



**PowerDrain** – Heavy Duty Trench Drains



## Product Features

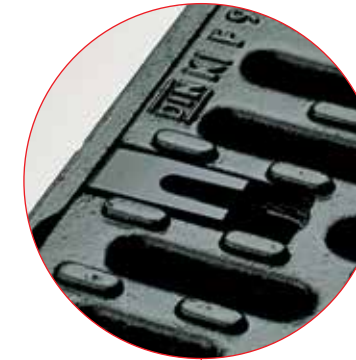
**Ductile iron grates** - Rated up to AS 3996 Load Class G (approx. 30 tonne wheel load) heavy duty ductile iron Slotted or Intercept **Heelsafe**® Anti-Slip grates (Load Class D).



**Channel identification** - Channels have numbering on sidewalls and on the invert of the channel to allow easy identification after concrete encasement.



**Profiled side walls** - Provide channel body strength and mechanical keying to concrete encasement.



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

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



**Ductile iron edge rail** - Integrally cast-in rail provides maximum strength and protection for channel body. Shock absorbing widgets, with M10 stainless steel threads, fitted in rail to assist grate fit and aid hanging installation.

**Sloped (0.5%) channel units** - One metre long units provide 40 metres of continuous slope that equates to 5mm fall per metre. Neutral channel units can be used to extend run lengths.



**Shipping gipple/groove** - Side interlocking feature ensures safe stacking of channels on pallets for shipping and minimises breakage.

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

**S300K** 300mm internal width

**S200K** 200mm internal width

**S100K** 100mm internal width

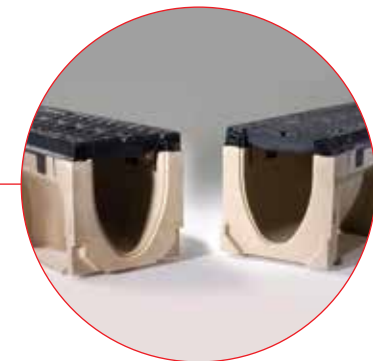


**Knock-outs** - Included on all neutral channels and every fifth sloped channel unit to enable a vertical outlet connection to the pipework. See product pages for details and sizes for each system.



**System numbering** - At the ends of the channel, a number indicates the sloped channel that will connect to it.

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

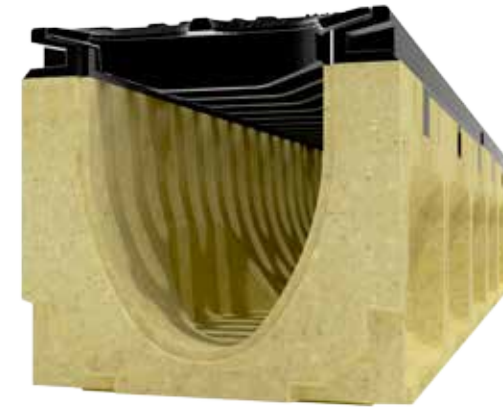


**Interconnecting end profiles** - Allow easy and effective joining of channels. Appropriate sealant can be used to create a sealed joint.





**PowerDrain S100K**

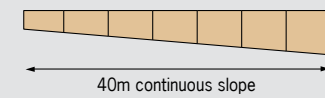
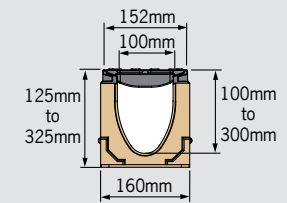


S100K is a 100mm wide heavy duty system with ductile iron edge rail and a choice of Load Class G (30 tonne wheel load) slotted or **Heelsafe®** Anti-Slip ductile iron grates featuring the PowerLok patented barless and boltless locking system.



**PowerDrain S100K**

**Key Dimensions**



**Typical Applications**

- Airports
- Highways
- Heavy duty industrial areas
- Petrol stations
- Docks and ports
- Military bases
- Truck stops

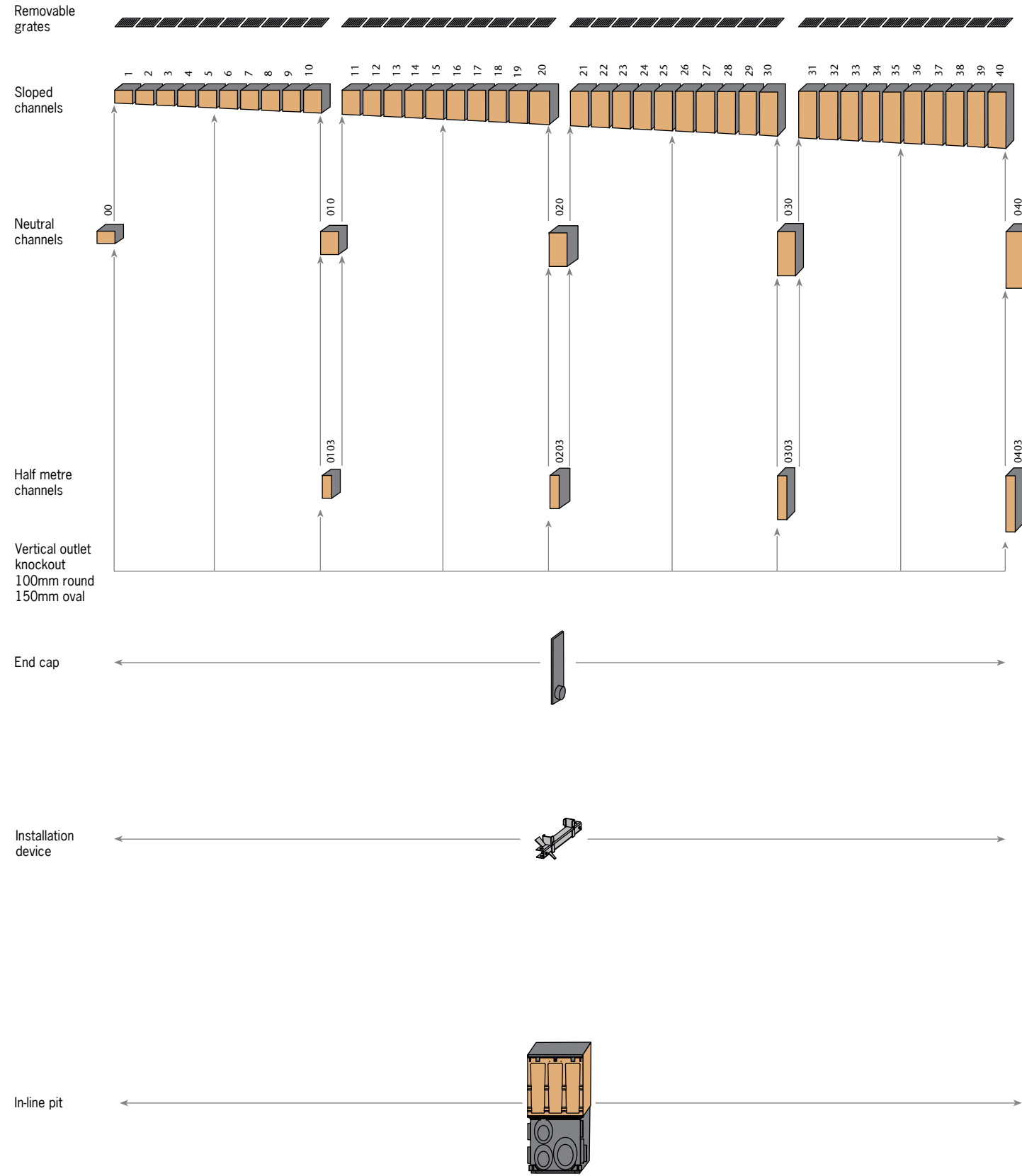
**Selection Criteria**

- Light to heavy duty loads.
  - A** **B** **C** **D** **E** **F** **G**
- Chemical resistant, can be used in WSUD designs.
  -
- Two grate options to meet design requirements.
  -
- Hydraulic capacity for small catchments.
  -
- Sloped and neutral channels available.

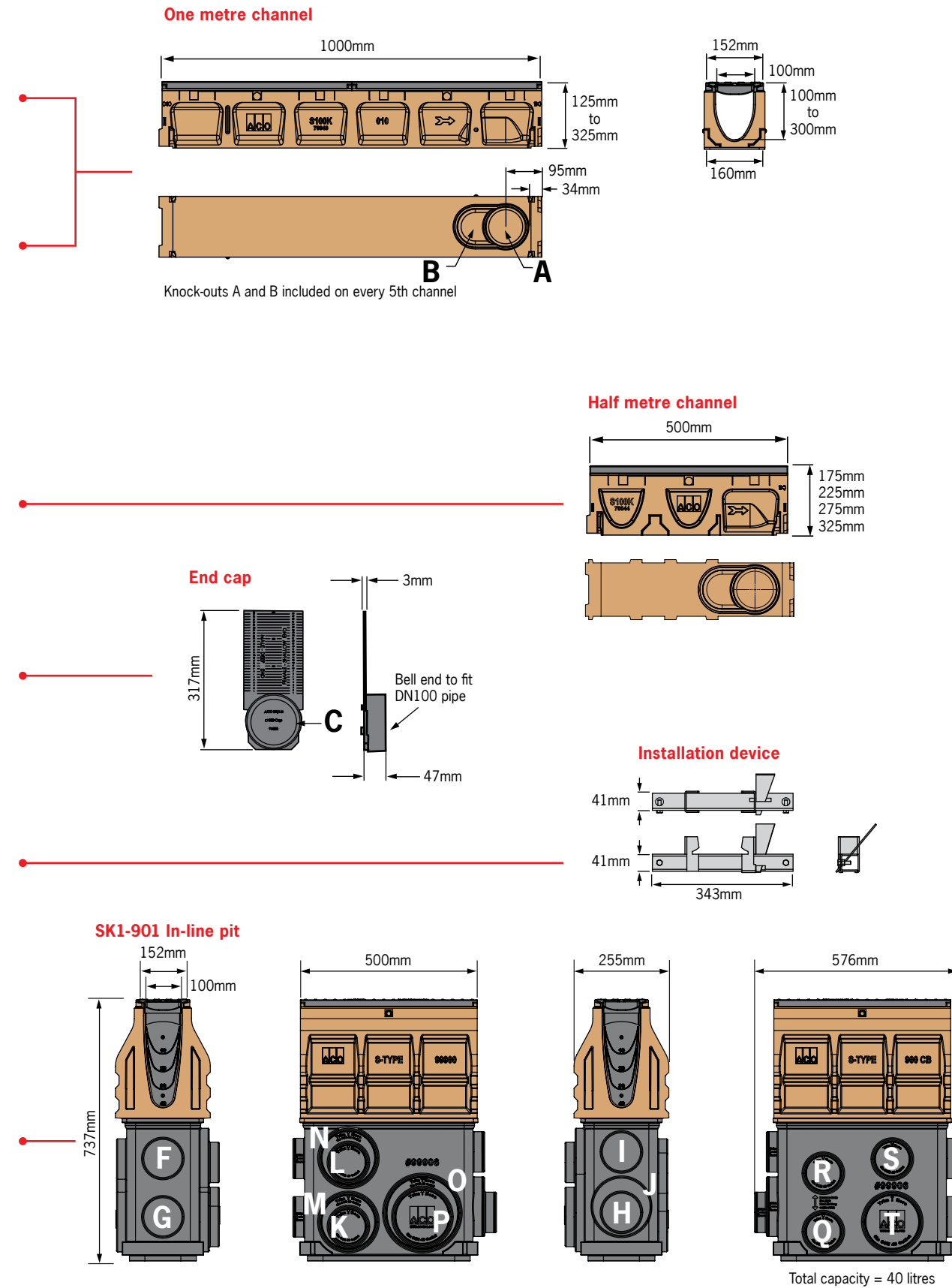




S100K System layout



S100K Channels and accessories



S100K Outlet flow rates

Channel outlet flow rates

Outlet	Channels	Outlet Type	Outlet Size	Invert Depth mm	Outlet Flow Rate L/s
A	SK1-00	Vertical	100mm round	100	7.2
A	SK1-040	Vertical	100mm round	300	12.4
B	SK1-00	Vertical	150mm oval	100	11.7
B	SK1-040	Vertical	150mm oval	300	20.3
C	SK1-020	Horizontal	100mm round	200	7.1
C	SK1-040	Horizontal	100mm round	300	10.1

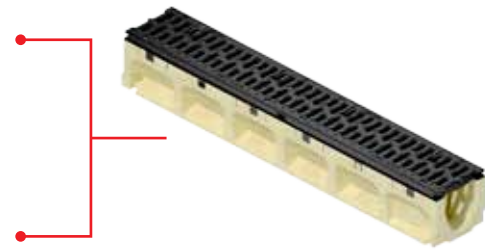
Note: These are the pipe flow rates at the specified outlet, NOT channel flow rates.

In-line pit outlet flow rates

Outlet	In-line Pit	Horizontal Outlet Size	Invert Depth mm	Outlet Flow Rate L/s
F	SK1-901	100mm round	505	14.4
G	SK1-901	100mm round	670	17.1
H	SK1-901	100mm round	657	16.9
I	SK1-901	100mm round	487	14.1
J	SK1-901	150mm round	668	36.6
K	SK1-901	100mm round	691	17.4
L	SK1-901	100mm round	511	14.5
M	SK1-901	150mm round	706	37.9
N	SK1-901	150mm round	525	31.1
O	SK1-901	200mm round	706	64.3
P	SK1-901	150mm round	691	37.4
Q	SK1-901	100mm round	706	17.6
R	SK1-901	100mm round	541	15.0
S	SK1-901	100mm round	501	14.3
T	SK1-901	150mm round	706	37.9

Note: These are the pipe flow rates at the specified outlet, NOT channel flow rates. In-line pit flow rates are without rubbish basket - using rubbish basket reduces flow.

## S100K Channels and accessories

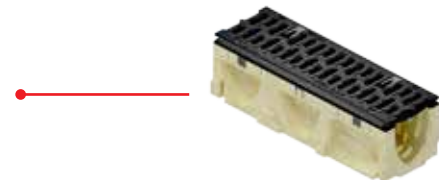


### One metre channels – sloped and neutral

There are 40 sloped channels available to create 40 metres of continuous sloping run with ductile iron edge rail. Sloped channels have a 0.5% fall.

Neutral channels are available in five depths and can be used to create constant depth runs or inserted in sloped runs to increase the overall length.

Vertical outlet knockouts are available on all neutral channels and on number 5, 10, 15, 20, 25, 30, 35, 40 sloped channels.



### Half metre channels

Half metre neutral channels in four depths, supplement one metre channels. Side knockout and profiling enable T-junction to be created.

Vertical outlet knockouts on all half metre channels. Available with ductile iron edge rail.

### End cap

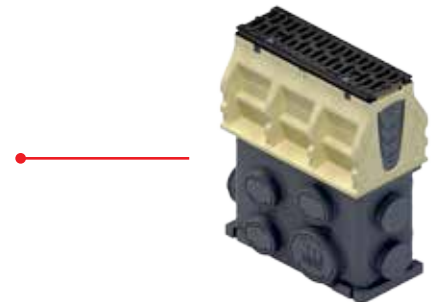
Fits all channels and manufactured from black ABS to complement edge rail. Guides aid cutting to correct height. Wings clip cap onto end of channel. Bell end connection to DN100 pipe.

**Note:** For depth 00, 1-10 channels, ACO recommends removal of unused sections of bell end to ensure adequate pavement material cover.

### Installation device

Fits moulded 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.

**Note:** Not reusable; it is sacrificial within concrete encasement.



### SK1-901 In-line pit

Two part in-line pit with DN100, DN150 and DN200 cut-outs for pipe connection. Optional plastic rubbish basket.

Any channel can be connected to the in-line pit by removing the end wall to the correct height. Cut-out guides provided for connection to channels 00, 010, 020, 030 and 040. One blanking end plate supplied with in-line pit.

## S100K Parts table

Channels and Accessories	Part No.	Invert Depth mm		Overall Depth mm		Volume L	Weight kg
		Female	Male	Female	Male		
<b>SK1-00 Neutral channel - (1m)<sup>2</sup></b>	<b>67041</b>	<b>100</b>	<b>100</b>	<b>125</b>	<b>125</b>	<b>7.4</b>	<b>22.5</b>
SK1-1 Sloped channel - (1m)	67001	100	105	125	130	7.5	22.5
SK1-2 Sloped channel - (1m)	67002	105	110	130	135	7.7	22.9
SK1-3 Sloped channel - (1m)	67003	110	115	135	140	8.1	23.4
SK1-4 Sloped channel - (1m)	67004	115	120	140	145	8.4	23.8
SK1-5 Sloped channel - (1m) <sup>2</sup>	67005	120	125	145	150	8.8	24.3
SK1-6 Sloped channel - (1m)	67006	125	130	150	155	9.2	24.7
SK1-7 Sloped channel - (1m)	67007	130	135	155	160	9.6	25.2
SK1-8 Sloped channel - (1m)	67008	135	140	160	165	10.0	25.6
SK1-9 Sloped channel - (1m)	67009	140	145	165	170	10.4	26.1
SK1-10 Sloped channel - (1m) <sup>2</sup>	67010	145	150	170	175	10.8	26.5
<b>SK1-010 Neutral channel - (1m)<sup>2</sup></b>	<b>67043</b>	<b>150</b>	<b>150</b>	<b>175</b>	<b>175</b>	<b>10.8</b>	<b>26.5</b>
<b>SK1-0103 Neutral channel - (0.5m)<sup>2</sup></b>	<b>67044</b>	<b>150</b>	<b>150</b>	<b>175</b>	<b>175</b>	<b>5.4</b>	<b>13.7</b>
SK1-11 Sloped channel - (1m)	67011	150	155	175	180	11.2	27.0
SK1-12 Sloped channel - (1m)	67012	155	160	180	185	11.7	27.4
SK1-13 Sloped channel - (1m)	67013	160	165	185	190	12.1	27.9
SK1-14 Sloped channel - (1m)	67014	165	170	190	195	12.5	28.3
SK1-15 Sloped channel - (1m) <sup>2</sup>	67015	170	175	195	200	12.9	28.8
SK1-16 Sloped channel - (1m)	67016	175	180	200	205	13.4	29.3
SK1-17 Sloped channel - (1m)	67017	180	185	205	210	13.8	29.7
SK1-18 Sloped channel - (1m)	67018	185	190	210	215	14.2	30.2
SK1-19 Sloped channel - (1m)	67019	190	195	215	220	14.6	30.6
SK1-20 Sloped channel - (1m) <sup>2</sup>	67020	195	200	220	225	15.1	31.1
<b>SK1-020 Neutral channel - (1m)<sup>2</sup></b>	<b>67045</b>	<b>200</b>	<b>200</b>	<b>225</b>	<b>225</b>	<b>15.0</b>	<b>31.1</b>
<b>SK1-0203 Neutral channel - (0.5m)<sup>2</sup></b>	<b>67046</b>	<b>200</b>	<b>200</b>	<b>225</b>	<b>225</b>	<b>7.5</b>	<b>15.7</b>
SK1-21 Sloped channel - (1m)	67021	200	205	225	230	15.5	31.5
SK1-22 Sloped channel - (1m)	67022	205	210	230	235	15.9	32.0
SK1-23 Sloped channel - (1m)	67023	210	215	235	240	16.4	32.4
SK1-24 Sloped channel - (1m)	67024	215	220	240	245	16.7	32.8
SK1-25 Sloped channel - (1m) <sup>2</sup>	67025	220	225	245	250	17.2	33.3
SK1-26 Sloped channel - (1m)	67026	225	230	250	255	17.6	33.7
SK1-27 Sloped channel - (1m)	67027	230	235	255	260	18.1	34.2
SK1-28 Sloped channel - (1m)	67028	235	240	260	265	18.5	34.7
SK1-29 Sloped channel - (1m)	67029	240	245	265	270	18.9	35.1
SK1-30 Sloped channel - (1m) <sup>2</sup>	67030	245	250	270	275	19.3	35.6
<b>SK1-030 Neutral channel - (1m)<sup>2</sup></b>	<b>67047</b>	<b>250</b>	<b>250</b>	<b>275</b>	<b>275</b>	<b>19.3</b>	<b>35.6</b>
<b>SK1-0303 Neutral channel - (0.5m)<sup>2</sup></b>	<b>67048</b>	<b>250</b>	<b>250</b>	<b>275</b>	<b>275</b>	<b>9.7</b>	<b>17.7</b>
SK1-31 Sloped channel - (1m)	67031	250	255	275	280	19.8	36.0
SK1-32 Sloped channel - (1m)	67032	255	260	280	285	20.2	36.5
SK1-33 Sloped channel - (1m)	67033	260	265	285	290	20.6	36.9
SK1-34 Sloped channel - (1m)	67034	265	270	290	295	21.0	37.4
SK1-35 Sloped channel - (1m) <sup>2</sup>	67035	270	275	295	300	21.5	37.8
SK1-36 Sloped channel - (1m)	67036	275	280	300	305	21.9	38.3
SK1-37 Sloped channel - (1m)	67037	280	285	305	310	22.4	38.7
SK1-38 Sloped channel - (1m)	67038	285	290	310	315	22.8	39.2
SK1-39 Sloped channel - (1m)	67039	290	295	315	320	23.2	39.6
SK1-40 Sloped channel - (1m) <sup>2</sup>	67040	295	300	320	325	23.7	40.1
<b>SK1-040 Neutral channel - (1m)<sup>2</sup></b>	<b>67049</b>	<b>300</b>	<b>300</b>	<b>325</b>	<b>325</b>	<b>23.6</b>	<b>40.1</b>
<b>SK1-0403 Neutral channel - (0.5m)<sup>2</sup></b>	<b>67050</b>	<b>300</b>	<b>300</b>	<b>325</b>	<b>325</b>	<b>11.8</b>	<b>19.8</b>
SK1-901 In-line pit (0.5m)	142547	-	-	737	737	47.3	39.3
Type 901 In-line plastic rubbish basket	01498	-	-	-	-	-	0.5
End cap	96824	-	-	317	317	-	0.2
Debris strainer for 100mm knockout	93488	-	-	-	-	-	0.1
Installation device	97477	-	-	-	-	-	1.3
Grate removal tool	01318	-	-	-	-	-	0.1
PowerLok safety clip	10443	-	-	-	-	-	-

### Note:

1. PowerDrain is sold as channel only. Choose appropriate grate from page 72.
2. Preformed 100mm dia. and 150mm oval knockouts cast on underside of certain channels (00, 5, 10, 010, 0103, 15, 20, 020, 0203, 25, 30, 030, 0303, 35, 40, 040, 0403).
3. End cap can be cut down to suit all channels.
4. In-line pit details on page 71. Choose appropriate grate from page 72.
5. Debris strainer details for 100mm dia. outlet on page 96.

## ACO DRAIN

## Polymer concrete in-line pits

Polymer concrete in-line pits are used either as standalone area drains or most commonly as the outlet to a trench run. They provide the highest hydraulic output and allow easy access to the pipe system for maintenance.

The in-line pit with the same width as the channel is visually indistinguishable along the trench run.



### SK1-901 100mm wide in-line pit



**S100K Grates** – choice of Class G slotted or **Heelsafe® Anti-Slip** ductile iron grates with PowerLok barless and boltless locking. See page 72.

**Top section** – polymer concrete with integrally cast-in ductile iron edge rails. Guides aid connection of male channel ends to channel numbers 00, 010, 020, 030 and 040. Other channels can be connected by removing wall to required height.

**Rubbish basket** – in-line pit plastic rubbish basket designed to collect debris washed from trench run. Supported in in-line pit top to avoid creation of a vacuum and reduction in outflow.

**Base** – polyethylene bases with wide range of cut-outs for easy pipe connection. Cut outs on end and side allow connection to stormwater pipe.

S100K In-line Pit	Part No.	Volume L*	Weight kg
SK1-901 In-line pit (0.5m)	142547	47.3	39.3
Type 901 In-line plastic rubbish basket	01498	-	0.5

\* Volume is up to grate seat and without rubbish basket.



S100K Grates

Description	Part No.	Length mm	Slot Size mm	Intake Area mm	Weight kg					
<b>LOAD CLASS G – AS 3996 – 900kN – approximate wheel load 30,000kg</b>										
<b>Iron Intercept Heelsafe® Anti-Slip</b>										
Ductile iron	141299	500	6 x 35	9,800	6.8	✓	✓	✓	✓	PL
<b>Iron Slotted</b>										
Ductile iron	96082	500	39 x 12	17,420	5.6	✓	✗	✓	✗	PL

Key

- Compliant to AS 1428.2
- Resist the penetration of a 10mm heel
- Compliant to AS 3996
- Rated to AS 4586
- Locking Systems, PL – PowerLok (see page 73)

Choosing S100K grates

The S100K heavy duty system has two available grate styles. The grates are manufactured from ductile iron, a strong and durable material. The PowerLok with its simple locking mechanism allows the grates to be quickly removed for easy access to the channel when maintenance is required.

The iron slotted grate with transverse slots is ideal for pavements trafficked regularly by heavy vehicles.

The iron intercept **Heelsafe® Anti-Slip** grate with longitudinal slots is designed for pedestrian access pathways in heavy duty applications.



Locking systems

PowerLok – barless and boltless locking system

Fast locking device removes the need for bars and bolts and improves the channels hydraulic capacity. The PowerLok mechanism simply clips into the channel edge rail for quick installation. ACO's ductile iron edge rails have anti-shunt lugs that restrict grate movement improving durability and longevity of the system.



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



**2 REMOVE GRATE**  
To open PowerLok, insert tool between rail and PowerLok device.



**3 UNLOCK GRATE**  
Rotate tool 90°; PowerLok device should push away from rail.

PowerLok – optional safety clip



For areas requiring security or safety, the PowerLok safety clip (Part No. 10443) provides a visual alert confirming that the grate is locked and secure.



The safety clip push-fits next to the locked PowerLok device. Safety clip sits flush with grate surface and grate cannot be unlocked.

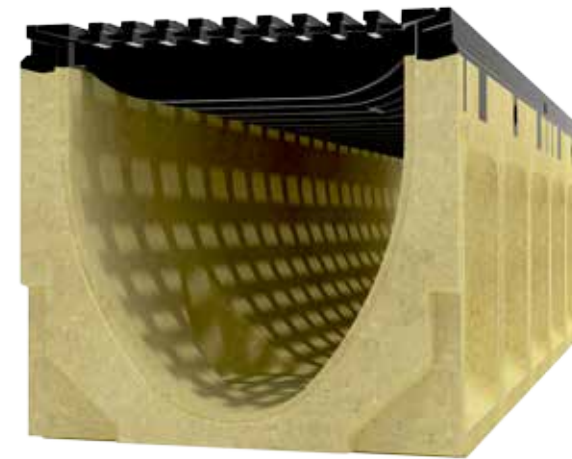


To open PowerLok device, the safety clip must be removed. If no red block is visible, the locking is not guaranteed. This provides a visual alert that grates may not be locked.





**PowerDrain S200K**

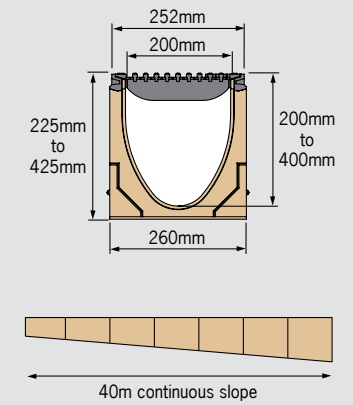


S200K is a 200mm wide heavy duty system with ductile iron edge rail and a choice of Load Class G (30 tonne wheel load) slotted or Load Class D (8 tonne wheel load) **Heelsafe**® Anti-Slip ductile iron grates featuring the PowerLok patented barless and boltless locking system.



**PowerDrain S200K**

**Key Dimensions**



**Typical Applications**

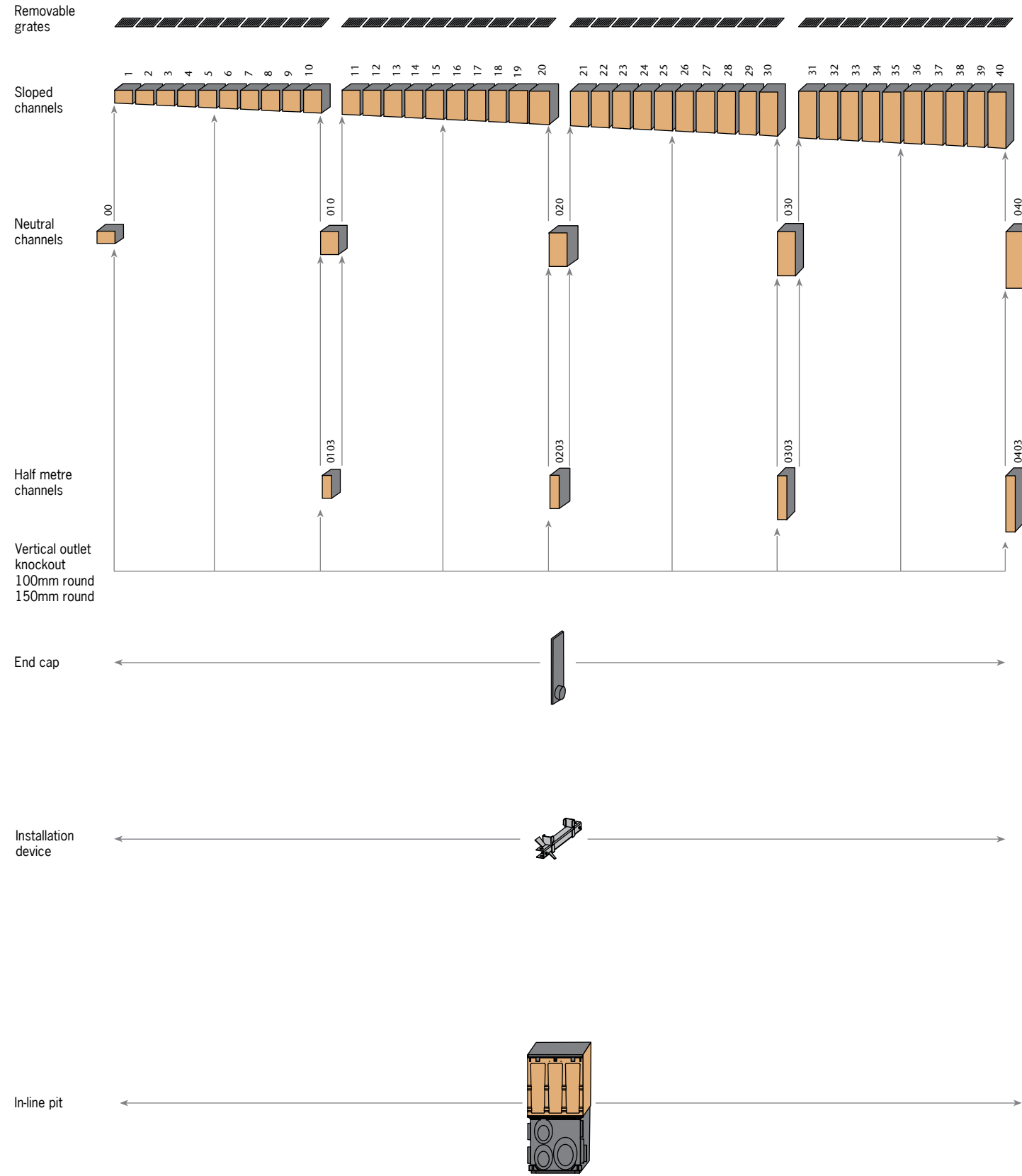
- Airports
- Highways
- Heavy duty industrial areas
- Petrol stations
- Docks and ports
- Military bases
- Truck stops

**Selection Criteria**

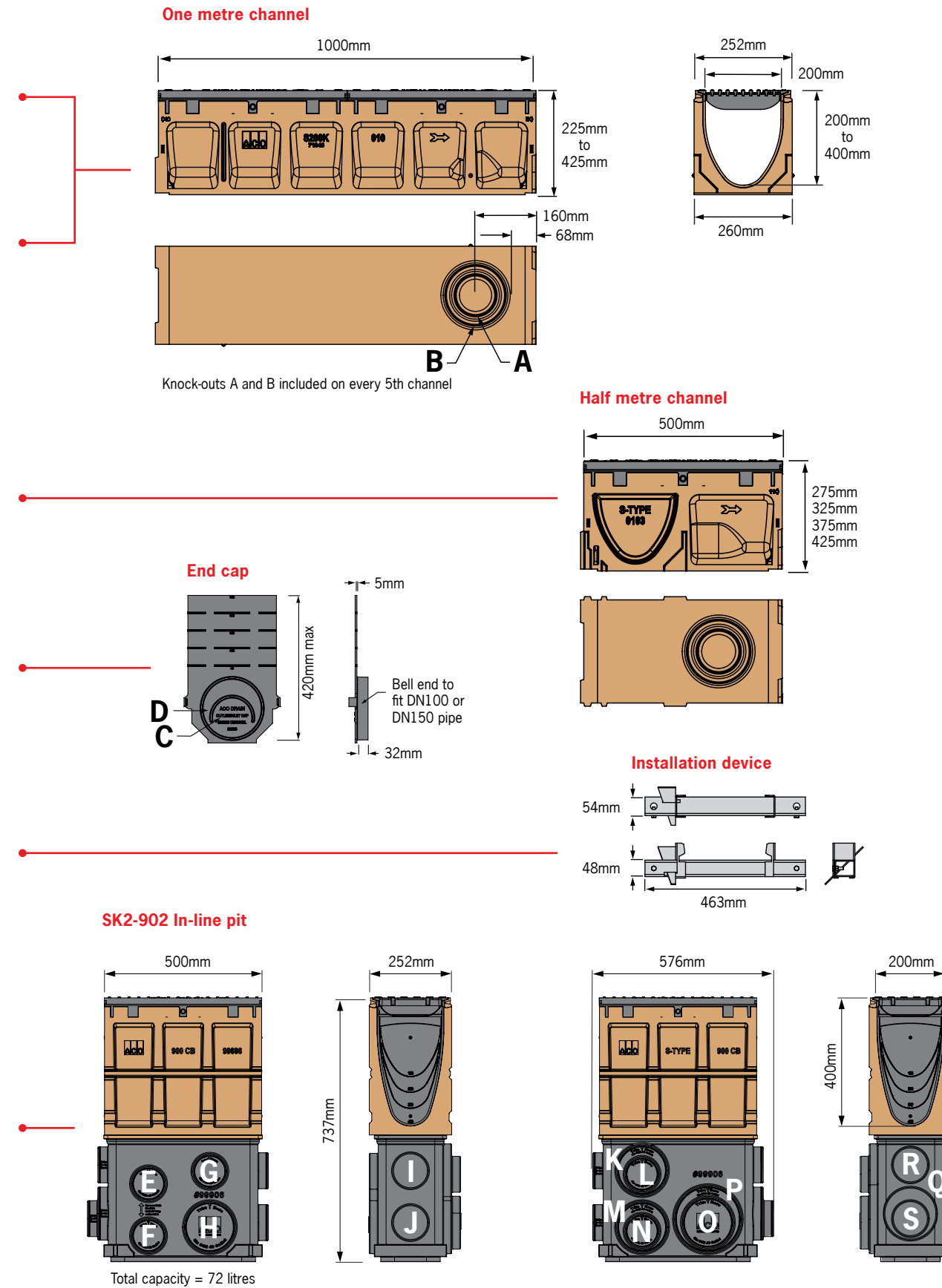
- Light to heavy duty loads, dependent on grate.
  - A** **B** **C** **D** **E** **F** **G**
- Chemical resistance, can be used in WSUD designs.
- Two grate options to meet design requirements.
- Hydraulic capacity for medium catchments.
- Sloped and neutral channels available.



S200K System layout



S200K Channels and accessories



S200K Outlet flow rates

Channel outlet flow rates

Outlet	Channels	Outlet Type	Outlet Size	Invert Depth mm	Outlet Flow Rate L/s
A	SK2-00	Vertical	100mm round	200	10.1
A	SK2-040	Vertical	100mm round	400	14.3
B	SK2-00	Vertical	150mm round	200	22.8
B	SK2-040	Vertical	150mm round	400	32.2
C	SK2-00	Horizontal	100mm round	200	7.2
C	SK2-040	Horizontal	100mm round	400	12.4
D	SK2-010	Horizontal	150mm round	250	16.1
D	SK2-040	Horizontal	150mm round	400	25.4

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

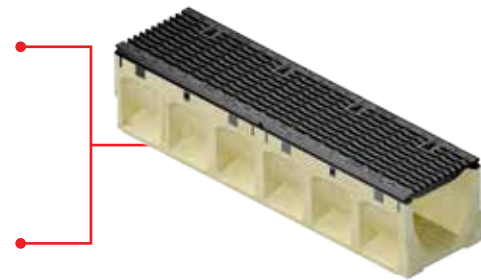
In-line pit outlet flow rates

Outlet	In-line Pit	Horizontal Outlet Size	Invert Depth mm	Outlet Flow Rate L/s
E	SK2-902	100mm round	643	16.7
F	SK2-902	100mm round	808	19.0
G	SK2-902	100mm round	604	16.1
H	SK2-902	150mm round	808	41.3
I	SK2-902	100mm round	607	16.1
J	SK2-902	100mm round	772	18.5
K	SK2-902	150mm round	627	35.1
L	SK2-902	100mm round	613	16.2
M	SK2-902	150mm round	808	41.3
N	SK2-902	100mm round	794	18.8
O	SK2-902	150mm round	794	40.8
P	SK2-902	200mm round	808	70.5
Q	SK2-902	150mm round	770	40.1
R	SK2-902	100mm round	589	15.8
S	SK2-902	100mm round	759	18.4

Note: These are the pipe flow rates at the specified outlet, NOT channel flow rates. In-line pit flow rates are without rubbish basket - using rubbish basket reduces flow.



## S200K Channels and accessories

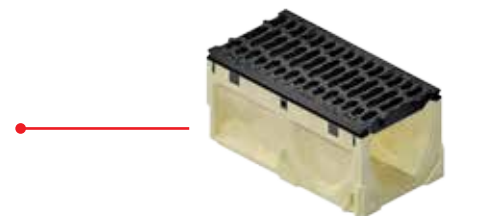


### One metre channels – sloped and neutral

There are 40 sloped channels available to create 40 metres of continuous sloping run with ductile iron edge rail. Sloped channels have a 0.5% fall.

Neutral channels are available in five depths and can be used to create constant depth runs or inserted in sloped runs to increase the overall length.

Vertical outlet knockouts are available on all neutral channels and on number 5, 10, 15, 20, 25, 30, 35, 40 sloped channels.



### Half metre channels

Half metre neutral channels in four depths, supplement one metre channels. Side knockout and profiling enable T-junction to be created.

Vertical outlet knockouts on all half metre channels. Available with ductile iron edge rail.



### End cap

Fits all channels and manufactured from black ABS to complement edge rail. Guides aid cutting to correct height. Wings clip cap onto end of channel. Bell end connection to DN100 and DN150 pipe.

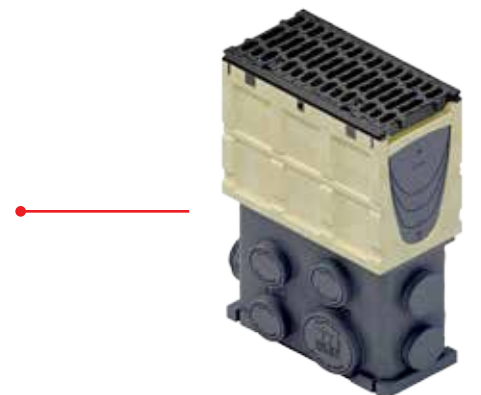
**Note:** For depth 00, 1-10 channels, ACO recommends removal of unused sections of bell end to ensure adequate pavement material cover.



### Installation device

Fits moulded 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.

**Note:** Not reusable; it is sacrificial within concrete encasement.



### SK2-902 In-line pit

Two part in-line pit with DN100, DN150 and DN200 cut-outs for pipe connection. Optional plastic rubbish basket.

Any channel can be connected to the in-line pit by removing the end wall to the correct height. Cut-out guides provided for connection to channels 00, 010, 020, 030 and 040. One blanking end plate supplied with in-line pit.

## S200K Parts table

Channels and Accessories	Part No.	Invert Depth mm		Overall Depth mm		Volume L	Weight kg
		Female	Male	Female	Male		
<b>SK2-00 Neutral channel - (1m)<sup>2</sup></b>	<b>68041</b>	<b>200</b>	<b>200</b>	<b>225</b>	<b>225</b>	<b>28.5</b>	<b>36.1</b>
SK2-1 Sloped channel - (1m)	68001	200	205	225	230	30.1	36.1
SK2-2 Sloped channel - (1m)	68002	205	210	230	235	30.8	36.6
SK2-3 Sloped channel - (1m)	68003	210	215	235	240	31.5	37.1
SK2-4 Sloped channel - (1m)	68004	215	220	240	245	32.3	37.6
SK2-5 Sloped channel - (1m) <sup>2</sup>	68005	220	225	245	250	33.1	38.1
SK2-6 Sloped channel - (1m)	68006	225	230	250	255	33.9	38.6
SK2-7 Sloped channel - (1m)	68007	230	235	255	260	34.7	39.1
SK2-8 Sloped channel - (1m)	68008	235	240	260	265	35.5	39.6
SK2-9 Sloped channel - (1m)	68009	240	245	265	270	36.3	40.1
SK2-10 Sloped channel - (1m) <sup>2</sup>	68010	245	250	270	275	37.1	40.6
<b>SK2-010 Neutral channel - (1m)<sup>2</sup></b>	<b>68043</b>	<b>250</b>	<b>250</b>	<b>275</b>	<b>275</b>	<b>36.3</b>	<b>40.6</b>
<b>SK2-0103 Neutral channel - (0.5m)<sup>2</sup></b>	<b>68044</b>	<b>250</b>	<b>250</b>	<b>275</b>	<b>275</b>	<b>18.2</b>	<b>26.5</b>
SK2-11 Sloped channel - (1m)	68011	250	255	275	280	37.9	41.1
SK2-12 Sloped channel - (1m)	68012	255	260	280	285	38.7	41.6
SK2-13 Sloped channel - (1m)	68013	260	265	285	290	39.5	42.1
SK2-14 Sloped channel - (1m)	68014	265	270	290	295	40.4	42.6
SK2-15 Sloped channel - (1m) <sup>2</sup>	68015	270	275	295	300	41.2	43.1
SK2-16 Sloped channel - (1m)	68016	275	280	300	305	42.0	43.6
SK2-17 Sloped channel - (1m)	68017	280	285	305	310	42.9	44.1
SK2-18 Sloped channel - (1m)	68018	285	290	310	315	43.7	44.5
SK2-19 Sloped channel - (1m)	68019	290	295	315	320	44.5	45.1
SK2-20 Sloped channel - (1m) <sup>2</sup>	68020	295	300	320	325	45.3	45.6
<b>SK2-020 Neutral channel - (1m)<sup>2</sup></b>	<b>68045</b>	<b>300</b>	<b>300</b>	<b>325</b>	<b>325</b>	<b>44.6</b>	<b>45.6</b>
<b>SK2-0203 Neutral channel - (0.5m)<sup>2</sup></b>	<b>68046</b>	<b>300</b>	<b>300</b>	<b>325</b>	<b>325</b>	<b>22.3</b>	<b>29.9</b>
SK2-21 Sloped channel - (1m)	68021	300	305	325	330	46.2	46.1
SK2-22 Sloped channel - (1m)	68022	305	310	330	335	47.0	46.6
SK2-23 Sloped channel - (1m)	68023	310	315	335	340	47.9	47.1
SK2-24 Sloped channel - (1m)	68024	315	320	340	345	48.7	47.6
SK2-25 Sloped channel - (1m) <sup>2</sup>	68025	320	325	345	350	49.6	48.1
SK2-26 Sloped channel - (1m)	68026	325	330	350	355	50.4	48.6
SK2-27 Sloped channel - (1m)	68027	330	335	355	360	51.3	49.1
SK2-28 Sloped channel - (1m)	68028	335	340	360	365	52.1	49.6
SK2-29 Sloped channel - (1m)	68029	340	345	365	370	53.0	50.1
SK2-30 Sloped channel - (1m) <sup>2</sup>	68030	345	350	370	375	53.8	50.6
<b>SK2-030 Neutral channel - (1m)<sup>2</sup></b>	<b>68047</b>	<b>350</b>	<b>350</b>	<b>375</b>	<b>375</b>	<b>53.0</b>	<b>50.6</b>
<b>SK2-0303 Neutral channel - (0.5m)<sup>2</sup></b>	<b>68048</b>	<b>350</b>	<b>350</b>	<b>375</b>	<b>375</b>	<b>26.7</b>	<b>32.0</b>
SK2-31 Sloped channel - (1m)	68031	350	355	375	380	54.7	51.2
SK2-32 Sloped channel - (1m)	68032	355	360	380	385	55.5	51.7
SK2-33 Sloped channel - (1m)	68033	360	365	385	390	56.4	52.2
SK2-34 Sloped channel - (1m)	68034	365	370	390	395	57.2	52.7
SK2-35 Sloped channel - (1m) <sup>2</sup>	68035	370	375	395	400	58.1	53.2
SK2-36 Sloped channel - (1m)	68036	375	380	400	405	58.9	53.7
SK2-37 Sloped channel - (1m)	68037	380	385	405	410	59.7	54.2
SK2-38 Sloped channel - (1m)	68038	385	390	410	415	60.6	54.7
SK2-39 Sloped channel - (1m)	68039	390	395	415	420	61.4	55.2
SK2-40 Sloped channel - (1m) <sup>2</sup>	68040	395	400	420	425	62.3	55.7
<b>SK2-040 Neutral channel - (1m)<sup>2</sup></b>	<b>68049</b>	<b>400</b>	<b>400</b>	<b>425</b>	<b>425</b>	<b>61.6</b>	<b>55.7</b>
<b>SK2-0403 Neutral channel - (0.5m)<sup>2</sup></b>	<b>68050</b>	<b>400</b>	<b>400</b>	<b>425</b>	<b>425</b>	<b>30.8</b>	<b>36.0</b>
SK2-902 In-line pit (0.5m)	142548	-	-	839	839	68.5	32.3
Type 902 In-line plastic rubbish basket	13999	-	-	-	-	-	0.5
End cap	96823	-	-	420	420	-	0.6
Debris strainer for 100mm knockout	93488	-	-	-	-	-	0.1
Installation device	97478	-	-	-	-	-	1.8
Grate removal tool	01318	-	-	-	-	-	0.1
PowerLok safety clip	10443	-	-	-	-	-	-

### Note:

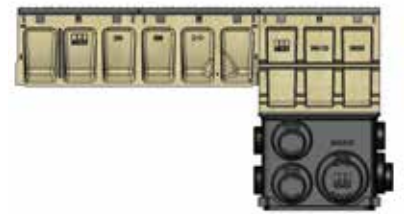
1. PowerDrain is sold as channel only. Choose appropriate grate from page 80.
2. Preformed 100mm dia. and 150mm dia. knockouts cast on underside of certain channels (00, 5, 10, 010, 0103, 15, 20, 020, 0203, 25, 30, 030, 0303, 35, 40, 040, 0403).
3. End cap can be cut down to suit all channels.
4. In-line pit details on page 79. Choose appropriate grate from page 80.
5. Debris strainer details for 100mm dia. outlet on page 96.

## ACO DRAIN

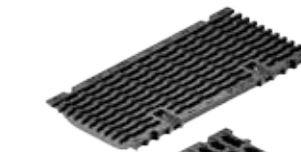
## Polymer concrete in-line pits

Polymer concrete in-line pits are used either as standalone area drains or most commonly as the outlet to a trench run. They provide the highest hydraulic output and allow easy access to the pipe system for maintenance.

The in-line pit with the same width as the channel is visually indistinguishable along the trench run.



### SK2-902 200mm wide in-line pit



**S200K Grates** – choice of Class G slotted or Class D **Heelsafe®** Anti-Slip ductile iron grates with PowerLok barless and boltless locking. See page 80.



**Top section** – polymer concrete with integrally cast-in ductile iron edge rails. Guides aid connection of male channel ends to channel numbers 00, 010, 020, 030 and 040. Other channels can be connected by removing wall to required height.



**Rubbish basket** – in-line pit plastic rubbish basket designed to collect debris washed from trench run. Supported in in-line pit top to avoid creation of a vacuum and reduction in outflow.



**Base** – polyethylene bases with wide range of cut-outs for easy pipe connection. Cut outs on end and side allow connection to stormwater pipe.

S200K In-line Pit	Part No.	Volume L*	Weight kg
SK2-902 In-line pit (0.5m)	142548	68.5	32.3
Type 902 In-line plastic rubbish basket	13999	-	0.5

\* Volume is up to grate seat and without rubbish basket.



S200K Grates

Description	Part No.	Length mm	Slot Size mm	Intake Area mm	Weight kg					
<b>LOAD CLASS D – AS 3996 – 240kN – approximate wheel load 8,000kg</b>										
<b>Iron Intercept Heelsafe® Anti-Slip</b>										
Ductile iron	142685	500	6 x 38	28,250	8.7	✓	✓	✓	✓	PL
<b>LOAD CLASS G – AS 3996 – 900kN – approximate wheel load 30,000kg</b>										
<b>Iron Slotted</b>										
Ductile iron	71976	500	37 x 18	45,200	14.5	✗	✗	✓	✗	PL

Key

- Compliant to AS 1428.2
- Resist the penetration of a 10mm heel
- Compliant to AS 3996
- Rated to AS 4586
- Locking Systems, PL – PowerLok (see page 81)

Choosing S200K grates

The S200K heavy duty system has two available grate styles. The grates are manufactured from ductile iron, a strong and durable material. The PowerLok with its simple locking mechanism allows the grates to be quickly removed for easy access to the channel when maintenance is required.

The iron slotted grate with transverse slots is ideal for pavements trafficked regularly by heavy vehicles.

The iron intercept Heelsafe® Anti-Slip grate with longitudinal slots is designed for pedestrian access pathways in heavy duty applications.



Locking systems

PowerLok – barless and boltless locking system

Fast locking device removes the need for bars and bolts and improves the channels hydraulic capacity. The PowerLok mechanism simply clips into the channel edge rail for quick installation. ACO's ductile iron edge rails have anti-shunt lugs that restrict grate movement improving durability and longevity of the system.



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



**2** REMOVE GRATE  
To open PowerLok, insert tool between rail and PowerLok device.



**3** UNLOCK GRATE  
Rotate tool 90°; PowerLok device should push away from rail.

PowerLok – optional safety clip



For areas requiring security or safety, the PowerLok safety clip (Part No. 10443) provides a visual alert confirming that the grate is locked and secure.



The safety clip push-fits next to the locked PowerLok device. Safety clip sits flush with grate surface and grate cannot be unlocked.

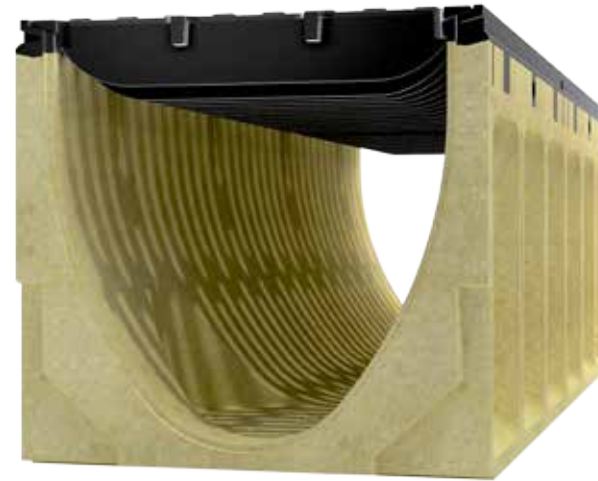


To open PowerLok device, the safety clip must be removed. If no red block is visible, the locking is not guaranteed. This provides a visual alert that grates may not be locked.





**PowerDrain S300K**

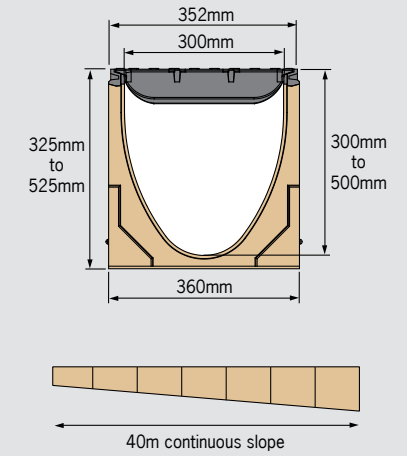


S300K is a 300mm wide heavy duty system with ductile iron edge rail and a choice of Load Class G (30 tonne wheel load) slotted or Load Class D (8 tonne wheel load) Heelsafe® Anti-Slip ductile iron grates featuring the PowerLok patented barless and boltless locking system.



**PowerDrain S300K**

**Key Dimensions**



**Typical Applications**

- Airports
- Highways
- Heavy duty industrial areas
- Petrol stations
- Docks and ports
- Military bases
- Truck stops

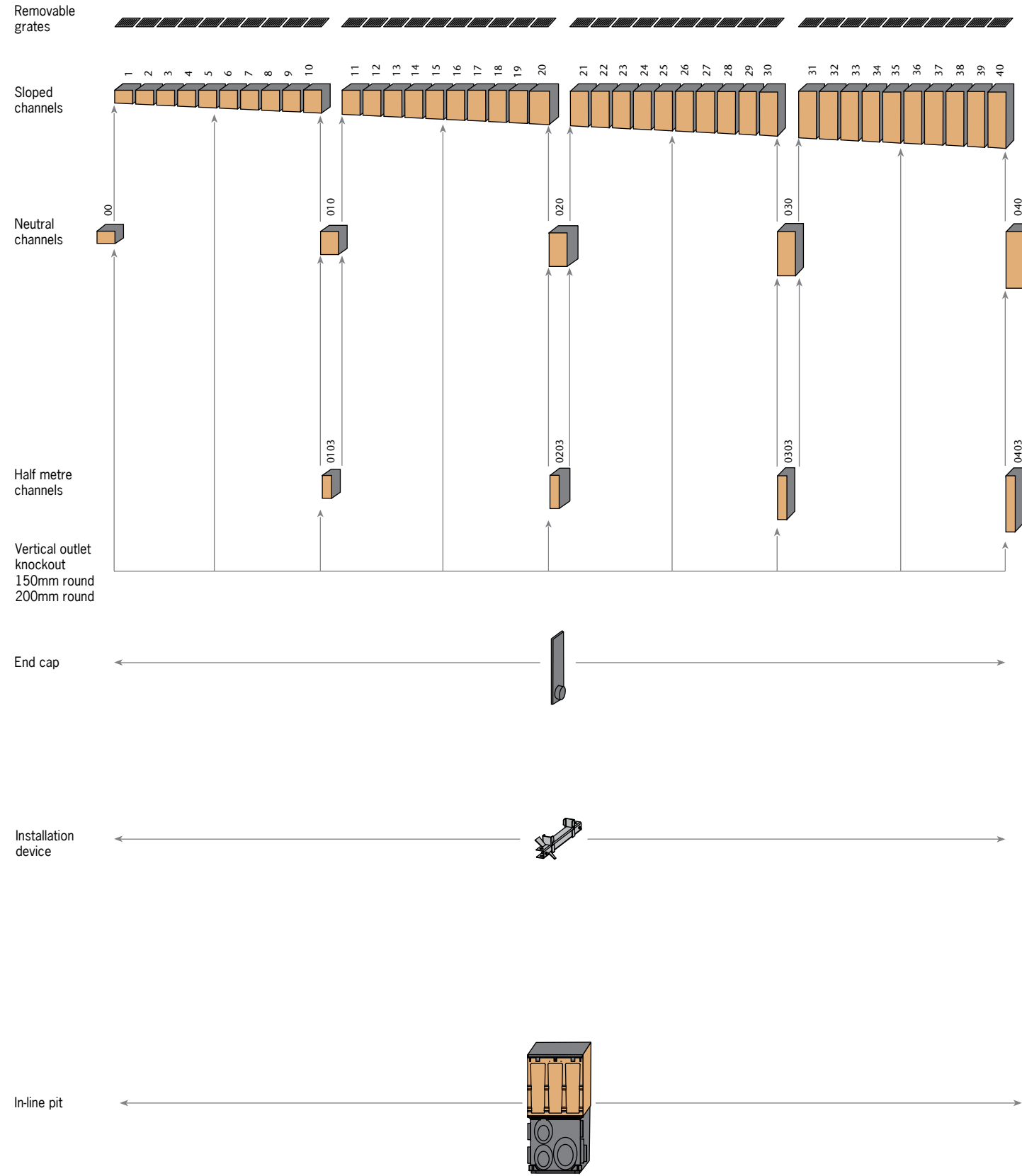
**Selection Criteria**

- Light to heavy duty loads, dependent on grate.
  - A** **B** **C** **D** **E** **F** **G**
- Chemical resistant, can be used in WSUD designs.
- Two grate options to meet design requirements.
- Hydraulic capacity for large catchments.
- Sloped and neutral channels available.

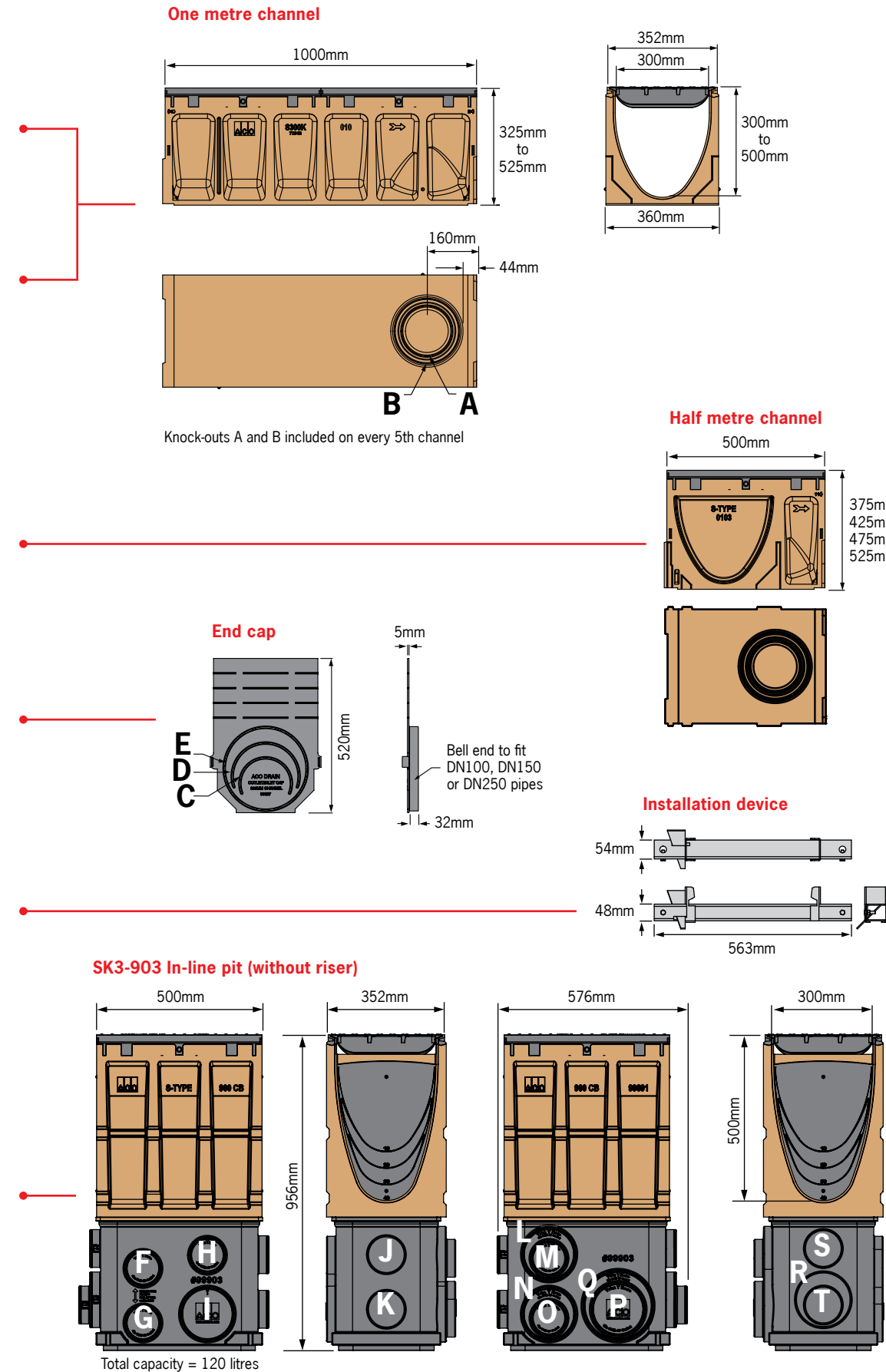




S300K System layout



S300K Channels and accessories



S300K Outlet flow rates

Channel outlet flow rates

Outlet	Channels	Outlet Type	Outlet Size	Invert Depth mm	Outlet Flow Rate L/s
A	SK3-00	Vertical	150mm round	300	27.9
A	SK3-040	Vertical	150mm round	500	36.0
B	SK3-00	Vertical	200mm round	300	49.5
B	SK3-040	Vertical	200mm round	500	64.0
C	SK3-00	Horizontal	150mm round	300	19.7
C	SK3-040	Horizontal	150mm round	500	30.1
D	SK3-010	Horizontal	200mm round	350	35.0
D	SK3-040	Horizontal	200mm round	500	49.5
E	SK3-020	Horizontal	250mm round	400	54.7
E	SK3-040	Horizontal	250mm round	500	70.7

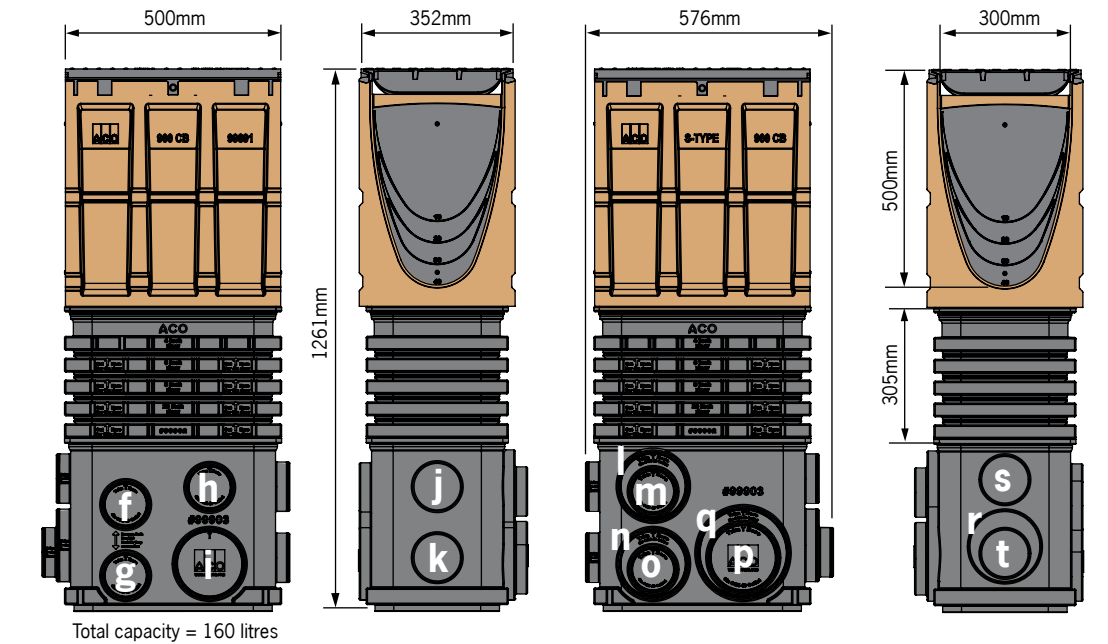
Note: These are the pipe flow rates at the specified outlet, NOT channel flow rates.

In-line pit outlet flow rates

Outlet		In-line Pit	Outlet Size	Invert Depth mm		Outlet Flow Rate L/s	
Without Riser	With Riser	Ductile Iron Rail	Horizontal	Without Riser	With Riser	Without Riser	With Riser
F	f	SK3-903	100mm round	757	1062	18.3	23.3
G	g	SK3-903	100mm round	922	1227	20.5	25.0
H	h	SK3-903	100mm round	717	1022	17.8	22.9
I	i	SK3-903	150mm round	922	1227	44.7	56.4
J	j	SK3-903	100mm round	721	1026	17.8	22.9
K	k	SK3-903	100mm round	886	1191	20.0	24.7
L	l	SK3-903	150mm round	740	1045	39.1	52.0
M	m	SK3-903	100mm round	726	1031	17.9	23.0
N	n	SK3-903	150mm round	922	1227	44.7	56.4
O	o	SK3-903	100mm round	907	1212	20.3	24.9
P	p	SK3-903	150mm round	907	1212	44.3	56.0
Q	q	SK3-903	200mm round	922	1227	76.9	100.2
R	r	SK3-903	150mm round	883	1188	43.6	55.5
S	s	SK3-903	100mm round	702	1007	17.5	22.7
T	t	SK3-903	100mm round	873	1178	19.9	24.5

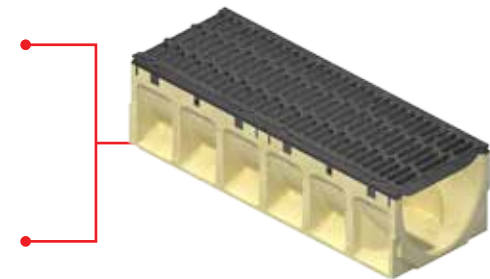
Note: These are the pipe flow rates at the specified outlet, NOT channel flow rates. In-line pit flow rates are without rubbish basket - using rubbish basket reduces flow.

SK3-903 In-line pit with riser





## S300K Channels and accessories



### One metre channels – sloped and neutral

There are 40 sloped channels available to create 40 metres of continuous sloping run with ductile iron edge rail. Sloped channels have a 0.5% fall.

Neutral channels are available in five depths and can be used to create constant depth runs or inserted in sloped runs to increase the overall length.

Vertical outlet knockouts are available on all neutral channels and on number 5, 10, 15, 20, 25, 30, 35, 40 sloped channels.



### Half metre channels

Half metre neutral channels in four depths, supplement one metre channels. Side knockout and profiling enable T-junction to be created.

Vertical outlet knockouts on all half metre channels. Available with ductile iron edge rail.



### End cap

Fits all channels and manufactured from black ABS to complement edge rail. Guides aid cutting to correct height. Wings clip cap onto end of channel. Bell end connection to DN150, DN200 and DN250 pipe.

**Note:** For depth 00, 1-10 channels, ACO recommends removal of unused sections of bell end to ensure adequate pavement material cover.



### Installation device

Fits moulded 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.

**Note:** Not reusable; it is sacrificial within concrete encasement.



### SK3-903 In-line pit

Two part in-line pit with DN100, DN150 and DN200 cut-outs for pipe connection. Optional plastic rubbish basket.

Any channel can be connected to the in-line pit by removing the end wall to the correct height. Cut-out guides provided for connection to channels 00, 010, 020, 030 and 040. One blanking end plate supplied with in-line pit.

### SK3-903 In-line pit with riser

Riser adds 300mm depth and can be cut down in 50mm increments.

## S300K Parts table

Channels and Accessories	Part No.	Invert Depth mm		Overall Depth mm		Volume L	Weight kg
		Female	Male	Female	Male		
<b>SK3-00 Neutral channel - (1m)<sup>2</sup></b>	<b>69041</b>	<b>300</b>	<b>300</b>	<b>325</b>	<b>325</b>	<b>68.2</b>	<b>59.1</b>
SK3-1 Sloped channel - (1m)	69001	300	305	325	330	74.1	59.1
SK3-2 Sloped channel - (1m)	69002	305	310	330	335	75.7	59.6
SK3-3 Sloped channel - (1m)	69003	310	315	335	340	77.4	60.2
SK3-4 Sloped channel - (1m)	69004	315	320	340	345	79.0	60.7
SK3-5 Sloped channel - (1m) <sup>2</sup>	69005	320	325	345	350	80.6	61.3
SK3-6 Sloped channel - (1m)	69006	325	330	350	355	82.1	61.9
SK3-7 Sloped channel - (1m)	69007	330	335	355	360	83.7	62.4
SK3-8 Sloped channel - (1m)	69008	335	340	360	365	85.2	63.0
SK3-9 Sloped channel - (1m)	69009	340	345	365	370	86.8	63.5
SK3-10 Sloped channel - (1m) <sup>2</sup>	69010	345	350	370	375	88.3	64.1
<b>SK3-010 Neutral channel - (1m)<sup>2</sup></b>	<b>69042</b>	<b>350</b>	<b>350</b>	<b>375</b>	<b>375</b>	<b>80.3</b>	<b>64.1</b>
<b>SK3-0103 Neutral channel - (0.5m)<sup>2</sup></b>	<b>69045</b>	<b>350</b>	<b>350</b>	<b>375</b>	<b>375</b>	<b>40.2</b>	<b>35.3</b>
SK3-11 Sloped channel - (1m)	69011	350	355	375	380	89.8	64.6
SK3-12 Sloped channel - (1m)	69012	355	360	380	385	91.3	65.2
SK3-13 Sloped channel - (1m)	69013	360	365	385	390	92.8	65.8
SK3-14 Sloped channel - (1m)	69014	365	370	390	395	94.2	66.3
SK3-15 Sloped channel - (1m) <sup>2</sup>	69015	370	375	395	400	95.7	66.9
SK3-16 Sloped channel - (1m)	69016	375	380	400	405	97.2	67.4
SK3-17 Sloped channel - (1m)	69017	380	385	405	410	98.6	68.0
SK3-18 Sloped channel - (1m)	69018	385	390	410	415	100.1	68.5
SK3-19 Sloped channel - (1m)	69019	390	395	415	420	101.6	69.1
SK3-20 Sloped channel - (1m) <sup>2</sup>	69020	395	400	420	425	103.0	69.7
<b>SK3-020 Neutral channel - (1m)<sup>2</sup></b>	<b>69044</b>	<b>400</b>	<b>400</b>	<b>425</b>	<b>425</b>	<b>92.9</b>	<b>69.7</b>
<b>SK3-0203 Neutral channel - (0.5m)<sup>2</sup></b>	<b>69047</b>	<b>400</b>	<b>400</b>	<b>425</b>	<b>425</b>	<b>46.4</b>	<b>38.5</b>
SK3-21 Sloped channel - (1m)	69021	400	405	425	430	104.4	70.2
SK3-22 Sloped channel - (1m)	69022	405	410	430	435	105.9	70.8
SK3-23 Sloped channel - (1m)	69023	410	415	435	440	107.3	71.4
SK3-24 Sloped channel - (1m)	69024	415	420	440	445	108.7	71.9
SK3-25 Sloped channel - (1m) <sup>2</sup>	69025	420	425	445	450	110.1	72.4
SK3-26 Sloped channel - (1m)	69026	425	430	450	455	111.6	73.0
SK3-27 Sloped channel - (1m)	69027	430	435	455	460	113.0	73.6
SK3-28 Sloped channel - (1m)	69028	435	440	460	465	114.4	74.1
SK3-29 Sloped channel - (1m)	69029	440	445	465	470	115.8	74.7
SK3-30 Sloped channel - (1m) <sup>2</sup>	69030	445	450	470	475	117.2	75.3
<b>SK3-030 Neutral channel - (1m)<sup>2</sup></b>	<b>69046</b>	<b>450</b>	<b>450</b>	<b>475</b>	<b>475</b>	<b>105.5</b>	<b>75.3</b>
<b>SK3-0303 Neutral channel - (0.5m)<sup>2</sup></b>	<b>69049</b>	<b>450</b>	<b>450</b>	<b>475</b>	<b>475</b>	<b>52.8</b>	<b>41.8</b>
SK3-31 Sloped channel - (1m)	69031	450	455	475	480	118.6	75.8
SK3-32 Sloped channel - (1m)	69032	455	460	480	485	120.0	76.4
SK3-33 Sloped channel - (1m)	69033	460	465	485	490	121.4	76.9
SK3-34 Sloped channel - (1m)	69034	465	470	490	495	122.7	77.5
SK3-35 Sloped channel - (1m) <sup>2</sup>	69035	470	475	495	500	124.1	78.1
SK3-36 Sloped channel - (1m)	69036	475	480	500	505	125.5	78.6
SK3-37 Sloped channel - (1m)	69037	480	485	505	510	126.9	79.2
SK3-38 Sloped channel - (1m)	69038	485	490	510	515	128.2	79.7
SK3-39 Sloped channel - (1m)	69039	490	495	515	520	129.7	80.3
SK3-40 Sloped channel - (1m) <sup>2</sup>	69040	495	500	520	525	131.0	80.8
<b>SK3-040 Neutral channel - (1m)<sup>2</sup></b>	<b>69048</b>	<b>500</b>	<b>500</b>	<b>525</b>	<b>525</b>	<b>118.3</b>	<b>80.8</b>
<b>SK3-0403 Neutral channel - (0.5m)<sup>2</sup></b>	<b>69050</b>	<b>500</b>	<b>500</b>	<b>525</b>	<b>525</b>	<b>59.2</b>	<b>45.5</b>
SK3-903 In-line pit (0.5m)	142549	-	-	954	954	115.1	39.9
Type 903 In-line plastic rubbish basket	98653	-	-	-	-	-	1.6
Optional plastic riser	141729	-	-	300	300	37.1	4.5
Plastic rubbish basket - long	98665	-	-	-	-	-	1.8
End cap	98627	-	-	520	520	-	1.1
Installation device	97479	-	-	-	-	-	2.2
Grate removal tool	01318	-	-	-	-	-	0.1
PowerLok safety clip	10443	-	-	-	-	-	-

### Note:

- PowerDrain is sold as channel only. Choose appropriate grate from page 88.
- Preformed 150mm and 200mm diameter knockouts cast on underside of certain channels (00, 5, 10, 010, 0103, 15, 20, 020, 0203, 25, 30, 030, 0303, 35, 40, 040, 0403).
- End cap can be cut down to suit all channels.
- In-line pit details on page 87. Choose appropriate grate from page 88.

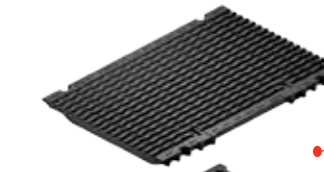
## ACO DRAIN

## Polymer concrete in-line pits

Polymer concrete in-line pits are used either as standalone area drains or most commonly as the outlet to a trench run. They provide the highest hydraulic output and allow easy access to the pipe system for maintenance.

The in-line pit with the same width as the channel is visually indistinguishable along the trench run.

### SK3-903 300mm wide in-line pit



**S300K Grates** – choice of Class G slotted or Class D **Heelsafe**® Anti-Slip ductile iron grates with PowerLok barless and boltless locking. See page 88.



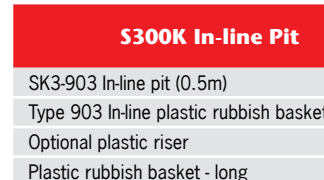
**Top section** – polymer concrete with integrally cast-in ductile iron edge rails. Guides aid connection of male channel ends to channel numbers 00, 010, 020, 030 and 040. Other channels can be connected by removing wall to required height.



**Rubbish basket** – in-line pit plastic rubbish basket designed to collect debris washed from trench run. Supported in in-line pit top to avoid creation of a vacuum and reduction in outflow.



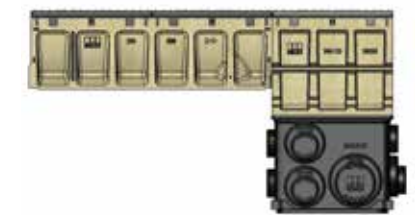
**Riser** – polyethylene riser is designed to provide additional depth and hydraulic output. Guides enable cutting to size at 50mm intervals (50mm minimum and 305mm maximum height).



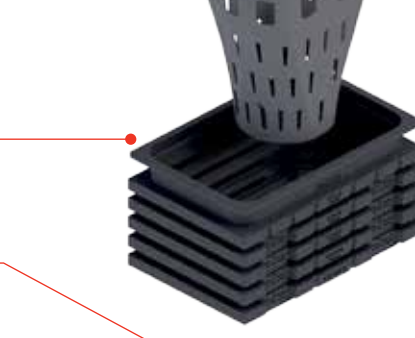
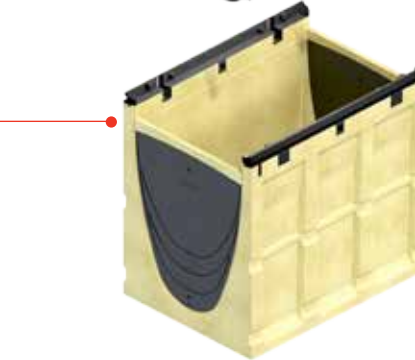
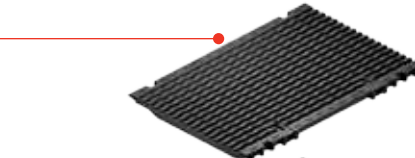
**Base** – polyethylene bases with wide range of cut-outs for easy pipe connection. Cut outs on end and side allow connection to stormwater pipe.

S300K In-line Pit	Part No.	Volume L*	Weight kg
SK3-903 In-line pit (0.5m)	142549	115.1	39.9
Type 903 In-line plastic rubbish basket	98653	-	1.6
Optional plastic riser	141729	37.1	4.5
Plastic rubbish basket - long	98665	-	1.8

\* Volume is up to grate seat and without rubbish basket.

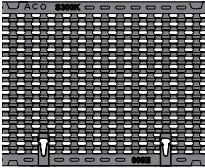
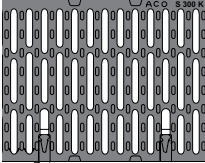


### SK3-903 with riser 300mm wide in-line pit





S300K Grates

Description	Part No.	Length mm	Slot Size mm	Intake Area mm	Weight kg					
<b>LOAD CLASS D – AS 3996 – 240kN – approximate wheel load 8,000kg</b>										
<b>Iron Intercept Heelsafe® Anti-Slip</b>										
 Ductile iron	142686	500	6 x 35	38,950	14.8	✓	✓	✓	✓	PL
<b>LOAD CLASS G – AS 3996 – 900kN – approximate wheel load 30,000kg</b>										
<b>Iron Slotted</b>										
 Ductile iron	02445	500	78 x 18	75,500	24.4	✗	✗	✓	✗	PL

Key

- Compliant to AS 1428.2
- Resist the penetration of a 10mm heel
- Compliant to AS 3996
- Rated to AS 4586
- Locking Systems, PL – PowerLok (see page 89)

Choosing S300K grates

The S300K heavy duty system has two available grate styles. The grates are manufactured from ductile iron, a strong and durable material. The PowerLok with its simple locking mechanism allows the grates to be quickly removed for easy access to the channel when maintenance is required.

The iron slotted grate with transverse slots is ideal for pavements trafficked regularly by heavy vehicles.

The iron intercept **Heelsafe® Anti-Slip** grate with longitudinal slots is designed for pedestrian access pathways in heavy duty applications.



Locking systems

PowerLok – barless and boltless locking system

Fast locking device removes the need for bars and bolts and improves the channels hydraulic capacity. The PowerLok mechanism simply clips into the channel edge rail for quick installation. ACO's ductile iron edge rails have anti-shunt lugs that restrict grate movement improving durability and longevity of the system.



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



**2 REMOVE GRATE**  
To open PowerLok, insert tool between rail and PowerLok device.



**3 UNLOCK GRATE**  
Rotate tool 90°; PowerLok device should push away from rail.

PowerLok – optional safety clip



For areas requiring security or safety, the PowerLok safety clip (Part No. 10443) provides a visual alert confirming that the grate is locked and secure.



The safety clip push-fits next to the locked PowerLok device. Safety clip sits flush with grate surface and grate cannot be unlocked.



To open PowerLok device, the safety clip must be removed. If no red block is visible, the locking is not guaranteed. This provides a visual alert that grates may not be locked.