Mann Tek

Sweden

DACouplings®

Dry Aviation Couplings

Product Information

Art.No. XB03 Version: 1601

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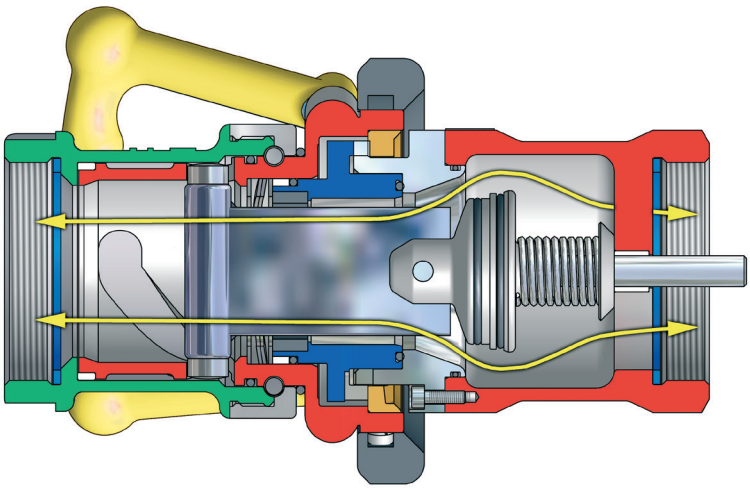
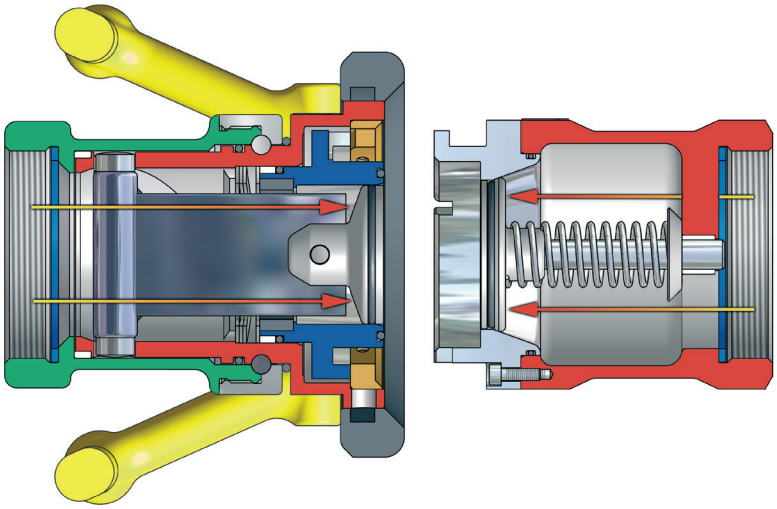
How it works

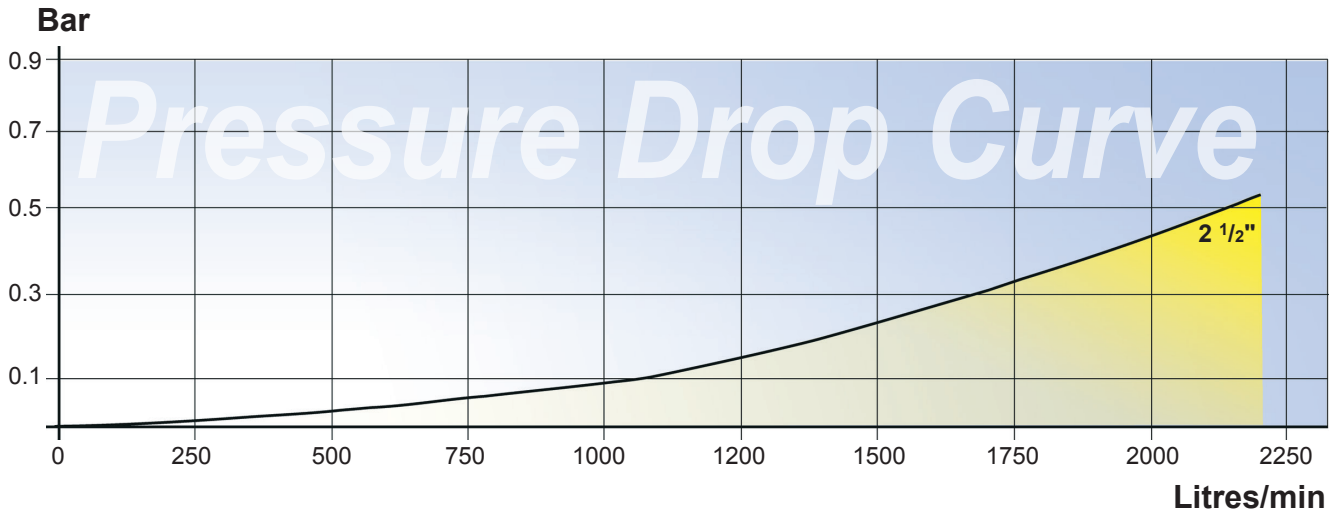


To connect
Push and turn -
it's coupled - *full flow*



To disconnect
Turn and pull -
it's released

Pressure Drop Curve



Test Fluid: *n-Paraffin,* ***Test Temperature:*** *20° C,* ***Density:*** *0,75 kg / dm², **Viscosity:** 1,75 mm²/s*

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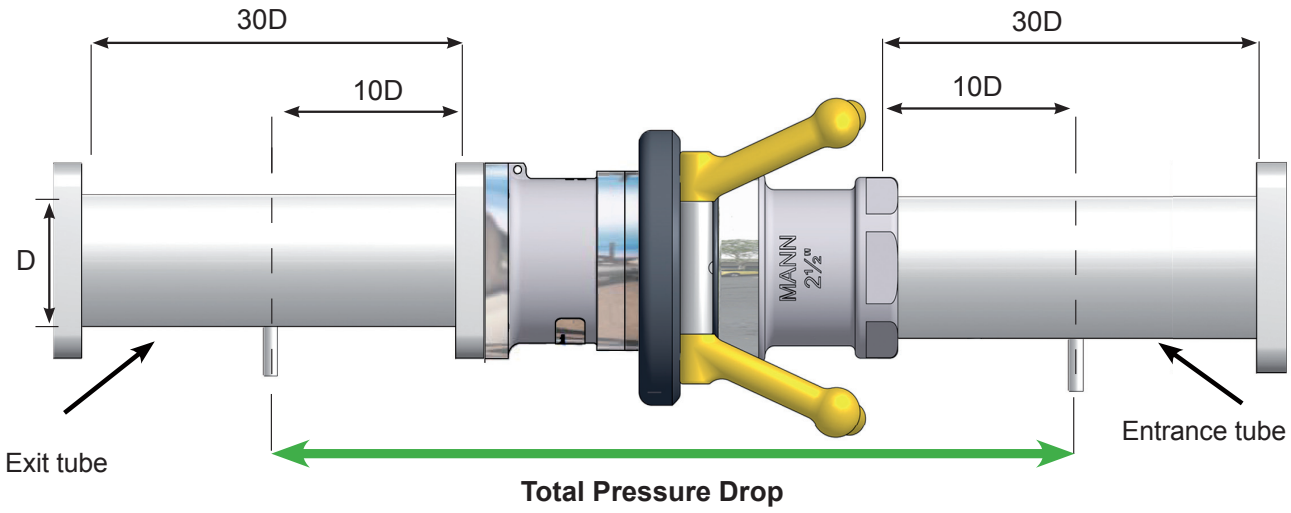
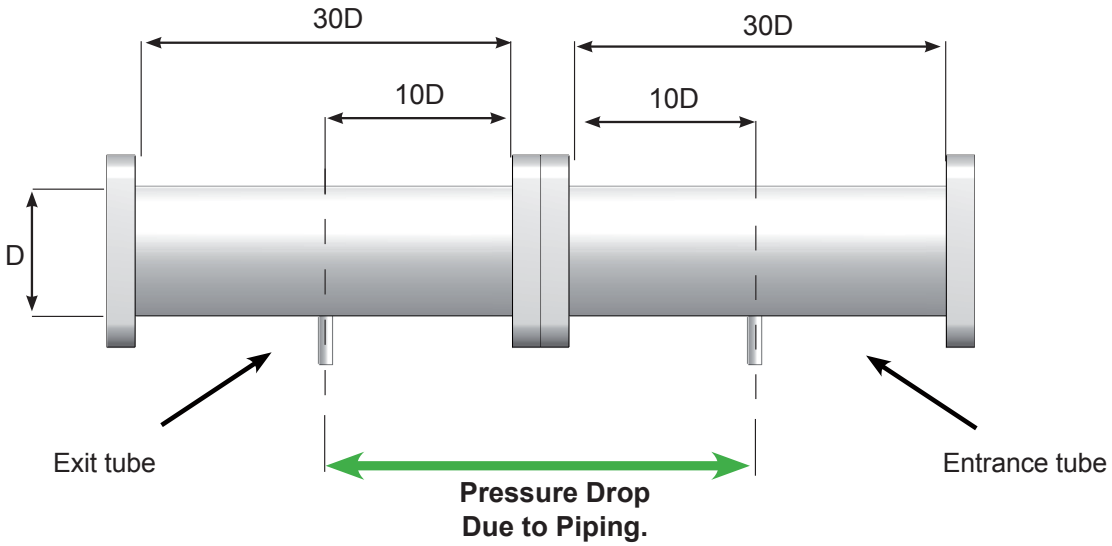
Illustration Pressure Drop Measurement
According to NATO STANAG 3756, Annex E



FLOW DIRECTION



Pressure Drop DACoupling (ISO45) = Total Pressure Drop - Pressure Drop Due to Piping

Pressure Drop DACoupling = △P

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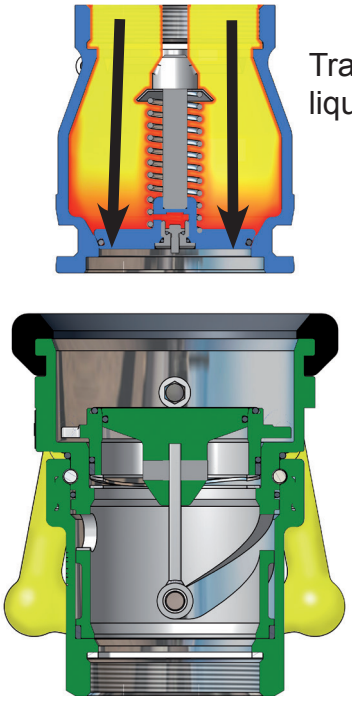
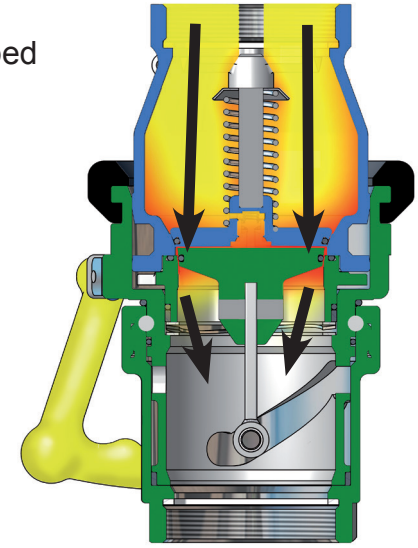
Pressure equalizing valve in ISO 45 Tank unit and STANAG 3756 Tank unit

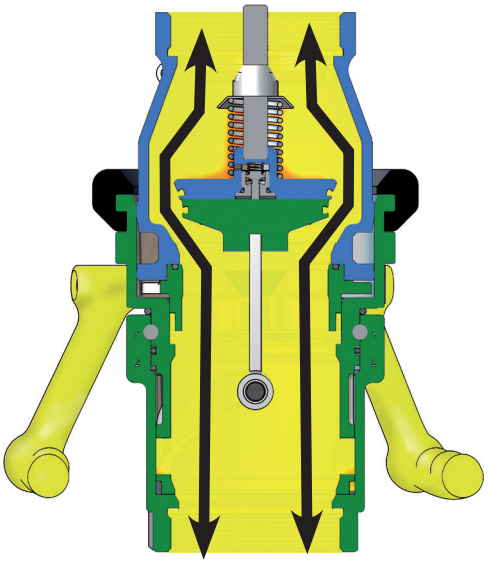
This system dissipates trapped fluid pressure into hose coupler without spillage, to allow easy connection.



Trapped liquid in Tank Unit



Open pressure equalizing valve
Pressure expands into Hose Unit



Open without pressure
Full flow

Pressure relief valve in ISO 45 Tank unit and STANAG 3756 Tank unit

Pressure Relief Valve

(relieve valve, blow off valve)

Under thermal influence the liquid will be warmed up and the pressure increases extremely. To protect the equipment against excessive pressure the PEV opens at a predetermined pressure at an acceptable and riskless limit.

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

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Advantages - All wetted parts in Aluminium and Stainless steel

No yellow parts (Brass and Bronze) in contact with the fuel.

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 flange and tapered internal NPT threads.

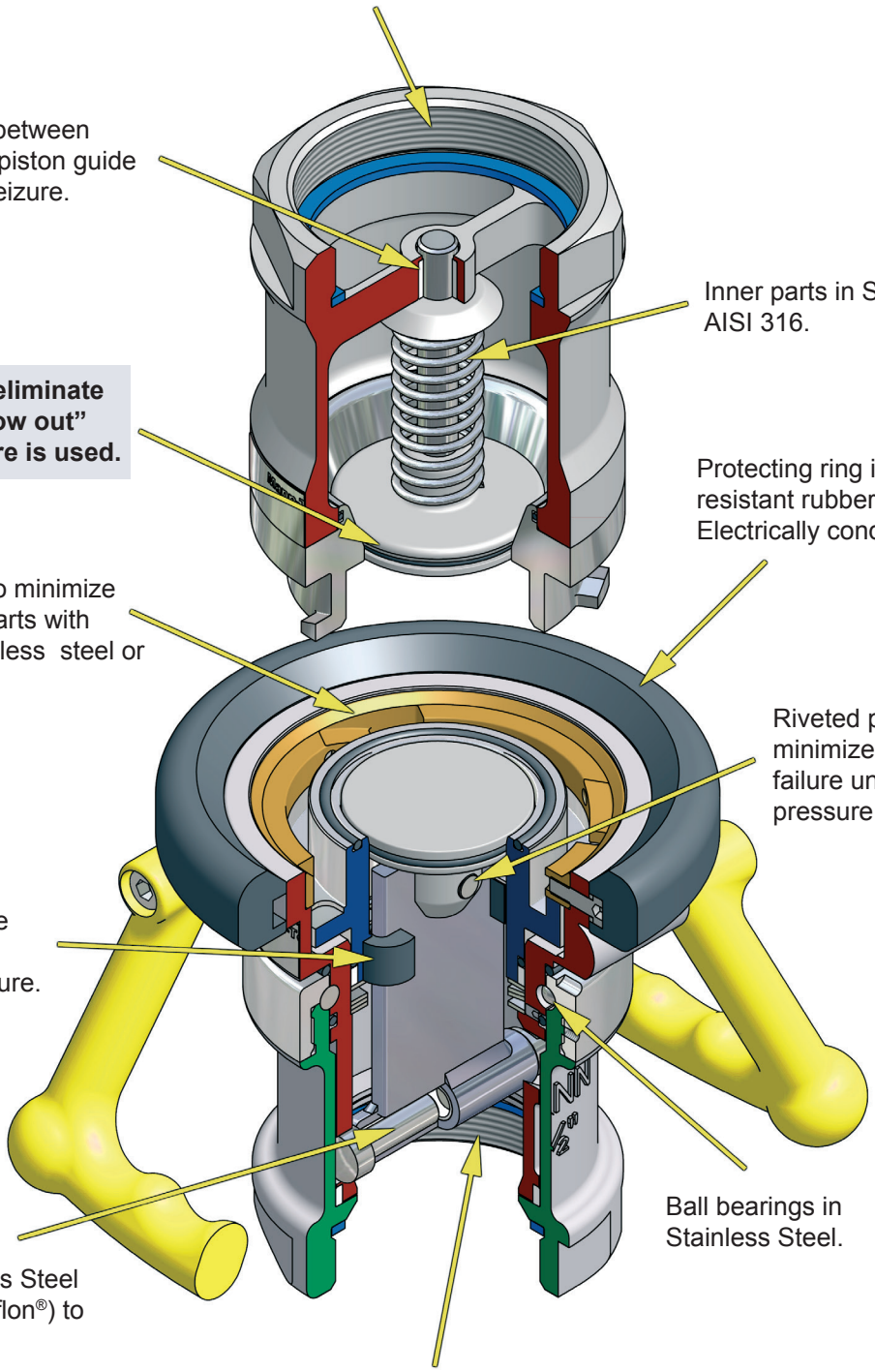
PTFE (Teflon®) bearing between the piston shaft and the piston guide to eliminate the risk of seizure.

Inner parts in Stainless Steel AISI 316.

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

Protecting ring in weather resistant rubber. Electrically conductive.

Coupling ring in brass to minimize the risk of seizure. All parts with media contact are Stainless steel or Aluminium.



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

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

Ball bearings in Stainless Steel.

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

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 flange and tapered internal NPT threads.

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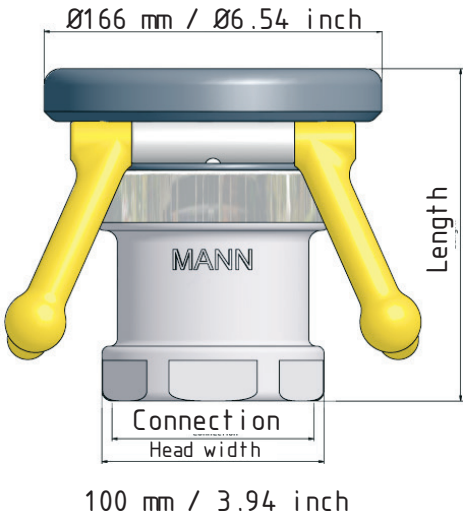
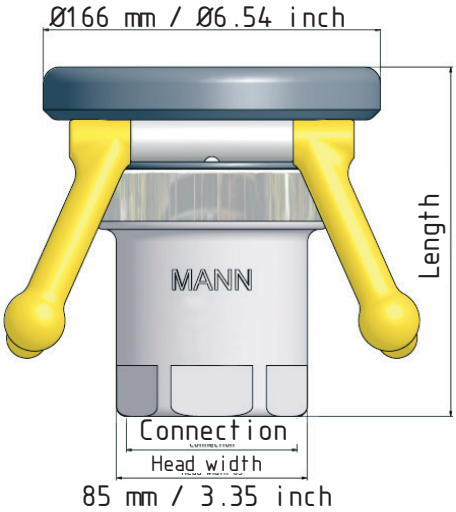
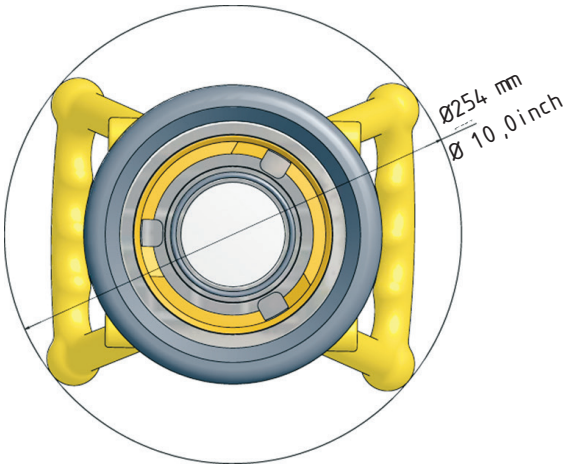
Hose unit with female thread - Standard Handle







Threads:

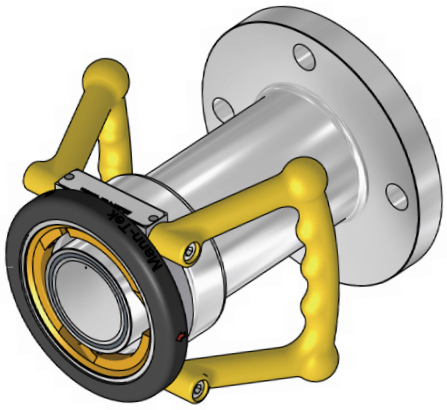
BSP = ISO 228

NPT = B1.20.1

Connection	Length	Head width	Weight	Code No
2½" BSP	64 mm/6.46 inch	85 mm / 3.35 inch	3.4 kg / 7.5 lbs	**F312B1101B**
3" BSP	164 mm/6.46 inch	100 mm / 3.94 inch	3.5 kg / 7.7 lbs	**F314B1101B**
2½" NPT	172 mm/6.77 inch	85 mm / 3.35 inch	3.4 kg / 7.5 lbs	**F313B1101**
3" NPT	174 mm/6.85 inch	100 mm / 3.94 inch	3.5 kg / 7.7 lbS	**F315B1101**

Hose Unit, flanged inlet

Flange1)	Material	Seal O-ring	Code No
undrilled Ø210 mm	**Al**	Standard **FPM/KFM** (Viton®) **Other on request**	**F320B1101**
DN 65 PN 10/16 Type A			**F333B1101**
DN 80 PN 10/16 Type A			**F336B1101**
2½" ASA 150 psi			**F359B1101**
3" ASA 150 psi			**F361B1101**
TW1 (DN80)			**F365B1101**
TW3 (DN100)			**F366B1101**
3" TTMA			**F367B1101**
4" TTMA			**F368B1101**



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

1) Flanges according to EN 1092 , ANSI B16.5 and DIN 28459.

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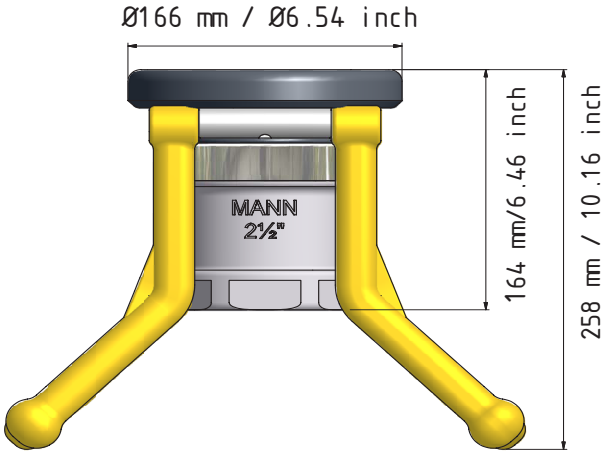
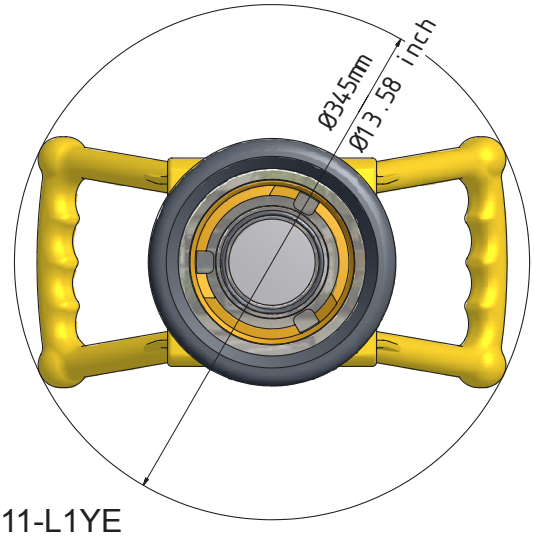
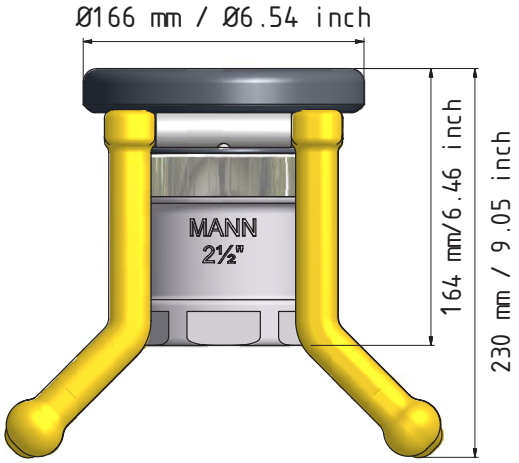
Hose Unit Option - Long Handle

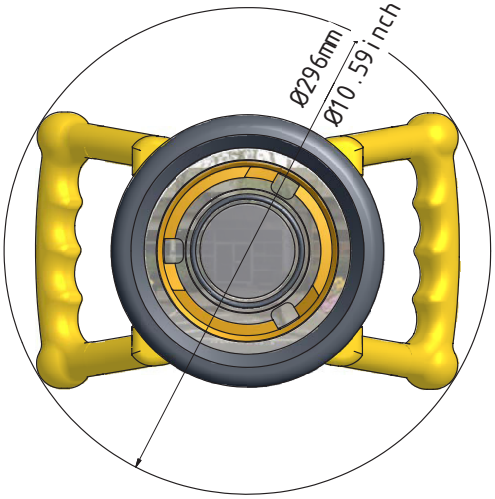




How to Order **Code nr:** Code nr. Hose Unit + H-F3-11-L1YE

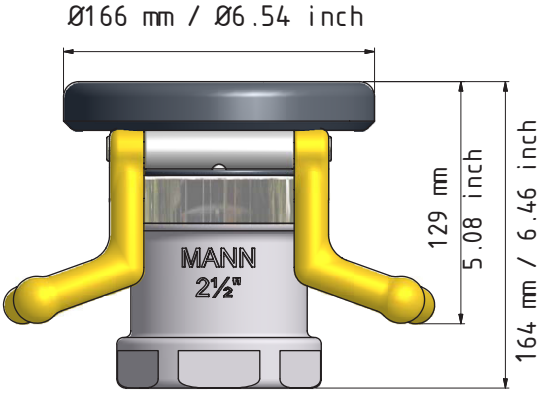
Hose Unit Option - Half long Handle

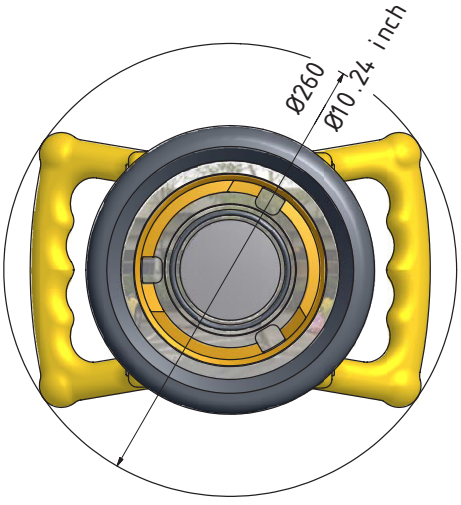




How to Order **Code nr:** Code nr. Hose Unit + H-F3-11-L2YE

Hose Unit Option - Depot Handle





How to Order **Code nr:** Code nr. Hose Unit + H-F3-11-L3YE

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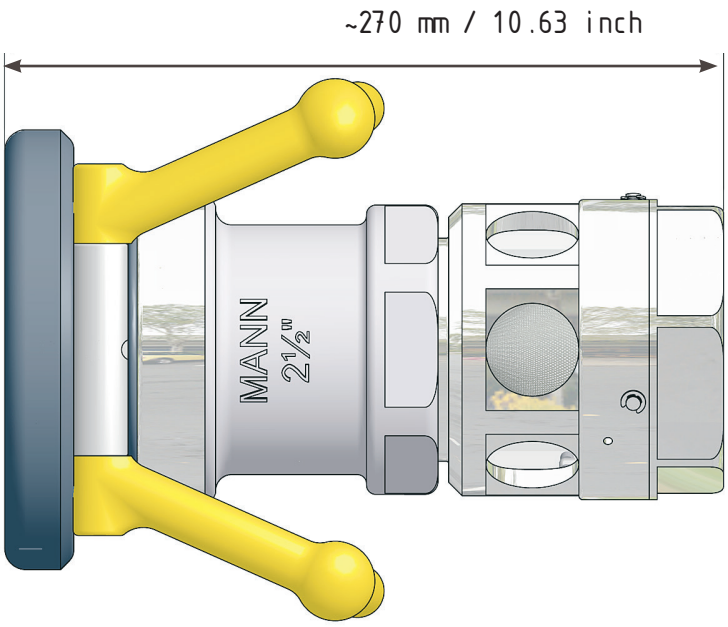
Filter Strainer - Product information

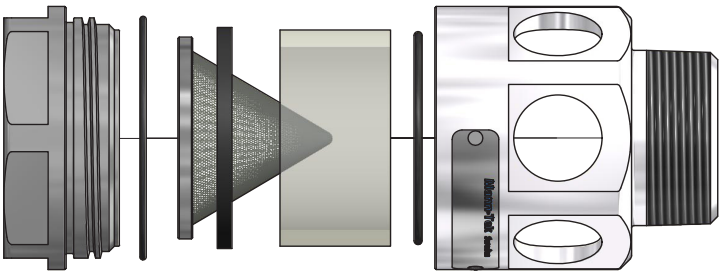
The Filter Strainer is designed to adapt on the DACoupling according to the ISO45 standard. The integrated view glass makes it easy to check when the filter has to be cleaned. Easy servicing is guaranteed by a new bayonet connection.

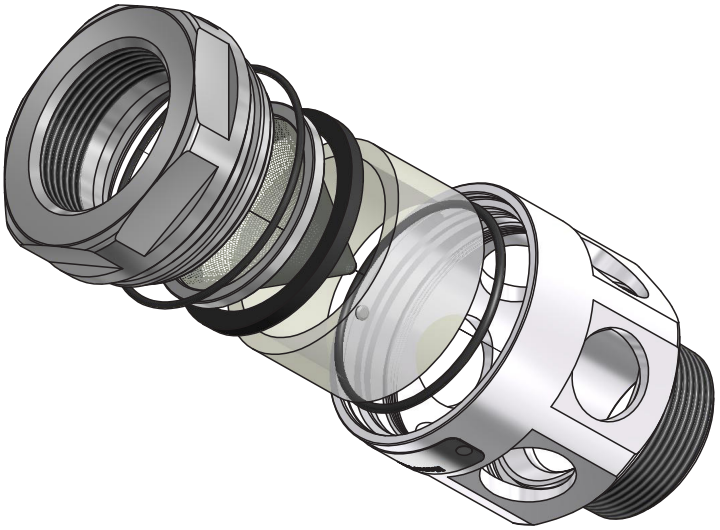
The Filter Strainers are available with 2½" BSP/NPT and 3" BSP/NPT connections.

Sight flow indicator with male BSP thread screws into a ISO 45 Hose Unit / Coupler 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.







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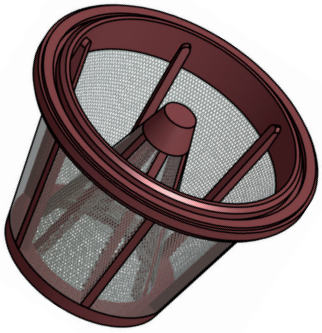
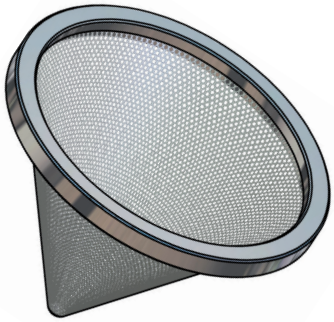
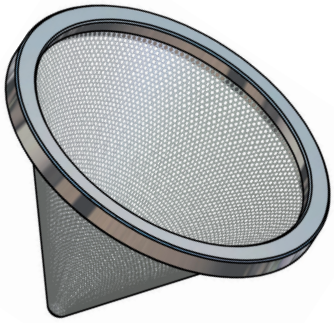
45 mesh



60 mesh



100 mesh



Standard connections:

Other combinations or connections on request.

Size	End connection (female)	HU connection (male)
U1280S1101-XX	2½" BSP	2½" BSP
U1281S1101-XX	2½" BSP	2½" NPT
U1380S1101-XX	2½" NPT	2½" BSP
U1381S1101-XX	2½" NPT	2½" NPT
U1482S1101-XX	3" BSP	3" BSP
U1483S1101-XX	3" BSP	3" NPT
U1582S1101-XX	3" NPT	3" BSP
U1583S1101-XX	3" NPT	3" NPT

ISO 45 with Ground Connection

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.

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

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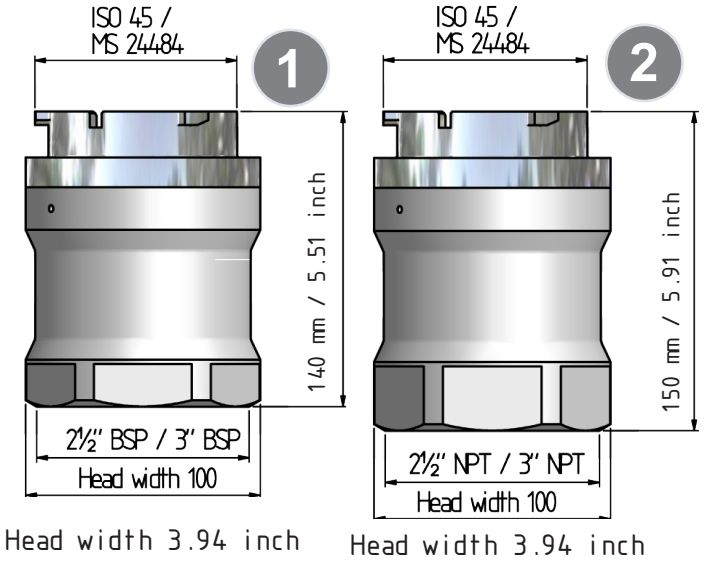
Tank unit with female thread

Body material in aluminium and stainless steel.



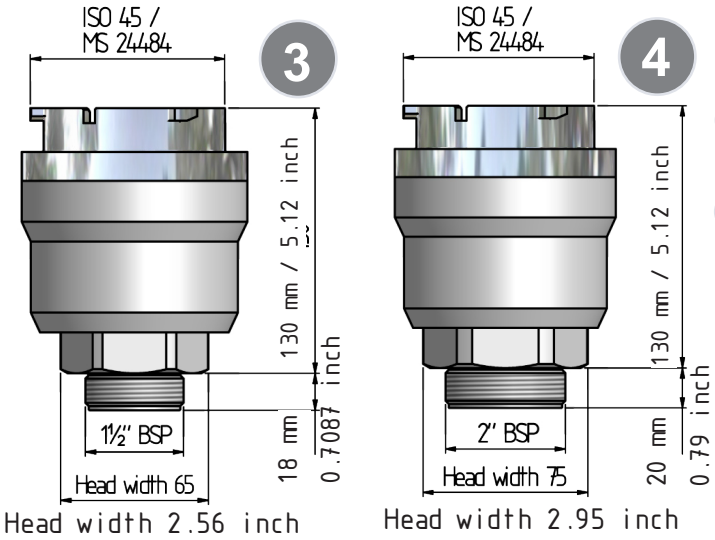
	Connection	Material	Weight	Code No
1	2½" BSP	AL	2.3 kg / 5.1 lbs	G312A1401B
1	3" BSP		2.3 kg / 5.1 lbs	G314A1401B
2	2½" NPT		2.3 kg / 5.1 lbs	G313A1401B
2	3" NPT		2.3 kg / 5.1 lbs	G315A1401B
	2½" BSP	SS	-	G312A4401B
	3" BSP		-	G314A4401B
	2½" NPT		-	G313A4401B
	3" NPT		-	G315A4401B

Working pressure:	Test pressure:
10 bar / 150 psi	15 bar / 225 psi

Threads:	
BSP = ISO 228,	NPT = B1.20.1

Tank unit with male thread

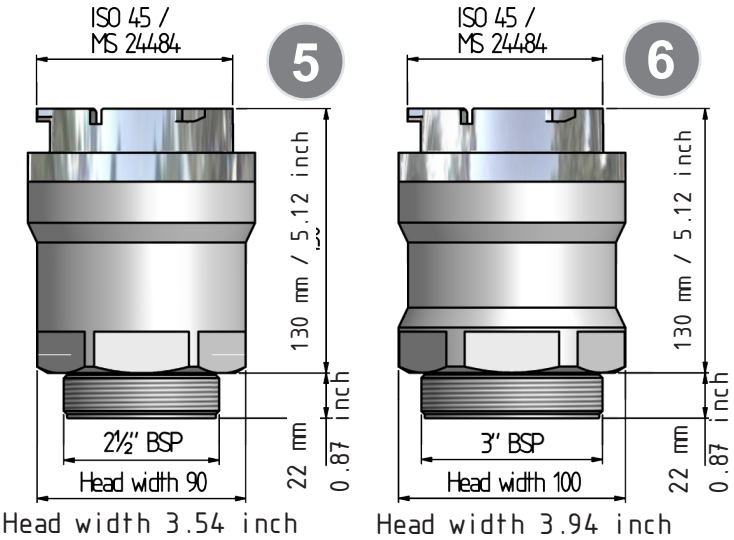
Body material in aluminium and stainless steel.



	Connection	Material	Weight	Code No
1	1½" BSP	AL	2.1 kg / 4.6 lbs	G375A1401B
1	2" BSP		2.2 kg / 4.8 lbs	G378A1401B
2	2½" BSP		2.2 kg / 4.8 lbs	G380A1401B
2	3" BSP		2.3 kg / 5.1 lbs	G382A1401B
	1½" BSP	SS	-	G375A4401B
	2" BSP		-	G378A4401B
	2½" BSP		-	G380A4401B
	3" BSP		-	G382A4401B

Working pressure:	Test pressure:
10 bar / 150 psi	15 bar / 225 psi

Threads:	
BSP = ISO 228,	NPT = B1.20.1



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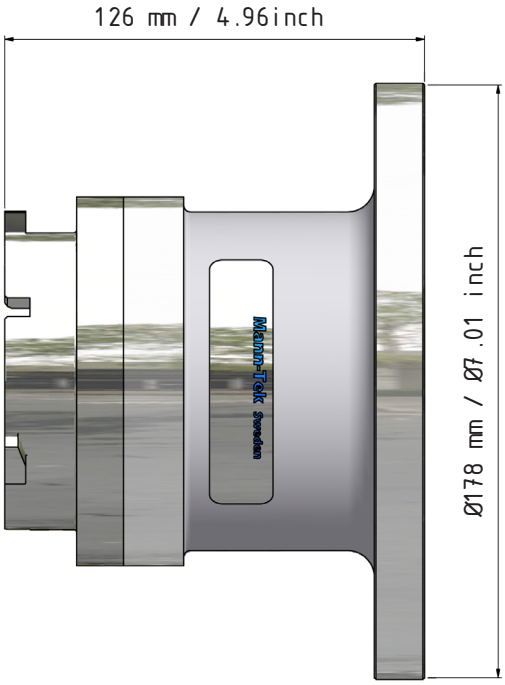
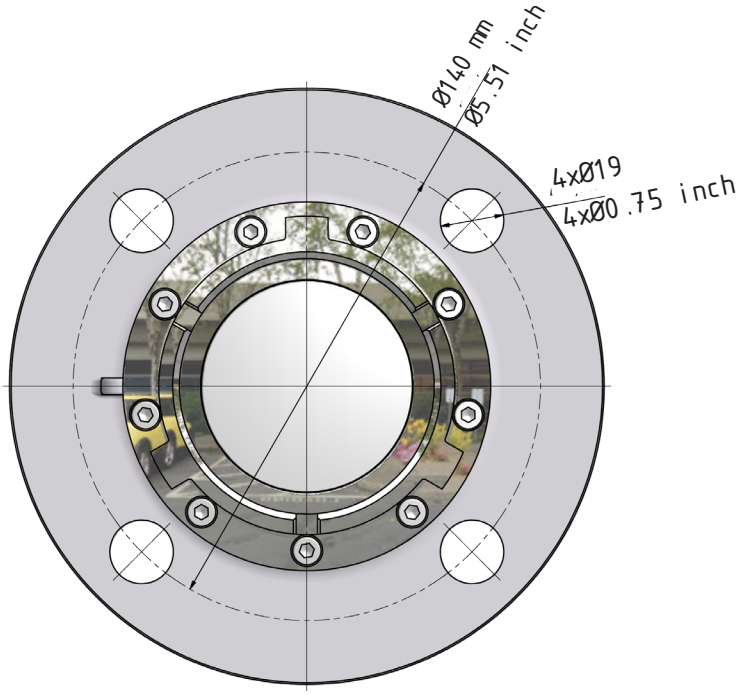
Tank unit (Ground unit) with standard flange, 2½" ASA 150 psi

Body material in aluminium and stainless steel.

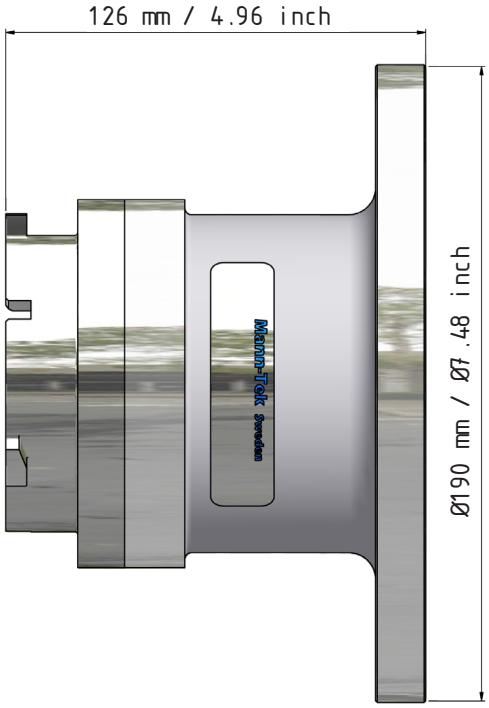


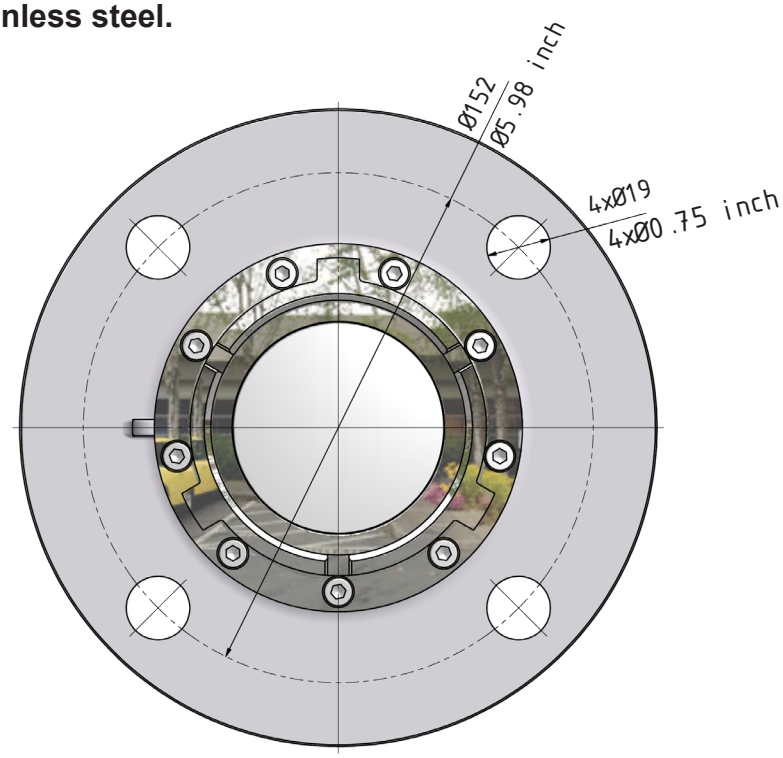


Flange	Material (Body)	Weight	Code No
2½" ASA 150 psi	**AL**	2.7 kg / 6.0 lbs	G359D1401
2½" ASA 150 psi	**SS**	-	G359B4401

Tank unit (Ground unit) with standard flange, 3" ASA 150 psi

Body material in aluminium and stainless steel.





Flange	Material (Body)	Weight	Code No
3" ASA 150 psi	**AL**	2.9 kg / 6.4 lbs	G361D1401
3" ASA 150 psi	**SS**	-	G361B4401

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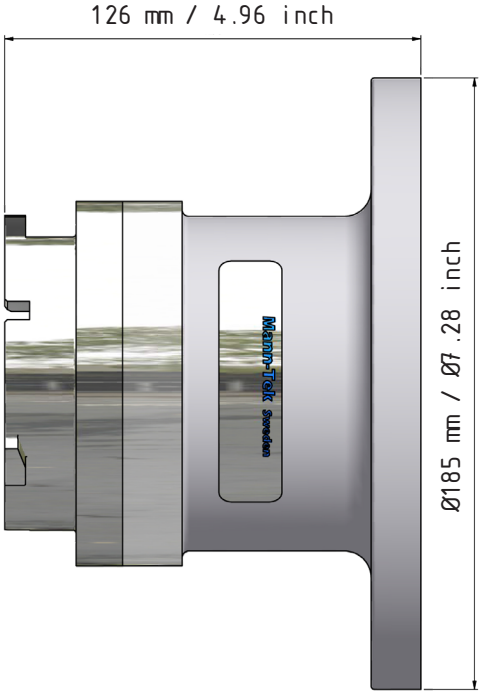
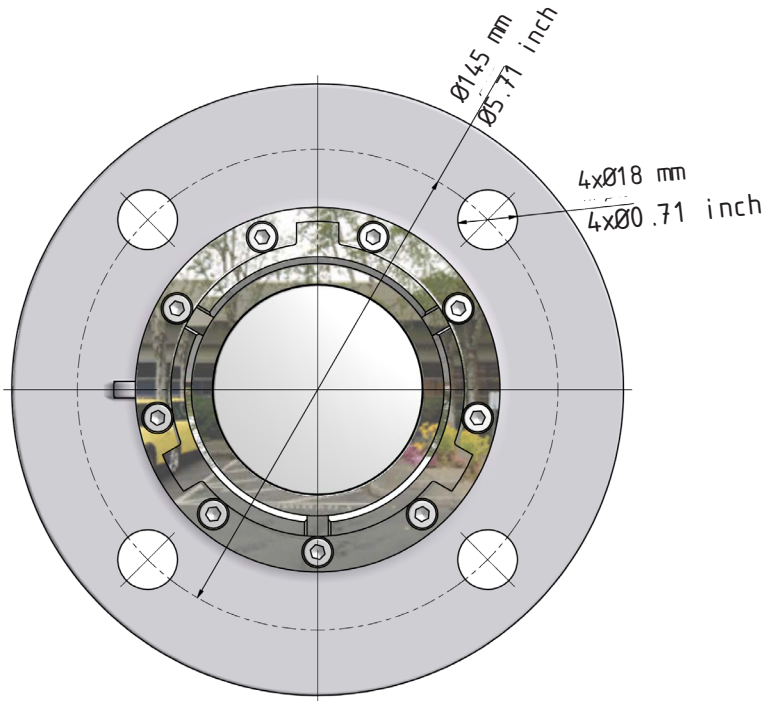
Tank unit (Ground unit) with standard flange, DIN DN 65 PN 10/16

Body material in aluminium and stainless steel.

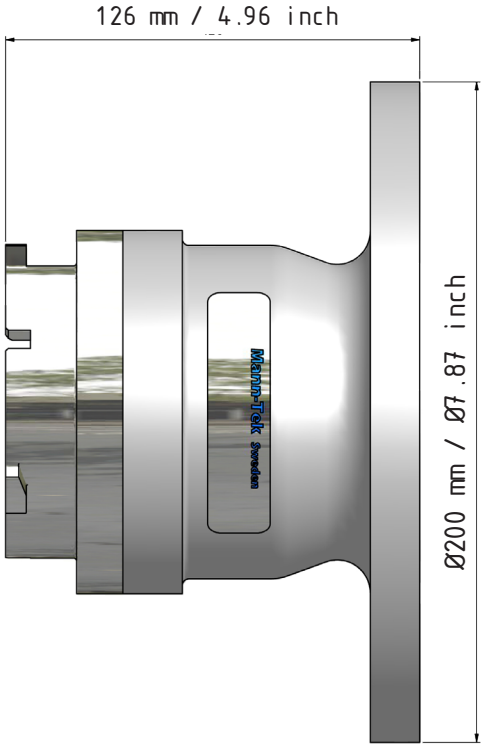


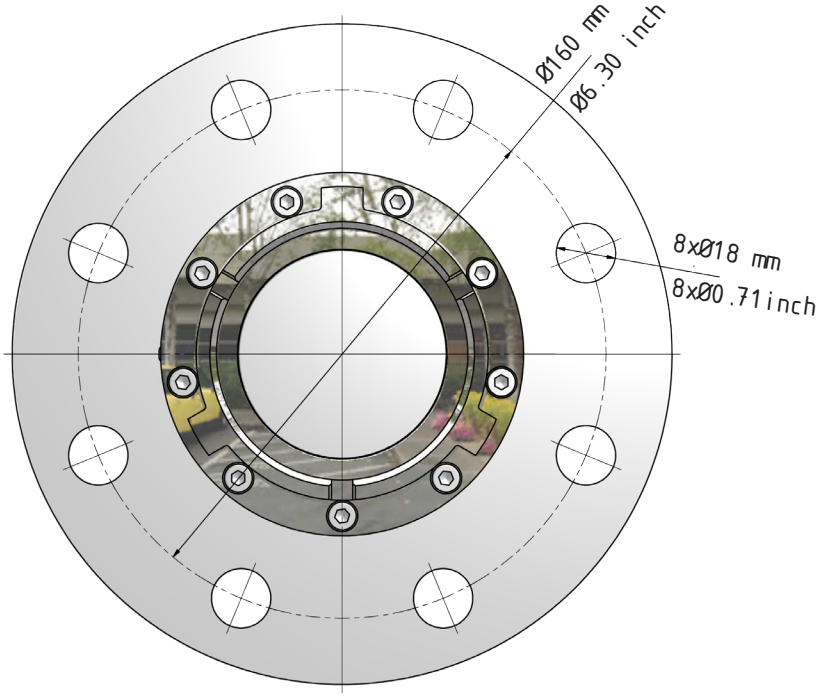


Flange	Material (Body)	Weight	Code No
DN 65 PN 10/16	**AL**	2.8 kg 6.2 lbs	G333D1401
DN 65 PN 10/16	**SS**	-	G333B4401

Tank unit (Ground unit) with standard flange, DIN DN 80 PN 10/16

Body material in aluminium and stainless steel.





Flange	Material (Body)	Weight	Code No
DN 80 PN 10/16	**AL**	3.0 kg / 6.6 lbs	G336D1401
DN 80 PN 10/16	**SS**	-	G336B4401

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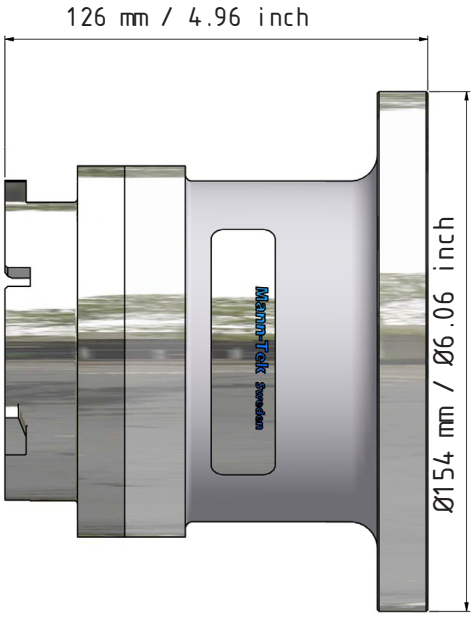
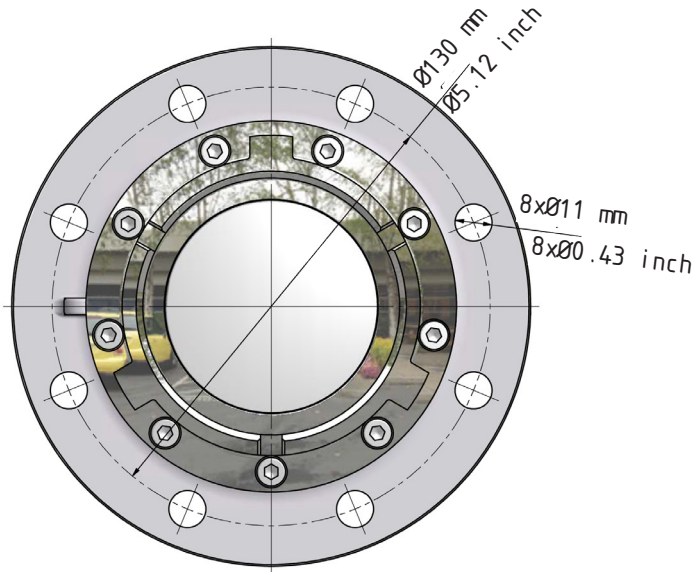
Tank unit (Ground unit) with standard flange, TW1 (DIN 28459)

Body material in aluminium and stainless steel.

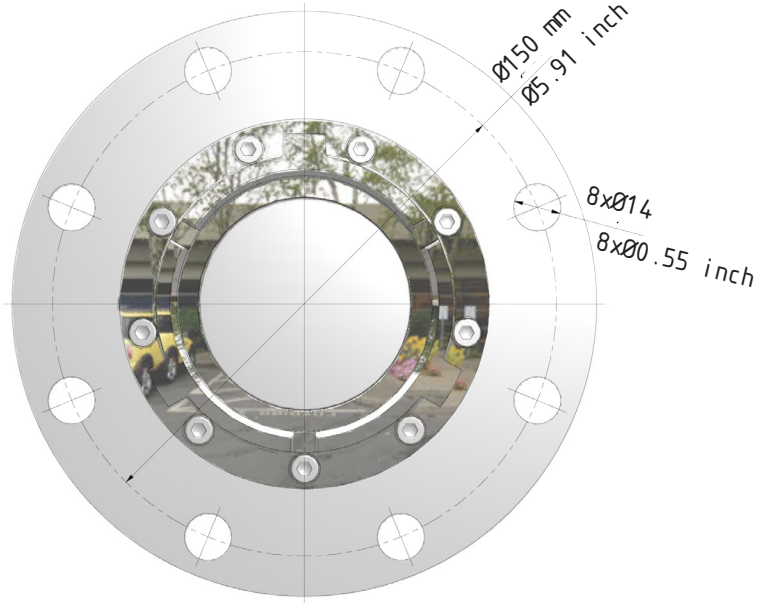




Flange	Material (Body)	Weight	Code No
TW1 (DIN 28459)	**AL**	2.5 kg / 5.5 lbs	G365D1401
TW1 (DIN 28459)	**SS**	-	G365B4401

Tank unit (Ground unit) with standard flange, TW3 (DIN 28459)

Body material in aluminium and stainless steel.



Flange	Material (Body)	Weight	Code No
TW3 (DIN 28459)	**AL**	2.9 kg / 6.4 lbs	G366D1401
TW3 (DIN 28459)	**SS**	-	G366B4401

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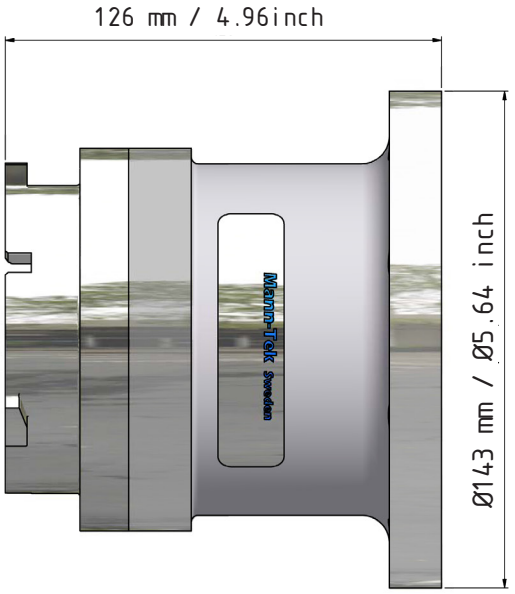
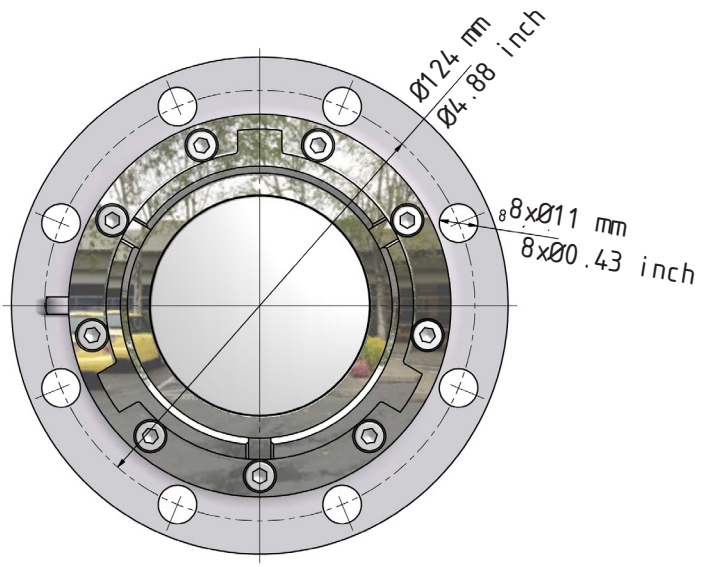
Tank unit (Ground unit) with standard flange, 3" TTMA

Body material in aluminium and stainless steel.

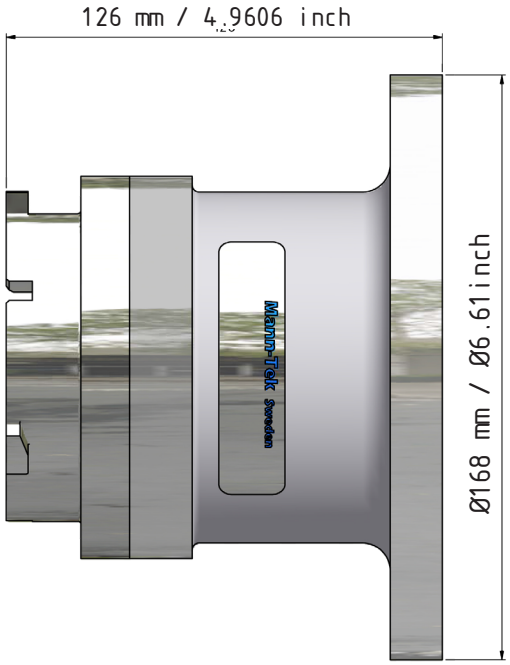


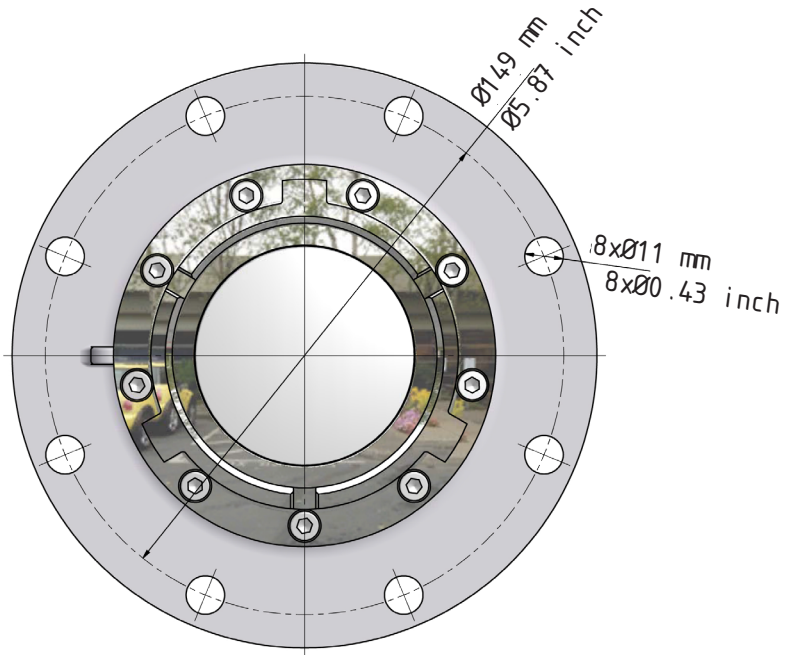


Flange	Material (Body)	Weight	Code No
3" TTMA	**AL**	2.4 kg / 5.3 lbs	G367D1401
3" TTMA	**SS**	-	G367B4401

Tank unit (Ground unit) with standard flange, 4" TTMA

Body material in aluminium and stainless steel.





Flange	Material (Body)	Weight	Code No
4" TTMA	**AL**	2.6 kg / 5.7 lbs	G368D1401
4" TTMA	**SS**	-	G368B4401

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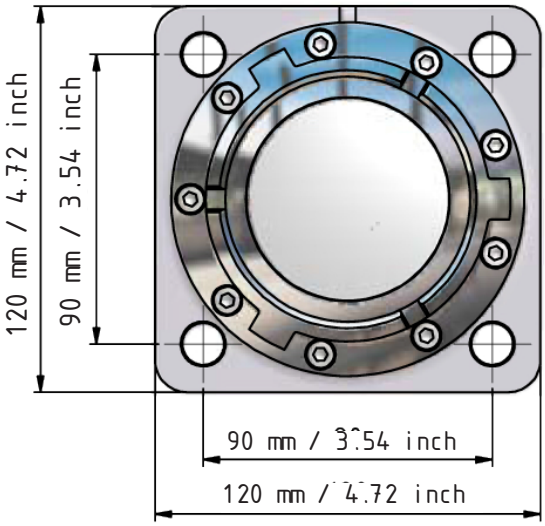
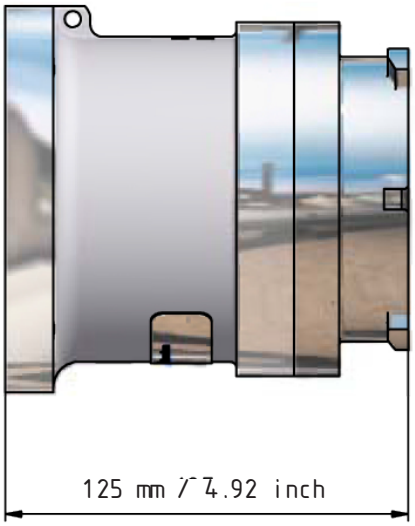
Tank unit (Ground unit) wifth square flange 120 mm

Body material in aluminium and stainless steel.





Flange	Material (Body)	Weight	Code No
Square flange, 120 mm / 4.72 inch	**AL**	2.7 kg / 6.0 lbs	G3107D1401
Square flange, 120 mm / 4.72 inch	**SS**	-	G3107B4401

Drain Connection

Option Drain connection

Use Mann-Tek ISO45 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 nr. + D-G3-11-C1

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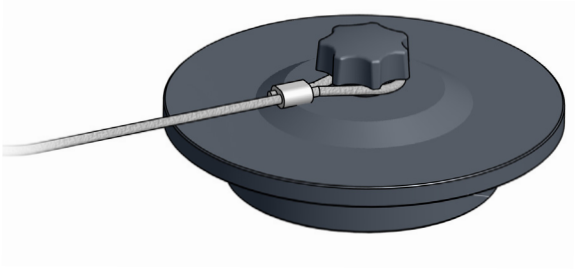
Dust plug and cap



Dust Cap (for Tank Unit)

Code nr:	Material:	Weight:
K300A1101	Aluminium	0,5 kg / 1.10 lbs
K300A2201	Composite[1)]	0.2 kg / 0,44 lbs

A dust cap should be used to prevent the ingress of dirt or water.

Dust Plug (for HoseUnit)

Code nr:	Material:	Weight:
I300A1101	Aluminium	0,4 kg / 0.88 lbs
I300A2201	Composite[1)]	0.2 kg / 0.44 lbs

A dust cap should be used to prevent the ingress of dirt or water.

[1)] Lowest operation temperature is -20° C / -4° F

Technical Data

Size of ISO45 DACoupling: 2½" (DN 65)

Materials: Aluminium

Seals: FPM (Viton*) or NBR (Nitrile) , Low temperature NBR, FQM (Flourosilicon)

*) Viton is a registered trademark of DuPoint

Lowest Operation Temperature :

With Seals Material:	Lowest Temperature:
FPM (Standard Viton)	-20º C / -4º F
NBR	-25º C / -13º F
Low temperature NBR	-40º C / -40º F
FQM (Flourosilicon)	-55º C / -67º F

These materials must be tried indvidually and are subject to no obligation. Always check with chemical compability chart before use.

Max Working Pressure: 10 bar (150 psi)
Test Pressure: 15 bar (225 psi)
Min. Burst Pressure: 50 bar (750 psi)
Safety Factor: 5:1
End Connections: BSP- and NPT-threads, DIN- and ASA-flanges. Other connections on request.

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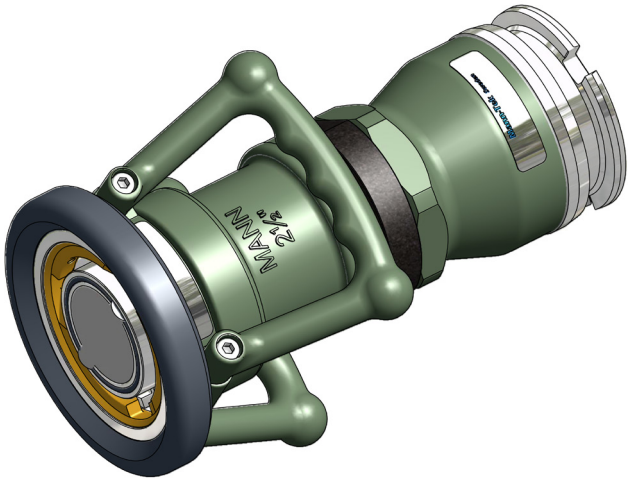

2½" ISO45 Hose Unit to Tank Unit 3" (119 mm)[1] STANAG 3756

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

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

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

[1] Connection 119 mm = 4.68 inch and 105 mm = 4.13 inch

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

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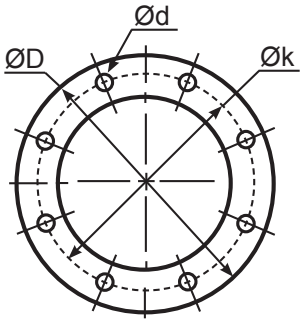
Flange Measurement - 1/2



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

EN 1092-1																	
DN		PN 10				PN 16				PN 25				PN 40			
		ØD	Øk	n	Ød	ØD	Øk	n	Ød	ØD	Øk	n	Ød	ØD	Øk	n	Ød
20	mm	105	75	4	14	105	75	4	14	105	75	4	14	105	75	4	14
	inch	4.13	2.95		0.55	4.13	2.95		0.55	4.13	2.95		0.55	4.13	2.95		0.55
25	mm	115	85	4	14	115	85	4	14	115	85	4	14	115	85	4	14
	inch	4.53	3.35		0.55	4.53	3.35		0.55	4.53	3.35		0.55	4.53	3.35		0.55
32	mm	140	100	4	18	140	100	4	18	140	100	4	18	140	100	4	18
	inch	5.51	3.94		0.71	5.51	3.94		0.71	5.51	3.94		0.71	5.51	3.94		0.71
40	mm	150	110	4	18	150	110	4	18	150	110	4	18	150	110	4	18
	inch	5.91	4.33		0.71	5.91	4.33		0.71	5.91	4.33		0.71	5.91	4.33		0.71
50	mm	165	125	4	18	165	125	4	18	165	125	4	18	165	125	4	18
	inch	6.50	4.92		0.71	6.50	4.92		0.71	6.50	4.92		0.71	6.50	4.92		0.71
65	mm	185	145	4	18	185	145	4	18	185	145	8	18	185	145	8	18
	inch	7.28	5.71		0.71	7.28	5.71		0.71	7.28	5.71		0.71	7.28	5.71		0.71
80	mm	200	160	8	18	200	160	8	18	200	160	8	18	200	160	8	18
	inch	7.87	6.30		0.71	7.87	6.30		0.71	7.87	6.30		0.71	7.87	6.30		0.71
100	mm	220	180	8	18	220	180	8	18	235	190	8	22	235	190	8	22
	inch	8.66	7.09		0.71	8.66	7.09		0.71	9.25	7.48		0.87	9.25	7.48		0.87
125	mm	250	210	8	18	250	210	8	18	270	220	8	26	270	220	8	26
	inch	9.84	8.27		0.71	9.84	8.27		0.71	10.63	8.66		1.02	10.63	8.66		1.02
150	mm	285	240	8	22	285	240	8	22	300	250	8	26	300	250	8	26
	inch	11.22	9.45		0.87	11.22	9.45		0.87	11.81	9.84		1.02	11.81	9.84		1.02
200	mm	340	295	8	22	340	295	12	22	360	310	12	26	375	320	12	30
	inch	13.39	11.61		0.87	13.39	11.61		0.87	14.17	12.20		1.02	14.76	12.60		1.18
250	mm	395	355	12	22	405	355	12	26	425	370	12	30	450	385	12	33
	inch	15.55	13.98		0.87	15.94	13.98		1.02	16.73	14.57		1.18	17.72	15.16		1.30
300	mm	445	400	12	22	460	410	12	26	485	430	16	30	515	450	16	33
	inch	17.52	15.75		0.87	18.11	16.14		1.02	19.09	16.93		1.18	20.28	17.65		1.30

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

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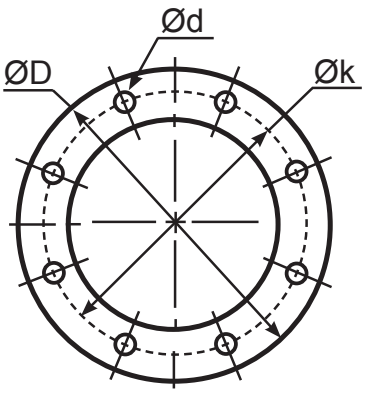
Flange Measurement - 2/2



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

ANSI (ASA) B 16,5

INCH		150 psi ØD	150 psi Øk	150 psi n	150 psi Ød	300 psi ØD	300 psi Øk	300 psi n	300 psi Ød
3/4"	mm	98,4	69,8	4	15,9	117,5	82,5	4	19
	inch	3 7/8	2 3/4		5/8	4 5/8	3 1/4		3/4
1"	mm	107,7	79,4	4	15,9	123,8	88,9	4	19
	inch	4 1/4	3 1/8		5/8	4 7/8	3½		3/4
1 1/4"	mm	117,5	88,9	4	15,9	133,3	98,4	4	19
	inch	4 5/8	3½		5/8	5 1/4	3 7/8		3/4
1 1/2"	mm	127	98,4	4	15,9	155,6	114,3	4	22,2
	inch	5	3 7/8		5/8	6 1/8	4½		7/8
2"	mm	152,4	120,6	4	19	165,1	127	8	19
	inch	6	4 3/4		3/4	6½	5		3/4
2 1/2"	mm	177,8	139,7	4	19	190,5	149,2	8	22,2
	inch	7	5½		3/4	7½	5 7/8		7/8
3"	mm	190,5	152,4	4	19	209,5	168,3	8	22,2
	inch	7½	6		3/4	8 1/4	6 5/8		7/8
4"	mm	228,5	190,5	8	19	254	200	8	22,2
	inch	9	7½		3/4	10	7 7/8		7/8
5"	mm	254	215,9	8	22,2	279,4	234,9	8	22,2
	inch	10	8½		7/8	11	9 1/4		7/8
6"	mm	279,4	241,3	8	22,2	317,5	269,9	12	22,2
	inch	11	9½		7/8	12½	10 5/8		7/8
8"	mm	342,9	298,4	8	22,2	381	330,2	12	25,4
	inch	13½	11 3/4		7/8	15	13		1
10"	mm	406,4	361,9	12	25,4	444,5	387,3	16	28,6
	inch	16	14 1/4		1	17½	15 1/4		1 1/8
12"	mm	482,6	431,8	12	25,4	520,7	450,8	16	31,7
	inch	19	17		1	20½	17 3/4		1 1/4

TW DIN 28459

	DN		ØD	Øk	n	Ød
TW1	50	mm	154	130	8	11
		inch	6.06	5.12		0.43
TW1	80	mm	154	130	8	11
		inch	6.06	5.12		0.43
TW3	100	mm	174	150	8	14
		inch	6.85	5.91		0.55
TW5	125	mm	204	176	8	14
		inch	8.03	6.93		0.55
TW7	150	mm	240	210	12	14
		inch	9.45	8.27		0.55

T.T.M.A

INCH		ØD	Øk	n	Ød
2"	mm	114,3	95,3	6	11,1
	inch	4.50	3.75		0.44
3"	mm	142,9	123,8	8	11,1
	inch	5.63	4.87		0.44
4"	mm	168,3	149,2	8	11,1
	inch	6.63	5.87		0.44
5"	mm	196,9	177,8	12	11,1
	inch	7.75	7.00		0.44
6"	mm	228,6	206,4	12	11,1
	inch	9.00	8.13		0.44
8"	mm	276,2	257,2	16	11,1
	inch	10.87	10.13		0.44

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Mounting instruction

When installing Mann Tek 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 of connection. For example, should the loading arm be empty at the time of connection then it should be balanced in the empty condition.

The Mann-Tek product can be installed directly in the product line and is ready for use after removing the transport protection. The installation is recommended as follows:

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. Set in all bolts first and tighten them by hand. Then increase the tightening torque in 2 steps up to the recommended value in the following table. Proceed every time according to the sequence shown in g.

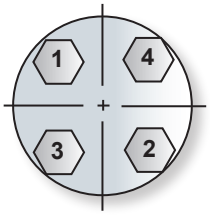
f. Tightening torque[1)] for bolts:

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

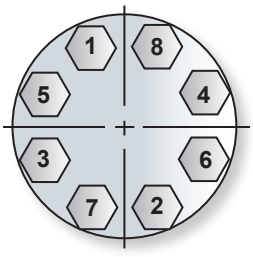
Inch	
Size	**A193 B7**
5/16 -18 UNC	16 lbf-ft
3/8 -16 UNC	29 lbf-ft
1/2 -13 UNC	70 lbf-ft
5/8 -11 UNC	139 lbf-ft
3/4 -10 UNC	243 lbf-ft
7/8 -9 UNC	389 lbf-ft
1 -8 UNC	582 lbf-ft

g. Bolt tightening sequence.

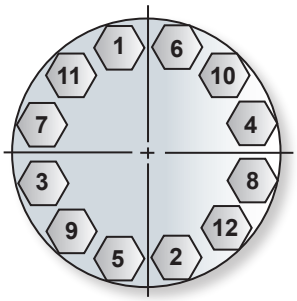
4 Bolt Pattern



8 Bolt Pattern



12 Bolt Pattern



The start-up may take place only when the Mann-Tek product has been mounted as instructed and the necessary function tests and leak tests have been conducted by the approved authorities.

[1)] The torque forces recommended bases on a thread friction coefficient μ=0,14 and a standard flat seal according to EN 1514-1

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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 clock-wise 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.

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.

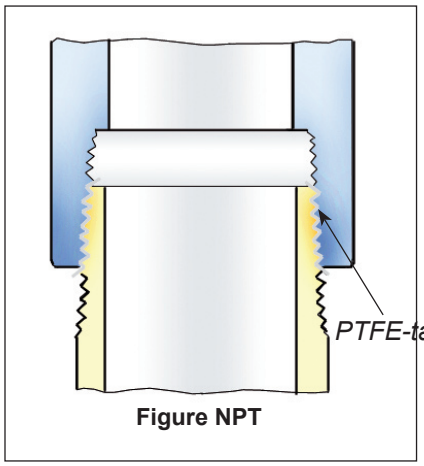

Figure NPT

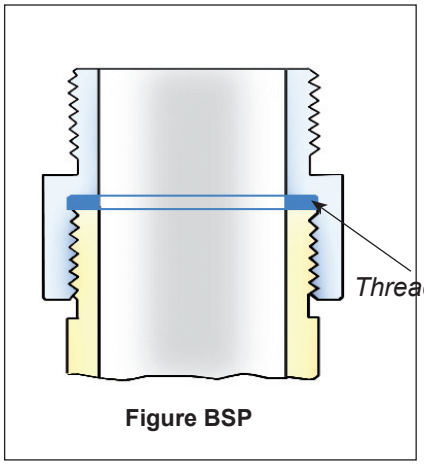

Figure BSP

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.

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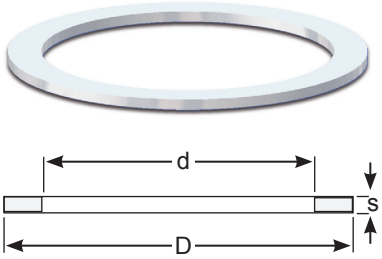
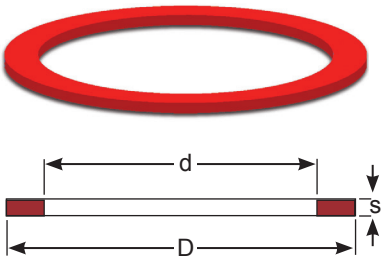
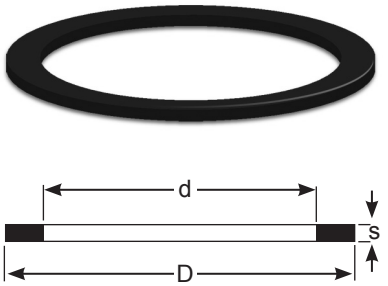
Flat Seals for thread - 1/2

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





Notice! Seals are not included when you order flanges. You have to order Seals seperataly.

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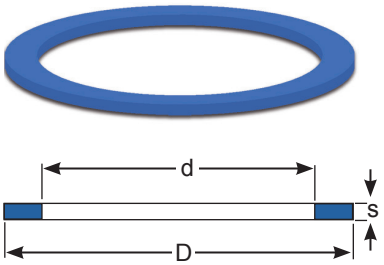
Standard sizes of PUR (VULKOLLAN® polyurethane elastomer), injection molded. Colour:blue.Other sizes of PUR (VULKOLLAN® Cast polyurethane). Colour: honey-coloured. **Vulkollan®** is a registered trademark of Bayer

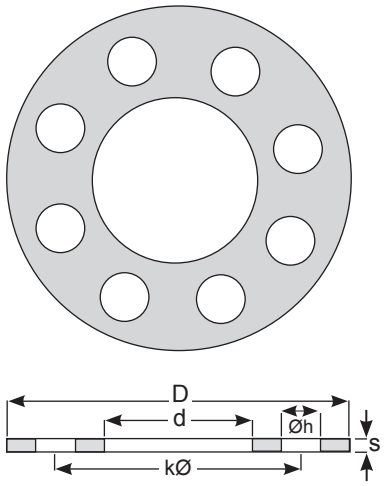
Weight Appr. ≈ Kg	Suitable for	Dimensions ≈ mm			Product No
		D	d	s	
0,001	BSP 3/4"	26	19	2	1498-09
0,001	BSP 1"	33	24	2	1220-09
0,001	BSP 1 1/4" (DN 25 + DN 32)	42	34	2	1536-09
0,002	BSP 1 ½ " (DN 32 + DN 38)	48	39	2	1196-09
0,003	BSP 1 3/4"	54	44	2,5	On request
0,003	BSP 2"	60	49	2	1052-09
0,005	BSP 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



Notice! Seals are not included when you order flanges. You have to order Seals seperataly.

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Explanation of Designations - 1/2

Ver 1301

First sign (letter): Indicates the type of coupling

A = API-adapter
AV = Tank Unit (EN 13081)
B = Ball Valve
C = Dust Cap
CG = Dust Cap LPG
D = Swivel
E = Tank Unit with pressure valves
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
LC = Tank Unit Cryogenic
M = Hose Unit LPG
MC = Hose Unit Cryogenic
N = Break Away Pin
NC = Break Away Pin Cryogenic
O = Break Away Wire
P = Dust Plug
R = Pressure Cap
RG = Pressure Cap LPG
S = Hose Unit (STANAG 3756)
SN = Hose Unit int. Break Away Pin
SO = Hose Unit int. Break Away Wire
T = Tank Unit (STANAG 3756)
U = Filter / Sight Glass
V = Dust Plug LPG
WA= Hose Fittings

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

0 = 50mm or ¾"
1 = 56mm or 1", 1 ¼"
2 = 70mm or 1 ½", 2"
3 = 105mm or 2 ½"
4 = 119mm or 3"
5 = 164mm or 4"
V= 5"
6 = 238mm or 6"
8 = 272mm or 8"
10 = 10"
12 = 12"

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

01 = ¾" BSP (Female)
02 = ¾" NPT (Female)
03 = 1" BSP (Female)
04 = 1" NPT (Female)
05 = 1 ¼" BSP (Female)
06 = 1 ¼" NPT (Female)
07 = 1 ½" BSP (Female)
08 = 1 ½" NPT (Female)
09 = 1 ¾" BSP (Female)
10 = 2" BSP (Female)
11 = 2" NPT (Female)
12 = 2 ½" BSP (Female)
13 = 2 ½" 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 ¾" ANSI Class 150
50 = Flange ¾" ANSI Class 300
51 = Flange 1" ANSI Class 150
52 = Flange 1" ANSI Class 300
53 = Flange 1 ¼" ANSI Class 150
54 = Flange 1 ¼" ANSI Class 300
55 = Flange 1 ½" ANSI Class 150
56 = Flange 1 ½" ANSI Class 300
57 = Flange 2" ANSI Class 150
58 = Flange 2" ANSI Class 300
59 = Flange 2 ½" ANSI Class 150
60 = Flange 2 ½" ANSI Class 300
61 = Flange 3" ANSI Class 150
62 = Flange 3" ANSI Class 300
63 = Flange 4" ANSI Class 150
64 = Flange 4" ANSI Class 300
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 = ¾" BSP (Male)
70 = ¾" NPT (Male)
71 = 1" BSP (Male)
72 = 1" NPT (Male)
73 = 1 ¼" BSP (Male)
74 = 1 ¼" NPT (Male)
75 = 1 ½" BSP (Male)
76 = 1 ½" NPT (Male)
77 = 1 ¾" BSP (Male)
78 = 2" BSP (Male)
79 = 2" NPT (Male)
80 = 2 ½" BSP (Male)
81 = 2 ½" 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.flange 2" Ø57 (int. chamfer)
90 = Weld.flange 2" Ø60 (outer chamfer)
91 = Weld.flange 3" Ø75-Ø90 (flat)
92 = Weld.flange 3" Ø76 (int. chamfer)
93 = Weld.flange 3" Ø89 (outer. chamfer)
94 = Weld.flange 4" Ø100-Ø120 (flat)
95 = Weld.flange 4" Ø102 (int. chamfer)
96 = Weld.flange 4" Ø108 (int. chamfer)
97 = Weld.flange 4" Ø114 (outer. chamfer)
98 = Flange TW 1 (2" - DN 50) with drain connection
99 = Flange DN 150 PN 25
100 = Flange 6" ANSI Class 150
101 = Flange 6" ANSI Class 300
102 = Flange DN 200 PN 10
103 = Flange DN 200 PN 16
104 = Flange DN 200 PN 25
105 = Flange 8" ANSI Class 150
106 = Flange 8" ANSI Class 300
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 DN 100 PN6
127 = Flange DN 80 PN6
128 = Flange DN 65 PN6
129 = Flange DN 50 PN6
130 = Flange 8" ANSI Class 600
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 DN 50
140 = Weld.flange Ø73 (outer chamfer)
141 = 3" Victaulic
142 = Flange 5" ANSI Class 150
143 = 3" Ball valve
144 = 2" Victaulic
145 = 3" BSPT (Male)
146 = 5" Victaulic
147 = 2" BSPT (Female)
148 = 2" BSPT (Male)
149 = 1 ½" Victaulic
150 = 2 ½" Victaulic
151 = Flange 1" DIN 11864-2
152 = Flange 2" DIN 11864-2
153 = Flange ø135, 8xM6
154 = 4" BSPT (Female)
155 = 4" BSPT (Male)
156 = Weld flange 2" ø61,5 (inner)
157 = 3" BSPT (Female)
158 = Weld end 1½" ø48 (outer)
159 = Thread TR 57x4
160 = Flange 2" BS10 Table D
161 = Flange 12" ANSI Class 150
162 = Flange 10" ANSI Class 150
163 = Flange DN 250 PN 16
164 = M130x6 (Female)
165 = Flange 10" ANSI Class 300
166 = ACME 1¼" (Female)
167 = ACME 1¾" (Female)
168 = ACME 2¼" (Female)
169 = ACME 3¼" (Female)
170 = ACME 1¼" (Male)
171 = ACME 1¾" (Male)
172 = ACME 2¼" (Male)
173 = ACME 3¼" (Male)
174 = Weld.flange Ø76 (outer. chamfer)
175 = Flange DN 15 PN 10/16
176 = Flange DN 15 PN 25/40
177 = M130x6 (Male)
178 = Flange 6" T.T.M.A.
179 = Flange DN 80 PN 25/40***
180 = ½" NPT (Male)
181 = ½" BSP (Male)
182 = 5" BSP (Female)
183 = 5" BSP (Male)
184 = Weld end 8" ø219 (outer)
185 = Weld end 6" ø168 (outer)
186 = Flange DN 250 PN 25
187 = Flange 2" T.T.M.A.
188 = Flange 3" BS10 Table D
189 = Flange ½" ANSI Class 150
190 = Flange 1" ANSI Class 150 Flat Face
191 = Flange 12" ANSI Class 300
192 = Flange DN250 PN10
193 = Weld end Ø114 Schedule 40
194 = Weld end Ø114 Schedule 80
195 = 6" Victaulic
196 = 1" Victaulic
197 = DN 125 JIS 5K
198 = DN 100 JIS 5K
199 = DN 80 JIS 5K
200 = DN 50 JIS 5K
201 = DN 40 JIS 5K
202 = Flange 2" DIN 11864-3
203 = 3½" BSP (Female)
204 = Flange Ø110, Ø86/Ø5.5 (6x)
205 = Weld end Ø60 Schedule 80
206 = Weld end Ø89 Schedule 40
207 = Weld end Ø89 Schedule 80
208 = Flange DN 25 PN 6
209 = Flange DN 32 PN 6
210 = Flange DN 40 PN 6
211 = DN 125 JIS 10K
212 = DN 100 JIS 10K
213 = DN 80 JIS 10K
214 = DN 50 JIS 10K
215 = DN 40 JIS 10K
216 = Flange DN 80, holes Ø14 (6x)
217 = Flange 5" ANSI Class 300

* EN 1092-1:2001 Type E: Spigot

** EN 1092-1:2001 Type F

*** EN 1092-1:2001 Type C

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

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Explaination of Designations - 2/2

Ver 1301

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 moulded
F = 6" Flange Hydrant
G = Drain connection
H = Leaf spring lock
I = Bended Tank Unit Short (15°)
J = Bended Tank Unit (15°)
K = Short Tank Unit/Swivel
N = Non Return Valve
P = Pressure (Custom)
S = Sight Glass
T = Transparent
U = Stop before disconnected

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

1 = Aluminium
2 = Brass
3 = Steel
4 = Stainless steel A4 (316)
5 = Stainless steel A2 (304)
6 = Titan
7 = Hastelloy
8 = PVDF
9 = PEEK
K = Inconel

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

1 = Aluminium
2 = Brass
3 = Steel
4 = Stainless steel A4 (316)
5 = Stainless steel A2 (304)
6 = Titan
7 = Hastelloy
8 = PVDF
9 = PEEK
K = Inconel

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

01 = Viton® (FPM/FKM)
02 = Nitrile (NBR)
03 = EPDM
04 = Kalrez® (FFKM) 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/FFKM)
13 = PVC / NBR
14 = Fluorsilicone rubber (MFQ)
15 = FEP encapsulated silicone
16 = Hypalon® (CSM)
17 = Chemraz® 505 (FFKM)
18 = Xyflour® 860 (AFKM)
19 = Zetpol® / Therban® (HNBR)
20 = NBR 90 shore
21 = Viton®-GF (Special Viton quality)
22 = Composite
23 = Viton® GFLT-S
24 = Viton® GLT
25 = Klingerit®
26 = POM
27 = Epiclorhydrin (ECO)
28 = Viton® GFLT-S NMO
31 = Viton® 90 Shore (FPM/FKM)
33 = EPDM 291
34 = Kalrez® 0040
37 = Chemraz® 510 (90 Shore)
40 = FEP PTFE encapsulated Viton®
50 = Kalrez® (PFPM) 1050LF
51 = Nylon® (PA)
61 = Viton® (FPM), FDA, USP C6 & ADI
62 = Nitrile (NBR), FDA, USP C6 & ADI
63 = EPDM, FDA, USP C6 & ADI
64 = Kalrez® (FFKM) 6230, FDA, USP C6 & ADI
66 = PTFE (Virgin), FDA
71 = FPM/FKM Low Temp
77 = Chemraz® SD517, FDA, USP C6 & ADI
83 = EPDM BAM

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)
DA = Double Acting (Ball Valve)
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
L = Locked thread
M = Modified Cam Curve
N = No Branding
NA = No Actuator (Ball Valve)
P = Pressure Equalizing Valve
Q = Reduced bore diameter (Argus,Hydrant)
R = Hose unit with int. Break Away
S = Single Argus valve (Hydrant)
SR = Spring Return (Ball Valve)
T = TW-Flange extended circles
U = Pressure Bleeding Valve 16 bar
U5 = Pressure Bleeding valve 5 bar
U20 = Pressure Bleeding valve 20 bar
V = Locking house unit
W = Double ball race
X = Special surface treatment
Z = Excentric tank unit
-RA = Racing
-LC = Locking Cap
-S = FEP O-ring in Hose Unit swivel
-ST = Steam
-XL = Oversized swivel
-45 = 45 Mesh
-60 = 60 Mesh
-10 = 100 Mesh

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Enquiry DACouplings

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

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About

Mann Tek is a Swedish manufacturer and supplier of Safety breakaway couplings with experience of the industry for more than 20 years. We supply modern, easy to use, safe and timesaving products. A environmentally safe system for both staff and its surroundings, which prevents a variety of hazards. Our products are the obvious choice in harsh and demanding environments and where there´s a need of a safe and spill free handling of fluids, gases and bulk powders. With more than twenty years of knowledge and experience of multiply industries it has accumulated extensive expertise about applications in many types of variations in which our couplings have been, and can be used, with excellent results.

We constantly strive to develop and improve the performance and design of our products, to meet changes, new market demands and standards. Which, today, is what made us market leading.
Our couplings are the obvious choice when certifications and product approvals are required, anywhere in the world.
Mann Tek® is certified to ISO9001:2008 and the products are produced in accordance with several important standards, e.g. the NATO STANAG 3756, NATO STANAG 3105, ISO 45, MS24484, British Aerospace Specification 2C14

Company Approvals

Mann-Tek is a certified ISO9001-company.

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