

FLO-TEK®

Flow better with us

www.flotekafrika.com



INSPECTION AND MANHOLE CHAMBERS

Flo-Tek manhole/inspection chambers are made of virgin UV stabilised polyethylene (PE) material and are intended for use in underground drainage and sewerage systems. The specially designed external ribs give additional strength to the product and at the same time act as an uplift prevention system against a high water table.

The manholes are designed according to the Standard **ISO 13272: 2011** and chamber size optimised as per EN 476. PE manholes have a proven 20 year track record in Europe and other countries and have many advantages over conventional concrete manholes having been installed in extremely challenging site conditions such as areas with a high water table. Flo-Tek chambers are suitable for installations inside and outside roadways.

Product Benefits:

- ◆ Extreme durability with life expectancy well over 50 years in challenging site conditions ranging from industrial waste, acidic conditions, heavy vehicular loads and high water tables.
- ◆ Fast, easy and safe installations.
- ◆ Corrosion resistant.
- ◆ Maintenance free.
- ◆ High quality according to **ISO 13272: 2011**
- ◆ Environmentally friendly - watertight thus preventing pollution.
- ◆ European quality accessories - watertight rubber seals as per EN 681-1.
- ◆ Stable, corrosion resistant in-built steps made of high quality PE.
- ◆ Reduced operating costs due to hydraulically optimized channels and sealing system and minimum blockages.

Manhole/inspection chambers are an essential part of any sewerage pipeline system and are typically required whenever there is a change in direction, diameter or significant change in gradient of the sewerage pipeline. They are also required in domestic, commercial and municipal sewerage networks.

Flo-Tek Inspection Chamber

FLO-TEK Inspection Chambers are manufactured with different sizes and characteristics. Chambers are available as multi-piece or single-piece units. DN500, DN600, DN800 have 5 inlets and multi-dimensional outlets. In addition, inlets may be connected on the body of the chamber for an extremely flexible and easy installation. The connections can be sealed watertight with gaskets or PE welding. Light weight but strong, does not require heavy construction equipment, can be carried manually, reducing time and installation costs.



Features:

- Made of 100% virgin poly ethylene material
- Light weight
- Leak proof
- Quick installation
- Maintenance free
- Impact resistance

Flo-Tek Inspection Chamber Specifications

DIAMETER MM	HEIGHT RANGE MM	INLET DN MM	OUTLET DN MM	COVER MM	PERSONNEL ENTRY
500	350 - 1250	110 / 160	110 / 160	500	No
600	350 - 1250	110 / 160	110 / 160	600	No
800	1050 - 1250	110 / 160	110 / 160	600	Yes

Flo-Tek Inspection Chamber Product List

<p>Diameter (mm) 500 Height (mm) 500 Weight (kg) 7.50 Thickness (mm) 6</p> 	<p>Diameter (mm) 500 Height (mm) 750 Weight (kg) 10.00 Thickness (mm) 6</p> 	<p>Diameter (mm) 500 Height (mm) 1000 Weight (kg) 13.00 Thickness (mm) 6</p> 	<p>Diameter (mm) 500 Height (mm) 1250 Weight (kg) 16.00 Thickness (mm) 6</p> 	<p>Diameter (mm) 500 Height (mm) 1500 Weight (kg) 21.00 Thickness (mm) 6</p> 
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Diameter (mm) 600
Height (mm) 500
Weight (kg) 10.00
Thickness (mm) 6



Diameter (mm) 600
Height (mm) 750
Weight (kg) 13.00
Thickness (mm) 6



Diameter (mm) 600
Height (mm) 1000
Weight (kg) 16.00
Thickness (mm) 6



Diameter (mm) 600
Height (mm) 1250
Weight (kg) 19.00
Thickness (mm) 6



Diameter (mm) 600
Height (mm) 1500
Weight (kg) 22.00
Thickness (mm) 6

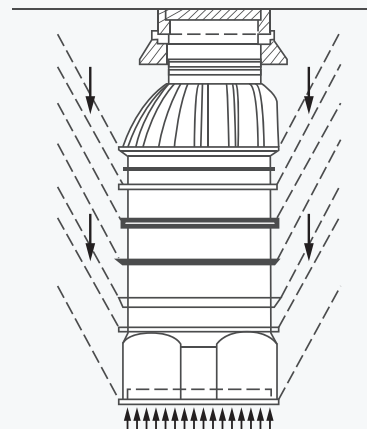


Flo-Tek Manhole Features

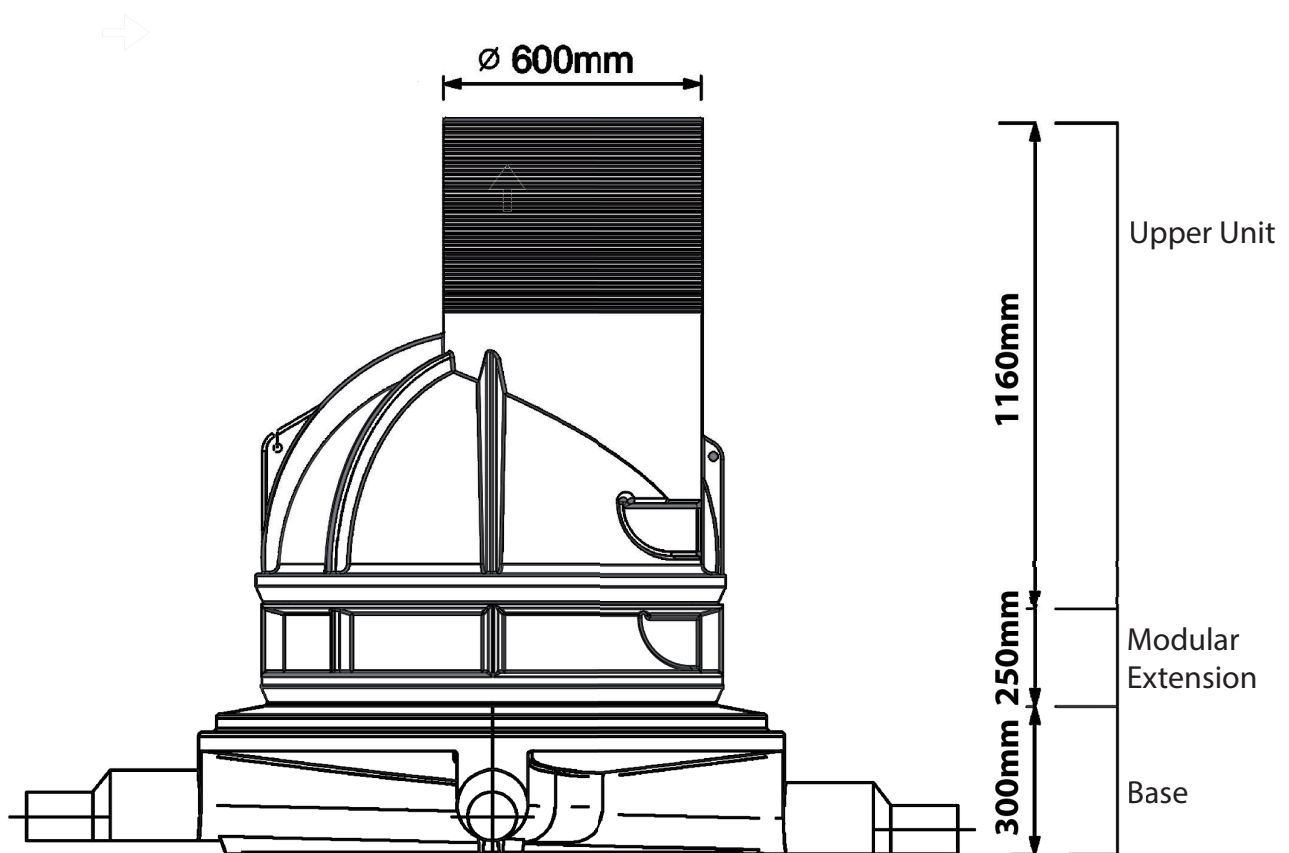
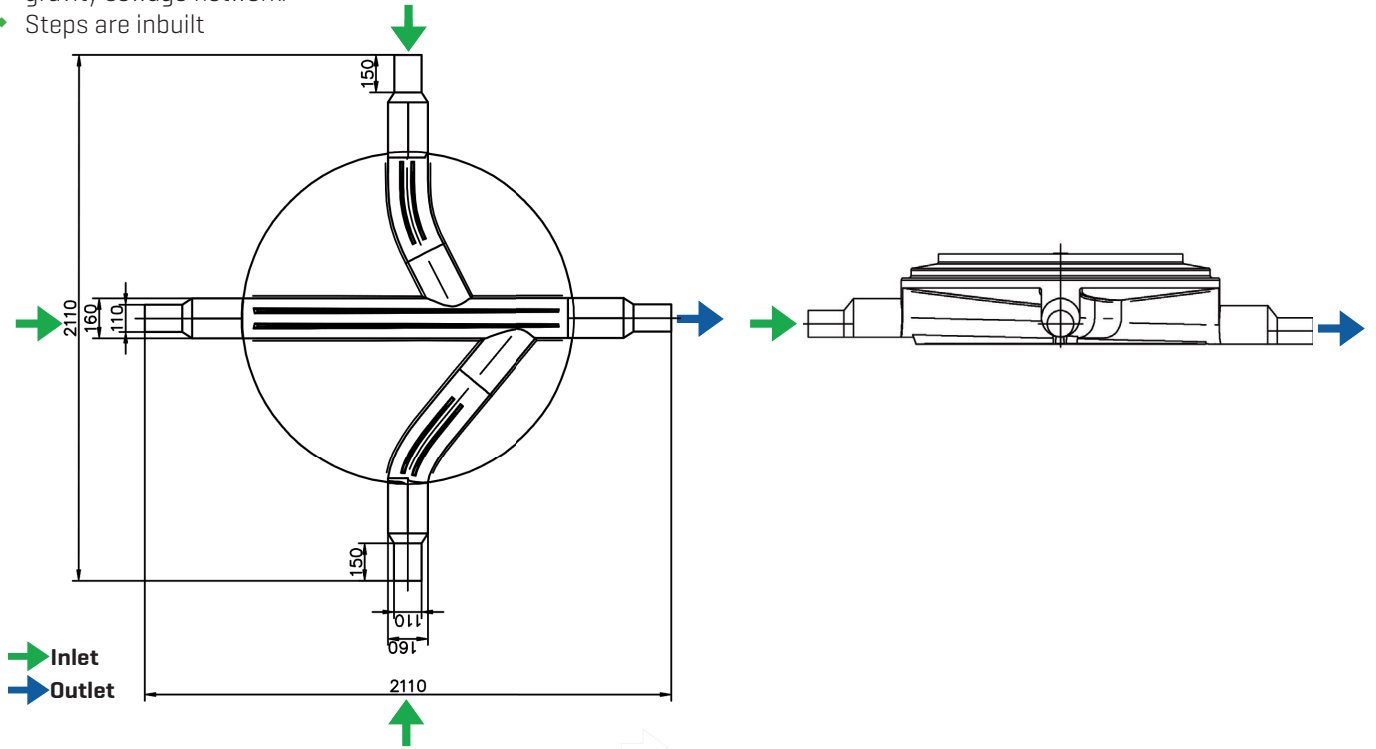
- Easy to handle, transport and install due to its low weight
- More durable and flexible, with a product guaranteed life span of over 50 years.
- Easy to install and saves on installation cost and project delivery time.
- Maintenance Free
- Resistant to Corrosion, Chemicals & Gas.
- Designed and produced to BOBS ISO 13272: 2011 Standard.
- Two options to choose from, i.e. 10mm and 12mm wall thickness
- Made of strong material which makes the product completely water tight.

UPLIFT PREVENTION

The strategically designed ribs on the Flo-Tek chambers interlock with the soil to prevent uplift. DN1000 Flo-Tek chambers have a safety factor well over 1.8 against buoyancy caused by a high water table.



- ◆ DN1000 has 3 inlets and 1 outlet facility.
- ◆ The main channel has a gradient of 1-2 % to allow all inlets to drain towards the outlet as part of the gravity sewage network.
- ◆ Steps are inbuilt



SPECIFICATIONS

Option 1

INSPECTION CHAMBERS								
Nominal Diameter	Inside Diameter	Outside Diameter	Wall Thickness	Height	Components	Weight	Inlet	Outlet
ND	ID	OD	T	HT	Combinations	HT	HT	HT
MM	MM	MM	MM	MM		Kg	NOS	NOS
500	500	520	10	500	One Piece	7.50	1 STRAIGHT 110/160 mm, 2 x 90° -110 mm 2 x 45° -100 mm Push Fit With Rubber Seal	Spigot 110/160 mm
				750	One Piece	10.00		
				1000	One Piece	13.00		
				1250	One Piece	16.00		
				1500	One Piece	21.00		
500	500			LID	One Piece	3.00		

INSPECTION CHAMBERS								
600	600	620	10	500	One Piece	10.00	5 x 110/160 mm Push Fit with Rubber Seal	Spigot 110/160 mm
				750	One Piece	13.00		
				1000	One Piece	16.00		
				1250	One Piece	19.00		
				1500	1 x 1250 + 1 x 250	22.00		
600	600			LID	One Piece	6.00		

MANHOLES									
Nominal Diameter	Inside Diameter	Outside Diameter	Wall Thickness	Height	Components	Weight	Inlet	Outlet	
ND	ID	OD	T	HT	Combinations	HT	HT	HT	
MM	MM	MM	MM	MM		Kg	NOS	NOS	
1000	1000	1020	10	1000	1 x 300 (B) + 1 x 700 (UU)	67.00	1 STRAIGHT 110/160 mm Spigot 2 x 90° 110 mm/160mm Spigot	Spigot 110/160 mm	
				1250	1 x 300 (B)+ 1 x 950 (UU)	74.00			
				1500	1 x 300 (B) + 1 x 250 (E) + 1 x 950 (UU)	79.50			
				1750	1 x 300 (B)+ 1 x 500 (E)+ 1 x 950 (UU)	92.00			
				2000	1 x 300 (B)+ 1 x 750 (E)+ 1 x 950 (UU)	104.50			
				2250	1 x 300 (B)+ 1 x 1000 (E)+ 1 x 950 (UU)	117.00			
				2500	1 x 300 (B)+ 1 x 1250 (E)+ 1 x 950 (UU)	129.50			
				2750	1 x 300 (B)+ 1 x 1500 (E)+ 1 x 950 (UU)	142.00			
				3000	1 x 300 (B) + 1x 1500 (E) + 1 x 250 (E) + 1 x 950 (UU)	154.50			
				3250	1 x 300 (B) + 1x 1500 (E) + 1 x 500 (E) + 1 x 950 (UU)	167.00			
				3500	1 x 300 (B) + 1x 1500 (E) + 1 x 750 (E) + 1 x 950 (UU)	179.50			
				3750	1 x 300 (B) + 1x 1500 (E) + 1 x 1000 (E) + 1 x 950 (UU)	192.00			
				4000	1 x 300 (B) + 1x 1500 (E) + 1 x 1250 (E) + 1 x 950 (UU)	204.50			
				4250	1 x 300 (B) + 2x 1500 (E) + 1 x 950 (UU)	217.00			
				4500	1 x 300 (B) + 2 x 1500 (E) + 1 x 250 (E) + 1 x 950 (UU)	229.50			
				4750	1 x 300 (B) + 2 x 1500 (E) + 1 x 500 (E) + 1 x 950 (UU)	242.00			
5000	1 x 300 (B) + 2 x 1500 (E) + 1 x 750 (E) + 1 x 950 (UU)	254.50							
LID	Not Scope of Supply	RECOMMENDED : CONCRETE SLAB WITH CONCRETE RING AND LID - CLASS D							

Abbreviations: B = BASE | E = EXTENSION | UU = UPPER UNIT

SPECIFICATIONS

Option 2

INSPECTION CHAMBERS								
Nominal Diameter	Inside Diameter	Outside Diameter	Wall Thickness	Height	Components	Weight	Inlet	Outlet
ND	ID	OD	T	HT	Combinations	HT	HT	HT
MM	MM	MM	MM	MM		Kg	NOS	NOS
500	500	524	12	500	One Piece	9.00	1 STRAIGHT 110/160 mm, 2 x 90° -110 mm 2 x 45° -100 mm Push Fit With Rubber Seal	Spigot 110/160 mm
				750	One Piece	13.50		
				1000	One Piece	17.00		
				1250	One Piece	21.00		
				1500	One Piece	26.00		
500	500			LID	One Piece	3.00		

INSPECTION CHAMBERS								
600	600	624	12	500	One Piece	13.50	5 x 110/160 mm Push Fit with Rubber Seal	Spigot 110/160 mm
				750	One Piece	17.00		
				1000	One Piece	21.00		
				1250	One Piece	25.00		
				1500	1 x 1250 + 1 x 250	29.00		
600	600			LID	One Piece	6.00		

MANHOLES								
Nominal Diameter	Inside Diameter	Outside Diameter	Wall Thickness	Height	Components	Weight	Inlet	Outlet
ND	ID	OD	T	HT	Combinations	HT	HT	HT
MM	MM	MM	MM	MM		Kg	NOS	NOS
1000	1000	1020	10	1000	1 x 300 (B) + 1 x 700 (UU)	78.00	1 STRAIGHT 110/160 mm Spigot 2 x 90° 110 mm/160mm Spigot	Spigot 110/160 mm
				1250	1 x 300 (B)+ 1 x 950 (UU)	87.00		
				1500	1 x 300 (B) + 1 x 250 (E) + 1 x 950 (UU)	93.00		
				1750	1 x 300 (B)+ 1 x 500 (E)+ 1 x 950 (UU)	108.00		
				2000	1 x 300 (B)+ 1 x 750 (E)+ 1 x 950 (UU)	122.00		
				2250	1 x 300 (B)+ 1 x 1000 (E)+ 1 x 950 (UU)	137.00		
				2500	1 x 300 (B)+ 1 x 1250 (E)+ 1 x 950 (UU)	152.00		
				2750	1 x 300 (B)+ 1 x 1500 (E)+ 1 x 950 (UU)	166.00		
				3000	1 x 300 (B) + 1x 1500 (E) + 1 x 250 (E) + 1 x 950 (UU)	181.00		
				3250	1 x 300 (B) + 1x 1500 (E) + 1 x 500 (E) + 1 x 950 (UU)	195.00		
				3500	1 x 300 (B) + 1x 1500 (E) + 1 x 750 (E) + 1 x 950 (UU)	210.00		
				3750	1 x 300 (B) + 1x 1500 (E) + 1 x 1000 (E) + 1 x 950 (UU)	225.00		
				4000	1 x 300 (B) + 1x 1500 (E) + 1 x 1250 (E) + 1 x 950 (UU)	239.00		
				4250	1 x 300 (B) + 2x 1500 (E) + 1 x 950 (UU)	254.00		
				4500	1 x 300 (B) + 2 x 1500 (E) + 1 x 250 (E) + 1 x 950 (UU)	269.00		
4750	1 x 300 (B) + 2 x 1500 (E) + 1 x 500 (E) + 1 x 950 (UU)	283.00						
5000	1 x 300 (B) + 2 x 1500 (E) + 1 x 750 (E) + 1 x 950 (UU)	298.00						
LID	Not Scope of Supply	RECOMMENDED : CONCRETE SLAB WITH CONCRETE RING AND LID - CLASS D						

Abbreviations: B = BASE | E = EXTENSION | UU = UPPER UNIT

Installation Overview

Important: Consult Flo-Tek for installations in areas with a high water table. All instructions from the engineer and local regulations must be respected. An overview of the installation procedure is illustrated below. Please consult Flo-Tek for detailed instructions. Sand or non-cohesive selected material of size less than 16 mm without any sharp objects / rocks should be used as back-fill material.

Fast, easy and safe installation in 5 simple steps:

1. EXCAVATE

- Excavate 600 mm wider and 150 mm deeper than the chamber.
- A base layer of 150 mm should be filled and compacted to 93% MOD AASHTO.
- Place the chamber on the 150 mm compacted layer.
- Check the levelling to ensure chamber is horizontally aligned.



2. CONNECT INLET

- To connect inlet pipe(s), drill a hole of appropriate diameter with a cup saw on the pre-marked inlet position(s), insert the Flo-Tek inlet rubber seal and push the pipe into the seal for a watertight connection. Soapy water may be used as lubricant. There is no need for any greasy or sticky material.
- Flo-Tek seals provide water tight connections and allow for maximum 5° movements in all directions.
- Should site constraints prevent connection of the inlet at the pre-marked location, the inlet may be connected anywhere on the body of the chamber. However, direction of the inlet/outlet in benching should be taken into consideration for proper flow.



3. CONNECT OUTLET

- Connect the outlet pipe by making an appropriate hole at a pre-marked area of the chamber.
- Use the Flo-Tek rubber seal for a watertight connection with the PVC outlet pipe. There is no need to use silicone or glue.



4. BACKFILL AND COMPACT

- Check the level of the chamber and ensure horizontal alignment
- Back-fill material should be placed under the manhole in order to fill the gap between the manhole and the compacted layer. Use a hand stamper.
- Back fill around the manhole in layers of 300 mm and compact to 93% MOD AASHTO [cohesive soil] with a mechanical vibrating stamper [50kg].



5. ADJUST HEIGHT AND INSTALL COVER

- The height of the chamber can be adjusted on site by cutting the upper 'chimney' of the chamber.
- Flo-Tek Polyethylene [PE] lockable covers can be used for installation in the garden or non-traffic areas.
- For installation in traffic areas, a concrete load bearing ring around the neck of the chamber should be used. On this ring an appropriate class C/D lockable cover with frame should be installed. Flo-Tek can provide more load details on the bearing ring.



Manhole Installation



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