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INTRODUCTION AND GENERAL INFORMATION

Floodgate, its associated entities and Trading Partners do not accept responsibility for any loss or damage as a result of the instructions contained within this manual.

Floodgate extends in modular form by positioning a series of units laterally between removable stanchions.

The unique system can be deployed in minutes to protect Garage Doors, Driveways and Commercial Buildings.

The Floodgate extension system is equally suited to protect existing structures and new construction.

Carefully read through this manual and follow the steps in the order listed.

Pay extra attention to subject matter which is noted with this symbol.

Descriptions and explanations following this symbol require extra caution or close tolerance action.

The concrete mixture used to secure the anchor of the stanchion will vary due to the wide range of pre-existing concrete surfaces and soil types thereunder.

You should engage a professional engineer and/or architect at the planning stage when evaluating the suitability of Floodgate products and your regulatory requirements.

Floodgate, its associated entities and trading partners, do not accept responsibility for any loss or damage caused by improper fitting or use of its products.

Floodgate, its associated entities and trading partners, do not accept responsibility for any loss or damage caused by the advice offered by an engineer or architect.
DESCRIPTION OF COMPONENTS

The parts shown in illustrations (A) and (B) come in one kit which also includes all of the necessary hardware.

**Stanchion & Anchor** (Kit Number: FG-001-SKT)

- Part number FG-SAS-01  (Illustration A)
- Part number FG-SAS-02  (Illustration A)
- Part number FG-020    (Illustration B)
- Hardware

**Seal Channel** (Kit Number: FG-21-RLK)
(Optional Extra)

- 2 Vertical end seal channels  (Illustration C)
- Masonry screws

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**ILL A**

**ILL B**

**ILL C**
Existing Structure Evaluation

Prior to fitting the Floodgate system to any existing structure, a full evaluation of the structure must be completed to assess whether or not the structure is in fact suitable to withstand the hydro dynamic and hydro static pressures that occur during a flood situation. This includes evaluating the force impact of static water load pressures and moving pressures.

In addition to other relevant factors, when conducting an evaluation you must consider the following:

1. Whether the structural integrity of the property justifies the expense of any structural change that may be required.
2. Whether you require any permits or other regulatory information as directed by the authorities governing the property site, or whether there are any associated fees relating thereto.

Pre-Construction Evaluation

Plan to incorporate the Floodgate extension system at the design stage of a new project.

Planning the Floodgate extension system at the design stage may result in substantial cost savings rather than retrofitting the system at a later date.

Follow the recommendations of your professional engineering consultant.

The evaluation should be done by a professional engineering consultant.
When the holes are bored and cleaned you are ready to set up the anchors.

1. Assemble the two aluminium gauge angles to the anchor assemblies using the four allen head cap screws. Finger tighten at this point.

**NOTE**
The front of the anchor is where the support rib is located (Illustration S).

2. Using a small square adjust the front gauge angle face B square to the top side edge face A (see illustration P and Q).

3. While holding the front gauge plate square to the anchor plate, tighten all four cap screws.

4. Re-check the front gauge plate again with the square. (Illustration Q).

5. Firmly clamp or block shim each end of the rigid straight edge into the vertical seal channels and against the floor. Ensure that the centre line marks (which are put on to the straight edge earlier) are facing upward as these are the marks which you must later line up with the centre line marks scribed on to the face of the aluminium gauge angles.

**ASSEMBLING THE GAUGE ANGLES**
The two angles are the same, but the Front gauge Angle is the one which is the positioning gauge for each stanchion, therefore it must be squared with the side edge of the anchor prior to tightening. See illustration P. The Rear Gauge Angle need not be squared.

**FRONT FACE**

**REAR GAUGE ANGLE**

**ILL P**

Face (A) and (B) must be square to each other as shown. A simple 6 in. square works nicely for this.

**ILL Q**

**ILL R**

Once the evaluation is complete you must determine the appropriate size or mixture of sizes of Floodgates to fit your openings.

**CHOOSING THE CORRECT SIZE GATES**

Once the evaluation is complete you must determine the appropriate size or mixture of sizes of Floodgates to fit your openings.

<table>
<thead>
<tr>
<th>STANDARD</th>
<th>REGULAR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LENGTH:</strong> 28.937 inch (735mm) - Expanding to a maximum 38.5827 inch (980mm)</td>
<td><strong>LENGTH:</strong> 34.252 inch (870mm) - Expanding to a maximum 43.3071 inch (1100mm)</td>
</tr>
<tr>
<td><strong>HEIGHT:</strong> 26.7717 inch (680mm) <strong>BOXED WEIGHT:</strong> 16.00kg</td>
<td><strong>HEIGHT:</strong> 26.7717 inch (680mm) <strong>BOXED WEIGHT:</strong> 18.00kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MEDIUM</th>
<th>LARGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LENGTH:</strong> 37.5984 inch (955mm) - Expanding to a maximum 46.6535 inch (1185mm)</td>
<td><strong>LENGTH:</strong> 46.2598 inch (1175mm) - Expanding to a maximum 55.315 inch (1405mm)</td>
</tr>
<tr>
<td><strong>HEIGHT:</strong> 26.7717 inch (680mm) <strong>BOXED WEIGHT:</strong> 19.00kg</td>
<td><strong>HEIGHT:</strong> 26.7717 inch (680mm) <strong>BOXED WEIGHT:</strong> 20.00kg</td>
</tr>
</tbody>
</table>

It is recommended that the expandable width of a Floodgate unit should not exceed four and a half inches. In certain scenarios this may not be possible and we advise contacting your supplier to discuss the options available.

The decision must be made prior to installing the vertical seal channel (kit number FG-21-RLK) and preparing the opening.

Once you have measured the opening (Q - see illustration D), you must choose a combination of units, such that their unexpanded width (A - see illustration E) the width of the stanchions (kit number FG-00l-SKT) and the width of the vertical seal channels, if used (B and C respectively - see illustration D) does not exceed the width of the opening by more than a quarter of an inch per Floodgate.

Some homes and commercial buildings have storm doors installed on the doorways and most are attached to the outside edge of the reveal, jam plate or trim, which interferes with the installation of the Floodgate units. Illustration (F) below shows one of several ways the Floodgate system can be adapted to avoid obstructions. Such problems can also be solved by creating a setback with concrete blocks or bricks.

**ILL D**

**ILL E**

**ILL F**

Dimension (A) can be ordered from 3 in. to 8 in. the Extended Seal Channels can be ordered separately.
PREPARING THE OPENING

Ensure the planning and evaluation stage is complete and you have identified the products you require and carried out any remedial work that is necessary to square and even wall reveals and ground area.

Installing the Vertical Seals (Kit Number: FG-21-RLK) (Optional Extras)

Ensure the right and left jam plates are square with the floor for at least thirty inches (762mm) high. See illustration G and illustration I.

When the corners are squared, you can install the vertical seal channel. See illustration H and illustration J.

Before you drill and install the vertical seal channel screws, you must apply a generous coat of adhesive to the full length of each surface of the seal channel where it comes in contact with the backing surfaces (e.g. reveal, doorstop, jam plate, brick moulding).

There are 24 mounting screws with each seal channel kit. If you are fastening against a masonry surface use a carbide tipped 5/32 inch drill bit. All the screws are suitable for wood and concrete. If threading into wood you need to drill a 3/32 inch hole first.

Illustration J

When installing the tapcon screws, ensure the heads of the screws are flush or below the top of the counter sink. If the screws are not flush or below they will cut the outer fabric of the Floodgate and cause it to leak.

The Door Stop Board should be replaced with one that is 1 1/4 in. thick and wide enough to reach from the outer face of the door to the back face of the Seal Channel.
With a recessed entrance the Floodgate System mounts easily. The Seal Channels are simply coated with a sealing exterior adhesive applied to the Channel Faces which come in contact with the property. Squared to the walkway and wall and screwed into place.

Note the design of the Seal Channels outer most leg. There is an access hole for the drill bit and cap on the top of the channel. The cap prevents the Floodgate from riding up when tightening the tension bolts on the lower edge of the Floodgate, thus reducing the amount of horizontal pressure required to secure the Floodgate in place.

Concrete floors and slabs vary greatly in terms of thickness and type of concrete. You must create a recess beneath the surface for the anchor which is then set in the concrete foundation. With this style of construction the risk associated with under size floor thickness, cracks and inadequate concrete reinforcement is greatly reduced.
An engineer will advise on the most appropriate method of boring the hole. Two popular methods include (but are not limited to) the use of a high pressure water saw or a diamond faced concrete hole drill.

**Reference Dimensions for a 171 inch (4343.4mm) wide bar.**

Use a straight, rigid guide bar (not supplied), cut to the width of the door opening. A guide bar made of 31.75mm x 31.75mm x 3.17mm (1 1/4 inch x 1 1/4 inch x 1/8 inch) angle steel or aluminium is recommended.

Mark a line across the guide bar at appropriate intervals. These marks represent the centre line spacing of the holes to be bored. The intervals depend on the mix of Floodgate units you identified at the planning stage as the most suitable.

Lay a carpenters square on the floor against the inner surface of the guide bar and mark a vertical and horizontal line; this becomes the centre of each bored hole.

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**CAUTION:**

Whether or not you opt to use the Vertical Seal Channel, the 3 in. / 76.2 mm centerline dimension of the bored stanchion holes must always be maintained from whatever surface the back face of the Floodgate comes into contact with on the opening.
**NOTE:** The 3 in. / 76.2mm set back dimension to the centre line of the bored holes is critical to insure proper alignment of the Floodgate panels.

at their respective centre lines.

Floodgate, each stanchion, or dimension (b) is position approximately 34¾ in. / 870mm

This illustration reference an opening of 14¼ ft for (a), using (5) standard

VERTICAL SEAL CHANNEL (OPTIONAL EXTRA) BRICK MOULD

3 in. / 76.2mm

8 in. / 203mm

3½ in. / 870mm

JAM PLATE

Door Stop

BRICK MOULD

Surface must be level and flat within 1/8 in. / 3.17mm

**BORING THE HOLES FOR THE ANCHOR**
When the holes are bored and cleaned you are ready to set up the anchors.

1. Assemble the two aluminium gauge angles to the anchor assemblies using the four allen head cap screws. Finger tighten at this point.

**NOTE** The front of the anchor is where the support rib is located (Illustration S).

2. Using a small square adjust the front gauge angle face B square to the top side edge face A (see illustration P and Q).

3. While holding the front gauge angle square to the anchor plate, tighten all four cap screws.

4. Re-check the front gauge plate again with the square. (Illustration Q).

5. Firmly clamp or block shim each end of the rigid straight edge into the vertical seal channels and against the floor. Ensure that the centre line marks (which are put on to the straight edge earlier) are facing upward as these are the marks which you must later line up with the centre line marks scribed on to the face of the aluminium gauge angles.

The two angles are the same, but the Front gauge Angle is the one which is the positioning gauge for each stanchion, therefore it must be squared with the side edge of the anchor prior to tightening. See Illustration P. The Rear Gauge Angle need not be squared.

Face (A) and (B) must be square to each other as shown. A simple 6 in. square works nicely for this.
Pour and fill the hole with concrete to a depth of 4 inches from the top and tap or vibrate the concrete to ensure it completely settles at the bottom of the hole. Position the anchor assembly down into the concrete.

1. Align the centre line marks on the gauge angle with the line marks on the centre edge. (Illustration T).

   Ensure you clamp the centre line marks together so that both aluminium gauge angles are resting flat on the surface of the floor. (Illustration S).

**NOTE** Each anchor assembly is designed with a 3 x 3 inch hollow square tube. At the very top of the tube and through its rear wall, just under the threaded plate, there is a 3/4 inch hole in the tube. This hole allows air to escape from the inside of the tube while the inside is filling with concrete. (Illustration R).

2. While filling 3 x 3 inch tube, gently tap on the very centre of the top plate with a block of wood or handle end of a hammer.

   It is critical that the inside of the anchor tube is completely filled with concrete to maintain maximum strength.

3. Ensure the top face of each anchor plate is flush with the top of the floor.

   Do not remove the clamps and gauge angles for at least 24 to 36 hours depending on the temperature, humidity and soil mechanics.
INSERTING ANCHOR ASSEMBLIES

171 in. LONG
4343.4 mm

MARK EVERY 34½ in.
870 mm

RIDGED STRAIGHT EDGE

CLAMP (4)

Centre line mark on face of Gauge Angle must line up with marks on Ridged Straight Edge

CENTRE LINE MARK ON FACE OF FRONT GAUGE ANGLE

The parts shown in illustrations (A) and (B) come in one kit which also includes all of the necessary hardware.

Stanchion & Anchor (Kit Number: FG-001-SKT)

• Part number FG-SAS-01 (Illustration A)
• Part number FG-SAS-02 (Illustration A)
• Part number FG-020 (Illustration B)
• Hardware

Seal Channel (Kit Number: FG-21-RLK)

(Optional Extra)

• 2 Vertical end seal channels (Illustration C)
• Masonry screws

DESCRIPTION OF COMPONENTS

STANCHION ASSM.

PART No. FG-SAS-01
GENERAL MAINTENANCE AND INSTALLATION

Removing the clamp

Keep the 1/2 in. - 13 X 1 Allen Cap Screws, in a safe place as they will be needed to secure the stanchion to the anchor plate in the event of a flood.

Maintaining the anchor

1. There are (4) 1/2 in. - grub screws with every stanchion (kit Part No. FG-204.) These must be coated with a waterproof grease or antiseize compound and screwed into the holes on each plate. This will protect the threads in the plate and allow traffic to move across the anchor plate without damaging the threads.

2. These plugs should be flush with the top of the plates and no deeper. They should also be regreased periodically & after every use to ensure they will come out when needed.

Installing the blue upright

1. To prevent any leakage between the top of the anchor and the bottom of the upright, the machined groove should be filled with a suitable sealant compound prior to attaching (see illustration V)

2. To avoid damaging the threads when attaching the upright to the anchor, all four stainless steel capscrew bolts should be loosely inserted at first before tightening each using the allen key provided.

Maintaining the sealing surfaces

Always keep the Top Face Plate of the anchor and the Bottom Face Plate of the stanchion clean and free of nicks and dents as these are critical sealing surfaces.

The upright should be cleaned and dried after every use and stored in a dry environment.