



Section 2

Pipes and Fittings Below Ground

Ensign cast iron drainage – 1st choice for tall buildings

Cast iron has the superior strength performance required to give specifier's peace of mind on tall buildings.

- Ensign has the ability to withstand significantly higher pressures than other materials
- Ensign will not contribute to a fire, will not collapse and will not emit smoke
 - No risk of fire spread up or downwards – particularly important on multi-storey buildings (Burning Question)
 - No danger to fire fighters in terms of collapsing or generating smoke
- Under building drainage – only cast iron has the superior crush strength – fit and forget peace of mind to perform under tall buildings
- PAM cast iron is providing drainage systems for 8 of the top 10 tallest buildings in the UK



The Shard



Doon Tower



Ensign pipework on The Shard

Section 2
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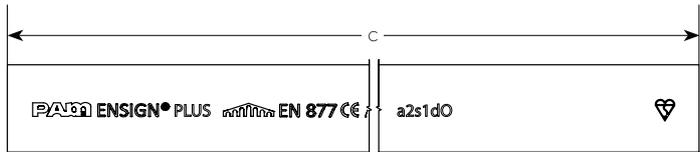
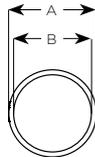
Pipes Double Spigot

ED000 - Pipe



Product code	Dia	A Max O/ dia	B Min I/ dia	Min Section	C Metre Lengths Available	Nominal wt/kg
155349	100	112	97.5	3	3	24.5
155414	150	162	146.25	3.5	3	41
155448	200	212	195	4	3	67.4
155476	250	276.5	243.75	4.5	3	97.3
155493	300	328.5	292.50	5	3	126.8
155508	400	431	390	5	3	177.7
155511	500	534	487.5	5.2	3	230.0
175630	600	637	585	5.8	3	302.0

Pipes coated internally with a two part epoxy and externally with a zinc rich base coat, then the standard grey acrylic protective coating (see page 100).



Couplings

ED001 - Two-piece ductile iron coupling

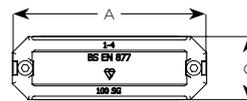
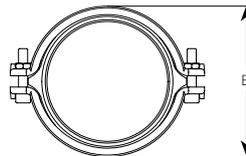


Product code	Dia	A	B	C	Nominal wt/kg
155369	100	170	137	58	0.8
155433	150*	217	183	80	1.7
155462	200*	278	243	82	3.5
175591	250*	343	308	82	4.4
175592	300*	395	360	82	5.4

For 400, 500, 600 diameter couplings see EC002HP High Performance Stainless Steel Couplings below.

*150-300mm incorporates four socket bolts. Patent No. 2 305 481.

Nitrile gaskets will be considered on request, on a quotational basis.



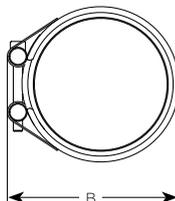
EC002HP - High performance stainless steel coupling



Product code with grip	Product code no grip	Dia	A	B	Nominal wt/kg
227344	228623	100	94	154	1.3
227346	228625	150	95	211	2.1
227347	228626	200	140	270	5.3
227348	228627	250	140	330	8.7
227349	228628	300	140	470	9.9
227350	228629	400	139	449	7.1
227361	228630	500	139	551	6.7
227362	228631	600	139	653	7.6

All stainless steel.

Capable of withstanding high pressure (>5 bar).

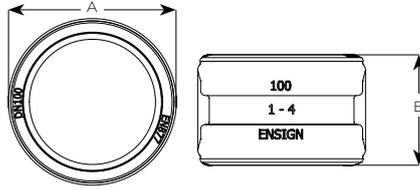


Couplings

ED004 - Push-fit socket cast iron



Product code	Dia	A	B	Nominal wt/kg
175622	100	140	90	1.2
175623	150	195	95	2.2



BS 437 - Ductile iron transitional coupling - TD02. Transitional coupling Ensign to Timesaver

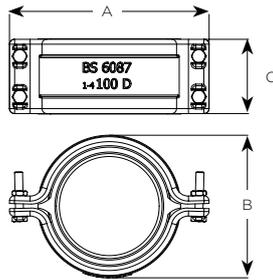


Product code	Dia	A	B	C	Nominal wt/kg
191297	100	75	140	203	2.8
191298	150	75	195	252	3.6

Timesaver drain coupling assembly. Black coated, incorporating four set screws and nuts, and transitional elastomer seal. For jointing Ensign system to Timesaver drain BS 437.

Black gasket with identity markings.

To connect Ensign drain to Timesaver 416, use standard Timesaver coupling GT01 (black coated).



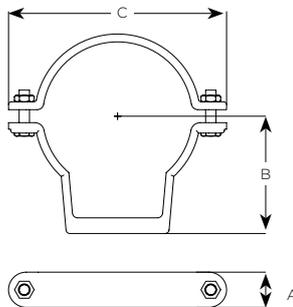
Brackets

ED048 - Ductile iron bracket



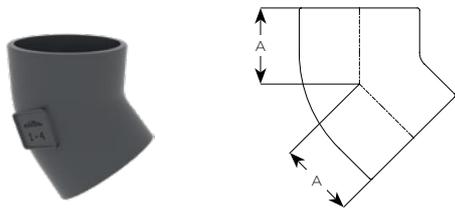
Product code	Dia	A	B	C	Nominal wt/kg
175593	100	27	90	166	0.6
175594	150	30	115	214	0.8
177743	200	35	150	266	1.6

Elongated slot at fixing point (D) to ease fixing.



Bends - Short Radius

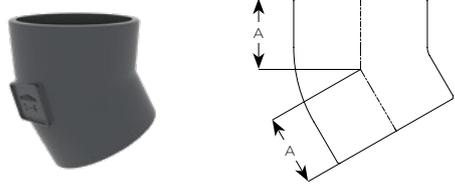
ED002 - 45° bend
 • Short radius



Product code	Dia	A	Nominal wt/kg
191765	100	70	1.6
191766	150	90	3.0
191767	200	110	7.0
191879	250	130	10.9
191880	300	155	18.7
192370	400	247	35.0
† 192382	500	318	53.0
† 192383	600	350	92.0

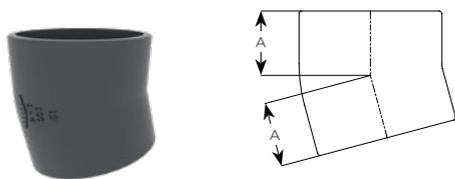
† Available to order.

ED002 - 30° bend
 • Short radius



Product code	Dia	A	Nominal wt/kg
191768	100	60	1.7
191769	150	80	3.2

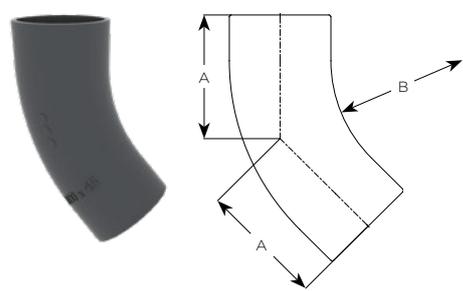
ED002 - 15° bend
 • Short radius



Product code	Dia	A	Nominal wt/kg
191770	100	50	1.3
191771	150	65	2.7

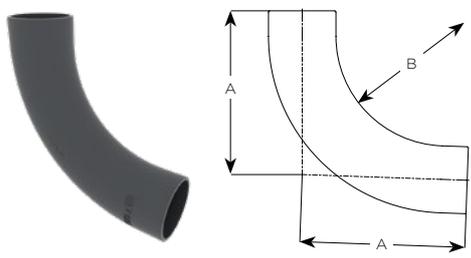
Bends - Medium, Long Radius Door Back

ED02M - 45° bend
 • Medium radius



Product code	Dia	A	B	Nominal wt/kg
191772	100	135	150	3.5
191773	150	145	150	6.2

ED02L - 88° Bend
 • Medium & long radius



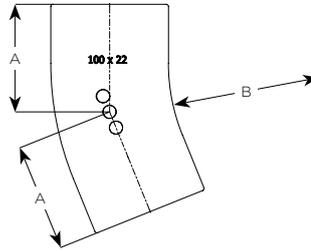
Product code	Dia	A	B	Nominal wt/kg
191774	100	269	180	4.3
191775	150	274	150	10.1

Bends - Medium, Long Radius

ED02L - 22° bend
 • Long radius



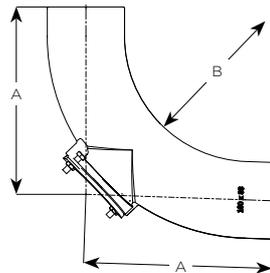
Product code	Dia	A	B	Nominal wt/kg
191776	100	90	180	1.7



ED05L - 88° bend
 • Long radius door back



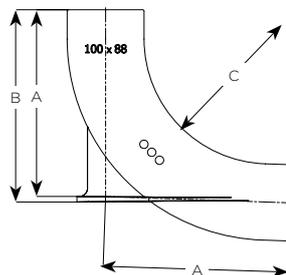
Product code	Dia	A	B	Nominal wt/kg
191777	100	269	180	5.5
192358	150	274	150	11.4



ED007 - 88° bend
 • Medium & long radius with heel rest



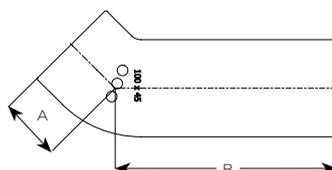
Product code	Dia	A	B	C	Nominal wt/kg
192289	100	269	277	180	5.5
192290	150	274	282	150	11.4



ED055 - 45° bend
 • Long tail



Product code	Dia	A	B	Nominal wt/kg
191778	100	70	250	4.0

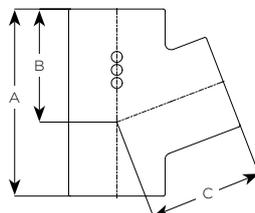


Branches Single

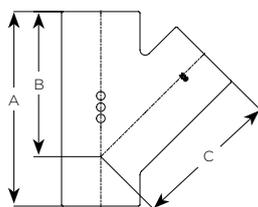
ED006 - 69° branch
 • Equal and unequal



Product code	Dia	A	B	C	Nominal wt/kg
191781	100 x 100	215	130	130	2.7
191851	150 x 100	235	150	155	5.1



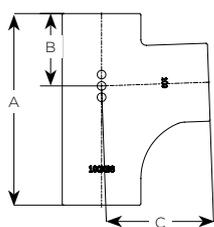
ED006 - 45° branch
 • Equal and unequal



Product code	Dia	A	B	C	Nominal wt/kg
191782	100 x 100	275	205	205	3.8
191783	150 x 100	295	240	240	6.1
191784	150 x 150	355	265	265	9.0
191785	200 x 100	300	260	260	10.3
191786	200 x 150	375	300	300	13.2
191787	200 x 200	455	340	340	17.3
191881	250 x 250	560	430	430	32.2
191882	300 x 300	660	505	505	54.8
192384	400 x 300	660	555	565	55.3
192373	400 x 400	835	645	645	82.5
† 192385	500 x 500	1020	790	790	175.0
† 192386	600 x 600	1180	920	920	215.0

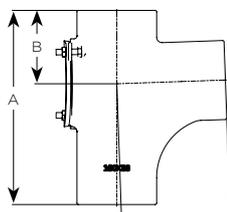
† Available to order.

ED06R - 88° Single branch
 • Swept radius curve



Product code	Dia	A	B	C	Nominal wt/kg
191788	100 x 100	270	102	150	3.5
191789	150 x 100	300	117	202	7.6
191790	150 x 150	400	140	260	12.5
191791	200 x 150	428	157	283	13.0

ED07R - 88° Branch with access
 • Swept radius curve



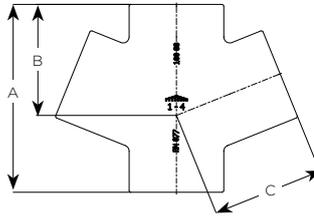
Product code	Dia	A	B	C	Nominal wt/kg
191793	100 x 100	270	102	150	4.3
191794	150 x 100	300	117	202	10.4
191795	150 x 150	400	140	260	13.9

Branches Double

ED010 - 69° Double branch



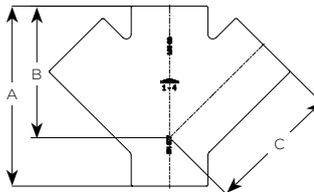
Product code	Dia	A	B	C	Nominal wt/kg
191796	100 x 100	215	130	130	3.4



ED010 - 45° Double branch



Product code	Dia	A	B	C	Nominal wt/kg
191798	100 x 100	260	190	190	4.0
191799	150 x 100	280	225	225	8.4
191800	150 x 150	355	265	265	12.6
191801	200 x 200	455	340	340	24.0

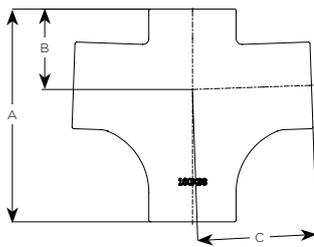


ED010R - 88° Double branch

- Swept radius curve

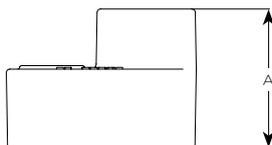


Product code	Dia	A	B	C	Nominal wt/kg
185373	100 x 100	270	102	150	4.2
191803	150 x 100	300	115	200	10.9



Tapered Pipes

ED028



Product code	Dia	A	Nominal wt/kg
191810	150 x 100	105	1.9
191811	200 x 100	115	3.5
191812	200 x 150	125	3.3
191889	250 x 100	122	5.5
191886	250 x 150	135	6.3
191892	250 x 200	145	6.5
191890	300 x 150	150	9.9
191891	300 x 200	160	10.1
191885	300 x 250	170	12.2
155504	400 x 300	200	20.0
199843	500 x 300	200	28.9
199869	500 x 400	200	28.0
	600 x 500		

To connect 250 and 200 Ensign to 225 Timesaver Drain, use TD41 (see Timesaver section page 148).

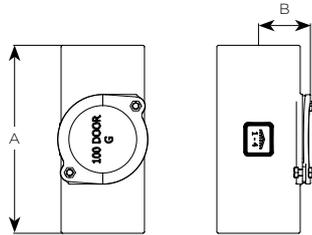
500 and 600 tapers will be considered on request.

Access Pipes

ED014 - Round door



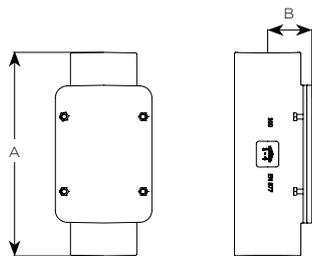
Product code	Dia	A	B	Nominal wt/kg
191805	100	250	80	3.1
191806	150	280	110	6.2



ED015 - Rectangular door



Product code	Dia	A	B	Nominal wt/kg
191807	100	320	80	6.7
191808	150	395	105	12.2
191809	200	475	140	20.2
191883	250	540	160	38.5
191884	300	610	190	50.0

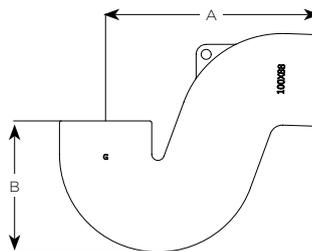


Traps

ED034 - Plain



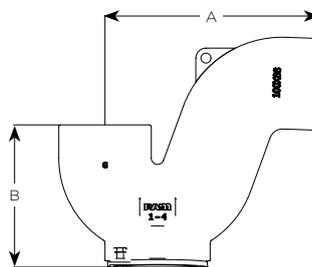
Product code	Dia	A	B	Nominal wt/kg
191815	100	255	160	4.5



ED037 - Plain with access bottom

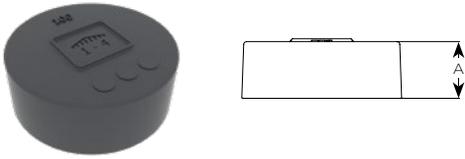


Product code	Dia	A	B	Nominal wt/kg
182482	100	255	175	5.2
182483	150	350	240	12.1



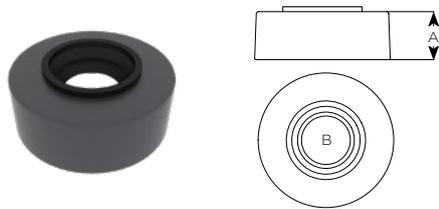
Blank Ends

ED070 - Plain



Product code	Dia	A	Nominal wt/kg
191818	100	40	0.8
191819	150	50	2.0
191820	200	60	3.2
191887	250	70	5.7
191888	300	90	10.3

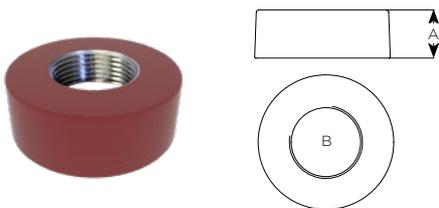
ED071 - Push-fit connection



Product code	Dia	A	Nominal wt/kg
191821	100	40	1.0
191822	150	50	2.0

B = rubber grommet which accommodates 50mm waste UPVC or copper.

EF071T - Drilled and taped



Product code	Dia	A	Nominal wt/kg
191579	100	40	1.0

Red coated.

To connect to UPVC/copper waste use 50mm/2" BSPT male iron adaptor.

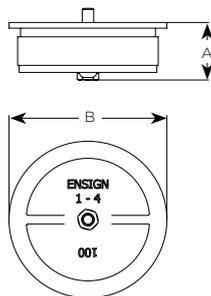
B = D/T 50mm BSPT.

Expansion Plugs

ED074 - Expansion plug



Product code	Dia	A	B	Nominal wt/kg
191823	100	110	42	0.7
191824	150	156	42	1.5



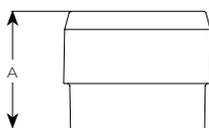
Connectors

ED076 - Transitional connector



Product code	Dia	A	Nominal wt/kg
191813	100	100	1.8
191814	150	125	4.2

Adaptor from Ensign to Supersleve.



Gully Inlets

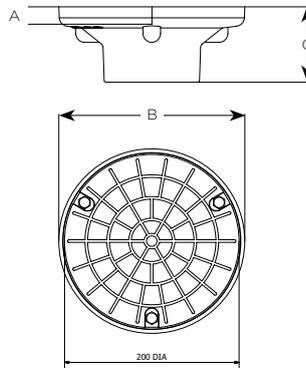
ED060 - Gully inlet

Product code	Dia	A	B	C	Nominal wt/kg
191825	100	20	215	87	2.4

Shown with flat grating ED065 - supplied separately.
Can be supplied fitted with solid cover order ED066 (Product Code 191852).



ED066



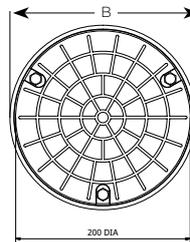
ED060 - Bellmouth

Product code	Dia	A	B	C	Nominal wt/kg
191826	150	20	215	95	2.9

Shown with flat grating ED065 - supplied separately.
Can be supplied fitted with solid cover order ED066 (Product Code 191852).



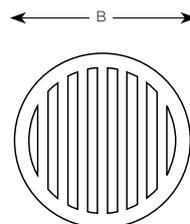
ED066



ED065 - Grating plain

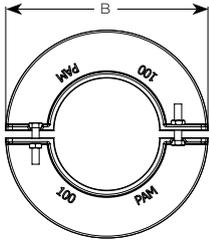
Product code	Dia	Nominal wt/kg
191828	200	1.8

Loose grating for ED060. Maximum load 2.0 tonnes.



Puddle Flanges

ED078 - Flange



Product code	Dia	A	B	C	Nominal wt/kg
191829	100	50	220	12	4.6
191830	150	65	275	12	6.6
192318*	250	70	405	12	57.9
192319*	300	75	460	12	71.2

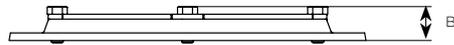
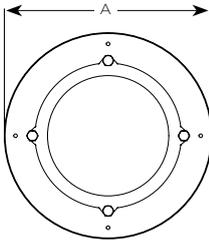
*Black only.

This collar is in two halves which can be bolted around the pipe even when pipe is in position. Can also be used as a firestop.

Due to manufacturing tolerances it is recommended that the puddle flange is bedded on Denso tape or similar.

ED078 - Multi-clamp

- Puddle flange



Product code	Dia	A	B	Nominal wt/kg
191831	200	370	35	6.3

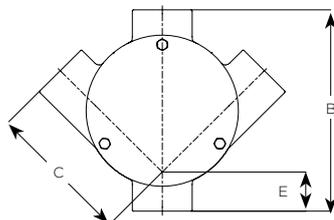
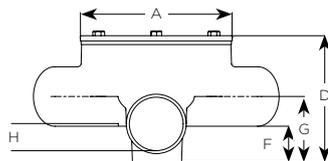
Inspection Chambers

ED012



Product Code	Dia	A	B	C	D	E	F	G	H	Nominal wt/kg
191832	100 x 100	275	373	265	224	73	70	122	50	15.9
191833	150 x 100	274	393	265	243	83	95	147	75	17.2
191834	150 x 150	274	393	254	295	118	95	175	75	19.4

Supplied with 250mm diameter removable cover for ease of maintenance. See pages 90-91 for typical appreciations.



*Rectangular Chambers. Single & Double see Timesaver below ground ranger page 158-159