



SIEMENS

BECK'S

JAGUAR

Castrol

EDS

HSBC



IRVINE



AT&T

BECK'S



## PowerDrain®

### Heavy Duty Trench Drain

PowerDrain is a heavy duty sloped trench drain system ideal for applications requiring the most rugged product. Featuring 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.



## Features & Benefits



### PowerLok

A patented, boltless locking system that allows for quick fitting and removal of grates, helping reduce installation/maintenance time and cost.



### Ductile Iron Grates

Heavy duty ductile iron grates with ADA compliant longitudinal (Load Class E\*) or slotted (Load Class F) designs available.

*\*\$100K ADA grates rated to Load Class F.*

### Ductile Iron Edge Rail

Integrally cast-in rail provides maximum strength and protection for channel body. Shock absorbing widgets with M10x30 stainless steel threads are fitted into the rail to assist grate fit and aid hanging installation.

### Polymer Concrete

A durable yet lightweight material made from polyester—a resin binder reinforced by mineral aggregates and fillers. It provides up to four times the compressive strength of cement concrete. See page 170 for material properties.



### Interconnecting End Profiles

Allow easy and effective joining of channels. Appropriate sealant can be used to create a sealed joint.

**\$300K 12" INTERNAL WIDTH**

**\$200K 8" INTERNAL WIDTH**



### Knockouts

Included on every 5th channel to allow vertical evacuation of the system along the run. See product pages for sizes for each system.



### System Numbering

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

### Directional Arrows

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





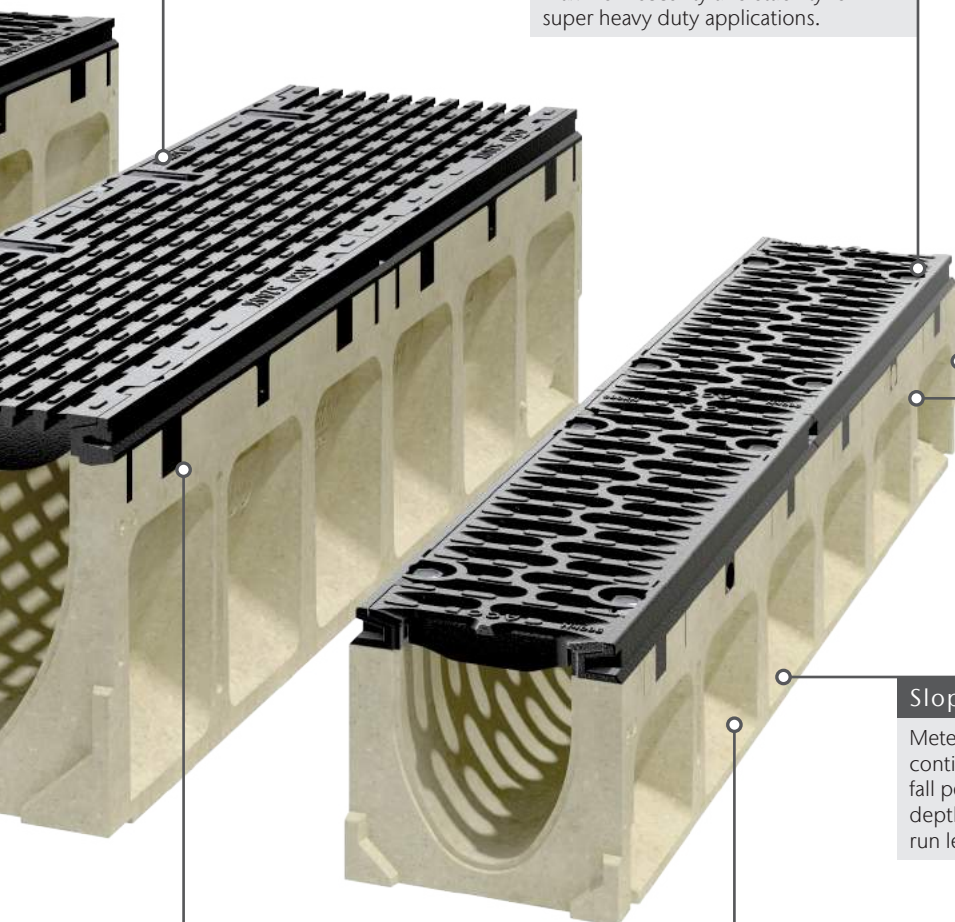
#### Anti-Shunt Lugs

Protrusions in edge rail fit into recesses on the grate to prevent longitudinal movement.



#### 4-Bolt Slotted Grate

4-Bolt (M10x30) grate option is available on all widths to provide maximum security and stability for super heavy duty applications.



#### Profiled Side Walls

Strengthening pillars and frost keys provide channel body strength and mechanical keying to surrounding concrete.

#### Shipping Gipple/Groove

Side interlocking feature secures channels when stacked, minimizing breakage during shipping.

#### Sloped (0.5%) Channel Units

Meter-long units provide 131'-3" continuous slope, which equates to 0.06" fall per linear foot. Multiple constant depth units can be used to extend sloped run lengths.

**S100K 4" INTERNAL WIDTH**



#### Concrete Anchor Boss

A drill-through hole in the ductile iron rail enables a concrete anchor (4 per meter) to be attached for extra embedment into concrete haunch.



#### Channel Identification

Channels feature numbering on sidewalls and base of channel (to allow easy identification after concrete encasement).

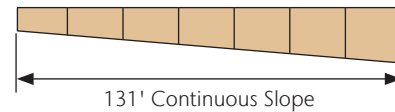
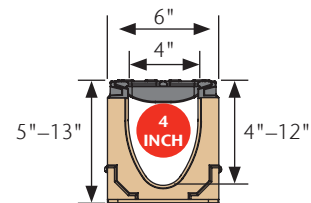
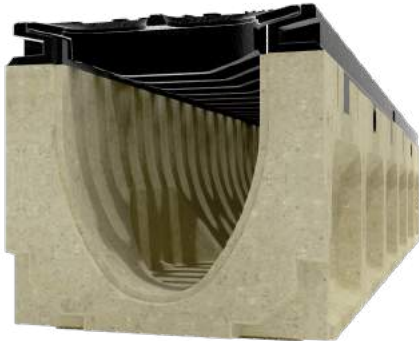






# PowerDrain S100K

## 4" Internal Width Heavy Duty System



S100K is a 4" wide system with choice of Class F (90 ton) slotted or ADA compliant longitudinal ductile iron grates featuring PowerLok patented boltless locking system. A 4-Bolt slotted grate is also available.

### Typical Applications:

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

### POWERDRAIN S100K SELECTION CRITERIA



Light to heavy industrial duty loads



Product can be used towards LEED & EPA requirements



Resistant to many everyday chemicals



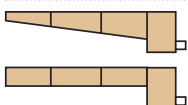
Multiple grate options to meet legal requirements



Multiple grate options to meet design requirements



General, everyday hydraulic capacity

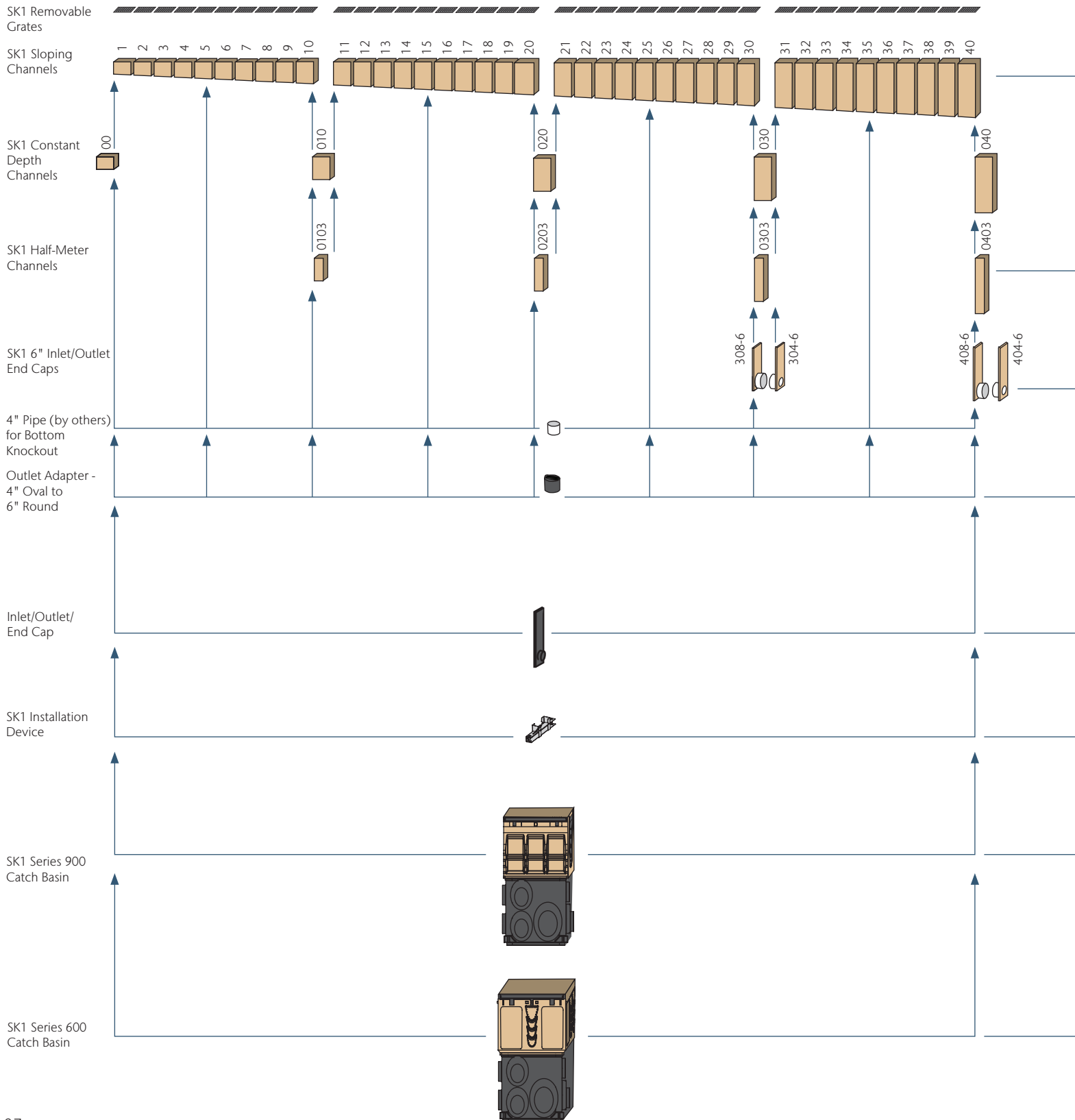


Constant depth and/or sloped depth channels





## S100K System Layout





### SK1 Meter Channels - Sloping & Constant Depth

0.5% sloped channels with ductile iron edge rail, in meter lengths and 40 depths to create a 40 meter (131'-2") continuously sloping run.

Constant depth channels are available in 5 depths. Can be used to create non-sloped runs, or inserted in sloped runs to increase length.

Bottom knockouts on all constant depths and 5, 10, 15, 20, 25, 30, 35, 40 channels.

### SK1 Half-Meter Channels

Constant depth channels with ductile iron edge rail, in 4 depths supplement meter channels. Side knockout and profiling enable side junction to be created. Bottom knockouts on all half meter channels.

### SK1 6" SCH 40 Inlet/Outlet End Cap

6" SCH 40 plain end plastic pipe; oval to round adapter cast into polymer concrete end cap and available in two heights. Solvent weld to coupler.

*Note: These end caps cannot be cut to height, and fit only at positions shown in layout diagram.*

### Outlet Adapter - 4" Oval to 6" Round

Oval to round plastic adapter for bottom drill-out on 4" polymer concrete channels. SCH 40 6" plain end can be solvent welded to underground pipe system. Seal to channel using appropriate flexible sealant.

### SK1 Universal Inlet/Outlet/End Cap

Fits all channels and manufactured from gray ABS plastic to complement edge rail. Guides aid cutting to correct height. Wings clip cap onto end of channel. 4" bell end connection to SCH 40 pipe. Seal using PVC-ABS cement.

*Note: ACO recommends removal of unused sections of bell end to ensure adequate pavement material coverage.*

### SK1 Installation Device

Fits molded recesses on body of channel. Provides height and joint alignment - a sliding clamp locks the two channels together. Bolt to rebar on either side of channel to hold channels in place during concrete pour. Not reusable; it is encased within concrete pour.

### SK1 Series 900 In-Line Catch Basins

Two-part in-line catch basin with either a plastic base or a polymer concrete base with 4", 6" and 8" drill-outs for pipe connection. Supplied with ductile iron edge rail and plastic trash bucket. Options include an in-line or side foul air trap.

Any channel can be connected into the catch basin by removing the end wall to the correct height with a box cutter. Cut-out guides provided for connection to channels 00, 010, 020, 030 and 040. All cut-outs to receive male channel ends. One blanking end plate supplied with in-line catch basin.

### SK1 Series 600 Catch Basins

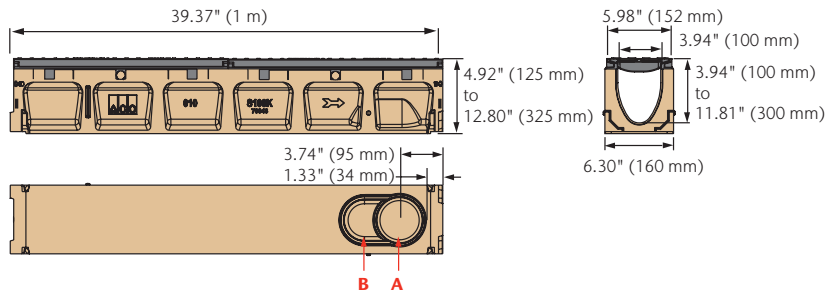
Two-part in-line catch basin with either a plastic base with 4", 6" and 8" drill-outs for pipe connection or a polymer concrete base. Supplied with ductile iron edge rail and plastic trash bucket. Optional riser available for increased depth.

Any channel can be connected to catch basin by removing end/side wall to correct height. Drill-outs guide connection to channels 00, 010, 020, 030 and 040. All cut-outs to receive male channel ends.

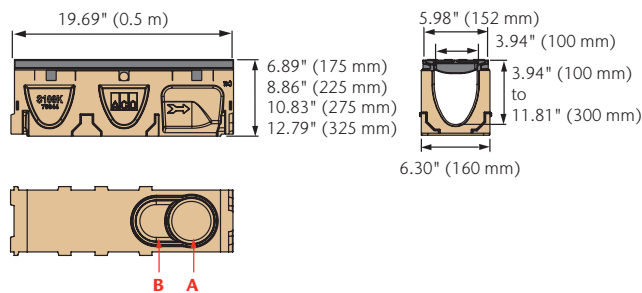


## Dimensions & Outlet Flow Rates

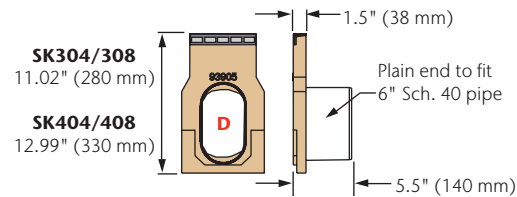
### SK1 Meter Channels



### SK1 Half-Meter Channels



### SK1 6" SCH 40 Inlet/Outlet End Cap

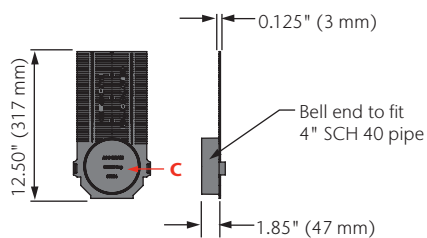


### OUTLET FLOW RATES

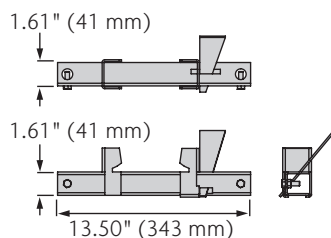
Channel Outlet	Channel	Size (SCH 40)	Invert in	GPM	CFS
<b>A</b>	SK1-00	4" round	3.94	108	0.24
	SK1-40	4" round	11.81	187	0.42
<b>B</b>	SK1-00	6" oval	3.94	177	0.39
	SK1-40	6" oval	11.81	306	0.68
<b>C</b>	SK1-20	4" round	7.87	132	0.29
	SK1-40	4" round	11.81	171	0.38
<b>D</b>	SK1-30	6" oval	9.84	233	0.52
	SK1-40	6" oval	11.81	264	0.59

Note: These are pipe flow rates at specified outlet, NOT channel flow rates.

### SK1 Universal Inlet/Outlet/End Cap



### SK1 Installation Device



## S100K Parts

S100K Parts	Part No.	Invert Depth				Overall Depth				Volume gal	Weight lbs
		in		mm		in		mm			
		female	male	female	male	female	male	female	male		
SK1-00 Constant Depth Channel - 39.37" (1 m)*	67041	3.94	3.94	100	100	4.92	4.92	125	125	1.96	48.1
SK1-1 Sloped Channel - 39.37" (1 m)	67001	3.94	4.13	100	105	4.92	5.12	125	130	1.99	48.1
SK1-2 Sloped Channel - 39.37" (1 m)	67002	4.13	4.33	105	110	5.12	5.31	130	135	2.04	49.1
SK1-3 Sloped Channel - 39.37" (1 m)	67003	4.33	4.53	110	115	5.31	5.51	135	140	2.13	50.1
SK1-4 Sloped Channel - 39.37" (1 m)	67004	4.53	4.72	115	120	5.51	5.71	140	145	2.23	51.1
SK1-5 Sloped Channel - 39.37" (1 m)*	67005	4.72	4.92	120	125	5.71	5.91	145	150	2.33	52.1
SK1-6 Sloped Channel - 39.37" (1 m)	67006	4.92	5.12	125	130	5.91	6.10	150	155	2.43	53.1
SK1-7 Sloped Channel - 39.37" (1 m)	67007	5.12	5.31	130	135	6.10	6.30	155	160	2.54	54.1
SK1-8 Sloped Channel - 39.37" (1 m)	67008	5.31	5.51	135	140	6.30	6.50	160	165	2.65	55.1
SK1-9 Sloped Channel - 39.37" (1 m)	67009	5.51	5.71	140	145	6.50	6.69	165	170	2.75	56.1
SK1-10 Sloped Channel - 39.37" (1 m)*	67010	5.71	5.91	145	150	6.69	6.89	170	175	2.86	57.1
SK1-010 Constant Depth Channel - 39.37" (1 m)*	67043	5.91	5.91	150	150	6.89	6.89	175	175	2.85	57.1
SK1-0103 Constant Depth Channel - 19.69" (0.5 m)*	67044	5.91	5.91	150	150	6.89	6.89	175	175	1.43	29.4
SK1-11 Sloped Channel - 39.37" (1 m)	67011	5.91	6.10	150	155	6.89	7.09	175	180	2.97	58.1
SK1-12 Sloped Channel - 39.37" (1 m)	67012	6.10	6.30	155	160	7.09	7.28	180	185	3.08	59.1
SK1-13 Sloped Channel - 39.37" (1 m)	67013	6.30	6.50	160	165	7.28	7.48	185	190	3.19	60.1
SK1-14 Sloped Channel - 39.37" (1 m)	67014	6.50	6.69	165	170	7.48	7.68	190	195	3.30	61.1
SK1-15 Sloped Channel - 39.37" (1 m)*	67015	6.69	6.89	170	175	7.68	7.87	195	200	3.42	62.1
SK1-16 Sloped Channel - 39.37" (1 m)	67016	6.89	7.09	175	180	7.87	8.07	200	205	3.53	63.1
SK1-17 Sloped Channel - 39.37" (1 m)	67017	7.09	7.28	180	185	8.07	8.27	205	210	3.64	64.1
SK1-18 Sloped Channel - 39.37" (1 m)	67018	7.28	7.48	185	190	8.27	8.46	210	215	3.75	65.1
SK1-19 Sloped Channel - 39.37" (1 m)	67019	7.48	7.68	190	195	8.46	8.66	215	220	3.86	66.1
SK1-20 Sloped Channel - 39.37" (1 m)*	67020	7.68	7.87	195	200	8.66	8.86	220	225	3.98	67.1
SK1-020 Constant Depth Channel - 39.37" (1 m)*	67045	7.87	7.87	200	200	8.86	8.86	225	225	3.97	67.1
SK1-0203 Constant Depth Channel - 19.69" (0.5 m)*	67046	7.87	7.87	200	200	8.86	8.86	225	225	1.98	33.9
SK1-21 Sloped Channel - 39.37" (1 m)	67021	7.87	8.07	200	205	8.86	9.06	225	230	4.09	68.1
SK1-22 Sloped Channel - 39.37" (1 m)	67022	8.07	8.27	205	210	9.06	9.25	230	235	4.20	69.1
SK1-23 Sloped Channel - 39.37" (1 m)	67023	8.27	8.46	210	215	9.25	9.45	235	240	4.32	70.0
SK1-24 Sloped Channel - 39.37" (1 m)	67024	8.46	8.66	215	220	9.45	9.65	240	245	4.42	71.0
SK1-25 Sloped Channel - 39.37" (1 m)*	67025	8.66	8.86	220	225	9.65	9.84	245	250	4.54	72.0
SK1-26 Sloped Channel - 39.37" (1 m)	67026	8.86	9.06	225	230	9.84	10.04	250	255	4.66	73.0
SK1-27 Sloped Channel - 39.37" (1 m)	67027	9.06	9.25	230	235	10.04	10.24	255	260	4.78	74.0
SK1-28 Sloped Channel - 39.37" (1 m)	67028	9.25	9.45	235	240	10.24	10.43	260	265	4.89	75.0
SK1-29 Sloped Channel - 39.37" (1 m)	67029	9.45	9.65	240	245	10.43	10.63	265	270	5.00	76.0
SK1-30 Sloped Channel - 39.37" (1 m)*	67030	9.65	9.84	245	250	10.63	10.83	270	275	5.11	77.0
SK1-030 Constant Depth Channel - 39.37" (1 m)*	67047	9.84	9.84	250	250	10.83	10.83	275	275	5.10	77.0
SK1-0303 Constant Depth Channel - 19.69" (0.5 m)*	67048	9.84	9.84	250	250	10.83	10.83	275	275	2.55	38.4
SK1-31 Sloped Channel - 39.37" (1 m)	67031	9.84	10.04	250	255	10.83	11.02	275	280	5.23	78.0
SK1-32 Sloped Channel - 39.37" (1 m)	67032	10.04	10.24	255	260	11.02	11.22	280	285	5.34	79.0
SK1-33 Sloped Channel - 39.37" (1 m)	67033	10.24	10.43	260	265	11.22	11.42	285	290	5.45	80.0
SK1-34 Sloped Channel - 39.37" (1 m)	67034	10.43	10.63	265	270	11.42	11.61	290	295	5.56	81.0
SK1-35 Sloped Channel - 39.37" (1 m)*	67035	10.63	10.83	270	275	11.61	11.81	295	300	5.68	82.0
SK1-36 Sloped Channel - 39.37" (1 m)	67036	10.83	11.02	275	280	11.81	12.01	300	305	5.79	83.0
SK1-37 Sloped Channel - 39.37" (1 m)	67037	11.02	11.22	280	285	12.01	12.20	305	310	5.91	84.0
SK1-38 Sloped Channel - 39.37" (1 m)	67038	11.22	11.42	285	290	12.20	12.40	310	315	6.02	85.0
SK1-39 Sloped Channel - 39.37" (1 m)	67039	11.42	11.61	290	295	12.40	12.60	315	320	6.13	86.0
SK1-40 Sloped Channel - 39.37" (1 m)*	67040	11.61	11.81	295	300	12.60	12.8	320	325	6.25	87.0
SK1-040 Constant Depth Channel - 39.37" (1 m)*	67049	11.81	11.81	300	300	12.80	12.80	325	325	6.24	87.0
SK1-0403 Constant Depth Channel - 19.69" (0.5 m)*	67050	11.81	11.81	300	300	12.80	12.80	325	325	3.12	43.0
SK1-304-6 6" Inlet Cap	96861	9.84	9.84	250	250	10.83	10.83	275	275	-	6.2
SK1-308-6 6" Outlet Cap	96862	9.84	9.84	250	250	10.83	10.83	275	275	-	6.0
SK1-404-6 6" Inlet Cap	96863	11.81	11.81	300	300	12.80	12.80	325	325	-	7.2
SK1-408-6 6" Outlet Cap	96864	11.81	11.81	300	300	12.80	12.80	325	325	-	7.0
Universal End/4" Inlet Outlet Cap	96824	11.81	11.81	300	300	12.6	12.6	320	320	-	0.4
Debris Strainer for 4" Bottom Knockout <sup>2</sup>	93488	-	-	-	-	-	-	-	-	-	0.2
Outlet Adapter - 4" Oval to 6" Round	95140	-	-	-	-	-	-	-	-	-	1.1
Installation Device	97477	-	-	-	-	-	-	-	-	-	2.8
Grate Removal Tool	01318	-	-	-	-	-	-	-	-	-	0.3
PowerDrain® Concrete Anchors (2 per bag) <sup>4</sup>	97496	-	-	-	-	-	-	-	-	-	0.3
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

## Notes:

1. PowerDrain is sold as channel only. Choose appropriate grate from pages 99-100.

2. Debris strainer details for 4" dia. outlet on page 138.

3. See Catch Basin Parts List on page 93.

4. Concrete Anchor details on page 100.

\*This channel features 4" &amp; 6" bottom knockouts.



## Catch Basin Assemblies & Part Details

Polymer concrete catch basins can be used as standalone area drains or as the outlet to a trench run. They provide the highest hydraulic output and allow access to the pipe system for maintenance.

Series 900 catch basins are **in-line catch basins** (same width and visually indistinguishable from the trench run) while Series 600 catch basins are 12" wide, providing greater hydraulic output.

### CATCH BASIN LOAD STRENGTH

Catch basins with plastic risers/bases should be used in load classes A–D. For heavy duty applications, ACO recommends using polymer concrete risers and catch basins for load class E/F applications.

### S100K Catch Basin Parts

	Part No.	Volume* gal	Weight lbs
SK1-901D In-Line Catch Basin w/ Plastic Base	<b>67051</b>	12.5	86.0
SK1-906D In-Line Catch Basin w/ Polymer Concrete Base	<b>97939</b>	11.8	131.3
SK1-621D Catch Basin w/ Plastic Base	<b>67053</b>	24.9	75.7
SK1-622D Catch Basin w/ Polymer Concrete Base	<b>97921</b>	25.9	185.5
SK1-631D Catch Basin w/ Plastic Riser & Base	<b>67054</b>	34.7	85.7
SK1-632D Catch Basin w/ Polymer Concrete Riser & Base	<b>97931</b>	25.9	231.0
Series 600 Plastic Riser	<b>99902</b>	9.8	10.0
Series 611 Polymer Concrete Riser	<b>91110</b>	8.9	45.0
Foul Air Trap (fits all plastic basins)	<b>90854</b>	-	1.2

\*Volume is up to grate seat and without trash bucket.

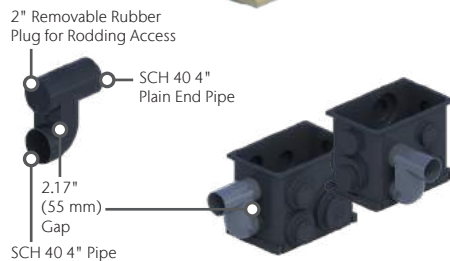
### BLANKING END PLATES

Blanking plates are supplied with catch basin tops to stop concrete ingress at end of drain run. The plate is fitted by pushing it over the polymer concrete end bar to fit flush with side rails.



### FOUL AIR TRAP

A plastic foul air trap that fits into the front or side of plastic in-line catch basins. A coupler is required to connect SCH 40 4" plain end pipe to underground pipe system.

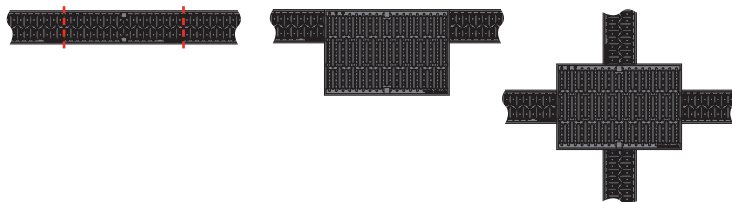


### CATCH BASIN CHANNEL CONNECTION

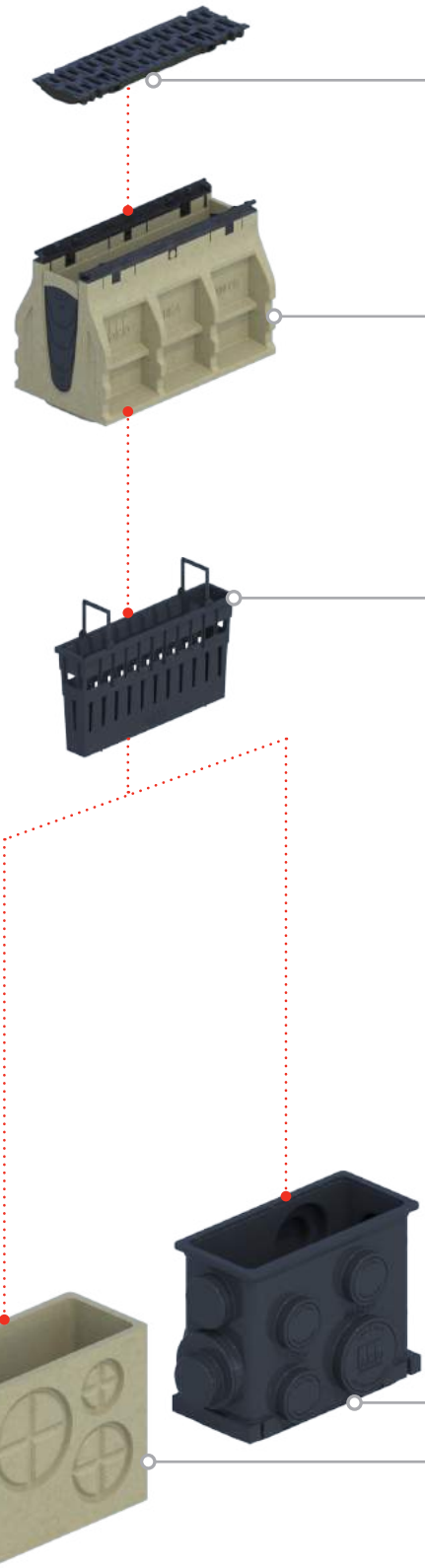
Channels can be connected to catch basin on all four sides in a variety of configurations.

Series 900

Series 600



### SK1 SERIES 900 4" WIDE IN-LINE CATCH BASIN



**Series 600 Grates** - choice of Class F slotted or Class E longitudinal ADA compliant ductile iron grates with PowerLok boltless locking or Class F slotted ductile iron 4-Bolt grate. See pages 127–128.

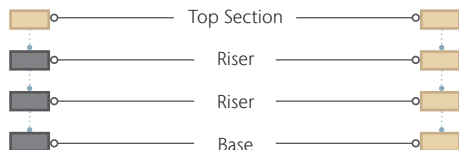
**Type 900 Grates** - choice of Class F slotted or ADA compliant ductile iron grates with PowerLok boltless locking or slotted ductile iron 4-Bolt grate. See pages 99–100.

**Top Section** - polymer concrete with integrally cast-in ductile iron frame. Guides aid connection of male channel ends at #10, 20, 30 and 40 depths. Other channels can be connected by removing wall to required height. Blanking kit supplied with Series 900 basins.

**Trash Bucket** - plastic trash bucket designed to collect debris washed from trench run. Supported in catch basin top to avoid creation of a vacuum and reduction in outflow. SK1-631D and SK1-632D use a deeper bucket with riser.

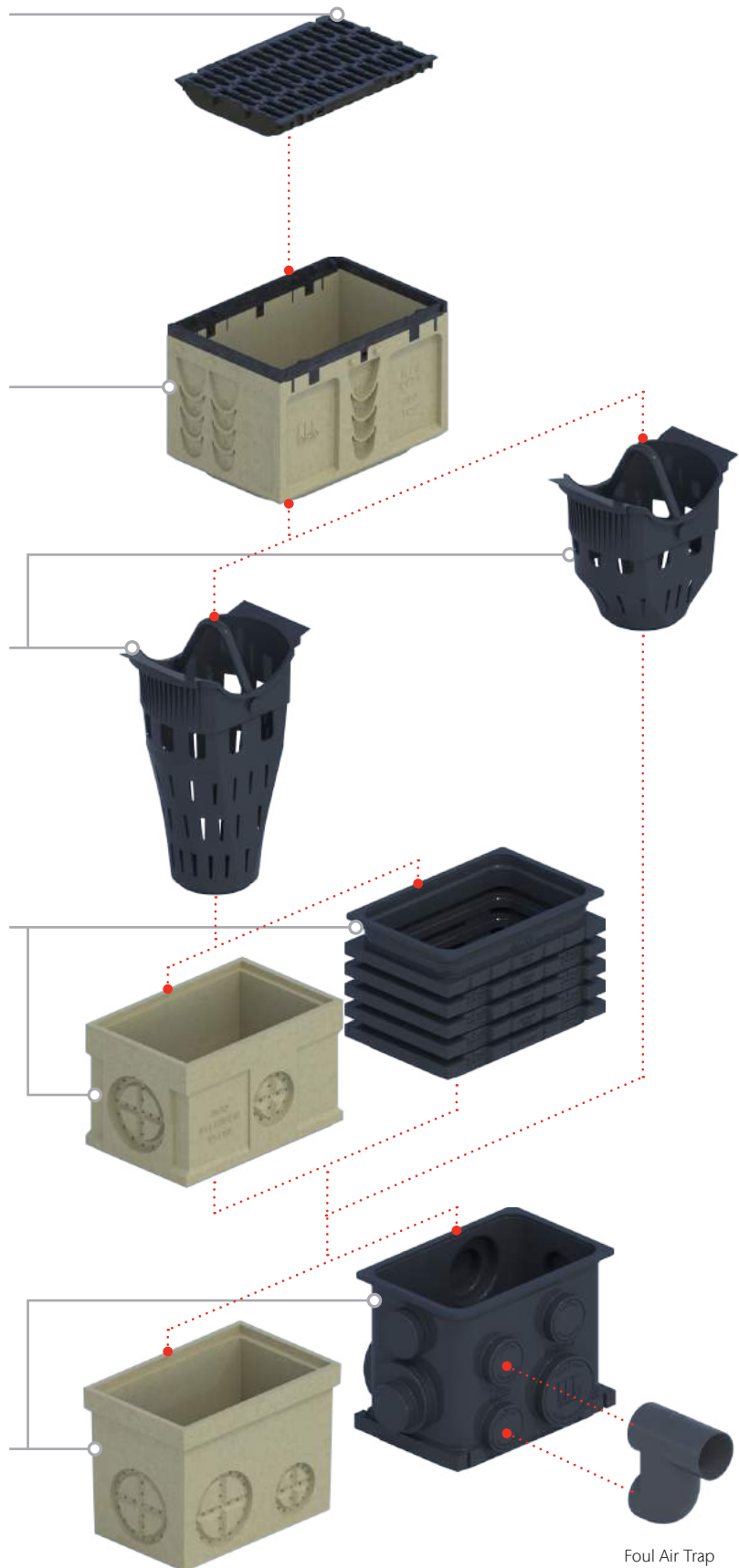
**Riser** - a plastic or polymer concrete riser, supplied with SK1-631D and SK1-632D, designed to provide additional catch basin depth and hydraulic output. Guides on the plastic version enable cutting to size at 2" (50 mm) intervals - minimum 2" and maximum 12" height. Additional units can be used (a maximum of 2 is recommended to ensure snake access is maintained and for structural stability).

*Multiple risers can be used with series 600 catch basins.*



**Base** - Plastic or polymer concrete base available. Plastic bases with wide range of SCH 40 4", 6" and 8" cut-outs for easy pipe connection. Cut-outs on end and side allow connection of ACO foul air trap. Polymer concrete bases have drill-outs cast on sides for pipe connections.

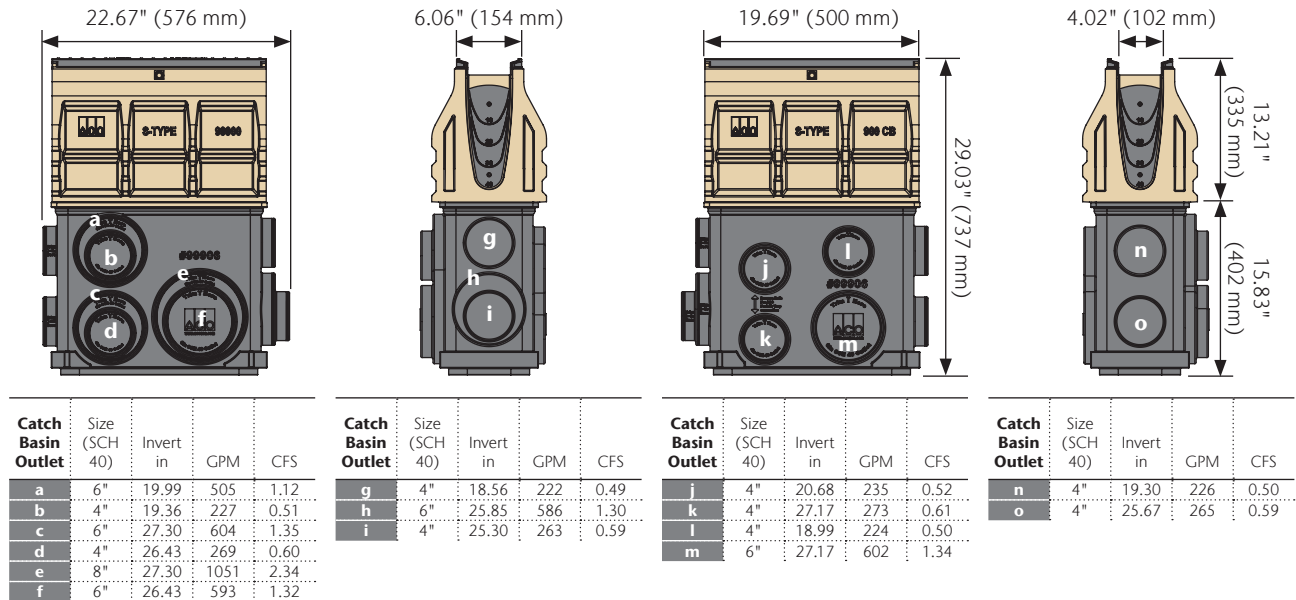
**SK1 SERIES 600 12" WIDE CATCH BASIN**



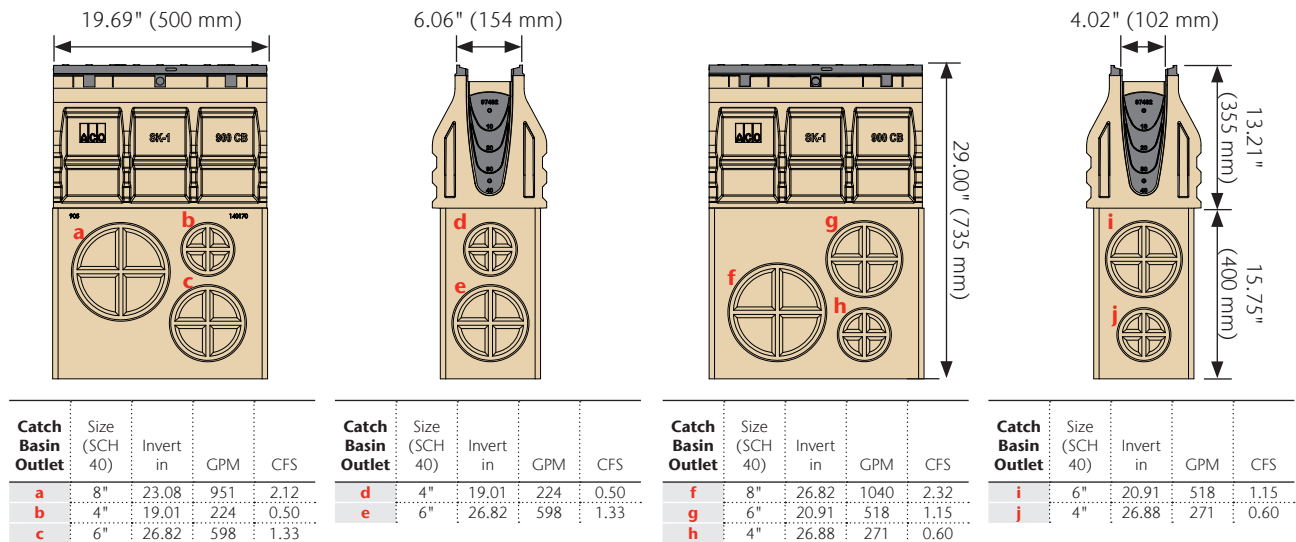


## Catch Basin Dimensions & Outlet Flow Rates

### SK1-901D In-Line Catch Basin

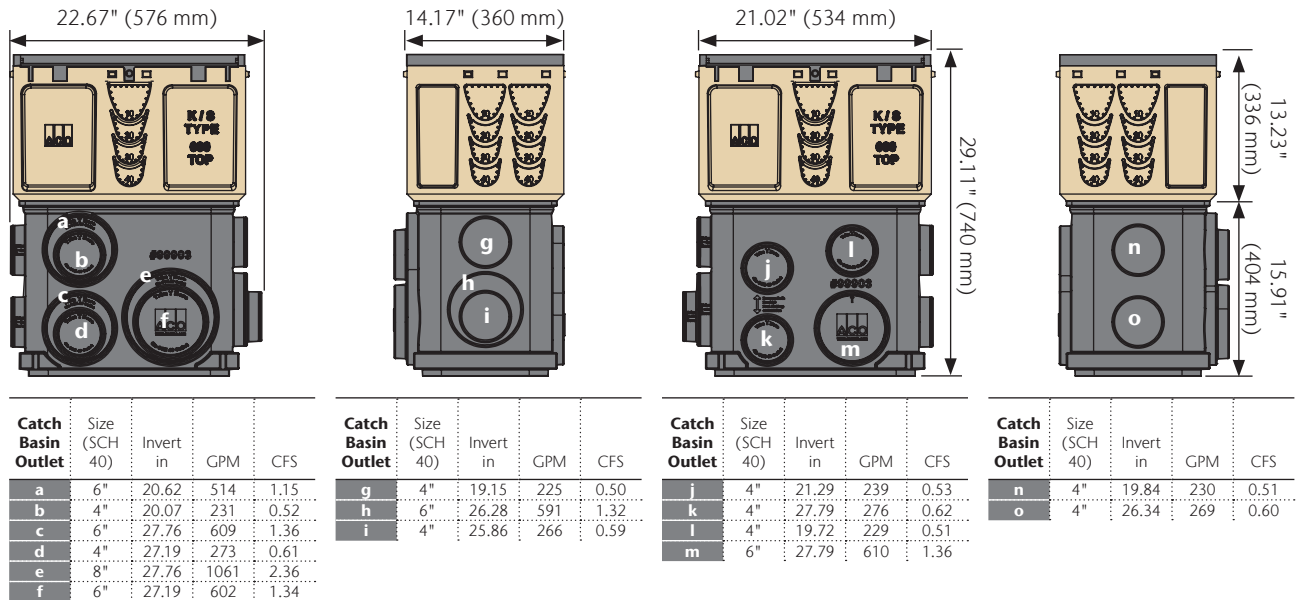


### SK1-906D In-Line Catch Basin

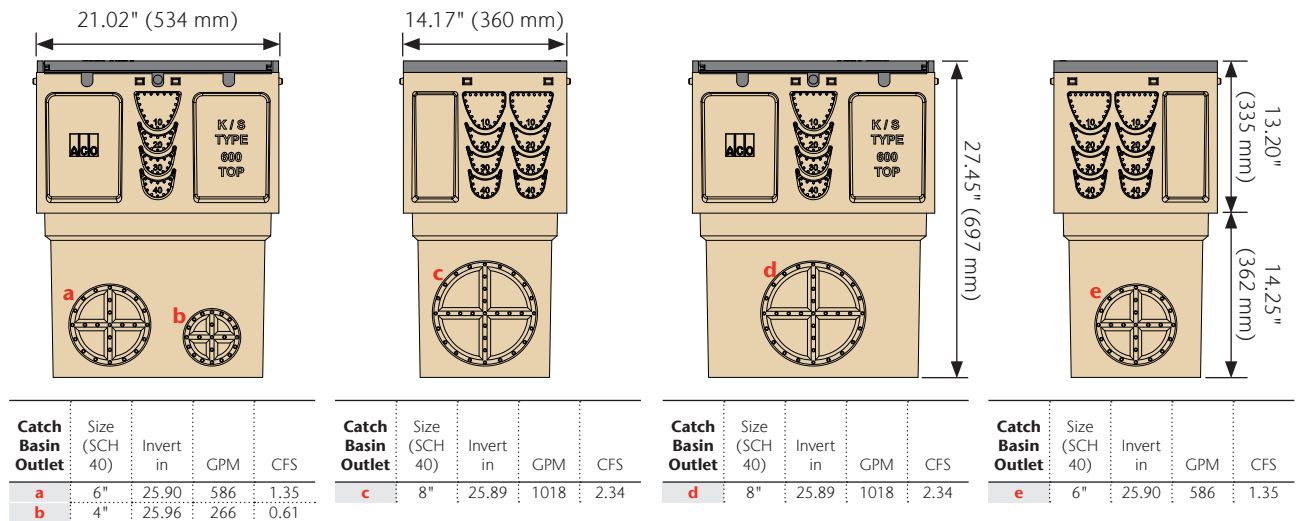


Note: These are pipe flow rates at specified outlets, NOT channel flow rates. Catch basin flow rates are listed without a trash bucket—using a trash bucket reduces flow.

### SK1-621D In-Line Catch Basin

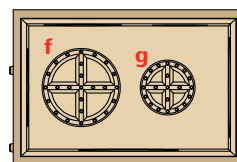


### SK1-622D In-Line Catch Basin



Note: These are pipe flow rates at specified outlets, NOT channel flow rates. Catch basin flow rates are listed without a trash bucket—using a trash bucket reduces flow.

Underside

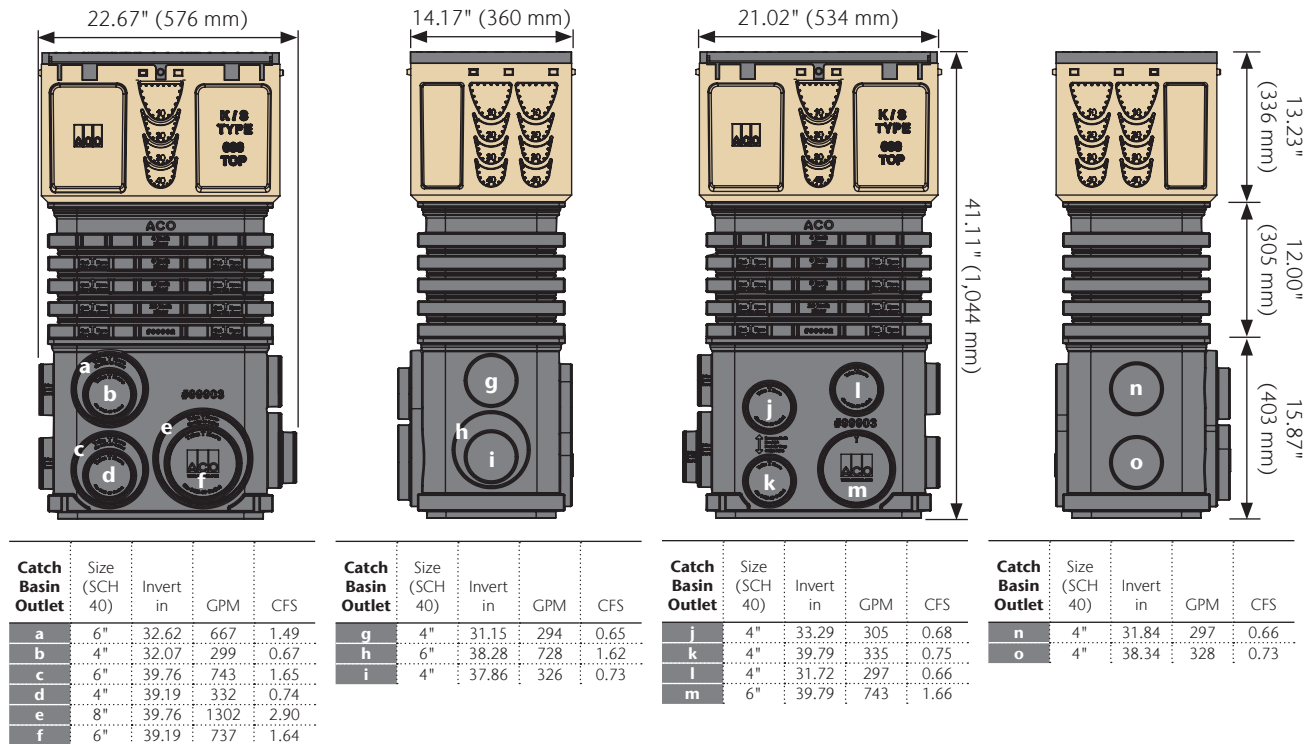


Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
f	6"	27.45	641	1.48
g	4"	27.45	285	0.66

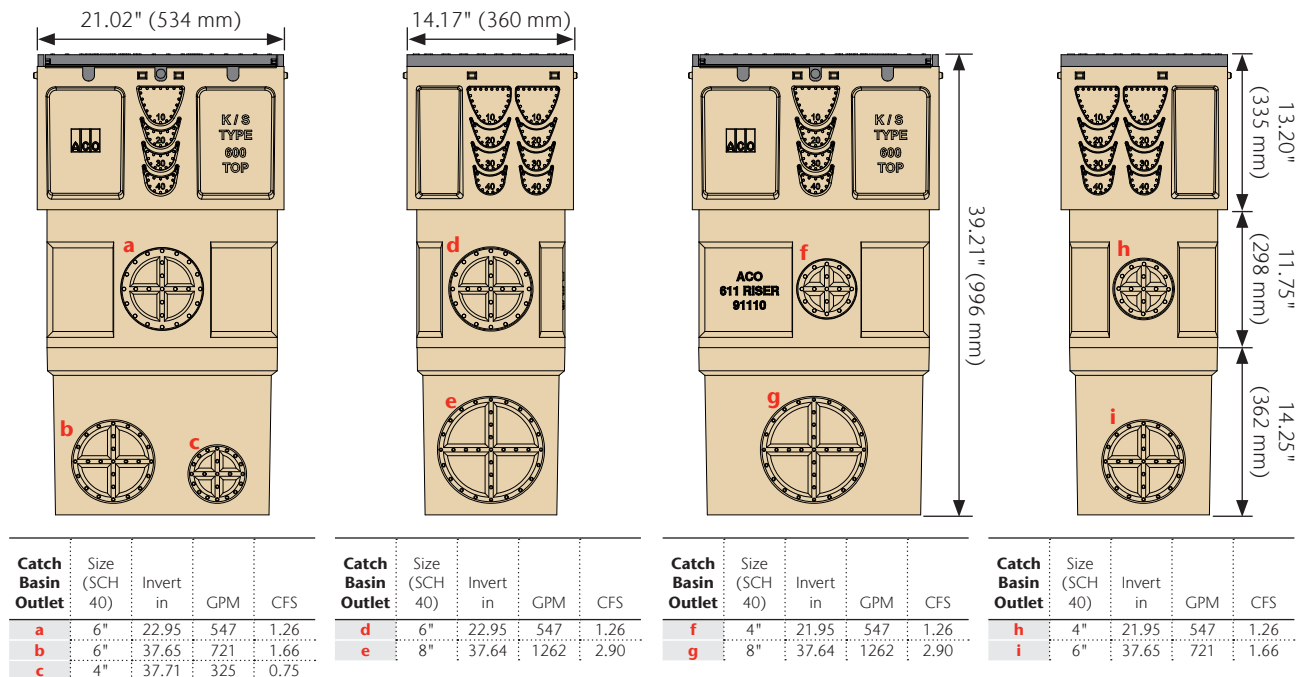


## Catch Basin Dimensions & Outlet Flow Rates (cont.)

### SK1-631D In-Line Catch Basin

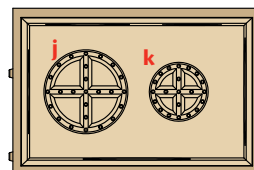


### SK1-632D In-Line Catch Basin



Note: These are pipe flow rates at specified outlets, NOT channel flow rates. Catch basin flow rates are listed without a trash bucket—using a trash bucket reduces flow.

Underside



Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
j	6"	39.20	767	1.76
k	4"	39.20	341	0.78

A wide-angle photograph of the Allen County War Memorial Coliseum. The building features a large glass facade and a prominent sign that reads "ARENA & EXP". In the foreground, a long, curved drainage grate made of dark metal with a grid pattern runs across a light-colored concrete walkway. The sky is blue with scattered white clouds.

## **ALLEN COUNTY WAR MEMORIAL COLISEUM**

Fort Wayne, IN  
United States

Acting as a sports venue, exposition center and hotel, this multi-purpose arena has served its community since its opening in 1952.

During renovation, the addition of a conference center required 623' (190 channels) of PowerDrain S100K to be installed. Lining the walkway and parking lot at the entrance lot, they prevent hazards and damage that could be caused by ponding outside of the building. Sections of the trench runs were fitted with ADA compliant Longitudinal Ductile Iron grates.

**PORTFOLIO**



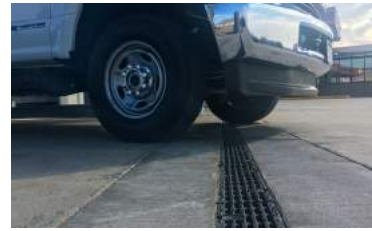
## S100K Grate Selection

There are three available grate styles to fit the S100K heavy duty channel body.

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

The ADA compliant longitudinal 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 M10x30 threaded stainless steel inserts in the S100K channel body allow a 4-Bolt grate to be bolted into the channel for ultimate rigidity and security. Tamper-resistant bolts can also be used.



### KEY



#### ADA Compliant

Compliant with Americans with Disabilities Act of 2010, Section 302.3 (page 174)



#### Slip-Resistant Grates

BPN over 24 (page 174)



#### Heel-Resistant

ASME A112.6.3 - 2001 Heel-resistant slot width less than 0.31" (8 mm) (page 174)



#### Bicycle-Safe

Compliant to Australian Standard AS 3996 - 2006 (page 174)

For details on how psi is determined, see pages 161-166.

## S100K Grates - PowerLok®



Part  
No.

Length  
in (m)

Slot size  
in

Intake area  
in<sup>2</sup>

Weight  
lbs



### LOAD CLASS F (EN 1433) - 202,328 LBS - 6,962 PSI (HEAVY DUTY TRAFFIC)

#### LONGITUDINAL IRON

Longitudinal Iron

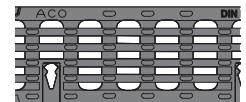
**96096**

19.69 (0.5)

1.36 x 0.45

25.2

13.6



#### SLOTTED IRON

Slotted Iron

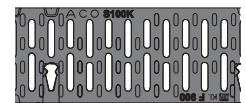
**96082**

19.69 (0.5)

0.43 x 1.98 avg.

25.7

12.3



Note: Ductile iron to ASTM A536 Grade 80-55-06

### POWERLOK - BOLTLESS LOCKING SYSTEM



Fit grate

To lock, position side of grate into lugs on rail, place hook part of tool into PowerLok slot and push towards rail.



Remove grate

To open PowerLok, insert tool between rail and PowerLok device.



Rotate tool 90°. PowerLok device should push away from rail.

S100K Grates - 4-Bolt



Part No.	Length in (m)	Slot size in	Intake area in²	Weight lbs				
----------	---------------	--------------	-----------------	------------	--	--	--	--


LOAD CLASS F (EN 1433) - 202,328 LBS - 6,962 PSI (HEAVY DUTY TRAFFIC)

4-BOLT IRON								
4-Bolt Iron	99590	19.69 (0.5)	0.71 x 1.81 avg.	36.0	10.8	✓	✗	✗

Note: Ductile iron to ASTM A536 Grade 80-55-06

4-BOLT GRATE LOCKING


1



Fit grate


Position grate onto channel, align holes in grate with matching holes in edge rail.

2



Use wrench or socket set to tighten. If using a torque wrench, do not set to more than 15 ft. lbs.

3



Remove grate

To remove grates, use wrench or socket set. Carefully store bolts for refitting of grates. Tamper-resistant bolts require a tamper-resistant drive bit.

S100K Grate Accessories

	Part No.	Weight lbs
PowerLok Safety Clip (red)	10443	0.1
Replacement Bolt for 4-Bolt Grate (M10x30)	95526	0.1
Tamper-Resistant Bolt for 4-Bolt Grate (M10x30)	138127	0.1
Tamper-Resistant Bolt Drive	138128	0.1



Tamper-resistant bolts for 4-Bolt grate require tamper-resistant drive bit

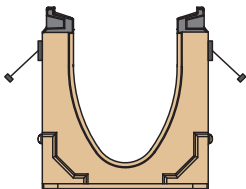
PowerLok® Safety Clip

For areas requiring extra security or safety concerns, an optional plastic 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 locked, a run of red dots is visible.



PowerDrain Channel Anchors

For higher load class installations, ACO recommends use of SK Rail Anchor Kit (part no. 97496) to help secure channels to surrounding concrete. This gives channels mechanical keys to surround concrete haunch. There are 4 anchor points per meter channel.

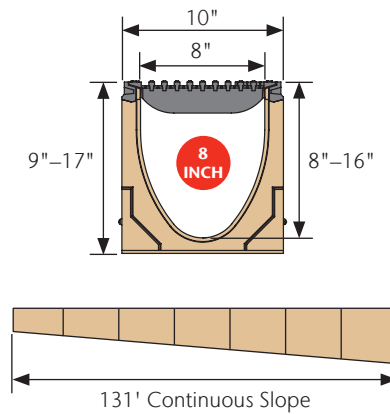
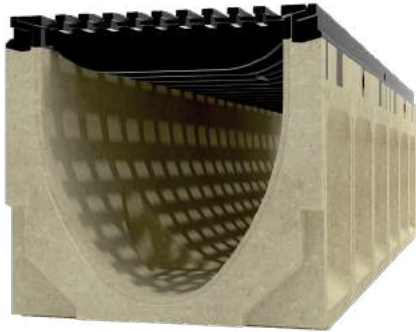






# PowerDrain S200K

## 8" Internal Width Heavy Duty System



S200K is an 8" wide system with choice of Class F (90 ton) slotted or Class E (60 ton) ADA compliant ductile iron grates featuring the PowerLok patented boltless locking system. A 4-Bolt slotted grate is also available.

### Typical Applications:

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

### POWERDRAIN S200K SELECTION CRITERIA



Light to heavy industrial duty loads



Product can be used towards LEED & EPA requirements



Resistant to many everyday chemicals



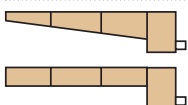
Multiple grate options to meet legal requirements



Multiple grate options to meet design requirements



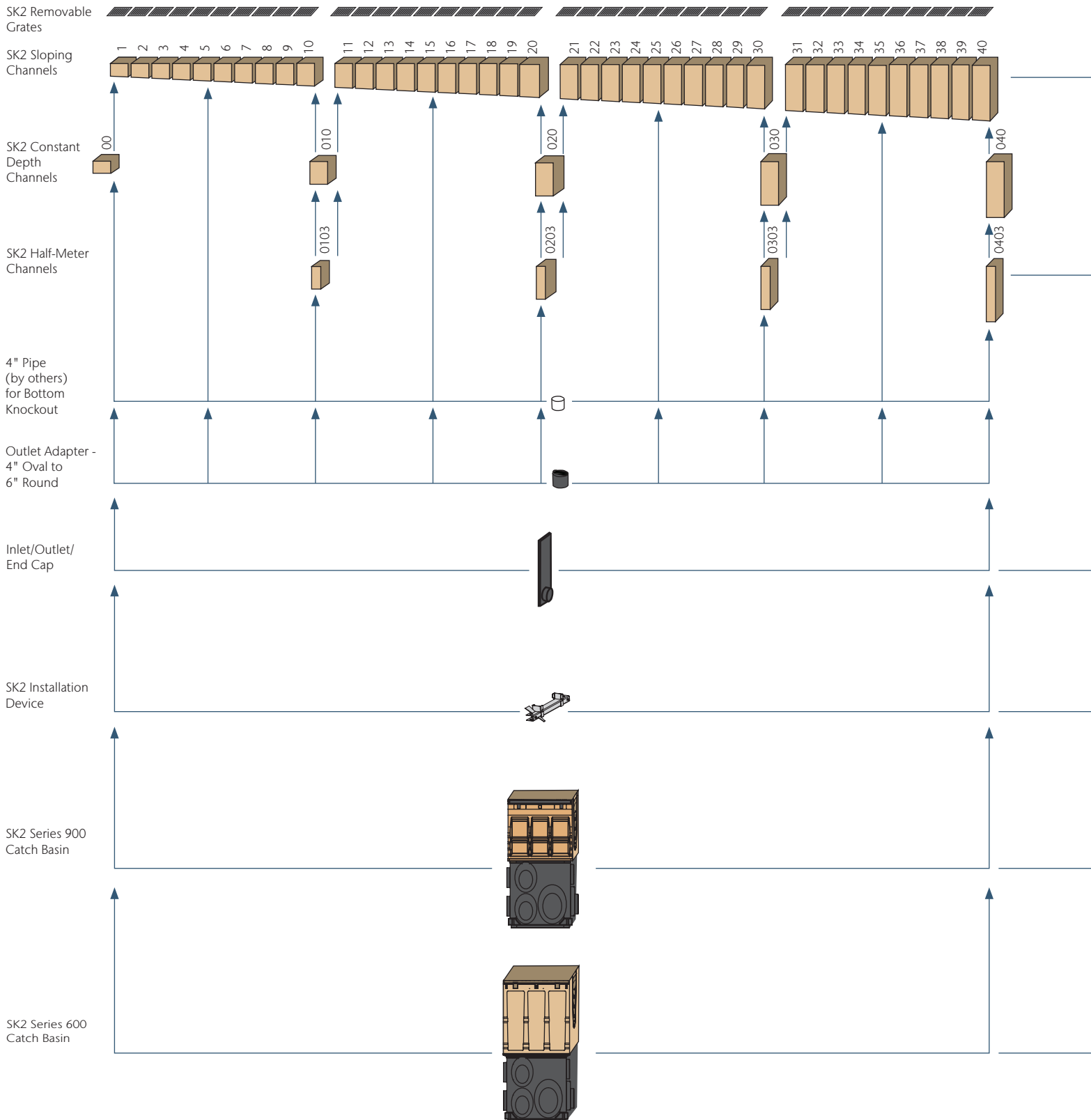
Increased hydraulic capacity



Constant depth and/or sloped depth channels



## S200K System Layout





### SK2 Meter Channels - Sloping & Constant Depth



0.5% sloped channels with ductile iron edge rail, in meter lengths and 40 depths which connect to create 40 meter (131'-2") continuously sloping run.

Constant depth channels available in 5 depths. Can be used to create non-sloped runs, or inserted in sloped runs to increase length.

Bottom knockouts on all constant depths and 5, 10, 15, 20, 25, 30, 35, 40 channels.

### SK2 Half-Meter Channels



Constant depth channels with ductile iron edge rail, in 4 depths supplement meter channels. Side knockout and profiling enable side junction to be created. Bottom knockouts on all half meter channels.

### SK2 Universal Inlet/Outlet/End Cap



Fits all channels and manufactured from ABS plastic to complement edge rail. Guides aid cutting to correct height. Wings clip cap onto end of channel. 4" and 6" bell end connection to SCH 40 pipe. Seal using PVC-ABS cement.

*Note: ACO recommends removal of unused sections of bell end to ensure adequate pavement material coverage.*

### SK2 Installation Device



Fits molded recesses on body of channel. Provides height and joint alignment - a sliding clamp locks the two channels together. Bolt to rebar on either side of channel to hold channels in place during concrete pour. Not reusable; it is encased within concrete pour.

### SK2 Series 900 In-Line Catch Basins



Two-part in-line catch basin with either a plastic base with 4", 6" and 8" drill-outs for pipe connection or a polymer concrete base. Supplied with ductile iron edge rail and plastic trash bucket. Options include an in-line or side foul air trap.

Any channel can be connected into the catch basin by removing the end wall to the correct height with a box cutter. Cut-out guides provided for connection to channels 00, 010, 020, 030 and 040. All cut-outs to receive male channel ends. One blanking end plate supplied with in-line catch basin.

### SK2 Series 600 Catch Basins

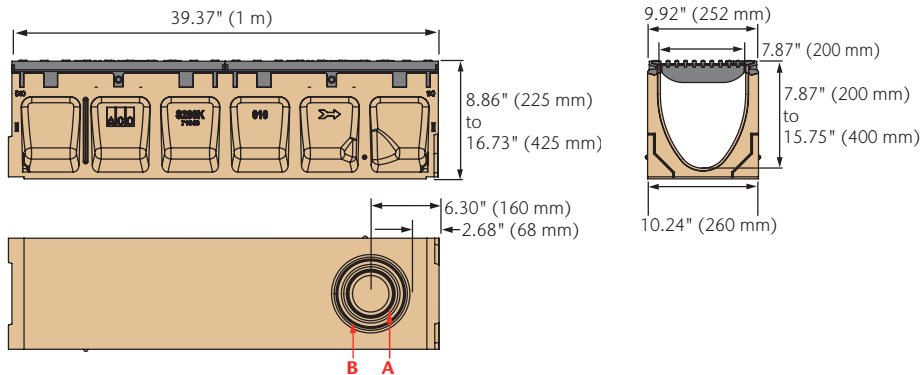


Two-part in-line catch basin with either a plastic base with 4", 6" and 8" drill-outs for pipe connection or a polymer concrete base. Supplied with ductile iron edge rail and plastic trash bucket. Optional riser available for increased depth.

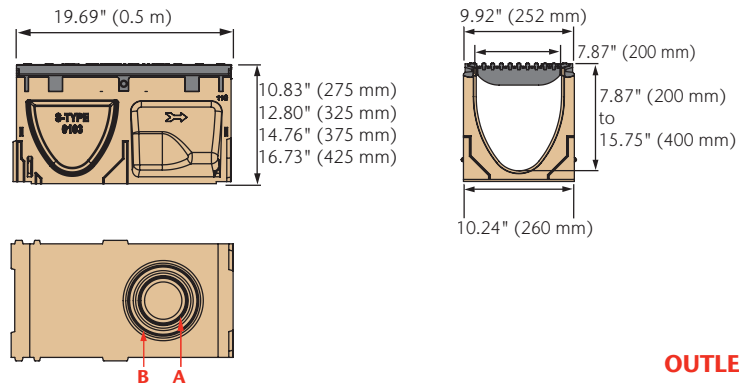
Any channel can be connected to catch basin by removing the end/side wall to the correct height. Drill-out guides provided for connection to channels 00, 010, 020, 030 and 040. All cut-outs to receive male channel ends. Two blanking end plates supplied with each Series 600 catch basin.

## Dimensions & Outlet Flow Rates

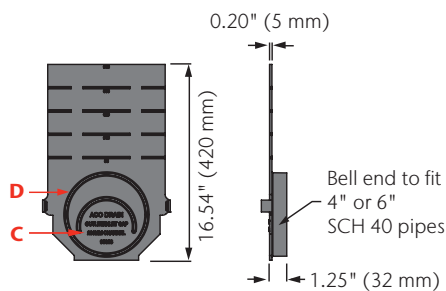
### SK2 Meter Channels



### SK2 Half-Meter Channels



### SK2 Universal Inlet/Outlet/End Cap

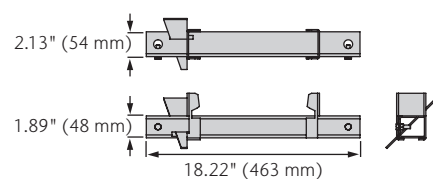


### OUTLET FLOW RATES

Channel Outlet	Channel	Size (SCH 40)	Invert in	GPM	CFS
A	SK2-00	4" round	7.87	153	0.34
	SK2-40	4" round	15.75	216	0.48
B	SK2-00	6" round	7.87	344	0.77
	SK2-40	6" round	15.75	486	1.08
C	SK2-00	4" round	7.87	132	0.29
	SK2-40	4" round	15.75	202	0.45
D	SK2-10	6" round	9.84	320	0.71
	SK2-40	6" round	15.75	437	0.97

Note: These are pipe flow rates at specified outlet, NOT channel flow rates.

### SK2 Installation Device



## S200K Parts

S200K Parts	Part No.	Invert Depth				Overall Depth				Volume gal	Weight lbs
		in		mm		in		mm			
		female	male	female	male	female	male	female	male		
SK2-00 Constant Depth Channel - 39.37" (1 m)*	68041	7.87	7.87	200	200	8.86	8.86	225	225	7.54	85.2
SK2-1 Sloped Channel - 39.37" (1 m)	68001	7.87	8.07	200	205	8.86	9.06	225	230	7.94	85.2
SK2-2 Sloped Channel - 39.37" (1 m)	68002	8.07	8.27	205	210	9.06	9.25	230	235	8.13	86.3
SK2-3 Sloped Channel - 39.37" (1 m)	68003	8.27	8.46	210	215	9.25	9.45	235	240	8.33	87.4
SK2-4 Sloped Channel - 39.37" (1 m)	68004	8.46	8.66	215	220	9.45	9.65	240	245	8.53	88.5
SK2-5 Sloped Channel - 39.37" (1 m)*	68005	8.66	8.86	220	225	9.65	9.84	245	250	8.74	89.6
SK2-6 Sloped Channel - 39.37" (1 m)	68006	8.86	9.06	225	230	9.84	10.04	250	255	8.95	90.7
SK2-7 Sloped Channel - 39.37" (1 m)	68007	9.06	9.25	230	235	10.04	10.24	255	260	9.16	91.8
SK2-8 Sloped Channel - 39.37" (1 m)	68008	9.25	9.45	235	240	10.24	10.43	260	265	9.37	92.9
SK2-9 Sloped Channel - 39.37" (1 m)	68009	9.45	9.65	240	245	10.43	10.63	265	270	9.58	94.0
SK2-10 Sloped Channel - 39.37" (1 m)*	68010	9.65	9.84	245	250	10.63	10.83	270	275	9.79	95.1
SK2-010 Constant Depth Channel - 39.37" (1 m)*	68043	9.84	9.84	250	250	10.83	10.83	275	275	9.59	95.2
SK2-0103 Constant Depth Channel - 19.69" (0.5 m)*	68044	9.84	9.84	250	250	10.83	10.83	275	275	4.80	61.2
SK2-11 Sloped Channel - 39.37" (1 m)	68011	9.84	10.04	250	255	10.83	11.02	275	280	10.01	96.2
SK2-12 Sloped Channel - 39.37" (1 m)	68012	10.04	10.24	255	260	11.02	11.22	280	285	10.22	97.3
SK2-13 Sloped Channel - 39.37" (1 m)	68013	10.24	10.43	260	265	11.22	11.42	285	290	10.44	98.4
SK2-14 Sloped Channel - 39.37" (1 m)	68014	10.43	10.63	265	270	11.42	11.61	290	295	10.66	99.6
SK2-15 Sloped Channel - 39.37" (1 m)*	68015	10.63	10.83	270	275	11.61	11.81	295	300	10.88	100.7
SK2-16 Sloped Channel - 39.37" (1 m)	68016	10.83	11.02	275	280	11.81	12.01	300	305	11.10	101.8
SK2-17 Sloped Channel - 39.37" (1 m)	68017	11.02	11.22	280	285	12.01	12.20	305	310	11.32	102.9
SK2-18 Sloped Channel - 39.37" (1 m)	68018	11.22	11.42	285	290	12.20	12.40	310	315	11.54	104.0
SK2-19 Sloped Channel - 39.37" (1 m)	68019	11.42	11.61	290	295	12.40	12.60	315	320	11.76	105.1
SK2-20 Sloped Channel - 39.37" (1 m)*	68020	11.61	11.81	295	300	12.60	12.80	320	325	11.98	106.2
SK2-020 Constant Depth Channel - 39.37" (1 m)*	68045	11.81	11.81	300	300	12.80	12.80	325	325	11.78	106.2
SK2-0203 Constant Depth Channel - 19.69" (0.5 m)*	68046	11.81	11.81	300	300	12.80	12.80	325	325	5.89	68.8
SK2-21 Sloped Channel - 39.37" (1 m)	68021	11.81	12.01	300	305	12.80	12.99	325	330	12.21	107.3
SK2-22 Sloped Channel - 39.37" (1 m)	68022	12.01	12.20	305	310	12.99	13.19	330	335	12.42	108.4
SK2-23 Sloped Channel - 39.37" (1 m)	68023	12.20	12.40	310	315	13.19	13.39	335	340	12.65	109.5
SK2-24 Sloped Channel - 39.37" (1 m)	68024	12.40	12.60	315	320	13.39	13.58	340	345	12.87	110.6
SK2-25 Sloped Channel - 39.37" (1 m)*	68025	12.60	12.80	320	325	13.58	13.78	345	350	13.10	111.7
SK2-26 Sloped Channel - 39.37" (1 m)	68026	12.80	12.99	325	330	13.78	13.98	350	355	13.32	112.3
SK2-27 Sloped Channel - 39.37" (1 m)	68027	12.99	13.19	330	335	13.98	14.17	355	360	13.56	113.9
SK2-28 Sloped Channel - 39.37" (1 m)	68028	13.19	13.39	335	340	14.17	14.37	360	365	13.77	115.8
SK2-29 Sloped Channel - 39.37" (1 m)	68029	13.39	13.58	340	345	14.37	14.57	365	370	13.99	116.1
SK2-30 Sloped Channel - 39.37" (1 m)*	68030	13.58	13.78	345	350	14.57	14.76	370	375	14.22	117.2
SK2-030 Constant Depth Channel - 39.37" (1 m)*	68047	13.78	13.78	350	350	14.76	14.76	375	375	14.01	117.2
SK2-0303 Constant Depth Channel - 19.69" (0.5 m)*	68048	13.78	13.78	350	350	14.76	14.76	375	375	7.05	73.3
SK2-31 Sloped Channel - 39.37" (1 m)	68031	13.78	13.98	350	355	14.76	14.96	375	380	14.44	118.4
SK2-32 Sloped Channel - 39.37" (1 m)	68032	13.98	14.17	355	360	14.96	15.16	380	385	14.67	119.5
SK2-33 Sloped Channel - 39.37" (1 m)	68033	14.17	14.37	360	365	15.16	15.35	385	390	14.89	120.6
SK2-34 Sloped Channel - 39.37" (1 m)	68034	14.37	14.57	365	370	15.35	15.55	390	395	15.11	121.7
SK2-35 Sloped Channel - 39.37" (1 m)*	68035	14.57	14.76	370	375	15.55	15.75	395	400	15.34	122.8
SK2-36 Sloped Channel - 39.37" (1 m)	68036	14.76	14.96	375	380	15.75	15.94	400	405	15.56	123.9
SK2-37 Sloped Channel - 39.37" (1 m)	68037	14.96	15.16	380	385	15.94	16.14	405	410	15.78	125.0
SK2-38 Sloped Channel - 39.37" (1 m)	68038	15.16	15.35	385	390	16.14	16.34	410	415	16.02	126.1
SK2-39 Sloped Channel - 39.37" (1 m)	68039	15.35	15.55	390	395	16.34	16.54	415	420	16.23	127.2
SK2-40 Sloped Channel - 39.37" (1 m)*	68040	15.55	15.75	395	400	16.54	16.73	420	425	16.46	128.3
SK2-040 Constant Depth Channel - 39.37" (1 m)*	68049	15.75	15.75	400	400	16.73	16.73	425	425	16.27	128.3
SK2-0403 Constant Depth Channel - 19.69" (0.5 m)*	68050	15.75	15.75	400	400	16.73	16.73	425	425	8.14	82.1
SK2 Universal Inlet/Outlet/End Cap	96823	15.75	15.75	400	400	16.54	16.54	420	420	-	1.4
Debris Strainer for 4" Bottom Knockout <sup>2</sup>	93488	-	-	-	-	-	-	-	-	-	0.2
Installation Device	97478	-	-	-	-	-	-	-	-	-	4.0
Grate Removal Tool	01318	-	-	-	-	-	-	-	-	-	0.3
PowerDrain® Concrete Anchors (2 per bag) <sup>4</sup>	97496	-	-	-	-	-	-	-	-	-	0.3
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

### Notes:

1. PowerDrain is sold as channel only. Choose appropriate grate from pages 113-114.
2. Debris strainer details for 4" dia. outlet on page 138.
3. See Catch Basin Parts List on page 107.
4. Concrete Anchor details on page 114.

\*This channel features 4" & 6" bottom knockouts.



## Catch Basin Assemblies & Part Details

Polymer concrete catch basins can be used as standalone area drains or as the outlet to a trench run. They provide the highest hydraulic output and allow access to the pipe system for maintenance.

Series 900 catch basins are **in-line catch basins** (same width and visually indistinguishable from the trench run) while Series 600 catch basins are 12" wide, providing greater hydraulic output.

### CATCH BASIN LOAD STRENGTH

Catch basins with plastic risers/bases should be used in load classes A–D. For heavy duty applications, ACO recommends using polymer concrete risers and catch basins for load class E/F applications.

### S200K Catch Basin Parts

	Part No.	Volume* gal	Weight lbs
SK2-902D In-Line Catch Basin w/ Plastic Base	<b>68053</b>	18.1	81.8
SK2-906D In-Line Catch Basin w/ Polymer Concrete Base	<b>97940</b>	16.9	132.3
SK2-621D Catch Basin w/ Plastic Base	<b>68055</b>	30.4	116.0
SK2-622D Catch Basin w/ Polymer Concrete Base	<b>97923</b>	32.1	169.0
SK2-631D Catch Basin w/ Plastic Riser & Base	<b>68056</b>	40.2	126.0
SK2-632D Catch Basin w/ Polymer Concrete Riser & Base	<b>97932</b>	40.9	214.5
Series 600 Plastic Riser	<b>99902</b>	9.8	10.0
Series 611 Polymer Concrete Riser	<b>91110</b>	8.9	45.0
Foul Air Trap (fits all plastic basins)	<b>90854</b>	-	1.2

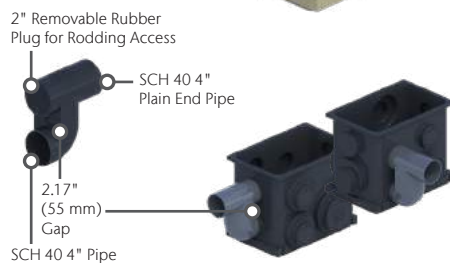
\*Volume is up to grate seat and without trash bucket.

### BLANKING END PLATES

Blanking plates are supplied with catch basin tops to stop concrete ingress at end of drain run. The plate is fitted by pushing it over the polymer concrete end bar to fit flush with side rails.

### FOUL AIR TRAP

A plastic foul air trap that fits into the front or side of plastic in-line catch basins. A coupler is required to connect SCH 40 4" plain end pipe to underground pipe system.

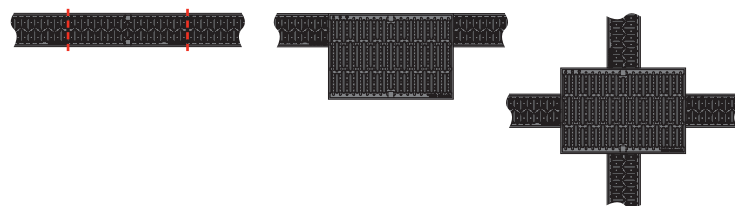


### CATCH BASIN CHANNEL CONNECTION

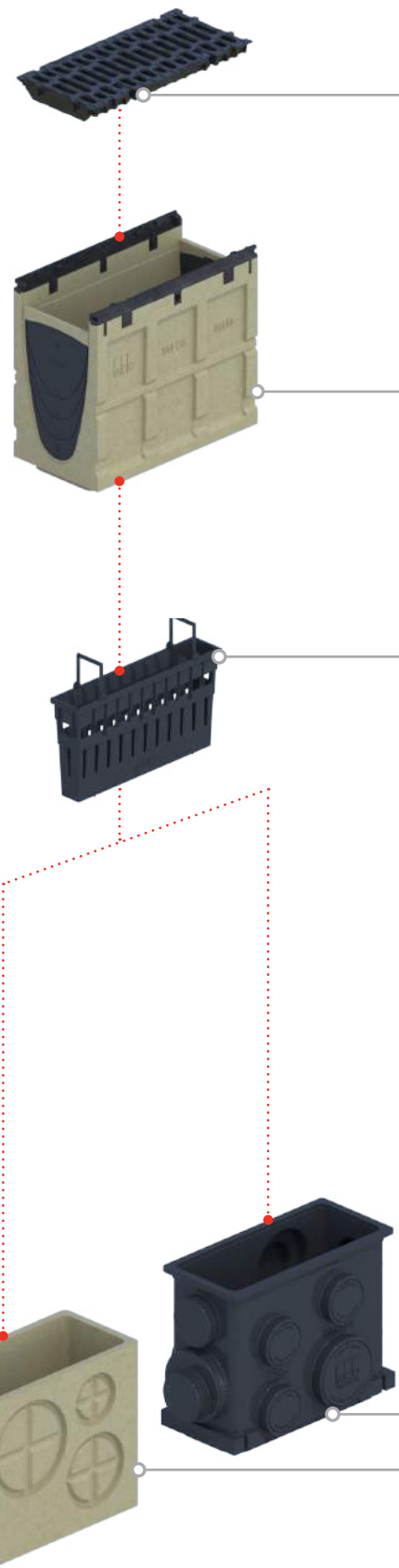
Channels can be connected to catch basin on all four sides in a variety of configurations.

Series 900

Series 600



### SK2 SERIES 900 8" WIDE IN-LINE CATCH BASIN



**SK2 SERIES 600 12" WIDE  
CATCH BASIN**

**Series 600 Grates** - choice of Class F slotted or Class E longitudinal ADA compliant ductile iron grates with PowerLok® boltless locking or Class F slotted ductile iron 4-Bolt grate. See pages 127–128.

**Type 900 Grates** - choice of Class F slotted or Class E longitudinal ADA compliant ductile iron grates supplied with PowerLok boltless locking or Class F slotted ductile iron 4-Bolt grate. See pages 113–114.

**Top Section** - polymer concrete with integrally cast-in ductile iron frame for grate. Guides aid connection of male channel ends at #10,20,30 and 40 depths. Other channels can be connected by removing wall to required height. Blanking kits supplied for all basin assemblies.

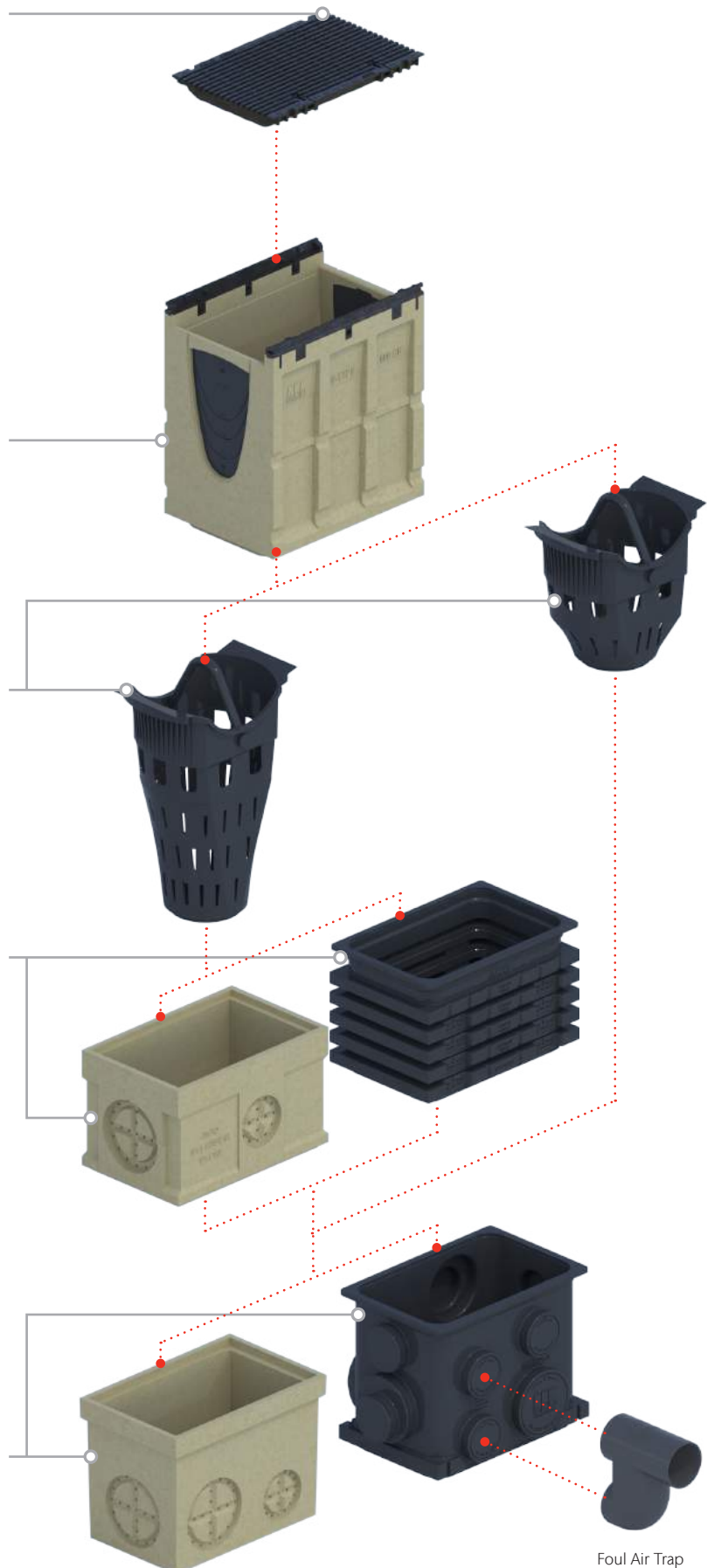
**Trash Bucket** - plastic trash bucket designed to collect debris washed from trench run. Supported in catch basin top to avoid creation of a vacuum and flow reduction. SK2-631D and SK2-632D use a deep bucket with riser.

**Riser** - a plastic or polymer concrete riser, supplied with SK2-631D and SK2-632D, designed to provide additional catch basin depth and hydraulic output. Guides on the plastic version enable cutting to size at 2" (50 mm) intervals - minimum 2" and maximum 12" height. Additional units can be used (a maximum of 2 is recommended to ensure snake access is maintained and for structural stability).

*Multiple risers can be used with series 600 catch basins.*



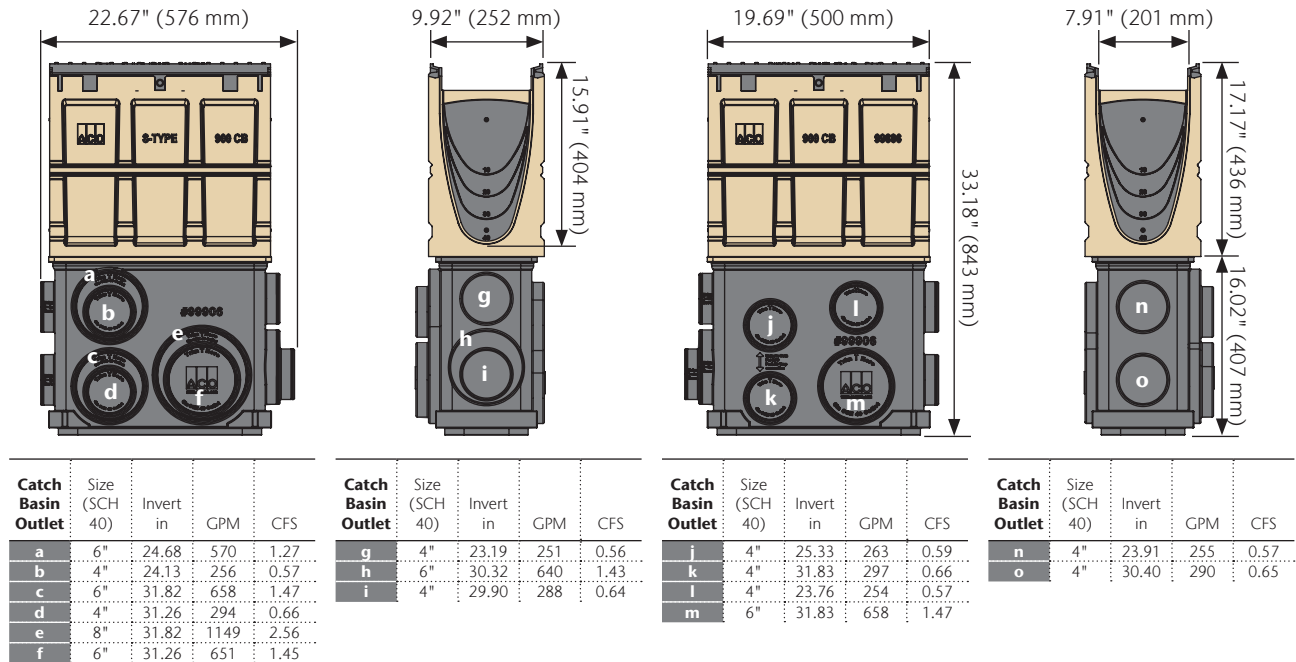
**Base** - Plastic or polymer concrete base available. Plastic bases with wide range of SCH 40 4", 6" and 8" cut-outs for easy pipe connection. Cut-outs on end and side allow connection of ACO foul air trap. Polymer concrete bases have drill-outs cast on sides for pipe connections.



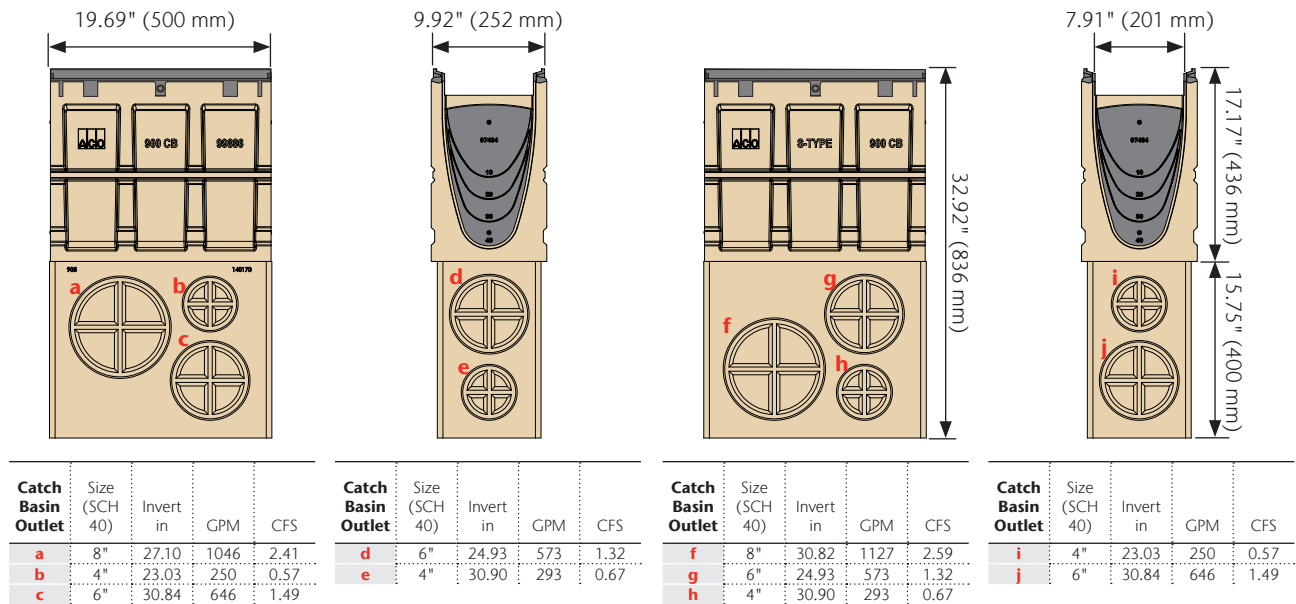
Foul Air Trap

## Catch Basin Dimensions & Outlet Flow Rates

### SK2-902D In-Line Catch Basin



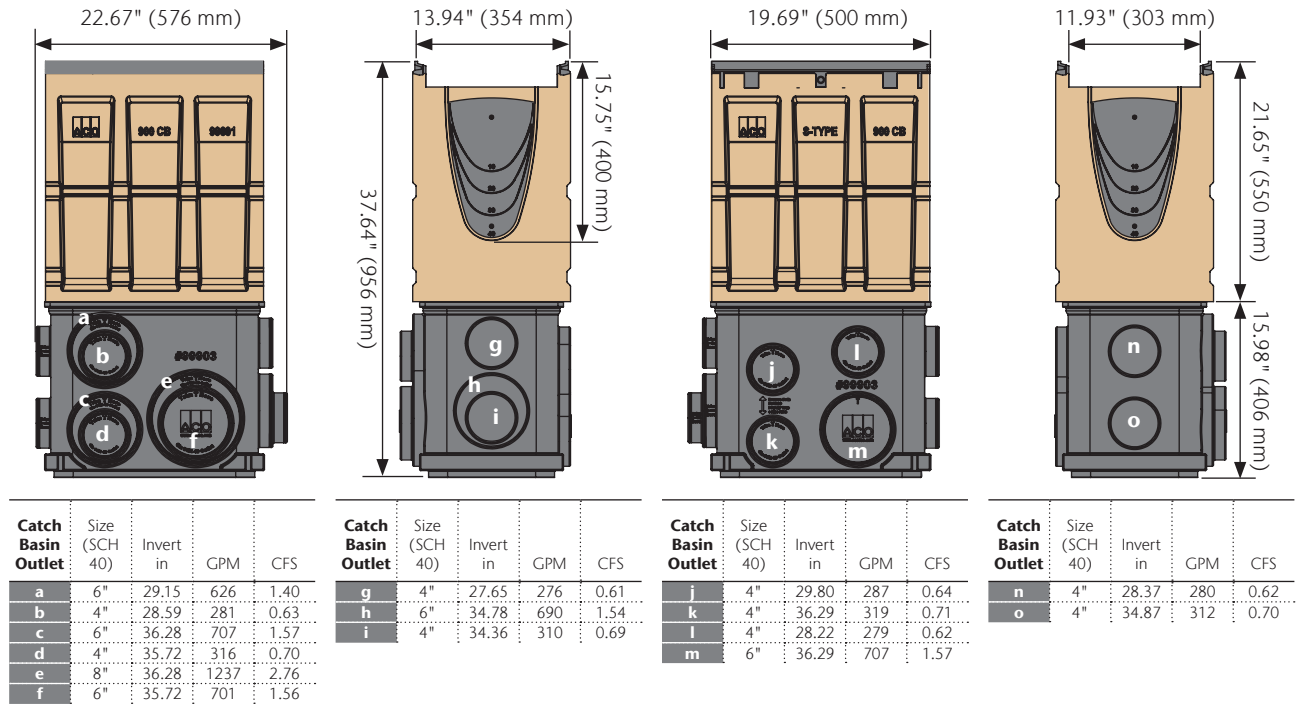
### SK2-906D In-Line Catch Basin



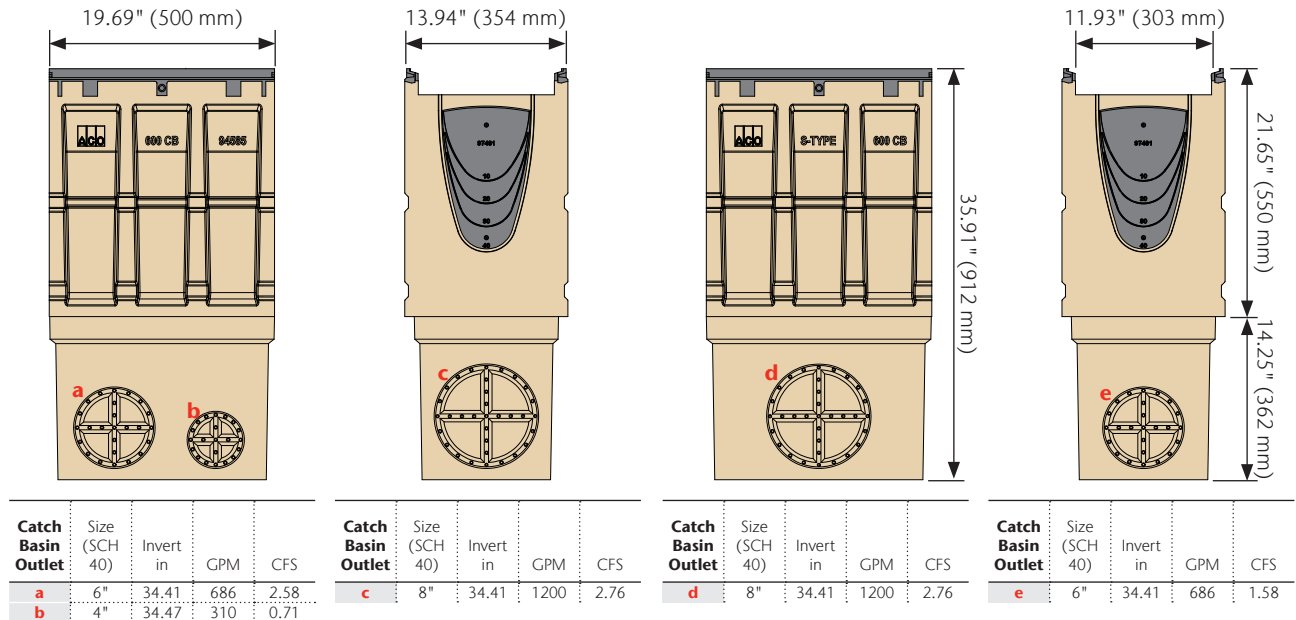
Note: These are pipe flow rates at specified outlets, NOT channel flow rates. Catch basin flow rates are listed without a trash bucket—using a trash bucket reduces flow.



### SK2-621D Catch Basin

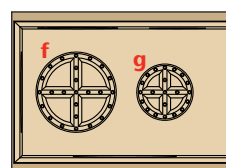


### SK2-622D Catch Basin



Note: These are pipe flow rates at specified outlets, NOT channel flow rates. Catch basin flow rates are listed without a trash bucket—using a trash bucket reduces flow.

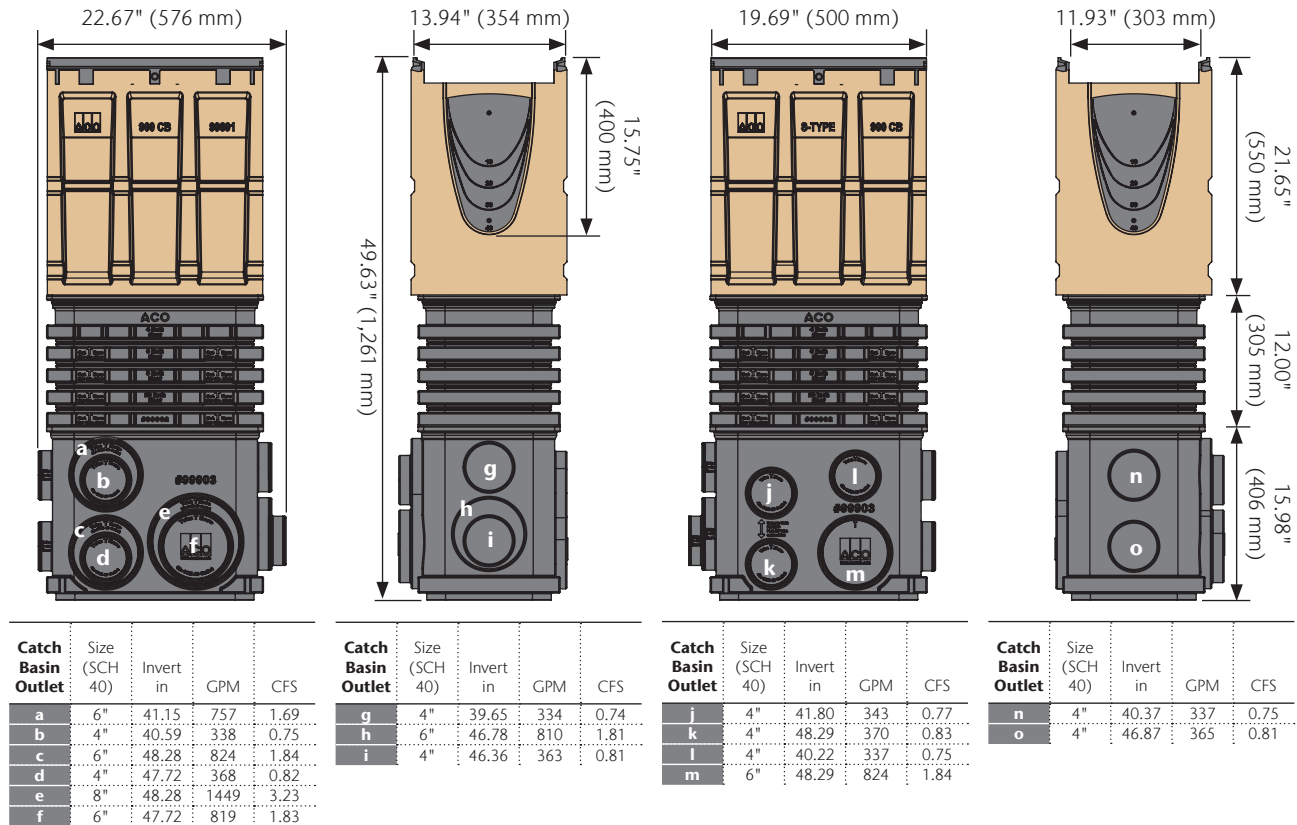
Underside



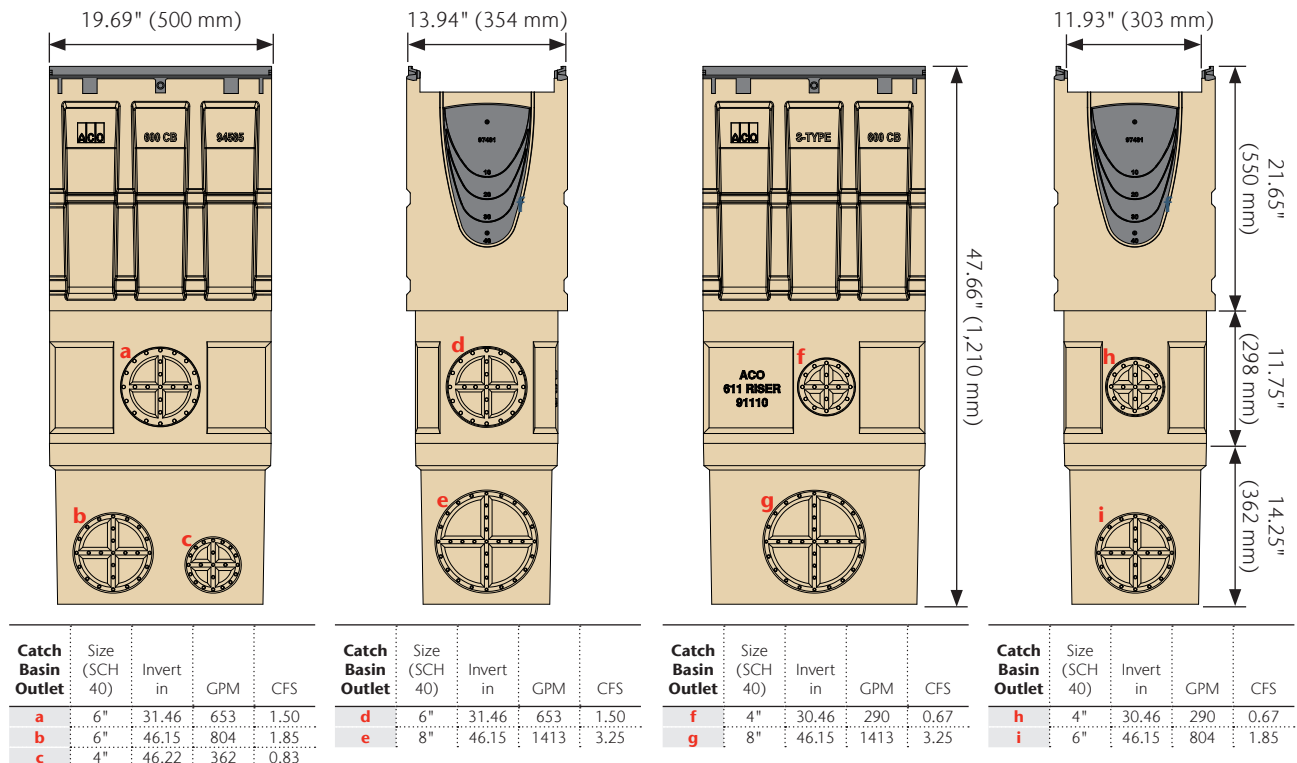
Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
f	6"	35.90	734	1.69
g	4"	35.90	326	0.75

## Catch Basin Dimensions Outlet & Outlet Flow Rates (cont.)

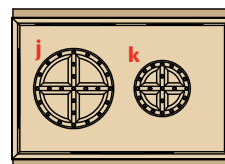
### SK2-631D Catch Basin



### SK2-632D Catch Basin



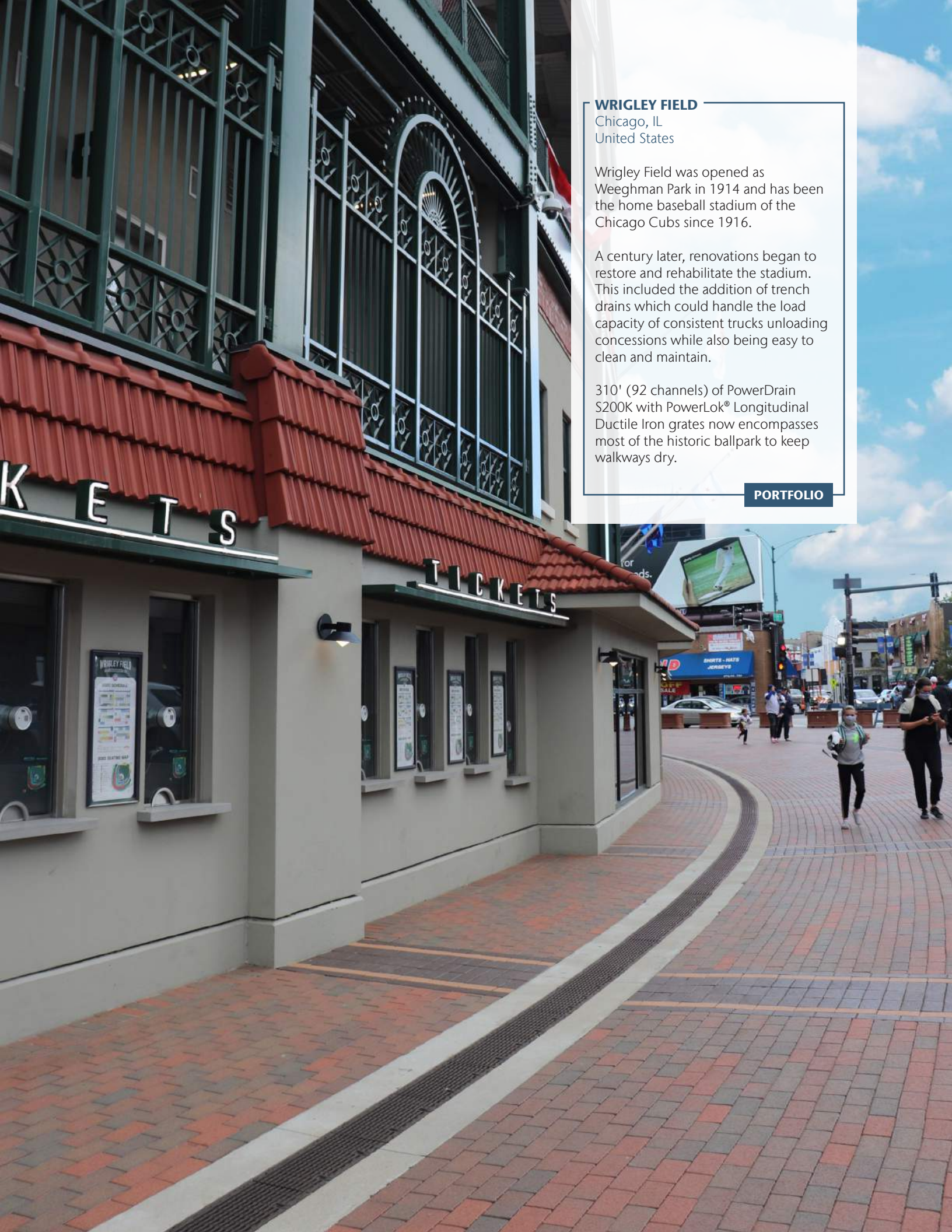
Underside



Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
j	6"	47.65	845	1.94
k	4"	47.65	376	0.86

Note: These are pipe flow rates at specified outlets, NOT channel flow rates. Catch basin flow rates are listed without a trash bucket—using a trash bucket reduces flow.





## WRIGLEY FIELD

Chicago, IL  
United States

Wrigley Field was opened as Weeghman Park in 1914 and has been the home baseball stadium of the Chicago Cubs since 1916.

A century later, renovations began to restore and rehabilitate the stadium. This included the addition of trench drains which could handle the load capacity of consistent trucks unloading concessions while also being easy to clean and maintain.

310' (92 channels) of PowerDrain S200K with PowerLok® Longitudinal Ductile Iron grates now encompasses most of the historic ballpark to keep walkways dry.

PORTFOLIO



## S200K Grate Selection

There are three available grate styles to fit the S200K heavy duty channel body.

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

The ADA compliant longitudinal 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 M10x30 stainless steel inserts in the S200K channel body allow a 4-Bolt grate to be bolted into the channel for ultimate stiffness and security. Tamper-resistant bolts can also be used.



### KEY



#### ADA Compliant

Compliant with Americans with Disabilities Act of 2010, Section 302.3 (page 174)



#### Slip-Resistant Grates

BPN over 24 (page 174)



#### Heel-Resistant

ASME A112.6.3 - 2001 Heel-resistant slot width less than 0.31" (8 mm) (page 174)



#### Bicycle-Safe

Compliant to Australian Standard AS 3996 - 2006 (page 174)

For details on how psi is determined, see pages 161-166.

## S200K Grates - PowerLok®

	Part No.	Length in (m)	Slot size in	Intake area in <sup>2</sup>	Weight lbs				
<b>LOAD CLASS E (EN 1433) - 134,885 LBS - 2,321 PSI (INDUSTRIAL TRAFFIC)</b>									
<b>LONGITUDINAL IRON</b>									
Longitudinal Iron	<b>72263</b>	19.69 (0.5)	1.36 x 0.45	32.4	26.4	✓	✓	✗	✓
<b>LOAD CLASS F (EN 1433) - 202,328 LBS - 3,481 PSI (HEAVY DUTY TRAFFIC)</b>									
<b>SLOTTED IRON</b>									
Slotted Iron	<b>02449</b>	19.69 (0.5)	0.71 x 3.62 avg.	70.1	30.8	✗	✗	✗	✓

Note: Ductile iron to ASTM A536 Grade 80-55-06

### POWERLOK - BOLTLESS LOCKING SYSTEM



To lock, position side of grate into lugs on rail, place hook part of tool into PowerLok slot and push towards rail.



To open PowerLok, insert tool between rail and PowerLok device.



Rotate tool 90°. PowerLok device should push away from rail.

S200K Grates - 4-Bolt



Part No.	Length in (m)	Slot size in	Intake area in²	Weight lbs				
----------	---------------	--------------	-----------------	------------	--	--	--	--

LOAD CLASS F (EN 1433) - 202,328 LBS - 3,481 PSI (HEAVY DUTY TRAFFIC)


4-BOLT IRON

4-Bolt Iron	99591	19.69 (0.5)	0.71 x 3.62 avg.	71.3	26.4	x	x	x	✓
-------------	-------	-------------	------------------	------	------	---	---	---	---

Note: Ductile iron to ASTM A536 Grade 80-55-06

4-BOLT GRATE LOCKING


1



Fit grate


Position grate onto channel, align holes in grate with matching holes in edge rail.

2



Use wrench or socket set to tighten. If using a torque wrench, do not set to more than 15 ft. lbs.

3



Remove grate

To remove grates, use wrench or socket set. Carefully store bolts for refitting of grates. Tamper-resistant bolts require a tamper-resistant drive bit.

S200K Grate Accessories

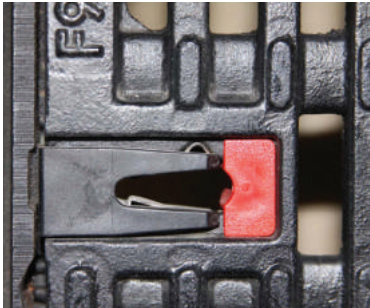
	Part No.	Weight lbs
PowerLok Safety Clip (red)	10443	0.1
Replacement Bolt for 4-Bolt Grate (M10x30)	95526	0.1
Tamper-Resistant Bolt for 4-Bolt Grate (M10x30)	138127	0.1
Tamper-Resistant Bolt Drive	138128	0.1



Tamper-resistant bolts for 4-Bolt grate require tamper-resistant drive bit

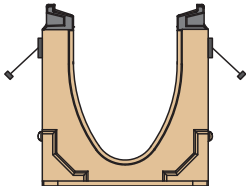
PowerLok® Safety Clip

For areas requiring extra security or safety concerns, an optional plastic 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 locked, a run of red dots is visible.



PowerDrain Channel Anchors

For higher load class installations, ACO recommends use of SK Rail Anchor Kit (part no. 97496) to help secure channels to surrounding concrete. This gives channels mechanical keys to surround concrete haunch. There are 4 anchor points per meter channel.







19TH/MONTEBELLO  
USE WASHINGTON/SRD ST  
STATION

SYCAMORE/MAIN

AIRPORT

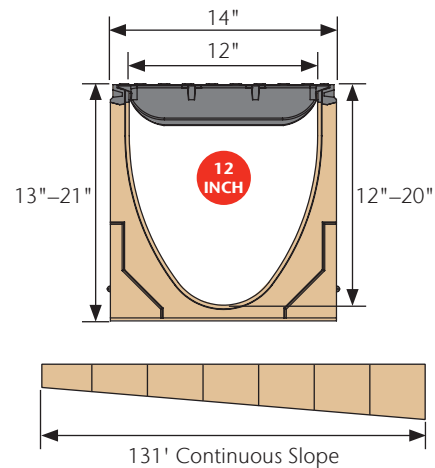
TEMPE

MESA



# PowerDrain S300K

## 12" Internal Width Heavy Duty System



S300K is a 12" wide system with choice of Class F (90 ton) slotted or Class E (60 ton) ADA compliant ductile iron grates featuring the patented PowerLok boltless locking system. A 4-Bolt slotted grate is also available.

### Typical Applications:

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

### ACO POWERDRAIN S300K SELECTION CRITERIA



Light to heavy industrial duty loads



Product can be used towards LEED & EPA requirements



Resistant to many everyday chemicals



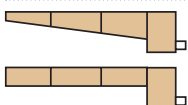
Multiple grate options to meet legal requirements



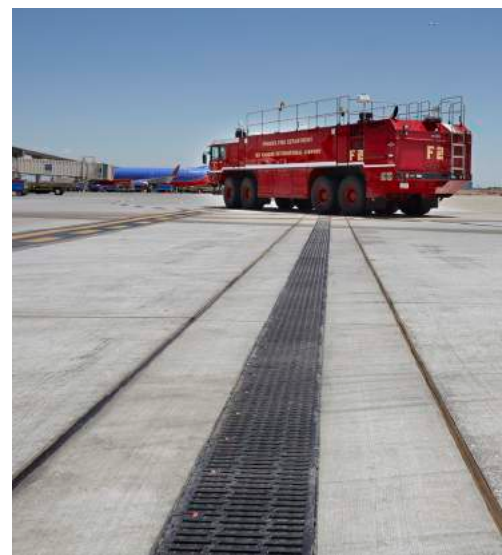
Multiple grate options to meet design requirements



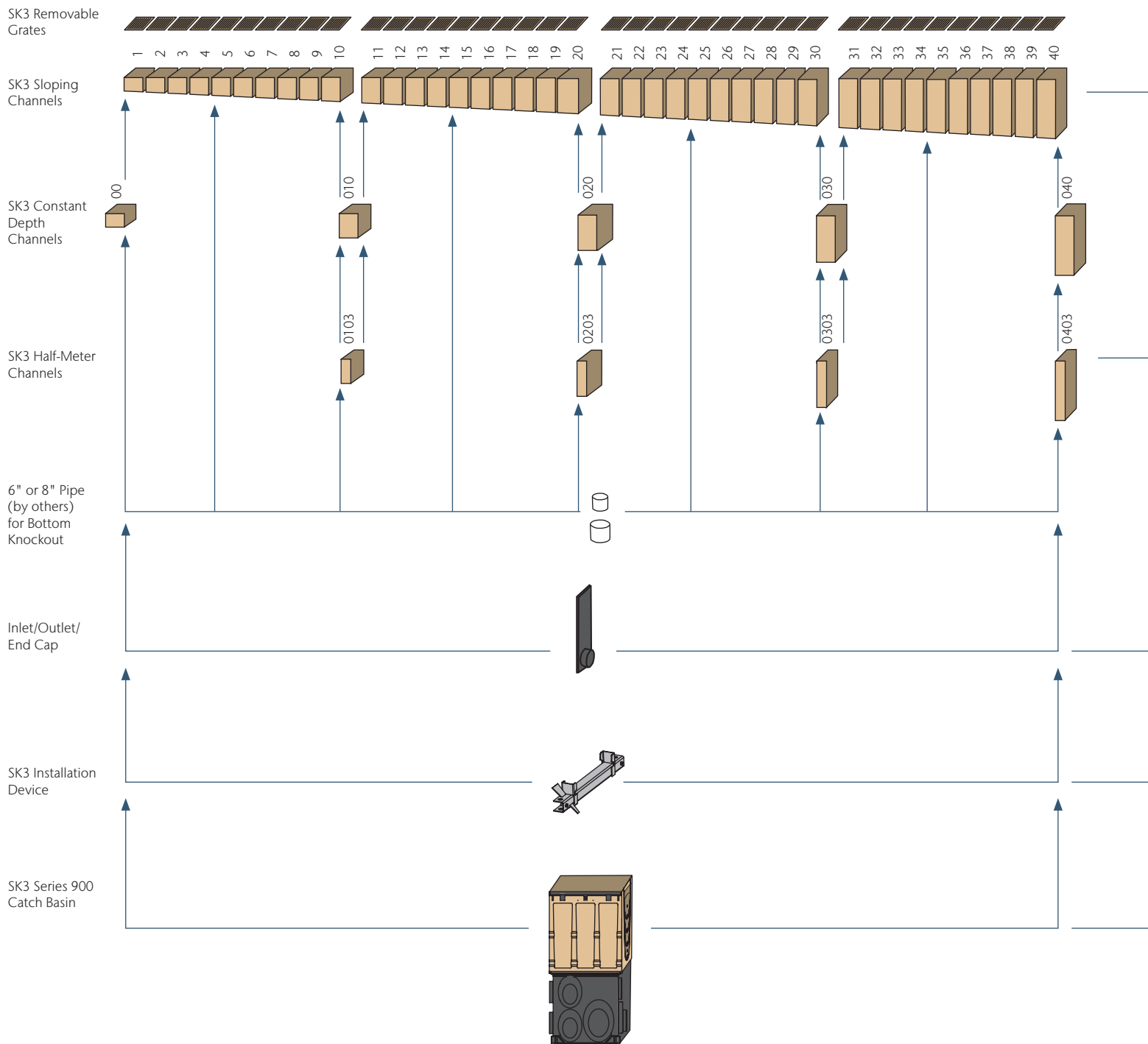
Maximum hydraulic capacity



Constant depth and/or sloped depth channels



## S300K System Layout





### SK3 Meter Channels - Sloping & Constant Depth

0.5% sloped channels with ductile iron edge rail, in meter lengths and 40 depths which connect to create 40 meter (131'-2") continuously sloping run.

Constant depth channels are available in 5 depths. Can be used to create non-sloped runs, or inserted in sloped runs to increase length.

Bottom knockouts on all constant depths and 5, 10, 15, 20, 25, 30, 35, 40 channels.



### SK3 Half-Meter Channels

Constant depth channels with ductile iron edge rail; in 4 depths supplement meter channels. Side knockout and profiling enable side junction to be created. Bottom knockouts on all half meter channels.



### SK3 Universal Inlet/Outlet/End Cap

Fits all channels and manufactured from ABS plastic to complement edge rail. Guides aid cutting to correct height. Wings clip cap onto end of channel. 6", 8" and 10" bell end provides connection to SCH 40 pipe. Seal using PVC ABS cement.

*Note: For depth 1-10 channels, ACO recommends removal of unused sections of bell end to ensure adequate pavement material coverage.*



### SK3 Installation Device

Fits molded recesses on body of channel. Provides height and joint alignment - a sliding clamp locks the two channels together. Bolt to rebar on either side of channel to hold channels in place during concrete pour. Not reusable; it is encased within concrete pour.



### SK3 Series 900 In-Line Catch Basin

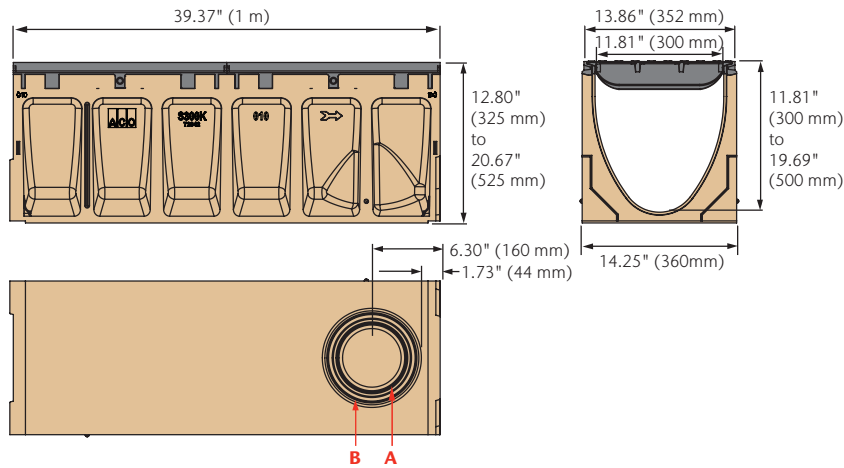
Two-part in-line catch basin with either a plastic base with 4", 6" and 8" drill-outs for pipe connection or a polymer concrete base. Supplied with ductile iron edge rail and plastic trash bucket. Options include an in-line or side foul air trap.

Any channel can be connected into the catch basin by removing the end wall to the correct height with a box cutter. Cut-out guides provided for connection to channels 00, 010, 020, 030 and 040. All cut-outs to receive male channel ends. One blanking end plate supplied with in-line catch basin.

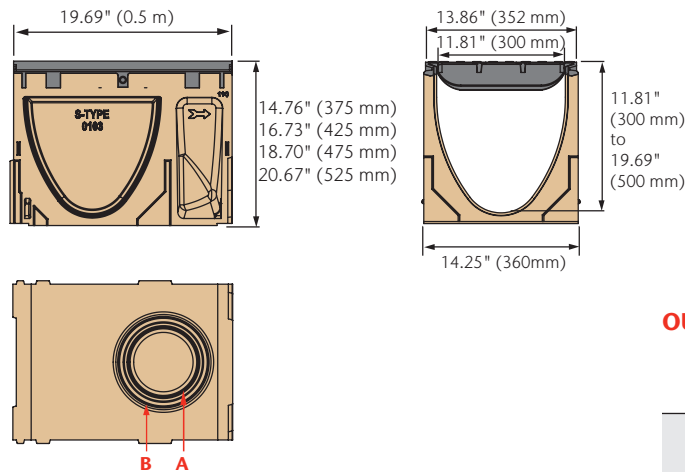


## Dimensions & Outlet Flow Rates

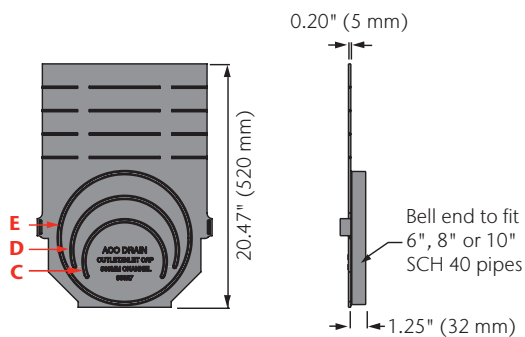
### SK3 Meter Channels



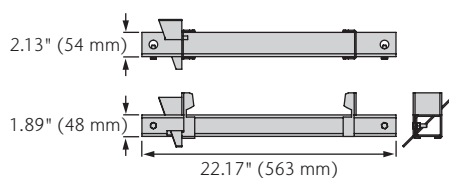
### SK3 Half-Meter Channels



### SK3 Universal Inlet/Outlet/End Cap



### SK3 Installation Device



### OUTLET FLOW RATES

Channel Outlet	Channel	Size (SCH 40)	Invert in	GPM	CFS
A	SK3-00	6" round	11.81	421	0.94
	SK3-40	6" round	19.69	544	1.21
B	SK3-00	8" round	11.81	748	1.67
	SK3-40	8" round	19.69	966	2.15
C	SK3-00	6" round	11.81	364	0.81
	SK3-40	6" round	19.69	500	1.11
D	SK3-10	8" round	13.78	681	1.52
	SK3-40	8" round	19.69	863	1.92
E	SK3-20	10" round	15.75	1116	2.49
	SK3-40	10" round	19.69	1304	2.91

Note: These are pipe flow rates at specified outlet, NOT channel flow rates.

## S300K Parts

S300K Parts	Part No.	Invert Depth				Overall Depth				Volume gal	Weight lbs
		in		mm		in		mm			
		female	male	female	male	female	male	female	male		
SK3-00 Constant Depth Channel - 39.37" (1 m)*	69041	11.81	11.81	300	300	12.80	12.80	325	325	18.01	140.0
SK3-1 Sloped Channel - 39.37" (1 m)	69001	11.81	12.01	300	305	12.80	12.99	325	330	19.58	140.0
SK3-2 Sloped Channel - 39.37" (1 m)	69002	12.01	12.20	305	310	12.99	13.19	330	335	20.01	141.3
SK3-3 Sloped Channel - 39.37" (1 m)	69003	12.20	12.40	310	315	13.19	13.39	335	340	20.44	142.8
SK3-4 Sloped Channel - 39.37" (1 m)	69004	12.40	12.60	315	320	13.39	13.58	340	345	20.86	144.1
SK3-5 Sloped Channel - 39.37" (1 m)*	69005	12.60	12.80	320	325	13.58	13.78	345	350	21.28	145.4
SK3-6 Sloped Channel - 39.37" (1 m)	69006	12.80	12.99	325	330	13.78	13.98	350	355	21.69	146.9
SK3-7 Sloped Channel - 39.37" (1 m)	69007	12.99	13.19	330	335	13.98	14.17	355	360	22.11	148.2
SK3-8 Sloped Channel - 39.37" (1 m)	69008	13.19	13.39	335	340	14.17	14.37	360	365	22.51	149.5
SK3-9 Sloped Channel - 39.37" (1 m)	69009	13.39	13.58	340	345	14.37	14.57	365	370	22.92	150.9
SK3-10 Sloped Channel - 39.37" (1 m)*	69010	13.58	13.78	345	350	14.57	14.76	370	375	23.32	152.3
SK3-010 Constant Depth Channel - 39.37" (1 m)*	69042	13.78	13.78	350	350	14.76	14.76	375	375	21.22	152.3
SK3-0103 Constant Depth Channel - 19.69" (0.5 m)*	69045	13.78	13.78	350	350	14.76	14.76	375	375	10.61	84.2
SK3-11 Sloped Channel - 39.37" (1 m)	69011	13.78	13.98	350	355	14.76	14.96	375	380	23.72	153.6
SK3-12 Sloped Channel - 39.37" (1 m)	69012	13.98	14.17	355	360	14.96	15.16	380	385	24.11	155.0
SK3-13 Sloped Channel - 39.37" (1 m)	69013	14.17	14.37	360	365	15.16	15.35	385	390	24.51	156.4
SK3-14 Sloped Channel - 39.37" (1 m)	69014	14.37	14.57	365	370	15.35	15.55	390	395	24.89	157.7
SK3-15 Sloped Channel - 39.37" (1 m)*	69015	14.57	14.76	370	375	15.55	15.75	395	400	25.27	149.1
SK3-16 Sloped Channel - 39.37" (1 m)	69016	14.76	14.96	375	380	15.75	15.94	400	405	25.68	160.5
SK3-17 Sloped Channel - 39.37" (1 m)	69017	14.96	15.16	380	385	15.94	16.14	405	410	26.06	161.9
SK3-18 Sloped Channel - 39.37" (1 m)	69018	15.16	15.35	385	390	16.14	16.34	410	415	26.44	163.2
SK3-19 Sloped Channel - 39.37" (1 m)	69019	15.35	15.55	390	395	16.34	16.54	415	420	26.83	164.6
SK3-20 Sloped Channel - 39.37" (1 m)*	69020	15.55	15.75	395	400	16.54	4.92	420	125	27.21	166.0
SK3-020 Constant Depth Channel - 39.37" (1 m)*	69044	15.75	15.75	400	400	16.73	16.73	425	425	24.53	166.0
SK3-0203 Constant Depth Channel - 19.69" (0.5 m)*	69047	15.75	15.75	400	400	16.73	16.73	425	425	12.27	92.0
SK3-21 Sloped Channel - 39.37" (1 m)	69021	15.75	15.94	400	405	16.73	16.93	425	430	27.59	167.3
SK3-22 Sloped Channel - 39.37" (1 m)	69022	15.94	16.14	405	410	16.93	17.13	430	435	27.97	168.7
SK3-23 Sloped Channel - 39.37" (1 m)	69023	16.14	16.34	410	415	17.13	17.32	435	440	28.34	170.1
SK3-24 Sloped Channel - 39.37" (1 m)	69024	16.34	16.54	415	420	17.32	17.52	440	445	28.72	171.4
SK3-25 Sloped Channel - 39.37" (1 m)*	69025	16.54	16.73	420	425	17.52	17.72	445	450	29.09	172.7
SK3-26 Sloped Channel - 39.37" (1 m)	69026	16.73	16.93	425	430	17.72	17.91	450	455	29.47	174.2
SK3-27 Sloped Channel - 39.37" (1 m)	69027	16.93	17.13	430	435	17.91	18.11	455	460	29.84	175.5
SK3-28 Sloped Channel - 39.37" (1 m)	69028	17.13	17.32	435	440	18.11	18.31	460	465	30.21	176.8
SK3-29 Sloped Channel - 39.37" (1 m)	69029	17.32	17.52	440	445	18.31	18.50	465	470	30.58	178.3
SK3-30 Sloped Channel - 39.37" (1 m)*	69030	17.52	17.72	445	450	18.50	18.70	470	475	30.95	179.6
SK3-030 Constant Depth Channel - 39.37" (1 m)*	69046	17.72	17.72	450	450	18.70	18.70	475	475	27.87	179.6
SK3-0303 Constant Depth Channel - 19.69" (0.5 m)*	69049	17.72	17.72	450	450	18.70	18.70	475	475	13.94	100.0
SK3-31 Sloped Channel - 39.37" (1 m)	69031	17.72	17.91	450	455	18.70	18.90	475	480	31.32	180.9
SK3-32 Sloped Channel - 39.37" (1 m)	69032	17.91	18.11	455	460	18.90	19.09	480	485	31.69	182.4
SK3-33 Sloped Channel - 39.37" (1 m)	69033	18.11	18.31	460	465	19.09	19.29	485	490	32.06	183.7
SK3-34 Sloped Channel - 39.37" (1 m)	69034	18.31	18.50	465	470	19.29	19.49	490	495	32.42	185.0
SK3-35 Sloped Channel - 39.37" (1 m)*	69035	18.50	18.70	470	475	19.49	19.69	495	500	32.79	186.5
SK3-36 Sloped Channel - 39.37" (1 m)	69036	18.70	18.90	475	480	19.69	19.88	500	505	33.16	187.8
SK3-37 Sloped Channel - 39.37" (1 m)	69037	18.90	19.09	480	485	19.88	20.08	505	510	33.52	189.1
SK3-38 Sloped Channel - 39.37" (1 m)	69038	19.09	19.29	485	490	20.08	20.28	510	515	33.88	190.5
SK3-39 Sloped Channel - 39.37" (1 m)	69039	19.29	19.49	490	495	20.28	20.47	515	520	34.25	191.9
SK3-40 Sloped Channel - 39.37" (1 m)*	69040	19.49	19.69	495	500	20.47	20.67	520	525	34.61	193.2
SK3-040 Constant Depth Channel - 39.37" (1 m)*	69048	19.69	19.69	500	500	20.67	20.67	525	525	31.25	193.2
SK3-0403 Constant Depth Channel - 19.69" (0.5 m)*	69050	19.69	19.69	500	500	20.67	20.67	525	525	15.63	109.0
SK3 Universal Inlet/Outlet/End Cap	96827	19.69	19.69	500	500	20.47	20.47	520	520	-	2.5
Installation Device	97479	-	-	-	-	-	-	-	-	-	4.9
Grate Removal Tool	01318	-	-	-	-	-	-	-	-	-	0.3
PowerDrain® Concrete Anchors (2 per bag) <sup>3</sup>	97496	-	-	-	-	-	-	-	-	-	0.3

## Notes

1. PowerDrain is sold as channel only. Choose appropriate grate from pages 127–128.

2. See Catch Basin Parts List on page 121.

3. Concrete Anchor details on page 128.

\*This channel features 6" &amp; 8" bottom knockouts.

## Catch Basin Assemblies & Part Details

Polymer concrete catch basins can be used as standalone area drains or as the outlet to a trench run. They provide the highest hydraulic output and allow access to the pipe system for maintenance.

Series 900 catch basins are **in-line catch basins** (same width and visually indistinguishable from the trench run).

### CATCH BASIN LOAD STRENGTH

Catch basins with plastic risers/bases should be used in load classes A–D. For heavy duty applications, ACO recommends using polymer concrete risers and catch basins for load class E/F applications.

### S300K Catch Basin Parts

	Part No.	Volume* gal	Weight lbs
SK3-903D In-Line Catch Basin w/ Plastic Base	<b>69053</b>	30.4	99.4
SK3-907D In-Line Catch Basin w/ Polymer Concrete Base	<b>97924</b>	32.8	158.4
SK3-904D In-Line Catch Basin w/ Plastic Riser & Base	<b>69054</b>	40.2	104.4
SK3-908D In-Line Catch Basin w/ Polymer Concrete Riser & Base	<b>97933</b>	41.7	203.4
Series 600 Plastic Riser	<b>99902</b>	9.8	10.0
Series 611 Polymer Concrete Riser	<b>91110</b>	8.9	45.0
Foul Air Trap (fits all plastic basins)	<b>90854</b>	-	1.2

\*Volume is up to grate seat and without trash bucket.

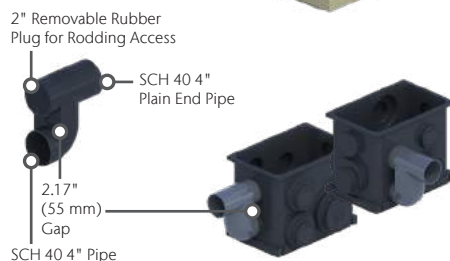
### BLANKING END PLATES

Blanking plates are supplied with catch basin tops to stop concrete ingress at end of drain run. The plate is fitted by pushing it over the polymer concrete end bar to fit flush with side rails.



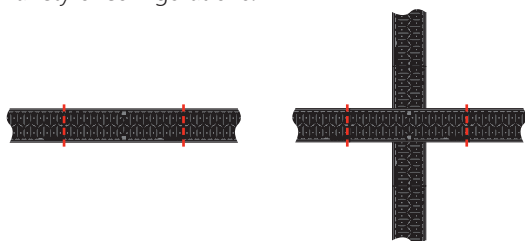
### FOUL AIR TRAP

A plastic foul air trap that fits into the front or side of plastic in-line catch basins. A coupler is required to connect SCH 40 4" plain end pipe to underground pipe system.



### CATCH BASIN CHANNEL CONNECTION

Channels can be connected to catch basin on all four sides in a variety of configurations.



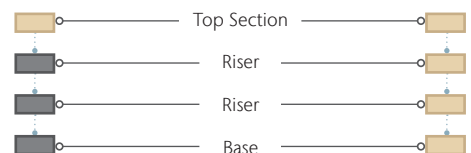
**Series 900 Grates** - choice of Class F slotted or Class E longitudinal ADA compliant ductile iron grates with PowerLok boltless locking or Class F slotted ductile iron 4-Bolt grate. See pages 127–128.

**Top Section** - polymer concrete with integrally cast-in ductile iron frame for grate. Guides aid connection of male channel ends at #10, 20, 30 and 40 depths. Other channels can be connected by removing wall to required height. Blanking kits supplied with all basin assemblies.

**Trash Bucket** - plastic trash bucket designed to collect debris washed from trench run. Supported in catch basin top to avoid creation of a vacuum and flow reduction. SK3-904D and SK3-908D use a deep bucket with riser.

**Riser** - a plastic or polymer concrete riser, supplied with SK3-904D and SK3-908D, designed to provide additional catch basin depth and hydraulic output. Guides on the plastic version enable cutting to size at 2" (50 mm) intervals - minimum 2" and maximum 12" height. Additional units can be used (a maximum of 2 is recommended to ensure snake access is maintained and for structural stability).

*Multiple risers can be used.*



**Base** - Plastic or polymer concrete base available. Plastic bases with wide range of SCH 40 4", 6" and 8" cut-outs for easy pipe connection. Cut-outs on end and side allow connection of ACO foul air trap. Polymer concrete bases have drill-outs cast on sides for pipe connections.

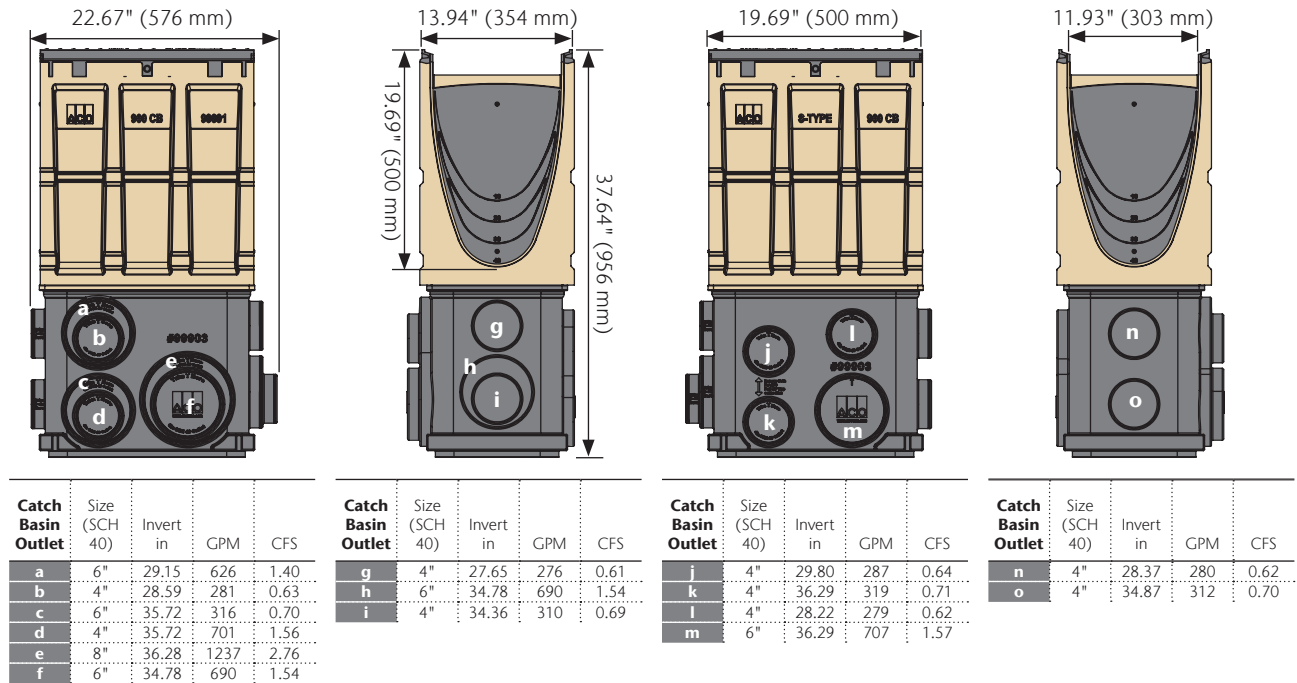


SK3 SERIES 900D 12" WIDE IN-LINE  
CATCH BASIN (WITH RISER)

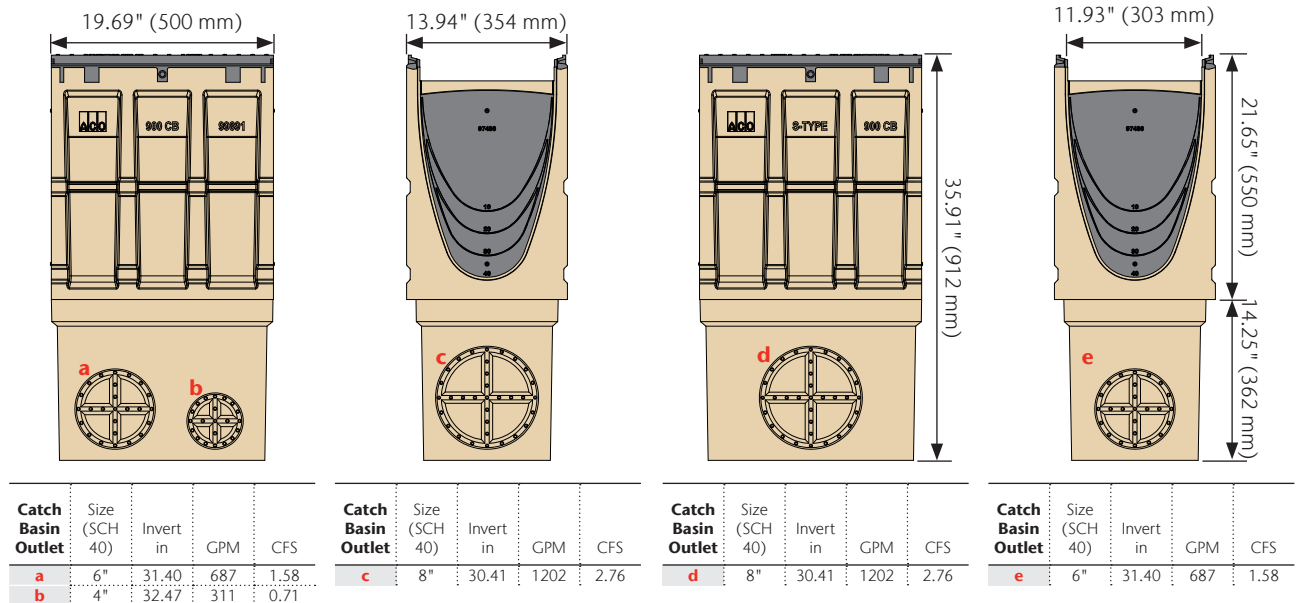


## Catch Basin Dimensions & Outlet Flow Rates

### SK3-903D In-Line Catch Basin

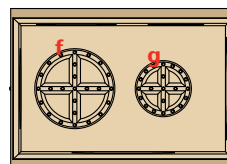


### SK3-907D In-Line Catch Basin



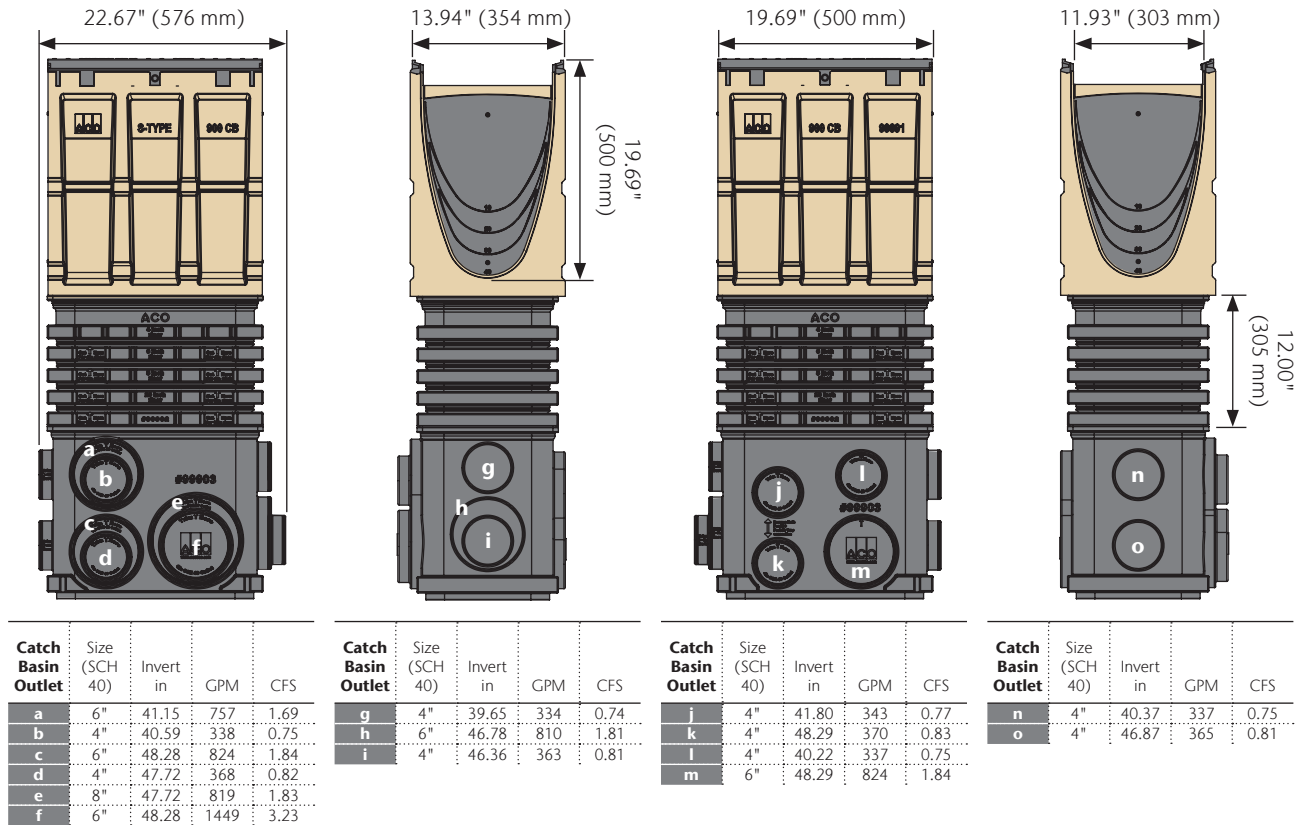
Note: These are pipe flow rates at specified outlets, NOT channel flow rates. Catch basin flow rates are listed without a trash bucket—using a trash bucket reduces flow.

Underside



Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
f	6"	35.90	734	1.69
g	4"	35.90	326	0.75

### SK3-904D In-Line Catch Basin

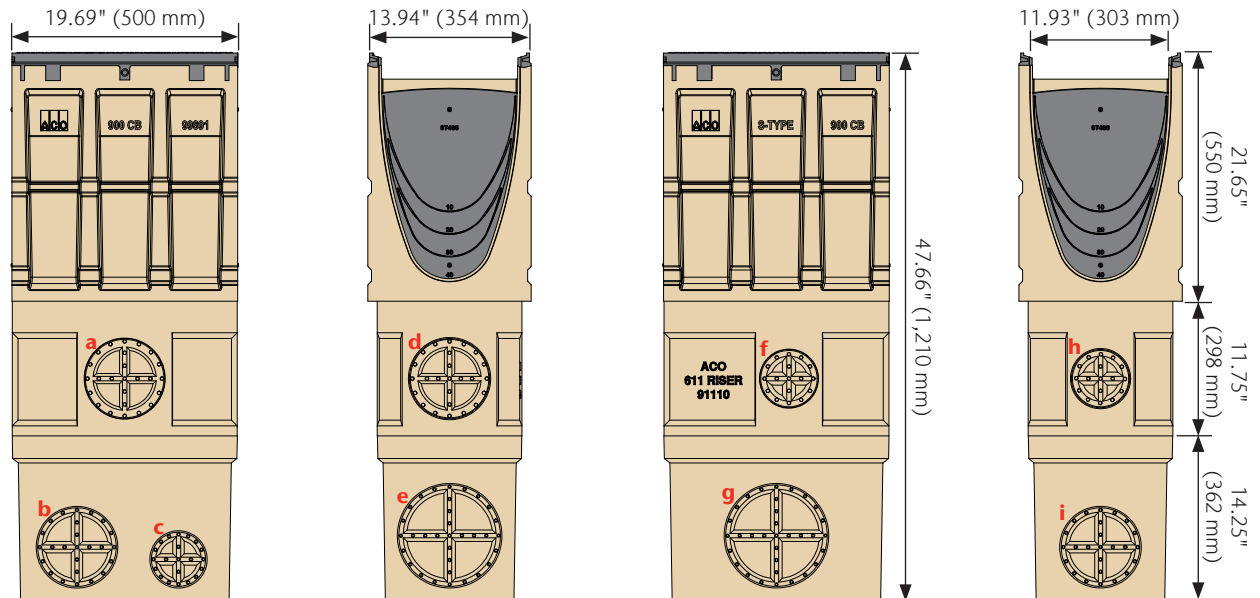


*Note: These are pipe flow rates at specified outlets, NOT channel flow rates. Catch basin flow rates are listed without a trash bucket—using a trash bucket reduces flow.*



## Catch Basin Dimensions & Outlet Flow Rates (cont.)

### SK3-908D In-Line Catch Basin



Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
<b>a</b>	6"	28.46	655	1.51
<b>b</b>	6"	43.15	806	1.85
<b>c</b>	4"	44.22	363	0.83

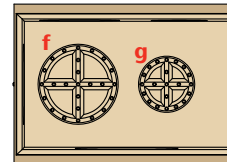
Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
<b>d</b>	6"	28.46	655	1.51
<b>e</b>	8"	42.16	1416	3.26

Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
<b>f</b>	4"	28.46	291	0.67
<b>g</b>	8"	42.16	1416	3.26

Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
<b>h</b>	4"	28.46	291	0.67
<b>i</b>	6"	43.15	806	1.85

Note: These are pipe flow rates at specified outlets, NOT channel flow rates. Catch basin flow rates are listed without a trash bucket—using a trash bucket reduces flow.

Underside



Catch Basin Outlet	Size (SCH 40)	Invert in	GPM	CFS
<b>f</b>	6"	47.65	845	1.94
<b>g</b>	4"	47.65	376	0.86



## PHOENIX METRO LIGHT RAIL

Phoenix, AZ  
United States

The Phoenix Valley Metro Light Rail comprises of 42 miles of light rail and host stations in the metropolitan area. Today, approximately 50,000 riders use the system daily.

Although Arizona is a desert state, when it rains it can be quite intensive. The designers wanted to ensure that the light rail infrastructure within the Phoenix City Center was always completely clear of surface water—especially during monsoon season. This led to the use of several ACO drainage systems, the most robust being several miles of PowerDrain S300K equipped with Type 861Q Longitudinal Ductile Iron Grates.

PORTFOLIO





## S300K Grate Selection

There are three available grate styles to fit the S300K heavy duty channel body.

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

The ADA compliant longitudinal 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 M8 threaded stainless steel inserts in the S300K channel body allow a 4-Bolt grate to be bolted into the channel for ultimate stiffness and security. Tamper-resistant bolts can also be used.



### KEY



#### ADA Compliant

Compliant with Americans with Disabilities Act of 2010, Section 302.3 (page 174)



#### Slip-Resistant Grates

BPN over 24 (page 174)



#### Heel-Resistant

ASME A112.6.3 - 2001 Heel-resistant slot width less than 0.31" (8 mm) (page 174)



#### Bicycle-Safe

Compliant to Australian Standard AS 3996 - 2006 (page 174)

For details on how psi is determined, see pages 161-166.

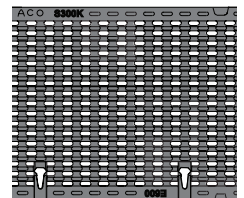
## S300K Grates - PowerLok®



### LOAD CLASS E (EN 1433) - 134,885 LBS - 2,321 PSI (INDUSTRIAL TRAFFIC)

#### LONGITUDINAL IRON

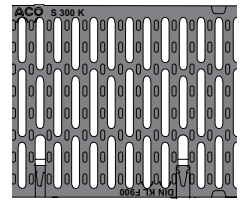
Longitudinal Iron	<b>96833</b>	19.69 (0.5)	0.76 x 0.31	63.2	64.0	✓	✓	✓	✓
-------------------	--------------	-------------	-------------	------	------	---	---	---	---



### LOAD CLASS F (EN 1433) - 202,328 LBS - 3,481 PSI (HEAVY DUTY TRAFFIC)

#### SLOTTED IRON

Slotted Iron	<b>02445</b>	19.69 (0.5)	0.71 x 3.61 avg.	122.6	50.0	✓	✗	✗	✓
--------------	--------------	-------------	------------------	-------	------	---	---	---	---



Note: Ductile iron to ASTM A536 Grade 80-55-06

### POWERLOK - BOLTLESS LOCKING SYSTEM



To lock, position side of grate into lugs on rail, place hook part of tool into PowerLok slot and push towards rail.



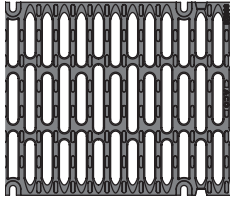
To open PowerLok, insert tool between rail and PowerLok device.







Rotate tool 90°. PowerLok device should push away from rail.



S300K Grates - 4-Bolt




Part No.	Length in (m)	Slot size in	Intake area in²	Weight lbs					
LOAD CLASS F (EN 1433) - 202,328 LBS - 3,481 PSI (HEAVY DUTY TRAFFIC)									
4-BOLT IRON									
4-Bolt Iron	99592	19.69 (0.5)	0.71 x 3.75 avg.	115.5	50.2	✓	✗	✗	✓



Note: Ductile iron to ASTM A536 Grade 80-55-06

4-BOLT GRATE LOCKING


1



Fit grate


Position grate onto channel, align holes in grate with matching holes in edge rail.

2



Use wrench or socket set to tighten. If using a torque wrench, do not set to more than 15 ft. lbs.

3



Remove grate

To remove grates, use wrench or socket set. Carefully store bolts for refitting of grates. Tamper-resistant bolts require a tamper-resistant drive bit.

S300K 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



Tamper-resistant bolts for 4-Bolt grate require tamper-resistant drive bit

PowerLok® Safety Clip

For areas of extra security or safety concerns, an optional plastic 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.



PowerDrain Channel Anchors

For higher load class installations, ACO recommends use of SK Rail Anchor Kit (part no. 97496) to help secure channels to surrounding concrete. This gives channels mechanical keys to surround concrete haunch. When fitted to a channel, gives 4 anchor points.

