Talbot

MATRIX METER BOX SYSTEMS

Below Ground Boundary Boxes

The Talbot Matrix Boundary Box is a telescopic, self contained chamber system that is used to provide a safe and clean environment for concentric meters.

The Talbot Matrix Meterbox was designed in response to customer requirements and includes a variety of features that provide benefits to all users - in fact, to everyone involved in the meter supply chain.

Whether a meterbox is needed for retro-fitting or one for a new housing development, the Talbot Matrix Boundary Box will suit your needs.

Benefits

- *Using only standard tools Matrix can be easily installed, operated and maintained*
- *The moulded one piece telescopic chamber greatly reduces the risk of leaks*
- *Excellent visibility and access to both the meter and control valve is provided by the surface box lid*
- *The 16 bar pressure rating gives excellent performance, even exceeding the typical 12 bar pipe pressure rating*
- *The robust plastic surface box has a load bearing capacity of over 20 kN*
- *The removable square surface box flange aids back filling and can be rotated through 360° to make final alignment with paving materials easy*
- *Available as a short version for use in shallow service situations*
- *Fully designed and tested to WIS specifications*

Technical help

For further technical data, product specifications and general information please contact our Customer Service Department at the telephone number shown below.

tyco / Flow Control / Tyco Waterworks

Technical data

Sizes:

Connections -

Metric, Imperial and Irish Heavy Gauge options in the following sizes:

20mm (1/2"), 25mm (3/4") and 32mm (1") PE

Height adjustment

Standard Box:	470mm to 870mm
Short Box:	310mm to 545mm

The above dimensions Include 50mm of final height adjustment in the surface box

Dimensions are taken from the centre of the inlet pipe to the top of the surface box flange

Standards

Loading:	BS5834 Part 2 Grade C
Watertight:	4-37-01 class 1 (where applicable)
Valve Type:	1/4 turn
NRV:	Single
Material:	Acetal or Polypropylene

Additional Components:

Meter Blanking Plugs:

Full Flow (white), Trickle Flow (yellow) and No Flow (red).

Tools: A range of tools are available to aid meter fitment and unit maintenance.

Spares: A full range of spares are available.

General application

The Talbot Matrix Boundary Box system has been designed and manufactured to comply with Water Industry Specification No. 4-37-01 and BS5834 Part 2.

The materials used within Matrix that come into contact with water have WRAS approval and Matrix has been submitted for 3rd party approval by the WRAS.

Matrix is designed for an asset life in excess of 50 years subject to normal operating and maintenance conditions.

As with all Talbot products the Matrix Boundary Box system is manufactured in an ISO 9001 quality assured environment.

Safety

As with all industrial products it is important to take adequate safety precautions such as the use of adequate protective clothing like gloves, overalls, eye protection and safety footwear during installation, use and maintenance.

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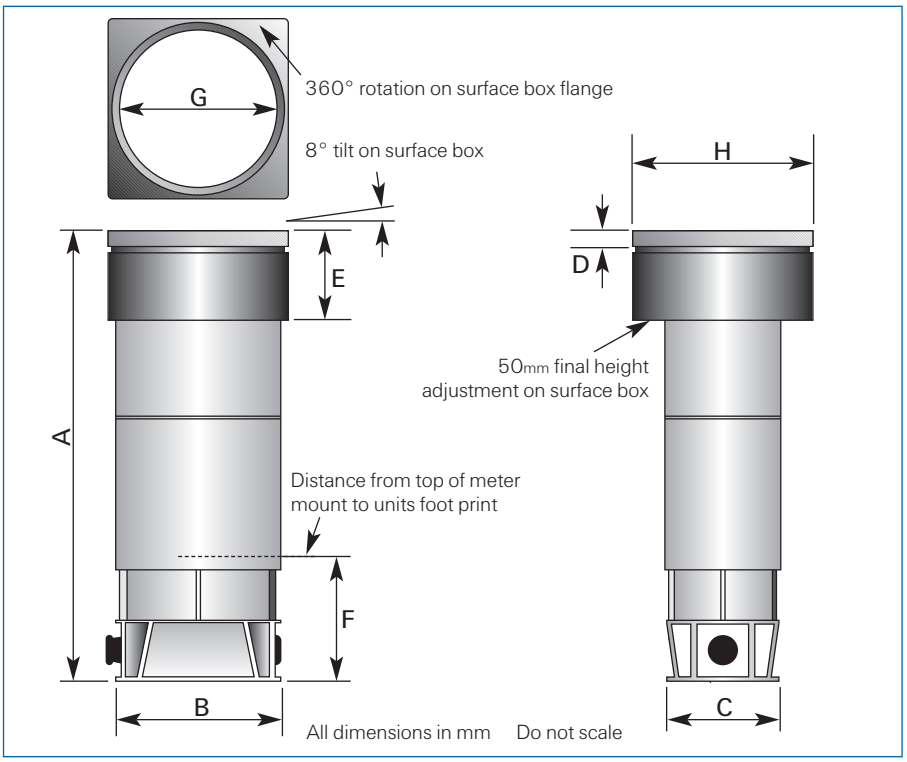
The Talbot Matrix Telescopic Boundary Box

- **Telescopic chamber - One single moulding.**
  The moulded one piece telescopic chamber greatly reduces the risk of ground water getting into the system through any seals or joints. This means that the meter reader is less likely to encounter a chamber that is full of water. The telescopic chamber combined with a final height adjustment of up to 50mm in the surface box gives excellent overall height adjustment.
- **Ease of installation.**
  Its small, stable footprint makes Matrix easy to install in congested trenches and requires minimal excavation. The round surface box has a removable square flange that makes correct back filling easy. The surface box flange can also be rotated through 360° and the surface box has up to 8° of tilt making alignment with paving materials and gradients simple.
- **Ease of operation.**
  The surface box lid provides excellent visibility and access to the meter and shut off device. The shut off device is a ¼ turn ball valve that greatly reduces head loss and has a built in stop, making it simple to turn the supply on and off. The system can also be converted to meet the requirements for automatic meter reading installation.
- **16 bar pressure rating.**
  The 16 bar pressure rating of the Talbot Matrix Boundary box not only exceeds the 8 - 10 bar normal working pressure, it also exceeds the typical 12 bar pressure rating of the pipe. Matrix is designed to cope with almost any eventuality regarding water pressure fluctuations, reducing the risk of failure in the field. All the materials used in the Matrix Boundary box that come into contact with water are WRAS listed.
- **Flexible connection system.**
  Optional vertical or horizontal Talbot Pushfit inlets and outlets are available in 20mm, 25mm and 32mm. alternatives as well as their imperial equivalents and Irish heavy gauge sizes. These alternatives offer an easy and efficient method of connection, helping in congested trench conditions where traditionally several connections may have been needed to effect an installation.

Dimensions and Details

Box Type	A (min)	A (max)	B	C	D	E	F	G	H	Weight
Standard Unit (20mm,25mm and 32mm connections)	499mm	870mm	208mm	151mm	20mm	112mm	170mm	173mm	225mm	4.5kg
Short Unit	310mm	545mm	208mm	151mm	20mm	112mm	170mm	173mm	225mm	3.4kg

Matrix can be supplied to suit imperial pipes including Irish heavy gauge and normal gauge imperial pipes.



Material Specification

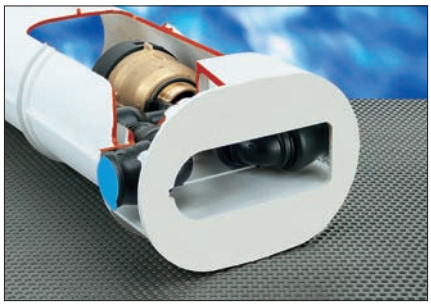
Description	Material
Surface Box Assembly	Glass Filled Polypropylene
Chamber Assembly	Mineral Filled Polypropylene
Seals	
In contact with water	EPDM or Nitrile
Other	EPDM or Nitrile
Pressurised Parts	Acetal

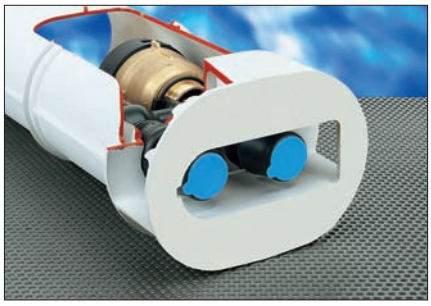
Compatible Meters

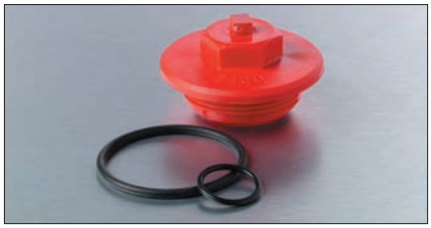
The meter housing accepts industry standard end fitting G 1½" threaded (concentric) meters up to Qn 2.5m^3 per hour.
(Note, meters are not supplied with the Matrix unit).

Components

Component	Description
Chamber	The Matrix chamber consists of two sections, an upper and a lower chamber unit. These units are moulded in one piece so reducing the number of potential leak paths and helping to ensure that ground water is kept out of the chamber system. The chamber units are white and give good visibility of the meter. They combine telescopically giving a height adjustment in the standard Matrix Boundary box of between 470mm and 870mm without the need to cut the chamber to length. For shallow installations a short version of Matrix is available, here the two chamber units are both shorter, combining to give an overall height adjustment of between 310mm and 545mm.
Surface box	The Matrix surface box offers many benefits: ● The large lid can be opened clear of the chamber opening providing excellent visibility and access into the chamber for easy meter reading. (Note, meters are not supplied with the Matrix unit). ● The square flange on the surface box can be removed to aid back filling during installation. ● The square flange can be rotated through 360° aiding alignment with surface materials. ● The surface box is designed in such a way that allows extensive final adjustment. The surface box provides a combination of up to 8° tilt in any plane and a height adjustment of up to 50mm, making final alignment with surface materials and gradients an easy procedure. ● The surface box is fitted with a galvanised steel detector plate.
Inlets / Outlets	The Matrix Boundary Box is available with several different types and sizes of connection to suit a variety of pipe sizes and materials including metric, imperial and Irish heavy gauge PE pipes. Connections can also be supplied in either bent or straight configurations. ● **20mm PE** service pipe: The standard and short box systems are supplied with plastic 20mm Pushfit inlets and outlets for PE pipe. ● **25mm PE** service pipe: The standard and short box systems are supplied with plastic 25mm Pushfit inlets and outlets for PE pipe. ● **32mm PE** service pipe: Matrix can be supplied with a 32mm Pushfit inlet and outlet for PE pipe. *Matrix can also be supplied to suit imperial equilivants to the above pipe sizes including Irish heavy gauge and normal gauge imperial pipes.*
Insulation pad	The insulation disk is designed to aid effective protection against freezing to a temperature at ground level of -15°C.
Meter housing & shut off device	Matrix uses a combined meter housing and shut off device that is moulded as a single unit with an integral, removable single check valve. This single moulding eliminates many potential leak paths. The shut off device is an all plastic quarter turn ball valve with an integral stop. There are also 2 types of key available to suit customer needs, a long and a short version. Both these keys have a built in torque overload feature that reduces the risk of damaging the unit through over tightening. The valve is also designed to provide low head loss. The meter housing accepts industry standard end fitting G $1^1/_2$" threaded (concentric) meters up to Qn 2.5m^3/hour. (**Note**, meters are not supplied with the Matrix unit)
Additional components	● Alternative meter plugs: White plastic full flow meter plugs are supplied as standard, red no flow and yellow restricted flow options are also available as well as gunmetal alternatives. ● Tools: Tools are available to fit the meter plugs and meters.







Talbot Matrix Boundary Box Installation Instructions

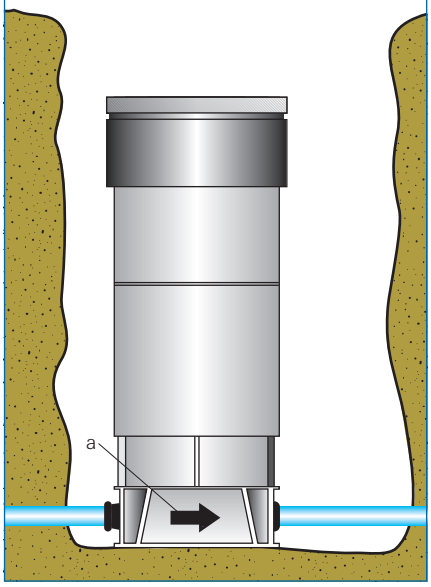
1. Sit the complete Matrix Boundary Box in position on firm ground and connect the inlet and outlet pipework.

Notes:

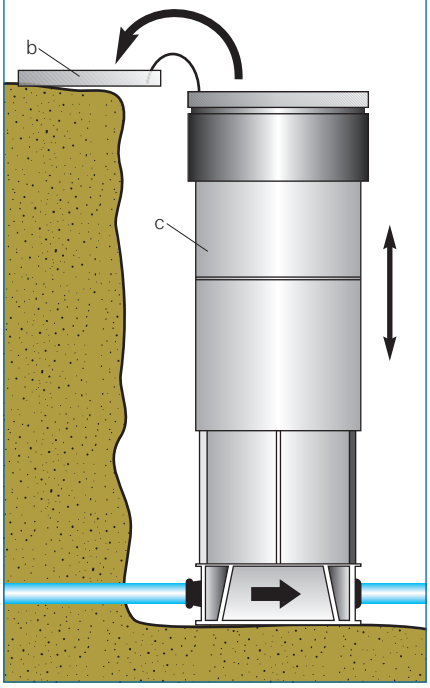
The direction of flow is indicated by an arrow (a) on the base.

If not using pipe inserts remember to bevel both the inlet and outlet pipes.

Tyco Waterworks advise that the system is flushed fully to avoid any debris entering the check valve assembly before connecting the service pipes.

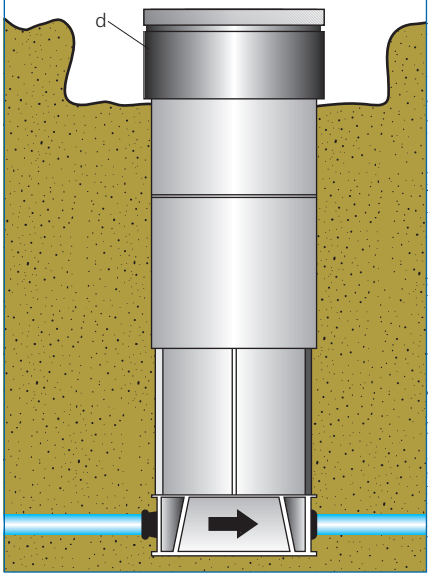


2. Open the surface box lid (b) to allow the telescopic chamber (c) to extend and adjust the box height to the approximate height of final reinstatement level.



3. Close the lid and backfill with suitable granular material in well compacted 150mm to 200mm layers to the level of the surface box frame (d).

Notes: Reference should be made to HAUC regulations governing reinstatement as well as adhering to good general working practices. For further information please refer to the HAUC website, http://www.haucuk.org



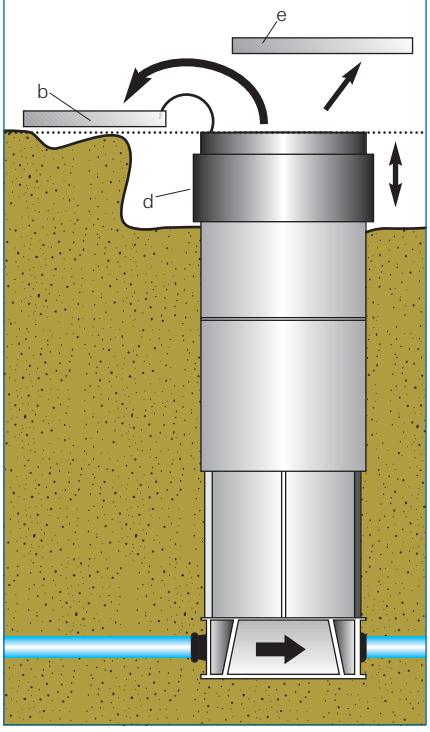
Note:

These instructions must be followed carefully, Failure to do so may cause damage to property. Talbot accept no liability for any loss, damages or claims arising from failure to adhere to these instructions and/or negligent installation.

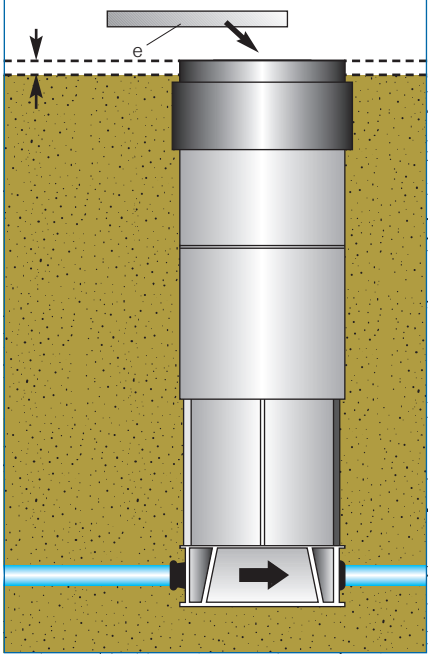
As with all industrial products it is important to take adequate safety precautions during installation, use and maintenance and use adequate protective clothing such as gloves, overalls, eye protection and safety footwear.

These products are designed for the conveyance of cold potable water. Save with the express written approval of Talbot, no warranty is given that the fittings are suitable for any other purpose.

4. Remove the square surface box flange (e) (if fitted) by rotating it.
Open the lid (b) and, using the final adjustment available in the surface box frame (d), adjust the height and tilt to the general requirement.



5. Close the lid and continue to backfill and compact to a level that allows for the final reinstatement material.
Replace the surface box flange (e) and reinstate to the final surface level.
The surface box frame may be raised approximately 20mm above the final surface level then compacted down with the surrounding material, helping to improve re-instatement quality.



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