm) Hose unit / Adapter - Female thread

Connection[1] Inch/DN	Material[2]	Seal[3]		Weight[4]		Code No
		O-ring	Flat seal	kg	lbs	
F 2½" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)			S312B1101B
F 3" BSP						S314B1101B
F 2½" NPT						S313B1101
F 3" NPT						S315B1101
F 2½" BSP	GM		PUR (Vulkollan®)			S312B2201B
F 3" BSP						S314B2201B
F 2½" NPT						S313B2201
F 3" NPT						S315B2201
F 2½" BSP	SS		PTFE Teflon®			S312B4401A
F 3" BSP						S314B4401A
F 2½" NPT						S313B4401
F 3" NPT						S315B4401
F 2½" BSP	Hastelloy		PTFE Teflon®			S312A7701A
F 3" BSP						S314A7701A
F 2½" NPT						S313A7701
F 3" NPT						S315A7701
F 2½" BSP	PEEK		PTFE Teflon®			S312A9901A
F 3" BSP						S314A9901A
F 2½" NPT						S313A9901
F 3" NPT						S315A9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

[1] Female thread BSP=ISO 228, NPT=ANSI B1.20.3

[2] **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

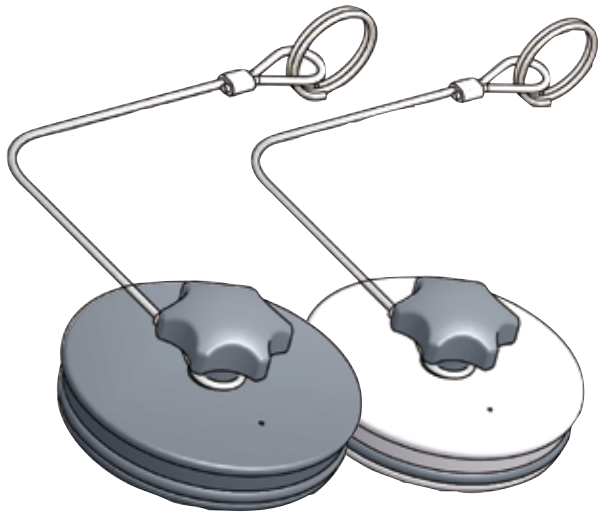
[3] Standard seal. Other on request.

[4] Weight in kg and lbs

Dust Plug for Hose unit

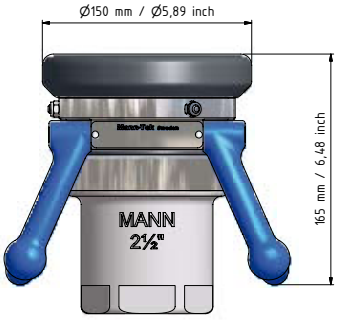
Use the Mann Tek Dust Plug to prevent ingress of dirt and water in the couplings.
The material in the Dust Plug is Composite, Aluminium and Stainless Steel.

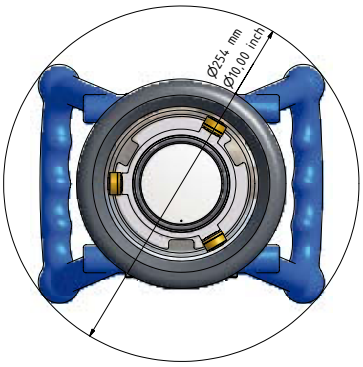
Inch DN	Material [1]	Seal [2]	Code No
2½" DN 65	Co	Standard: FPM Viton®	P300A2201
	Al		P300A1101
	SS		P300A4401



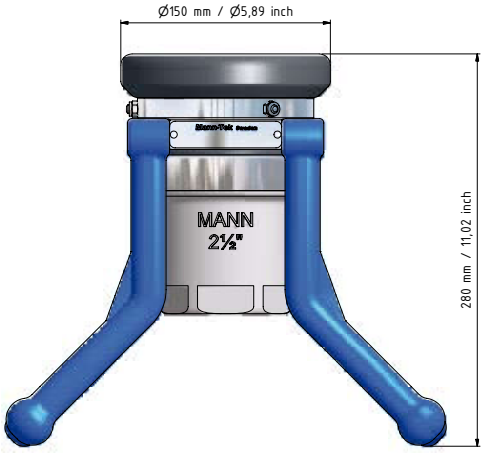
[1] Mtrl: Co=Composite (Polyetylen), Al=Aluminium EN 755, SS=Stainless Steel EN 10272
[2] Standard sealings FPM (Viton®). Other on request.

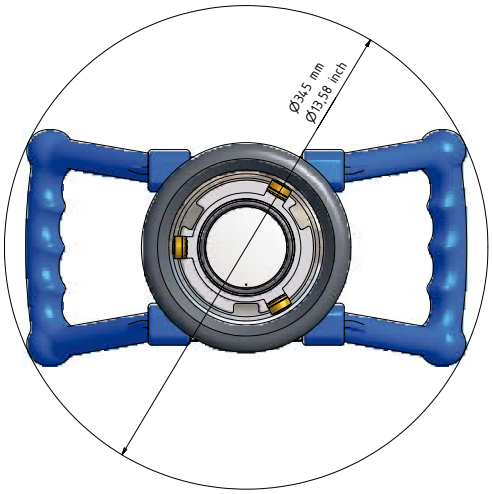
2½" (Ø105 mm) Hose unit / Coupler option - Handle





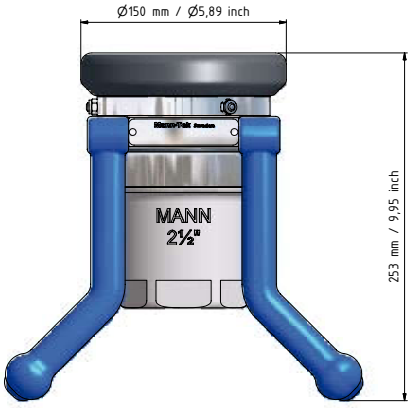
Code No: S312B1101B Standard

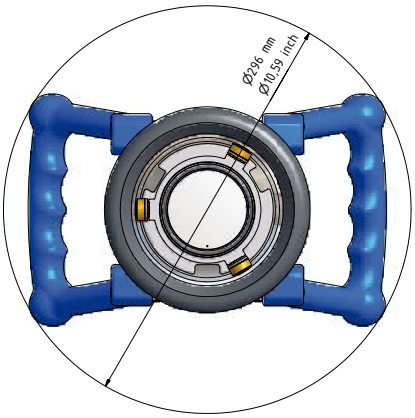




Hose unit Code No +

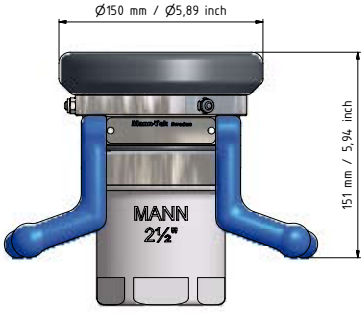
Handle Code No: H-S3-11-L1BL

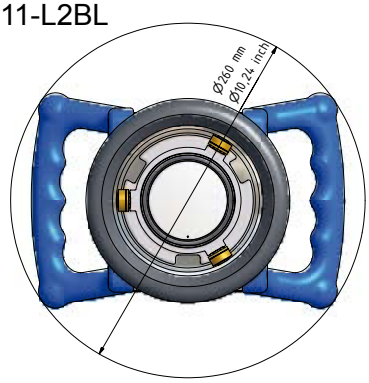




Hose unit Code No +

Handle Code No: H-S3-11-L2BL





Hose unit Code No +

Handle Code No: H-S3-11-L3BL

Mann Tek

DDCouplings®

Dry Disconnect Couplings

3"(Ø119 mm)

Tank unit/Adapter and Hose unit / Coupler

Technical information

3" (Ø119 mm)

Tank unit/ Adapter and Hose unit / Coupler

Material	Maximum working pressure	Test pressure	Minimum Burs Pressure	
Aluminium	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi	
Brass/Gun Metal	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi	
Stainless Steel	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi	
Titan	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi	
Hastelloy	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi	
Peek	6 bar / 87 psi	9 bar / 131 psi	45 bar / 653 psi	

Connections

3" in BSP, NPT and Flanged inlet

Recommended for any application where spillage needs to be minimized.

Applications

The 3" (119 mm) DDCoupling is recommended for similar applications to the 3" (105 mm) range, but where higher loading rates are required. Especially in rail tankers, marine tankers and related activities or on any application where product contamination and spillage needs to be minimized.

Media

Petroleum products: Gasolin, diesel, oil etc.
Chemical products: Ethylene Oxide, Propylene Oxide, Acrylonitrile, Butadiene, Ammonia, Vilyl Chloride, Toluene, Xylene, Sulphuric, Acid, Phenol etc.
Gas:
Dry powder: Chokolade powder e.t.c.

Material

Aluminium, Brass/Gunmetal, Stainless Steel, Hastelloy C and PEEK. Other materials on request.

Seals

Standard seals in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile). Other materials on request.

High Flow Rates / Low Pressure Drop

Allows maximum product transfer with minimal losses

Maximum Flow Rates

2000 litres/minute

Selectivity

- 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.

Interchangeability:

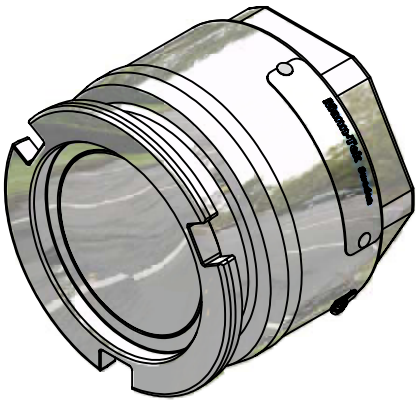
Compatibility with other existing brands for example TODO (Gardner Denver), Avery Hardoll and Emco Wheaton.
Coupling standard: NATO STANAG 3756

3" (Ø119 mm) Tank unit / Adapter - Female thread

Connection[1] Inch/DN	Material[2]	Seal[3]		Weight[4]		Code No
		O-ring	Flat seal	kg	lbs	
F 3" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)			T414D1101B
F 3" BSP						T414K1101B *)
F 3" NPT						T415D1101
F 3" BSP	GM		PUR (Vulkollan®)			T414D2201B
F 3" NPT						T415D2201
F 3" BSP	Brass		PUR (Vulkollan®)			T414K2201B *)
F 3" BSP	SS		PTFE Teflon®			T414B4401A
F 3" NPT						T415B4401
F 3" BSP	Hastelloy		PTFE Teflon®			T414A7701A
F 3" NPT						T415A7701
F 3" BSP	PVDF/ Hastelloy		PTFE Teflon®			T414A8701A
F 3" BSP	PEEK		PTFE Teflon®			T414A9901A
F 3" NPT						T415A9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



*) Compact version

1) Female thread BSP=ISO 228, NPT=ANSI B1.20.3

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

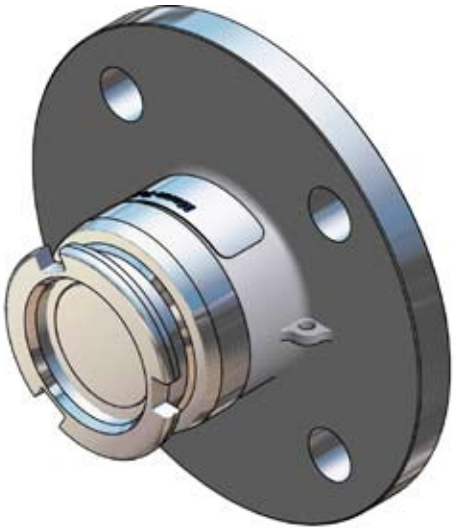
4) Weight in kg and lbs

3" (Ø119 mm) Tank unit / Adapter, Flanged inlet

Flange[1]	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
undrilled Ø210 mm	Al	Standard: FPM/FKM (Viton®) Other on request			T420D1101
DN 65PN 10 / 16 Type A					T433D1101
DN 80 PN 10 / 16 Type A					T436D1101
3" ANSI 150 psi					T461D1101
TW1 (DN 80)					T465D1101
TW3 (DN 100)					T466D1101
3" TTMA					T467D1101
4" TTMA					T468D1101
undrilled Ø210 mm	GM				T320D2201
DN 65 PN 10 / 16 Type B					T433D2201
DN 65PN 25 / 40 Type B					T434D2201
DN 80 PN 10 / 16 Type B					T436D2201
DN 80 PN 25 / 40 Type B					T437D2201
3" ANSI 150 psi					T461D2201
3" ANSI 300 psi					T462D2201
TW1 (DN 80)					T465D2201
TW3 (DN 100)					T466D2201
3" TTMA					T467D2201
4" TTMA					T468D2201
undrilled Ø210 mm	SS				T420B4401
undrilled Ø210 mm **)					T420B4401F
DN 65PN 10 / 16 Type B					T433B4401
DN 65 PN 10 / 16 Type B **)					T433B4401F
DN 65 PN 25 / 40 Type B					T434B4401
DN 65 PN 25 / 40 Type B **)					T434B4401F
DN 80 PN 25 / 40 Type E *)					T435B4401F
DN 80 PN 10 / 16 Type B					T436B4401
DN 80 PN 10 / 16 Type B **)					T436B4401F
DN 80 PN 25 / 40 Type B					T437B4401
DN 80 PN 25 / 40 Type B **)					T437B4401F
3" ANSI 150 psi					T461B4401
3" ANSI 150 psi **)					T461B4401F
3" ANSI 300 psi					T462B4401
3" ANSI 300 psi **)					T462B4401F
TW1 (DN 80)					T465B4401
TW3 (DN 100)					T466B4401
3" TTMA					T467B4401
4" TTMA					T468B4401
undrilled Ø210 mm	PEEK				T420A9901
DN 80 PN 10 / 16 Type B					T436A9901
3" ANSI 150 psi					T461A9901
3" TTMA					T467A9901
4" TTMA					T468A9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



*) Type E, EN 1092-1:2001 Spigot
**) Flange with standard thickness

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213

3) Standard seal. Other on request.

4) Weight in kg and lbs

3" (119 mm) Dust cap for Tank unit / Adapter

Dust Cap for Tank unit

Use the Mann Tek Dust Cap to prevent ingress of dirt and water in the couplings. The material in the Dust Cap is Composite, Aluminium and Stainless steel

Inch DN	Material [1]	Seal [2]	Code No
3" DN 80	Co	NBR Nitrile®	C400E2202
	Al	Standard: FPM Viton®	C400A1101
	SS		C400B4401
	Rubber	NBR Nitrile®	C400D1300

[1] Mtrl: Co=Composite (Polyetylen), Al=Aluminium EN 755, SS=Stainless Steel EN 10272
[2] Standard sealings FPM (Viton®). Other on request.

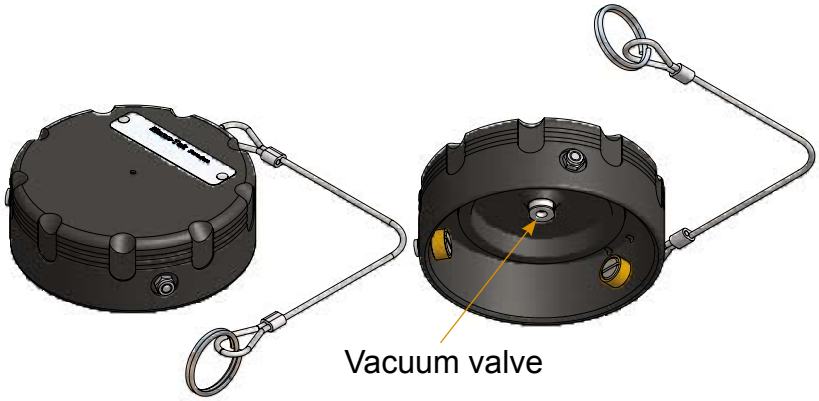
Viton® (FPM) and Teflon® (FPM/KPM) are registered trademarks of DuPont, DuPont Elastomers. Vulkollan® is registered trademark of Bayer AG

3" (Ø119 mm) Sealing Cap Tank unit / Adapter - 10 bar / 145 psi

Sealing Cap for Tank unit/Adapter

Sometimes a simple protection of the DDC Tank Unit against pollution is not sufficient. International regulations can require a sealing function of the cap as an additional safety factor in case of worn out gaskets in the tank unit. The sealing cap is a cheap solution to fulfil these requirements.

Inch DN	Material [1]	Seal [2]	Code No
3" DN 80	SS	Standard: FPM Viton®	C400P4401



Inch DN	Material [1]	Seal [2]	Code No
3" DN 80	Al	Standard: FPM Viton®	C400H4401

[1] Mtrl: SS=Stainless Steel EN 10272
[2] Standard sealings FPM (Viton®). Other on request.

Viton® (FPM) and Teflon® (FPM/KPM) are registered trademarks of DuPont, DuPont Elastomers. Vulkollan® is registered trademark of Bayer AG

3" (Ø119 mm) Pressure Cap for Tank unit / Adapter

3rd closure (valve) on Rail tankers, Containers and Tank trucks

The pressure caps are allowed by ADR/RID regulations as 3rd closure on Rail tankers, Containers and Tank trucks. Meaning that the Pressure Cap can be used instead of the traditional Ball Valves.

Pressure Cap for Tank unit - Working Pressure PN 25 bar / 363 psi

The Mann Tek Pressure Cap for Tank units / Adapters is designed to maximize operator safety and containment safety.

Features

- Pressure indicator
- Depressurization
- Customs / tamper seal feature
- Automatic locking
- Manually lockable (with padlock)

Inch DN	Material [1]	Seal [2]	Code No
3" DN 80	**SS**	Standard: **FPM** Viton®	**R400A4401**

[1] Mtrl: SS=Stainless Steel EN 10272
[2] Standard sealings FPM (Viton®). Other on request.

3" (Ø119 mm) Hose unit / Coupler - Female thread

Connection[1] Inch/DN	Material[2]	Seal[3]		Weight[4]		Code No
		O-ring	Flat seal	kg	lbs	
F 3 BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)			S414B1101B
F 3" NPT						S415B1101
F 3" BSP	GM		PUR (Vulkollan®)			S414B2201B
F 3" NPT						S415B2201
F 3" BSP	SS		PTFE Teflon®			S414B4401A
F 3" NPT						S415B4401
F 3" BSP	Hastelloy		PTFE Teflon®			S414A7701B
F 3" NPT						S415A7701
F 3" BSP	PVDF/ Hastelloy		PTFE Teflon®			S414A8701B
F 3" BSP	PEEK		PTFE Teflon®			S414A9901B
F 3" NPT						S415A9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

[1] Female thread BSP=ISO 228, NPT=ANSI B1.20.3

[2] **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

[3] Standard seal. Other on request.

[4] Weight in kg and lbs

3" (Ø119 mm) Hose unit / Coupler, Flanged inlet

Flange[1]	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
undrilled Ø210 mm	Al	Standard: FPM/FKM (Viton®) Other on request			S420B1101
DN 80 PN 10 / 16 Type A					S436B1101
3" ANSI 150 psi					S461B1101
TW1 (DN 80)					S465B1101
TW3 (DN 100)					S466B1101
3" TTMA					S467B1101
4" TTMA					S468B1101
undrilled Ø210 mm	GM				S320B2201
DN 80 PN 10 / 16 Type B					S436B2201
DN 80 PN 25 / 40 Type B					S437B2201
3" ANSI 150 psi					S461B2201
3" ANSI 300 psi					S462B2201
TW1 (DN 80)					S465B2201
TW3 (DN 100)					S466B2201
3" TTMA					S467B2201
4" TTMA					S468B2201
undrilled Ø210 mm	SS				S420B4401
undrilled Ø210 mm **)					S420B4401F
DN 80 PN 10 / 16 Type B					S436B4401
DN 80 PN 10 / 16 Type B **)					S436B4401F
DN 80 PN 25 / 40 Type B					S437B4401
DN 80 PN 25 / 40 Type B **)					S437B4401F
DN 80 PN 25 / 40 Type E					S435B4401F
3" ANSI 150 psi					S461B4401
3" ANSI 150 psi **)					S461B4401F
3" ANSI 300 psi					S462B4401
3" ANSI 300 psi **)					S462B4401F
TW1 (DN 80)					S465B4401
TW3 (DN 100)					S466B4401
3" TTMA					S467B4401
4" TTMA					S468B4401
undrilled Ø210 mm	PEEK				S420B9901
DN 80 PN 10 / 16 Type B					S436B9901
3" ANSI 150 psi					S461B9901

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

*) Type E, EN 1092-1:2001 Spigot
**) Flange with standard thickness

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213

3) Standard seal. Other on request.

4) Weight in kg and lbs

3" (119 mm) Dust plug for Hose unit / Coupler

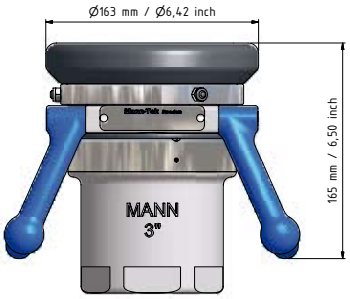
Dust Plug for Hose unit

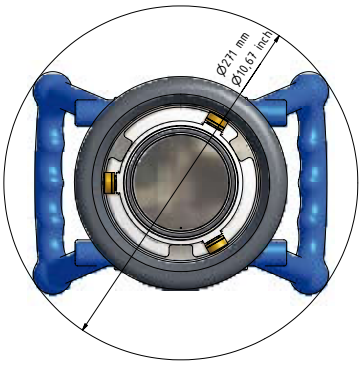
Use the Mann Tek Dust Plug to prevent ingress of dirt and water in the couplings. The material in the Dust Plug is Composite, Aluminium and Stainless Steel.

Inch DN	Material [1]	Seal [2]	Code No
3" DN 80	Co	Standard: FPM Viton®	P400A2201
	Al		P400A1101
	SS		P400A4401
	Rubber		P400D1300

[1] Mtrl: Co=Composite (Polyetylen), Al=Aluminium EN 755, SS=Stainless Steel EN 10272
[2] Standard sealings FPM (Viton®). Other on request.

3" (Ø119 mm) Hose unit / Coupler option - Handle





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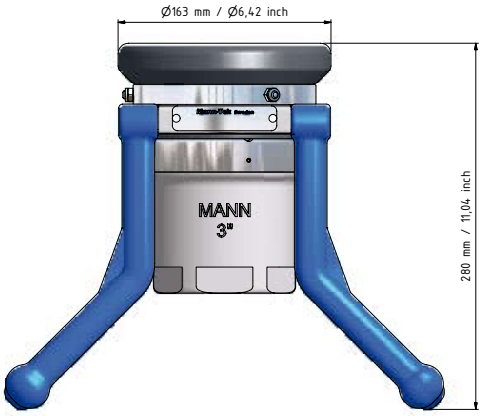
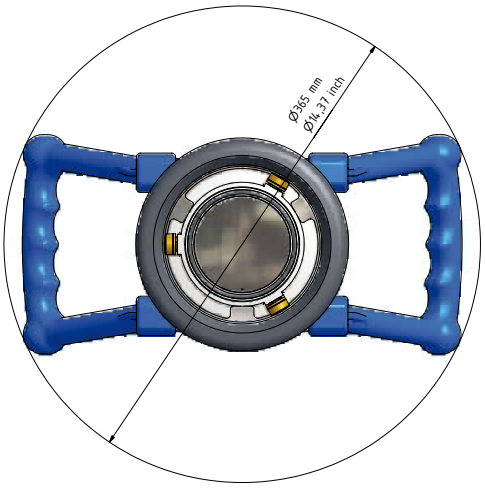
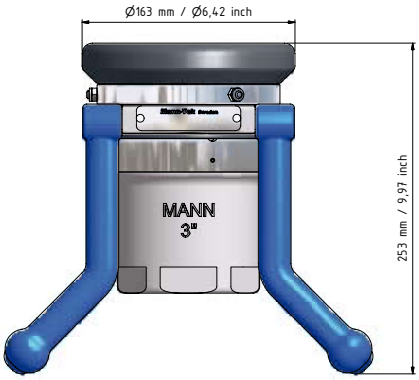
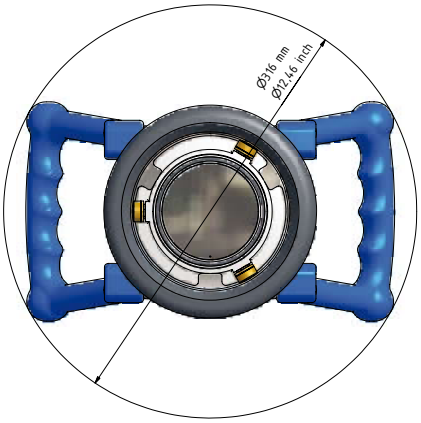




Hose unit Code No +

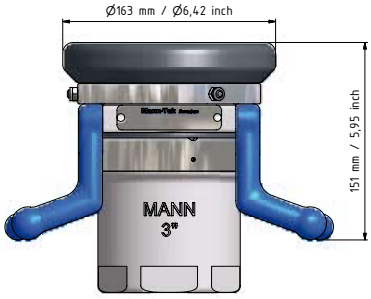
Handle Code No: H-S4-11-L1BL

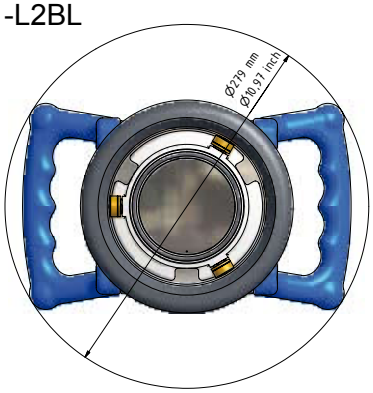




Hose unit Code No +

Handle Code No: H-S4-11-L2BL





Hose unit Code No +

Handle Code No: H-S4-11-L3BL

Mann Tek

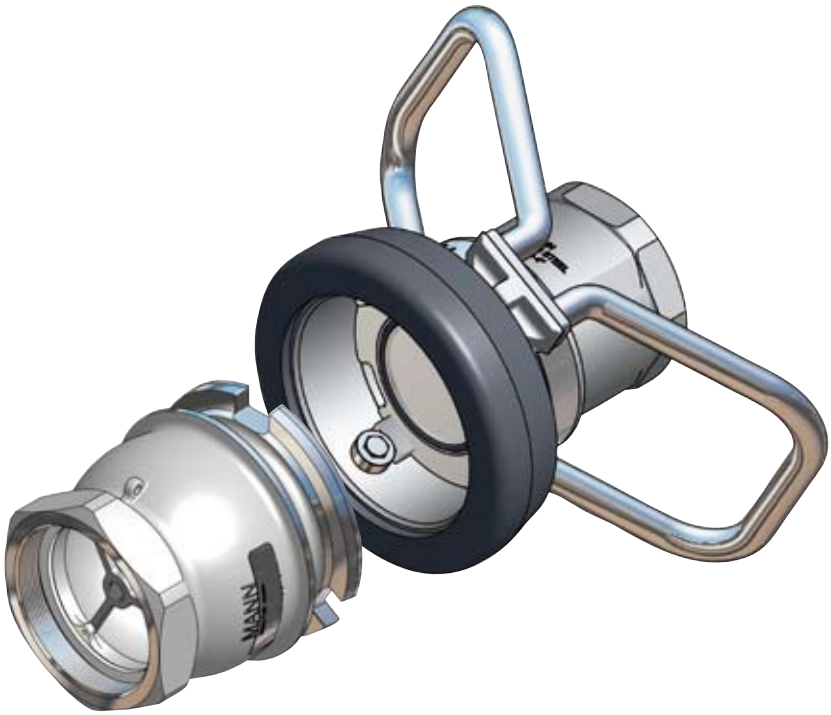
DDCouplings®

Dry Disconnect Couplings

4"(Ø164 mm)

Tank unit/Adapter and Hose unit / Coupler

Technical information



4" (Ø164 mm)

Tank unit/ Adapter and Hose unit / Coupler

Material	Maximum working pressure	Test pressure	Minimum Burs Pressure
Aluminium	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi
Brass/Gun Metal	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi
Stainless Steel	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi

Connections

4" in BSP, NPT and Flanged inlet

Applications

The 4" (Ø164 mm) is recommended loading/unloading of rail tanker, aviation refueller, road tanker etc. Also recommended for ship to shore transfer, ship to ship transfer and ship to rig transfer.

Recommended for any application where spillage needs to be minimized.

Media

Petroleum products: Gasolin, diesel, oil etc.
Chemical products: Ethylene Oxide, Propylene Oxide, Acrylonitrile, Butadiene, Ammonia, Vilyl Chloride, Toluene, Xylene, Sulphuric, Acid, Phenol etc.
Gas:
Dry powder: Chokolade powder e.t.c.

Material

Aluminium, Brass/Gunmetal, Stainless Steel, Hastelloy C and PEEK. Other materials on request.

Seals

Standard seals in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile). Other materials on request.

High Flow Rates / Low Pressure Drop

Allows maximum product transfer with minimal losses

Maximum Flow Rates

3500 litres/minute

Selectivity

- 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.

Interchangeability:

Compatibility with other existing brands for example TODO (Gardner Denver), Avery Hardoll and Emco Wheaton.

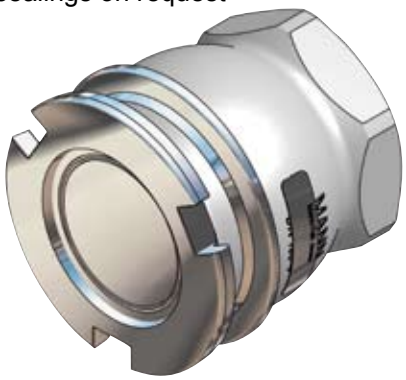
Coupling standard: NATO STANAG 3756

4" (Ø164 mm) Tank unit / Adapter - Female thread

Connection[1] Inch/DN	Material[2]	Seal[3] O-ring	Seal[3] Flat seal	Weight[4] kg	Weight[4] lbs	Code No
F 4" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)			T516A1101B
F 4" NPT	Al					T517A1101
F 4" BSP	GM		PUR (Vulkollan®)			T516D2201B
F 4" NPT	GM					T517D2201
F 4" BSP	SS		PTFE Teflon®			T516B4401A
F 4" NPT	SS					T517B4401

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



1) Female thread BSP=ISO 228, NPT=ANSI B1.20.3

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

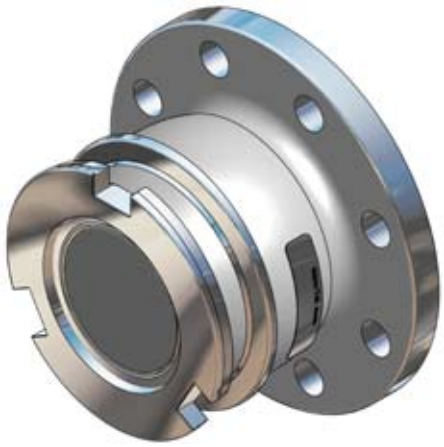
4) Weight in kg and lbs

4" (Ø164 mm) Tank unit / Adapter, Flanged inlet

Flange[1]	Material[2]	Seal[3] O-ring	Weight[4] kg	Weight[4] lbs	Code No
undrilled Ø230 mm	Al	Standard: FPM/FKM (Viton®) Other on request			T521D1101
DN 100 PN 10 / 16 Type B	Al				T539D1101
4" ANSI 150 psi	Al				T563D1101
TW3 (DN 100)	Al				T566D1101
4" TTMA	Al				T568D1101
undrilled Ø230 mm	GM				T521D2201
DN 100 PN 10 / 16 Type B	GM				T539D2201
DN 100 PN 25 / 40 Type B	GM				T540D2201
4" ANSI 150 psi	GM				T563D2201
4" ANSI 300 psi	GM				T564D2201
TW3 (DN 100)	GM				T566D2201
4" TTMA	GM				T568D2201
undrilled Ø230 mm	SS				T521B4401
undrilled Ø230 mm **)	SS				T521B4401F
DN 100 PN 10 / 16 Type B	SS				T539B4401
DN 100 PN 10 / 16 Type B **)	SS				T539B4401F
DN 100 PN 25 / 40 Type B	SS				T540B4401
DN 100 PN 25 / 40 Type B **)	SS				T540B4401F
DN 100 PN 25 / 40 Type E	SS				T538B4401F
4" ANSI 150 psi	SS				T563B4401
4" ANSI 150 psi**)	SS				T563B4401F
4" ANSI 300 psi	SS				T564B4401
4" ANSI 300 psi **)	SS				T564B4401F
TW3 (DN 100)	SS				T566B4401
4" TTMA	SS				T568B4401

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



*) Type E, EN 1092-1:2001 Spigot
**) Flange with standard thickness

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213

3) Standard seal. Other on request.

4) Weight in kg and lbs

4" (Ø164 mm) Dust cap for Tank unit / Adapter

Dust Cap for Tank unit

Use the Mann Tek Dust Cap to prevent ingress of dirt and water in the couplings.

The material in the Dust Cap is Composite, Aluminium and Stainless steel

Inch DN	Material [1]	Seal [2]	Code No
4" DN 100	Co	Standard: FPM Viton®	C500B2201
	Al		C500B1101
	SS		C500B4401

[1] Mtrl: Co=Composite (Polyetylen), Al=Aluminium EN 755, SS=Stainless Steel EN 10272

[2] Standard sealings FPM (Viton®). Other on request.

4" (Ø164 mm) Sealing cap Tank unit / Adapter

Sealing Cap for Tank unit/Adapter

Sometimes a simple protection of the DDC Tank Unit against pollution is not sufficient. International regulations can require a sealing function of the cap as an additional safety factor in case of worn out gaskets in the tank unit. The sealing cap is a cheap solution to fulfil these requirements.

Inch DN	Material [1]	Seal [2]	Code No
4" DN 100	SS	Standard: FPM Viton®	C500P4401

[1] Mtrl: SS=Stainless Steel EN 10272

[2] Standard sealings FPM (Viton®). Other on request.

4" (Ø164 mm) Pressure cap for Tank unit / Adapter

3rd closure (valve) on Rail tankers, Containers and Tank trucks

The pressure caps are allowed by ADR/RID regulations as 3rd closure on Rail tankers, Containers and Tank trucks. Meaning that the Pressure Cap can be used instead of the traditional Ball Valves.

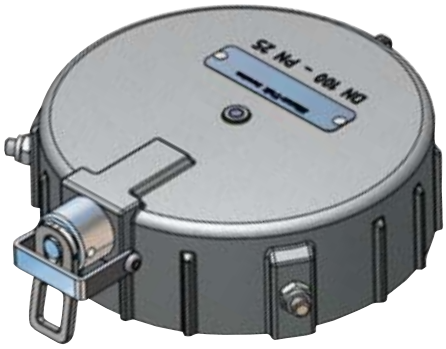
Pressure Cap for Tank unit - Working Pressure PN 25 bar / 363 psi

The Mann Tek Pressure Cap for Tank units / Adapters is designed to maximize operator safety and containment safety.

Features

- Pressure indicator
- Depressurization
- Customs / tamper seal feature
- Automatic locking
- Manually lockable (with padlock)

Inch DN	Material [1]	Seal [2]	Working Pressure (Bar)	Code No
4" DN 100	Al	Standard: FPM Viton®	10	R500B4401
	SS		25	R500B4401



[1] Mtrl: Al=Aluminium EN 755, SS=Stainless Steel EN 10272

[2] Standard sealings FPM (Viton®). Other on request.

4" (Ø164 mm) Hose unit / Coupler - Female thread

Connection[1] Inch/DN	Material[2]	Seal[3] O-ring	Seal[3] Flat seal	Weight[4] kg	Weight[4] lbs	Code No
F 4 BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)			S516B1101B
F 4" ASSPT						S5136B1101B
F 4" NPT						S517B1101
F 4" BSP	GM		PUR (Vulkollan®)			S516B2201B
F 4" ASSPT						S5136B2201B
F 4" NPT						S517B2201
F 4" BSP	SS		PTFE Teflon®			S516B4401A
F 4" ASSPT						S5136B4401A
F 4" NPT						S517B4401

1) Female thread BSP=ISO 228, NPT=ANSI B1.20.3

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

4) Weight in kg and lbs

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

4" (Ø164 mm) Hose unit / Coupler, Flanged inlet

Flange[1]	Material[2]	Seal[3] O-ring	Weight[4] kg	Weight[4] lbs	Code No
undrilled Ø230 mm	Al	Standard: FPM/FKM (Viton®) Other on request			S521B1101
DN 100 PN 10 / 16 Type B					S539B1101
4" ANSI 150 psi					S563B1101
4" TTMA					S568B1101
TW3 (DN 100)					S566B1101
undrilled Ø230 mm	GM				S521B2201
DN 100 PN 10 / 16 Type B					S539B2201
DN 100 PN 25 / 40 Type B					S540B2201
4" ANSI 150 psi					S563B2201
4" ANSI 300 psi					S564B2201
4" TTMA					S568B2201
TW3 (DN 100)					S566D2201
undrilled Ø230 mm	SS				S521B4401
undrilled Ø230 mm **)					S521B4401F
DN 100 PN 10 / 16 Type B					S539B4401
DN 100 PN 10 / 16 Type B **)					S539B4401F
DN 100 PN 25 / 40 Type B					S540B4401
DN 100 PN 25 / 40 Type B **)					S540B4401F
DN 100 PN 25 / 40 Type E					S538B4401F
4" ANSI 150 psi					S563B4401
4" ANSI 150 psi**)					S563B4401F
4" ANSI 300 psi					S564B4401
4" ANSI 300 psi **)					S564B4401F
4" TTMA					S568B4401
TW3 (DN 100)					S566B4401

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

*) Type E, EN 1092-1:2001 Spigot
**) Flange with standard thickness

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213

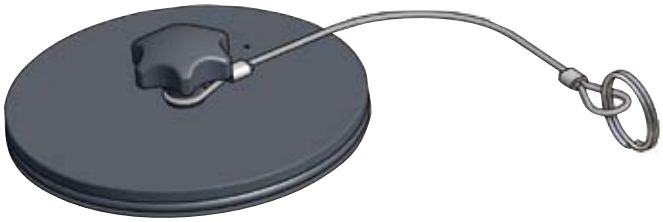
3) Standard seal. Other on request.

4) Weight in kg and lbs

Dust Plug for Hose unit

Use the Mann Tek Dust Plug to prevent ingress of dirt and water in the couplings.
The material in the Dust Plug is Composite, Aluminium and Stainless Steel.

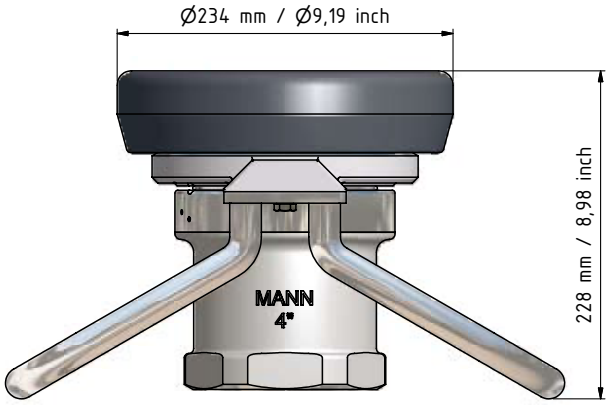
Inch DN	Material [1]	Seal [2]	Code No
4" DN 100	Co	Standard: FPM Viton®	P500B2201
	Al		P500B1101
	SS		P500A4401

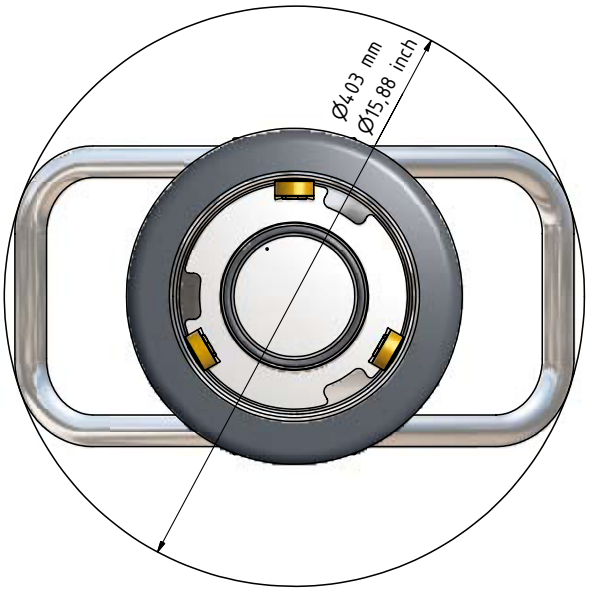


[1] Mtrl: Co=Composite (Polyetylen), Al=Aluminium EN 755, SS=Stainless Steel EN 10272

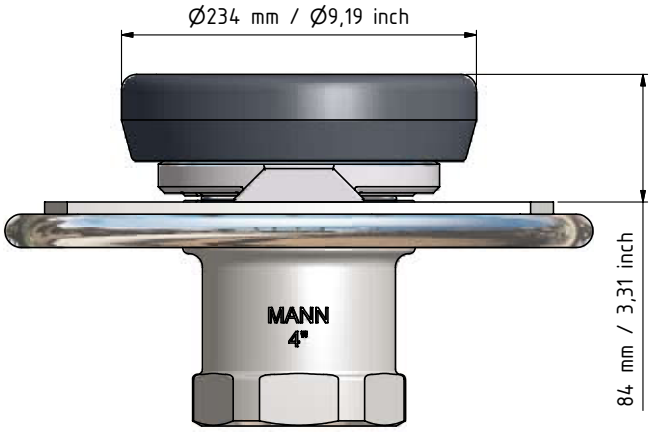
[2] Standard sealings FPM (Viton®). Other on request.

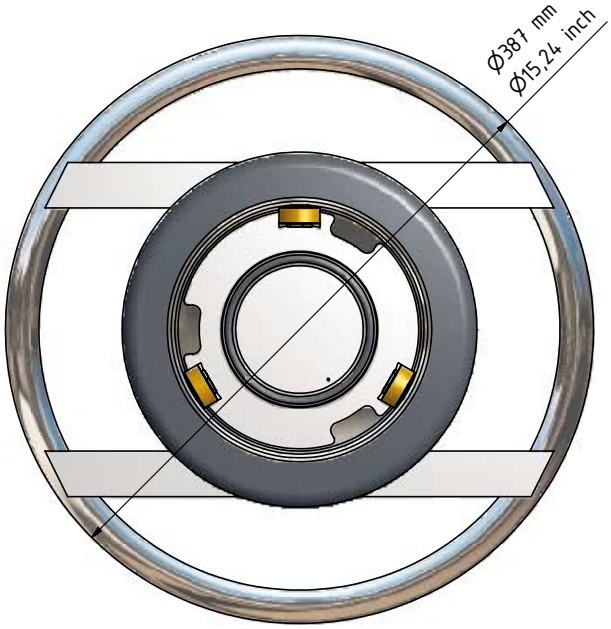
4" (Ø164 mm) Hose unit / Coupler option - Handle





Code No: S514B1101A (Standard)





Hose unit Code No +

Handle Code No: H-S4-11-L3BL

Mann Tek

DDCouplings®

Dry Disconnect Couplings

6"(Ø238 mm)

Tank unit/Adapter and Hose unit / Coupler

Technical information

6" (Ø238 mm)

Tank unit / Adapter and Hose unit / Coupler

Material	Maximum working pressure	Test pressure	Minimum Burs Pressure
Aluminium	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi
Brass/Gun Metal	16 bar / 232 psi	24 bar / 348 psi	80 bar / 1160 psi
Stainless Steel	25 bar / 363 psi	37,5 bar / 544 psi	125 bar / 1813 psi

Connections

6" in BSP, NPT and Flanged inlet

Recommended for any application where spillage needs to be minimized.

Applications

The 6" (Ø238 mm) is recommended for marine bunkering, ship to shore transfer, ship to ship transfer and ship to rig transfer.

Recommended for any application where spillage needs to be minimized.

Media

Petroleum products: Gasolin, diesel, oil etc.
Chemical products: Ethylene Oxide, Propylene Oxide, Acrylonitrile, Butadiene, Ammonia, Vilyl Chloride, Toluene, Xylene, Sulphuric, Acid, Phenol etc.
Gas:
Dry powder: Chokolade powder e.t.c.

Material

Aluminium, Brass/Gunmetal, Stainless Steel, Hastelloy C and PEEK. Other materials on request.

Seals

Standard seals in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile). Other materials on request.

High Flow Rates / Low Pressure Drop

Allows maximum product transfer with minimal losses

Maximum Flow Rates

4000 litres/minute

Selectivity

- 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.

Interchangeability:

Compatble with TODO (Gardner Denver).

6" (Ø238 mm) Tank unit / Adapter - Female thread

We make specials.
Other materials, connections and sealings on request

Connection[1] Inch/DN	Material[2]	Seal[3]		Weight[4]		Code No
		O-ring	Flat seal	kg	lbs	
F 6" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)			T6110B1101B
F 6" NPT						T6111B1101
F 6" BSP	GM		PUR (Vulkollan®)			T6110B2201B
F 6" NPT						T6111B2201
F 6" BSP	SS		PTFE Teflon®			T6110B4401A
F 6" NPT						T6111B4401

Compatible with TODO (Gardner Denver).

1) Female thread BSP=ISO 228, NPT=ANSI B1.20.3

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

3) Standard seal. Other on request.

4) Weight in kg and lbs

Viton® (FPM) and Teflon® (FPM/KPM) are registered trademarks of DuPont, DuPont Elastomers. Vulkollan® is registered trademark of Bayer AG

6" (Ø238mm) Tank unit / Adapter, Flanged inlet

We make specials.
Other materials, connections and sealings on request

Flange[1]	Material[2]	Seal[3]	Weight[4]		Code No
		O-ring	kg	lbs	
DN 150 PN 10 / 16 Type A	Al	Standard: FPM/FKM (Viton®) Other on request			T645B1101
6" ANSI 150 psi					T6100B1101
DN 150 PN 10 / 16 Type B	GM				T645B2201
6" ANSI 150 psi					T6100B2201
DN 150 PN 10 / 16 Type B	SS				T645B4401
6" ANSI 150 psi					T6100B4401

Compatible with TODO (Gardner Denver).

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213

3) Standard seal. Other on request.

4) Weight in kg and lbs

Viton® (FPM) and Teflon® (FPM/KPM) are registered trademarks of DuPont, DuPont Elastomers. Vulkollan® is registered trademark of Bayer AG

6" (Ø238 mm) Dust cap for Tank unit / Adapter

Dust Cap for Tank unit

Use the Mann Tek Dust Cap to prevent ingress of dirt and water in the couplings. The material in the Dust Cap is Composite, Aluminium and Stainless Steel.

Inch DN	Material [1]	Seal [2]	Code No
6" DN 150	Co	Standard:	C600A2201
	Al	FPM	C600A1101
	SS	Viton®	C600A4401

6" (Ø238 mm) Hose unit / Coupler - Female thread

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request

Connection [1] Inch/DN	Material [2]	Seal [3]		Code No
		O-ring	Flat seal	
F 6" BSP	Al	Standard: FPM/FKM (Viton®) Other on request	PUR (Vulkollan®)	T6110B1101B
F 6" NPT				T6111B1101
F 6" BSP	GM		PUR (Vulkollan®)	T6110B2201B
F 6" NPT				T6111B2201
F 6" BSP	SS		PTFE Teflon®	T6110B4401A
F 6" NPT				T6111B4401

[1] Female thread BSP=ISO 228, NPT=ANSI B1.20.3

[2] **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213
Ti=Titan ASTM B348, Ha=Hastelloy ASTM B574, PE=PEEK

[3] Standard seal. Other on request.

[4] Weight in kg and lbs

Viton® (FPM) and Teflon® (FPM/KPM) are registered trademarks of DuPont, DuPont Elastomers. Vulkollan® is registered trademark of Bayer AG

[1] Mtrl: Al=Aluminium EN 755

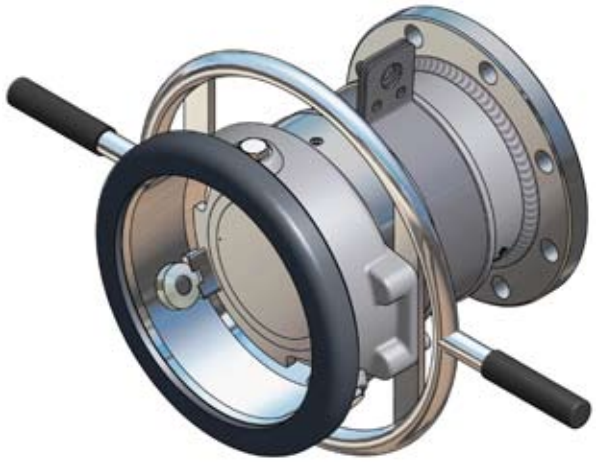
[2] Standard sealings FPM (Viton®). Other on request.

Viton® (FPM) and Teflon® (FPM/KPM) are registered trademarks of DuPont, DuPont Elastomers. Vulkollan® is registered trademark of Bayer AG

6" (Ø238 mm) Hose unit / Coupler, Flanged inlet

According to NATO STANAG 3756

We make specials.
Other materials, connections and sealings on request



Flange[1)]	Material[2)]	Seal[3)] O-ring	Code No
DN 150 PN 10 / 16 Type A	Al	Standard: FPM/FKM (Viton®) Other on request	S645B1101
6" ANSI 150 psi			S6100B1101
DN 150 PN 10 / 16 Type B	GM		S645B2201
6" ANSI 150 psi			S6100B2201
DN 150 PN 10 / 16 Type B	SS		S645B4401
6" ANSI 150 psi			S6100B4401

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459 (See Flange Measurement page XX)

2) **Mtrl**: Al=Aluminium EN 1706, GM=Gun Metal EN 1982, SS=Stainless Steel EN 10213

3) Standard seal. Other on request.

4) Weight in kg and lbs

6" (Ø238 mm) Dust plug for Hose unit / Coupler

Dust Plug for Hose unit

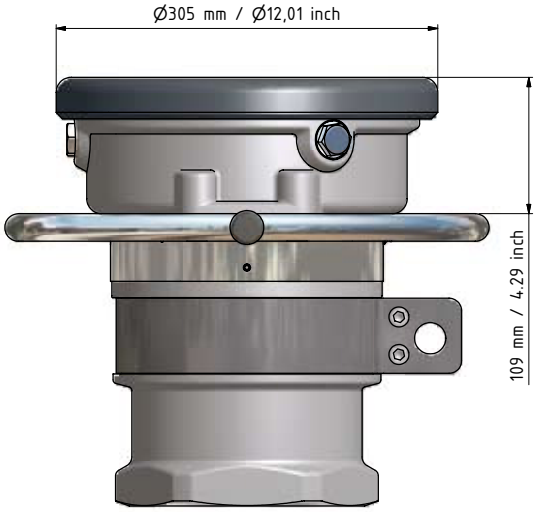
Use the Mann Tek Dust Plug to prevent ingress of dirt and water in the couplings.
The material in the Dust Plug is Composite, Aluminium and Stainless Steel.

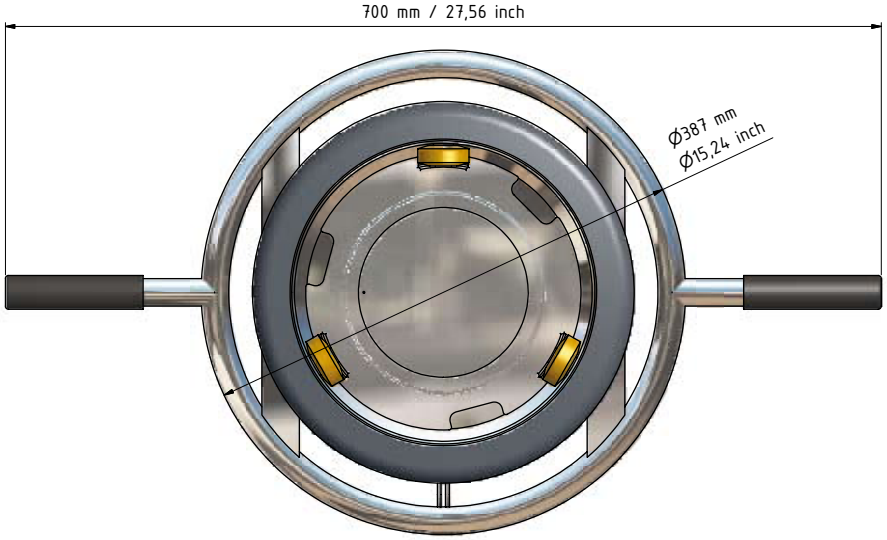
Inch DN	Material 1)	Seal 2)	Code No
6" DN 150	Co	Standard: FPM Viton®	P600A2201
	Al		P600A1101
	SS		P600A4401

1) Mtrl: Al=Aluminium EN 755

2) Standard sealings FPM (Viton®). Other on request.

6" (Ø238 mm) Hose unit / Coupler option - Handle

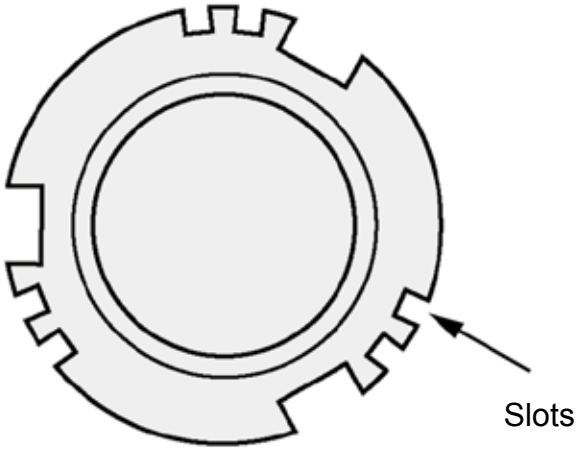




Selectivity overview

To prevent accidental mixing of media, selectivity versions of Hose and Tank units are availabele. The Tank unit are furnished with slots and Hose units with pins. A number of selectivity are possible depending on coupling size.

Tank unit



Hose unit

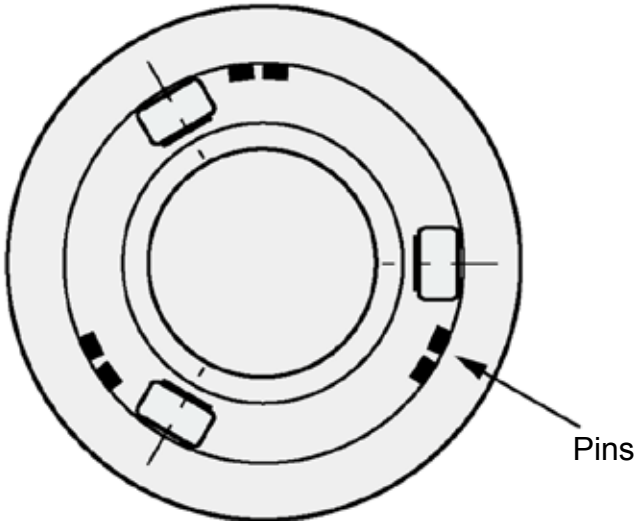


Table of selectivity positions

The major oil companies have agreed to use the following selectivity positions for aviation refuelling. For the 2½", 3" and 4" sizes.

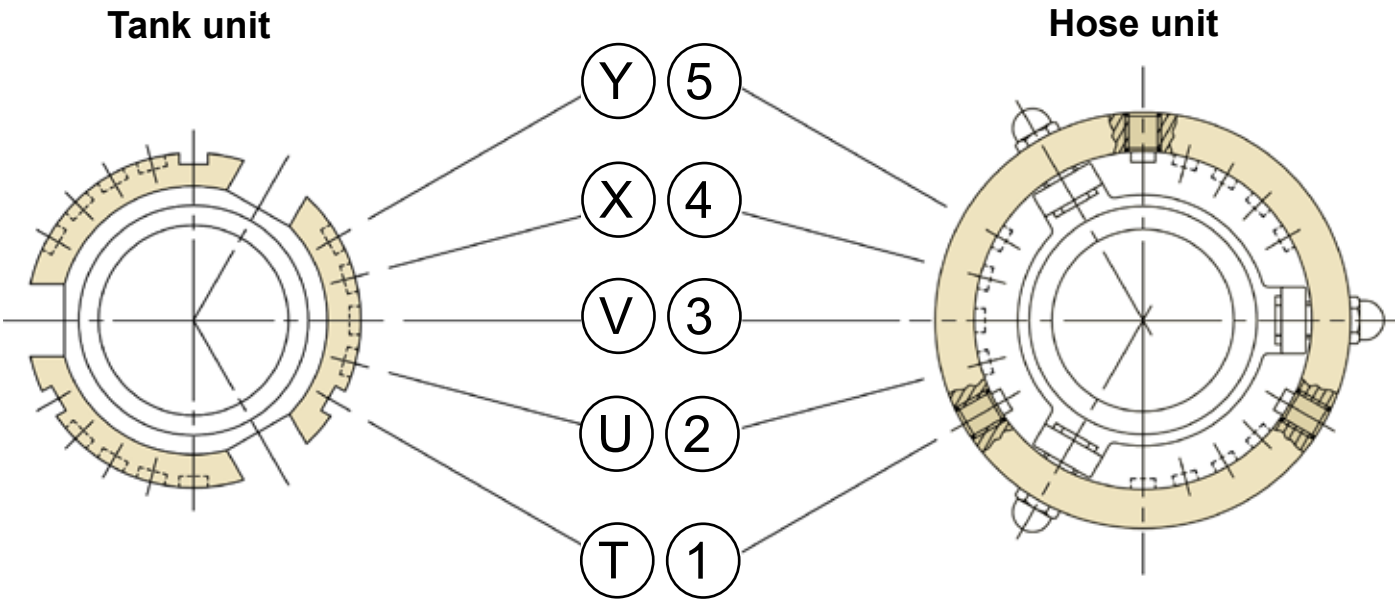
Product	Size	Position
Avgas 100 / 130	2½", 3", 4"	1
Avgas 108 / 135	2½", 3", 4"	2
Avgas 115 / 145	2½", 3", 4"	3
Avtur (Derd 2495) JP1, ATK, ATF 650. JET 'A'	2½", 3", 4"	4
Avtag (Derd 2486) JP4, ATG, JET 'B'	2½", 3", 4"	5

Combine selectivity with colored couplings

1" (Ø56mm) - Selectivity

To prevent accidental mixing of media, selectivity versions of Hose and Tank units are availabele. The Tank unit are furnished with slots and Hose units with pins. A number of selectivity are possible depending on coupling size.

Coupling diameter:
Ø56 mm (3/4"-1")



Selectivity positions for Acrylonitrile, Ethylene oxide and Propylene oxide for 1"

Product / Media	Position
Acrylonitrile	X (4)
Ethylene oxide	U (2)
Propylene oxide	V (3)

Selectivity system: Mann Tek

Compatible with TODO(Gardner Denver)

Each unit can be provided with selectivity according to two systems. With 5 alternatives from T to Y or with 10 alternatives from 12 to 45 (see table).

When ordering, please add chosen selectivity to the article number (Code No). e.g.S103A4401/SEL T.

With 5 options

T	**U**	**V**	**X**	**Y**

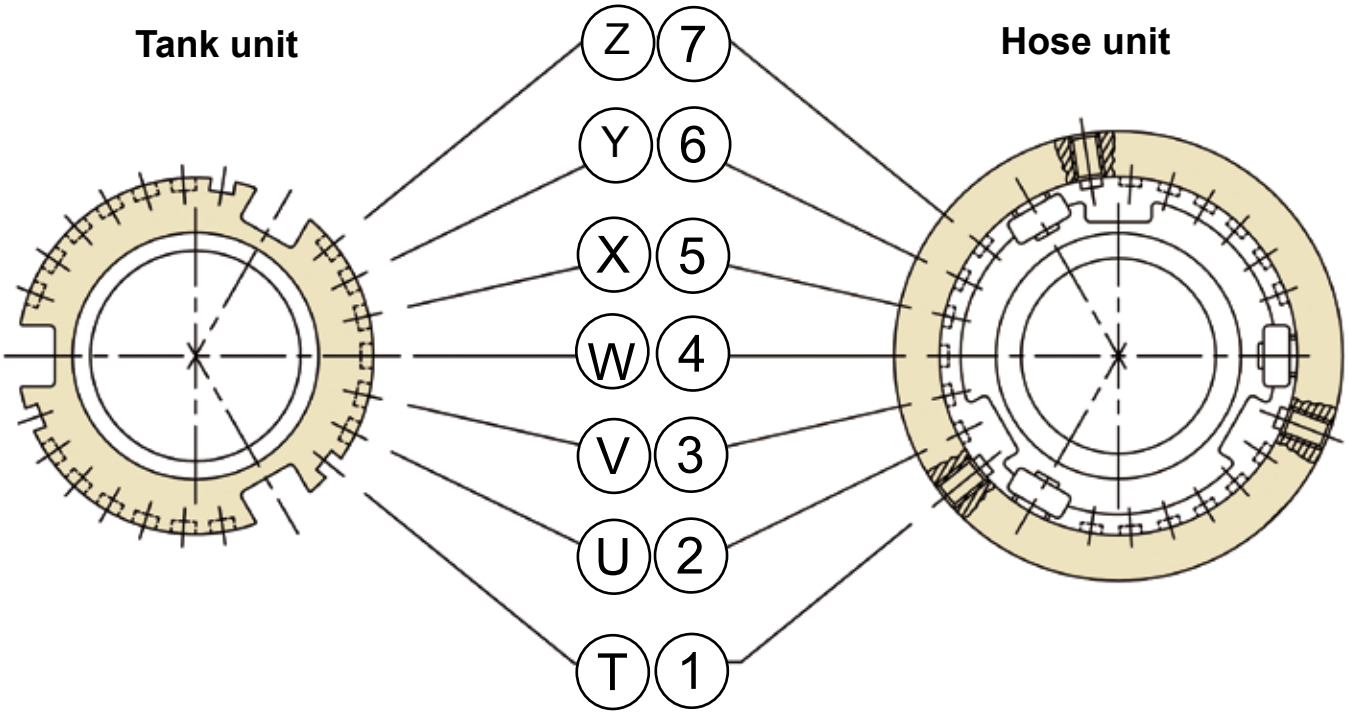
With 10 options

12	**13**	**14**	**15**	**23**
24	**25**	**34**	**35**	**45**

2" (Ø70mm) - Selectivity

To prevent accidental mixing of media, selectivity versions of Hose and Tank units are availabele. The Tank unit are furnished with slots and Hose units with pins. A number of selectivity are possible depending on coupling size.

Coupling diameter:
Ø70 mm (1½"-2")



Selectivity positions for Acrylonitrile, Ethylene oxide and Propylene oxide for 2"

Product / Media	Position
Acrylonitrile	X (5)
Ethylene oxide	V (3)
Propylene oxide	W (4)

Selectivity system:

Mann Tek, TODO (Gardner Denver), Avery Hardoll (7pos)
Nato STANAG 3756 (21 pos with figures)

Each unit can be provided with selectivity according to two systems. With 7 alternatives from T to Z or with 21 alternatives from TU(12) to YZ(67) (see table).

When ordering, please add chosen selectivity to the article number (Code No). e.g.S210A4401A/SEL T. (S210A4401A/SEL 12)

T	U	V	W	X	Y	Z

Pin & slot Position

12	13	14	15	16	17	23	24	25	26	27
TU	TV	TW	TX	TY	TZ	UV	UW	UX	UY	UZ
VW	VX	VY	VZ	WX	WY	WZ	XY	XZ	YZ	
34	35	36	37	45	46	47	56	57	67	

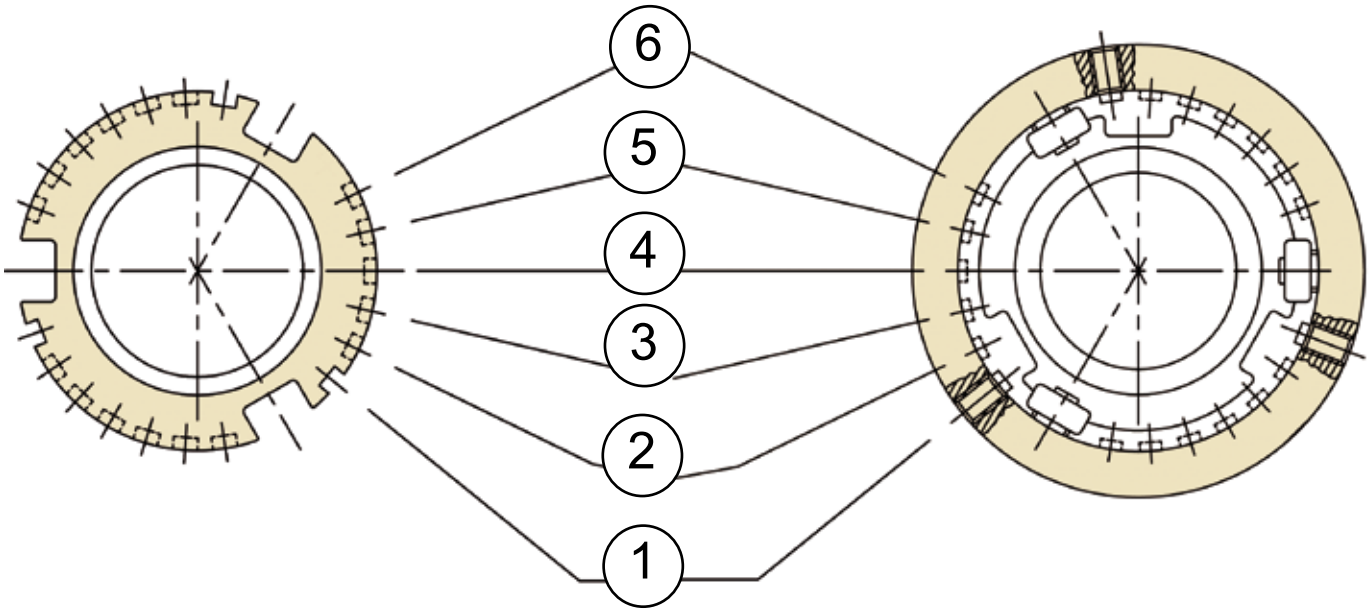
2" (Ø70mm) - Selectivity

To prevent accidental mixing of media, selectivity versions of Hose and Tank units are availabele. The Tank unit are furnished with slots and Hose units with pins. A number of selectivity are possible depending on coupling size.

Fort Vale system

Coupling diameter:

Ø70 mm (1½"-2")



Selectivity system:
"FORT VALE"

Each unit can be provided with selectivity with 15 alternatives from A to Q (see table).

When ordering, please add chosen selectivity to the article number (Code No).
e.g.S210A4401A/FV-SEL A

Selektivity code:

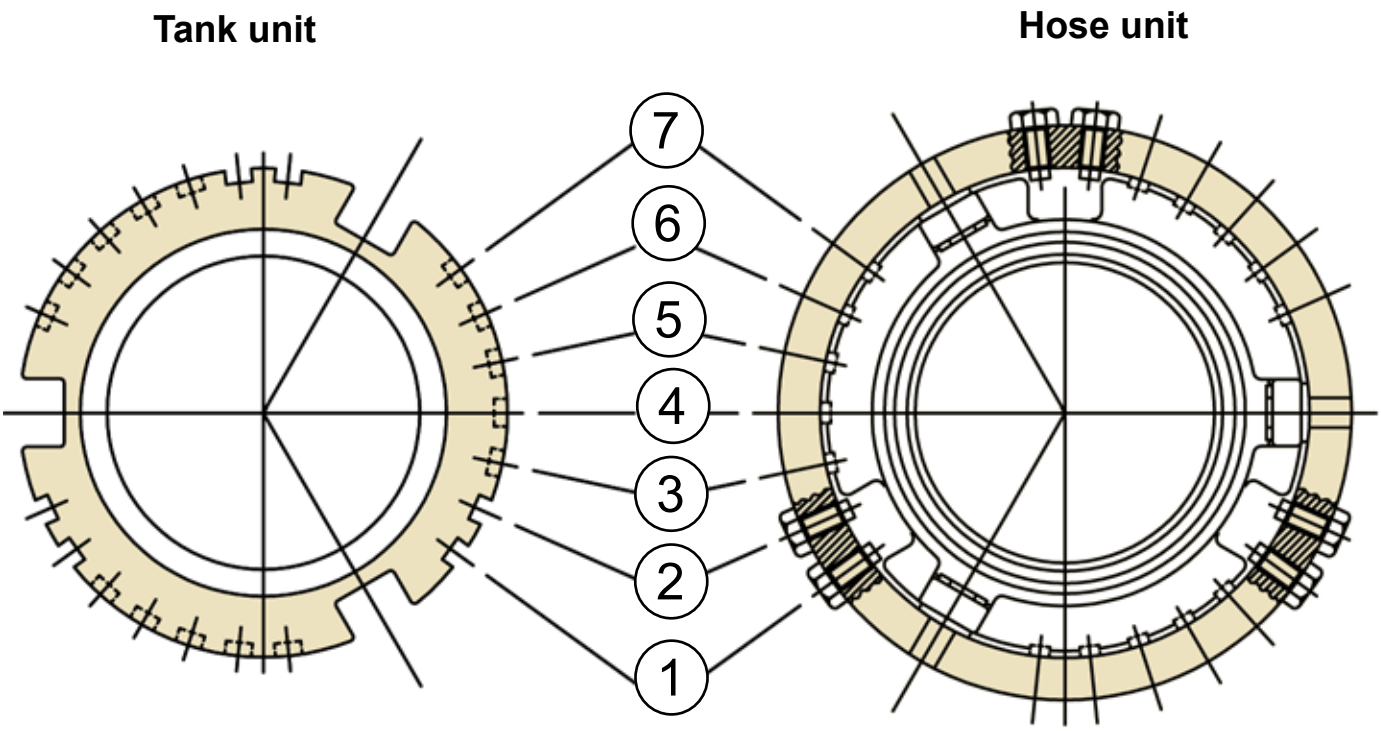
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
1-2	1-3	1-4	1-5	1-6	2-3	2-4	2-5	2-6	3-4	3-5	3-6	4-5	4-6	5-6

Pin & slot Position

2½" (Ø105mm) - Selectivity system Mann Tek

To prevent accidental mixing of media, selectivity versions of Hose and Tank units are availabele. The Tank unit are furnished with slots and Hose units with pins. A number of selectivity are possible depending on coupling size.

Coupling diameter:
Ø105 mm (2½")



Selectivity system:
Mann Tek, TODO, NATO STANAG 3756
Avery Hardoll (with letter)

Each unit can be provided with selectivity from 12 (A) to 67 (W) with 21 alternatives (see table)

When ordering, please add chosen selectivity to the article number (Code No). e.g.S312A4401/SEL 12 (A)

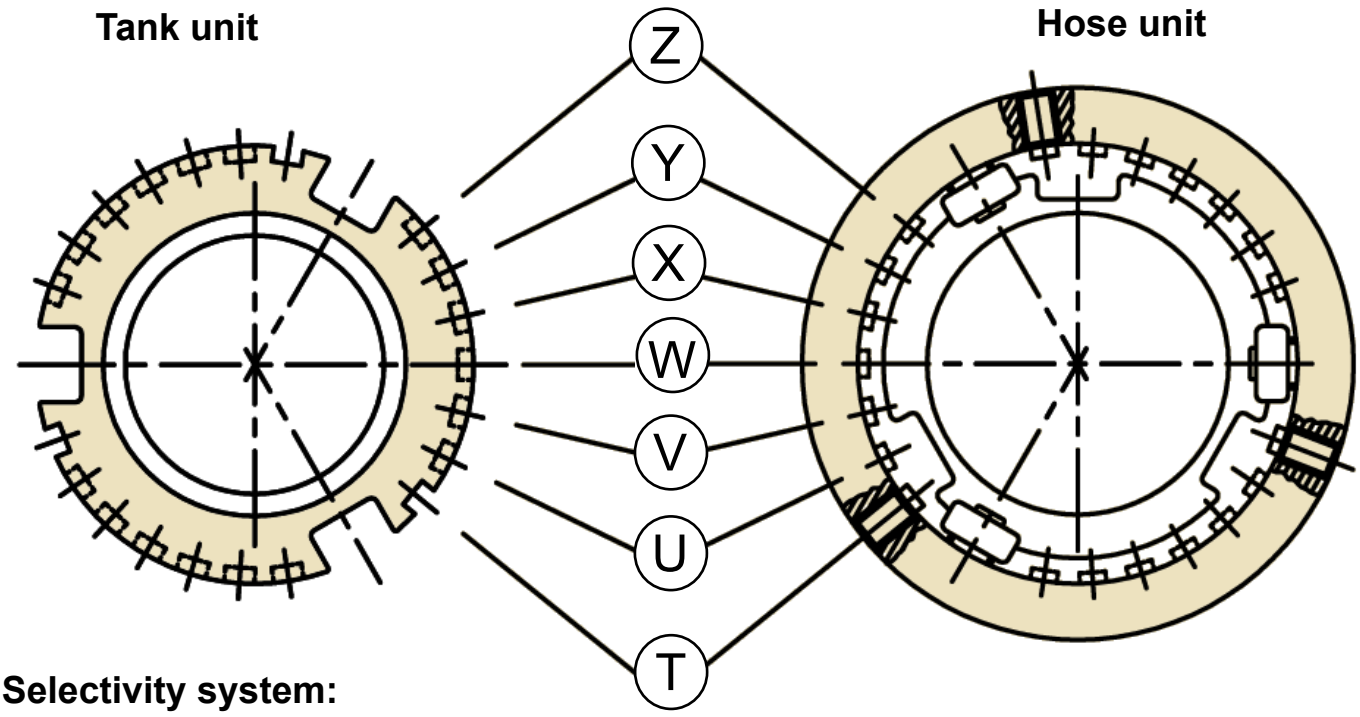
	A	B	C	D	E	F	G	H	I	K	L
Pin & slot	12	13	14	15	16	17	23	24	25	26	27
Position	34	35	36	37	45	46	47	56	57	67	

M	N	P	Q	R	S	T	U	V	W

2½" (Ø105mm) - Selectivity system Fulcrum

To prevent accidental mixing of media, selectivity versions of Hose and Tank units are availabele. The Tank unit are furnished with slots and Hose units with pins. A number of selectivity are possible depending on coupling size.

Coupling diameter:
Ø105 mm (2½")



Selectivity system:
Fulcrum

Each unit can be provided with selectivity according two systems:
With 7 alternatives from T to Z or with 21 alternatives from TU to YZ (see table).

When ordering, please add chosen selectivity to the article number (Code No) e.g. S210A4401 / FC-SEL T (S210A4401A / FC-SEL TU).

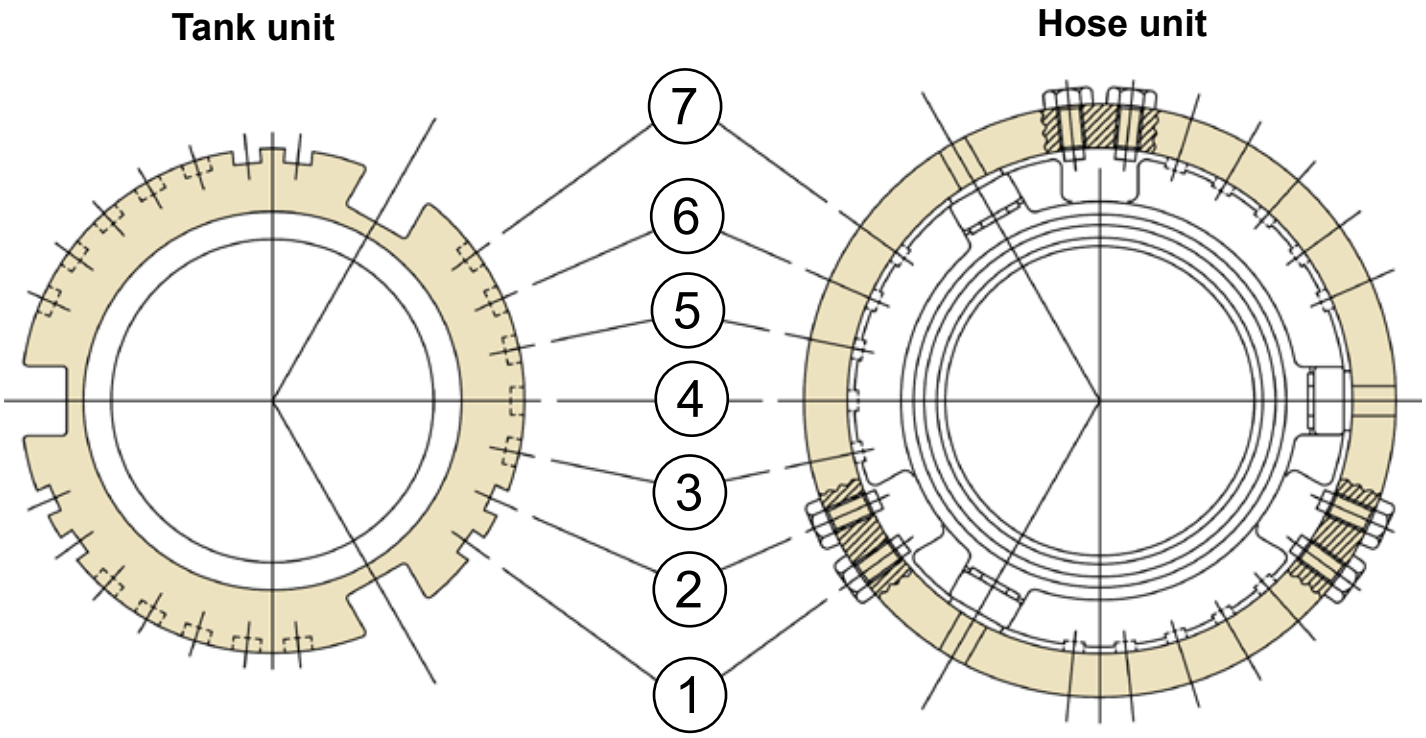
T	U	V	W	X	Y	Z

TU	TV	TW	TX	TY	TZ	UV
UW	UX	UY	UZ	VW	VX	VY
VZ	WX	WY	WZ	XY	XZ	YZ

3" (Ø105mm) - Selectivity system Mann Tek

To prevent accidental mixing of media, selectivity versions of Hose and Tank units are availabele. The Tank unit are furnished with slots and Hose units with pins. A number of selectivity are possible depending on coupling size.

Coupling diameter:
Ø119 mm (3")



Selectivity positions for Acrylonitrile, Ethylene oxide and Propylene oxide for 3"

Product / Media	Position
Acrylonitrile	P (3 6)
Ethylene oxide	M (3 4)
Propylene oxide	N (3 5)

Selectivity system:
Mann Tek, TODO (Gardner Denver), NATO STANAG 3756
Avery Hardoll (with letter)

Each unit can be provided with selectivity from 12 (A) to 67 (W) with 21 alternatives (see table)

When ordering, please add chosen selectivity to the article number (Code No).
e.g.S414A4401/SEL 12 (A)

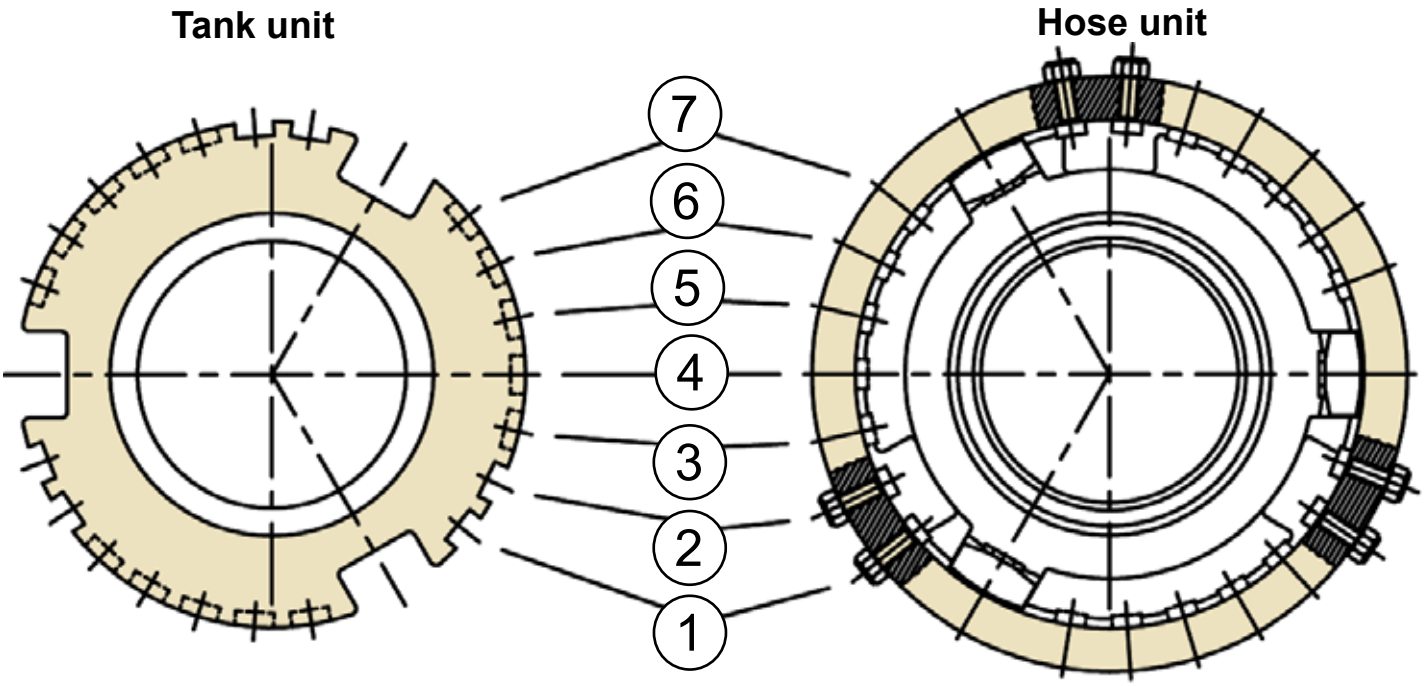
	A	B	C	D	E	F	G	H	I	K	L
Pin & slot	12	13	14	15	16	17	23	24	25	26	27
Position	34	35	36	37	45	46	47	56	57	67	

M	N	P	Q	R	S	T	U	V	W

4" (Ø164mm) - Selectivity system Mann Tek

To prevent accidental mixing of media, selectivity versions of Hose and Tank units are availabele. The Tank unit are furnished with slots and Hose units with pins. A number of selectivity are possible depending on coupling size.

Coupling diameter:
Ø164 mm (4")



Selectivity positions for Acrylonitrile, Ethylene oxide and Propylene oxide for 4"

Product / Media	Position
Acrylonitrile	3 6
Ethylene oxide	3 4
Propylene oxide	3 5

Selectivity system:
Mann Tek, TODO (Gardner Denver), NATO STANAG 3756
Avery Hardoll (with letter)

Each unit can be provided with selectivity from 12 (A) to 67 (W) with 21 alternatives (see table)

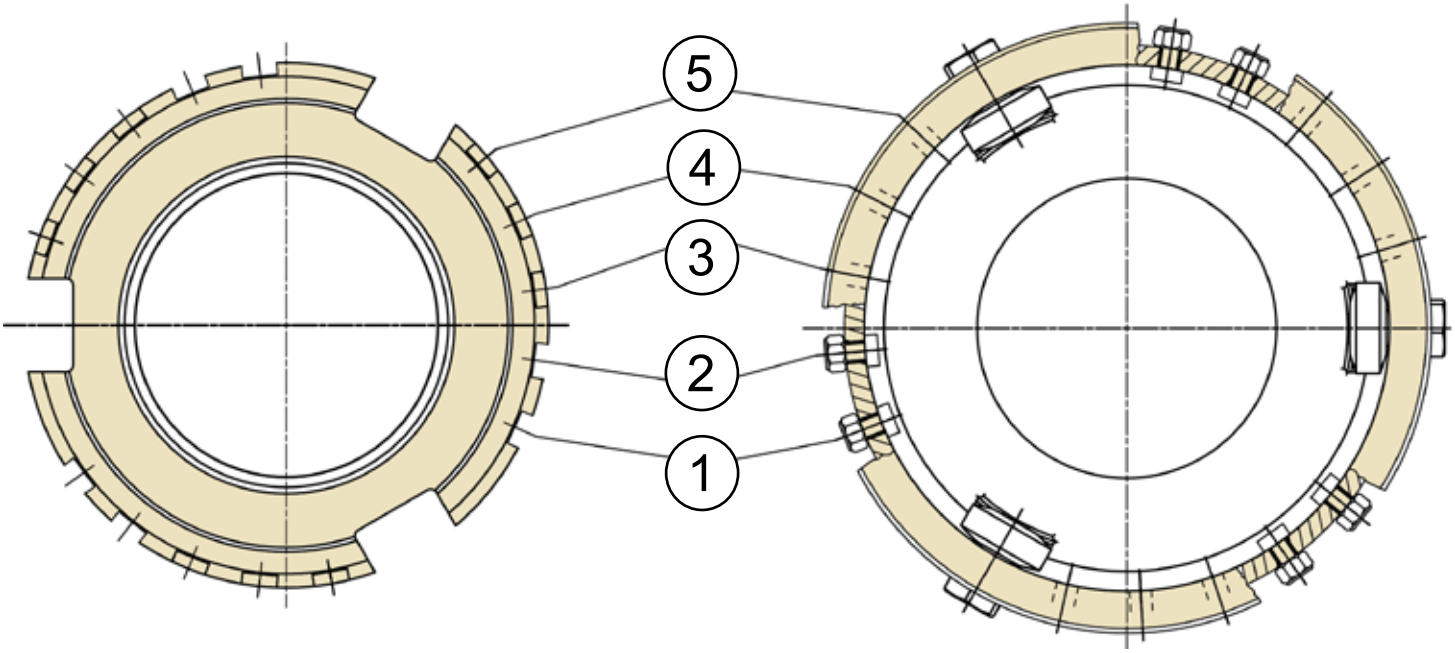
When ordering, please add chosen selectivity to the article number (Code No). e.g.S414A4401/SEL 12 (A)

Pin & slot	**12**	**13**	**14**	**15**	**16**	**17**	**23**	**24**	**25**	**26**	**27**
Position	**34**	**35**	**36**	**37**	**45**	**46**	**47**	**56**	**57**	**67**	

6" (Ø238mm) - Selectivity system Mann Tek

To prevent accidental mixing of media, selectivity versions of Hose and Tank units are availabele. The Tank unit are furnished with slots and Hose units with pins. A number of selectivity are possible depending on coupling size.

Coupling diameter:
Ø238 mm (6")



Selectivity system: Mann Tek
Compatible with TODO(Gardner Denver)

Each unit can be provided with selectivity from 12 to 45 with 10 alternatives (see table).

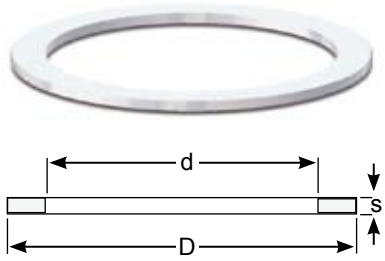
When ordering, please add chosen selectivity to the article number (Code No). e.g.S645B4401/SEL 12

With 10 options

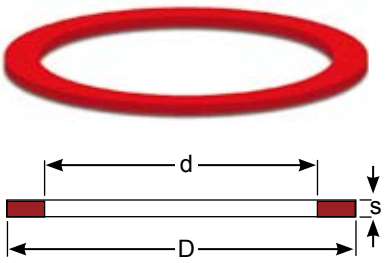
12	**13**	**14**	**15**	**23**
24	**25**	**34**	**35**	**45**

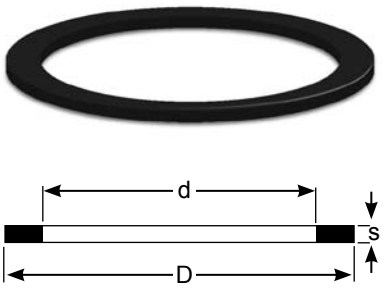
Flat Seals for thread - 1/2

weight ≈kg	Thread BSP	Materials Application	Dimensions ≈ mm			Product No
			D	d	s	
0,001	BSP 1/2”	PTFE (Teflon®) white , massive continuously hard, universally resistant **Teflon**® is a registered trademark of DuPont	20	13	2	On request
0,001	BSP 3/4”		26	19	2	1498-06
0,002	BSP 1”		33	24	2	1220-06
0,003	BSP 1 1/4”		42	34	2	1536-06
0,003	BSP 1 1/2”		48	39	2	1196-06
0,004	BSP 2”		60	49	2	1052-06
0,007	BSP 2 1/2”		76	63	2,5	1181-06
0,006	BSP 3”		88	77	3	1110-06
0,009	BSP 4”		114	100	3	1295-06
0,016	BSP 6”		164	150	3	1963-06
0,001	BSP 1/2”	Thermopac asbestos free, light hard. Especially for hot oils and hot bitumen up to 250° C and for hot water and saturated steam up to 25 bar.	20	13	2	On request
0,001	BSP 3/4”		26	19	2	1498-25
0,002	BSP 1”		33	24	2	1220-25
0,002	BSP 1 1/4”		42	34	2	1536-25
0,003	BSP 1 1/2”		48	39	2	1196-25
0,004	BSP 2”		60	49	2	1052-25
0,005	BSP 2 1/2”		76	63	3	1181-25
0,009	BSP 3”		88	77	3	1110-25
0,013	BSP 4”		114	100	3	1295-25
0,016	BSP 6”		164	150	3	1963-25
0,001	BSP 1/2”	FPM/FKM (Viton®) soft for aromatic hydrocarbons and hot oils. **Viton**® is a registered trademark of DuPont	20	13	2	On request
0,001	BSP 3/4”		26	19	2	1498-01
0,002	BSP 1”		33	24	2	1220-01
0,002	BSP 1 1/4”		42	34	2	1536-01
0,003	BSP 1 1/2”		48	39	2	1196-01
0,004	BSP 2”		60	49	2	1052-01
0,006	BSP 2 1/2”		76	63	3	1181-01
0,008	BSP 3”		88	77	3	1110-01
0,014	BSP 4”		114	100	3	1295-01
0,016	BSP 6”		164	150	3	1963-01



Bonded fibre material

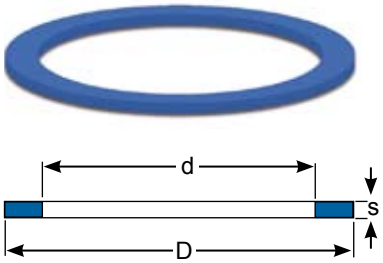




Flat Seals for thread - 2/2

Standard sizes of PUR (VULKOLLAN® polyurethane elastomer), injection molded. Colour:blue.Other sizes of PUR (VULKOLLAN® Cast polyurethane). Colour: honey-coloured. **Vulkollan®** is a registered trademark of Bayer

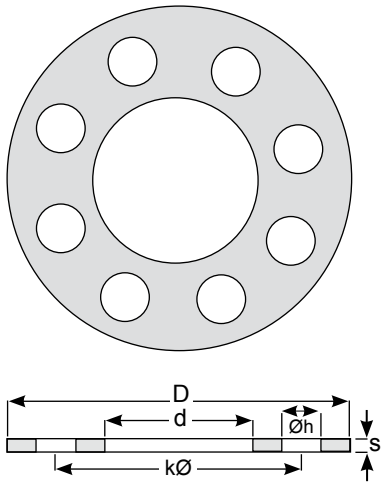
Weight Appr. ≈ Kg	Suitable for	Dimensions ≈ mm			Product No
		D	d	s	
0,001	BSP 3/4"	26	19	2	1498-09
0,001	BSP 1"	33	24	2	1220-09
0,001	BSP 1 1/4" (DN 25 + DN 32)	42	34	2	1536-09
0,002	BSP 1 ½ " (DN 32 + DN 38)	48	39	2	1196-09
0,003	BSP 1 3/4"	54	44	2,5	On request
0,003	BSP 2"	60	49	2	1052-09
0,005	BSP 2 ½ "	76	63	2,5	1181-09
0,006	BSP 3"	88	77	3	1110-09
0,010	BSP 3½"	100	80	3	On request
0,009	BSP 4"	114	100	3	1295-09
0,012	BSP 5" (No standard)	140	124	3	On request
0,016	BSP 6"	164	150	3	1963-09



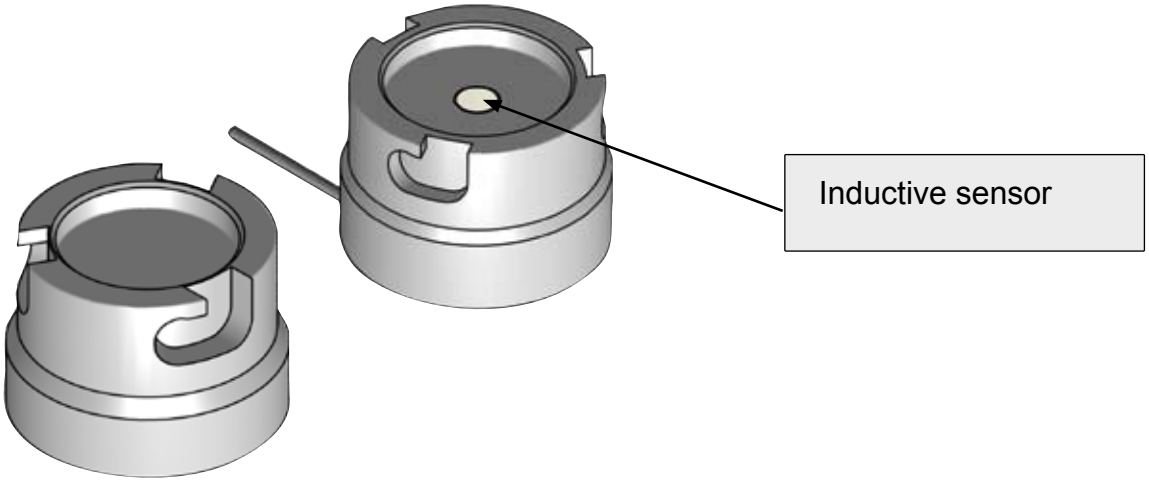
ELAPAC Flange Seals FD, QFD

Flange Standard / Suitable for	Dimensions ≈ mm					Product No
	D	d	Øk	Øh	s	
DN 25 PN 10/16	108	78,5	91	4 x 6,5	2	-
DN 32 PN 10/16	140	43	100	4 x 18	2	-
DN 50 PN 6	140	61	110	4 x 15	2	-
DN 50 TW 1	154	50	130	8 x 12	2	-
DN 80 TW 1	154	90	130	8 x 12	2	-
DN 50 PN 10/16	165	61	125	4 x 18	2	-
DN 100 TW3	174	110	150	8 x 14	2	-
DN 65 PN 10/16	185	76	145	4 x 18	2	-
DN 80 PN 10/16	200	90	160	8 x 18	2	-
DN 125 TW5	204	135	176	8 x 14	2	-
DN 100 PN 10/16	220	115	180	8 x 18	2	-
DN 150 TW7	240	160	210	12 x 14	2	-
DN 125 PN 10/16	250	141	210	8 x 18	2	-
DN 150 PN 10/16	280	169	240	8 x 22	2	-
DN 200 PN 10	340	220	295	8 x 22	2	-
DN 200 PN 16	340	220	295	12 x 22	2	-

On request



Parking adapter

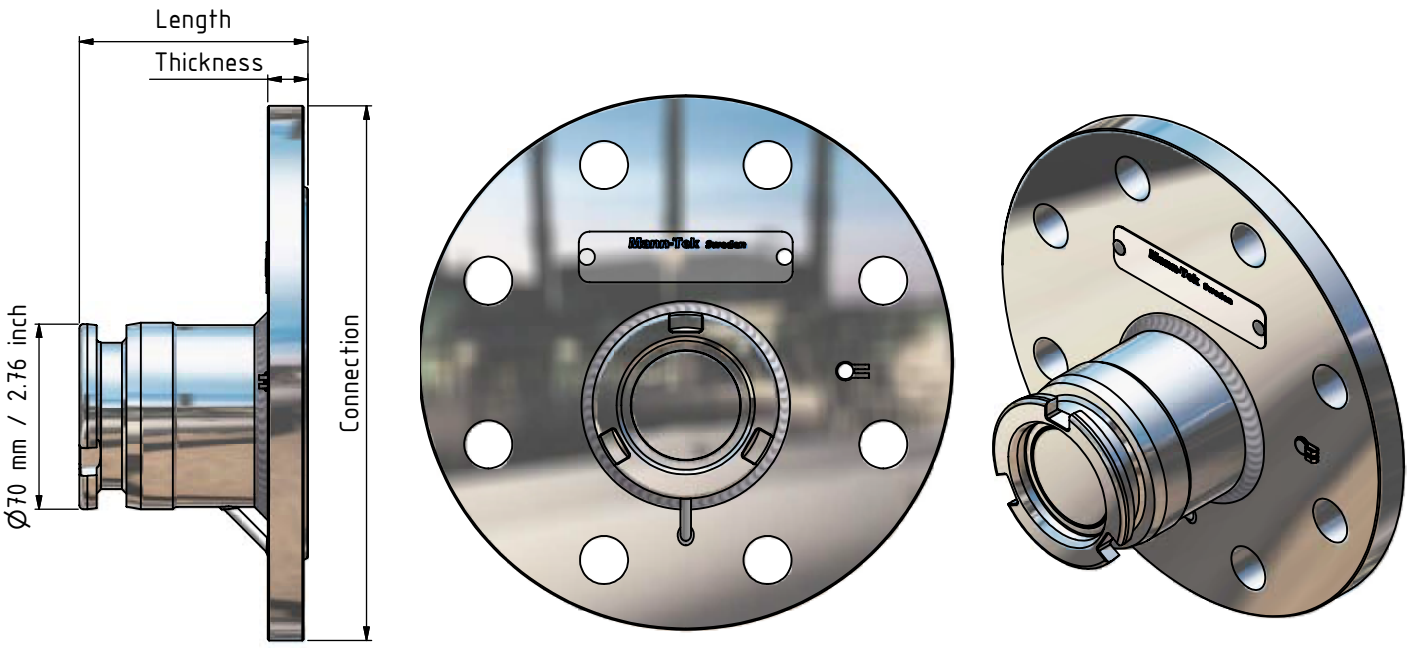


Parking adapter is a smart equipment for suspension of the Hose unit. Parking adapter is available with or without inductive sensor.

Coupling size	Material	Code No
1" (Ø56mm)	Al	Tool 104-1
		Tool 104-1-M12*)
	SS	Tool 104-4
		Tool 104-4-M12*)
2" (Ø70mm)	Al	Tool 204-1
		Tool 204-1-M12*)
	SS	Tool 204-4
		Tool 204-4-M12*)
2½" (Ø105mm)	Al	Tool 304-1
		Tool 304-1-M12*)
	SS	Tool 304-4
		Tool 304-4-M12*)
3" (Ø119mm)	Al	Tool 404-1
		Tool 404-1-M12*)
	SS	Tool 404-4
		Tool 404-4-M12*)
4" (Ømm)	Al	Tool 504-1
		Tool 504-1-M12*)
	SS	Tool 504-4
		Tool 504-4-M12*)
6" (Ømm)	Al	Tool 604-1
		Tool 604-1-M12*)
	SS	Tool 604-4
		Tool 604-4-M12*)

*) With Inductive sensor

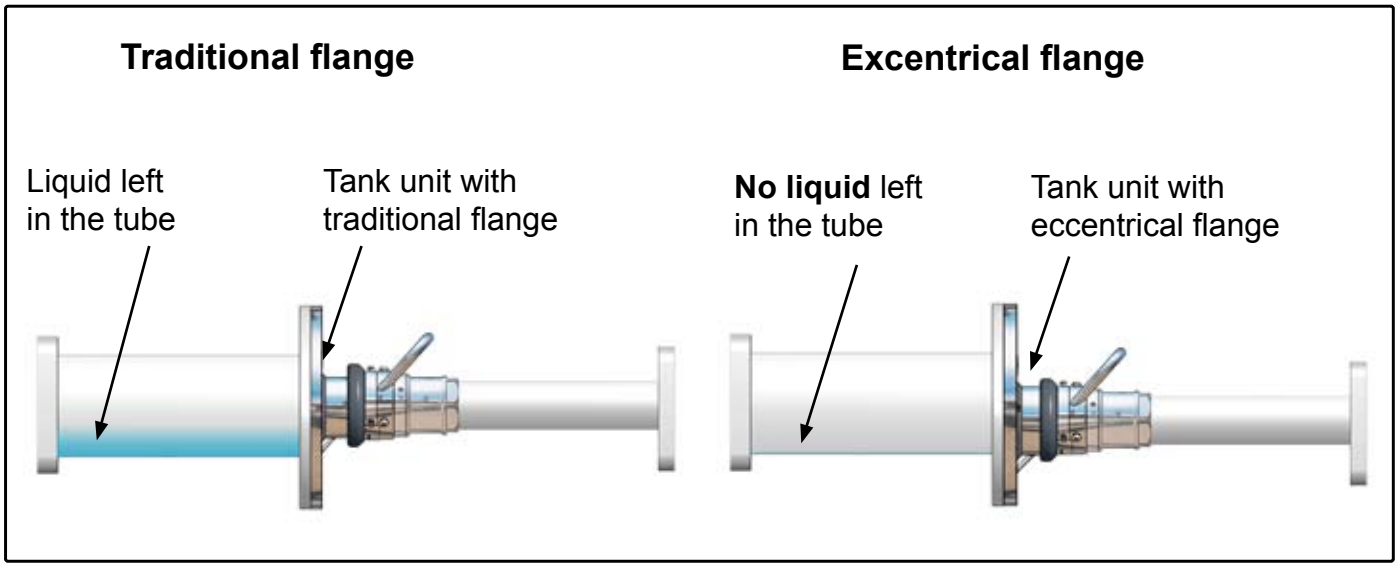
Tank unit / Adapter - Excentrical flange



2" (Ø70mm) Tank unit / Adapter with excentrical flange

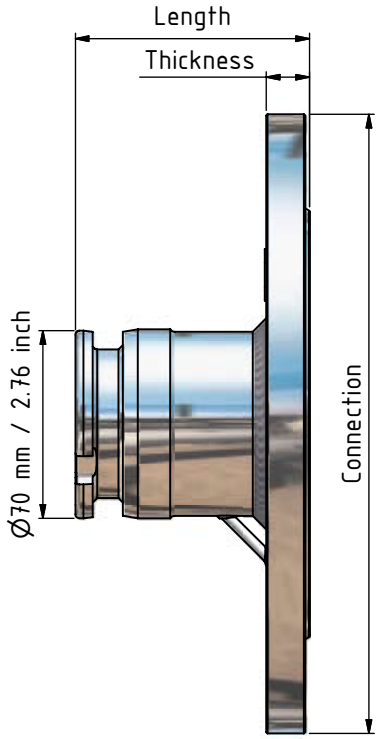
Tank units / Adapters with excentrical flanges are available in sizes 1" to 6".

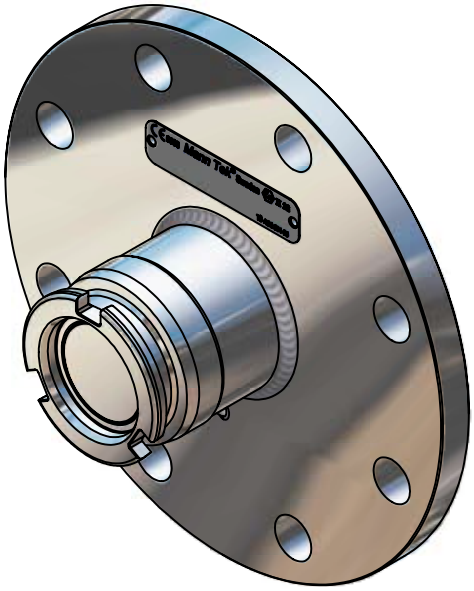
How to Order **Code No:** Tank unit Code No. + Z



Combinations of Couplings - Flanges

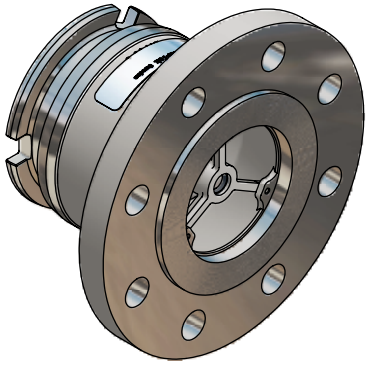
We manufacture all combinations of Couplings - Flanges on request



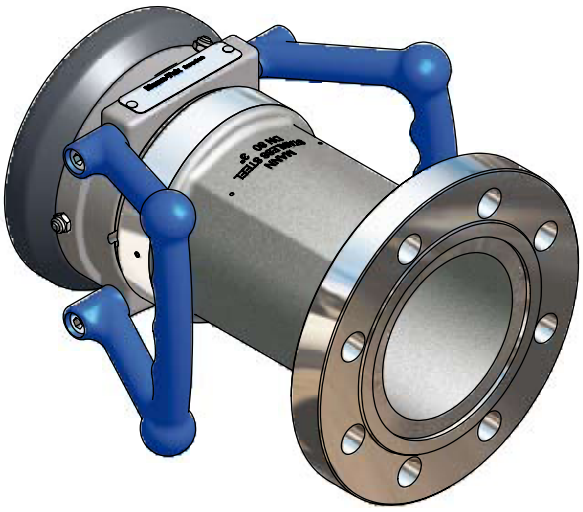


2" (Ø70mm) Tank unit / Adapter with Flange 4" ANSI,
Code No: T263A4401

Tank unit / Hose unit, flange EN 1092-2001 Type E (Spigot) / Type F (Recess)



Tank unit
Flange EN 1092-2001 Type E (Spigot)



Hose unit
Flange EN 1092-2001 Type F (Recess)

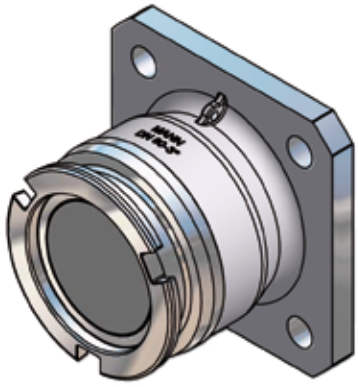
Spigot Type E and Recess Type F has a straight sealing surface which differs from standard flanges. It is a special version that some manufacturers of tankers (tank trucks) and railway-carriages (rail tankers) uses as the default for certain applications.

None projecting piston spindle

Tank units with no parts protruding from the coupling in connected position.

For mounting directly on ballvalves, etc.

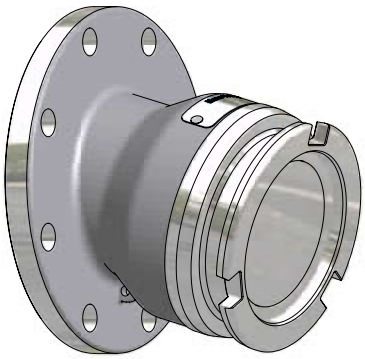
Tank unit / Adapter with square flange connection



2½ (105 mm) and 3" (119 mm) Tank unit / Adapter with square flange.

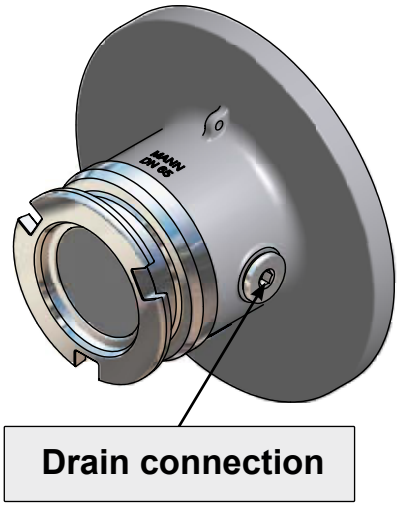
Other sizes on request.

3" (119mm) Dropped Tank unit / Adapter with flange connection



15° dropped Tank unit with flange connection makes it easier to connect and reduces hose wear

Tank unit / Adapter with Drain connection



Option Drain connection
Use Mann Tek Tank unit / adapter with Drain connection for easy draining and sampling of your system. Available in all Tank units with flange.

Drain connection: 3/8" (thread standard)
Other threads on request.

How to order
Code No Tank unit + D-G3-11-C1

Option - Locking device

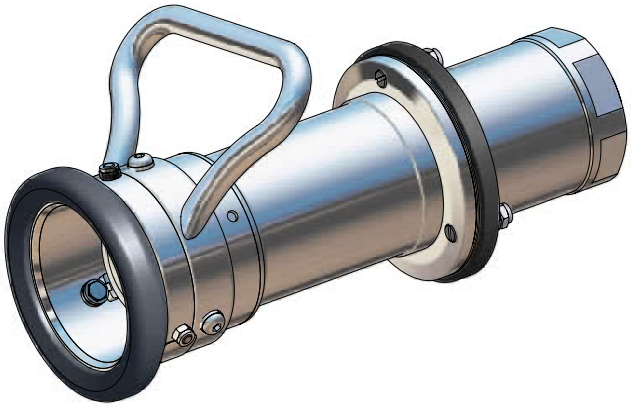
Locking device to avoid unwanted disconnection

Fully connected locking facility eliminates unintentional disconnection when subjected to vibration from transfer pumps.

Code No: Hose unit Code No + LD-S2*)

*) 1"=S1, 2"=S2, 2½"=S2, 3"=S4, 4"=S5

Option - Hose unit with Break Away integrated

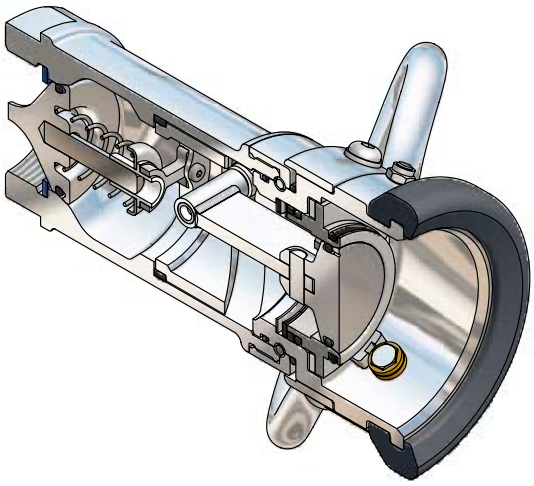


Where there is a risk of excessive force on the hose due to unexpected movement between the loading and unloading station, combining the Dry Disconnect Coupling with a Safety Break Away coupling.

Code No.

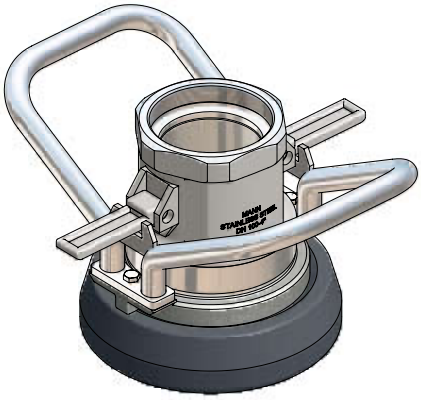
When Code No for the Hose unit is e.g. S211A4401, the Code No for Break Away integrated is SN211A4401

Hose unit with non return valve



Hose unit with check valve for wet house delivery.

Hose unit with lockable swivel



Hose unit used for emergency unloading of Railtankers (RTC)

Option - Extended handle

Extended handle for 2", 2½" and 3" Hose unit

How to Order

Code No: Code No. Hose Unit + Code No handle

Option - Colored couplings and handles

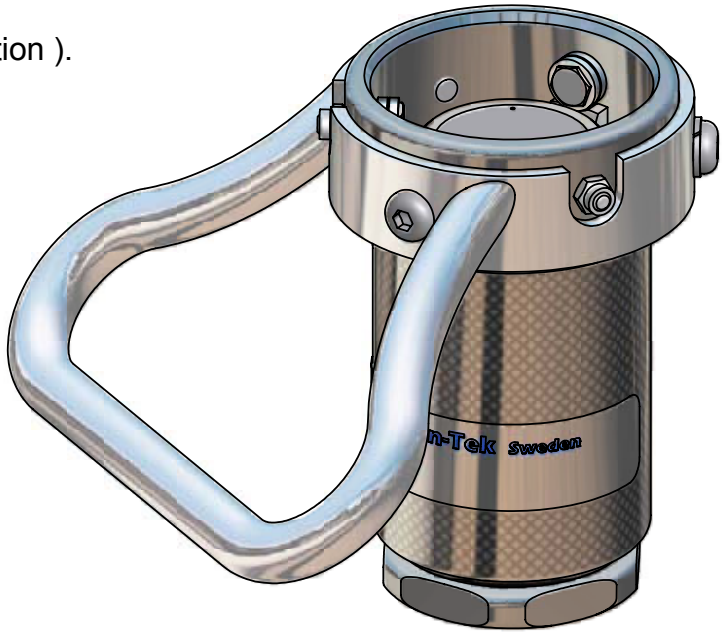
Mann Tek supply couplings and handles in any color on request

DDCouplings for Steam

DDCouplings for steam are specially designed to fit hoses carrying steam. The coupling house and all inner parts are made of Stainless Steel, the seals in EPDM (other material on request). Lockable versions are available on request.

Applications

- Chemicals (E.G. heating)
- Pharma (E.G. disinfection and sterilization).
- Loading bays



Advantages

- Prevents accidents
- Avoids down time
- Does not affect working efficiency
- Eliminates hidden costs

Construction advantages

- Unintentional separation is prevented
- Unaffected by surface rust
- Stainless Steel construction throughout

Option - DDCoupling Hose unit with Ground Connection

Ground cable assembly with solid brass clamp and bold. Cable with plastic coating.

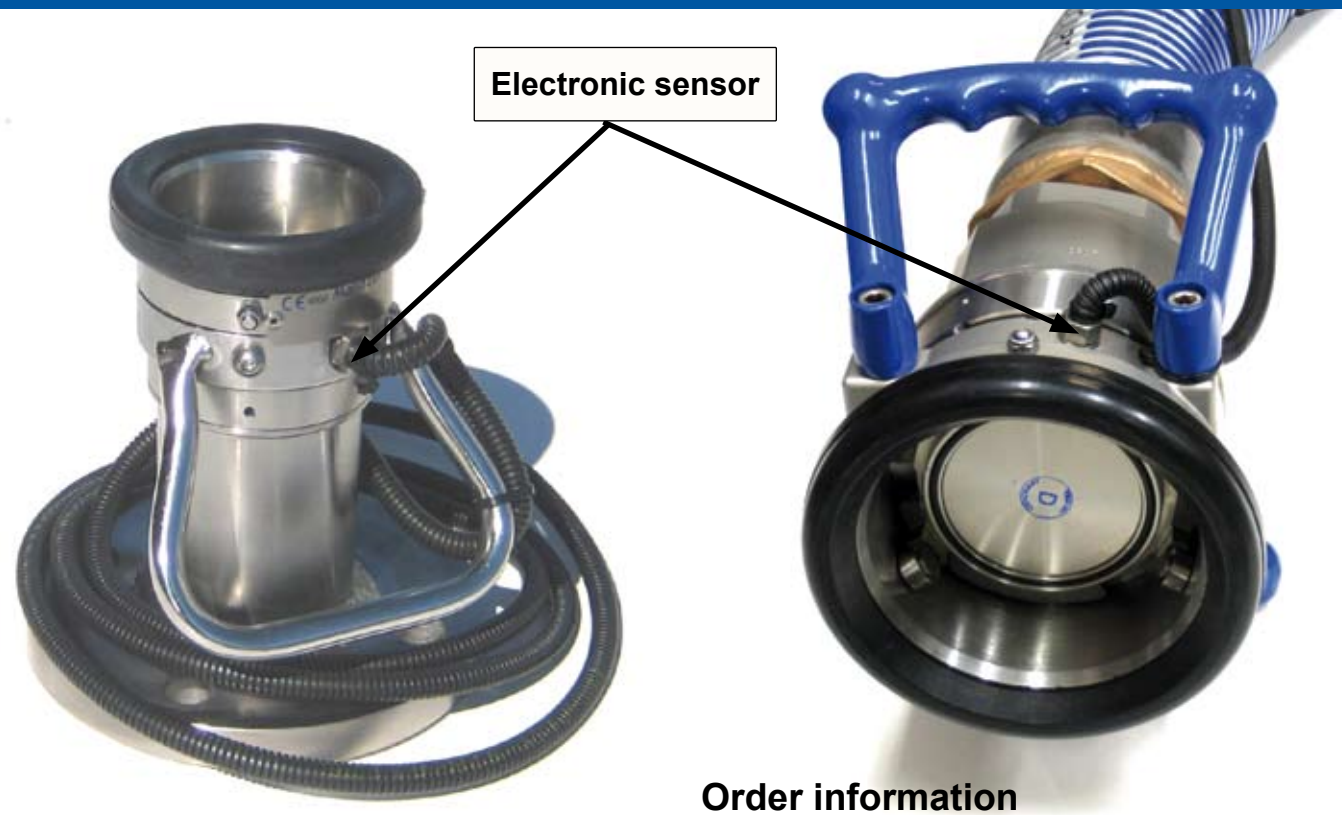
Electrostatic charges can be generated by a variety of circumstances. Ignition of flammable vapours is possible by discharge of static.

Electrical conductive hoses and anti-static additives reduces the risk but might not be sufficient. Than the aircraft, the fuelling vehicle, and all accessories including hose nozzle, filters and other equipment through which the fuel passes must all be electrically bonded.

Such connections must always be attached to appropriate bonding connections thus providing a conductive path to equalize potential.

Removal of the bonding connection must always be the last operation.

Option - Electronic sensor



Electronic sensor

The sensor is detecting the position of the driving plate inside the hose unit.

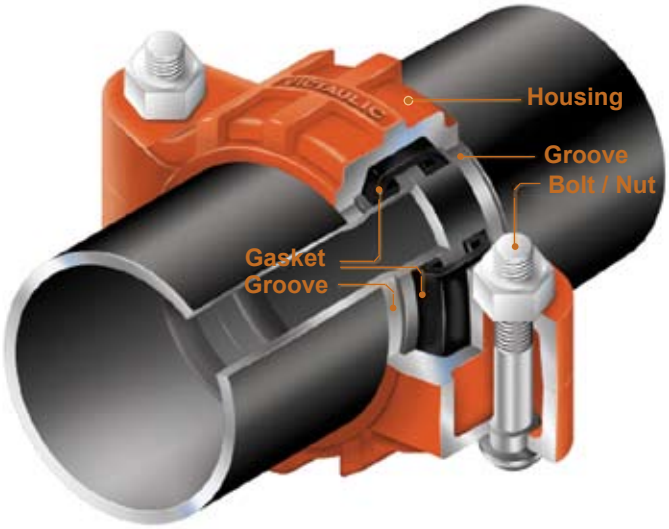
No modification on the tank unit is needed. That makes it possible to identify if the hose unit is connected to a tank unit and if they are in an open position.

Order information

Code No: Z-S1-44-A1

S1 : For 1" coupling. **S2 :** For 2" coupling.
S3 : For 2½" coupling. **S4 :** For 3" coupling.
S5 : For 4" coupling. **S6 :** For 6" coupling.
44 : Housing material in Stainless Steel
A1: DC-PNP
A2: NAMUR

Victaulic

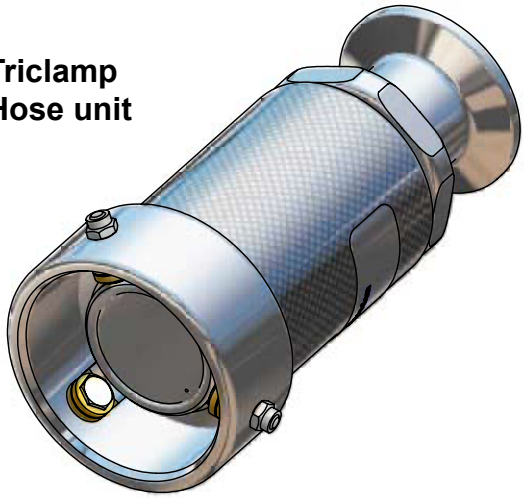


Victaulic connection

Mann Tek manufacture Dry Disconnect Couplings with Victaulic connection for quick and easy coupling installation in i.e military and offshore applications.

Option - Triclamp

Triclamp
Hose unit

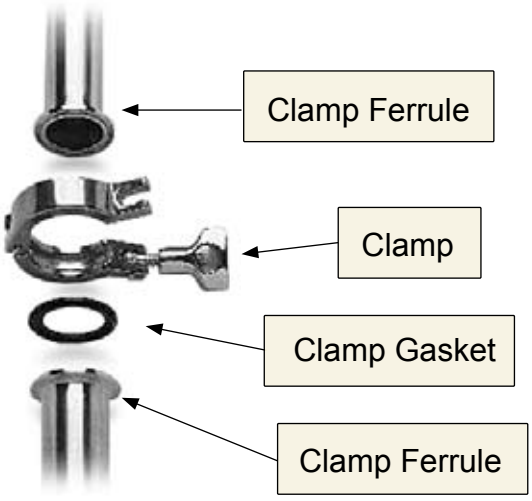


Triclamp
Tank unit

Triclamp coupling

Dry Disconnect Couplings with Triclamp connection are used in working environments demanding high levels of hygiene.

Applications:For food, beverage, chemical, pharmaceutical and life science industry applications, as well as bio-engineering, filter and water treatment technology.



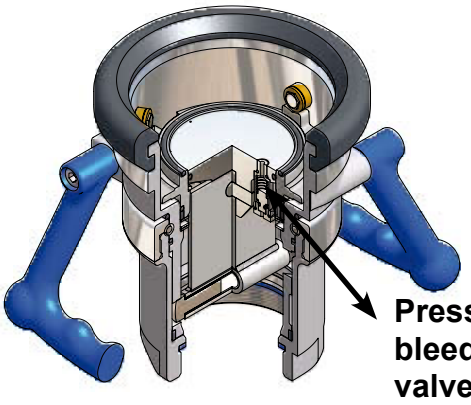
Pressure bleeding valve

Pressure bleeding valve in Hose unit

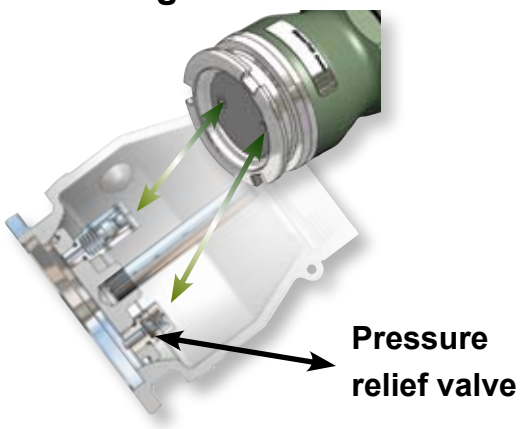
Under thermal influence the liquid will be warmed up and the pressure increases extremely.

To protect the equipment against excessive pressure the PBV opens at a predetermined pressure at an acceptable and riskless limit.

Other applications with the same effect are adapter pieces between different DDCouplings, hose lines with DDCouplings/DACouplings on both sides e.g. for military applications (logistic supply lines).

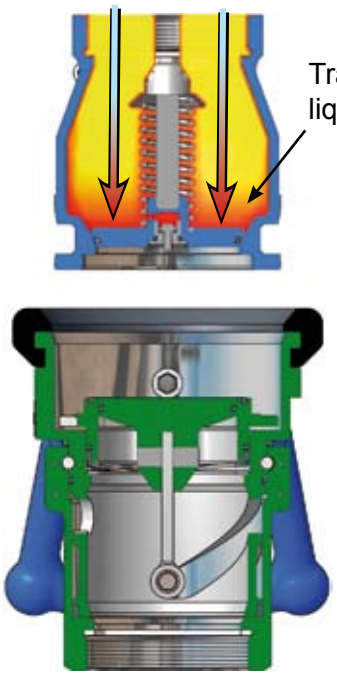


Pressure relief and bleeding valve in Tank unit

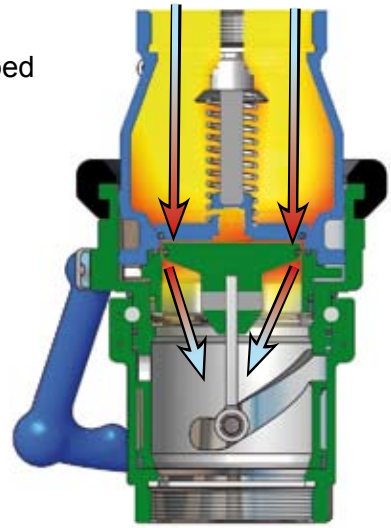


Pressure relief valve in STANAG 3756 Tank unit

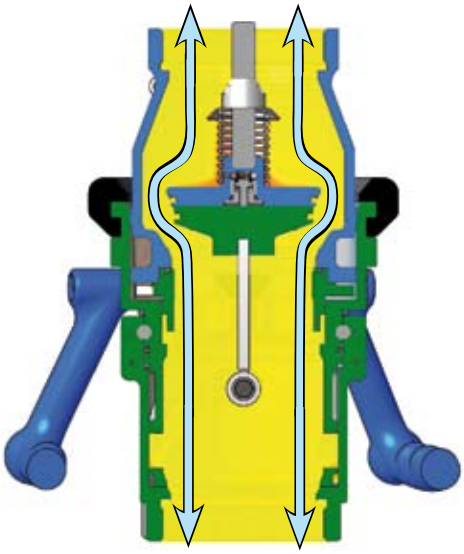
This system dissipates trapped fluid pressure into hose coupler without spillage, to allow easy connection.



Trapped liquid in Tank Unit



Open pressure relief valve
Pressure expands into Hose Unit

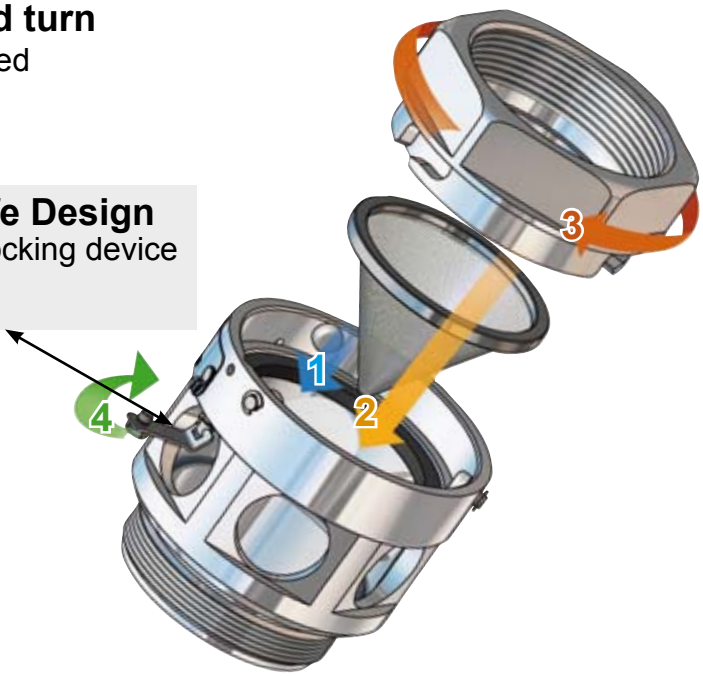


Open without pressure
Full flow

Filter Strainer in Aluminium for Petroleum products - Exploded View

Push and turn
- It´s coupled

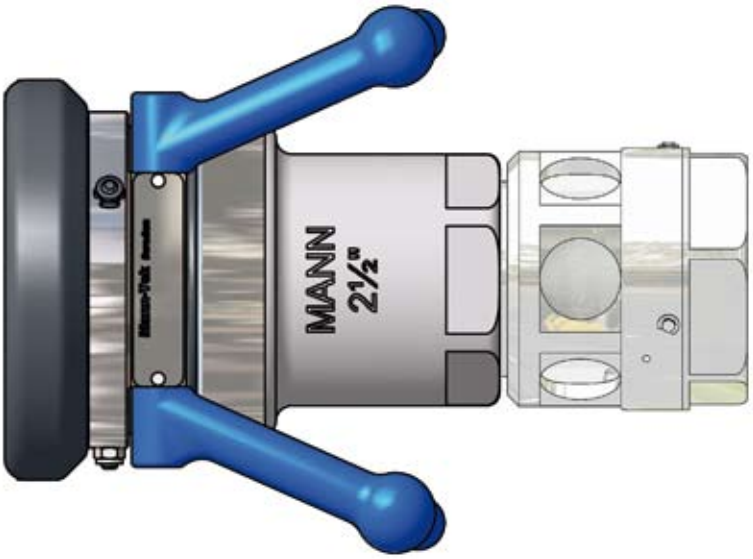
Fail Safe Design
Double locking device



Anti Clock wise
- It´s disconnected

Filter Strainer in Aluminium for Petroleum products- Product information

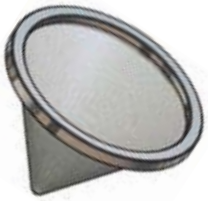
The Filter Strainer is designed to adapt on theDDCoupling. The integrated view glass makes it easy to check when the filter has to be cleaned. Easy servicing is guaranteed by a new bayonet connection. The Filter Strainers are available with 2½" BSP/NPT and 3" BSP/NPT connections.



45 mesh

60 mesh

100 mesh



Sight flow indicator with male BSP thread screws into a DDC Hose Unit with female threads.

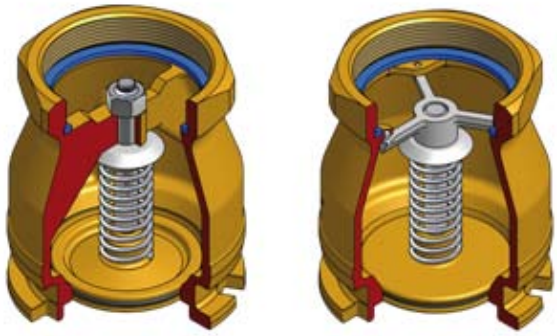
There are 3 different filter types, 45 mesh, 60 mesh and 100 mesh. When order replace XX with -45 for 45 mesh, -60 for 60 mesh and -10 for 100 mesh.

Service

Easier to serve

You are able to mount and dismount the DD-Couplings without any special tools.

The Tank unit / Adapter can be mounted and dismounted without any tools at all.



Results:
Quick and safe service with just a few standard tools

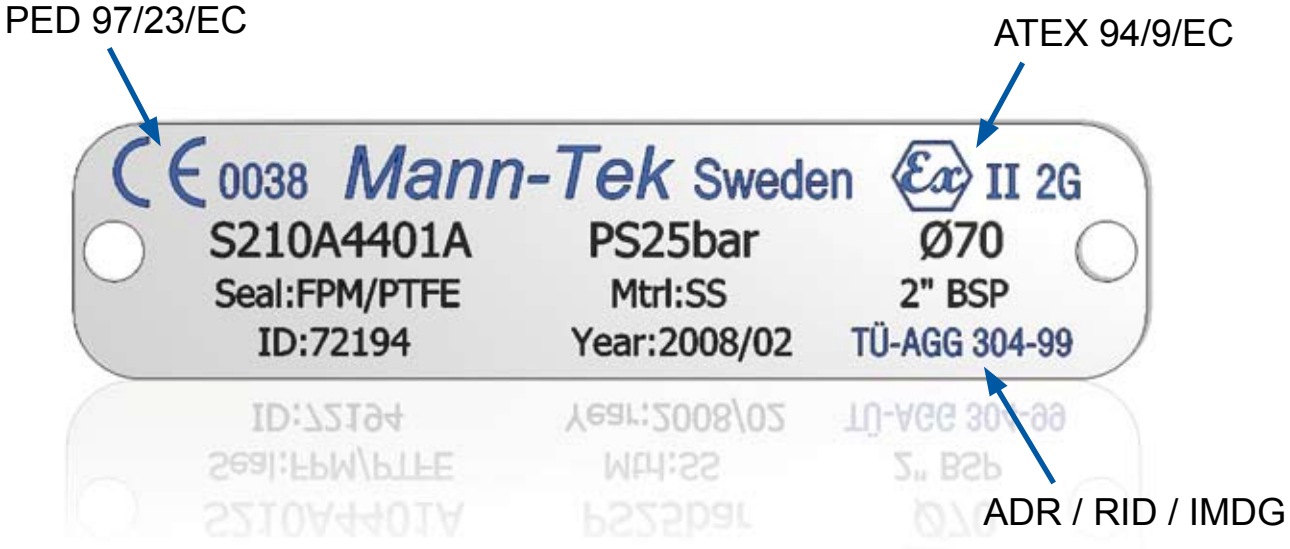
Tools

Tools for draining of tank units

Tools for draining of hose units

Open end wrench for Mann Tek tank and hose unit

ID-tag



Explanation of Designations - 1/2

Ver 0905

First sign (letter): Indicates the type of coupling

A = API-adapter
B = Ball Valve
C = Dust cap
CG = Dust cap LPG
D = Swivel
E = Tank unit with pressure equalizing valve
F = Hose unit ISO 45
G = Tank unit ISO 45
GS = Tank unit ISO 45 with selectivity
H = Sampling vent & drain unit
I = Dust Plug ISO 45
K = Dust Cap ISO 45
L = Tank unit LPG
M = Hose unit LPG
N = Break away PIN
O = Break away Wire
P = Dust Plug
R = Pressure cap
S = Hose unit STANAG 3765
T = Tank unit STANAG 3765
U = Filter
V = Dust plug LPG
WA= Hose Fittings

Second sign (numeral): Indicates the socket diameter and/or the nominal diameter

1 = 56mm or 3/4", 1", 1 1/4"
2 = 70mm or 1 1/2", 2"
3 = 105mm or 2 1/2"
4 = 119mm or 3"
5 = 164mm or 4"
6 = 238mm or 6"
8 = 272mm or 8"

Third and fourth sign (numeral): Indicates connection, (thread, flange etc.)

01 = 3/4" BSP (Female)
02 = 3/4" NPT (Female)
03 = 1" BSP (Female)
04 = 1" NPT (Female)
05 = 1 1/4" BSP (Female)
06 = 1 1/4" NPT (Female)
07 = 1 1/2" BSP (Female)
08 = 1 1/2" NPT (Female)
09 = 1 3/4" BSP (Female)
10 = 2" BSP (Female)
11 = 2" NPT (Female)
12 = 2 1/2" BSP (Female)
13 = 2 1/2" NPT (Female)
14 = 3" BSP (Female)
15 = 3" NPT (Female)
16 = 4" BSP (Female)
17 = 4" NPT (Female)
18 = Flange undrilled Ø156
19 = Flange undrilled Ø165
20 = Flange undrilled Ø210
21 = Flange undrilled Ø230
22 = Flange undrilled Ø254
23 = Flange DN 25 PN 10/16
24 = Flange DN 25 PN 25/40
25 = Flange DN 32 PN 10/16
26 = Flange DN 32 PN 25/40
27 = Flange DN 40 PN 10/16
28 = Flange DN 40 PN 25/40
29 = Flange DN 50 PN 25/40*
30 = Flange DN 50 PN 10/16
31 = Flange DN 50 PN 25/40
32 = Flange DN 65 PN 25/40*
33 = Flange DN 65 PN 10/16
34 = Flange DN 65 PN 25/40
35 = Flange DN 80 PN 25/40*
36 = Flange DN 80 PN 10/16
37 = Flange DN 80 PN 25/40
38 = Flange DN 100 PN 25/40*
39 = Flange DN 100 PN 10/16
40 = Flange DN 100 PN 25/40
41 = Flange DN 125 PN 6
42 = Flange DN 125 PN 10/16
43 = Flange DN 125 PN 25/40
44 = Flange DN 150 PN 6
45 = Flange DN 150 PN 10/16
46 = Flange DN 150 PN 25/40
47 = Flange DN 20 PN 10/16
48 = Flange DN 20 PN 25/40
49 = Flange 3/4" ANSI 150 PSI
50 = Flange 3/4" ANSI 300 PSI
51 = Flange 1" ANSI 150 PSI
52 = Flange 1" ANSI 300 PSI
53 = Flange 1 1/4" ANSI 150 PSI
54 = Flange 1 1/4" ANSI 300 PSI
55 = Flange 1 1/2" ANSI 150 PSI
56 = Flange 1 1/2" ANSI 300 PSI
57 = Flange 2" ANSI 150 PSI
58 = Flange 2" ANSI 300 PSI
59 = Flange 2 1/2" ANSI 150 PSI
60 = Flange 2 1/2" ANSI 300 PSI
61 = Flange 3" ANSI 150 PSI
62 = Flange 3" ANSI 300 PSI
63 = Flange 4" ANSI 150 PSI
64 = Flange 4" ANSI 300 PSI
65 = Flange TW 1 (3" - DN 80)
66 = Flange TW 3 (4" - DN 100)
67 = Flange 3" T.T.M.A.
68 = Flange 4" T.T.M.A.
69 = 3/4" BSP (Male)
70 = 3/4" NPT (Male)
71 = 1" BSP (Male)
72 = 1" NPT (Male)
73 = 1 1/4" BSP (Male)
74 = 1 1/4" NPT (Male)
75 = 1 1/2" BSP (Male)
76 = 1 1/2" NPT (Male)
77 = 1 3/4" BSP (Male)
78 = 2" BSP (Male)
79 = 2" NPT (Male)
80 = 2 1/2" BSP (Male)
81 = 2 1/2" NPT (Male)
82 = 3" BSP (Male)
83 = 3" NPT (Male)
84 = 4" BSP (Male)
85 = 4" NPT (Male)
86 = Weld.flange 2" Ø60,5 inner
87 = Flange TW 1 (2" DN50)
88 = Weld.flange 2" Ø50-Ø70 (flat)
89 = Weld.flang 2" Ø57 (int. chamfer)
90 = Weld.flang 2" Ø60 (outer chamfer)
91 = Weld.flang 3" Ø75-Ø90 (flat)
92 = Weld.flang 3" Ø76 (int. chamfer)
93 = Weld.flang 3" Ø89 (outer. chamfer)
94 = Weld.flang 4" Ø100-Ø120 (flat)
95 = Weld.flang 4" Ø102 (int. chamfer)
96 = Weld.flang 4" Ø108 (int. chamfer)
97 = Weld.flang 4" Ø114 (outer. chamfer)
98 = Flange TW 1 (2" - DN 50) with drain connection
99 = Flange DN 150 PN 25
100 = Flange 6" ANSI 150 PSI
101 = Flange 6" ANSI 300 PSI
102 = Flange DN 200 PN 10
103 = Flange DN 200 PN 16
104 = Flange DN 200 PN 25
105 = Flange 8" ANSI 150 PSI
106 = Flange 8" ANSI 300 PSI
107 = Flange Square ISO 45
108 = S60x6 (female)
109 = S60x6 (male)
110 = 6" BSP (female)
111 = 6" NPT (female)
112 = W2" - 7 (female)
113 = Weld.flange 3" Ø92 inner
114 = Square flange, 4 holes
115 = 6" BSP (Male)
116 = 6" NPT (Male)
117 = 8" NPT (Female)
118 = 4" Victaulic
119 = Flange DN 50 PN 25/40**
120 = Flange DN 65 PN 25/40**
121 = Flange DN 80 PN 25/40**
122 = Flange DN 100 PN 25/40**
123 = W2" - 7 (Male)
124 = 5" NPT (Female)
125 = 5" NPT (Male)
126 = Flange DN100 PN6
127 = Flange DN80 PN6
128 = Flange DN65 PN6
129 = Flange DN50 PN6
130 = Flange 8" ANSI 600 PSI
131 = W90x1/6" (female)
132 = ½" NPT (Female)
133 = ½" BSP (Female)
134 = Flange ø184.2, 6 holes
135 = Flange TW 7 (6" - DN 150)
136 = 4" ASSPT (Female)
137 = Triclamp DN 25
138 = M54x 1,5 (Female)
139 = Triclamp DN50
140 = Weld.flange Ø73 (outer chamfer
141 = 3" Victaulic

* EN 1092-1:2001 Type E: Spigot
** EN 1092-1:2001 Type F

NOTE! When swivels are chosen, the second and the third sign indicates one outlet,

Explaination of Designations - 2/2

Ver 0905

Fifth sign (letter): Indicates version

A = Version No.1 (Machined from bar)
B = Version No.2 (Casted)
C = Version No.3 (Kokill casted)
D = Sep. piston guide
E = Injection molded
F = 6" Flange Hydrante
G = Drain connection
H = Leaf spring lock
I = Bended Tank Unit Short
J = Bended Tank Unit
K = Short Tank Unit
P = Pressure relief valve
S = Sight Glass
T = Transparent

Sixth sign (numeral): Indicates material in the coupling body

1 = Aluminium
2 = Brass
3 = Steel
4 = Stainless steel
5 = Inconel
6 = Titan
7 = Hastelloy
8 = PVDF
9 = PEEK

Seventn sign (numeral): Indicates material in the innerparts or other components

1 = Aluminium
2 = Brass
3 = Steel
4 = Stainless steel
5 = Inconel
6 = Titan
7 = Hastelloy
8 = PVDF
9 = PEEK

Eight and Ninth sign (numeral): Indicates the O-ring material in the coupling

01 = Viton® (FPM/FKM)
02 = Nitrile® (NBR)
03 = EPDM
04 = Kalrez (FFPM) 6375
05 = NBR Low temp
06 = Teflon (PTFE)
07 = Neoprene (CR)
08 = Silicone (Q)
09 = Vulkollan (PUR)
10 = Butyl (IIR)
11 = Nitrile (Gasol NBR 70 K-6)
12 = Perfluorelastomer (FFPM)
13 = PVC / NBR
14 = Fluorsilicone rubber (MFQ)
16 = Hypalon (CSM)
17 = Chemraz 505
18 = Xyflour 860
19 = Zetpol / Therban (HNBR)
20 = NBR 90 shore
21 = Viton - GF (Special Viton quality)
22 = Composite
23 = Viton GF-LT
24 = Viton GLT
25 = Klingerit
26 = POM
27 = Epiclorhydrin
40 = FEP PTFE encapsulated Viton
50 = Kalrez (PFPM) 1050LF
51 = Nylon
61 = Viton® (FPM), FDA, USP C6 & ADI
62 = Nitrile® (NBR), FDA, USP C6 & ADI
63 = EPDM, FDA, USP C6 & ADI
64 = Kalrez (FFPM) 6230, FDA, USP C6 & ADI
71 = FPM/FKM Low Temp
77 = Chemraz 505, FDA, USP C6 & ADI

Tenth sign (letter): Used for extra

A = Flat seal, Teflon®(PTFE)
B = Flat seal, Vulkollan®(PUR)
C = 2-way Ball Valve
D = Flat seal, Viton® (FPM)
E = None projecting piston spindle
F = Flange thickness acc. to standard
G = Hypalon
H = Nitrile (NBR)
I = Emco comp
J = EPDM
K = Locked piston guide
P = Pressure Relief Valve
Q = Reduced bore diameter (Argus,Hydrant)
R = Hose unit with int. Brake Away
S = Single Argus valve (Hydrant)
T = TW-Flange extended circles
U = Pressure Equalizing Valve
V = Locking house uni
W = Double ball race
X = Special surface treatment
Z = Excentric tank unit
-RA = Racing
-LC = Locking Cap
-45 = 45 Mesh
-60 = 60 Mesh
-10 = 100 Mesh

Selection of registered trade names from Messrs BASF, Bayer AG, B.F. Goodrich, Chemische Werke Hüls, Daikin, Dow Company, DSM, Du Pont, DuPont Dow Elastomers, Esso Chemie, Hercules, Hoechst AG, Montedison, Monteflous, Nippon Zeon, Polysar LTD., Rhone Poulenc, 3 M Company, Wacker Chemie, Precision Polymer Engineering Ltd.

Enquiry DDCouplings

Date	Name
Title	Company
Department	Address
Country	Telephone
E-mail	Fax

Product data

Code No.	Quantity
Internal diameter:	Connection:
Product type/spec/options: Size ☐ Integrated Breakaway ☐ Pressure releafe valve ☐ Other options :	
Material	
Other remarks Pressure certificate ☐ Material Certificate 3.1 ☐	

Flow data (Media Cast No)

Cleaning process

1	:
2	:
3	:
4	:
5	:

Working Pressure	Temperature	Concentration	Vacuum

Customers note

Mann Teknik AB
Mariagatan 29
542 43 Mariestad
Sweden

46-(0)501 39 32 00

46-(0)501 39 32 09

www.mann-tek.com
sales@mann-tek.se

Safe handling of AdBlue®

AdBlue® is a non toxic urea solution to DIN 700 70 and contributes to reduce exhaust emission by injection into SCR´s (Selective Catalytic Reduction) systems on Heavy Duty Diesel engines.

After the introduction of the new EURO 4 and EURO 5 standards the use of AdBlue® within the heavy vehicle industry is set to increase.

Refuelling with AdBlue® urea solution (or as in the U.S, DEF - Diesel Exhaust Fluid) is not unlike standard diesel refuelling. For non spill bulk transfer, Mann Tek recommend the use of our 2" (70mm) and 3" (119 mm) range of Dry disconnect couplings in Stainless Steel and seal in EPDM according to standard NATO STANAG 3756.

Recommendations from CEFIC
The Quality Assurance Guidance Document of CEFIC, AUS 32 according to DIN 70070, paragraph 8.4 states

> "*Proper labelling and foolproof connections must be employed so as to minimize the possibility of misstakes and contamination.*"

Mann Tek Dry Disconnect Couplings offers just that

Safe handling of Bio Diesel

Due to soaring fuel prices, sales of Biodiesel is increasing considerably. This alternative fuel may replace fossil fuels. It is made from chemically modified vegetable oil - i.e. rapeseed, soy or palm oil.

EN 14214 the new European standard confirms that Biodiesel can be called "harmless", as it is has a high flash point and a low water hazard classification.

Still, Biodiesel acts aggressively against some metal coatings, plastic and rubbers. It may also enhance corrosion because of it´s water soluability. Use Mann Tek DDCouplings for safe and spill free handling of Biodiesel

Safe handling of E•85

Demand for ethanol, E85 is increasing substantially. More and more people choose cars that run on Ethanol, E85, instead of other gasoline and diesel-driven vehicles.
E85 is a mixture of 70-86% ethanol and 14-30% gasoline. The proportion of gasoline is higher in wintertime to facilitate cold starting.

The main reason to choose the E85 is for the environmental reasons, but the use of E85 as a fuel also implies some changes in hazards compared with gasoline. E85 may form explosive vapours in an enclosed space at a higher temperature than pure gasoline.

About Cefic

Cefic is the Brussels-based organization representing the European chemical industry.

Since its creation in 1972, Cefic has grown to become one of the largest and most efficient advocacy network amongst the industry trade organizations in Europe and in the world.

► representing 29 000 companies that produce 30% of the world chemicals and employ about 1.3 million people.

► 22 national chemical federations and 6 associated federations across Europe.

► Over 170 multicultural staff.

► About 100 Sector Groups adressing issues relative to more than 120 product families.

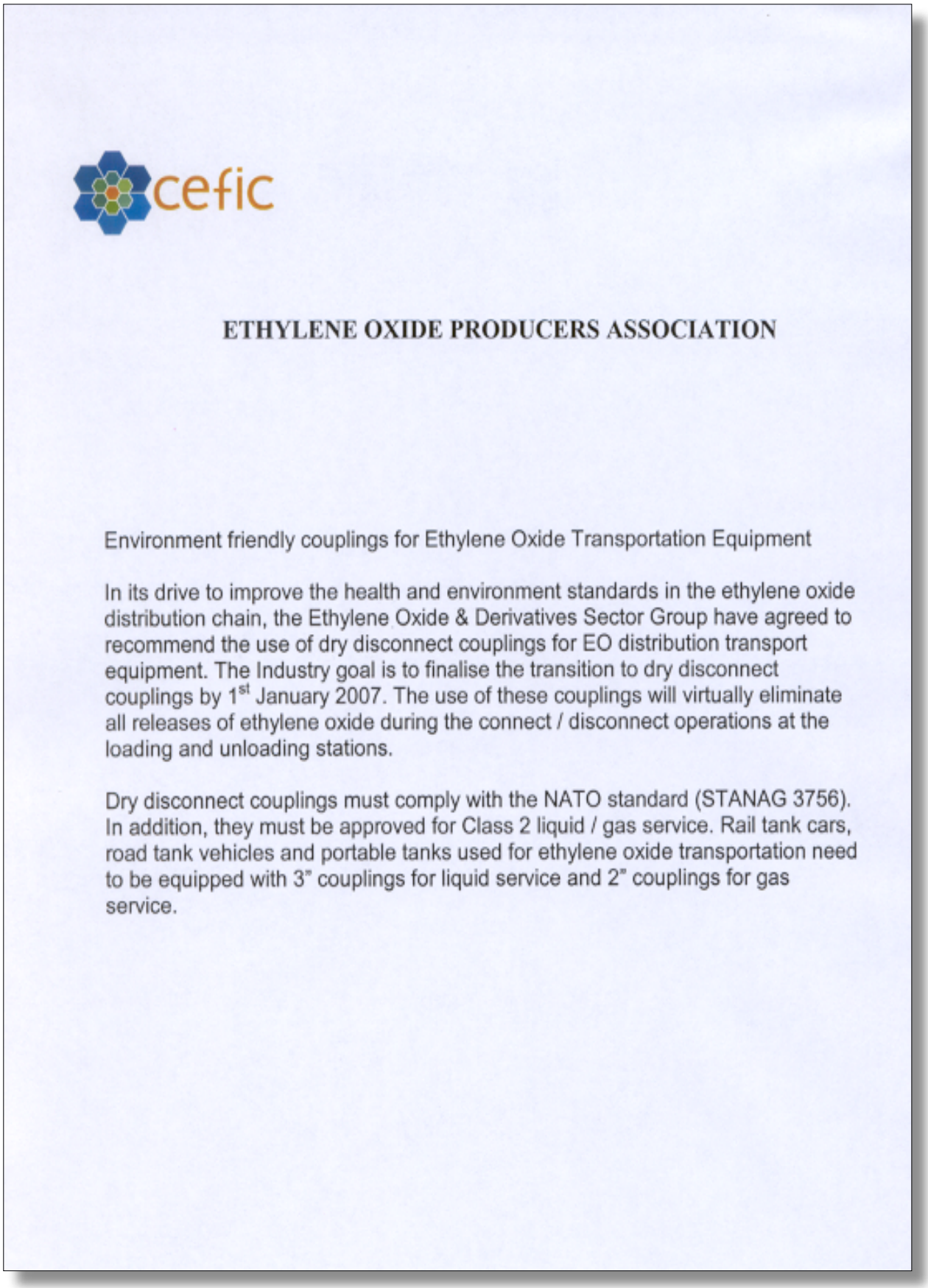
► Over 50 Strategy Implementation Groups and Issue Teams dealing with the industry's strategic concerns such as REACH, energy, environment, international trade, research & innovation and many others.

► More than 4000 industry experts from companies and federations participate in the Cefic groups.

► Close cooperation with the US, Japan and other major chemical countries through ICCA and many federations and trade unions.

Recommendations

CEFIC-Working group Ethylene Oxide:
Recommendation for the use of DDCouplings in EO-applications



cefic

ETHYLENE OXIDE PRODUCERS ASSOCIATION

Environment friendly couplings for Ethylene Oxide Transportation Equipment

In its drive to improve the health and environment standards in the ethylene oxide distribution chain, the Ethylene Oxide & Derivatives Sector Group have agreed to recommend the use of dry disconnect couplings for EO distribution transport equipment. The Industry goal is to finalise the transition to dry disconnect couplings by 1st January 2007. The use of these couplings will virtually eliminate all releases of ethylene oxide during the connect / disconnect operations at the loading and unloading stations.

Dry disconnect couplings must comply with the NATO standard (STANAG 3756). In addition, they must be approved for Class 2 liquid / gas service. Rail tank cars, road tank vehicles and portable tanks used for ethylene oxide transportation need to be equipped with 3" couplings for liquid service and 2" couplings for gas service.

CEFIC-Working group Acrylic Monomers:
Recommendation for the use of DDCouplings in acrylic monomers loading applications

DDCouplings® Dry Disconnect Couplings

cefic sector group

September 2004

EUROPEAN BASIC ACRYLIC MONOMER GROUP (EBAM)

Dry Disconnect Couplings for Acrylic Materials Service

Industry Recommendation

In their drive to improve the health and environment standards in the acrylic materials distribution chain, member companies of the European Basic Acrylic Monomers Sector Group are recommending the use of dry disconnect couplings on the transport equipment for bulk shipments of acrylic acid, methyl acrylate, ethyl acrylate, butyl acrylates and 2-ethyl hexyl acrylate.

Caution needs to be exercised when connecting the fixed and mobile parts of couplings from different manufacturers. Compatibility information is available in the EBAM document entitled *"Use of dry disconnect couplings on transportation equipment for acrylic monomers service"*, which can be downloaded from the following address:
http://www.petrochemistry.net/templates/shwArticle.asp?TID=5&SNID=22&AID=43

Rail tank cars, road tank vehicles and portable tanks used for these acrylic monomers need to be equipped with either 2" or 3" couplings.

The connecting nozzle could be designed according to the November 1994 NATO standard. Couplings manufacturers must also show that they have introduced an ISO 9000 quality assurance system.

The recommendation is given to the best of the EBAM member company ies' knowledge, and is made without any guarantee as the conditions of use are beyond the industry's control. Neither Cefic nor any member of the Cefic EBAM sector group shall have any liability whatsoever for any decision based on this recommendation.

CEFIC-Working group Acrylnitrile:
Recommendation for the use of DDCouplings in acrylnitrile loading applications

Appendix 2

Design and Construction of Road Tankers and Tank Containers

3.2.3. The size of the pressure relief valve(s) should be determined in accordance with API 520, the appropriate DIN method or an equivalent which is approved by the Company.

They must be designed and constructed so that in the case of total fire engulfment, the pressure inside the tank does not exceed the hydraulic test pressure of 4 bar g.

3.2.4. The pressure relief valve(s) must be set to open automatically at 0.9 times the test pressure, i.e. at 3.6 bar gauge, and to be fully open at the test pressure. The bursting disc rupture pressure must be the test pressure, i.e. 4.0 bar gauge.

3.2.5. It is recommended to design the tank to withstand full vacuum conditions. If this is not the case, the tank must be fitted with a vacuum relief valve designed to suit the maximum differential pressure conditions that the tank will withstand.

3.3. Filling/discharge and vapour return connections
3.3.1. All openings in the tank shell must be above the surface level of the liquid. No pipes or pipe connections must pass through the walls of the shell below the surface level of the liquid.

3.3.2. The filling/discharge and vapour return connections must be on top of the tank and incorporate a DN 80 filling/discharge and DN 50 vapour return lines with preferably stainless steel ball valves or butterfly valves. The handle of the valve should incorporate a locking pin/device to avoid product release by accidentally moving the valve handle. The connections must be closed with stainless steel blanking flanges (or compatible materials).
For environmental and operational reasons, 'DRY DISCONNECT COUPLINGS' for loading and unloading can be used.
For current information on the recommended type of 'DRY DISCONNECT COUPLING', contact the Secretariat of the CEFIC Acrylonitrile Technical Working Group.

3.3.3. The filling/discharge pipe must be 80 mm diameter and reach as close as practicable to the bottom of the tank. It must be supported top and bottom so as to withstand any vibration caused by the movement of the vehicle.

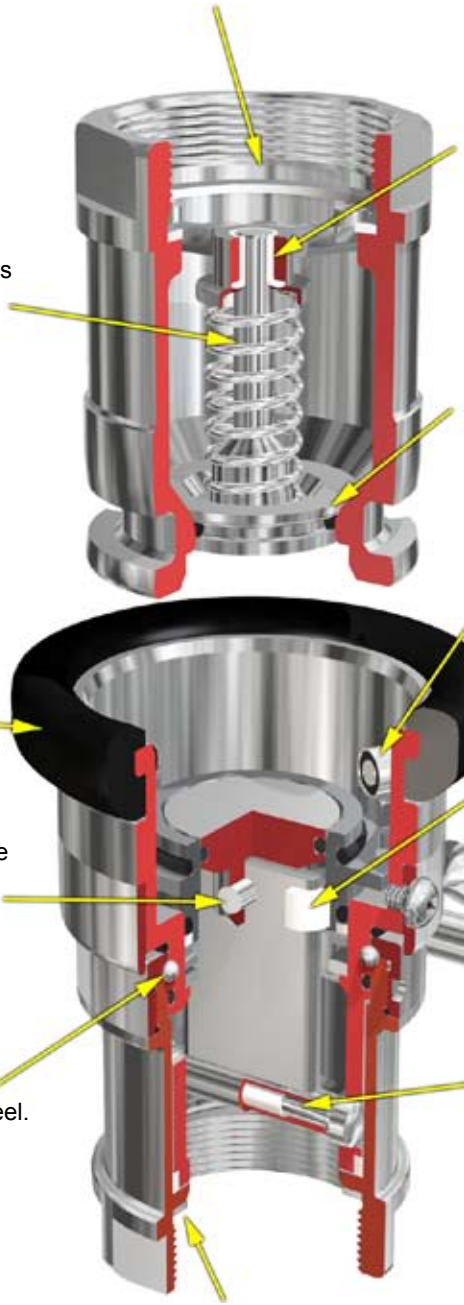
3.3.4. Emptying of the tank by pressure using an inert gas must be through the vapour return connection. This connection shall also be used for vapour return during tanker filling operations.

3.3.5. These connections must be provided with means to prevent unauthorised access. A tamper proof cap covering all top connections must be fitted.

Cut-away drawing, Stainless Steel version

DDCouplings®
Dry Disconnect Couplings

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.



PTFE (Teflon®) bearing between the piston shaft and the spindle guide to eliminate the risk for seizure.

Inner parts in Stainless Steel AISI 316.

Conical valve seat to eliminate the risk of "piston blow out" when extreme pressure is used.

Rollers in Hastelloy C 276 on the Stainless Steel shaft to minimize the risk of seizure.

Protecting ring in weather resistant rubber.
Electrically conductive.

PTFE (Teflon®) bearings between the driving plate and the piston guide to eliminate the risk of seizure.

Riveted piston pin to minimize the risk of failure under extreme pressure conditions.

Shaft journal in Stainless Steel embedded in PTFE (Teflon®) to eliminate seizure.

Ball bearings in Stainless Steel.

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.

Teflon® is a registered trademark of DuPont.

Mann Tek has knowledge from design, production and marketing of DDCouplings® since 1977.

Dry Disconnect Couplings are the given choice for handling any liquid, chemicals, gas etc. where spills can be both costly and hazardous.

DDCouplings are available in sizes from 3/4" to 6".

DDCouplings can be found in a lot of various applications such as handling toxic chemicals, fuels etc. to transferring clean water, due to the wide range of materials, connections and sealing types DDCouplings are flexible enough to suit almost any application.

Applications:
Railcars, ship to shore, tank trucks, chemical plants, food industry, off shore, vessel boats etc.

DDCouplings®
Dry Disconnect Couplings

DDCouplings® are in use in installations all over the world, especially where certification is a prerequisite and are certified by TÜV, Apragaz, Veritas, TDT, plus regionally required approvals.

DDCouplings® are especially needed in areas of zero tolerance spillage when your product:

- is of high value
- requires costly environmental methods of cleaning-up in case of spillage
- is expensive to reprocess or dispose of
- is hazardous to the environment
- can cause a health risk
- is prone to accidental spillage and product loss

DDCouplings® are designed for quick and spill free connection and disconnection of hoses and pipelines. They are used by producers of ink, adhesives, fatty acids, pharmaceuticals, liquid soaps, petroleum, chemicals, agricultural and a wide variety of caustic products and speciality acids.

Pressure Cap for Tank unit / adapter

Can be used as a second or third <u>closing device</u> according to ADR/ RID par 6.8.2.2.2

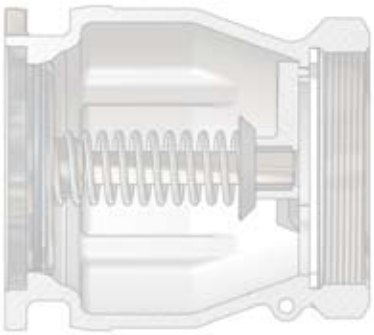
The Mann Tek Pressure Cap for Tank units / Adapters is designed to maximize operator safety and containment safety.

Should the possibility of an upstream closure leakage occur, the Pressure Cap provides identification of a system pressure and will hold this pressure until the problem can be safely resolved. Should the operator still choose to remove the cap it will reduce the static pressure to zero thus preventing the forceful expulsion of the transfer media.

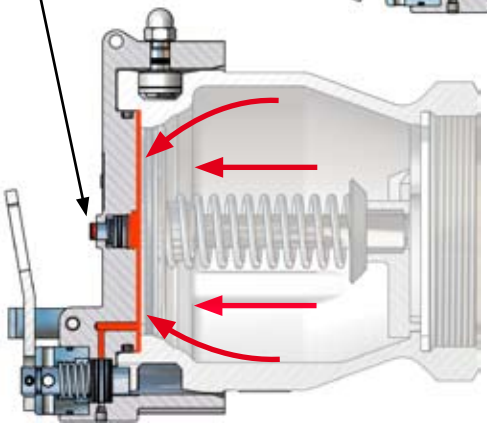
Features

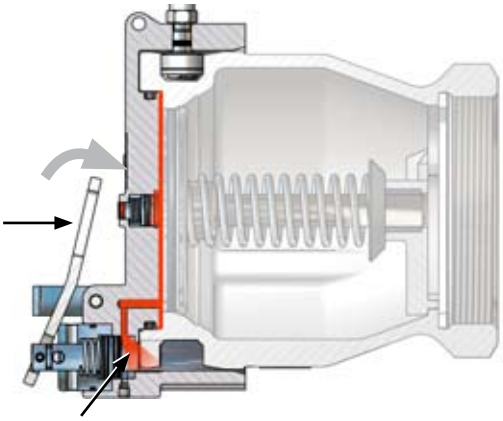
- Pressure indicator
- Depressurization
- Customs / tamper seal feature
- Automatic locking
- Manually lockable (with padlock)

Pressure Cap for Tank unit / adapter - How It Works



Pressure Indicator
(Warns for leakage in the tank unit)



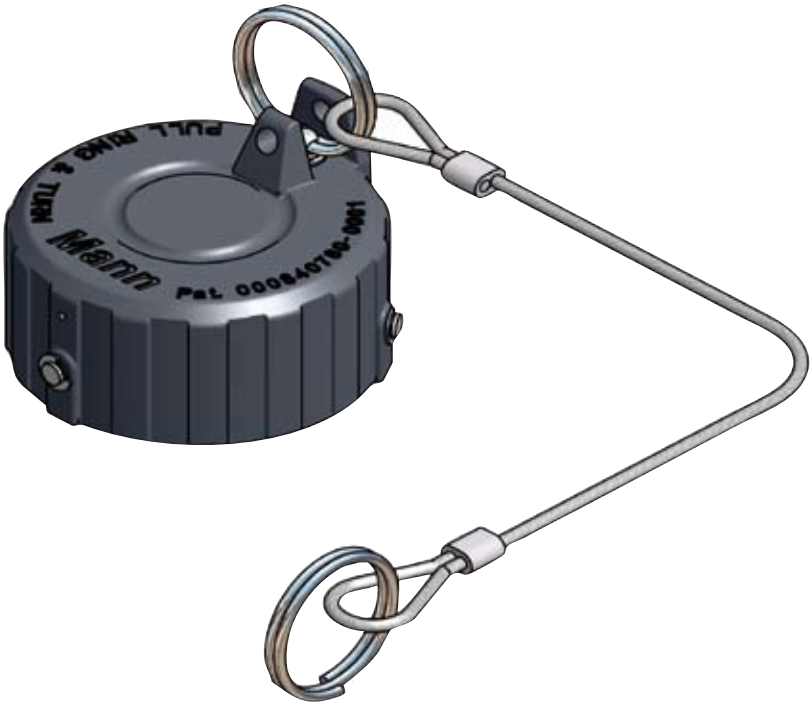


Press (down) the handle

Possibly pressure evacuated through a valve and the cap can be opened

A great option of Caps. The Caps is secured against accidental fall off.

It´s only possible to remove the cap from the Tank unit /Adapter after pulling the securing stift and at the same time twisting the cap.

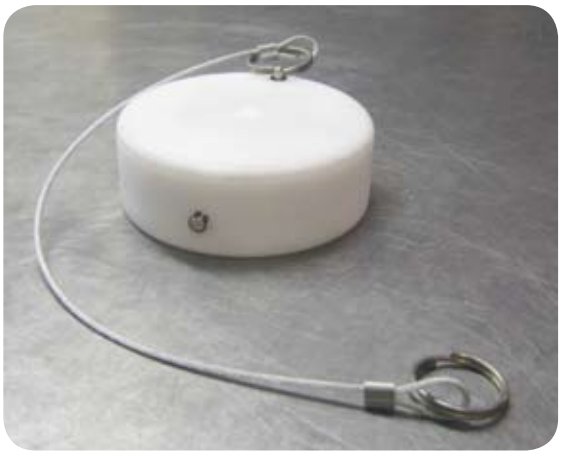


Standard Caps in Composite (Poly-eten PE-HD 300), wich gives very good protection against corrosion, and with-stands both hot and cold environments.

It covers the widest range of chemical and petroleum products.

- ***Elastic v-ring seal in standard NBR that make disassembly easier.***
- ***Lockable and sealed***
- ***Patented design,***

Caps are also available in Stainless Steel and Aluminium. Other materials on request.

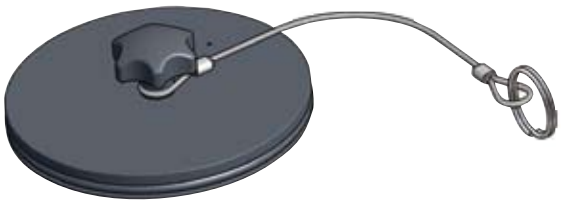


A white Mann Tek Cap in the material POM with seals in extreme Viton®

Dust Plug to prevent ingress of dirt and water

Use the Mann Tek Dust Plug to prevent ingress of dirt and water in the couplings.

The material in the Dust Plug is Composite, Aluminium and Stainless Steel.



Chemical industry

Dry Disconnect couplings for chemical industry

Industrial Couplings (DDCouplings) are used at depot sides, blending pits, internal handling

Main products:

DDC's, Industrial Couplings, 1" to 6"

2", 3" & 4" Industrial couplings (DDC) used for loading / unloading at depots

1" to 4" Internal logistics (connecting pipe lines, hoses etc.)

Mann Tek DDCouplings for Offshore and Marine

4” and 6” DDCouplings for transfer from supply vessel to rig. (In rear cases even DDC 3”) of Drilling Mud, Potable Water, Methanol, Diesel etc.

The rig is fitted with large hose reels and DDC Hose units.

DDC 2” for on rig handling of chemicals for drilling process (Methanol, Glycol, Scale inhibitors etc.)

Containers are part of an exchange system and supplied by supply vessels.

2½” DDCouplings for transferring of JET fuel from storage tanks to fuelling skids.

TESS Designed Hose reel with Mann Tek 4” DDC Hose unit

Rail tankers

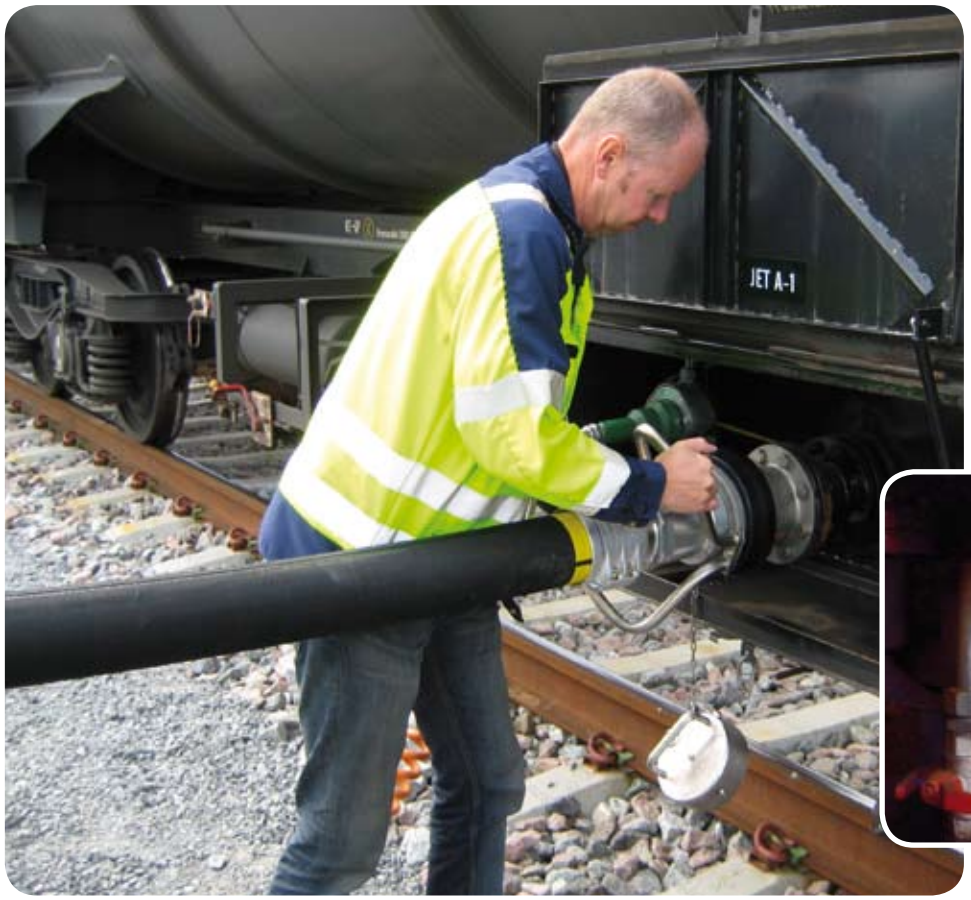
Ammonia from storage tanks to Rail tankers.

Rail Tank Cars (RTC) and Dry Disconnect Couplings.

2", 3" and 4" Dry Disconnect Couplings for transfer of liquids from manufacturing plants to RTC (Rail Tank Cars) such as Acrylonitrile, Propylene Oxide, Ethylene Oxide, Benzene, Ethanol, Jet fuel e.t.c.

The RTC´s are (off)loaded by loading arms or hoses equipped with Dry Disconnect Coupling Hose units. Size 2" for vapour recovery and 3" or 4" for liquid lines.

Most common material used is Stainless Steel with a wide variety of seals.



Jet A-1 application using 4" Dry Disconnect Coupling.

Refuelling of diesel lokomotive

LST Tank truck with Mann Tek components

Tank trucks use DDCouplings for more efficient and safe handling

Tank trucks for different purpose use Mann Tek DDCouplings (NATO STANAG 3756) for more efficient and safe handling.

DDCouplings 2" to 4" for loading and unloading Tank trucks (In rear cases even 1").

DDCouplings (NATO STANAG 3756) for safe, easy and quick distribution from Tank truck to receiver.

2½" and 4" DDCouplings (NATO STANAG 3756) for bottomloading as standard for Jet fuel distribution in Europe and a lot of other markets.

DDCouplings for:

- Biofuels
- Bioalcohols
- Bioether
- Biogas
- Biodiesel
- Vegetable oil
- Ethanol
- E85
- E95
- AdBlue Etc.

Aviation

DDCouplings for loading/un-loading of Tank trucks/reruellers and De-Icing etc.

DDC 2½" (Avgas 100LL), 4" (Jet A1) and ISO45 mainly used for loading / unloading of tank trucks and refuellers.

2½" DDC and ISO45 used for dispensers (sampling etc.).

De-Icing fluids

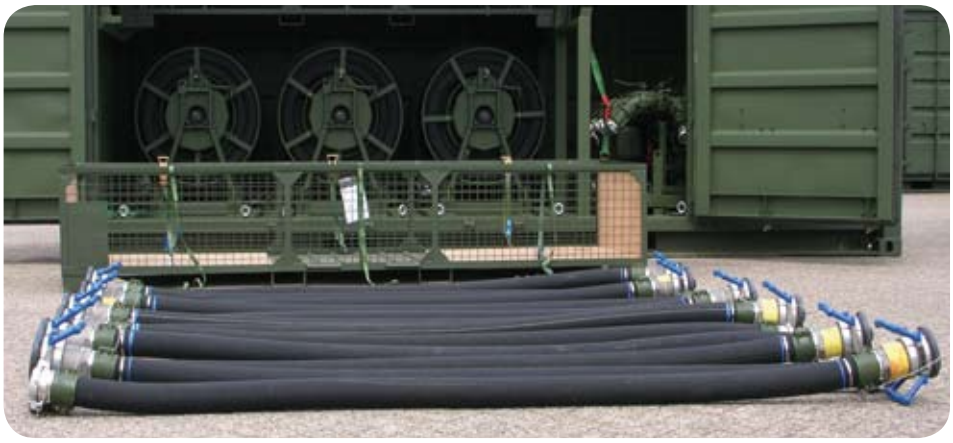
DDC 2" , 2½" and 3" are used for handling De-Icing fluids (glycols).

Material: Aluminium and Gunmetal

Typical Customers:

- Manufacturers of tank trucks, refuellers and dispensers.
- Hose distributors
- Fuelling companies.
- Airports

Military



2½" ISO45 Hose Unit to Tank Unit 3" (119 mm)[1] STANAG 3756

3" (119 mm)[1] Tank Unit STANAG 3756 to 2½" (105 mm)[1] Hose unit

DDC for military

The DDCcoupling, in green colour, are also used for Military purposes with different adaptor systems.

Connection adaptor:

- 2½" ISO45 to 3" (119 mm)[1] Tank Unit STANAG 3756.
- 2½" ISO45 to 3" (119 mm) TW EN14420-5
- 3" (119 mm) Hose Unit / Tank Unit STANAG 3756 to 3" (119 mm) TW EN14420- 5 Hose Unit / Tank Unit
- 3" (119 mm) Tank Unit STANAG 3756 to 2½" (105 mm) Hose Unit

The ISO45 Tank Unit are also available with pressure equalizing valve and pressure relief valve.

Examples of Military RAL colours

RAL 6014
Yellow Olive
- Dutch Army

RAL 6031
Bronze Green
-Dutch, Germany, Denmark, Spain, Italy and Sweden.

RAL 8027
Leather Brown
- Germany

RAL 9021
Tar Black
- Germany

Other colours on request

We can not quarantee that the colours above are correctly illustrated because print quality

Fluids / Miliary fuel:

F34 (JP8) AVTUR/FSII fuel (UN No 1223 (Inst Pet Class 2))
F35 (Jet A1) AVTUR fuel (UN No 1223 (Inst Pet Class 2))
F44 (JP5) AVCAT/FSII fuel (UN No 1223) Inst Pet Class 3))
F54 DIESO fuel (UN No 1202 (Inst Pet Class 3)
F65 DIESO fuel
F67 Benzin

Container

Loading / unloading of liquid containers.

Main products:
DDC tank units 2“ and 3“ Used for bottom or top loading / unloading of liquid containers.

Container transports of liquids :

- AdBlue
- Chemicals

Typical Customers:

- Container leasers
- Container users
- Freight companies
- Manufacturers of containers and container equipment

Mounting instruction

a. Remove the packaging and the flange protection

b. Check the coupling for damages before mounting.

c. To prevent damages during mounting a suitable wrench should be used for the intended bolts and nuts

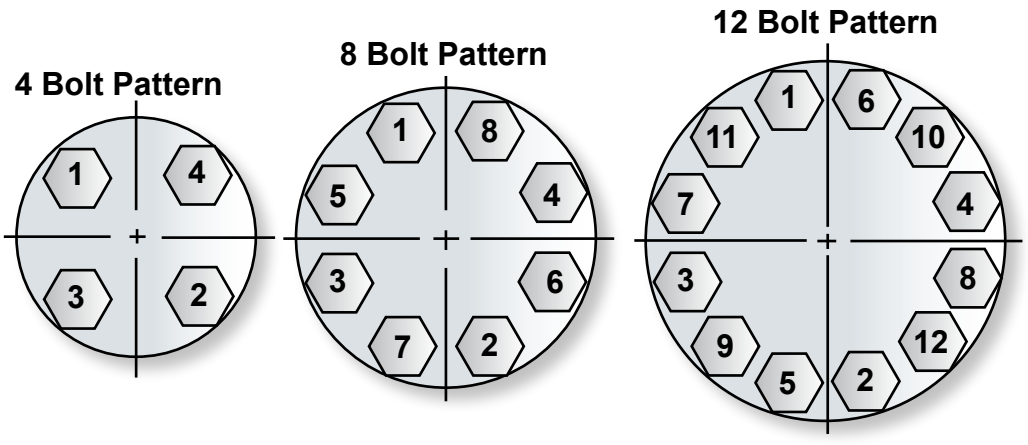
d. Ensure that the product line is empty and all valves are close before you connect the coupling into the line.

e. Tightening torque for bolts:

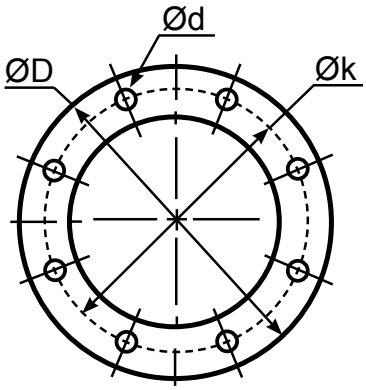
Metric	
Size	**8.8**
M8	24 Nm
M10	50 Nm
M12	85 Nm
M16	210 Nm
M20	410 Nm
M22	550 Nm
M24	700 Nm

Inch	
Size	**A193 B7**
5/16 -18 UNC	16 lbf-ft
3/8 -16 UNC	29 lbf-ft
1/2 -13 UNC	70 lbf-ft
5/8 -11 UNC	139 lbf-ft
3/4 -10 UNC	243 lbf-ft
7/8 -9 UNC	389 lbf-ft
1 -8 UNC	582 lbf-ft

f. Bolt tightening sequence.



Flange Measurement - 1/2



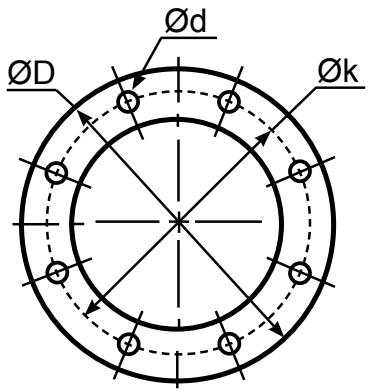
Ø D = **Diameter**
Ø k = **Centre diameter**
n = **Numer of holes**
Ø d = **Hole diameter**

ANSI B 16,5										
DN		150 psi				300 psi				INCH
		ØD	Øk	n	Ød	ØD	Øk	n	Ød	
19	mm	98	70	4	16	117	82	4	19	3/4”
	inch	3.86	2.76	0.16	0.63	4.61	3.23	0.16	0.75	
25	mm	108	79	4	16	124	89	4	19	1”
	inch	4.25	3.11	0.16	0.63	4.88	3.50	0.16	0.75	
32	mm	117	89	4	16	133	98	4	19	1 1/4”
	inch	4.61	3.50	0.16	0.63	5.24	3.86	0.16	0.75	
40	mm	127	98	4	16	156	114	4	22	1 1/2”
	inch	5.00	3.86	0.16	0.63	6.14	4.49	0.16	0.87	
50	mm	152	121	4	19	165	127	8	19	2”
	inch	5.98	4.76	0.16	0.75	6.50	5.00	0.31	0.75	
65	mm	178	140	4	19	190	149	8	22	2 1/2”
	inch	7.01	5.51	0.16	0.75	7.48	5.87	0.31	0.87	
80	mm	190	152	4	19	209	168	8	22	3”
	inch	7.48	5.98	0.16	0.75	8.23	6.61	0.31	0.87	
100	mm	229	190	8	19	254	200	8	22	4”
	inch	9.02	7.48	0.31	0.75	10.00	7.87	0.31	0.87	
125	mm	254	216	8	22	279	235	8	22	5”
	inch	10.00	8.50	0.31	0.87	10.98	9.25	0.31	0.87	
150	mm	279	241	8	22	317	270	12	22	6”
	inch	10.98	9.41	0.31	0.87	12.48	10.63	0.47	0.87	
200	mm	343	298	8	22	381	330	12	25	6”
	inch	13.50	11.73	0.31	0.87	15.00	12.99	0.47	0.98	

T.T.M.A						
DN		ØD	Øk	n	Ød	INCH
50	mm	114,3	95,3	6	11,1	2”
	inch	4.50	3.75	0.24	0.44	
80	mm	142,9	123,8	8	11,1	3”
	inch	5.63	4.87	0.31	0.44	
100	mm	168,3	149,2	8	11,1	4”
	inch	6.63	5.87	0.31	0.44	
125	mm	196,9	177,8	12	11,1	5”
	inch	7.75	7.00	0.47	0.44	
150	mm	228,6	206,4	12	11,1	6”
	inch	9.00	8.13	0.47	0.44	
200	mm	276,2	257,2	16	11,1	8”
	inch	10.87	10.13	0.63	0.44	

TW DIN 28459						
	DN		ØD	Øk	n	Ød
TW1	80	mm	154	130	8	11
		inch	6.06	5.12	0.31	0.43
TW3	100	mm	174	150	8	14
		inch	6.85	5.91	0.31	0.55
TW5	125	mm	204	176	8	14
		inch	8.03	6.93	0.31	0.55
TW7	150	mm	240	210	12	14
		inch	9.45	8.27	0.47	0.55

Flange Measurement - 2/2



Ø D = **Diameter**

Ø k = **Centre diameter**

n = **Numer of holes**

Ø d = **Hole diameter**

EN 1092-1										
DN		PN 10/16				PN 25/40				INCH
		ØD	Øk	n	Ød	ØD	Øk	n	Ød	
19	mm	-	-	-	-	105	75	4	14	3/4”
	inch	-	-	-	-	4.13	2.95	0.16	0.55	
25	mm	-	-	-	-	115	85	4	14	1”
	inch	-	-	-	-	4.53	3.35	0.16	0.55	
32	mm	-	-	-	-	140	100	4	18	1 1/4”
	inch	-	-	-	-	5.51	3.94	0.16	0.71	
40	mm	-	-	-	-	150	110	4	18	1 1/2”
	inch	-	-	-	-	5.91	4.33	0.16	0.71	
50	mm	165	125	4	18	165	125	4	18	2”
	inch	6.50	4.92	0.16	0.71	6.50	4.92	0.16	0.71	
65	mm	185	145	4	18	185	145	8	18	2 1/2”
	inch	7.28	5.71	0.16	0.71	7.28	5.71	0.31	0.71	
80	mm	200	160	8	18	200	160	8	18	3”
	inch	7.87	6.30	0.31	0.71	7.87	6.30	0.31	0.71	
100	mm	220	180	8	18	235	190	8	22	4”
	inch	8.66	7.09	0.31	0.71	9.25	7.48	0.31	0.87	
125	mm	250	210	8	18	270	220	8	26	5”
	inch	9.84	8.27	0.31	0.71	10.63	8.66	0.31	1.02	
150	mm	285	240	8	22	300	250	8	26	6”
	inch	11.22	9.45	0.31	0.87	11.81	9.84	0.31	1.02	

Flange translation EN 1092 ---- DIN

EN 1092-1	DIN
EN 1092-1 PN 6	DIN 2631
EN 1092-1 PN 10	DIN 2632
EN 1092-1 PN 16	DIN 2633
EN 1092-1 PN 25	DIN 2634
EN 1092-1 PN 40	DIN 2635
EN 1092-1 Type B Raised Face	DIN 2526 Form C
EN 1092-1 Type C Tongue	DIN 2512 Form F
EN 1092-1 Type D Groove	DIN 2512 Form N
EN 1092-1 Type E Spigot	DIN 2513 Form V
EN 1092-1 Type F Recess	DIN 2513 Form R

About NPT and BSP threads

NPT

Sealing NPT threads can be an exasperating experience if certain techniques are not followed. The following tips will help alleviate many common problems in thread sealing:

1. Always use some type of sealant (tape or paste) and apply sealant to male thread only. If using a hydraulic sealant, allow sufficient curing time before system is pressurized.

2. When using tape sealant, wrap the threads in a clockwise motion starting at the first thread and, as layers are applied, work towards the imperfect (vanishing) thread. If the system that the connection being made to cannot tolerate foreign matter (i.e. air systems), leave the first thread exposed and apply the tape sealant as outlined above.

3. When using paste sealant, apply to threads with a brush, using the brush to work the sealant into the threads. Apply enough sealant to fill in all the threads all the way around.

4. When connecting one stainless steel part to another stainless steel part that will require future disassembly, use a thread sealant that is designed for stainless steel. This stainless steel thread sealant is also useful when connecting aluminium to aluminium that needs to be disconnected in the future. These two materials gall easily, and if the correct sealant is not used, it can be next to impossible to disassemble.

5. When connecting parts made of dissimilar metals (i.e. steel and aluminium), standard tape or paste sealant per forms satisfactory.

6. For sizes 2” and below, tape or paste performs satisfactory. When using thread tape, four wraps (covering all necessary threads) is usually sufficient.

7. For sizes 2½” and above, thread paste is recommended. If thread tape is used, eight wraps (covering all necessary threads) is usually sufficient. Apply more wraps if necessary.

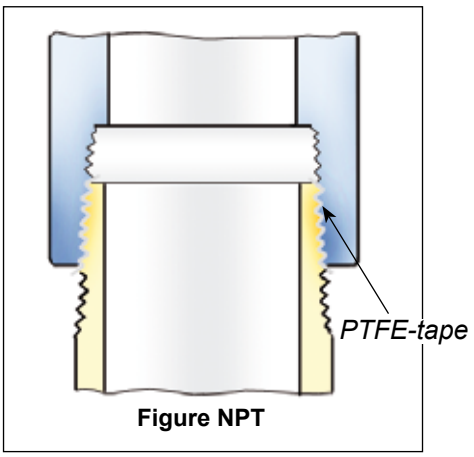


Figure NPT

8. For stubborn to seal threads, apply a normal coating of thread paste followed by a normal layer of thread tape.

9. For extremely stubborn to seal threads, apply a normal coating of thread paste followed by a single layer of gauze bandage followed by a normal layer of thread tape.

Caution!

When this procedure is done, the connection becomes permanent. Extreme measures will be necessary to disconnect these components. All other measures to seal the threads should be explored prior to use of this technique.

10. Over-tightening threads can be just as detrimental as insufficient tightening. For sizes 2” and below, hand tighten the components and, with a wrench, tighten 3 full turns. For sizes 2½” and above, hand tighten the components and, with a wrench, tighten 2 full turns.

BSP

The threads are parallel with flat sealing surface.

This allows to use the full thread length for screwed-on parts. The largest possible transfer of force is guaranteed for short length. The thread seal behind the relief groove of the thread cannot drop out.

Simple screwing down, makes a safe connection. Subsequent tightening during operation is possible at any time. Change of seal and new assembly do not require any expert knowledge.

The European standardisations for hose assemblies require parallel threads with flat seals, because of the advantages.

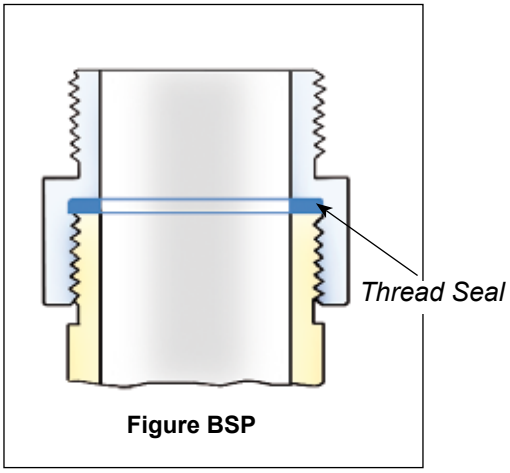


Figure BSP

Operating advice of Mann-Tek DACouplings, DDCouplings and DGCouplings

This advice is supplementary to your standard terminal operational procedures.

DACouplings, DDCouplings and DGCouplings are designed specifically for the bulk transfer of liquids and vapours. The materials of construction, including the seals should already be confirmed as compatible prior to installation. If in doubt, check before operation. Our help documents "Installation advice for DACouplings, DDCouplings and DGCouplings" plus "Specification advice" are designed to assist you.

All DACouplings, DDCouplings and DGCouplings are marked with a maximum pressure rating that are not to be exceeded. With careful use and regular maintenance they will give safe and trouble free operating for many years.

Service instructions are available for all DACouplings, DDCouplings and DGCouplings upon request. The life expectancy and maintenance frequency of the couplings is dependent upon many variables such as cycles/day, pressures, contaminates etc., but the most significant after correct installation is correct use. The following information is designed to assist in your care of the couplings and associated equipment.

Daily visual inspection

All hose units should be briefly inspected at the start of each day's operation. Look inside the connection socket. Check that the three rollers are not obviously damaged. Check that the connection socket area is free from dirt and foreign objects. Check for signs of seal damage (for example you may see a cut seal or small pieces of rubber coming from the piston area).

Check that the hose unit rotates freely about the hose swivel. On the first operation, check for leakage and smooth operation. Each tank unit on the truck should also be briefly checked prior to use. Check for dirt, seal damage and any obvious physical damage (such as impacts, etc.).

Making a connection & disconnection

a) Hose unit: When making the connection make sure that all relevant isolation valves connected in the hose unit application are closed. Also check that no pumping pressure is present at the hose unit.

b) Tank unit: Make sure that all isolation valves behind the tank unit in the pipe work are fully open.

c) Lift the hose unit and hose into position to start the connection. Take care to support the hose end assembly so as to present the hose unit to the tank unit in the correct orientation. It is important to ensure the hose unit is not supporting the full weight of the hose assembly during the connection process. Loading should be balanced to a neutral condition in the connection phase. Once connected, the hose unit is secure to the tank unit and able to accommodate all reasonable axial strain. The handles have no operating purpose other than providing handling assistance.

d) When correctly supported, the hose unit should slide easily over the tank unit. The three rollers engage in the three slots in any one of three positions at 120 degree centre. To allow the hose unit to locate to the tank unit, and still supporting the hose assembly, rotate the hose unit whilst gently pushing towards the tank unit.

e) Still supporting the hose assembly, rotate the hose unit clockwise about 100 degrees. At the start of rotation you will feel some resistance. The level of resistance is dependent upon the static line and tank pressure. The higher the pressure, the greater the effort necessary to connect the coupling.

At the completion of the 100 degree turn you will feel a definite stop. Do not attempt to rotate the unit further. Further rotation does not tighten the connection or open the valves more, it only causes unnecessary damage. The hose unit valve are now open and the loading process can start.

f) The sequence of isolation valve and/or pump operation should be taken from your operating procedures, however it is preferable for the vehicle isolation valve to be the last valve opening in the sequence. This reduces the possible surge effect on the coupling seals often associated with automatically actuated valve systems.

g) The disconnection procedure is similar to the connection procedure but in reverse. Before any attempt is made to disconnect the coupling, all isolation valves should be closed and where possible, the pumps be switched off. Where a common pumping system is in use, all flow through the coupling shall be stopped using the isolation valves and not the coupling.
Closing the vehicle isolation valve first is preferred according to reasons in section (f) so long as this is compatible with your standard operating procedures.

h) Whilst supporting the hose unit assembly, turn the hose unit anti-clockwise approximately 100 degrees. You may feel a slight "pop off" effect at the end of the rotation travel when transferring liquids with an elevated vapour pressure. This is normal. Do not attempt to rotate the hose unit further. This will not further loosen the connection or secure the seal, it only causes unnecessary damage.

i) Still supporting the hose assembly, pull the hose unit away from the tank unit. You may feel a small resistance due to seal vacuum. Correctly supported, the hose unit will come away from the tank unit with ease.

j) The hose assembly should be stowed in a manner so as to avoid physical damage. Do not drop the hose end assembly or stow on the floor. The dust plug provided should always be fitted.

k) Ensure the tank unit cap (if fitted) is replaced and secured.

l) Do not use anything other than the handles provided to operate the coupling. The handles are specifically designed to provide sufficient assistance in operation. Should the couplings become stiff or difficult to operate then something is wrong and they should be inspected prior to further use. Under no circumstances should the couplings be subjected to excessive force.

The use of damaged or faulty equipment may have serious safety consequences.

Service instructions for DDCouplings

Use of dust plug/cap is recommended.

Daily inspection:

1. Inspect the coupling surface for cleanliness and corrosion
2. Inspect the O-ring in the house unit connection for serviceability and correct seating in the groove.
3. Inspect the hose unit swivel for free rotation.
4. Inspect the tank- and hose unit for faultlessness and external signs for leakage.
5. Inspect the hose unit rollers for easy rotation and for external signs of seizure

Three months inspection:

a. Exterior cleaning of the coupling halves with a neutral cleanser

b. Careful "daily inspection" of cleaned units

c. Refill the hose unit ball bearing grooves with grease.

Instructions for correct installation and maintenance of Mann Tek Couplings

All DACouplings, DDCouplings and DGCouplings are designed for trouble free operation in a wide range of applications and operating conditions. Reliable and safe operation is dependent upon the correct installation and handling of the equipment. Regular and appropriate maintenance is essential to ensure both safety and reliability over the life of the equipment.

Specifications

Before you install any DACouplings, DDCouplings or DGCouplings equipment it is essential to check that the material and performance specifications are acceptable for your specific application. The pressure ratings and primary materials of the construction are clearly indicated on the identification plate of each Mann-Tek product. A drawing showing the materials of construction relating to each individual component is available upon request. The technical department at Mann-Tek is always happy to provide guidance on material suitability. Our data is taken from published chemical resistance information as well as our own application experiences. Specification checks should always be carried out before the product is supplied, but if unsure, ask! Especially if you are using the couplings outside the standard temperature range (-20ºC to +80ºC), ask for confirmation regarding your application.

Do not assume that a DACoupling, DDCoupling or DGCoupling product supplied for one specific application, automatically will be suitable for other similar applications. Many variables affect the performance of materials. If you wish to use a DACoupling, DDCoupling or DGCoupling product for a different application than the one originally specified, check with Mann Teknik AB to ensure compatibility before installation. Please remember, the application details should include all media transferred through the coupling. Not just the primary transferred media. As with all equipment, a check should be made to ensure that the installation fulfils the requirements of applicable prevailing industry, local, national and international standards. Particular attention should be paid to pressure ratings, safety factors and the position of upstream and downstream affiliated closures.

Installation

The correct installation of all DACoupling, DDCoupling and DGCoupling equipment is essential to ensure safe and satisfactory operation. Checks should be made to ensure that the fitting of DACoupling, DDCoupling and DGCoupling equipment does not interfere with the correct operation of affiliated equipment (i.e.. isolation valve, excess flow valves, etc).

Instructions for correct installation and maintenance of Mann Tek Couplings

Before securing the flange or thread connection to mating equipment (i.e. hose, loading arm, storage tank) ensure that no foreign objects, dirt, grit, etc. are present in the coupling. All flange and thread connections should be made without imparting excessive strain to the equipment and pressure checked at least to 1.5 times the maximum application working pressure prior to use. All gaskets and sealing materials used to make the permanent connection should be of suitable material and able to operate at least up to the maximum parameters of the DACoupling, DDCoupling and DGCoupling equipment.

When installing DACouplings, DDCouplings and DGCouplings equipment to new pipe work, tanks, etc. ensure the system is free from debris that may be transferred through the coupling. Where the hose or loading arm assembly is the primary static dissipation or earth route, the electrical continuity value of the assembly shall be checked to ensure regulatory compliance. Special attention should be paid to the balancing of loading arms. The weight of the coupling plus transfer media should be taken into account at the specification stage. It is usual for loading arm balance settings to account of weight variations due to differences in the full / empty cycle. The loading arm should be set to balance in the condition present at the time or connection. For example, should the loading arm be empty at the time of connection then it should be balanced in the empty condition. If loading/ distributing some kind of liquid gas make sure that Safety Breakaway coupling, SBCoupling, is applied in the application.

Each DACoupling, DDCoupling and DGCoupling is designed to take reasonable axial loads associated with good handling practice but is not designed to accept continuous excessive load values associated with maladjustment or poor installation. Continuous excessive strain will equate to increased component wear and possibly premature failure if not corrected.

When DACoupling, DDCoupling and DGCoupling equipment is used with hoses, attention should be paid to hose length to ensure correct handling characteristics. The hose assembly should be designed such that the minimum hose length is supported by the coupling or the operator. Hoses should be of sufficient length to ensure operation well within the stipulated hose minimum bend radius up to the maximum operation envelope. Also ensure that the flow velocity do not exceed 5,25 m/s due to static electricity.

Once all the above elements are satisfactory, a function check should be carried out to prove the system. The hose unit or coupler should connect and disconnect without physical interference or difficulty. Please remember that the higher the static pressure, the greater the effort to make a connection. The Mann-Tek technical department is happy to advice on this subject at the specification stage.

Maintenance

All DACouplings, DDCouplings and DGCouplings should be visually checked for damage, etc. on a daily or shift basis according to the handling instructions. Any sign of damage or operating difficulty should be reported and acted upon at the earliest opportunity. Do not continue to use any equipment that is not operating satisfactorily as continued use will cause further deterioration and possible equipment failure.

All DACoupling, DDCoupling and DGCoupling equipment is designed such that all regular service components are contained within the repair or service kit. During normal operation, transferring media that has no or little component degradation, the application of the repair kit will return the equipment to full action. We recommend that the coupling is fully inspected, tested and serviced at least once a year. It must be accepted that some applications cause a greater level of component degradation either by chemical attack or by arduous physical/environmental conditions. In such circumstances a more frequent regime of inspection and service may be required. We recommend that in such applications a three monthly inspection should be carried out with automatic replacement of the hose unit piston and carrier seals. All other service parts and key components should also be checked. In addition to the three monthly inspection and primary seal replacement the hose unit shall have the full repair kit applied every year irrespective on component condition. After a representative period of time it may be possible to move to a six or twelve monthly service / inspection interval but only against a background of satisfactory operation.

There are full service instructions complete with photographs available for each DACoupling, DDCoupling and DGCoupling size. These instructions show the service method as well as tools required and parts identification. DACouplings, DDCouplings and DGCouplings are designed such that they can be served in a number of ways. Some Mann Tek distributors are trained and accredited by Mann-Tek to carry out service of Mann-Tek couplings. Mann-Tek are always happy to service DACouplings, DDCouplings and DGCouplings at Mann-Tek. We are also happy to offer training either on or off site to customers engineers who wish to carry out servicing themselves.
Under no circumstances should Mann-Tek equipment be serviced by untrained personnel.

The distributor of Mann Tek couplings has full responsibility to enclose this information to the customer. If the customer does not understand English the Distributor also have the responsibility to translate this document to a language the customer fully understand.

Repair service and certificate of decontamination

REPAIR SERVICE

To comply with Health & Safety Regulations, all returned couplings and valves must be accompanied by a Certificate of Cleanliness and a Data Sheet for the last product carried (even the cleaner).

CERTIFICATE OF DECONTAMINATION

We certify that the returned couplings/valves have been cleaned prior to despatch and are free of any harmful substances.

Quantity: _____
Code No: _____
Serial No: _____

Quantity: _____
Code No: _____
Serial No: _____

Quantity: _____
Code No: _____
Serial No: _____

Quantity: _____
Code No: _____
Serial No: _____

	YES	NO
Free of all liquid	____	____
Air blown	____	____
Coupling/Valve dismantled	____	____

The last known product the coupling/valve was in contact with:

_____

Media Cast Number:

_____

Data sheet of last product attached (Yes/No:

_____

Company Name/Address:

_____

Signature of Supervisor:

_____

Company Stamp:

Mann Teknik AB
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542 43 Mariestad
Sweden

46-(0)501 39 32 00

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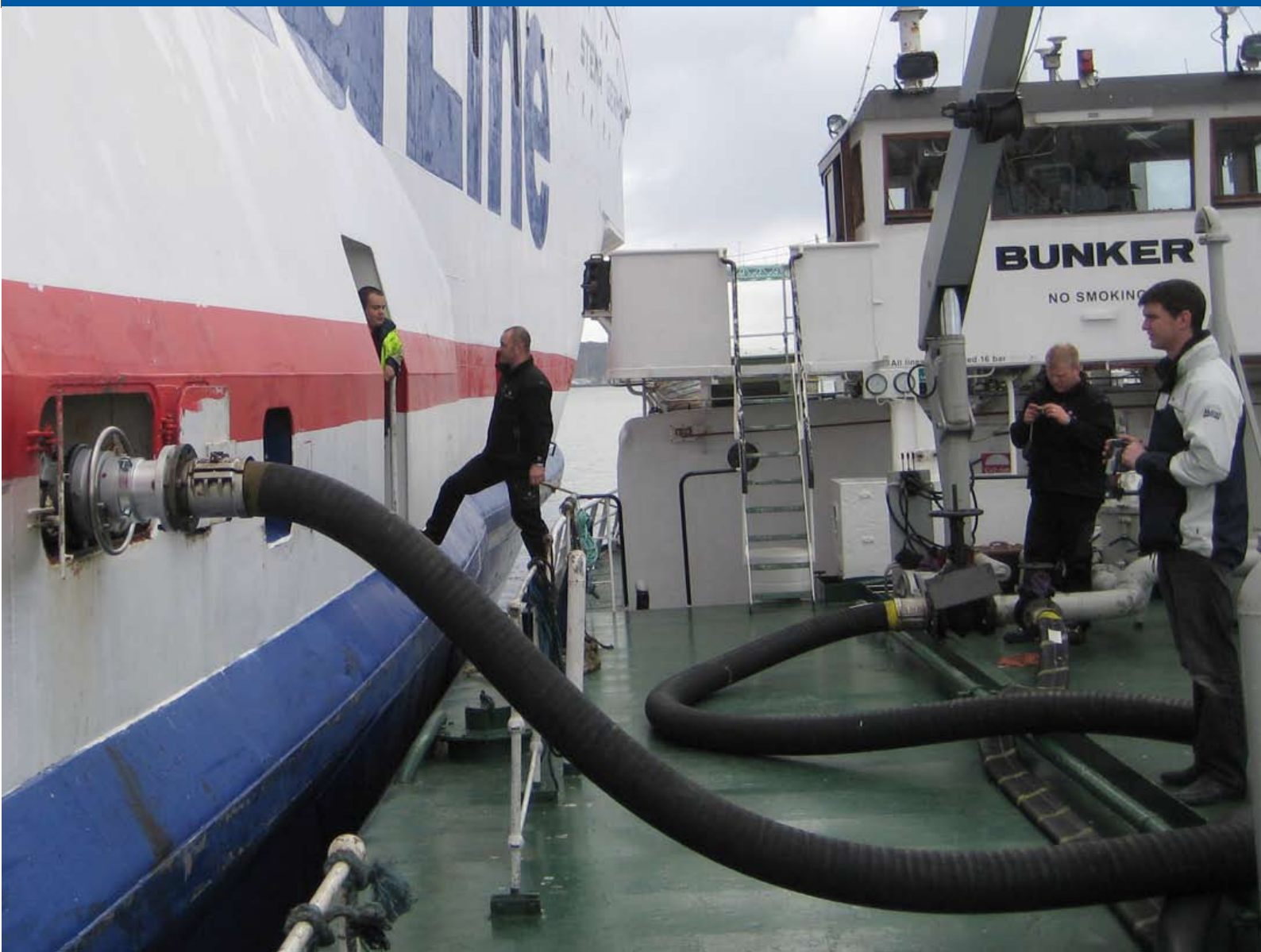
BUNKER

Company and product information

General information
General information about Mann Tek company and products

DGCouplings®
Dry Gas Coupling.
1" to 4", PN25.
Stainless steel.
Other materials on request. According to NATO standard STANAG 3756.

DACouplings, Dry Aviation Coupling. 2½", PN 10. Main body in Aluminuim. Bayonet flange and inner parts in Stainless Steel and Aluminium. Connection: Flanged or Male/Female BSP/NPT threads. Available in military green.Standards: ISO 45, MS 24484, NATO STANAG 3105, British Aerospace. Spec. 2C14.

Sampling, Vent or Drain unit
Stainless Steel SS-EN 10 088-1.4404+AT (AISI 316L). Ball Valve in 1.0619 and 1.4301

SBCouplings, bolt series
Safety Break-away, breaking bolts
Aluminium, Brass, Stainless Steel,
PN 16.
2" to 4", female threads, with breaking pins.

SBCouplings, cable series
Safety Break-away, cable release
Stainless Steel, PN 25.
2" to 4", female threads.
6" to 8", flanged connection.

Full Flow - ballvalves
2" to 4", PN 10, Aluminium.
Ballvalve and 2-way Ballvalve.
Made for Petroleum Tank Trucks.
Variations of flange connections.

Swivel joints
¾" to 8", PN 10 - PN 25.
Aluminium, Brass-Gunmetal,
Stainless Steel.
Other materials on request.
Connection: BSP, NPT.

Approvals

ISO 9001, PED 97/23/EC , TDT, TÜV, Apragaz, FMV, Gost e.t.c

Contact Mann Tek for more information

Your distributor

Your distributor:

Contact Mann Tek for your local distributor

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Mann-Tek is a certified ISO9001-company.