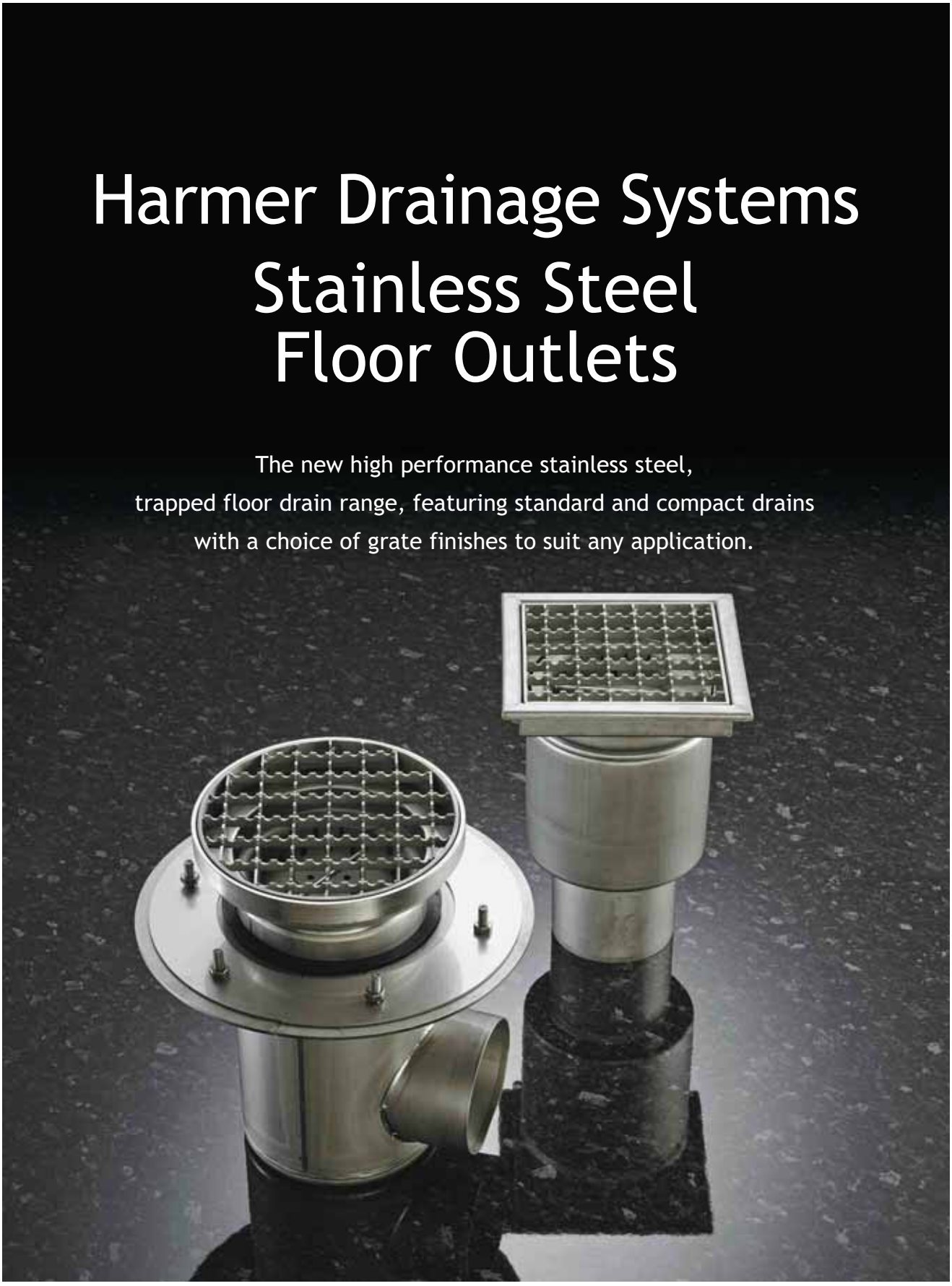
Harmer Drainage Systems Stainless Steel Floor Outlets

The new high performance stainless steel,
trapped floor drain range, featuring standard and compact drains
with a choice of grate finishes to suit any application.



Stainless Steel Floor Outlets - Benefits

Harmer Stainless Steel floor outlets offer a wide range of standard and compact drains available with fixed or two-part adjustable drain bodies, horizontal or vertical outlets, and a choice of square or circular grate finishes to suit the application and load class required.

Compliances

- Grate options available for load class ratings to BS EN 1253 (Indoor) - K3 (3kN), L15 (15 kN), M125 (125kN) and to BS EN 1433 (Outdoor) – A15 (15kN), B125 (125kN) and Channels up to C250 (250kN)
- The stainless steel is fully pickle passivated to ensure high quality corrosion-free joints

Flow Performance

- High flow performance
- High sump volume

Robust and Secure

- Available in Grade 304 or Grade 316 grade stainless steel
- Using 1.5mm – 2mm steel sheets. All components are welded in argon shield to ensure high quality joints
- Excellent corrosion resistance and durability

A Choice of Body and Grates

- Standard and compact drain body options, either fixed or two part adjustable bodies to suit different floor depth
- 4 grate finishes to suit design and load class requirements
- Available trapped or untrapped, with vertical or horizontal spigot connection

Low Maintenance

- Integral waste basket to be used when drained waste water has a high content for solids
- Easy to clean and maintain with easy access to the trap and waste basket

Easy and Quick to Install

- Easy to install, the drain body can be installed into the floor and the trap and basket with grate can follow when ready
- Suitable for tiled, sheet vinyl and resin floor installations

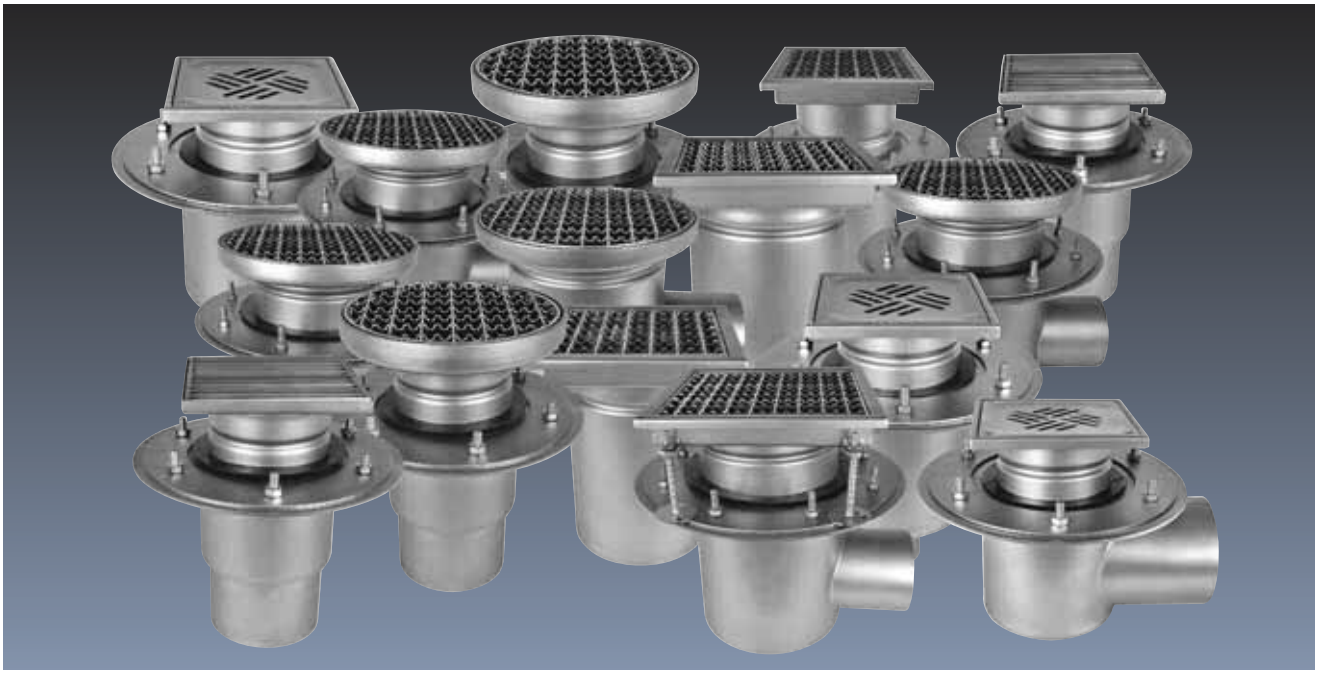
Value for Money

- Stainless steel is very durable and resistant in industrial applications so its life cycle cost is excellent

Sustainable

- Stainless Steel is 100% recyclable
- Around 60% recycled material is used in the production of stainless steel

Stainless Steel Floor Outlets - Product Range Summary



Standard Outlets

The standard outlets are suitable for industrial applications such as chemical, pharmaceutical and food & drink processing. They are available with a vertical or horizontal outlet in 110mm, 160mm or 200mm. The grate options in either square or circular offer weight load class from L15 to M125.
See pages 60 to 63.

Compact Outlets

The compact outlets are suitable for connecting to the standard and slot channel drains as an outlet option and also to be used for the domestic applications. They are available with a vertical or horizontal outlet in 50mm or 110mm. Grates available to suit weight loadings up to M125. See pages 64 to 67.

One-Part/Two-Part Options

The Harmer Stainless Steel floor drains are available in a range of either fixed one-part drain body or as an adjustable two-part drain body which allows full rotation of the grate bezel.

When to Choose a One-Part or Two-Part Assembly

The one-part drain is suitable for a fixed floor finish where a DPM isn't required. The Two-part drain body is ideal for applications where a DPM is required and its especially suited for applications where the floor height is yet to be finialised.

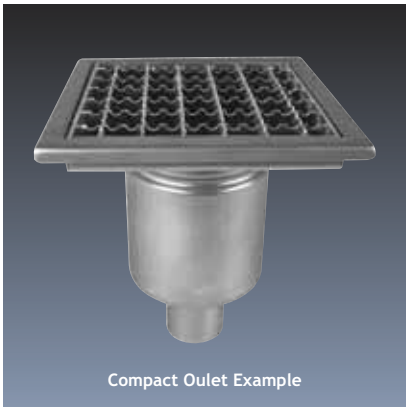
Trapped/Untrapped Options

The standard and trapped drains come complete with an integral trap, if this is not required remove the suffix /T.

Applications

- Food & drink processing
- Chemical & pharmaceutical industries
- Commercial kitchens
- Hotels & restaurants
- Hospitals
- Health centres
- Supermarkets
- Airports
- Railways
- Utilities
- Sport and leisure
- Prisons
- Energy industry

Standard Oulet Example



Compact Oulet Example

Stainless Steel Floor Outlets - Product Range Summary

1 **Grating**
Available in various styles Mesh Anti-Slip, Ladder, Plate and Perforated sheet. Both circular and square options in a variety of sizes. The gratings are chosen according to load class requirements - See below

2 **Waste Basket (Optional)**
Recommended when the drained wastewater has a high content of solids

3 **Trap (Optional)**
Functional and easy to maintain, it ensures there is easy access to the sewer, offering quick cleaning

4 **Gasket Seal**
Ensures an airtight secure fit into the drain body

5 **Drain Body (One-Part)**

6 **Upper Drain Body (Two-Part)**
Adjustable vertically and can be rotated to suit the floor finish

7 **Flange**
Used to secure the DPM or similar within the floor structure

8 **Lower Drain Body (Two-Part)**
The round shape limits waste accumulation and enables easy waste removal.

Typical Stainless Steel Floor Drainage Assemblies

(Standard Range Shown)

One-Part Outlet Components | **Two-Part Outlet Components**

Load Class of Gratings

Harmer load class gratings installed indoors, classified according to BS EN 1253-1: 2003.

K3 (3 kN)
Places for pedestrian use.

L15 (15 kN)
Areas where vehicular traffic intensity is low, excluding forklifts.

M125 (125 kN)
Areas with intensive vehicular traffic.

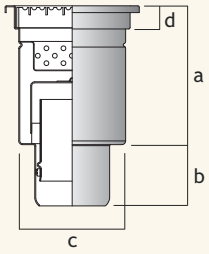
Stainless Steel Floor Outlets - Standard One-Part Range Product Tables

Harmer Stainless Steel standard floor outlets are a heavy duty range with a wide choice of outlet sizes. Available with either a vertical or horizontal outlet, and square or circular grates for tiled and resin floor applications. The one-part fixed drains are suitable for a fixed floor finish where a DPM isn't required.

Vertical One-Part Fixed Outlets with Square Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix **/T**

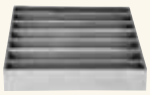


Perforated Grade (/B)

L15

L15

Mesh Anti-slip Grade (/K)



Ladder Grade (/D)

M125

M125

Plate Grade (/P)

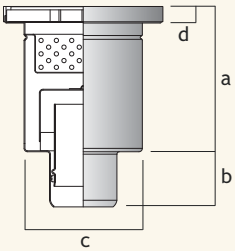
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	194	90	157	30	200 x 200	Perforated	L15	4.0	2.2	SV110/S20/B/T
110	194	90	157	30	200 x 200	Mesh Anti-slip	L15	4.0	2.2	SV110/S20/K/T
110	194	90	157	30	200 x 200	Ladder	M125	4.5	2.2	SV110/S20/D/T
110	194	90	157	30	200 x 200	Plate	M125	4.5	2.2	SV110/S20/P/T
110	234	90	193	30	250 x 250	Perforated	L15	5.5	3.0	SV110/S25/B/T
110	234	90	193	30	250 x 250	Mesh Anti-slip	L15	5.5	3.0	SV110/S25/K/T
110	234	90	193	30	250 x 250	Ladder	M125	6.0	3.0	SV110/S25/D/T
110	234	90	193	30	250 x 250	Plate	M125	6.0	3.0	SV110/S25/P/T
160	244	90	193	30	300 x 300	Perforated	L15	8.0	9.0	SV160/S30/B/T
160	244	90	193	30	300 x 300	Mesh Anti-slip	L15	8.0	9.0	SV160/S30/K/T
160	244	90	193	30	300 x 300	Ladder	M125	9.5	9.0	SV160/S30/D/T
160	244	90	193	30	300 x 300	Plate	M125	9.5	9.0	SV160/S30/P/T
200	354	90	348	30	400 x 400	Perforated	L15	20.0	12.0	SV200/S40/B/T
200	354	90	348	30	400 x 400	Mesh Anti-slip	L15	20.0	12.0	SV200/S40/K/T
200	354	90	348	30	400 x 400	Ladder	M125	22.0	12.0	SV200/S40/D/T
200	354	90	348	30	400 x 400	Plate	M125	23.0	12.0	SV200/S40/P/T

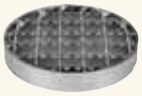
* The flow rate is based on maximum capacity of the trap

Vertical One-Part Fixed Outlets with Circular Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix **/T**





Mesh Anti-slip Grade (/K)

L15

M125

Ladder Grade (/D)

Plate Grade (/P)

M125

M125

Tight Cover Grade (/S)

Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	187	90	157	25	200 Dia	Mesh Anti-slip	L15	4.0	2.2	SV110/C20/K/T
110	187	90	157	25	200 Dia	Plate	M125	4.0	2.2	SV110/C20/P/T
110	187	90	157	25	200 Dia	Ladder	M125	4.5	2.2	SV110/C20/D/T
110	187	90	157	25	200 Dia	Tight Cover	M125	4.5	–	SV110/C20/S/T
110	227	90	193	25	255 Dia	Mesh Anti-slip	L15	5.5	3.0	SV110/C25/K/T
110	227	90	193	25	255 Dia	Plate	M125	5.5	3.0	SV110/C25/P/T
110	227	90	193	25	255 Dia	Ladder	M125	6.0	3.0	SV110/C25/D/T
110	227	90	193	25	255 Dia	Tight Cover	M125	6.0	–	SV110/C25/S/T

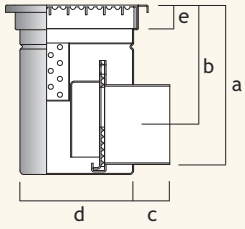
* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Standard One-Part Range Product Tables

Horizontal One-Part Fixed Outlets with Square Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix **/T**

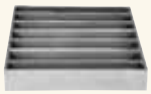


Perforated Grate (/B)

L15

L15

Mesh Anti-slip Grate (/K)



Ladder Grate (/D)

M125

M125

Plate Grate (/P)

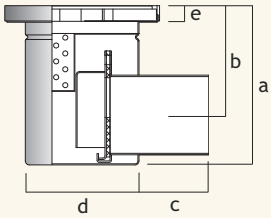
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	244	170	50	157	30	200 x 200	Perforated	L15	4.0	2.2	SH110/S20/B/T
110	244	170	50	157	30	200 x 200	Mesh Anti-slip	L15	4.0	2.2	SH110/S20/K/T
110	244	170	50	157	30	200 x 200	Ladder	M125	4.5	2.2	SH110/S20/D/T
110	244	170	50	157	30	200 x 200	Plate	M125	4.5	2.2	SH110/S20/P/T
110	244	170	100	193	30	250 x 250	Perforated	L15	5.5	3.0	SH110/S25/B/T
110	244	170	100	193	30	250 x 250	Mesh Anti-slip	L15	5.5	3.0	SH110/S25/K/T
110	244	170	100	193	30	250 x 250	Ladder	M125	6.0	3.0	SH110/S25/D/T
110	244	170	100	193	30	250 x 250	Plate	M125	6.0	3.0	SH110/S25/P/T
160	294	194	90	255	30	300 x 300	Perforated	L15	8.0	9.0	SH160/S30/B/T
160	294	194	90	255	30	300 x 300	Mesh Anti-slip	L15	8.0	9.0	SH160/S30/K/T
160	294	194	90	255	30	300 x 300	Ladder	M125	9.5	9.0	SH160/S30/D/T
160	294	194	90	255	30	300 x 300	Plate	M125	9.5	9.0	SH160/S30/P/T
200	354	232	90	348	30	400 x 400	Perforated	L15	20.0	12.0	SH200/S40/B/T
200	354	232	90	348	30	400 x 400	Mesh Anti-slip	L15	20.0	12.0	SH200/S40/K/T
200	354	232	90	348	30	400 x 400	Ladder	M125	22.0	12.0	SH200/S40/D/T
200	354	232	90	348	30	400 x 400	Plate	M125	23.0	12.0	SH200/S40/P/T

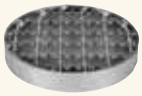
* The flow rate is based on maximum capacity of the trap

Horizontal One-Part Fixed Outlets with Circular Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix **/T**





Mesh Anti-slip Grate (/K)

L15

M125

Ladder Grate (/D)

Plate Grate (/P)

M125

M125

Tight Cover Grate (/S)

Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	237	165	50	157	25	200 Dia	Mesh Anti-slip	L15	4.0	2.2	SH110/C20/K/T
110	237	165	50	157	25	200 Dia	Plate	M125	4.0	2.2	SH110/C20/P/T
110	237	165	50	157	25	200 Dia	Ladder	M125	4.5	2.2	SH110/C20/D/T
110	237	165	50	157	25	200 Dia	Tight Cover	M125	4.5	–	SH110/C20/S/T
110	237	165	100	193	25	255 Dia	Mesh Anti-slip	L15	5.5	3.0	SH110/C25/K/T
110	237	165	100	193	25	255 Dia	Plate	M12x5	5.5	3.0	SH110/C25/P/T
110	237	165	100	193	25	255 Dia	Ladder	M125	6.0	3.0	SH110/C25/D/T
110	237	165	100	193	25	255 Dia	Tight Cover	M125	6.0	–	SH110/C25/S/T

* The flow rate is based on maximum capacity of the trap

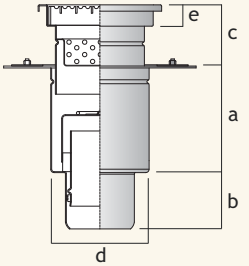
Stainless Steel Floor Outlets - Standard Two-Part Range Product Tables

Harmer Stainless Steel standard floor outlets are a heavy duty range with a wide choice of outlet sizes. Available with either a vertical or horizontal outlet, and square or circular grates with options for tiled and vinyl floor applications. The two-part adjustable drain is ideal for unfinished floor applications.

Vertical Two-Part Adjustable Outlets with Square Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix **/T**

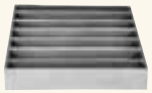


Perforated Grade (/B)

L15

L15

Mesh Anti-slip Grate (/K)



Ladder Grate (/D)

M125

M125

Plate Grate (/P)

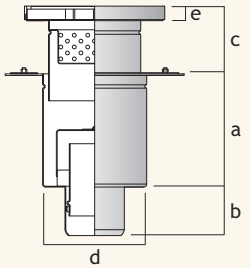
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	160	90	50-120	157	30	200 x 200	Perforated	L15	6.5	2.2	SVA110/S20/B/T
110	160	90	50-120	157	30	200 x 200	Mesh Anti-slip	L15	6.5	2.2	SVA110/S20/K/T
110	160	90	50-120	157	30	200 x 200	Ladder	M125	7.0	2.2	SVA110/S20/D/T
110	160	90	50-120	157	30	200 x 200	Plate	M125	7.0	2.2	SHA110/S20/P/T
110	200	90	50-160	193	30	250 x 250	Perforated	L15	8.5	3.0	SVA110/S25/B/T
110	200	90	50-160	193	30	250 x 250	Mesh Anti-slip	L15	8.5	3.0	SVA110/S25/K/T
110	200	90	50-160	193	30	250 x 250	Ladder	M125	9.0	3.0	SVA110/S25/D/T
110	200	90	50-160	193	30	250 x 250	Plate	M125	9.5	3.0	SVA110/S25/P/T
160	210	90	50-160	193	30	300 x 300	Perforated	L15	12.5	9.0	SVA160/S30/B/T
160	210	90	50-160	193	30	300 x 300	Mesh Anti-slip	L15	12.5	9.0	SVA160/S30/K/T
160	210	90	50-160	193	30	300 x 300	Ladder	M125	13.0	9.0	SVA160/S30/D/T
160	210	90	50-160	193	30	300 x 300	Plate	M125	13.5	9.0	SVA160/S30/P/T
200	320	90	50-160	348	30	400 x 400	Perforated	L15	23.0	12.0	SVA200/S40/B/T
200	320	90	50-160	348	30	400 x 400	Mesh Anti-slip	L15	23.0	12.0	SVA200/S40/K/T
200	320	90	50-160	348	30	400 x 400	Ladder	M125	26.0	12.0	SVA200/S40/D/T
200	320	90	50-160	348	30	400 x 400	Plate	M125	28.0	12.0	SVA200/S40/P/T

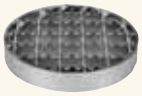
* The flow rate is based on maximum capacity of the trap

Vertical Two-Part Adjustable Outlets with Circular Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix **/T**





Mesh Anti-slip Grate (/K)

L15

M125

Ladder Grade (/D)

Plate Grate (/P)

M125

M125

Tight Cover Grate (/S)

Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	160	90	45-110	157	25	200 Dia	Mesh Anti-slip	L15	4.0	2.2	SVA110/C20/K/T
110	160	90	45-110	157	25	200 Dia	Plate	M125	4.0	2.2	SVA110/C20/P/T
110	160	90	45-110	157	25	200 Dia	Ladder	M125	4.5	2.2	SVA110/C20/D/T
110	160	90	45-110	157	25	200 Dia	Tight Cover	M125	4.5	–	SVA110/C20/S/T
110	200	90	45-160	193	25	255 Dia	Mesh Anti-slip	L15	5.5	3.0	SVA110/C25/K/T
110	200	90	45-160	193	25	255 Dia	Plate	M125	5.5	3.0	SVA110/C25/P/T
110	200	90	45-160	193	25	255 Dia	Ladder	M125	6.0	3.0	SVA110/C25/D/T
110	200	90	45-160	193	25	255 Dia	Tight Cover	M125	6.0	–	SVA110/C25/S/T

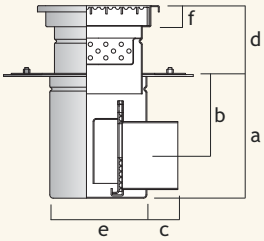
* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Standard Two-Part Range Product Tables

Horizontal Two-Part Adjustable Outlets with Square Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix **/T**

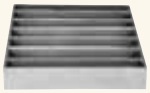


Perforated Grate (/B)

L15

L15

Mesh Anti-slip Grate (/K)



Ladder Grate (/D)

M125

M125

Plate Grate (/P)

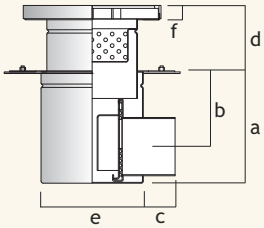
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	210	140	50	80-120	157	30	200 x 200	Perforated	L15	6.5	2.2	SHA110/S20/B/T
110	210	140	50	80-120	157	30	200 x 200	Mesh Anti-slip	L15	6.5	2.2	SHA110/S20/K/T
110	210	140	50	80-120	157	30	200 x 200	Ladder	M125	7.0	2.2	SHA110/S20/D/T
110	210	140	50	80-120	157	30	200 x 200	Plate	M125	7.0	2.2	SHA110/S20/P/T
110	210	140	100	50-160	193	30	250 x 250	Perforated	L15	8.5	3.0	SHA110/S25/B/T
110	210	140	100	50-160	193	30	250 x 250	Mesh Anti-slip	L15	8.5	3.0	SHA110/S25/K/T
110	210	140	100	50-160	193	30	250 x 250	Ladder	M125	9.0	3.0	SHA110/S25/D/T
110	210	140	100	50-160	193	30	250 x 250	Plate	M125	9.5	3.0	SHA110/S25/P/T
160	260	160	90	50-160	255	30	300 x 300	Perforated	L15	13.0	9.0	SHA160/S30/B/T
160	260	160	90	50-160	255	30	300 x 300	Mesh Anti-slip	L15	13.0	9.0	SHA160/S30/K/T
160	260	160	90	50-160	255	30	300 x 300	Ladder	M125	14.0	9.0	SHA160/S30/D/T
160	260	160	90	50-160	255	30	300 x 300	Plate	M125	14.0	9.0	SHA160/S30/P/T
200	320	200	90	50-160	348	30	400 x 400	Perforated	L15	23.0	12.0	SHA200/S40/B/T
200	320	200	90	50-160	348	30	400 x 400	Mesh Anti-slip	L15	23.0	12.0	SHA200/S40/K/T
200	320	200	90	50-160	348	30	400 x 400	Ladder	M125	26.0	12.0	SHA200/S40/D/T
200	320	200	90	50-160	348	30	400 x 400	Plate	M125	28.0	12.0	SHA200/S40/P/T

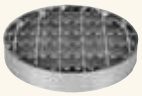
* The flow rate is based on maximum capacity of the trap

Horizontal Two-Part Adjustable Outlets with Circular Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix **/T**





Mesh Anti-slip Grate (/K)

L15

M125

Ladder Grate (/D)

Plate Grate (/P)

M125

M125

Tight Cover Grate (/S)

Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	190	120	50	45-120	157	25	200 Dia	Mesh Anti-slip	L15	4.0	2.2	SHA110/C20/K/T
110	190	120	50	45-120	157	25	200 Dia	Plate	M125	4.0	2.2	SHA110/C20/P/T
110	190	120	50	45-120	157	25	200 Dia	Ladder	M125	4.5	2.2	SHA110/C20/D/T
110	190	120	50	45-120	157	25	200 Dia	Tight Cover	M125	4.5	–	SHA110/C20/S/T
110	210	140	100	45-120	193	25	255 Dia	Mesh Anti-slip	L15	5.5	3.0	SHA110/C25/K/T
110	210	140	100	45-120	193	25	255 Dia	Plate	M125	5.5	3.0	SHA110/C25/P/T
110	210	140	100	45-120	193	25	255 Dia	Ladder	M125	6.0	3.0	SHA110/C25/D/T
110	210	140	100	45-120	193	25	255 Dia	Tight Cover	M125	6.0	–	SHA110/C25/S/T

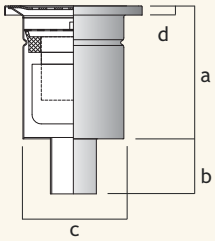
* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Compact One-Part Range Product Tables

Harmer Stainless Steel compact floor outlets offer with a wide choice of outlet sizes and are ideally suited to connection to the standard or slot channel drains. Available either as a one-part or two-part adjustable drain with a vertical or horizontal outlet, and square or circular grates with options for tiled and vinyl floor applications.

Vertical One-Part Fixed Outlets with Square Grates

To Specify Untrapped Drains: Remove the suffix **/T**

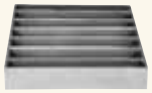


Perforated Grade (/B)

K3 L15

L15

Mesh Anti-slip Grate (/K)



Ladder Grate (/D)

M125

M125

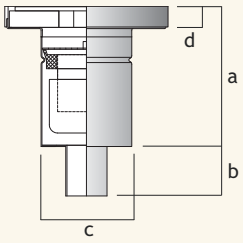
Plate Grate (/P)

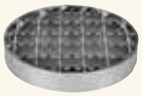
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	150	60	110	2	150 x 150	Perforated	K3	4.0	0.5	SMKV50/S15/B/T
50	150	60	110	10	150 x 150	Ladder	L15	4.0	0.5	SMV50/S15/D/T
50	154	60	110	20	200 x 200	Perforated	L15	4.0	0.5	SMV50/S20/B/T
50	154	60	110	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMV50/S20/K/T
50	154	60	110	20	200 x 200	Ladder	M125	4.5	0.5	SMV50/S20/D/T
50	154	60	110	20	200 x 200	Plate	M125	4.5	0.5	SMV50/S20/P/T
110	150	–	110	2	150 x 150	Perforated	K3	4.0	0.5	SMKV110/S15/B/T
110	150	–	110	10	150 x 150	Ladder	L15	4.0	0.5	SMV110/S15/D/T
110	154	–	110	20	200 x 200	Perforated	L15	4.0	0.5	SMV110/S20/B/T
110	154	–	110	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMV110/S20/K/T
110	154	–	110	20	200 x 200	Ladder	M125	4.5	0.5	SMV110/S20/D/T
110	154	–	110	20	200 x 200	Plate	M125	4.5	0.5	SMV110/S20/P/T

* The flow rate is based on maximum capacity of the trap

Vertical One-Part Fixed Outlets with Circular Grates

To Specify Untrapped Drains: Remove the suffix **/T**





Mesh Anti-slip Grate (/K)

L15

M125

Ladder Grate (/D)

Plate Grate (/P)

M125

M125

Tight Cover Grate (/S)

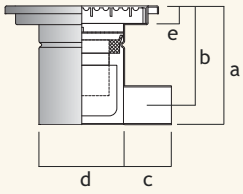
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	165	60	110	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMV50/C16/K/T
50	165	60	110	25	160 Dia	Plate	M125	4.0	0.5	SMV50/C16/P/T
50	165	60	110	25	160 Dia	Ladder	M125	4.5	0.5	SMV50/C16/D/T
50	165	60	110	25	160 Dia	Tight Cover	M125	4.5	–	SMV50/C16/S/T
50	165	60	110	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMV50/C20/K/T
50	165	60	110	25	200 Dia	Plate	M125	4.0	0.5	SMV50/C20/P/T
50	165	60	110	25	200 Dia	Ladder	M125	4.5	0.5	SMV50/C20/D/T
50	165	60	110	25	200 Dia	Tight cover	M125	4.5	–	SMV50/C20/S/T
110	165	–	110	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMV110/C16/K/T
110	165	–	110	25	160 Dia	Plate	M125	4.0	0.5	SMV110/C16/P/T
110	165	–	110	25	160 Dia	Ladder	M125	4.5	0.5	SMV110/C16/D/T
110	165	–	110	25	160 Dia	Tight Cover	M125	4.5	–	SMV110/C16/S/T
110	165	–	110	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMV110/C20/K/T
110	165	–	110	25	200 Dia	Plate	M125	4.0	0.5	SMV110/C20/P/T
110	165	–	110	25	200 Dia	Ladder	M125	4.5	0.5	SMV110/C20/D/T
110	165	–	110	25	200 Dia	Tight Cover	M125	4.5	–	SMV110/C20/S/T

* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Compact One-Part Range Product Tables

Horizontal One-Part Fixed Outlets with Square Grates

To Specify Untrapped Drains: Remove the suffix /T

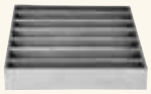


Perforated Grate (/B)

K3 L15

L15

Mesh Anti-slip Grate (/K)



Ladder Grate (/D)

M125

M125

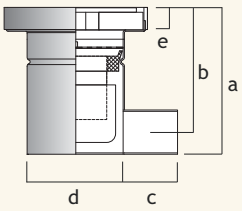
Plate Grate (/P)

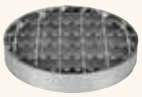
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow rate (l/s)*	Product Code (Trapped)
50	150	120	60	110	2	150 x 150	Perforated	K3	4.0	0.5	SMKH50/S15/B/T
50	150	120	60	110	10	150 x 150	Ladder	L15	4.0	0.5	SMH50/S15/D/T
50	154	127	60	110	20	200 x 200	Perforated	L15	4.0	0.5	SMH50/S20/B/T
50	154	127	60	110	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMH50/S20/K/T
50	154	127	60	110	20	200 x 200	Ladder	M125	4.5	0.5	SMH50/S20/D/T
50	154	127	60	110	20	200 x 200	Plate	M125	4.5	0.5	SMH50/S20/P/T
110	185	130	60	110	2	150 x 150	Perforated	K3	4.0	0.5	SMKH110/S15/B/T
110	190	135	60	110	10	150 x 150	Ladder	L15	4.0	0.5	SMH110/S15/D/T
110	194	140	90	110	20	200 x 200	Perforated	L15	4.0	0.5	SMH110/S20/B/T
110	194	140	90	110	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMH110/S20/K/T
110	194	140	90	110	20	200 x 200	Ladder	M125	4.5	0.5	SMH110/S20/D/T
110	194	140	90	110	20	200 x 200	Plate	M125	4.5	0.5	SMH110/S20/P/T

* The flow rate is based on maximum capacity of the trap

Horizontal One-Part Fixed Outlets with Circular Grates

To Specify Untrapped Drains: Remove the suffix /T





Mesh Anti-slip Grate (/K)

L15

M125

Ladder Grate (/D)

Plate Grate (/P)

M125

M125

Tight Cover Grate (/S)

Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	165	140	60	110	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMH50/C16/K/T
50	165	140	60	110	25	160 Dia	Plate	M125	4.0	0.5	SMH50/C16/P/T
50	165	140	60	110	25	160 Dia	Ladder	M125	4.5	0.5	SMH50/C16/D/T
50	165	140	60	110	25	160 Dia	Tight Cover	M125	4.5	–	SMH50/C16/S/T
50	165	140	60	110	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMH50/C20/K/T
50	165	140	60	110	25	200 Dia	Plate	M125	4.0	0.5	SMH50/C20/P/T
50	165	140	60	110	25	200 Dia	Ladder	M125	4.5	0.5	SMH50/C20/D/T
50	165	140	60	110	25	200 Dia	Tight Cover	M125	4.5	–	SMH50/C20/S/T
110	207	152	60	110	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMH110/C16/K/T
110	207	152	60	110	25	160 Dia	Plate	M125	4.0	0.5	SMH110/C16/P/T
110	207	152	60	110	25	160 Dia	Ladder	M125	4.5	0.5	SMH110/C16/D/T
110	207	152	60	110	25	160 Dia	Tight Cover	M125	4.5	–	SMH110/C16/S/T
110	207	152	60	110	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMH110/C20/K/T
110	207	152	60	110	25	200 Dia	Plate	M125	4.0	0.5	SMH110/C20/P/T
110	207	152	60	110	25	200 Dia	Ladder	M125	4.5	0.5	SMH110/C20/D/T
110	207	152	60	110	25	200 Dia	Tight Cover	M125	4.5	–	SMH110/C20/S/T

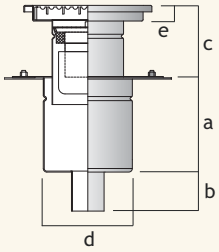
* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Compact Two-Part Range Product Tables

Harmer Stainless Steel compact floor outlets offer with a wide choice of outlet sizes and are ideally suited to connection to the standard or slot channel drains. Available either as a one-part or two-part adjustable drain with a vertical or horizontal outlet, and square or circular grates with options for tiled and vinyl floor applications.

Vertical Two-Part Adjustable Outlets with Square Grates

To Specify Untrapped Drains: Remove the suffix **/T**

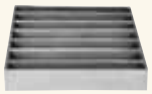


Perforated Grade (/B)

K3 L15

L15

Mesh Anti-slip Grate (/K)



Ladder Grate (/D)

M125

M125

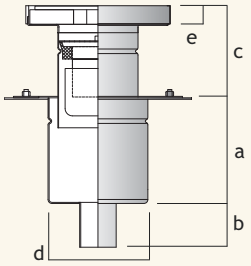
Plate Grate (/P)

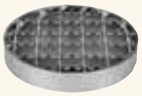
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	140	60	50-130	137	2	150 x 150	Perforated	K3	4.0	0.5	SMKVA50/S15/B/T
50	140	60	50-130	137	10	150 x 150	Ladder	L15	4.0	0.5	SMVA50/S15/D/T
50	140	60	50-130	137	20	200 x 200	Perforated	L15	4.0	0.5	SMVA50/S20/B/T
50	140	60	50-130	137	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMVA50/S20/K/T
50	140	60	50-130	137	20	200 x 200	Ladder	M125	4.5	0.5	SMVA50/S20/D/T
50	140	60	50-130	137	20	200 x 200	Plate	M125	4.5	0.5	SMVA50/S20/P/T
110	140	80	50-130	137	2	150 x 150	Perforated	K3	4.0	0.5	SMKVA110/S15/B/T
110	140	80	50-130	137	10	150 x 150	Ladder	L15	4.0	0.5	SMVA110/S15/D/T
110	140	80	50-130	137	20	200 x 200	Perforated	L15	4.0	0.5	SMVA110/S20/B/T
110	140	80	50-130	137	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMVA110/S20/K/T
110	140	80	50-130	137	20	200 x 200	Ladder	M125	4.5	0.5	SMVA110/S20/D/T
110	140	80	50-130	137	20	200 x 200	Plate	M125	4.5	0.5	SMVA110/S20/P/T

* The flow rate is based on maximum capacity of the trap

Vertical Two-Part Adjustable Outlets with Circular Grates

To Specify Untrapped Drains: Remove the suffix **/T**





Mesh Anti-slip Grate (/K)

L15

M125

Ladder Grate (/D)

Plate Grate (/P)

M125

M125

Tight Cover Grate (/S)

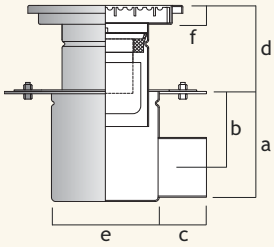
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow rate (l/s)*	Product Code (Trapped)
50	140	60	50-130	137	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMVA50/C16/K/T
50	140	60	50-130	137	25	160 Dia	Plate	M125	4.0	0.5	SMVA50/C16/P/T
50	140	60	50-130	137	25	160 Dia	Ladder	M125	4.5	0.5	SMVA50/C16/D/T
50	140	60	50-130	137	25	160 Dia	Tight Cover	M125	4.5	–	SMVA50/C16/S/T
50	140	60	50-130	137	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMVA50/C20/K/T
50	140	60	50-130	137	25	200 Dia	Plate	M125	4.0	0.5	SMVA50/C20/P/T
50	140	60	50-130	137	25	200 Dia	Ladder	M125	4.5	0.5	SMVA50/C20/D/T
50	140	60	50-130	137	25	200 Dia	Tight Cover	M125	4.5	–	SMVA50/C20/S/T
110	140	90	50-130	137	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMVA110/C16/K/T
110	140	90	50-130	137	25	160 Dia	Plate	M125	4.0	0.5	SMVA110/C16/P/T
110	140	90	50-130	137	25	160 Dia	Ladder	M125	4.5	0.5	SMVA110/C16/D/T
110	140	90	50-130	137	25	160 Dia	Tight Cover	M125	4.5	–	SMVA110/C16/S/T
110	140	90	50-130	137	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMVA110/C20/K/T
110	140	90	50-130	137	25	200 Dia	Plate	M125	4.0	0.5	SMVA110/C20/P/T
110	140	90	50-130	137	25	200 Dia	Ladder	M125	4.5	0.5	SMVA110/C20/D/T
110	140	90	50-130	137	25	200 Dia	Tight Cover	M125	4.5	–	SMVA110/C20/S/T

* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Compact Two-Part Range Product Tables

Horizontal Two-Part Adjustable Outlets with Square Grates

To Specify Untrapped Drains: Remove the suffix /T

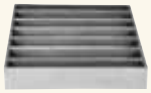


Perforated Grade (/B)

K3 L15

L15

Mesh Anti-slip Grate (/K)



Ladder Grate (/D)

M125

M125

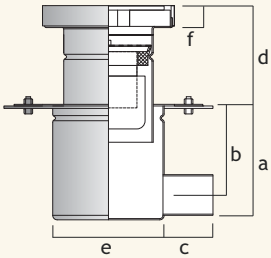
Plate Grate (/P)

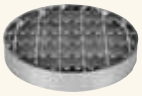
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	140	103	60	50-130	137	2	150 x 150	Perforated	K3	4.0	0.5	SMKHA50/S15/B/T
50	140	103	60	50-130	137	10	150 x 150	Ladder	L15	4.0	0.5	SMHA50/S15/D/T
50	140	103	60	50-130	137	20	200 x 200	Perforated	L15	4.0	0.5	SMHA50/S20/B/T
50	140	103	60	50-130	137	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMHA50/S20/K/T
50	140	103	60	50-130	137	20	200 x 200	Ladder	M125	4.5	0.5	SMHA50/S20/D/T
50	140	103	60	50-130	137	20	200 x 200	Plate	M125	4.5	0.5	SMHA50/S20/P/T
110	140	80	90	50-130	137	2	150 x 150	Perforated	K3	4.0	0.5	SMKHA110/S15/B/T
110	140	80	90	50-130	137	10	150 x 150	Ladder	L15	4.0	0.5	SMHA110/S15/D/T
110	140	80	90	50-130	137	20	200 x 200	Perforated	L15	4.0	0.5	SMHA110/S20/B/T
110	140	80	90	50-130	137	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMHA110/S20/K/T
110	140	80	90	50-130	137	20	200 x 200	Ladder	M125	4.5	0.5	SMHA110/S20/D/T
110	140	80	90	50-130	137	20	200 x 200	Plate	M125	4.5	0.5	SMHA110/S20/P/T

* The flow rate is based on maximum capacity of the trap

Horizontal Two-Part Adjustable Outlets with Circular Grates

To Specify Untrapped Drains: Remove the suffix /T





Mesh Anti-slip Grate (/K)

L15

M125

Ladder Grate (/D)

Plate Grate (/P)

M125

M125

Tight Cover Grate (/S)

Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	140	103	60	50-130	137	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMHA50/C16/K/T
50	140	103	60	50-130	137	25	160 Dia	Plate	M125	4.0	0.5	SMHA50/C16/P/T
50	140	103	60	50-130	137	25	160 Dia	Ladder	M125	4.5	0.5	SMHA50/C16/D/T
50	140	103	60	50-130	137	25	160 Dia	Tight Cover	M125	4.5	–	SMHA50/C16/S/T
50	140	103	60	50-130	137	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMHA50/C20/K/T
50	140	103	60	50-130	137	25	200 Dia	Plate	M125	4.0	0.5	SMHA50/C20/P/T
50	140	103	60	50-130	137	25	200 Dia	Ladder	M125	4.5	0.5	SMHA50/C20/D/T
50	140	103	60	50-130	137	25	200 Dia	Tight Cover	M125	4.5	–	SMHA50/C20/S/T
110	140	80	90	50-130	137	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMHA110/C16/K/T
110	140	80	90	50-130	137	25	160 Dia	Plate	M125	4.0	0.5	SMHA110/C16/P/T
110	140	80	90	50-130	137	25	160 Dia	Ladder	M125	4.5	0.5	SMHA110/C16/D/T
110	140	80	90	50-130	137	25	160 Dia	Tight Cover	M125	4.5	–	SMHA110/C16/S/T
110	140	80	90	50-130	137	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMHA110/C20/K/T
110	140	80	90	50-130	137	25	200 Dia	Plate	M125	4.0	0.5	SMHA110/C20/P/T
110	140	80	90	50-130	137	25	200 Dia	Ladder	M125	4.5	0.5	SMHA110/C20/D/T
110	140	80	90	50-130	137	25	200 Dia	Tight Cover	M125	4.5	–	SMHA110/C20/S/T

* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - NBS Specification & General Specification

A typical NBS Specification for Harmer Stainless Steel Floor Outlets. A full range of NBS specifications and floor drainage calculators are available via the Harmer online NBS Specification Builder at www.harmerdrainage.co.uk. For project specific specification advice, contact Harmer Technical Services.

NBS Specification

R11 Above Ground Foul Drainage Systems

To be read with Preliminaries/General Conditions.

GENERAL

115 ABOVE GROUND FOUL DRAINAGE SYSTEMS

- Sanitary and floor drainage outlets: As per detail sections below
- Waste pipework: As per detail sections below
- Discharge stack and branch pipework: As per detail sections below
- Separate ventilating pipework: As per detail sections below
- Accessories: As per detail sections below
- Disposal: As per detail sections below

SYSTEM PERFORMANCE

210 DESIGN

- Complete the design of the above ground foul drainage system
- Standard: To BS EN 12056-1:2000 and BS EN 12056-2:2000, and in accordance with BS EN 12056-2:2000, National Annexes NA-NG
- Proposals: Submit drawings, technical information, calculations and manufacture's literature

220 COLLECTION AND DISTRIBUTION OF FOUL WATER

- General: Complete, and without leakage or noise nuisance

230 DESIGN PARAMETERS - GENERAL

- Quick, quiet and complete, self-cleansing in normal use, without blockage, cross-flow, back-fall, leakage, odours, noise nuisance or risk to health
- Pressure fluctuations in pipework (maximum): ±38mm water gauge
- Water seal retained in traps (miniumum): 25mm

PRODUCTS

310 HARMER FLOOR DRAINAGE

Floor Finish: Tiles/Vinyl
Manufacturer: Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG
Tel: 01744 648400, Fax: 01744 648401.
Email: harmer@alumasc-exteriors.co.uk

Reference:	Harmer Stainless Steel Floor Drain
Outlet Type:	One-Part/Two-Part Adjustable Horizontal/Vertical 50/110/160/200mm Dia
Grate Type:	160/200mm Dia 150 x 150/200 x 200mm Perforated/Ladder/Mesh Anti-Slip/Plate
Grate Material:	Austenitic Grade 304 Stainless Steel. pickle passivated
Product Code:	Refer to tables
Accessories:	Foul Air Trap/Waste Basket/Tundish

Create Harmer Drainage NBS specifications by selecting the required product range, profile, size and finish by visiting: www.harmerdrainage.co.uk

General Specification Notes

PRODUCTS

315 HARMER FLOOR DRAINAGE

Floor Finish:Tile/Vinyl

Manufacturer:
Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton,
St Helens, Merseyside WA9 4JG

Tel: 01744 648400, Fax: 01744 648401.

Email: harmer@alumasc-exteriors.co.uk

Reference: Harmer Stainless Steel Floor Drain

Material: Austenitic Grade 304 Stainless Steel, pickle passivated

Outlet Type: Two-Part Adjustable

Vertical Outlet 110mm Dia

Grate Type: 200 x 200mm Square Ladder

Grate Material: Austenitic Grade 304 Stainless Steel, pickled passivated

Product Code: SMVA110/S20/D/T

Accessories: Foul Air Trap/Waste Basket/Tundish

Stainless Steel Floor Outlets - Connections

All Harmer stainless steel floor outlets come complete, with the exception of couplings since this is determined by the connecting drain pipe.

Couplings

For appropriate couplings selection see pipe connections table below

Duo

Adaptor

Coupling Type	Pipe Dia (mm)	Product Code
SML Duo	50	3140/50
SML Duo	100	3140/100
SML Duo	150	3140/150
SML Duo	200	3140/200
SML Adaptor	100	3102/100
SML Adaptor	150	3102/150

Pipe Connections

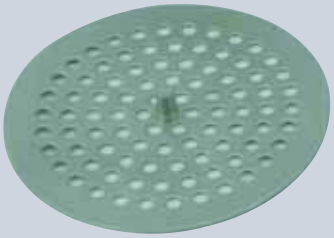
Outlet Size (mm)	Pipe Material and Conection Type			
	Cast Iron EN877	Stainless Steel	HDPE	PVC
50	SML Duo coupling	Post formed socket OR flexible coupling	Duo coupling	Post formed socket OR flexible coupling
110	SML Duo coupling	“O” ring socket OR SML Duo coupling	SML Duo coupling	“O” ring socket OR SML Duo coupling

Stainless Steel Floor Outlets - Accessories

Inverted trap for compact outlets

Inverted trap for standard outlets

Levelling foot for standard outlets



Strainer for compact outlets

Draining basket for standard outlets

All accessories available on request

Stainless Steel Floor Outlets - Materials Care, Maintenance, Installation & Specifying/Ordering

Materials

Harmer Stainless gullies are manufactured in 1.5 – 2mm thick sheets to material Grade 304. This is suitable for general use in and around buildings including most coastal locations. It is predominately considered for areas with food production, processing or preparation where corrosion resistance or minimum maintenance is required. For more aggressive atmospheres such as swimming pool applications, Grade 316 is available on request. Both grades are fully pickle passivated and all components are welded in argon shield to ensure high quality joints.

All drain bodies are cylindrical shape to limit waste accumulation, enables easy waste removal and is more hygienic.

Grating and baskets are available in various shapes, sizes and finishing versions. The grates are selected according to the loads and location of installation. We offer the following grate types:

- Mesh Anti-Slip
- Ladder
- Plate
- Perforated

Grates and bezels are manufactured to material Grade 304 as standard with satin finish which is suitable for most applications. Material Grade 316 is available on request.

Maintenance

The high quality grates and bodies are maintenance free but should be inspected periodically and cleaned of any trapped matter.

If drains are not used for a period of time the trap water may evaporate or become fetid. To remedy this, there is no need to remove the Grate, simply reprime the Trap by pouring clean water through the drain. NEVER USE BLEACH OR CAUSTIC CLEANING AGENTS.

To clean Stainless Steel, use only soapy water and wipe dry. Under no circumstances use metal scouring pads, metal scrapers or wire wool since this will contaminate surfaces leaving rust spots.

Frequency of cleaning depends upon application. Generally, clean the metal when it is dirty in order to restore its original appearance. This may be once a day for a drain in hygienic or aggressive situations.

Inverted or Bell Trap

Should it be necessary to access the drain for maintenance or rodding purposes, the trap must first be removed.

Equipment required:

- Latex rubber gloves
- Bucket of clean water
- Sponge
- Household disinfectant

Procedure:

- Put on protective latex gloves
- Remove grate
- Dry all surfaces
- Remove basket
- Remove trap

Refitting trap:

- Apply silicone lubricant to seal rim of trap
- Push fit the trap into the drain body
- Replace basket
- Refit grate
- Reprime the trap with clean water
- Dispose of dirty water

Installation of Single-Part Floor Drains

1. Make sure the drain pipe is at the correct height.
2. During concrete pouring, the upper part should be 1-1,5 [mm] below the floor level.
3. Next floor layers can be made when the upper part is stabilized.
4. During concrete pouring make sure, that the upper part clearance is not narrowed.
5. Make sure concrete gets to all places, even difficult of access ones.

Installation of Two-Part Floor Drains

1. First, put the lower part of the floor drain in the structural part of the floor. The lower part should be placed in the hollow of 15-20 [mm] to ensure adequate draining of the condensate from the damp-proof course.
2. Lay the damp-proof course and secure it with the clamping ring of the lower part.
3. Next, position the upper part on the required level. The upper part edge should be placed about 1-1.5mm below the floor level.
4. Next floor layers can be made when the upper part is stabilized.
5. During concrete pouring make sure that the upper part clearance is not narrowed.
6. Make sure concrete gets to all places, even difficult of access ones.

Specifying/Ordering

Example 1:
Floor Drains in Kitchens

Item: Harmer Stainless.

Floor Construction: 150mm ceramic tiles over insulated solid ground floor slab.

Manufacturer: Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body type/material: Standard fixed height trapped vertical sump with mesh anti-slip grating manufactured from Stainless Steel ref: SV110/S20/K/T.

Example 2:
Floor Drains in Changing Rooms

Item: Harmer Stainless.

Floor Construction: 150mm ceramic tiles over suspended concrete floor.

Manufacturer: Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body/grate type & material: Compact two part adjustable height trapped horizontal sump with perforated grating manufactured from Stainless Steel ref: SMKHA50/S15/B/T.

Chemical Resistance Data for Stainless Steel

The ability of stainless steel to resist corrosion depends on a number of factors including the type of steel used, the chemicals encountered and the ambient temperature. The table indicates the extent and type of corrosion to be expected in any one year.

Chemical (with % concentration)		Temp (°C)	Steel Type 1.4301304	Steel Type 1.4404316L
acetic acid	(1%)	boiling point	<0.1	<0.1
acetic acid	(10%)	boiling point	0.1 - 1.0	<0.1
acetic acid	(20%)	boiling point	>1.0	<0.1
acetic acid	(20%)	20	<0.1	<0.1
acetic acid	(80%)	20	>1.0	<0.1
acetic acid	(100%)	boiling point	>1.0	<0.1
acetone		20	<0.1	<0.1
alcohol (methanol or ethanol)		20	<0.1	<0.1
alcohol propyl		20	<0.1	<0.1
aluminium chloride		20	0.1 - 1.0	0.1 - 1.0
aluminium sulphate		20	<0.1	<0.1
ammonia		boiling point	<0.1	<0.1
ammonia gas (dry)		20	<0.1	<0.1
ammonium hydroxide		20	<0.1	<0.1
ammonium nitrate		20	<0.1	<0.1
ammonium phosphate		20	0.1 - 1.0	>1.0
ammonium sulphate		20	0.1 - 1.0	<0.1
ammonium sulphide		20	<0.1	<0.1
ammonium chloride		20	0.1 - 1.0	0.1 - 1.0
ammonium chloride	(20%)	boiling point	0.1 - 1.0 SP	<0.1 SP
ammonium chloride	(43%)	boiling point	<0.1 SP	<0.1 SP
amyl chloride		20	<0.1	<0.1
aniline		20	<0.1	<0.1
barium chloride		20	<0.1	<0.1
barium hydroxide	(10%)	20	x	x
barium sulphate		20	<0.1	<0.1
barium sulphide		20	x	x
beer		20	<0.1	<0.1
benzene		20	<0.1	<0.1
benzoic acid		20	<0.1	<0.1
bichloride of potassium		20	<0.1	<0.1
bleach (with 12.5% chlorine)		20	x	x
boric acid		20	<0.1	<0.1
bromic acid		20	0.1 - 1.0	0.1 - 1.0
bromine water		20	>1.0	>1.0
butane		20	<0.1	<0.1
calcium carbonate		20	<0.1	<0.1
calcium chloride		20	>1.0	0.1 - 1.0
calcium chloride	(20%)	20	<0.1 P	<0.1 P
calcium chloride	(20%)	boiling point	0.1 - 1.0 SP	<0.1 P
calcium hydroxide		20	0.1 - 1.0	<0.1
calcium hypochlorite		20	>1.0	0.1 - 1.0
calcium sulphate		20	<0.1	<0.1
carbon dioxide		20	<0.1	<0.1
carbon disulphide		20	<0.1	<0.1
carbon monoxide		20	<0.1	<0.1
carbon tetrachloride		20	<0.1	<0.1
carbonic acid		20	<0.1	<0.1
caustic potash		20	<0.1	<0.1
caustic soda	(20%)	20	<0.1	<0.1

Chemical (with % concentration)		Temp (°C)	Steel Type 1.4301304	Steel Type 1.4404316L
caustic soda	(50%)	20	<0.1	<0.1
caustic soda	(80%)	20	>1.0	<0.1
chlorinated water		20	>1.0	0.1 - 1.0 P
chlorinated water	(1g/l)	20	0.1 - 1.0 P	0.1 - 1.0 P
chlorinated water	(1mg/l)	20	<0.1	<0.1
chlorine (dry)		70	<0.1	<0.1
chlorine (wet)		20	>1.0	>0.1
chloroacetic acid		20	0.1 - 1.0	0.1 - 1.0
chlorobenzine		20	<0.1	<0.1
chloroform		20	0.1 - 1.0	0.1 - 1.0
chromic acid	(50%)	20	>1.0	>1.0
chromic acid	(10%)	20	<0.1	<0.1
citric acid	(25%)	boiling point	>1.0	<0.1
citric acid	(50%)	20	<0.1	<0.1
copper nitrate		20	<0.1	<0.1
copper sulphate		20	<0.1	<0.1
cottonseed oil		20	<0.1	<0.1
cresol		20	<0.1	<0.1
cupric chloride		20	>1.0	>1.0
cupric cyanide		20	<0.1	<0.1
cyclohexane		20	<0.1	<0.1
cyclohexanone		20	<0.1	<0.1
diethylamine		20	<0.1	<0.1
dimethylaniline		20	<0.1	<0.1
disodium phospate		20	x	x
distilled water		20	<0.1	<0.1
electroplating solutions		20	<0.1	<0.1
ethyl acetate		20	<0.1	<0.1
ethyl chloride (chloroethane)		20	<0.1	<0.1
ethylene glycol		20	<0.1	<0.1
fatty acids		20	<0.1	<0.1
ferrous sulphate		20	<0.1	<0.1
fluorine gas (wet)		20	>1.0	>1.0
formaldehyde	(37%)	20	<0.1	<0.1
formic acid	(5-10%)	20	<0.1	<0.1
formic acid	(10%)	80	>1.0	<0.1
formic acid	(50%)	24-40	<0.1 - 1.0	<0.1
formic acid	(50%)	boiling point	>1.0	0.1 - 1.0
formic acid	(50%)	20	>1.0	<0.1
freon 12		20	<0.1	<0.1
fruit juices and pulp		20	0.1 - 1.0	<0.1
furfural		20	<0.1	<0.1
glucose		20	<0.1	<0.1
glycerine		20	<0.1	<0.1
hydrobromic acid	(20%)	20	>1.0	>1.0
hydrochloric acid	(0.5%)	20	0.1 - 1.0 P	<0.1 P
hydrochloric acid	(0.5%)	boiling point	>1.0	>1.0
hydrochloric acid	(1%)	20	0.1 - 1.0 P	<0.1 P
hydrochloric acid	(40%)	20	>1.0	>1.0
hydrogen peroxide	(90%)	20	<0.1	<0.1

Chemical Resistance Data for Stainless Steel

Table Key

Annual Corrosion (mm) Type of Resistance
<0.1 — Complete
0.1 - 1.0 — Partial
>1.0 — Non-resistant
x — Lack of data

Specific Corrosion Risks
P = Pitting corrosion S = Stress corrosion

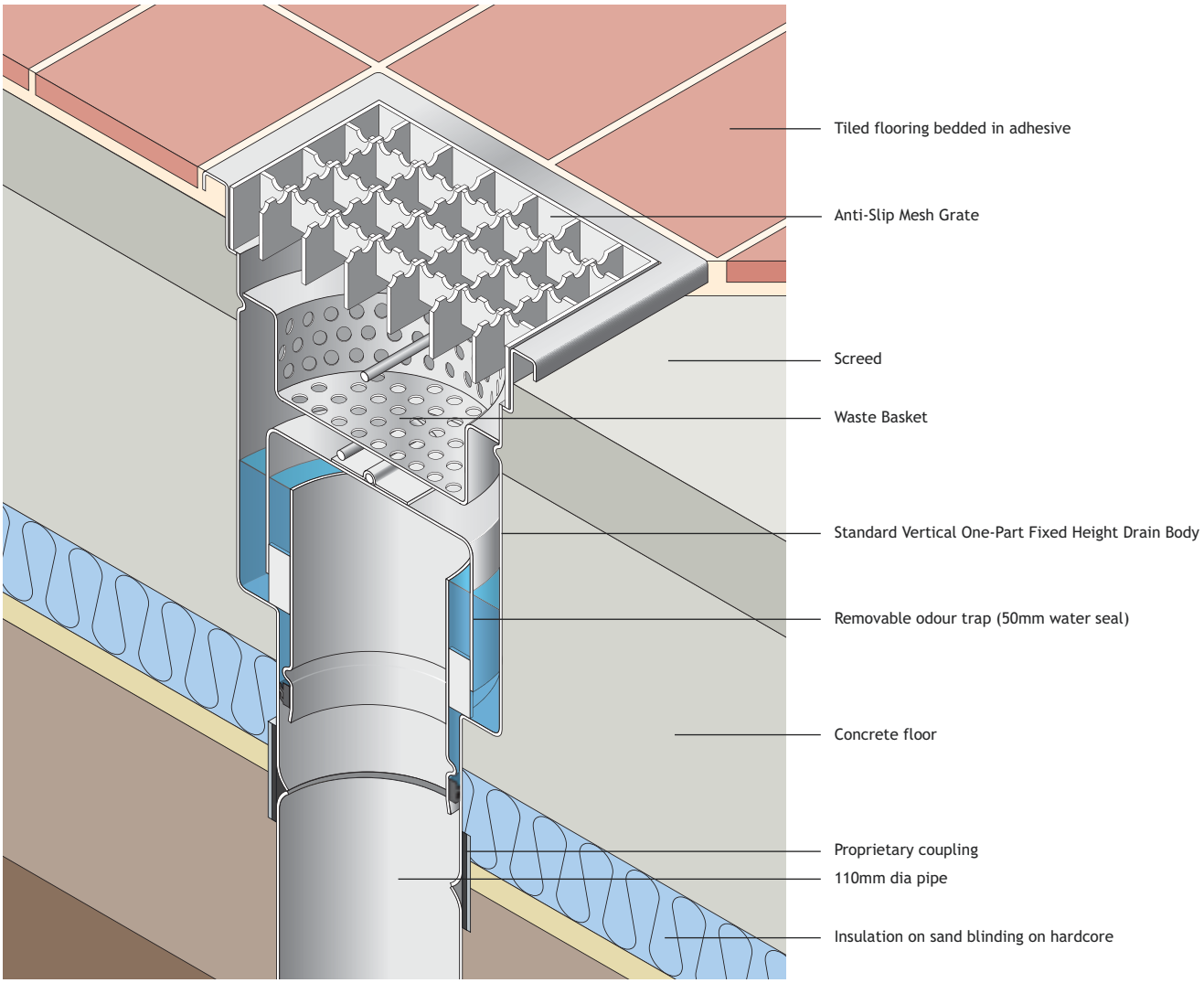
Chemical (with % concentration)		Temp (°C)	Steel Type 1.4301304	Steel Type 1.4404316L
hydroquinone		20	<0.1	<0.1
hypochlorous acid (chlorine water)		20	>1.0	>1.0
iodine		20	>1.0	>1.0
lactic acid	(10%)	10-100	0.1 - 1.0	<0.1
lactic acid	(25%)	20	<0.1	<0.1
lactic acid	(50%)	20-80	0.1 - 1.0	<0.1
lactic acid	(50%)	boiling point	>1.0	0.1 - 1.0
linseed oil		20	<0.1	<0.1
magnesium chloride		20	>1.0	>1.0
magnesium sulphate		20	<0.1	<0.1
maleic acid		20	<0.1	<0.1
methyl chloride		20	<0.1	<0.1
methyl ethyl ketone		20	<0.1	<0.1
milk		20	<0.1	<0.1
mineral oils		20	x	x
nickel chloride		20	>1.0	>1.0
nickel sulphate		20	<0.1	<0.1
nitric acid	(30%)	boiling point	<0.1	<0.1
nitric acid	(50%)	boiling point	0.1 - 1.0	0.1 - 1.0
nitric acid	(65%)	80	<0.1	<0.1
nitric acid	(65%)	boiling point	0.1 - 1.0	0.1 - 1.0
oil		20	<0.1	<0.1
oils and fats		20	<0.1	<0.1
oleic acid		20	<0.1	<0.1
oleum		20	<0.1	<0.1
oxalic acid		20	<0.1	<0.1
palmitic acid	(10%)	20	<0.1	<0.1
perchloric acid	(10%)	20	>1.0	>1.0
perchloric acid	(70%)	20	>1.0	>1.0
petrol (refined)		20	<0.1	<0.1
petroleum oils		20	<0.1	<0.1
phenol	(5%)	20	<0.1	<0.1
phosphoric acid	(20%)	boiling point	<0.1	<0.1
phosphoric acid	(40%)	boiling point	<0.1	0.1 - 1.0
phosphoric acid	(85%)	95	>1.0	<0.1
phosphorous trichloride		20	<0.1	<0.1
photographic solutions		20	>1.0	>1.0
picric acid		20	<0.1	<0.1
potassium carbonate		20	<0.1	<0.1
potassium chloride		20	<0.1	<0.1
potassium cyanide		20	<0.1	<0.1
potassium hydroxide		20	<0.1	<0.1
potassium permanganate		20	<0.1	<0.1
propane gas		20	<0.1	<0.1
prussic acid		20	<0.1	<0.1
sea water (natural)		20	0.1 - 1.0 P	<0.1 P
silver nitrate		20	<0.1	<0.1
silver sulphate		20	<0.1	<0.1
sodium bicarbonate		20	<0.1	<0.1
sodium carbonate		20	<0.1	<0.1

Chemical (with % concentration)		Temp (°C)	Steel Type 1.4301304	Steel Type 1.4404316L
sodium chloride	(3%)	20-60	0.1 - 1.0 P	<0.1 P
sodium cyanide		20	<0.1	<0.1
sodium disulphide		20	<0.1	<0.1
sodium ferrocyanide		20	<0.1	<0.1
sodium hydroxide		20	0.1 - 1.0	<0.1
sodium hypochlorite		20	0.1 - 1.0	<0.1
sodium principal	(20%)	50	<0.1	<0.1
sodium principal	(20%)	100	<0.1	<0.1
sodium principal	(40%)	100	0.1 - 1.0	<0.1
sodium sulphate		20	<0.1	<0.1
sodium sulphide		20	0.1 - 1.0	>1.0
sodium sulphite		20	0.1 - 1.0	<0.1
sodium thiosulphate		20	<0.1	<0.1
stannic (tin) chloride		20	>1.0	<0.1
stearic acid		20	<0.1	<0.1
sugar beet syrup		20	<0.1	<0.1
sugarcane sap		20	x	x
sulphur		20	0.1 - 1.0	<0.1
sulphur dioxide (dry)		20	>1.0	<0.1
sulphur dioxide (wet)		20	x	<0.1
sulphuric acid	(1%)	100	>1.0	0.1 - 1.0
sulphuric acid	(5%)	20	0.1 - 1.0	<0.1
sulphuric acid	(5%)	boiling point	>1.0	>1.0
sulphuric acid	(10%)	20	>1.0	<0.1
sulphuric acid	(10%)	boiling point	>1.0	>1.0
sulphuric acid	(50%)	20	>1.0	>1.0
sulphuric acid	(70%)	20	>1.0	>1.0
sulphuric acid	(20-90%)	20-100	>1.0	>1.0
sulphuric acid	(93%)	20	>1.0	>1.0
sulphurous acid	(10%)	20	0.1 - 1.0	<0.1
tan liquor		20	<0.1	<0.1
tannin (tannic acid)		20	<0.1	<0.1
tartanic acid		20	>1.0	0.1 - 1.0
toluene		20	<0.1	<0.1
trichlorethylene		20	<0.1	<0.1
triethylamine		20	<0.1	<0.1
trisodium phosphate		20	<0.1	<0.1
turpentine		20	<0.1	<0.1
urea (carbamide)		20	<0.1	<0.1
urine		20	<0.1	<0.1
vinegar		20	<0.1	<0.1
water (‘acid mine’)		20	<0.1	<0.1
water (fresh)		20	<0.1	<0.1
water (salt)		20	<0.1	<0.1
whisky		20	<0.1	<0.1
wine		20	<0.1	<0.1
xylene		20	<0.1	<0.1
zinc chloride		20	0.1 - 1.0	0.1 - 1.0
zinc sulphate		20	<0.1	<0.1

Note: Although Alumasc has carefully prepared this data, it is nevertheless recommended that laboratory tests are undertaken for specific site conditions.

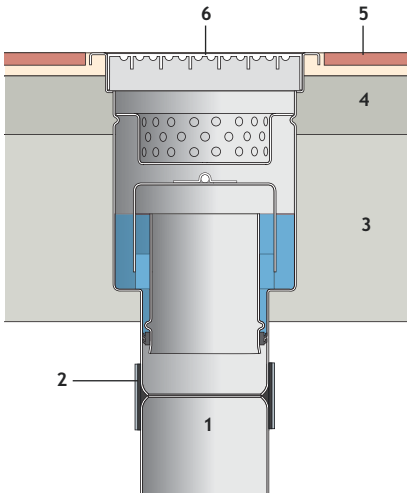
Stainless Steel Floor Outlets - Application Details

Standard Vertical One-Part Fixed Height Drain Body with Square Anti-Slip Mesh Grate



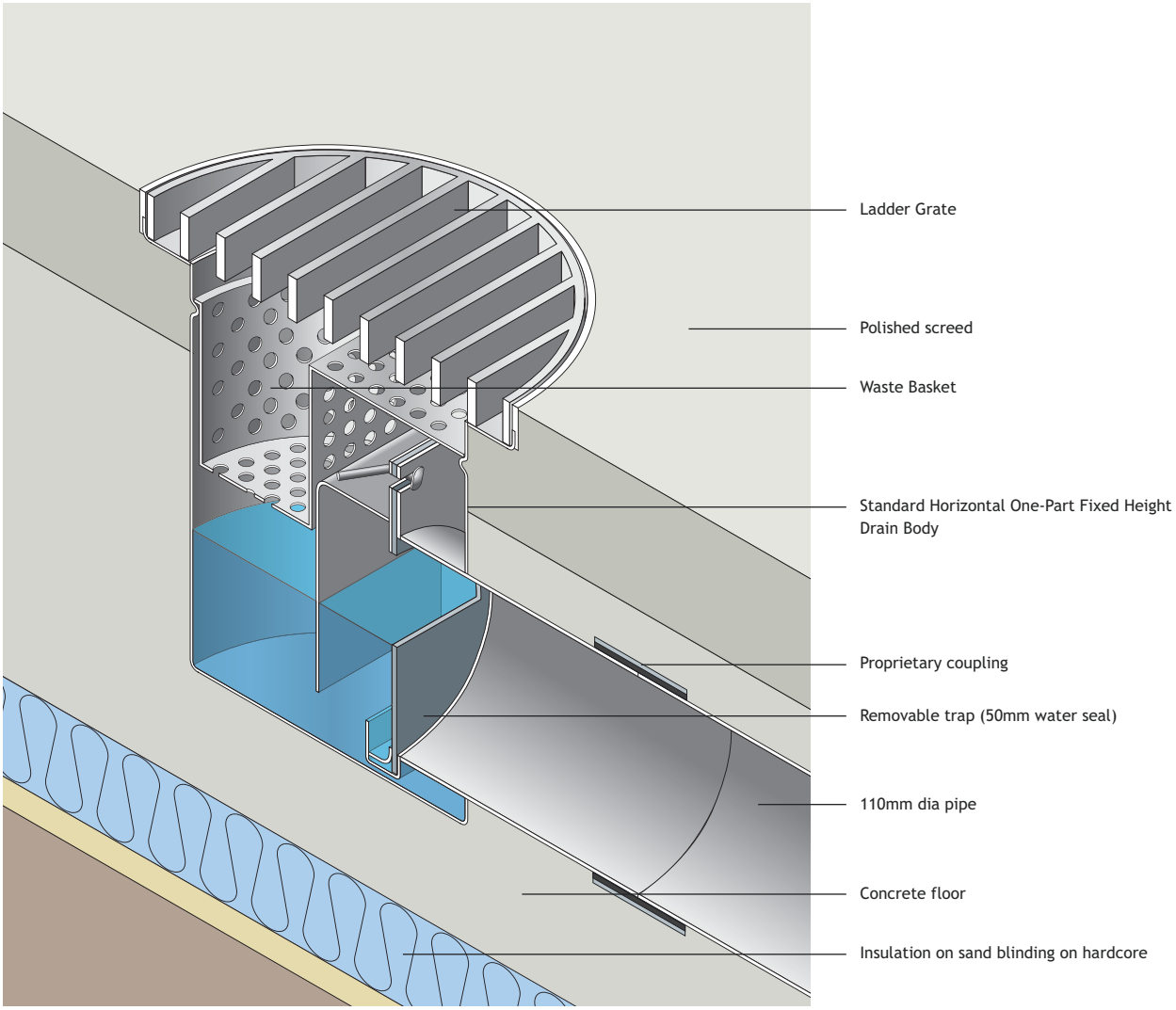
Sitework

1. Position drain pipe to align with drain body. Ensure drain body is set to required FFL height.
2. Join with proprietary coupling.
3. Once hardcore, sand blinding and insulation are installed, pour concrete mix.
4. Lay screed to falls.
5. Apply adhesive and fit tiles.
6. Fit Anti-Slip Mesh Grate



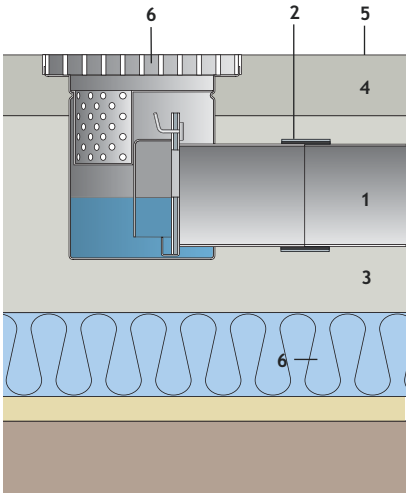
Stainless Steel Floor Outlets - Application Details

Standard Horizontal One-Part Fixed Height Drain Body with Circular Ladder Grate



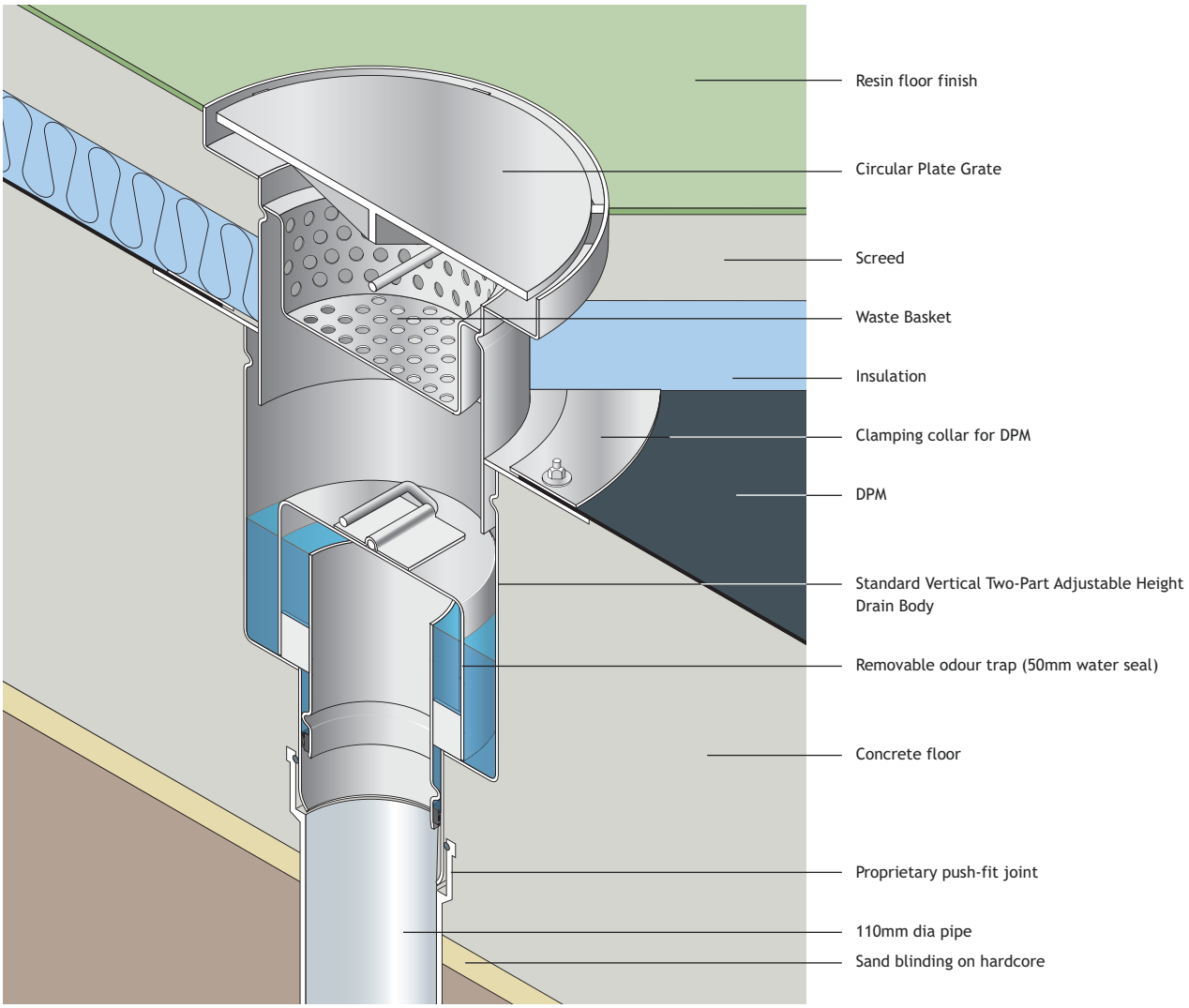
Sitework

1. Position drain pipe to align with drain body. Ensure drain body is set to required FFL height.
2. Join with proprietary coupling.
3. Once hardcore, sand blinding and insulation are installed, pour concrete mix.
4. Lay screed to falls.
5. Apply polished screed finish.
6. Fit Ladder Grate



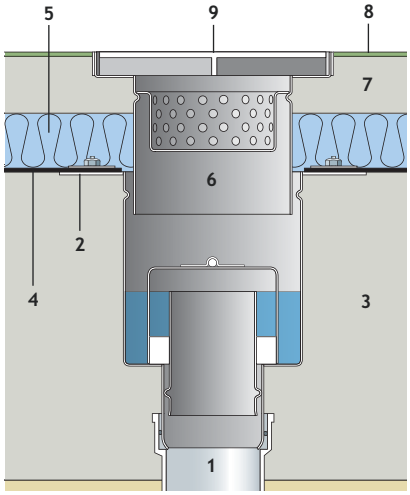
Stainless Steel Floor Outlets - Application Details

Standard Vertical Two-Part Adjustable Height Drain Body with Circular Plate Grate



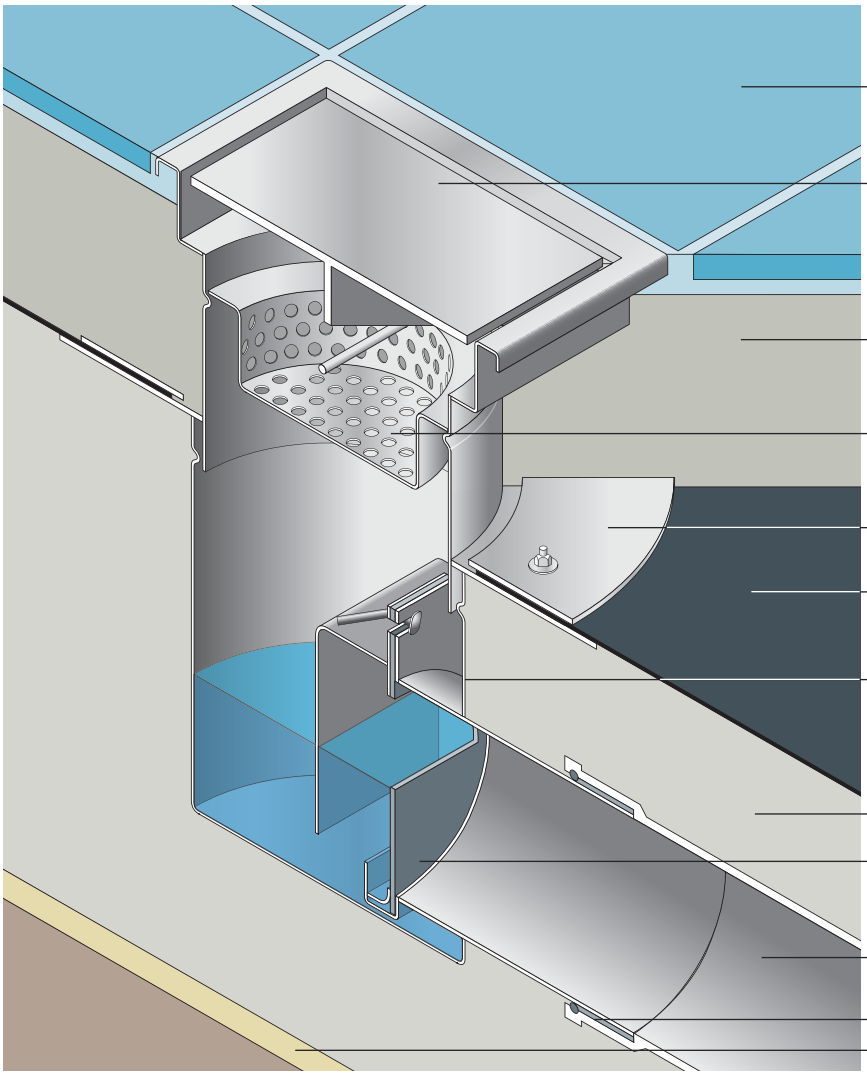
Sitework

1. Connect socketed pipe to drain body.
2. Set pipework so that the clamping flange of the lower section drain body is level with the top of finished slab.
3. Lay concrete slab.
4. Lay DPM. Cut a hole in the membrane and clamp firmly to the floor drain
5. Lay insulation.
6. Push fit the sliding upper section drain body into the clamping flange ensuring that the height is set to the required FFL.
7. Lay screed to falls.
8. Apply resin floor finish.
9. Fit Circular Plate Grate.



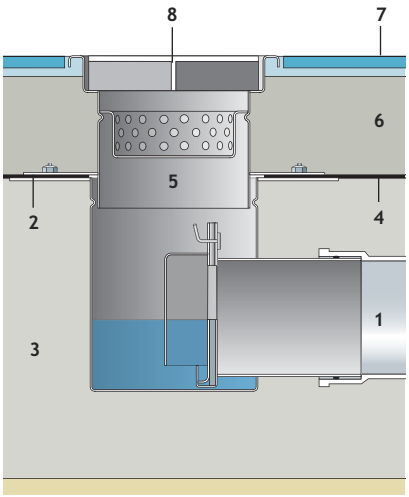
Stainless Steel Floor Outlets - Application Details

Standard Horizontal Two-Part Adjustable Height Drain Body with Square Plate Grate



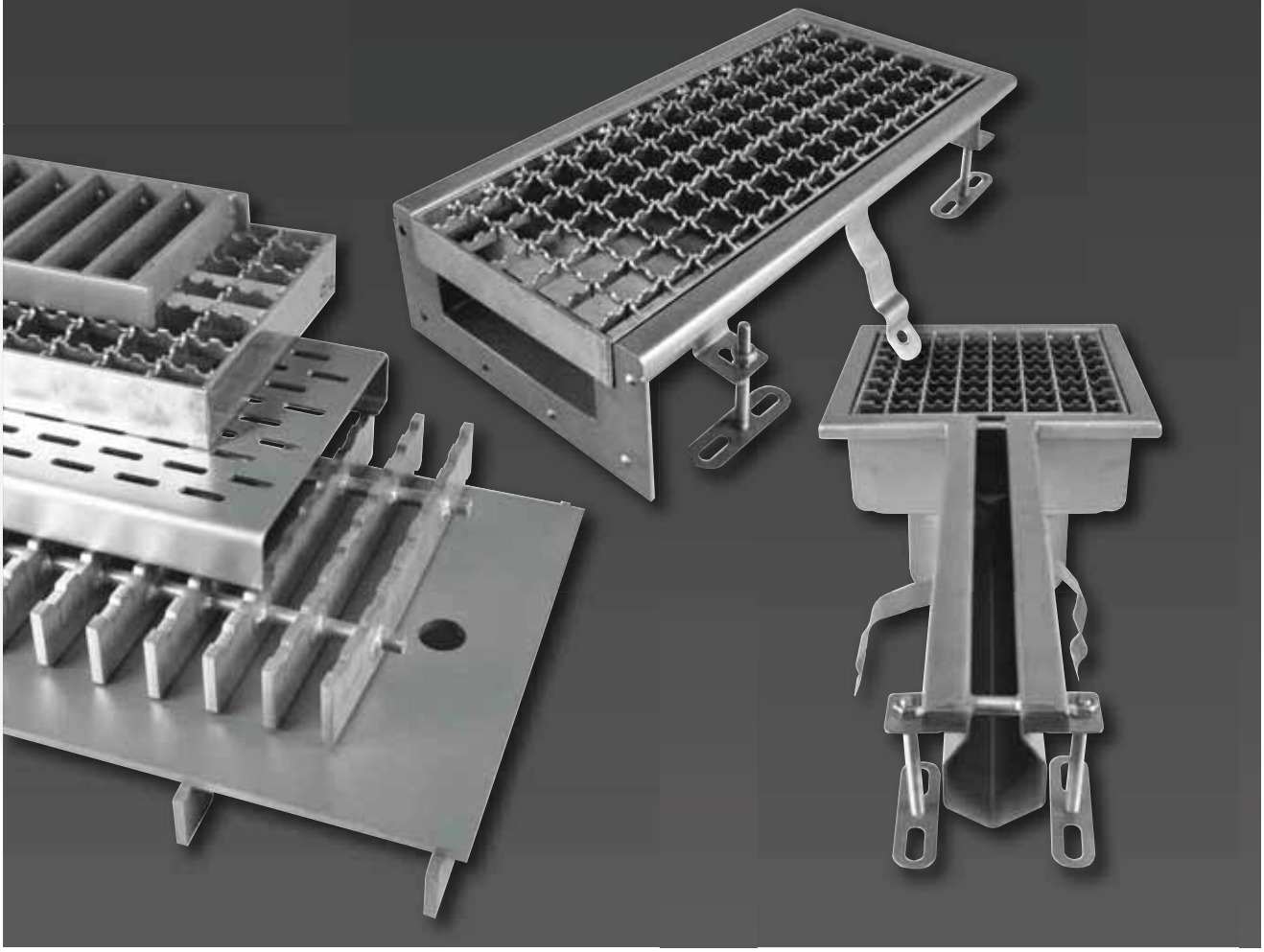
Sitework

1. Connect socketed pipe to drain body.
2. Set pipework so that the clamping flange of the lower section drain body is level with the top of finished slab.
3. Lay concrete slab.
4. Lay DPM. Cut a hole in the membrane and clamp firmly to the floor drain.
5. Push fit the sliding upper section drain body into the clamping flange ensuring that the height is set to the required FFL.
6. Lay screed to falls.
7. Apply adhesive and lay floor tiles.
8. Fit Square Plate Grate.



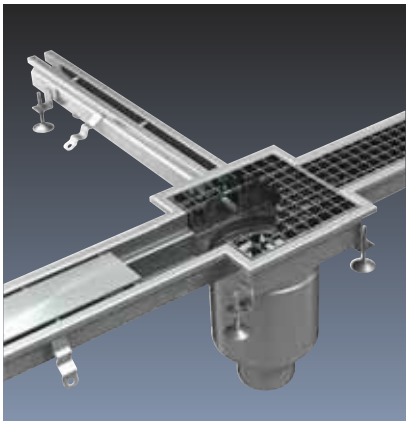
Harmer Drainage Systems Stainless Steel Floor Channels

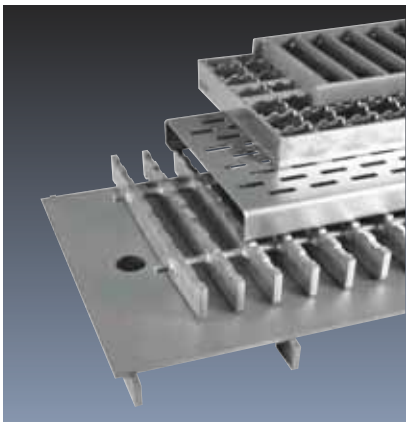
The new high performance stainless steel linear floor drainage range, featuring standard and slot channel options with a choice of grate finishes to suit all applications.



Stainless Steel Floor Channels - Benefits

Harmer Stainless Steel floor channels offer a range of bespoke linear floor drains, either as a standard or slot channel design with a choice of gratings to meet all applications and load requirements. Both systems are custom manufactured in a wide range of sizes and shapes to suit any project design.





Compliances

- Grate options available for load class ratings to BS EN 1433: 2002 load class A15 (15kN) to C250 (250kN)
- The stainless steel is fully pickle passivated to ensure high quality corrosion-free joints

Flow Performance

- Standard Channels are used to drain high volumes of water and waste
- Slot Channels are used to drain water and limited amounts of waste

Robust and Secure

- Available in Grade 304 or Grade 316 stainless steel
- Using 1.5mm – 2mm steel sheets. All components are welded in argon shield to ensure high quality joints
- Excellent corrosion resistance and durability

A Choice of Channels and Grates

- Channel sections up to 4m; longer channels will be connected with flanges suitable for all types of floor including vinyl floor finishes
- 5 grate options for the Standard Channel ranging from A15 to C250 load class
- The Standard Channel is available with either a v shaped of flat bottom profile
- The Slot Channel is available in four styles: Standard Mini Channel, Slot Channel, Mini Slot Channel and Maxi Slot Channel

Low Maintenance

- Easy to clean and maintain with easy access channel and drain body

Easy and Quick to Install

- The channel incorporates an integral fall which can be designed to the project requirements
- Integral feet and supports to help secure positioning

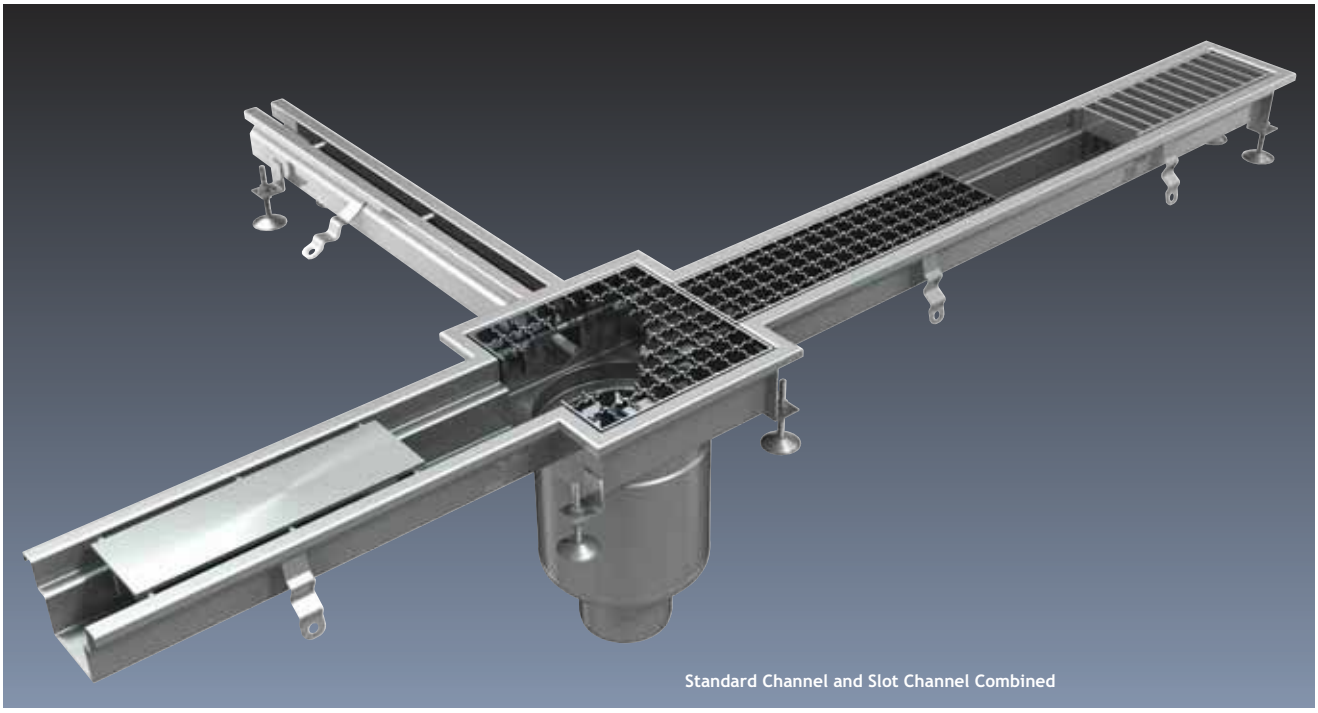
Value for Money

- Stainless steel is very durable and chemically resistant, ideal for industrial applications, offering excellent life-cycle costings

Sustainable

- Stainless steel is 100% recyclable
- Around 60% recycled material is used in the production of stainless steel

Stainless Steel Floor Channels - Product Range Summary



Standard Channel and Slot Channel Combined

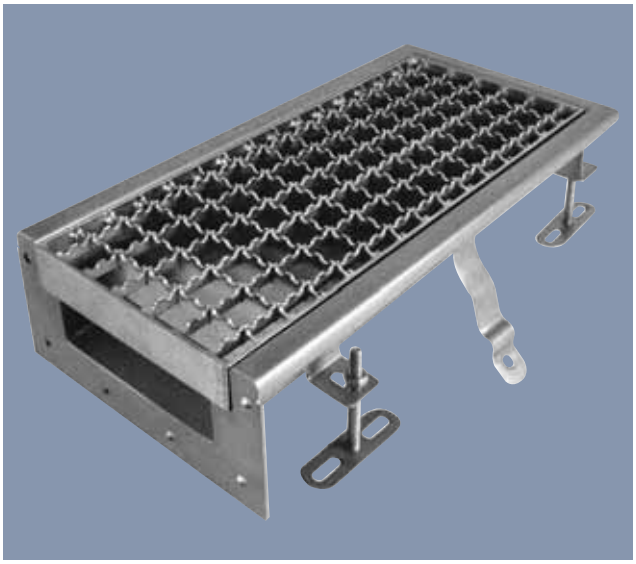
Standard Floor Channels

Standard channels are designed for applications where waste water is drained directly into the sewer system, making them ideal for applications such as food processing plants, breweries, and pharmaceutical/chemical plants.

The channels are made from 2mm Grade 304 or Grade 316 Sheets and have an in-built incline.

The channels are also fitted with levelling bolts and anchoring ties to allow correct height adjustment and placement into the floor substrate. The channels are also easily configurable.

They are available with either a v-shaped or flat bottom base and gratings to suit loading class A15 to C250. See page 82.



Slot Floor Channels

The slot channel is an economic range of linear floor channel drainage where a high flow of waste water isn't required. Ideal for applications such as swimming pools, dairies and areas where there is condensation run-off from machinery.

The slot channel is available in four profiles to suit any project requirement, all with v-shaped bases. See page 83.

Stainless Steel Floor Channels - Product Range Summary

Standard Floor Channel Gratings

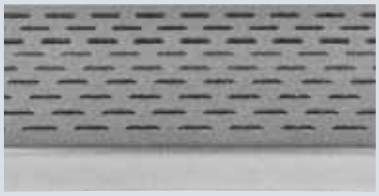
The standard channels and gratings are easily configurable and can be connected with the floor drain bodies and the slot channel system.

A range of gratings is available to suit load classes to BS EN 1433: 2002- Drainage Channels for Vehicular and Pedestrian Areas. See table below.

Grate Options and Use

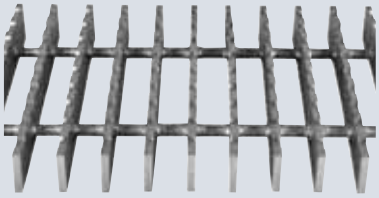
The most typical grating cover for the standard channel is the anti-slip mesh grating with 23 x 23mm mesh size and the load bearing angle 25 x 2mm or 30 x 2mm. There are four other grating types available in all sizes to suite the channel specification.

The grating type is chosen according to the channel location, load and function required. In areas where forklift truck traffic is intense the plate grate is recommended, whereas the anti-slip mesh is ideal if the required amount of drained water is high.



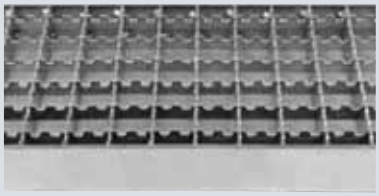
Perforated Sheet

Load Class A15 (15 kN)
Pedestrian and cyclists areas.



Ladder Hygienic

Load Class A15 (15 kN)
Pedestrian and cyclists areas.



Anti-Slip Mesh

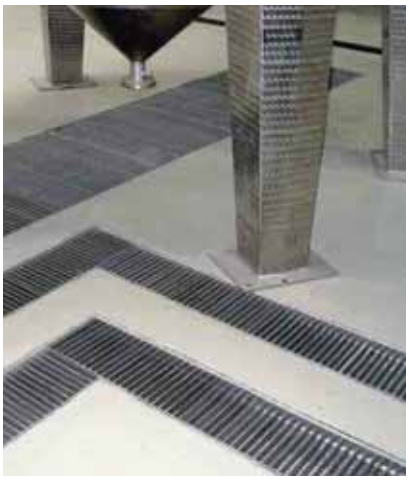
Load Class A15 (15 kN)
Pedestrian and cyclists areas.

Ladder

Load Class B125 (125 kN)
Footways, lateral drainage systems for car parks.

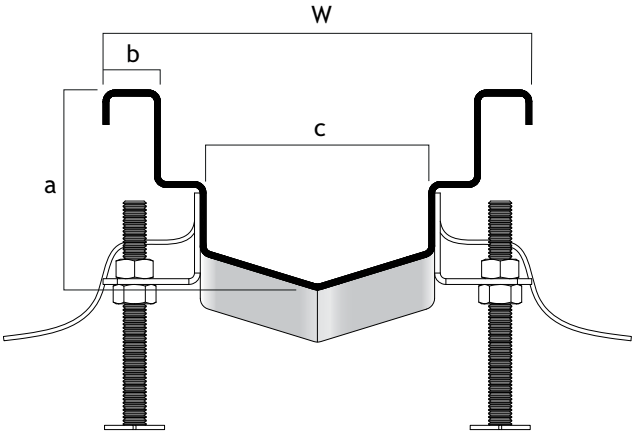
Plate

Load Class C250 (250 kN)
Light commercial vehicles.



Stainless Steel Floor Channels - Standard Channel Product Tables

Harmer Stainless Steel standard floor channels are used to drain waste water from the floor and discharge it directly in to the sewage system. The high quality channels are made from 2mm 304 or 316 stainless steel and are bespoke manufactured in a wide range of shapes and sizes to suit any project requirement. Available with a choice of grating styles to suit load class requirements to BS EN 1433: 2002.

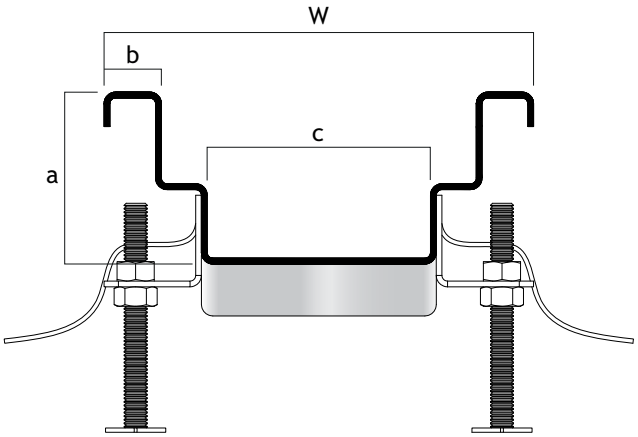


V-Shaped Channel

a (mm)	b (mm)	c (mm)	W (mm)
*	20	**	**

* Initial height, channel's bottom slope depends on the projects needs and installation requirements.

** Channel width and hydraulic width is dependant on the project requirement.

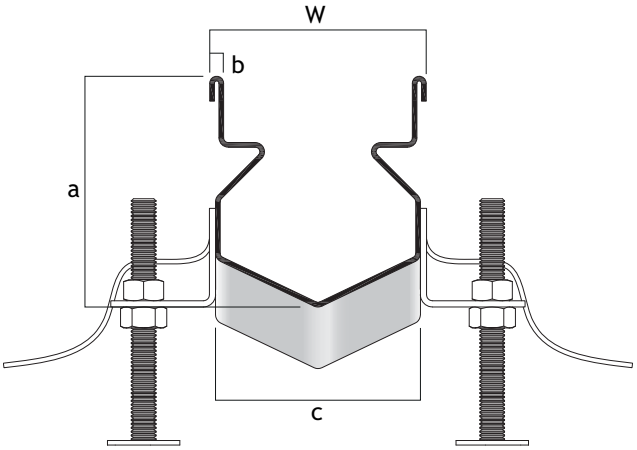


Flat Bottom Channel

a (mm)	b (mm)	c (mm)	W (mm)
*	20	**	**

* Initial height, channel's bottom slope depends on the projects needs and installation requirements.

** Channel width and hydraulic width is dependant on the project requirement.



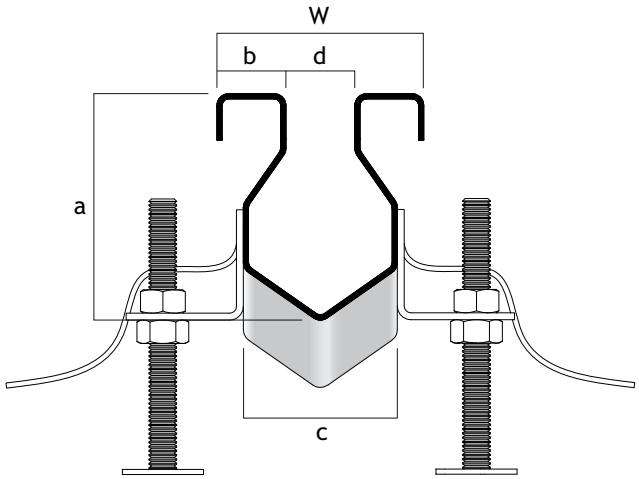
Standard Mini Channel

a (mm)	b (mm)	c (mm)	W (mm)
75	3.5	68	75

The Standard Mini Channel combines the advantages of the standard and slot channels. It has small dimensions and features gratings. These channel types are used wherever the amount of water to be drained is small, but the rodding eye is necessary. As standard such channels are made of 1.5 or 2mm sheets.

Stainless Steel Floor Channels - Slot Channel Product Tables

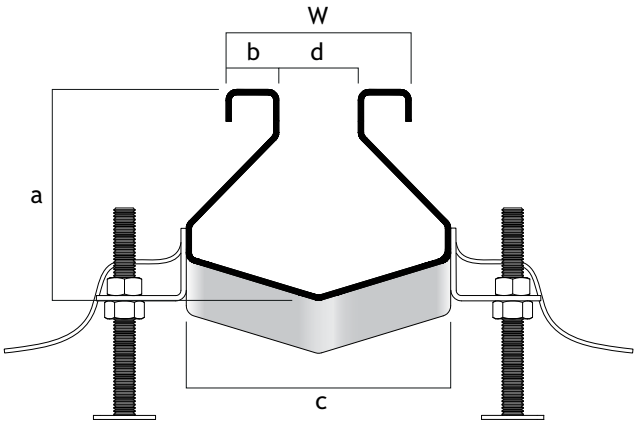
The Harmer Slot drainage channels are made from 1.5 or 2mm sheets and feature integral falls that can be adapted to suit the floor thickness. Drainage from the slot channel can be via a connected pipe system or using a trapped standard or compact trapped floor drain. The standard length of the channel with a single outlet should not exceed 10m. Channel sections over 4m in length can be connected together using a simple flange with gasket connection.



Slot Channel

a (mm)	b (mm)	c (mm)	d (mm)	W (mm)
65	20	40	20	60

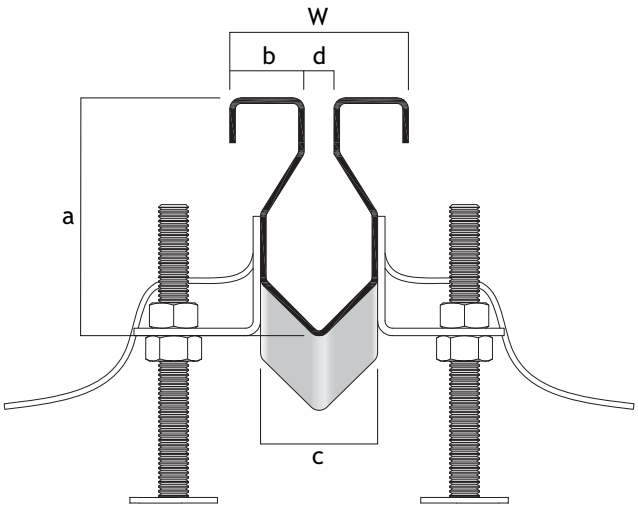
The slot channel is an economic range of linear floor drainage for draining where high flow is not required. Ideal for applications such as swimming pools, dairies and any areas where there is potential condensation run-off from machinery.



Maxi Slot Channel

a (mm)	b (mm)	c (mm)	d (mm)	W (mm)
80	20	100	30	70

The Maxi Slot channels are made of the 2mm sheet. The channel does not require grating and features high flow capacity than standard channels. One of its characteristic features is larger inlet opening and clearance. Used wherever the amount of waste water to be drained is substantial and the standard channel does not need to be used i.e.. in the absence of large solids.



Mini Slot Channel

a (mm)	b (mm)	c (mm)	d (mm)	W (mm)
65	20	31.5	8	48

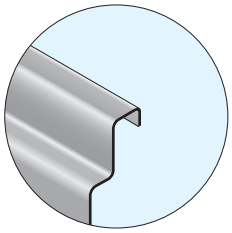
The Mini Slot Channels are made from a 2mm sheet, the channel is not covered with a grating as it has a smaller inlet opening and clearance. Its used for applications where only a small amount of water needs to be drained.

Stainless Steel Floor Channels - Channel Edgings

Channel Edge Types and Treatments

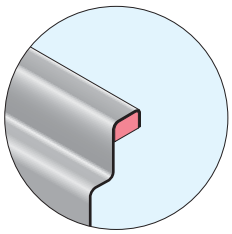
Standard Channel Edge Only

Without edge infillings and other treatments.



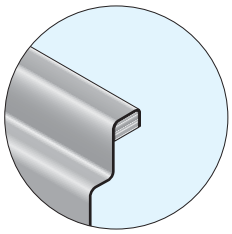
Standard Channel Edge with Synthetic Material Infill

The infill prevents the formation of a void between the concrete and channel edge during installation, thus protecting the channel perimeter from deformation if heavily loaded.



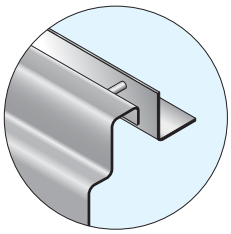
Standard Channel Edge with Stainless Steel Infill

This edge, infilled with stainless steel, should be used in areas with intensive traffic and high loads.



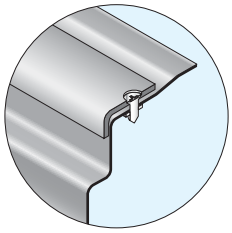
Standard Channel Edge with Angle Attachment

This edge is suitable where an expansion joint is required, for example, when drained wastewater is hot. The angle is connected to the channel by means of a steel spacer bar.



Channel Edge for Vinyl Floor

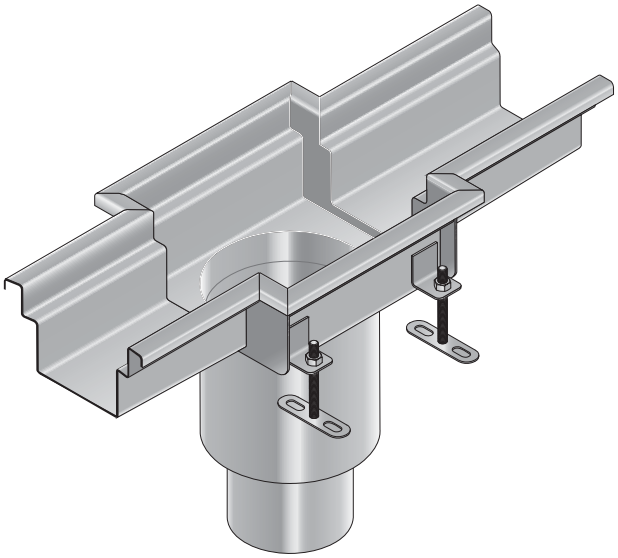
A steel clamping angle is supplied to ensure a watertight joint is achieved between the channel edge and the vinyl flooring.

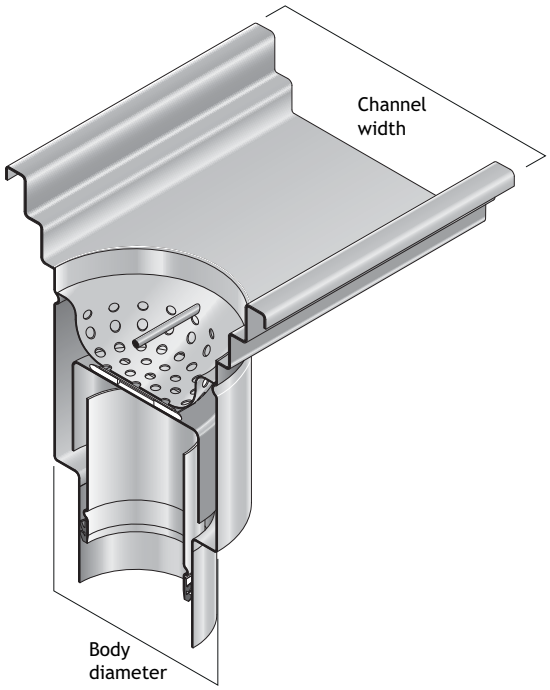


Stainless Steel Floor Channels - Connections

Channel to Drain Connections

Whenever a floor drain gully is connected to a channel there is an extension section which is always 10mm deeper than the channel it's connected to. Due to the fact the gratings have load bearing elements in one direction only, the extension is asymmetric, which prevents incorrect installation.





Channel Outlet Connections

Harmer Outlet Type	Outlet Diameter (mm)	Body Diameter (mm)	Extension Size (length x width in mm)	Channel Without Extension		Flow Rate (l/s)
				Min. Channel Width (mm)	Min. Hydraulic Width (mm)	
SMV50/S15, SMV50/S20	110	110	250 x 200	S190	120	0.5
SV110/S20	110	157	245 x 240	S240	170	2.2
SVA110/S20	110	142	245 x 240	S220	150	2.2
SV110/S25	110	193	275 x 270	S270	200	3.0
SV110/S25	110	172	275 x 270	S250	180	3.0
SV160/S30	160	255	340 x 335	S330	260	9.0
SVA160/S30	160	234	340 x 335	S310	240	9.0
SV200/S40	200	348	435 x 430	S430	350	12.0
SVA200/S40	200	308	435 x 430	S390	320	12.0

Stainless Steel Floor Channels - Connections

All Harmer stainless steel floor channels come complete, with the exception of couplings since this is determined by the connecting drain pipe.

Couplings

For appropriate couplings selection see pipe connections table below

Duo

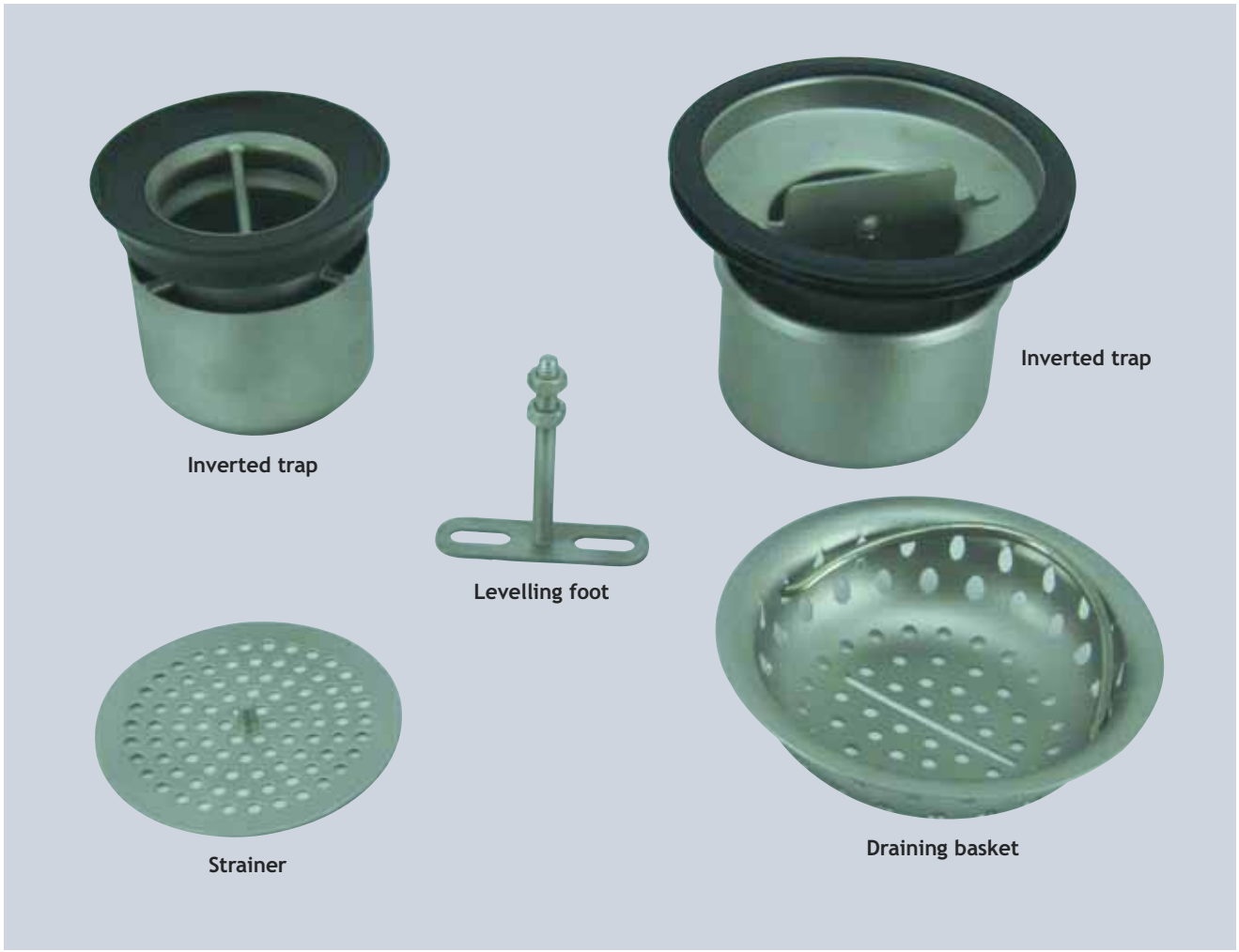
Adaptor

Coupling Type	Pipe Dia (mm)	Product Code
SML Duo	50	**3140/50**
SML Duo	100	**3140/100**
SML Duo	150	**3140/150**
SML Duo	200	**3140/200**
SML Adaptor	100	**3102/100**
SML Adaptor	150	**3102/150**

Pipe Connections

Outlet Size (mm)	Pipe Material and Conection Type			
	Cast Iron EN877	Stainless Steel	HDPE	PVC
50	SML Duo coupling	Post formed socket OR flexible coupling	Duo coupling	Post formed socket OR flexible coupling
110	SML Duo coupling	“O” ring socket OR SML Duo coupling	SML Duo coupling	“O” ring socket OR SML Duo coupling

Stainless Steel Floor Channels - Accessories



All accessories available on request

Stainless Steel Floor Channels - NBS Specification & General Specification

A typical NBS Specification for Harmer Stainless Steel Floor Channels. A full range of NBS specifications and floor drainage calculators are available via the Harmer online NBS Specification Builder at www.harmerdrainage.co.uk. For project specific specification advice, contact Harmer Technical Services.

NBS Specification

R11 Above Ground Foul Drainage Systems

To be read with Preliminaries/General Conditions

GENERAL

115 ABOVE GROUND FOUL DRAINAGE SYSTEMS

- Sanitary and floor drainage outlets: As per detail sections below
- Waste pipework: As per detail sections below
- Discharge stack and branch pipework: As per detail sections below
- Separate ventilating pipework: As per detail sections below
- Accessories: As per detail sections below
- Disposal: As per detail sections below

SYSTEM PERFORMANCE

210 DESIGN

- Complete the design of the above ground foul drainage system
- Standard: To BS EN 1433 and EN 1253
- Proposals: Submit drawings, technical information, calculations and manufacture's literature

220 COLLECTION AND DISTRIBUTION OF FOUL WATER

- General: Complete, and without leakage or noise nuisance

230 DESIGN PARAMETERS - GENERAL

- Quick, quiet and complete, self-cleansing in normal use, without blockage, cross-flow, back-fall, leakage, odours, noise nuisance or risk to health
- Pressure fluctuations in pipework (maximum):±38mm water gauge
- Water seal retained in traps (minimum): 25mm

PRODUCTS

310 HARMER FLOOR DRAINAGE

Floor Construction: In-situ concrete with screed, to ceramic tile finish
Manufacturer: Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG
Tel: 01744 648400, Fax: 01744 648401.
Email: harmer@alumasc-exteriors.co.uk

Reference:	Harmer Stainless Steel Channel Drainage System
Material:	Austenitic Grade 304 Stainless Steel, pickle passivated
Sizes:	50mm depth minimum; width - as required
Outlet Type:	Horizontal/Vertical
Grate Type:	Perforated/Ladder/Mesh Anti-Slip/Plate
Load Class:	A15/B125/C250/D400/E600
Accessories:	Foul Air Trap/Sediment Basket/Tundish
Jointing:	Bolted flange joint with gasket

Create Harmer Drainage NBS specifications by selecting the required product range, profile, size and finish by visiting: www.harmerdrainage.co.uk

General Specification Notes

PRODUCTS

310 HARMER FLOOR DRAINAGE

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Tel: 01744 648400, Fax: 01744 648401.

Email: harmer@alumasc-exteriors.co.uk

Product: Harmer Stainless Steel Channel Drainage system

Material: Austenitic Grade 304 Stainless Steel, pickle passivated

Sizes: 50mm-80mm Sloping invert, 2500mm long

Width: 155mm

Outlet Option: Horizontal Gully

Grating: Ladder

Load Class: C250

Accessories: Foul Air Trap, Sediment Basket, Tundish.

Jointing: Bolted Flange Joint with gasket

Stainless Steel Floor Channels - Materials Care, Maintenance, Installation & Specifying/Ordering

Materials

Harmer Stainless Channels are manufactured in 1.5mm and 2mm thick sheets to material Grade 304. This is suitable for general use in and around buildings including most coastal locations. It is predominately considered for areas with food production, processing or preparation where corrosion resistance or minimum maintenance is required. For more aggressive atmospheres such as swimming pool applications, Grade 316 is available on request. Both grades are fully pickle passivated and all components are welded in argon shield to ensure high quality joints.

All channels come complete with standard or compact cylindrical shape gullies from the Harmer Stainless Floor drain range

Grating and baskets are available in various shapes, sizes and finishing versions. The grates are selected according to the loads and location of installation. We offer the following grate types:

- Mesh Anti-Slip
- Ladder
- Ladder Hygienic
- Plate
- Perforated

Grates and bezels are manufactured to material Grade 304 as standard with satin finish which is suitable for most applications. Material Grade 316 is available on request.

Maintenance

The high quality grates and bezels are maintenance free but should be inspected periodically and cleaned of any trapped matter.

If drains are not used for a period of time the trap water may evaporate or become fetid. To remedy this, there is no need to remove the grate, simply reprime the Trap by pouring clean water through the drain. NEVER USE BLEACH OR CAUSTIC CLEANING AGENTS.

To clean Stainless Steel grates, use only soapy water and wipe dry. Under no circumstances use metal scouring pads, metal scrapers or wire wool since this will contaminate surfaces leaving rust spots.

Frequency of cleaning depends upon application. Generally, clean the metal when it is dirty in order to restore its original appearance. This may be once a day for a drain in hygienic or aggressive situations.

Inverted or Bell Trap

Should it be necessary to access the drain for maintenance or rodding purposes, the trap must first be removed.

Equipment required:

- Latex rubber gloves
- Bucket of clean water
- Sponge
- Household disinfectant

Procedure:

- Put on protective latex gloves
- Remove grate
- Dry all surfaces
- Remove basket
- Remove trap

Refitting trap:

- Apply silicone lubricant to seal rim of funnel
- Push fit the trap into the drain body
- Replace basket
- Refit grate
- Reprime the trap with clean water
- Dispose of dirty water

Installation of Typical Channel

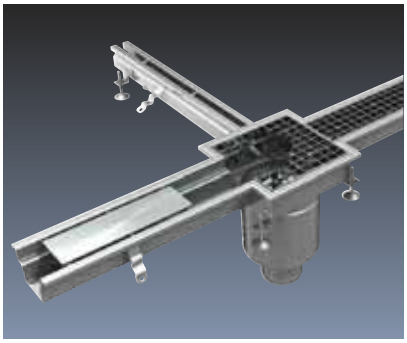
1. Before installing the channel, bolt all its parts constituent parts to ensure tightness of all flange connections (flange-gasket--flange).
2. Install the channel prepared as above in the sewer service pipe's spigot.
3. The next step involves placing of the channel on the required level. The channel edge should be 1-1.5 [mm] below the floor level.
4. When the channel is stabilized, we recommend to secure it against displacement during concrete pouring.
5. Pour concrete on the leveling legs and anchoring elements.
6. In hard to access areas subjected to highest loads, insert the concrete with a spatula.
7. Make sure the elements are clean, free of dirt.
8. Fit gratings, waste baskets and traps.

Channel Depth

Regarding channels made with the bottom fall, the depth of the channels increases with its length. The channel depth at the outlet depends on the initial height, length and the channel fall.

Design Considerations

The placement of floor drains and the channel route depends on the needs and the amount of water to be drained from the floor. The two systems we offer are standard and slot. Channels can be combined as shown below:



Specifying/Ordering

Example 1:
Channels in Kitchens

Item: Harmer Stainless.

Floor Construction:
150mm ceramic tiles over insulated solid ground floor slab.

Manufacturer:
Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body /grate type & material:
Standard Channel with adjustable feet and Standard trapped vertical sump with mesh anti-slip grating manufactured from Stainless Steel.

Example 2:
Channel Drain in Changing Rooms

Item: Harmer Stainless.

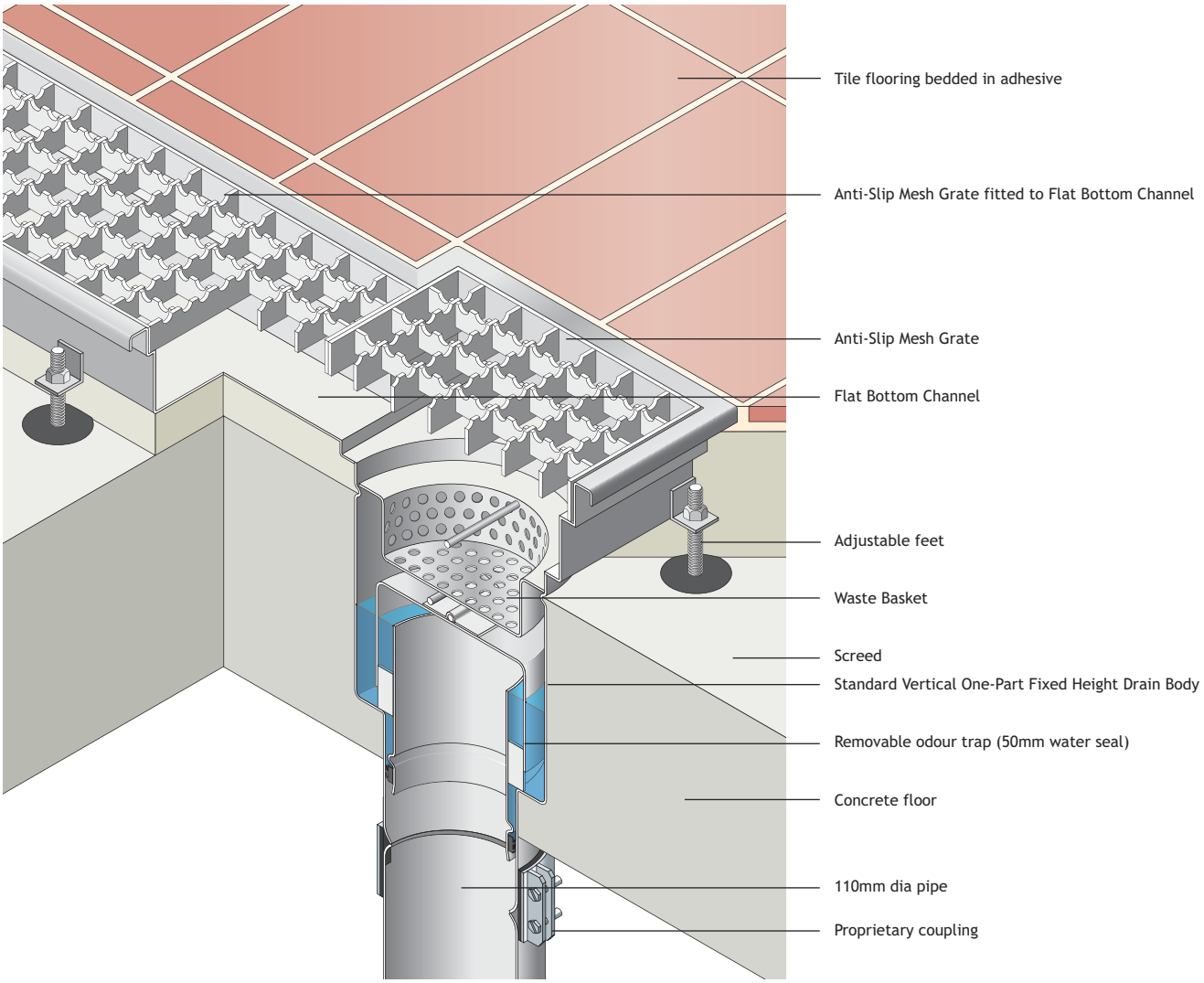
Floor Construction:
150mm ceramic tiles over suspended concrete floor.

Manufacturer:
Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body/grate type & material:
Mini Slot Channel with adjustable feet and Compact two part adjustable height trapped horizontal sump with perforated grating manufactured from Stainless Steel.

Stainless Steel Floor Channels - Application Details

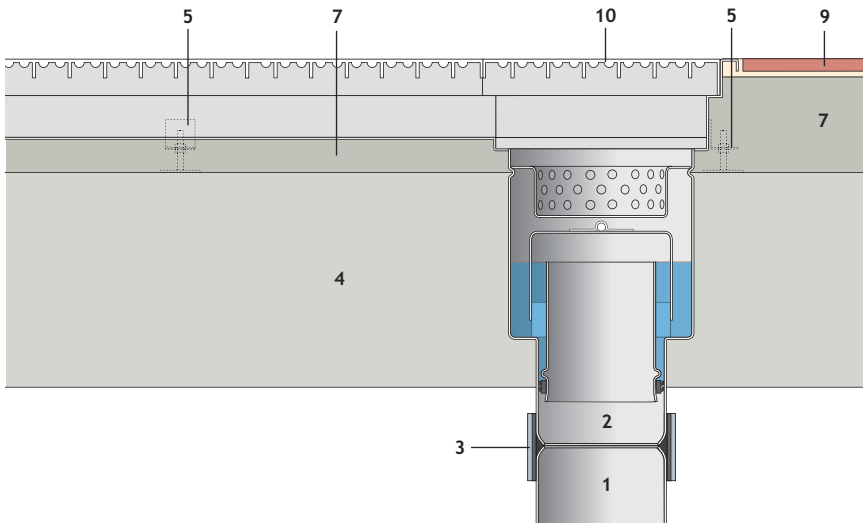
Flat Bottom Channel with Anti-Slip Mesh Grate



Note: Before installing channel, bolt constituent parts to ensure watertight seal of all flange connections

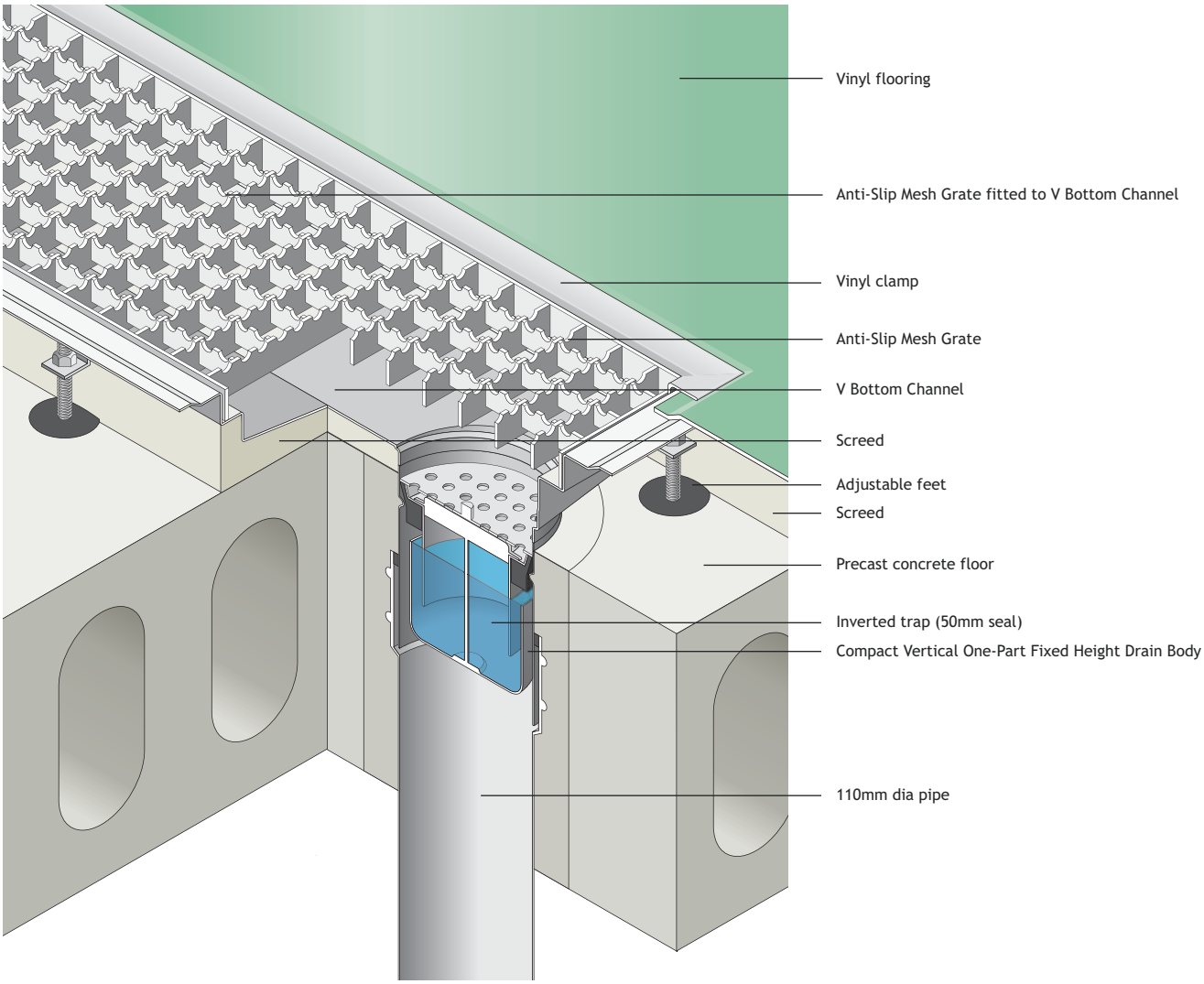
Sitework

1. Position drain pipe to required location.
2. Align outlet of channel over drain pipe.
3. Set outlet to required height (1 to 15mm below FFL) and secure to drain pipe with proprietary coupling.
4. Lay concrete mix to cast drain gully into floor.
5. Set channel falls using adjustable feet fittings.
6. Once channel is stabilised, fix bracing inside channel to prevent distortion.
7. Lay screed to falls.
8. Remove temporary bracing.
9. Apply adhesive and lay tiles.
10. Fit gratings.



Stainless Steel Floor Channels - Application Details

V Bottom Channel with Anti-Slip Mesh Grate



Note: Before installing channel, bolt constituent parts to ensure watertight seal of all flange connections

Sitework

1. Form hole in precast concrete floor to receive drain body.
2. Position channel and drain outlet to the required location.
3. Align outlet with drain pipe.
4. PVC socketed pipe to be pushed and sealed onto socket.
5. Using adjustable feet, set channel to the required FFL.
6. Once channel is stabilised, fix temporary bracing to prevent channel distortion while preparing the floor.
7. Lay screed to falls.
8. Remove temporary bracing.
9. Dress vinyl floor into channel and secure with clamp.
10. Fit trap, strainer and grating.