

PRODUCT INFORMATION

Aviation fueling equipment

Sampling, Vent or Drain unit



ART.NO. XB04 VERSION: 220321

MannTek

The MannTek way

We strongly believe in connections – in more ways than one. Since 1997 we have been producing innovative and safe coupling products. But that's not where the story ends. We develop coupling solutions beyond expectations.

None of this would be possible without dedicated teams. Our experienced personnel are the heart of our existence. We deliver engagement and dedication embodied in customised solutions for our customers.

In a world where humans create new challenges every day, we provide reliable and innovative solutions to meet our customers' most pressing needs.

That's why our organisation is built upon good communication, respect for others, and trust.

At MannTek it is essential to connect with each other, with customers and with distributors, based on respect and understanding. Our open working environment and company culture fosters communication and knowledge sharing in a free climate.



Innovative, safe
and reliable

SIMPLE EFFICIENCY



Customised
solutions

UNLIMITED POSSIBILITIES



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GENERAL INFORMATION

WHY USE THE MANNTEK SAMPLING, VENT OR DRAIN UNITS?



SAMPLE

Take a sample to check the quality of fuel in a hydrant system on airports.

DRAIN AND VENT

Draining of condensate and venting out of hydrant systems.

PREVENT PRESSURE DROP

Preventing pressure drop while sampling by lock valves with fire safe function.

FITS STANDARD PIPE

Fits into standard 18" external pipe pits with ANSI 6" 300 psi flange.

EASY TO HANDLE

"Easy to Use" – design saves time and minimizes health risks.

RELIABLE

Reliability and easy servicing saves your investment.

SAFE

Approved for safe handling by independent "Notified Body".

DCC

Connection by 70 mm dry disconnect coupling acc to STANAG 3756.

PRESSURE RELIEF

Dry disconnect coupling equipped with built in Pressure Relief and Bleeding Valve function.



APPLICATIONS, NOTE AND OPERATION PROCEDURE

USAGE

Modern airports are using an underground pipeline, for the fuelling of aircrafts. Mobile dispensers are the interface between this hydrant system and the airplane. They are containing pumps, valves, hoses and couplings to pump the fuel from the hydrant system to the plane.

The pipelines are designed with high points, low points and convenient points. If there is condensate in the pipeline, which is heavier than the fuel, it will sink to the low points. Encapsulated air will rise to the high points. Neither water nor air is welcome in the pipeline.

To get them out of the pipeline there are sampling units at each low point for draining and at each high point for venting.

At the convenient point the sampling units are used to take samples of the fuel to check the quality.

APPLICATIONS

Sampling – installed at a convenient point on a riser from the main hydrant line

Venting – installed at a high point in the hydrant line

Draining – installed at a low point in the hydrant line

NOTE

Only one operation handle is supplied for Ball Valves. The lower Valve is left open at all times unless the upper Valve is to be removed for service.

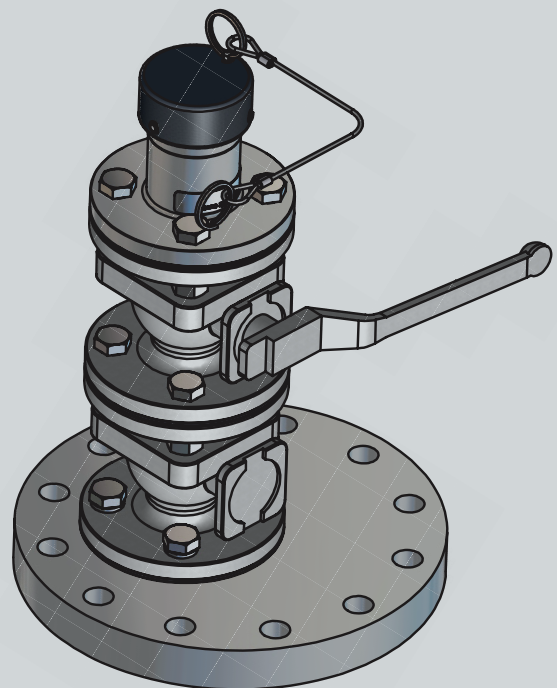
Upper Valve must be fully closed before operating.

OPERATION PROCEDURE

1. **ENSURE** upper Valve is fully closed
2. **REMOVE** Dust Cap.
3. **CONNECT** 2" Hose Unit to the Tank Unit.
With exceptionally high pressure, after i.e. thermal expansion, the overpressure equalizes automatically after few seconds. The coupling procedure can then be continued

IMPORTANT: The overpressure/medium is kept within the system

4. **OPEN** Upper Valve
5. **TAKE** required sample (or Vent/Drain).
6. **FULLY CLOSE** Upper Valve.
7. **UNCOUPLE** Hose Unit
8. **REPLACE** Dust Cap



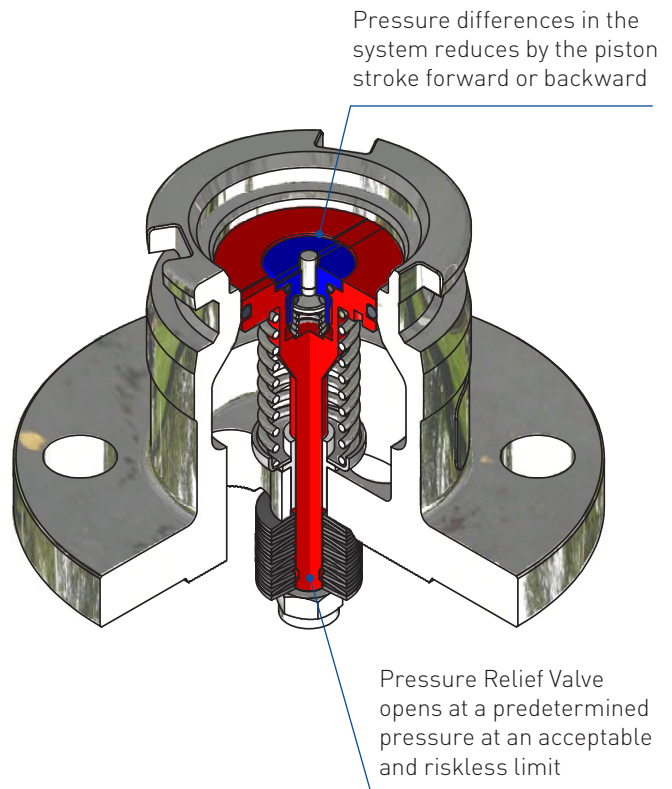
TANK UNIT WITH PRESSURE RELIEF AND EQUALIZING VALVE

FUNCTION

When you start to connect the Hose unit (coupler), the Hose unit piston moves forward and pushes on the pressure equalizing valve piston.

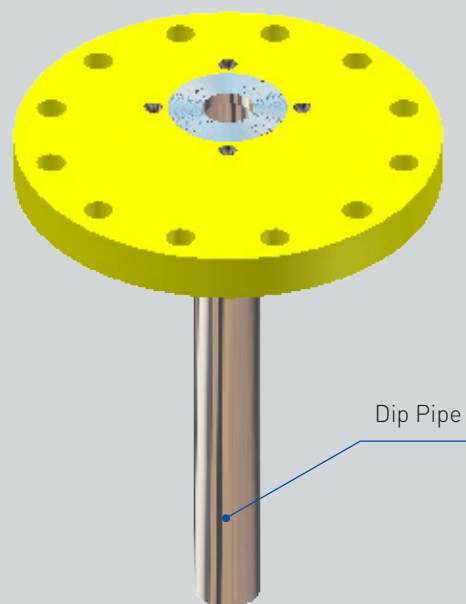
Now the pressure equalizing valve is open and the pressure between the Tank unit and the Hose unit is equalized. Then you have no problem to proceed with the connection.

You will not have problems to connect the Hose unit when there is fluid under high pressure in the Tank unit or if there is incompressible fluid caught between the valve and the Tank unit.



OPTION – FLANGE WITH DIP PIPE

Flange with Dip Pipe is used for draining water when it is placed at a low point

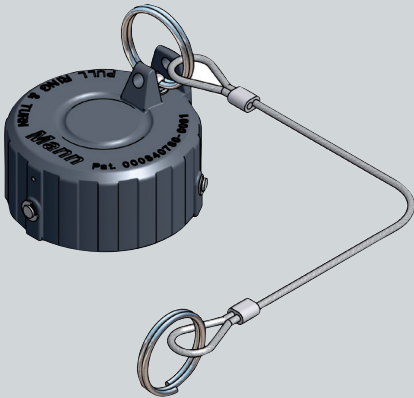


OPTION – DUST CAP FOR TANK UNIT

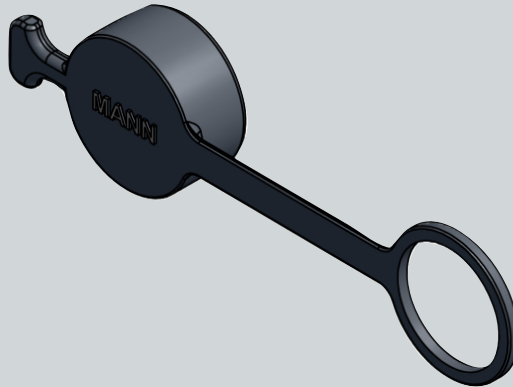
A Dust Cap should be used to prevent the ingress of dirt or water

COMPOSITE

Patent No. 000840780-0001



RUBBER



CODE NR:	MATERIAL
C200E2202	Composite ^{1,2}
C200D1301	Rubber (NBR)

- 1) Lowest operation temperature is -20°C / -4°F
 - 2) Seals in FPM (Standard Viton®). Other materials on request.
- Viton® is a registered trademark of DuPont.*

TECHNICAL DATA

MATERIALS: Stainless Steel SS-EN 10 272-1.4404+AT (AISI 316L)
Ball Valve in 1.0619 and 1.4301

SEALS: FPM (Standard Viton®). NBR (Nitrile®). Other on request.

LOWEST OPERATION TEMPERATURE:

WITH SEALS MATERIAL:	LOWEST TEMPERATURE:
FPM (Standard Viton®)	-20°C / -4°F
NBR	-25°C / -13°F
Low temp. NBR	-40°C / -40°F

MAX WORKING PRESSURE: 20,7 bar / 300 psi

MIN BURST PRESSURE: 62,1 bar / 900 psi

OPERATION PRESSURE RELIEF VALVE: 20 bar +/- 2 bar

CONNECTION TO PIPELINE: Flange 6" ANSI B16.5 300 psi

TANK UNIT CONNECTION TO HOSE UNIT: STANAG 3756 (70 mm)

Viton® is a registered trademark of DuPont.

PRODUCT RANGE TABLE

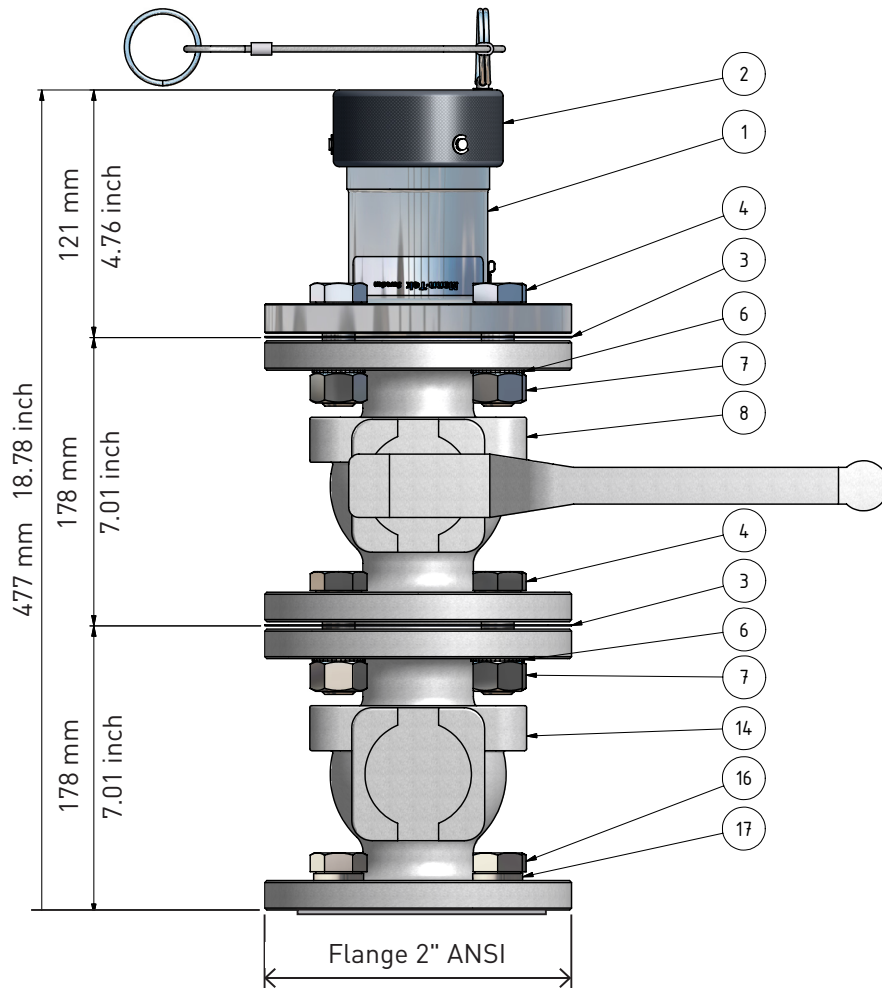
COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE.

TANK UNIT		BALL VALVE WITH FLANGE CONNECTION	FLANGE	LENGHT	WEIGHT	CODE NO. STAINLESS STEEL
SOCKET Ø	FLANGE INCH/DN					CODE NO. CARBON STEEL
70 mm	2"	2 pcs 2" ANSI Reduced bore diam. (1½")	2" ANSI	477 mm 18.78 inch	21 kg 46 lbs	H257A4401QE H257A3301QE
70 mm	1½"	2 pcs 1½" ANSI Reduced bore diam. (1¼")	6" ANSI	453 mm 17.83 inch	40 kg 88 lbs	H255F4401QE H255F3301QE
70 mm	DN 40	1 pcs DN 40 Full bore diam. (40 mm)	6" ANSI	299 mm 11.77 inch	34 kg 75 lbs	H227F4401SE H227F3301SE
70 mm	DN 40	2 pcs DN 40 Full bore diam. (40 mm)	6" ANSI	440 mm 17.32 inch	40 kg 88 lbs	H227F4401E H227F3301E
70 mm	DN 50	1 pcs DN 50 Full bore diam. (50 mm)	6" ANSI	309 mm 12.17 inch	37 kg 81 lbs	H230F4401SE H230F3301SE
70 mm	DN 50	2 pcs DN 50 Full bore diam. (50 mm)	6" ANSI	460 mm 18.11 inch	46 kg 101 lbs	H230F4401E H230F4401E
70 mm	2"	2 pcs 2" ANSI Full bore diam. (2")	6" ANSI	440 mm 17.32 inch	40 kg 88 lbs	H257F4401E H257F3301E

O-rings in FPM (Viton®). Other materials on request.

Viton® is a registered trademark of DuPont.

SAMPLING, VENT OR DRAIN UNIT IN STAINLESS STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (1½")

CODE NO: H257A4401QE

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

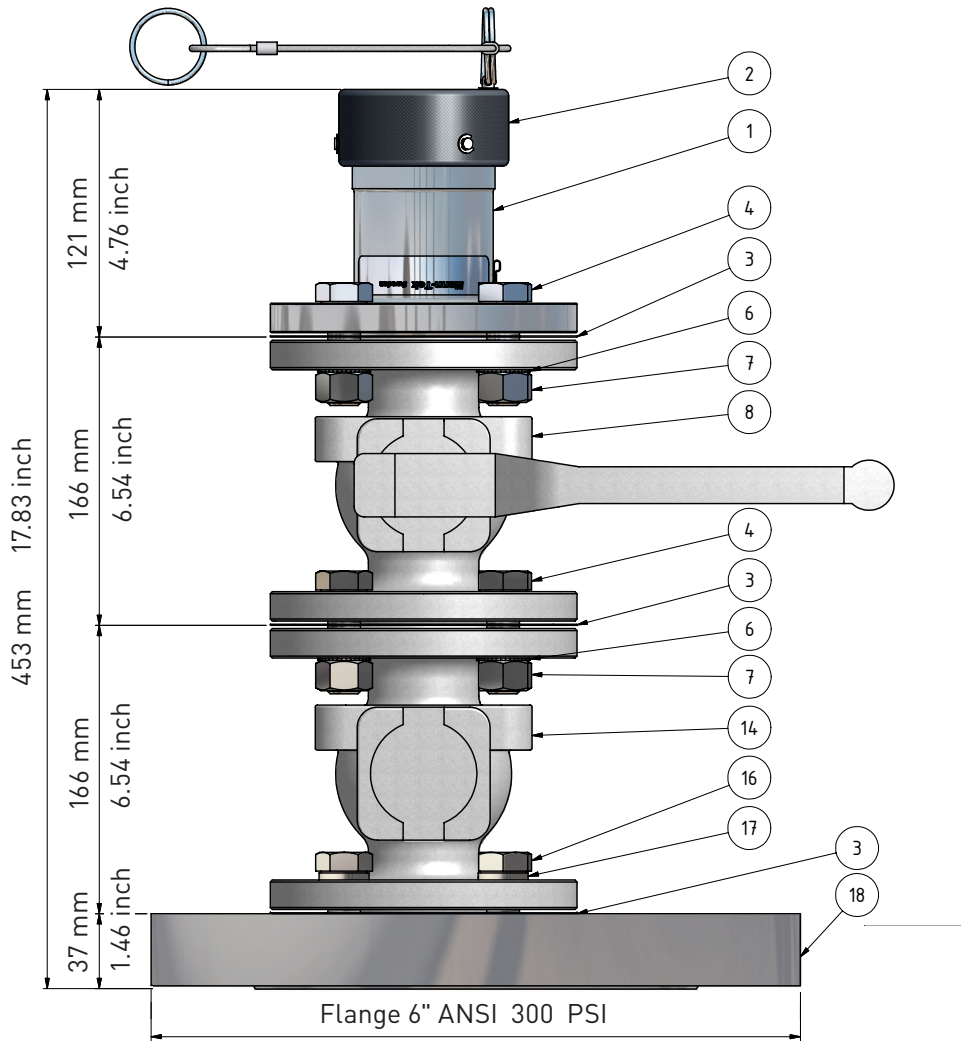
TEST PRESSURE: 31 bar / 450 psi

MIN BURST PRESSURE: 62,1 bar / 900 psi

TEMPERATURE RANGE: -30 – +200° C
-20 – +392° F

POS.	DESCRIPTION	MATERIAL
①	Tank Unit	Stainless Steel
②	Dustcap	Composite
③	Gasket	Klingerit
④	Bolt M16x50	A2 (SS)
⑥	Washer	A2 (SS)
⑦	Nut M16	A2 (SS)
⑧	Ball Valve with Handle	Stainless Steel
⑭	Ball Valve without Handle	Stainless Steel
⑰	Bolt M16x40	A2 (SS)
⑰	Wavy Washer	Stainless Steel

SAMPLING, VENT OR DRAIN UNIT IN STAINLESS STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

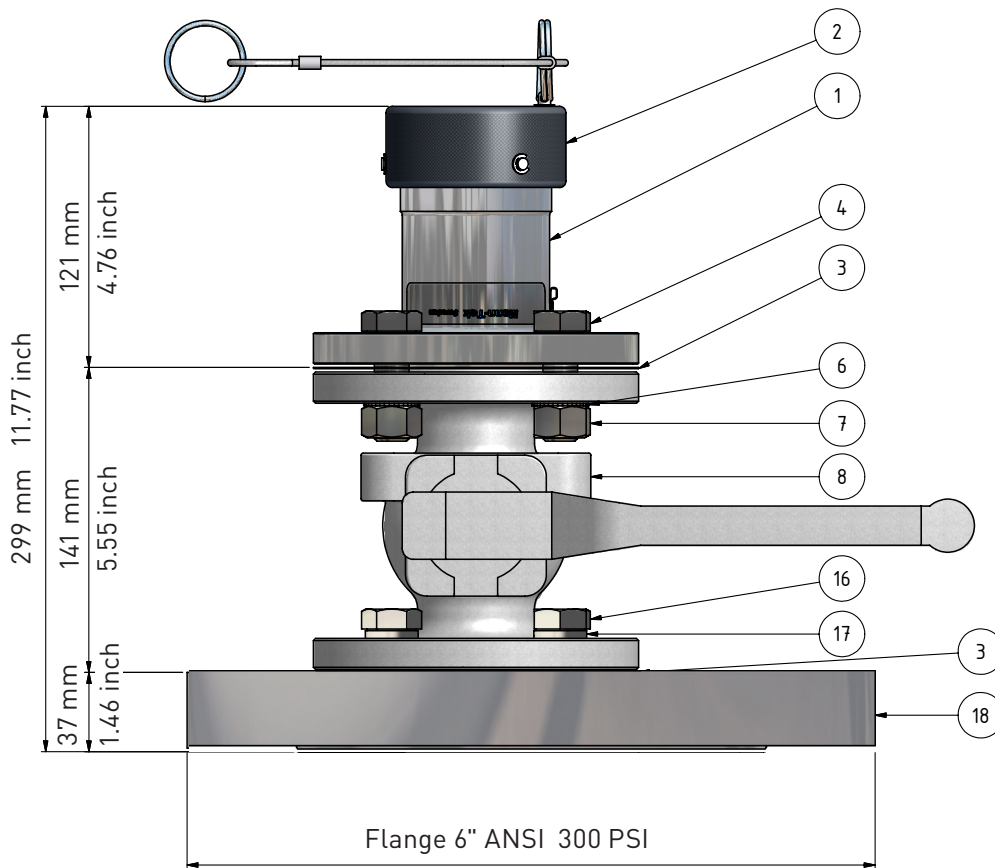
Ball Valve – reduced bore diameter (1¼")

CODE NO: H255F4401QE

WORKING PRESSURE:	20,7 bar / 300 psi
OPERATION RELIEF VALVE:	20 bar +/- 2 bar
TEST PRESSURE:	31 bar / 450 psi
MIN BURST PRESSURE:	62,1 bar / 900 psi
TEMPERATURE RANGE:	-30 – +200° C -20 – +392° F

POS.	DESCRIPTION	MATERIAL
①	Tank Unit	Stainless Steel
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③	Gasket	Klingerit
④	Bolt M16x50	A2 (SS)
⑥	Washer	A2 (SS)
⑦	Nut M16	A2 (SS)
⑧	Ball Valve with Handle	Stainless Steel
⑭	Ball Valve without Handle	Stainless Steel
⑮	Bolt M16x40	A2 (SS)
⑰	Wavy Washer	Stainless Steel
⑱	Flange 6" ANSI 300 PSI	Stainless Steel

SAMPLING, VENT OR DRAIN UNIT IN STAINLESS STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (40 mm)

CODE NO: H227F4401SE

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

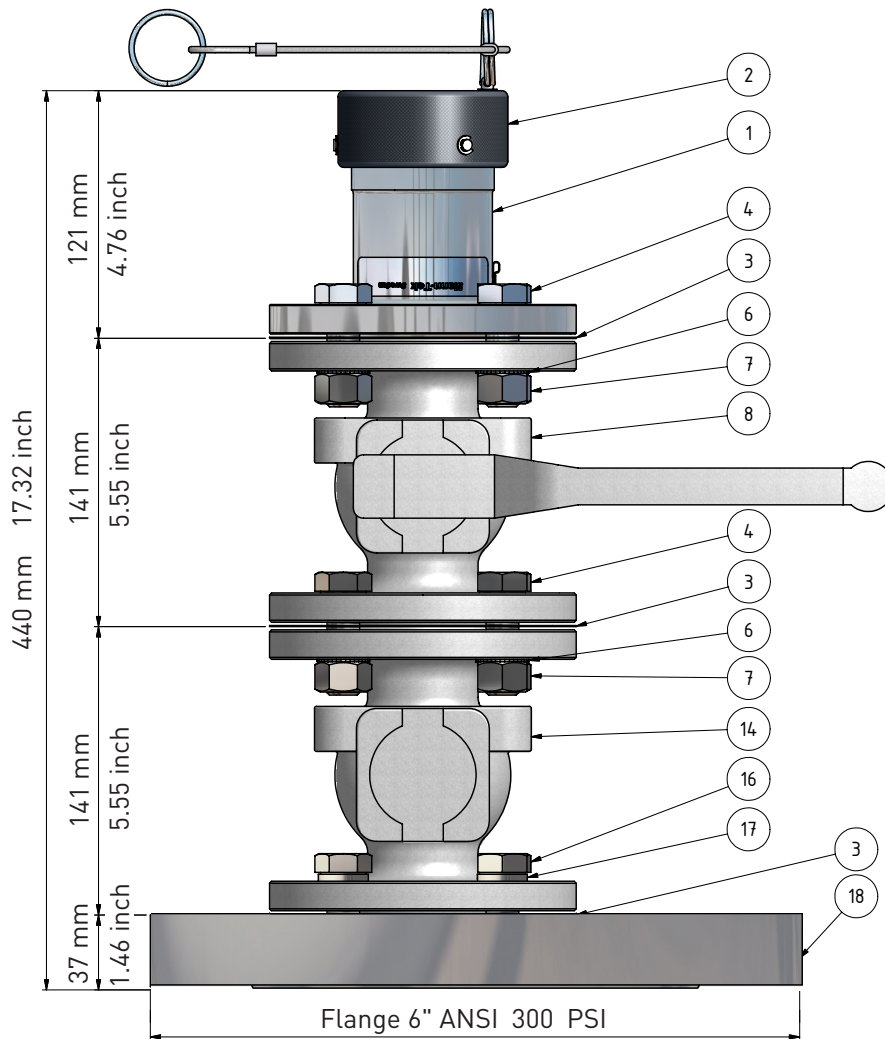
TEST PRESSURE: 31 bar / 450 psi

MIN BURST PRESSURE: 62,1 bar / 900 psi

TEMPERATURE RANGE: -30 – +200° C
-20 – +392° F

POS.	DESCRIPTION	MATERIAL
①	Tank Unit	Stainless Steel
②	Dustcap	Composite
③	Gasket	Klingerit
④	Bolt M16x50	A2 (SS)
⑥	Washer	A2 (SS)
⑦	Nut M16	A2 (SS)
⑧	Ball Valve with Handle	Stainless Steel
⑭	Ball Valve without Handle	Stainless Steel
⑮	Bolt M16x40	A2 (SS)
⑰	Wavy Washer	Stainless Steel
⑱	Flange 6" ANSI 300 PSI	Stainless Steel

SAMPLING, VENT OR DRAIN UNIT IN STAINLESS STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (40 mm)

CODE NO: H227F4401E

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

TEST PRESSURE: 31 bar / 450 psi

MIN BURST PRESSURE: 62,1 bar / 900 psi

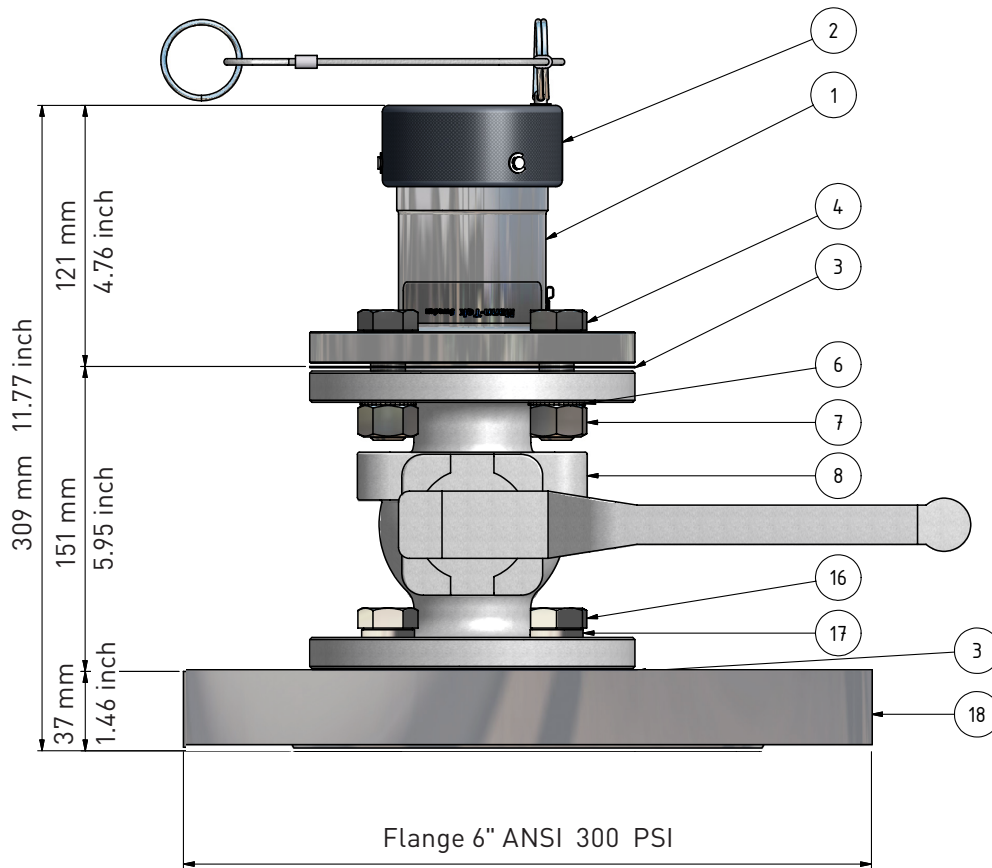
TEMPERATURE RANGE: -30 – +200° C
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POS. DESCRIPTION

MATERIAL

①	Tank Unit	Stainless Steel
②	Dustcap	Composite
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④	Bolt M16x50	A2 (SS)
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⑦	Nut M16	A2 (SS)
⑧	Ball Valve with Handle	Stainless Steel
⑭	Ball Valve without Handle	Stainless Steel
⑰	Wavy Washer	Stainless Steel
⑱	Flange 6" ANSI 300 PSI	Stainless Steel

SAMPLING, VENT OR DRAIN UNIT IN STAINLESS STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (50 mm)

CODE NO: H230F4401SE

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

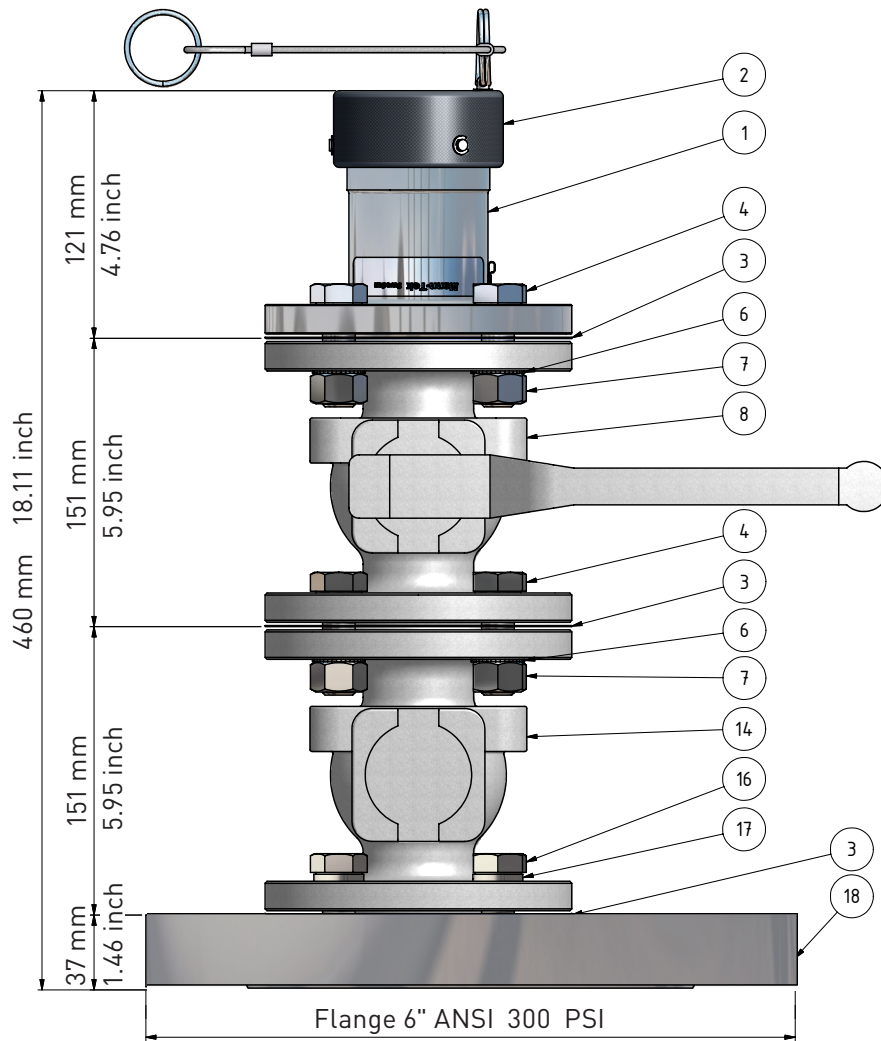
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TEMPERATURE RANGE: -30 – +200° C
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③	Gasket	Klingerit
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⑥	Washer	A2 (SS)
⑦	Nut M16	A2 (SS)
⑧	Ball Valve with Handle	Stainless Steel
⑭	Ball Valve without Handle	Stainless Steel
⑮	Bolt M16x40	A2 (SS)
⑰	Wavy Washer	Stainless Steel
⑱	Flange 6" ANSI 300 PSI	Stainless Steel

SAMPLING, VENT OR DRAIN UNIT IN STAINLESS STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (50 mm)

CODE NO: H230F4401E

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

TEST PRESSURE: 31 bar / 450 psi

MIN BURST PRESSURE: 62,1 bar / 900 psi

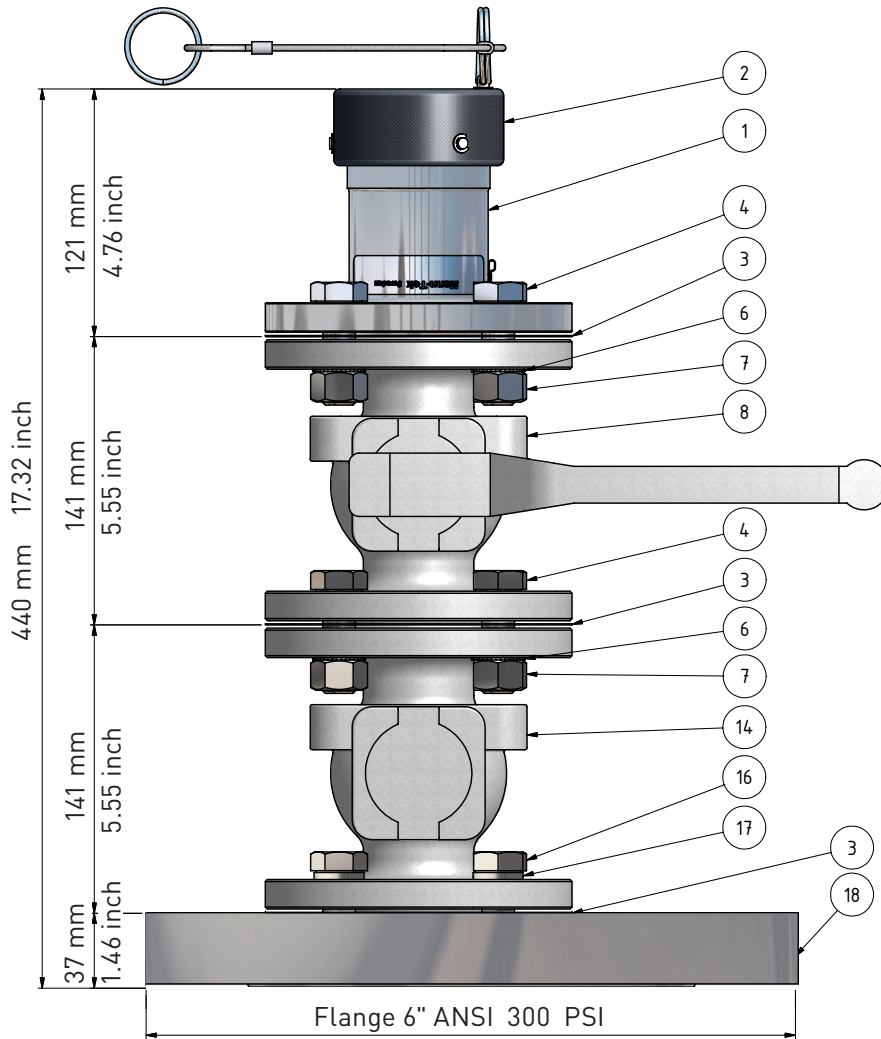
TEMPERATURE RANGE: -30 – +200° C
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POS. DESCRIPTION

MATERIAL

POS.	DESCRIPTION	MATERIAL
1	Tank Unit	Stainless Steel
2	Dustcap	Composite
3	Gasket	Klingerit
4	Bolt M16x50	A2 (SS)
6	Washer	A2 (SS)
7	Nut M16	A2 (SS)
8	Ball Valve with Handle	Stainless Steel
14	Ball Valve without Handle	Stainless Steel
16	Bolt M16x40	A2 (SS)
17	Wavy Washer	Stainless Steel
18	Flange 6" ANSI 300 PSI	Stainless Steel

SAMPLING, VENT OR DRAIN UNIT IN STAINLESS STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (2")

CODE NO: H257F4401E

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

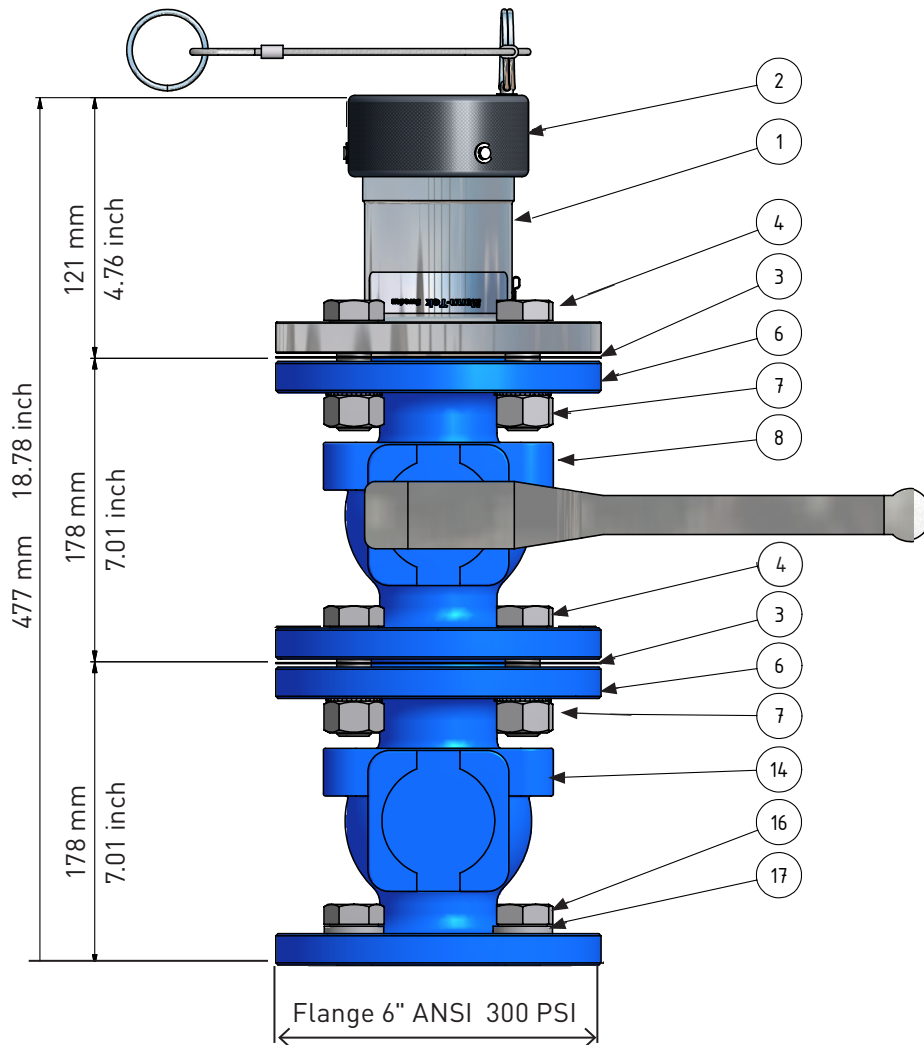
TEST PRESSURE: 31 bar / 450 psi

MIN BURST PRESSURE: 62,1 bar / 900 psi

TEMPERATURE RANGE: -30 – +200° C
-20 – +392° F

POS.	DESCRIPTION	MATERIAL
①	Tank Unit	Stainless Steel
②	Dustcap	Composite
③	Gasket	Klingerit
④	Bolt M16x50	A2 (SS)
⑥	Washer	A2 (SS)
⑦	Nut M16	A2 (SS)
⑧	Ball Valve with Handle	Stainless Steel
⑭	Ball Valve without Handle	Stainless Steel
⑮	Bolt M16x40	A2 (SS)
⑰	Wavy Washer	Stainless Steel
⑱	Flange 6" ANSI 300 PSI	Stainless Steel

SAMPLING, VENT OR DRAIN UNIT IN CARBON STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (1½")

CODE NO: H257A3301QE

SURFACE TREATMENT: EPOXY COATED

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

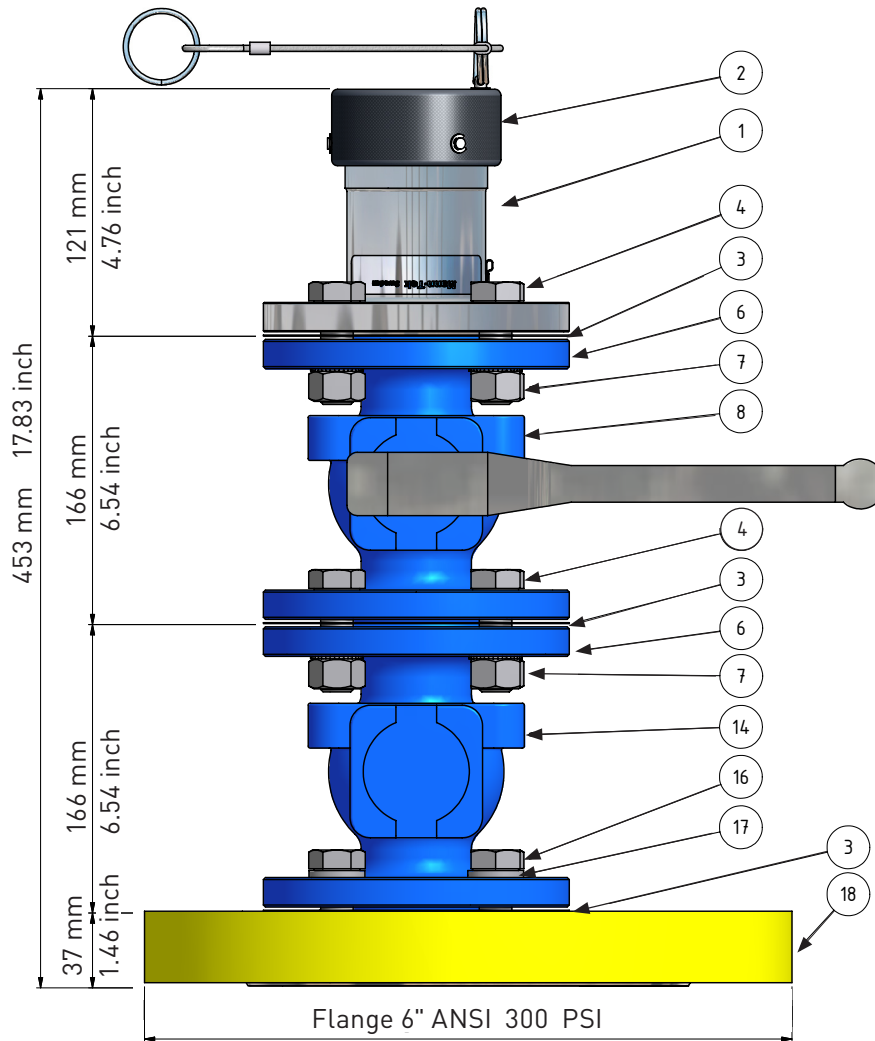
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TEMPERATURE RANGE: -30 – +200° C
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POS.	DESCRIPTION	MATERIAL
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⑥	Washer	A2 (SS)
⑦	Nut M16	A2 (SS)
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⑭	Ball Valve without Handle	Carbon Steel
⑯	Bolt M16x40	A2 (SS)
⑰	Wavy Washer	Stainless Steel

SAMPLING, VENT OR DRAIN UNIT IN CARBON STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (1¼")

CODE NO: H255F3301QE

SURFACE TREATMENT: EPOXY COATED

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

TEST PRESSURE: 31 bar / 450 psi

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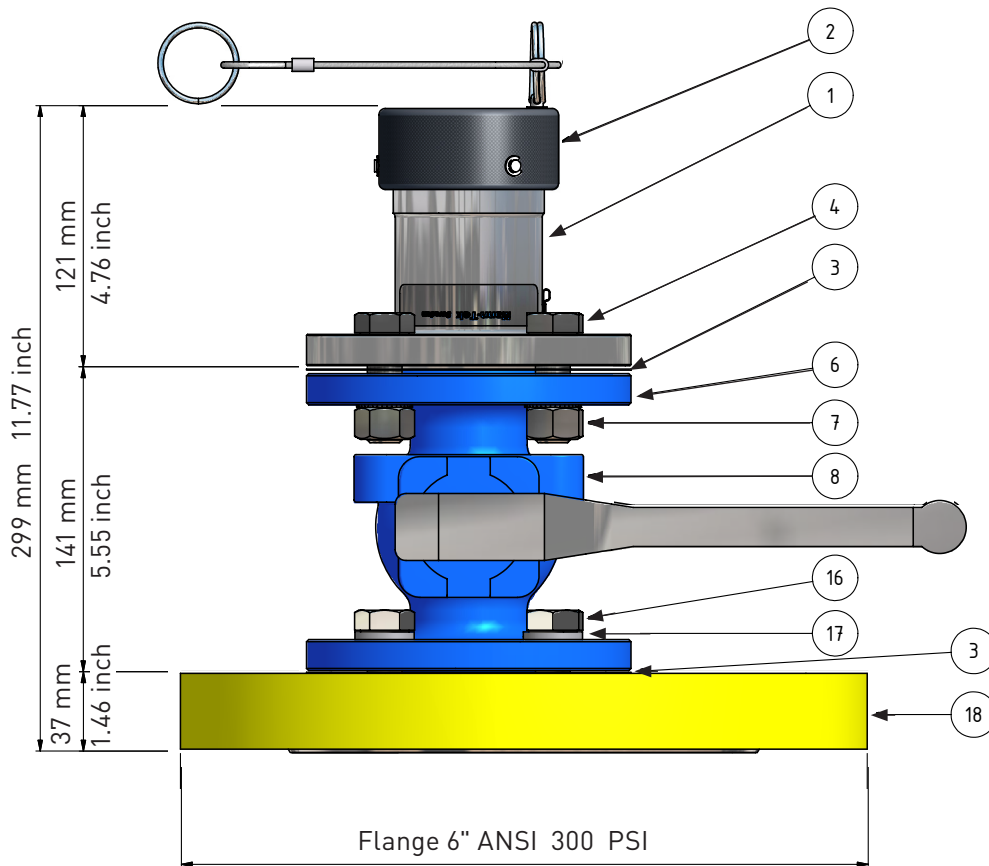
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POS. DESCRIPTION

MATERIAL

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SAMPLING, VENT OR DRAIN UNIT IN CARBON STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (40 mm)

CODE NO: H227F3301SE

SURFACE TREATMENT: EPOXY COATED

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

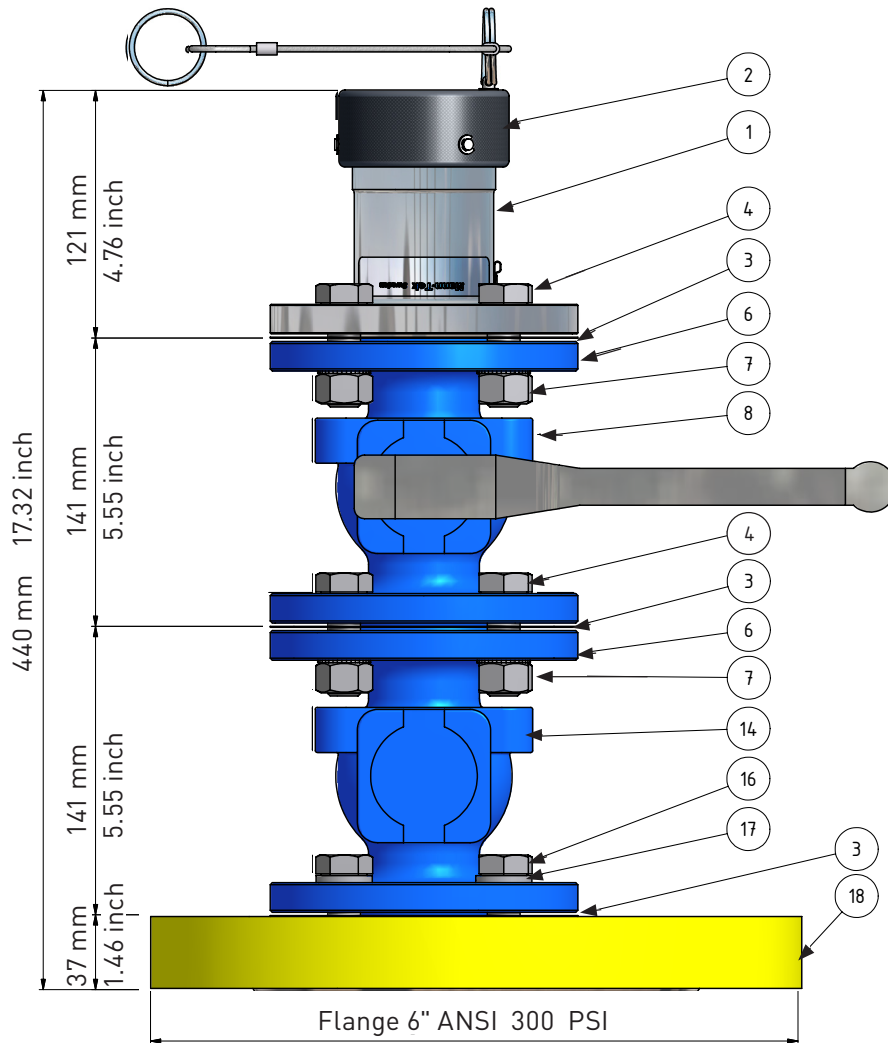
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SAMPLING, VENT OR DRAIN UNIT IN CARBON STEEL



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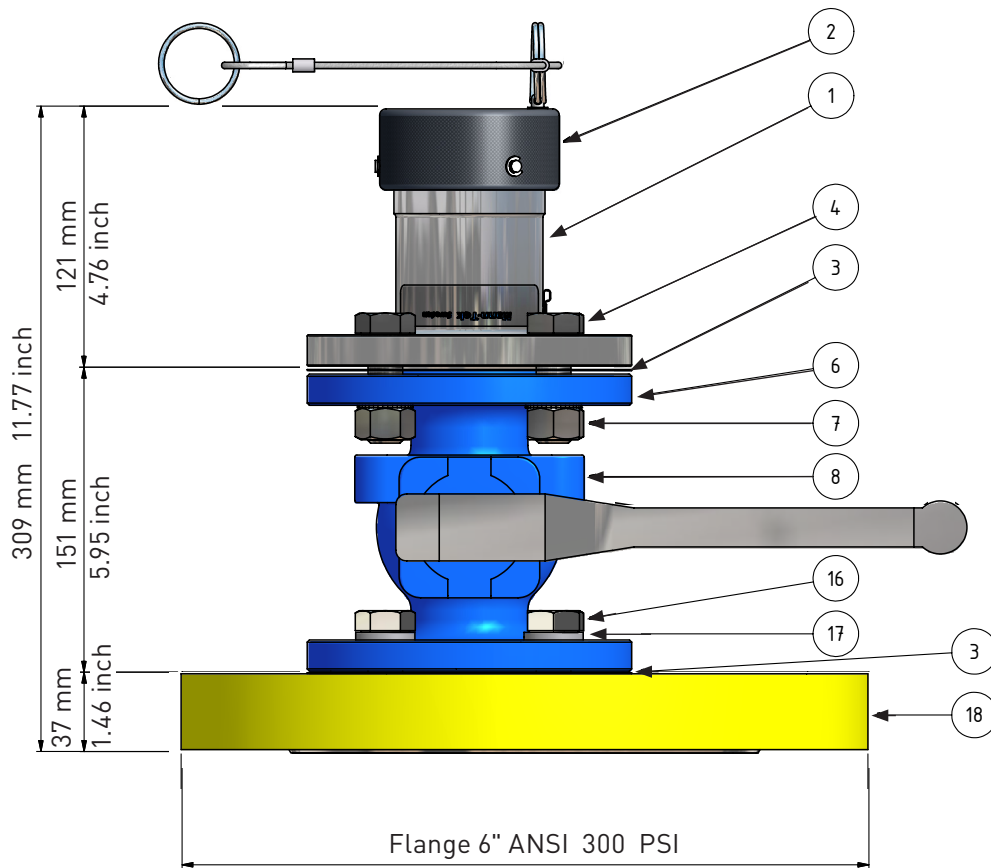
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⑰	Wavy Washer	Stainless Steel
⑱	Flange 6" ANSI 300 PSI	Carbon Steel

SAMPLING, VENT OR DRAIN UNIT IN CARBON STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (50 mm)

CODE NO: H230F3301SE

SURFACE TREATMENT: EPOXY COATED

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

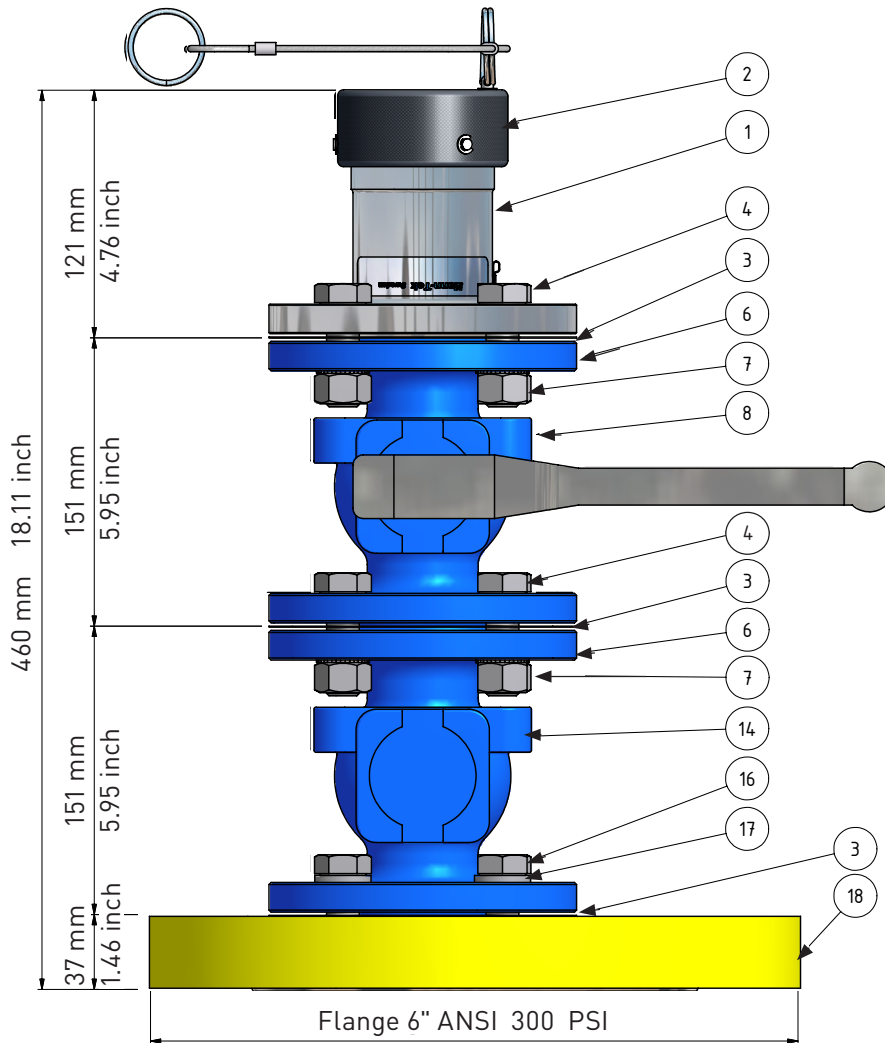
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⑱	Flange 6" ANSI 300 PSI	Carbon Steel

SAMPLING, VENT OR DRAIN UNIT IN CARBON STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (50 mm)

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SURFACE TREATMENT: EPOXY COATED

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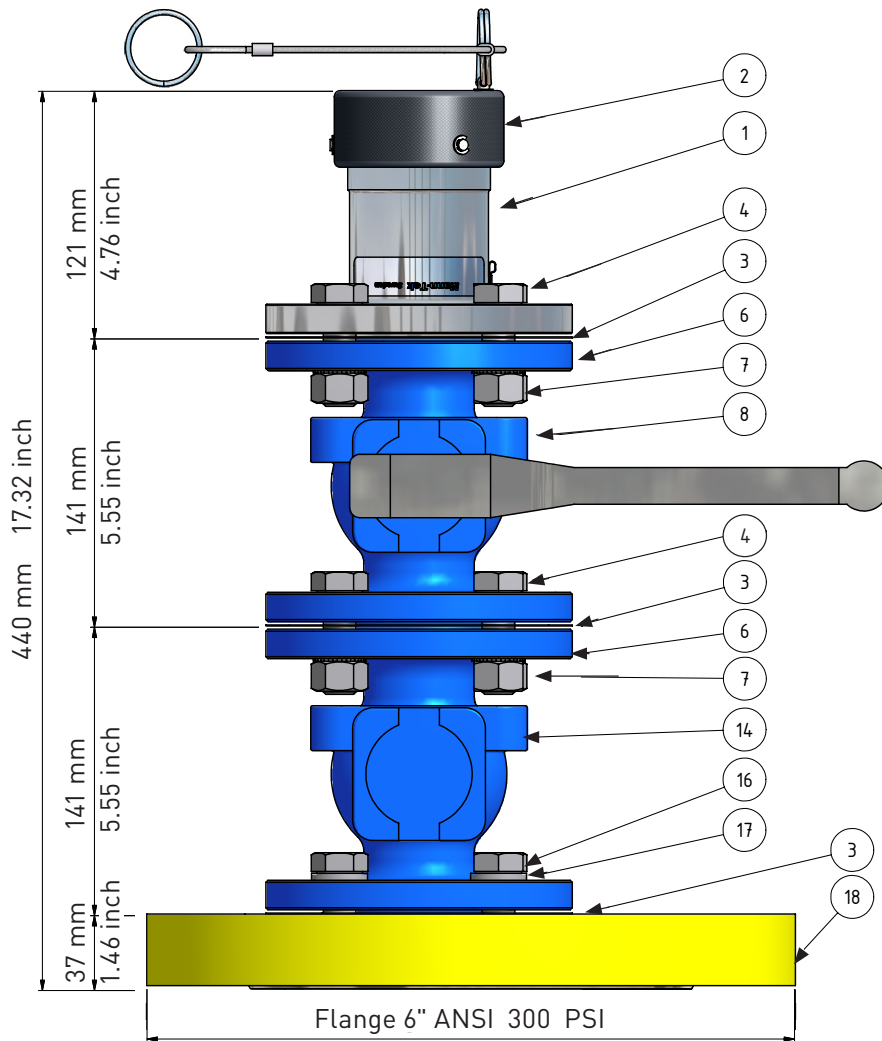
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⑭	Ball Valve without Handle	Carbon Steel
⑮	Bolt M16x40	A2 (SS)
⑰	Wavy Washer	Stainless Steel
⑱	Flange 6" ANSI 300 PSI	Carbon Steel

SAMPLING, VENT OR DRAIN UNIT IN CARBON STEEL



COMPLETE WITH PRESSURE RELIEF AND EQUALIZING VALVE

Ball Valve – reduced bore diameter (2")

CODE NO: H257F3301E

SURFACE TREATMENT: EPOXY COATED

WORKING PRESSURE: 20,7 bar / 300 psi

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

TEST PRESSURE: 31 bar / 450 psi

MIN BURST PRESSURE: 62,1 bar / 900 psi

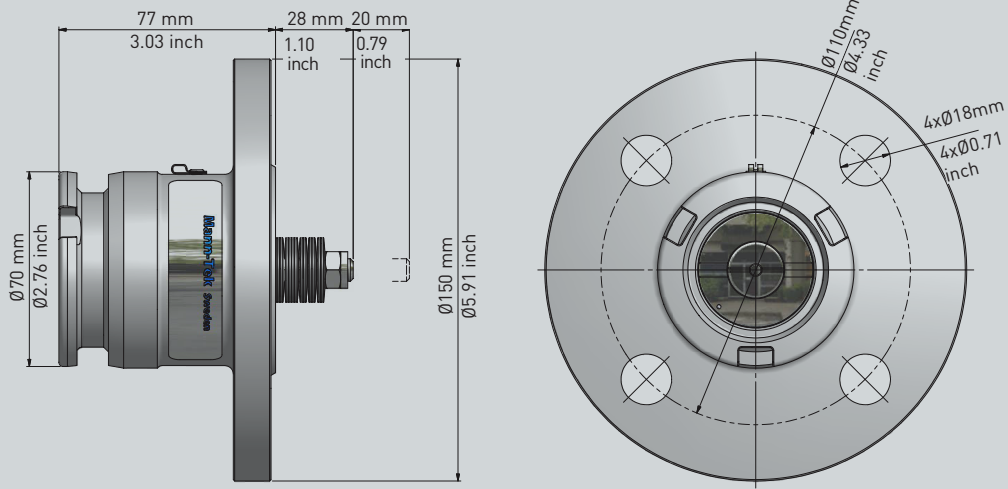
TEMPERATURE RANGE: -30 – +200° C
-20 – +392° F

POS. DESCRIPTION

MATERIAL

POS.	DESCRIPTION	MATERIAL
①	Tank Unit	Stainless Steel
②	Dustcap	Composite
③	Gasket	Klingerit
④	Bolt M16x50	A2 (SS)
⑥	Washer	A2 (SS)
⑦	Nut M16	A2 (SS)
⑧	Ball Valve with Handle	Carbon Steel
⑭	Ball Valve without Handle	Carbon Steel
⑯	Bolt M16x40	A2 (SS)
⑰	Wavy Washer	Stainless Steel
⑱	Flange 6" ANSI 300 PSI	Carbon Steel

TANK UNIT WITH STANDARD FLANGE – DN 40



WITH PRESSURE RELIEF
AND BLEEDING VALVE

CODE NO: E227A4401P

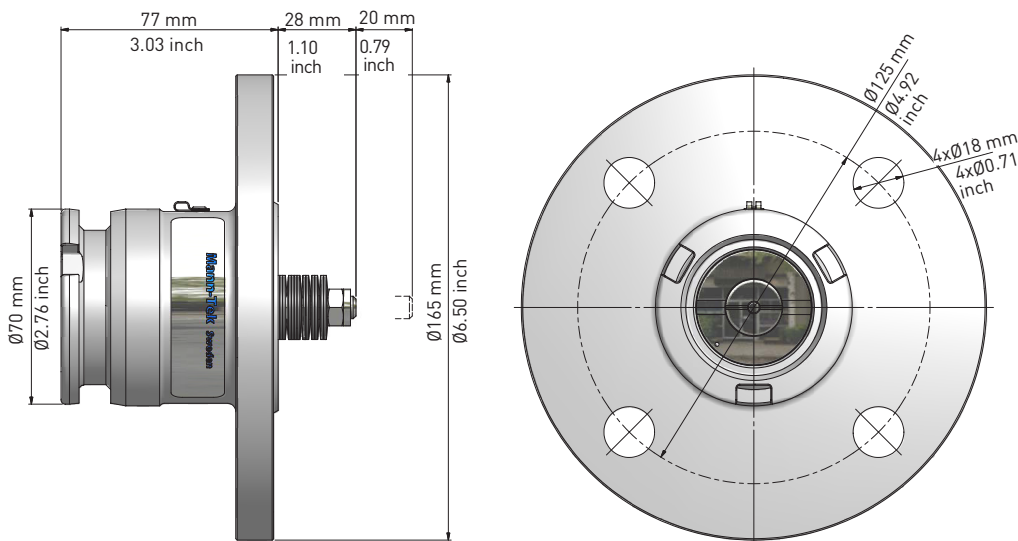
CONNECTION: DN 40 PN 10/16

WORKING PRESSURE: 20,7 bar / 300 psi

WEIGHT: 2,5 KG / 5.5 LBS

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

TANK UNIT WITH STANDARD FLANGE – DN 50



WITH PRESSURE RELIEF
AND BLEEDING VALVE

CODE NO: E230A4401P

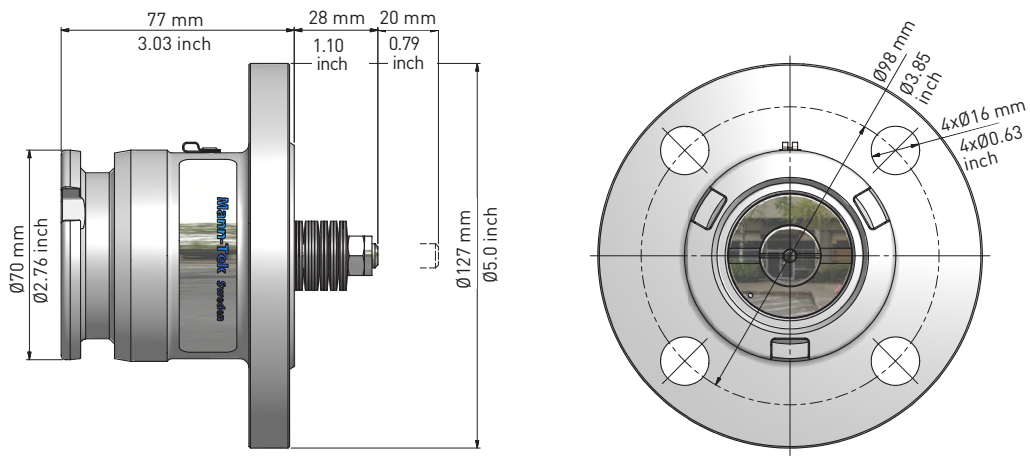
CONNECTION: DN 50 PN 10/16

WORKING PRESSURE: 20,7 bar / 300 psi

WEIGHT: 2,9 KG / 6.4 LBS

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

TANK UNIT WITH STANDARD FLANGE – 1½" ANSI



WITH PRESSURE RELIEF
AND BLEEDING VALVE

CODE NO: E255A4401P

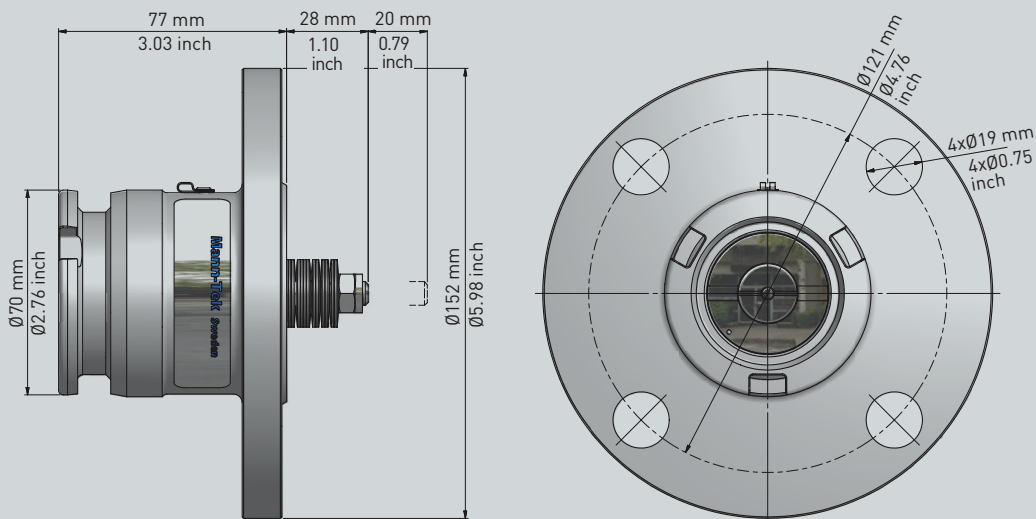
CONNECTION: 1½" ANSI

WORKING PRESSURE: 20,7 bar / 300 psi

WEIGHT: 2,0 KG / 4.4 LBS

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

TANK UNIT WITH STANDARD FLANGE – 2" ANSI



WITH PRESSURE RELIEF
AND BLEEDING VALVE

CODE NO: E257A4401

CONNECTION: 2" ANSI

WORKING PRESSURE: 20,7 bar / 300 psi

WEIGHT: 2,5 KG / 5.5 LBS

OPERATION RELIEF VALVE: 20 bar +/- 2 bar

FLANGE CONNECTION

MOUNTING INSTRUCTIONS

When installing MannTek 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.

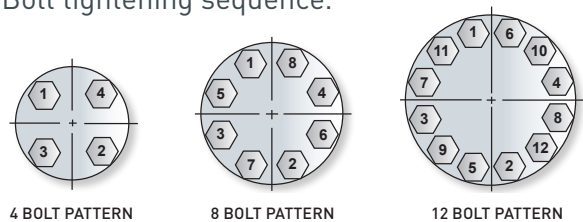
THE MANNTEK PRODUCT CAN BE INSTALLED DIRECTLY IN THE PRODUCT LINE AND IS READY FOR USE AFTER REMOVING THE TRANSPORT PROTECTION. THE INSTALLATION IS RECOMMENDED AS FOLLOWS

- 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 closed 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 torque¹ for bolts:

METRIC		INCH	
SIZE	8.8	SIZE	A193 B7
M8	24 Nm	5/16-18 UNC	16 lbf-ft
M10	50 Nm	3/8-16 UNC	29 lbf-ft
M12	85 Nm	1/2-13 UNC	70 lbf-ft
M16	210 Nm	5/8-11 UNC	139 lbf-ft
M20	410 Nm	3/4-10 UNC	243 lbf-ft
M22	550 Nm	7/8-9 UNC	389 lbf-ft
M24	700 Nm	1-8 UNC	582 lbf-ft

Bolt tightening sequence.

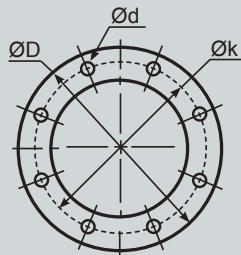


THE START-UP may take place only when the MannTek product has been mounted as instructed and the necessary function tests and leak tests have been conducted by the approved authorities.

¹ The torque forces recommended bases on a thread friction coefficient $\mu=0,14$ and a standard flat seal according to EN 1514-1

FLANGE MEASUREMENT – 1/2

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	4	18	185	145	4	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	4	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	220	180	8	18	220	180	8	18
	inch	8.66	7.09		0.71	8.66	7.09		0.71	8.66	7.09		0.71	8.66	7.09		0.71
125	mm	250	210	8	18	250	210	8	18	250	210	8	18	250	210	8	18
	inch	9.84	8.27		0.71	9.84	8.27		0.71	9.84	8.27		0.71	9.84	8.27		0.71
150	mm	285	240	8	18	285	240	8	18	285	240	8	18	285	240	8	18
	inch	11.22	9.45		0.71	11.22	9.45		0.71	11.22	9.45		0.71	11.22	9.45		0.71
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	8	22	405	355	12	26	425	370	12	30	450	385	12	33
	inch	15.55	13.98		0.87	15.94	13.98		0.87	1.02	16.73		14.57	1.18	17.72		15.16
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		0.87	1.02	19.09		16.93	1.18	20.28		17.65



ØD = DIAMETER
 Øk = CENTRE DIAMETER
 Øn = NUMBER OF HOLES
 Ød = HOLE DIAMETER

FLANGE TRANSLATION EN 1092 – DIN

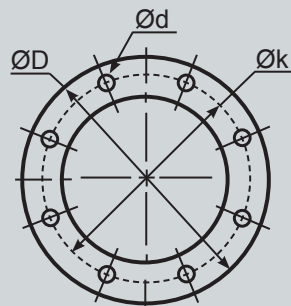
EN 1092-1	DIN
EN 1092-1 PN6	DIN 2631
EN 1092-1 PN10	DIN 2632
EN 1092-1 PN16	DIN 2633
EN 1092-1 PN25	DIN 2634
EN 1092-1 PN40	DIN 2635
EN 1092-1 TYPE B RAISED FACE	DIN 2526 FORM C
EN 1092-1 TYPE C TONGUE	DIN 2512 FORM F
EN 1092-1 TYPE D GROOVE	DIN 2512 FORM N
EN 1092-1 TYPE E SPIGOT	DIN 2513 FORM V
EN 1092-1 TYPE F RECESS	DIN 2513 FORM R

FLANGE MEASUREMENT – 2/2

EN 1092-1									
INCH		PN 10				PN 16			
		ØD	Øk	n	Ød	ØD	Øk	n	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	3 1/2		3/4
1 1/4"	mm	117,5	88,9	4	15,9	133,3	98,4	4	19
	inch	4 5/8	3 1/2		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	4 1/2		7/8
2"	mm	152,4	120,6	4	19	165,1	127	4	19
	inch	6	4 3/4		3/4	6 1/2	5		3/4
2 1/2"	mm	177,8	139,7	4	19	190,5	149,2	4	22,2
	inch	7	5 1/2		3/4	7 1/2	5 7/8		7/8
3"	mm	190,5	152,4	4	19	209,5	168,3	4	22,2
	inch	7 1/2	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	7 1/2		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	8 1/2		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	9 1/2		7/8	12 1/2	10 5/8		7/8
8"	mm	342,9	298,4	8	22,2	381	330,2	12	25,4
	inch	13 1/2	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	17 1/2	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	20 3/4	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



- ØD = DIAMETER
- Øk = CENTRE DIAMETER
- Øn = NUMBER OF HOLES
- Ød = HOLE DIAMETER



MannTek

Phone +46 501 39 32 00
Fax +46 501 39 32 09
E-mail sales@manntek.se
Website www.manntek.se
Address Mann Teknik AB
 Strandvägen 16
 S-542 31 Mariestad
 Sweden

Sales office

Argentina China Germany
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