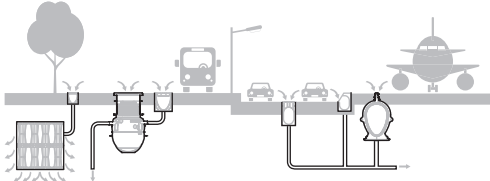


# ACO External Drainage



## ACO DRAIN *PowerDrain Line*

- S100K - 4" internal width, iron edge channel**
- S200K - 8" internal width, iron edge channel**
- S300K - 12" internal width, iron 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*



## PowerDrain

Heavy duty sloped trench drain system ideal for applications requiring the most rugged product. PowerDrain features an integrally cast-in ductile iron edge rail, and choice of slotted or longitudinal ductile iron grates up to EN 1433 Load Class F (90 ton loading).

PowerDrain is available in 4" (S100K), 8" (S200K) and 12" (S300K) internal width systems.

Grates are locked in place with either the patented PowerLok boltless locking system or a 4-bolt option is also available.

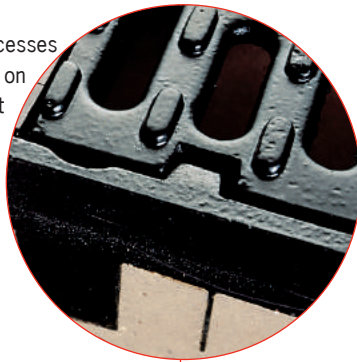
### Typical applications

- Airports
- Highways
- Heavy duty industrial areas
- Gas stations
- Docks & ports
- Military bases
- Truck stops



**Product overview - S100K/S200K/S300K**

**'Anti-shunt' lugs** - Recesses in grate fit around lugs on the edge rail to prevent longitudinal movement.

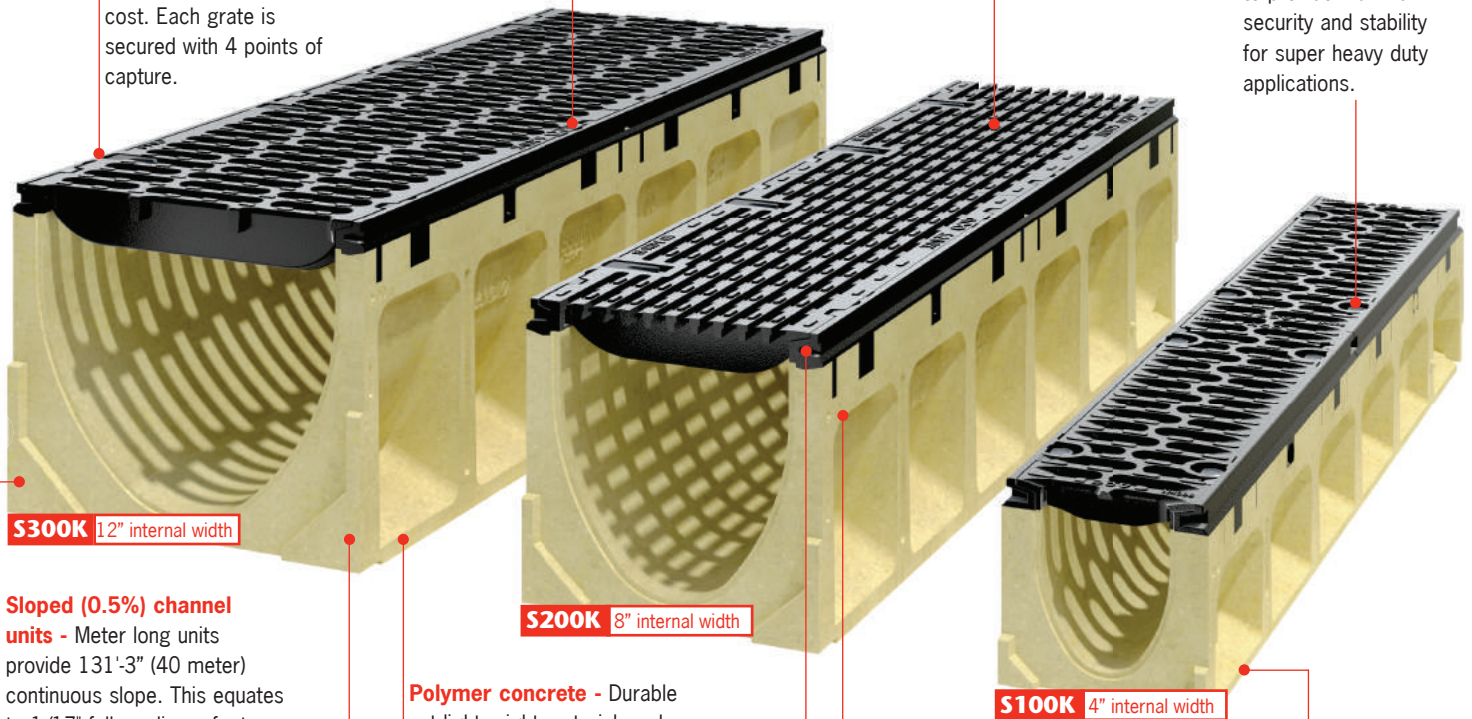


**Ductile iron grates** - Heavy duty ductile iron grates in choice of ADA compliant (Load Class E\*) or slotted (Load Class F). (\*S100K ADA grates rated to Load Class F).



**PowerLok** - A patented, boltless locking system that provides easy fitting and removal of grates. Reduces installation/maintenance time and cost. Each grate is secured with 4 points of capture.

**4-Bolt slotted grate** - 4-bolt grate option is available on all widths to provide maximum security and stability for super heavy duty applications.



**S300K** 12" internal width

**S200K** 8" internal width

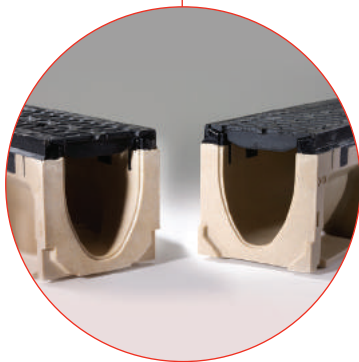
**S100K** 4" internal width

**Sloped (0.5%) channel units** - Meter long units provide 131'-3" (40 meter) continuous slope. This equates to 1/17" fall per linear foot. Five constant depth channels extend run lengths. Four half-meter units and accessories also available.

**Polymer concrete** - Durable yet lightweight material made from polyester resin binder reinforced by mineral aggregates and fillers.

**Channel identification & system numbering** -

In addition to channel numbering on sidewalls and base of channel, each end of the channel indicates the number of the channel that will connect to it.



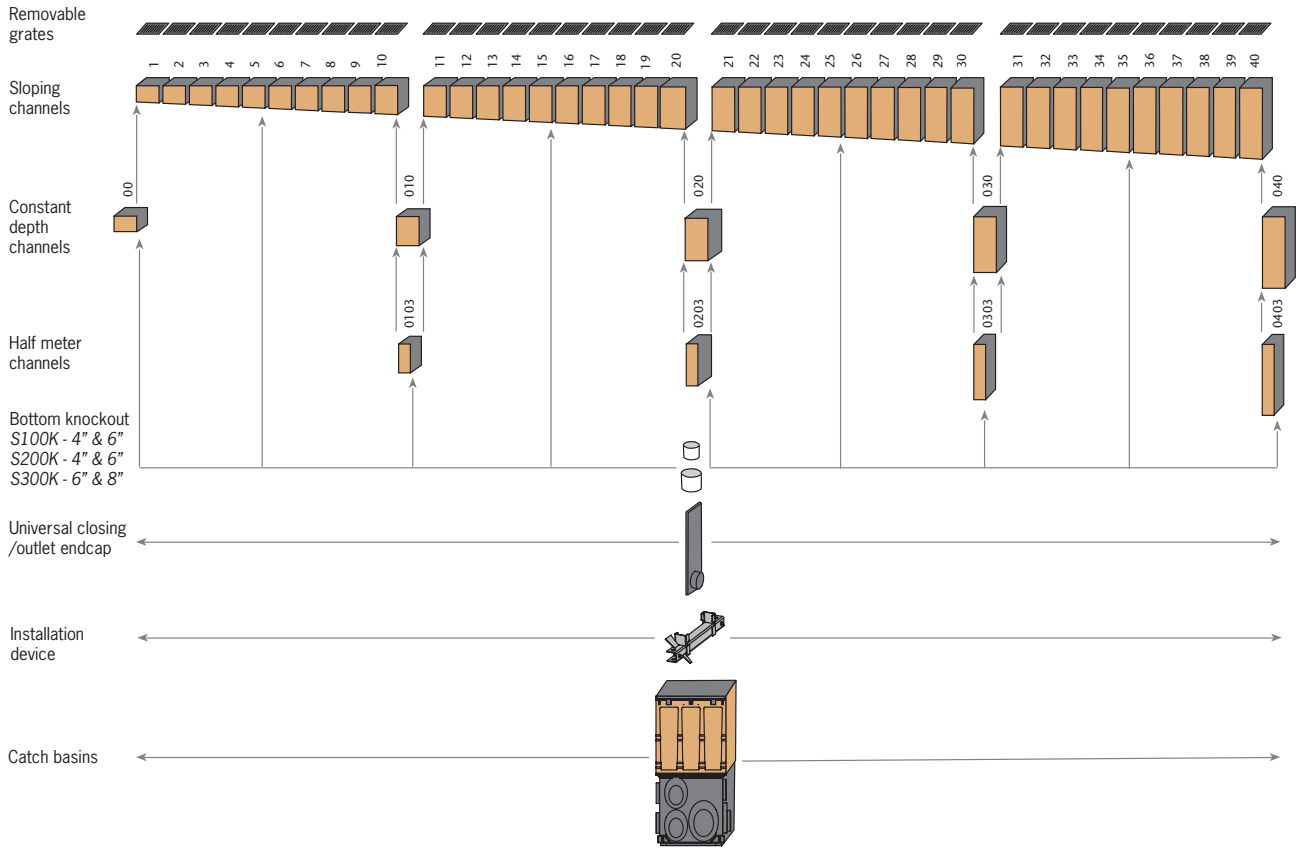
**Interconnecting end profiles** - Allow easy and effective joining of channels. **SF Sealant Groove** - A 3/16" by 5/16" groove is cast into both ends of every channel. The combined groove this creates allows for a bead of appropriate flexible sealant to be inserted at joints.

**Ductile iron edge rail** - Integrally cast-in rail provides maximum strength and protection for channel body.



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

## Typical system layout - S100K/S200K/S300K



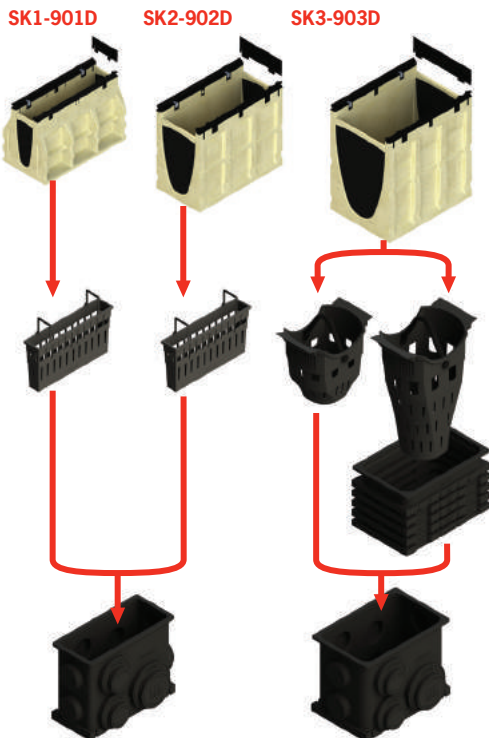
## Catch basin options

### 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. S300K grates match/complement trench run.



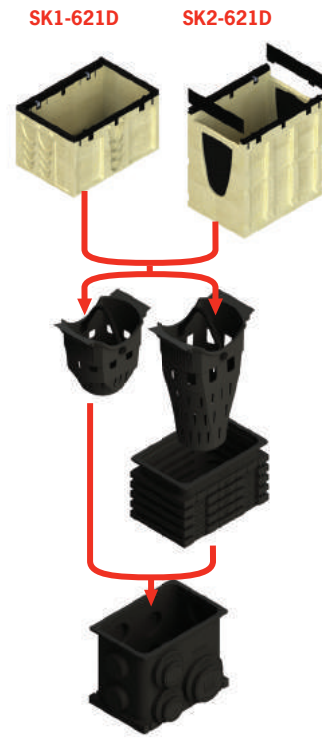
Blanking end plate to match edge rail.

Polymer concrete catch basin top with iron edge rail and PowerLok™ or 4-bolt grate.

Optional plastic trash bucket.

Optional plastic riser to increase depth and hydraulic output.

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



SK1-901 & SK2-902 in-line catch basins use same base.

Parts table

	S100K - 4" internal width			S200K - 8" internal width			S300K - 12" internal width		
	Part No	Invert Inches <sup>②</sup>	Weight Lbs	Part No	Invert Inches <sup>②</sup>	Weight Lbs	Part No	Invert Inches <sup>②</sup>	Weight Lbs
<b>00 Constant depth channel - 39.37" (1m)</b> <sup>①</sup>	<b>67041</b>	<b>3.94</b>	<b>48.1</b>	<b>68041</b>	<b>7.87</b>	<b>85.2</b>	<b>69041</b>	<b>11.81</b>	<b>140.0</b>
1 Sloped channel - 39.37" (1m)	67001	4.13	48.1	68001	8.07	85.2	69001	12.01	140.0
2 Sloped channel - 39.37" (1m)	67002	4.33	49.1	68002	8.27	86.3	69002	12.20	141.3
3 Sloped channel - 39.37" (1m)	67003	4.53	50.1	68003	8.46	87.4	69003	12.40	142.8
4 Sloped channel - 39.37" (1m)	67004	4.72	51.1	68004	8.66	88.5	69004	12.60	144.1
5 Sloped channel - 39.37" (1m) <sup>①</sup>	67005	4.92	52.1	68005	8.86	89.6	69005	12.80	145.4
6 Sloped channel - 39.37" (1m)	67006	5.12	53.1	68006	9.06	90.7	69006	12.99	146.9
7 Sloped channel - 39.37" (1m)	67007	5.31	54.1	68007	9.25	91.8	69007	13.19	148.2
8 Sloped channel - 39.37" (1m)	67008	5.51	55.1	68008	9.45	92.9	69008	13.39	149.5
9 Sloped channel - 39.37" (1m)	67009	5.71	56.1	68009	9.65	94.0	69009	13.58	150.9
10 Sloped channel - 39.37" (1m) <sup>①</sup>	67010	5.91	57.1	68010	9.84	95.1	69010	13.78	152.3
<b>010 Constant depth channel - 39.37" (1m)</b> <sup>①</sup>	<b>67043</b>	<b>5.91</b>	<b>57.1</b>	<b>68043</b>	<b>9.84</b>	<b>95.2</b>	<b>69042</b>	<b>13.78</b>	<b>152.3</b>
<b>0103 Constant depth channel - 19.69" (0.5m)</b> <sup>①</sup>	<b>67044</b>	<b>5.91</b>	<b>29.4</b>	<b>68044</b>	<b>9.84</b>	<b>61.2</b>	<b>69045</b>	<b>13.78</b>	<b>84.2</b>
11 Sloped channel - 39.37" (1m)	67011	6.10	58.1	68011	10.04	96.2	69011	13.98	153.6
12 Sloped channel - 39.37" (1m)	67012	6.30	59.1	68012	10.24	97.3	69012	14.17	155.0
13 Sloped channel - 39.37" (1m)	67013	6.50	60.1	68013	10.43	98.4	69013	14.37	156.4
14 Sloped channel - 39.37" (1m)	67014	6.69	61.1	68014	10.63	99.6	69014	14.57	157.7
15 Sloped channel - 39.37" (1m) <sup>①</sup>	67015	6.89	62.1	68015	10.83	100.7	69015	14.76	149.1
16 Sloped channel - 39.37" (1m)	67016	7.09	63.1	68016	11.02	101.8	69016	14.96	160.5
17 Sloped channel - 39.37" (1m)	67017	7.28	64.1	68017	11.22	102.9	69017	15.16	161.9
18 Sloped channel - 39.37" (1m)	67018	7.48	65.1	68018	11.42	104.0	69018	15.35	163.2
19 Sloped channel - 39.37" (1m)	67019	7.68	66.1	68019	11.61	105.1	69019	15.55	164.6
20 Sloped channel - 39.37" (1m) <sup>①</sup>	67020	7.87	67.1	68020	11.81	106.2	69020	15.75	166.0
<b>020 Constant depth channel - 39.37" (1m)</b> <sup>①</sup>	<b>67045</b>	<b>7.87</b>	<b>67.1</b>	<b>68045</b>	<b>11.81</b>	<b>106.2</b>	<b>69044</b>	<b>15.75</b>	<b>166.0</b>
<b>0203 Constant depth channel - 19.69" (0.5m)</b> <sup>①</sup>	<b>67046</b>	<b>7.87</b>	<b>33.9</b>	<b>68046</b>	<b>11.81</b>	<b>68.8</b>	<b>69047</b>	<b>15.75</b>	<b>92.0</b>
21 Sloped channel - 39.37" (1m)	67021	8.07	68.1	68021	12.01	107.3	69021	15.94	167.3
22 Sloped channel - 39.37" (1m)	67022	8.27	69.1	68022	12.20	108.4	69022	16.14	168.7
23 Sloped channel - 39.37" (1m)	67023	8.46	70.0	68023	12.40	109.5	69023	16.34	170.1
24 Sloped channel - 39.37" (1m)	67024	8.66	71.0	68024	12.60	110.6	69024	16.54	171.4
25 Sloped channel - 39.37" (1m) <sup>①</sup>	67025	8.86	72.0	68025	12.80	111.7	69025	16.73	172.7
26 Sloped channel - 39.37" (1m)	67026	9.06	73.0	68026	12.99	112.3	69026	16.93	174.2
27 Sloped channel - 39.37" (1m)	67027	9.25	74.0	68027	13.19	113.9	69027	17.13	175.5
28 Sloped channel - 39.37" (1m)	67028	9.45	75.0	68028	13.39	115.8	69028	17.32	176.8
29 Sloped channel - 39.37" (1m)	67029	9.65	76.0	68029	13.58	116.1	69029	17.52	178.3
30 Sloped channel - 39.37" (1m) <sup>①</sup>	67030	9.84	77.0	68030	13.78	117.2	69030	17.72	179.6
<b>030 Constant depth channel - 39.37" (1m)</b> <sup>①</sup>	<b>67047</b>	<b>9.84</b>	<b>77.0</b>	<b>68047</b>	<b>13.78</b>	<b>117.2</b>	<b>69046</b>	<b>17.72</b>	<b>179.6</b>
<b>0303 Constant depth channel - 19.69" (0.5m)</b> <sup>①</sup>	<b>67048</b>	<b>9.84</b>	<b>38.4</b>	<b>68048</b>	<b>13.78</b>	<b>73.3</b>	<b>69049</b>	<b>17.72</b>	<b>100.0</b>
31 Sloped channel - 39.37" (1m)	67031	10.04	78.0	68031	13.98	118.4	69031	17.91	180.9
32 Sloped channel - 39.37" (1m)	67032	10.24	79.0	68032	14.17	119.5	69032	18.11	182.4
33 Sloped channel - 39.37" (1m)	67033	10.43	80.0	68033	14.37	120.6	69033	18.31	183.7
34 Sloped channel - 39.37" (1m)	67034	10.63	81.0	68034	14.57	121.7	69034	18.50	185.0
35 Sloped channel - 39.37" (1m) <sup>①</sup>	67035	10.83	82.0	68035	14.76	122.8	69035	18.70	186.5
36 Sloped channel - 39.37" (1m)	67036	11.02	83.0	68036	14.96	123.9	69036	18.90	187.8
37 Sloped channel - 39.37" (1m)	67037	11.22	84.0	68037	15.16	125.0	69037	19.09	189.1
38 Sloped channel - 39.37" (1m)	67038	11.42	85.0	68038	15.35	126.1	69038	19.29	190.5
39 Sloped channel - 39.37" (1m)	67039	11.61	86.0	68039	15.55	127.2	69039	19.49	191.9
40 Sloped channel - 39.37" (1m) <sup>①</sup>	67040	11.81	87.0	68040	15.75	128.3	69040	19.69	193.2
<b>040 Constant depth channel - 39.37" (1m)</b> <sup>①</sup>	<b>67049</b>	<b>11.81</b>	<b>87.0</b>	<b>68049</b>	<b>15.75</b>	<b>128.3</b>	<b>69048</b>	<b>19.69</b>	<b>193.2</b>
<b>0403 Constant depth channel - 19.69" (0.5m)</b> <sup>①</sup>	<b>67050</b>	<b>11.81</b>	<b>43.0</b>	<b>68050</b>	<b>15.75</b>	<b>82.1</b>	<b>69050</b>	<b>19.69</b>	<b>109.0</b>
Type 900 In-line catch basin - 19.69" (0.5m) <sup>④</sup>	67051	-	86.0	68053	-	81.8	69053	-	99.4
SK3-904D In-line catch basin - 19.69" (0.5m) <sup>⑤</sup>	-	-	-	-	-	-	69054	-	104.4
621D catch basin - 19.69" (0.5m) <sup>④</sup>	67053	-	75.7	68055	-	116.0	-	-	-
631D catch basin - 19.69" (0.5m) <sup>⑤</sup>	67054	-	85.7	68056	-	126.0	-	-	-
Type 600 Optional riser	99902	-	10.0	99902	-	10.0	99902	-	10.0
Foul air trap - fits both 910 & 610 basins	90854	-	1.2	90854	-	1.2	90854	-	1.2
SK1-304-6 6" Inlet Cap	96861	9.84	6.2	-	-	-	-	-	-
SK1-308-6 6" Outlet Cap	96862	9.84	6.0	-	-	-	-	-	-
SK1-404-6 6" Inlet Cap	96863	11.81	7.2	-	-	-	-	-	-
SK1-408-6 6" Outlet Cap	96864	11.81	7.0	-	-	-	-	-	-
Universal end cap	96824	11.81	0.4	96823	15.75	1.4	96827	19.69	2.5
Debris strainer for 4" bottom knockout	93488	-	0.2	93488	-	0.2	-	-	-
4" Oval to 6" round outlet adaptor	95140	-	1.1	-	-	-	-	-	-
Installation device	97477	-	2.8	97478	-	4.0	97479	-	4.9
Grate removal tool	01318	-	0.3	01318	-	0.3	01318	-	0.3

Notes:

1. This channel offers bottom knockout feature; S100K - 4" round/6" oval, S200K - 4" & 6" round, S300K - 6" & 8" round.
2. Inverts shown are male end, for female invert depth - subtract 0.2" from male invert (except constant depth channels where it will be same as male invert).
3. To calculate overall channel depth - add 1.0" to invert depth.
4. Catch basin assembly: Polymer concrete top with iron edge rail, blanking end kit, trash bucket and plastic base. Select appropriate grate to suit.
5. Catch basin assembly: Polymer concrete top with iron edge rail, blanking end kit, deep trash bucket, riser and plastic base. Select appropriate grate to suit.





## Choosing PowerDrain grates

There are three available grate styles to fit the PowerDrain heavy duty channels.

The conventional slotted grate, with PowerLok™, gives an excellent all-around heavy duty solution with the ease of the PowerLok™ locking/unlocking mechanism. Ideal for use where regular removal of the grate for maintenance is required.

The ADA compliant, longitudinal slotted grate, with PowerLok™, gives the ideal solution to a heavy duty location where some pedestrian access may be required.

Although easy locking and grate removal is important for maintenance, some specific applications require a 4-bolt solution. The four threaded stainless steel inserts in the PowerDrain channel body allow a 4-bolt grate to be bolted into the channel (using 4 qty M10 bolts) for ultimate stiffness and security. Tamper resistant bolts can also be used.



## PowerLok™ - safety clip

For areas of extra security or safety concerns, an optional safety clip is available that provides a visual alert if the PowerLok™ devices are left open. The clip push fits next to the PowerLok™ device and sits level with the grate when the grate is locked. The clip cannot be fitted if the PowerLok™ is open. If all grates are engaged, a run of red dots is visible.



## Grate accessories

	Part No.	Weight lbs
PowerLok safety clip (red)	10443	0.1
Replacement bolt for 4-bolt grate	95526	0.1
Tamper resistant bolt for 4-bolt grate	138127	0.1
Tamper resistant bolt drive	138128	0.1



**PowerLok™ - boltless locking system**



**Lock grate**

To close, place hook part of tool into 'V' and push towards rail.



**Grate removal**

To open PowerLok, insert tool between rail and PowerLok device. Rotate tool 90°; PowerLok device should push away from rail. To remove first grate, insert grate removal tool into slots at end of grate, pull up sharply. Remaining grates can be removed by hand.

<b>S100K grates</b>		Length mm	Part No	Wgt lbs				
<b>LOAD CLASS F - EN 1433 - 200,000lbs - 4,182psi</b>								
	Iron longitudinal	500	96082	12.8	✓	✗	✓	28.1
	Iron slotted	500	96096	10.2	✗	✗	✓	35.6

<b>S200K grates</b>		Length mm	Part No	Wgt lbs				
<b>LOAD CLASS E - EN 1433 - 135,000lbs - 2,321psi</b>								
	Iron longitudinal	500	72263	26.4	✓	✗	✓	55.6
<b>LOAD CLASS F - EN 1433 - 200,000lbs - 3,485psi</b>								
	Iron slotted	500	02449	30.8	✗	✗	✓	21.4

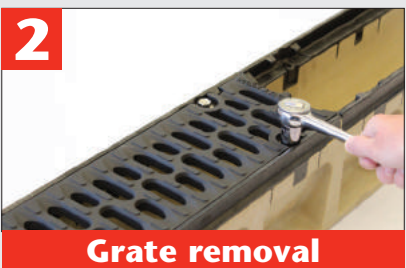
<b>S300K grates</b>		Length mm	Part No	Wgt lbs				
<b>LOAD CLASS E - EN 1433 - 135,000lbs - 2,321psi</b>								
	Iron longitudinal	500	96833	64.0	✓	✓	✓	48.9
<b>LOAD CLASS F - EN 1433 - 200,000lbs - 3,485psi</b>								
	Iron slotted	500	02445	50.0	✗	✗	✓	31.5

**4-Bolt secure locking system**



**Fit grate**

Position grate onto channel, align holes in grate with matching holes in edge rail. Using wrench or socket set to tighten. If using a torque wrench, do not set to more than 15 ft. lbs.



**Grate removal**

To remove grates, use wrench or socket set. Carefully store bolts for refitting of grates.

<b>S100K 4-bolt grates</b>		Length mm	Part No	Wgt lbs				
<b>LOAD CLASS F - EN 1433 - 200,000lbs - 4,182psi</b>								
	4-Bolt Iron slotted*	500	99590	10.8	✗	✗	✓	35.6

<b>S200K 4-bolt grates</b>		Length mm	Part No	Wgt lbs				
<b>LOAD CLASS F - EN 1433 - 200,000lbs - 3,485psi</b>								
	4-Bolt Iron slotted*	500	99591	26.4	✗	✗	✓	21.4

<b>S300K 4-bolt grates</b>		Length mm	Part No	Wgt lbs				
<b>LOAD CLASS F - EN 1433 - 200,000lbs - 3,485psi</b>								
	4-Bolt Iron slotted*	500	99592	50.2	✗	✗	✓	31.5

\* Supplied with 4 qty M10 bolts.

## 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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Fax: (520) 421-9899

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