

STORM/TECH

STORM WATER MANAGEMENT SOLUTIONS



Plas-Tech

Fabrications



STORM/TECH

Storm Water Management Products

Brevet canadien / Canadian Patent

Le commissaire aux brevets a reçu une demande de délivrance de brevet visant une invention. L'acte de dépôt de la demande de brevet est le document qui sert de base à la délivrance d'un brevet.

Le présent brevet confère à son titulaire et à ses ayants droit, pour une période expirant vingt ans à compter de la date du dépôt de la demande au Canada, le droit, la faculté et le privilège exclusif de fabriquer, commercialiser, exploiter et vendre à d'autres, pour qu'ils l'exploitent, l'objet du brevet, sauf jugement en l'espèce rendu par un tribunal compétent, et sous réserve du paiement des taxes périodiques.

The Commissioner of Patents has received a petition for the grant of a patent for an invention. The requirements of the Patent Act have been complied with. The title and a description of the invention are contained in the specification, a copy of which forms an integral part of this document.

The present patent grants to its owner and to the legal representatives of its owner, for a term which expires twenty years from the filing date of the application in Canada, the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used, subject to adjudication before any court of competent jurisdiction, and subject to the payment of maintenance fees.

BREVET CANADIEN 2,744,660 CANADIAN PATENT

Date à laquelle le brevet a été accordé et délivré
Date du dépôt de la demande
Date à laquelle la demande est devenue accessible au public pour consultation

2013/05/20
2011/06/29
2011/12/29

Date on which the patent was granted and issued
Filing date of the application
Date on which the application was made available for public inspection

Total Storm Water Management Solutions

- All interchangeable products
- Snaps into place from street level
- No moving parts
- No special tools or brackets
- Tough, light weight, UV-inhibited plastic
- Corrosion-proof
- Delivered ready-to-install
- Patented designs manufactured in Canada

The Problem

Wet weather pollution is reported to be the largest water quality issue facing industrialized nations today.

Most municipalities have designed their storm water management infrastructure to handle rain events and weather based on statistical norms in order to practically manage costs. However, with urban growth and the resulting reduction in natural drainage, the infrastructure is becoming increasingly strained so that even moderate rainfalls can cause storm water and sewer systems to be overwhelmed. Overloaded systems cause upstream sewage backups into residential basements and downstream sewage overflows into rivers and lakes, as well as a drastic reduction in effectiveness at sewage treatment plants. This has become so common that Combined Sewer Overflow (CSO) and Sanitary Sewer Overflow (SSO) have become topics of conversation and the targets of pollution abatement programs. The financial and intangible cost to homeowners, businesses, ecosystems, tourism and overall municipal image is impossible to calculate.



Adding to this problem are the challenges associated with many past solutions, which usually require expensive and disruptive construction efforts. Many urban run-off, storm water and sewage management systems are underground with substantial urban growth built on top or nearby. So, often, no construction-based solution is possible much less practical.

Other solutions have been on the market for the past few decades but they are usually prone to blockage with both natural and man-made debris entering storm drains during regular rainfalls. And during drier periods these same devices allow odours to escape from downstream sewer drains and up to street level, especially in dense urban areas.

Another problem becoming more evident with time is related to the past widespread use of plug-style flow control devices which plug directly into the out-flow pipe. These devices seem favorable initially due to lower costs and the elimination of having to anchor devices into the cement walls of catch basins. However, these costs can sometimes be offset when these devices become blocked with debris and cannot be removed without severely damaging the pipe (due to tight fits and even glued joints). In other cases the plugs fall back out or even worse, drift downstream causing blockages in pipe sections impossible to reach. Many times brackets have to be added later to stabilize control devices that extend out from a plug-base. These problems have escalated to the point now where some municipalities are phasing these devices out of their sewer specifications altogether.



Clearly improvements are needed, and soon.

The StormTech Solution

Plas-Tech Fabrications' StormTech line of products offers a complete set of patented storm water management solutions that act as Inlet Control Devices (ICD's) specifically designed to address Combined Sewer Overflow (CSO) and Sanitary Sewer Overflow (SSO) without any need for construction or significant ongoing maintenance.

StormTech Inlet Control Devices operate by:

- Immediately and automatically restricting flow into downstream sewers from catch basins and man-holes during major rainfall events.
- Allowing temporary build-up of water in basins and man-holes, thereby using infrastructure already in place.
- Preventing blockages due to debris loosened by flooding and urban runoff.
- Continuing to relieve upstream systems gradually until downstream capacity is later available.
- Automatically returning the system to the initial state once downstream capacity is normalized.



**6L or 10L
Vortex**



Odour Trap



Orifice Plate



**Sump with Flow
Control (SFC)**



**Shallow Sump Vortex
(SSV)**

StormTech Advantages

Each and all of the interchangeable products in our StormTech family of municipal products have the following benefits and advantages:

- All units are interchangeable (within minutes) from street level with no special tooling and procedures required. We design all units to be as lightweight as possible while meeting durability requirements.
- No moving parts means reduced maintenance and improved reliability. And no clumsy brackets or braces.
- All units are constructed of UV-inhibited thermoplastic which is lightweight for handling but tough and durable in high and low temperatures and completely resistant to corrosion and rust.
- Installation is very simple with only four stainless steel anchor bolts required during the one and only visit down into the catch basin or man-hole. All subsequent work can be safely and quickly performed from street level.
- Our patented dove-tailed adapter plate design confirms the unit is in place with a click that can be heard and/or felt from street level.
- Units are delivered ready to install. All units have built-in engineered orifices that can be delivered as standard sizes or we can customize to within 0.1 l/s or 1.5 GPM at the time of ordering.
- All units are built with rubber o-rings and/or neoprene gaskets that can be reused over many inspection cycles. No silicone or temporary sealants are used or necessary.
- All units can be adapted easily to both rectangular and round catch basins and man-holes with very little space required for installation and operation.

The end result is that Plas-Tech Fabrications' StormTech line is the most advanced and complete solution set on the market today. The only choice is which product to use. And if your needs change you can literally swap any one of our units with any other within 10 minutes or less of arriving on site.

Product Selection

Plas-Tech Fabrications StormTech Inlet Control Devices (ICD's) form a complete line of defense for established infrastructures faced with storm water management issues. We know that a large part of providing a world-class solution is making product selection easy in the first place, and then allowing seamless adjustments if unexpected changes are necessary. StormTech provides both.

Most of our customer orders include a broad range of devices and sizes since the optimal overall solution often reflects variation in infrastructure, drainage conditions and topography. So you can pick the solutions you need and leave the rest to Plas-Tech Fabrications.

Selecting your optimal StormTech device is easy. Just answer the following questions:

1. What is the possible maximum flow rate required?
2. Does odour need to be contained at this location?
3. Is there potential for blockages due to debris (es. Leaves, garbage, mud, grass cuttings ...etc.)?
4. Is there at least 305 mm (12 inches) from the bottom of the out-flowing pipe and the bottom of the catch basin?
5. Is the catch basin rectangular or round?

These simple points will allow you to zero in on the best StormTech solution for a given catch basin or man-hole. And don't forget, we are here to help you with any step in this process whether it's a question, concern or complaint.

StormTech Solution Selection Matrix							
Criteria / Conditions*	6L Vortex	6L Shallow Sump Vortex (SSV)	10L Vortex	10L Shallow Sump Vortex (SSV)	Sump (SFC)	Odour Trap	Orifice Plate
Max Flow 5 - 9 l/s	✓	✓	~	~	✗	✗	✗
Max Flow 8 - 15 l/s	~	~	✓	✓	~	~	~
Max Flow 15 – 35 l/s	✗	✗	~	~	✓	✓	✓
Max Flow 35 – 50 l/s	✗	✗	✗	✗	~	✓	✓
Max Flow 50 l/s or more	✗	✗	✗	✗	✗	~	✓
Odour must be contained	✓	✓	✓	✓	✓	✓	✗
Avoid blockage from debris	✓	✓	✓	✓	✓	✓	✗
Catch Basin Sump > 305 mm	✓	✓	✓	✓	✓	✓	✓
Catch Basin Sump < 305 mm	✓	✗	✗	✓	✓	✗	✓
Used for both Square & Round Catch Basins	✓	✓	✓	✓	✓	✓	✓
* Note: Flow rates at Design Head of 1.5 m. Various devices may be also designed for 3 l/s to 125 l/s for Heads of 0.5 to 4.0 m.							
Legend	✓ Well Suited	✗ Outside Design Range	~ In Range for Lower / Higher Heads				

Product Warranty

We have thousands of these applications in the field under the toughest operating conditions, all covered by our three year guarantee.

Plas-Tech Fabrications warrants that StormTech Products are guaranteed against defects resulting from faulty workmanship or materials.

Plas-Tech Fabrications will replace free of charge any Products which are found to be defective in workmanship or material, provided that ALL of the following conditions are met:

1. Plas-Tech Fabrications is promptly notified in writing of such defect immediately (within 48 hours) upon discovery of same and the defective Product is promptly returned to the Vendor (shipped within 3 days).
2. The Products have not been altered or modified after leaving the Plas-Tech Fabrications site, have not been used in more than one installation, show no evidence of disassembly or tampering, are not and have not been subjected to abnormal operating conditions or misuse.
3. The Products have been used in applications or under conditions that are in accordance with the technical information or literature provided directly by Plas-Tech Fabrications.
4. The Products were shipped to the Purchaser not more than 3 calendar years prior to the discovery of the defective Product described in (1) above.

For more complete and up-to-date information on our Warranty and Returns policy please see our website at:

<http://www.plas-techfab.com/warranty-return-policy/>

Products – StormTech 6L Vortex & 10L Vortex

Our StormTech Vortex is our patented design that uses a naturally occurring vortex effect to control flow rates without moving parts. Under no flow conditions the Vortex acts as a water trap which prevents odours from leaving downstream pipes and debris from entering those same pipes via the catch basin or man-hole. With low to moderate rainfall the flow rate increases through the Vortex as expected with flow increasing as the water level increases. With high water levels or high rainfall the flow rate through the Vortex will increase to the point where it spirals around our patented curved body. This spiral or vortex allows a core of air to centralize in the unit orifice much like you would see when a bathtub is allowed to drain freely. This air core actually reduces the effective cross sectional flow area of the orifice – just as if you reduced the orifice diameter itself – thereby throttling back the flow rate. This effect actually increases with load so that the more you need it the more it naturally provides. After the rain event and water levels normalize and drop, the flow rates decrease until the vortex effect disappears and the unit returns to normal, eventually returning to a no-flow water trap.

StormTech Vortex units come in two standard models: 6L for ranges of 5 to 9 l/s, and 10L for 8 to 20 l/s. We can also custom design and build larger Vortex models using our in-house vacuum forming process.

Primary Function(s):	Automated Flow Control for Low to Medium Rates (5 to 20 l/s 79 to 317 GPM).
Other Functions(s):	Odour Control and Debris Control due to water trap function even under no-flow conditions. Provides sediment flushing due to the dynamics of the vortex (requires little cleaning, if any).
Outflow Pipe Diameter:	150 mm to 300 mm 6 inch to 12 inch. Special orders can be made for larger sizes.
Catch Basin Types:	With sumps of 305 mm minimum only. Rectangular or Round Catch Basins (Round requires built-in adapter that can be provided). Standard Round is 600 mm, but larger sizes available (900 mm, 1200 mm, 1600 mm ...etc.). Fits through even small Catch Basin openings (300 mm x 450 mm).
Specifications:	Vortex Unit Body: ABS Thermoplastic with UV resistant additives. Handle Plate (common): HDPE Thermoplastic. Mounting Plate (common): HDPE Thermoplastic. Hardware (common): Stainless Steel Wedge Bolts with Nut and Washer (4). Welds: ABS Plastic welds only – all continuous and on Vortex Unit Body. Inner Ring Seal: Rubber Bulb Seal EPDM. Held in place and reusable. No need to replace. Wall Seal: 3/8 or 5/8 inch Neoprene closed cell sponge gasket attached to Mounting Plate. Identifier: 50 mm high numeric's on top of unit. Peel and stick. Visible from street surface. Special Tools: None required. Weight: Removable Unit: 1.4 kg / 3 lb. Maximum Total Assembly: 3.2 kg / 7 lb.

Products – StormTech 6L Vortex & 10L Vortex (continued)

Vortex – Square Adapter (10L pictured)



Front



Left Angle



Back –View from Wall

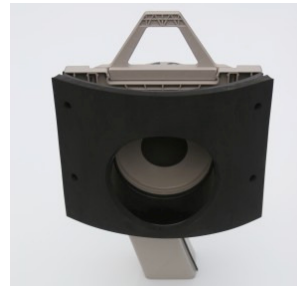
Vortex – Round Adapter (10L pictured)



Front



Left Angle



Back – View from Wall

Installation:

1. If necessary, cut protruding out-flowing pipe back flush to Catch Basin wall.
2. Use Mounting Plate as template to mark four hole pattern on Catch Basin wall.
3. Install four Stainless Steel Wedge Bolts (provided) perpendicular to Mounting Plate.
4. Install Mounting Plate and hand secure with four washers and nuts (provided).
5. Torque nuts to 40 N·m or 30 lbf·ft. Do not over-tighten.
6. Snap Vortex unit into place by pushing Handle Plate into dove-tail slot of Mounting Plate.
7. Record Unit Identifier along with Catch Basin Location according to municipal requirements.

Maintenance:

Minimal maintenance is required and this can be covered by removal using hook from street level and visual inspection with same frequency as municipal schedule for catch basin inspection / vacuum truck cleaning. Since this unit forms a water trap periodic vacuum truck cleaning for debris and grease removal should be performed, especially after major rainfalls.

Products – StormTech 6L & 10L Shallow Sump Vortex (SSV)

Our StormTech Shallow Sump Vortex adapts our patented Vortex design for use with catch basins and man-holes that do not have adequate sumps (less than 305 mm or 12 inches). This product is unlike any other on the market today.

Our StormTech Shallow Sump Vortex uses a naturally occurring vortex effect to control flow rates without moving parts. Under no flow conditions the Vortex acts as a water trap which prevents odours from leaving downstream pipes and debris from entering those same pipes via the catch basin or man-hole. With low to moderate rainfall the flow rate increases through the Vortex as expected with flow increasing as the water level increases. With high water levels or high rainfall the flow rate through the Vortex will increase to the point where it spirals around our patented curved body. This spiral or vortex allows a core of air to centralize in the unit orifice much like you would see when a bathtub is allowed to drain freely. This air core actually reduces the effective cross sectional flow area of the orifice – just as if you reduced the orifice diameter itself – thereby throttling back the flow rate. After the rain event and water levels normalize and drop, the flow rates decrease until the vortex effect disappears and the unit returns to normal, eventually returning to a no-flow water trap of 100 to 300 mm (4 to 12 inches) where before there was none.

StormTech Vortex units come in two standard models: 6L for ranges of 5 to 9 l/s, and 10L for 8 to 20 l/s. We can also custom design and build larger Vortex models using our in-house vacuum forming process.

Primary Function(s):	Automated Flow Control for Low to Medium Rates (5 to 20 l/s 79 to 317 GPM).
Other Functions(s):	Odour Control and Debris Control due to water trap function even under no-flow conditions. Provides sediment flushing due to the dynamics of the vortex (requires little cleaning, if any).
Outflow Pipe Diameter:	150 mm to 300 mm 6 inch to 12 inch. Special orders can be made for larger sizes.
Catch Basin Types:	All – with or without sumps, but designed for Catch Basins without sumps. Rectangular or Round Catch Basins (Round requires built-in adapter that can be provided). Standard Round is 600 mm, but larger sizes available (900 mm, 1200 mm, 1600 mm ...etc.). Fits through even small Catch Basin openings (300 mm x 450 mm).
Specifications:	<p>Vortex Unit Body & Piping: ABS Thermoplastic with UV resistant additives.</p> <p>Handle Plate (common): HDPE Thermoplastic.</p> <p>Handle Plate (common): HDPE Thermoplastic.</p> <p>Mounting Plate (common): HDPE Thermoplastic.</p> <p>Hardware (common): Stainless Steel Wedge Bolts with Nut and Washer (4).</p> <p>Welds: Plastic welds only – all continuous.</p> <p>Inner Ring Seal: Rubber Bulb Seal EPDM. Held in place and reusable. No need to replace.</p> <p>Wall Seal: 3/8 or 5/8 inch Neoprene closed cell sponge gasket attached to Mounting Plate.</p> <p>Identifier: 50 mm high numeric's on top of unit. Peel and stick. Visible from street surface.</p> <p>Special Tools: None required.</p> <p>Weight: Removable Unit: 1.8 kg / 4 lb. Maximum Total Assembly: 3.6 kg / 8 lb.</p>

Products – StormTech 6L & 10L Shallow Sump Vortex (SSV) (continued)

Shallow Sump Vortex (SSV) – Square Adapter (10L pictured)



Front



Left Angle



Back –View from Wall

Shallow Sump Vortex (SSV) – Round Adapter (10L pictured)



Front



Left Angle



Right Angle



Back – View from Wall

Installation:

1. If necessary, cut protruding out-flowing pipe back flush to Catch Basin wall.
2. Use Mounting Plate as template to mark four hole pattern on Catch Basin wall.
3. Install four Stainless Steel Wedge Bolts (provided) perpendicular to Mounting Plate.
4. Install Mounting Plate and hand secure with four washers and nuts (provided)
5. Torque nuts to 40 N•m or 30 lbf•ft. Do not over-tighten.
6. Snap Vortex unit into place by pushing Handle Plate into dove-tail slot of Mounting Plate.
7. Record Unit Identifier along with Catch Basin Location according to municipal requirements.

Maintenance:

Minimal maintenance is required and this can be covered by removal using hook from street level and visual inspection with same frequency as municipal schedule for catch basin inspection / vacuum truck cleaning. Since this unit forms a water trap periodic vacuum truck cleaning for debris and grease removal should be performed, especially after major rainfalls.

Products – StormTech Sump with Flow Control (SFC)

Our StormTech Sump was designed specifically for catch basins and man-holes that do not have sumps, where sumps are defined as any catch basin where there is at least 305 mm (12 inches) between the bottom of the catch basin and the bottom of the out-flowing pipe entrance. These sumps can still create a significant water trap of 100 to 300 mm (4 to 12 inches) where before there was none. This provides great protection against odours and debris, similar to the StormTech Odour Trap (which requires a sump). The StormTech Sump can be fitted with a robust calibrated orifice which can be exchanged with other sizes should conditions change in the future. Similar products on the market can take up much needed space in catch basins, to the point where installers cannot stand inside post-installation. Our sump has a sidewinder-style design that minimizes space and does not rely on brackets for stability. This makes installation and maintenance very easy by comparison – all from street level.

Primary Function(s):	Flow Control for Medium to High Flow Rates (12 to 35 l/s 190 to 553 GPM).
Other Functions(s):	Odour Control and Debris Control due to water trap function even under no-flow conditions. Sediment, grease and oil containment to protect downstream facilities.
Outflow Pipe Diameter:	150 mm to 300 mm 6 inch to 12 inch. Special orders can be made for larger sizes.
Catch Basin Types:	All – with or without sumps, but designed for Catch Basins without sumps. Rectangular or Round Catch Basins (Round requires built-in adapter that can be provided). Standard Round is 600 mm, but larger sizes available (900 mm, 1200 mm, 1600 mm ...etc.) Fits through even small Catch Basin openings (300 mm x 450 mm).
Specifications:	<p>Sump Unit Body: HDPE Thermoplastic with UV resistant additives.</p> <p>Handle Plate (common): HDPE Thermoplastic.</p> <p>Handle Plate (common): HDPE Thermoplastic.</p> <p>Mounting Plate (common): HDPE Thermoplastic.</p> <p>Hardware (common): Stainless Steel Wedge Bolts with Nut and Washer (4).</p> <p>Welds: HDPE Plastic welds only – all continuous on Sump Body only.</p> <p>Inner Ring Seal: Rubber Bulb Seal EPDM. Held in place and reusable. No need to replace.</p> <p>Wall Seal: 3/8 or 5/8 inch Neoprene closed cell sponge gasket attached to Mounting Plate.</p> <p>Identifier: 50 mm high numeric's on top of unit. Peel and stick. Visible from street surface.</p> <p>Special Tools: None required.</p> <p>Weight: Removable Unit: 2.3 kg / 5 lb. Maximum Total Assembly: 4.1 kg / 9 lb.</p>

Products – StormTech Sump with Flow Control (SFC) (continued)

Shallow Sump with Flow Control (SFC) – Square Adapter



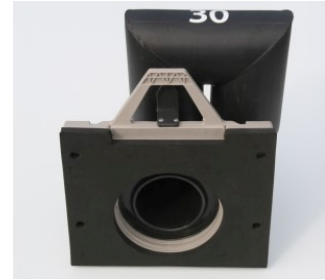
Front



Left Angle



Right Angle



Back – View from Wall

Shallow Sump with Flow Control (SFC) – Round Adapter



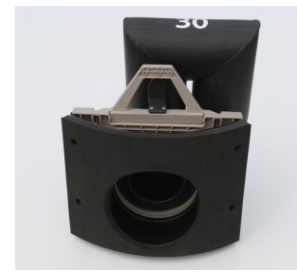
Front



Left Angle



Right Angle



Back – View from Wall

Installation:

1. If necessary, cut protruding out-flowing pipe back flush to Catch Basin wall.
2. Use Mounting Plate as template to mark four hole pattern on Catch Basin wall.
3. Install four Stainless Steel Wedge Bolts (provided) perpendicular to Mounting Plate.
4. Install Mounting Plate and hand secure with four washers and nuts (provided).
5. Torque nuts to 40 N•m or 30 lbf•ft. Do not over-tighten.
6. Snap Sump unit into place by pushing Handle Plate into dove-tail slot of Mounting Plate.
7. Record Unit Identifier along with Catch Basin Location according to municipal requirements.

Maintenance:

Minimal maintenance is required and this can be covered by removal using hook from street level and visual inspection with same frequency as municipal schedule for catch basin inspection / vacuum truck cleaning. Since this unit forms a water trap periodic vacuum truck cleaning for debris and grease removal should be performed, especially after major rainfalls.

Products – StormTech Odour Trap

Our StormTech Odour Trap is our patented ICD that combines the control of an orifice plate with the protection of a contained water trap. In low urban runoff areas, the large tapered cavity creates the effect of a settling pond that allows sediment, grease and oil to be contained in the unit instead of drifting downstream into facilities where plugging is a threat and cleanout impossible. The smooth, open surfaces allow quick and easy cleaning of the unit during inspections. In areas with higher runoff, sediment and grease build-up is not so much an issue so the Odour Trap can physically accommodate larger orifices to management up to very high flow rates, while still preventing blockages due to larger debris. In all applications the Odour Trap provides perfect protection against odours escaping from sewer systems to street level. Its versatility makes the StormTech Odour Trap a great addition to your storm water management program, no matter what your challenges may be.

Primary Function(s):	Flow Control for Medium to High Flow Rates (15 to 75 l/s 240 to 1200 GPM or greater).
Other Functions(s):	Odour Control and Debris Control due to water trap function even under no-flow conditions. Sediment, grease and oil containment to protect downstream facilities.
Outflow Pipe Diameter:	150 mm to 300 mm 6 inch to 12 inch. Special orders can be made for larger sizes.
Catch Basin Types:	With sumps of 305 mm minimum only. Rectangular or Round Catch Basins (Round requires built-in adapter that can be provided). Standard Round is 600 mm, but larger sizes available (900 mm, 1200 mm, 1600 mm ...etc.). Fits through even small Catch Basin openings (300 mm x 450 mm).
Specifications:	Odour Trap Unit Body: ABS Thermoplastic with UV resistant additives. Handle Plate (common): HDPE Thermoplastic. Mounting Plate (common): HDPE Thermoplastic. Hardware (common): Stainless Steel Wedge Bolts with Nut and Washer (4). Welds: Plastic welds only – all continuous. Inner Ring Seal: Rubber Bulb Seal EPDM. Held in place and reusable. No need to replace. Wall Seal: 3/8 or 5/8 inch Neoprene closed cell sponge gasket attached to Mounting Plate. Identifier: 50 mm high numeric's on top of unit. Peel and stick. Visible from street surface. Special Tools: None required. Weight: Removable Unit: 1.4 kg / 3 lb. Maximum Total Assembly: 3.2 kg / 7 lb.

Products – StormTech Odour Trap (continued)

Odour Trap – Square Adapter



Front



Left Angle



Back – View from Wall

Odour Trap – Round Adapter



Front



Left Angle



Back – View from Wall

Installation:

1. If necessary, cut protruding out-flowing pipe back flush to Catch Basin wall.
2. Use Mounting Plate as template to mark four hole pattern on Catch Basin wall.
3. Install four Stainless Steel Wedge Bolts (provided) perpendicular to Mounting Plate.
4. Install Mounting Plate and hand secure with four washers and nuts (provided).
5. Torque nuts to 40 N•m or 30 lbf•ft. Do not over-tighten.
6. Snap Trap unit into place by pushing Handle Plate into dove-tail slot of Mounting Plate.
7. Record Unit Identifier along with Catch Basin Location according to municipal requirements.

Maintenance:

Minimal maintenance is required and this can be covered by removal using hook from street level and visual inspection with same frequency as municipal schedule for catch basin inspection / vacuum truck cleaning. Since this unit forms a water trap periodic vacuum truck cleaning for debris and grease removal should be performed, especially after major rainfalls.

Products – StormTech Orifice Plate

Our StormTech Orifice Plate uses a calibrated orifice to control the outflow at a specific rate at a specific head in the catch basin. This is our simplest and most economical Inlet Control Device (ICD), and can be sometimes used by municipalities as a starting point for storm water management until more information is gathered. As with all our products, it can be swapped out with another StormTech ICD once more is known about the system.

Orifice Plate units can have any shape or size of orifice customized to meet your needs. Standard designs include Round, Diamond, Keyhole and Diamond Keyhole shaped orifices. Keyholes help create a torsional flow pattern through the orifice that can help unblock some debris.

Orifice plate ICD's do not form water traps to prevent odours and are also prone to blockage by floatables like leaves, twigs, bottles and cans, especially during higher rainfall periods. Monitoring of these types of installs is recommended and sometimes leads to recommendations to upgrade to water trap devices, such as Odour Traps and Sumps, to prevent blockage and odours. But in locations where they work properly they are an economical alternative solution.

Primary Function(s): Flow Control for Medium to High Flow Rates (15 to 100 l/s | 237 to 1585 GPM).

Other Functions(s): None.

Outflow Pipe Diameter: 150 mm to 300 mm | 6 inch to 12 inch. Special orders can be made for larger sizes.

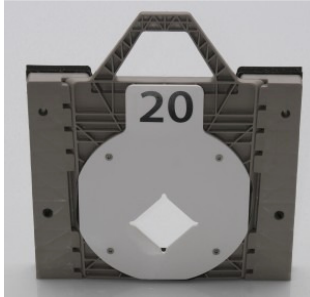
Catch Basin Types: All – with or without sumps.
Rectangular or Round Catch Basins (Round requires built-in adapter that can be provided).
Standard Round is 600 mm, but larger sizes available (900 mm, 1200 mm, 1600 mm ...etc.).
Fits through even small Catch Basin openings (300 mm x 450 mm).

Specifications:

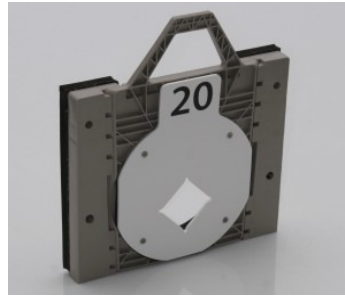
- Orifice Plate:** HDPE Thermoplastic with UV resistant additives.
- Handle Plate (common):** HDPE Thermoplastic.
- Handle Plate (common):** HDPE Thermoplastic.
- Mounting Plate (common):** HDPE Thermoplastic.
- Hardware (common):** Stainless Steel Wedge Bolts with Nut and Washer (4).
- Welds:** None.
- Inner Ring Seal:** Rubber Bulb Seal EPDM. Held in place and reusable. No need to replace.
- Wall Seal:** 3/8 or 5/8 inch Neoprene closed cell sponge gasket attached to Mounting Plate.
- Identifier:** 50 mm high numeric's on top of unit. Peel and stick. Note: Not visible from street surface.
- Special Tools:** None required.
- Weight:** Removable Unit: 0.5 kg / 1 lb. Maximum Total Assembly: 2.3 kg / 5 lb.

Products – StormTech Orifice Plate (continued)

Orifice Plate – Square Adapter (with Diamond Orifice pictured)



Front

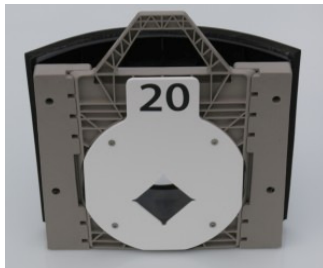


Left Angle



Back – View from Wall

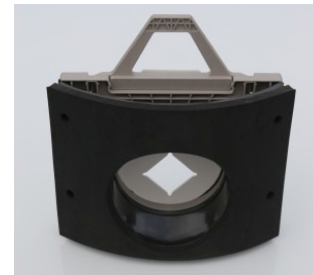
Orifice Plate – Round Adapter



Front



Left Angle



Back – View from Wall

Installation:

1. If necessary, cut protruding out-flowing pipe back flush to Catch Basin wall.
2. Use Mounting Plate as template to mark four hole pattern on Catch Basin wall.
3. Install four Stainless Steel Wedge Bolts (provided) perpendicular to Mounting Plate.
4. Install Mounting Plate and hand secure with four washers and nuts (provided).
5. Torque nuts to 40 N•m or 30 lbf•ft. Do not over-tighten.
6. Snap unit into place by pushing Handle Plate into dove-tail slot of Mounting Plate.
7. Record Unit Identifier along with Catch Basin Location according to municipal requirements.
8. Note – Unit Identifier with this model is NOT easily seen from street level.

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