



ACO External Drainage



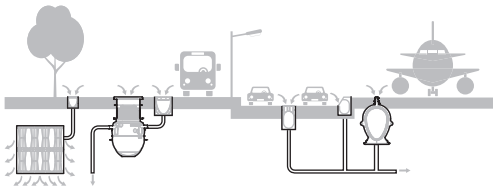
ACO DRAIN *KlassikDrain Line*

K50 - 2" internal width, steel edge channel

K100 - 4" internal width, steel edge channel

K200 - 8" internal width, steel edge channel

K300 - 12" internal width, steel edge channel



ACO DRAIN

ACO Drain is the market leading modular trench drain system and is ideal for commercial applications varying from gas stations to airports.

ACO Drain systems consist of factory manufactured, modular channel units made from either corrosion-resistant, polymer concrete or fiberglass, together with grates from a variety of materials for all loading applications. ACO Drain systems are available in 2", 4", 8" and 12" internal widths, and most systems are available with a built-in slope for up to 130 ft (40 meters) of continuous slope.

The ACO Drain product line is segmented into different product types depending on use:

1. KlassikDrain

KlassikDrain - K100/K200/K300
MiniKlassik - K50
Brickslot

2. PowerDrain

PowerDrain - S100K/S200K/S300K

2. Slab Solutions

SlabDrain
FlowDrain
MembraneDrain



KlassikDrain

KlassikDrain is a general purpose trench drain system with choice of galvanized or stainless steel edge rail. A variety of grates are available in different materials and slot styles up to EN 1433 Load Class E (60 ton loading).

KlassikDrain is available in 2" (K50), 4" (K100), 8" (K200) and 12" (K300) internal width systems and features the patented DrainLok™ and QuickLok™ boltless locking systems.

KlassikDrain with an integrally cast-in galvanized steel edge rail is the most commonly used product type.

KS50/KS100/KS200/KS300 are the same systems but with a grade 304 stainless steel edge rail, and are typically used where increased aesthetics, or corrosion resistance is required.

For a more discreet drainage solution, refer to Brickslot product brochure, the ACO Drain Technical Handbook, or contact your nearest ACO sales office for details.

Typical applications

- Parking lots & garages
- Shopping malls
- Pedestrian areas
- Light industrial areas
- Commercial areas
- Internal applications

Grate selection

A drainage grate's primary function is to let surface water enter the drainage system and allow efficient removal of excess water.

These grates have to remove the quantity of water specified and be strong enough to withstand traffic without collapsing.

Design criteria for grate

- Water intake capacity
- Loading
- Material - durability & aesthetics
- Slot style
- Legal requirements
 - ADA compliance
 - Slip resistance
 - Heel and bicycle safety
- Locking

In recent years, the visual importance of these drainage systems has become more prominent.

As the global leader, ACO has introduced many different sized patterns and materials, including discreet drainage concepts such as Brickslot. The newest innovation is Freestyle - an easy and cost effective way to design your own iron grate.

ACO now offers a surface and grate **Visualizer** - an online tool that offers designers the chance to visualize each ACO Drain grate in a number of different pavements. Visit www.ACODrain.us for details.



Standard grates

ACO Drain provides a wide selection of standard grates for all sizes and types of channels. These offer the most economic option and encompass popular styles and materials.



Freestyle grates

ACO offers a semi-custom option with the opportunity to design the top surface look of an iron grate to complement your project design.

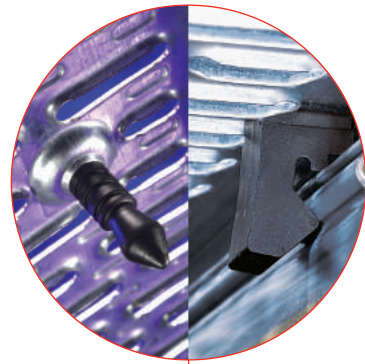


Exotic grate solutions

On rare occasions, the grate design and/or material becomes a focal point. For these projects, ACO can fully customize materials and/or finishes of grates to suit client requirements.

KlassikDrain features

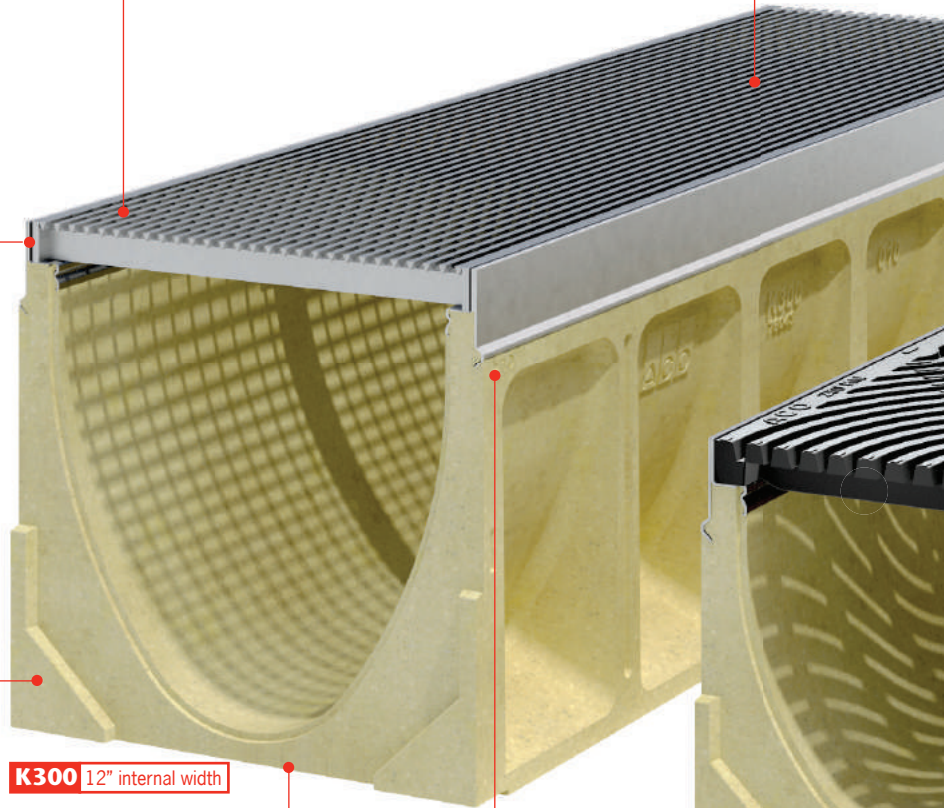
Wide choice of grates - In various materials and styles (including ADA compliant) for applications from Load Class A to Load Class E.



QuickLok™ & DrainLok™ - Patented, boltless locking systems provide quick fitting and removal of grates. Helps reduce installation/maintenance time and cost.

Steel edge rail - Provides additional strength and protects channel body from damage. Stainless steel edge rail also available.

Interconnecting end profiles - Allows easy and effective joining of channels. Appropriate sealant can be used to create a sealed joint.



K300 12" internal width

K200 8" internal width

System numbering - Each end of the channel indicates the number of the channel that will connect to it.

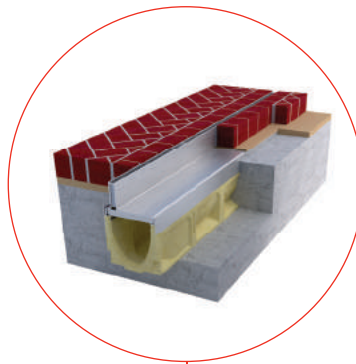


Knock-outs - Included on certain channel units to allow vertical evacuation of the system along the run. See Product table for details.



ACO DRAIN

Channel identification - Channels feature numbering on sidewalls and base of channel, allowing easy identification after concrete encasement.

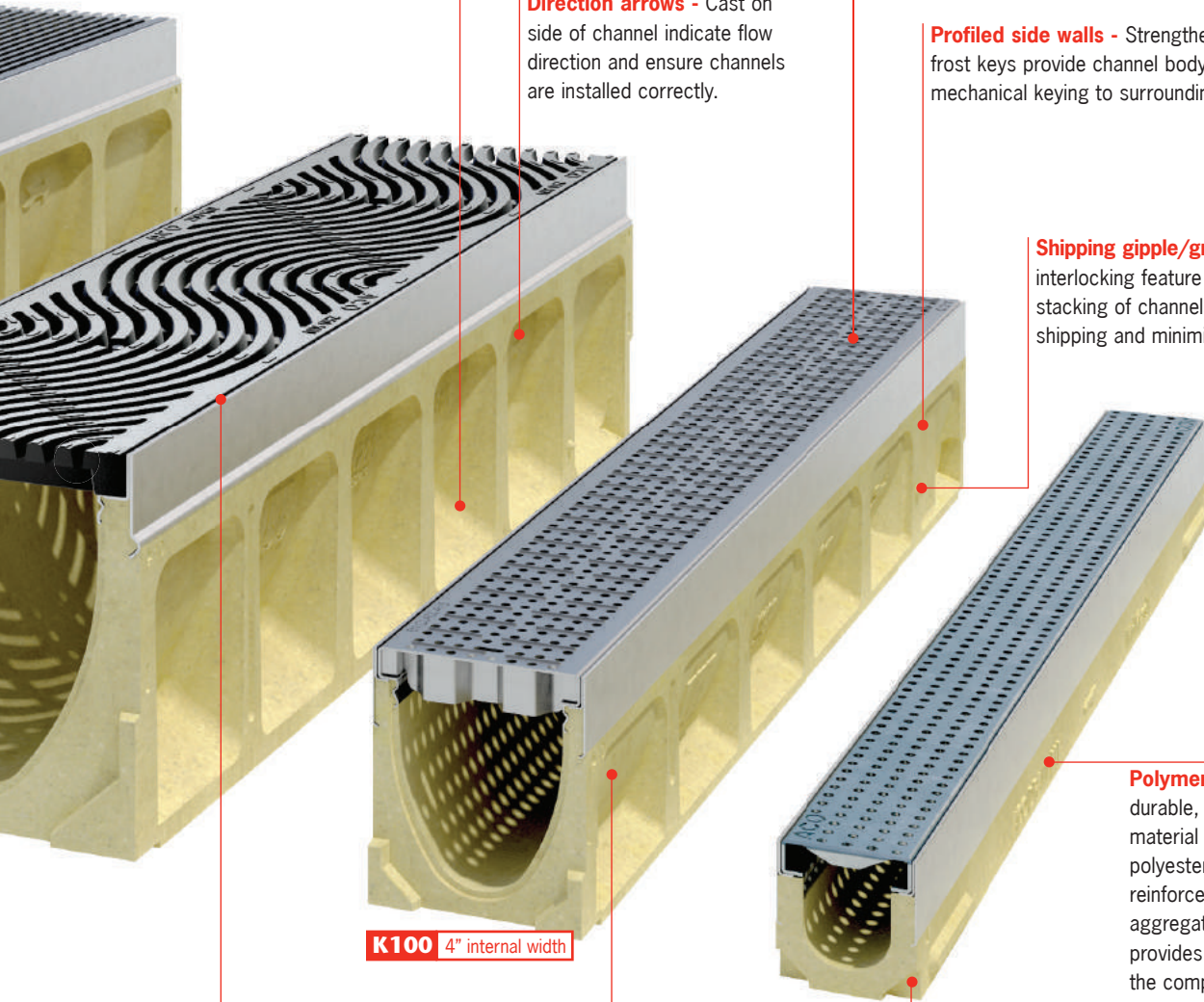


Brickslot 100 & 200 - A discreet drainage solution for use with brick or stone pavers. Standard, Heel Resistant and Twinslot versions available.

Direction arrows - Cast on side of channel indicate flow direction and ensure channels are installed correctly.

Profiled side walls - Strengthening pillars and frost keys provide channel body strength and mechanical keying to surrounding concrete.

Shipping gipple/groove - Side interlocking feature ensures safer stacking of channels on pallets for shipping and minimizes breakage.



K100 4" internal width

K50 2" internal width

Polymer concrete - A durable, yet lightweight material made from a polyester resin binder reinforced with mineral aggregates and fillers. It provides up to four times the compressive strength of cement concrete.

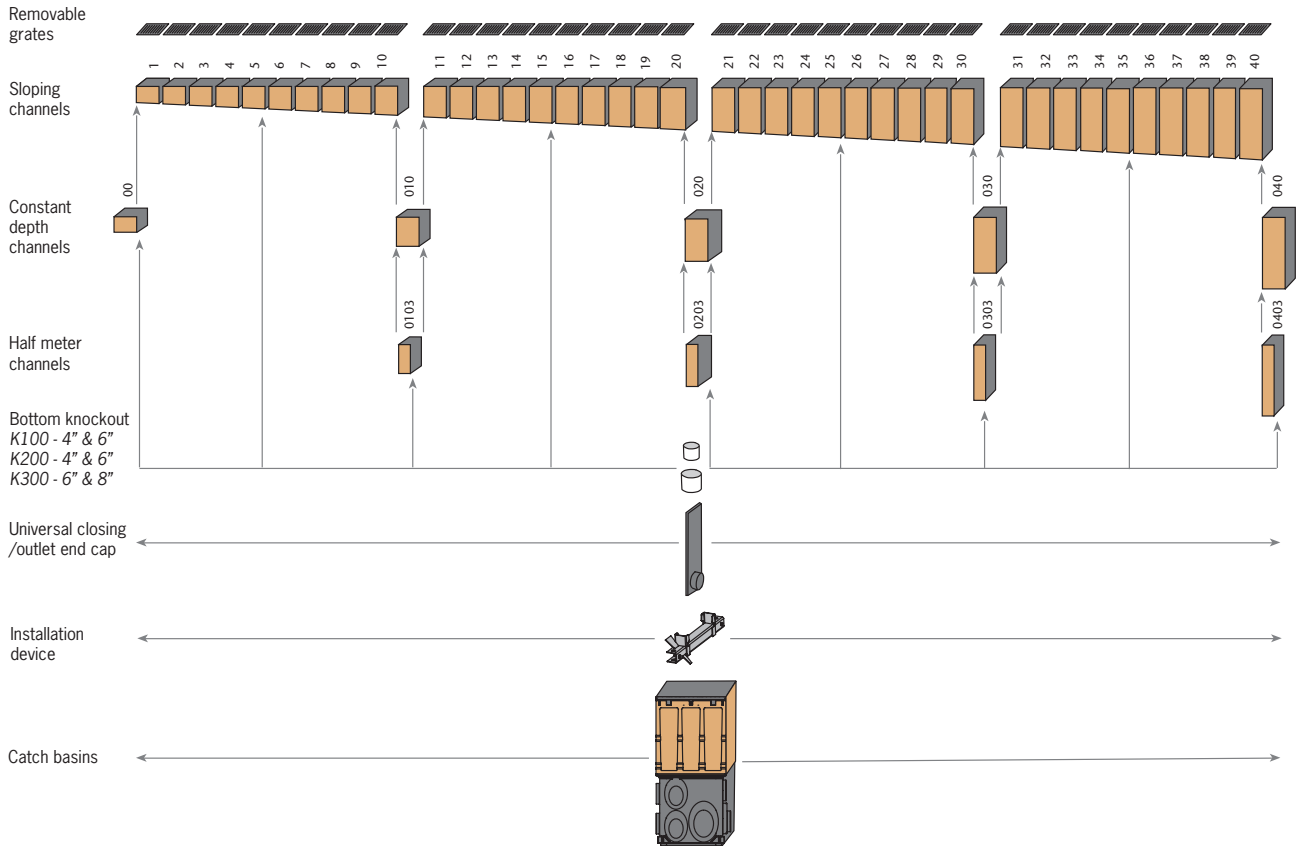
Anti-shunt lugs - Protrusions in grate fit into recesses on the edge rail to prevent longitudinal movement.

Sloped (0.5%) channel units - Meter long units provide 131'-3" continuous slope equating to $\frac{1}{17}$ " fall per linear foot. Constant depth units can be used to extend run lengths.

MiniKlassik K50 - A 2" internal width, constant depth system for high profile, aesthetic applications where a barrier is required to separate wet and dry areas.



Typical system layout - K100/K200/K300



Catch basin options

In-line catch basins

Type 900 in-line catch basins are the same width as the trench run. Uses same grate as trench run for seamless aesthetics.

Type 600 catch basins

Type 600 catch basins are 12" wide, providing greater hydraulic output and maintenance access. K300 grates match/complement trench run.

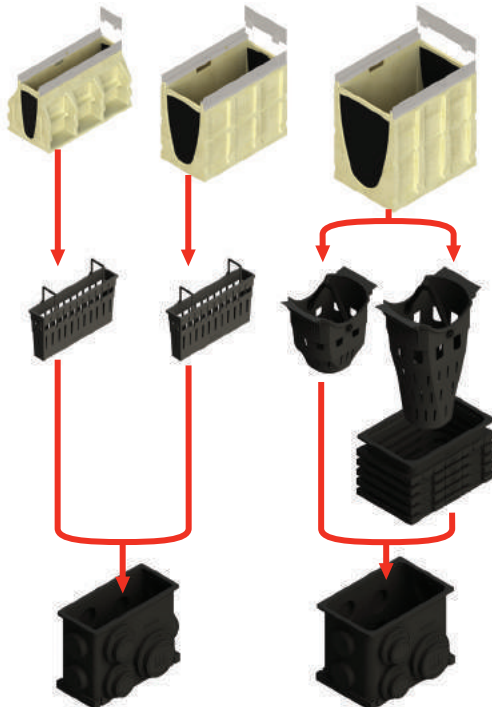
K1-901G/S

K2-902G/S

K3-903G/S

K1-621G/S

K2-621G/S



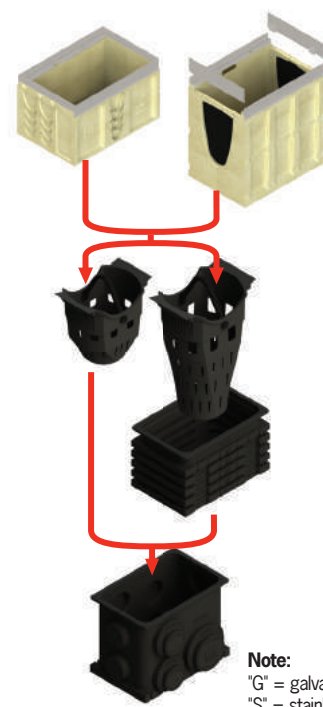
Blanking end plate to match edge rail.

Polymer concrete catch basin top with steel edge rail and DrainLok™ grate, or QuickLok™ grate with removable QuickLok™ bar.

Optional plastic trash bucket.

Optional plastic riser to increase depth and hydraulic output.

Plastic catch basin base with choice of outlet sizes and locations.



Note:
"G" = galvanized steel rail
"S" = stainless steel rail

K1-901 & K2-902 in-line catch basins use same base.

DrainLok™ - boltless & barless locking system

DrainLok™ removes the need for bolts and bars, improving channel hydraulics. The DrainLok™ mechanism simply clips into channel edge rail for rapid installation. ACO DrainLok™ grates are fitted with an *anti-shunt* mechanism that restricts unwanted grate movement, improving system durability and longevity.



1



Position grate

Position grate onto channel and align anti-shunt detail with recess in rail.

2



Lock grate

Push down or stand on grate until it clicks into position.

3



Grate removal

To remove first grate, insert grate removal tool into slots at end of grate, pull up sharply. Remaining grates can be removed by hand.

K100/KS100 DrainLok™ grates		Length mm	Part No	Wgt lbs					
LOAD CLASS A - EN 1433 - 3,500lbs - 70psi									
	Type 410D Galv perforated	1000	12666	6.3	✓	✓	✓	✓	22.6
	Type 412D Galv perforated	500	12667	3.2	✓	✓	✓	✓	22.6
	Type 451D S/S perforated	1000	12664	6.3	✓	✓	✓	✓	29.6
	Type 453D S/S perforated	500	12665	3.2	✓	✓	✓	✓	29.6
	Type 420D Galv slotted	1000	12610	5.9	✗	✗	✗	✓	27.4
	Type 421D Galv slotted	500	12611	3.0	✗	✗	✗	✓	27.4
	Type 450D S/S slotted	1000	12640	5.9	✗	✗	✗	✓	29.9
	Type 452D S/S slotted	500	12641	3.0	✗	✗	✗	✓	29.9
	Type 494D Black plastic longitudinal	500	99575	1.8	✓	✗	✗	✓	52.5
	Type 495D Gray plastic longitudinal	500	99576	1.8	✓	✗	✗	✓	52.5
	Type 496D Tan plastic longitudinal	500	99577	1.8	✓	✗	✗	✓	52.5
LOAD CLASS B - EN 1433 - 28,000lbs - 581psi									
	Type 447D S/S longitudinal	1000	142215	8.0	✓	✓	✓	✓	51.3
	Type 448D S/S longitudinal	500	142216	4.0	✓	✓	✓	✓	51.3
	Type 438D Galv longitudinal	1000	132555	10.0	✓	✓	✗	✓	42.3
	Type 437D Galv longitudinal	500	132550	4.2	✓	✓	✗	✓	42.3
LOAD CLASS C - EN 1433 - 56,000lbs - 1,162psi									
	Type 492D Black composite slotted	500	132720	2.2	✗	✓	✗	✓	86.4
	Type 497D Gray composite slotted	500	132266	2.2	✗	✓	✗	✓	35.6
	Type 498D Tan composite slotted	500	132712	2.2	✗	✓	✗	✓	35.6
	Type 425D Galv slotted	1000	12614	8.8	✗	✗	✗	✓	27.4
	Type 426D Galv slotted	500	12615	4.4	✗	✗	✗	✓	27.4
	Type 455D S/S slotted	1000	12644	8.8	✗	✗	✗	✓	29.9
	Type 457D S/S slotted	500	12645	4.4	✗	✗	✗	✓	29.9
	Type 411D Galv perforated	1000	12656	11.3	✓	✓	✓	✓	22.6
	Type 413D Galv perforated	500	12657	5.7	✓	✓	✓	✓	22.6
	Type 465D S/S perforated	1000	12654	11.3	✓	✓	✓	✓	29.6
	Type 466D S/S perforated	500	12655	5.7	✓	✓	✓	✓	29.6
	Type 405D Galv mesh	1000	132880	7.8	✓	✗	✗	✓	52.1
	Type 406D Galv mesh	500	132881	3.9	✓	✗	✗	✓	52.1
	Type 430D S/S mesh	1000	132882	7.8	✓	✗	✗	✓	41.3
	Type 431D S/S mesh	500	132883	3.9	✓	✗	✗	✓	41.3
	Type 460D Iron slotted	500	12670	10.1	✗	✗	✗	✓	35.6
	Type 476D Iron longitudinal	500	142171	7.0	✓	✓	✓	✓	25.8
	Type 480D Iron wave	500	99578	8.0	✓	✓	✗	✓	26.6

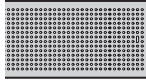
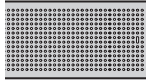
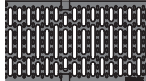




K200/KS200 DrainLok™ grates Length mm Part No Wgt lbs     

LOAD CLASS B - EN 1433 - 28,000lbs - 483psi

	Type 647D S/S longitudinal	1000	142219	17.7	✓	✓	✓	✓	51.3
	Type 648D S/S longitudinal	500	142220	9.0					

LOAD CLASS C - EN 1433 - 56,000lbs - 967psi


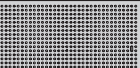
	Type 611D Galv perforated	1000	138080	21.0	✓	✓	✓	✓	22.6
	Type 613D Galv perforated	500	138081	10.5					
	Type 665D S/S perforated	1000	138082	21.0	✓	✓	✓	✓	29.6
	Type 666D S/S perforated	500	138083	10.5					
	Type 660D Iron slotted	500	142177	18.0	✗	✗	✗	✓	21.4
	Type 676D Iron longitudinal	500	142173	18.0	✓	✓	✓	✓	25.8
	Type 680D Iron wave	500	99579	28.0	✓	✓	✗	✓	26.6

K300/KS300 DrainLok™ grates Length mm Part No Wgt lbs     

LOAD CLASS A - EN 1433 - 3,500lbs - 58psi

	Type 847D S/S longitudinal	1000	142223	28.6	✓	✓	✓	✓	51.3
	Type 848D S/S longitudinal	500	142224	14.5					

LOAD CLASS B - EN 1433 - 28,000lbs - 483psi

	Type 811D Galv perforated	1000	138090	30.9	✓	✓	✓	✓	22.6
	Type 813D Galv perforated	500	138091	15.0					
	Type 865D S/S perforated	1000	138092	30.9	✓	✓	✓	✓	29.6
	Type 866D S/S perforated	500	138093	15.0					

LOAD CLASS C - EN 1433 - 56,000lbs - 967psi

	Type 805D Galv mesh	500	13819	29.5	✗	✗	✗	✓	52.1
	Type 830D S/S mesh	500	13849	29.5	✗	✗	✗	✓	41.3
	Type 860D Iron slotted	500	13870	38.0	✗	✗	✗	✓	31.5
	Type 876D Iron longitudinal	500	99588	35.0	✓	✓	✓	✓	25.8
	Type 880D Iron wave	500	99581	48.0	✓	✓	✗	✓	26.6

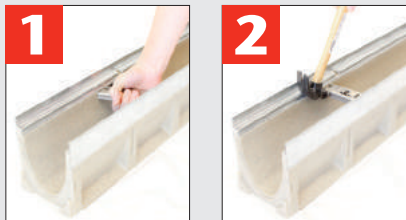
Key

-  Compliant with Americans with Disabilities Act of 1990 Section 4.5.4
-  ASME A112.6.3 - 2001 Heel resistant slots less than 0.31" (8mm)
-  Heel safe slots equal or less than 0.25" (6.35mm)
-  Bicycle Safe to Australian Standard AS 3996 - 2006
-  Anti-slip grates - Pendulum test BPN value over 24



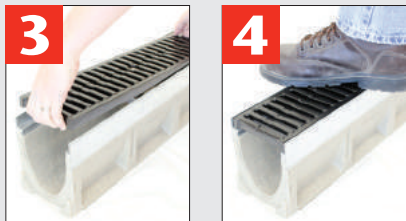
QuickLok™ - boltless locking system

Comprised of either a glass nylon stud or steel pin fitted to grate and a removable QuickLok™ bar in channel, QuickLok™ locks grate to channel by aligning stud over locking bar and applying pressure until they snap together. With no loose bolts or bars, QuickLok™ provides a highly secure boltless lock that is still easy to take apart for maintenance and cleaning. This saves time and money during installation.



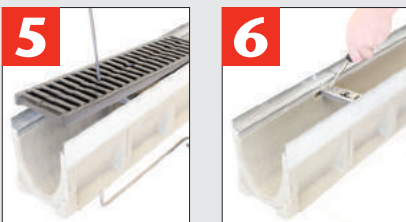
Fit locking bar

Locate locking bar in channel wall recesses by rotating clockwise. Use hammer to tap bar into place, so that serrated ends grip in recess.



Fit grate

To install grate, align QuickLok™ stud directly over locking bar. Push down or stand on grate until it clicks into position.



Grate removal

To remove first grate, insert grate removal tool into slots at end of grate, pull up sharply. Remove remaining grates by hand.

To remove bar, insert screwdriver into hole at end of bar and lever back serrated end, rotate bar free.

K100/KS100 QuickLok™ grates

LOAD CLASS C - EN 1433 - 56,000lbs - 1,162psi

	Type	Length mm	Part No	Wgt lbs	Wheelchair	Hand truck	SAFETY	Bicycle	Truck
	Type 481Q Iron decorative	500	97120	9.0	✓	✗	✗	✓	38.8
	Type 479Q Iron mosaic	500	97116	10.0	✓	✗	✗	✓	24.6

LOAD CLASS E - EN 1433 - 135,000lbs - 2,788psi

	Type 461Q Iron slotted	500	96752	10.2	✗	✗	✗	✓	31.1
	Type 435Q Galv slotted	1000	31550	13.7	✗	✗	✗	✓	27.4
	Type 436Q Galv slotted	500	31551	6.8	✗	✗	✗	✓	27.4
	Type 490Q S/S slotted	1000	31650	13.7	✗	✗	✗	✓	29.9
	Type 493Q S/S slotted	500	31651	6.8	✗	✗	✗	✓	29.9
	Type 478Q Iron longitudinal	500	03314	12.8	✓	✓	✗	✓	25.8

K200/KS200 QuickLok™ grates

LOAD CLASS C - EN 1433 - 56,000lbs - 967psi

	Type 605Q Galv mesh	1000	10352	31.7	✗	✗	✗	✓	52.1
	Type 606Q Galv mesh	500	10353	16.1	✗	✗	✗	✓	52.1
	Type 630Q S/S mesh	1000	16032	31.7	✗	✗	✗	✓	41.3
	Type 631Q S/S mesh	500	16033	16.1	✗	✗	✗	✓	41.3
	Type 681Q Iron decorative	500	93956	27.0	✓	✗	✗	✓	38.8
	Type 679Q Iron mosaic	500	93957	34.0	✓	✗	✗	✓	24.6

LOAD CLASS E - EN 1433 - 135,000lbs - 2,321psi

	Type 678Q Iron longitudinal	500	138129	26.0	✓	✓	✓	✓	25.8
	Type 661Q Iron slotted	500	10351	37.0	✗	✗	✗	✗	59.9

K300/KS300 QuickLok™ grates

LOAD CLASS C - EN 1433 - 56,000lbs - 967psi

	Type 881Q Iron decorative	500	93950	47.0	✓	✗	✗	✓	38.8
	Type 879Q Iron mosaic	500	93958	47.3	✓	✗	✗	✓	24.6

LOAD CLASS E - EN 1433 - 135,000lbs - 2,321psi

	Type 878Q Iron longitudinal	500	138130	52.9	✓	✓	✓	✓	25.8
	Type 861Q Iron slotted	500	10431	56.0	✗	✗	✗	✓	50.8



Parts table

Description

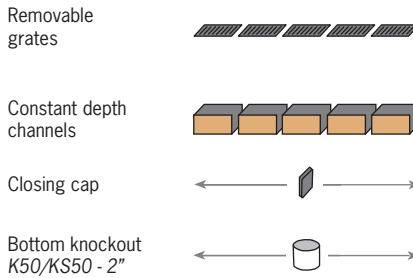
Constant depth channel - 39.37" (1m)¹
 Steel closing end cap

K50 - 2" internal width			
Part No	Invert	Weight	
Galv	S/S	Inches ^②	Lbs
04071	06750	2.90	18.0
95395	95403	-	0.3

Notes:

1. This channel offers 2" round bottom knockout feature.
2. To calculate Overall channel depth add 0.6" to invert depth.

Typical system layout - K50



K50/KS50 DrainLok™ grates

LOAD CLASS A - EN 1433 - 3,500lbs - 70psi

	Length mm	Part No	Wgt lbs					
Type 210D Galv longitudinal	1000	138100	4.0	✓	✓	✓	✓	23.9
Type 215D S/S perforated	1000	138101	4.0	✓	✓	✓	✓	23.9
Type 220D Galv slotted	1000	138102	4.0	✗	✗	✗	✓	24.4
Type 250D S/S slotted	1000	138103	4.0	✗	✗	✗	✓	24.4
Type 200D Black plastic mosaic	500	138104	0.7	✓	✓	✗	✓	N/A
Type 201D Gray plastic mosaic	500	138105	0.7	✓	✓	✗	✓	N/A
Type 202D Tan plastic mosaic	500	138106	0.7	✓	✓	✗	✓	N/A

LOAD CLASS B - EN 1433 - 28,000lbs - 483psi

Type 247D S/S longitudinal	1000	142436	14.9	✓	✓	✓	✓	31.6
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LOAD CLASS C - EN 1433 - 56,000lbs - 1,162psi

Type 276D Iron longitudinal	500	138107	7.3	✓	✓	✗	✓	21.1
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Key

- Compliant with Americans with Disabilities Act of 1990 Section 4.5.4
- ASME A112.6.3 - 2001 Heel resistant slots less than 0.31" (8mm)
- Heel safe slots equal or less than 0.25" (6.35mm)
- Bicycle Safe to Australian Standard AS 3996 - 2006
- Anti-slip grates - Pendulum test BPN value over 24



Other ACO products

External drainage

ACO Sport

Surface drainage and building accessories for track & field.

ACO Infrastructure

Surface drainage products engineered for highways, urban roads and bridges.

Aquaduct

Custom design and manufacture of fiberglass trench drain systems.

ACO Duct

Linear ducting system with removable solid covers.

ACO Environment

Oil water separators and spill containment systems.

ACO Wildlife

Tunnel and fence system to guide amphibians and other small creatures safely across roads.

ACO StormBrixx

A unique and patented plastic geocellular storm water management system.

ACO Self

Simple drainage and building components for use around the home, garden and office.

Building drainage

ACO Stainless

Stainless steel trench drains.

ACO Floor Drain

Stainless steel floor drains.

ACO BuildLine

Drainage products for thresholds, balconies, green roofs and building façades.

ACO Pipe

Stainless steel push-fit pipe system.

ACO ShowerDrain

Shower drainage.

QuARTz

Designer bathroom floor solutions.

ACO, Inc.

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