

Aluminium Roof Outlets - Introduction to AV Outlets

The Harmer AV range offers unrivalled flow characteristics and has a proven track record for reliable performance.

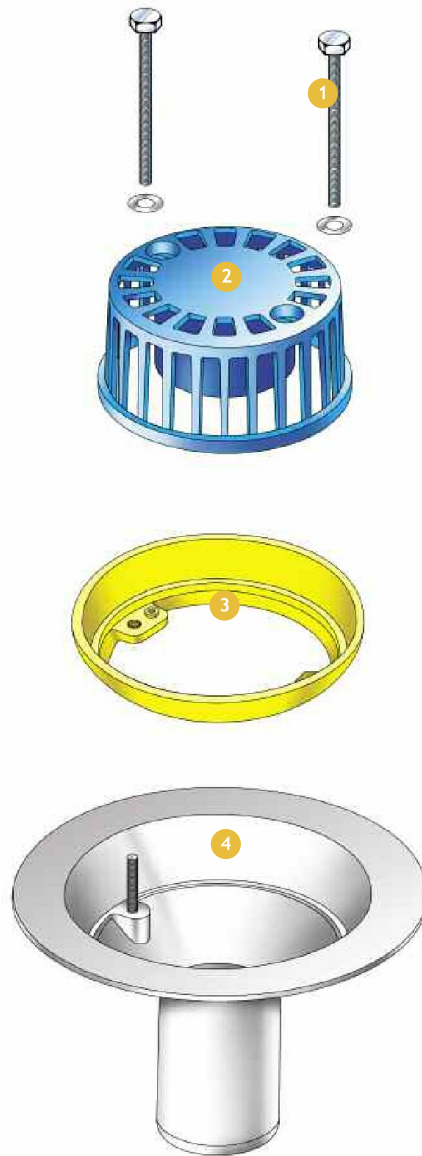
Main Characteristics

Enhanced Performance

Harmer rainwater outlets provide, with the Harmer Roof AV range, anti-vortex performance from an economic, general purpose range of outlets. Harmer Roof AV incorporates a patented baffle within the grating, to prevent water swirl and air entrapment, enabling the outlet to drain at optimum pipe capacity.



The performance of AV outlets accelerates as the depth of water at the outlet or rainfall intensity increases. The unique high flow performance of Harmer Roof AV outlets demands that each outlet is connected to a dedicated or individual rainwater stack. AV outlets should be used for securing optimum performance when connected to downpipes on a gravity system.



1 Bolts and Washers
Stainless steel

2 AV Grate
Tamper proof, secured to clamping ring by two pocketed stainless steel bolts

3 Clamping Ring
Designed to secure the waterproof membrane to the outlet body, the clamping ring is fixed to the outlet body with two stainless steel fixing studs

4 Outlet Body
Deep sump body is secured through flange to supporting structure

Key Benefits of the Harmer AV Roof Outlet Range

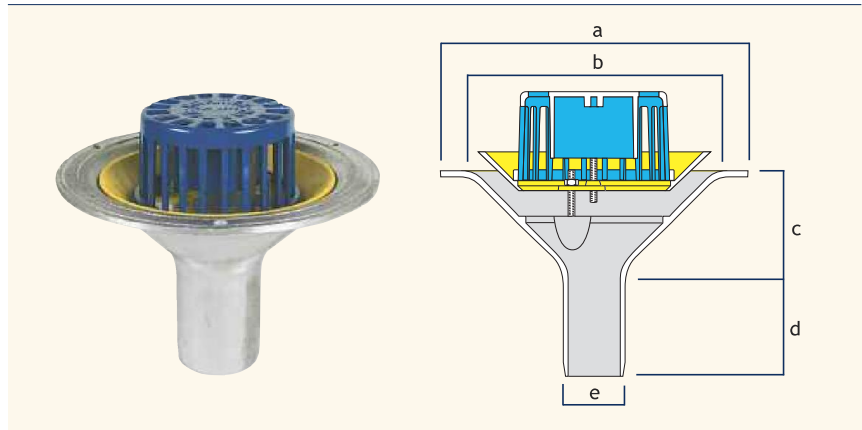
- Drains more roof area than conventional gravity outlet.
- Harmer AV can be used with any connecting pipework material, and all popular pipework sizes.
- Easy installation into roofs and gutters using bituminous, single ply and wet-applied waterproofing systems.
- High flow performance with increasing head of water at the outlet.
- Ensures optimum efficiency of outlet capacity.
- Special retro-gully for flat roof refurbishment is also available.

Aluminium Roof Outlets - AV Vertical Outlets

Harmer Roof AV Vertical rainwater outlets are designed for use with flat roof structures using either insitu cast concrete, timber or lightweight metal deck construction. Harmer Roof outlets are ideal for connection to continuous waterproofing systems using single ply membranes, mastic asphalt, high performance built-up felt and wet-applied systems.

Vertical Spigot Outlet - Domical Grate

Vertical Spigot outlets are suitable for direct connection to cast iron pipework to BS EN 877 and BS 416, HDPE pipework and PVC O-ring socketed pipe to BS 4514 and BS EN 1329-1 (AV300, AV400 and AV600 outlets only). Please see pipework connections on page 34 for appropriate Harmer coupling selection.



Flow Rate Note 1 (applies to all tables)
Flow rates are in litres per second to rainwater pipe capacity limits of BS EN 12056. Contact Harmer Technical Services for variable outlet performance to specific depth of water and rainfall intensity.

Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Flow Rate ¹ (l/s)	Weight (kg)	Product Code
50	292	233	98	98	60	1.69	2.5	AV200
75	292	233	88	108	83	4.97	2.7	AV300
100	380	305	122	122	110	10.71	4.9	AV400
150	380	305	98	145	160	14.07	5.0	AV600

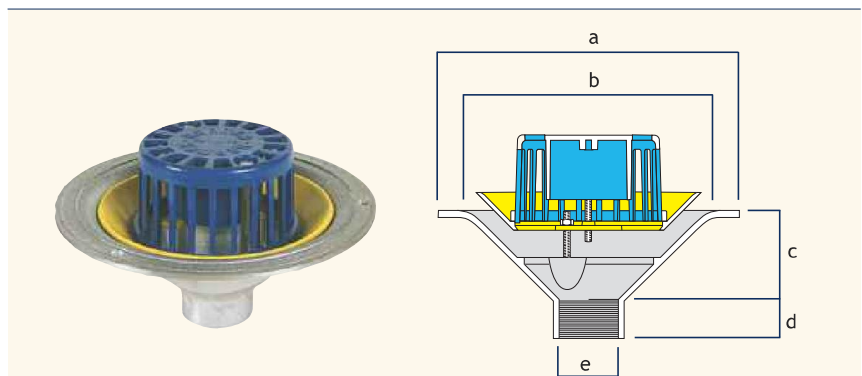
For flat grate versions add suffix /F to the product code (See page 17)

A range of accessories is available for use with special detail requirements (See pages 17, 32 and 33)

Vertical Threaded Outlet - Domical Grate

Vertical Threaded outlets have a female socket with parallel thread to BS EN 10226-1 for direct connection to threaded tube conforming with BS EN 10226-1. This tube is supplied with BS EN 10255 taper male thread which ensures a completely watertight joint when screwed home into the socket outlet. Threaded outlets are particularly recommended where a connection to the outlet occurs within the thickness of a concrete slab. In such cases, a threaded connection will create a completely gastight seal within the slab.

Harmer Roof AV threaded outlets can be connected to socketed and socketless cast iron pipework, HDPE pipework and PVC pipework by means of the Harmer Roof Threaded Spigot Adaptor with appropriate Harmer coupling. (See page 33).



Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (BSP)	Flow Rate ¹ (l/s)	Weight (kg)	Product Code
50	292	234	86	35	2"	1.69	2.3	AV200T
75	292	234	76	45	3"	4.97	2.3	AV300T
100	380	305	95	38	4"	10.71	4.5	AV400T
150	380	305	76	38	6"	13.51	4.5	AV600T

For flat grate versions add suffix /F to the product code (See page 17)

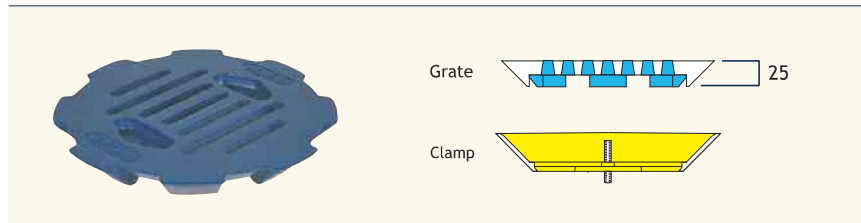
A range of accessories is available for use with special detail requirements (See pages 17, 32 and 33)

Aluminium Roof Outlets - AV Vertical Outlets

Flat Grate

Flat grates should be used if the outlet occurs in an area which is subject to pedestrian traffic. These grates are also designed for use with Harmer Modulock drainage system where concealed rainwater outlets are used. (See page 38)


To specify or order, add suffix /F to the product codes on page 16, e.g 100mm Vertical Spigot outlet with Flat Grate: AV400/F.



Outlet Size (kg)	Flow Rate (l/s) ¹	Load Rating (tonne)	Weight (kg)	Suffix
50	1.69	1.5	0.8	/F
75	4.97	1.5	0.8	/F
100	10.71	1.5	1.2	/F
150	15.55	1.5	1.2	/F

Terrace Grates

Terrace Grates are designed for installation in terrace tiles or brick paviors. They should be used in connection with Grate Extension Pieces which raise the Terrace Grate to the level of the paved surface. The radius slots in the grate allow for movement through 90° permitting adjustment to suit surrounding paving prior to final tightening.



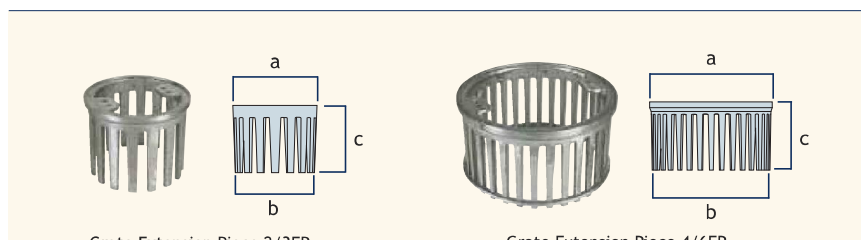
Outlet Size (mm)	a (mm)	b (mm)	Flow Rate ¹ (l/s)	Load Rating (tonne)	Weight (kg)	Product Code
50	150	25	1.69	1.5	0.7	2/3TG
75	150	25	4.97	1.5	0.7	2/3TG
100	232	25	10.71	1.5	1.6	4/6TG
150	232	25	15.55	1.5	1.6	4/6TG

Grate Extension Pieces

Grate Extension Pieces are for applications where it is necessary to raise the level of the grate above the body of the outlet such as in inverted roof construction. (See page 38)

The Grate Extension Pieces will accept domical grates and terrace grates but not standard flat grates. Terrace Grates can be used only in connection with grate extension pieces. The extension pieces can be cut down if necessary to suit the thickness of paving or tiles. This can be done easily on site with a hacksaw, or, if required, extension pieces can be trimmed prior to delivery.

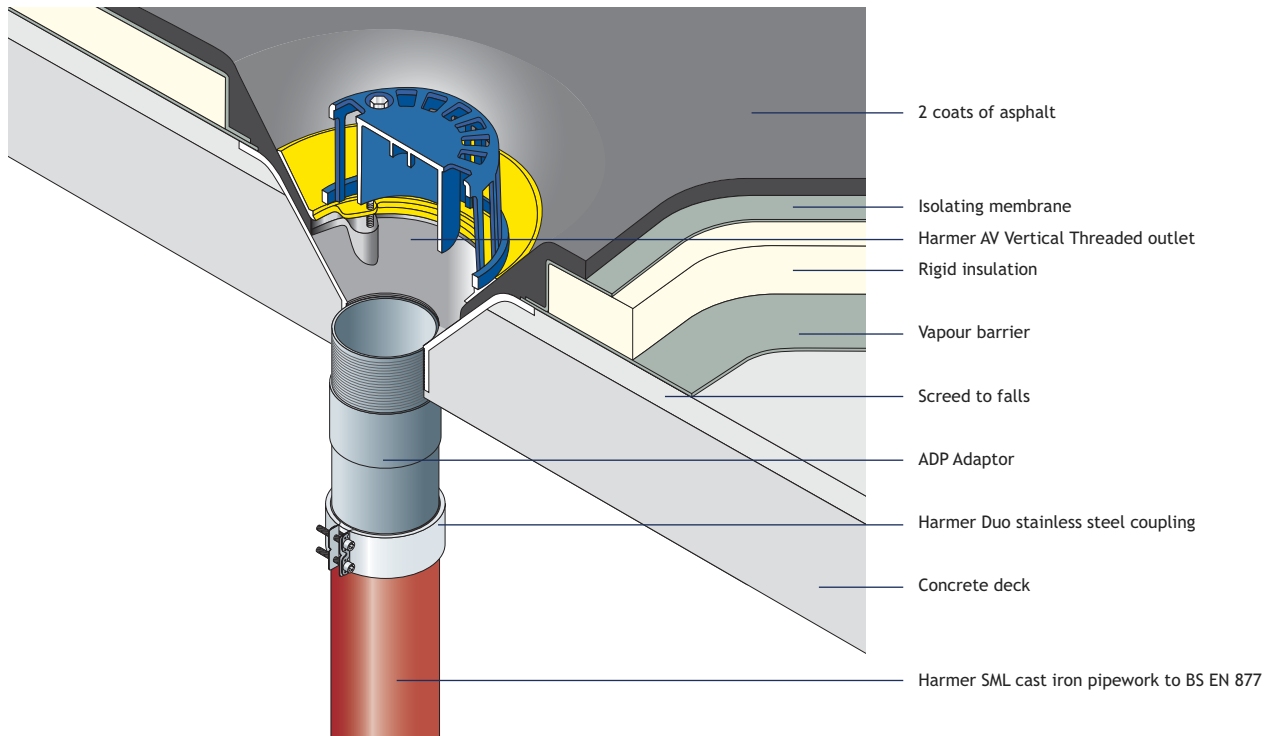
Grate Extension Pieces are supplied with one set of stainless steel extension studs per outlet.



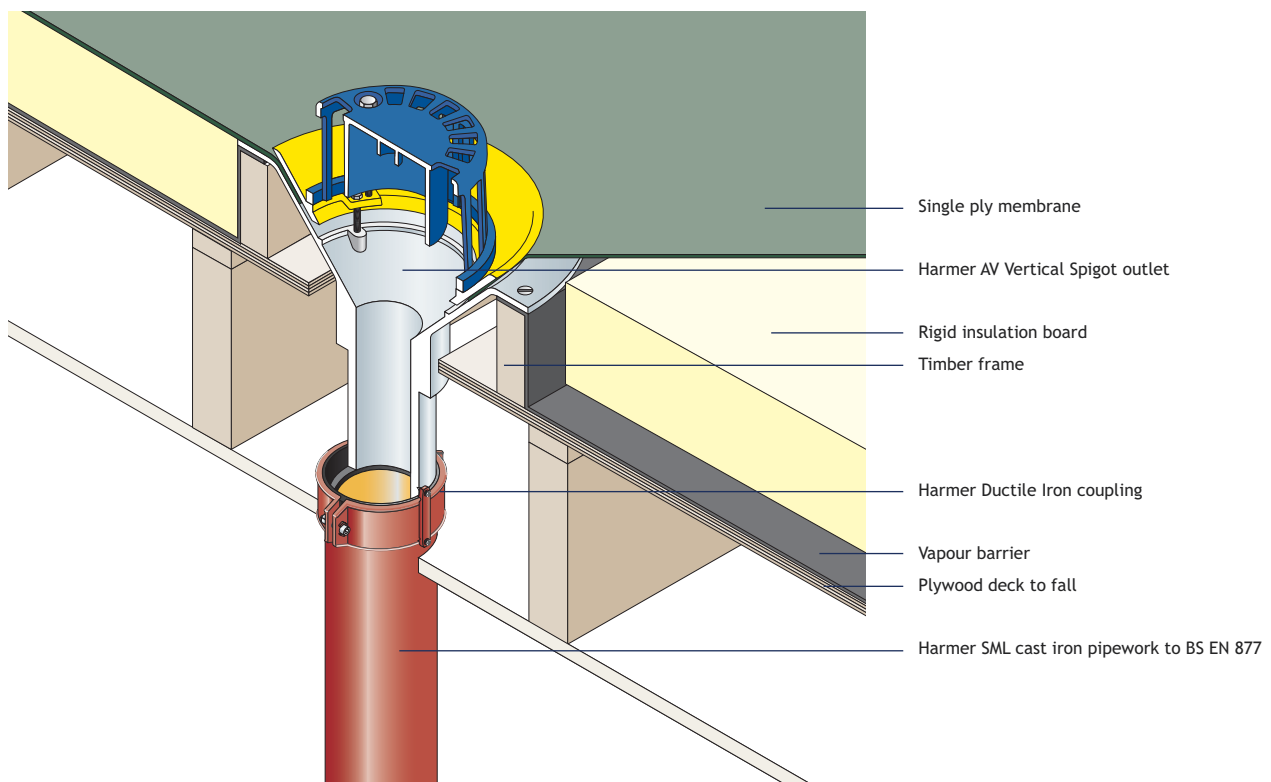
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	Weight (kg)	Product Code
50	161	150	128	0.7	2/3EP
75	161	150	128	0.7	2/3EP
100	233	222	128	1.3	4/6EP
150	233	222	128	1.3	4/6EP

Aluminium Roof Outlets - Application Details

Harmer AV Vertical Threaded Outlet in Warm Roof Concrete Deck Construction with Asphalt Waterproofing

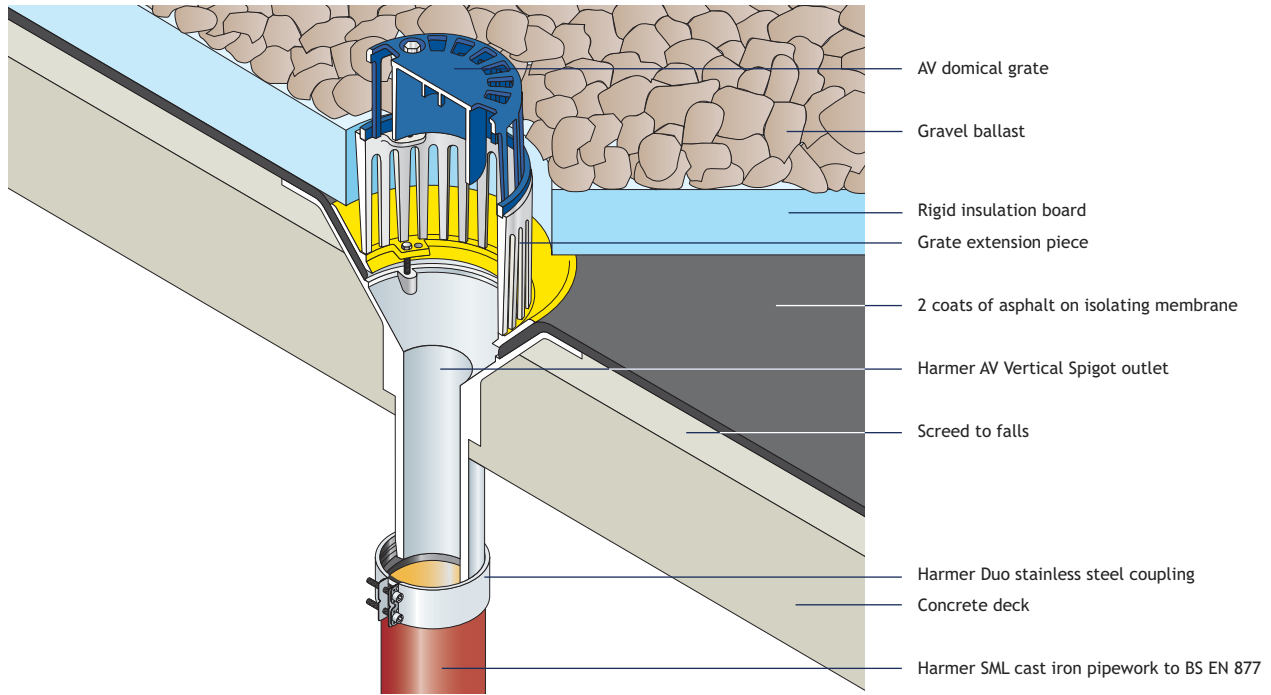


Harmer AV Vertical Spigot Outlet in Warm Roof Timber Deck Construction with Single Ply Waterproof Membrane



Aluminium Roof Outlets - Application Details

Harmer AV Vertical Spigot Outlet and Extension Piece in Inverted Roof Concrete Deck Construction



Harmer AV Vertical Spigot Outlet with Flat Grate in Inverted Roof Concrete Deck Construction with Paving Slabs on Uni-Ring Raised Deck Supports

