

Stainless Steel Floor Gullies



#### **ACO Stainless Steel Gullies**

Stainless steel gullies come in different varieties to cover a multitude of applications in the Industrial and Commercial segments. Extra attention is given to the development of a range of gullies to comply with hygiene standards set by the Food Industry. Variations in the gully range, such as fixed height, telescopic tops and the use of extensions, ensures there is a solution for most floor constructions. Designs using telescopic gully solutions make it possible to connect membranes on different levels within the floor construction.





#### EG150

Complete range of gullies for lower flow rates in different floor types

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#### Gully 157 and 218

Gullies designed compliant to EHEDG principles. Complete range with standard and extended gully bodies

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Scan the QR code to visit our gully webshop www.aco.co.uk/buy-stainless-steel-gullies



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Introduction

## ACO. we care for water

ACO is a Water-Tech company that protects water. Building on our global drainage expertise that protects people from water, we increasingly see our mission as also protecting water from people.

With the ACO WaterCycle, ACO provides systems that collect and channel, clean, retain and ultimately reuse water. In this way, ACO contributes to the preservation of clean groundwater as a vital resource, and makes a contribution to tomorrow's world. In its Agenda 2030, the UN global community set the improvement of water quality as one of 17 sustainable development goals.

Intelligent drainage systems from ACO increasingly use smart technology to ensure that rainwater and wastewater are drained, or temporarily stored. With innovative separation and filter technology, we prevent water contamination by pollutants such as fats and grease, fuels, heavy metals and microplastics.

Today, ACO goes one step further: we accept the challenge of reusing water, and thus establishing a resource-saving cycle. For all products and systems, ACO attaches great importance to durability, reusability and a low carbon footprint. The pursuit of sustainability is an ongoing process that we strive to meet every day.

The ACO Group is a global family business that is one of the world market leaders in the Water-Tech segment. Founded in Schleswig-Holstein in 1946, it operates as a transnational network in over 50 countries. Worldwide, ACO is characterised by a high level of decentralised ownership, and explicit regional market proximity.

www.aco.com



Holder
Iver and Hans-Julius Ahlmann



Headquarters of the ACO Group in Rendsburg/Büdelsdorf



5,200

employees in more than 47 countries (Europe, North and South America, Asia, Australia, Africa)

1 Billion

Euro Sales in 2021

37

production sites in 18 countries





ACO Academy for practical training

### Introduction

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 Hazard Analysis Critical Control Point (HACCP) 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 such as:

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



#### **Material**

#### 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 commonly used stainless steels 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 extreme temperatures and thermal shock
- Coefficient of linear expansion similar to concrete
- 100% recyclable material

ACO drainage is manufactured from austenitic stainless steel, grades 1.4301 or 1.4404 according to EN 10088 (304 or 316L according to AISI).

It is ideal for applications including food processing, dairy, brewing, pharmaceutical, chemical and leisure industries.

#### **Surface treatment**

The process of cutting, forming and welding of stainless steel will introduce impurities into the surface of the material and unless the appropriate action is taken, the 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 drainage is 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.

### Electropolishing (electrochemical process)

After pickle passivation, some products are then immersed in an electrolytic fluid in which the products become the anode of a direct current electrical circuit. This process is characterized by a selective attack of the surface of the components whereby upstanding roughness is preferentially dissolved and will yield a progressively smoother, brighter surface. All hygienic box channel grates are electropolished as a standard.

#### **Brushing (mechanical process)**

ACO channels have a brushed upper edge for aesthetic reasons.

### Standards and certifications

#### **ACO Gullies**

ACO gullies are designed, manufactured, tested and certified in accordance with BS EN 1253. 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, 44 and NSF International.

ACO fire protective kit is tested according to BS EN 1366-2 (Fire resistance tests for service installations) and classified according to BS EN 135011 (Fire classification of construction products and building elements).

#### Gully flow rates

What drainage capacity and layout is required to match the production equipment layout?

All too often not enough consideration is given to the drainage capacity and flow rate needed to handle current and potential future production requirements. Insufficient drainage capacity leads to flooding which compromises health and safety in the workplace and increases the risk of cross-contamination. It's important to ensure the layout of the drainage matches the layout of the production equipment.



Flow rate is the amount of liquid that comes through drainage in a given time. The default method for measuring flow rates is by EN1253-1.

This European Standard classifies floor gullies, gives guidance for places of installation and specifies requirements for the construction, design, performance and marking of factory-made gullies for use in drainage systems requiring a trap with a water seal depth of at least 50 mm. All ACO Gullies have a flow rate based on EN1253-1.

For the food and beverage industry, this method is not optimal as machinery outlets are often positioned directly above the drain to make the water flow directly into the gully body. This is because drainage here is not designed to act as an outlet for water on the floor, but as an extension of the wastewater outlet which is discharged directly from machinery.

ACO has developed the ACO Direct Methodology to determine drainage flow rate capacity with a foul air trap, when the source of water is positioned directly above the drain.

To select the correct ACO gully, you need to know the maximum amount of water which will be discharged from machinery, e.g., 6,000l / 5 minutes = 6,000/300 = 20 (1 / s). Selecting the right product for use in food and beverage sites according to its flow rate can now be carried out more accurately, especially when drainage is used to take in large amounts of water at once. All wastewater must be directed straight into the drains without spilling on the floor to avoid health and safety risks and interruptions to production. A good drainage design does not use the floor to lead or retain water discharged from machinery.

#### Why do we use both methods?

This brochure expresses a flow rate for EN1253-1 for all ACO gullies and gives the direct flow rate alongside this for our Gully 157, 218, 315 and 440 models. The choice can be made for each project, if for some reason it is not possible to place the process water outlets from the technology directly above the drain, then it is necessary to use the lower values identified by the using EN1253-1 process.

Learn more about gully sizing at www.aco.co.uk/products/stainless-steel-gullies and watch our video about the two methods of flow measurement.

### System overview and benefits

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



#### **Food safety**

- ACO hygienic drainage fulfills 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.
- Sleek 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, thanks 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 and keep business 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 costs.

#### **Health & Safety**

- For additional safety in high risk areas that require heavy water usage, a slip resistant grating is available.
- Each component of the drainage system is easy to remove and clean, and there are no sharp edges for optimum employee safety.
- ACO drainage products have a fire resistant solution certified according to EN 136.

## Selection guide

### **Application**

The layout of the drainage system as well as the design of drainage elements has an impact on future operational effectiveness and on 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 and amount and frequency of water used is crucial.

Production process/ Zones with high risk Cleaning process for food safety		Zones with medium or low risk for food safety	Zones without direct risk for food safety
Wet production process/	<ul> <li>Hygienic design - one piece solution without connections; ladder grating or slot cover</li> </ul>	<ul> <li>Hygienic design - connections and mesh gratings could be considered if cleaning and sanitation procedures allow</li> </ul>	<ul> <li>Hygienic design - recommended for easy cleaning and maintenance.</li> <li>A combination of products could be considered for easy layout design</li> </ul>
Wet cleaning process	■ High retention - high flow rate	■ High retention - high flow rate	■ High retention - high flow rate
	■ Slip resistance - high requirement	■ Slip resistance - high requirement	■ Slip resistance - high requirement
Dry production process/ Wet cleaning process	<ul> <li>Hygienic design - one piece solution without connections; ladder grating or slot cover</li> </ul>	■ Hygienic design - connections and mesh gratings could be considered if cleaning and sanitation procedures allow	■ Hygienic design is recommended for easy cleaning and maintenance; combination of products could be considered for easy layout design
The committee of the control of the	■ High flow rate	■ High flow rate	■ High flow rate
	■ Slip resistance - medium requirement	Slip resistance - medium requirement	■ Slip resistance - medium requirement
Dry production process/ Controlled wet cleaning process	<ul> <li>Hygienic design - one piece solution without connections; ladder grating or slot cover</li> </ul>	<ul> <li>Hygienic design - connections and mesh gratings could be considered if cleaning and sanitation procedures allow</li> </ul>	<ul> <li>Hygienic design - recommended for easy cleaning and maintenance.</li> <li>A combination of products could be considered for easy layout design</li> </ul>
	■ Medium to low flow rate	■ Medium to low flow rate	■ Medium to low flow rate
	Odour proof cover	Odour proof cover	Odour proof cover

#### Drainage type

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

#### Point drainage (Gullies)



#### Linear drainage (Channel)



www.aco.co.uk/drainage-design

#### Material resistance

The chemical mixture of the waste water from the process and/or from the cleaning as well as temperature of the final mixture influences the material resistance of the drainage system.

ACO drainage is manufactured from austenitic stainless steel; grades 1.4301 or 1.4404 according to EN 10088 (304 or 316L according to AISI)

and is ideal for applications within food processing, dairy, brewery, commercial kitchen, pharmaceutical, chemical industries and leisure. Besides stainless steel, drainage products also contain sealing materials:

**ACO gullies** – all the seals are made of NBR (acryl nitrile-butadiene rubber)

or SBR (styrene-butadiene rubber)

**ACO box and slot channels** – flange connection seals are made of

flange connection seals are made of NBR (acryl nitrile-butadiene rubber) **ACO modular box and slot** 

**channels** – flange connection seals are made of NBR (acryl nitrilebutadiene rubber)

**ACO pipes** – socket seals can be made from either EPDM (ethylene propylene diene monomer) or FPM (fluoroelastomer) – Viton\*.

For details of material resistance see page 116 or contact our Sales/Technical department.

#### Floor structure and finish

Depending on the composition of the floor construction; the appropriate type of gully or channel should be selected. If there is a membrane present in the floor structure, the O-ring needs to be removed from the friction ring, which will allow the water from the insulation to be drained to the gully body.

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

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

Installation example

See page 106







#### **Accessories**

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

Telescopic connection w flange for waterproofing		ction with flange for waterproofing
ACO gully EG150	ACO hygienic gully 157	ACO hygienic gully 218
Accessories delivered as stan	dard with the gully	
	■ Friction ring; FAT; FAT support	■ Friction ring; FAT; FAT support
Optional accessories		
■ Sieve	<ul><li>Silt basket for vertical gully 0.6 I</li><li>Silt basket for horizontal gully 0.3 I</li></ul>	<ul> <li>Silt basket         for vertical gully 1.4  </li> <li>Silt basket         for horizontal gully 0.7  </li> </ul>

#### Gratings selection guide

When selecting the correct grating for your application, careful attention must be given to number of factors. The most important challenge is selecting the right type of grating with appropriate load class. Careful consideration of this will positively influence the grating lifespan.

### The correct grating type and load class

The grating itself is the most exposed part of gully or channel in regards to traffic. To minimize the risk of failures, a proper grating type and load class have to be considered based on the defined traffic during all future operations.

#### ■ Type of machinery

Depending on the type of production facility, usually there is a wide range of traffic machinery that will pass over the drainage. Forklifts with pneumatic tires and trolleys with small plastic wheels both behave differently when moving over the same type of grating.

#### ■ Unusual traffic

In occasional situations, machinery that hasn't been considered during grating specification may enter the area where the drainage is installed. This can include heavy trucks used for cleaning or disposal of waste. Even though this will happen rarely, it presents a great risk of damaging the gratings in just this one instance.

#### ■ Traffic frequency

Wide range of ACO gratings and covers offers a great selection base for both light and heavy load requirements. Consider all grating types and combinations for the most comfortable use.

#### ■ Drainage location

In real life scenario, the traffic movement can be irregular, causing sudden impacts or torque generated by wheels turning on the grating itself. This dynamic load stress can mount up to 2 times the static load value.





#### Load class standard

ACO gullies and ACO channels are tested and specified in accordance with BS EN 1253 norm and the ACO modu-

lar channels are tested and specified in accordance with BS EN 1433 norm.

The testing method for the two norms is different; therefore the values are not directly comparable.

\ mulication	EN 1253	Slow Moving Whe	el Load (Tonnes)
Application	(Gullies for Buildings)*  H1.5  K3  - L15  - R50*  M125  N250*	Pneumatic Tyres	Solid Tyres
	H1.5	Non-load	bearing
	K3	0.15	N/A
Α 🐘	-	0.5	N/A
	L15	0.7	N/A
AA 🙃	-	1.5	N/A
AAA 🛴	R50*	2.5	0.5
В	M125	5.0	0.75
c <b>4</b>	N250*	6.5	1.0
D	P400	11.0	3.0
E	-	16.0	5.0

<sup>\*</sup> These comparisons are indicative of the typical suitable area of application of each product class and are not a like for like performance comparison. Comparisons are for guidance only and not intended to be exact.

Other grating features to consider during selection are hygienic performance, chemical resistance, flow rate and slip resistance.

All of these are necessary to choose the appropriate grating that will last for a long time without any defects. The table below provides an overview of available gratings and their properties.













	6.34					
ACO grating type	ACO frameless ACO ladder ladder grating grating		ACO slot cover	ACO mesh grating		
	Slip resistant	Slip resistant	Plain	Plain	Slip resistant	Plain
Surface	electropolished	pickle passivated	pickle passivated	sand blasted top	electropolished	electropolished
Slip resistance	Yes	Yes	No	Yes	Yes	No
Cleanability	Excellent	Good	Good	Good	Sufficient	Sufficient
Potential for slip - Pendulum test BS 7976-2	Low	Low	Moderate	Low	Low	Moderate
Slip resistance classification - Ramp test DIN 51130	R11	R11	R9	R11	R11	R9
Load class availability acc. EN 1253 for hygienic channels	M 125	R 50; M 125; N 250; P 400*	R 50; M 125; N 250; P 400*	R 50; M 125; N 250	L 15	L 15
Load class availability acc. EN 1253 for hygienic gullies	M 125	R 50; M 125	N 250	R 50; M 125	L 15	L 15

<sup>\*</sup> P 400 load class available as customised solution only





## ACO micro floor gully, vertical outlet for resin and tiled flooring

#### Product information

The ACO Micro Floor Gully with grate is a small gully for low flows that can be specified as a point drainage in areas where waterproofing is independent of the gully body.

Fixed height gully.

Option of locked or unlocked grating.

#### Product benefits

- For resin, tiled and cementicious floors
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Perforated grating fitted as standard for pedestrian applications.
   Load class K3 to BS EN 1253



#### Order information

#### **ACO Micro Floor Gully**

	Top size	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 [I/s]	Foul air trap	Load class	Locked	Material	Part number
X	100 x 100	40	0.24	With FAT	К3	No	SS 304	04156
100mm						Yes	SS 304	04157

## ACO Condensate gully, horizontal outlet for resin and tiled flooring

#### Product information

ACO Condensate Gully can be specified as point drainage and has the option waterproofing through membrane clamping.

Telescopic solution enables height and rotational adjustment of connected gully top. Selection of ladder grates with tundishes available to prevent splashes to the surrounding area.

#### Product benefits

- Square gully top for resin and tiled flooring
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Ladder grate with tundish
- Also available in 316 stainless steel to special order



#### Order information

#### **ACO Condensate Gully**

	Top size	Outlet diameter	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant		Part number
	[mm]	ø [mm]	[l/s]					
<u>Ø50</u> 44 158-168								
97308	150 x 150	50	1.2	With FAT	NA	NA	SS 304	416417

#### ACO ladder grate with tundish

	Load class	Slip resistant	Material	Part number
Ø150 Ø25 M142x142	NA	NA	SS 304	416418
Ø75 Ø50x1 0 142x142	NA	NA	SS 304	416570

## ACO Rodding eye gully, vertical outlet

#### **Product information**

The ACO Rodding Eye gully is a point access for clearing the drain pipes.

The rodding eye can be specified for applications where waterproofing is independent of the gully body.

Available with square or round solid covers.

#### Product benefits

- Options for vinyl, resin and tiled floors
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Solid, square or round covers are available for pedestrian applications.
   Load class K3 to BS EN 1253



#### Order information

#### ACO Rodding eye vertical, round top

Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 [I/s]	Foul air trap	Load class	Flooring type	Material	Part number
ø168	110	NA	Without FAT	К3	Resin Tiled	SS 304	104004

#### ACO Rodding eye vertical, square top

Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 [I/s]	Foul air trap	Load class	Flooring type	Material	Part number
150 x 150	110	NA	Without FAT	К3	Resin Tiled	SS 304	104010

#### ACO Rodding eye vertical, square top for vinyl applications

Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 [I/s]	Foul air trap	Load class	Flooring type	Material	Part number
225 x 225	110	NA	Without FAT	К3	Vinyl	SS 304	105070

## Solid Covers for Rodding Eye Gully

#### **Product information**

Range of solid covers for ACO Rodding Eye Gullies. Suitable for applications with light pedestrian traffic.

#### Product benefits

- Square and round solid covers
- Air tight cover for ACO Rodding Eye Gully systems
- Covers are linished/brushed
- Fits to stainless steel gully, fully compliant to BS EN 1253)
- Range of gratings suitable to load class K3 (BS EN 1253)

#### Order information

#### **ACO Solid Square Cover**

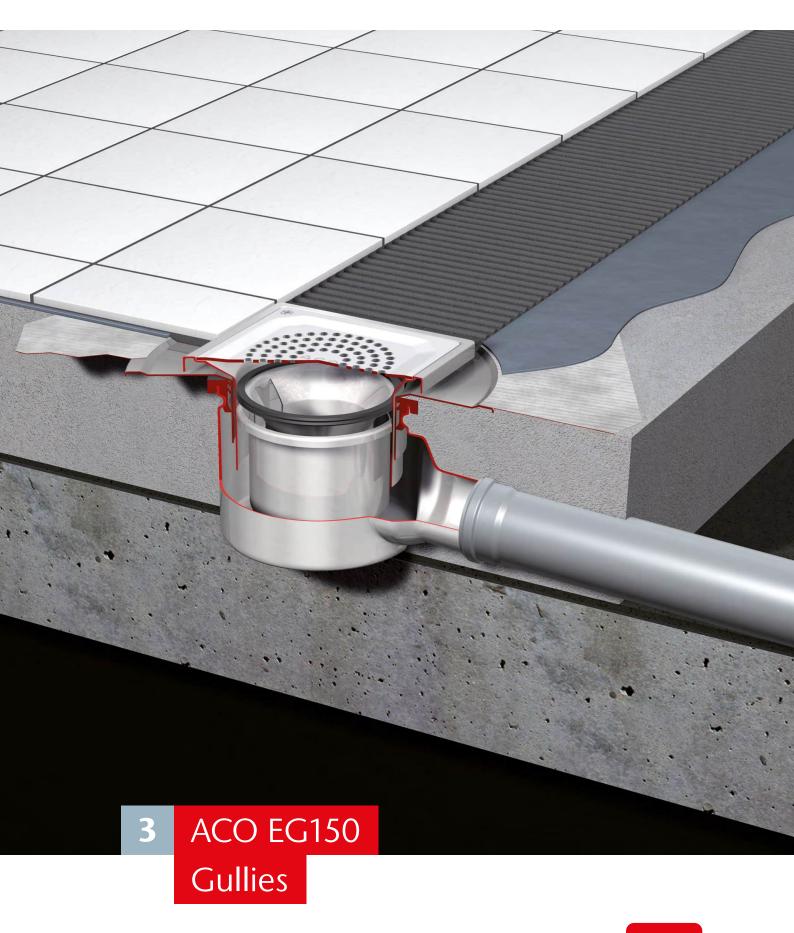


Load class	Slip resistant	Material	Part number
К3	No	SS 304	105054

#### **ACO Solid Round Cover**



Load class	Slip resistant	Material	Part number
K3	No	SS 304	105049



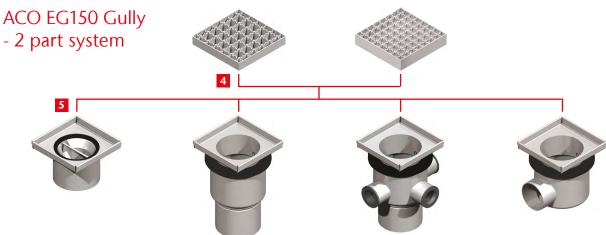


## ACO EG150 Gully

#### Product range overview

- 1 Gullies for cementitious/resin screed and tile applications with perforated grating (page 26).
- 2 Gullies for damp proof membrane bonding (page 29).
- 3 Gullies for vinyl sheet flooring (page 23).
- 4 Mesh gratings for cementitious/resin screed and tile applications (page 33).
- 5 Gullies for cementitious/resin screed and tile applications with top for mesh grate (page 30).





#### Features and benefits

- Perforated grating fitted as standard for pedestrian applications. Load class K3 to BS EN 1253. Antiligature options available for EG150 gratings.
- 2 Removable sieve (optional).
- Removable in-line foul air trap fitted as standard, flow rate 1.2 l/s. 50mm water seal meets requirements of BS EN 1253.
- Telescopic height variant providing full 360° rotation and +/- 7.5° pitch and roll adjustment.
- 5 Smooth contour design minimises bacteria traps.
- 3 back inlet variant available supplied with fully interchangeable adaptors to suit 32mm / 1.25" to BS 5254 and 40mm / 1.5" to BS 5255 waste pipes.

- **7** Ø110mm vertical spigot outlet.
- 8 Clamp for vinyl flooring.
- 9 End stops provided to prevent accidental dismantling on telescopic variants.
- Damp proof membrane bonding flanges available for the ultimate in sub-floor security.
- 11 Available with Ø75mm horizontal spigot outlet.
- Shallow gully option, ideal for suspended floor or other restricted depth applications.
- Mesh grating for cementious / resin screed and tiled applications (2 part system).
- Gullies for cementious / resin screed and tiled applications.



## ACO EG150 gully, vertical outlet for vinyl flooring, complete with Grate

#### Product information

EG150 gully complete with grate can be specified as a point drainage in areas where waterproofing is independent of the gully body.

Telescopic solution enables height and rotational adjustment of connected gully top or channel. Multiple side inlets for extra drainage points.

#### Product benefits

- Clamp for vinyl sheet flooring
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Perforated grating fitted as standard for pedestrian applications Load class K3 to BS EN 1253
- Shallow gully option, ideal for suspended floor or other restricted depth applications
- Telescopic gully option, for flexible installation
- Telescopic gully option, with choice of 3 back inlets, supplied with fully interchangeable adaptors to suit 32mm (BS 5254) and 40mm (BS 5255) waste pipes



#### Order information

#### ACO EG150 gully, vertical outlet for vinyl flooring

	Top size	Outlet diameter	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant	Material	Part number
	[mm]	ø [mm]	[l/s]					
Ø110m m							SS 304	97212
Ø225m m	225	110	1.2	With FAT	К3	No	SS 316	97262

#### ACO Gully EG150 fixed, vertical with telescopic, gully top clamping flange and round grating

	Top size	Outlet diameter	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant	Material	Part number
	[mm]	ø [mm]	[l/s]					
Ø110m m	225	110	1.2	With FAT	К3	No	SS 304	97207
Ø225m m	223	110	1.2	with the	ĸ3	INU	SS 316	97257

#### ACO Gully EG150 fixed, side inlets, vertical with telescopic, gully top clamping flange and round grating

	Top size	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 [l/s]	Foul air trap	Load class	Slip resistant	Material	Part number
0110m m	225	110	1.2	With FAT	К3	No	SS 304	97209
Ø225mm	223	110	1.2	WIUI FAI	N.J	INU	SS 316	97259

# ACO EG150 gully, horizontal outlet for vinyl sheet flooring complete with grate

#### Product information

The EG150 Gully complete with grate can be specified as a point drainage in areas where waterproofing is independent of the gully body.

#### Product benefits

- Clamp for vinyl sheet flooring
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Perforated grating fitted as standard for pedestrian applications.
   Load class K3 to BS EN 1253



#### Order information

#### ACO Gully EG150 horizontal, with round gully top for vinyl including grating

	Top size	Outlet diameter	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant	Material	Part number
126-156mm 52mm	[mm]	ø [mm]	[1/s]				SS 304	97208
Ø225mm	225	75	1.2	With FAT	K3	No	SS 316	97258

## ACO EG150 gully, vertical outlet for resin and tiled flooring complete with grate

#### **Product information**

EG 150 complete with grate can be specified as a point drainage in areas where waterproofing is independent of the gully body.

Telescopic solution enables height and rotational adjustment of connected gully top or channel. Multiple side inlets for extra drainage points.

#### Product benefits

- For resin and tiled floors
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Perforated grating fitted as standard for pedestrian applications. Load class K3 to BS EN 1253
- Shallow gully option, ideal for restricted depth applications
- Telescopic gully option, for flexible installation
- Telescopic gully option, with choice of 3 back inlets, supplied with fully interchangeable adaptors to suit 32mm (BS 5254) and 40mm (BS 5255) waste pipes
- Anti-ligature options available for EG150 gratings.



#### Order information

#### ACO EG150 vertical gully with square grating

	Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 [l/s]	Foul air trap	Load class	Slip resistant	Material	Part number
Ø110m m	150 x 150	110	1.2	With FAT	νo	No	SS 304	97211
150m m	130 X 130	110	1.2	WILA FAI	К3	No	SS 316	97261

#### ACO Gully EG150 vertical with telescopic square gully top and grate

	Top size	Outlet diameter	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant	Material	Part number
212-242m m	[mm]	ø [mm]	[1/s]				SS 304	97200
Ø110m m	150 x 150	110	1.2	With FAT	К3	No	33 304	9/200
150m m							SS 316	97250

#### ACO Gully EG150 vertical and side inlets, complete with telescopic square gully top and grate

	Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant	Material	Part number
Ø115-242mm	[]	<i>y</i> [iiiii]	[I/s]				SS 304	97202
150mm	150 x 150	110	1.2	With FAT	К3	No	SS 316	97252

## ACO EG150 gully, horizontal outlet for resin and tiled flooring complete with grate

#### **Product information**

The EG150 Gully. complete with grate can be specified as a point drainage in areas where waterproofing is independent of the gully body.

#### Product benefits

- For resin and tiled floors
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Shallow gully option, ideal for fully supported or concreted suspended floor and other restricted depth applications
- Perforated grating fitted as standard for pedestrian applications.
   Load class K3 to BS EN 1253
- Anti-ligature options available for EG150 gratings.



#### Order information

#### ACO Gully EG150 horizontal complete with telescopic, square gully top and grating

	Top size	Outlet diameter	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant	Material	Part number
120-150mm 52mm	[mm]	ø [mm]	[I/s]				SS 304	97201
150mm	150 x 150	75	1.2	With FAT	K3	No	SS 316	97251

## ACO EG150 gully, vertical outlet for resin and tiled flooring, with bonding flange and grate

#### Product information

The EG150 Gully with bonding flange for waterproofing onto the gully body, complete with grate can be specified as a point drainage.

Telescopic solution enables height and rotational adjustment of connected gully top or channel. Multiple side inlets for extra drainage points.

#### Product benefits

- For resin and tiled floors
- Gully body with bonding flange for waterproofing
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Perforated grating fitted as standard for pedestrian applications.
   Load class K3 to BS EN 1253
- Telescopic gully option, for flexible installation
- Telescopic gully option, with choice of 3 back inlets, supplied with fully interchangeable adaptors to suit 32mm (BS 5254) and 40mm (BS 5255) waste pipes
- Anti-ligature options available for EG150 gratings.



#### Order information

#### ACO Gully EG150 vertical with telescopic, square gully top and grating

	Top size	Outlet diameter	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant	Material	Part number
	[mm]	ø [mm]	[l/s]					
61 10mm	150 x 150	110	1.2	With FAT	К3	No	SS 304 SS 316	97216 97266

#### ACO Gully EG150 vertical, side inlets with telescopic, square gully top and grating

	Top size	Outlet diameter	Flow rate BS EN 1253-1	Foul air trap	Load class		Material	Part number
	[mm]	ø [mm]	[l/s]					
Eugh chi							SS 304	97205
150m m. 0250mm		110	1.2		K3	No	SS 316	97255

## ACO EG150 gully, vertical outlet for resin and tiled flooring, 2-part system

#### **Product information**

The EG150 gully combination can be specified as a point drainage in areas where waterproofing is independent of the gully body.

Fixed height and telescopic versions. Gully top suitable for mesh grates with different properties. Telescopic solution enables height and rotational adjustment of connected gully top. Multiple side inlets for extra drainage points.

#### Product benefits

- For resin and tiled floors
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- 2-part gully systems
- Selection of mesh grates available
- Shallow gully option, ideal for suspended floor or other restricted depth applications
- Telescopic gully option, for flexible installation
- Telescopic gully option, with choice of 3 back inlets, supplied with fully interchangeable adaptors to suit 32mm (BS 5254) and 40mm (BS 5255) waste pipes



#### Order information

#### ACO Gully EG150 vertical, with square top

	Top size	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 [l/s]	Foul air trap	Load class	Slip resistant	Material	Part number
8 90110mm				-			SS 304	400834
150mm	150 x 150	110	1.2	With FAT	K3	No	SS 316	400835

#### ACO Gully EG150 vertical with square, telescopic gully top

	Top size	Outlet diameter	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant	Material	Part number
212-242m m m m0110m m	[mm]	ø [mm]	[I/s]	M/i+b FAT	ν2	No	SS 304	97296
150m m	150 x 150	110	1.2	With FAT	K3	No	SS 316	97298

#### ACO Gully EG150 vertical, inlets with square, telescopic gully top

	Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 [I/s]	Foul air trap	Load class	Slip resistant	Material	Part number
212-242m m m m0110m m			(3.3)				SS 304	97312
150m m	150 x 150	110	1.2	With FAT	К3	No	SS 316	97314

## ACO EG150 gully, horizontal outlet for resin and tiled flooring, 2-part system

#### **Product information**

The EG150 gully combination can be specified as a point drainage in areas where waterproofing is independent of the gully body.

Telescopic gully suitable for both mesh and ladder grates.

Telescopic solution enables height and rotational adjustment of connected gully top.

#### Product benefits

- For resin and tiled floors
- Tested and certified according to BS EN 1253
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- 2-part gully systems
- Selection of mesh grates available
- Shallow gully option, ideal for suspended floor or other restricted depth applications



#### Order information

#### ACO EG150 gully, horizontal outlet for resin and tiled flooring

		•	Flow rate BS EN 1253-1	Foul air trap	Load class	Slip resistant	Material	Part number
120-150mm	[mm]	ø [mm]	[1/s]				SS 304	97308
150mm	150 x 150	75	1.2	With FAT	NA	NA	SS 316	97310

## Gratings for gully top 150 x 150

#### **Product information**

Ladder and mesh grates suitable for light pedestrian traffic applications.

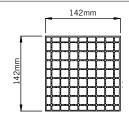
#### Product benefits

- Mesh grate for EG150 2-part system
- Mesh grate is electro-polished, Ladder grate is pickled
- Grates to load class K3 (BS EN 1253)
- Slip resistant solution available

#### Order information

#### **ACO** mesh grating

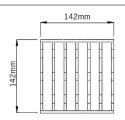




Load class	Slip resistant	Material	Part number
٧12		SS 304	05964
KIS		SS 316	15964
٧12	Yes No	SS 304	05965
KID	INO	SS 316	15965

#### **ACO ladder grating**





Load class	Slip resistant	Material	Part number
И12	Voc	SS 304	96851
K13	Yes	SS 316	401527

#### Accessories and replacement parts for ACO gully EG150

	Description	Used with	Material	Part number
108	ACO Sieve	■ ACO gully EG150,	SS 304	97235
111111111111111111111111111111111111111	■ Stainless steel	Fixed height or telescopic	SS 316	97285
Ø108.5mm	ACO Foul air trap	<ul><li>ACO gully EG150, Fixed height or telescopic</li></ul>	SS 304	97217
	<ul><li>Stainless steel</li><li>Water seal 50 mm</li></ul>		SS 316	97267





### General introduction

#### Hygiene First

As one of the World's leading commercial drainage specialists, The 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 out of mind.

As a result, many drainage systems are not designed well, which leads to inefficiencies, costly on going cleaning and maintenance. In worst case scenario it can result in food contamination, closure of a facility and even loss of a business. As the company that's 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 drainage solutions that minimize operational costs without compromising food safety.

### Hygienic design requirements

ACO offers sustainable drainage systems which are designed to protect 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.

### National Sanitation Foundation (NSF) International

ACO has become the first and only drainage company to obtain 14159-1 – Hygiene Requirements for the Design of Meat and Poultry Processing Equipment certification for its products from NSF International.

The certification has been awarded to ACO in recognition of the hygienic performance of its drainage systems and products, and its compliance with the strict standards and procedures of the NSF.

It also underlines ACO's ongoing commitment to the very high standards of manufacturing and to research-led product development which ensures its products deliver optimum hygienic performance.

#### **EHEDG**

ACO hygienic drainage fulfils stringent hygienic requirements to prevent harmful bacteria contamination. We apply relevant hygienic design principles that are reserved for food contact surfaces BS EN 1672, BS EN ISO 14159 and EHEDG documents No. 8, 13 and 44 to the design of our drainage products.





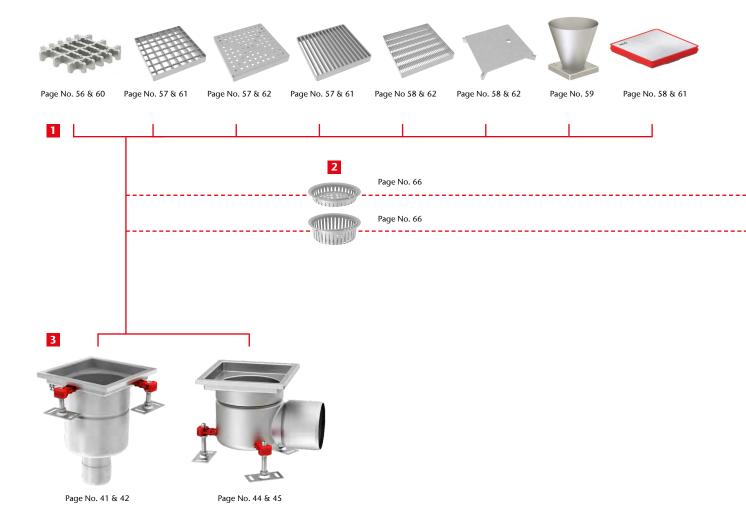
## ACO Gully 157 - Fixed Height

#### Product range overview

- 1 Gratings
- 2 Silt baskets
- 3 Gully bodies for fixed height

ACO Gully 157 is designed to be used in applications where hygiene, durability and performance requirements are paramount. Available in both stainless steel grades 304 and 316 the range comprises of a variety of different product choices. 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.

As shown below, two generic gully configurations are available. Fixed height gullies are convenient, freestanding units suitable for cementitious, resin or tiled floors.



### User benefits

- Fully compliant to BS EN 1253.
- Hygienic design following BS EN 1672 and BS EN ISO 14159 requirements.
- Slip resistant gratings provide user safety.
- Easy and low cost cleaning.
- Stainless steel construction for durability and long life.
- Optional silt basket.
- Wide range of grating choice.
- Gully top edge infill supplied as standard for hygiene and durability.
- Positive membrane drainage.

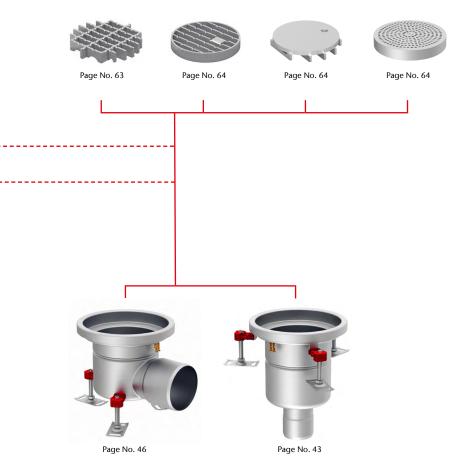
### Contractor benefits

- Low construction height.
- Friction lock telescopic adjustment reduces installation time.
- Gully levelling facilities.
- Quick and reliable flange connection for waterproofing membranes.
- Friction ring converts easily to membrane seepage drainage.
- Gully top edge infill for durability and eliminates time-consuming back filling.
- Easy installation for all floor types

   ceramic tiles, cementitious, resin screeds and vinyl.

### Specifier benefits

- Fully compliant to BS EN 1253.
- Hygienic design following BS EN 1672 and BS EN ISO 14159 requirements.
- Slip resistant gratings provide user safety.
- Stainless steel construction for durability and long life.
- Gully top edge infill supplied as standard for hygiene and durability.
- Wide range of gratings for all load class applications.
- Low construction height.
- Reliable waterproofing membrane connection options.
- Waterproofing membrane seepage drainage provision.
- Suitable for all floor types ceramic tiles, cementitious, resin screeds and vinyl.



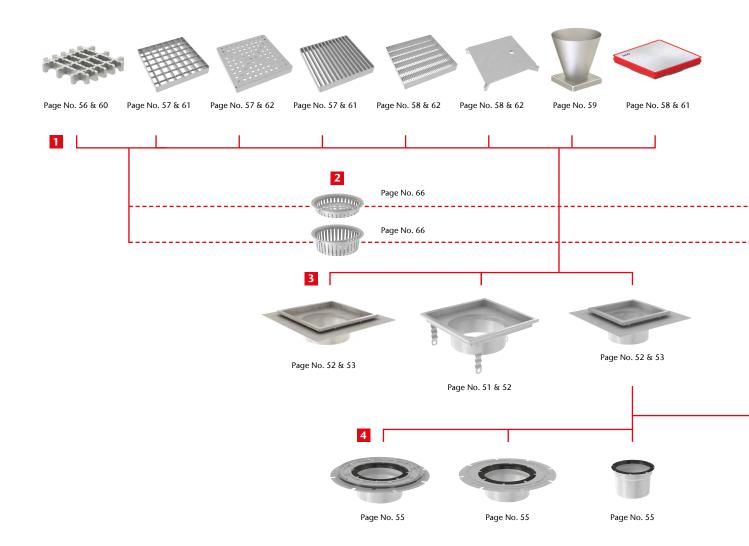
## ACO Gully 157 - Telescopic

### Product range overview

- 1 Gratings
- 2 Silt baskets
- 3 Gully tops
- 4 Raising pieces
- 5 Gully bodies for telescopic adjustable gullies

ACO Gully 157 is designed to be used in applications where hygiene, durability and performance requirements are paramount. Available in both stainless steel grades 304 and 316 the range comprises of a variety of different product choices. 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.

As shown below, two generic gully configurations are available. Telescopic gullies can be installed either with ACO gully tops or with ACO stainless steel linear drainage channels in most flooring constructions, including floors with waterproofing membranes.



### User benefits

- Fully compliant to BS EN 1253.
- Hygienic design following BS EN 1672 and BS EN ISO 14159 requirements.
- Slip resistant gratings provide user safety.
- Easy and low cost cleaning.
- Stainless steel construction for durability and long life.
- Optional silt basket.
- Wide range of grating choice.
- Gully top edge infill supplied as standard for hygiene and durability.
- Positive membrane drainage.

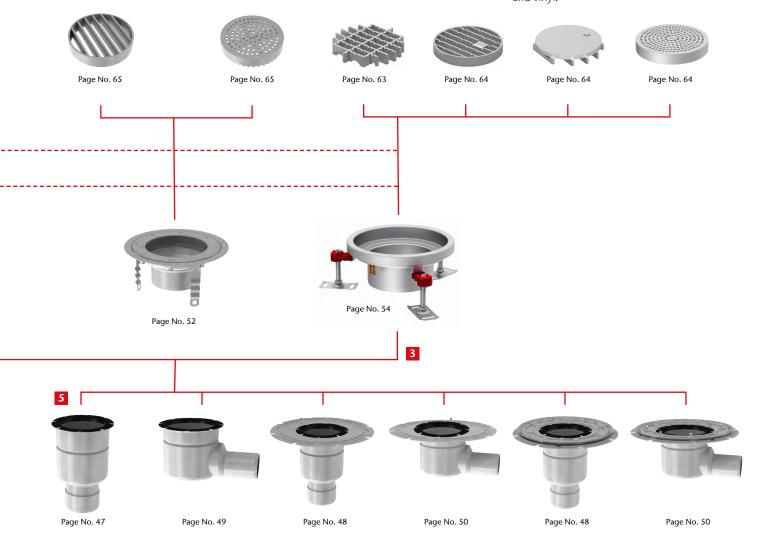
### Contractor benefits

- Low construction height.
- Friction lock telescopic adjustment reduces installation time.
- Gully levelling facilities.
- Quick and reliable flange connection for waterproofing membranes.
- Friction ring converts easily to membrane seepage drainage.
- Gully top edge infill for durability and eliminates time-consuming back filling.
- Easy installation for all floor types

   ceramic tiles, cementitious, resin screeds and vinyl.

### Specifier benefits

- Fully compliant to BS EN 1253.
- Hygienic design following BS EN 1672 and BS EN ISO 14159 requirements.
- Slip resistant gratings provide user safety.
- Stainless steel construction for durability and long life.
- Gully top edge infill supplied as standard for hygiene and durability.
- Wide range of gratings for all load class applications.
- Low construction height.
- Reliable waterproofing membrane connection options.
- Waterproofing membrane seepage drainage provision.
- Suitable for all floor types ceramic tiles, cementitious, resin screeds and vinyl.



Location flange gully bodies - no waterproof membrane

Adhesive bonding flange gully bodies - welding or adhesive bonding of waterproof membrane

Clamping flange gully bodies
- mechanical clamping of waterproof membrane

## Hygienic design principles

### Hygienic design

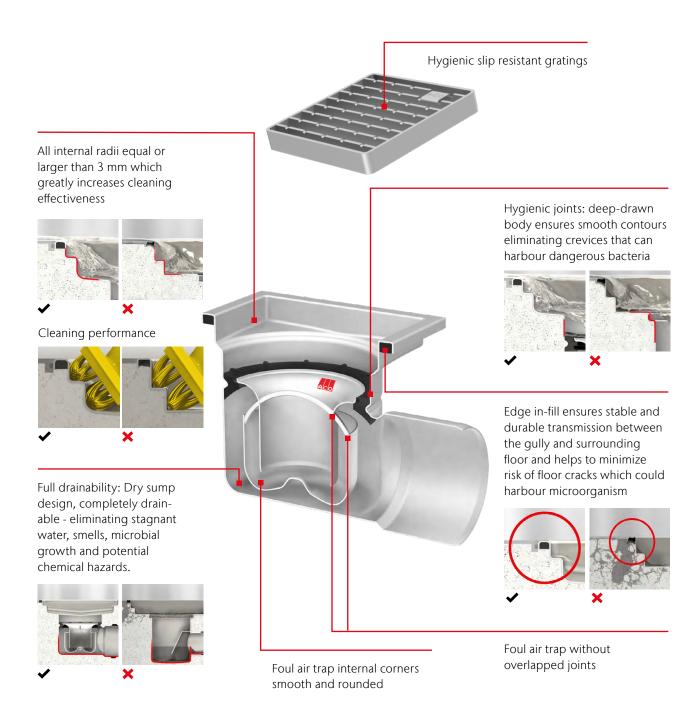
ACO hygienic drainage fulfils hygienic requirements to prevent harmful bacterial contamination.

We apply the relevant hygienic design principles reserved for food processing equipment BS EN 1672, BS EN ISO 14159, EHEDG document No. 8, 13, 44.

### ACO gully hygienic features:

- Full drainability
- Internal radii equal or larger than 3 mm
- Hygienic joints
- Edge infill

- Stainless steel grade min. 1.4301 according to EN 10088 (304 according to AISI) and 316
- Fully pickled and passivated



## ACO hygienic gully 157 fixed height, vertical outlet

### Product information

Fixed height gullies 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.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request
- Tested and certified according to BS EN 1253
- Fire tested and certified solution available for classes EI 90 EI 180 (BS EN 13501-2)
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



### Order information

### ACO Gully 157 fixed height, vertical outlet

	Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 / Direct [I/m]	Foul air trap	Material	Part number
Standard edge - square 200 x 200mm	[]	<i>»</i> []	[1/111]			
200	200 x 200	110	3.5 / 4.5	With FAT	SS 304	408003
Ø110 Ø157	200 / 200		3.57 1.5	With FAT	SS 316	408103

### ACO Gully 157 fixed height, vertical outlet

	Top size	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 / Direct [I/m]	Foul air trap	Material	Part number
Standard edge - square 250 x 250mm						
250 89 80 80 80 80 80 80 80 80 80 80	250 x 250	110	35/45	With FAT	SS 304	408019
	250 x 250	110	3.5 / 4.5	With FAT	SS 316	408119

## ACO hygienic gully 157 fixed height, vertical outlet, round top

### 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.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Tested and certified according to BS EN 1253
- Wide range of gratings including slip resistant solution
- Fire tested and certified solution available for classes EI90 EI 180 (BS EN 135012-2)
- Adjustable EasyFix levelling feet



### Order information

### ACO Gully 157 fixed height, vertical outlet

	Top size ø [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 / Direct [I/m]	Foul air trap	Material	Part number
tandard edge - round  Ø230  Ø200  Ø110	220	110	25/45	M/seb FAT	SS 304	446737
Ø157	230	110	3.5 / 4.5	With FAT	SS 316	446745

# ACO hygienic gully 157 fixed height, horizontal outlet

### 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.

#### Product benefits

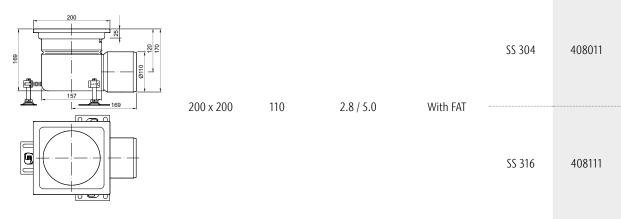
- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available available on request
- Tested and certified according to BS EN 1253
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



### Order information

#### ACO Gully 157 fixed height, horizontal outlet

		diameter	EN-1253-1 / Direct	Foul air trap	Material	number
	[mm]	ø [mm]	[l/m]		-	
tandard edge - square 200 x 200mn	n					
200						



### ACO Gully 157 fixed height, horizontal outlet

	Outlet	Flow rate			Part
Top size	diameter	EN-1253-1 / Direct	Foul air trap	Material	number
[mm]	ø [mm]	[l/m]			

### Standard edge - square 250 x 250mm



## ACO hygienic gully 157 fixed height, horizontal outlet, round top

### 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.

### Product benefits

- Hygienic design following BS EN 1672, BS EN ISOI 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request
- Tested and certified according to BS EN 1253
- Wide range of gratings including slip resistant solution
- Adjustable EasyFix levelling feet



### Order information

### ACO Gully 157 fixed height, horizontal outlet

	Top size ø [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 / Direct [l/m]	Foul air trap	Material	Part numbei
andard edge - round	220	110	20.45.0	Well-EAT	SS 304	446741
173	230	110	2.8 / 5.0	With FAT	SS 316	446749

## ACO hygienic gully 157 telescopic, vertical outlet

### 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.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Tested and certified according to BS EN 1253
- Fire tested and certified solution available for classes EI90 EI 180 (BS EN 135012-2)
- Suitable for all floor types including vinyl flooring
- Telescopic friction ring included



### Order information

### **ACO Telescopic vertical gully**

	Type of flange	Outlet diameter ø [mm]	Flow rate EN-1253-1 / Direct [I/m]	Foul air trap	Material	Part number
Ø182			SS 30	SS 304	408055	
Ø110 Ø157	Location flange	110	3.5 - 4.4 / 4.5	With FAT	SS 316	408155

### **ACO Telescopic vertical gully**

	Type of flange	Outlet diameter ø [mm]	Flow rate EN-1253-1 / Direct [I/m]	Foul air trap	Material	Part number
Ø358  Ø358  Ø310  Ø110  Ø157	Adhesive bonding flange	110	3.5 - 4.4 / 4.5	With FAT	SS 304	408057
		110			SS 316	408157
Ø358  Ø358  Ø310  Ø110  Ø157	Mechanical clamping flange	110	3.5 - 4.4 / 4.5	With FAT	SS 304	408059
					SS 316	408159

## ACO hygienic gully 157 telescopic, horizontal outlet

### **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.

#### Product benefits

- BS EN 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Tested and certified according to BS EN 1253
- Suitable for all floor types including vinyl flooring
- Telescopic friction ring included
- Adjustable EasyFix levelling feet



### Order information

### **ACO Telescopic horizontal gully**

	Type of flange	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 / Direct [I/m]	Foul air trap	Material	Part number
Ø182 Ø182 Ø182 Ø182 Ø182 Ø182 Ø182 Ø182 Ø182					SS 304	408079
	Location flange	110	2.8 - 4.4 / 4.5	With FAT	SS 316	408179

### **ACO Telescopic horizontal gully**

-	Type of flange	Outlet diameter ø [mm]	Flow rate BS EN 1253-1 / Direct [I/m]	Foul air trap	Material	Part number
Ø358  Ø358  Ø358  Ø358  Ø358  Ø358	Adhesive bonding flange	110	2.8 - 4.4 / 4.5	With FAT	SS 304	408081
					SS 316	408181
Ø358  Ø358  Ø358  Ø36  Ø358	Mechanical	110		With FAT	SS 304	408083
	clamping flange		2.8 - 4.4 / 4.5		SS 316	408183

# ACO hygienic gully 157 gully top, telescopic

### Product information

A gully top can be combined with a telescopic gully. Different types of gully top are available depending on the required floor structure.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Protective cover available on request. See page 264 for more details
- Tested and certified according to BS EN 1253
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



### Order information

### **ACO Telescopic gully top**

	Gully top type	Gully top size	Material	Part number
		[mm]		
200			SS 304	408208
	Standard edge	200 x 200	SS 316	408218

### **ACO Telescopic gully top**

The Telescopic gaily top	Gully top type	Gully top size	Material	Part number
250		[mm]	SS 304	408248
	Standard edge	250 x 250	SS 316	408258
Ø289 Ø142	Vioul adge	Ø289	SS 304	408240*
	Vinyl edge	0209	SS 316	408250*
200 88			SS 304	408241
	Extended edge	200 x 200	SS 316	408251
200 S S S S S S S S S S S S S S S S S S	Extended edge with drainage holes		SS 304	408244
		200 x 200	SS 316	408254

 $<sup>^{\</sup>star}$  Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13, 44 not applied.

### **ACO Telescopic gully top**

	Gully top type	Gully top size	Material	Part number
250 8 8		[IIIII]	SS 304	408245
	Extended edge	250 x 250	SS 316	408255
250 8 8	Extended edge with drainage holes		SS 304	408246
		250 x 250	SS 316	408256

# ACO hygienic gully 157 gully top, telescopic, round top

### Product information

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

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Protective cover available on request
- Tested and certified according to BS EN 1825
- Wide range of gratings including slip resistant solution
- Adjustable EasyFix levelling feet



### Order information

### ACO Telescopic gully top - round

	Gully top type	Gully top size	Material	Part number
		ø [mm]		
Ø230 Ø200 Ø142			SS 304	446750
	Standard edge	230	SS 316	446751

# ACO hygienic gully 157 raising piece, telescopic

### Product information

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

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Tested and certified according to BS EN 1253
- Suitable for all floor types including vinyl flooring
- Variety of flanges for membranes
- Telescopic friction ring included



### Order information

### **ACO Telescopic raising piece**

	Type of flange	Material	Part number
Ø182 Ø142 Ø142		SS 304	408249
	Location flange	SS 316	408259
8358 9142 9142	Adhesive bonding flange	SS 304	408206
		SS 316	408216
S S S S S S S S S S S S S S S S S S S	Madagialahari	SS 304	408207
	Mechanical clamping flange	SS 316	408217

# Gratings for gully top 200x200

### **Product information**

Variety of grate types is available depending on application and requested load class.

For applications with high hygienic demands ladder grate or cast grate should be selected.

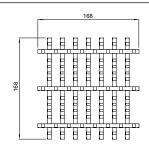
#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fits to stainless steel gully, fully compliant to BS EN 1253 and NSF International
- Range of gratings suitable to load class L 15, R 50, M 125 or N 250 (BS EN 1253)
- Slip resistant solution available

### Order information

### **ACO hygienic frameless ladder grating**



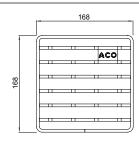


Load class	Slip resistant	Material	Part number
M125	v	SS 304	446264
	Yes	SS 316	446265

Note: Surface electropolished

### **ACO** hygienic ladder grating

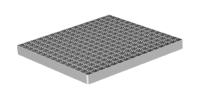


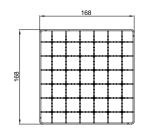


Load class	Slip resistant	Material	Part number
R50		SS 304	416912
	Yes	SS 316	416913
N250		SS 304	408043
	No	SS 316	408143

Note: Surface pickle passivated

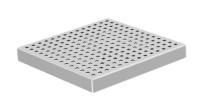
### **ACO** mesh grating





Load class	Slip resistant	Material	Part number
L 15	Voc	SS 304	408090*
	Yes	SS 316	408190*
		SS 304	408091*
	No	SS 316	408191*

### **ACO** quadrato grating

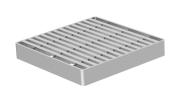


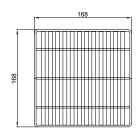
			168	}		
t	_					
168						
,						

Load class	Slip resistant	Material	Part number
L 15	No	SS 304	408092*
	NO	SS 316	408192*

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

### **ACO** heelsafe grating

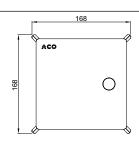




Load class	Slip resistant	Material	Part number
L 15	No	SS 304	408022*
	No	SS 316	408122*

### ACO hygienic slot cover



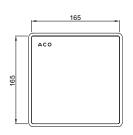


Load class	Slip resistant	Material	Part number
M125	Voc	SS304	445782
	Yes	SS316	445783

Note: Top surface sandblasted

### ACO odour proof gully cover





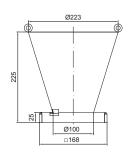
Load class	Slip resistant	Material	Part number
R50	No	SS 304	445398*
M125	No	SS 316	445605*

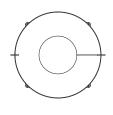
To ensure easy removal of this cover please select and ACO Vacuum handle from page  $66\,$ 

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

### ACO tundish for gully top







Description	Material	Part number
ACO tundish for gully top 200 x 200	SS 304	415918

# Gratings for gully top 250x250

### **Product information**

Variety of grate types is available depending on application and requested load class.

For applications with high hygienic demands a ladder grate should be selected.

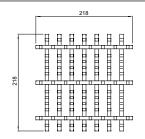
#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fits to stainless steel gully, fully compliant to BS EN 1253 and NSF International
- Range of gratings suitable to load class L 15, R 50, M 125 or N 250 (BS EN 1253)
- Slip resistant solution available

### Order information

### **ACO hygienic frameless ladder grating**

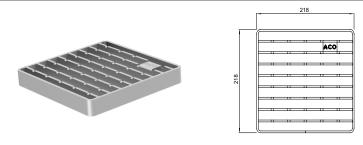




Load class	Slip resistant	Material	Part number
M125	Yes	SS 304	446268
	103	SS 316	446269

Note: Surface electropolished

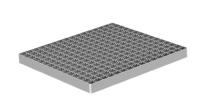
### **ACO** hygienic ladder grating

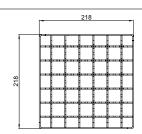


Load class	Slip resistant	Material	Part number
R50	Yes	SS 304	416914
		SS 316	416915
N250	No	SS 304	408044
		SS 316	408144

Note: Surface pickle passivated

### **ACO** mesh grating



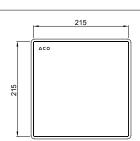


Load class	Slip resistant	Material	Part number
LIJ	Voc	SS 304	408095*
	Yes	SS 316	408195*
		SS 304	408096*
	No	SS 316	408196*

Note: Surface electropolished

### ACO Gully 157 odour cover \$/\$316

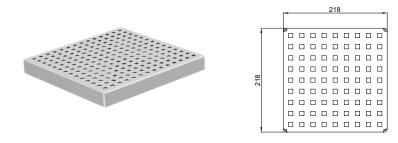




Load class	Slip resistant	Material	Part number
R50	No	SS 316	445399
M125	No	SS 316	445607

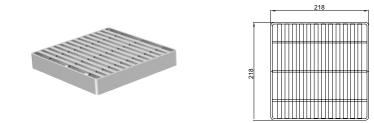
To ensure easy removal of this cover please select and ACO Vacuum handle from page 66

### **ACO** quadrato grating



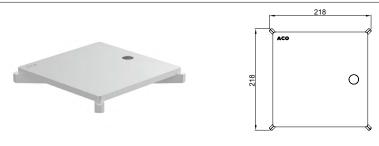
Load class	Slip resistant	Material	Part number
L15		SS 304	408097*
	No	SS 316	408197*

### **ACO** heelsafe grating



Load class	Slip resistant	Material	Part number
L15	N	SS 304	408031*
	No	SS 316	408131*

### **ACO** hygienic slot cover



Load class	Slip resistant	Material	Part number
M125	V	SS 304	445786
	Yes	SS 316	445787

Note: Top surface sandblasted

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

# Gratings for gully top ø 230 mm

### **Product information**

Variety of grate types is available depending on application and requested load class.

For applications with high hygienic demands a ladder grate should be selected.

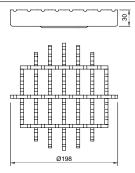
#### Product benefits

- Hygienic design following BS EN 1672, BS EN 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fits to stainless steel gully, fully compliant to BS EN 1253 and NSF International
- Range of gratings suitable to load class R 50 and M 125 (BS EN 1253)
- Slip resistant solution available

### Order information

### ACO hygienic frameless ladder grating - round



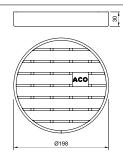


Load class	Slip resistant	Material	Part number
R50		SS 304	446780
	Yes	SS 316	446781
M125		SS 304	446784
	Yes	SS 316	446785

Note: Surface electropolished

### ACO hygienic ladder grating - round



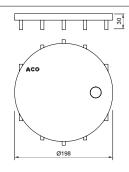


Load class	Slip resistant	Material	Part number
R50	Yes	SS 304	447761
		SS 316	447762
N250	v	SS 304	446974
	Yes	SS 316	446975

Note: Surface electropolished

### ACO hygienic slot cover - round



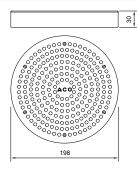


Load class	Slip resistant	Material	Part number
M125	Yes	SS 304	446788
		SS 316	446789

Note: Top surface sandblasted

### ACO perforated grating - round





Load class	Slip resistant	Material	Part number
L15		SS 304	447728
	No	SS 316	447736

Note: Surface electropolished

## Gratings for vinyl top ø170

### Product information

Variety of grate types is available depending on application and requested load class.

For applications with high hygienic demands a ladder grate should be selected.

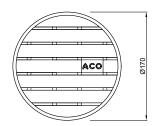
#### Product benefits

- Hygienic design following BS EN 1672, BE EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fits to stainless steel gully, fully compliant to BS EN 1253
- Stainless steel construction for durability and long life
- Range of gratings suitable to load class L 15 and M 125 (BS EN 1253)
- Slip resistant solution available

### Order information

### **ACO ladder grating**



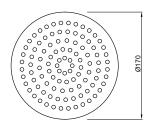


Load class	Slip resistant	Material	Part number
M125		SS 304	97146
	Yes	SS 316	97367

Note: Surface electropolished

### **ACO** perforated grating





Load class	Slip resistant	Material	Part number
I 1 E	Ma	SS 304	97152*
LIS	No	SS 316	97369*

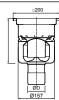
## Accessories

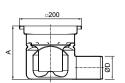
### Accessories and replacements for ACO hygienic gully 157

	Description	Used with	Material	Part number
Ø159	ACO silt basket  Stainless steel	<ul><li>ACO hygienic gully 157, vertical</li></ul>	SS 304	416904
8	■ 0.6 litre capacity	□ Fixed height or telescopic	SS 316	416905
Ø159 WILLIAAAAAAAA	ACO silt basket  Stainless steel	<ul> <li>ACO hygienic gully 157, horizontal</li> </ul>	SS 304	416906
8 4000000000000000000000000000000000000	■ 0,3 litre capacity	□ Fixed height or telescopic	SS 316	416907
Ø127	ACO hygienic foul air trap	= ACO bugianic gully 157	SS 304	408200
105	<ul><li>Stainless steel</li><li>Water seal 50 mm</li></ul>	■ ACO hygienic gully 157  ☐ Telescopic	SS 316	408210
Ø184	ACO friction ring ■ SBR (Styrene-butadiene rubber)	■ ACO hygienic gully 157  □ Telescopic	SBR	408205
Ø156	ACO standard foul air trap support ■ NBR (Acryl nitrile-butadiene rubber)	■ ACO hygienic gully 157 □ Fixed height □ Telescopic	NBR	408201
Ø156 Ø127 Ø127	ACO fire resistant kit for gully 157/DN 70  Fixed height, vertical  Telescopic, vertical	■ ACO hygienic gully 157  □ Fixed height, vertical □ Telescopic, vertical	SS 316 / NBR	416932
210	ACO fire resistant kit for gully 157/DN 100  ☐ Fixed height, vertical ☐ Telescopic, vertical	■ ACO hygienic gully 157 □ Fixed height, vertical □ Telescopic, vertical	SS 316 / NBR	416933
120	ACO vacuum handle	■ ACO odour proof gully cover	Aluminium	445622

## Flow rates and construction heights

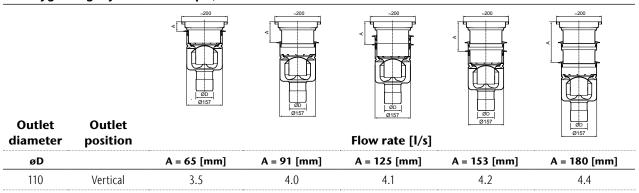
### ACO hygienic gully 157 - fixed height



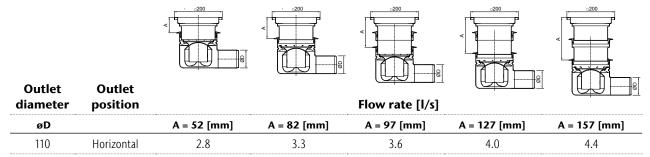


Outlet diameter	Outlet position	Flow rate [I/s]	Outlet diameter	Outlet position	Flow rate [l/s]
øD		A = 193 [mm]	øD		A = 170 [mm]
110	Vertical	3.5	110	Horizontal	2.8

### ACO hygienic gully 157 - telescopic, vertical



### ACO hygienic gully 157 - telescopic, horizontal



For applications where locked gratings are required, ACO Gully 157 and 218 gullies can be supplied with factory fitted standard lockings (activated by a standard hexagon wrench) or security lockings (activated by a security hexagon wrench).

### Notes

- 1. Gully gratings will be modified at the factory for locking as part of gully locking kit.
- 2. Locking kits include gully modification, locking bar and fixing.
- 3. Appropriate standard or security locking wrench to be ordered separately.

### **Grating Lockings and Security**

Description	Pricing unit	Part number
Security Gully Locking Kit	Per gully top	26350
Standard Gully Locking Kit	Per gully top	26360
Standard Hexagon Locking Wrench 5mm	Each	46876
Security Hexagon Locking Wrench 5mm	Each	46786

## ACO Gully 218 - Fixed Height

### Product range assembly overview

ACO Gully 218 fixed height consist of a gully body that be combined with with a foul air trap and silt basket and topped with a selection of grating styles. The grating should be chosen to match the traffic passing over the gully.

The solid and dotted lines below illustrate the order components should be put together into the gully body (as relevant) to form a finished gully.

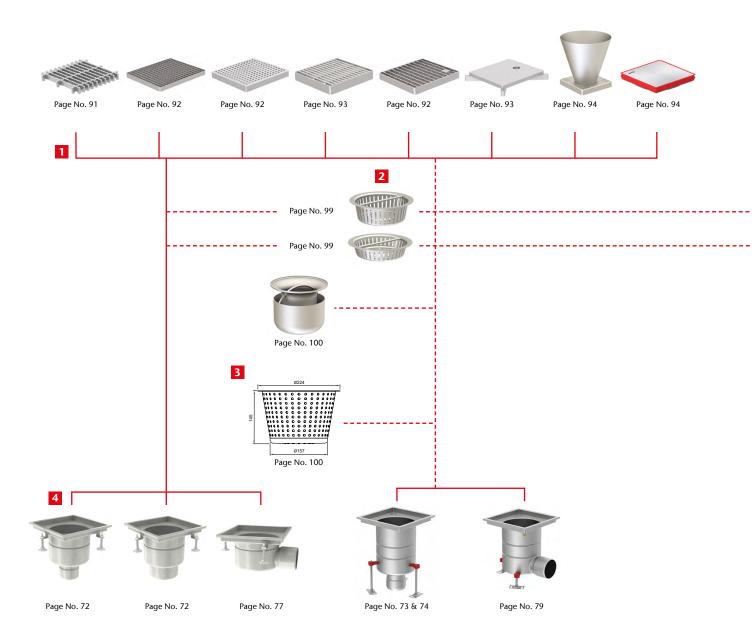
- 1 Gratings
- 2 Silt baskets
- 3 High flow foul air trap
- 4 Gully bodies for fixed height

ACO Gully 218 are designed to be used in applications where hygiene, durability and performance requirements are paramount. Available in both stainless steel grades 304 and 316 the range comprises of a variety of different product choices.

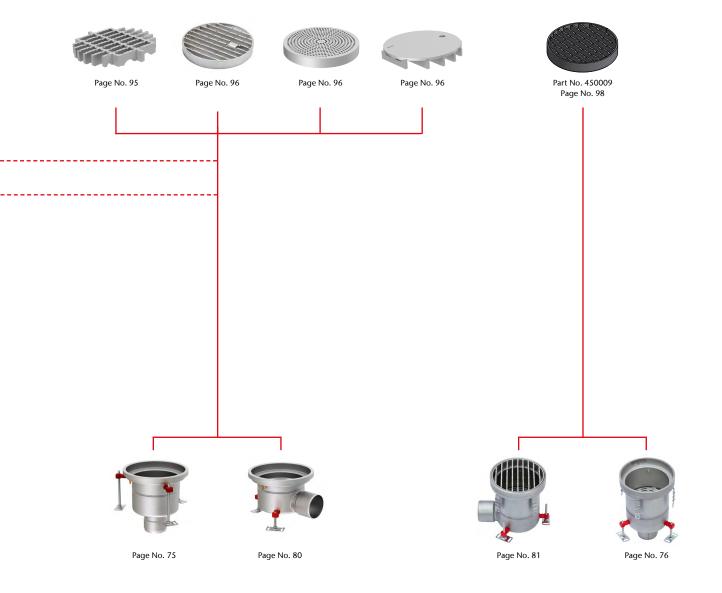
The floor construction and depth, together with the use of any waterproofing membrane play an important role in the selection of the appropriate type of gully.

There are two generic gully configurations available with either a horizontal or vertical outlet, as shown below:

- Take your gully body top from section 4.
- Add in your foul air trap, silt basket and grating as appropriate from sections 1,2 and 3.
- All gully systems are push fit and height adjustable, either telescopically or threaded.







## ACO Gully 218 - Telescopic

### Product range assembly overview

Introducing ACO Gully 218 telescopic gullies. These gullies consist of a telescopic gully body that be combined with a raising piece, a foul air trap and silt basket and topped with a selection of grating styles. The grating should be chosen to match the traffic passing over the gully.

The solid and dotted lines below illustrate the order components should be put together into the gully body (as relevant) to form a finished gully.

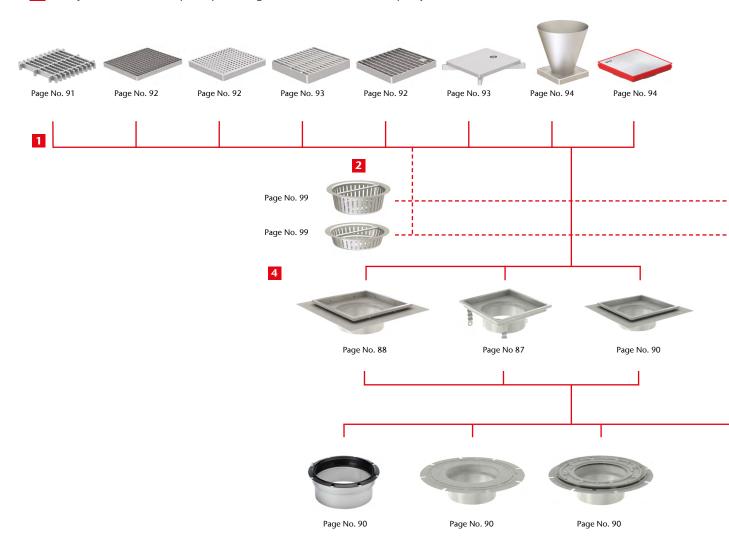
- 1 Gratings
- 2 Silt baskets
- 3 High flow foul air trap
- 4 Gully tops
- 5 Raising pieces
- **6** Gully bodies for telescopic adjustable gullies

ACO Gully 218 are designed to be used in applications where hygiene, durability and performance requirements are paramount. Available in both stainless steel grades 304 and 316 the range comprises of a variety of different product choices.

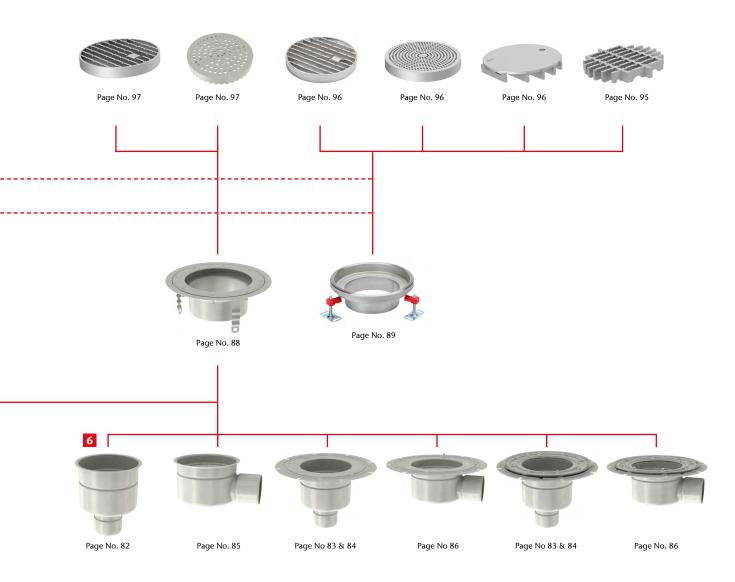
The floor construction and depth, together with the use of any waterproofing membrane play an important role in the selection of the appropriate type of gully.

There are two generic gully configurations available with either a horizontal or vertical outlet, as shown below:

- Take your gully top from section 4 and insert it into your gully body from section 6.
- If your gully contains any product from sections 3-5 please insert these as relevant into the gully body in the order shown below and finish by inserting the gully grating from section 1.
- All gully systems are push fit and height adjustable, either telescopically or threaded.







Location flange gully bodies - no waterproof membrane

Adhesive bonding flange gully bodies - welding or adhesive bonding of waterproof membrane

Clamping flange gully bodies - mechanical clamping of waterproof membrane

## ACO hygienic gully 218 fixed height, vertical outlet - square top

### 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.

#### Product benefits

- Hygienic design following EN 1672, EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request
- Tested and certified according to EN 1253
- Fire tested and certified solution available for classes EI 90 EI 180 (EN 13 501-2)
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



### Order information

	Top size	Outlet diameter	Flow rate BS EN 1253-1/ Direct	Foul air trap	Material	Part number
	[mm]	ø [mm]	[I/m]			
Standard edge						
		110	4.8 / 5.5	With FAT	SS 304	408005
0710 0218	300 x 300					
					SS 316	408105
300 1 22 1 32 1 32 1 32 1 32 1 32 1 32 1 32	300 x 300	160	5.0 / 5.5	With FAT	SS 304	408007
					SS 316	408107

# ACO hygienic gully 218 extended fixed height, vertical outlet

# 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.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request
- Tested and certified according to BS EN 1253
- Fire tested and certified solution available for classes El 90 El 180 (BS EN 13501-2)
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



# Order information

	Description	Top size	Outlet diameter	Flow rate BS EN-1253-1/Direct	Foul air trap	Material	Part number
		[mm]	ø [mm]	[l/m]			
Standard edge							
270 270	extended	200 v 200	110	65105	With FAT	SS 304	446848
Ø110 Ø218	foul air trap	300 x 300	110	6.5 / 9.5	With FAT	SS 316	446850

		Description	Top size		Flow rate BS EN-1253-1/Direct	Foul air trap	Material	Part number
Stanc	dard edge		[mm]	ø [mm]	[l/m]			
		waste filter	er 300 x 300	110	6.5 / 4.8	With FAT	SS 304	446941
416	Ø110 Ø218	waste filter basket					SS 316	446942
9		waste filter				MELL FAT	SS 304	446943
Ø160 Ø218	basket	300 x 300	160	6.5 / 4.8	With FAT	SS 316	446944	

# ACO hygienic gully 218 fixed height, vertical outlet - round top

# 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.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request
- Tested and certified according to EN 1253
- Fire tested and certified solution available for classes El 90 El 180 (BS EN 13501-2)
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



# Order information

	Top diameter	Outlet diameter	Flow rate BS EN 1253-1/Direct	Foul air trap	Material	Part number
	[mm]	ø [mm]	[l/s]			
Standard edge						
Ø300 Ø270	300	110	A 9   5 5	With FAT	SS 304	446753
Ø110 Ø218	300	110	4.8 / 5.5	WILII FAI	SS 316	446759
Ø300 Ø270 Ø160 Ø218	300	160	5.0 / 5.5	With FAT	SS 304	446755
	300	100	3.0 / 3.3	WILLIFAL	SS 316	446761



# ACO hygienic gully 218, fixed height, vertical outlet, round top, fixed filter

# Product information

Fixed height gully can be specified as a point drainage in areas where waterproofing is independent of the gully body. This gully comes with security fixed secondary filter to maximise hygienic performance and minimise the potential for blockages.

#### Product benefits

- Security fixed secondary filter inside gully body prevents larger food particles going into the drain system even when waste basket and FAT removed
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Ladder grating with load class N250 (BS EN 1253)
- Adjustable EasyFix levelling feet



# Order information

#### **ACO Fixed filter gully**

	Top diameter	Outlet diameter	Flow rate BS EN 1253-1/Direct	Foul air trap	Material	Part number
	ø [mm]	ø [mm]	[l/s]			
Ø270 Ø254	270	110	TBC	With FAT	SS 304	450007

# ACO hygienic gully 218 fixed height, horizontal outlet - square top

# 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.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request
- Tested and certified according to BS EN 1253
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



# Order information

	Top size	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [I/s]	Foul air trap	Material	Part number
Standard edge	300 x 300	110	4.4 / 5.0	With FAT	SS 304	408013
	300 x 300	110	1.17 5.0	William	SS 316	408113

# ACO hygienic gully 218 extended fixed height, horizontal outlet

# 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.

#### Product benefits

- Hygienic design following EBS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request
- Tested and certified according to BS EN 1253
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



# Order information

	Description	Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [l/s]	Foul air trap	Material	Part number
Standard edge							
	extended	300 x 300	110	6.5 / 8.8	With FAT	SS 304	447663
Ø218 312	foul air trap	300 X 300	110	0.5 / 6.6	wiiiTAI	SS 316	447665

# Standard edge

	Description	Top size	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [l/s]	Foul air trap	Material	Part number
□300 □270	waste filter	200 v 200	110	47/27	M/st. FAT	SS 304	446939
Ø218 312	basket	300 x 300	110	4.7 / 3.7	With FAT	SS 316	446940

# ACO hygienic gully 218 fixed height, horizontal outlet - round top

# 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.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request
- Tested and certified according to BS EN 1253
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



# Order information

	Top diameter	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [l/s]	Foul air trap	Material	Part number
Standard edge	300	110	4.4 / 5.0	With FAT	SS 304	446757
Ø218	300	110	4.4 / 5.0	WILN FAI	SS 316	446763



# ACO hygienic gully 218, fixed height, horizontal outlet, round top, fixed filter

# Product information

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

security fixed secondary filter to maximise hygienic performance and minimise the potential for blockages.

#### Product benefits

- Security fixed secondary filter inside gully body prevents larger food particles going into the drain system even when waste basket and FAT removed
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Wide range of gratings for load class N (BS EN 1253)
- Adjustable EasyFix levelling feet



# Order information

#### **ACO Fixed filter gully**

	Top diameter	Outlet diameter	Flow rate BS EN 1253-1/Direct	Foul air trap	Material	Part number
(0270)	ø [mm]	ø [mm]	[1/s]			
	270	110	TBC	With FAT	SS 304	450008

# ACO hygienic gully 218 telescopic, vertical outlet

# 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.

#### Product benefits

- Hygienic design following BS EN 1672, BE EN ISO 14158 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Tested and certified according to BS EN 1253
- Fire tested and certified solution available for classes El 90 El 180 (BS EN 13501-2)
- Suitable for all floor types including vinyl flooring
- Telescopic friction ring included



# Order information

#### **ACO Telescopic vertical gully**

	Type of flange	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [I/s]	Foul air trap	Material	Part number
Ø240 Ø240 Ø110	Location flange	110	5.0 - 6.2 / 5.5	With FAT	SS 304	408061
					SS 316	408161

# **ACO Telescopic vertical gully**

	Type of flange	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [l/s]	Foul air trap	Material	Part number
Ø420 Ø420 Ø110	Adhesive bonding flange	110	5.0 - 6.2 / 5.5	With FAT	SS 304	408063
		110			SS 316	408163
Ø418  Ø418  Ø418  Ø410  Ø218	Mechanical clamping flange	110	5.0 - 6.2 / 5.5	With FAT	SS 304	408065
					SS 316	408165

# **ACO Telescopic vertical gully**

ACO Telescopic vertical gully	Type of flange	Outlet diameter	Flow rate BS EN 1253-1/Direct	Foul air trap	Material	Part number
		ø [mm]	[l/s]			
Ø240  Ø240  Ø240  Ø340  Ø340  Ø340  Ø340	Location flange	160	5.0 - 6.2 / 5.5	With FAT	SS 304	408067
0.216		100			SS 316	408167
Ø420	Adhesive	160	5.0 - 6.2 / 5.5	With FAT	SS 304	408069
	bonding flange	160			SS 316	408169
Ø418  Ø160 Ø218	Mechanical clamping flange	160	5.0 - 6.2 / 5.5	With FAT	SS 304	408071
					SS 316	408171

# ACO hygienic gully 218 telescopic, horizontal outlet

# 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.

#### Product benefits

- Hygienic design following EBS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Tested and certified according to BS EN 1253
- Suitable for all floor types including vinyl flooring
- Telescopic friction ring included
- Adjustable EasyFix levelling feet



# Order information

#### **ACO Telescopic horizontal gully**

	Type of flange	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [l/s]	Foul air trap	Material	Part number
Ø240 0010 010 010 010 010 010 010	Landing flagge	110	44.54/50	M/AL FAT	SS 304	408085
	Location flange	110	4.4 - 5.4 / 5.0	With FAT	SS 316	408185

# **ACO Telescopic horizontal gully**

	Type of flange	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [l/s]	Foul air trap	Material	Part number
Ø420  0420  199	Adhesive		4.4 - 5.4 / 5.0	With FAT	SS 304	408087
	bonding flange	110			SS 316	408187
218	Mechanical				SS 304	408089
	clamping flange		With FAT	SS 316	408189	

# ACO hygienic gully 218 gully top, telescopic

# 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.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Protective cover available on request
- Tested and certified according to BS EN 1253
- Wide range of gratings for load class L 15, R 50, M 125 or N 250 (BS EN 1253) including slip resistant solution
- Adjustable EasyFix levelling feet



# Order information

# **ACO Telescopic gully top**

	Gully Top type	Gully Top size	Material	Part number
300		[mm]	SS 304	408228
	Standard edge	300 x 300	SS 316	408238

# **ACO Telescopic gully top**

	Gully Top type	Gully Top size [mm]	Material	Part number
300	<del></del>	200 200	SS 304	408243
200	Tiled edge	300 x 300	SS 316	408253

# ACO Telescopic gully top

	Gully Top type	Gully Top size	Material	Part number
		[mm]		
300	Tiled edge	300 x 300	SS 304	408247
200			SS 316	408257

# **ACO Telescopic gully top**

	Gully Top type	Gully Top size	Material	Part number
Ø350 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		[mm]	SS 304	408242*
	Vinyl edge	Ø350	SS 316	408252*

<sup>\*</sup> Hygienic design following BS EN 1672, BE EN ISO 14158 and EHEDG document No. 8, 13, 44 not applied.

# ACO hygienic gully 218 gully top, telescopic, round top

# Product information

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

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Protective cover available on request
- Tested and certified according to BS EN 1253
- Wide range of gratings including slip resistant solution
- Adjustable EasyFix levelling feet



# Order information

#### **ACO Telescopic round gully top**

	Gully top type	Gully top size	Material	Part number
		ø [mm]		
Ø300 Ø270	Standard adag	200	SS 304	446764
Ø200	Standard edge	300	SS 316	446765

# ACO hygienic gully 218 raising piece, telescopic

# Product information

Raising piece can be used for floor structures where multiple waterproofing is needed

(heat insulation) or where construction height of the slab needs to be increased.

#### Product benefits

- Hygienic design following EBS EN 1672, BS EN 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Tested and certified according to BS EN 1253
- Suitable for all floor types including vinyl flooring
- Variety of flanges for membranes
- Telescopic friction ring included



# Order information

# ACO Telescopic gully raising piece

	Type of flange	Material	Part number
Ø240 Ø200		SS 304	408209
	Location flange	SS 316	408219
9420	All refer has disconfinence	SS 304	408226
	Adhesive bonding flange	SS 316	408236
0418	Machanical clamping flange	SS 304	408227
	Mechanical clamping flange	SS 316	408237

Accessories
For ACO hygienic gully 218 Page 99-100

# Gratings for gully top 300x300

# **Product information**

Variety of grate types is available depending on application and requested load class.

For applications with high hygienic demands a ladder grate should be selected.

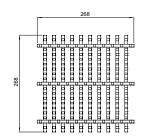
#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fits to stainless steel gully, fully compliant to BS EN 1253 and NSF International
- Range of gratings suitable to load class L 15, R 50, M 125 or N 250 (BS EN 1253)
- Slip resistant solution available

# Order information

#### **ACO hygienic frameless ladder grating**

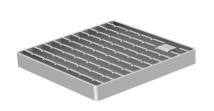


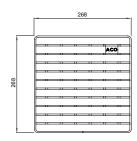


Load class	Slip resistant	Material	Part number
14125	v	SS 304	446272
M125	Yes	SS 316	446273

Note: Surface electropolished

#### **ACO hygienic ladder grating**

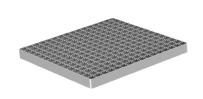


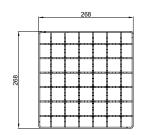


Load class	Slip resistant	Material	Part number
R50		SS 304	416916
	Yes	SS 316	416917
		SS 304	408045
N250	No	SS 316	408145

Note: Surface electropolished

#### **ACO** mesh grating

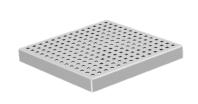


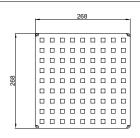


Load class	Slip resistant	Material	Part number
		SS 304	408034
L15	Yes	SS 316	408134
		SS 304	408035*
	No	SS 316	408135*

Note: Surface electropolished

#### **ACO quadrato grating**

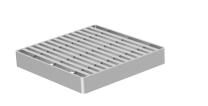


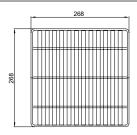


Load class	Slip resistant	Material	Part number
115	No	SS 304	408036*
LI3	No	SS 316	408136*

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

# **ACO** heelsafe grating

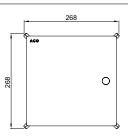




Load class	Slip resistant	Material	Part number
L15	No	SS 304	408040*
	No	SS 316	408140*

# **ACO** hygienic slot cover





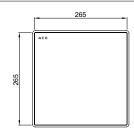
Load class	Slip resistant	Material	Part number
M125	Vas	SS 304	408039
	Tes	SS 316	408139

Note: Top surface sandblasted

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

# ACO odour proof gully cover



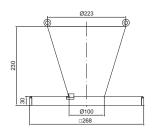


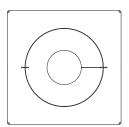
Load class	Slip resistant	Material	Part number
R50	No	SS 304	445400*
M125	No	SS 316	445609*

To ensure easy removal of this cover please select and ACO Vacuum handle from page 99

# ACO tundish for gully top







Description		Part number
ACO tundish for gully top 300 x 300	SS 304	413547

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

# Gratings for gully top ø 300 mm

# **Product information**

Variety of grate types is available depending on application and requested load class.

For applications with high hygienic demands a ladder grate should be selected.

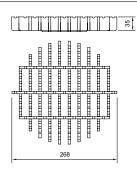
#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fits to stainless steel gully, fully compliant to BS EN 1253 and NSF International
- Range of gratings suitable to load class R 50 and M 125 (BS EN 1253)
- Slip resistant solution available

# Order information

#### ACO hygienic frameless ladder grating - round



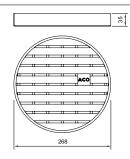


Load class	Slip resistant	Material	Part number
M 125	Voc	SS 304	446786
	Yes	SS 316	446787

Note: Surface electropolished

# ACO hygienic ladder grating - round



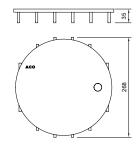


Load class	Slip resistant	Material	Part number
R50	Voc	SS 304	447763
	Yes	SS 316	447764
N 270		SS 304	447644
N 250	Yes	SS 316	447645

Note: Surface electropolished

# ACO hygienic slot cover - round



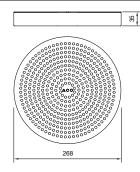


Load class	Slip resistant	Material	Part number
M125	Voc	SS 304	446790
	Yes	SS 316	446791

Note: Top surface sandblasted

# ACO perforated grating - round





Load class	Slip resistant	Material	Part number
L15	.,	SS 304	447732
	No	SS 316	447740

Note: Surface electropolished

# Gratings for vinyl top ø222

# **Product information**

Variety of grate types is available depending on application and requested load class.

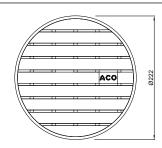
For applications with high hygienic demands a ladder grate should be selected.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fits to stainless steel gully, fully compliant to BS EN 1253
- Stainless steel construction for durability and long life
- Range of gratings suitable to load class L 15 and M 125 (BS EN 1253)
- Slip resistant solution available

#### **ACO ladder grating**



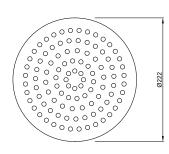


Load class	Slip resistant	Material	Part number
M 125	Yes	SS 304	97146
		SS 316	97367

Note: Surface electropolished

#### **ACO perforated grating**





Load class	Slip resistant	Material	Part number
L 15	N	SS 304	97152*
	No	SS 316	97369*

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

# Gratings for gully top ø270

# **Product information**

High load class grate for use with the filter gully.

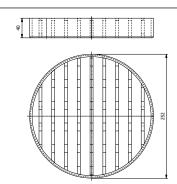
Designed in accordance with hygienic principles.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Stainless steel construction for durability and long life
- Load class N 250 (BS EN 1253)
- Slip resistant solution available

#### **ACO ladder grating**





Load class Slip resistant		Material	Part number
N250	Yes	SS 304	450009

Note: Surface pickle passivated

# Accessories and replacements for ACO hygienic gully 218

	Description	Used with	Material	Part number
Ø222	ACO silt basket  Stainless steel	■ ACO hygienic gully 218, vertical	SS 304	416908
8	■ 1,4 litre capacity	□ Fixed height or telescopic	SS 316	416909
Ø222	ACO silt basket  Stainless steel	<ul> <li>ACO hygienic gully 218, horizontal</li> </ul>	SS 304	416910
8 MILLOUD O O O O O O O O O O O O O O O O O O	■ 0,7 litre capacity	□ Fixed height or telescopic	SS 316	416911
Ø182	ACO hygienic foul air trap  Stainless steel	■ ACO hygienic gully 218  □ Fixed height	SS 304	408220
90	■ Water seal S0 mm	□ Telescopic	SS 316	408230
0243	ACO friction ring ■ SBR (Styrene-butadiene rubber)	■ ACO hygienic gully 218  ☐ Telescopic	SBR	408225
8217 7	ACO standard foul air trap support  NBR (Acryl nitrile-butadiene rubber)	■ ACO hygienic gully 218 □ Fixed height □ Telescopic	NBR	408221
Ø218 Ø182	ACO fire resistant kit for gully 218/DN 110  □ Fixed height, vertical □ Telescopic, vertical	■ ACO hygienic gully 218 □ Fixed height, vertical □ Telescopic, vertical	SS 316 / NBR	416934
8929	ACO fire resistant kit for gully 218/DN 160  □ Fixed height, vertical □ Telescopic, vertical	■ ACO hygienic gully 218 □ Fixed height, vertical □ Telescopic, vertical	SS 316 / NBR	416935
120	ACO vacuum handle	■ ACO odour proof gully cover	Aluminium	445622

# Accessories and replacements for ACO hygienic gully 218

	Description	Used with	Material	Part number
0224 		<ul><li>ACO hygienic gully 218 extended fixed height,</li></ul>	SS 304	446945
		waste filter basket  ☐ Vertical or horizontal	SS 316	446946
Ø192.3	ACO extended hygienic	■ ACO hygienic gully 218 extended fixed height, extended foul air trap  □ Vertical or horizontal	SS 304	447807
2	foul air trap ■ Stainless steel		SS 316	447808

For applications where locked gratings are required, ACO Gully 157 and 218 gullies can be supplied with factory fitted standard lockings (activated by a standard hexagon wrench) or security lockings (activated by a security hexagon wrench).

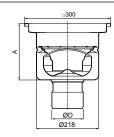
#### Notes

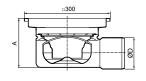
- 1. Gully gratings will be modified at the factory for locking as part of gully locking kit.
- 2. Locking kits include gully modification, locking bar and fixing.
- 3. Appropriate standard or security locking wrench to be ordered separately.

#### **Grating Lockings and Security**

Description	Pricing unit	Part number
Security Gully Locking Kit	Per gully top	26350
Standard Gully Locking Kit	Per gully top	26360
Standard Hexagon Locking Wrench 5mm	Each	46876
Security Hexagon Locking Wrench 5mm	Each	46786

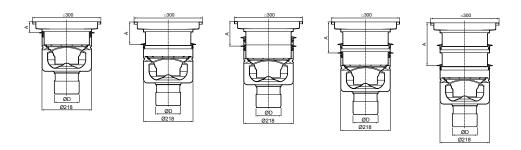
# ACO hygienic gully 218 – fixed height





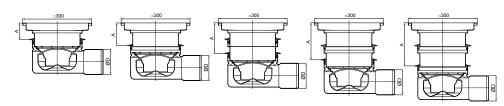
Outlet diameter	Outlet position	Flow rate [I/s]	Outlet diameter	Outlet position	Flow rate [l/s]
øD		A = 200 [mm]	øD		A = 177 [mm]
110	Vertical	5.0	110	Horizontal	4.4
160	Vertical	5.0	-	-	-

# ACO hygienic gully 218-telescopic, vertical



Outlet diameter	Outlet position			Flow rate [I/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	Vertical	5.0	5.5	5.6	5.8	6.2

# ACO hygienic gully 218 – telescopic, horizontal



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 315

# Product information

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

For the ACO high capacity gully 2 gratings need to be ordered for 1 gully.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request



# Order information

#### **ACO Hygienic Gully 315**

	Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [I/s]	Foul air trap	Material	Part number
040 040					SS 304	446844
Ø160 Ø315	400 x 400	160	9.5 / 20	With FAT	SS 316	446846

# ACO hygienic gully 440

# Product information

Fixed height gully can be specified as a point drainage in areas where waterproofing is independent of the gully body. For the ACO high capacity gully 2 gratings need to be ordered for 1 gully.

#### Product benefits

- Hygienic design following BS EN 1672, BS EN ISO 14159 and EHEDG document No. 8, 13 and 44
- Fully pickled and passivated
- Fully removable and easily cleanable stainless steel foul air trap (FAT)
- Protective cover available on request



# Order information

# **ACO Hygienic Gully 440**

	Top size [mm]	Outlet diameter ø [mm]	Flow rate BS EN 1253-1/Direct [l/s]	Foul air trap	Material	Part number
600 600 600 6200 6440	600 x 600	200	12 / 32	With FAT	SS 304	446397
	000 X 000	200	12 / 32	WILLIA	SS 316	446413

# Gratings for ACO hygienic gully 315 and 440

# **Product information**

Variety of grate types is available depending on application and requested load class.

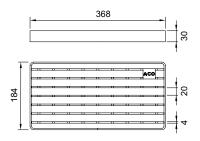
For applications with high hygienic demands a ladder grate should be selected.

For the ACO high capacity gully 2 gratings need to be ordered for 1 gully.



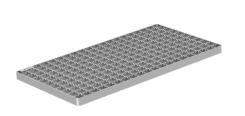
# ACO hygienic ladder grating for ACO hygienic gully 315

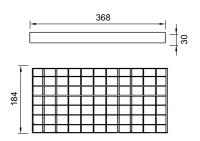




Load class	Slip resistant	Material	Part number
R 50	Voc	SS 304	447766
	Yes	SS 316	447767

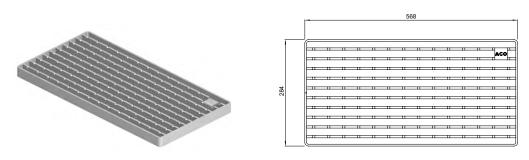
#### ACO hygienic mesh grating for ACO hygienic gully 315





Load class	Slip resistant	Material	Part number
L15	Voc	SS 304	447825
	Yes	SS 316	447822

# ACO hygienic ladder grating for ACO hygienic gully 440



Load class	Slip resistant	Material	Part number
R 50		SS 304	446400
	Yes	SS 316	446416

# Accessories and replacements for ACO hygienic gully 315

	Description	Used with	Material	Part number
ACO silt basket  Stainless steel	ACO silt basket	■ ACO hygienic gully 315	SS 304	447681
	□ Fixed height	SS 316	447682	
300	ACO hygienic foul	■ ACO hygienic gully 315	SS 304	447673
6218	air trap ■ Stainless steel	□ Fixed height	SS 316	447674

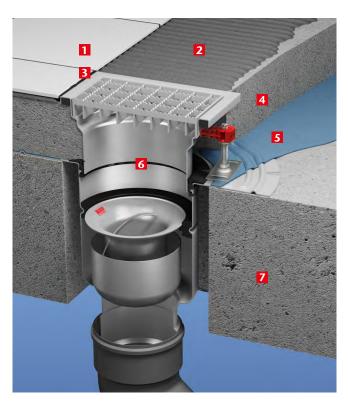
# Accessories and replacements for ACO hygienic gully 440

		Description	Used with	Material	Part number
Ø430 Ø430	ACO silt basket ■ Stainless steel	■ ACO hygienic gully 440 □ Fixed height	SS 304	446399	
			SS 316	446415	
9330	ACO hygienic foul	■ ACO hygienic gully 440	SS 304	446398	
		air trap ■ Stainless steel	□ Fixed height	SS 316	446414

# ACO hygienic gully

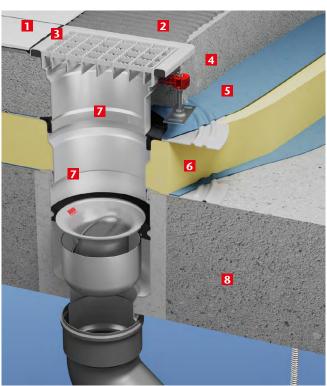
# ACO hygienic gully – telescopic flanged gully installed in suspended concrete slab construction

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



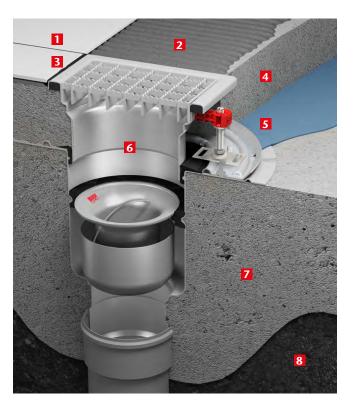
# ACO hygienic gully – telescopic flanged gully and raising flanged piece installed in suspended concrete slab construction

- 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-bored to accept gully body



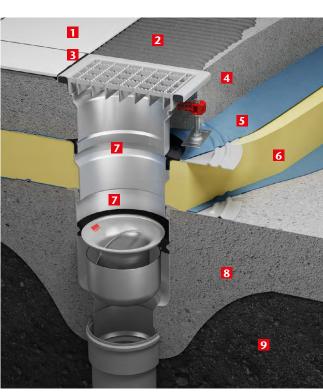
# ACO hygienic gully – telescopic flanged gully installed in solid concrete floor

- 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



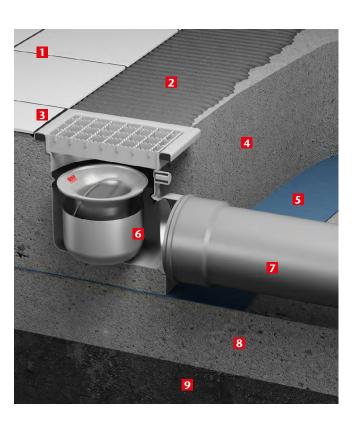
# ACO hygienic gully – telescopic flanged gully and raising piece installed in solid concrete floor

- 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 (e.g. pulling gully across the floor, dropping gully from a truck, etc.) may cause deformation resulting in bad installation and may affect it product performance.
- Contact with carbon steel may cause stainless steel corrosion.

#### **ACO** grating

- ACO grating is 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 dry and flat surface.
- Handle the gratings with care.
- Any rough handling (e.g. pulling gully across the floor, dropping gully from a truck, etc.) may cause deformation resulting in bad installation and may affect it product performance.
- Contact with carbon steel may cause stainless steel corrosion.

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# ACO gullies – Fire Protection Introduction

ACO has developed a solution which prevents the spreading of fire and high temperatures within different building's floors where ACO hygienic gully, ACO hygienic channel and ACO pipe are installed.

The solution has been tested according to EN 1366-2 Fire resistance tests for service installations and classified according to EN 13501 Fire classifications of construction products and building elements. For classification details please see table below.

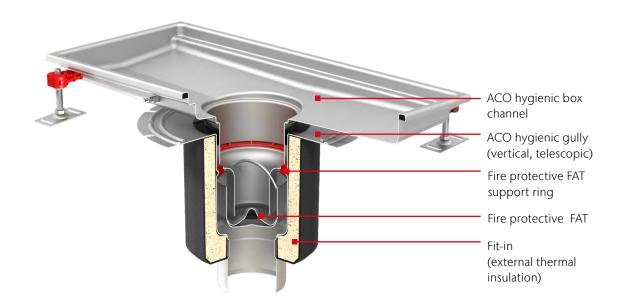
ACO fire protective kit can be used with telescopic vertical or fixed height vertical ACO hygienic gully and with ACO hygienic box channel, consisting of following items:

- External protection Fit in
- Internal protection
  - ☐ Fire protective foul air trap
  - ☐ Fire protective foul air trap support

This solution has been designed and tested for use in either concrete or aerated concrete ceiling slabs with a minimum height of 150 mm.

ACO hygienic gully and ACO hygienic box channel installed with ACO fire protective kit can be connected to any kind of sewerage with ACO pipe regardless of its material, e.g. non combustible cast iron drain pipes SML, stainless steel ACO pipe (building material class A1) or plastic drain pipes (building material class B1/B2). All mentioned components of external and internal protection must be used to guarantee correct function of fire protection!

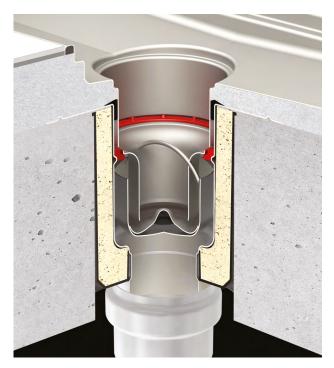
Tested at: PAVUS, a.s. protocol: No. Pr-13-2.061

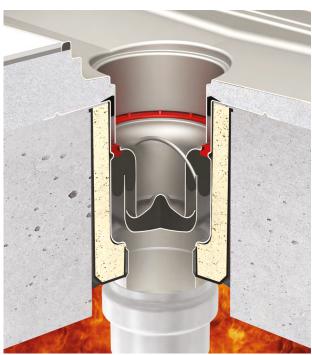


Gully type	Outlet diameter	Classification
■ ACO hygienic gully 157	110	EI 120
= ACO buginais gullu. 219	110	EI 180
■ ACO hygienic gully 218	160	El 90

Classification according to EN 13 501, protocol: PK2-11-13-901-C-0

# ACO gullies – Fire Protection Installation and function





#### **Before activation**

■ Installation scheme with assembled fire protective solution in ceiling construction.

#### Fire activation

- Function of fire protective solution to prevent the spread of fire within storey structure by transmission (ACO gully).
- Time preventing the spread of fire is limited from 90 minutes to 180 minutes.

5

## Cleaning stainless steel

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 – organic matter being predominant. 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 risk of contamination and spoiling of food during preparation, processing, and storage. The main objective of cleaning is to remove soil to obtain a clean surface and thereby reduce number of microorganisms. A further reduction of microorganism can be obtained by disinfection step.

## Principles of cleaning

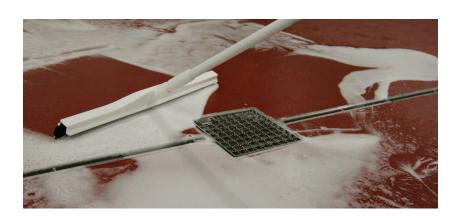
The principles of cleaning involve a combination of thermal, kinetic and chemical energy. The cleaning processes are always a combination of these factors and time of these to work. The key point to highlight is that all equipment – including

drainage – in food processing plant should have hygienic design, which is easy to clean and disinfect. Otherwise the cleaning process is time and energy consuming and not cost effective.

All surfaces of ACO stainless steel drainage are hygienically designed – no sharp corners, edges, dead spaces and crevices. ACO drainage is easily accessible for cleaning and visual inspection.

## The effectiveness of drainage cleaning depends on a number of factors:

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



### There are two different types of surface to be cleaned:

#### ■ Product contact surface

All equipment that intentionally or unintentionally (e.g. due to splashing) comes in to contact with final product or from which product or condensate may drain, drop or be drawn into the main product or product container.

#### ■ Non product contact surface

All other exposed surfaces, including surfaces associated with equipment, such as support structures, control panels and external surfaces. It also includes surfaces related to the manufacturing environment, such as floors, walls and drain channels.

## We also differentiate the cleaning process as to whether it is applied dry or wet.

#### Dry cleaning

Dry cleaning is essentially a mechanical removal of soils using sweeping, brushing, wiping and vacuuming. Environments typically to be cleaned by dry methods include plants which are producing flour, cocoa, dry milk products, dry soups and dry infant formulas.

#### ■ Wet cleaning

Wet cleaning involves application of fluids (usually water based) to achieve the desired cleaning result. This can be applied to Open Plant Cleaning (OPC): surfaces to be cleaned have to be accessible to fluids. In addition, some components may be physically removed from production area and cleaned separately – Cleaning out of place (COP). Drainage systems require wet cleaning.

## The last is a distinction between whether the cleaning process is done manually or automatically.

#### ■ Manual cleaning

Manual cleaning is generally considered as labour intensive and, therefore often expensive. The manual tools should be hygienic – resistant to applied chemicals and suitable for a specific operation. On top of it; operators should be properly trained to be able to perform cleaning as expected to achieve clean surfaces. ACO drainage has all elements of hygienic design that makes cleaning of ACO drainage much easier and faster when compared to competitive products.

#### Automatic cleaning

Utensils and dismantled parts of equipment are cleaned and disinfected automatically in industrial washing machines, tray or tunnel washers (automatic COP). Cleaning in place (CIP) is also defined as automatic cleaning system.

## Cleaning chemicals

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

- detergents
- alkalies
- acids
- disinfectants/sanitizers

#### **Detergents**

This broad group of chemicals is widely used in households and industry to lift off different type of soil from surfaces through the use of cleaning foams and emulsions that can be easily rinsed off.

#### **Alkalies**

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

#### **Acids**

Acids, both organic and inorganic, are commonly used for removal of mineral deposits, such as: hard water scale or milkstone. Acids are potentialy 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 done in co-operation with the detergent supplier.

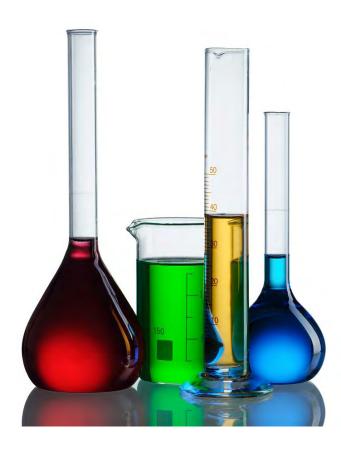
#### Disinfectants/sanitizers

In of high risk areas or production areas with microbiological sensitive products, the floors and drain systems should be sprayed with disinfectants/sanitizers, which will reduce the contamination risk even more. The disinfectants/sanitizers will kill remaining microorganisms, according to the required specifications.

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

#### Sources of soil

The primary source of soil is from the 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 effect, age, dryness, time, etc. It is essential that personnel involved in the 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 and detergents dissolve acid soils and food wastes (proteins).



## Resistance of Material

		AISI 304 Stainless	EPDM	NBR	FPM	TPEV
Acetone	1	1	1	4	4	1
Acetic acid (diluted) 30%	1	1	1	2	2	1
Acetic acid 100%	1	1	1	3	3	1
Acetic acid anhydride	1	1	2	3	4	2
Aluminium chloride	4	4	1	1	1	1
Aluminium sulfate	1	4	1	1	1	1
Ammonium carbonate	1	1	1	4	2	1
Ammonium chloride	2	3	1	1	1	1
Ammonium hydroxide	1	1	1	4	2	1
Amyl chloride	1	1	4	4	1	4
Anilin	1	1	2	4	3	1
Anilin hydrochloride	4	4	2	2	2	2
Barium chloride	2	2	1	1	1	1
Barium hydroxide	1	1	1	1	1	1
Benzaldehyde	1	1	1	4	4	1
Benzene	1	1	4	4	1	4
Benzoic acid	1	1	4	4	1	1
Borax	1	1	1	2	1	1
Boric acid	1	1	1	1	1	1
Bromine	4	4	4	4	1	4
Bromine chloride acid	4	4	1	2	1	2
Bromine hydrogen acid	4	4	1	4	1	2
Bromoethylene	1	1	_	-	-	
Butanol	1	1	4	1	1	3
Butyl acetat	1	1	2	2	4	3
Butyric acid	1	1	2	4	4	3
Calcium bisulfate el sulfite	1	1	4	1	1	1
Calcium chloride	2	2	1	1	1	1
Calcium hydroxide	1	1	1	1	1	1
Calcium hypoklorite	2	3	1	3	1	3
Carbon disulfide	1	1	4	4	1	3
Carbon tetrachloride	1	1	4	3	1	4
Chloracetic acid (mono)	4	4	2	4	4	2
Chloride	4	4	-	-	-	-
Chloril acid	4	4	1	4	-	3
Chlorine (dry)	1	1	1	2	1	4
Chlorobenzene	1	1	4	4	1	4

		AISI 304				
		Stainless		NBR	FPM	TPEV
Chloroform	2	2	4	4	1	4
Chlorosulfonic acid	2	3	4	4	3	4
Copper chloride	2	2	1	1	1	1
Copper nitrate	1	1	1	1	1	1
Copper sulfate	1	1	1	1	1	1
Ether	1	1	3	4	3	3
Ethyl chloride	1	1	1	1	1	3
Fatty acid	1	1	4	2	1	1
Fluorine (dry)	1	1	-	-	-	-
Fluorine hydrogen acid	4	4	2	4	1	4
Formaldehyde	1	1	1	2	1	1
Formic acid	1	1	1	2	3	2
Furfural	1	1	2	4	4	4
Gallic acid	1	1	2	2	1	2
Hydrochloric acid	4	4	1	4	1	1
Hydrogen peroxide	1	1	3	4	2	3
lodine (wet)	4	4	2	2	1	2
Lead acetate	1	1	1	2	4	1
Magnesium chloride	2	2	1	1	1	1
Magnesium sulfate	1	1	1	1	1	1
Mercury	1	1	1	1	1	1
Methanol	1	1	1	1	3	1
Methyl chloride	1	1	3	4	1	3
Methylene chloride	2	2	4	4	2	4
Natphalene	1	1	4	4	1	1
Nickel chloride	2	2	1	1	1	1
Nickel sulfate	1	1	1	1	1	1
Nitric acid	3	3	3	4	1	4
Oxalic acid	3	3	1	2	1	2
Perchloric acid	4	4	2	4	1	1
Phorsphor acid	1	1	2	4	1	1
Picric acid	1	1	2	2	1	2
Potassium bromide	1	1	1	1	1	1
Potassium carbonate	1	1	1	 2	1	 1
Potassium chlorate	1	 1	1	1	1	 1
Potassium cyanide	1	<u>.</u> 1	<u>'</u> 1	1	1	 1
Potassium hydroxide	1	1	1	2	2	1

#### AISI 316 AISI 304

	AISI 316	<b>AISI 304</b>				
	Stainless	Stainless	EPDM	NBR	FPM	TPEV
Potassium nitrate	1	1	1	1	1	1
Potassium	1	1	1	3	1	1
permanganate						
Potassium sulfate	1	1	1	1	1	1
Potassium sulfide	1	1	1	1	1	1
Potassiumchloride	2	2	1	1	1	1
Prophylene dichloride	1	1	4	4	1	4
Sal ammoniac	2	3	1	1	1	1
Silver nitrate	1	1	1	2	1	1
Soda (ash)	1	1	1	1	1	1
Sodium acetate	1	1	1	2	4	1
Sodium bicarbonate	1	1	1	1	1	1
Sodium bisulfate	1	3	1	2	1	1
Sodium bisulfite	1	1	1	1	1	1
Sodium bromide	2	2	1	3	1	2
Sodium chlorate	1	1	1	2	1	1
Sodium chloride	4	4	1	1	1	1
Sodium cyanide	1	1	1	1	1	1
Sodium fluoride	1	1	1	1	1	1
Sodium hydroxide	1	1	1	2	2	1
Sodium hypoklorite	4	4	2	2	1	1
Sodium nitrate	1	1	1	2	2	1
Sodium sulfate	1	1	1	1	1	1
Sodium sulfide	1	1	1	1	1	1
Sodium sulfite	1	1	1	1	1	1
Stannicous chloride	2	3	2	1	1	2
Sulfur	1	1	1	4	1	1
Sulfur chloride	1	1	4	3	1	3
Sulfur dioxide	1	2	1	4	1	1
Sulfuric acid	4	4	2	4	1	3
Sulfurous acid	1	3	2	2	1	2
Tionyl chloride	1	1	4	4	1	4
Toluene (toluol)	1	1	4	4	1	4
Trichloroethylene	1	1	4	3	1	4
Turpentine	1	1	4	1	1	4
	1	1	4	4	2	4
Xylene (xylol)	1	ı	4	4		7

- 1 = Very good service to operating limit of material
- 2 = Moderate service
- 3 = Limited or variable service
- 4 = Unsatisfactory

#### Note:

Concentration levels and length of exposure have a direct influence on the resistance of stainless steel to certain chemicals. Each application should therefore be carefully reviewed to determine the suitability of stainless steel.

#### Assumptions:

Data presented are used as a guide only, for detailed information please contact our Sales/Technical department.

## Manual cleaning of drainage



Remove all present raw materials, wrapping materials and tools.



Wash all surfaces with designated detergent and designated hand brush.



Cover all equipment that could be contaminated.



Rinse all surfaces with clean water.



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



Visually check surface cleanliness - repeat cleaning process if necessary.



Remove gratings.



Place silt basket and grating to its original position.



Remove and empty silt basket and foul air trap.



Rinse the entire equipment with clean water.



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.

5

# 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	Daily	Weekly
Procedure	Removal of organic deposits (fats, proteins, saccharides and polysaccharides)	Removal of inorganic deposits that could promote very resistant biofilms
Note: Removal of rinse water residues		
Physical agents	<ul> <li>Steam</li> <li>Medium pressure water to max 25 bar</li> <li>Mechanical / kinetic energy (brushes, CIP medium velocity)</li> </ul>	Mechanical abrasive methods – polishing
Note: Removal of excess water with a squeegee		
Chemical agents	<ul><li>Caustics (sodium hydroxide, potassium hydroxide)</li><li>Detergents / surfactants</li></ul>	<ul> <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>
Note: Alcohols (isopropyl alcohol, ethanol)		
Examples of chemical cleaning agents suitable for ACO stainless steel drainage	Standard chemical agents used for floor cleaning should be sufficient (should be validated) Oxofoam, Endorochlor (Diversey)	<ul><li>Acifoam (Diversey)</li><li>Acigel (Diversey)</li><li>Super Dilac (Diversey)</li></ul>

Note: Chlorine tablets (Suma Tab D4 by Diversey) are often added to the water in foul trap in microbial sensitive production area's

Any cleaning procedures, including those recommended by equipment suppliers, must be properly validated at the equipment, where it will be applied and on the soil that could be expected even after certain time of usage.

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



## Every ACO product supports the ACO system chain









- ACO gully
- ACO channel
- ACO pipe

ACO Building Drainage
A division of ACO Technologies plc ACO Business Centre

Caxton Road Bedford Bedfordshire MK41 OLF

www.aco.co.uk/aco-building-drainage

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