

CI/SfB
(52.1)

October 2004

CAROFLOW[®]

Roof and Floor Drainage Products





The **CARO** name has become familiar to most specifiers since 1985 and has established itself with quality products and economic pricing.

The formation of **CAROFLOW LIMITED**, with personnel who have many years experience in the design and manufacture of roof and floor drainage products, has enabled their accrued knowledge to be brought together and resulted in a comprehensive range of high quality, engineered outlets that will give added security to the problems of the safe and secure removal of water, both on and within today's higher specification buildings.

CAROFLOW Flat Roof and Floor Drainage Outlets ensure a watertight connection between the water/damp proofing membranes and the drainage pipework, thereby removing the problem of water penetration at this critical junction. The outlets provide a ready made, engineered sump that is mechanically sealed to the membranes and then connect that sump securely to the pipework.

CAROFLOW is an ISO 9001:2000 Quality Assured company and as such is able to give complete confidence to the specifier.

The following pages detail the current range of **CAROFLOW** products, full dimensions, 1:5 scale drawings, connection recommendations and some typical applications. It cannot, however, show all the "specials" that have been produced over the years to suit certain specifiers requirements. **CAROFLOW** specialise in these "specials" and should you have any problem where we can help or any questions that are not answered by this brochure, please contact the Caroflow Technical Enquiries Department by telephone, or in writing, at the address shown on the back cover.



ISO 9001:2000
GB 00227

Roof Outlets

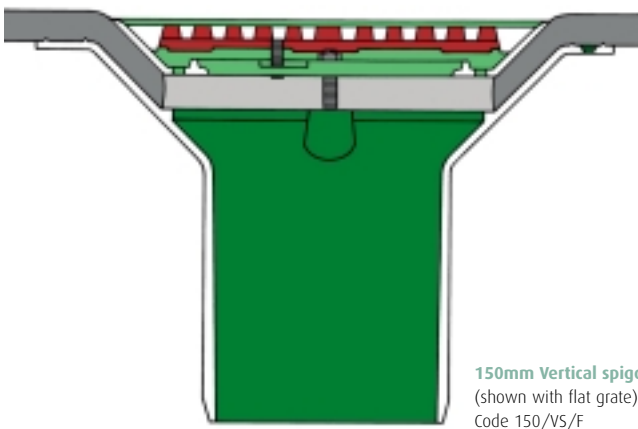
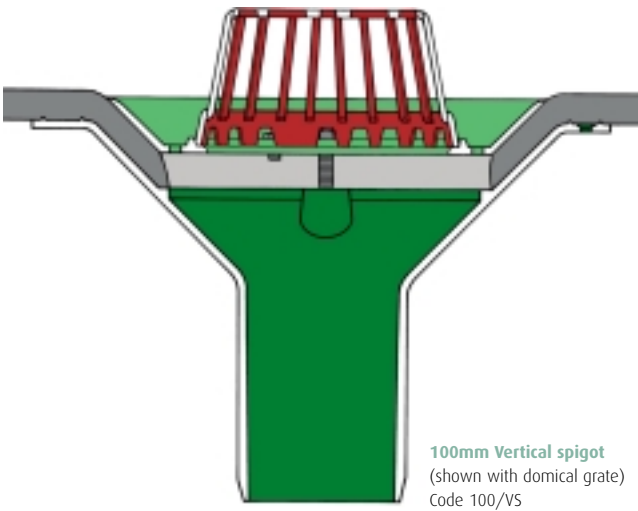
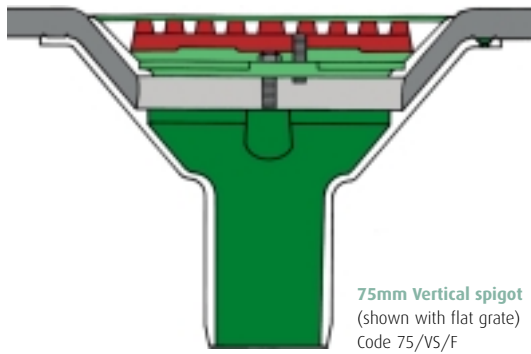
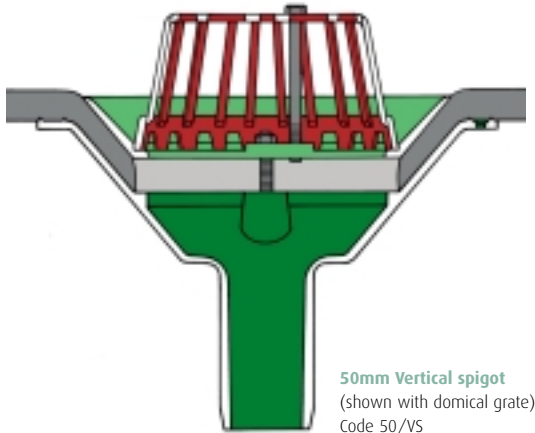
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- 6 45° Threaded
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- 8 90° Threaded
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Vertical Spigot Outlets

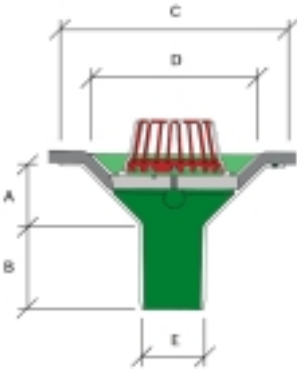


Caroflow Vertical Spigot roof outlets are available in either LM6 Aluminium Silicon casting alloy to BS 1490:1970 for most roof finishes or in leaded gunmetal to BS 1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework. Foam insulation coating can be applied to both aluminium and gunmetal vertical spigot outlets for 'warm-roof' installation.

Performance and Connections see page 19.

Suitable for connection to:

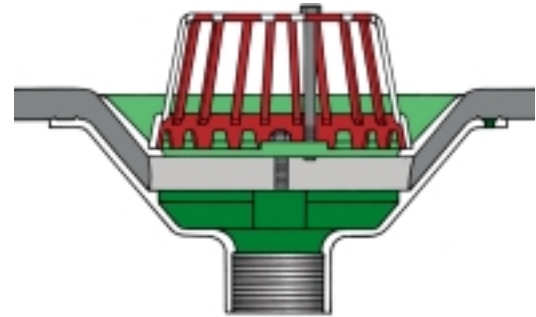
- PVC (50/VS will not connect directly)
- Aluminium
- Cast iron
- Copper (gunmetal only)



Order Code No.	50/VS	75/VS	100/VS	150/VS
Pipe size (nom)	50	75	100	150
A	92	92	110	85
B	108	108	135	160
C	300	300	380	380
D	250	250	305	305
E	60	83	110	160

Example specification

100mm nominal bore CAROFLOW Vertical Spigot aluminium (or leaded gunmetal) rainwater outlet with domical grating Code 100/VS (100 VS/F for flat grate option) as manufactured by **Caroflow Limited Tel: 01763 244446.**



50mm Vertical Threaded
(Shown with domical grate)
Code 50/VT

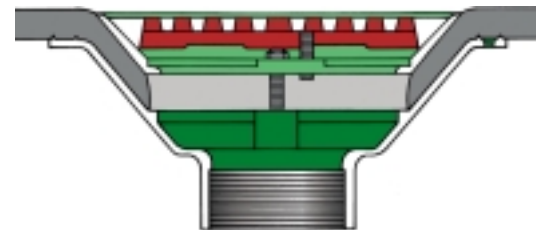
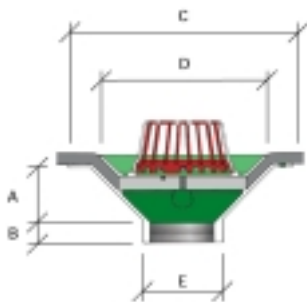
Caroflow Vertical Threaded roof outlets are available in either LM6 Aluminium Silicon casting alloy to BS1490:1970 for most roof finishes or in leaded gunmetal to BS1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework. They are female parallel threaded to BS21:1985. Foamed insulation coating can be applied to both aluminium and gunmetal vertical threaded outlets for “warm-roof” installation.

Performance and Connections see page 19.

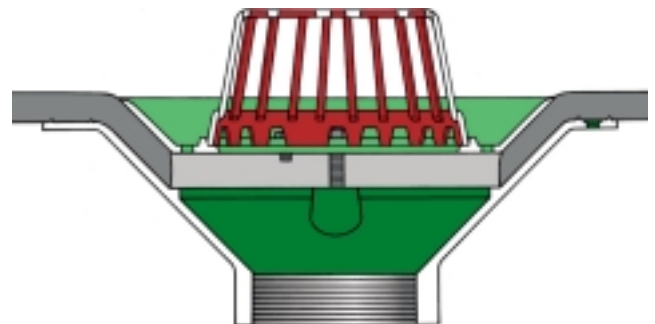
Suitable for connection to:

- Screw Threaded Steel
- Copper (Gunmetal only)
- PVC*
- Aluminium*
- Cast Iron*

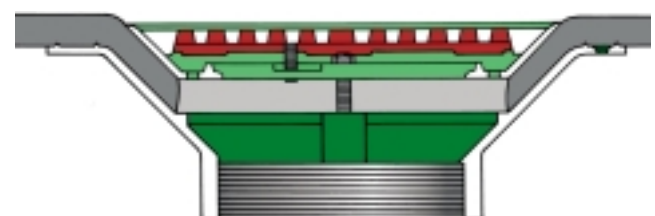
(*with CAROFLOW Threaded adaptors see page 17)



75mm Vertical Threaded
(Shown with flat grate)
Code 75/VT/F



100mm Vertical Threaded
(Shown with domical grate)
Code 100/VT



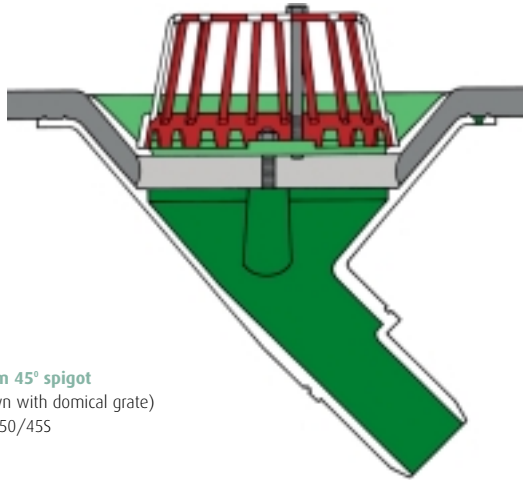
150mm Vertical Threaded
(Shown with flat grate)
Code 150/VT/F

Order Code No.	50/VT	75/VT	100/VT	150/VT
Pipe size (nom)	50	75	100	150
A	75	75	90	70
B	50	50	45	45
C	300	300	380	380
D	250	250	305	305
E	70	105	134	185

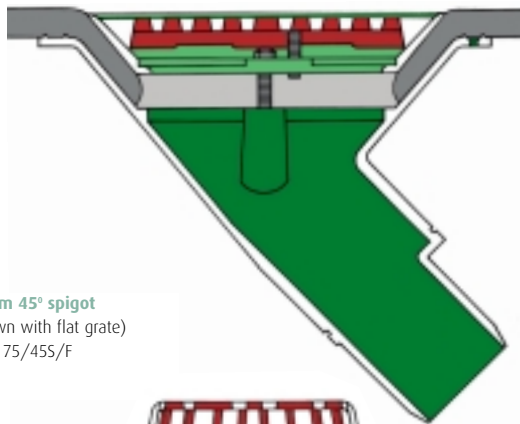
Example specification

100mm nominal bore CAROFLOW Vertical Threaded aluminium (or leaded gunmetal) rainwater outlet with domical grating Code 100/VT (100/VT/F for flat grate option) as manufactured by **Caroflow Limited Tel: 01763 244446.**

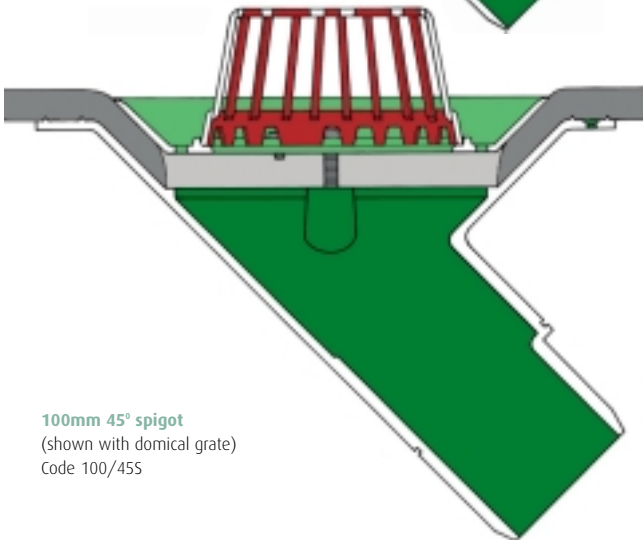
45° Spigot Outlets



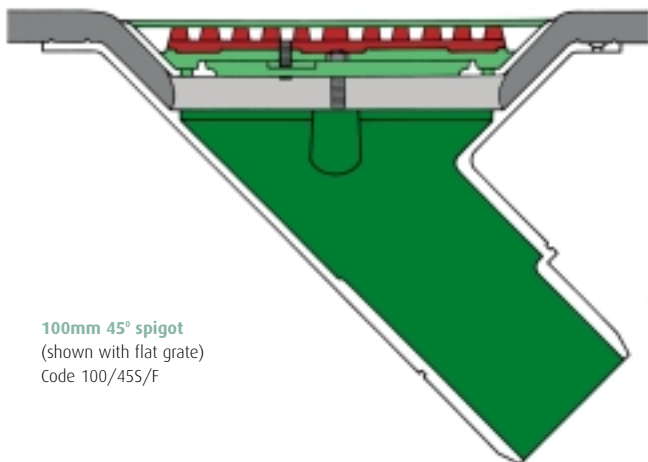
50mm 45° spigot
(shown with domical grate)
Code 50/45S



75mm 45° spigot
(shown with flat grate)
Code 75/45S/F



100mm 45° spigot
(shown with domical grate)
Code 100/45S



100mm 45° spigot
(shown with flat grate)
Code 100/45S/F

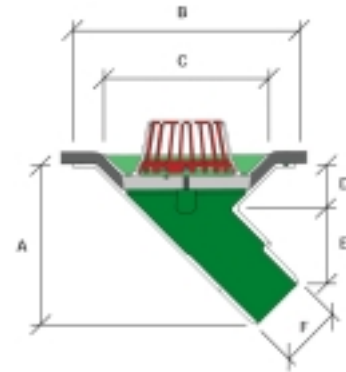


Caroflow 45° Spigot roof outlets are available in either LM6 Aluminium Silicon casting alloy to BS1490:1970 for most roof finishes or in leaded gunmetal to BS1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework.

Performance and Connections see page 19.

Suitable for connection to:

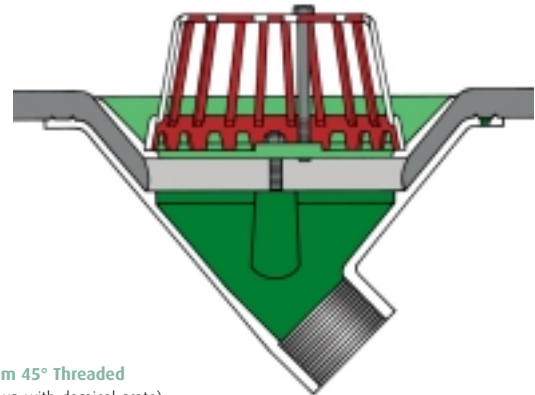
- PVC (with heatshrink adaptor or flexible coupling)
- Aluminium
- Cast iron
- Copper (gunmetal only)



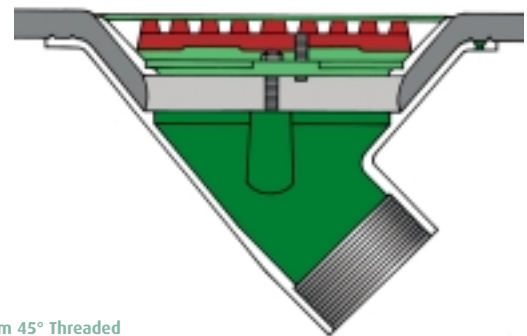
Order Code No.	50/45S	75/45S	100/45S
Pipe size (nom)	50	75	100
A	245	260	275
B	300	300	380
C	250	250	305
D	100	80	80
E	105	125	125
F	60	83	110

Example specification

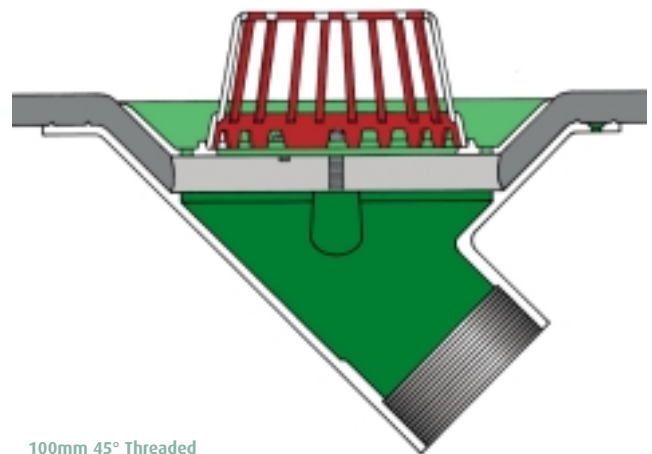
100mm nominal bore **CAROFLOW** 45° Spigot aluminium (or leaded gunmetal) rainwater outlet with domical grating Code 100/45S (100/45S/F for flat grate option) as manufactured by **CAROFLOW LIMITED Tel: 01763 244446.**



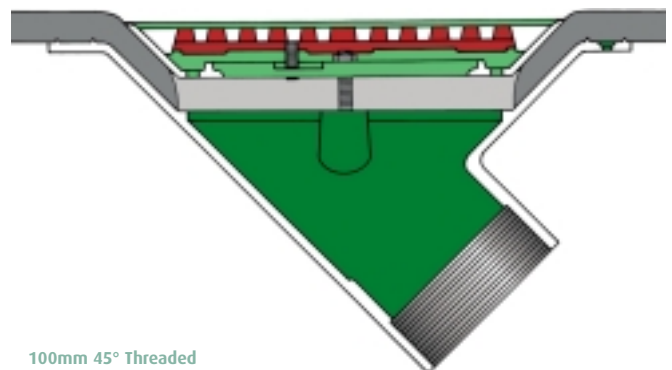
50mm 45° Threaded
(Shown with domical grate)
Code 50/45T



75mm 45° Threaded
(Shown with flat grate)
Code 75/45T/F



100mm 45° Threaded
(Shown with domical grate)
Code 100/45T



100mm 45° Threaded
(Shown with flat grate)
Code 100/45T/F

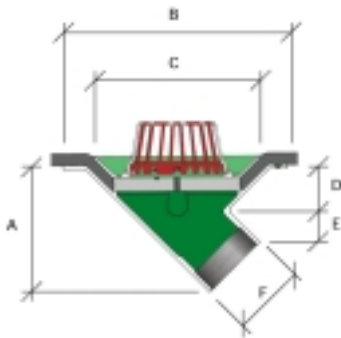
Caroflow 45° Threaded roof outlets are available in either LM6 Aluminium Silicon casting alloy to BS1490:1970 for most roof finishes or in leaded gunmetal to BS1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework. They are female parallel threaded to BS21:1985.

Performance and Connections see page 19.

Suitable for connection to:

- Screw Threaded Steel
- Copper (Gunmetal only)
- PVC*
- Aluminium*
- Cast Iron*

(*with CAROFLOW Threaded adaptors) see page 17.



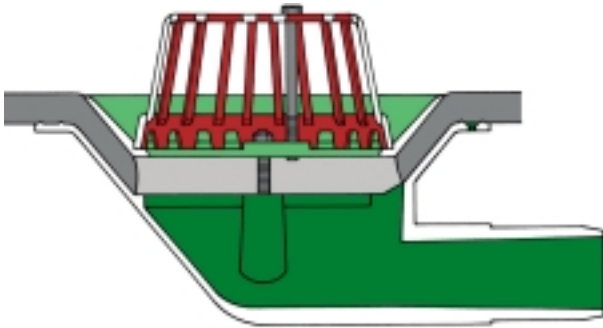
Order Code No.	50/45T	75/45T	100/45T
Pipe size (nom)	50	75	100
A	180	200	215
B	300	300	380
C	250	250	305
D	100	80	78
E	28	48	54
F	75	105	125

Example specification

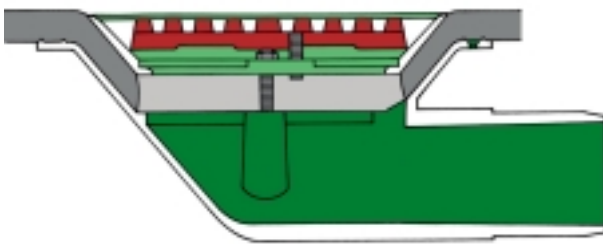
100mm nominal bore **CAROFLOW** 45° Threaded aluminium (or leaded gunmetal) rainwater outlet with domical grating Code 100/45T (100/45T/F for flat grate option) as manufactured by

CAROFLOW LIMITED Tel: 01763 244446.

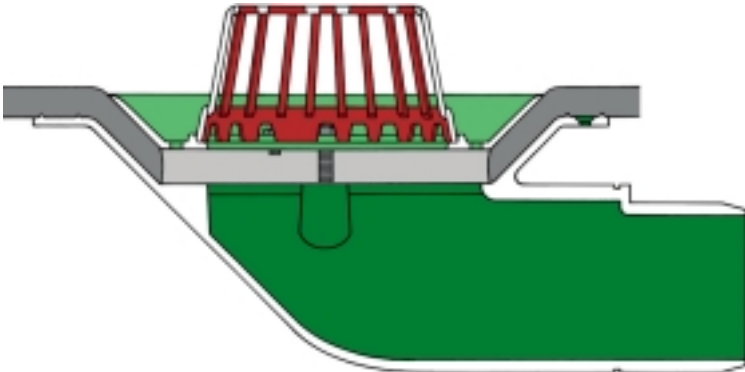
90° Spigot Outlets



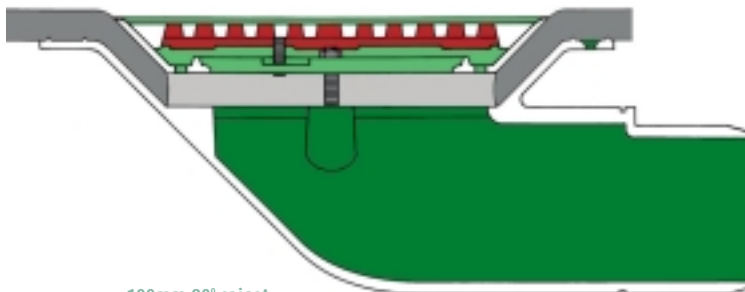
50mm 90° spigot
(shown with domical grate)
Code 50/90S



75mm 90° spigot
(shown with flat grate)
Code 75/90S/F



100mm 90° spigot
(shown with domical grate)
Code 100/90S



100mm 90° spigot
(shown with flat grate)
Code 100/90S/F

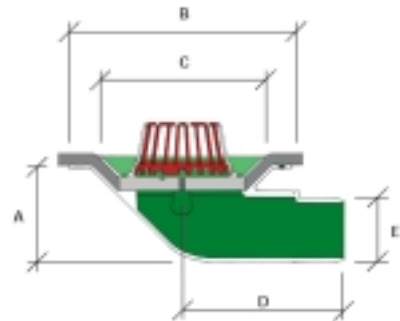


Caroflow 90° Spigot roof outlets are available in either LM6 Aluminium Silicon casting alloy to BS1490:1970 for most roof finishes or in leaded gunmetal to BS1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework.

Performance and Connections see page 19.

Suitable for connection to:

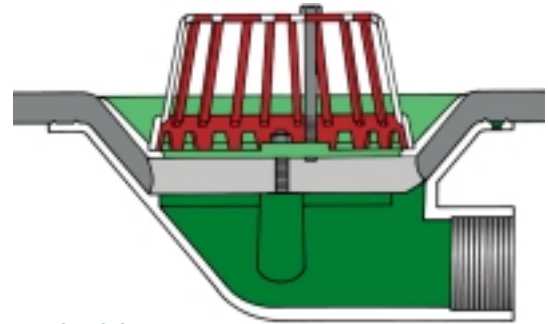
- PVC (with heatshrink adaptor or flexible coupling)
- Aluminium
- Cast iron
- Copper (gunmetal only)



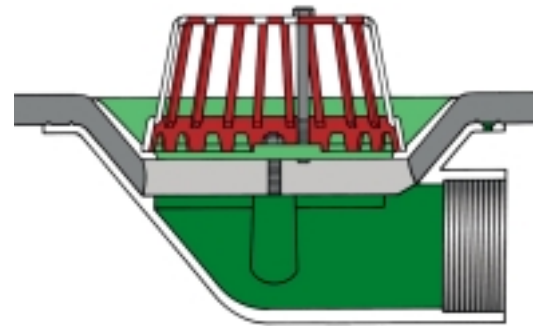
Order Code No.	50/90S	75/90S	100/90S
Pipe size (nom)	50	75	100
A	132	132	165
B	300	300	380
C	250	250	305
D	225	225	280
E	60	83	110

Example specification

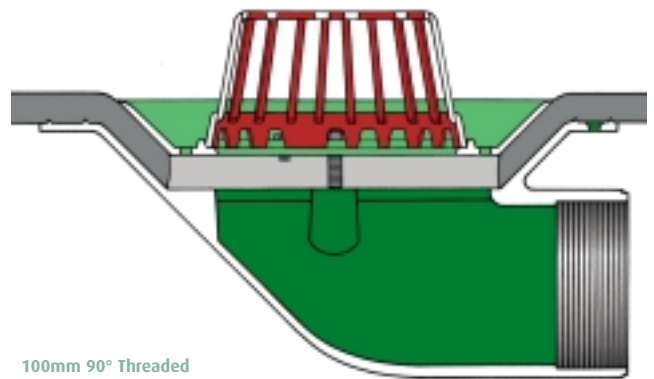
100mm nominal bore **CAROFLOW** 90° Spigot aluminium (or leaded gunmetal) rainwater outlet with domical grating Code 100/90S (100/90S/F for flat grate option) as manufactured by **CAROFLOW LIMITED** Tel: 01763 244446.



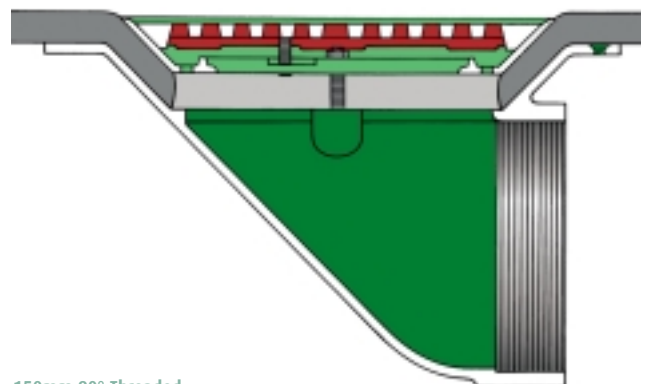
50mm 90° Threaded
(Shown with domical grate)
Code 50/90T



75mm 90° Threaded
(Shown with domical grate)
Code 75/90T



100mm 90° Threaded
(Shown with domical grate)
Code 100/90T



150mm 90° Threaded
(Shown with flat grate)
Code 150/90T/F

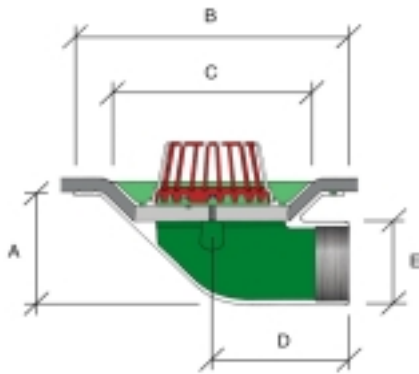
Caroflow 90° Threaded roof outlets are available in either LM6 Aluminium Silicon casting alloy to BS1490:1970 for most roof finishes or in leaded gunmetal to BS1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework. They are female parallel threaded to BS21:1985.

Performance and Connections see page 19.

Suitable for connection to:

- Screw Threaded Steel
- Copper (Gunmetal only)
- PVC*
- Aluminium*
- Cast Iron*

(*with CAROFLOW Threaded adaptors) see page 17.

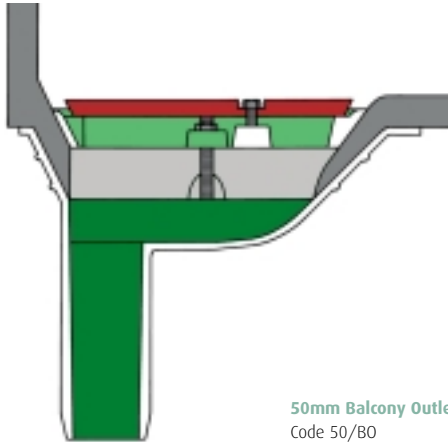


Order Code No.	50/90T	75/90T	100/90T	150/90T
Pipe size (nom)	50	75	100	150
A	130	130	165	223
B	300	300	380	380
C	250	250	305	305
D	150	150	192	150
E	76	100	125	185

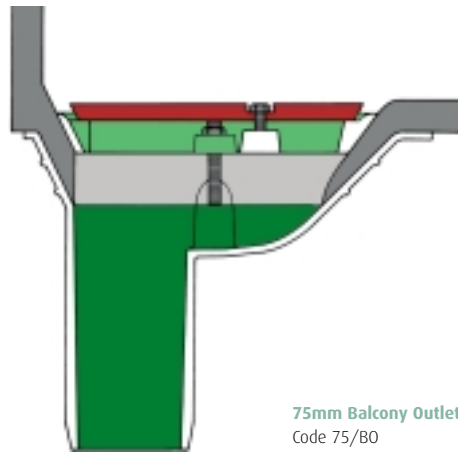
Example specification

100mm nominal bore **CAROFLOW** 90° Threaded aluminium (or leaded gunmetal) rainwater outlet with domical grating Code 100/90T (100/90T/F for flat grate option) as manufactured by **CAROFLOW LIMITED** Tel: 01763 244446.

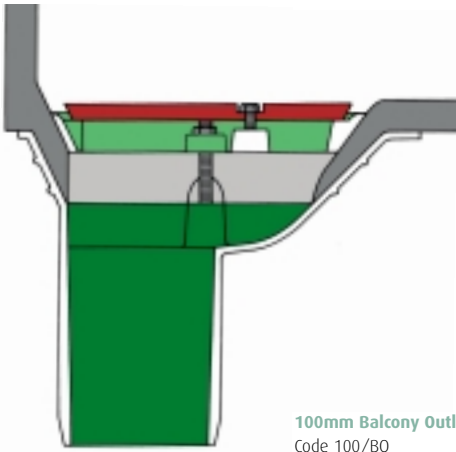
Balcony Outlets



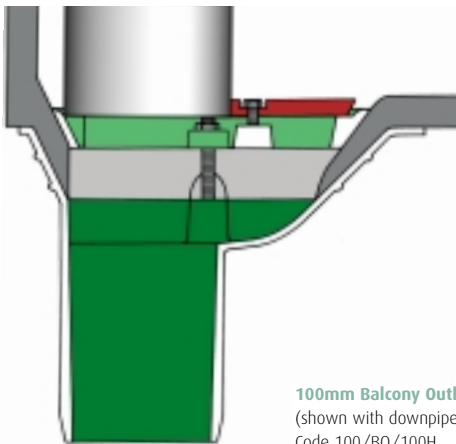
50mm Balcony Outlet
Code 50/BO



75mm Balcony Outlet
Code 75/BO



100mm Balcony Outlet
Code 100/BO



100mm Balcony Outlet
(shown with downpipe)
Code 100/BO/100H

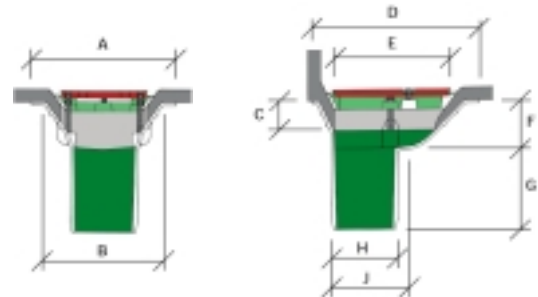


Caroflow Balcony Spigot roof outlets are designed to allow the unit to be installed against a wall/upstand and the grating, which can be cut on site or prior to delivery, will allow various sizes of pipework to drain into the outlet from upper levels to give a continuous drainage line from top to bottom storey. Available in either LM6 Aluminium Silicon casting alloy to BS1490:1970 for most roof finishes or in leaded gunmetal to BS1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework.

Performance and Connections see page 19.

Suitable for connection to:

- PVC (50/BO will not connect directly)
- Aluminium
- Cast Iron
- Copper (Gunmetal only)



Order Code No.	50/BO	75/BO	100/BO
Pipe size (nom)	50	75	100
A	230	230	230
B	190	190	190
C	50	50	50
D	265	265	265
E	206	206	206
F	85	85	85
G	130	130	130
H	60	83	110
J	142	142	142

Example specification

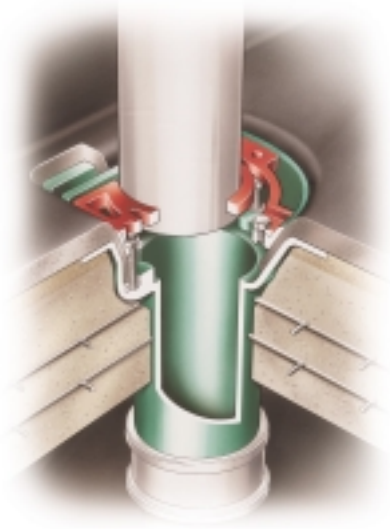
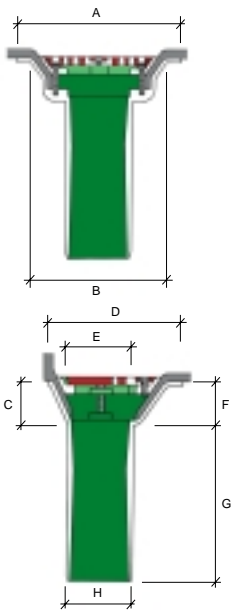
100mm nominal bore **CAROFLOW** Balcony Spigot aluminium (or leaded gunmetal) rainwater outlet with a flat grating Code 100/BO (100/BO/100H to indicate that the grating must be cut to receive 100mm pipe) as manufactured by **CAROFLOW LIMITED Tel: 01763 244446.**



Offering all the benefits of our standard Balcony Outlets, the **Caroflow** Kompact Balcony outlet is sized to allow easier, less 'destructive', installation in refurbishment as well as new Balcony installations.

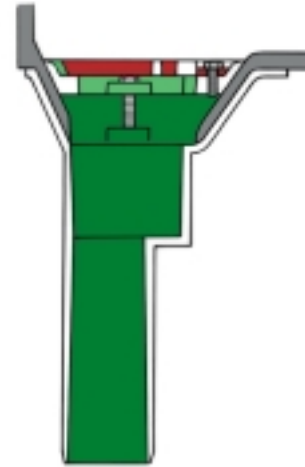
It will still allow various sizes of pipework to drain into the outlet from upper levels.

Available in either LM6 Aluminium Silicon casting alloy to BS1490:1970 for most roof finishes or in leaded gunmetal to BS1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework.

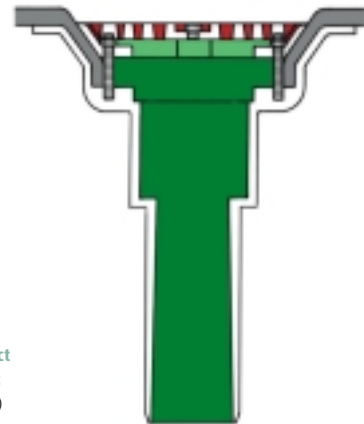


Order Code No.	50/KBO	75/KBO
Pipe size (nom)	50	75
A	210	210
B	175	175
C	55	55
D	170	170
E	110	110
F	55	55
G	220	220
H	60	83

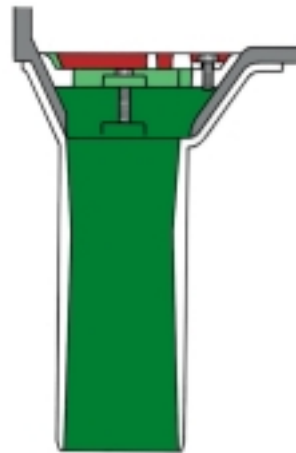
50mm Kompact Balcony Outlet (Side Elevation) Code 50/KBO



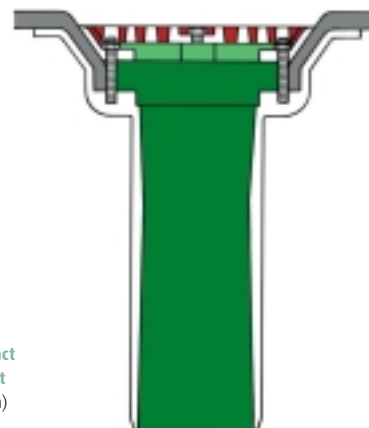
50mm Kompact Balcony Outlet (Front Elevation) Code 50/KBO



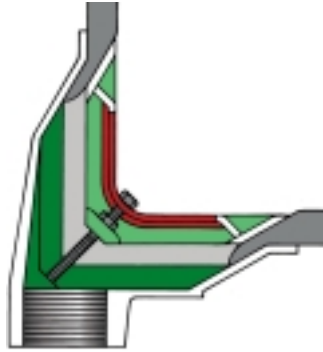
75mm Kompact Balcony Outlet (Side Elevation) Code 75/KBO



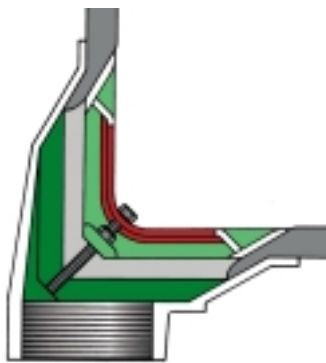
75mm Kompact Balcony Outlet (Front Elevation) Code 75/KBO



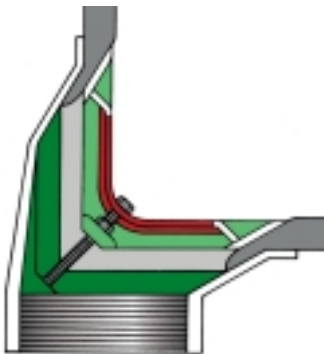
Two Way Outlets



50mm Two Way
Code 50/TW



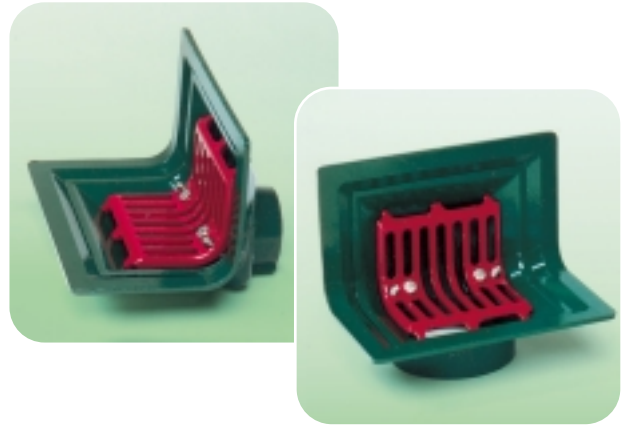
75mm Two Way
Code 75/TW



100mm Two Way
Code 100/TW



100mm Two Way
(front elevation)

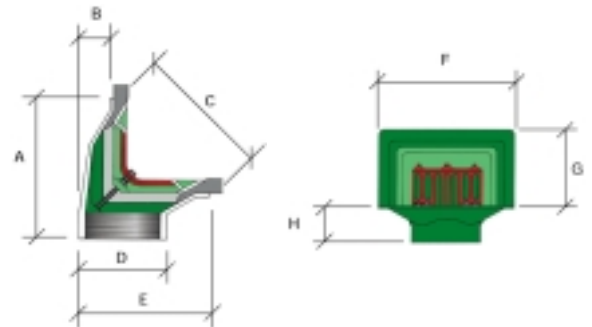


Caroflow Two-Way Threaded roof outlets are designed for use at the intersection of horizontal and vertical surfaces, i.e. a balcony and parapet wall, and can be used to drain off vertically or horizontally. Available in either LM6 Aluminium Silicon casting alloy to BS1490:1970 for most roof finishes or in leaded gunmetal to BS1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework. They are female parallel threaded to BS21:1985.

Performance and Connections see page 19.

Suitable for connection to:

- Screw Threaded Steel
- PVC (with Caroflow Threaded adaptors see page 17)
- Aluminium (with Caroflow Threaded adaptors see page 17)
- Cast Iron (with Caroflow Threaded adaptors see page 17)
- Copper (Gunmetal only)



Order Code No.	50/TW	75/TW	100/TW
Pipe size (nom)	50	75	100
A	213	213	213
B	50	50	50
C	202	202	202
D	76	105	130
E	193	193	193
F	255	255	255
G	143	143	143
H	70	70	70

Example specification

100mm nominal bore **CAROFLOW** Two-Way Threaded aluminium (or leaded gunmetal) rainwater outlet Code 100/TW, as manufactured by **CAROFLOW LIMITED** Tel: 01763 244446.

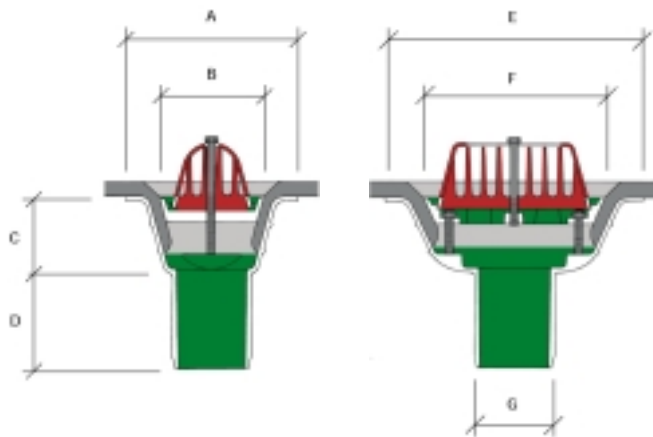


Caroflow Gulley outlets are designed for use in narrow width drainage channels, within which larger outlets would not be suitable. Available in either LM6 Aluminium Silicon casting alloy to BS1490:1970 for most roof finishes or in leaded gunmetal to BS1400:1985 for use with lead or copper-clad roofs or for connection to copper pipework.

Performance and Connections see page 19.

Suitable for connection to:

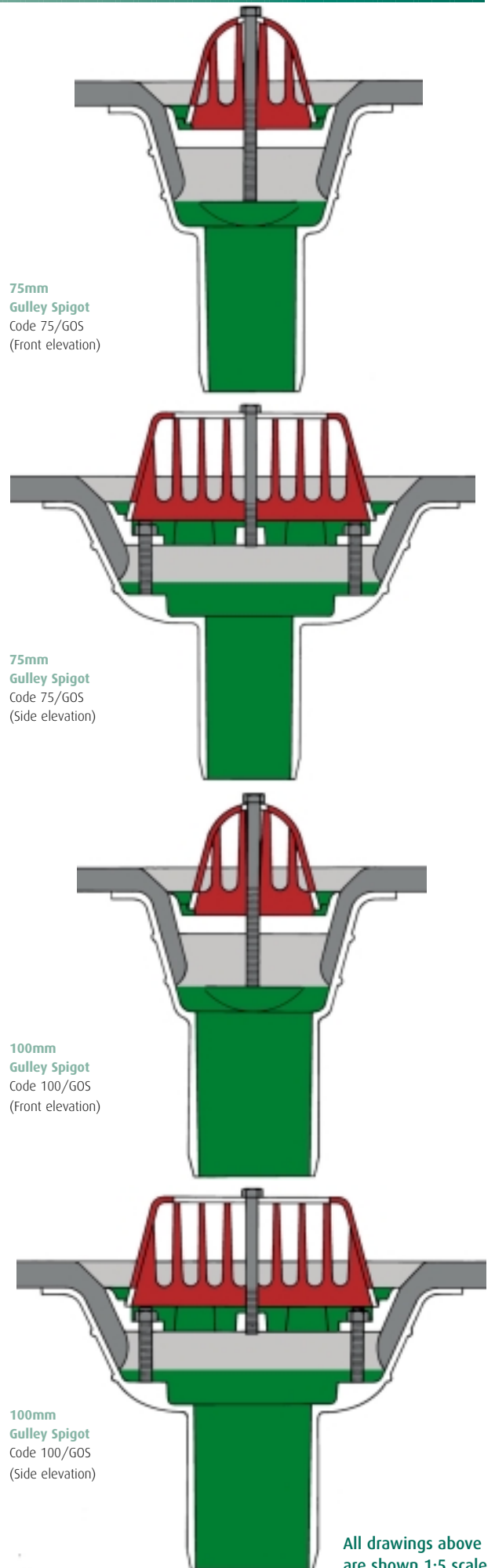
- PVC ● Aluminium ● Cast Iron
- Copper (Gunmetal only)



Order Code No.	75/G05	100/G05
Pipe size (nom)	75	100
A	238	238
B	144	144
C	105	105
D	125	125
E	344	344
F	240	240
G	83	110

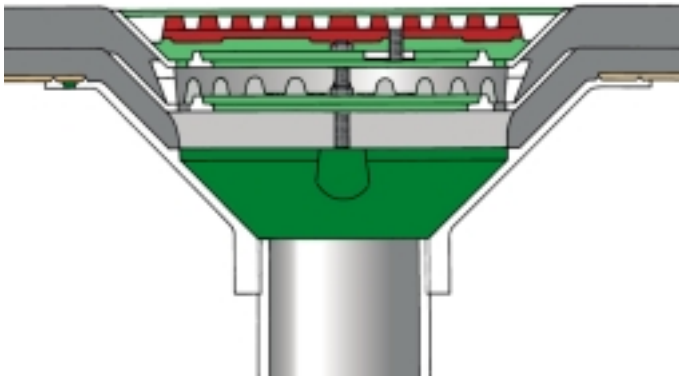
Example specification

100mm nominal bore **CAROFLOW** Gulley Outlet with spigot connection in aluminium (or leaded gunmetal) with domical grating Code 100/G05 as manufactured by **CAROFLOW LIMITED** Tel: 01763 244446.

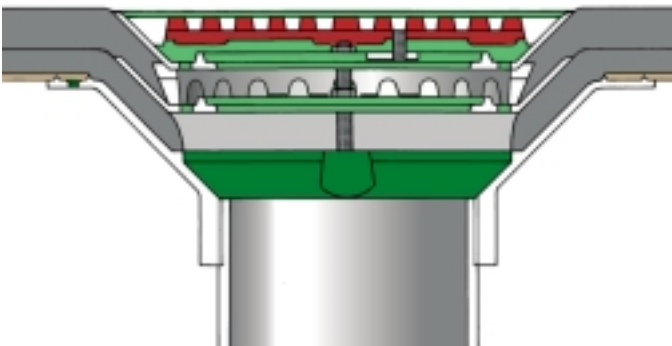


All drawings above are shown 1:5 scale

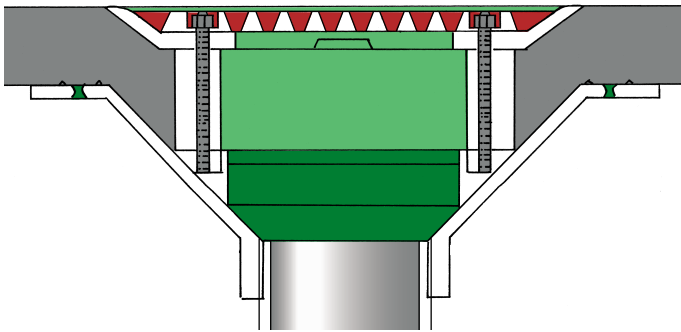
Car Park Outlets



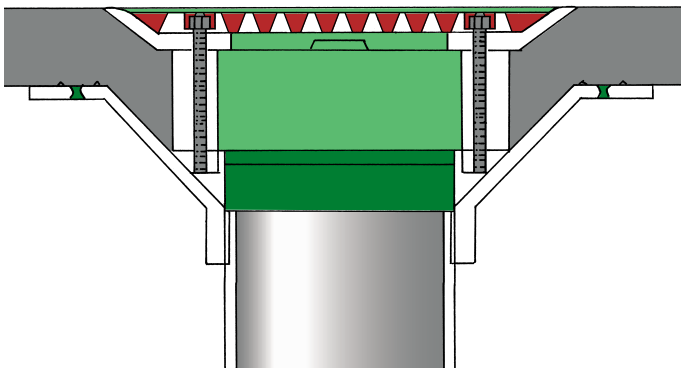
100mm Vertical Threaded Body and Adaptor with Standard Car Park Outlet Kit
Code 100/VT with 100/ADP and 100/150CP



150mm Vertical Threaded Body and Adaptor with Standard Car Park Outlet Kit
Code 150/VT with 100/ADP and 100/150CP



100mm Vertical Threaded Body and Adaptor with Heavy Duty Car Park Outlet Kit
Code 100/VT with 100/ADP and 100/150HDCP



150mm Vertical Threaded Body and Adaptor with Heavy Duty Car Park Outlet Kit
Code 150/VT with 100/ADP and 100/150HDCP

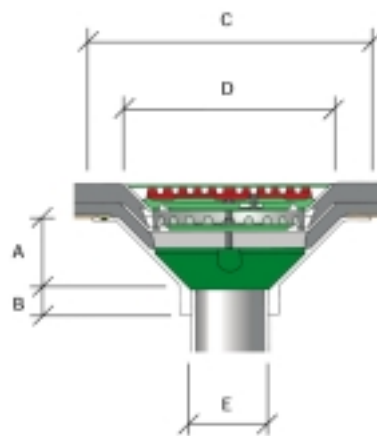


Caroflow Car Park Outlets have been designed to cope with two different installation requirements with the 'Standard' version allowing for 1 tonne loadings whilst the newly introduced 'Heavy Duty' will allow for up to 25 tonnes.

The Standard makes use of the usual circular Flat Grate and Clamping Ring, but has an additional clamp which, with the addition of a **Caroflow** Raising Ring, allows for the application and sealing to a two coat asphalt waterproofing layer with paving grade topping.

The 'Heavy Duty' is still used with a standard outlet body, cast into slab but has the addition of an SG (Ductile/Malleable) Iron grating with clamping ring, all resting on a Grade 200 Cast Iron support ring. In this way the complete installation is able to easily cope with loadings up to 25 tonnes.

The examples shown on this page relate to a typical detail of a Vertical Threaded outlet with **Caroflow** Threaded Adaptors, (see Page 17) the length of which can be manufactured to suit the thickness of the deck into which it is being installed.



Order Code No.	100/VT	150/VT
Pipe size (nom)	100	150
A	90	70
B	45	45
C	380	380
D	305	305
E	134	185

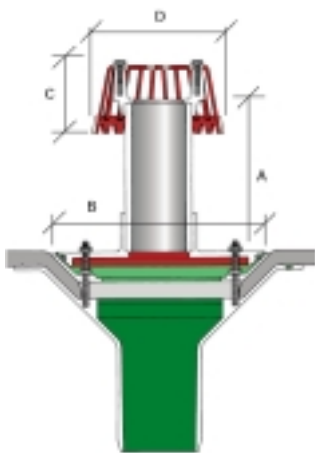


Due to the fact that some roof areas are not subject to the best of maintenance regimes, especially when they are completely hidden from view, there are occasions when blockage of the roof outlets can cause a potentially disastrous build up of water.

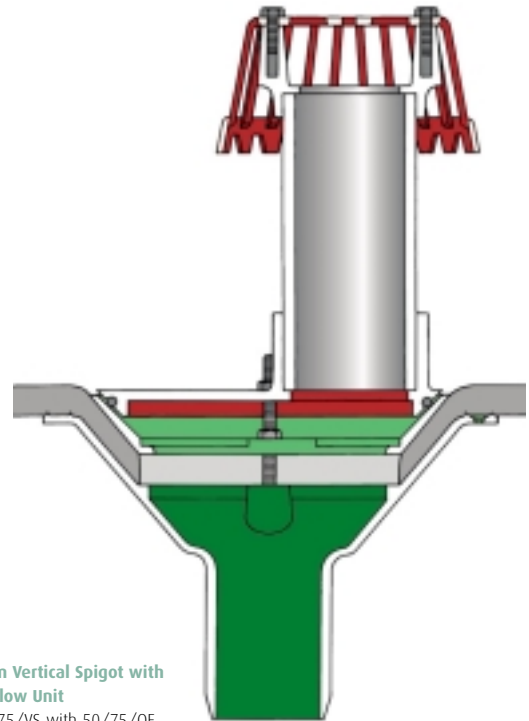
The **Caroflow** Overflow Unit is designed to alleviate this problem by sealing the outlet so that it will only come into operation when a build-up occurs.

A length of heavy duty PVC pipe is factory bonded to a sealing plate so only when the water has reached a pre-determined depth will it then begin draining and give a warning against the build-up.

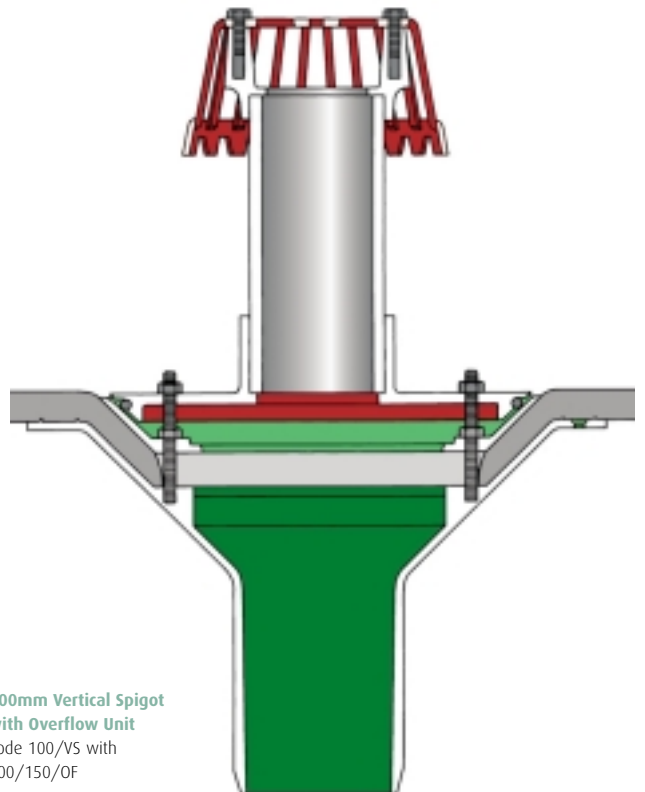
The PVC tube, once installed, is then easily cut to a height lower than the surrounding membrane flashing, and is kept free and clear with a securely fixed grating assembly that cannot be removed without the necessary tools.



Order Code No.	50/75/OF	100/150/OF
A	250	250
B	220	275
C	95	95
D	170	170

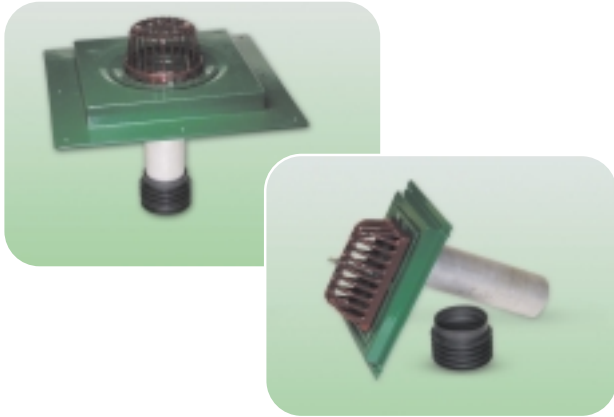


75mm Vertical Spigot with Overflow Unit
Code 75/VS with 50/75/OF



100mm Vertical Spigot with Overflow Unit
Code 100/VS with 100/150/OF

Carolet Refurbishment Outlets



The **Carolet** body is manufactured in LM6 Aluminium Silicon casting alloy to BS1490:1970 which is primed and then electrostatically coated with a protective polyester powder coating.

A fire retardant polystyrene insert is bonded to the underside void for insulation purposes.

The 'MINI' **Carolet** employs the same patented principles of its larger cousin, but being smaller in size is able to be used in more restricted areas.

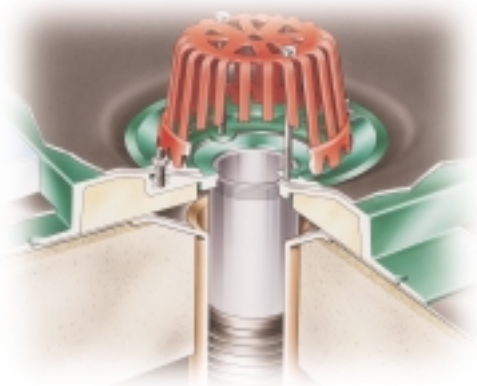
Carolet drainage outlets provide a revolutionary solution to the problem of ensuring a totally watertight junction between an insulated roof area and the drainage pipework.

They can be used for refurbishment projects where installation is required without disturbing existing pipework, or for new build projects connecting to a variety of pipe types.

The patented concept (Patent No. 2312449) employed by **Carolet** ensures that the roof insulation is encapsulated within a waterproof protective 'bubble' and that the potential leakage points that can occur, when using other products, are eradicated.

The threaded spigot or tail pipe of the **Carolet** is supplied loose for transportation and, once on site, is easily screwed and sealed into the body.

Furthermore, as each of the MINI's flanges have been designed to be easily removed (hard tap with heavy hammer) it is possible to use within narrow gullies or abutting tight against upstands, walls etc.



(Patent No. 2312449)

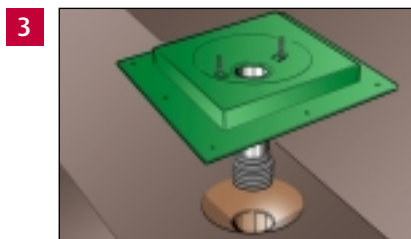
Installation



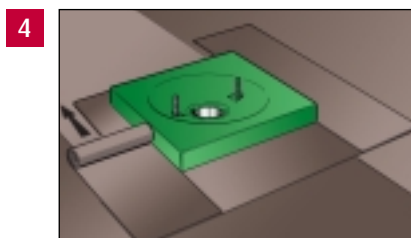
Remove redundant roof coverings and clean off all surfaces ready for new installation.



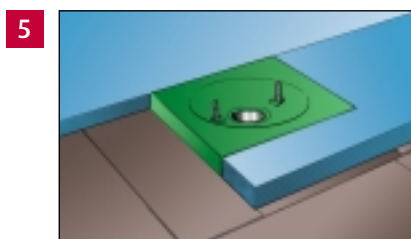
Lay new vapour barrier and bond into old roof outlet.



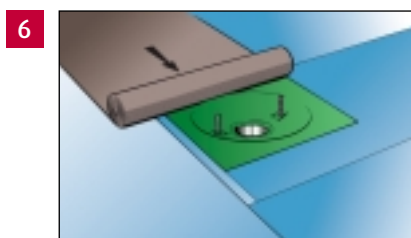
Insert CAROLET, without seal, into old outlet mouth - if necessary reduce spigot length to allow full insertion - replace seal and re-insert.



Bond strips of vapour barrier to CAROLET flange and existing vapour barrier, to ensure total seal.



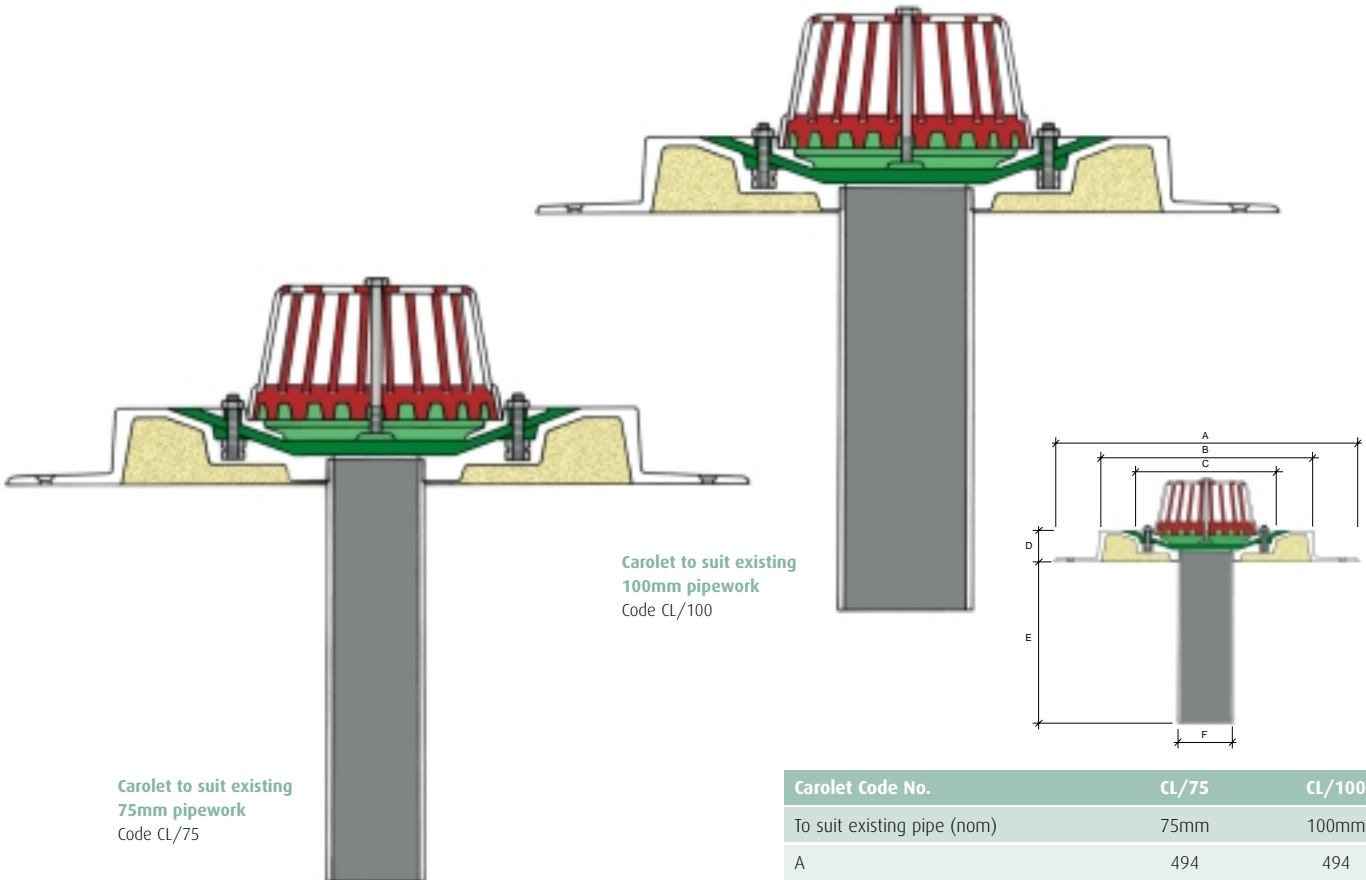
Cut and lay insulation board - if board is thicker than 50mm, chamfer / slope surrounding area so as to finish level with top of CAROLET.



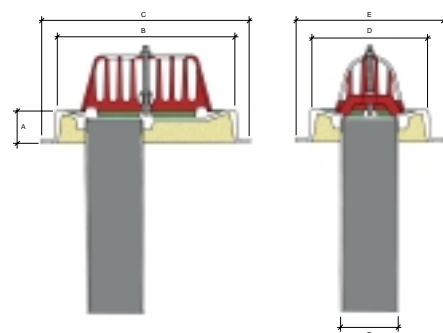
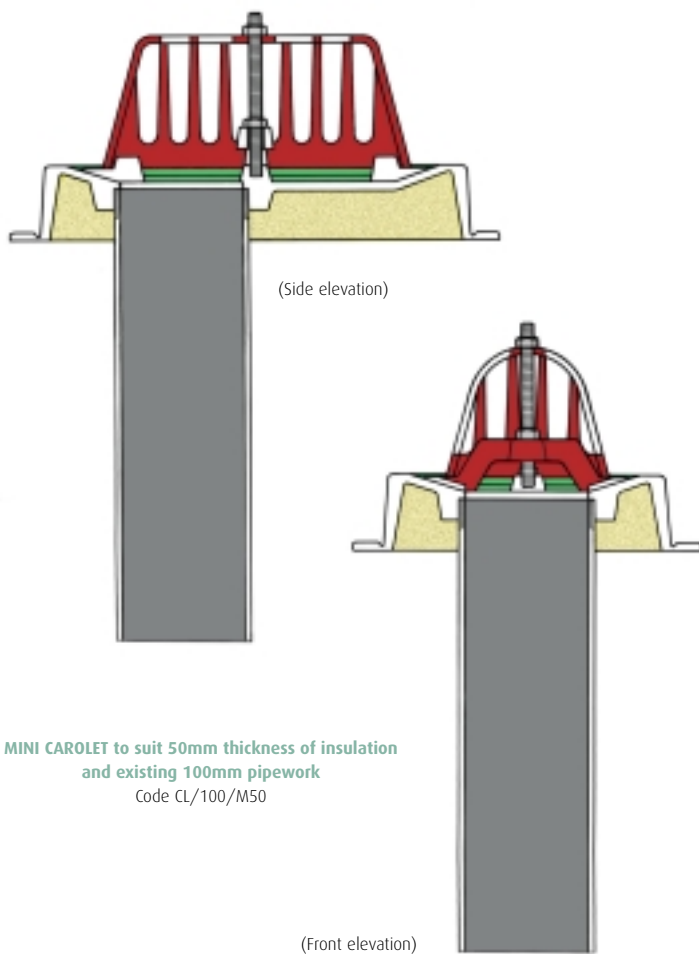
Lay main cap sheet / waterproofing over whole area - trim back and around CAROLET mouth so as to keep spigot clear.



Whilst still pliable insert and tighten clamping ring to give final seal - install grating.

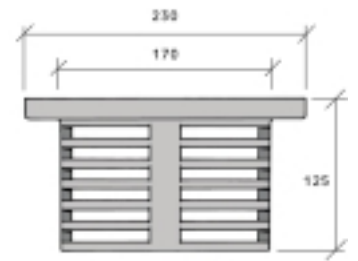
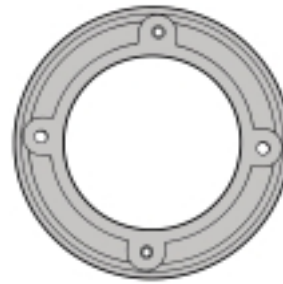
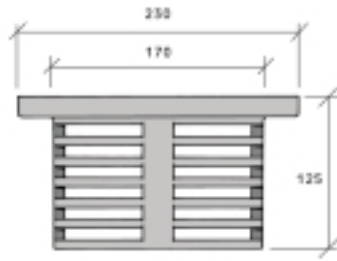


Carolet Code No.	CL/75	CL/100
To suit existing pipe (nom)	75mm	100mm
A	494	494
B	354	354
C	236	236
D	50	50
E	285	285
F	63.5	89



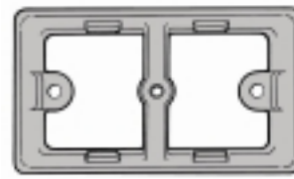
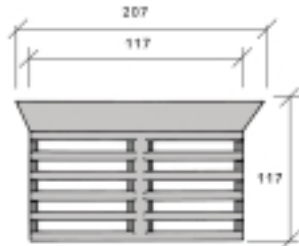
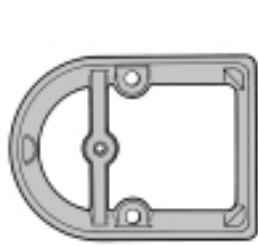
Mini Carolet Code	CL/75/M35	CL/75/M50	CL/100/M35	CL/100/M50
To suit existing Pipe (nom)	75mm	75mm	100mm	100mm
A	35	50	35	50
B	276	276	276	276
C	320	320	320	320
D	182	182	182	182
E	226	226	226	226
F	63.5	63.5	89	89

Easy Trim Extension Rings



Extension Ring Code 50/75ER
(To suit all 50mm and 75mm Circular Outlets)

Extension Ring Code 100/150ER
(To suit all 100mm and 150mm Circular Outlets)



Balcony Outlet Extension Ring Code B0/ER
(To suit all Balcony Outlets)

Gully Outlet Extension Ring Code G0/ER
(To suit all Gully Outlets)

Not to scale

The **Caroflow** 'Easitrim' Extension Rings have been designed for use where a single level drainage "upside-down" warm roof system is specified. It will raise the grating by up to 110mm to allow for the height required from waterproof membrane to finished roof surface. Due to their unique designs, the EASITRIM will not only allow for drainage from any level, but if necessary, can be reduced in height by trimming with a hacksaw on site or prior to delivery. Each EASITRIM Extension Ring is supplied complete with extra long threaded stainless steel fixing studs.

Threaded Adaptors

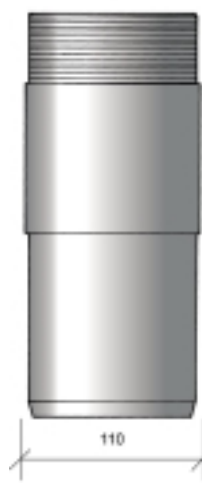
Not to scale



Code 50/ADP



Code 75/ADP



Code 100/ADP



Code 150/ADP

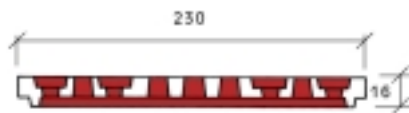
Caroflow threaded adaptors are manufactured in ABS Plastic and are male taper threaded at one end to BS21 for connection into any **Caroflow** threaded connection outlet. The other end is then turned and chamfered to BSEN 1566:2004 spigot dimensions to suit nominal bores of 50mm, 75mm, 100mm and 150mm. They are recommended for use where extra length is required, i.e. when the joint between outlet and pipework is likely to be cast within the concrete slab, or where a Two Way outlet is to be connected directly to "O" Ring socketed PVC pipework. The standard length of a **Caroflow** adaptor is 300mm, but longer lengths can be produced to order.

Kombi Terrace Grate

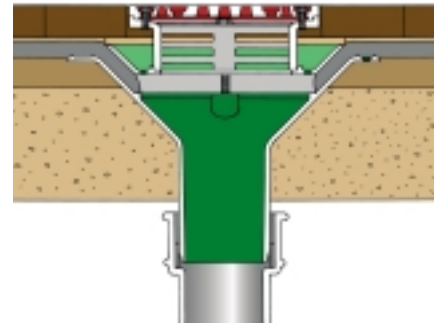
The **Caroflow** "Kombi" Terrace Grate is for use with both sizes of circular EASITRIM Extension Rings, where brick pavements, paving slabs, etc are detailed. The grate design allows for rotation through 90 degrees to allow positioning to surrounding pavements/slabs.

All grates and rings are available in either LM6 Aluminium (BS1490:1970) or leaded Gunmetal (BS1400:1985).

The detail to the right is an example of the use of the CAROFLOW "Kombi" Terrace Grate and the extension ring (after trimming to correct height). Please note that, if a sand bedding is used, a proprietary brand of filter paper will be required to ensure that no sand enters the outlet through the extension ring.



Kombi Terrace Grate
Code KTG (To suit above extension rings)



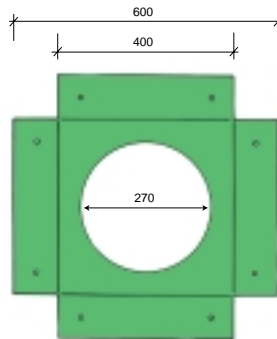
100mm Vertical Spigot with Extension Ring to suit 100/150mm Standard Outlets and Kombi Terrace Grate

Support Plate

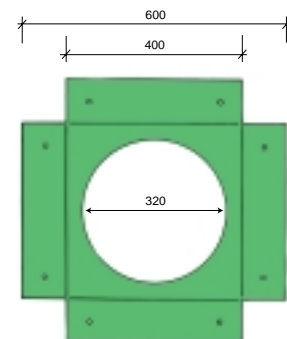
If **Caroflow** outlets are to be used on a metal deck construction then the use of the **Caroflow** Support Plate is recommended.

It is designed to provide a solid and secure area upon which the outlet can be installed.

Manufactured from 1.5mm steel sheet the support plate can either be powder coated or painted in red oxide



Support Plate
To suit 50/75mm Standard Outlet Code 50/75SP



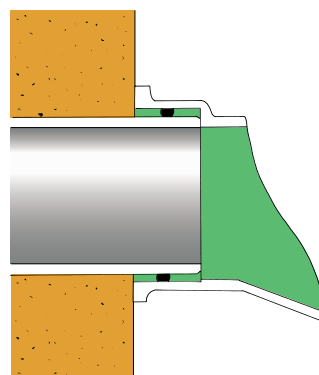
Support Plate
To suit 100/150mm Standard Outlet Code 100/150SP

Caroflow Discharge Spouts are manufactured in either LM6 Aluminium Silicon Casting to BS 1490:1970 or in Leaded Gunmetal to BS 1400:1985 and are sized for direct connection to either 75mm or 100mm **Caroflow** Threaded Adaptors or uPVC Soil Pipe to BSEN 1566:2004.

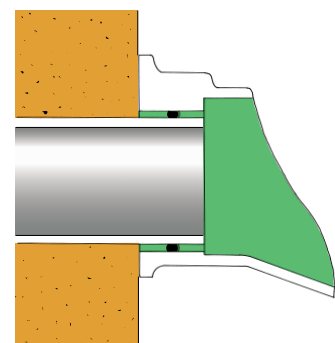
The discharge pipe from the outlet is installed so that it projects from the vertical wall/parapet by 40mm.

The spout is offered onto the pipe so that the fixing ears can be marked and plugs drilled then the sealing O Ring that is supplied with the spout is 'rolled' onto the projecting pipe.

The spout can now be re-offered and, as the spout is forced down the pipe, the ring rolls and forms a watertight seal.



Code: 100/Spout
with 100/ADP Threaded Adaptor



Code: 75/Spout
with 75/ADP Threaded Adaptor

Connections

The **Caroflow** range of roof outlets is extensive and has been designed to allow connection to most proprietary brands of pipework. Each outlet page details the connections that are applicable to it and should be cross referenced with the information below.

PVC

All **Caroflow** Vertical Spigot, Gully Spigot and Balcony Spigot outlets (excluding 50mm size) will connect directly to BSEN 1566:2004 "O" Ring socketed PVC pipework.

Where connections have to be made to some 45 degree or 90 degree Spigot outlets, use should be made of a proprietary Heat Shrink adaptors or specialist adaptor couplings.

A simpler and more secure alternative is to use a **Caroflow** Threaded adaptor with any **Caroflow** Threaded outlet.

Cast iron

All **Caroflow** Spigot Outlets are sized for direct connection to leading socketless and socketed cast iron systems to BS416.

Spigot and socket systems must be jointed according to manufacturers recommendations.

Screw Threaded Steel

All **Caroflow** threaded connection outlets are manufactured with BS21 female parallel screwed sockets, for direct connection to steel tube to BS1387.

These tubes are pre-screwed with male taper threads to BS21 and provide total gas tight security.

Aluminium

All **Caroflow** Spigot outlets will connect directly to aluminium pipes and fittings from leading aluminium pipe manufacturers, using their standard fittings/couplings.

Copper

Only **Caroflow** Gunmetal outlets should be used for connection to copper pipework. Spigot outlets should be brazed directly to the copper tube. Threaded outlets should make use of a proprietary adaptor, i.e. Yorkshire Imperial Male Iron to Copper adaptor No. 3.

Drainage areas and flow rates

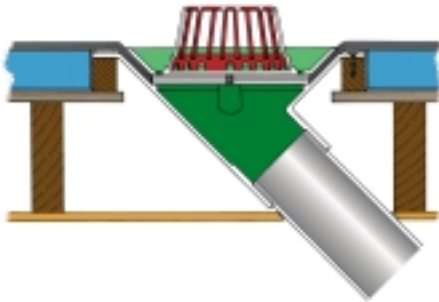
Type	Description code	Dome Grate		Flat Grate	
		M2	ltrs/sec	M2	ltrs/sec
Vertical Spigots	50/VS	84 (84)	1.76 (1.76)	84 (84)	1.76 (1.76)
	75/VS	221 (249)	4.62 (5.20)	239 (243)	4.99 (5.08)
	100/VS	254 (341)	5.30 (7.11)	312 (344)	6.51 (7.17)
	150/VS	302 (405)	6.31 (8.44)	312 (357)	6.51 (7.44)
Vertical Threaded	50/VT	84 (84)	1.76 (1.76)	84 (84)	1.76 (1.76)
	75/VT	221 (249)	4.62 (5.20)	239 (243)	4.99 (5.08)
	100/VT	254 (341)	5.30 (7.11)	312 (344)	6.51 (7.17)
	150/VT	302 (405)	6.31 (8.44)	312 (357)	6.51 (7.44)
45° Spigots	50/45S	84 (84)	1.76 (1.76)	84 (84)	1.76 (1.76)
	75/45S	218 (249)	4.56 (5.20)	247 (249)	5.15 (5.20)
	100/45S	244 (317)	5.10 (6.61)	288 (344)	6.00 (7.16)
45° Threaded	50/45T	84 (84)	1.76 (1.76)	84 (84)	1.76 (1.76)
	75/45T	218 (249)	4.56 (5.20)	247 (249)	5.15 (5.20)
	100/45T	244 (317)	5.10 (6.61)	288 (344)	6.00 (7.16)
90° Spigots	50/90S	84 (84)	1.76 (1.76)	84 (84)	1.76 (1.76)
	75/90S	216 (249)	4.51 (5.20)	249 (249)	5.20 (5.20)
	100/90S	235 (293)	4.91 (6.11)	264 (344)	5.50 (7.16)
90° Threaded	50/90T	84 (84)	1.76 (1.76)	84 (84)	1.76 (1.76)
	75/90T	216 (249)	4.51 (5.20)	249 (249)	5.20 (5.20)
	100/90T	235 (293)	4.91 (6.11)	264 (344)	5.50 (7.16)
	150/90T	279 (348)	5.83 (7.25)	264 (357)	5.50 (7.44)
Two Way Outlets	50/TW	-	-	84 (84)	1.76 (1.76)
	75/TW	-	-	98 (98)	2.05 (2.05)
	100/TW	-	-	100 (100)	2.10 (2.10)
Balcony Outlets	50/BO	-	-	84 (84)	1.76 (1.76)
	75/BO	-	-	122 (133)	2.56 (2.77)
	100/BO	-	-	122 (133)	2.56 (2.77)
Gully Outlet Spigots	75/GOS	185 (248)	3.86 (5.17)	-	-
	100/GOS	186 (251)	3.89 (5.24)	-	-
Kombi Terrace Grates	50/KTG	-	-	84 (84)	1.76 (1.76)
	75/KTG	-	-	203 (211)	4.24 (4.41)
	100/KTG	-	-	204 (258)	4.25 (5.38)
	150/KTG	-	-	204 (265)	4.25 (5.52)

The above drainage areas and flow rates are based on the specific heads of water at the outlets, with a rainfall rate of 75mm per hour, all as taken from BS6367:1983 Drainage of Roofs and Paved Areas. Clause 8.10.4 recommends a maximum head of 30mm if confined to a relatively small area around the outlet (40mm heads are shown in brackets for completeness of information only).

Where the actual pipe size is too small to allow full flow from an unobstructed outlet grating, the lower area drainage and flow rates are shown. These drainage areas and flow rates have been calculated with the assistance of Mr J W Byfield Eng.Tech.MIP,RP., of Byfield Associates. Caroflow Limited retains the right to revise all information without notice.

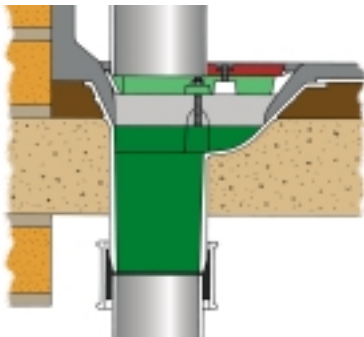
Caroflow Roof Outlets provide a watertight connection between the roofing membrane and drainage pipework, thereby removing the problem of water penetrating the roof at this critical point. They give a ready made, engineered sump that is mechanically sealed to the roof waterproofing membrane and then connect that sump to the pipework, without a break. All **Caroflow** outlets follow the same principle and are ideally suited to all membranes from traditional 3-layer felt, asphalt and copper (or lead clad) to today's high performance single ply membranes. Some examples of their use are detailed below.

45 degree Threaded with CAROFLOW adaptor - Warm Roof



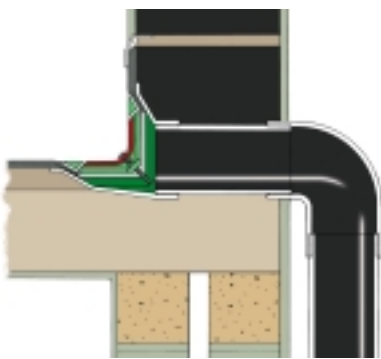
- Position outlet body (with CAROFLOW Threaded adaptor already connected) into pre-formed hole within roof deck and secure to timber spacers through outlet flange.
- Lay vapour barrier up and over into outlet mouth and place rigid insulation board into position.
- Dress three layer felt into outlet mouth, insert clamping ring and tighten down.
- Secure grating into clamping ring.

Balcony Outlet with Grate Cut-out - Cold Roof



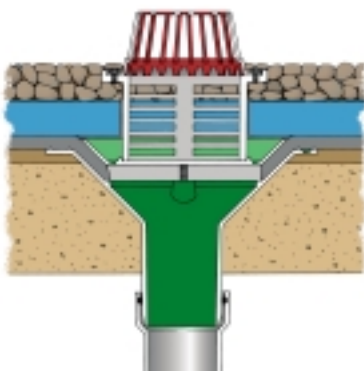
- Grout outlet body into pre-formed hole, within slab, ensuring that flange is set at minimum screed level.
- Lay screed to correct falls to finish level with outlet flange.
- Treat outlet flange and mouth with suitable bitumen-based primer and add isolating membrane prior to dressing in of two layer mastic asphalt.
- Whilst second layer is still pliable insert clamping ring into position and tighten down. Trim off excess length of stud before securing grating.
- (If grating is required to accept downpipe from upper level, the relevant section should be cut away to allow downpipe into outlet mouth).
- Secure lower pipework to outlet spigot.

Two Way horizontal take-off - Cold Roof



- Connect required length of threaded steel tube (or CAROFLOW adaptor for PVC pipework) to Two Way outlet and place assembly into junction between horizontal and vertical surfaces.
- Ensure that horizontal flange is positioned level with finished screed and vertical flange to be level with wall surface. Ensure minimal drainage fall away from outlet into pipework.
- Lay screed to correct falls to finish level with outlet flange.
- Dress 3 layer felt into outlet mouth, insert clamping ring and tighten down whilst still pliable.
- Trim off excess stud lengths and secure grating into position.

Vertical Spigot with Extension Ring - Inverted Roof



- Grout outlet body into pre-formed hole within slab, ensuring that flange is set at minimum screed level
- Lay screed to correct falls to finish level with outlet flange
- Treat outlet flange and mouth with suitable bitumen-based primer and add isolating membrane prior to dressing in of two layer mastic asphalt.
- Whilst second layer is still pliable insert clamping ring into position and tighten down.
- Lay insulation board leaving circular hole sized to accept Extension Ring.
- Secure Extension Ring and grating and lay 20mm minimum diameter washed ballast.
- Connect pipework to outlet spigot.