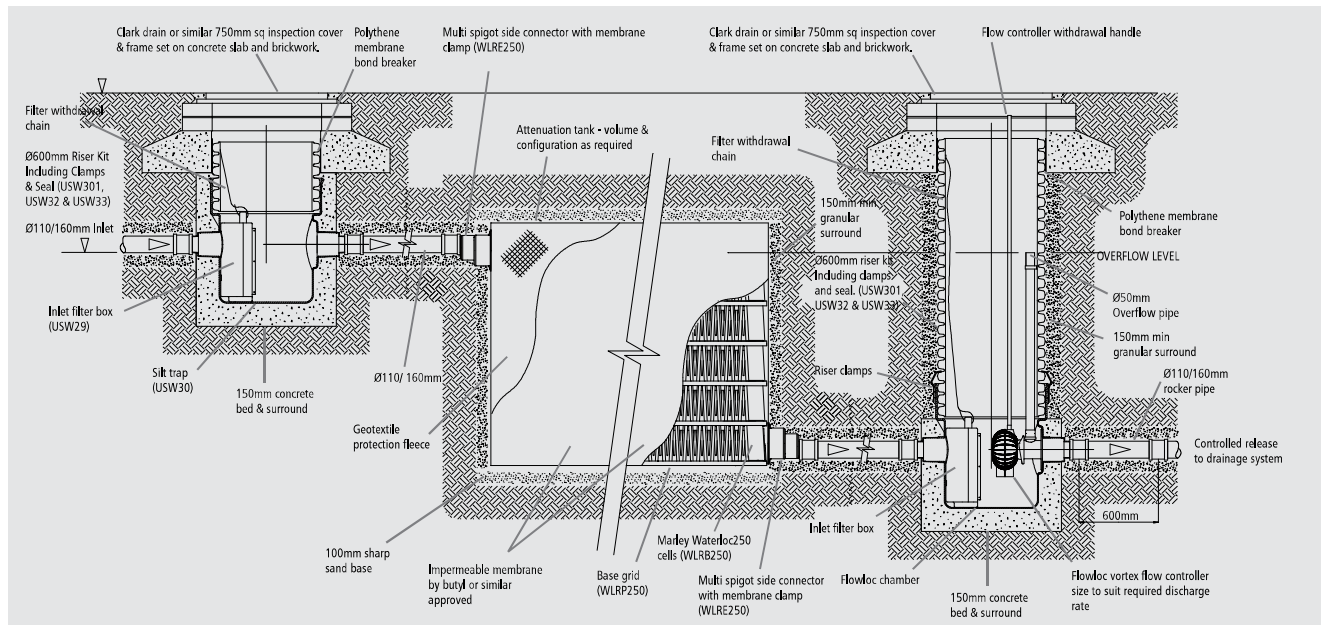
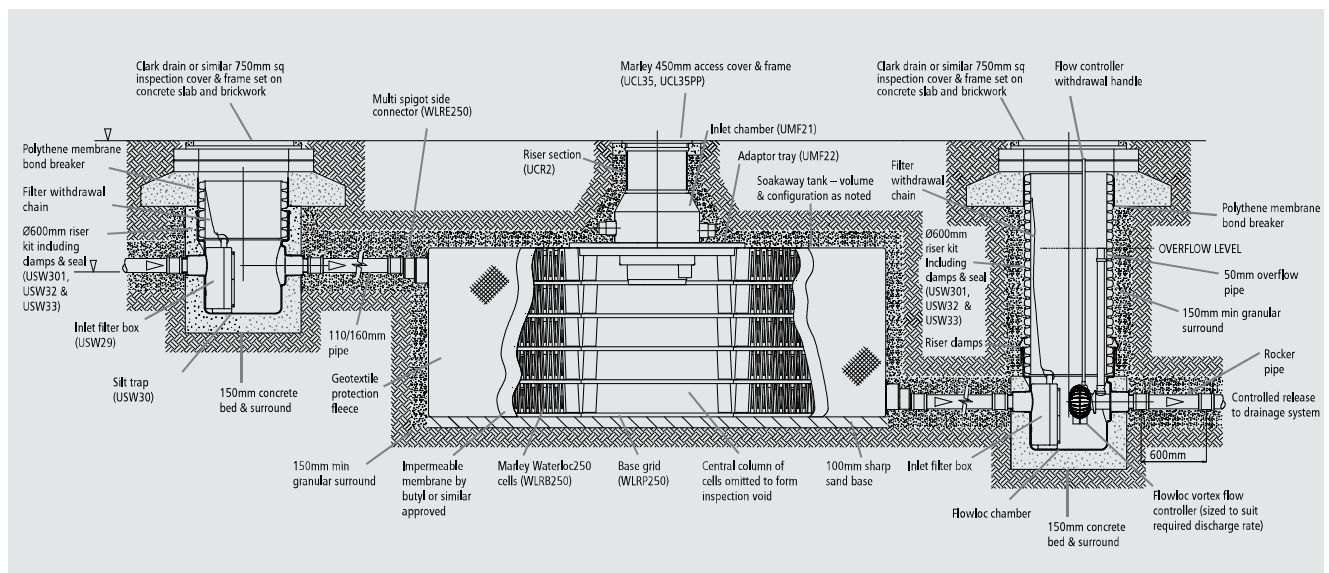


Attenuation tank with inlet filter and Flowloc vortex flow control unit

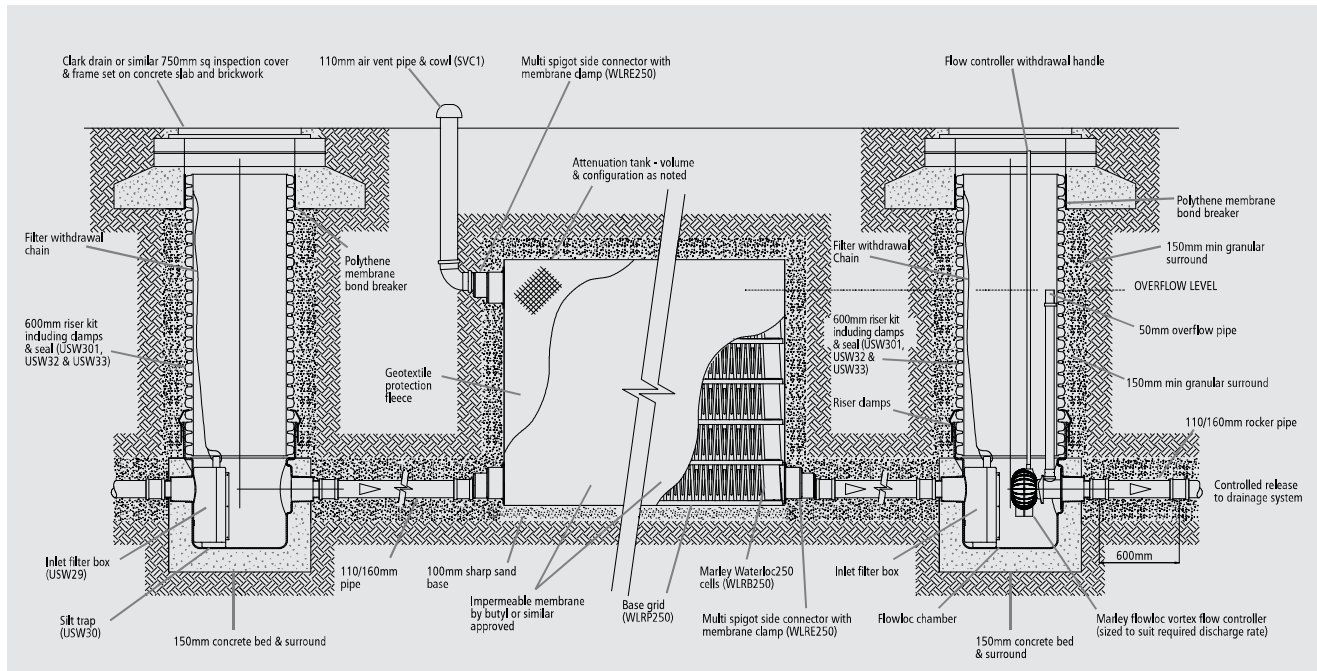


Attenuation tank with inlet filter and provision for inspection of tank via inlet chamber in a landscaped area

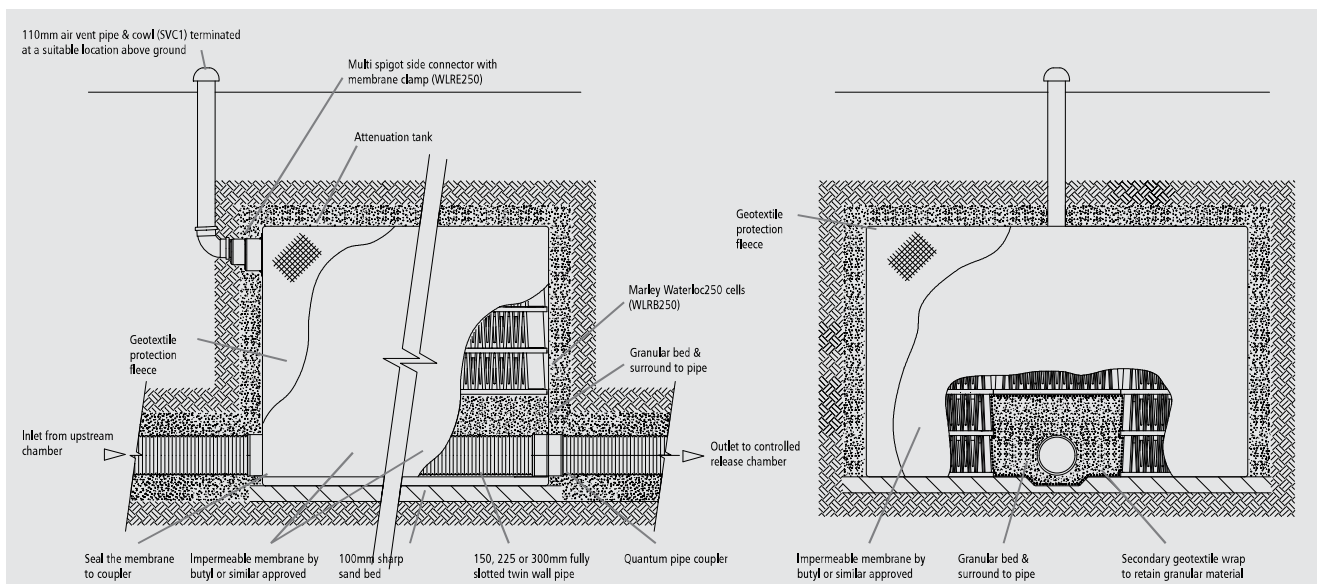


Typical installation details

Level invert attenuation tank with air vent, inlet filter and Flowloc vortex flow control unit



Level invert to attenuation tank using Marley Quantum fully slotted twin wall pipe and air vent

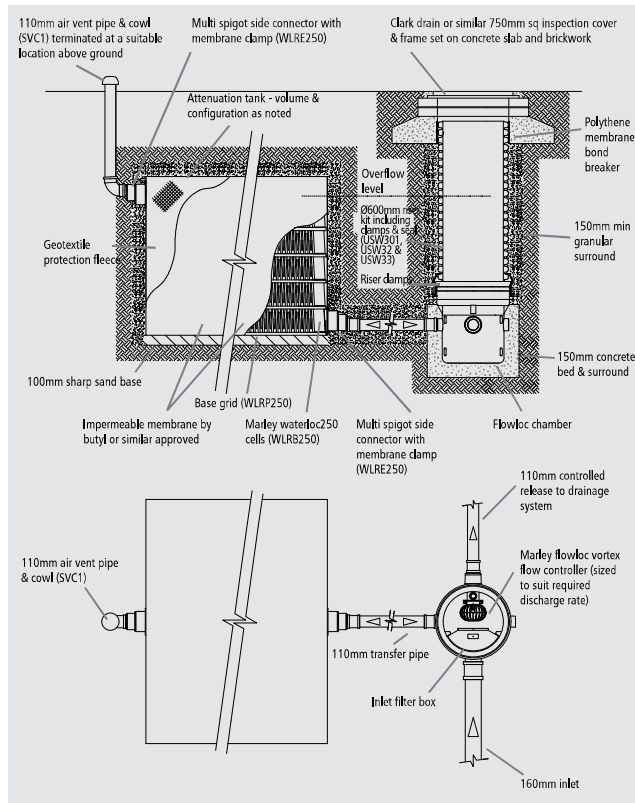


*Available to download as CAD files from marley.co.uk

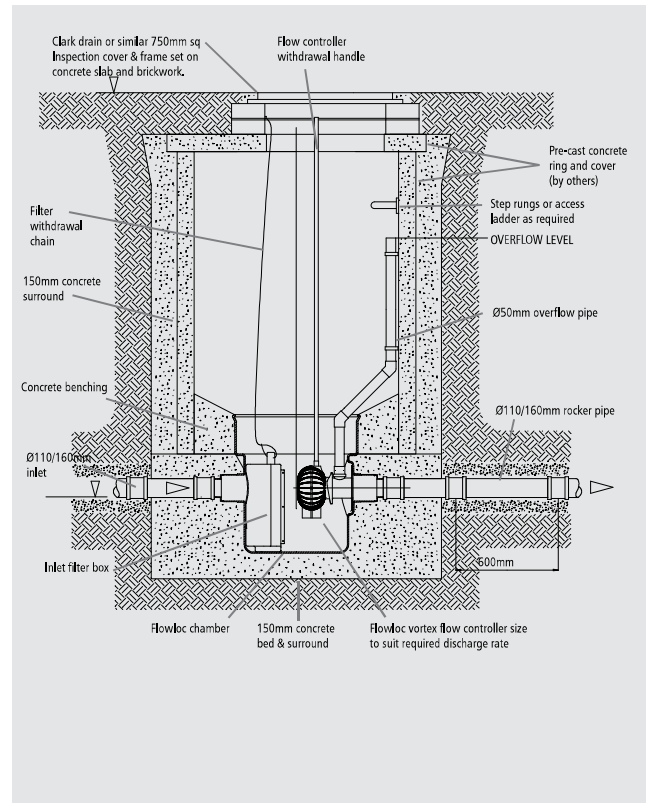
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Typical details

Off line attenuation tank with air vent and Flowloc vortex flow control unit



Marley Flowloc chamber with concrete riser and Flowloc vortex flow control unit



See marley.co.uk for the complete range of fully detailed CAD drawings.

Maintenance

Infiltration and attenuation tanks using Waterloc250

Where provision has been made for inspection of the tank, it should be periodically checked for build up of silts in the base. If there is evidence that silts or larger debris particles have settled in the tank, it should be partially filled with clean water which will loosen the lighter material and bring it into suspension before drawing the water out with a suitable sump pump. High pressure jetting hoses should not be used to carry out cleaning as these might damage the tank liner.

Flowloc vortex flow control unit

Ideally, a maintenance programme should be set up to ensure that the Flowloc control system is regularly checked and cleaned. The filter unit should be periodically raised to ensure that collected debris does not obstruct the inlet to the chamber base. Any debris can be removed via the inlet port at the back of the filter box. Before replacing the filter it is advisable to clean out the base of the chamber with a suction pump to ensure that the filter seats correctly on replacement. The Flowloc controller or orifice plate should be periodically removed for inspection and cleaning, and the base coupling hosed out to ensure correct seating on replacement.

250mm silt trap

UG60 traps should be regularly maintained by removing the leaf guard from the outlet and discarding any debris from the base of the trap. To clean the UG61 filter, raise the wire retainer on the filter, tilt forward and pull out by the handle. Remove the lid by pressing the release catch and thoroughly clean the unit with a hose. Remove any collected silt from the base of the trap, replace the filter and lock into place by lowering the wire retainer.

Appendices

Appendix One

Impermeable membrane specification

Nylon reinforced PVC

Property	Typical value	Test method
Fabric	100% PES 1100dtex	
Weight	1100 g/m ²	DIN EN 2286-2 1998
Breaking strength	Warp 4000 N/5cm Weft 3500 N/5cm	EN ISO 1421 1998
Tear strength	Warp 600 N Weft 500 N	DIN 53363 2003
Adhesion	125 N/5cm	EN ISO 2411 2000
Waterproofness	> 200 kPa	NFG 37106 1986
Temperature resistance	-30 deg. C to +70 deg. C	DIN EN1876-2 1998
Light fastness	7-8	ISO 105 B02 1988
Fire behaviour	<100 mm/minute	ISO 3795 1989

Permeable geotextile specification

Property	Typical value	Test method
Weight	250g/m ²	EN 965
Thickness	2.3mm	EN 964-1 2kPa
CBR puncture resistance	3000N	EN ISO 12236
Tensile strength (average values)	md 16.6kN/m xd 18.3kN/m	EN ISO 10319
Elongation	md 50% xd 55%	EN ISO 10319
Cone drop test	13Mm	EN 918
Pore size	90um	EN ISO 12956
Water flow rate	85 l/m ² .s	EN ISO 11058

Appendix Two – Performance data (l/s)

Flowloc vortex flow control unit

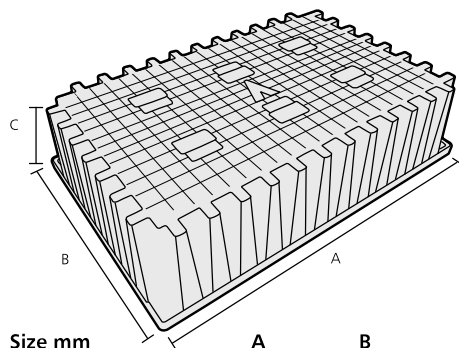
Product code	USW40	USW50	USW60	USW70	USW80	USW90	
Cell height (m)	flow rate (l/s)						Water head (m)
	2.50	3.00	3.60	4.30	5.20	7.00	0.5
0.55	2.59	3.10	3.75	4.45	5.25	7.05	
0.81	3.00	3.45	4.20	5.25	6.35	8.25	
	3.20	3.70	4.80	5.80	7.00	9.00	1.0
1.07	3.25	3.80	4.95	6.00	7.20	9.30	
1.33	3.39	4.20	5.45	6.60	7.98	10.30	
	3.40	4.40	5.60	7.00	8.40	10.90	1.5
1.59	3.42	4.50	5.75	7.20	8.65	11.20	
1.85	3.75	4.85	6.05	7.80	9.60	12.05	
	3.80	5.00	6.20	8.10	9.80	12.50	2.0
2.11	3.85	5.10	6.35	8.30	10.06	12.85	
2.37	3.95	5.30	6.65	8.80	10.58	13.65	
	4.00	5.40	6.80	9.00	10.80	14.00	2.5
2.63	4.20	5.50	6.90	9.20	11.05	14.40	
2.89	4.30	5.65	7.15	9.40	11.45	15.10	
	4.40	5.70	7.20	9.50	11.60	15.40	3.0
3.15	4.45	5.75	7.25	9.60	11.78	15.75	
3.41	4.59	5.79	7.35	9.65	11.85	16.45	
	4.60	5.80	7.40	9.70	12.00	16.50	3.5
3.67	4.61	5.80	7.41	9.80	12.10	17.81	

Orifice plate flow control unit

Product code	USW415	USW420	USW425	USW430	USW435	USW440	USW445	USW450	USW455	USW460	USW465	USW470	USW475	USW480	USW485	
Orifice dia mm	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	
Cell height (m)	flow rate (l/s)															Water head (m)
	0.34	0.61	0.95	1.37	1.87	2.44	3.09	3.81	4.61	5.49	6.44	7.47	8.58	9.76	11.02	0.5
0.55	0.36	0.64	1.00	1.44	1.96	2.56	3.24	4.00	4.84	5.76	6.76	7.84	9.00	10.24	11.56	
0.81	0.44	0.78	1.21	1.75	2.38	3.11	3.93	4.85	5.87	6.99	8.20	9.51	10.92	12.42	14.03	
	0.49	0.86	1.35	1.94	2.64	3.45	4.37	5.39	6.52	7.76	9.11	10.57	12.13	13.80	15.58	1.0
1.07	0.50	0.89	1.39	2.01	2.73	3.57	4.52	5.58	6.75	8.03	9.43	10.93	12.55	14.28	16.12	
1.33	0.56	0.99	1.55	2.24	3.05	3.98	5.04	6.22	7.52	8.95	10.51	12.19	13.99	15.92	17.97	
	0.59	1.06	1.65	2.38	3.24	4.23	5.35	6.60	7.99	9.51	11.16	12.94	14.86	16.91	19.09	1.5
1.59	0.61	1.09	1.70	2.45	3.33	4.35	5.51	6.80	8.23	9.79	11.49	13.33	15.30	17.41	19.65	
1.85	0.66	1.17	1.83	2.64	3.59	4.69	5.94	7.33	8.87	10.56	12.39	14.38	16.50	18.78	21.20	
	0.69	1.22	1.91	2.75	3.74	4.88	6.18	7.63	9.23	10.98	12.89	14.95	17.16	19.52	22.04	2.0
2.11	0.70	1.25	1.96	2.82	3.84	5.01	6.34	7.83	9.48	11.28	13.24	15.35	17.62	20.05	22.64	
2.37	0.75	1.33	2.08	2.99	4.07	5.31	6.72	8.30	10.04	11.95	14.03	16.27	18.68	21.25	23.99	
	0.77	1.36	2.13	3.07	4.18	5.46	6.91	8.53	10.32	12.28	14.41	16.71	19.18	21.83	24.64	2.5
2.63	0.79	1.40	2.19	3.15	4.28	5.60	7.08	8.74	10.58	12.59	14.78	17.14	19.68	22.39	25.27	
2.89	0.83	1.47	2.29	3.30	4.49	5.87	7.43	9.17	11.09	13.20	15.49	17.97	20.63	23.47	26.49	
	0.84	1.49	2.33	3.36	4.58	5.98	7.57	9.34	11.30	13.45	15.78	18.31	21.01	23.91	26.99	3.0
3.15	0.86	1.53	2.39	3.45	4.69	6.12	7.75	9.57	11.58	13.78	16.17	18.76	21.53	24.50	27.66	
3.41	0.90	1.59	2.49	3.58	4.88	6.37	8.07	9.96	12.05	14.34	16.83	19.52	22.40	25.49	28.78	
	0.91	1.61	2.52	3.63	4.94	6.46	8.17	10.09	12.21	14.53	17.05	19.77	22.70	25.83	29.15	3.5
3.67	0.93	1.65	2.58	3.72	5.06	6.61	8.37	10.33	12.50	14.88	17.46	20.25	23.24	26.45	29.85	

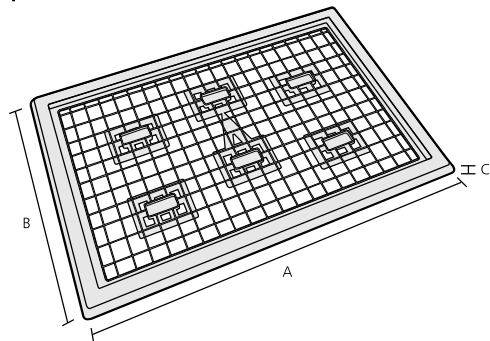
Product information

Description	Code
Waterloc250 cell	WLRB250



Size mm	A	B	C	Colour
	1200	800	290	Black

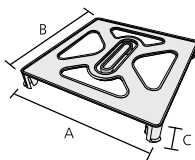
Base plate	WLRP250
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Size mm	A	B	C	Colour
	1200	800	30	Black

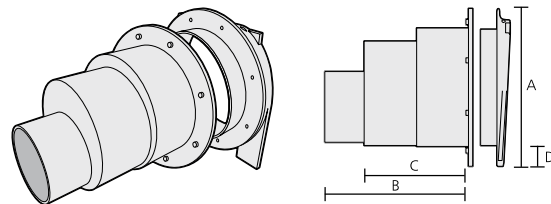
For use with WLRB250 on bottom layer only

Cell connector	WLRC250
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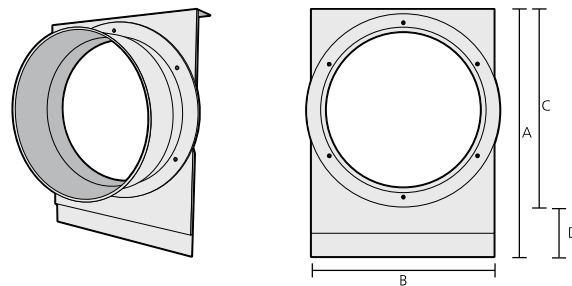
Size mm	A	B	C	Colour
	235	235	35	Sand

Description	Code
110mm/160mm inlet/outlet pipe connector	WLRE250



Size mm	A	B	C	D	Colour
110/160	265	250	190	45	Grey

225mm Quantum inlet pipe connector	WLRE250L
300mm Quantum inlet pipe connector	WLRE250M



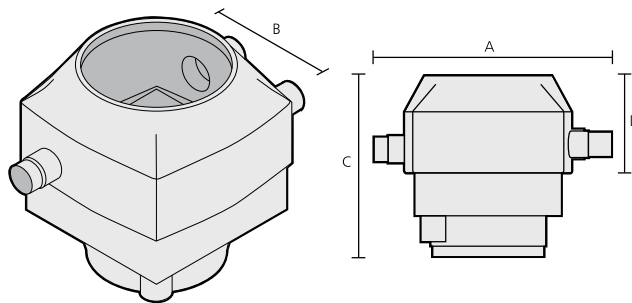
Size mm	A	B	C	D	Colour
225	551	415	306	245	Stainless/orange
300	551	415	386	165	Stainless/orange

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Product information

Description	Code
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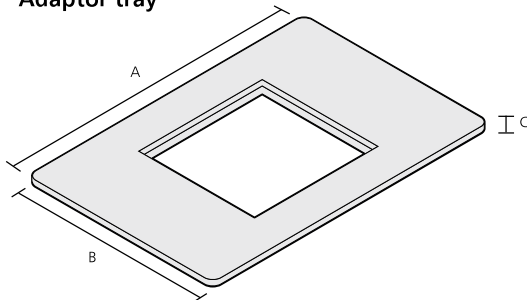
Inlet chamber **UMF21**



Size mm	A	B	C	D	Colour
	953	720	670	335	Black

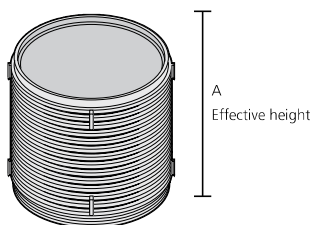
UMF22A adaptor tray must be used with this item

Adaptor tray **UMF22A**



Size mm	A	B	C	Colour
	1385	984	100	Black

Chamber riser **UCR2**



Size mm	A	Colour
450	430	Black

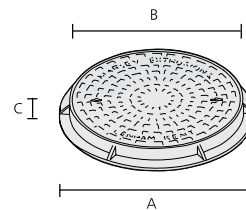
For use with inlet chamber. Riser is supplied with a ring seal.

Description	Code
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Inspection cover and frame

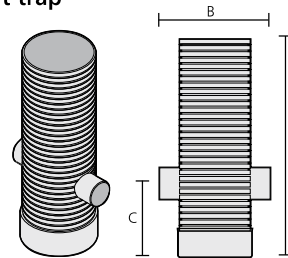
Polypropylene non-trafficked **UCL35PP**

Cast-iron 3.5t (class A15) **UCL35**



Size mm	Code	A	B	C	Colour
450	UCL35PP	547	494	70	Black
450	UCL35	517	490	40	Black

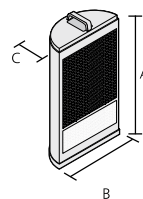
Silt trap **UG60**



Size mm	A	B	C	Colour
250 diameter	780	350	270	Orange

Supplied with a leaf guard fitted to the outlet

Inlet filter **UG61**

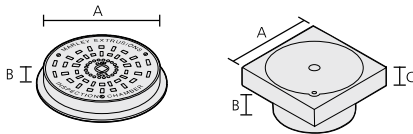


Size mm	A	B	C	Colour
	380	190	132	Stainless/black

For use with UG60 silt trap

Product information

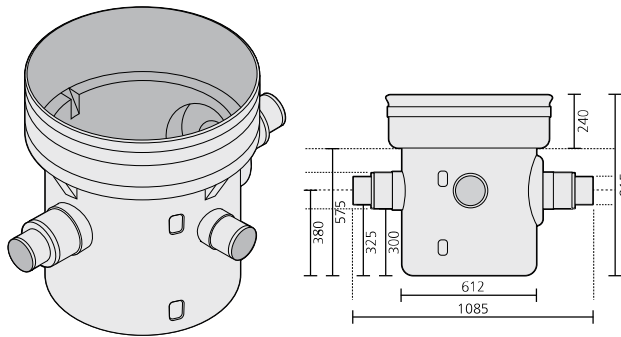
Description	Code
250mm Inspection cover and frame – circular	UCL2
250mm Inspection cover and frame – square	UCL3



Size mm		A	B	C	Colour
250	UCL2	280	70	–	Black
250	UCL3	318	78	20	Black

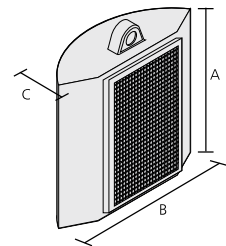
For use with UG60 silt trap

Silt trap	USW30
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Size mm	Colour
600 diameter	Black

Inlet filter	USW29
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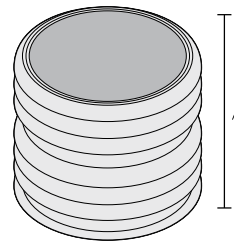


A	B	C	Colour
500	500	230	Black/stainless

With lifting chain

For use with USW30 silt trap

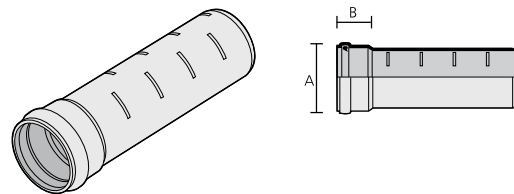
Description	Code
Riser kit x 1m	USW301
Riser kit x 2m	USW32
Riser kit x 3m	USW33



Size mm	A	Colour
600	1000	Black
600	2000	Black
600	3000	Black

Supplied with clamp and seal set

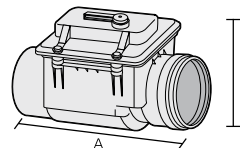
Perforated pipe



Size mm	Code	A	B	Colour
110	UPP406*	128	70	Orange
150	USH16	175	90	Orange
225	USH26	275	125	Orange
300	USH36	340	110	Orange

* Shown

Non return valve	USW120
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Size mm	Code	A	B	Colour
110	USW120	307	230	Orange

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Description	Size mm	Code
Flowloc	40	USW40
	50	USW50
	60	USW60
	70	USW70
	80	USW80
	90	USW90

Colour
Black

Includes vortex flow control unit, chamber base fitted with controller housing, inlet filter with chain and 50mm overflow pipe.

Description	Size mm	Code
Orifice Plate	15	USW415
	20	USW420
	25	USW425
	30	USW430
	35	USW435
	40	USW440
	45	USW445
	50	USW450
	55	USW455
	60	USW460
	65	USW465
	70	USW470
	75	USW475
	80	USW480
	85	USW485

Colour
Black

Includes orifice plate flow control unit, chamber base fitted with controller housing, inlet filter with chain and 50mm overflow pipe.

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www.sustainablewatersolutions.com

Aliaxis





Attenuation tank for Robertson Homes, Seaforth Road, Ayr



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