



## ACO Building Drainage



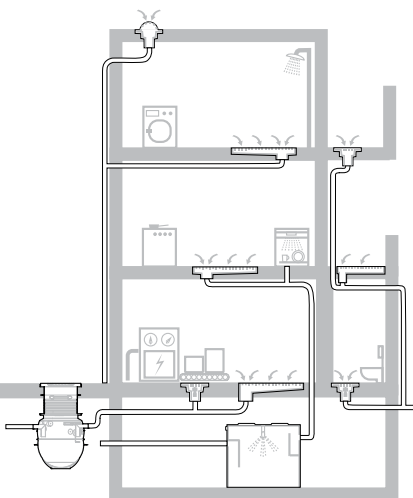
### STAINLESS STEEL FLOORDRAIN BROCHURE

8" x 8" Square Floor Drain

10" x 10" Square Floor Drain

12" x 12" Square Floor Drain

Cleanouts

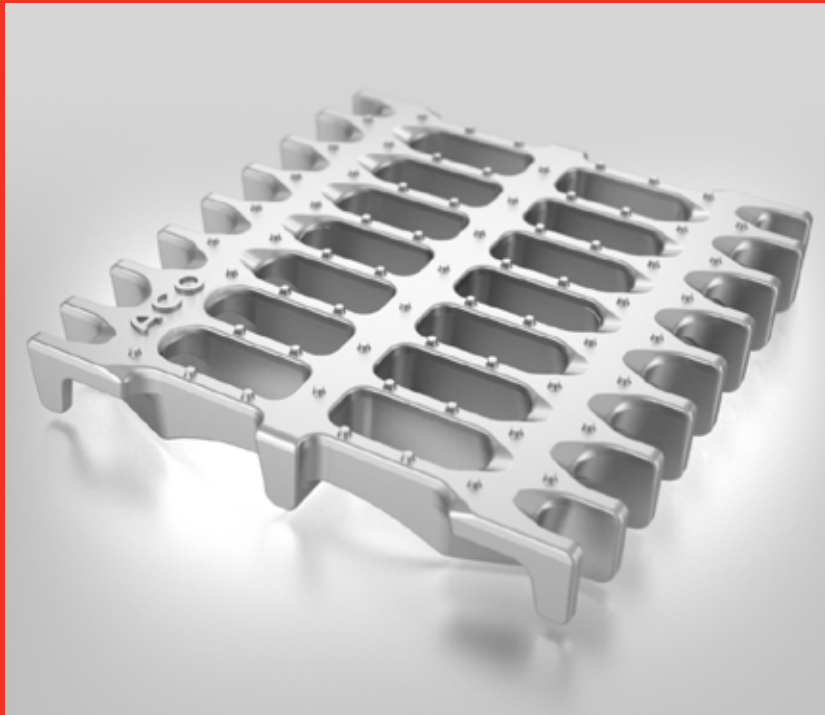


## ACO Building Drainage

ACO offers drainage systems designed to protect your business and the environment. The stainless steel floor drainage products in the Building Drainage product line are designed for ultimate hygienic performance, ensuring health & safety of workers, customers and products while still allowing clean-in-place functionality.

### Product Portfolio

- **Stainless Steel Trench Drain**  
*versatile, modular stainless steel drainage*
- **Floor Drain**  
*stainless steel floor drains*
- **Hygienic Stainless Steel Box Drains**  
*stainless steel drainage for commercial kitchens or industrial applications*
- **Pipe**  
*stainless steel push-fit pipe*
- **BuildLine**  
*green roof, facade and threshold drainage*
- **QuARTz ShowerDrain**  
*stainless steel bathroom drainage*



### Floor Drain

The Floor Drain range is available in grade 304 or 316L stainless steel and the variety of options available within the range make it easy to select the best product for any application. ACO's Floor Drains are pickled and passivated—finishing processes for removing embedded iron particles and restoring the chromium depleted regions from the welding process.

The proper Floor Drain can be selected with the following options:

- Outlet position
- Outlet diameter
- Fixed height or adjustable units
- Location or membrane clamped flange
- Grate options
- Accessories



ACO hygienic drainage fulfills the most stringent hygienic requirements to prevent bacterial contamination.

We apply hygienic design principles reserved for food processing equipment (EHEDG document No 8, 13 and 44) to the floor drain design and NSF/ANSI 3-A 14159-1-2014.

Unlike the majority of single piece floor drains available in the market, ACO FloorDrain is designed with features that comply with all aspects required of ultimate hygienic applications.

### Typical applications

- *Petrochemical*
- *Commercial kitchens*
- *Food processing facilities*
- *Brewing, bottling and canning plants*
- *Chilled warehouses*
- *Laboratories*
- *Chemical industries*
- *Pharmaceutical industries*
- *Restaurants*
- *Schools*
- *Hospitals*
- *Hotels*



## Industrial applications

For applications where material and loading is most important, such as in chemical or pharmaceutical industries, chilled warehouses or schools, etc., ACO offers standard, semi-custom and full custom drainage solutions to meet these needs.

In industrial applications, main considerations for floor drains are loadings and attachment to surrounding floor material. Correct grate choice is essential to a long working life and ACO can provide independently tested load certificates for all its' grates.

Modular 125, 200 and Slot Drain ranges provide a versatile system with off-the-shelf availability. Accessories such as corner units and choice of grate to meet any load class, make these systems perfect for a wide range of applications. Available in either grade 304 or 316L stainless steel, these systems can be used for longer trench drain runs.

## Hygienic applications

For applications where hygiene is of paramount importance, such as a commercial kitchen, food processing facility or hospital, ACO offers stainless drainage solutions to meet these demanding environments.

ACO's goal is to improve every aspect of safety, hygiene and functional performance.

In a food processing and commercial kitchen environment, hot water, grease and organic waste must be counteracted by more complex and sophisticated drainage concepts.

## HygieneFirst

Our HygieneFirst philosophy represents our commitment to delivering products that provide ultimate hygienic performance. We design intelligent drainage solutions that minimize operational costs without compromising food safety. For optimum corrosion resistance, all of ACO's Floor Drains are finished via pickling and passivation.



ACO has obtained NSF/ANSI 3A 14159-1-2014 certification for its products from NSF International.

This standard refers to the hygienic requirements in food processing. All of ACO's hygienic floor drains, hygienic floor troughs and hygienic cast and ladder grates for the hygienic floor drains now display the NSF certification mark.

## Table of Contents

Introduction	4
Grate Selection	5
Floor Drain Features	6-7
System Overview	8-9
Floor Drain - Bodies & Tops	10
Floor Drain - Grates	11-13
Floor Drain - Accessories	14
Cleaning & Maintenance	15
Flow Rates	16-17
Installation Guide	18-19

## Introduction

**ACO Floor Drains** are simple, single point square drains that provide drainage with minimal installation.

Floor drains can be stand-alone or integrated into a trench drain system.

Floor Drains are available in AISI 304 or 316L stainless steel with either a vertical or horizontal outlet. A number of versions featuring different grates, sizes and outlet diameters are also available to suit various applications and flow requirements.

All Floor Drains are designed with the highest level of hygienic friendly features.

Hygiene**First**

**Fixed height floor drains** are convenient, free-standing units which are suitable for installation in concrete, resin or tiled floors.

They can be specified as point drainage in areas where waterproofing is independent of the floor drain body.

Bodies are available with either horizontal or vertical outlets.

**Adjustable floor drains** can be installed with either a floor drain top or an ACO Trench Drain in most flooring constructions, including floors with waterproofing membranes.

Adjustable solutions enable height and rotational adjustment of connected floor drain top or channel.

Adjustable floor drains are available with location or mechanical membrane clamping flanges. Bodies are available with either horizontal or vertical outlets.



- 1** Grates
- 2** Optional silt basket
- 3** ACO Floor Drain body - horizontal outlet
- 4** Floor Drain top
- 5** Friction ring
- 6** ACO EasyFix leveling feet
- 7** ACO Floor Drain body - vertical outlet



# ACO FLOOR DRAIN

## Grate Selection

To select the appropriate grate, the following properties should be considered:

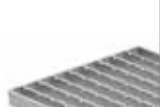
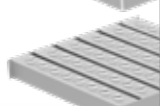
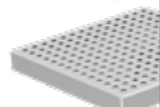
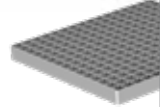
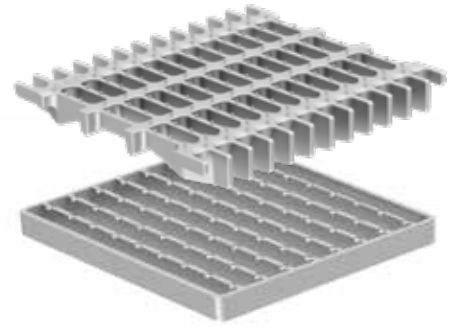
- Load class
- Slip resistance
- Type/frequency/speed of traffic
- Wheel type
- Position of floor drain
- Hygiene (cleanability)





Best design practice is to minimize traffic across the drain to reduce risk of floor surface/drainage interface failures from dynamic loadings.


The proper load class for the grate is calculated on the defined traffic during all future operations.

All ACO Floor Drain grates have been independently load tested to ASME 112.6.3. Corresponding load class according to EN 1253-1 is also indicated. If correlation to EN 1433 standard is required, please contact ACO for details.

Refer to page 11 for Floor Drain Grates parts tables.



Grate	Size	ASME: A 112.6.3 Load Class <i>safe live load</i>					EN 1253-1
		Light duty	Medium duty	Heavy duty	Extra Heavy duty	Special duty	
		<i>under 2,000 lbs</i>	<i>2,000 - 4,999 lbs</i>	<i>5,000 - 7,499 lbs</i>	<i>7,500 - 10,000 lbs</i>	<i>exceeding 10,000 lbs</i>	
Cast 	8" x 8"	✓	✓	✓	✓	✓	M 125
	10" x 10"	✓	✓	✓	✓	✓	
	12" x 12"	✓	✓	✓	✓	✓	
Mesh	8" x 8"	✓	✓				L 15
	10" x 10"	✓	✓				
	12" x 12"	✓	✓				
Quadrato	8" x 8"	✓					L 15
	10" x 10"	✓					
	12" x 12"	✓					
Multi-slot 5	8" x 8"	✓	✓				L 15
	10" x 10"	✓	✓				
	12" x 12"	✓	✓				
Heelsafe	8" x 8"	✓	✓				L 15
	10" x 10"	✓	✓				
	12" x 12"	✓					
Slot Cover	8" x 8"	✓	✓	✓	✓	✓	M 125
	10" x 10"	✓	✓	✓	✓	✓	
	12" x 12"	✓	✓	✓	✓		
Ladder 	8" x 8"	✓					R 50
		✓	✓	✓			M 125
		✓	✓	✓	✓	✓	N 250
	10" x 10"	✓					R 50
		✓	✓	✓			M 125
		✓	✓	✓	✓	✓	N 250
	12" x 12"	✓					R 50
		✓	✓				M 125
		✓	✓	✓	✓		N 250
Half Ladder 	8" x 8"	✓					L 15
	10" x 10"	✓					
	12" x 12"	✓					
Half Plate 	8" x 8"	✓					L 15
	10" x 10"	✓					
	12" x 12"	✓					

 Grates shown with this mark feature a hygienic design.



## Fixed height floor drain features

### Edge in-fill

Ensures stable and durable transmission between the floor drain and surrounding floor, minimizing the risk of floor cracks which could harbor micro organisms.

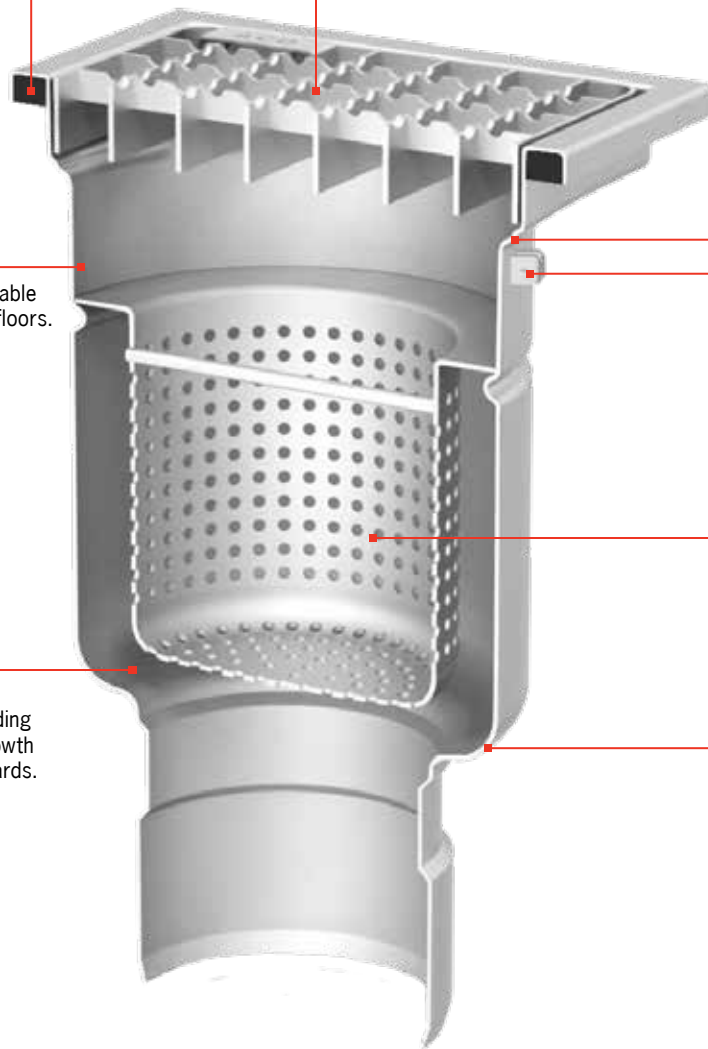


### Fixed height

Free-standing units are suitable for concrete, resin or tiled floors.

### Full drainability

Dry sump design is 100% drainable - eliminating standing water, smells, microbial growth and potential chemical hazards.



### Earth point

A tab or a bolt (on the membrane flange) is available where the drain needs connection to grounding.

### Optional silt basket

Removable (primary) stainless steel strainer to prevent food waste from entering wastewater system.

### Hygienic joints

Deep-drawn body ensures smooth contours, eliminating crevices that can harbor dangerous bacteria.

## Information about Removable Foul Air Trap

Building codes in North America do not encourage the use of removable foul air traps in Floor Drains. Generally a 'P' trap in the pipework directly below the floor drain acts as a foul air trap. However, there may be specific instances where a removable foul air trap is required, such as restricted depth installations, client-specific requirements, marine (ships & boats) and others.

The ACO foul air trap is fully removable and is available as an optional accessory to all floor drains. It is available in grade 304 or 316L stainless steel. The foul air trap prevents foul air from the connected drain and sewer from entering the building. A standard foul air trap support must be ordered with the foul air trap.



# ACO FLOOR DRAIN

## Adjustable height floor drain features

### Grates

Variety of grates available depending on application and required load class. Grates have been independently load tested to ASME 112.6.3 and EN 1253 and Certified by NSF International. Slip resistant solutions available.



### Internal radii

All internal radii are equal to or larger than 1/8 inch (3 mm), greatly increasing cleaning effectiveness.

### Friction ring

Provides a sealing or drainage function. Optional waterproofing bonding and membrane flange to accommodate waterproofing membrane (not shown) can be fitted at this position.

### Edge in-fill

Ensures stable and durable transmission between the floor drain and surrounding floor, minimizing the risk of floor cracks which could harbor micro organisms.



### Earth point

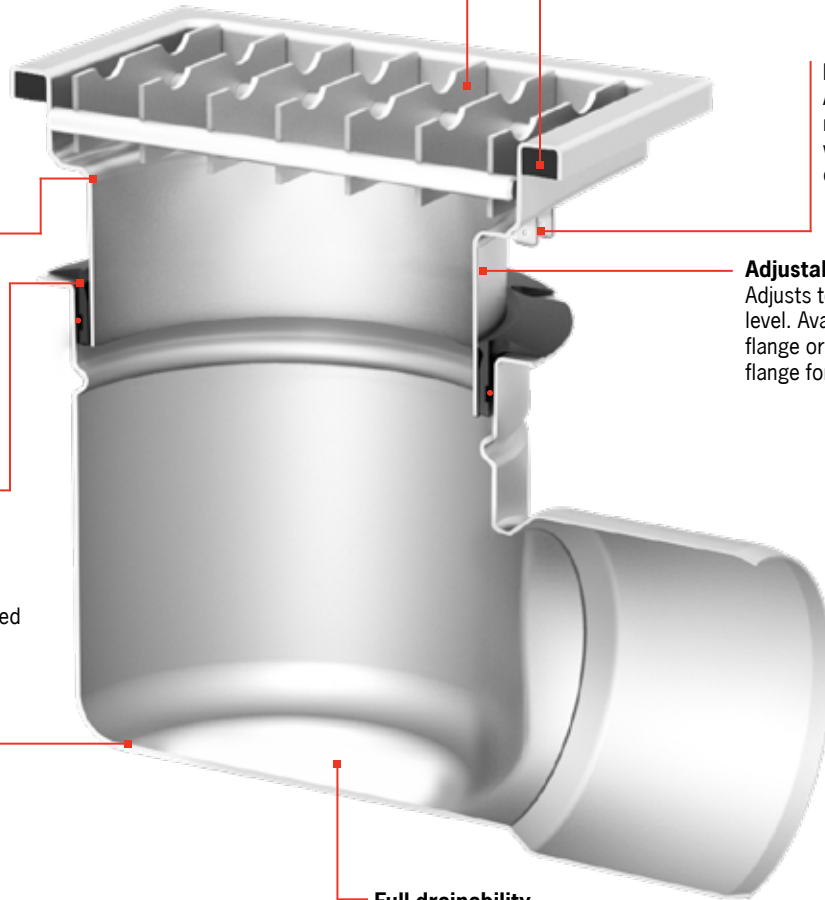
A tab or a bolt (on the membrane flange) is available where the drain needs connection to grounding.

### Adjustable height

Adjusts to suit finished floor level. Available with location flange or integrated membrane flange for mechanical clamp.

### Full drainability

100% drainage dry sump design eliminates standing water, smells, microbial growth and potential chemical hazards.



Items shown with the NSF Mark have been tested and Certified by NSF International.



Items shown with this mark feature a hygienic design.



## How to choose correct parts for a floor drain

ACO Floor Drains are available in a number of versions featuring:

- Different sizes
- Flow rates
- Grate designs
- Outlet position
- Outlet diameters to suit various applications

All options are available for 8" x 8", 10" x 10" and 12" x 12" floor drains.

**Choose a floor drain body**

**1** [See pg 10](#)

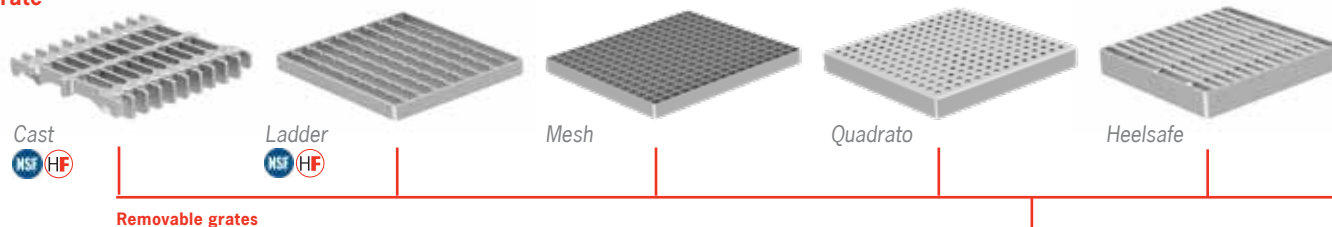
**Choose grate**

**2** [See pg 11](#)

**Choose accessories (if applicable)**

**3** [See pg 14](#)

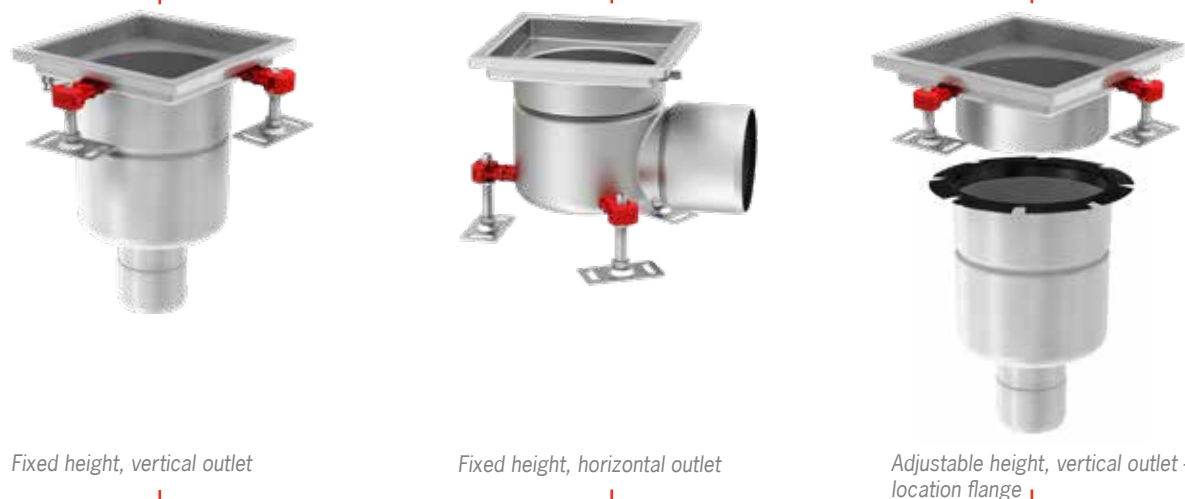
### Choose grate



### Choose accessories (if applicable)



### Choose body



Fixed and adjustable height bodies

Optional Stainless Steel P-Trap  
(see ACO Pipe brochure)



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# ACO FLOOR DRAIN

## Slip resistance

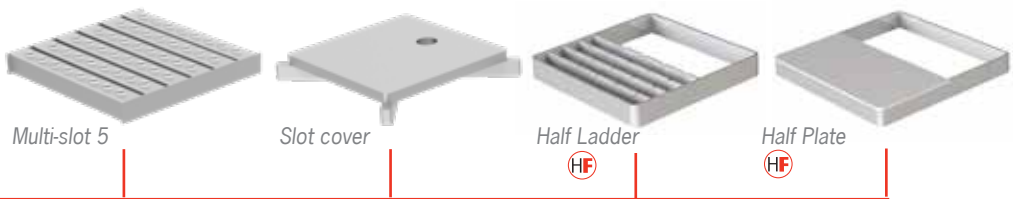
Slip resistance is critical for user safety. ACO has tested grate patterns using the widely accepted pendulum test.

A pendulum is swung over a wet surface and the surface frictional properties are measured. Test results are given a BPN value - typically values in excess of 24 would be used. A BPN of 24 and under is regarded as high slip and skid potential.

ACO recommends selecting a grate with BPN values similar to the surrounding pavement finish. Pavement slope, presence of surface contaminants, etc. can also negatively affect slip and skid resistance.

Other tests exist, such as the variable-angle ramp test and horizontal pull test and can be carried out as necessary if required for specific projects.

Refer to the grate parts tables on pages 11 - 13 for slip resistant results.



## Optional removable foul air trap

Per IAPMO UPC Chapter 10 1004.0, "S" traps, bell traps and crown-vented traps are prohibited, unless an exception is made.

Installation and local code requirements must be taken into account.



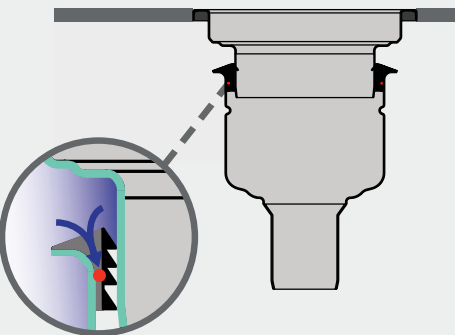
Adjustable height, horizontal outlet - location flange



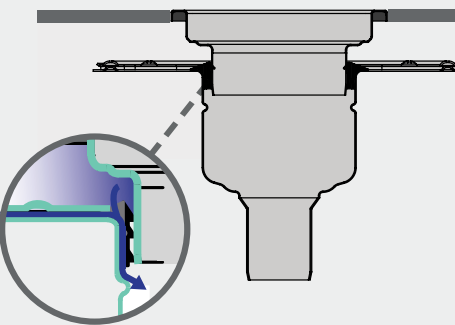
Adjustable height, vertical outlet - membrane clamp

## Friction ring

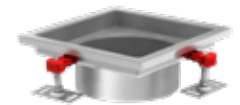
When using adjustable height floor drain with location flange, red sealing 'o' ring must be used to prevent water from entering body.

































When using adjustable height floor drain with mechanical membrane clamping flange, red sealing 'o' ring must be removed to allow water to enter floor drain body through weep holes on friction ring.



Parts Table: Floor Drain bodies and tops



Fixed Height, Vertical Outlet	Top Size in (mm)	Outlet Ø in (mm) SCH 10	Part #	
			AISI 304	AISI 316L
8" x 8" Floor Drain  	8 x 8 (200 x 200)	2 (60)	445238	445274
		4 (114)	445240	445276
10" x 10" Floor Drain  	10 x 10 (250 x 250)	3 (89)	445114	445180
		4 (114)	445116	445182
12" x 12" Floor Drain  	12 x 12 (300 x 300)	4 (114)	445104	445170
		6 (168)	445106	445172
Fixed Height, Horizontal Outlet	Top Size in (mm)	Outlet Ø in (mm) SCH 10	Part #	
			AISI 304	AISI 316L
8" x 8" Floor Drain  	8 x 8 (200 x 200)	2 (60)	445242	445278
		4 (114)	445244	445280
10" x 10" Floor Drain  	10 x 10 (250 x 250)	3 (89)	445118	445184
		4 (114)	445120	445186
12" x 12" Floor Drain  	12 x 12 (300 x 300)	4 (114)	445112	445178
Floor Drain Top for Adjustable Height	Top Size in (mm)		Part #	
			AISI 304	AISI 316L
8" x 8" Floor Drain  	8 x 8 (200 x 200)		414732	414832
10" x 10" Floor Drain  	10 x 10 (250 x 250)		408248	408258
12" x 12" Floor Drain  	12 x 12 (300 x 300)		408228	408238
Adjustable Height, Vertical Outlet	Flange Type*	Outlet Ø in (mm) SCH 10	Part #	
			AISI 304	AISI 316L
8" x 8" Floor Drain  	location	2 (60)	445246	445282
	mechanical membrane clamp	2 (60)	445250	445286
	location	4 (114)	445252	445288
	mechanical membrane clamp	4 (114)	445256	445292
10" x 10" Floor Drain  	location	3 (89)	445123	445189
	mechanical membrane clamp	3 (89)	445127	445193
	location	4 (114)	445129	445195
	mechanical membrane clamp	4 (114)	445133	445199
12" x 12" Floor Drain  	location	4 (114)	445135	445201
	mechanical membrane clamp	4 (114)	445139	445205
	location	6 (168)	445141	445207
	mechanical membrane clamp	6 (168)	445145	445211
Adjustable Height, Horizontal Outlet	Flange Type*	Outlet Ø in (mm) SCH 10	Part #	
			AISI 304	AISI 316L
8" x 8" Floor Drain  	location	2 (60)	445258	445294
	mechanical membrane clamp	2 (60)	445262	445298
	location	4 (114)	445264	445300
	mechanical membrane clamp	4 (114)	445268	445304
10" x 10" Floor Drain  	location	3 (89)	445147	445213
	mechanical membrane clamp	3 (89)	445151	445217
	location	4 (114)	445153	445219
	mechanical membrane clamp	4 (114)	445157	445223
12" x 12" Floor Drain  	location	4 (114)	445159	445225
	mechanical membrane clamp	4 (114)	445163	445229



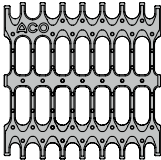
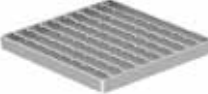


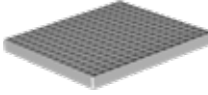
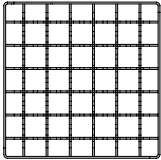
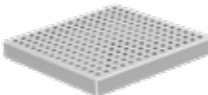
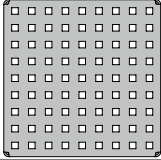

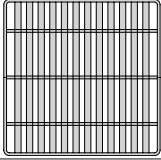
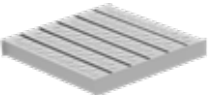
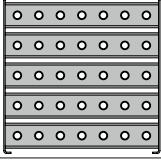

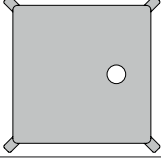


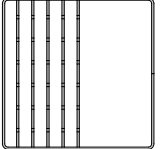


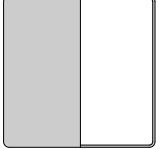



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Items shown with this mark feature a hygienic design.



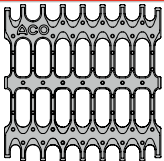
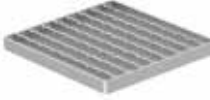

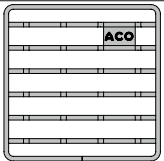
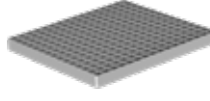
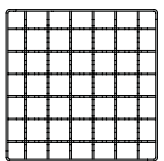
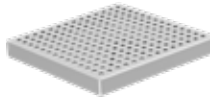
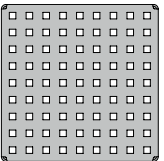

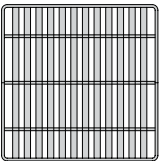
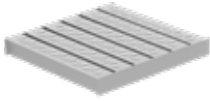
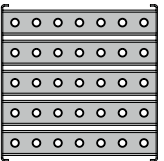

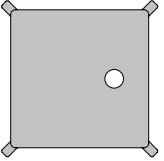


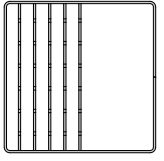


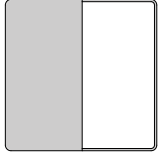
Parts Table: 8" x 8" Floor Drain Grates


8" x 8" Floor Drain Grates		Load Class		Slip Resistant	Part #		
		ASME: A 112.6.3	EN 1253	ASTM E303-93 (BPN)	AISI 304	AISI 316L	
	Cast 	Special duty	M 125	48	416942	N/A	
	Ladder 	Light duty	R 50	35	416912	416913	
		Medium duty	M 125	35	408093	408193	
		Heavy duty	N 250	33	408043	408143	
	Mesh	Medium duty	L 15	57	408090	408190	
	Quadrato	Light duty	L 15	15	408092	408192	
	Heelsafe	Medium duty	L 15	36	408022	408122	
	Multi-slot 5	Medium duty	L 15	31	408094	408194	
	Slot cover	Special duty	M 125	36	408021	408121	
	Half Ladder 	Light duty	L 15	35	142918	142919	
	Half Plate 	Light duty	L 15	36	142928	142929	


 Items shown with the NSF Mark have been tested and Certified by NSF International.

 Grates shown with this mark feature a hygienic design.

## Parts Table: 10" x 10" Floor Drain Grates

10" x 10" Floor Drain Grates		Load Class		Slip Resistant	Part #		
		ASME: A 112.6.3	EN 1253	ASTM E303-93 (BPN)	AISI 304	AISI 316L	
	Cast 	Special duty	M 125	48	416943	N/A	
	Ladder 	Light duty	R 50	35	416914	416915	
		Heavy duty	M 125	35	408028	408128	
		Special duty	N 250	33	408044	408144	
	Mesh	Medium duty	L 15	57	408095	408195	
	Quadrato	Light duty	L 15	15	408097	408197	
	Heelsafe	Medium duty	L 15	36	408031	408131	
	Multi-slot 5	Medium duty	L 15	31	408033	408133	
	Slot cover	Special duty	M 125	36	408030	408130	
	Half Ladder 	Light duty	R 50	35	416920	416921	
	Half Plate 	Light duty	R 50	36	416926	416927	

 Items shown with the NSF Mark have been tested and Certified by NSF International.



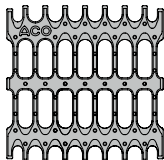
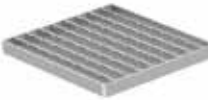

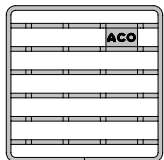
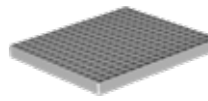
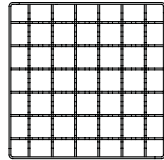
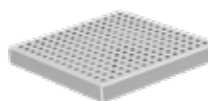
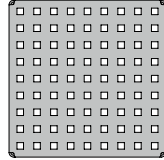

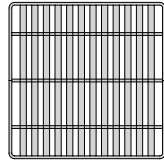
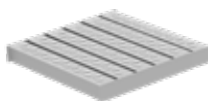
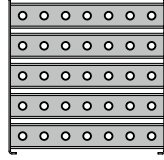

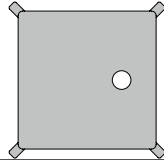


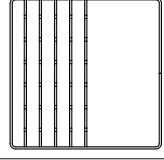


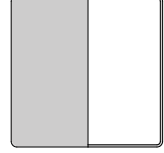
 Grates shown with this mark feature a hygienic design.





# 2 Choose grate

## ACO FLOOR DRAIN

Parts Table: 12" x 12" Floor Drain Grates

12" x 12" Floor Drain Grates		Load Class		Slip Resistant	Part #		
		ASME: A 112.6.3	EN 1253	ASTM E303-93 (BPN)	AISI 304	AISI 316L	
	Cast 	Special duty	M 125	48	416944	N/A	
	Ladder 	Light duty	R 50	35	416916	416917	
		Medium duty	M 125	35	408037	408137	
		Heavy duty	N 250	33	408045	408145	
	Mesh	Medium duty	L 15	57	408034	408134	
	Quadrato	Light duty	L 15	15	408036	408136	
	Heelsafe	Medium duty	L 15	36	408040	408140	
	Multi-slot 5	Medium duty	L 15	31	408042	408142	
	Slot cover	Special duty	M 125	36	408039	408139	
	Half Ladder 	Light duty	R 50	35	416922	416923	
	Half Plate 	Light duty	R 50	36	416924	416925	

 Items shown with the NSF Mark have been tested and Certified by NSF International.

 Grates shown with this mark feature a hygienic design.

### 3 Choose accessories (if applicable)

**Parts Table: Floor Drain Accessories**

8" x 8" Floor Drain Accessories	Used with...	Height inches	Part #	
			AISI 304	AISI 316L
Shallow silt basket	All floor drains	0.98	416902	416903
Silt basket	All floor drains	1.77	416900	416901
Deep silt basket*	All floor drains	3.94	445232	445233

10" x 10" Floor Drain Accessories	Used with...	Height inches	Part #	
			AISI 304	AISI 316L
Shallow silt basket	All floor drains	1.02	416906	416907
Silt basket	All floor drains	1.97	416904	416905
Deep silt basket*	All floor drains	5.24	445234	445235

12" x 12" Floor Drain Accessories	Used with...	Height inches	Part #	
			AISI 304	AISI 316L
Shallow silt basket	All floor drains	1.02	416910	416911
Silt basket	All floor drains	1.97	416908	416909
Deep silt basket*	All floor drains	5.31	445236	445237

\*deep silt basket is for use without removable foul air trap.

**Accessories** are available to prevent drain clogging and promote general cleanliness.

Silt baskets collect debris and are easy to remove and clean.

Shallow silt basket



Silt basket



Deep silt basket



### Optional Removable Foul Air Trap

Part	Used with...	Part #	
		AISI 304	AISI 316L
Foul air trap support ring	8" x 8" Floor Drain	(NBR) 414743	
Foul air trap		414741	414841
Foul air trap support ring	10" x 10" Floor Drain	(NBR) 408201	
Foul air trap		408200	408210
Foul air trap support ring	12" x 12" Floor Drain	(NBR) 408221	
Foul air trap		408220	408230

Building codes in North America do not encourage the use of removable foul air traps in Floor Drains. However, a removable foul air trap may be required due to restricted depth installations, client-specific requirements, marine (ships & boats) and others.

Foul air trap support ring  
(required when ordering foul air trap)



Foul air trap



## Cleaning and maintenance

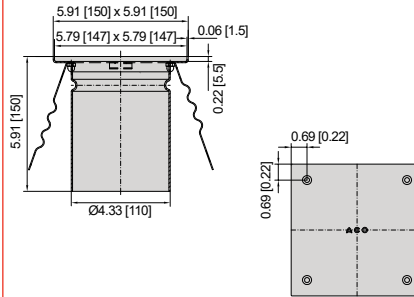
### Cleanout

A cleanout is an access point in a drainage system that is used to inspect and snake/rod blocked drainage pipes. This is useful when pipes are located in areas where usual inspection and snaking/rodding are not possible.

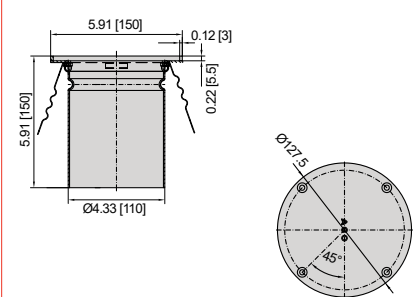


Top	Pipe Size		Weight lbs	Stainless steel grade	Part No.
	internal	external			
Square	3.94 (100)	4.33 (110)	3.31	316L	416998
			3.31	304	414596
Round	3.94 (100)	4.33 (110)	2.9	316L	138221
			2.9	304	138220

#### Square Cleanout



#### Round Cleanout



### Cleaning methods

Stainless steel and nitrile rubber are easy to clean. Wash with soap or mild detergent and warm water, then rinse with clean water. An enhanced aesthetic appearance will be achieved if the cleaned surface is wiped dry.

Acids should only be used for on-site cleaning when all other methods have proved unsatisfactory. Rubber gloves should be used and care taken to ensure acid cleaners are not spilt over adjacent areas.

Special precautions are necessary with oxalic acid and solvents should not be used in closed spaces without adequate ventilation. Manufacturer's directions should always be followed.

If suggestions in table below have been attempted and results are unsatisfactory, stainless steel can be mechanically cleaned by specialists on site. Contact ACO for further information.

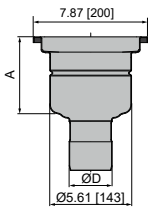
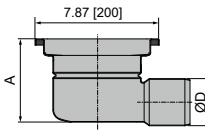


Problem	Cleaning agent	Comment
Routine cleaning, all finishes.	Soap or mild detergent and water (such as dishwashing liquid).	Sponge, rinse with clean water, wipe dry if necessary.
Fingerprints, all finishes.	Soap, warm water or organic solvent (e.g. acetone, alcohol).	Rinse with clean water, wipe dry if necessary.
Stubborn stains and discoloration.	Mild cleaning solutions or cream cleanser.	Rinse well with clean water and wipe dry.
Oil and grease marks, all finishes.	Organic solvents (e.g. acetone, alcohol).	Clean after with soap and water, rinse with clean water and dry.
Rust and other corrosion products.	Oxalic acid.	Rinse well with clean water. The cleaning solution should be applied with a swab and allowed to stand for 15–20 minutes before being washed away with water. Use a mild cleaning solution to give a final clean if required.
Scratches on brush (satin) finish.	Household synthetic fiber scouring pads.	Do not use ordinary steel wool, as particles can become embedded in stainless steel and cause surface problems. For deeper scratches; apply scourer in direction of polishing. Clean with soap or detergent as per routine cleaning.

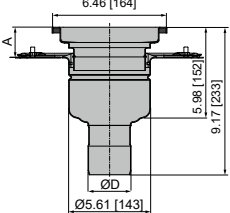
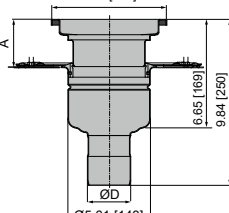
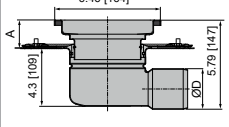
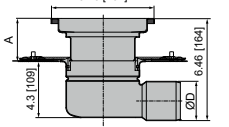
## Flow rates & Installation heights

Flow rates are calculated without foul air trap.

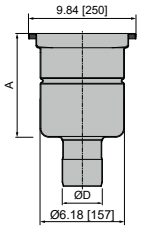
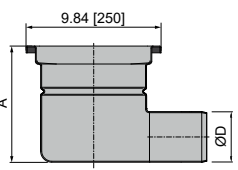
### ACO 8" Hygienic Floor Drain – fixed height

vertical outlet		horizontal outlet	
Outlet diameter	Flow rate [gpm]*	Outlet diameter	Flow rate [gpm]*
ØD in [mm]	A = 5.66" [144 mm]	ØD in [mm]	A = 5.49" [140 mm]
2" Sch 10 [DN 60 mm]	40.6	2" Sch 10 [DN 60 mm]	35.67
4" Sch 10 [DN 114 mm]	143.41	4" Sch 10 [DN 114 mm]	110.9

### ACO 8" Hygienic Floor Drain – adjustable

vertical outlet			horizontal outlet		
Outlet diameter	Flow rate [gpm]*	Flow rate [gpm]*	Outlet diameter	Flow rate [gpm]*	Flow rate [gpm]*
ØD in [mm]	A = 1.5" [38 mm]	A = 2.17" [55 mm]	ØD in [mm]	A = 1.5" [38 mm]	A = 2.17" [55 mm]
2" Sch 10 [DN 60 mm]	41.73	44	2" Sch 10 [DN 60 mm]	36.88	39.43
4" Sch 10 [DN 114 mm]	147.4	155.44	4" Sch 10 [DN 114 mm]	115.71	125.79

### ACO 10" Hygienic Floor Drain – fixed height

vertical outlet		horizontal outlet	
Outlet diameter	Flow rate [gpm]	Outlet diameter	Flow rate [gpm]
ØD in [mm]	A = 7.82" [199 mm]	ØD in [mm]	A = 6.88" [175 mm]
3" Sch 10 [DN 89 mm]	74.03	3" Sch 10 [DN 89 mm]	62
4" Sch 10 [DN 114 mm]	168.56	4" Sch 10 [DN 114 mm]	131.72

Note:

1. If foul air trap is added, flow rate through floor drain body is reduced.
2. Flow rates are based on drowned orifice calculations. Silt basket and debris/solids will reduce flow rates.



# ACO FLOOR DRAIN

## Flow rates & Installation heights

Flow rates are calculated without foul air trap.

### ACO 10" Hygienic Floor Drain – adjustable

vertical outlet		
Outlet diameter	Flow rate [gpm]	
ØD in [mm]	A = 1.77" [45 mm]	A = 2.95" [75 mm]
3" Sch 10 [DN 89 mm]	77	82.24
4" Sch 10 [DN 114 mm]	175.32	187.25

horizontal outlet		
Outlet diameter	Flow rate [gpm]	
ØD in [mm]	A = 1.77" [45 mm]	A = 2.95" [75 mm]
3" Sch 10 [DN 89 mm]	65.73	71.75
4" Sch 10 [DN 114 mm]	140.78	155.27

### ACO 12" Hygienic Floor Drain – fixed height

vertical outlet	
Outlet diameter	Flow rate [gpm]
ØD in [mm]	A = 7.91" [201 mm]
4" Sch 10 [DN 114 mm]	169.53
6" Sch 10 [DN 168 mm]	360.59

horizontal outlet	
Outlet diameter	Flow rate [gpm]
ØD in [mm]	A = 6.97" [177 mm]
4" Sch 10 [DN 114 mm]	132.95

### ACO 12" Hygienic Floor Drain – adjustable

vertical outlet		
Outlet diameter	Flow rate [gpm]	
ØD in [mm]	A = 1.77" [45 mm]	A = 2.95" [75 mm]
4" Sch 10 [DN 114 mm]	175.32	187.25
6" Sch 10 [DN 168 mm]	372.92	398.29

horizontal outlet		
Outlet diameter	Flow rate [gpm]	
ØD in [mm]	A = 1.77" [45 mm]	A = 2.95" [75 mm]
4" Sch 10 [DN 114 mm]	140.78	155.27

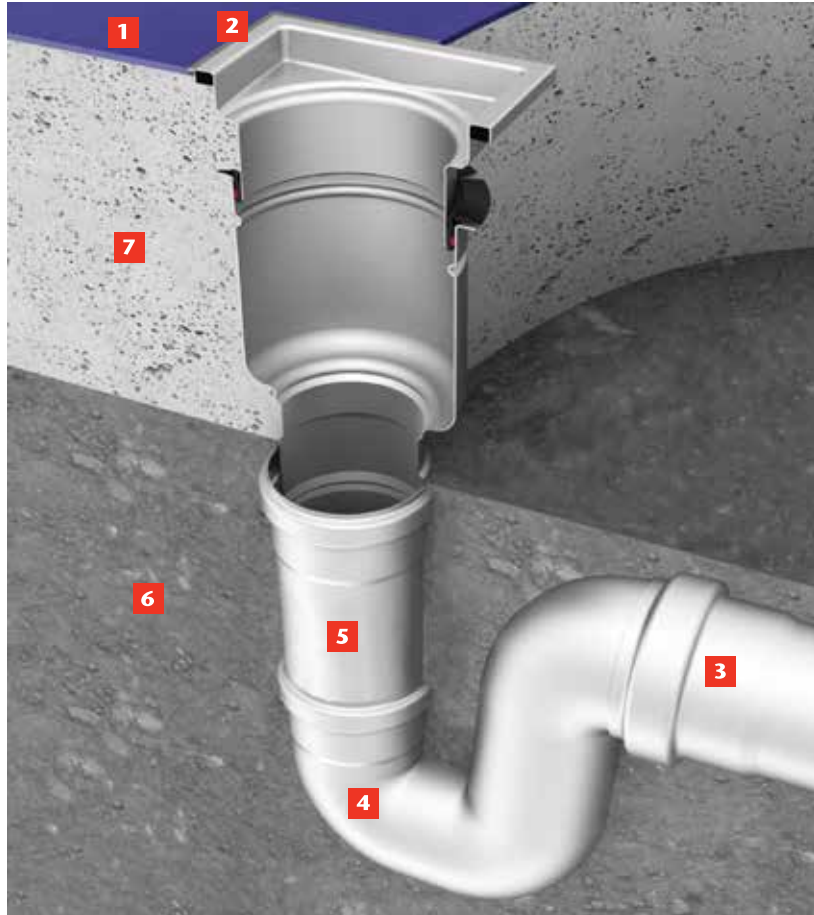
Note:

1. If foul air trap is added, flow rate through floor drain body is reduced.
2. Flow rates are based on drowned orifice calculations. Silt basket and debris/solids will reduce flow rates.

## Installation guide

### Adjustable height floor drain in ground slab with resin floor finish connecting into stainless pipe and P-Trap.

- 1** Resin floor
- 2** Flexible sealant
- 3** Socketed pipe (by ACO)
- 4** P-Trap (by ACO)
- 5** Straight coupling (by ACO)
- 6** Soil
- 7** Ground slab



### Fixed height floor drain in ground slab with resin floor finish connecting into stainless pipe and P-Trap.

- 1** Resin floor
- 2** Flexible sealant
- 3** Socketed pipe (by ACO)
- 4** P-Trap (by ACO)
- 5** Straight coupling (by ACO)
- 6** Soil
- 7** Ground slab



## ACO FLOOR DRAIN

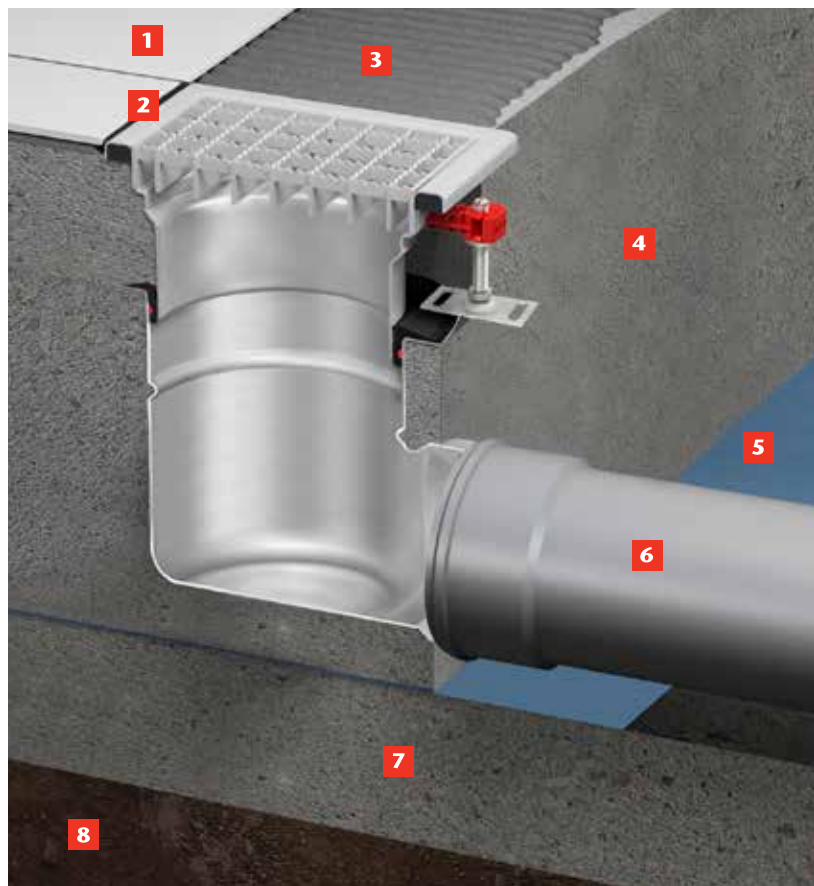
### Adjustable height floor drain in suspended slab with a tile floor finish connecting into stainless pipe.

- 1** Tile
- 2** Flexible sealant
- 3** Cement/tile adhesive
- 4** Screed
- 5** Waterproof membrane (liquid/fabric)
- 6** Waterproofing Bonding/Clamp Flange (contact ACO)
- 7** Suspended concrete slab



### Adjustable height floor drain with horizontal outlet in ground slab with a tile floor finish connecting into stainless pipe.

- 1** Tile
- 2** Flexible sealant
- 3** Cement/tile adhesive
- 4** Screed
- 5** Waterproof membrane
- 6** Socketed pipe (by ACO)
- 7** Ground slab
- 8** Compacted soil



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