

## Quick Guide – Product and Installation

# Universal IC

### Description

450mm diameter polypropylene inspection chamber for adoptable and non-adoptable applications. Compliant with Sewers for Adoption 7th edition [SfA7].

Choice of five base configurations for equal and unequal pipe connections.

Base configurations available for use with either 110/160mm OsmaDrain or 150mm UltraRib.

Shaft may be assembled to required invert depth by using shaft sections 4D975 (maximum 1.2m).

### Applications

- ⊕ For above ground access and maintenance inspection of buried pipework up to 1.2 metres deep

### Key Dimensions

- ⊕ Height of bases:
  - 295mm [for 110mm system]
  - 270mm [for 150mm and 160mm systems]
- ⊕ External shaft diameter: 450mm
- ⊕ Shaft section length: 305mm
- ⊕ Maximum installation depth: 1.2m

### Key Features & Benefits

- ⊕ Fast, easy installation: no wet trades
- ⊕ Lightweight: no lifting equipment required
- ⊕ Push-fit shaft sections: one or more can be used to achieve required invert depth
- ⊕ Final shaft section can be cut to required length
- ⊕ No additional trench excavation required
- ⊕ Square cover and frame – for use with 4D975 shaft in situations requiring loading up to 15kN (1.5 tonnes)

### Compliance

Universal Inspection Chambers comply with the following standards and regulations

- BS EN 13598-1: 2010 ♡
- SfA7 Typical Chamber Detail – Type 4 (to max. 1.2m depth only)
- Building Regulations – Part H1: Shallow only, to maximum depth of 1.2m



Universal Inspection Chamber assembly

This Quick Guide is an extract from brochure (ref OWIC001) Osma + Wavin Inspection Chambers, Product and Installation Manual. The full document is available for download at [www.wavin.co.uk](http://www.wavin.co.uk)

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### Typical Installation of 450/500mm dia. Inspection Chamber

The following is a typical summary of the installation procedures required to install Osma 450/500mm dia. Inspection Chambers.

All elements are lightweight: may be handled/installed by a single person.

#### Excavation

- Take precautions against trench collapse: support trench sides deeper than 1.2m

#### Preparation

- Prepare and compact 100mm regulating bed of 'as dug' or granular material in trench bottom

#### Positioning

- Use standard jointing sequence to connect 110/160mm OsmaDrain or 150mm UltraRib pipes to inlets/outlets
- Push blank-off plugs externally into any unused outlet(s)

*NOTE: The main through channel MUST be used. Bends up to 45° may be used on any inlet or outlet.*

#### Shaft assembly – 450mm Inspection Chamber

- Clean inside of Base socket and lubricate this entire area
- Position first shaft section into Base socket. Vertically push home manually
- Push-fit further shaft sections as required for invert depth. Ensure inside of each shaft section is pre-lubricated

- Cut final shaft section to approximate required height, using a fine-toothed saw. (Use external rings as cutting guides)

#### Shaft assembly – 500mm Inspection Chamber

- Cut corrugated shaft to approx. Invert depth of Chamber. RECOMMENDATION: leave extra 300mm depth to allow for possible final site changes
- Locate sealing ring between 2nd and 3rd ribs from shaft bottom. Ensure ring is seated correctly/not twisted
- Clean inside of Base socket and lubricate this entire area
- Position shaft at 45° angle into Base socket. Vertically push

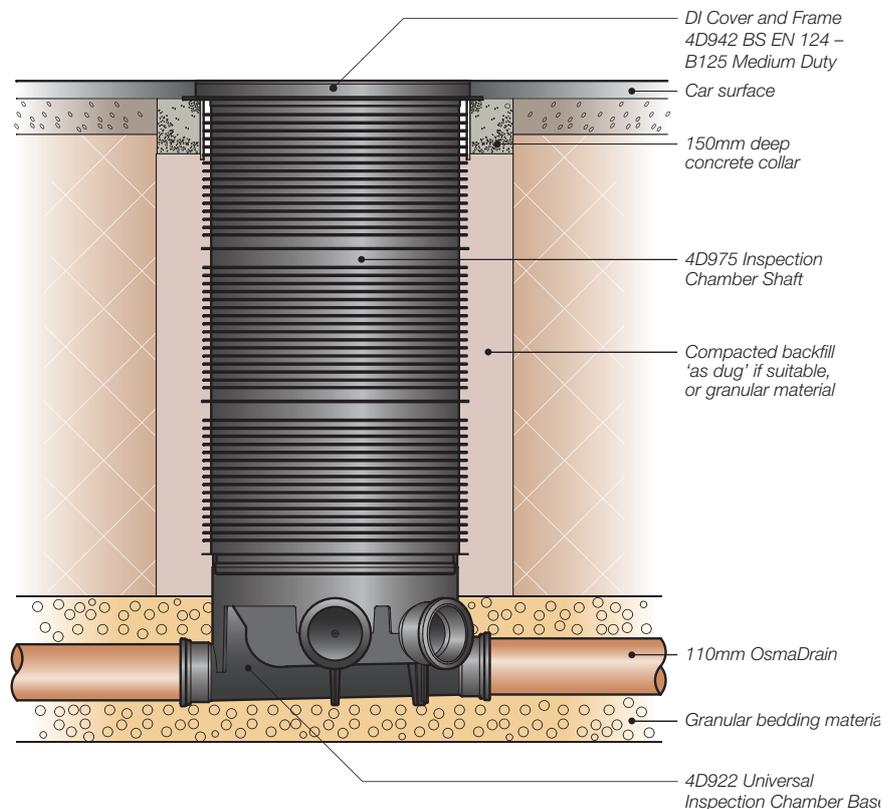
home manually or, if required, with mechanical assistance (if so, protect top of shaft)

#### Backfill trench

- Before starting backfill, cover top of shaft to prevent ingress of dirt or grit
- Select suitable sidefill – use 'as dug'. If not appropriate, use suitable granular material, similar to bedding material
- Avoid knocking shaft during backfilling – and keep free of debris
- Backfill to formation level. Then trim shaft to required height using fine-toothed saw

*NOTE: If finished ground level is not yet known, leave shaft proud of surface and keep open end covered until final completion.*

Figure 7: Typical installation detail: Universal Inspection Chamber



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### Cover and Frame: Installation onto/ into 450/500mm dia. Inspection Chambers

For green areas and pedestrian areas NOT\* subject to vehicle loading (See Figure 8).

EXAMPLE: 450mm Inspection Chamber in domestic gardens

- ⦿ Trim shaft section at last stage of construction. Ensure unit is at correct height
- ⦿ Prepare selected Cover and Frame [4D920, 4D924 or 4D927] for installation into shaft
- ⦿ Position the cover and frame spigot into the shaft section
- ⦿ Fix frame to shaft using self-tapping screws

EXAMPLE: 500mm Inspection Chamber in domestic gardens

- ⦿ Trim shaft section at last stage of construction
- ⦿ Locate sealing ring (6D917) between 2nd and 3rd ribs from shaft top. Ensure ring is sealed correctly, not twisted
- ⦿ Prepare NIC Telescopic Adaptor (6D940), position over top of shaft and push fully home
- ⦿ Prepare selected Cover and Frame [4D920]
- ⦿ Position the cover and frame spigot into the Telescopic Adaptor
- ⦿ Fix frame to adaptor using the eyebelts provided

\*For A15 applications subject to occasional loading up to 15kN (1.5 tonnes) (See Figure 9).

EXAMPLE: 450/500mm Inspection Chambers domestic paths/patios

- ⦿ Leave top 150mm of shaft clear of backfill
- ⦿ Lay 150mm thick slab of pre-cast or in situ concrete around top of shaft chamber
- ⦿ Prepare selected Cover and Frame [4D920, 4D924 or 4D927] for installation into shaft
- ⦿ Position the cover and frame spigot into the shaft section
- ⦿ Fix frame to shaft using self-tapping screws

For B125 applications subject to medium duty loading up to 12.5kN (12.5 tonnes) (See Figure 10).

Figure 8: Installation detail – green areas (non-loaded)

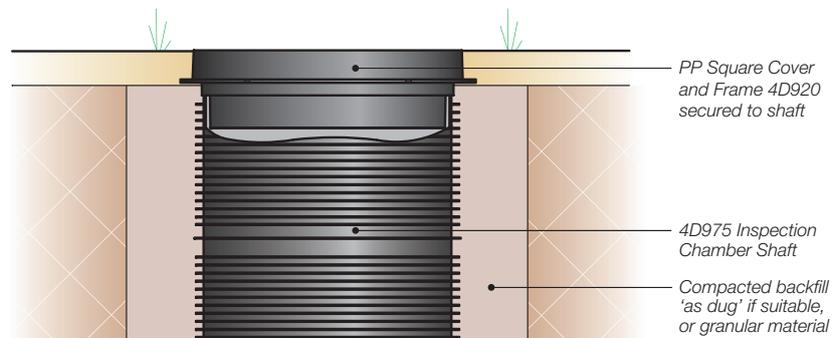
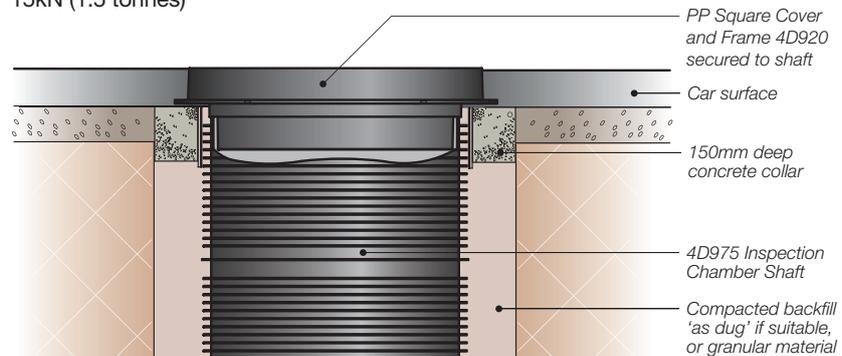


Figure 9: Installation detail A15 – areas subject to occasional vehicle loading up to 15kN (1.5 tonnes)



EXAMPLE: 450/500mm Inspection Chambers in paved areas with limited traffic load

- ⦿ Trim shaft section at last stage of construction. Ensure unit is at correct height
- ⦿ Protect shaft from traffic loading by shuttering its external ribs
- ⦿ Lay 150mm thick slab of pre-cast or in situ concrete around top of shaft chamber with minimum opening 500mm x 500mm – or 500mm diameter – to ensure that any loads are distributed away from the shaft
- ⦿ On top of slab, construct Class B engineering brickwork OR concrete blocks OR pre-cast concrete seating rings up to required height
- ⦿ According to required loading application, position Ductile Iron B125 Cover and Frame or D400 Cover and Frame on top of slab

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Figure 10: Typical installation detail: 500mm dia Inspection Chamber, Type 4

