

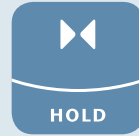


Robust drainage
for all surfaces

ACO DRAIN® Qmax Neo 300



ACO. we care for water



Your question – our answer:

ACO WaterCycle

The ACO WaterCycle supports you at every stage of drainage, rainwater management and treatment planning and creates the solutions for tomorrow's environmental conditions.

Where surface water management and water protection begins



ACO surface drainage

- Drainage channels
- Road and yard drains
- Gully tops
- Manhole covers

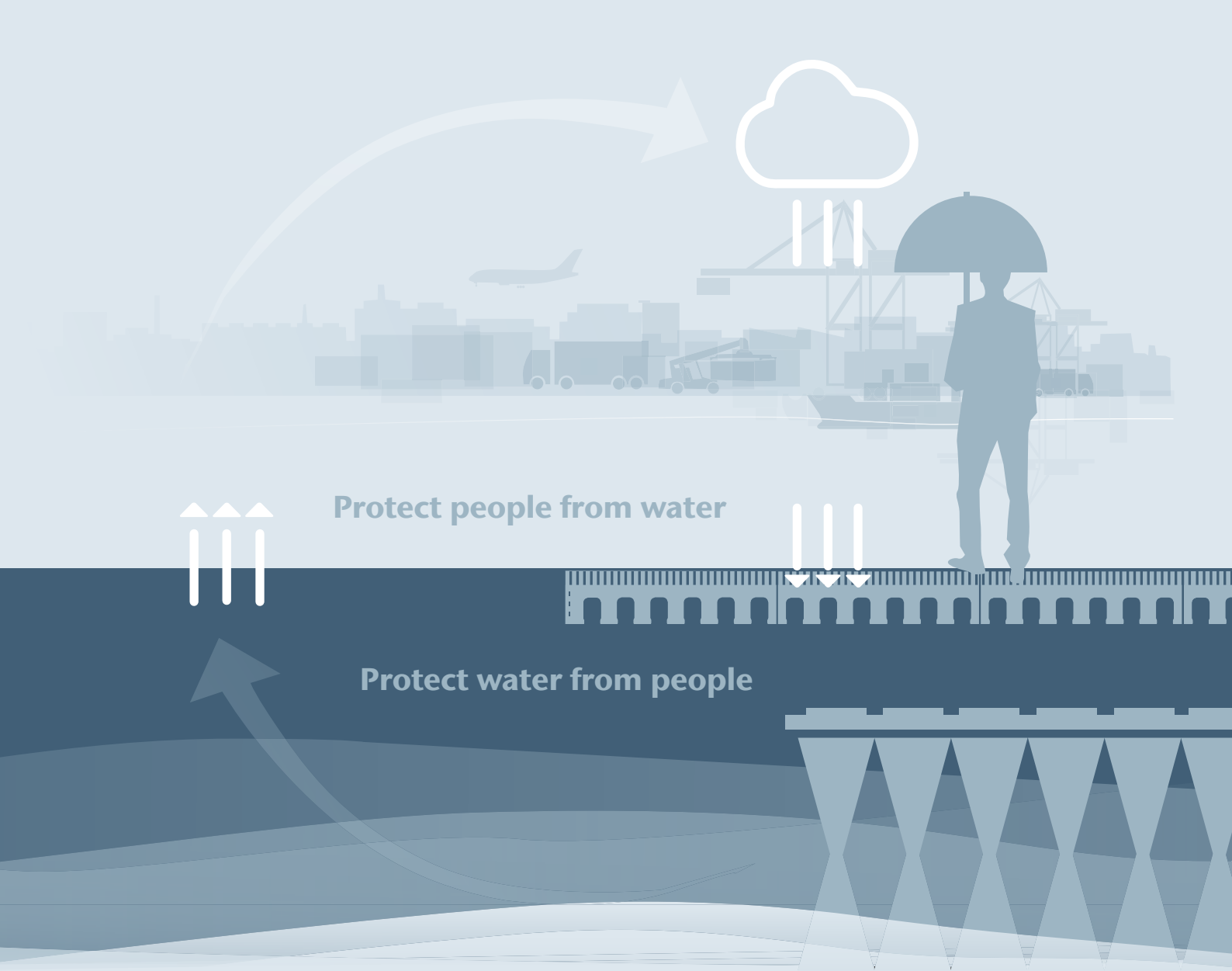


Achieving the right water quality



ACO cleaning systems

- Separators
- Sedimentation and filter systems



Reducing surface runoff to a natural level

Control discharge rate to the required level



ACO retention and storage systems

- Emergency systems
- Infiltration and attenuation systems
- Surface water retention basin



ACO control systems

- Flow control systems
- Pump shafts

High hydraulic capacity of the sealed slotted channel

The Qmax portfolio belongs to the group of slotted channels that are also offered with integrated seals and have a large hydraulic capacity. Different types of installation recommendations allow the channel to be installed in areas with different types of loads.

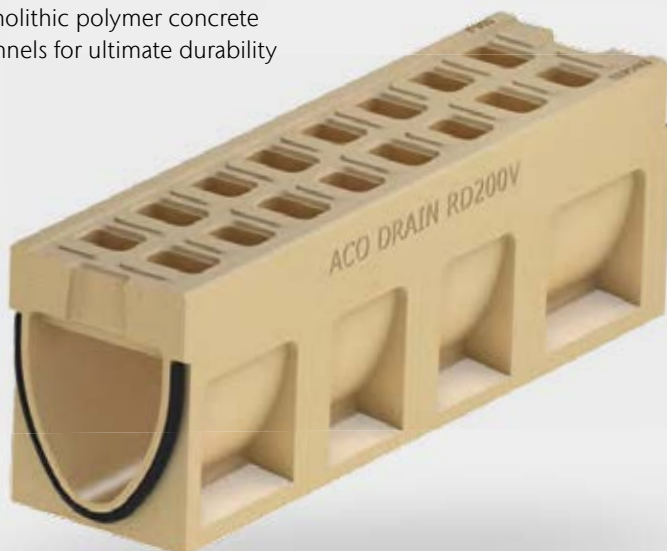
ACO Qmax®

High-capacity slot drainage made of MD-PE with integrated seal and option for water retention or attenuation



ACO Monoblock

Monolithic polymer concrete channels for ultimate durability



ACO Multiline

Polymer concrete channel body with integrated seal offered with large variety of gratings made of cast iron, stainless, galvanized steel or plastic



ACO PowerDrain

Polymer concrete channel body with integrated seal and cast iron frame for heavy duty applications





Note

Any more questions?
askACO – your local
ACO team is proud to offer
experience and service

[www.aco.com/en/
products-and-services/askaco](http://www.aco.com/en/products-and-services/askaco)

ACO. we care for water

ACO Group

06

ACO DRAIN® Qmax Family

Product advantages at a glance

08

Qmax Neo 300 Channel Body

10

Accessory for any easy installation

12

Applications

14

Technical data

16

Transportation benefits

18

Multi applications with Qmax edge rails

20

Qmax Neo channel with Q-Flow rail design

22

Qmax Neo channel with Q-Guard rail design

25

Customized

29

Access chamber

30

Accessories

33

Installation Qmax Neo 300

34

Hydraulic performance tables

35



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 fat 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/Büdelndorf



5.300

employees in more than 50 countries (Europe, North and South America, Asia, Australia, Africa)

1,15 Billion

Euro Sales in 2022

40

production sites in 20 countries



ACO Academy
for practical training

ACO DRAIN®

Qmax Family

ACO Qmax is the combination of drainage and retention. There are no limits related to the application field – everything is possible with ACO Qmax, from utilising it as a slotted channel in pedestrian areas to the drainage of large surface areas with heavy traffic.

The plastic channels are easy and quick to assemble due to their low weight.

The system is available in different nominal widths from 150 to 900 and can therefore be adapted to the hydraulic requirements. In particular, the channel bodies of the larger nominal widths have an enormous retention volume: The collected rainwater can be temporarily stored and then discharged into the sewer system in a controlled manner during heavy rainfall incidents. The handling of these large volumes of water and the defusing of heavy rainfall peaks is a critically important subject for the future.

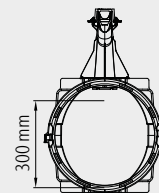


Qmax Family product advantages

- Application variety
 - All surface finishes possible
 - Traffic loads from A 15 to F 900 certified
 - Large choice of materials for edge rail
- Design
 - Professional surface appearance due to discreet and narrow edge rail
 - Uniform and straight surface appearance even with different nominal widths underground
 - Drainage for the surface area and simultaneous retention with large storage volumes without additional sewer work
- Operating state
 - Sealed channel run
- Installation
 - High lay rates and performances without heavy lifting devices

Qmax Neo

Modular



circular
**Qmax Neo
300**

Material: Polypropylene

Accessories

1

Levelling feet

allows the channel to be aligned and fixed in the desired position. All the available accessories described on the page 33.

2

Inspection Shaft

Individually tailored shaft according to the specifications of the respective building project. Transition for different nominal widths. Other types of access chambers presented on the page 30.

Surface

3

Edge Rail

Available in all material options and designs for high flow rate and also with heelsafe feature. More information on the page 20.



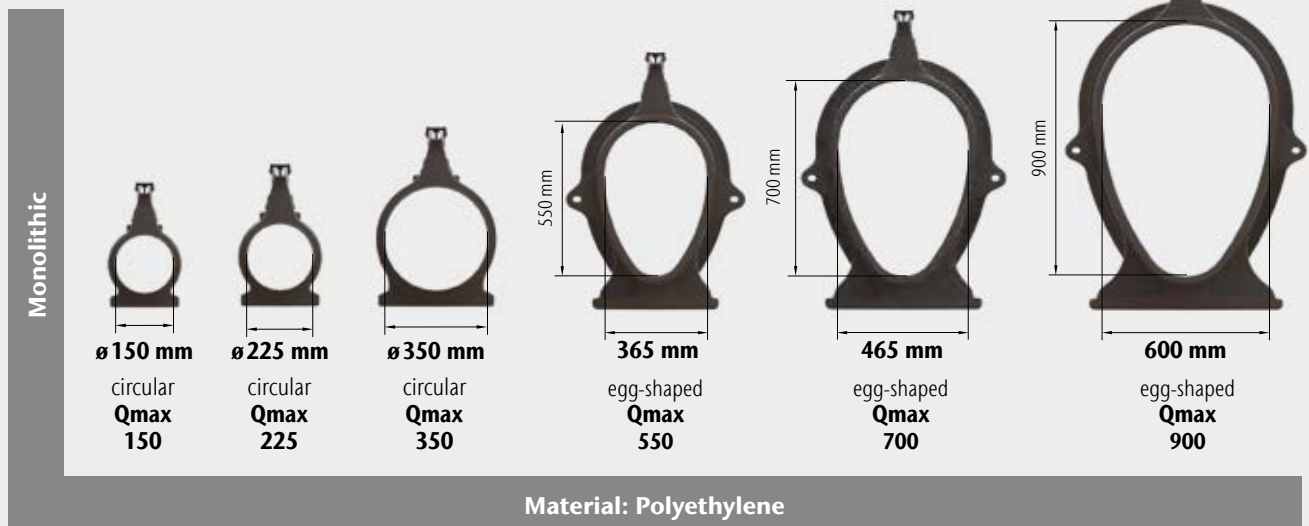
Qmax 550

ACO Qmax

Combination of different nominal widths with the same edge rail creates a uniform surface appearance and optimal hydraulic performance.

Qmax

(more details for the monolithic Qmax see the separate Qmax Brochure)



Qmax Neo 300 Channel

Part of the subgroup "Neo" in the Qmax Family.



The pavement beam feature permits continuous reinforcement positioning and flow of concrete through the product



Light weight product made from Polypropylene enables easy handling



Plug-in installation for a simple connection



Integrated gaskets for a sealed channel run



Smooth wash for a self cleaning surface



Plastic material for resistency to chemicals and corrosion

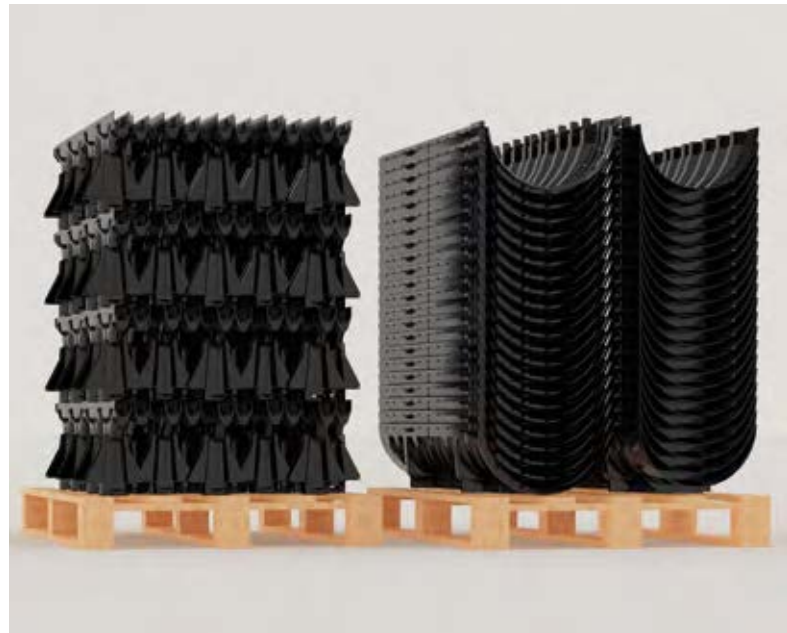




Qmax Neo Rail (ductile iron)
For applications up to F 900



Ultra stiff rib design
provides high
strength during
installation



For large projects: Transport optimised delivery and space saving on construction sites.

Neo Family

ACO DRAIN® Qmax Neo is a subgroup of the existing Qmax family. This “Efficient Option” differs in terms of material, manufacturing and transport process.



Easy Installation

Due to the low component weight and the simple assembly of several channel bodies, a quick installation without additional lifting devices is possible.



Operating State

The design enables a reliable and robust solution even in areas with highest load classes.



Surface Design

The narrow rail allows a discreet drainage up to the highest load classes including F 900.

Accessory for any easy installation

Qmax Neo

is a plastic channel with narrow durable rail designed for concreting. The method of concreting and reinforcement of the concreted part determines the load class of the installation.

The channel is installed according to the installation recommendations, which are specified according to the EN433 load classes. Load bearing forces should always be considered and engineering advice should be taken into account.

Simple Installation

To simplify installation, the channels are supplied with levelling foot which can be fixed to the underlying concrete layer.

The levelling foot is installed to the inlet part of the channel. The reason is that the foot attached to the inlet part of the channel better prevents the channel from rising during concrete pouring. If you were to install the footing on the female part of the channel, you would need to prevent the channel from rising during concreting in another way, for example by loading the rail from above. Always check the flatness of the top edge before concreting, preferably with a laser. During concreting, check the movement of the channel in the concrete so that corrections can be made if necessary.



Installation jigs

are also offered to ensure that the channel is anchored even more firmly in position.



Installation advantages of the channel

- Lightweight channel for handling
- Installation without heavy machinery
- Fixing with the levelling foot allows the channel to be anchored in position
- The builder is in control of the quality of the concreting and reinforcement

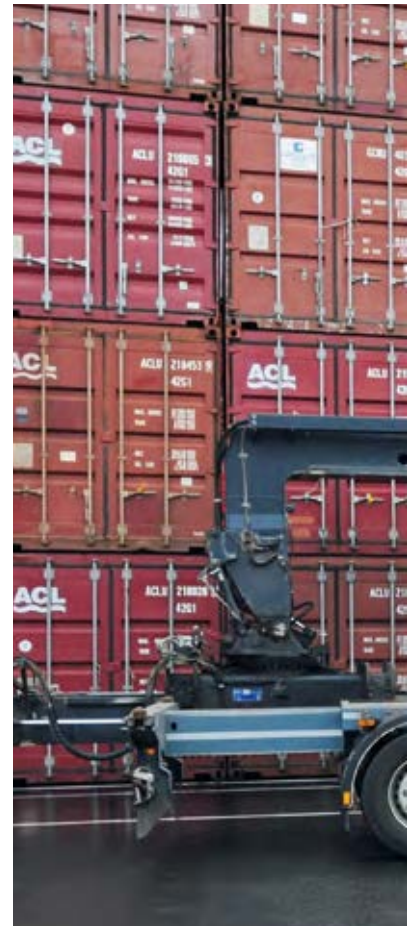
Applications

Due to its versatility, ACO Qmax is used in various applications. The small narrow edge rail offers only a small contact area for loads, this ensures low abrasion and therefore a long, reliable product life. Additionally, the surface does not contain any screwed or loose components which could adversely affect traffic safety.

The wide range of rails allows installation not only in high load areas, but now also in areas where safety is required when crossing people and also in areas where aesthetic requirements are higher. Due to the high variability of the grids, there is no limitation for the application of Qmax Neo channels and therefore the channel can be installed in airport and industrial areas as well as in urban areas where protection of the soles is required and where there are high demands on the product design.

A 15 – F 900

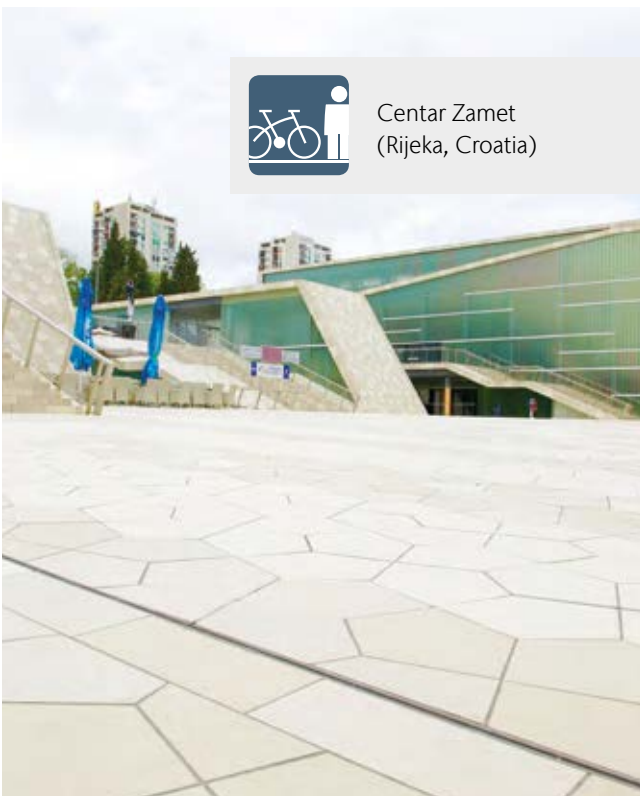
All the surfaces and load classes



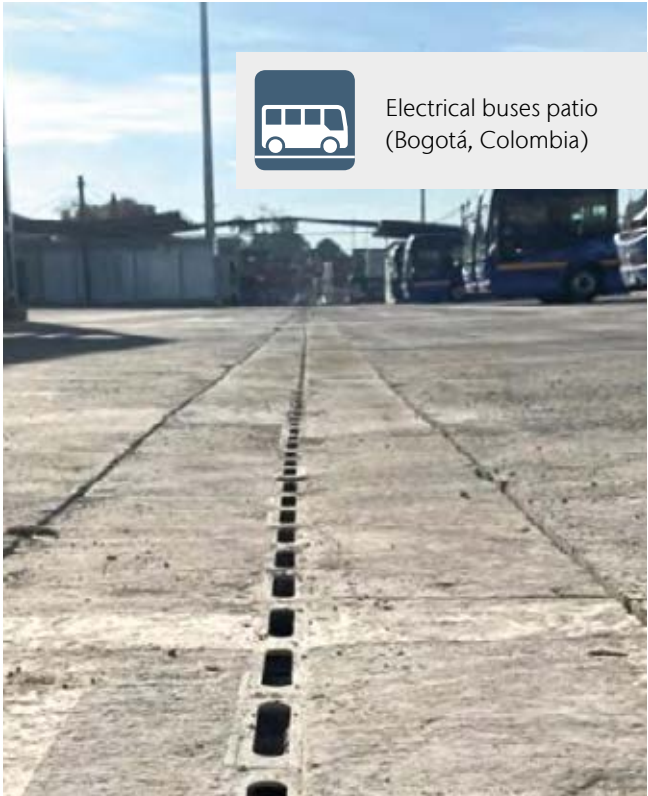
Logistic Area
(Mannheim, Germany)




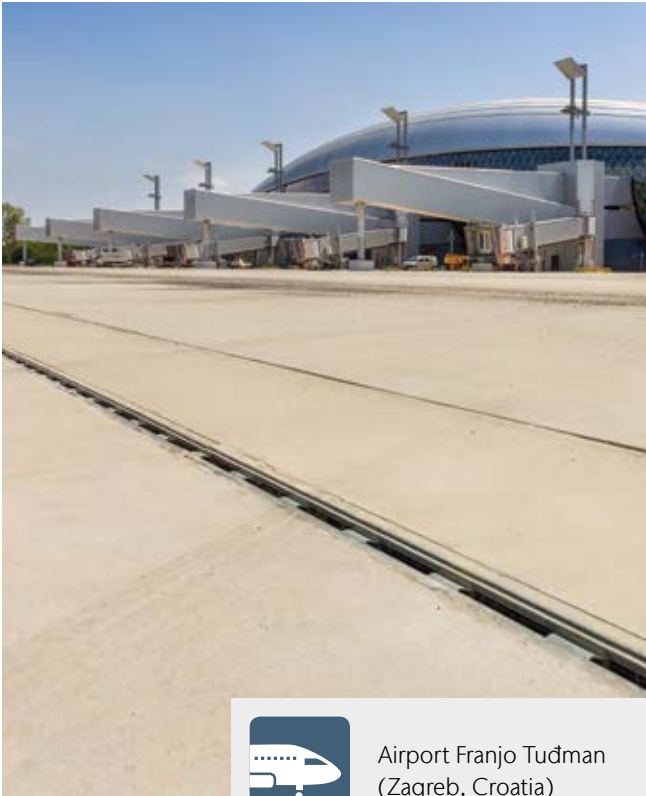
Centar Zamet
(Rijeka, Croatia)




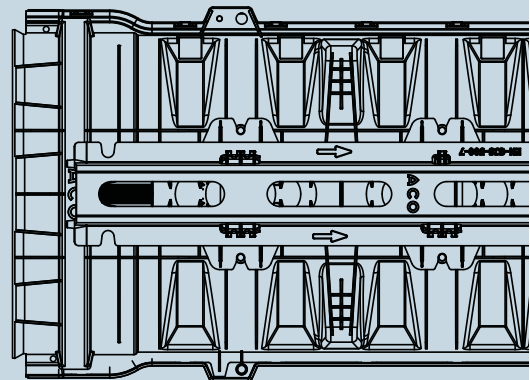
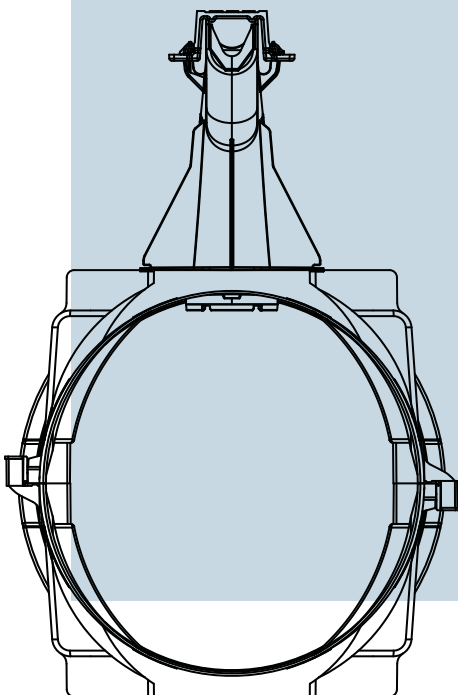
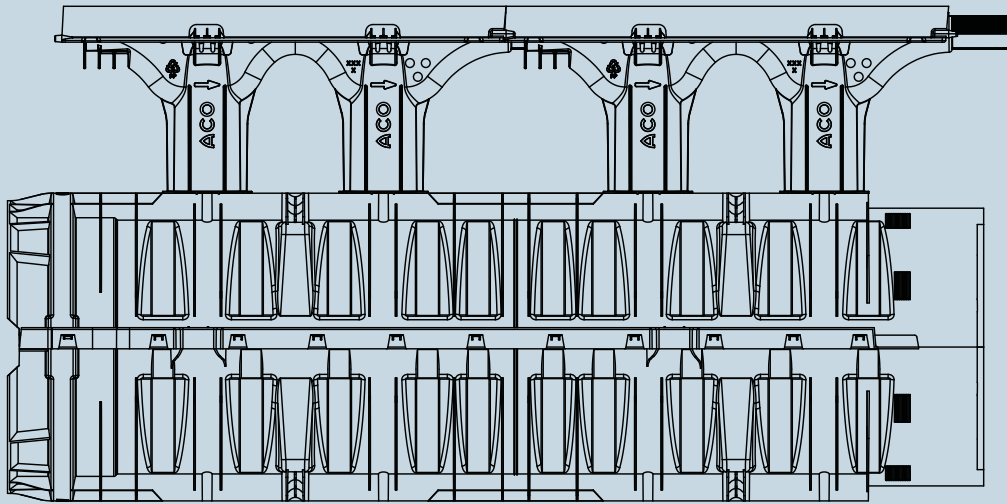
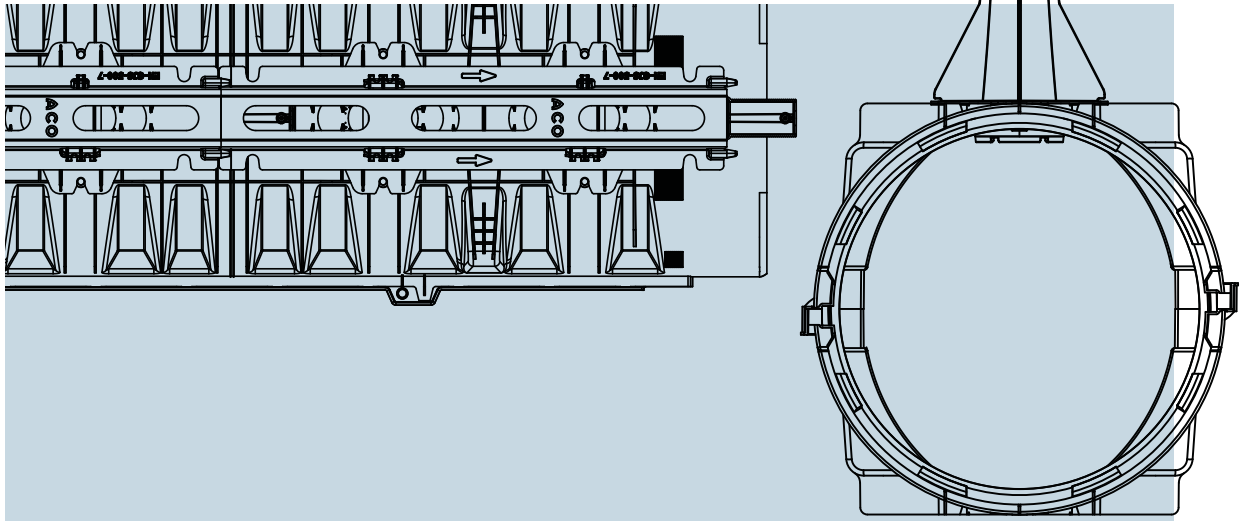
London Dockland
(London, England)



 Electrical buses patio
(Bogotá, Colombia)



 Airport Franjo Tudman
(Zagreb, Croatia)



Technical Data

Qmax Neo 300

Due to the very narrow cast iron top, Qmax is ideal for heavy-duty applications. However, the small drainage slot can also be the perfect solution for visually demanding installations. By combining the existing Qmax family with Qmax Neo, the system can meet hydraulic requirements in the most effective way and provide safe and efficient drainage.

Transportation benefits

Qmax Neo is available in two transport variants.
Assembled and Modular (flat pack).

The assembled channel is ordered when the product cannot be assembled on site or the transportation costs are at acceptable level. The assembled channel arrives at the site ready for laying in the ground. The installation is then carried out following the installation recommendations.

The delivery of the channel in modular (flat pack) state is suitable for cases where it is possible to ensure the assembly of the channel close to the construction site at a lower cost than the difference in transport price between the assembled and flat pack version of channel.

When deciding which type of channel will be used for the project, the following points need to be considered:

- Distance of the project site from the contractor.
- Total transportation costs
- Requires training of the channel installer or the ability to supervise the ACO worker in the folding of the product at the installation site.
- The product is offered with installation instructions and training is simple and folding the product is intuitive.



Assembled channel

- Product is delivered on site assembled including the horizontal and channel sealing
- Installation with push-fit system



Modular (flat pack)






- The flat pack version may save up to 2/3 of the transportation costs.
- There is additional work and supervision on site needed.
- Fast and easy assembly on site.
- Assembly guides available.
- Assembly is fool proof and easy and takes from 2-4 min, depends on the type of the rail and handy of workers.










Multi applications with Qmax edge rails

The discreet edge rails of Qmax mask the large drainage underneath and with choice material and colour options Qmax can be further blended into the landscape or used as landscape feature.

Depending on the application, Designers, Planners and Architects can choose from rails in ductile iron, hot dipped galvanised steel or the new composite material, which comes in black and on request also grey color.

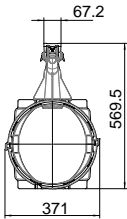
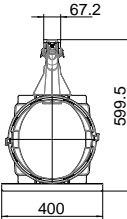
	Finish	Load class [up to]	Typical applications	Pavement type	Slot width [mm]	Intake area [cm ² /m]
Iron rail						
Q-Flow 0.5 m						
	water based paint	F 900	<ul style="list-style-type: none"> ■ Commercial ■ Industrial ■ Highways ■ Docks ■ Airports 	concrete and asphalt	26	187
Q-Flow 1.0 m						
	KTL coating	F 900	<ul style="list-style-type: none"> ■ Commercial ■ Industrial ■ Highways ■ Docks ■ Airports 	concrete and asphalt	26	187
Q-Guard 0.5 m						
	water based paint	F 900	<ul style="list-style-type: none"> ■ Car parking ■ Petrol forecourts ■ Retail ■ Commercial ■ Airports 	concrete and asphalt	2x8	109
Q-Guard 1.0 m						
	KTL coating	F 900	<ul style="list-style-type: none"> ■ Car parking ■ Petrol forecourts ■ Retail ■ Commercial ■ Airports 	concrete and asphalt	2x8	109
Q-Road 0.5 m						
	water based paint	F 900	<ul style="list-style-type: none"> ■ Commercial ■ Industrial ■ Highways ■ Docks ■ Airports 	asphalt	28	205

	Finish	Load class [up to]	Typical applications	Pavement type	Slot width [mm]	Intake area [cm ² /m]
Galvanised rail						
Q-Flow 2.0 m						
	hot dipped galvanised steel	F 900	<ul style="list-style-type: none"> ■ Commercial ■ Industrial ■ Highways ■ Airports 	concrete	26	181
Q-Guard 2.0 m						
	hot dipped galvanised steel	F 900	<ul style="list-style-type: none"> ■ Car parking ■ Petrol forecourts ■ Retail ■ Commercial ■ Airports 	concrete	10	83
Q-Slot 2.0 m						
	hot dipped galvanised steel	D 400	<ul style="list-style-type: none"> ■ Landscaping ■ Town centres ■ Car parking ■ Retail ■ Commercial 	Block, slab and natural stone	10 discreet slot	100
Composite rails						
Q-Flow black 1.0 m						
	composite plastic	F 900	<ul style="list-style-type: none"> ■ Commercial ■ Industrial ■ Highways ■ Docks ■ Airports 	concrete and asphalt	25	184
Q-Flow black 1.0 m						
	composite plastic	F 900	<ul style="list-style-type: none"> ■ Commercial ■ Industrial ■ Highways ■ Docks ■ Airports 	concrete and asphalt	25	184
Q-Guard grey 1.0 m						
	composite plastic	F 900	<ul style="list-style-type: none"> ■ Commercial ■ Industrial ■ Highways ■ Docks ■ Airports 	concrete and asphalt	9	107
Q-Guard grey 1.0 m						
	composite plastic	F 900	<ul style="list-style-type: none"> ■ Commercial ■ Industrial ■ Highways ■ Docks ■ Airports 	concrete and asphalt	9	107

Q-Flow 1.0 m cast iron rail KTL



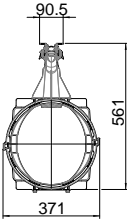
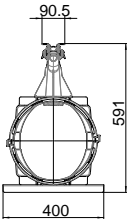
- Channel Neo 300 with ductile iron rail 1,0 m long KTL coated.
- Articles of channels are offered: assembled without the leveling feet, flat pack without leveling feet, assembled with leveling feet and flat pack with leveling feet.

	Dimensions			Channel rail				Item No.
	Length [mm]	Width [mm]	Height [mm]	Type	Colour	Weight [kg]	PU [piece]	
	1000	371	570	<ul style="list-style-type: none"> ■ ductile iron ■ 1.0 m ■ KTL coated 		11.0	6	157019
Flat pack without levelling feet								157016
	1000	400	600	<ul style="list-style-type: none"> ■ ductile iron ■ 1.0 m ■ KTL coated 		11.7	6	157018
Flat pack with levelling feet								157015

Q-Flow 2 m galvanised rail



- Qmax Neo channels with galvanised rail 2m long.
- Articles of channels are offered: assembled without the leveling feet, flat pack without leveling feet, assembled with leveling feet and flat pack with leveling feet.

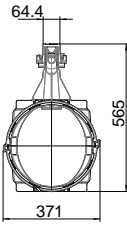
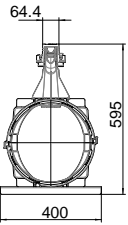
	2000	371	561	<ul style="list-style-type: none"> ■ galvanised steel ■ 2.0 m 		16.7	4	157049
Flat pack without levelling feet								157046
	2000	400	591	<ul style="list-style-type: none"> ■ galvanised steel ■ 2.0 m 		18.2	4	157048
Flat pack with levelling feet								157045

Q-Flow 1 m grey compozite rail



- Channel Neo 300 with compozite grey rail 1m long.
- The grey version of rail is not on stock and is produced only for projects.

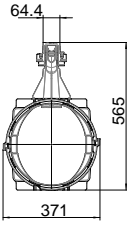
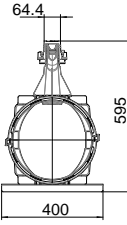
Dimensions

	Length	Width	Height	Material	Weight	PU	Item No.
	[mm]	[mm]	[mm]		[kg]	[piece]	
	1000	371	565	compozite	7.42	6	157074
Flat pack without levelling feet							157072
	1000	371	595	compozite	8.15	6	157073
Flat pack with levelling feet							157071

Q-Flow 1 m black compozite rail



- Channel Neo 300 with compozite black rail 1m long.
- Articles of channels are offered: assembled without the leveling feet, flat pack without leveling feet, assembled with leveling feet and flat pack with leveling feet.

	1000	371	565	compozite	7.42	6	157079
Flat pack without levelling feet							157076
	1000	400	595	compozite	8.15	6	157078
Flat pack with levelling feet							157075

Qmax Neo channel with Q-Guard rail design

The design of the Q-Guard is suitable for drainage of those types of surfaces where heelsafe protection is needed in addition to drainage of water from the surface.



The rail is offered in three basic material options, **ductile iron, zinc steel** and **composite**.

All our rails are made of **ductile iron EN-GJS-500-7**.

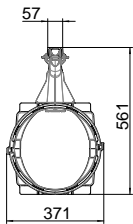
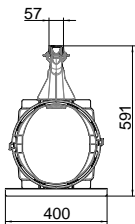
Neo ductile iron rails with a length of 0.5 m are supplied painted and other rails with a length of 1 m are supplied with a protective KTL coating.

Q-Guard Neo 0.5 m CI rail



- Channel Neo 300 with ductile iron rail 0.5 m long painted.
- Articles of channels are offered: assembled without the levelling feet, flat pack without levelling feet, assembled with levelling feet and flat pack with levelling feet.

Dimensions

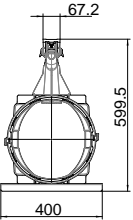
	Length [mm]	Width [mm]	Height [mm]	Material	Weight [kg]	PU [piece]	Item No.
Assembled without levelling feet							
	1136	371	561	ductile iron	9.8	6	157029
Flat pack without levelling feet							157026
Assembled with levelling feet							
	1136	400	591	ductile iron	10.6	6	157028
Flat pack with levelling feet							157025

Q-Guard Neo 1 m CI cast



- Channel Neo 300 with ductile iron rail 1,0 m long KTL coated.
- Articles of channels are offered: assembled without the leveling feet, flat pack without leveling feet, assembled with leveling feet and flat pack with leveling feet.

Dimensions

	Length	Width	Height	Material	Weight	PU	Item No.
	[mm]	[mm]	[mm]		[kg]	[piece]	
	1000	371	570	ductile iron	11.5	6	157039
Flat pack without levelling feet							157036
	1000	400	600	ductile iron	12.2	6	157038
Flat pack with levelling feet							157035

Q-Guard 2 m galvanised rail



- Qmax Neo channels with galvanised rail 2 m long.
- Articles of channels are offered: assembled without the leveling feet, flat pack without leveling feet, assembled with leveling feet and flat pack with leveling feet.

	2000	371	559	galvanised steel	13.9	4	157059
Flat pack without levelling feet							157056
	2000	400	589	galvanised steel	15.3	4	157058
Flat pack with levelling feet							157055

Q-Guard 1 m grey compozite rail



- Channel Neo 300 with compozite grey rail 1m long. The rail is not on stock and is produced only for projects.
- Articles of channels are offered: assembled without the leveling feet, flat pack without leveling feet, assembled with leveling feet and flat pack with leveling feet.

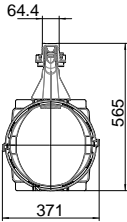
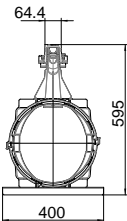
Dimensions

	Length	Width	Height	Material	Weight	PU	Item No.
	[mm]	[mm]	[mm]		[kg]	[piece]	
	1000	371	565	compozite	7.5	8	157084
Flat pack without levelling feet							157082
	1000	400	595	compozite	8.3	8	157083
Flat pack with levelling feet							157081

Q-Guard 1 m black compozite rail



- Channel Neo 300 with compozite black rail 1m long.
- Articles of channels are offered: assembled without the leveling feet, flat pack without leveling feet, assembled with leveling feet and flat pack with leveling feet.

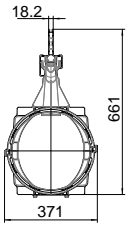
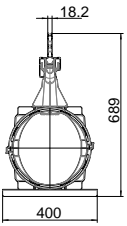
	1000	371	565	compozite	7.5	8	157089
Flat pack without levelling feet							157086
	1000	400	595	compozite	8.3	8	157088
Flat pack with levelling feet							157085

Q-Slot 2 m galvanised rail



- Qmax Neo channels with galvanised rail 2m long.
- Articles of channels are offered: assembled without the leveling feet, flat pack without leveling feet, assembled with leveling feet and flat pack with leveling feet.

Dimensions

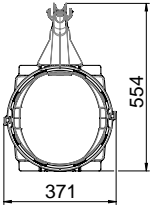
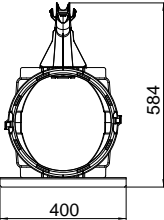
	Length	Width	Height	Material	Weight	PU	Item No.
	[mm]	[mm]	[mm]		[kg]	[piece]	
	1000	371	661	galvanised rail	22.4	4	157069
Flat pack without levelling feet							157066
	1000	400	691	galvanised rail	23.8	4	157068
Flat pack with levelling feet							157065

Customized

The reason for offering the channel without a rail is the possibility to buy the rail separately from the manufacturer and then assemble it with channel on site. For this purpose, for example, the Q-Road 1205400 rail or the Q-Slot customized rail can be used.

Customized



	Dimensions			Channel rail				Item No.
	Length [mm]	Width [mm]	Height [mm]	Type	Colour	Weight [kg]	PU [piece]	
	1000	371	554	without the rail		4.4	8	157099
Flat pack without levelling feet								157096
	1000	400	584	without the rail		5.6	8	157098
Flat pack with levelling feet								157095

Access chamber

Inlet shafts and inspection elements



Standard access chamber is ready for 180° connection of the same size of the channel.

Description	Item No.
Qmax 300 NEO access chamber male- female	418989
Qmax 300 NEO access chamber female- male	418990
Qmax 300 NEO access chamber female-female	418991



Different channel size Q150, Q225, Q300 Neo, Q350 in 180° direction is on request.

		Description	Item No.
		ACO Qmax COVER D400 NW425	1000228
		ACO Qmax GRATING D400 NW425	1000229
		ACO Qmax FRAME D400 NW425 H200	1000230
		ACO Qmax COVER F900 NW425	1207548
		ACO Qmax GRATING F900 NW425	1207692
		ACO Qmax FRAME F900 NW425 H200	1207632

Any custom Qmax access chamber solution can be configured in the ACO configurator



Dimensions

	Length [mm]	Width [mm]	Height [mm]	Variant Cover	Type of channel	Weight [kg]	Item No.
	785	785	125	Multito Plus D 400	QMax 150-900	111	210510
	785	785	125	Multito Plus F 900	QMax 150-900	111	210550

Accessories

1 Installation Jig

Item No.: 157010



2 End Cap

Item No.: 157430



3 Double Fitting

Item No.: 157431



4 Levelling feet

Item No.: 157415





5 Screws

Item No.: 157419

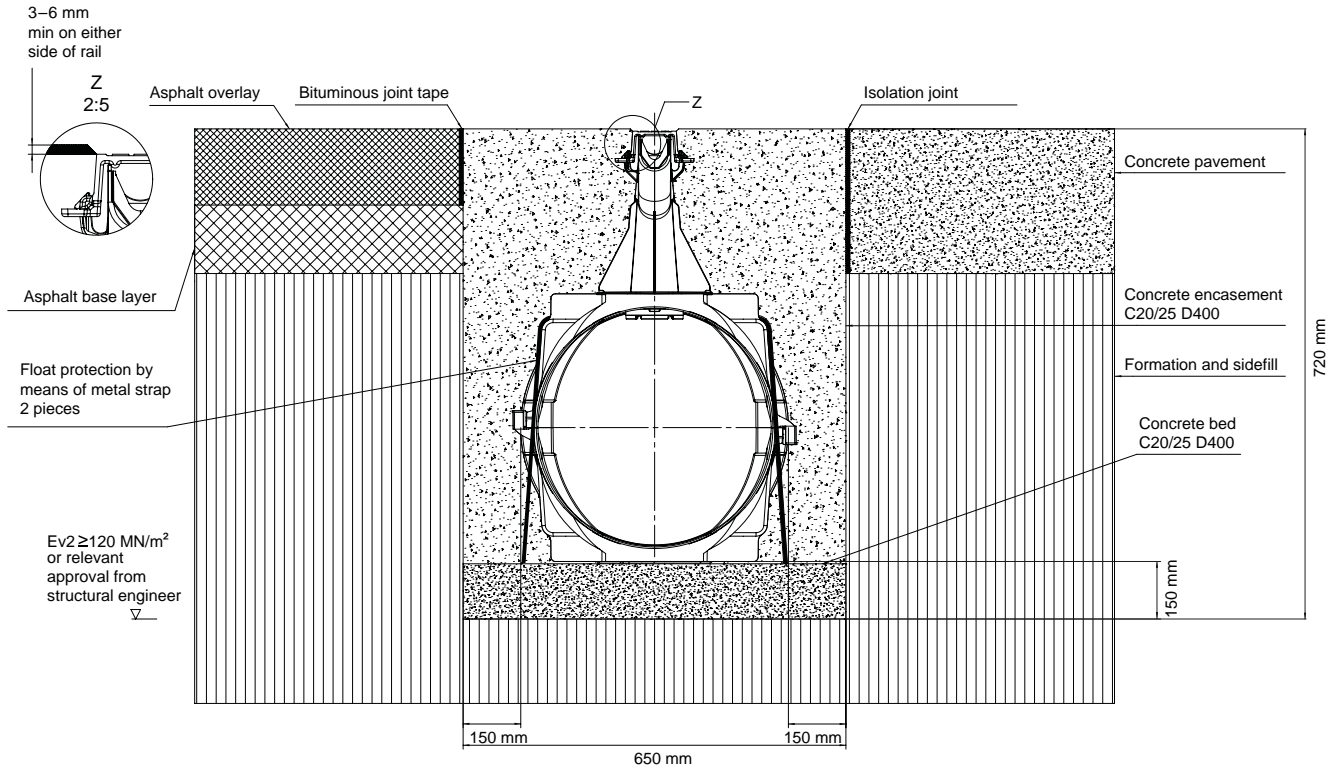


Connectors from Qmax Neo 300 to Q 225 and Q 350

	Description	Item No.
	ACO Qmax Neo 300 step connector from Q225 W450 L248 H450 , PE	418567
	ACO Qmax NEO 300 step connector to Q350 without seal W355 L176 H355 , PE	418569

Installation Qmax Neo 300

Drawing for D 400



Always refer to the detailed installation drawing for your specific application requirement and variant. Please contact your local ACO Service Design Team for support.

Watertight Installation to EN 1433:2002

34

Where ACO Qmax channels are to be installed with watertight joints, the seal between channel units must be checked for cleanliness and then smeared with lubricant grease such as proprietary pipe joining lubricant. ACO Qmax channels are tested to confirm compliance with the watertightness requirements of EN 1433 when filled with water to the top of the channel bore (below

the inlet arches). Installation must be in accordance with ACO's recommendations and the recommendations of the lubricant manufacturer.

It is envisaged that the channel joints would not be subject to movement, but any movement of the joint might compromise the watertightness.

Ground Conditions

The long term performance of a channel installation to sustain vertical and lateral loads depends upon A) ground conditions B) stability of the adjacent pavement and C) a durable concrete bed and surround.

The recommended installation detail may require the minimum dimensions to be revised to achieve site specific EN1433 load class requirements.

Concrete Surround and Reinforcement

Ensure that the channels do not float while pouring the concrete. The reinforcement required in the concrete surround varies with the installation group (load class) and channel size.

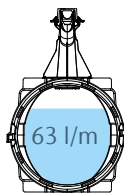
The combined depth of the asphalt pavement must not exceed the required dimensions. Ensure the edge rail anchors -if present- are well embedded into the concrete.

Load class	(according to EN 1433)	D 400	F900
Class of compressive strength of foundation concrete	(according to EN 206-1)	≥ C20/25	≥ C30/37
Exposure class *1)		(X0)	XC3
Dimension of foundation - Type M	(according to EN 1433)	x (mm)	≥ 650
		y (mm)	≥ 720
Reinforcement		No	Yes

*1) Exposure class: X0 only for non-reinforced and fully covered foundation concrete. XC3 only exposed to freezing and thawing but not to chlorides. It is mandatory that the planer/engineer is defining individually the relevant exposure class.

Hydraulic performance tables

The table below shows the maximum capacity of the unit Qmax Neo 300, assuming uniform lateral flow.



**Qmax Neo
300**

Length to outlet [m]	Q [l/s]	
	0 %	0,5 %
up to 10 m	45,0	55,8
up to 25 m	42,5	63,2
up to 50 m	39,7	71,0
up to 100 m	35,8	78,1
up to 200 m	30,6	85,0

Every ACO product supports
the ACO WaterCycle



-
- Drainage channels
 - Road and yard drains
 - Gully tops
 - Manhole covers
 - Rainwater treatment
 - Infiltration and attenuation
 - Pump shafts
 - Flow control systems
 - Tree protection
 - Amphibian protection
-



ACO Industries k.s.

Havlíčková 260
582 22 Příbyslav
Czech Republic

www.swm.aco

ACO. we care for water

