

Rodding, Outlet and Special Units

Because FastFlow is manufactured to an exact customer specifications there is an unlimited variation of ancillary units available. As the manufacturers of the product F&H Ltd can engineer any configuration of unit size and shape. We are able to provide solutions to on site issues when the drainage line needs to be altered to work around existing or unplanned services.

Our bespoke units include the following:

- **Rodding Units with a variety of removable lid options**
- **Outlet units with any outlet configuration, size, exit angle or location, base, end or rear**
- **End units**
- **Transition units that allows for a smooth change in unit size along a run**
- **Special Rodders with oversize removable top and bottom for sump access**
- **Drop Down Kerbs and Flush Units that allow the drainage run to continue uninterrupted across a pedestrian crossing or vehicle access point. Available with solid or heel guard tops**
- **Pinch point units for heavily trafficked or vulnerable areas**
- **Intermediate units to allow for changes in run width and depth.**

All units are manufactured to the same strict quality requirements for all our Kitemarked products

Our pinch point units are particularly useful on heavily trafficked junctions, roundabouts and areas subjected to HGV traffic. Use of FastFlow on areas such as bus stations, lorry parks and car parks provides the highest strength product available in the most demanding areas.

Whatever the problem, FastFlow has a range of complementary ancillary units that gives the contractor a solution.



A reputation built on high standards.

Fowler and Holden Ltd have developed a strong reputation over many years for quality engineering and production. As a reflection of our constant high standards, we conform to several quality schemes, giving our customers a guarantee that our products meet their expectations. Below are some of the standards to which our products conform.

ISO 9001

The Quality Management System of Fowler and Holden Ltd has been approved by ISOQAR to conform to ISO9001:2008. This global standard is concerned with an organisation's ability to demonstrate a quality management system which allows the consistent supply of products, meeting the customer's requirements. The aim of ISO9001:2008 is to give trade suppliers and customers an initial benchmark of quality which is applicable across a wide variety of industry sectors.



Carrying the Kitemark

EN1433 & EN124

This European Standard specifies requirements for water drainage channels used in areas open to the public and/or vehicles.

EN1433 and EN124 covers materials, design, testing, marking, quality control, and inspection procedures, and the standards have the same status as a British Standard.

The British Standards Institution is one of only a few notified bodies that can test units to this specification.



All of our in scope ductile iron/cast iron products comply with BSI EN1433 and carry the British Standards Institute's Kitemark.



UKCA Marking

UKCA Marking is a manufacturer's statement that a product conforms to relevant requirements of United Kingdom legislation, covering health, safety and the environment. These standards, or product directives, define benchmarks and technical specifications which must be met in order to achieve the status.

We welcome any customer or third party audit and are happy to make documentation available to view.

Installation in 4 easy steps

FastFlow bridge drainage units are straightforward to install, simply lay on standard bedding mortar, apply sealant to one end and install.

There is NO requirement for the contractor to ensure the product is installed to specific criteria to maintain compliance.

A type I unit can be laid in conjunction with standard parapet and surfacing materials as per your design and build.

4 Easy Steps

- 1 Layout and arrange all units prior to installation and position rodding units and outlet units in the correct positions. Ensure any expansion joint assemblies are situated correctly.**
- 2 Install the expansion joint assembly first.**
- 3 Install to a line and level ensuring the high point of the fall is maintained.**
- 4 Apply sealant to one end of each unit directly before laying.**

FastFlow is produced in a single piece for easy handling and installation; all units are supplied either as cast or with an eco friendly coating. The product is despatched from our premises direct to site or to the customers specified location. FastFlow is supplied packaged on robust pallets wrapped and banded for safe transportation and subsequent storage.

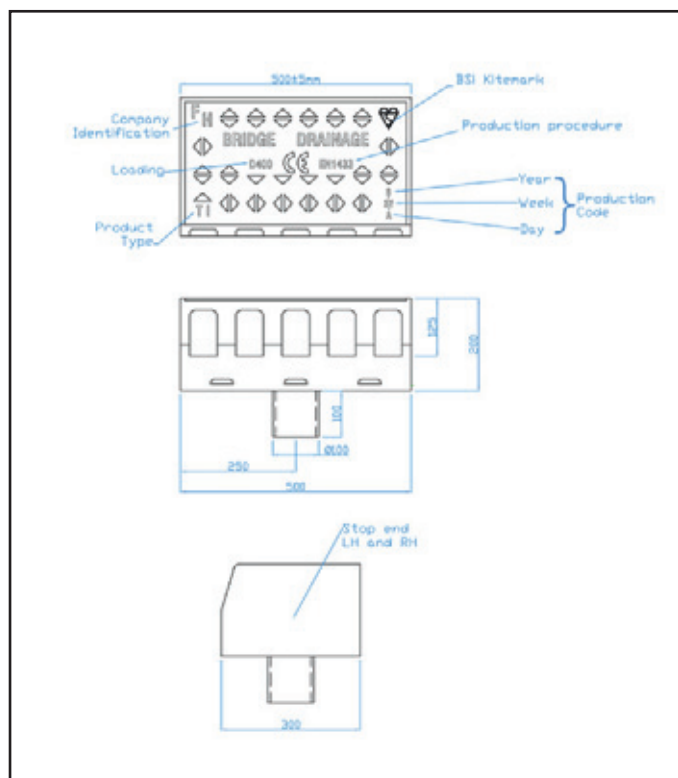
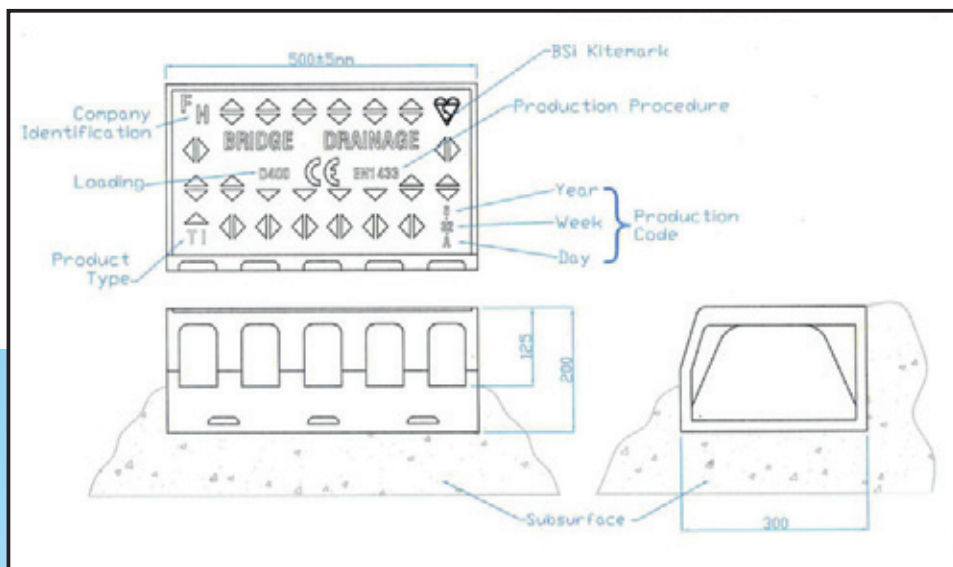


Unrivalled specification

The FastFlow bridge deck drainage range provides a complete drainage solution for both bridges and standard groundwork's. To ensure FastFlow is specified simply include a specification clause that stipulates

- **Units to be manufactured from EN 1563 Ductile Iron**
- **All units to have a minimum D400 loading EN1433 compliant**
- **Manufacturer to be ISO9001 accredited**
- **Product to be KITEMARKED**
- **Product to be UKCA marked (mandatory)**
- **Product to be supplied with either natural as cast finish or with ECO friendly coating requiring no ongoing maintenance**
- **5 surface inlets and if required 3 subsurface inlets**
- **TYPE I product load tested free standing**
- **Installed as tested no special installation detail required**
- **Fire Resistant**

FastFlow is supplied direct to site from the manufacturing site in the UK.



Expansion Joint problems solved

The Expansion Joint on a bridge often proves to be the most problematic area for both contractors and designers. Allowing for movement whilst keeping the joint dry is of primary importance on any bridge.

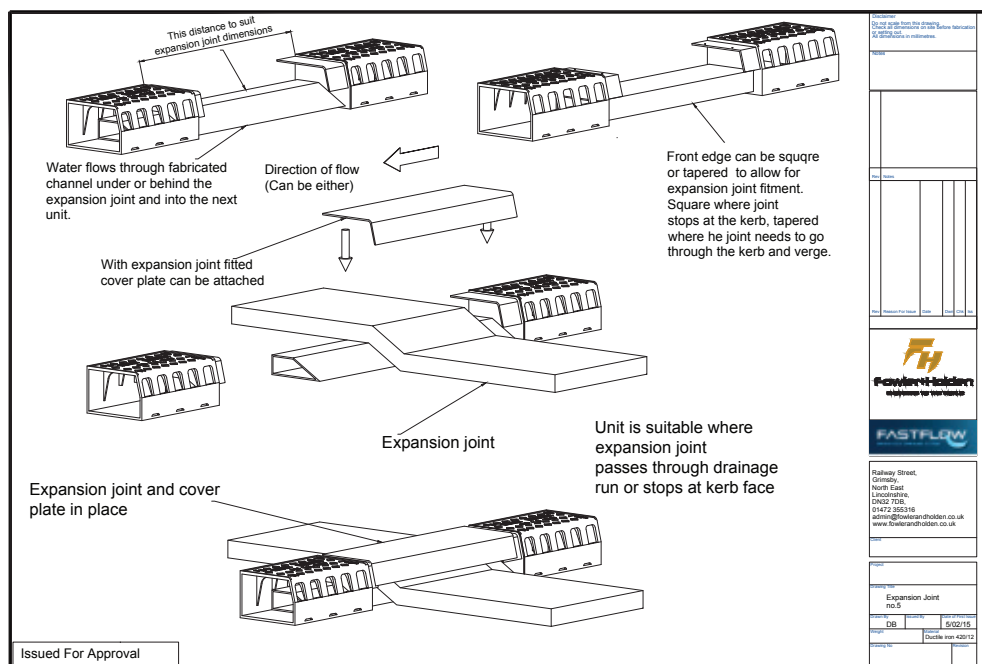
Fowler & Holden manufacture a range of products that enable the designer or contractor to cross an existing or new expansion joint. We work closely with Ekspan Ltd to provide a complete expansion joint solution if required.

We offer several types of expansion joint drainage ranging from a small single pipe unit to a large capacity unit suitable for use where high flow rates are required. Our expansion units can allow horizontal, vertical, axial and lateral movement of the joint.

Every unit meets the same stringent requirements as our FastFlow bridge drainage units and is load tested to D400. The units are manufactured from cast components so offer

the same robust construction and reliability of a standard unit.

F&H Ltd also provide bespoke engineered solutions for joints that are non standard or need to be mated to non standard drainage units. We have a solution for any size or configuration of expansion joint.



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Saving you money whilst complying

Why a Type I product saves you money and ensures compliance over a Type M product.



Type I

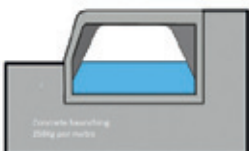
A type I product conforms with EN1433 and will withstand a 44 tonne or D400 compression load free standing. The product is fully quality assured by the manufacturer. There is no requirement on the purchaser to ensure the product is installed to specific criteria to maintain this compliance.



Type I

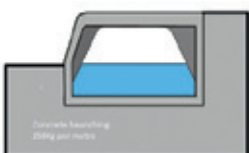
A type I can be laid in conjunction with standard parapet and surfacing materials. This gives a massive saving in both weight and cost of high strength concrete.

D400 Compliant at the point of purchase. No specific installation required to meet the loading.



Type M

A typical type M unit requires approx 250 Kgs of high strength concrete haunching per metre to have any chance of complying with a D400 loading. It is the responsibility of the contractor to install exactly to the manufacturers detail to ensure compliance against standard.



Type M

A type M unit can be heavier per metre once encased in concrete; the cost of the concrete is high both in environmental and monetary terms. Type M units rely on using the correct installation detail to ensure compliance to standard. The sustainability of these types of units is questionable when all these factors are considered.

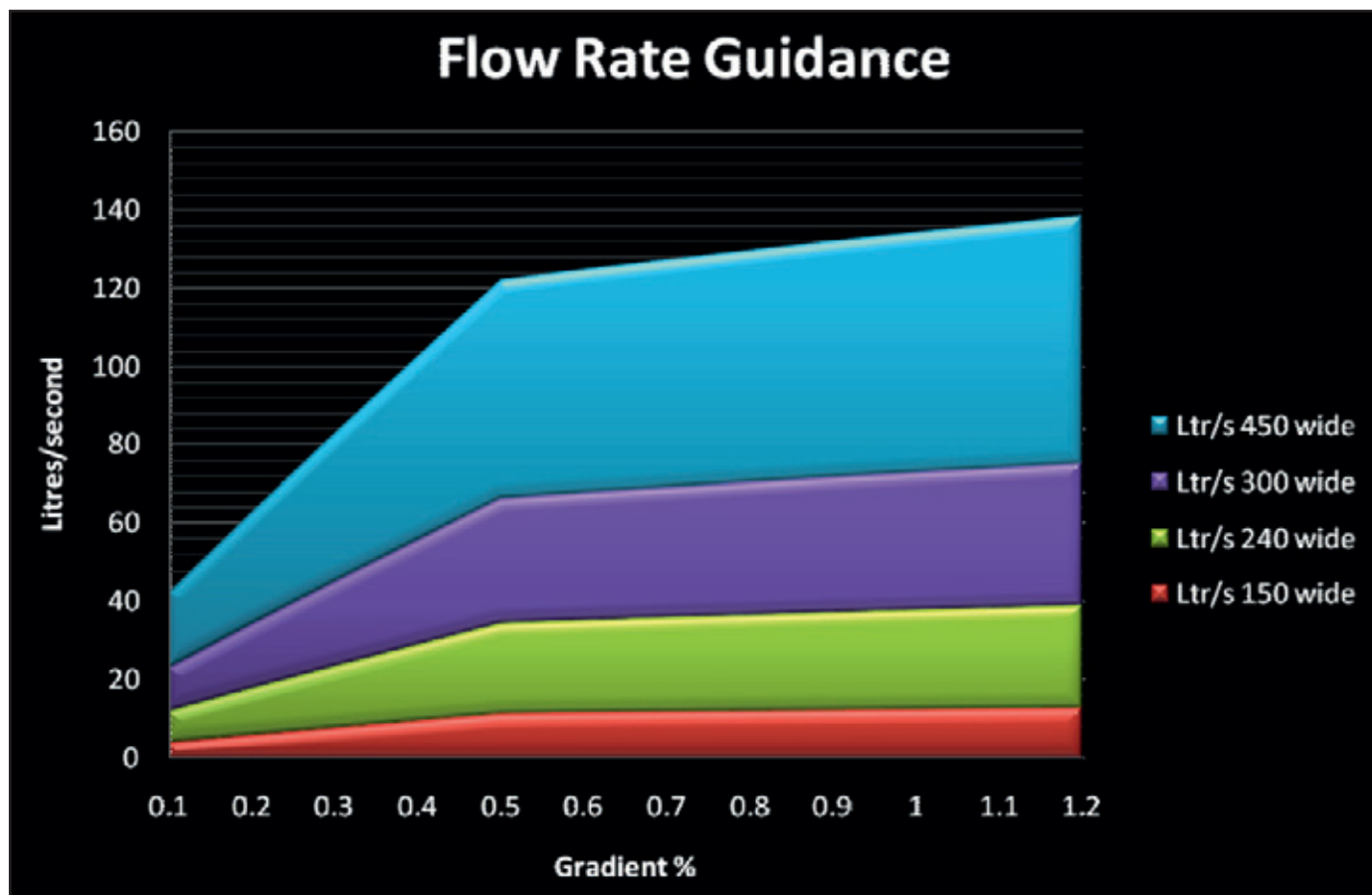
To be sure that you are installing a product that has the lowest cost over its lifetime, is environmentally sustainable, meets the loading requirements under all conditions and will still be providing a trouble free drainage solution in fifty years Insist on a TYPE I Ductile Iron system.

Calculations based on 240mm wide x 100mm deep water channel, standard unit



Flow rate

Flow rate is calculated using the HR Wallingford method as recommended by the Highways Agency. The equation has an in-built safety factor to allow for the inevitable silt and debris build up ensuring that the unit continues to work between maintenance cycles.



The graph provides a guide to the size of unit necessary to achieve a required flow. The calculations are based on a 1000m² area 100m long and 1 outlet utilising a 100mm channel depth.

Fowler and Holden Ltd will carry out flow rate calculations on behalf of designers and contractors. With climate change and increased storm rainfall levels the performance of drainage schemes has become a crucial factor in ensuring safety for road users. FastFlow is manufactured to a size that matches the bridge deck configuration and flow rate requirements giving designers ultimate flexibility on the depth and width of the unit specified.

Units can be supplied either half batter or 45° splay.