



**TAHWEEL**



**OUTDOOR DRAINAGE SOLUTIONS**

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## About **TAHWEEL**

**Tahweel** Integrated Company, established in 2012, specializes in manufacturing superior sanitary solutions, particularly water supply and drainage systems. Its key products include pipes, fittings, valves, and floor drains, divided into the following categories:

- PP-R Water Supply Solutions
- UPVC Drainage Solutions
- UPVC Rubber Drainage Solutions

Tahweel's products are manufactured according to German standards and utilize advanced technologies certified by the Drinking Water Authority DVGW, SKZ to ensure maximum efficiency, ensuring durability in both hot and cold-water pressures, and resistance to harsh environmental conditions. These solutions meet Saudi (SASO) and German (DIN) standards and offer a service life of up to 50 years.

A rigorous quality control system is applied across all products, ensuring they are safe, non-corrosive, and defect-free. Tahweel provides efficient water distribution for both residential and industrial facilities.

Tahweel is also committed to customer satisfaction, offering after-sales services, continuous improvement, exceptional customer care, and product guarantees for end consumers.

### **Tahweel Facilities:**

Our manufacturing facility is located within the Petro Rabigh Plastic Complex, spanning a total area of 140,000 square meters.



# AN ENVIRONMENTALLY RESPONSIBLE PRODUCT



## Environmentally-friendly

Before polypropylene was invented, the gaseous waste from oil such as propylene and ethylene were simply burned, because they were useless. Today, these gases are used to produce polypropylene, thus drastically reducing atmospheric pollution. The production process also eliminates the potential pollution of rivers, streams and lakes, due to the use of water in a closed cooling cycle.

## Recyclable

Polypropylene is commonly recycled, and has the number 5 as its resin identification code, allowing efficient separation

of different polymer types for recycling the raw material. The recycled raw material has to meet the manufacturing requirements of the environment commission, which stipulate that there is a minimum and optimum re-use. Reduced emissions, a long working lifespan noting that there is a high demand for polypropylene for recycling purposes as it can be recycled more than 50 times without any reduction in strength.

## Superior

Polypropylene (PP), is a thermoplastic polymer used in a wide variety of applications; it is unusually resistant to many chemical solvents, bases and acids. This allows polypropylene to be used as an engineering plastic. Polypropylene is most commonly used for plastic molding; it is injected into a mold while molten, forming complex shapes at relatively low cost and high volume, such as pipes and fitting.

## Quality Assurance

The production of a quality-controlled pipe system demands supervision, regulation and control on all work operations. We follow DIN-guidelines, DVGW working sheets

# AN ENVIRONMENTALLY RESPONSIBLE PRODUCT

## Durable

Polypropylene products last much longer than those made from most similar materials. They are easy to wipe clean, hard wearing and withstand aging and extreme temperatures. Being more durable than alternative materials, products made from polypropylene doesn't need to be replaced as often, which means saving cost, resources, our environment and our future. PP-R Water supply designed for hot and cold-water application, and it is the latest and most suitable

system for all plumbing applications. Besides plumbing, it also can be used for a variety of applications like air distribution, radiator heating, etc. The specific chemical structure of PP-R Water supply provides a balanced mechanical properties and superior long term heat resistance, ensuring the water flowing; it does not have any negative biological effect.

## Customer Care

We support our customers in making cost-effective and correct use of our pipes and fittings range; this involves assistance in planning, installation, training, troubleshooting, maintenance, upgrading, and product disposal. Our sales and service representatives' basic goal is not only to satisfy our customers, but to offer them an experience that exceeds their expectations. We aim to extend out automated customer services through our internet website, providing 24-hours a day service.

Whatever the situation may be, our call center staff make sure that they don't leave our customers with unanswered questions.

## Customer and Partner Training

Train your customers better, your results will be better. We increase customer satisfaction and product awareness and knowledge through training services to our customers. Customers who get full utility out of the products and services they have purchased are simply more likely to repeat purchases and refer others; Providing education and information on our pipes and fittings simplifies a customer's decision, making process on what solution to best fit their needs; this improves our product adoption and effectively reflects on our increased sales.



# TAHWEEL COMPLETE HOME SOLUTIONS



**CONCEALED  
SHOWER  
MIXER**



**CONCEALED  
CISTERN**



**PP-R WATER  
SUPPLY  
SOLUTIONS**

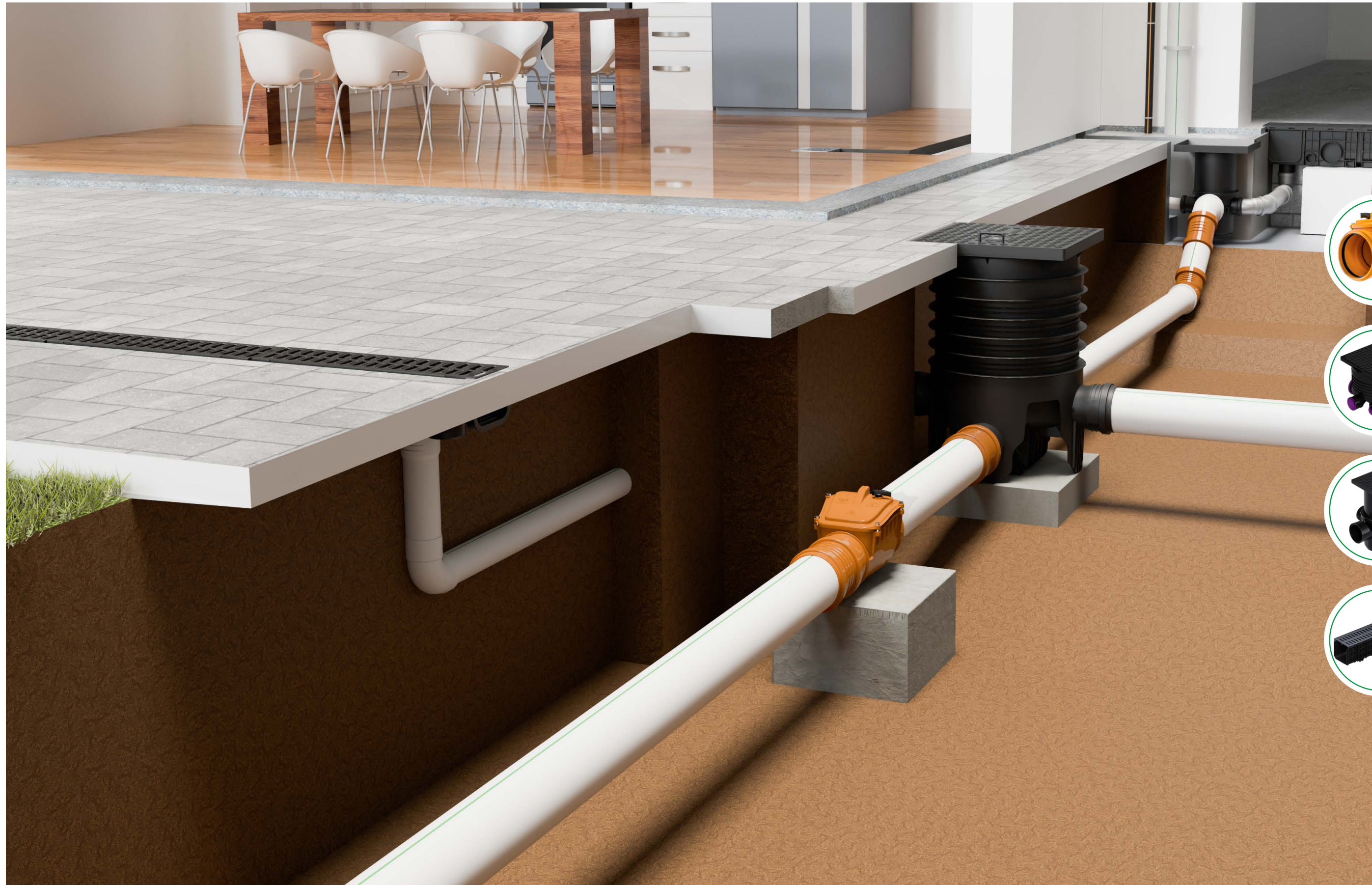


**UPVC  
DRAINAGE  
SOLUTIONS**



**UPVC RUBBER  
DRAINAGE  
SOLUTIONS**

# Outdoor drainage Solutions



**BACK WATER VALVE**



**INSPECTION CHAMBER**



**GULLY TRAP**



**WATER CHANNEL with cast iron cover**

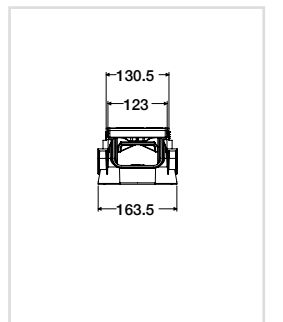
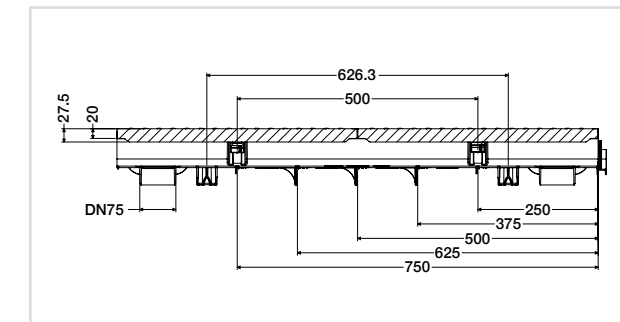
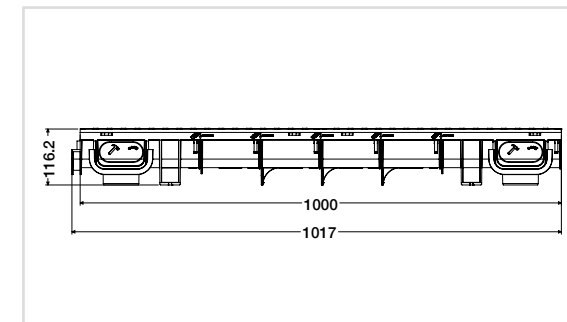


## Drainage Water Channel 12cm x 1m

12 - 13

### Drainage Water Channel 12 cm\* 1 meter

Water Channel 12cm x 1 meter with PolyPropylene Cover  
 Water Channel 12cm x 1 meter with Stainless-Steel Cover  
 Water Channel 12cm x 1 meter with Cast Iron Cover  
 Curved Corner 12cm x 22.5 degree  
 Male & Female Ends + Male Outlet 75mm  
 Male & Female Ends + Female Outlet 75mm  
 Male & Female Ends + Short Eccentric Reducer 110/75 with Gasket



### General Specifications:

**The Body of the Water Channel:**

**Material:** Made of Polypropylene

**Length:** 1m

Two side outlets  $\varnothing$  75mm and  $\varnothing$ 110mm (with reducer) and Two vertical outlets  $\varnothing$ 75mm and  $\varnothing$ 110mm (with reducer)

**Flow rate:** 150 Liters/min

**Lateral Outlets:** Four optional side outlets (110mm or 75mm at each side &  $\varnothing$ 75mm at each side)

**Vertical Outlet:** two vertical outlets ( $\varnothing$  110mm or  $\varnothing$  75mm).

## Main Three Parts



**Drainage Water Channel 12cm x 1m**  
Overview



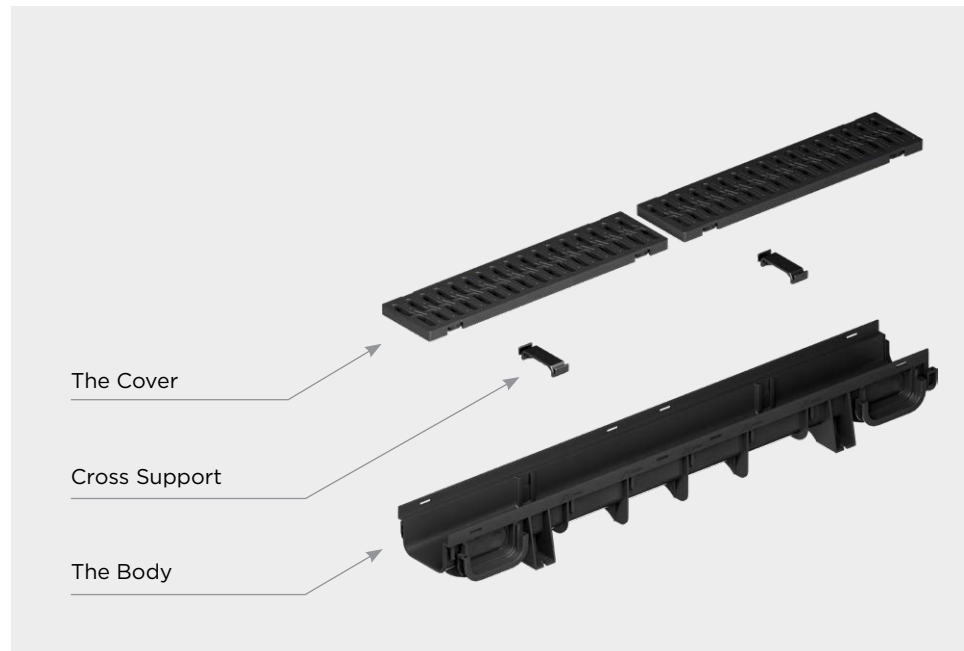
**Water Channel**  
Cover



**Water Channel**  
Support



**Water Channel**  
Body



The Cover

Cross Support

The Body

**Water Channel**  
Main Parts

## Assembly parts & Features



Snaps together in Seconds



90° Assembly

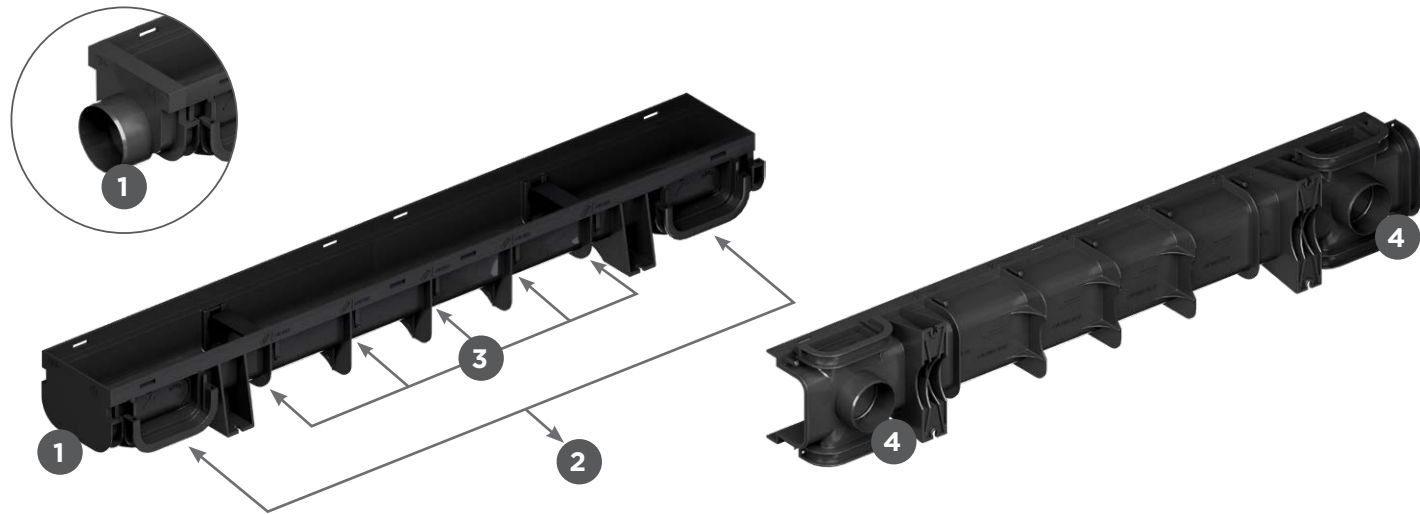
Tee Assembly



90° Curved Assembly

Cross Assembly

## Water Channel Advantages



### 1 Male & Female Ends

Various Ends are available for flexible installation, from Male and Female ends with 75mm outlets or Male and Female blocked ends



### 2 Side Outlets

Side outlet enables the creation of 90 degrees, or tee assemblies, based on your preferences



### 3 Adjustable Length

Easily cuttable at predefined points to match required lengths



### 4 75mm bottom outlet

Equipped with a bottom outlet for easier drainage



## Advantages

- Designed, Manufactured and tested according to EN 1433.
- Easy Assembly using clips and slides for continuity and side corners.
- assemble directly without using extra parts. (No need for Tee).
- Possibility to create sharp corners by using only the channel body or curved corners by using extra parts to shape the corner.
- Adjustable to cut to a specific length down to 25cm and up to 75cm and
- Bossed dots on cover to prevent slipping.
- Easy cover installation and removal.
- Ribs along the channel body to support installation with mortar.
- Reinforced legs with 8mm stud hole.
- Glass Reinforced Polypropylene cover suitable for Cyclist and Pedestrian areas

## Extra Feature



### Curved Corner 22.5

Allows smooth 90° curved corner transitions

## Installation Steps

### Required Tools for Installation

1. Water channel with cover and cross supports
2. Male and female ends, and outlets or Reducer based on your preference
3. Saw
4. Sandpaper
5. Measuring tape
6. Silicone tube
7. Pipe lubricant (grease)
8. Water leveler
9. Protective adhesive tape for the drain surface
10. Cutting tool
11. Cement
12. Wood and concrete tiles
13. 8mm anchors
14. Shovel



### 1. Excavation

Dig a trench for the drain, leaving at least 10 cm of space on both sides and 5-10 cm below the drain for the concrete base.



### 2. Site Assessment

Conduct a comprehensive site evaluation to determine the required amount of drainage channels. Identify infrastructure areas to avoid digging near them and specify drainage locations and flow direction.



### 3. Cutting the Drain

Measure the required length and cut the drain along the designated cutting points using a saw. Sand the cut edges with sandpaper.



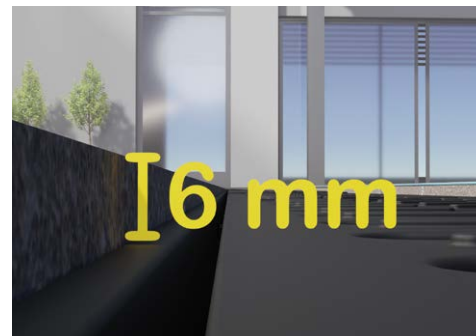
### 4. Assembly and Connections

Assemble the drain sections using silicone. Attach the appropriate outlet, and close off unused ends with the corresponding end blocks. One person should lift two channels at a time.



### 5. Preparing the Outlet

If the outlet is positioned at the bottom, cut the outlet hole using a sharp cutting tool, or hammer and screwdriver, then sand the cut area.



### 6. Concrete Base Preparation

When using a concrete surface around the drain, place concrete tiles and wood in the trench. Adjust the height to maintain a 6mm clearance between the drain cover and the concrete surface.

## Installation Steps



### 7. Ceramic Surface Preparation

If using ceramic around the drain, follow the same procedure as for concrete, adjusting the height to maintain a 3mm clearance between the drain cover and the ceramic.



### 8. Securing

Insert 8mm anchors into the designated positions on the drain, ensuring they are driven 15 to 30 cm into the ground for stability during the concrete pour, maintaining proper slope for water flow.



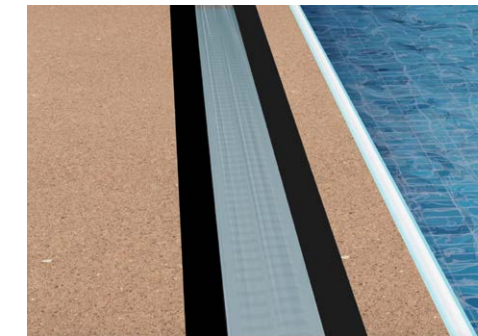
### 9. Pipe Connection

Connect the pipes to the drainage outlets using pipe lubricant.



### 10. Water Testing

Conduct a water leakage test by sealing the drainage outlet and filling the channel with water to check for leaks.



### 11. Protection

Apply protective adhesive tape over the top of the drain to prevent concrete from entering during the pour.



### 12. Concrete Pour

Pour concrete around the drain to the designated level.



### 13. Final Touches

Remove the protective tape from the surface after the concrete has cured.

Water Channel Covers Types



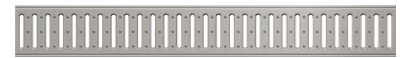
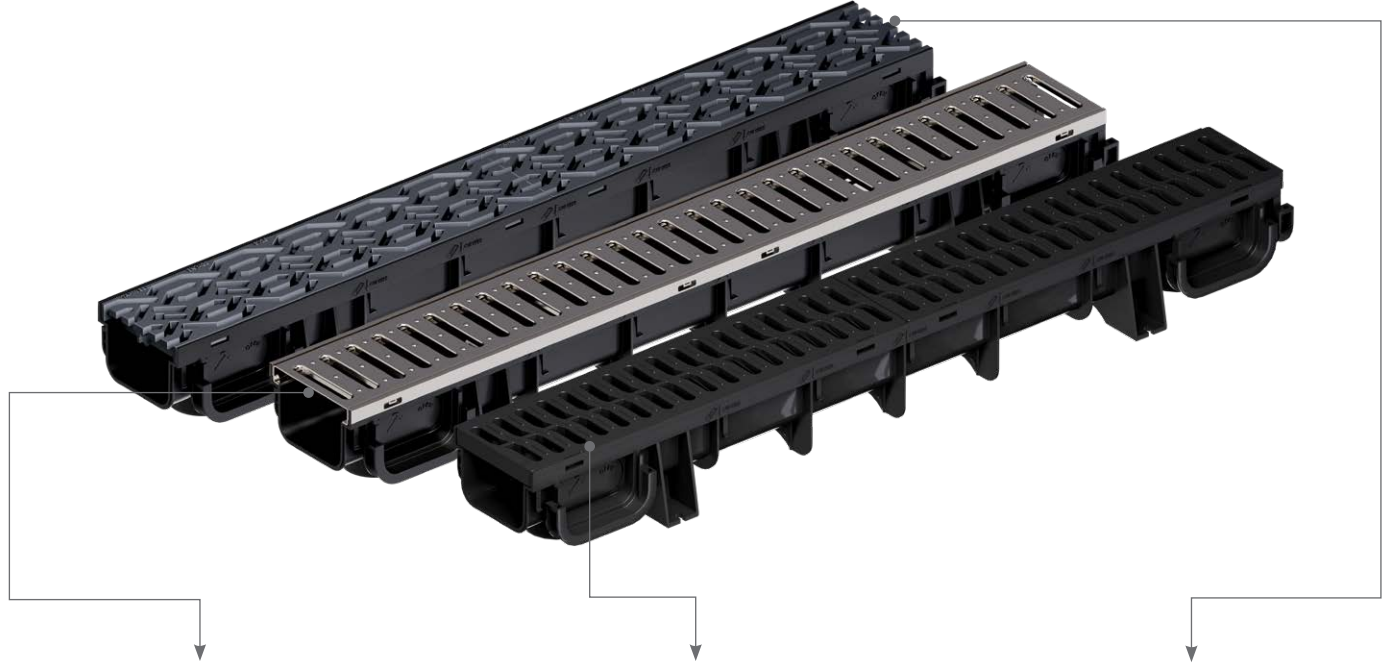
**Glass Reinforced Polypropylene Cover**  
Load Class A15  
For Cyclist and pedestrian areas



**Stainless steel**  
Load class A15  
For Cyclist and Pedestrian Areas



**Cast Iron Cover**  
Load class B125  
For Car Parks, Car parking decks and pedestrian areas or comparable areas



Stainless-Steel Cover

**Load class A15**  
For Cyclist and Pedestrian Areas



Glass Reinforced Polypropylene cover

**Load class A15**  
For Cyclist and Pedestrian Areas



Cast Iron Cover

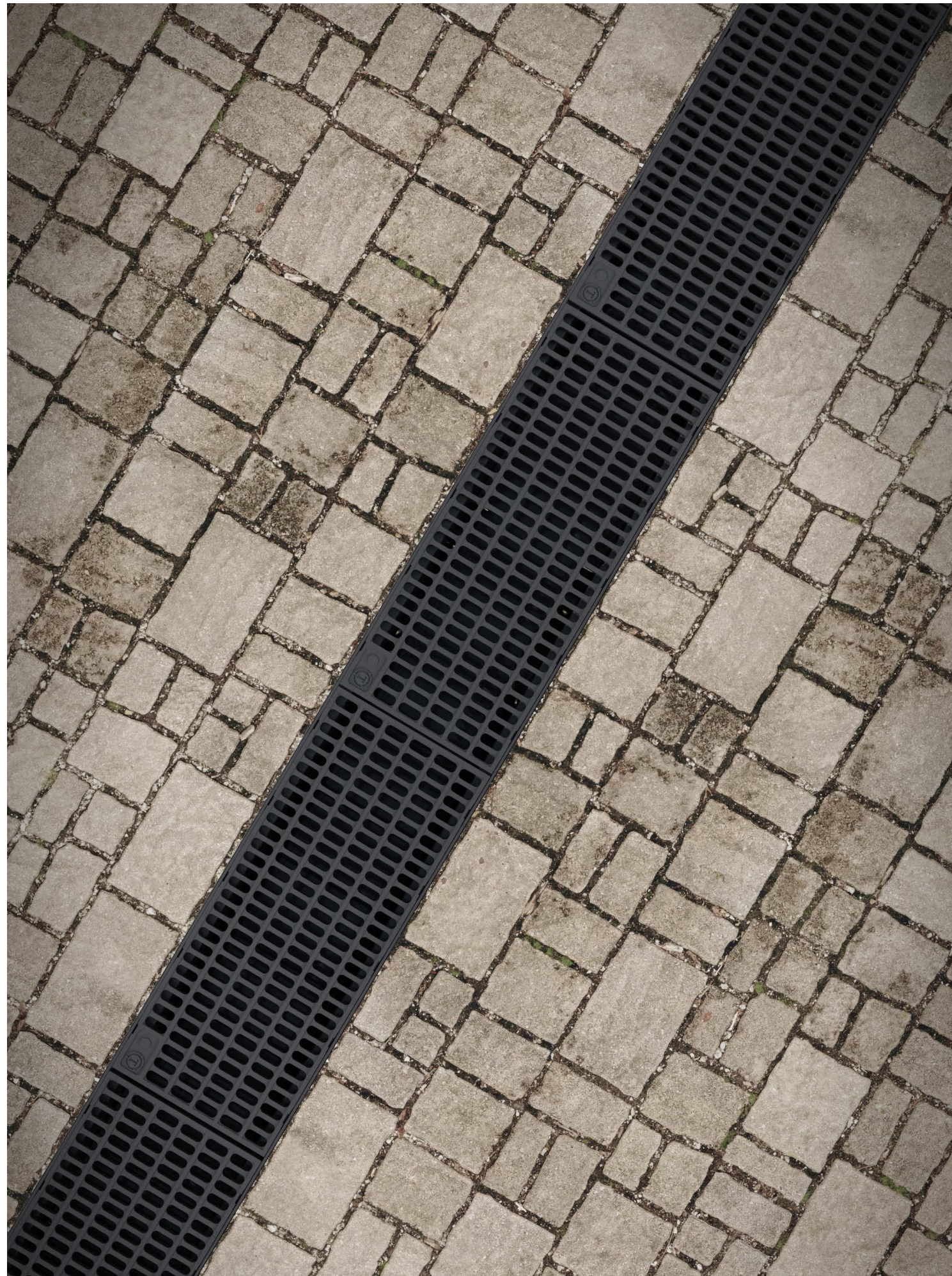
**Load class B125**  
For Car Parks, Car parking decks and pedestrian areas or comparable areas

**Class A**

- Loads of A15
- Tested at 1.5 tons
- Recommended for pedestrians, bicycles, wheelchair traffic and walking areas.

**Class B**

- Load of B125
- Tested at 12.5 tons
- Recommended for car parking decks, and private car parkings

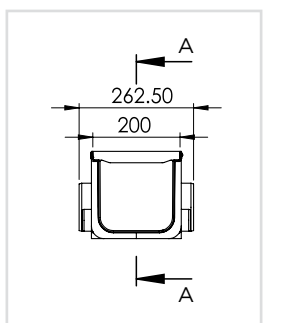
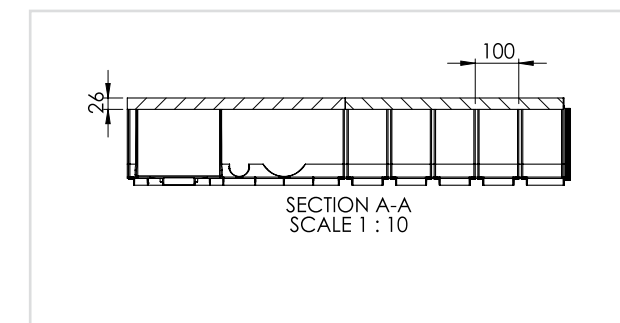
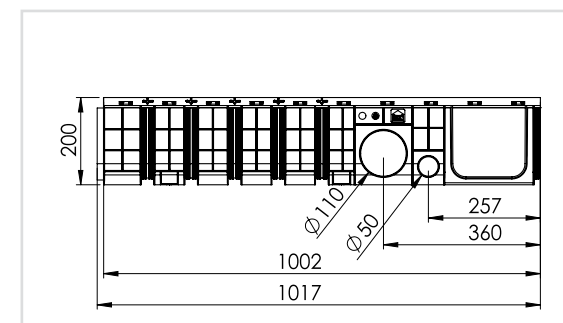
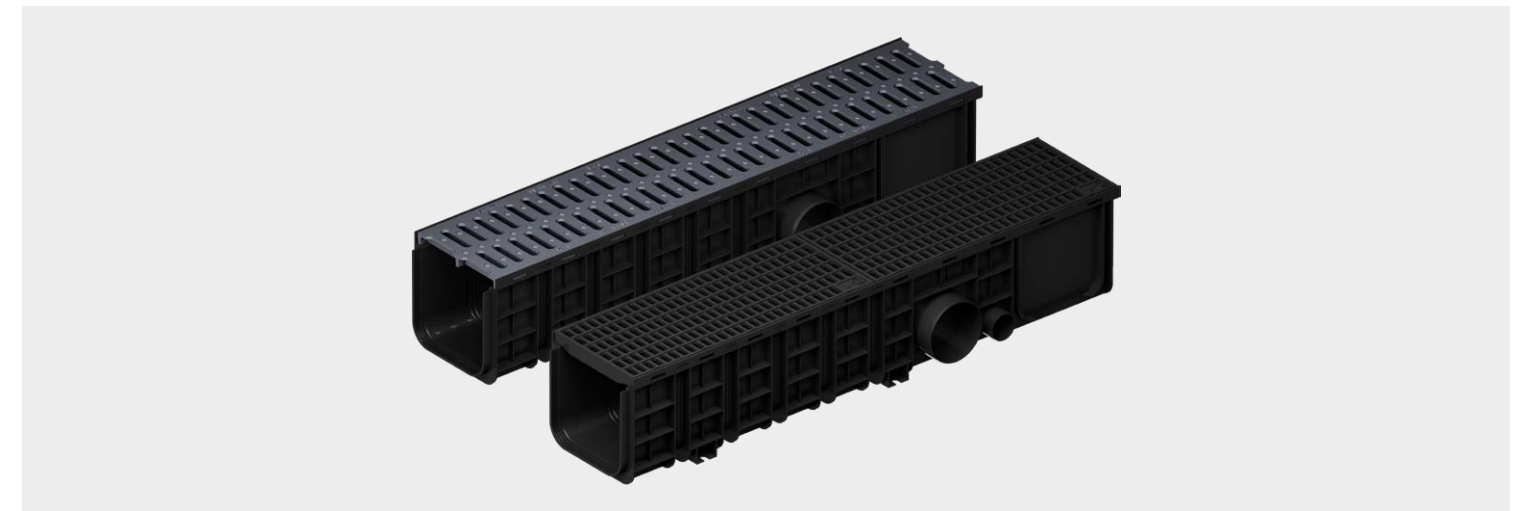


## Drainage Water Channel 20cm x 1m

22 - 23

### Overview

Water Channel 200\*200 with Cast Iron Cover  
 Water Channel 200\*200mm with Polypropylene cover.  
 End caps for both ends of the channel + Adapter for pipe joint



### General Specifications:

#### The Body of the Water Channel:

**Material:** Made of Polypropylene

**Length:** 1 meter

**Width and Depth:** 200\*200mm

**Lateral Outlets:** Four optional side outlets (Ø 110 mm at each side & Ø 50mm at each side)

**Vertical Outlet:** One optional vertical outlet (Ø 110mm or Ø 75mm).

**Flow rate:** 500 liters/min.

#### The Cover of the Water Channel:

##### Option 1:

**Material:** 2 Polypropylene covers (500mm each)

**Load class:** A15 (cyclist and pedestrian area)

##### Option 2:

**Material:** 2 Cast iron covers (500mm each)

**Load class:** B125 (Car Parks, Car parking decks and pedestrian areas or comparable areas)

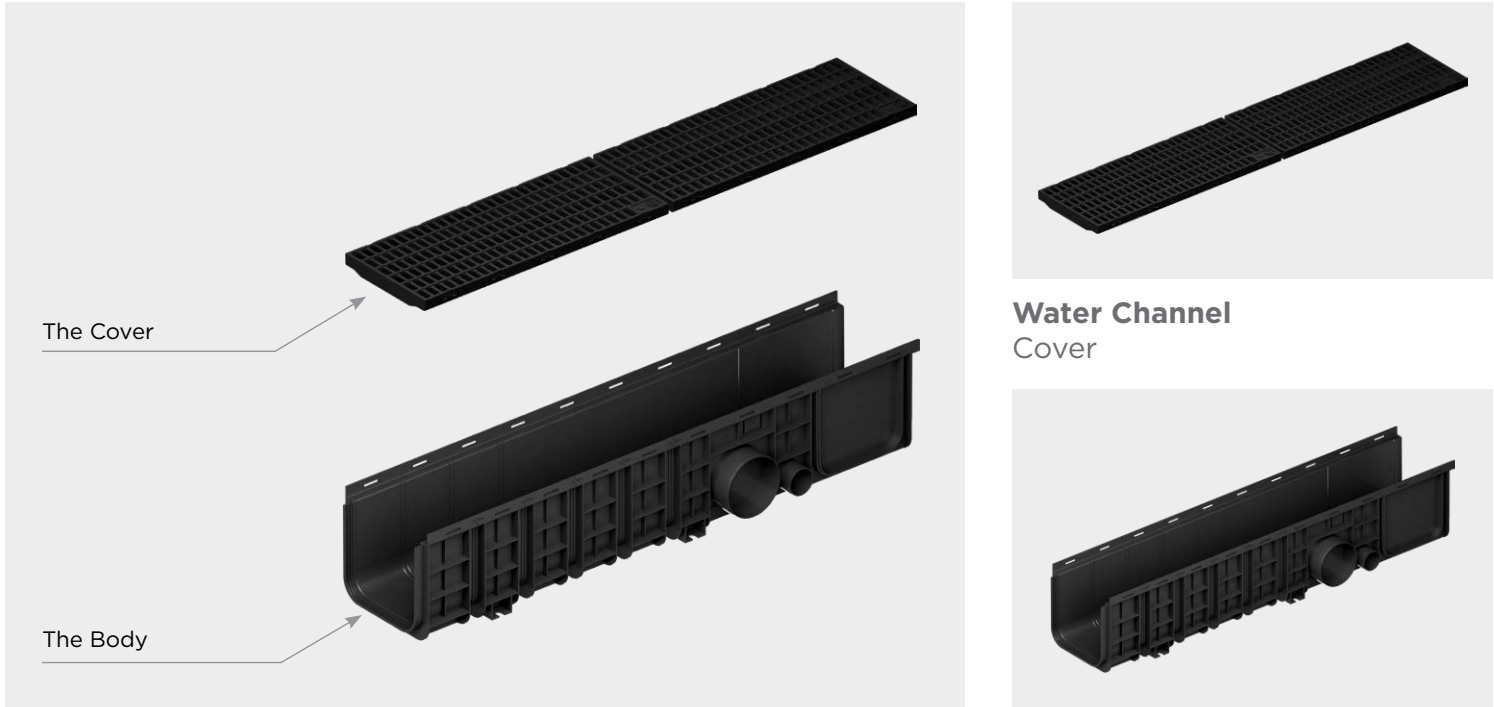
### Advantages:

Designed for easily attachment at both ends for extending purposes either in longitudinal or transversal directions.

Every unit contains 5 optional cutting step that allow length trimming by 10cm for each step (cutting lines are marked by CUT HERE)

Designed to be anchored to set the location before the final fixation

Main Parts



Water Channel Main Parts

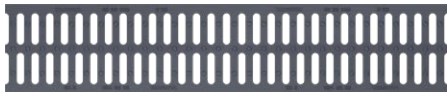
Covers Types



Polypropylene Cover

**Material:** 2 Polypropylene covers (500mm each)

**Load class:** A15 (cyclist and pedestrian area)

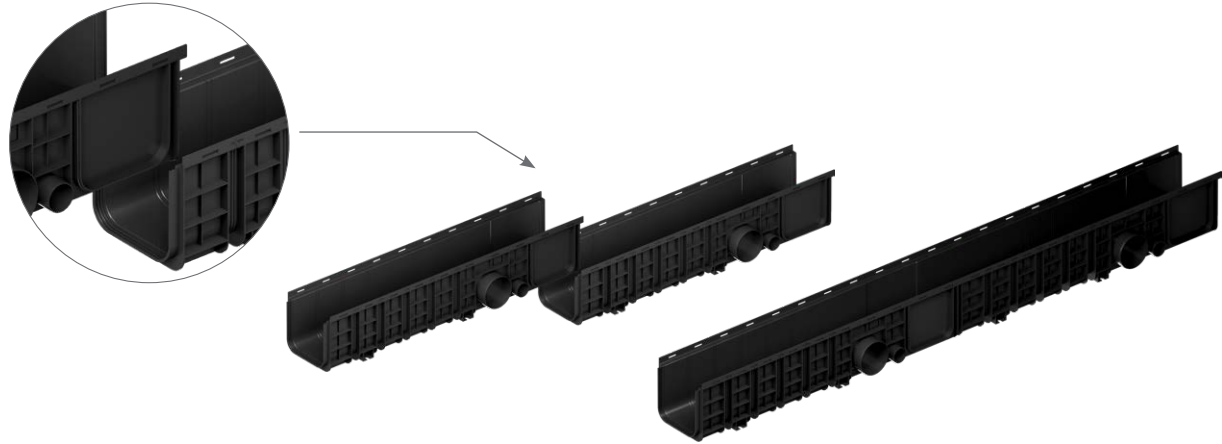


Cast Iron Cover

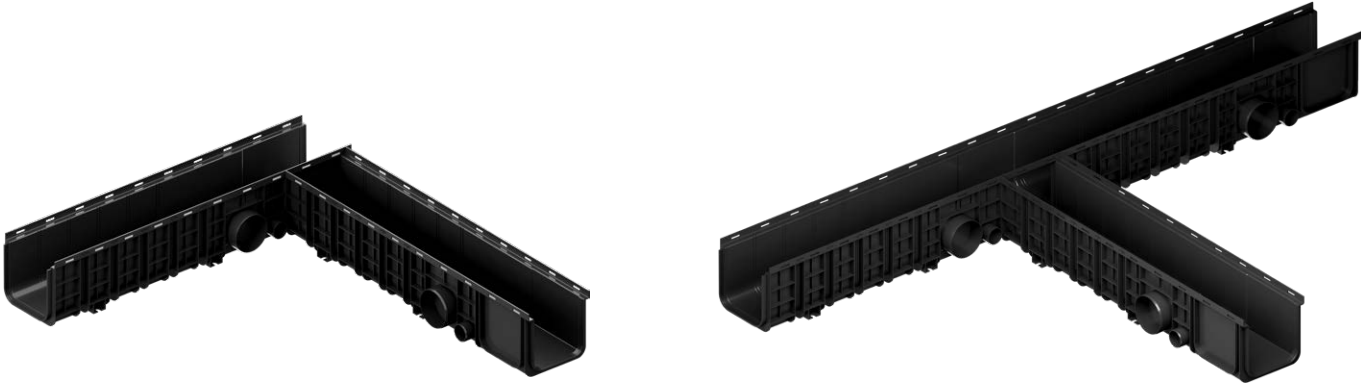
**Material:** 2 Cast iron covers (500mm each)

**Load class:** B125 (Car Parks, Car parking decks and pedestrian areas or comparable areas)

Assembly parts & Features

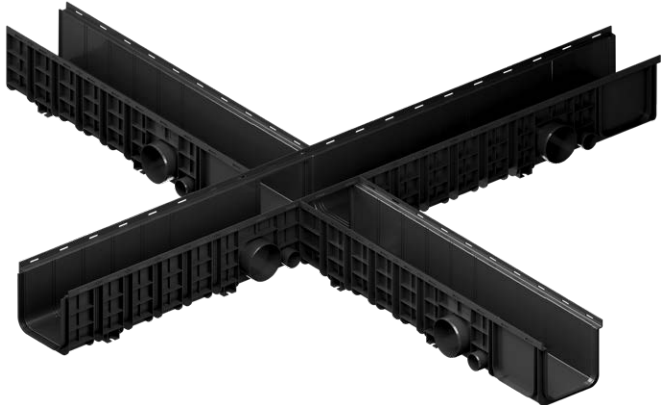


Snaps together in Seconds



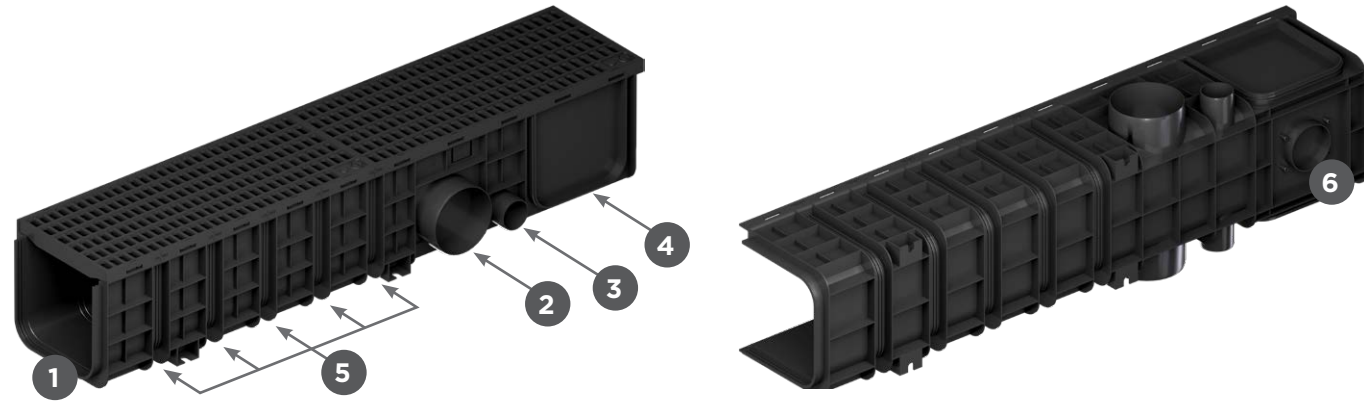
90° Assembly

Tee Assembly



Cross Assembly

## Water Channel Advantages



### 1 Male & Female Ends

Various parts are available and can be placed in the channel according to your needs.



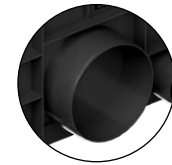
### 3 50mm Side Outlet

Easily cuttable at predefined points to match required lengths



### 5 Adjustable Length

Easily cuttable at predefined points to match required lengths



### 2 110mm Side Outlet

Equipped with a side outlet for easier drainage



### 4 Side assembly

Cross Support enables the creation of cross, 90-degree, or tee assemblies, based on your specific requirements.



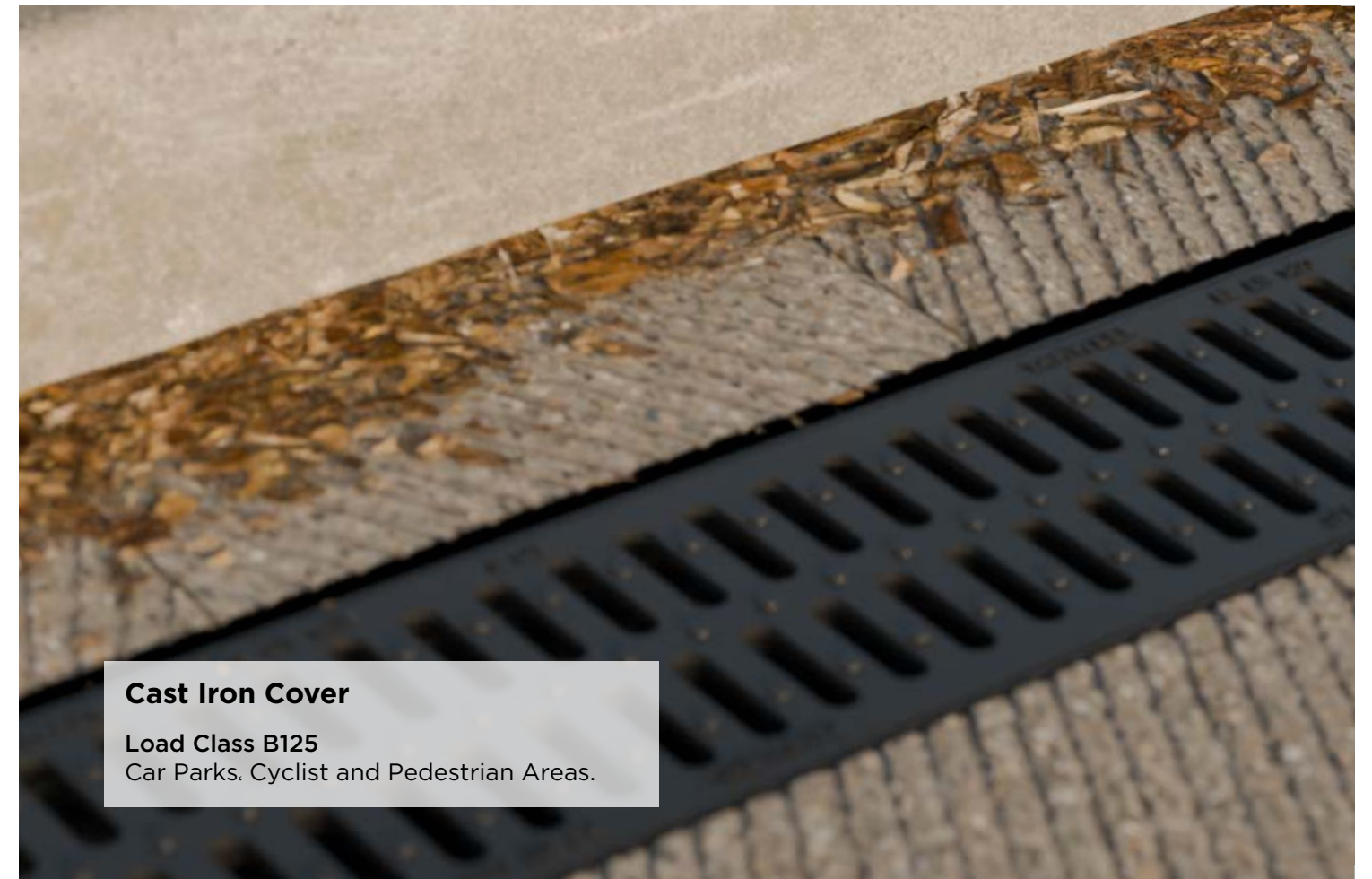
### 6 75mm bottom outlet

Equipped with a bottom outlet for easier drainage



### Polypropylene Cover

Load Class A15  
For Cyclist and Pedestrian areas.



### Cast Iron Cover

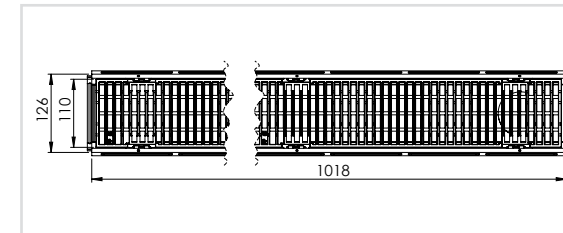
Load Class B125  
Car Parks, Cyclist and Pedestrian Areas.



## Drainage Water Channel 10cm x 1m

### Covers of the Water Channel

Water Channel 100\*100mm with Polypropylene Cover  
 Water Channel 100\*100mm with Stainless steel (304) Cover  
 Quad Branch/Tee/Elbow  
 Vertical outlet 75mm  
 Vertical outlet 110mm  
 End caps for both ends of the channel + Adapter for pipe joint  
 Water Channel Polypropylene Cover 50cm



### Accessories:



### General Specifications:

**Material:** made of polypropylene  
**Length:** 1 meter  
**Width and Depth:** 100\*100mm  
**Lateral Outlets:** two optional side outlets Ø 110 mm or Ø 75mm.  
**Vertical Outlet:** one optional vertical outlet Ø 110mm or Ø 75mm.  
**Flow rate:** 150 liters/min.

### Advantages:

The self-locking covers with shearing protection  
 Tongue and groove connection for a professional installation  
 Newly designed PP self-locking mesh grating  
 Increased water intake due to mesh width 8 x 21mm. (= 511 cm<sup>2</sup>/m.)

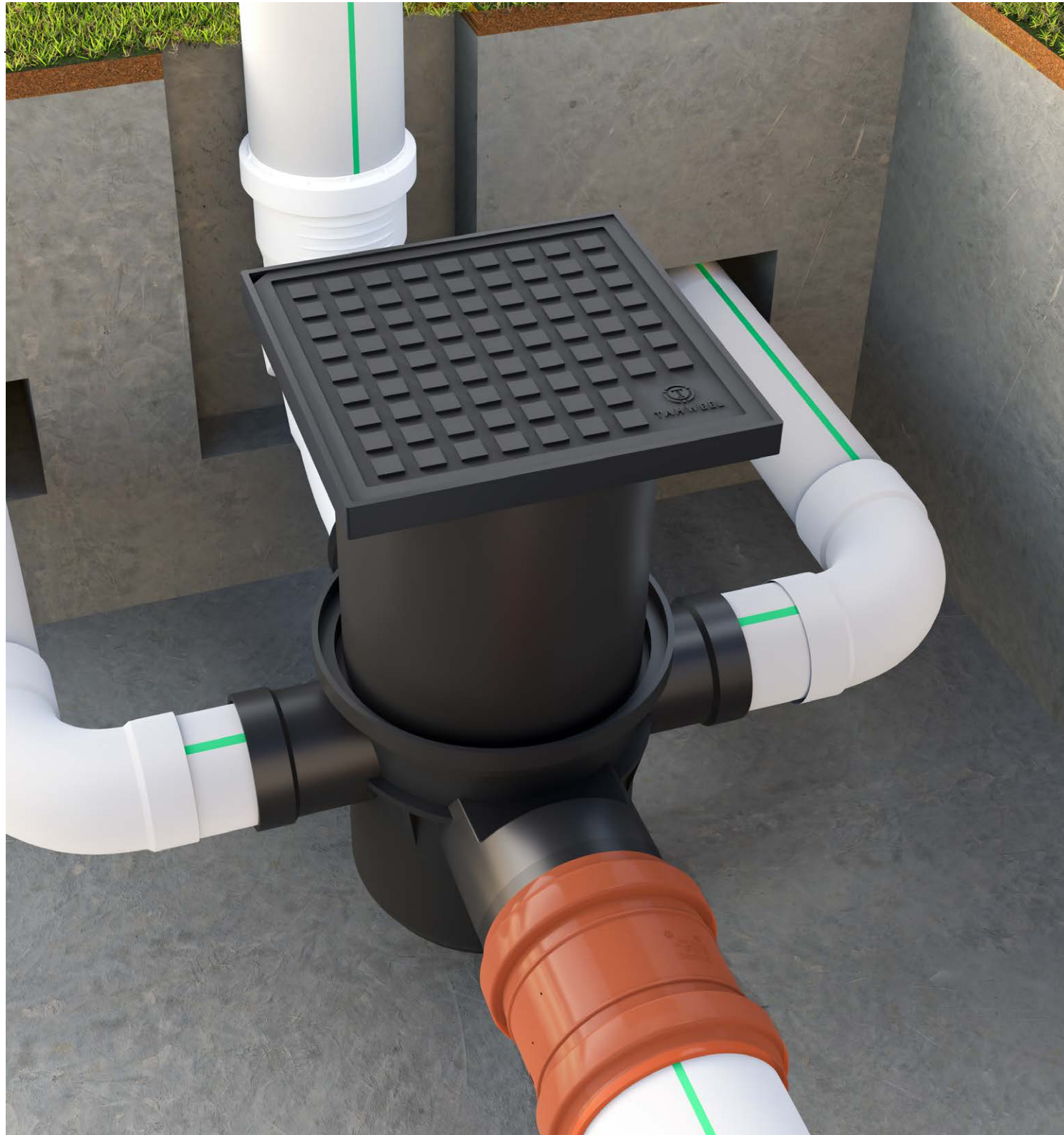
### Covers



**Polypropylene cover**  
 A15 (Cyclist and Pedestrian Area)



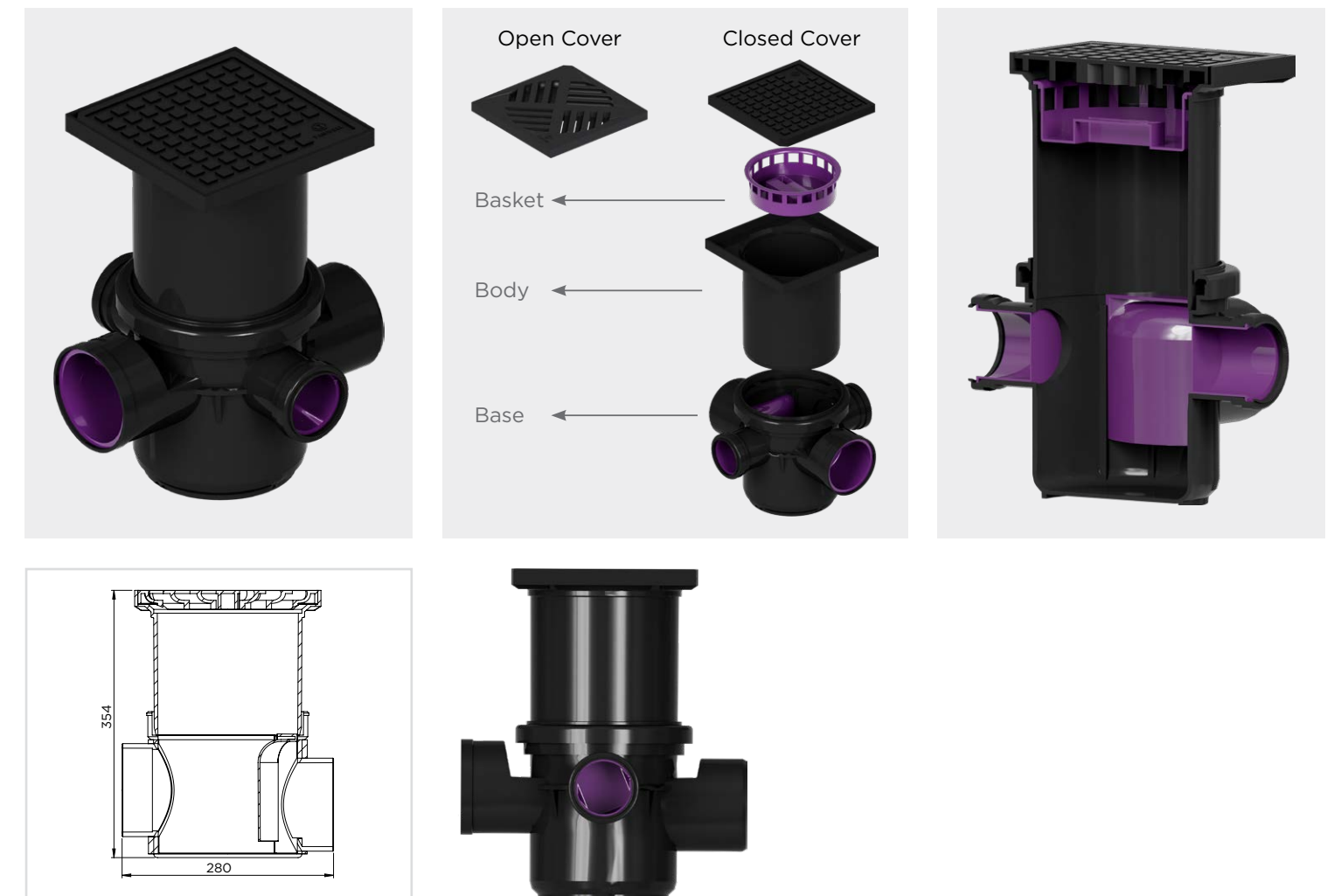
**Stainless-Steel Cover**  
 o The cover is made of Stainless steel 304.  
 o The thickness is 1.5mm.  
 o The weight is 1.3 Kg.  
 o A15 (Cyclist and Pedestrian Area).



## Gully trap - 3 inlets - 1 outlet

Gully Trap with 2 Lateral inlets Ø75 + 1 inlet Ø110 and 1 outlet Ø110

Gully trap with slotted plastic cover (250\*250mm)  
 Gully trap with closed plastic cover (250\*250mm)  
 Optional Spacer for Gully trap (20cm)



### Advantages

- Rotatable Lower section to the drainage system
- Adjustable upper section up to 18 mm.
- Available with vertical extension.
- Removable cover to ease the access for cleaning and maintenance.

### General Specifications:

**Materials:** upper and lower sections are made of Polypropylene, Cover is made of ABS  
 Drains wastewater from kitchens, water sinks, bathtubs and washing machines to the main sewage system

With vertically adjustable upper section (18 mm)

Available with Integral odour trap, sludge basket and triple inlet plugs

**Flow rate:** 108 liters/min.

**Load Class:** K3



## Gully trap 1 inlet - 1 outlet

Gully Trap with 1 lateral inlet Ø110 and 1 outlet Ø110

Gully trap with slotted plastic cover (250\*250mm)  
 Gully trap with closed plastic cover (250\*250mm)  
 Optional Spacer for Gully Trap (20cm)



### Advantages

- Rotatable Lower section to the drainage system
- Adjustable upper section up to 18 mm.
- Available with vertical extension.
- Removable cover to ease the access for cleaning and maintenance.

### General Specifications:

**Material:** lower section is made of PVC and the upper section is made of Polypropylene, Cover is made of ABS  
 Drains wastewater from kitchens, water sinks, bathtubs and washing machines to the main sewage system

With vertically adjustable upper section (18 mm)

Available with Integral odour trap, sludge basket and triple inlet plugs

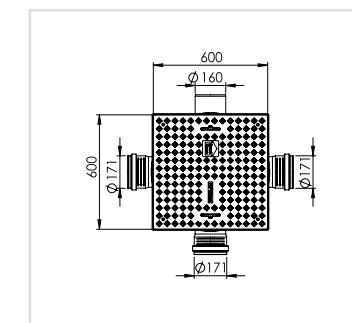
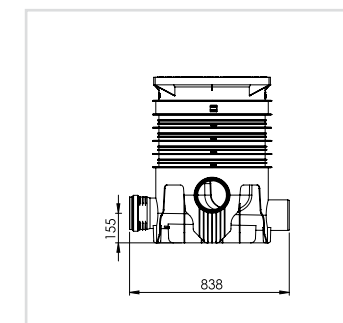
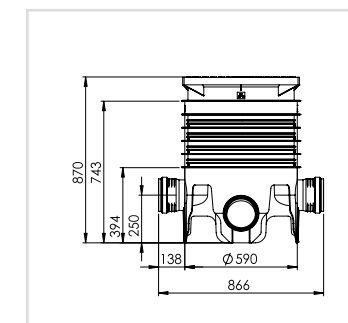
**Flow rate:** 108 liters/min.

**Load Class:** K3

## Inspection Chamber

### Inspection Chamber 600\*600 mm

Inspection chamber 600\*600mm with cover  
 Vertical Extension  
 Optional Vertical Extension  
 Cover + Frame  
 Cover+Lower Base  
 Cover + Frame (Green version)



#### Advantages:

- Excellent resistance for aggressive wastewater
- Easy and quick to install with rubber o-ring seals
- Significant reduction in maintenance and handling costs
- High durability and zero leakage
- Allow on-site height adjustment

#### General Specifications:

**Material:** Made of Polypropylene  
**Internal diameter:** 548mm  
**Adjustable Height:** 870mm including the vertical extension  
**Base Inlets:** 3 socket-pipe inlets Ø160mm  
**Outlet:** 1 pipe outlet Ø160mm  
**Vertical Extension:** 410mm height with 5 steps to allow height extending or trimming by 69mm (cutting lines are marked by CUT HERE)  
**Optional Vertical Extension:** 285mm height with 2 extra Ø110mm inlets PP socket-pipes installed at any desired depth above the main body  
**Flow rate:** 2500 liters/min.

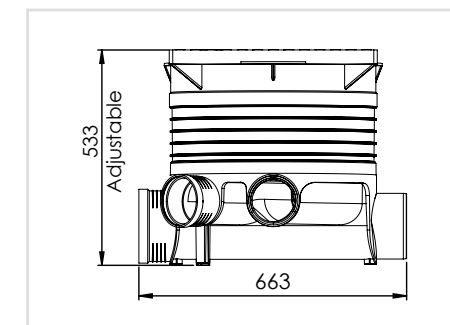
#### Cover:

**Material:** Made of Glass Fiber Polypropylene  
**Size:** 600\*600mm  
**Load Class:** A15 (Cyclist & Pedestrian area)  
**Locking:** four fixing screws to hold the cover plate securely in place  
**Handles:** two loose handles made of Galvanized Steel for ease installation and maintenance

## Inspection Chamber

### Inspection Chamber 500\*500 mm

Inspection chamber 500\*500mm with cover  
 Vertical Extension  
 Cover 500\*500mm + Frame  
 Cover 500\*500 + Lower Base  
 Lower Base 500\*500mm



#### Advantages:

- Composed of 3 pieces assembled as males and females
- Silicon is preferred for assembling for a tight close
- Excellent resistance for aggressive wastewater
- Easy and quick to install
- Significant reduction in maintenance and handling costs
- High durability and zero leakage
- Allow on-site height adjustment

#### General Specifications:

**Material:** Made of Polypropylene

**Internal diameter:** 503

**Adjustable Height:** 530mm including the vertical extension

**Base Inlets:** 4 inlets Ø110mm and 1 inlets Ø160mm

**Outlet:** 1 pipe outlet Ø160mm

**Vertical Extension:** 200mm

**Flow rate:** 1800 Liters/min.

#### Cover:

**Material:** Made of Glass Fiber Polypropylene

**Size:** 500\*500mm

**Load Class:** A15 (Cyclist and Pedestrian Area)

## Inspection Chamber 315mm



Inspection Chamber 315mm Body  
Inspection Chamber 315mm Extension



### General Specifications:

- Material:** Polypropylene
- Internal diameter:** 315mm
- Adjustable Height:** 535mm, including the extension
- Inlets:** 5 Socket inlets Ø110mm
- Outlets:** 1 Socket outlet Ø110mm
- Extension:** 305mm
- Flow rate:** 1400 liters/min

### Advantages:

- Excellent resistance to aggressive wastewater
- Easy and quick to install with rubber O-ring seals
- High durability and zero leakage

### Inspection Chamber Body 315mm:

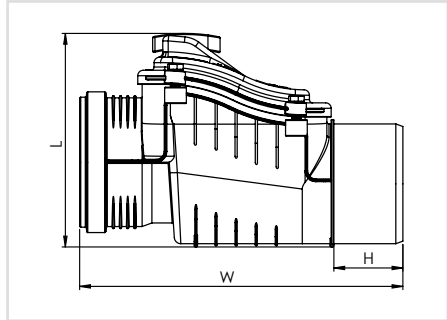
- Product Dimensions: 520x527x230
- Capable of extending using extensions
- 5 Inlets 110mm with gasket and 1 outlet 110mm with gasket according to EN 1451

### Inspection Chamber Extension 315mm

- Product Dimensions: 350x350x341
- Cutting lines for variable lengths
- O-ring for tight sealing
- Up to 2 extensions installations

Overview

Backwater Valve 110mm  
Backwater Valve 160mm



General Specifications:

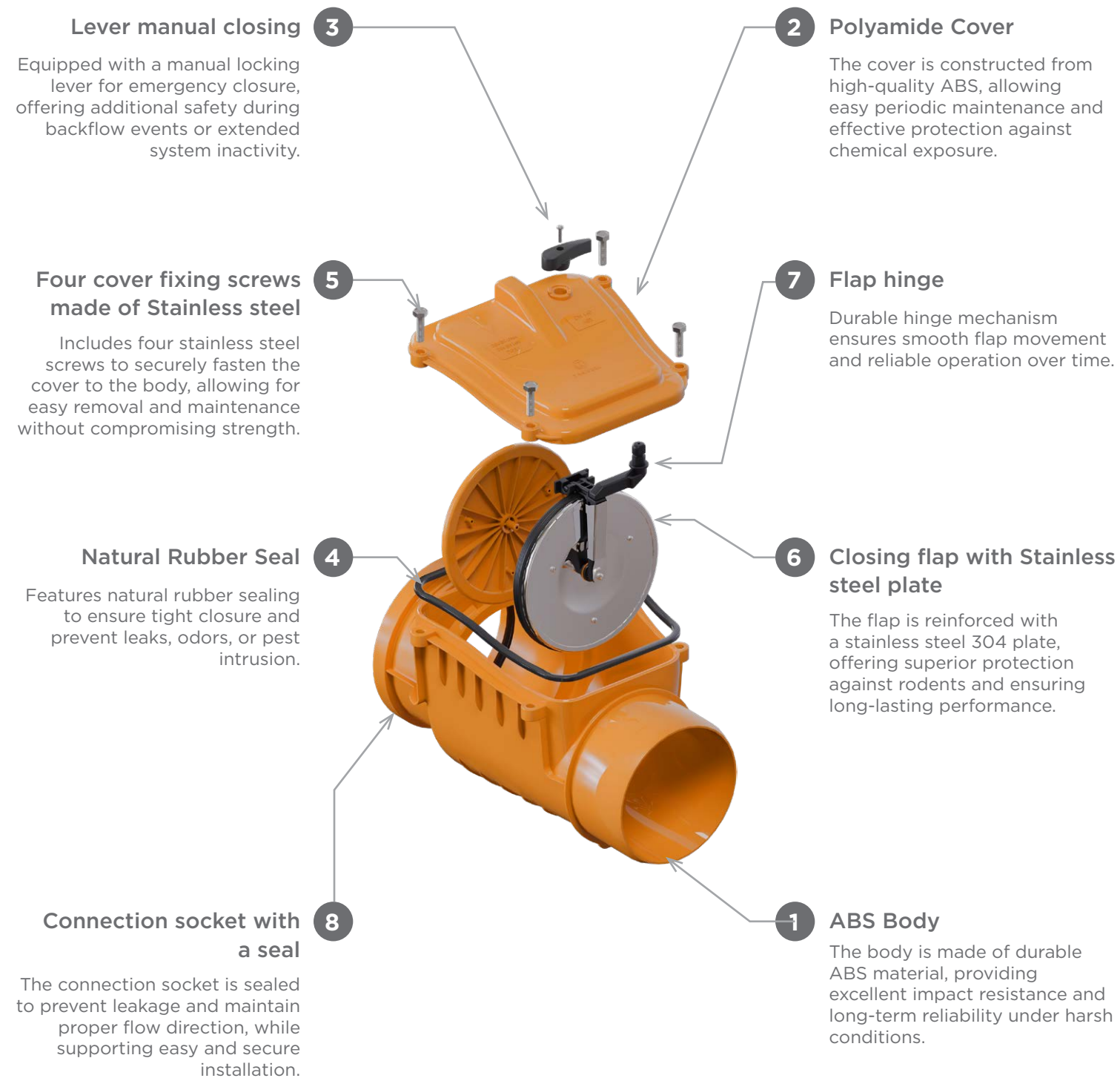
Sizes: 110 mm and 160 mm  
Inlet and outlet: Push-fit socketed inlet and outlet

No.	Dimension	Value	
		110	160
1	L	196.5	285.5
2	W	297.5	383
3	H	63.5	76

Cover:

- The body is made of ABS and the cover is made of Polyamide
- Contains four rubber gaskets to prevent unpleasant odors or leakage through the inlet, the gate, the cover, and the handle.
- The flap (gate) includes a stainless steel plate for sustainability, anti-rust and to prevent rodents from coming up the drain pipe.
- The gate lever is covered with a Stainless-steel cover for extra protection against rodents.

## Tahweel Backwater valve with Push-fit socketed inlet and outlet



**TAHWEEL Backwater valves** The use of Backwater valves is mandatory to face these emergency conditions, according to international building standards.  
**TAHWEEL** Backwater valves are equipped with an automatic closing system that starts to operate when flood-water appears and close in the event of inverse water flow.

## Tahweel Backwater valve with Push-fit socketed inlet and outlet Ø 160 mm

### Operation:

- Allows wastewater to flow in only one direction
- Includes manual lock for emergency closure
- Ensures excellent chemical resistance to various components of sewage Polyamide.
- Access cover from ABS for easy periodic maintenance or to remove any trapped material.
- Easy to install and maintain.
- High temperature resistant up to °95 degrees.

### Main Features

- Made of ABS.
- Smooth surface prevents deposits and ensures a strong selfcleaning effect.
- Reinforced body built-in drainage slope.
- Robust design that supports the valve from all directions.
- Contain four rubber gaskets to prevent unpleasant odors or leakage through the inlet, the gate, the cover, and the handle.
- With four stainless steel fixing screws to tightly connect the cover with the body for easy removal and maintenance.
- With a stainless steel 304 flap for the best rodent protection.

### Application

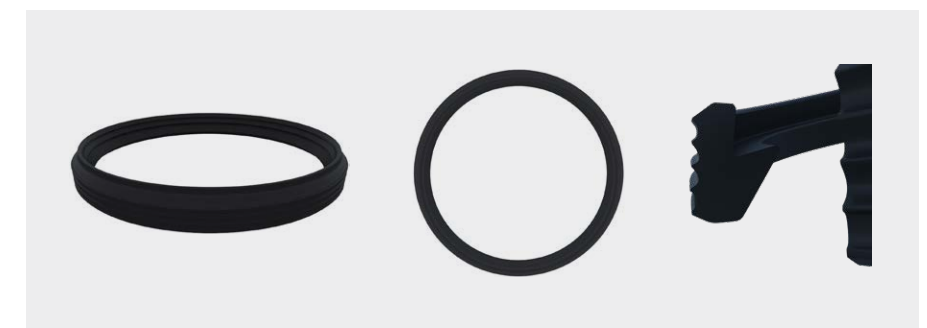
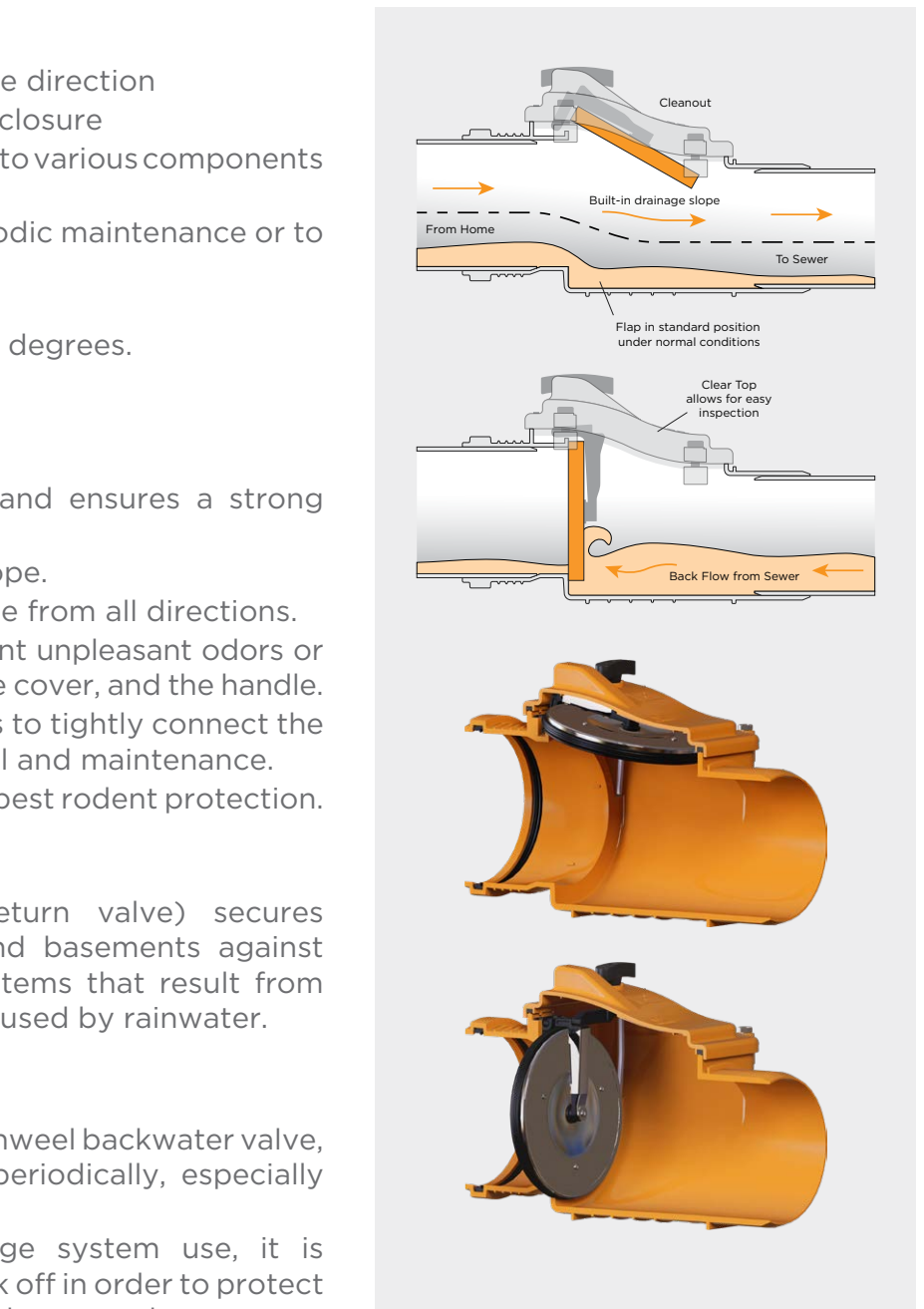
- Tahweel Backwater Valve (non-return valve) secures residential units on lower floors and basements against backflow of sewage into piping systems that result from blockage of main lines or flooding caused by rainwater.

### Instructions

- To ensure the correct operation of Tahweel backwater valve, its functioning should be checked periodically, especially after intensive rainfall.
- In case of a long break in sewage system use, it is recommended to turn the manual lock off in order to protect the house against any rodents or unpleasant odors.

### SBR GASKET

- Made of special rubber types used for push and fit drainage solutions where users can easily reassemble joints on-site.
- **Tahweel** gaskets are known for their flexibility and durability in preventing dust and eliminating leakage.





Superior Sanitary Solutions

### TAHWEEL Certificates



### Tahweel Integrated Company

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