



CAROFLOW Floor Drainage outlets are manufactured to the highest standards to give superb products that combine superior corrosion resistant materials with an aesthetically pleasing finish and the assurance of performance expected from all **CARO** products.

Trapped and Untrapped Floor Outlets

Both body and clamp are manufactured in LM6 Aluminium alloy that is then pre-treated before being electrostatically powder coated and oven baked.

The outlet incorporates a circular groove that retains a "O" ring to ensure a completely watertight seal with flexible sheet membranes as the clamping ring is tightened into position. (If asphalt membrane is used, the "O" ring should be removed).

The clamping ring is manufactured with a small "weep" hole to allow any trapped water within the screed to drain into the outlet body. If pressure testing of the drainage system will be required, ensure that the plug supplied has been left in place to seal this "weep" hole.

Once secured the clamping ring is then able to receive the throat of the grating assembly, which is pushed into the opening that contains a further ring seal to allow total flexibility in the adjustment of both height and level. (See below).

The grating assemblies (see page 26) are high quality nickel bronze castings or chrome plated zinc die castings. They are all available in various shapes and sizes to suit most flooring applications and have a 110mm O/D throat that gives full and un-restricted access to the body unit for cleaning and rodding out.

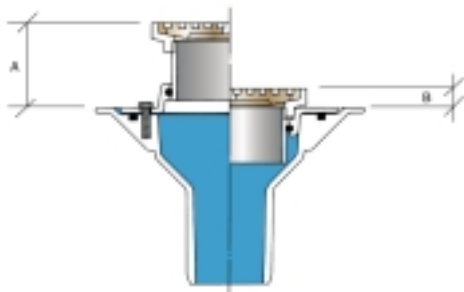
Height Adjustability

Both Untrapped and Trapped **Caroflow** outlets make use of a reversible clamping ring to allow the waterproofing membrane to be sealed to the draining body of the outlet and to give a totally flexible combination of height and level adjustments to the grating assembly.

This height and level variation is achieved with an inset O-Ring in the clamping ring mouth that grips and seals the 110mm diameter throat of the grating assembly.

The throat or spigot is available in three standard lengths to allow for differing installation situations, although it is possible to produce in any length that is required, by special order.

If Long Spigot (/LS) is to be used, ensure the Trapped Body assembly is ordered with extended length dip tube.



Description/Code	Height Variation	
	High Position - A	Low Position - B
Short Spigot (/SS)	54 - 83 mm	17 - 49 mm
Medium Spigot (/MS)	83 - 138 mm	49 - 74 mm
Long Spigot (/LS)	138 - 238 mm	74 - 174 mm



See page 23 for details



See page 23 for details



See page 24 for details

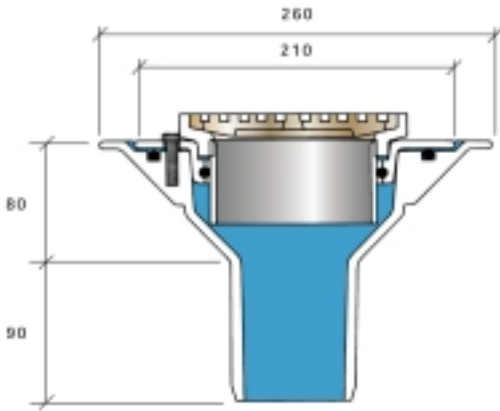


See page 26 for details

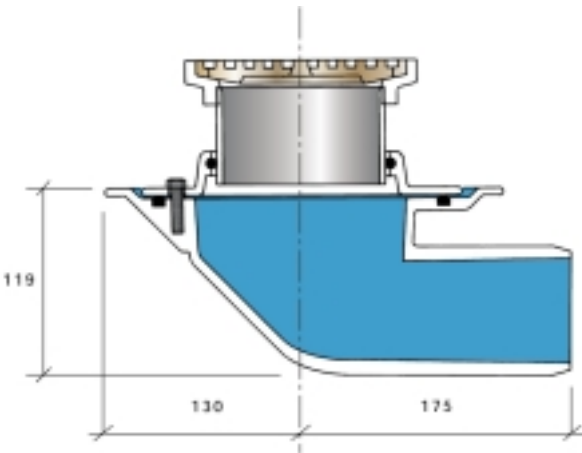


See page 28 for details

Untrapped Floor Outlets



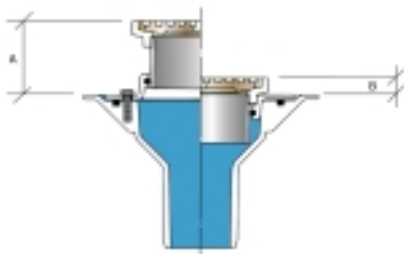
Vertical Spigot Untrapped Code UVS/75
 (shown with FD/150C/SS, 150mm dia, circular grating assembly (short spigot) in clamping ring, lower position)



Horizontal Spigot Untrapped Code UHS/75
 (shown with FD/150C/SS, 150mm dia, circular grating assembly (short spigot) in clamping ring, higher position)



All drawings above are shown 1:5 scale



For height adjustability please refer to page 22

Caroflow Untrapped Floor Outlet body assemblies are manufactured in electrostatically powder coated, pre-treated, LM6 Aluminium Silicon alloy to BS1490:1970, all with stainless steel fixings. Each Body Assembly requires the specification of a separate Grating Assembly, as detailed on page 26.

All Floor Outlet bodies will ensure a perfect seal between the water/damp proofing membrane and the drainage pipework.

Connections

Untrapped Floor Outlets are available with either a vertical or horizontal spigot that is suitable for direct connection to 75mm nominal bore uPVC pipework (82mm O/D). Adaptors for connection to varieties of plain-ended 100mm (and other sizes) pipework, are available from **Caroflow Limited**.

Example specification

CAROFLOW Vertical Spigot Untrapped Floor Outlet Code UVS/75 with 150mm x 150mm Square Grating Assembly with short spigot Code FD/150S/SS for installation in tiled floor finish, elsewhere measured, all as manufactured by

Caroflow Limited Tel: 01763 244446.



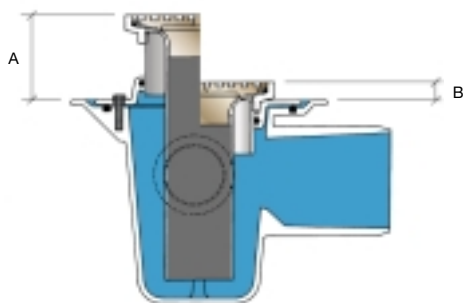
Caroflow Trapped Floor Outlet body assemblies are manufactured in electrostatically powder coated, Allocrome pre-treated, LM6 Aluminium Silicon alloy to BS1490:1970, all with stainless steel fixings. The integral trap, supplied with each body assembly, is designed to allow its overall height to be trimmed to suit the finished level of the grating bezel into which it is secured. Each Body Assembly requires the specification of a separate Grating Assembly, as detailed on page 26.

All floor outlet bodies will enable a perfect seal between the water/damp proofing membrane and the drainage pipework.

Connections

The **Caroflow** Trapped Floor outlets are available with either a 45 degree spigot or a horizontal spigot take-off, with the option of two 50mm BS21 threaded side inlets.

The TS/75 (45 degree spigot) and the THS/75 (horizontal spigot) are suitable for direct connection to 75mm nominal bore UPVC pipework (82mm O/D) with the THS/100 (horizontal spigot) being sized for direct connection to 100mm nominal bore UPVC pipework (110mm O/D).



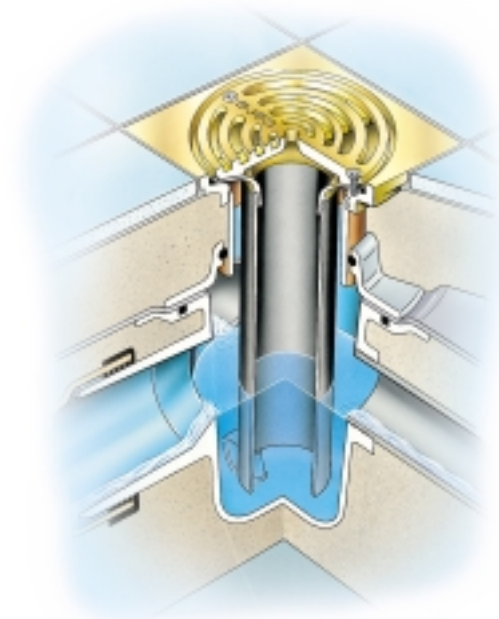
For height adjustability please refer to page 22.

Adaptors, available from **Caroflow** will allow for connection to all other sizes and types of pipework.

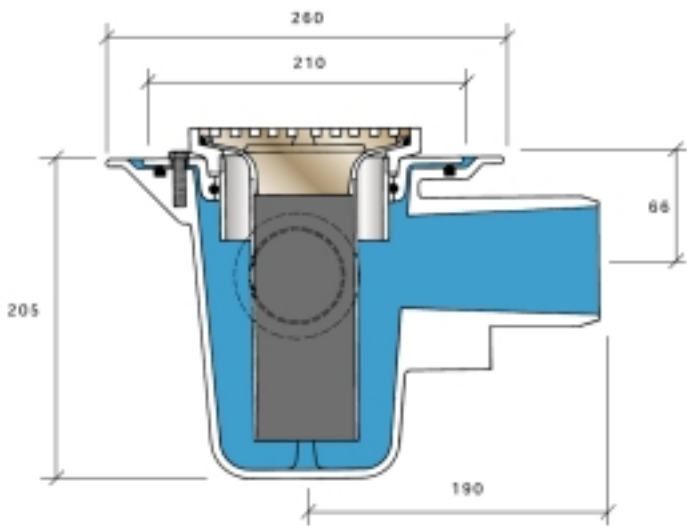
The side or auxiliary inlet options (TSA/75, THSA/75 or THSA/100) can further allow connection of 50mm screw threaded connectors/adaptors, providing for incoming 38mm or 50mm waste pipes to the outlet.

Example specification

CAROFLOW Trapped Floor Drainage Horizontal Outlet body assembly (code THSA/100), for connection to 100mm nominal bore soil pipe and allowing for connection to 2 No. 50mm nominal bore waste pipes (elsewhere measured). To be used with 150mm square grate and bezel assembly with short spigot (Code FD/150S/SS) for installation within tiled floor finish (elsewhere measured). All as manufactured by **Caroflow Limited Tel: 01763 244446.**

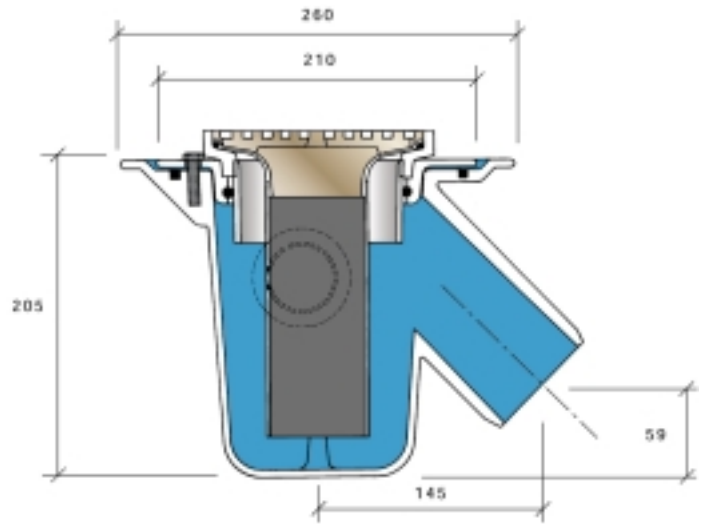


Trapped Floor Outlets



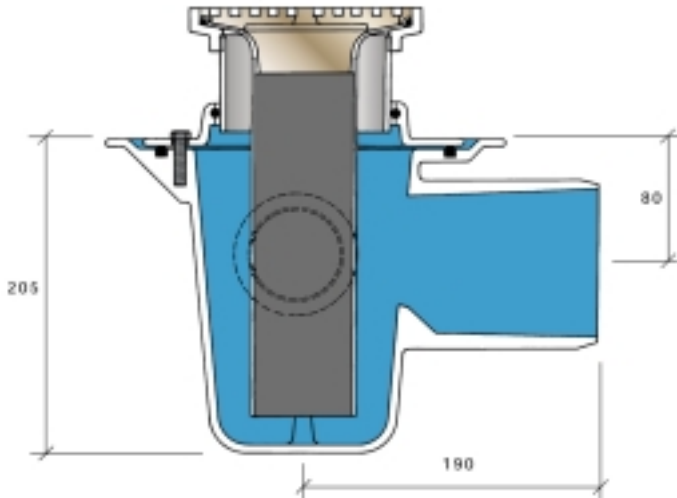
Trapped Horizontal 75mm Spigot (side elevation) **Code THS/75**

Shown with FD/150C/SS - 150mm dia. circular bezel with grate and short spigot in clamping ring, lower position. Optional side inlet position shown.



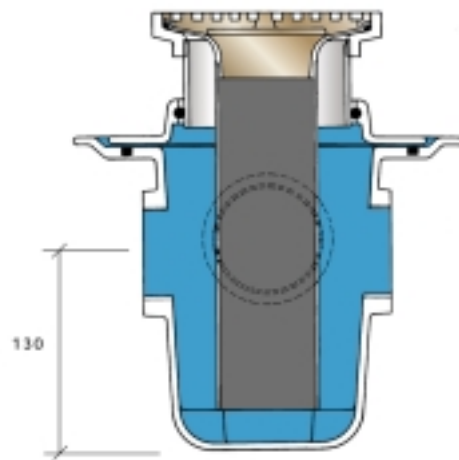
Trapped 45° Spigot (side elevation) **Code TS/75**

Shown with FD/150S/SS - 150mm x 150mm square bezel with grate and short spigot in clamping ring, lower position. Optional side inlet position shown.



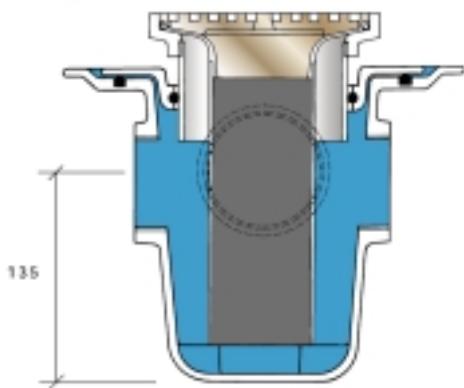
Trapped Horizontal 100mm Spigot (side elevation) **Code THS/100**

Shown with FD/150S/SS - 150mm x 150mm square bezel with grate and short spigot in clamping ring, higher position. Optional side inlet position shown.



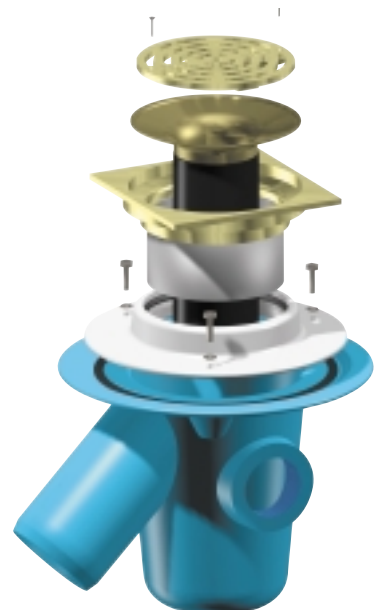
Trapped 45° Spigot (front elevation) **with two side inlets. Code TSA/75**

Shown with FD/150C/SS - 150mm dia. circular bezel with grate and short spigot in clamping ring, higher position.

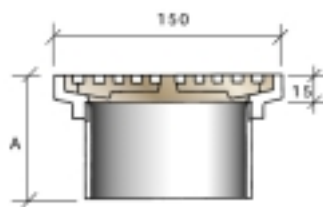


Trapped Horizontal 100mm Spigot (front elevation) **with two side inlets. Code THSA/100**

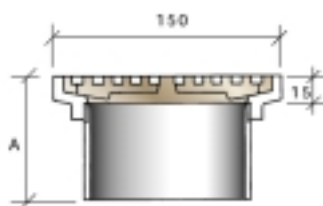
Shown with FD/150C/SS - 150mm dia. circular bezel with grate and short spigot in clamping ring, lower position.



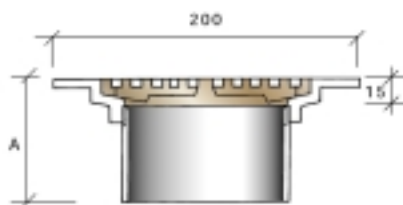
All drawings above are shown 1:5 scale



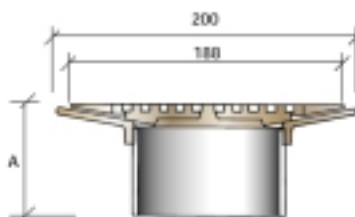
150mm Circular Grate and Bezel Assembly. Code FD/150C
(available Nickel Bronze/NB or Chrome/CR)



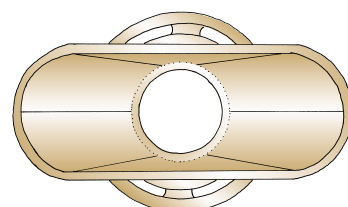
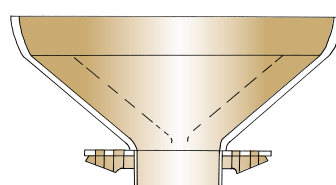
150mm x 150mm Square Tile Grate and Bezel Assembly. Code FD/150S
(available Nickel Bronze/NB or Chrome/CR)



200mm x 200mm Square Tile Grate and Bezel Assembly. Code FD/200S
(available Nickel Bronze/NB or Chrome/CR)



150mm Grate and Bezel Assembly with Clamping Flange for sheet flooring. Code FD/150CF
(available Nickel Bronze/NB or Chrome/CR)



220 x 85 x 96mm Tundish for Multiple Indirects. Code FD/TUNDISH1

Caroflow Grating Assemblies are designed for use with all versions of the Trapped and un-Trapped Floor Outlets and are now manufactured in either chrome plated zinc or a special nickel-bronze alloy.

The grate is secured with stainless steel screws within the bezel surround that has been assembled with a throat of 110mm tube.

These throats (or spigots) can be produced in any length, although the standard sizes are:

- Short Spigot** (Code /SS) 45mm length
- Medium Spigot** (Code /MS) 100mm length
- Long Spigot** (Code /LS) 200mm length

The large diameter of the mouth of the spigot also allows much easier and unobstructed access for rodding and cleaning.

The throat is then inserted into the clamping ring opening that contains a retained ring seal. This ring then gives an airtight seal whilst still allowing full vertical and horizontal movement to ensure the final position is completely flush with the finished flooring.

A solid cover or sealing plate, that replaces the standard grating, is available to suit all standard **Caroflow** Grating Assemblies as well as a Tundish fitting.

Opposite and detailed below is a selection of the standard Grating Assemblies available from **Caroflow**, but specifiers should contact **Caroflow** for the availability of fittings not shown, as we are continuously upgrading and expanding our range of products and "specials" can often be designed and manufactured quickly, as well as cost effectively.

Tiled Floors Use either 150mm x 150mm Square Grating assembly Code FD/150S or 200mm x 200mm Square assembly Code FD/200S.

Flexible Sheet Floors Use 150mm Circular Grate assembly, with separate Clamping Ring to seal/secure sheet flooring to Grate assembly Code FD/150CF.

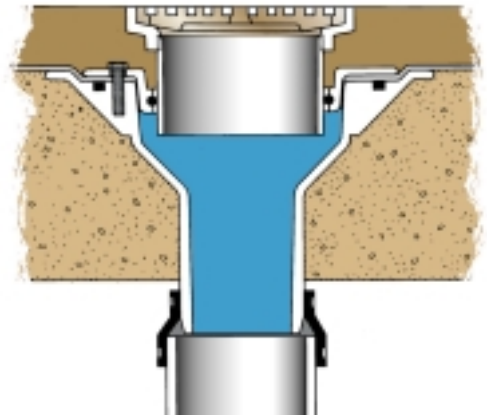
Screeded Floors Use 150mm Circular Grate assembly Code FD/150C.

Component	Dimension - A
Short spigot	75 mm
Medium Spigot	130 mm
Long Spigot	230 mm

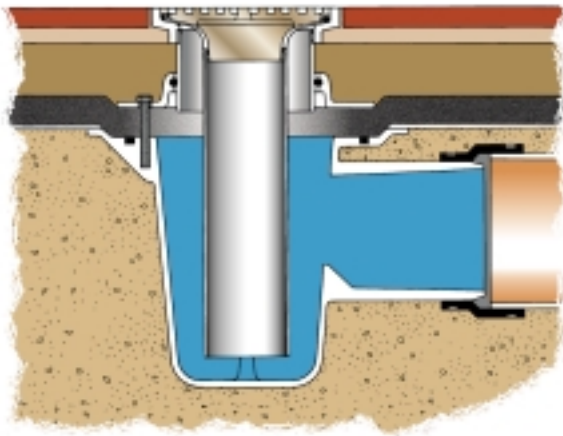
Floor Outlets Application Details

Vertical Spigot Untrapped – Screeded Floor Finish

- Connect spigot of outlet body to exposed end of drainage pipework, using coupling/adaptor available from Caroflow Limited, and ensure the outlet flange is level with finished slab prior to grouting into pre-formed hole.
- Lay damp proofing membrane over concrete slab and outlet body and fix clamping ring into position.* (The d.p.m. can remain uncut over outlet to give protection to drainage pipework from debris/waste, etc., until screeding is ready to be laid, whereupon the membrane can be cut out with a knife).
- Having cut away d.p.m. from within outlet, insert Grate/Bezel assembly into clamping ring (using suitable lubricant to ease insertion/ movement) and adjust height to finished screed level.
- Lay screeded floor finish flush to top edge of grate/bezel.



UVS/75 Body Assembly with FD/150C Grate Assembly



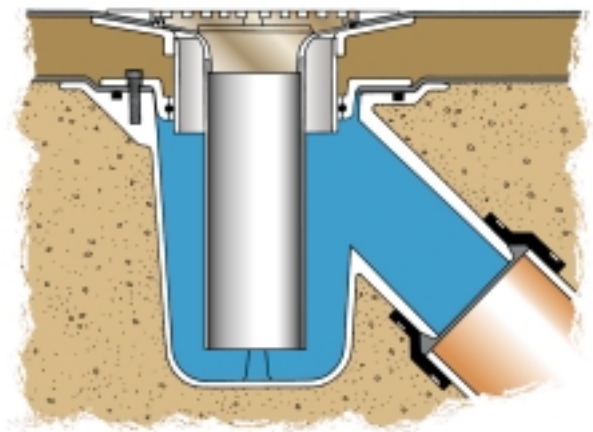
THS/100 Body Assembly with FD/150S Grate Assembly

Trapped Horizontal Spigot Outlet – Tiled Floor Finish

- Cast 100mm underground drainage pipework into slab and allow approx. 450mm dia. pocket around position of outlet.
- Connect spigot of outlet body to exposed end of drainage pipework either directly or using coupling/adaptor available from **CAROFLOW LIMITED** and ensure flange is level with finished slab prior to grouting into pre-formed hole.
- Remove neoprene 'O' Ring and the dress asphalt membrane onto outlet flange and mouth using the 'O' Ring groove to give an extra key, all prior to securing clamping ring* onto still pliable asphalt.
- Remove Trap from Grate/Bezel assembly. Insert bezel into clamping ring (using suitable lubricant to ease insertion/movement) ensuring that top of grating will be level with finished screed and tiling thickness.
- Lay screed to a height below the grate level that will allow for tiling to be laid flush with grating and then lay floor tiles.
- Measure the distance that the trap projects above the grating, when inserted, and trim off this measured distance to allow it to sit within the bezel and re-fit grating.

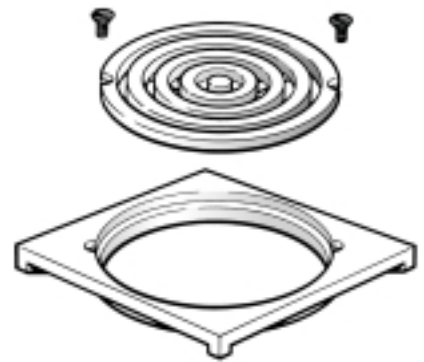
Trapped 45 Degree Spigot Outlet – Flexible Sheet Flooring

- Connect spigot of outlet body to exposed end of pipe using coupling/adaptor available from **CAROFLOW LIMITED** and ensure the outlet flange is level with finished slab prior to grouting in.
- Lay damp proofing membrane over concrete slab and outlet body and fix clamping ring* into position. (The d.p.m. can remain uncut over outlet to give protection to drainage pipework from debris/waste etc., until screeding is ready to be laid, whereupon the membrane can be cut out with a knife).
- Remove Trap from Grate/Bezel assembly. Insert bezel into clamping ring (using suitable lubricant to ease insertion/ movement) and adjust height to finished screed level.
- Lay screeded floor finish flush to top edge of grate/bezel flange.
- Lay flexible sheet flooring and cut out hole approx. 135mm dia. directly above outlet.
- Secure clamping ring of grate/bezel assembly to seal sheet flooring to outlet.
- Measure the distance that the trap projects above the grating, when inserted, and trim off this measured distance to allow it to sit within the bezel and re-fit grating.



TS/75 Body Assembly with FD/150CF Grate Assembly

*The clamping ring is manufactured with a small "weep" hole to allow any trapped water within the screed to drain into the outlet body. If pressure testing of the drainage system will be required, ensure that the plug supplied has been left in place to seal the "weep" hole.



Caroflow Shower Outlets are suitable for installation in sheet flooring or tiled floor finishes and provide an extremely aesthetic solution to the problem of trapped drainage from high performance shower units (or communal shower areas) with a limited floor void in which to install and drain from.

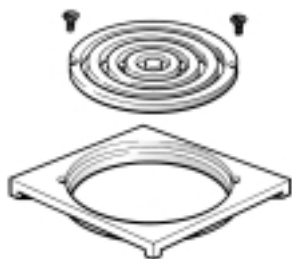


Code SDVS/40

Code SDHS/40

Available with either a vertical or horizontal take-off, the depth of the whole body unit is only 155mm, small enough to be installed within the space formed by 150mm joists when supported on a suspended timber floor and yet still be able to give a full depth of trap and drain at a constant rate of over 0.75 litres per second.

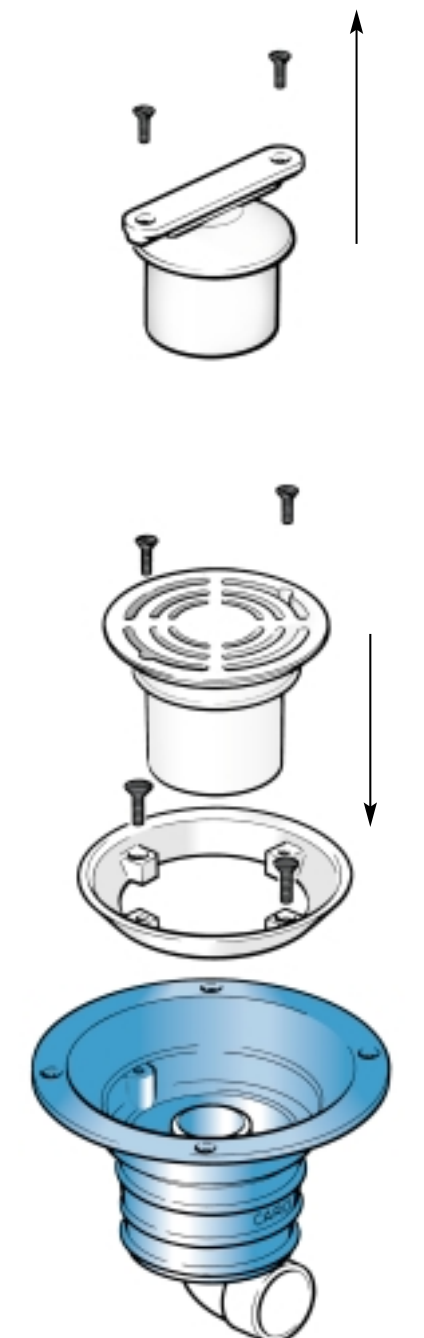
This **Caroflow** unit incorporates a removable trap/grate cover that is secured by stainless steel screws (to prevent easy removal by unwanted persons) that when removed will allow for cleaning and careful rodding through to the main drainage pipe.



Code SD/150TS

A separate Tile Set is available for use, installed over the fixed outlet body, within a tiled floor finish (see page 30). The grating is removable after installation to allow access to the special removable trap unit (SD/CT/TS) that is used in place of the usual trap/grate cover that is used for vinyl sheet floor installations.

The clamp/trap and tile set are normally supplied in a crisp clean white but it is possible to order alternative colours (as well as high quality chrome plated zinc and machined nickel bronze options for the tile set) if it is necessary to co-ordinate with internal decors (see page 29).



Shower Outlets

Caroflow Shower Outlets, both Body Sets and Clamp/Trap Sets, are manufactured in electrostatically powder coated, pre-treated LM6 Aluminium Silicon alloy to BS1490:1970, with stainless steel fixings.

Connections

Both the vertical and horizontal units will allow direct connection to 40mm (1.5") solvent weld pipe to BS5255 or to push-fit EN1329 using proprietary pipe manufacturers fittings.

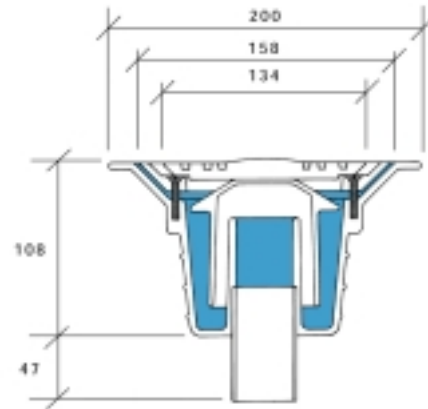
Performance

Caroflow shower outlets have been tested and achieve a constant flow rate in excess of 0.75 litres per second, connected to a 40mm (1.5") pipe.

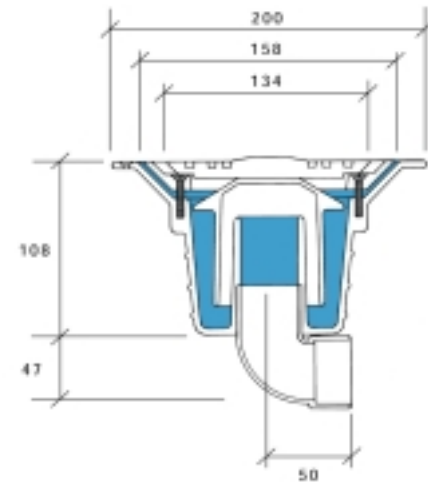
Example specification

CAROFLOW horizontal spigot trapped shower outlet for tiled floor installation Code SDHS/40/T, all as manufactured by **Caroflow Limited Tel: 01763 244446**.

Although **Caroflow** Shower Outlets essentially consist of three groups of components (body, clamp/trap, tile set) that can be ordered separately, it is recommended to merely detail the direction of take off and the floor finish i.e. SDVS/40/V which equals - Shower Outlet, Vertical, Vinyl Floor - this then will allow for the provision of all required components.



Vertical Spigot Shower Outlet
(for vinyl floor) Code SDVS/40/V



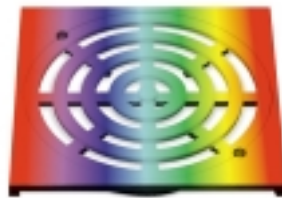
Horizontal Spigot Shower Outlet
(for vinyl floor) Code SDHS/40/V

Alternative Options

Caroflow Shower Outlet Clamp and Trap sets are available in a choice of over 80 stock powder coating colours. For special requirements i.e. corporate livery, interior decor, etc., please ascertain as to the actual RAL number for the colour required and contact **CAROFLOW LIMITED** for the availability or nearest equivalent option.



Chrome Plated Zinc Tile Set
Code SD/150TS/CR



Powder Coated Tile Set
Code SD/150TS



Machined Nickel Bronze Tile Set
Code SD/150TS/NB



Clamp and Trap Set
Code SD/CT



Shower Outlet Sealing Plate
Code SD/SP

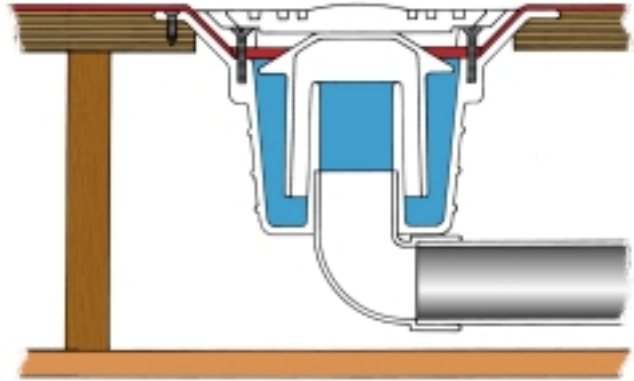


Shower Outlet Extension Ring
Code SD/ER

Horizontal Spigot Shower Outlet

– Flexible sheet flooring on timber deck

- Lay timber flooring boards, with falls, to outlet point and cut out 170mm diameter hole at required position.
- Connect outlet spigot directly to 40mm (1.5") PVC waste pipe or, using proprietary adaptors, to 50mm (2") pipe.
- Ensure outlet flange is screw fixed into recess within flooring sheet so that it is flush with top surface.
- Lay and adhere flexible sheet flooring and cut around outlet mouth.
- Position and secure clamping ring with sheet flooring trapped between clamp and body.
- Position and secure removable trap/cover.

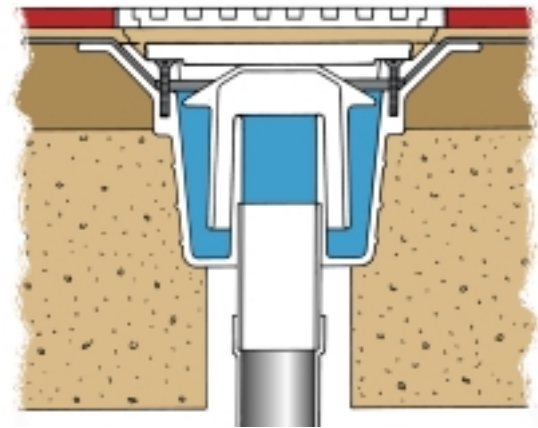


SDHS/40/V Horizontal Spigot Shower Outlet

Vertical Spigot Shower Outlet

– Tiled flooring on concrete deck

- Grout outlet body into pre-prepared hole within slab, ensuring that flange is set at minimum screed level.
- Lay screed to correct falls to finish level with outlet flange.
- Lay waterproofing membrane over screeded finish and cut hole around outlet mouth.
- Position and secure clamping ring with membrane trapped between clamp and body.
- Starting from outlet position, lay tiles on relevant adhesive bedding, ensuring that the tile set of the shower outlet is centrally placed over the outlet mouth and work outwards to complete area.
- Position and secure special removable trap.
- Screw grating into the tile set surround.



SDVS/40/T Vertical Spigot Shower Outlet (includes SD/150TS Tile Set)

CAROFLOW

CaroFlow Ltd
Edge Barn
11 Market Hill
Royston
Herts SG8 9JN
United Kingdom

Tel
+44 (0)1763 244446

Fax
+44 (0)1763 244111

Email
info@caro.co.uk

Web
www.caro.co.uk



ISO 9001:2000
GB 00227