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Hygiene First



*ACO product catalogue*

## Hygiene**First**

**Hygienic Drainage for Food Processing  
& Commercial Kitchen Applications**



## ACO Building Drainage

### ACO Building Drainage

Our built environment is becoming ever more complex. Applications are becoming more sophisticated and the increasing pressure of regulations and standards makes achieving design, performance and financial goals ever tougher.

Our mission: to eliminate design risk, to reduce installed and life cost and to deliver exceptional finish and performance in every product application.

Our global resources and manufacturing capacity make it possible for us to deliver best value, both with our standard products and with our bespoke designs. Confidence is further assured with quality systems that are in accordance with ISO 9001-2008.

ACO Building Drainage is a division of ACO Technologies plc and part of the worldwide ACO Group. The Group has sales in excess of £600 million worldwide with production facilities in the UK, Germany, France, Switzerland, Denmark, Spain, Poland, Czech Republic, Australia and the USA. In total more than 3900 people are employed in over 40 countries throughout the world.



#### ACO Building Drainage

##### Enquiries Team:

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- A complete pricing service to stockists, contractors and clients.

#### ACO Building Drainage

##### Customer Services Team:

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- Product availability, delivery lead times, and all other queries including collections, returns and product / service issues.

#### ACO Building Drainage

##### Design Services Team:

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- Technical and installation advice.
- Detailed design and 'Value Engineering' advice.
- Hydraulic calculations and AutoCAD drawings.
- Advice on the suitability of ACO equivalent products.

#### ACO Building Drainage

##### Marketing and Media Support

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- For all product brochures, imagery or merchandising material requests.



##### collect:

- Stainless Steel and Galvanised Steel Channels
- Stainless Steel Gullies
- Pipe Systems
- Roof / Balcony Drainage
- Wetroom & Shower Drainage



##### clean:

- Grease Management Systems



##### hold:

- Anti-flood Backflow Protection Systems



##### release:

- Lifting Stations

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[www.acobd.co.uk](http://www.acobd.co.uk)

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**General Introduction / Food Sector**

ACO is one of the World's leading drainage specialists with 60 years' experience gained across a wide range of sectors. Our passion for producing high performance products has led us to make major investments in research and development.

We are working in partnership with commercial facility owners, managers and operators. We are continuously developing our products and enhancing our expertise. We understand the critical role that drainage plays in a successful business.

Our product portfolio includes items which are fully compliant with the highest hygienic requirements. We also have a full understanding of the food industry's own standards such as HACCP (Hazard Analysis and Critical Control Point) and we work with bodies including the European Hygienic Engineering and Design Group (EHEDG).

**ACO drainage is used in applications anywhere where hygienic, corrosion resistant and durable drainage performance is essential:**

- Professional kitchens
- Food processing facilities
- Brewing, bottling and canning plants
- Chilled warehouses
- Laboratories
- Chemical and pharmaceutical industries
- Restaurants
- Schools
- Hospitals
- Hotels
- and others



## Hygiene**First**

As one of the World's leading commercial drainage specialists, ACO Group understands the critical role that drainage plays in a successful commercial food preparation business. We appreciate that food safety, hygiene and cost control are all vital factors yet we also understand that for many, drainage is out of sight and therefore out of mind.

As a result, many drainage systems are not designed well. At best this leads to costly on going cleaning and maintenance, and at worst it can result in food contamination, closure of a facility and the loss – or even closure – of business. As the company that is driving the future of drainage, we are determined to change this by raising the profile of hygienic drainage and improving standards across every part of the process.

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.

## Full Hygienic Design Principles (FHD)

### Products designed with hygiene in mind

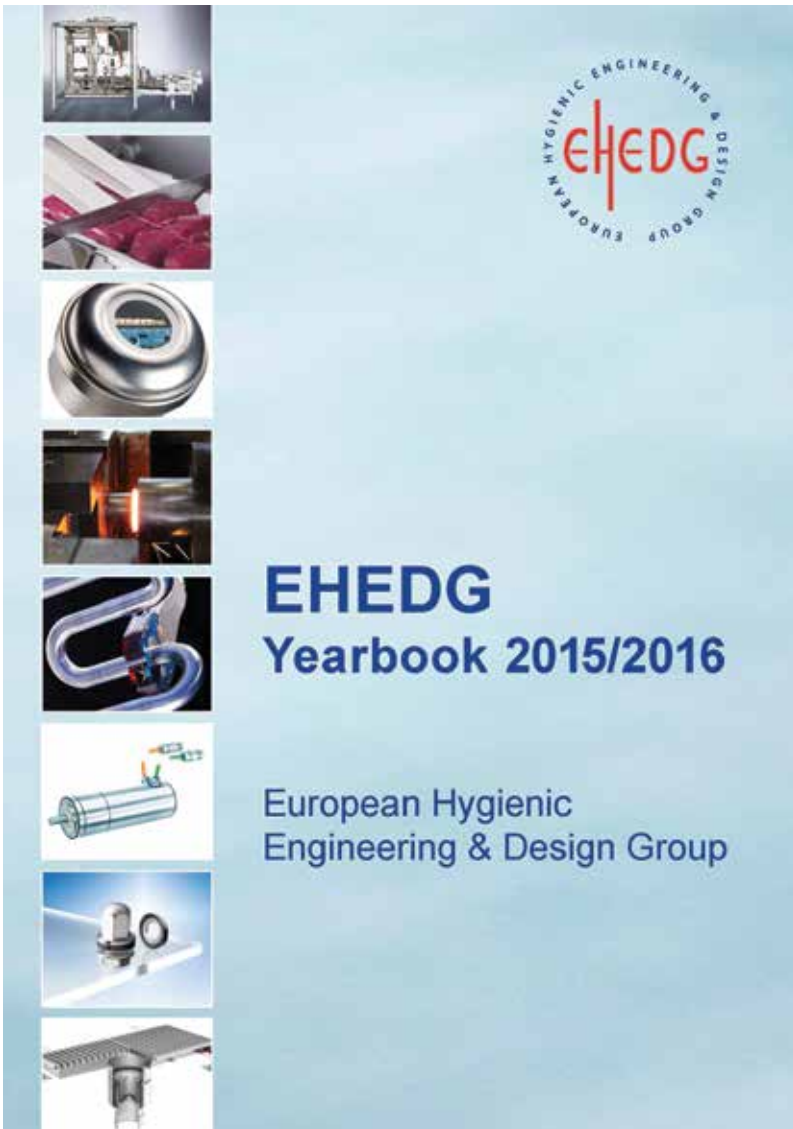
ACO offers sustainable and integrated drainage systems designed to protect your business and environment. Our aim is to constantly improve every aspect of operational safety, hygiene and functional performance to meet the applicable standards for food processing application.

We are committed to deliver unparalleled benefits to anyone involved in the project specification, installation and subsequent operation of food processing and production applications.

ACO HygieneFirst drainage systems fulfil the stringent hygienic requirements to minimise harmful bacteria and pathogen contamination of food arising from drainage elements by applying relevant hygiene design principles reserved for food contact surfaces by the implementation of BS EN 1672, BS EN ISO 14159 and EHEDG Document 8 requirements to drainage element design. See below example.

### ACO hygienic design features

- All stainless steel construction - minimum Grade 304
- Fully drainable gully sump
- Internal radii features greater than 3mm to allow easy and effective cleaning
- No overlapping metal-to-metal contact surface eliminating crevices for bacteria residence
- Gully upper surface edge infill minimises movement adjacent to surrounding floor
- Precision outlet diameter for easy, quick and reliable connection to adjacent gullies and waste pipes
- Reinforced channel base for Tray Channels >300mm width for enhanced stability
- Contoured outlet feature on all Tray Channel systems encourages positive drainage for all flow rates



## Material

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### Stainless steel

Stainless steel is the name given to a wide range of steels which have the characteristics of greatly enhanced corrosion resistance over conventional mild and low alloy steels. The enhanced corrosion resistance of stainless steel essentially comes from the addition of at least 11% of chromium, however most stainless steels commonly used contain around 18% of chromium. Other significant alloying elements include nickel and for superior corrosion resistant properties, molybdenum.

#### Stainless steel has the following unique advantages:

- High corrosion resistance
- Non-porous, easy to clean and disinfect
- Aesthetically pleasing
- Resistant to temperature extremes and thermal shock
- Coefficient of linear expansion similar to concrete
- 100% recyclable material

**ACO drainage is manufactured from austenitic stainless steel, grades** and is ideal for applications including food processing, leisure, dairy, brewing, pharmaceutical, chemical and petrochemical industries.

### Surface treatment of stainless steel

The process of cutting, forming and welding stainless steel will introduce impurities into the surface of the material and unless the appropriate action is taken, this material will begin to corrode and ultimately fail in service. Therefore after fabrication, it is vital that stainless steel is treated with the correct surface treatment to ensure it is fully corrosion resistant. By applying pickle passivation as the primary surface treatment, the corrosion resistance of stainless steel can be fully restored to its original state, ensuring long and reliable life performance together with the required aesthetic appearance.

### Finishes used by ACO include:

#### Pickle passivation (acid treatment)

All ACO stainless steel drainage products are pickle passivated by immersing products in a series of acid baths. This is a fundamental requirement for removing iron embedded particulates introduced in the fabrication process and also for restoring the chromium depleted regions generated by the welding process. ACO has one of the largest and most advanced pickle passivation installations in Europe which ensures the optimum corrosion resistance of our products compliance to BSEN 2516.

#### Electropolishing (electrochemical process)

After pickle passivation, some products are then electro polished. Electro polishing is a reverse-plating procedure that entails the electro chemical removal of metal impurities from a stainless steel surface. During the electrolytic process the metallic surface is dissolved ion by ion, resulting in a smooth surface, devoid of burrs or crevices that attract and trap contaminants.

## Standards and Certifications

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ACO FHD gully and ACO FHD Tray Channel ranges are designed, manufactured, tested and certified in accordance with BS EN 1253.

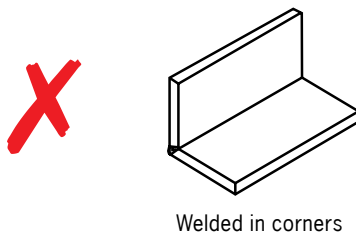
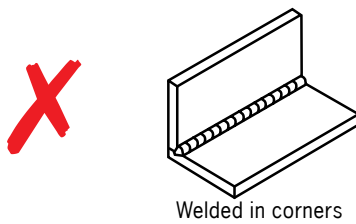
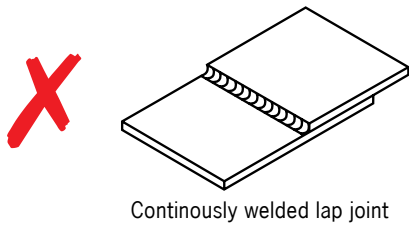
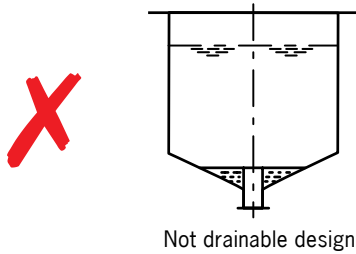
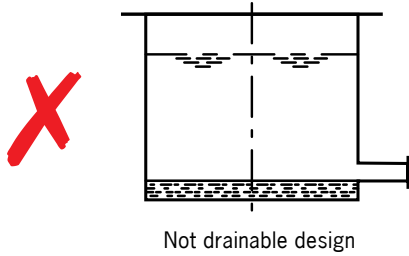
ACO fire protective kit is tested according to BS EN 1366-2 (Fire resistance tests for service installations) and classified according to BS EN 13501 (Fire classification of construction products and building elements).

**Standards and Certifications**

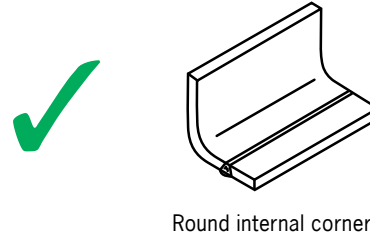
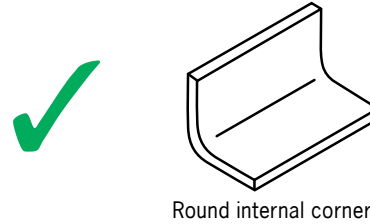
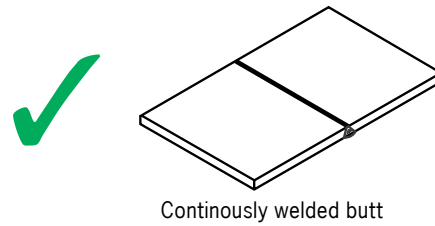
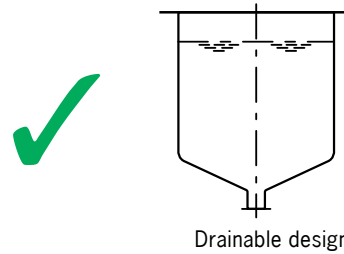
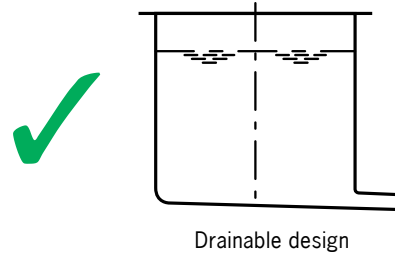
**ACO Gully and ACO FHD\* Tray Channel**

We apply the relevant hygienic design principles reserved for food contact surfaces BS EN 1672, BS EN ISO 14159 and EHEDG documents No. 8, 13 and 44.

**Hygiene risk according to  
 BS EN 1672 and BS EN ISO 14159**



**Acceptable according to  
 BS EN 1672 and BS EN ISO 14159**



## System Overview



## Benefits

ACO provides solutions which optimise food safety, employee's health and safety and water protection. Every ACO product therefore safely controls the water to ensure that it can be hygienically, economically and ecologically managed in a viable way.

### Food safety

- ACO hygienic drainage fulfils hygienic requirements to prevent harmful bacteria contamination. We apply relevant hygienic design principles reserved for food contact surfaces as recommended by EHEDG.
- Our product design ensures minimal build-up of food particles and debris as well as a safe connection with the surrounding floor to minimise any opportunity for bacteria to grow throughout the drainage system.
- Positive slope function and hygienically designed products ensure our system is fully drainable eliminating the stagnant odour of waste water.

### Cost control

- ACO drainage systems can be easily maintained, reducing associated cleaning costs due to their functional design and cleaning recommendations which have been developed in partnership with premium cleaning agent suppliers.
- ACO's advanced manufacturing technologies ensure durability and our special surface treatment guarantees corrosion resistance. Our systems perform effectively at all times keeping disruption to a minimum.
- We provide expertise in drainage system planning, correct installation and creating a safe connection with the surrounding floor to avoid unnecessary cost.

### Health & Safety

- For additional safety in high risk areas that require heavy water usage; slip resistant gratings are available.
- Each component of the drainage system is easy to remove and clean, and there are no sharp edges for optimum users safety.
- ACO also have fire resistant drainage products compliant to BS EN 13501-1.



## Hygienic Drainage Selection Guide

### Application

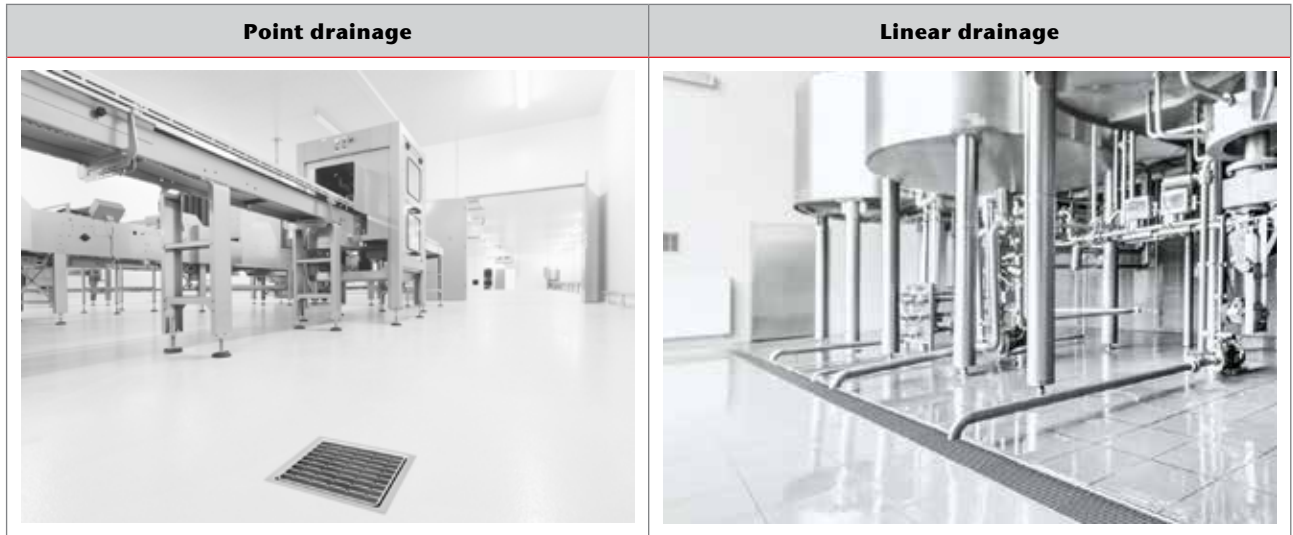
The layout of the drainage system and the design of its parts have an impact on operational effectiveness as well as costs. This guide offers a range of basic areas which need to be considered when specifying a drainage system.

To specify an appropriate drainage system for a particular application, the zone of operation, amount and frequency of water used is crucial.

Production process/ Cleaning process	Zones with high risk for food safety	Zones with high care or low risk for food safety	Zones without direct risk for food safety
<b>Wet production process/ Wet cleaning process</b>	<ul style="list-style-type: none"> <li>▪ Hygienic design - one piece solution without connections; ladder or cast gratings</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hygienic design - connections and mesh gratings could be considered if cleaning and sanitation procedures allow</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hygienic design is recommended for easy cleaning and maintenance; combination of products could be considered for easy layout design</li> </ul>
	<ul style="list-style-type: none"> <li>▪ High retention - high flow rate</li> </ul>	<ul style="list-style-type: none"> <li>▪ High retention - high flow rate</li> </ul>	<ul style="list-style-type: none"> <li>▪ High retention - high flow rate</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Slip resistant - high requirement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Slip resistant - high requirement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Slip resistant - high requirement</li> </ul>
<b>Dry production process/ Wet cleaning process</b>	<ul style="list-style-type: none"> <li>▪ Hygienic design - one piece solution without connections; ladder or cast gratings</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hygienic design - connections and mesh gratings could be considered if cleaning and sanitation procedures allow</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hygienic design is recommended for easy cleaning and maintenance; combination of products could be considered for easy layout design</li> </ul>
	<ul style="list-style-type: none"> <li>▪ High flow rate</li> </ul>	<ul style="list-style-type: none"> <li>▪ High flow rate</li> </ul>	<ul style="list-style-type: none"> <li>▪ High flow rate</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Slip resistant - medium requirement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Slip resistant - medium requirement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Slip resistant - medium requirement</li> </ul>
<b>Dry production process/ Controlled wet cleaning process</b>	<ul style="list-style-type: none"> <li>▪ Hygienic design - one piece solution without connections; ladder or cast gratings</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hygienic design - connections and mesh gratings could be considered if cleaning and sanitation procedures allow</li> </ul>	<ul style="list-style-type: none"> <li>▪ Hygienic design is recommended for easy cleaning and maintenance; combination of products could be considered for easy layout design</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Medium to low flow rate</li> </ul>	<ul style="list-style-type: none"> <li>▪ Medium to low flow rate</li> </ul>	<ul style="list-style-type: none"> <li>▪ Medium to low flow rate</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Odour proof cover</li> </ul>	<ul style="list-style-type: none"> <li>▪ Odour proof cover</li> </ul>	<ul style="list-style-type: none"> <li>▪ Odour proof cover</li> </ul>

## Drainage Type

The type of drainage is selected according to the layout of the operational space and technology employed.



## Material Resistance

The choice of material for the drainage system is influenced by the chemical composition of the waste water from the process, the cleaning and the temperature of the final mixture.

**ACO drainage is manufactured from austenitic stainless steel; grades agents** and is ideal for applications within food processing, dairy, brewery, commercial kitchen, pharmaceutical, chemical, petrochemical industries and leisure.

ACO Gullies contain elastomeric seals manufactured from NBR (acryl nitrile butadiene rubber).

## Sealing Material Information

### EPDM (ethylene propylene diene monomer)

Black sealing rubber ring, which is suitable for most applications where there are no oil or petrol residues in the waste water.

### NBR (acryl nitrile-butadiene rubber)

Black sealing rubber ring which is suitable for waste water applications where there are petrol or oil residues. NBR is not resistant to solvents and high temperatures.

### FPM (fluoroelastomer) – Viton®

Green sealing rubber ring which is suitable for special applications where oil, solvents and strong acids are present in waste water; and for applications with higher temperatures. Viton® seal has limited resistance to chemicals like acetone, methyl alcohol.

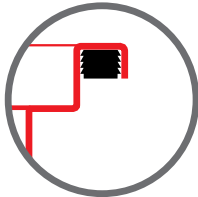
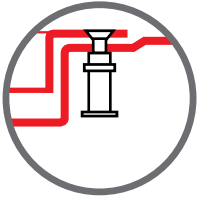
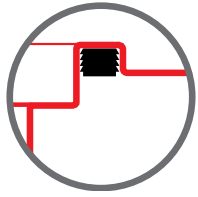
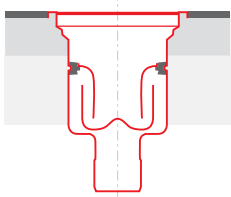
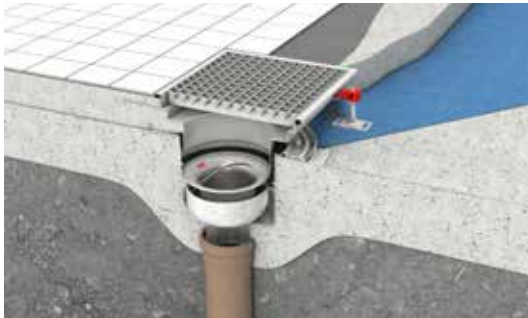
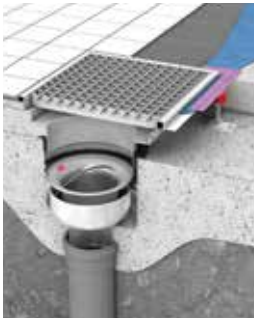




Rubber type	Sealing materials		
	EPDM	NBR	FPM (Viton)
Colour	black	black	green
Temperature range	-50 / +130 / +150 °C	-30 / +80 / +100 °C	-20 / +200 / +300 °C
Resistance			
Water	excellent	good	good
Chemicals			
Acids	good	fair	excellent
Bases	good	fair	excellent
Benzene/Petrol	unsatisfied	excellent	excellent
Oils			
ASTM Oil No. 1	unsatisfied	excellent	excellent
ASTM Oil No. 3	unsatisfied	excellent	excellent
Ozone & weather stresses	good	limited	good

**Floor Structure and Finish**

Depending on the composition of the floor construction; the appropriate type of gully or channel should be selected.

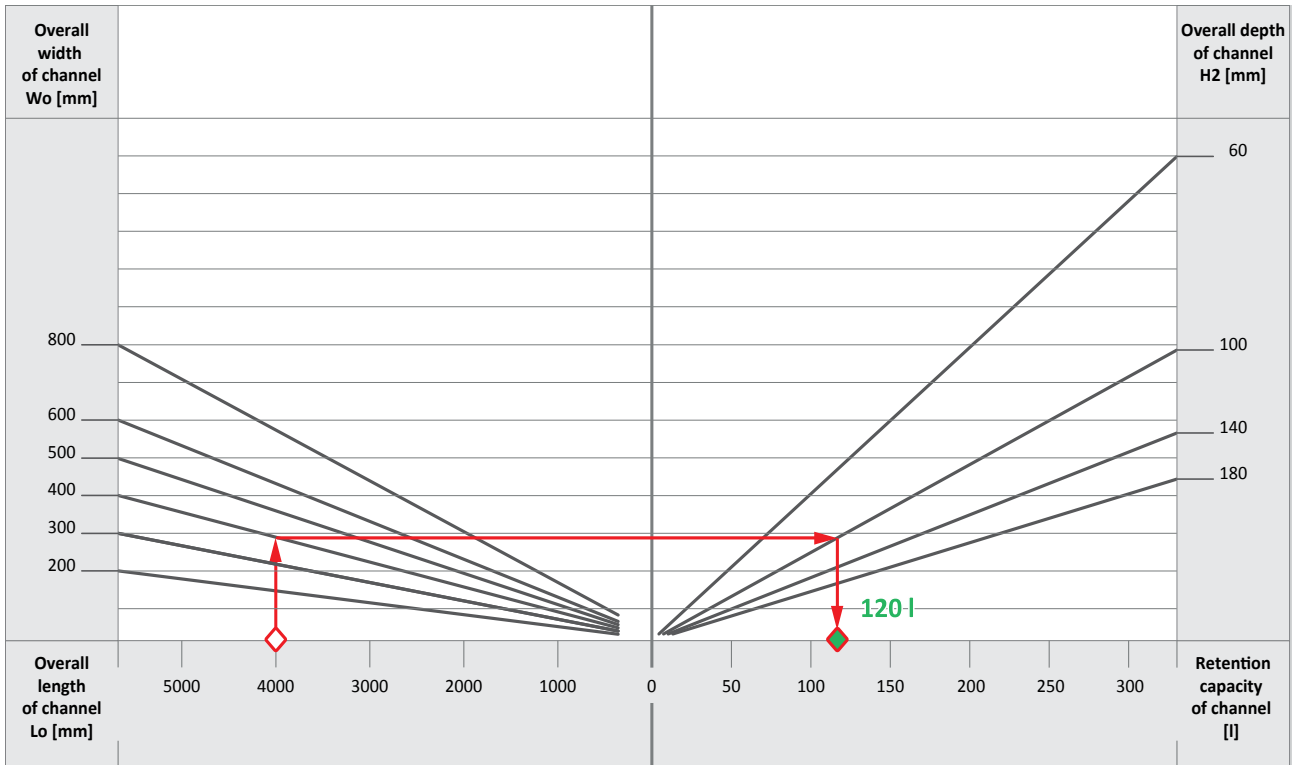
Depending on the floor finish; the appropriate edge of the channel or gully top should be selected.

A friction ring is located in the gully body to hold the adjustable gully top in position. Incorporated in the friction ring is an O-ring to prevent fluid seeping into the drain. If a waterproof membrane is incorporated in the floor system, the O-ring needs to be removed. This will allow any water collected on the membrane to be drained to the gully body.

Floor finish  Channel or gully edge	Channels + Telescopic gullies			Fixed height gully
	Tiled, concrete or resin floor  Standard edge	Vinyl  Vinyl edge	Tiled (thin bed installation)  Extended edge	Tiled, concrete or resin floor  Standard edge
Channel or gully top drawing				
Waterproof membrane connection	Connected to gully body		Connected to channel / gully top	Independent of the gully
Installation example				
Gully body type	Telescopic adjustable Adhesive bonding flange or mechanical clamping flange		Telescopic adjustable Location flange	Fixed height gully
Gully body picture				

## Retention Capacity

Depending on the application, the appropriate retention capacity should be considered.

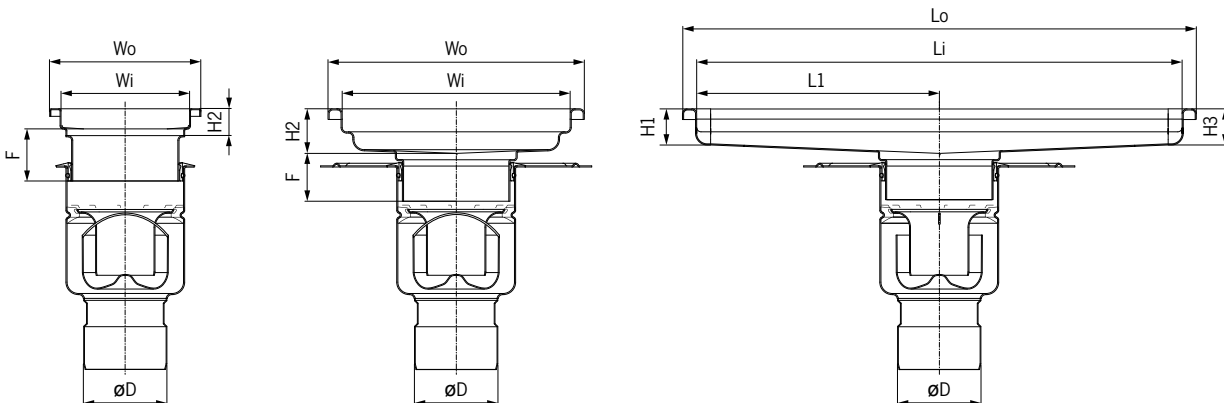


Example: channel length 4000mm, width 400mm, depth 100mm, retention capacity 120l.

## Channel Geometry

The dimensions of a channel or gully top (for telescopic solutions) are specified based on the retention capacity and the floor structure.

The height of the channel at the outlet position, the position of the outlet and the height of the end caps have to be defined.



## Flow Rates

Flow rates reflect the system's ability to constantly drain a certain amount of water. Flow rate is generally defined by the ACO Gully size.

Flow rates			
Outlet position	Gully type	Outlet diameter [mm]	Minimal flow rate [l/s]
<b>Vertical outlet</b>	157	100/110	3.5
	218	100/110	5.0
		150/160	5.0
<b>Horizontal outlet</b>	157	100/110	2.8
	218	100/110	4.4

Flow rates are measured according to EN 1253. Flow rate performance is without a silt basket (flow rates with empty silt basket are approximately 15% lower than the values stated)

## Accessories

For the collection of solid wastes, the gully tray or channel should be fitted with a silt basket.

Telescopic connection with flange for waterproofing	
ACO Hygienic Gully 157	ACO Hygienic Gully 218
<b>Accessories delivered as standard with the gully</b>	
<ul style="list-style-type: none"> <li>▪ Friction ring</li> <li>▪ Foul Air Trap (FAT)</li> <li>▪ FAT support</li> </ul>	<ul style="list-style-type: none"> <li>▪ Friction ring</li> <li>▪ FAT</li> <li>▪ FAT support</li> </ul>
<b>Optional accessories</b>	
<ul style="list-style-type: none"> <li>▪ Silt basket for vertical gully 0.6 l</li> <li>▪ Silt basket for horizontal gully 0.3 l</li> </ul>	<ul style="list-style-type: none"> <li>▪ Silt basket for vertical gully 1.4 l</li> <li>▪ Silt basket for horizontal gully 0.7 l</li> </ul>

## Gratings





For the choice of the appropriate grating, the following properties have to be considered:

- Hygiene (cleanability)
- Load class
- Slip resistance

	<b>Cast grating</b>	<b>Ladder grating</b>		<b>Mesh grating</b>	
	Slip Resistance Properties	Slip Resistance Properties	Plain	Slip Resistance Properties	Plain
<b>Slip potential Pendulum test BS 7976-2</b>	Low	Low	Moderate	Low	Moderate
<b>Slip resistant Ramp test DIN 51130</b>	R13	R11	R9	R11	R9
<b>Load classes to BS EN 1253</b>	M 125	R 50, M 125	R 50, M 125	L 15	L 15

## Load class

Though it is recommended to avoid traffic across the drainage items to minimize risk of floor/drainage connection failures by dynamic loading, the correct load class defined by grating must to be considered based on the defined traffic during future operations.

<b>Load class Application</b>	<b>Load class according to EN 1253</b>	<b>Description</b>
	L 15	Areas with light vehicular traffic, such as: <ul style="list-style-type: none"> <li>▪ In commercially used premises and public areas</li> </ul>
	R 50	Areas with vehicular traffic, such as: <ul style="list-style-type: none"> <li>▪ In commercially used premises and factories</li> </ul>
	M 125	Areas with vehicular traffic such as: <ul style="list-style-type: none"> <li>▪ Workshops, factories &amp; car parks</li> </ul>
	N 250	Heavy duty industrial areas subject to forklift traffic, such as: <ul style="list-style-type: none"> <li>▪ Food processing areas, chemical or process plants</li> </ul>

### ACO Channel Full Hygienic Design

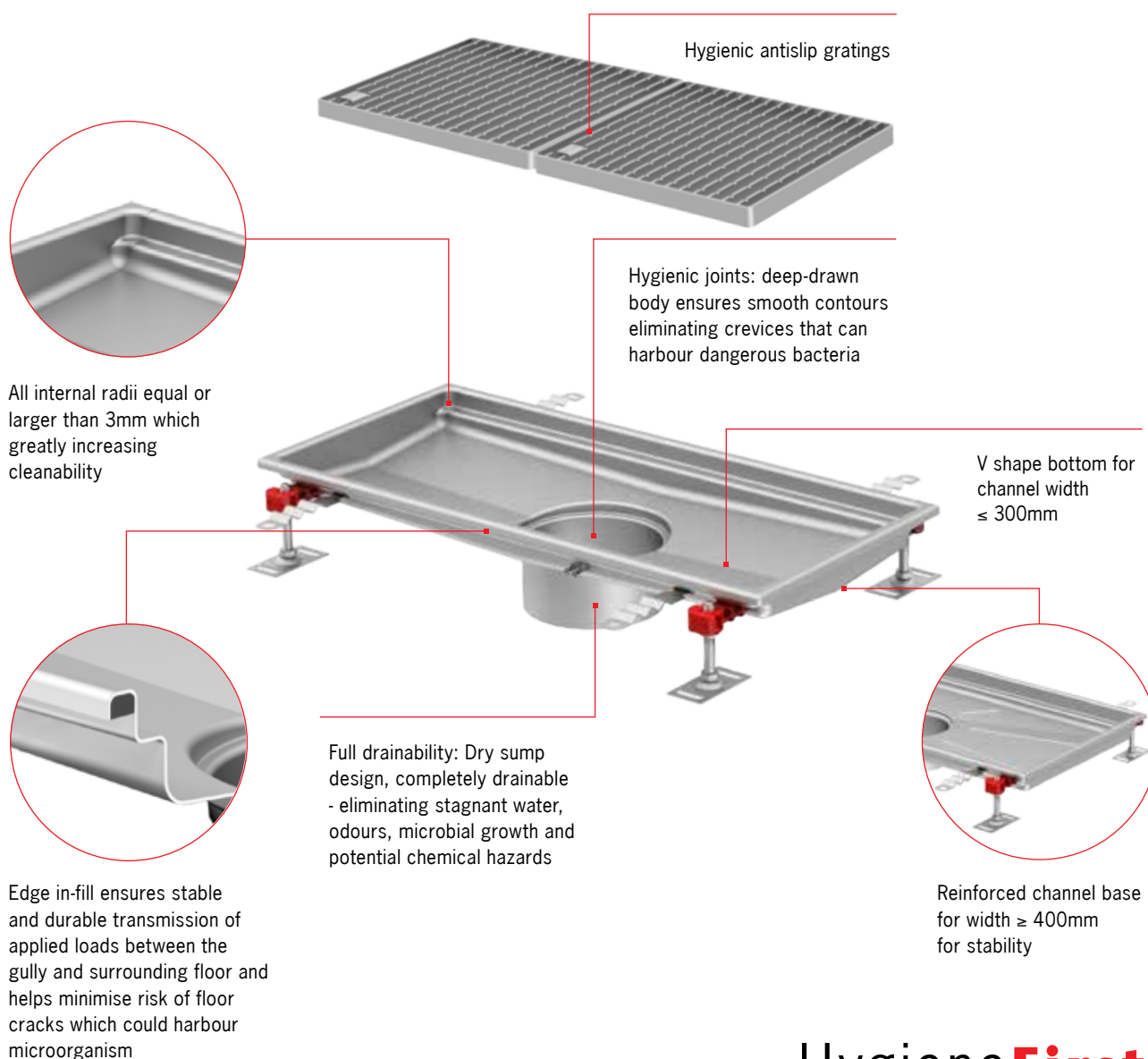
ACO offers sustainable, integrated drainage systems which are designed to protect your business, the environment and ultimately public health. Our aim is to constantly improve every aspect of safety, hygiene and functional performance.

We believe that our systems and services are truly unique, delivering unparalleled benefits to everyone involved in project delivery or subsequent operation.

ACO hygienic drainage fulfills stringent hygienic requirements to prevent harmful bacterial contamination. We develop our channels according to the relevant design principles for food contact surfaces BS EN 1672, BS EN ISO 14159 and EHEDG.

#### ACO FHD channel hygienic features:

- Fully drainable
- Internal radii equal or larger than 3mm
- Hygienic joints
- Edge in-fill as standard
- Stainless steel grade minimum 304
- Fully pickled and passivated



All internal radii equal or larger than 3mm which greatly increasing cleanability

Hygienic antislip gratings

Hygienic joints: deep-drawn body ensures smooth contours eliminating crevices that can harbour dangerous bacteria

V shape bottom for channel width  $\leq$  300mm

Full drainability: Dry sump design, completely drainable - eliminating stagnant water, odours, microbial growth and potential chemical hazards

Edge in-fill ensures stable and durable transmission of applied loads between the gully and surrounding floor and helps minimise risk of floor cracks which could harbour microorganism

Reinforced channel base for width  $\geq$  400mm for stability



Note: Download Aurasma app and scan HygieneFirst logo for access to Hygiene video

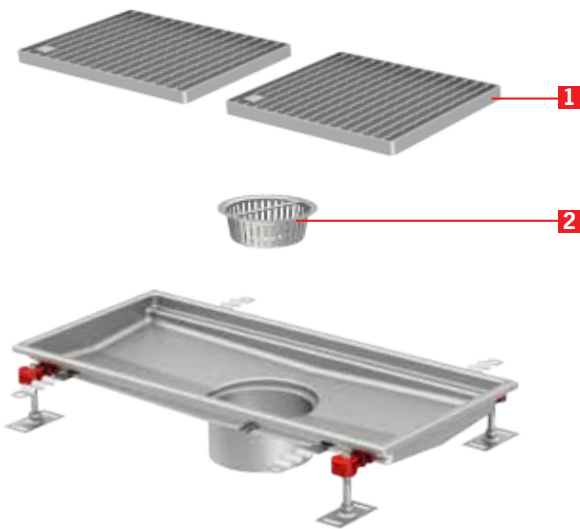
# HygieneFirst



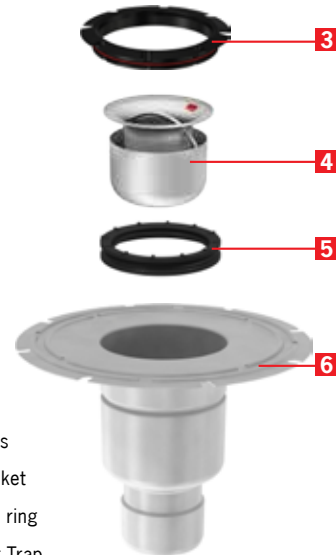
**System Overview**

**ACO Tray Channel**

**ACO tray channel**



**ACO Gully with accessories**



- 1** Gratings
- 2** Silt basket
- 3** Friction ring
- 4** Foul Air Trap
- 5** Foul Air Trap support
- 6** ACO Gully

**ACO Tray Channel portfolio**

The ACO Tray Channel portfolio consists of standard, semi-standard and customized products.

The ACO Tray Channel range includes channels for most applications and most floor types (concrete, tiles, resin or vinyl). The ACO Tray Channel programme is designed with focus on hygienic requirements. Selecting a channel from the range is easy.

The unique variability of the whole portfolio makes it easy to choose a channel that suits a customer's specific needs. Channel length, depth and outlet position are just a few of the parameters which can be varied.

**ACO Tray Channel ordering**

ACO have standard Tray Channels with fixed dimensions and are a selection of most frequently sold ACO Tray Channels. Please refer to page 23 for the overview.

The dimensions of the ACO semi-standard Tray Channel can easily be specified in respect of project requirements. Please contact our enquiries team on 01462 810421.

**ACO Tray Channel customisation**

In addition all ACO Tray Channels can be designed with custom:

- Outlet positions
- Depths
- Built-in falls
- Channel widths
- L-shape and T-shape lay outs
- Side inlets

Please contact our enquiries team for further details on customised ACO Tray Channel, tel 01462 810421 or e-mail [abdestimating@aco.co.uk](mailto:abdestimating@aco.co.uk)

Please be aware ACO channel customisation can affect the hygienic design features.

**System Overview**

**ACO Tray Channel**



**ACO Hygienic Tray Channel**  
**Standard edge**

**ACO Hygienic Tray Channel**  
**Extended edge**

**ACO vinyl Tray Channel**



**ACO Hygienic Gully**  
**with accessories**

**ACO Hygienic Gully**  
**with accessories**

**ACO Hygienic Tray Channel - Standard**

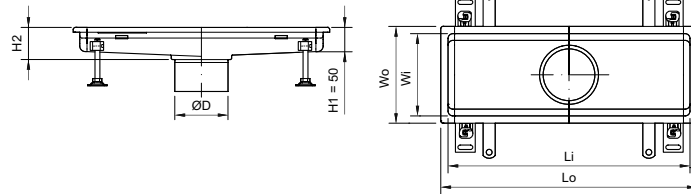
**Product information**

The dimensions of the ACO Hygienic Tray Channel for concrete, tiles and resin floor can easily be specified in respect of project requirements or easily chosen from predefined fixed dimensions.

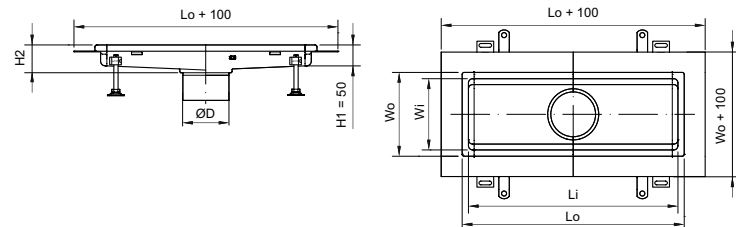
- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Fully pickled and passivated
- Material thickness 1,5mm
- Minimal longitudinal slope 1 %
- Min. sectional slope 5°
- V-shape base for width < 300mm
- Reinforced base for width > 400mm
- Rubber edge infill
- Deep drawn outlet
- Rounded corners equal or larger than 3mm
- Easy and secure telescopic connection with gully
- Hygienic gratings with slip resistance
- Adjustable levelling feet 60-110mm
- Concrete fixing anchors

**Order Information**

**Standard edge**



**Extended edge**



**Order Information**

Channel dimensions						Gully	Stainless Steel 304		Stainless Steel 316			
Wo [mm]	Wi [mm]	Lo [mm]	Li [mm]	H2 [mm]	ØD [mm]		Standard edge	Extended edge	Standard edge	Extended edge		
							Part No.	Part No.	Part No.	Part No.		
200	170	530	500	60	142	ACO Hygienic Gully 157	<b>416590*</b>	<b>416686</b>	<b>416608</b>	<b>416704</b>		
		830	800				<b>416591*</b>	<b>416687</b>	<b>416609</b>	<b>416705</b>		
		1030	1000				<b>416592</b>	<b>416688</b>	<b>416610</b>	<b>416706</b>		
		1230	1200				<b>416593*</b>	<b>416689</b>	<b>416611</b>	<b>416707</b>		
		1530	1500				<b>416594</b>	<b>416690</b>	<b>416612</b>	<b>416708</b>		
		2030	2000				<b>416595</b>	<b>416691</b>	<b>416613</b>	<b>416709</b>		
300	270	330	300	55	142	ACO Hygienic Gully 157	<b>416614</b>	<b>416710</b>	<b>416628</b>	<b>416724</b>		
		630	600	60			<b>416615*</b>	<b>416711</b>	<b>416629</b>	<b>416725</b>		
		1030	1000	60			<b>416616</b>	<b>416712</b>	<b>416630</b>	<b>416726</b>		
		1530	1500	60			<b>416617*</b>	<b>416713</b>	<b>416631</b>	<b>416727</b>		
		2030	2000	60			<b>416618</b>	<b>416714</b>	<b>416632</b>	<b>416728</b>		
		3030	3000	70			<b>416619</b>	<b>416715</b>	<b>416633</b>	<b>416729</b>		
300	270	4030	4000	80	200	ACO Hygienic Gully 218	<b>416620</b>	<b>416716</b>	<b>416634</b>	<b>416730</b>		
		330	300	55			<b>416621</b>	<b>416717</b>	<b>416635</b>	<b>416731</b>		
		630	600	60			<b>416622</b>	<b>416718</b>	<b>416636</b>	<b>416732</b>		
		1030	1000	60			<b>416623</b>	<b>416719</b>	<b>416637</b>	<b>416733</b>		
		1530	1500	60			<b>416624</b>	<b>416720</b>	<b>416638</b>	<b>416734</b>		
		2030	2000	60			<b>416625</b>	<b>416721</b>	<b>416639</b>	<b>416735</b>		
300	270	3030	3000	70	200	ACO Hygienic Gully 218	<b>416626</b>	<b>416722</b>	<b>416640</b>	<b>416736</b>		
		4030	4000	80			<b>416627</b>	<b>416723</b>	<b>416641</b>	<b>416737</b>		
		430	400	60			142	ACO Hygienic Gully 157	<b>416642</b>	<b>416738</b>	<b>416648</b>	<b>416744</b>
		630	600						<b>416643</b>	<b>416739</b>	<b>416649</b>	<b>416745</b>
		830	800						<b>416644</b>	<b>416740</b>	<b>416650</b>	<b>416746</b>
		430	400						60	200	ACO Hygienic Gully 218	<b>416645</b>
630	600	<b>416646</b>	<b>416742</b>		<b>416652</b>	<b>416748</b>						
830	800	<b>416647*</b>	<b>416743</b>		<b>416653</b>	<b>416749</b>						
500	470	530	500	65	142	ACO Hygienic Gully 157	<b>416654</b>	<b>416750</b>	<b>416660</b>	<b>416756</b>		
		830	800				<b>416655</b>	<b>416751</b>	<b>416661</b>	<b>416757</b>		
		1030	1000				<b>416656</b>	<b>416752</b>	<b>416662</b>	<b>416758</b>		
500	470	530	500	65	200	ACO Hygienic Gully 218	<b>416657</b>	<b>416753</b>	<b>416663</b>	<b>416759</b>		
		830	800				<b>416658</b>	<b>416754</b>	<b>416664</b>	<b>416760</b>		
		1030	1000				<b>416659*</b>	<b>416755</b>	<b>416665</b>	<b>416761</b>		
600	570	630	600	70	200	ACO Hygienic Gully 218	<b>416666</b>	<b>416762</b>	<b>416669</b>	<b>416765</b>		
		930	900				<b>416667</b>	<b>416763</b>	<b>416670</b>	<b>416766</b>		
		1230	1200				<b>416668*</b>	<b>416764</b>	<b>416671</b>	<b>416767</b>		
800	770	830	800	80	200	ACO Hygienic Gully 218	<b>416672</b>	<b>416768</b>	<b>416673</b>	<b>416769</b>		

\*Stock items

**ACO Vinyl Tray Channel - Standard**

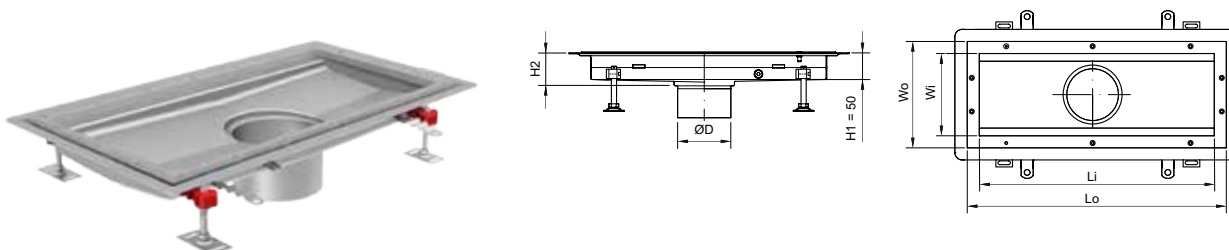
**Product Information**

The dimensions of the ACO vinyl Tray Channel can be specified in respect of project requirements or easily chosen from predefined fixed dimensions.

- Fully compliant to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel, pickled and passivated
- Material thickness 1,5mm
- Easy and secure telescopic connection with gully
- Adjustable levelling feet 60-110mm
- Concrete fixing anchors

**Order Information**

**Vinyl edge**



Channel dimensions						Gully	Stainless Steel 304 Vinyl edge	Stainless Steel 316 Vinyl edge
Wo [mm]	Wi [mm]	Lo [mm]	Li [mm]	H2 [mm]	ØD [mm]		Part No.	Part No.
220	170	550	500	60	142	ACO Hygienic Gully 157	<b>413364*</b>	<b>413382</b>
		850	800				<b>413365*</b>	<b>413383</b>
		1050	1000				<b>413366</b>	<b>413384</b>
		1250	1200				<b>413367*</b>	<b>413385</b>
		1550	1500				<b>413368</b>	<b>413386</b>
		2050	2000				<b>413369</b>	<b>413387</b>

\*Stock items

# ACO Tray Channel

## ACO Hygienic Tray Channel

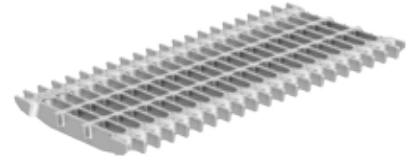
Channel dimensions						Gully	Stainless Steel 304	Stainless Steel 316
Wo [mm]	Wi [mm]	Lo [mm]	Li [mm]	H2 [mm]	ØD [mm]		Vinyl edge	Vinyl edge
							Part No.	Part No.
320	270	350	300	60	142	ACO Hygienic Gully 157	<b>413388</b>	<b>413402</b>
		650	600				<b>413389*</b>	<b>413403</b>
		1050	1000				<b>413390</b>	<b>413404</b>
		1550	1500				<b>413391*</b>	<b>413405</b>
		2050	2000	<b>413392</b>			<b>413406</b>	
		3050	3000	70			<b>413393</b>	<b>413407</b>
		4050	4000	80			<b>413394</b>	<b>413408</b>
320	270	350	300	60	200	ACO Hygienic Gully 218	<b>413395</b>	<b>413409</b>
		650	600				<b>413396</b>	<b>413410</b>
		1050	1000				<b>413397</b>	<b>413411</b>
		1550	1500				<b>413398</b>	<b>413412</b>
		2050	2000	<b>413399</b>			<b>413413</b>	
		3050	3000	70			<b>413400</b>	<b>413414</b>
		4050	4000	80			<b>413401</b>	<b>413415</b>
420	370	450	400	60	142	ACO Hygienic Gully 157	<b>413416</b>	<b>413422</b>
		650	600				<b>413417</b>	<b>413423</b>
		850	800				<b>413418*</b>	<b>413424</b>
420	370	450	400	60	200	ACO Hygienic Gully 218	<b>413419</b>	<b>413425</b>
		650	600				<b>413420</b>	<b>413426</b>
		850	800				<b>413421</b>	<b>413427</b>
520	470	550	500	65	142	ACO Hygienic Gully 157	<b>413428</b>	<b>413434</b>
		850	800				<b>413429</b>	<b>413435</b>
		1050	1000				<b>413430</b>	<b>413436</b>
520	470	550	500	65	200	ACO Hygienic Gully 218	<b>413431</b>	<b>413437</b>
		850	800				<b>413432</b>	<b>413438</b>
		1050	1000				<b>413433*</b>	<b>413439</b>
620	570	650	600	70	200	ACO Hygienic Gully 218	<b>413440</b>	<b>413443</b>
		950	900				<b>413441</b>	<b>413444</b>
		1250	1200				<b>413442*</b>	<b>413445</b>
820	770	850	800	80	200	ACO Hygienic Gully 218	<b>413446</b>	<b>413447</b>

\*Stock items

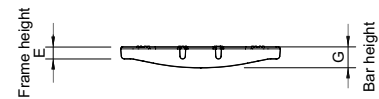
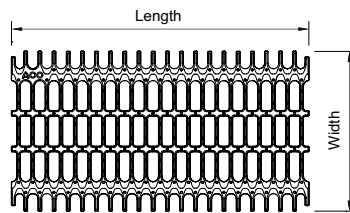
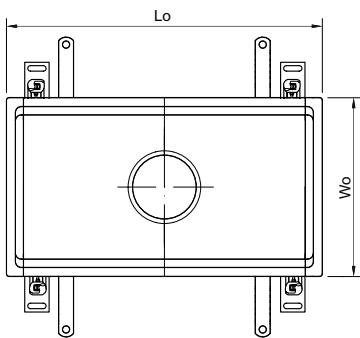
**ACO Hygienic Cast Grating FHD**

**Product information**

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- ACO hygienic cast grating with slip resistant finish
- Frameless design for optimum drainability and cleanliness
- Surface electropolished
- Easy to clean grates
- Range of gratings suitable to load class M 125 (BS EN 1253-1)
- Slip resistant
  - Low potential for slip according to BS 7976-2,
  - R13 according to DIN 51130



**Order Information - Load Class M 125**

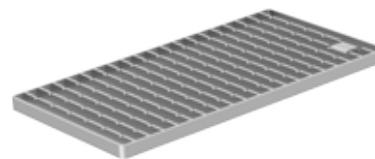


Channel dimension		Grating dimension				Material	Stainless Steel 304 Part No.	Quantity to fill channel
Wo [mm]	Lo [mm]	Frame height E [mm]	Bar height G [mm]	Width [mm]	Length [mm]			
200	530	20	30	168	499	304	<b>416947</b>	1
	830	20	30	168	398	304	<b>416948</b>	2
	1030	20	30	168	499	304	<b>416947</b>	2
	1230	20	30	168	398	304	<b>416948</b>	3
	1530	20	30	168	499	304	<b>416947</b>	3
	2030	20	30	168	499	304	<b>416947</b>	4
300	330	20	30	268	298	304	<b>416946</b>	1
	630	20	30	268	298	304	<b>416946</b>	2
	1030	20	30	268	499	304	<b>416945</b>	2
	1530	20	30	268	499	304	<b>416945</b>	3
	2030	20	30	268	499	304	<b>416945</b>	4
	3030	20	30	268	499	304	<b>416945</b>	6
	4030	20	30	268	499	304	<b>416945</b>	8

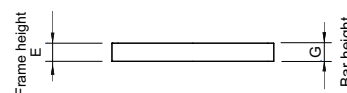
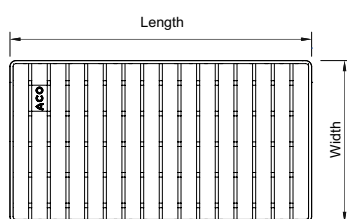
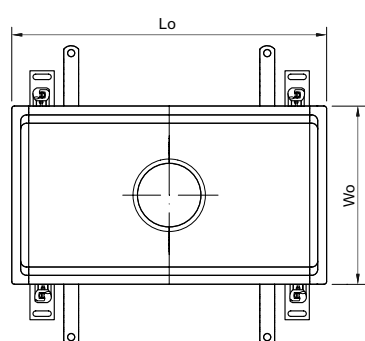
**ACO Hygienic Ladder Grating FHD**

**Product Information**

- ACO hygienic ladder grating with slip resistant finish
- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Range of gratings suitable to load class R 50 (version for 5 000 kg) and M 125 (BS EN 1253-1)
- Surface - electropolished
- High flow capacity of grates
- Rounded corners
- Easy to clean grates = fully welded
- Slip resistant
- Low potential for slip according to BS 7976-2,
- R11 according to DIN 51130



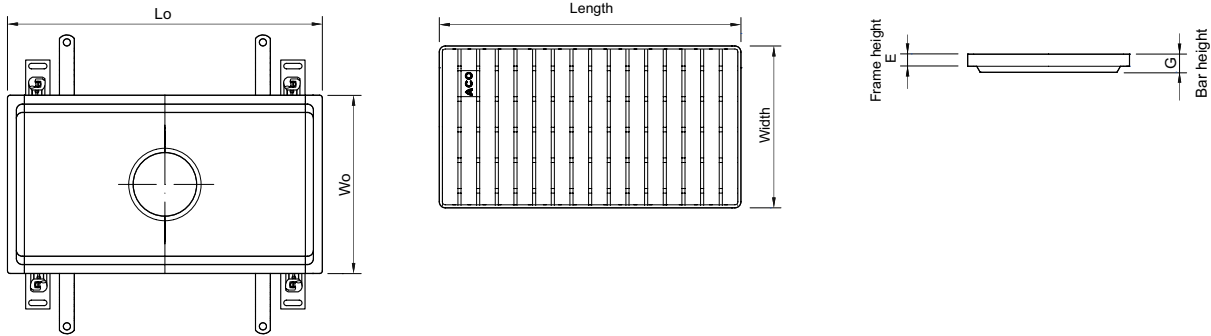
**Order Information - Load Class R 50**



Channel dimension		Grating dimension				Stainless Steel 304 Part No.	Stainless Steel 316 Part No.	Quantity to fill channel
Wo [mm]	Lo [mm]	Frame height E [mm]	Bar height G [mm]	Width [mm]	Length [mm]			
200	530	20	20	168	499	<b>416802</b>	<b>416803</b>	1
	830	20	20	168	398	<b>416808</b>	<b>416809</b>	2
	1030	20	20	168	499	<b>416802</b>	<b>416803</b>	2
	1230	20	20	168	398	<b>416808</b>	<b>416809</b>	3
	1530	20	20	168	499	<b>416802</b>	<b>416803</b>	3
	2030	20	20	168	499	<b>416802</b>	<b>416803</b>	4
300	330	20	20	268	298	<b>416812</b>	<b>416813</b>	1
	630	20	20	268	298	<b>416812</b>	<b>416813</b>	2
	1030	20	20	268	499	<b>416814</b>	<b>416815</b>	2
	1530	20	20	268	499	<b>416814</b>	<b>416815</b>	3
	2030	20	20	268	499	<b>416814</b>	<b>416815</b>	4
	3030	20	20	268	499	<b>416814</b>	<b>416815</b>	6
	4030	20	20	268	499	<b>416814</b>	<b>416815</b>	8
	430	30	30	368	398	<b>416820</b>	<b>416821</b>	1
400	430	30	30	368	398	<b>416820</b>	<b>416821</b>	1
	630	30	30	368	598	<b>416822</b>	<b>416823</b>	1
	830	30	30	368	398	<b>416820</b>	<b>416821</b>	2
500	530	30	30	468	499	<b>416828</b>	<b>416829</b>	1
	830	30	30	468	398	<b>416830</b>	<b>416831</b>	2
	1030	30	30	468	499	<b>416828</b>	<b>416829</b>	2
600	630	30	30	568	298	<b>416838</b>	<b>416839</b>	2
	930	30	30	568	298	<b>416838</b>	<b>416839</b>	3
	1230	30	30	568	298	<b>416838</b>	<b>416839</b>	4
800	830	30	30	768	398	<b>416842</b>	<b>416843</b>	2



**Order Information - Load Class M 125**

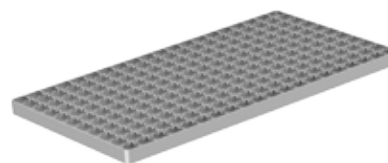


Channel dimension		Grating dimension				Stainless Steel 304 Part No.	Stainless Steel 316 Part No.	Quantity to fill channel
Wo [mm]	Lo [mm]	Frame height E [mm]	Bar height G [mm]	Width [mm]	Length [mm]			
200	530	20	30	168	499	<b>416804</b>	<b>416805</b>	1
	830	20	30	168	398	<b>416810</b>	<b>416811</b>	2
	1030	20	30	168	499	<b>416804</b>	<b>416805</b>	2
	1230	20	30	168	398	<b>416810</b>	<b>416811</b>	3
	1530	20	30	168	499	<b>416804</b>	<b>416805</b>	3
	2030	20	30	168	499	<b>416804</b>	<b>416805</b>	4
300	330	20	30	268	298	<b>416816</b>	<b>416817</b>	1
	630	20	30	268	298	<b>416816</b>	<b>416817</b>	2
	1030	20	30	268	499	<b>416818</b>	<b>416819</b>	2
	1530	20	30	268	499	<b>416818</b>	<b>416819</b>	3
	2030	20	30	268	499	<b>416818</b>	<b>416819</b>	4
	3030	20	30	268	499	<b>416818</b>	<b>416819</b>	6
	4030	20	30	268	499	<b>416818</b>	<b>416819</b>	8
400	430	30	30	368	398	<b>416824</b>	<b>416825</b>	1
	630	30	30	368	598	<b>416826</b>	<b>416827</b>	1
	830	30	30	368	398	<b>416824</b>	<b>416825</b>	2
500	530	30	30	468	499	<b>416832</b>	<b>416833</b>	1
	830	30	30	468	398	<b>416834</b>	<b>416835</b>	2
	1030	30	30	468	499	<b>416832</b>	<b>416833</b>	2

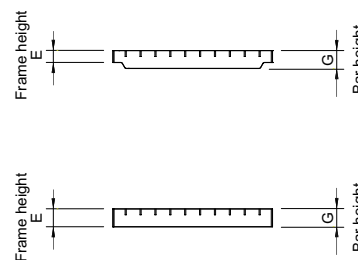
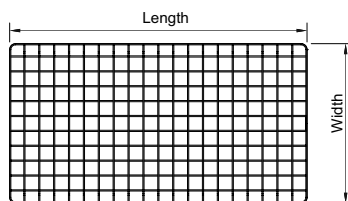
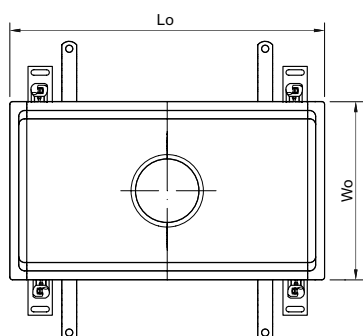
**ACO Mesh Grating**

**Product information**

- ACO mesh grating slip resistant finish
- Tested and certified according to BS EN 1253-1
- Range of gratings suitable to load class L 15 (BS EN 1253-1)
- Surface - electropolished
- High flow capacity of grates
- Rounded corners
- Slip resistant
  - Slip resistant low potential for slip according to BS 7976-2,
  - R11 according to DIN 51130



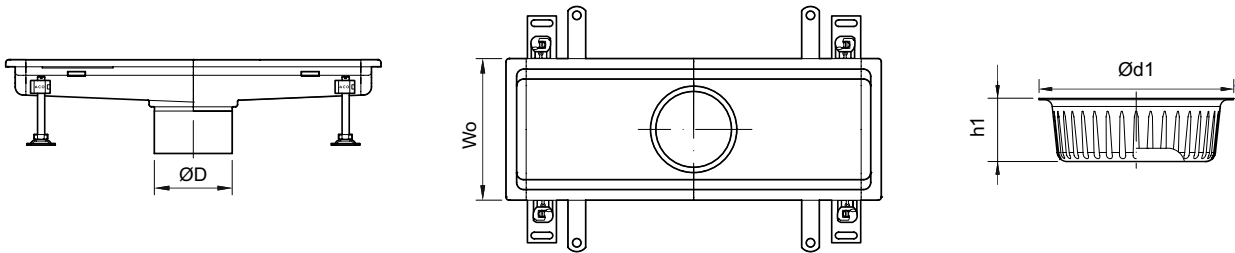
**Order Information - Load Class L 15**



Channel dimension		Grating dimension				Stainless Steel 304 Part No.	Stainless Steel 316 Part No.	Quantity to fill channel
Wo [mm]	Lo [mm]	Frame height E [mm]	Bar height G [mm]	Width [mm]	Length [mm]			
200	530	20	30	168	499	<b>416860</b>	<b>416861</b>	1
	830	20	30	168	398	<b>416862</b>	<b>416863</b>	2
	1030	20	30	168	499	<b>416860</b>	<b>416861</b>	2
	1230	20	30	168	398	<b>416862</b>	<b>416863</b>	3
	1530	20	30	168	499	<b>416860</b>	<b>416861</b>	3
	2030	20	30	168	499	<b>416860</b>	<b>416861</b>	4
300	330	20	30	268	298	<b>416864</b>	<b>416865</b>	1
	630	20	30	268	298	<b>416864</b>	<b>416865</b>	2
	1030	20	30	268	499	<b>416866</b>	<b>416867</b>	2
	1530	20	30	268	499	<b>416866</b>	<b>416867</b>	3
	2030	20	30	268	499	<b>416866</b>	<b>416867</b>	4
	3030	20	30	268	499	<b>416866</b>	<b>416867</b>	6
	4030	20	30	268	499	<b>416866</b>	<b>416867</b>	8
400	430	30	30	368	398	<b>416868</b>	<b>416869</b>	1
	630	30	30	368	598	<b>416870</b>	<b>416871</b>	1
	830	30	30	368	398	<b>416868</b>	<b>416869</b>	2
500	530	30	30	468	499	<b>416872</b>	<b>416873</b>	1
	830	30	30	468	398	<b>416874</b>	<b>416875</b>	2
	1030	30	30	468	499	<b>416872</b>	<b>416873</b>	2
600	630	30	30	568	298	<b>416876</b>	<b>416877</b>	2
	930	30	30	568	298	<b>416876</b>	<b>416877</b>	3
	1230	30	30	568	298	<b>416876</b>	<b>416877</b>	4
800	830	30	30	768	398	<b>416878</b>	<b>416879</b>	2

**Accessories for ACO Hygienic Tray Channel**

**Silt baskets for ACO Hygienic Tray Channel**



Channel dimension		Direction of gully outlet	Silt basket dimension		Capacity [l]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
Width $W_o$ [mm]	Outlet $\varnothing D$ [mm]		$\varnothing d_1$ [mm]	$h_1$ [mm]			
200	142	vertical	142	45	0.4	<b>416900</b>	<b>416901</b>
		horizontal	142	25	0.3	<b>416902</b>	<b>416903</b>
300, 400, 500, 600, 800	142	vertical	159	50	0.6	<b>416904</b>	<b>416905</b>
	or welded with ACO Hygienic Gully 157	horizontal	159	26	0.3	<b>416906</b>	<b>416907</b>
300, 400, 500, 600, 800	200	vertical	222	50	1.4	<b>416908</b>	<b>416909</b>
	or welded with ACO Hygienic Gully 218	horizontal	222	26	0.7	<b>416910</b>	<b>416911</b>

**Design Services - Let us help!**



ACO Tray Channel

**The ACO Building Drainage Design Services Team is staffed by engineers who live and breathe engineered drainage system solutions. They can carry out design work on your behalf, work ranging from channel layouts through hydraulic calculations and part scheduling.**

Drainage is a critical part of every construction project, both large and small, with this infrastructure providing the vital

arteries through which waste water can drain away from a building quickly and safely. An effective system is crucial to eliminate the risk of flooding and health issues that can present significant risk to people and property.

Each building has its own unique set of drainage needs and it is these critical factors that must be considered when planning drainage systems, to minimise construction costs, while simultaneously

optimising the aesthetics, functionality and long term reliability of drainage units.

Indeed, whether you're involved in designing or building a new project or upgrading an existing building, every aspect of the system must be carefully planned to meet the correct drainage requirements simply, quickly and within budget.

**ACO Hygienic Tray Channel - Semi-standard FHD**

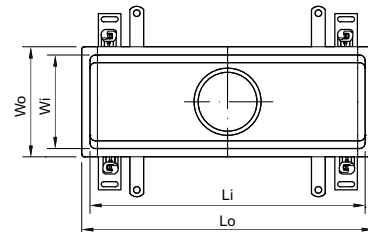
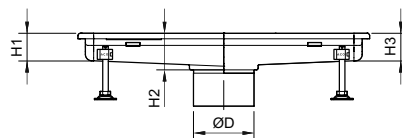
**Product information**

It is easy to specify the dimensions of the ACO Hygienic Channel for projects using concrete, tiled or resin floor finishes.

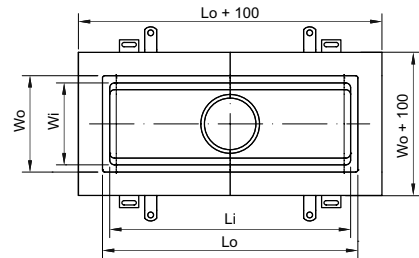
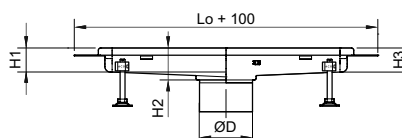
- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Fully pickled and passivated
- Material thickness 1,5mm
- V-shape base for width < 300mm
- Reinforced base for width > 400mm
- Length - up to customer request
- Height - variable 50-200mm
- Outlet position variable in longitudinal axis
- Sectional slope of the channel base 5°
- Longitudinal slope of the channel bottom 1-5 %
- Standardized widths
- Rounded corners 3mm minimum
- Easy and secure telescopic connection with gully
- Hygienic gratings with slip resistance
- Adjustable levelling feet 60-110mm
- Concrete fixing anchors

**Order information**

**Standard edge**



**Extended edge**



External (overall) width Wo [mm]	Internal (grating) width Wi [mm]	Length of channel Lo	Height at outlet of channel H2	Height at end of channel H1 and H3
200	170	Variable *	50-200	50, 80, 110, 140
300	270			
400	370			
500	470			
600	570			
800	770			

\* **Note:** it is most cost effective to chose the channel length as multiple of grate dimensions.

**ACO Vinyl Tray Channel - Semi-standard**

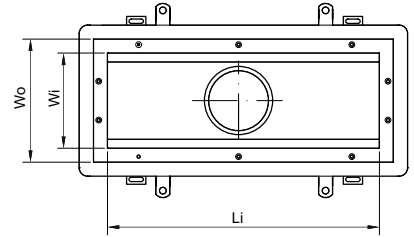
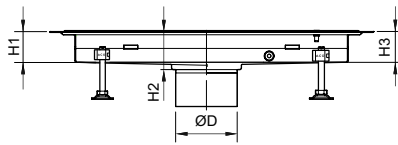
**Product information**

It is easy to specify the dimensions of the ACO Hygienic Channel for projects using vinyl sheet floor finishes.

- Fully compliant to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel, pickled and passivated
- Material thickness 1,5mm
- Height variable 50-200mm
- Length – up to customer request
- Standardised widths
- Outlet position central or variable in longitudinal axis
- Longitudinal slopes of the channel base 1-5 %
- Adjustable levelling feet 60-110mm
- Concrete fixing anchors

**Order Information**

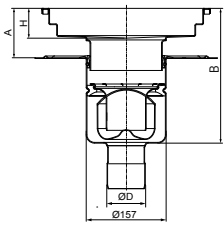
**Vinyl Edge**

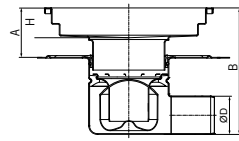


External (overall) width Wo [mm]	Internal (grating) width Wi [mm]	Length of channel Li	Height at outlet of channel H2	Height at end of channel H1 and H3
230	170	Variable *	50-200	50, 80, 110, 140
330	270			
430	370			
530	470			
630	570			
830	870			

\* **Note:** it is most cost effective to chose the channel length as multiple of grate dimensions.

**Flow Rates and Construction Heights - Gully 157**

			
Outlet diameter	Outlet position	Flow rate [l/s]	
		H = 60mm	
ØD		A min. = 85	A max. = 115
		B min. = 232	B max. = 262
110	Vertical	3.9	4.2

			
Outlet diameter	Outlet position	Flow rate [l/s]	
		H = 60mm	
ØD		A min. = 75	A max. = 115
		B min. = 242	B max. = 285
110	Horizontal	3.2	3.9

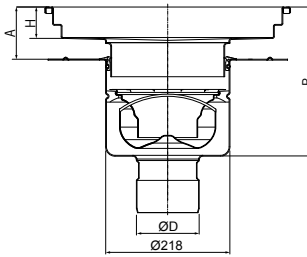
**Notes:**

A min. and B min. values can be reduced by 15mm if earth screw is removed and channel outlet spigot shortened. Please be aware that channel outlet pipe shortening affects the A max. and B max. values.

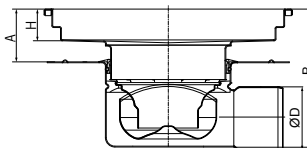
Flow rates measured according to BS EN 1253. Flow rate performance without silt basket (flow rates with empty silt basket are approximately 15% lower than the values stated)

**Flow Rates and Construction Heights - Gully 218**

**ACO Channel ACO Hygienic Gully 218**



Outlet diameter	Outlet position	Flow rate [l/s]									
		H = 60mm		H = 80mm		H = 100mm		H = 150mm		H = 200mm	
ØD	Vertical	A min. = 75 [mm]	A max. = 115 [mm]	A min. = 95 [mm]	A max. = 135 [mm]	A min. = 115 [mm]	A max. = 155 [mm]	A min. = 165 [mm]	A max. = 205 [mm]	A min. = 215 [mm]	A max. = 255 [mm]
		B min. = 245 [mm]	B max. = 285 [mm]	B min. = 265 [mm]	B max. = 305 [mm]	B min. = 285 [mm]	B max. = 325 [mm]	B min. = 335 [mm]	B max. = 375 [mm]	B min. = 385 [mm]	B max. = 425 [mm]
110	Vertical	5.4	5.6	5.6	5.8	5.7	6.0	5.9	6.4	6.4	6.4
160		5.4	5.6	5.6	5.8	5.7	6.0	5.9	6.4	6.4	6.4



Outlet diameter	Outlet position	Flow rate [l/s]									
		H = 60mm		H = 80mm		H = 100mm		H = 150mm		H = 200mm	
ØD	Horizontal	A min. = 85 [mm]	A max. = 115 [mm]	A min. = 105 [mm]	A max. = 135 [mm]	A min. = 125 [mm]	A max. = 155 [mm]	A min. = 175 [mm]	A max. = 205 [mm]	A min. = 225 [mm]	A max. = 255 [mm]
		B min. = 235 [mm]	B max. = 265 [mm]	B min. = 255 [mm]	B max. = 285 [mm]	B min. = 275 [mm]	B max. = 305 [mm]	B min. = 325 [mm]	B max. = 355 [mm]	B min. = 375 [mm]	B max. = 405 [mm]
110	Horizontal	4.5	4.7	4.8	4.9	4.9	5.1	5.0	5.6	5.6	6.4

**Notes:**

A min. and B min. values can be reduced by 15mm if earth screw is removed and channel outlet spigot shortened. Please be aware that channel outlet pipe shortening affects the A max. and B max. values.

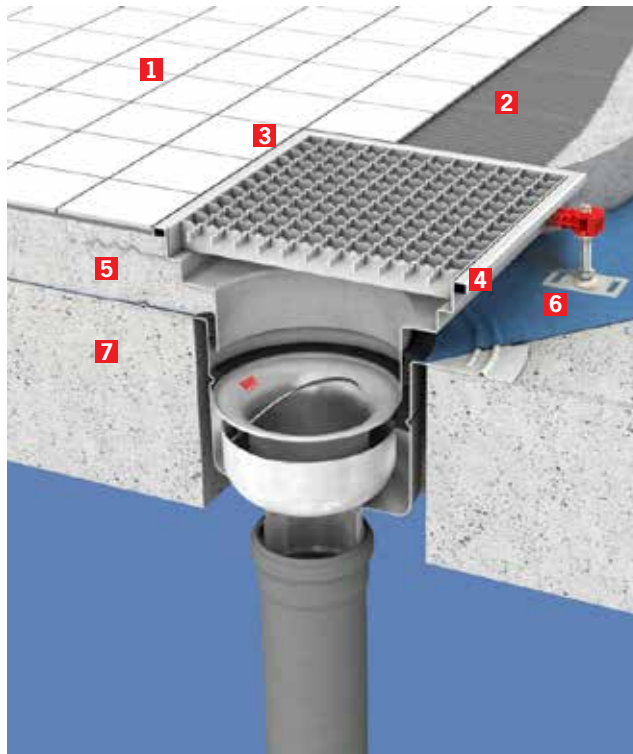
Flow rates measured according to BS EN 1253. Flow rate performance without silt basket (flow rates with empty silt basket are approximately 15% lower than the values stated)



**ACO Hygienic Tray Channel**

**ACO Hygienic Tray Channel Standard Type – ACO Hygienic Gully with Adhesive Bonding Flange (Tiled Floor)**

- 1** Ceramic tiles
- 2** Tile cement
- 3** Mastic sealant
- 4** Rubber infill
- 5** Floor screed
- 6** Water proof membrane
- 7** Solid concrete floor slab



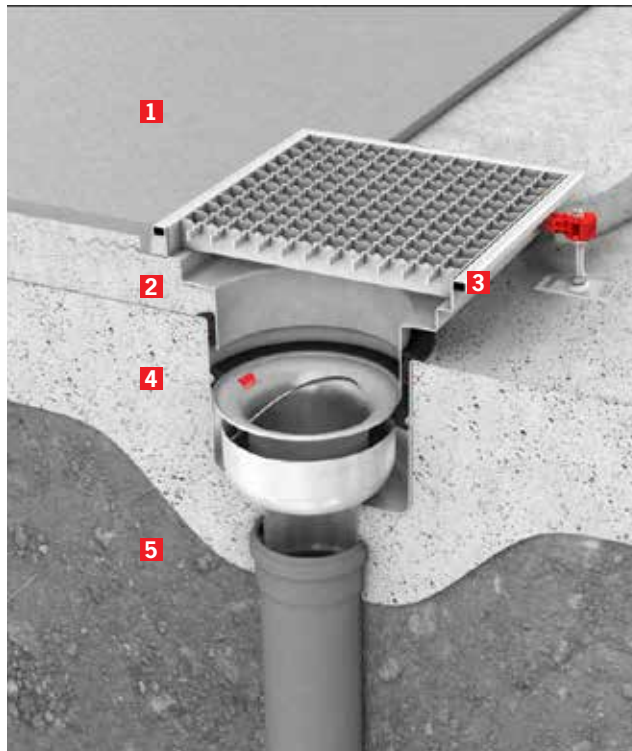
**ACO Hygienic Tray Channel Standard Type – ACO Hygienic Gully with Mechanical Clamping Flange (Tiled Floor)**

- 1** Ceramic tiles
- 2** Tile cement
- 3** Mastic sealant
- 4** Rubber infill
- 5** Floor screed
- 6** Water proof membrane
- 7** Solid concrete floor slab
- 8** Compacted soil



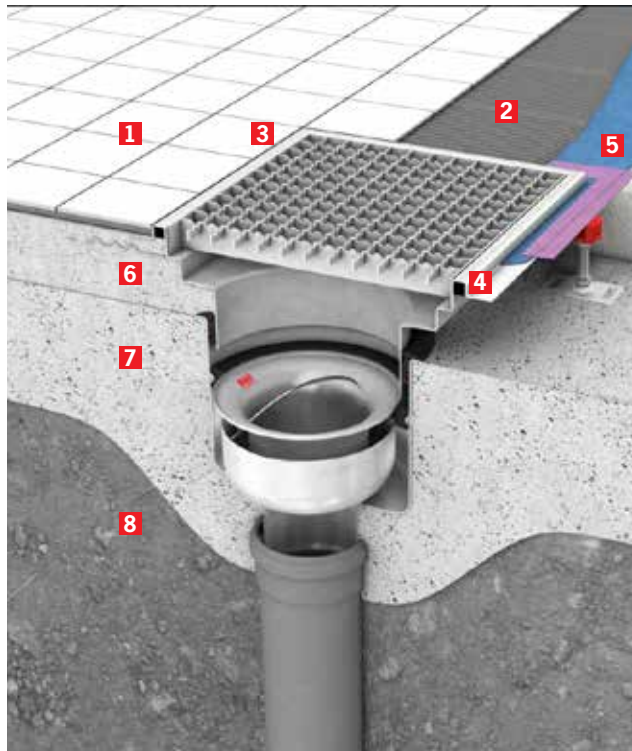
**ACO Hygienic Tray Channel Standard Type – ACO Hygienic Gully with Location Flange (Resin Floor)**

- 1** Epoxy/resin floor
- 2** Floor screed
- 3** Rubber infill
- 4** Solid concrete floor slab
- 5** Compacted soil



**ACO Hygienic Tray Channel Extended Type – ACO Hygienic Gully with Location Flange (Tiled Floor)**

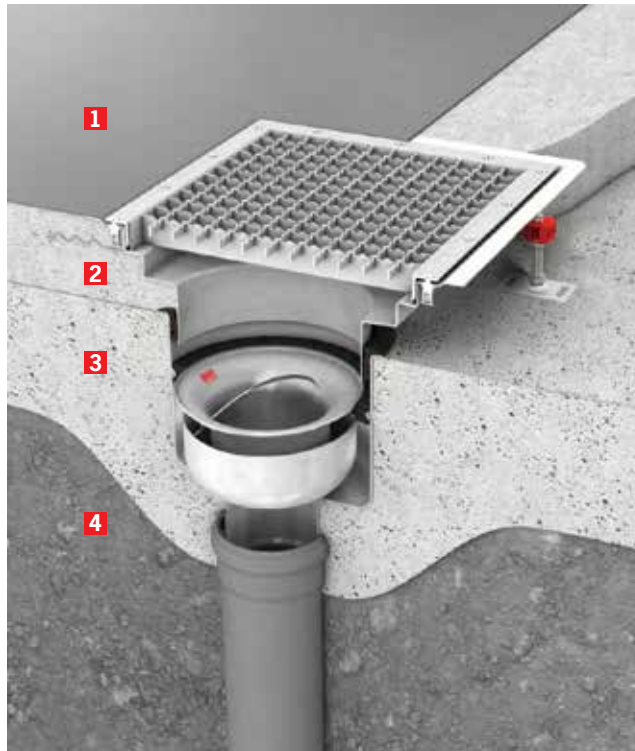
- 1** Ceramic tiles
- 2** Tile cement
- 3** Mastic sealant
- 4** Rubber infill
- 5** Water proof membrane
- 6** Floor screed
- 7** Solid concrete floor slab
- 8** Compacted soil



**ACO Vinyl Tray Channel**

**ACO Vinyl Tray Channel – ACO Hygienic Gully with Location Flange (Vinyl Floor)**

- 1** Vinyl floor
- 2** Floor screed
- 3** Solid concrete floor slab
- 4** Compacted soil

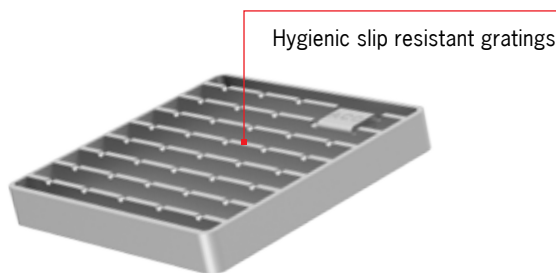


**Full Hygienic Design FHD**

ACO hygienic drainage fulfils highest hygienic requirements to prevent harmful bacterial contamination. We apply the relevant hygienic design principles for food processing equipment BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44 to the gully design.

**ACO Hygienic Gully features:**

- Full drainability
- Internal radii equal or larger than 3mm
- Hygienic joints
- Edge infill
- Stainless steel grade minimum 304
- Fully pickled and passivated finish



All internal radii equal or larger than 3mm which greatly increases cleaning effectiveness

Hygienic joints: deep-drawn body ensures smooth contours eliminating crevices that can harbour dangerous bacteria



Edge in-fill ensures stable and durable transmission of applied loads between the gully and surrounding floor and helps to minimise risk of floor cracks which could harbour microorganisms

Full drainability: Dry sump design, completely drainable - eliminating stagnant water, odours, microbial growth and potential chemical hazards

Foul Air Trap without overlapping joints

Foul Air Trap internal corners smooth and rounded

**System Overview**

**ACO Gully** range is available in a number of versions featuring different flow rates, grating designs, sizes and spigot outlet diameters to suit various applications.

The floor construction and depth together with the use of any waterproofing membrane play an important role in the selection of the appropriate type of gully.

The ACO Gully range is available with vertical or horizontal spigot outlets.

**Fixed height** gullies are convenient and free-standing units which are suitable for cementitious, resin or tiled floors.

**Telescopic** gullies can be installed either with a gully top or ACO channel in most flooring constructions, including floors with waterproofing membranes.

**Fixed height solution**



- 1** Gratings
- 2** Silt basket
- 3** Foul Air Trap
- 4** Foul Air Trap support
- 5** ACO Gully body
- 6** Gully top
- 7** Friction ring
- 8** Leveling feet

**Telescopic solution**



**Fixed Height – Vertical Outlet FHD**

**Product Information**

Fixed height gully can be specified as a point drainage solution in areas where waterproofing is independent of the gully body. Those gullies can be combined with different grates depending on required load class.

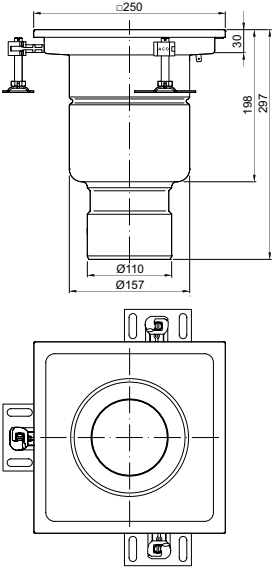
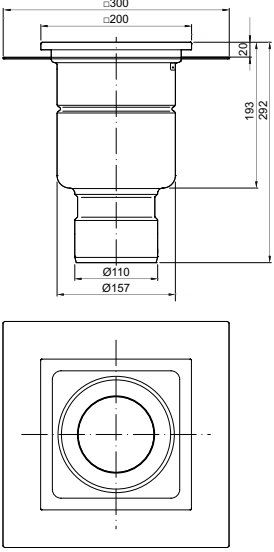
- Hygienic design following EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1

- Available in 304 or 316 grades of stainless steel
- Fire tested and certified solution available for classes EI 90 – EI 180 (BS EN 13 501-2)
- Fully removable and easily cleanable stainless steel Foul Air Trap (FAT)
- Outlet diameter 110mm O.D.
- Gully top frame size: 200 x 200mm and 250 x 250mm
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253-1) including slip resistant solution
- Includes FAT



**Order Information**

	<b>Top size</b> □ [mm]	<b>Outlet diameter</b> Ø [mm]	<b>Stainless Steel 304</b> <b>Part No.</b>	<b>Stainless Steel 316</b> <b>Part No.</b>
<b>Standard edge</b>				
	200 x 200	110	<b>408003</b>	<b>408103</b>

	<b>Top size</b> □ [mm]	<b>Outlet diameter</b> Ø [mm]	<b>Stainless Steel 304</b> <b>Part No.</b>	<b>Stainless Steel 316</b> <b>Part No.</b>
	250 x 250	110	<b>408019</b>	<b>408119</b>
<b>Extended edge</b>				
	200 x 200	110	<b>408099</b>	<b>408199</b>

**Fixed Height – Horizontal Outlet FHD**

**Product information**

Fixed height gully can be specified as a point drainage in areas where waterproofing is independent of the gully body.

Those gullies can be combined with different grates depending on requested load class.

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44

- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Fully removable and easily cleanable stainless steel Foul Air Trap (FAT)
- Outlet diameter 110mm O.D.
- Gully top frame size: 200 x 200mm and 250 x 250mm
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253-1) including slip resistant solution
- With Foul Air Trap



**Order Information**

	<b>Top size</b> □ [mm]	<b>Outlet diameter</b> Ø [mm]	<b>Stainless Steel 304</b> Part No.	<b>Stainless Steel 316</b> Part No.
<b>Standard edge</b>				
	200 x 200	110	<b>408011</b>	<b>408111</b>
	250 x 250	110	<b>408027</b>	<b>408127</b>



	<b>Top size</b> □ [mm]	<b>Outlet diameter</b> Ø [mm]	<b>Foul Air Trap</b>	<b>Stainless Steel 304 Part No.</b>	<b>Stainless Steel 316 Part No.</b>
<b>Extended edge</b>					
	200 x 200	110	With FAT	<b>408015</b>	<b>408115</b>

**Fixed Height for Large Silt Basket**

**Product Information**

- Hygienic design including large radii formed contours, deep drawn components to minimise crevices and bacteria traps according to BS EN 1672 and BS EN ISO 14159.
- Fully compliant to BS EN 1253.
- Optional high capacity silt basket (0.9 litres).
- Dry sump design ensures no standing waste water in gully base.
- Fully removable and easily cleaned Foul Air Trap (FAT).
- Removable hygienic and corrosion resistant Nitrile FAT support.
- High flow rate.
- Outlet spigot Ø110mm for both horizontal and vertical outlet configurations.
- Accepts all ACO Gully 157 200x200 x25mm gratings as shown on Page 60.
- Available in 316 stainless steel to special order.



**Order information**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.
	Location flange	110	<b>416529</b>
	Location flange	110	<b>416061</b>

**Telescopic – Vertical Outlet FHD**

**Product Information**

Telescopic gully can be combined either with gully top or ACO channel in most flooring constructions.

Telescopic solution enables height and rotational adjustment of connected gully top or channel. Gullies are equipped with flanges for connection of waterproof membrane.

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Fire tested and certified solution available for classes EI 90 – EI 180 (BS EN 13 501-2)
- Suitable for all floor types including vinyl flooring
- Fully removable and easily cleanable stainless steel Foul Air Trap (FAT)
- Outlet diameter 110mm O.D
- Gully body with location flange or integrated membrane flange for either adhesive bonding or mechanical clamp
- Telescopic friction ring included



**Order information**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Location flange	110	408055	408155

**ACO Gully**  
**ACO Hygienic Gully 157**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Adhesive bonding flange	110	408057	408157
	Mechanical clamping flange	110	408059	408159

**Telescopic – Horizontal Outlet FHD**

**Product Information**

Telescopic gully can be combined either with gully top or ACO channel in most flooring constructions.

Telescopic solution enables height and rotational adjustment of connected gully top or channel. Gullies are equipped with flanges for connection of waterproof membrane.

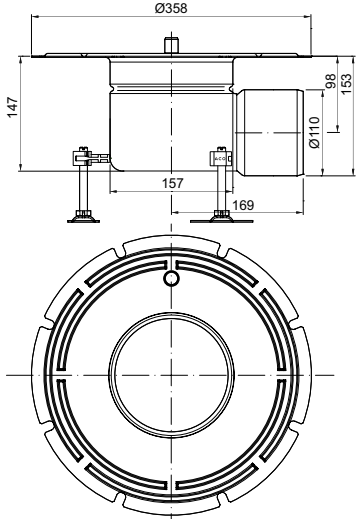
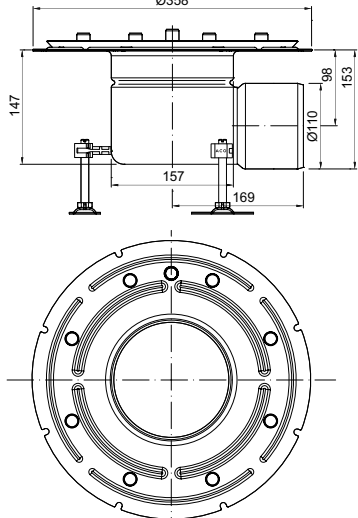
- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Suitable for all floor types including vinyl flooring
- Fully removable and easily cleanable stainless steel Foul Air Trap (FAT)
- Outlet diameter 110mm O.D.
- Gully body with location flange or integrated membrane flange for either adhesive bonding or mechanical clamp
- Telescopic friction ring included



**Order Information**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Location flange	110	408079	408179

**ACO Gully**  
**ACO Hygienic Gully 157**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Adhesive bonding flange	110	<b>408081</b>	<b>408181</b>
	Mechanical clamping flange	110	<b>408083</b>	<b>408183</b>

**Gully Top – Telescopic FHD**

**Product Information**

Gully top can be combined with telescopic gully. Different gully top type is available depending on floor finish.

- Hygienic design following EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in grades 304 or 316 grades of stainless steel
- Gully top frame size: 200 x 200mm and 250 x 250mm
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253-1) including antislip solution

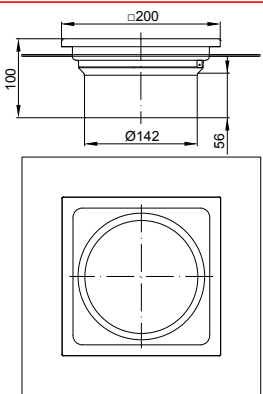
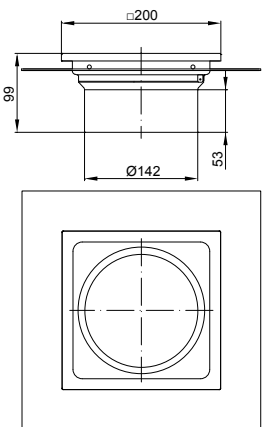
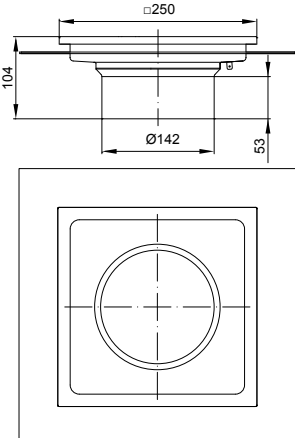
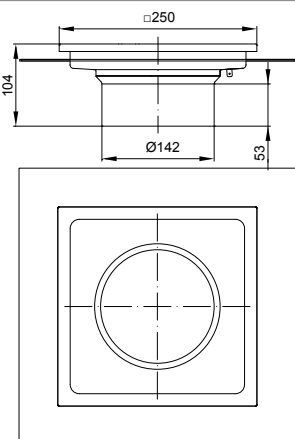


**Order Information**

	<b>Gully top type</b>	<b>Gully top size [mm]</b>	<b>Stainless Steel 304 Part No.</b>	<b>Stainless Steel 316 Part No.</b>
	Standard edge	□ 200 x 200	<b>408208</b>	<b>408218</b>
	Standard edge	□ 250 x 250	<b>408248</b>	<b>408258</b>
	Vinyl edge	Ø289	<b>408240*</b>	<b>408250*</b>

\* Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applied.

**ACO Gully**  
**ACO Hygienic Gully 157**

	<b>Gully top type</b>	<b>Gully top size [mm]</b>	<b>Stainless Steel 304 Part No.</b>	<b>Stainless Steel 316 Part No.</b>
	Extended edge	□ 200 x 200	<b>408241</b>	<b>408251</b>
	Extended edge with drainage holes	□ 200 x 200	<b>408244</b>	<b>408254</b>
	Extended edge	□ 250 x 250	<b>408245</b>	<b>408255</b>
	Extended edge with drainage holes	□ 250 x 250	<b>408246</b>	<b>408256</b>



**Raising Piece – Telescopic FHD**

**Product Information**

Raising piece can be used for floor structures where multi waterproofing is needed (heat insulation) or where construction height of the slab needs to be increased.

- Hygienic design following EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Suitable for all floor types including vinyl flooring
- Variety of flanges for membranes
- Telescopic friction ring included



**Order Information**

	Type of flange	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Location flange	<b>408249</b>	<b>408259</b>
	Adhesive bonding flange	<b>408206</b>	<b>408216</b>
	Mechanical clamping flange	<b>408207</b>	<b>408217</b>

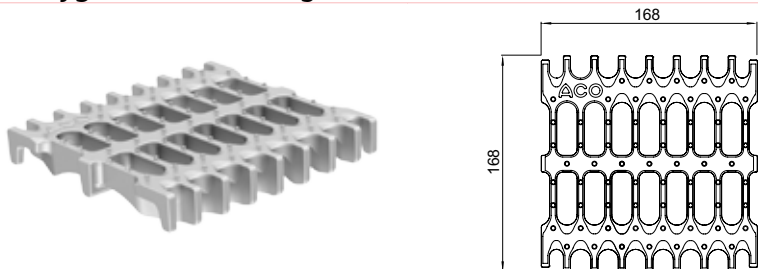
**Gratings for Gully Top 200 x 200mm**

**Product Grating Information**

A variety of grate types are available depending on application and required load class. For applications with high hygienic requirements, either ladder or cast grating options should be selected.

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fits to stainless steel gully, fully compliant to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Gully top frame size: 200 x 200mm
- Range of gratings suitable to load class L 15, R 50, M 125 or N 250 (BS EN 1253-1)
- Slip resistant solution available

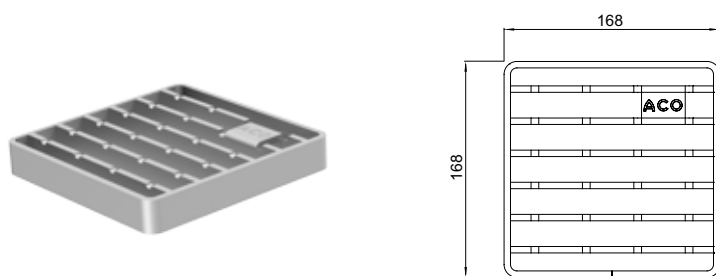
**ACO Hygienic Cast Grating FHD**



Load class	Slip resistant	Stainless Steel 304 Part No.
M 125	Yes	416942

Note: Surface electropolished

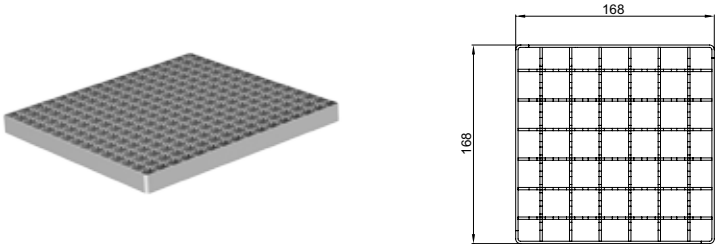
**ACO Hygienic Ladder Grating FHD**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
R 50	Yes	416912	416913
N 250	No	408043	408143

Note: Surface electropolished

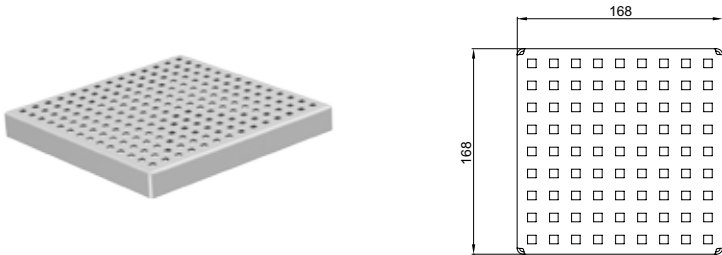
**ACO Mesh Grating**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	Yes	408090*	408190*
	No	408091*	408191*

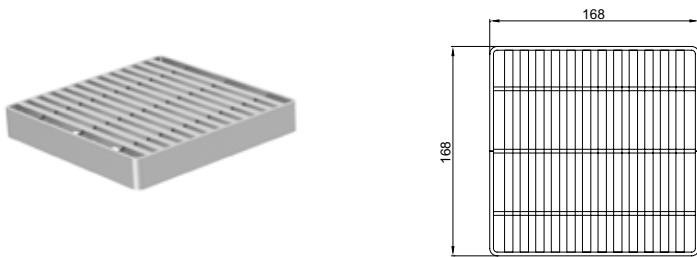
Note: Surface electropolished

**ACO Quadrato Grating**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	No	408092*	408192*

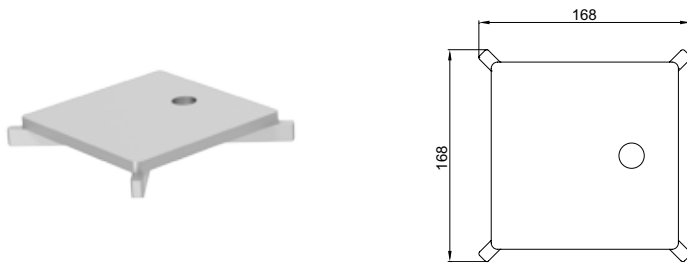
**ACO Heelsafe Grating**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	No	408022*	408122*

\* Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applicable.

**ACO Slot Cover**

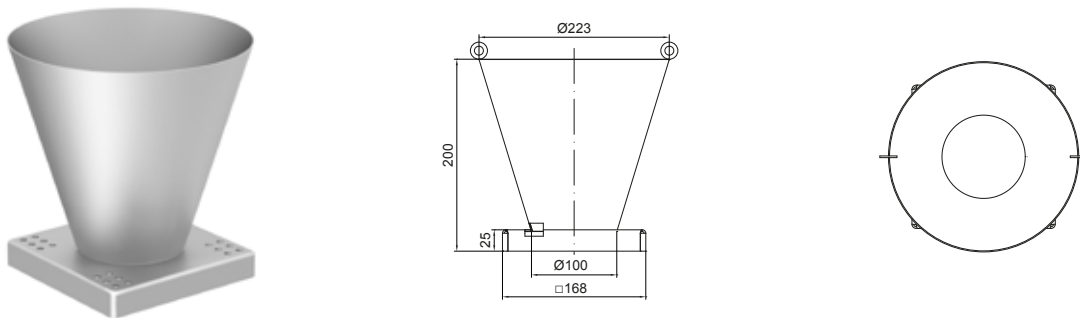


Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
M 125	No	408021 *	408121 *

**ACO Odour Proof Cover**

For ACO odour proof cover, please contact our Sales/Technical department on 01462 851400 or e-mail [abdtechnical@aco.co.uk](mailto:abdtechnical@aco.co.uk)

**ACO Tundish for Gully Top**



Description	Stainless Steel 304 Part No.
ACO tundish for gully top 200 x 200	415918

\* Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applicable.

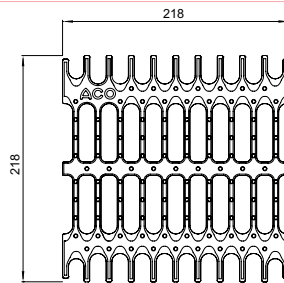
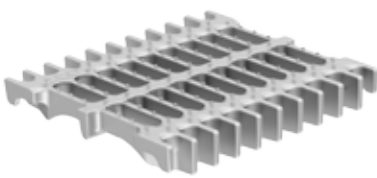
**Gratings for Gully Top 250 x 250mm**

**Product information**

A variety of grate types are available depending on application and required load class. For applications with high hygienic requirements, either ladder or cast grating options should be selected.

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fits to stainless steel gully, fully compliant to EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Gully top frame size: 250 x 250mm
- Range of gratings suitable to load class L 15, R 50, M 125 or N 250 (BS EN 1253-1)
- Slip resistant solution available

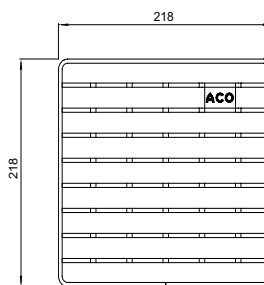
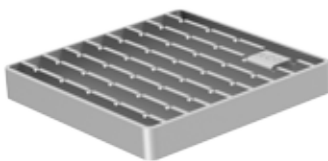
**ACO Hygienic Cast Grating FHD**



Load class	Slip resistant	Stainless Steel 304 Part No.
M 125	Yes	416943

Note: Surface electropolished

**ACO Hygienic Ladder Grating FHD**

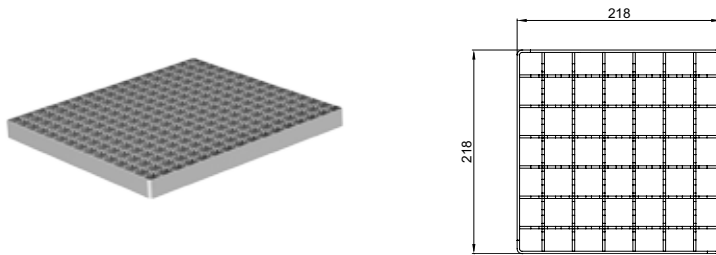


Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
R 50	Yes	416914	416915
N 250	No	408044*	408144*

Note: Surface electropolished

\* Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applicable.

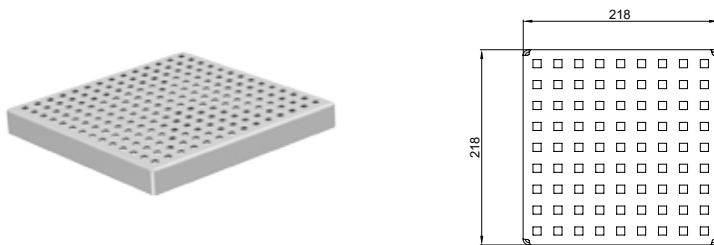
**ACO Mesh Grating**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	Yes	408095*	408195*
	No	408096*	408196*

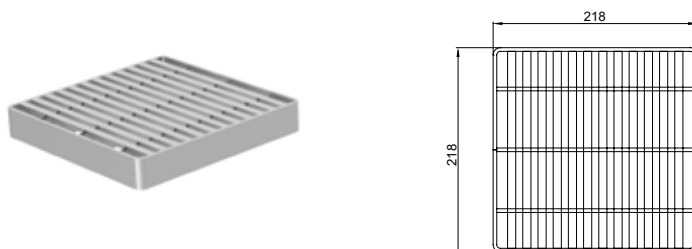
Note: Surface electropolished

**ACO Quadrato Grating**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	No	408097*	408197*

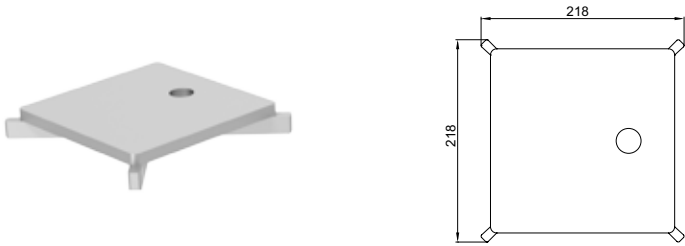
**ACO Heelsafe Grating**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	No	408031*	408131*

\* Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applicable.

**ACO Slot Cover**

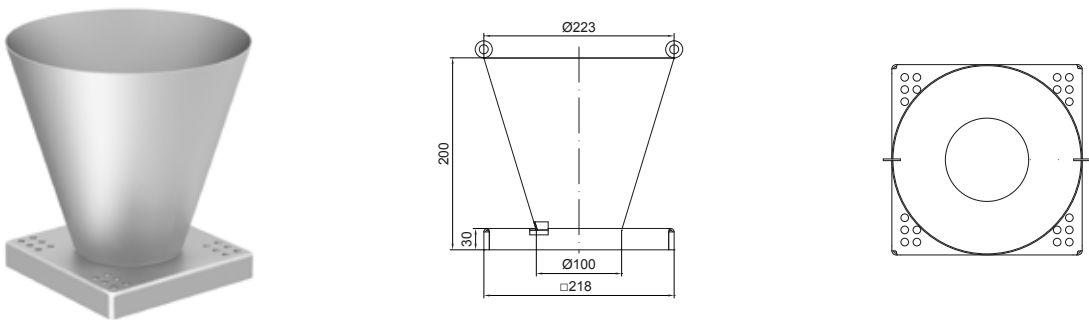


Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
M 125	No	408030*	408130*

**ACO Odour Proof Cover**

For ACO odour proof cover, please contact our Sales/Technical department on 01462 851400 or e-mail [abdtechnical@aco.co.uk](mailto:abdtechnical@aco.co.uk)

**ACO Tundish for Gully Top**



Description	Stainless Steel 304 Part No.
ACO tundish for gully top 250 x 250	413546

\* Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applicable.

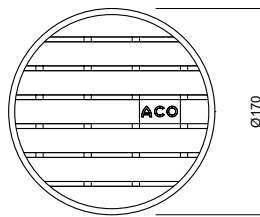
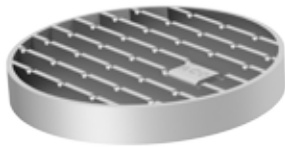
**Gratings for Vinyl Top Ø170 FHD**

**Product information**

A variety of grating types are available depending on application and required load class. For applications with high hygienic requirements, either ladder grating options or cast grate should be selected.

- Hygienic design
- Fits to stainless steel gully, fully compliant to BS EN 1253-1
- Stainless steel construction for durability and long life
- Available in 304 or 316 grades of stainless steel
- Range of gratings suitable to load class L 15 (BS EN 1253-1)
- Slip resistant solution available

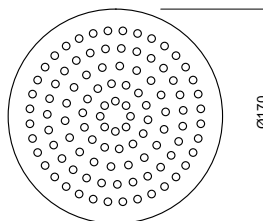
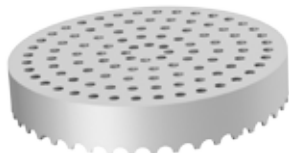
**ACO Ladder Grating FHD**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	Yes	97146	97367

Note: Surface electropolished

**ACO Perforated Grating FHD**

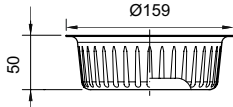

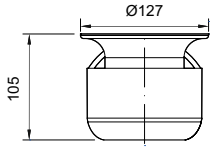
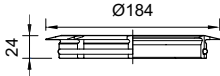

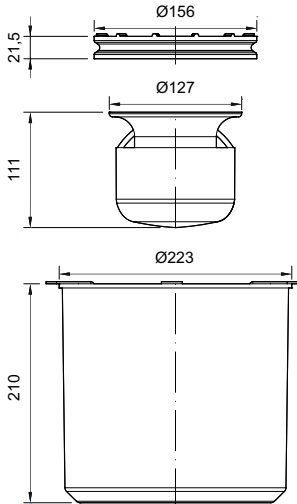
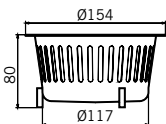


Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	No	97152*	97369*

\* Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applicable.



**Accessories for ACO Hygienic Gully 157**

	<b>Description</b>	<b>Used with</b>	<b>Material</b>	<b>Part No.</b>
	Silt basket ■ Stainless steel ■ 0.6 litre capacity	■ ACO Hygienic Gully 157 - Vertical □ Fixed height or Telescopic	304	<b>416904</b>
			316	<b>416905</b>
	Silt basket ■ Stainless steel ■ 0.3 litre capacity	■ ACO Hygienic Gully 157 - Horizontal □ Fixed height or Telescopic	304	<b>416906</b>
			316	<b>416907</b>
	Hygienic Foul Air Trap ■ Stainless steel ■ Water seal 50mm	■ ACO Hygienic Gully 157 □ Telescopic	304	<b>408200</b>
			316	<b>408210</b>
	Friction ring ■ NBR (Acryl nitrile-butadiene)	■ ACO Hygienic Gully 157 □ Fixed height □ Telescopic	NBR	<b>408205</b>
	Standard Foul Air Trap support ■ NBR (Acryl nitrile-butadiene)	■ ACO Hygienic Gully 157 □ Fixed height □ Telescopic	NBR	<b>408201</b>
	ACO fire resistant kit for gully 157/110mm □ Fixed Height, vertical □ Telescopic, vertical	■ ACO Hygienic Gully 157 □ Fixed Height, vertical □ Telescopic, vertical		<b>416933</b>
	Silk basket ■ Stainless steel ■ 0.9 litre capacity	■ ACO Gully 157 □ Fixed height □ Large silt basket	304	<b>416416</b>

**Flow Rates and Construction Heights - Gully 157**

**ACO Hygienic Gully 157 – Fixed Height**

Outlet diameter	Outlet position	Flow rate [l/s]
ØD		A = 193 [mm]
110	Vertical	3.5

Outlet diameter	Outlet position	Flow rate [l/s]
ØD		A = 170 [mm]
110	Horizontal	2.8

**ACO Hygienic Gully 157 – Telescopic**

Outlet diameter	Outlet position	Flow rate [l/s]				
ØD		A = 65 [mm]	A = 91 [mm]	A = 125 [mm]	A = 153 [mm]	A = 180 [mm]
110	Vertical	3.5	4.0	4.1	4.2	4.4

Outlet diameter	Outlet position	Flow rate [l/s]				
ØD		A = 52 [mm]	A = 82 [mm]	A = 97 [mm]	A = 127 [mm]	A = 157 [mm]
110	Horizontal	2.8	3.3	3.6	4.0	4.4

**Fixed Height – Vertical Outlet FHD - For Large Silt Basket**

**Product information**

- Hygienic design including large radii formed contours, deep drawn components to minimise crevices and bacteria traps according to BS EN 1672 and BS EN ISO 14159.
- Fully compliant to BS EN 1253.
- Supplied complete with high capacity silt basket (2.7 litres).
- Round top alleviates wall / equipment alignment issues.
- Dry sump design ensures no standing waste water in gully base.
- Fully removable and easily cleaned Foul Air Trap (FAT).
- Removable hygienic and corrosion resistant Nitrile FAT support.
- High flow rate gully 4 l/s.
- Robust 6.5mm thick gully top rim.
- Outlet spigot Ø110mm for both horizontal and vertical outlet configurations.
- Supplied complete with fully welded plain Ladder Grating to load class L15.
- Available in 316 stainless steel to special order.



**Order information**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.
	Location flange	110	416110

**Fixed Height – Horizontal Outlet FHD - For Large Silt Basket**



**Order information**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.
	Location flange	110	416111

**Fixed Height – Vertical Outlet FHD**

**Product information**

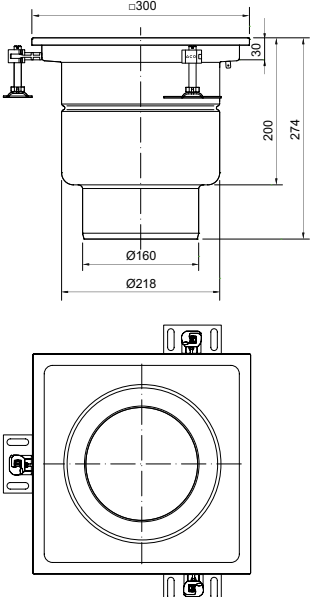
Fixed height gully can be specified as a point drainage in areas where waterproofing is independent of the gully body. Those gullies can be combined with different grates depending on required load class.



- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
  - Tested and certified according to BS EN 1253-1
  - Available in 304 or 316 grades of stainless steel
  - Fire tested and certified solution available for classes EI 90 – EI 180 (BS EN 13 501-2)
  - Fully removable and easily cleanable
- stainless steel Foul Air Trap (FAT)
  - Outlet diameter 110mm or 160mm O.D.
  - Gully top frame size: 300 x 300mm
  - Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253-1) including slip resistant solution

**Order information**

	<b>Top size</b> □ [mm]	<b>Outlet diameter</b> Ø [mm]	<b>Stainless Steel 304</b> <b>Part No.</b>	<b>Stainless Steel 316</b> <b>Part No.</b>
<b>Standard edge</b>				
	300 x 300	110	<b>408005</b>	<b>408105</b>

	<b>Top size</b> □ [mm]	<b>Outlet diameter</b> Ø [mm]	<b>Stainless Steel 304</b> <b>Part No.</b>	<b>Stainless Steel 316</b> <b>Part No.</b>
	300 x 300	160	408007	408107

**Fixed Height – Horizontal Outlet FHD**

**Product information**

Fixed height gully can be specified as a point drainage in areas where waterproofing is independent of the gully body. Those gullies can be combined with different grates depending on required load class.

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Fully removable and easily cleanable stainless steel Foul Air Trap (FAT)
- Outlet diameter 110mm or 160mm O.D.
- Gully top frame size: 300 x 300mm
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253-1) including slip resistant solution



**Order information**

	<b>Top size</b> □ [mm]	<b>Outlet diameter</b> Ø [mm]	<b>Stainless Steel 304</b> <b>Part No.</b>	<b>Stainless Steel 316</b> <b>Part No.</b>
<b>Standard edge</b>				
	300 x 300	110	<b>408013</b>	<b>408113</b>

**Telescopic – Vertical Outlet FHD**

**Product information**

Telescopic gully can be combined either with ACO Gully top or ACO channel in most flooring constructions.

Telescopic solution enables height and rotational adjustment of connected gully top or channel. Gullies are equipped with flanges for connection of waterproof membrane.

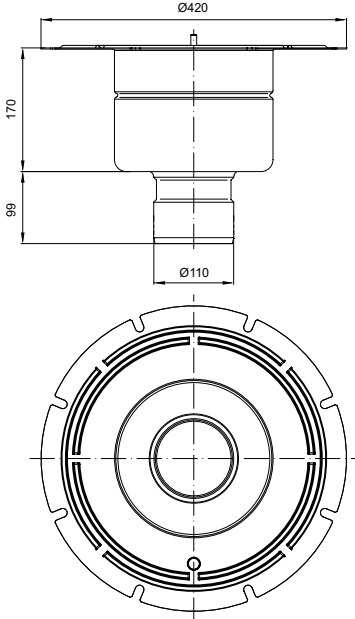
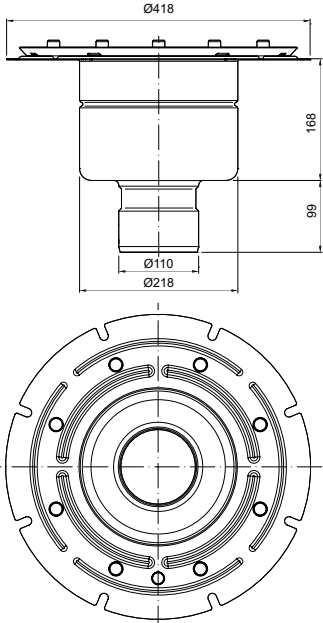
- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Fire tested and certified solution available for classes EI 90 – EI 180 (BS EN 13 501-2)
- Suitable for all floor types including vinyl flooring
- Fully removable and easily cleanable stainless steel Foul Air Trap (FAT)
- Outlet diameter 110mm or 160mm O.D.
- Gully body with location flange or integrated membrane flange for either adhesive bonding or mechanical clamp
- Telescopic friction ring included



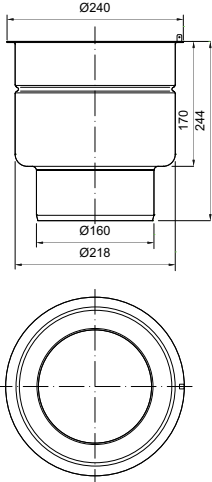
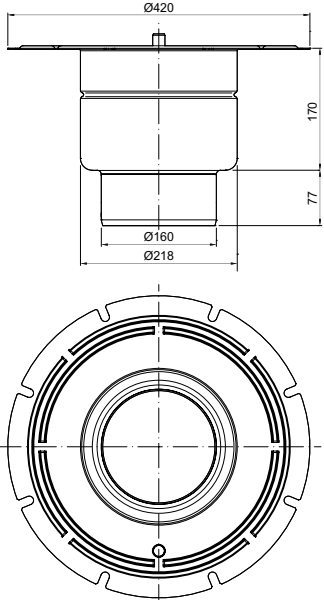
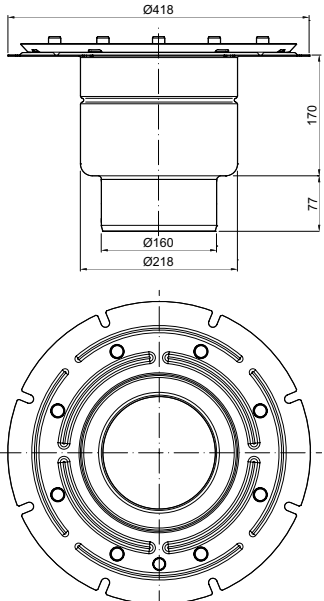
**Order information**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Location flange	110	<b>408061</b>	<b>408161</b>

**ACO Gully**  
**ACO Hygienic Gully 218**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Adhesive bonding flange	110	<b>408063</b>	<b>408163</b>
	Mechanical clamping flange	110	<b>408065</b>	<b>408165</b>



	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Location flange	160	<b>408067</b>	<b>408167</b>
	Adhesive bonding flange	160	<b>408069</b>	<b>408169</b>
	Mechanical clamping flange	160	<b>408071</b>	<b>408171</b>

**Telescopic – Horizontal Outlet FHD**

**Product information**

Telescopic gully can be combined either with gully top or ACO channel in most flooring constructions.

Telescopic solution enables height and rotational adjustment of connected gully top or channel. Gullies are equipped with flanges for connection of waterproof membrane.

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Suitable for all floor types including vinyl flooring
- Fully removable and easily cleanable stainless steel Foul Air Trap (FAT)
- Outlet diameter 110mm or 160mm O.D.
- Gully body with location flange or integrated membrane flange for either adhesive bonding or mechanical clamp
- Telescopic friction ring included



**Order information**

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Location flange	110	<b>408085</b>	<b>408185</b>

	Type of flange	Outlet diameter Ø [mm]	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Adhesive bonding flange	110	408087	408187
	Mechanical clamping flange	110	408089	408189

**Gully Top – Telescopic FHD**

**Product information**

Gully top can be combined with telescopic gully. Different gully top type is available depending on floor finish.

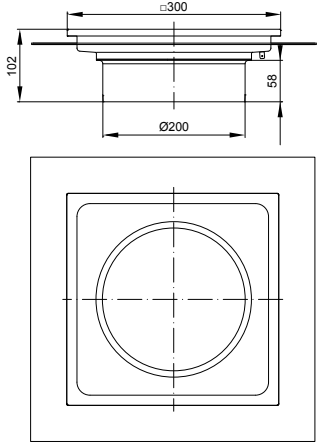
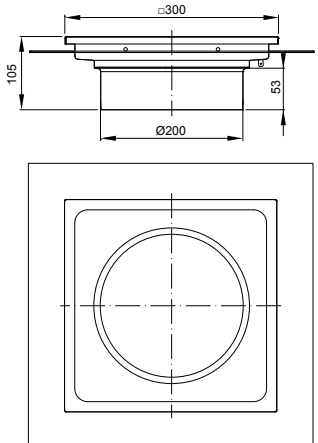
- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Gully top frame size: 300 x 300mm
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253-1) including slip resistant solution



**Order information**

	<b>Gully Top type</b>	<b>Gully Top size</b> Ø [mm]	<b>Stainless Steel 304</b> <b>Part No.</b>	<b>Stainless Steel 316</b> <b>Part No.</b>
	Standard edge	300 x 300	<b>408228</b>	<b>408238</b>
	Vinyl edge	Ø350	<b>408242*</b>	<b>408252*</b>

\* Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applied.

	<b>Gully Top type</b>	<b>Gully Top size Ø [mm]</b>	<b>Stainless Steel 304 Part No.</b>	<b>Stainless Steel 316 Part No.</b>
	Extended edge	300 x 300	<b>408243</b>	<b>408253</b>
	Extended edge with drainage holes	300 x 300	<b>408247</b>	<b>408257</b>

**Raising Piece – Telescopic FHD**

**Product information**

Raising piece can be used for floor structures where multi waterproofing is needed (heat insulation) or where construction height of the slab needs to be increased.

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Tested and certified according to EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Suitable for all floor types including vinyl flooring
- Variety of flanges for membranes
- Telescopic friction ring included



**Order information**

	Type of flange	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
	Location flange	<b>408209</b>	<b>408219</b>
	Adhesive bonding flange	<b>408226</b>	<b>408236</b>
	Mechanical clamping flange	<b>408227</b>	<b>408237</b>

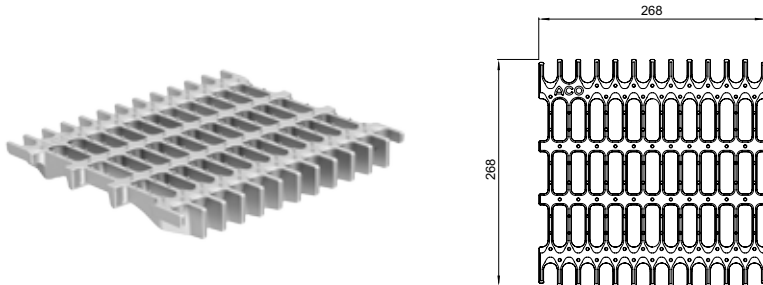
**Gratings for Gully Top 300 x 300mm**

**Product information**

A variety of grate types are available depending on application and required load class. For applications with high hygienic requirements, either ladder grating options or cast grate should be selected.

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fits to stainless steel gully, fully compliant to BS EN 1253-1
- Available in 304 or 316 grades of stainless steel
- Gully top frame size: 300 x 300mm
- Range of gratings suitable to load class L 15, R 50, M 125 or N 250 (BS EN 1253-1)
- Slip resistant solution available

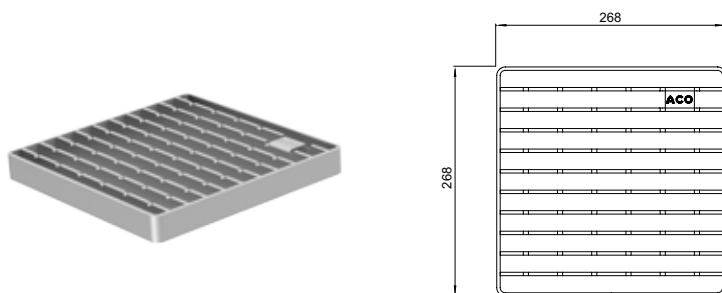
**ACO Hygienic Cast Grating FHD**



Load class	Slip resistant	Stainless Steel 304 Part No.
M 125	Yes	416944

Note: Surface electropolished

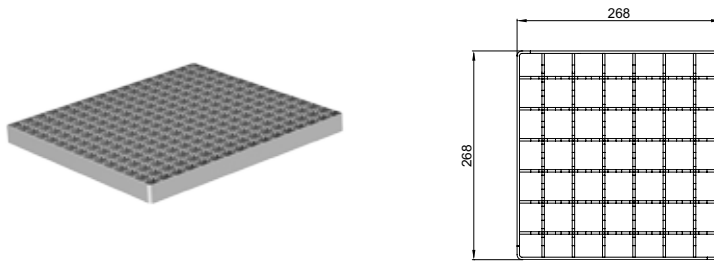
**ACO Hygienic Ladder Grating FHD**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
R 50	Yes	416916	416917
N 250	No	408045	408145

Note: Surface electropolished

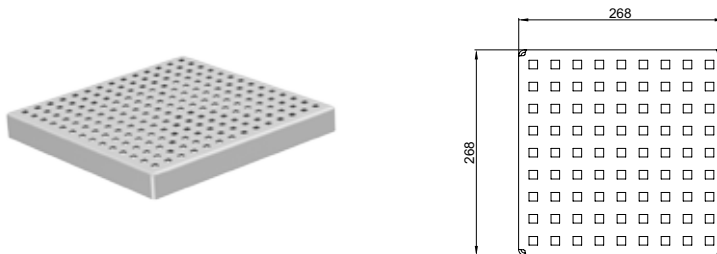
**ACO Mesh Grating**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	Yes	408034	408134
	No	408035*	408135*

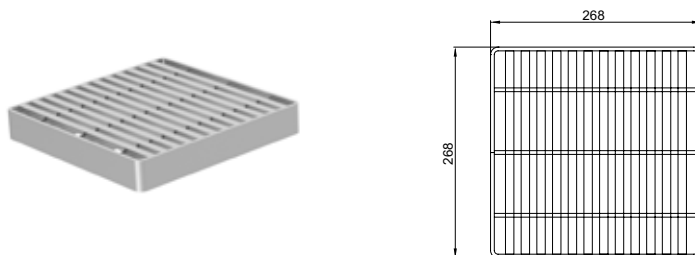
Note: Surface electropolished

**ACO Quadrato Grating**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	No	408036*	408136*

**ACO Heelsafe Grating**

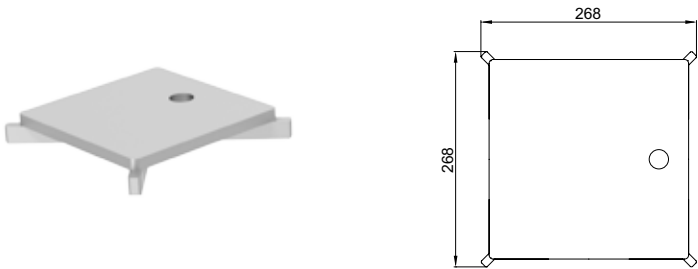


Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	No	408040*	408140*

\* Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applicable.



**ACO Slot Cover**

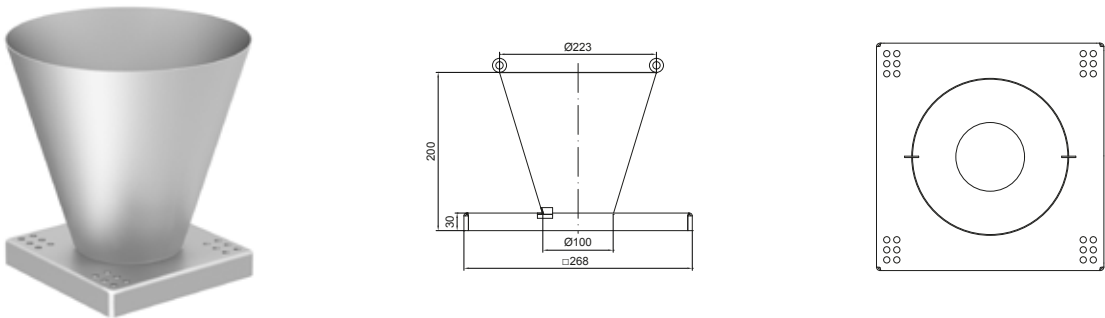


Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
M 125	No	408039*	408139*

**ACO Odour Proof Cover**

For ACO odour proof cover, please contact our Sales/Technical department on 01462 851400 or e-mail [abdtechnical@aco.co.uk](mailto:abdtechnical@aco.co.uk)

**ACO Tundish for Gully Top**



Description	Stainless Steel 304 Part No.
ACO tundish for gully top 300 x 300	413547

\* Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applied.

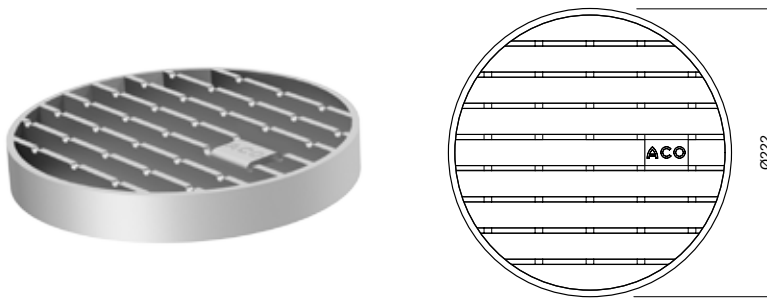
**Gratings for Vinyl Top Ø222 FHD**

**Product information**

A variety of grating types are available depending on application and required load class. For applications with high hygienic requirements, either ladder grate or cast grating options should be selected.

- Hygienic design
- Fits to stainless steel gully, fully compliant to BS EN 1253-1
- Stainless steel construction for durability and long life
- Available in 304 or 316 grades of stainless steel
- Range of gratings suitable to load class L 15 (BS EN 1253-1)
- Slip resistant solution available

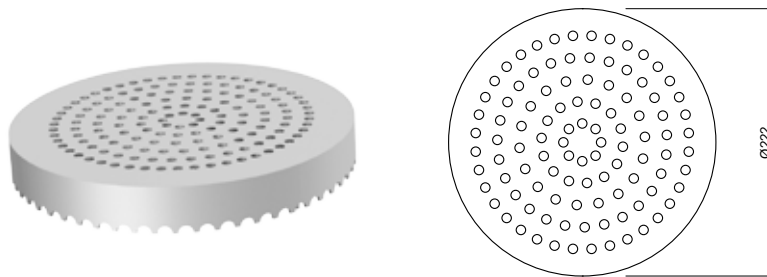
**ACO Ladder Grating FHD**



Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	Yes	97148	97388

Note: Surface electropolished

**ACO Perforated Grating FHD**



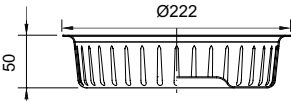
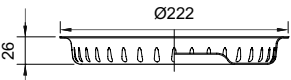
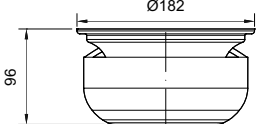
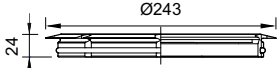

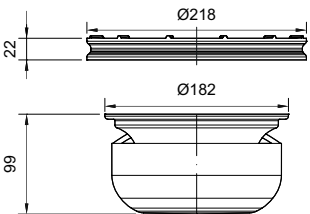
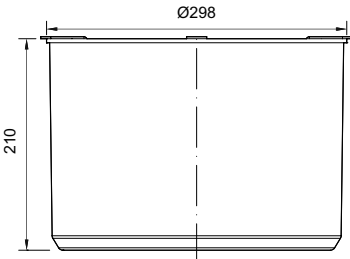
Load class	Slip resistant	Stainless Steel 304 Part No.	Stainless Steel 316 Part No.
L 15	No	97153*	97390*

\* Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44 not applicable.

**ACO odour proof cover**


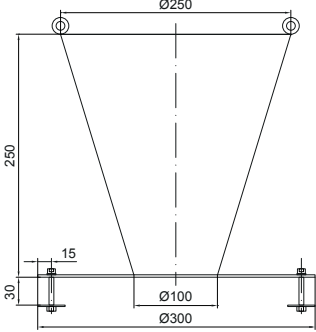
For ACO odour proof cover, please contact our Sales/Technical department on 01462 851400 or e-mail [abdtechnical@aco.co.uk](mailto:abdtechnical@aco.co.uk)

**Accessories for ACO Hygienic Gully 218**

	<b>Description</b>	<b>Used with</b>	<b>Material</b>	<b>Part No.</b>
	Silt basket ■ Stainless steel ■ 1,4 litre capacity	■ ACO Hygienic Gully 218 - Vertical <input type="checkbox"/> Fixed height or Telescopic	304	<b>416908</b>
			316	<b>416909</b>
	Silt basket ■ Stainless steel ■ 0,7 litre capacity	■ ACO Hygienic Gully 218 - Horizontal <input type="checkbox"/> Fixed height or Telescopic	304	<b>416910</b>
			316	<b>416911</b>
	Hygienic Foul Air Trap ■ Stainless steel ■ Water seal 50mm	■ ACO Hygienic Gully 218 <input type="checkbox"/> Fixed height <input type="checkbox"/> Telescopic	304	<b>408220</b>
			316	<b>408230</b>
	Friction ring ■ NBR (Acryl nitrile-butadiene)	■ ACO Hygienic Gully 218 <input type="checkbox"/> Telescopic	NBR	<b>408225</b>
	Standard Foul Air Trap support ■ NBR (Acryl nitrile-butadiene)	■ ACO Hygienic Gully 218 <input type="checkbox"/> Fixed height <input type="checkbox"/> Telescopic	NBR	<b>408221</b>
	ACO fire resistant kit for gully 218/110mm <input type="checkbox"/> Fixed Height, vertical <input type="checkbox"/> Telescopic, vertical	■ ACO Hygienic Gully 218 <input type="checkbox"/> Fixed Height, vertical <input type="checkbox"/> Telescopic, vertical		<b>416934</b>
	ACO fire resistant kit for gully 218/160mm <input type="checkbox"/> Fixed Height, vertical <input type="checkbox"/> Telescopic, vertical	■ ACO Hygienic Gully 218 <input type="checkbox"/> Fixed Height, vertical <input type="checkbox"/> Telescopic, vertical		<b>416935</b>

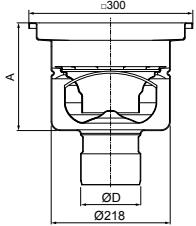
ACO gully

**ACO Tundish Removable**

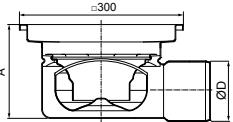
		<b>Description</b>	<b>Material</b>	<b>Part No.</b>
		<p>ACO tundish removable            ■ Stainless steel</p>	<p>304</p>	<p><b>415821</b></p>

**Flow Rates and Construction Heights - Gully 218**

**ACO Hygienic Gully 218 – fixed height**

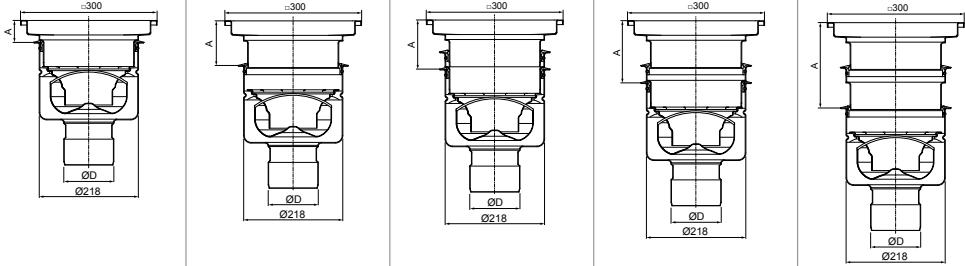


Outlet diameter	Outlet position	Flow rate [l/s]
ØD		A = 200 [mm]
110	Vertical	5.0
160		5.0

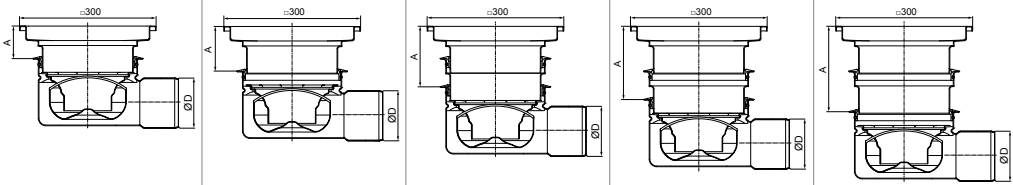


Outlet diameter	Outlet position	Flow rate [l/s]
ØD		A = 177 [mm]
110	Horizontal	4.4

**ACO Hygienic Gully 218 – telescopic**



Outlet diameter	Outlet position	Flow rate [l/s]				
ØD		A = 65 [mm]	A = 91 [mm]	A = 125 [mm]	A = 153 [mm]	A = 180 [mm]
110	Vertical	5.0	5.5	5.6	5.8	6.2
160		5.0	5.5	5.6	5.8	6.2

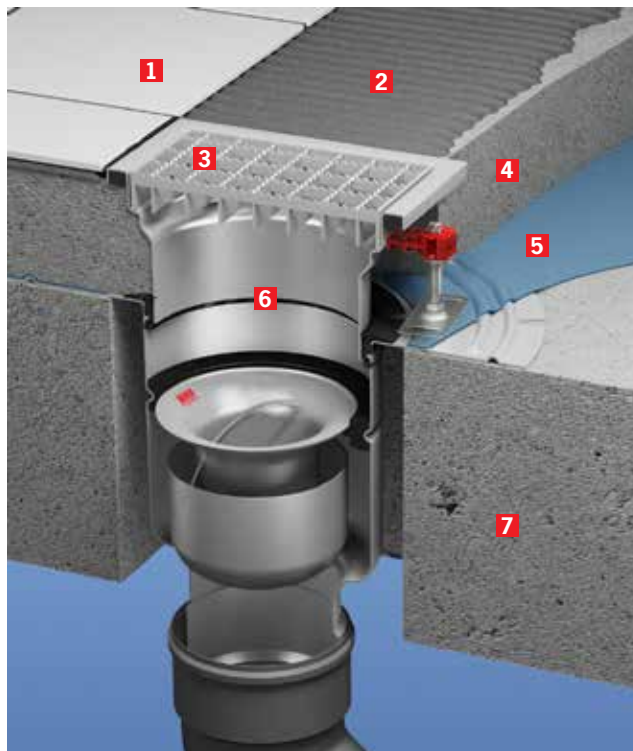


Outlet diameter	Outlet position	Flow rate [l/s]				
ØD		A = 72 [mm]	A = 98 [mm]	A = 132 [mm]	A = 156 [mm]	A = 187 [mm]
110	Horizontal	4.4	4.6	4.8	4.9	5.4

**ACO Hygienic Gully**

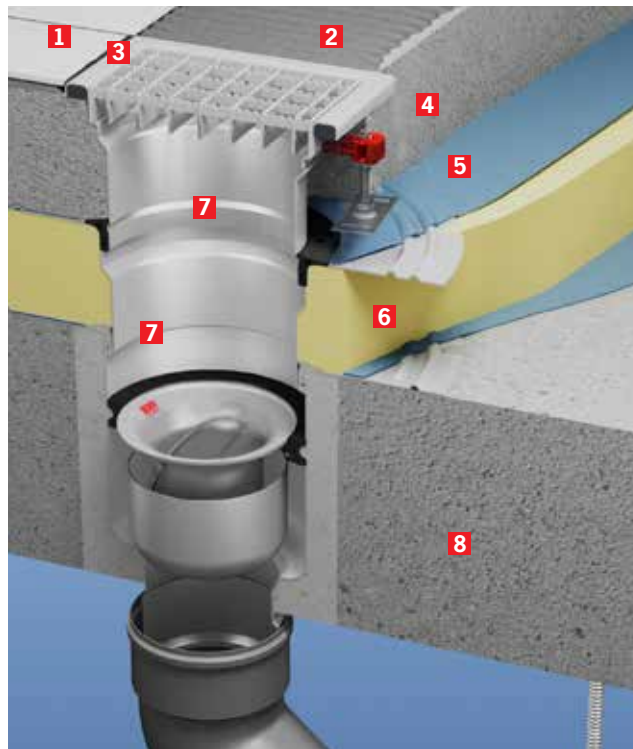
**ACO Hygienic Gully – telescopic flanged gully installed in suspended concrete slab construction**

- 1** Ceramic tiles
- 2** Tile cement
- 3** Mastic sealant
- 4** Floor screed
- 5** Water proof membrane (WPM)
- 6** Gully
- 7** Suspended concrete slab core-boarded to accept gully body



**ACO Hygienic Gully – telescopic flanged gully and raising flanged piece installed in suspended concrete slab construction**

- 1** Ceramic tiles
- 2** Tile cement
- 3** Mastic sealant
- 4** Floor screed
- 5** Water proof membrane (WPM)
- 6** Insulation
- 7** Double flange gully
- 8** Suspended concrete slab core-boarded to accept gully body



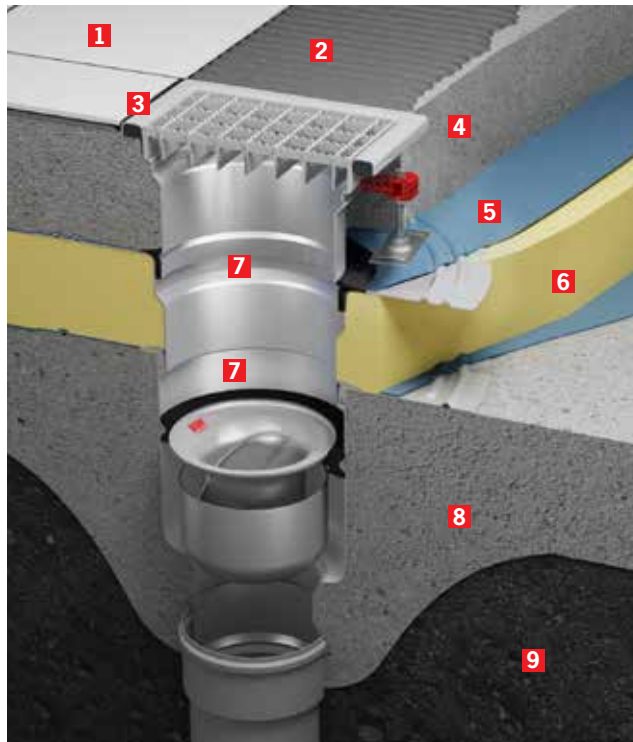
**ACO Hygienic Gully – telescopic flanged gully installed in solid concrete floor**

- 1** Ceramic tiles
- 2** Tile cement
- 3** Mastic sealant
- 4** Floor screed
- 5** Water proof membrane (WPM)
- 6** Flange gully
- 7** Solid concrete floor slab
- 8** Compacted soil



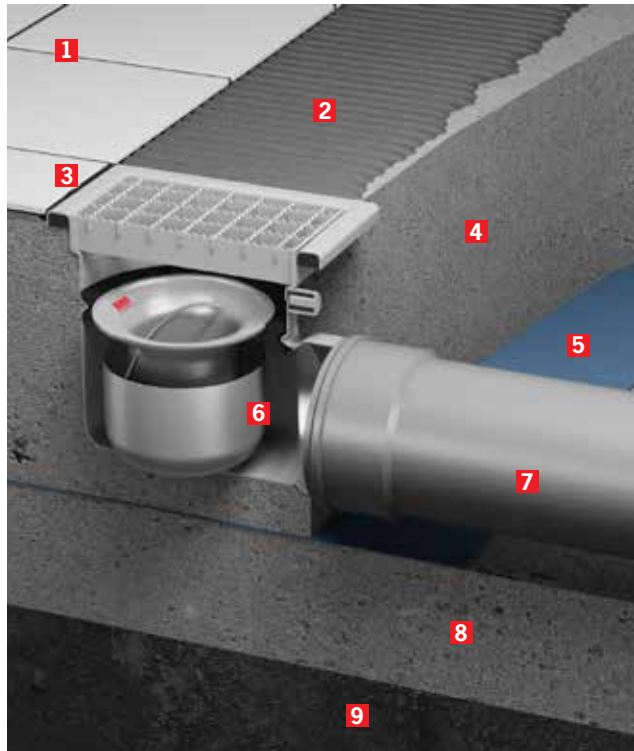
**ACO Hygienic Gully – telescopic flanged gully and raising piece installed in solid concrete floor**

- 1** Ceramic tiles
- 2** Tile cement
- 3** Mastic sealant
- 4** Floor screed
- 5** Water proof membrane (WPM)
- 6** Insulation
- 7** Double flange gully
- 8** Solid concrete floor slab
- 9** Compacted soil



**ACO Hygienic Gully – fixed height gully installed in solid concrete floor**

- 1** Ceramic tiles
- 2** Tile cement
- 3** Mastic sealant
- 4** Floor screed
- 5** Damp proof membrane (DPM)
- 6** Gully
- 7** Outlet pipe
- 8** Floor slab
- 9** Compacted soil





## Transport & handling information

### ACO Gully

- ACO gullies are packed on framed pallets, protected by cardboard inserts and PE foil. Individual products are packed in protective plastic net.
- Outlet pipes are equipped with protective lids.
- Gully tops and flanges are covered with protective blisters, which also protect the inside areas during installation. Individual products are packed in plastic protective net.
- Handle the gully/ gully parts with care. Any rough handling can cause deformation and potentially cause product malfunctions.
- Contact with carbon steel may cause stainless steel corrosion.

### ACO Tray Channel

- Also for Hygienic Channels.
- Products are protected by wooden inserts and frames, in some cases PE foil or bubble foil is used.
- Articles are either wrapped separately in ACO paper box or placed loose within EUR pallet space. It is strongly recommended that channels / components / accessories are transported in their original packaging to avoid damage and / or loss of parts.
- Store preferably on dry and flat surface and ferrous particulate containing.
- Handle the channels / components / accessories with care. Careful truck un/loading procedures are crucial. Any rough handling can cause deformation and potentially cause product malfunction.
- Contact with carbon steel may cause stainless steel corrosion.

### ACO grating

- Standard grating length for ACO Hygienic Tray Channel is 500mm.
- ACO gratings are packed on framed pallets protected by cardboard inserts and PE foil.
- Articles are either wrapped separately in ACO paper box or placed loose within EUR pallet space.
- It is strongly recommended to transport gratings in their original packaging to avoid damage. Store preferably on a dry and flat surface.
- Handle the gratings with care.
- Any rough handling can cause deformation and potentially cause product malfunctions.
- Contact with carbon steel may cause stainless steel corrosion.

## Introduction

Drainage is a critical component affecting the hygienic performance of commercial food preparation business. Effective drainage helps to mitigate hazards from the external environment and is central to the safe and hygienic operation internally. Within the food production facility, surface liquids represent potential hazard of microbiological contamination. Liquids may be part of the cleaning process, or

may originate from specific equipment discharge points, or be simply the result of an accidental spillage. Quite often the liquids contains other components – like organic matter. Floor drainage components cater for these situations through three core functions - interception, conveyance of fluids, and ability to act as a barrier.

Effective cleaning of drainage in commercial food preparation business reduces the risk of contamination and spoiling of food during preparation, processing, and storage. The main objective of cleaning is to remove soil and thereby reducing the number of microorganisms. A further reduction of microorganisms can be obtained by adding a disinfection step in the cleaning process.

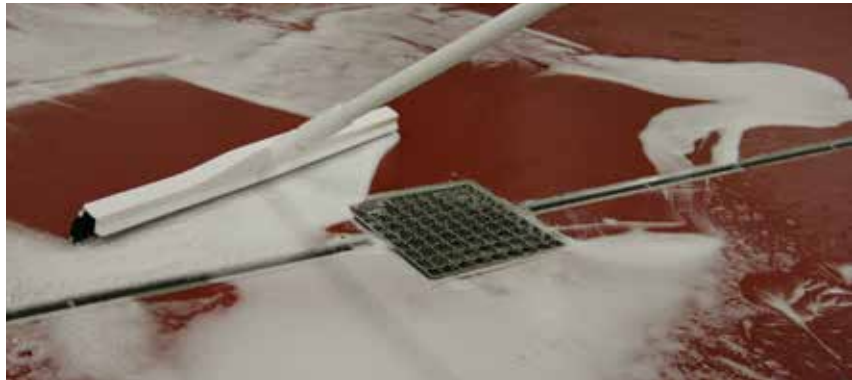
## Principles of Cleaning

Drainage is a critical component affecting the hygienic performance of commercial food preparation business. Effective drainage helps to mitigate hazards from the external environment and is central to the safe and hygienic operation internally. Within the food production facility, surface liquids represent potential hazard of microbiological contamination. Liquids may be part of the cleaning process, or may originate from specific equipment discharge points, or be simply the result of an accidental spillage. Quite often the liquids contains other components – like organic matter. Floor drainage components cater for these situations through three core functions - interception, conveyance of fluids, and ability to act as a barrier.

### Cleaning methods

There are different levels of cleaning resulting in different levels of hygiene:

- Cleaning
- Sanitising
- Disinfecting
- Sterilising



**Cleaning** refers to the mechanical removal of visible surface soils either dry (sweeping, brushing, wiping, hovering, etc.) or with soap, water and detergents. Cleaning removes the soil and reduces the microbial population, it will not kill pathogens. Cleaning should be used where the likelihood of pathogens transfer from the surface is low, such as floors, windows, etc. Use the right tools and cleaning method to prevent microorganisms to become airborne.

Both **sanitising** and disinfecting are cleaning methods using chemicals. Sanitising reduces the number of microorganisms to a safe level without affecting either the food quality of the product or its safety. Sanitisers are meant to remain on the surface for a short period (approx. 30s, but please follow manufacturer's instructions) before being removed. Sanitisers are often combined with detergents.

**Disinfection** must destroy or irreversibly inactivate all specified organisms within a certain time, usually 10 min (see manufacturer's instructions). Some chemicals may function as both sanitisers and disinfectants; the difference is the concentration of the chemical in the solution.

Many sanitisers and disinfectants don't stand up well against dirt, so cleaning is an important first step.

**Sterilising** destroys all forms of microbial life and is used mainly in the healthcare and laboratory settings.

In the food industry and commercial kitchens there are 2 types of surfaces:

#### Product contact surface

All equipment that intentionally or unintentionally (e.g. due to splashing) comes in contact with final food product.

#### Non product contact surface

All other exposed surfaces, including surfaces associated with equipment, but also surfaces related to the manufacturing environment, such as floors, walls and drain channels.

#### Cleaning drains

The effective cleaning of drains depends on:

- Soil type and properties
- Material, design and surfaces
- Water quality
- Cleaning chemicals
- Cleaning procedure
- Cleaning parameters, temperature, time, flow velocity and concentration of detergent or chemicals.

Drains in the food industry are mostly made from stainless steel as it is considered a hygienic material, because it is easy to clean. ACO drainage products are designed for easy access and effective cleaning. Drains are primarily a low risk, non-food product contact surface area that is in contact with effluent which can contain microorganisms from the food processing operation. Sanitising is normally enough for a clean and hygienic drain, but when the biofilms are build-up in the drain they need to be disinfected.

Although stainless steels have a high chemical resistance please ensure that chemicals used don't adversely affect its properties. ACO have many years of experience in this area and can advise on any chemical you plan to use for sanitising or disinfecting.

The next pages explain how to sanitise and disinfect the drain, plus a guidance on a cleaning procedure.

## Cleaning Chemicals

**There are four main classes of cleaning compounds:**

- detergents
- alkalis
- acids
- disinfectants/sanitisers

**Detergents**

This broad group of chemicals is widely used in households and in food industries brings different type of soil from surfaces into cleaning foams and emulsions that could be easily rinsed off.

**Alkalies**

Alkaline compounds are effective for dissolution of proteins and removal of fats. Examples of alkalies are sodium hydroxide (caustic soda) and potassium hydroxide. These compounds are hazardous to personnel and mostly used in CIP – an automatic dosing system is recommended.

**Acids**

Acids, both organic and inorganic, are commonly used for removal of mineral deposits such as hard water scale. Acids are potentially corrosive to construction materials and must be used with care.

When chemical cleaning is performed, it is necessary to use low-pressure sprays, foam or gel. Foam and gel are more viscous than sprayed agents and preferred as they are not prone to aerosol formation. Selection of the correct detergent for given application should be always carried out in co-operation with the detergent manufacturer.

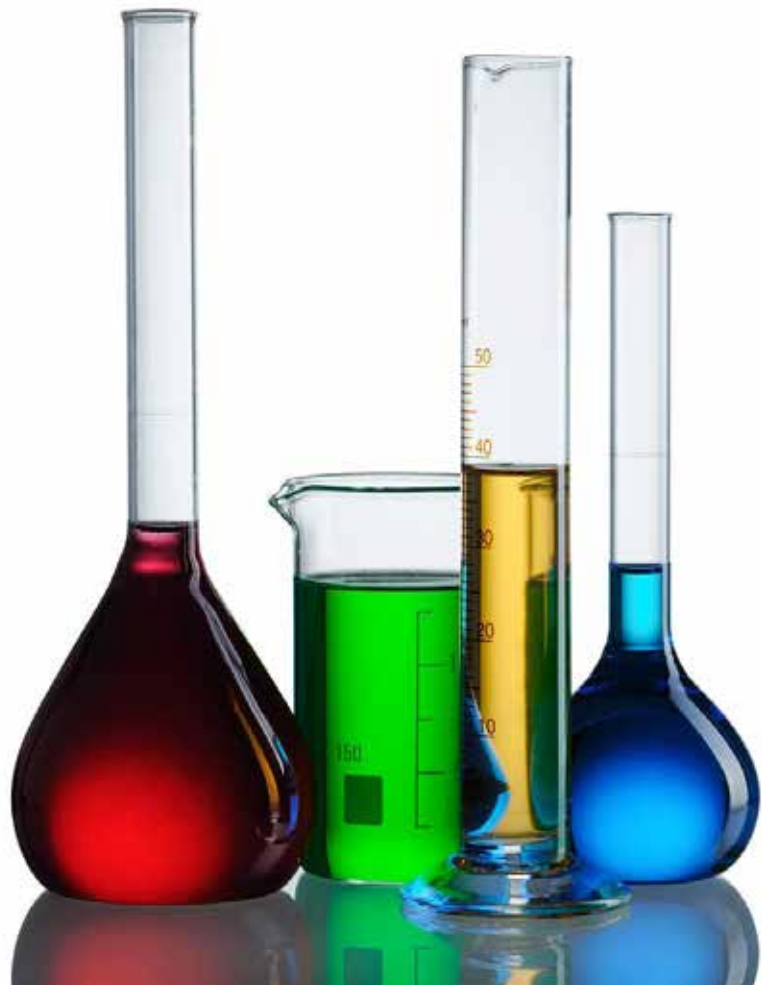
**Disinfectants/sanitisers**

In case of high risk areas or production areas with microbiological sensitive products, the floors and drain systems should be sprayed with disinfectants/sanitisers, which will reduce the contamination risk even more. The disinfectants/sanitisers will kill remaining micro-organisms, compliant to the required specifications.

**The plant downtime and labour associated with cleaning is major cost of any food processing operation.**

**Sources of soil**

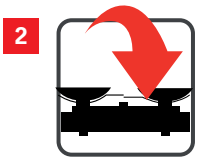
Primary source of soil is from processed food product itself. Microbiological biofilms mainly contribute to the soil build-ups on drainage surfaces. These films vary in their solubility depending upon such factors as heat, age, humidity, time, etc. It is essential that personnel involved in the development and cleaning process design have understanding of the nature of the soil to be removed before selecting a detergent and cleaning method. The rule of thumb is that acid cleaners dissolve alkaline soils (minerals), and detergents dissolve acid soils and food wastes (proteins).



**Manual Cleaning of Drainage**



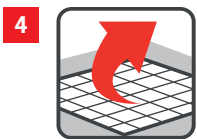
Remove all present foodstuffs, raw materials, wrapping materials and tools.



Cover all equipment that could be contaminated.



Remove excess dirt from floor and gratings, and place into designated container.



Remove gratings.



Remove and empty silt basket and Foul Air Trap.



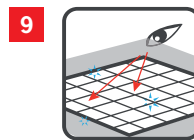
Place collected waste and dirt into designated container. Rinse grating, silt basket and Foul Air Trap with clean water. Then place Foul Air Trap into its original position. Rinse the Foul Air Trap with clean water.



Wash all surfaces with designated detergent and designated hand brush.



Rinse all surfaces with clean water.



Visually check surface cleanliness - repeat cleaning process if necessary.



Place silt basket and grating to its original position.



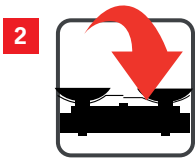
Rinse the entire equipment with clean water.

**Chemical Cleaning of Drainage**



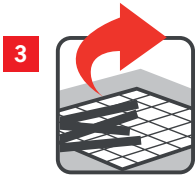
1

Remove excess dirt from floor and gratings; and place into designated container.



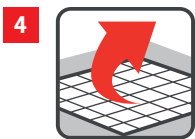
2

Cover all equipment that could be contaminated.



3

Remove excess dirt from floor and gratings; and place into designated container.



4

Remove gratings.



5

Remove and empty silt basket and Foul Air Trap.



6

Place collected waste and dirt into designated container. Rinse grating, silt basket and Foul Air Trap with clean water. Then place Foul Air Trap into its original position. Rinse the Foul Air Trap with clean water.



7

Apply foam to all surfaces.



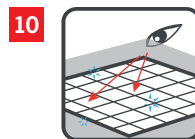
8

Leave foam for 15 minutes.



9

Rinse off foam with clean water.



10

Visually check surface cleanliness - repeat cleaning process if necessary.



11

Place silt basket and grating to its original position.



12

Rinse the entire equipment with clean water.

**Overview with Recommended Cleaning Procedures for Drainage**

These instructions are for guidance only. **Always follow manufacturer's instructions.**  
All procedures have to be verified and adjusted to the application specifics.

Frequency	Procedure	Physical agents	Chemical agents	Examples of chemical cleaning agents suitable for ACO stainless steel drainage
Daily	Removal of organic deposits (fats, proteins, saccharides and polysaccharides)	<ul style="list-style-type: none"> <li>▪ Steam</li> <li>▪ Medium pressure water to max 25 bar</li> <li>▪ Mechanical / kinetic energy (brushes, CIP medium velocity)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Caustics (sodium hydroxide, potassium hydroxide)</li> <li>▪ Detergents / surfactants</li> </ul>	Standard chemical agents used for floor cleaning should be sufficient (should be validated) Oxofoam, Endorochlor (Diversey)
Weekly	Removal of inorganic deposits that could promote very resistant biofilms	Mechanical abrasive methods – polishing	<ul style="list-style-type: none"> <li>▪ Nitric acid for stainless steel passivation where chlorine attack could be expected</li> <li>▪ Inorganic acids (phosphoric acid)</li> <li>▪ Weak organic acids</li> </ul>	<ul style="list-style-type: none"> <li>▪ Acifoam (Diversey)</li> <li>▪ Acigel (Diversey)</li> <li>▪ Super Dilac (Diversey)</li> </ul>
Note	Removal of rinse water residues	Removal of excess water with a squeegee	Alcohols (isopropylalcohol, ethanol)	Chlorine tablets (Suma Tab D4 by Diversey) are often added to the water in foul trap in microbial sensitive production areas

Any cleaning procedures, including those recommended by equipment suppliers, must be properly validated on equipment and its surroundings to prevent long-term damage or contamination.

**Always follow manufacturer's instructions to avoid damage to the equipment.**

## ACO Technologies plc

- ACO Building Drainage
- ACO Water Management  
Civils + Infrastructure  
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- ACO Sport
- ACO Wildlife



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