



# Section 10

## Timesaver

Saint-Gobain PAM UK is the primary supplier of ductile iron pipes and fittings, manhole covers, gullies and grates, as well as being the leading producer of cast iron above and below ground drainage systems. Its markets include water and sewerage, telecommunications, highways, civil engineering, construction and housing.



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# Why specify Timesaver

## Proven drainage system for nearly 45 years

The Timesaver system, was first launched in 1973, for use on above ground soil and ventilating installations.

In 1980 a below ground Timesaver system was launched to complement the soil range, and together they became market leaders in cast iron drainage.

Both systems were recognised for their quality performance, and were awarded the highly coveted BS Kitemark in 1982.

B4516 Part 2:

For soil, waste and ventilating pipes and fittings.

B5437:

For drains, pipes and fittings.

B56087:

Now incorporated in BSEN877

For flexible joints for B5416 part 2 and B4537 pipes and fittings.

## Above ground Refurbishment

Prestigious commercial buildings built in the 1970's to the mid 90's which are serviced by cast iron soil stacks, will most likely be Timesaver. If the building is to be refurbished and changes are required, the latest Timesaver range is best suited to connect to the original pipework.

## Timesaver Heritage couplings give traditional appearance

The Timesaver range contains push-fit couplings that turns a mechanical pipe system into a system with a traditional socket appearance of yesteryear, as depicted in BS 416 Part 1.

Its primer black coating makes it easy to overpaint for external soil stacks, and is the perfect solution for listed buildings and those situated in areas of conservation. Pipes are available in 3m lengths or in the traditional 1.8m (6ft) length, in 75 and 100mm diameter and by using the Timesaver Heritage couplings, waste is minimised and installation time, compared to the old socket/spigot caulking method, is significantly reduced.

The Timesaver Heritage couplings have been accepted by recognised bodies for all grade listed properties ie. National Heritage, English Heritage etc.

## Extensive access fittings

One of the main traits of British design was not only its attention to maintaining the drainage flow with swept branches, but also making sure sufficient access to the system was provided to ensure any blockages could be easily cleared. As a result, the Timesaver range carries more access fittings than any cast iron system on the market, for above and below ground.

## Connections to waste systems

Timesaver offers a number of fittings to be able to connect to waste pipes to the mainstack ie. boss pipes, push-fit or threaded (BSPT) but also includes the 'strap-on-boss' fitting which enables connection cutting into the pipe.



# Why specify Timesaver



## Below ground Strength

Timesaver is recognised as the strongest of all the drainage systems in any material, in particular for below ground applications. The substantial section thickness of BS 437, makes it the first choice for under building drainage, especially on commercial buildings where fit and forget is a high priority and provides peace of mind.

Also in areas where the drainage is to be installed in unstable ground, or ground containing methane gases, the strength of Timesaver puts it out on its own.

The above ground soil range can provide further strengths in areas where impact can occur ie. externally on the building fabric and car parks.

Exceptional crush resistance – vastly superior to other materials

- Timesaver BS437 150KN/m
- Clay 40KN/m
- PVC 6KN/m
- The strongest soil and drain system – no contest
- Exceptional crush resistance – vastly superior to HDPE and PVC
- Exceptional resistance to over vigorous rodding
- No. 1 choice for exposed areas ie. car parks, shopping centres, inner cities – which are accessible to damage by accidental impact or vandalism
- Used in areas where ground is unstable or the trenches are shallow
- Less bedding required.



## The first choice solution for under building buried drainage, for fit and forget peace of mind encased in the concrete slab

- Cast iron has the proven strength and crush resistance to withstand the weight of the concrete unlike the more volatile lighter weight plastic materials which can and often require filling to weigh it down
- Cast iron is not affected by the high temperatures from the concrete generated during the pouring process – which can reach temperatures of 70 degrees or more depending on the volume of concrete.
- Cost of failure can be very high – if concrete slabs require digging up to repair drainage failures

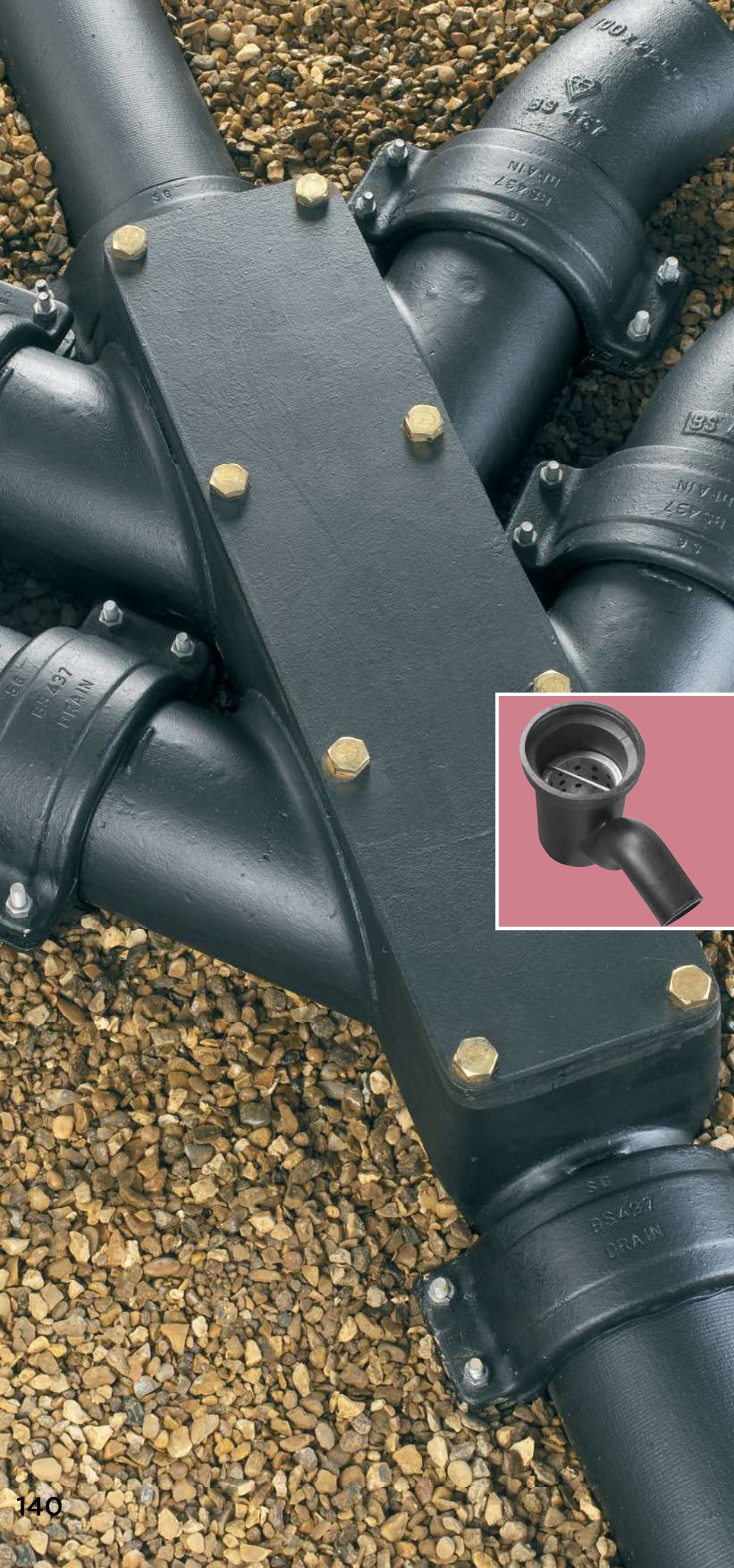
## British Standard designs

The Timesaver ranges are based on British Standards BS 416 Part 2 for above ground and BS 437 for below ground and as such, contain fittings and diameters appropriate to those standards. In particular the below ground range contains an extensive range of traps/raising pieces and inspection chambers in 100, 150 and 225mm diameters.



# Section 1

## Drain Pipes and Fittings



# Joining method



- A. Pipe or fitting
- B. Pipe or fitting
- C. Synthetic rubber gasket
- D. Coupling
- E. Stainless steel set screws and nuts

All couplings have four set screws and nuts.

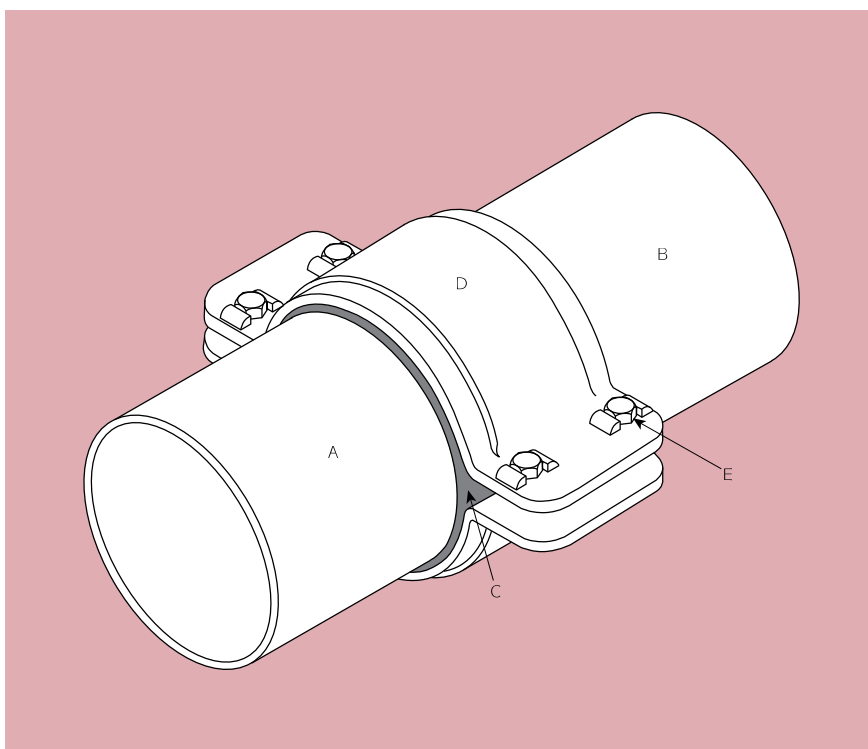
## **Couplings are supplied ready assembled**

1. Slacken bolts to fullest extent.
2. Place synthetic rubber gasket on end of pipe or fitting A, and slide loosely assembled coupling over pipe B.
3. Fit pipe B into gasket ensuring both A and B are butting against the internal central register.
4. Slide coupling over gasket ensuring that it is centrally located and tighten bolts alternately so that the gap between coupler halves is even on both sides. When hand tight check alignment of assembly.
5. Complete tightening operation by use of a Ratchet Spanner – EF100 and Deep Socket – EF101 until a suitable resistance is achieved (min 20Nm).

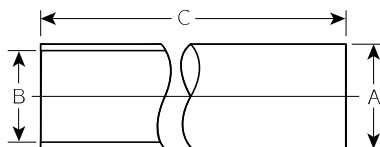
Joints may be deflected up to 5° without affecting the sealing properties.

The Timesaver couplings meet the performance requirements of BS 6087:1990 and incorporate synthetic rubber gaskets conforming to BS EN 681-1/ISO 4633 and stainless steel set screws and nuts conforming to BS 970 Part 2. A Ratchet Spanner – EF100 is the recommended tool required to tighten the stainless steel set screws which give a 'for all time seal' water and airtight installation.

**Saint-Gobain PAM UK do not accept liability for any complaints on installations where components not manufactured by Saint-Gobain PAM UK are included.**



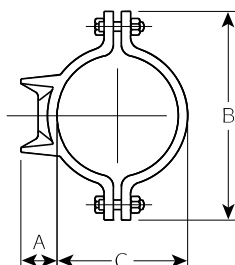
# Pipes double spigot



Product code	Dia	A Max o/dia	B Min i/dia	Min section	C Metre lengths available	Nominal wt per metre kg
<b>Pipe - TD00</b>						
156568	100	119	99	7	3	18.7
156832	150	173	150	8	3	31.7
157042	225	256	225	10	3	60.0

Pipes are internally lined with a two part epoxy paint (ochre colour).  
Externally coated with black acrylic paint and stencilled every metre with blue marking.

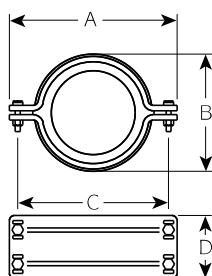
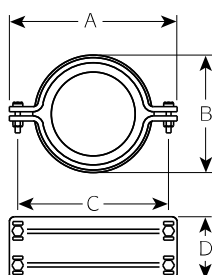
# Brackets fixing



Product code	Dia	A	B	C	Nominal wt/kg
<b>Wall fixing or hanging brackets - TD640</b>					
191358	100	40	205	130	2.3
191359	150	40	255	175	2.8
192374	225	18	358	260	4.0

Fixing hole in bracket is plain without BSPT thread (see page 167).  
225 bracket is manufactured from mild steel-coated in a red anti-rust primer.

# Couplings standard and transitional



## Standard

Ductile iron coupling with stainless steel nuts and set screws and synthetic rubber gasket for jointing Timesaver drain to Timesaver drain (black gasket with identity marking).

Product code	Dia	A	B	C	D	*E	Nominal wt/kg
<b>Two-piece ductile iron coupling - TD01</b>							
191294	100	203	140	180	75	5	2.8
191295	150	252	195	230	75	5	3.6
191296	225	345	290	320	100	5	7.8

## Transitional

Ductile iron coupling with stainless steel nuts and set screws and synthetic rubber gasket for jointing Timesaver drain to Timesaver soil or Ensign soil (black gasket with identity marking). Electrical continuity clips are available supplied separately in standard quantity bags of 25 number (see ref table page 172).

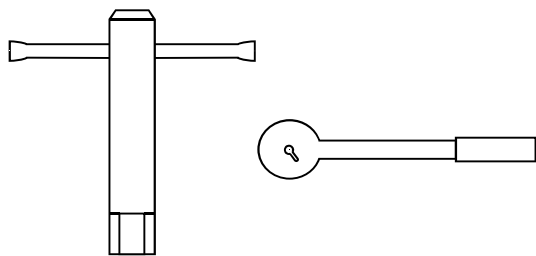
Product code	Dia	A	B	C	D	*E	Nominal wt/kg
<b>Two-piece ductile iron coupling - TD02</b>							
191297	100	203	140	180	75	5	2.8
191298	150	252	195	230	75	5	3.6

Four set screws are supplied on all couplings TD01/TD02.  
Electrical continuity clips are available supplied separately in standard quantity bags of 25 number (see ref table page 172).

\* Minimum allowance (E) to accommodate gasket register (for guidance only).



# Tools



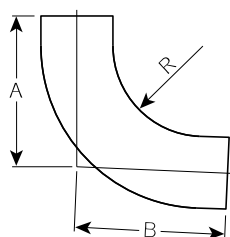
## Ratchet spanner - EF100: product code 191201

A ratchet spanner is the recommended tool required to tighten the stainless steel screws, used in conjunction with a deep socket - EF101: product code 191202.

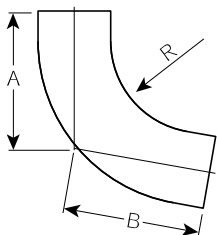
## 'T' box spanner - EF098: product code 191200

13mm A/F, dual purpose, for use with Timesaver and Ensign systems.

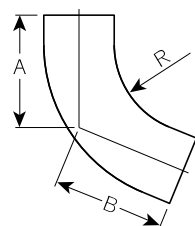
## Bends medium radius



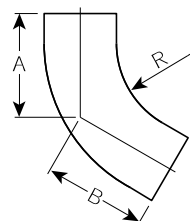
Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend • Medium radius - TD06</b>					
191219	100	250	250	150	8.8
191225	150	275	275	150	16.0
191229	225	335	335	150	41.5



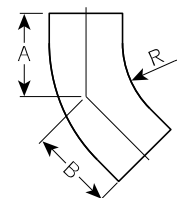
Product code	Dia	A	B	R	Nominal wt/kg
<b>80° Bend • Medium radius - TD06</b>					
191218	100	225	225	150	8.1



Product code	Dia	A	B	R	Nominal wt/kg
<b>67½° Bend • Medium radius - TD06</b>					
191217	100	190	190	150	7.0
191224	150	205	205	150	10.9

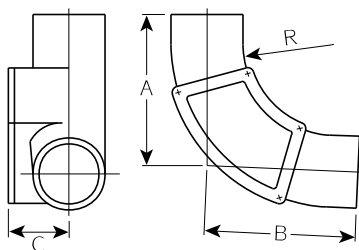
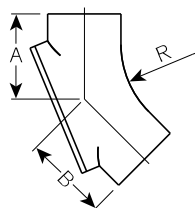
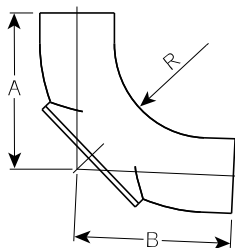
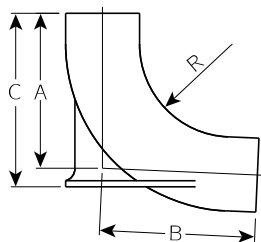
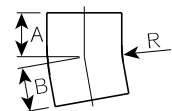
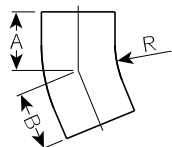
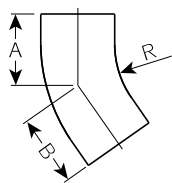


Product code	Dia	A	B	R	Nominal wt/kg
<b>60° Bend • Medium radius - TD06</b>					
191216	100	170	170	150	6.0



Product code	Dia	A	B	R	Nominal wt/kg
<b>45° Bend • Medium radius - TD06</b>					
191215	100	135	135	150	5.8
191223	150	145	145	150	11.0
191228	225	215	215	150	31.8

# Bends medium radius



Product code	Dia	A	B	R	Nominal wt/kg
<b>35° Bend • Medium radius - TD06</b>					
191214	100	115	115	150	4.3
191222	150	125	125	150	9.1

Product code	Dia	A	B	R	Nominal wt/kg
<b>22½° Bend • Medium radius - TD06</b>					
191213	100	95	95	150	3.6
191221	150	95	95	150	7.1
191227	225	120	120	150	18.4

Product code	Dia	A	B	R	Nominal wt/kg
<b>10° Bend • Medium radius - TD06</b>					
191212	100	70	70	150	3.1
191220	150	70	70	150	4.5
191226	225	85	85	150	13.0

Product code	Dia	A	B	C	R	Nominal wt/kg
<b>87½° Bend with heel rest • Medium radius - TD07</b>						
191230	100	250	250	255	150	9.4
191231	150	275	275	310	150	19.4

Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend with access rear • Medium radius - TD08</b>					
191233	100	250	250	150	12.0
191235	150	275	275	150	21.3
191237	225	335	335	150	57.8

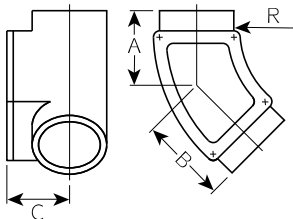
Product code	Dia	A	B	R	Nominal wt/kg
<b>45° Bend with access rear • Medium radius - TD08</b>					
191232	100	135	135	150	8.6
19234	150	145	145	150	25.9
+ 191236	225	215	215	150	46.8

Product code	Dia	A	B	C	R	Nominal wt/kg
<b>87½° Bend with access side • Medium radius - TD09</b>						
191239	100	250	250	100	150	13.1
191241	150	275	275	120	150	20.5
+ 191243	225	335	335	190	150	57.5

\*Made to order.

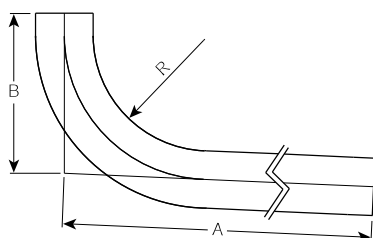
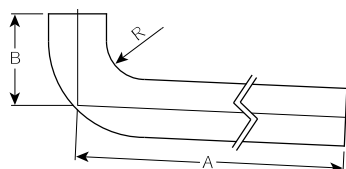
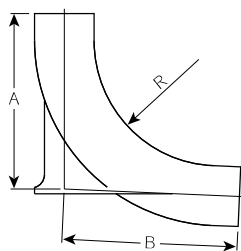
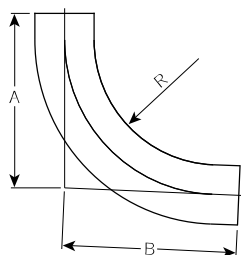


## Bends medium radius



Product code	Dia	A	B	C	R	Nominal wt/kg
<b>45° Bend with access side • Medium radius - TD09</b>						
191238	100	135	135	100	150	10.0
191240	150	145	145	120	150	26.6
+ 191242	225	215	215	190	150	46.8

## Bends long radius



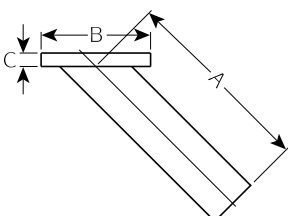
Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend • Long radius - TD15</b>					
191244	100	350	350	250	13.2
191245	150	375	375	250	25.0

Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend with heel rest • Long radius - TD22</b>					
191246	100	350	350	250	15.0
191247	150	375	375	250	28.0

Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend • Long tail - TD102</b>					
191289	100	815	180	90	18.6

Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend • Long tail - TD104</b>					
+ 191713	100	850	650	230	33.0
+ 192699	150	850	650	203	54.0

## Bends clearing arm



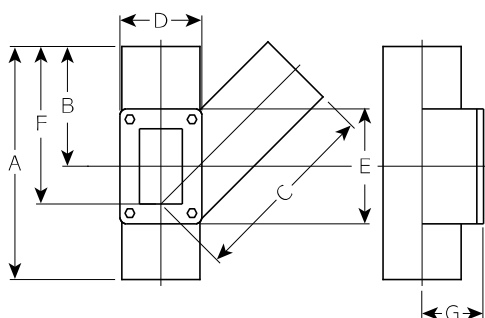
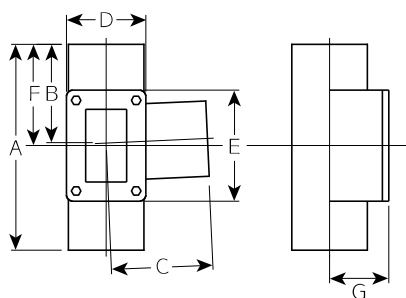
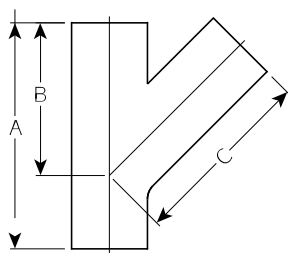
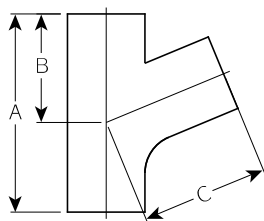
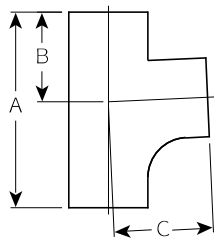
Product code	Dia	A	B	C	Nominal wt/kg
<b>45° Bend • Clearing arm - TD425</b>					
191292	100 x 45°	405	235	35	12.5

Loading: B125

Can be used with gratings and covers - TD612-TD616 and raising pieces - TD525, commonly used with TD615.

\*Made to order.

# Branches



Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Branch • Radius curve - TD37</b>					
191250	100 x 100	295	130	150	7.8
191252	150 x 100	370	135	235	16.1
191254	150 x 150	445	170	255	19.1
191256	225 x 100	390	155	275	40.0
191258	225 x 150	460	185	295	46.3
191260	225 x 225	590	225	365	58.5

Product code	Dia	A	B	C	Nominal wt/kg
<b>67½° Branch • Radius curve - TD37</b>					
191249	100 x 100	305	165	195	8.8

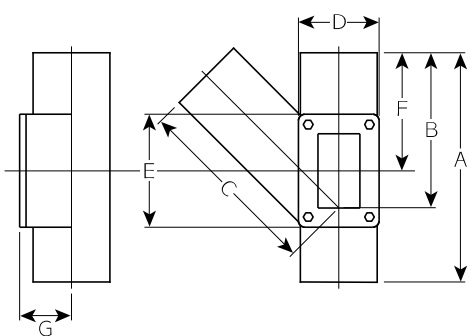
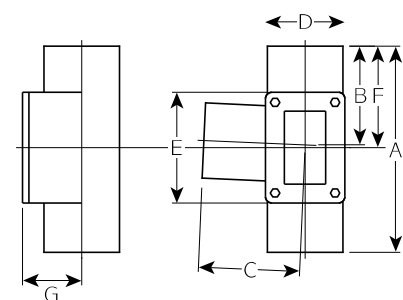
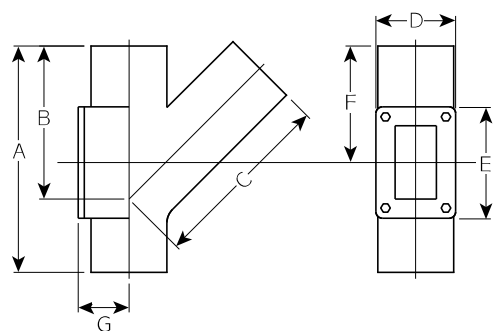
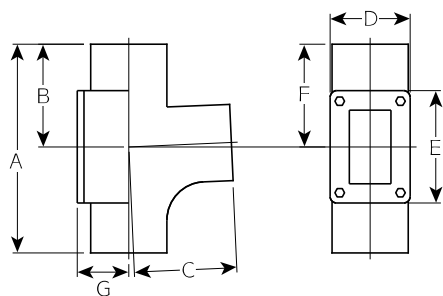
Product code	Dia	A	B	C	Nominal wt/kg
<b>45° Branch - TD37</b>					
191248	100 x 100	355	245	290	11.3
191251	150 x 100	365	280	325	15.4
191253	150 x 150	435	315	355	24.4
191255	225 x 100	390	340	395	42.0
191257	225 x 150	460	375	410	45.8
191259	225 x 225	590	445	510	64.4

Product code	Dia	A	B	C	D	E	F	G	Nominal wt/kg
<b>87½° Branch with access side RH • Radius curve - TD51</b>									
191262	100 x 100	325	160	160	205	215	160	105	14.2
191264	150 x 100	370	140	235	175	175	140	135	20.9
+ 191267	225 x 150	590	225	295	260	260	250	190	67.3
+ 191269	225 x 225	590	225	365	260	260	250	190	79.5

Product code	Dia	A	B	C	D	E	F	G	Nominal wt/kg
<b>45° Branch with access side RH - TD51</b>									
191261	100 x 100	355	245	290	125	175	245	105	14.2
191263	150 x 100	420	300	325	175	175	200	135	21.9
+ 191265	225 x 100	590	445	330	260	260	350	190	62.8
+ 191266	225 x 150	590	445	355	260	260	350	190	66.8
+ 191268	225 x 225	590	445	510	260	260	350	190	85.4

\*Made to order.

# Branches



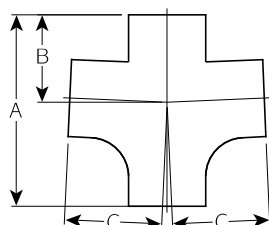
Product code	Dia	A	B	C	D	E	F	G	Nominal wt/kg
<b>87½° Branch with access rear • Radius curve - TD52</b>									
191271	100 x 100	325	160	160	205	215	160	80	13.4
191273	150 x 100	370	140	235	175	175	140	110	22.9
+ 191275	225 x 100	590	225	275	260	260	250	190	60.0
+ 191276	225 x 150	590	225	295	260	260	250	190	62.4
+ 191278	225 x 225	590	225	365	260	260	250	190	79.5

Product code	Dia	A	B	C	D	E	F	G	Nominal wt/kg
<b>45° Branch with access rear - TD52</b>									
191270	100 x 100	355	240	290	205	215	185	80	16.1
191272	150 x 100	420	300	325	175	175	200	110	22.9
+ 191274	225 x 100	590	445	330	260	260	350	190	63.0
+ 191277	225 x 225	590	445	510	260	260	350	190	84.4

Product code	Dia	A	B	C	D	E	F	G	Nominal wt/kg
<b>87½° Branch with access side LH • Radius curve - TD53</b>									
191280	100 x 100	325	160	160	205	215	160	105	14.2
191282	150 x 100	370	140	235	175	175	140	135	21.2
+ 191284	225 x 100	590	225	275	260	260	250	190	61.0
+ 191286	225 x 150	590	225	295	260	260	250	190	67.3
+ 191288	225 x 225	590	225	365	260	260	250	190	79.5

Product code	Dia	A	B	C	D	E	F	G	Nominal wt/kg
<b>45° Branch with access side LH - TD53</b>									
191279	100 x 100	355	245	290	125	175	245	105	14.2
191281	150 x 100	365	280	325	175	175	200	135	21.9
+ 191283	225 x 100	590	445	330	260	260	350	190	62.8
+ 191285	225 x 150	590	445	355	260	260	350	190	66.8
+ 191287	225 x 225	590	445	510	260	260	350	190	85.4

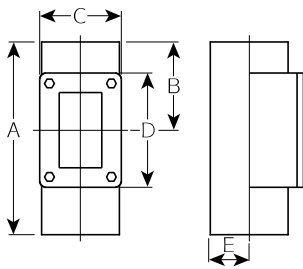
# Branches double



Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Double branch • Plain - TD447</b>					
191293	100 x 100	325	160	160	11.6

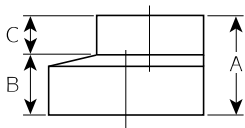
\*Made to order.

## Pipes access



Product code	Dia	A	B	C	D	E	Nominal wt/kg
<b>Rectangular door - TD56</b>							
191344	100	270	135	125	175	95	9.7
191345	150	270	135	175	175	125	15.4
191346	225	590	250	260	260	190	62.6

## Pipes taper

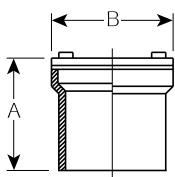


Product code	Dia	A	B	C	Nominal wt/kg
<b>Pipes • Diminishing - TD41</b>					
191333	150 x 100	100	47	43	3.5
191334	225 x 100	210	160	50	13.6
191335	225 x 150	210	160	50	13.4
191336	*225 x 200	100	60	40	6.2
192431	+225 x 250	152	82	70	9.8

\* Connects 225 Timesaver drain to 200 Ensign soil/drain.

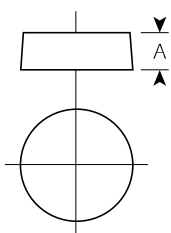
+ Connects 225 Timesaver drain to 250 Ensign soil/drain.

## Socket ferrules



Product code	Dia	A	B	Nominal wt/kg
<b>Socket ferrule with cast iron cap - TD36</b>				
191330	100	120	130	3.8

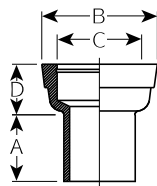
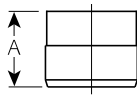
## Blank ends



Product code	Dia	A	Nominal wt/kg
<b>Blank ends - TD34</b>			
191326	100	40	1.3
191327	150	40	2.6
191328	225	75	10.7

If you require blank ends drilled to accommodate 50mm waste - use GT71 (see page 182) with TD02 stepped coupling.

# Pipes transitional

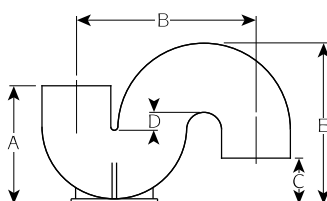
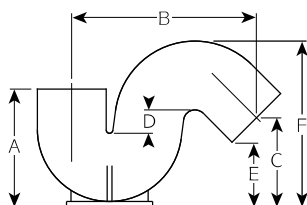
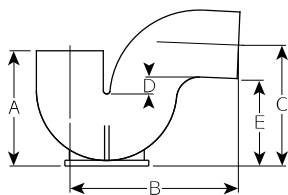


Product code	Dia	A	Nominal wt/kg
<b>Adaptor from Timesaver drain to supersleve - TD118</b>			
191350	100	100	2.2
191351	150	125	5.1

Product code	Dia	A	B	C	D	Nominal wt/kg
<b>Socket for cast iron to suit BS 437 - TD47</b>						
191341	100	100	185	135	75	8.0
191342	150	80	240	190	90	11.8
+ 191343	225	120	355	275	115	31.3

Note: Transitional pipe for WC (see soil page 176).

# Gully traps



Product code	Dia	A	B	C	D	E	Nominal wt/kg
<b>87½° Gully trap - TD60</b>							
191399	100	205	300	215	50	165	12.4
191400	150	295	400	295	50	220	24.4

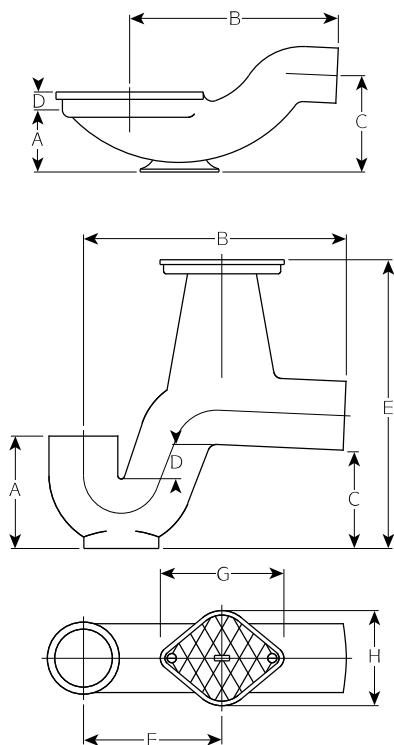
Product code	Dia	A	B	C	D	E	F	Nominal wt/kg
<b>45° Gully trap - TD60</b>								
191398	100	205	320	155	50	120	275	13.2

Product code	Dia	A	B	C	D	E	Nominal wt/kg
<b>Vertical gully trap - TD60</b>							
191397	100	205	310	80	50	275	13.2

+ Made to order.



# Gully traps



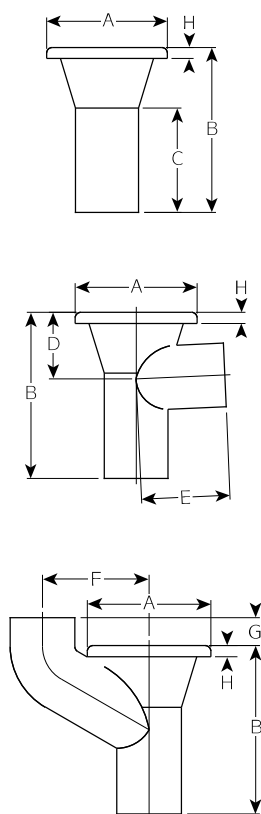
Product code	Dia	A	B	C	D	Nominal wt/kg
<b>87½° Gully trap with 225mm inlet - TD64</b>						
191401	100	130	450	220	43	24.0

Can be used with raising pieces - TD678 and TD108/TD111.

Product code	Dia	A	B	C	D
<b>87½° Gully trap with surface access - TD107</b>					
191402	100	195	455	230	75

	Dia	E	F	G	H	Nominal wt/kg
<b>87½° Gully trap with surface access - TD107</b>						
	100	500	240	215	165	23.3

# Gully inlets bellmouth



Product code	Dia	A	B	C	H	Nominal wt/kg
<b>Gully inlet • Plain - TD500</b>						
191301	100	220	300	190	17	8.6

Can be used with gratings and covers - TD612-TD616 and raising pieces - TD525.

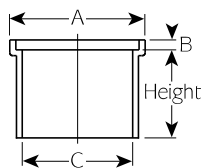
Product code	Dia	Branch	A	B	D	E	H	Nominal wt/kg
<b>Gully inlet with single branch - TD105</b>								
191299	100	100	220	300	120	160	17	11.8

Can be used with gratings and covers - TD612-TD616 and raising pieces - TD525.

Product code	Dia	Branch	A	B	F	G	H	Nominal wt/kg
<b>Gully inlet with vertical branch - TD106</b>								
191300	100	100	220	300	190	50	17	13.7

Can be used with gratings and covers - TD612-TD616 and raising pieces - TD525.

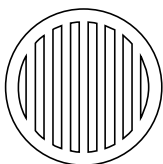
# Raising pieces



Product code	Height	A	B	C	Nominal wt/kg
<b>Raising piece - TD525</b>					
191303	150	220	17	190	9.1
191305	305	220	17	190	11.3

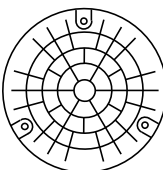
To suit Bellmouth - TD500/TD105/TD106.  
Can be used with gratings and covers - TD612-TD616.  
Raising pieces require caulking into above listed components.  
See p168 for details on caulking compound.

# Gratings and covers



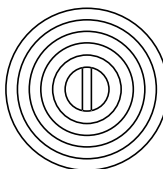
Product code	Dia	Nominal wt/kg
<b>Grating plain - TD612</b>		
191385	200	1.8

Maximum load 2.0 tonnes.



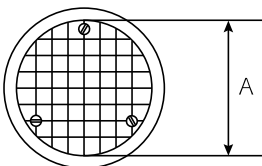
Product code	Dia	Nominal wt/kg
<b>Solid cover - TD613S</b>		
191386	200	2.0

Maximum load 2.0 tonnes.



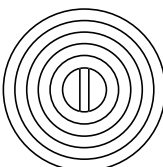
Product code	Dia	Nominal wt/kg
<b>Grating hinged and locking - TD614</b>		
191387	200	1.8

Maximum load 2.0 tonnes.



Product code	Dia	A	Nominal wt/kg
<b>Sealed plate and frame - TD615</b>			
191388	200	180	2.7

Maximum load 2.0 tonnes. Sealed with rubber seal three screws.

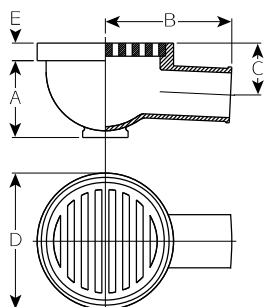


Product code	Dia	Nominal wt/kg
<b>Grease sealed cover and frame - TD616</b>		
191389	200	2.2

Maximum load 2.0 tonnes. Three screws to fix.

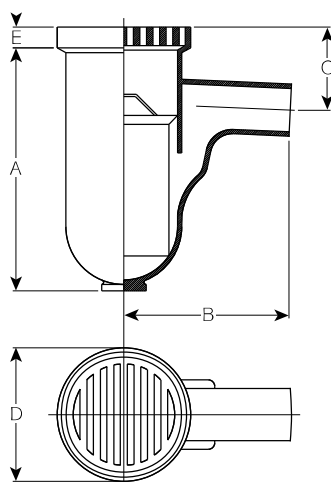
TD612-TD616 can be used in conjunction with raising pieces - TD525.  
Bellmouths - TD500/TD105/TD106 and clearing arm bends - TD425.  
Gratings - TD614/TD615/TD616 require caulking into above listed components. See p168 for details on caulking compound.

# Gully traps



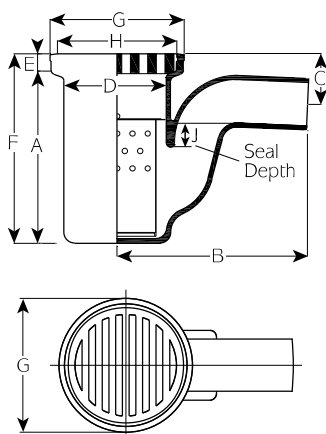
Product code	Dia	A	B	C	D	E	Nominal wt/kg
<b>87½° Trapless gully trap • 230 diameter inlet - TD467</b>							
191403	100	225	280	130	305	43	17.7

Can be used with raising pieces - TD678 and TD108/TD111.  
Can be fitted with covers and gratings - TD650-TD653 and TD661/TD662.



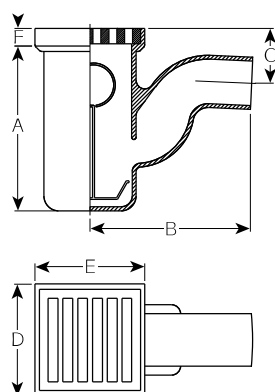
Product code	Dia	A	B	C	D	E	Nominal wt/kg
<b>87½° Deans gully trap • 230 diameter inlet - TD550</b>							
191407	100	560	380	190	305	43	55.4

Can be used with raising pieces - TD678 and TD108/TD111.  
Can be fitted with covers and gratings - TD650-TD653 and TD661/TD662.  
Can be supplied with Galvanised Sediment Pan; product code 191181.  
If used with Galvanised Sediment Pan this fitting can only be fitted with TD650 or TD651 gratings.



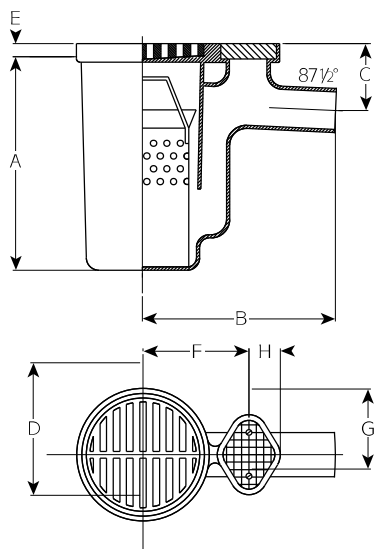
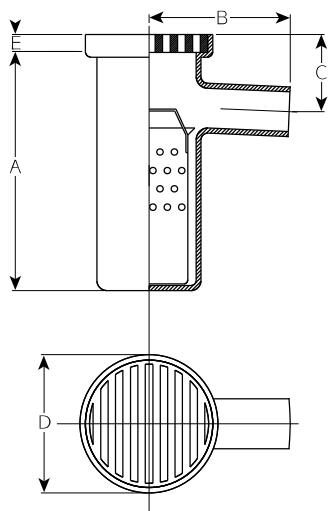
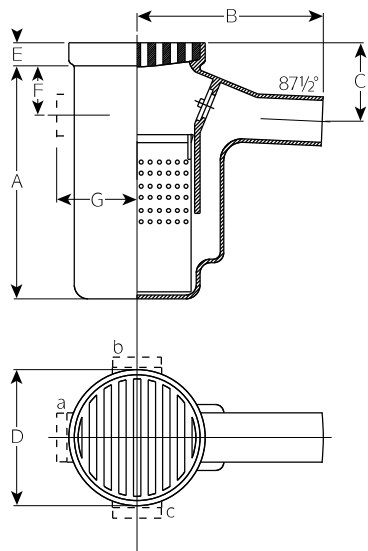
Product code	Dia	A	B	C	D	E	F	G	H	J	Nominal wt/kg
<b>87½° Gully trap • 230 diameter inlet - TD551</b>											
191408	100	395	437	117	225	40	435	308	274	56	30.8

Can be used with raising pieces - TD678 and TD108/TD111.  
Can be fitted with covers and gratings - TD650-TD653 and TD661/TD662.  
Can be supplied with Galvanised Sediment Pan; product code 191182.  
If used with Galvanised Sediment Pan this fitting can only be fitted with TD650 or TD651 gratings.



Product code	Dia	A	B	C	D	E	F	Nominal wt/kg
<b>87½° Gully Trap • 230 x 230 inlet - TD553</b>								
191381	100	380	370	125	255	250	35	26.8

Can be supplied with Galvanised Sediment Pan; product code 191183.  
Can be supplied with Grating; product code 191380.  
Maximum load 2.0 tonnes.



Product code	Dia	A	B	C	D	E	F	G	Nominal wt/kg
<b>87½° Garage gully trap • 305 diameter inlet - TD554</b>									
191410	100	478	363	168	380	67	101	210	58.4

Can be supplied with raising pieces - TD559.  
Can be supplied with Galvanised Sediment Pan: product code 191184. Can be supplied with grating: product code 191382.  
Maximum load 7.5 tonnes.

100 Inlets can be cast on in positions a, b, or c to order.

Product code	Inlet position
191411	a
191414	b
191415	c
191412	a and b
191413	a and c
191416	a, b and c

Product code	Dia	A	B	C	D	E	Nominal wt/kg
<b>87½° Trapless gully trap • 230 diameter inlet - TD556</b>							
191409	100	570	335	185	300	45	45.4

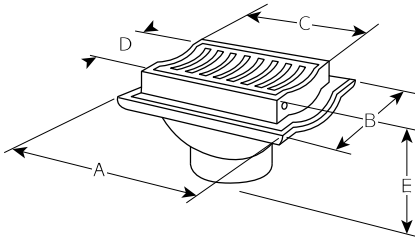
Can be used with raising pieces - TD678 and TD108-TD111.  
Can be fitted with covers and gratings - TD650-TD653 and TD661-TD662. Can be supplied with Galvanised Sediment Pan: product code 191181. If used with Galvanised Sediment Pan this fitting can only be fitted with TD650 or TD651 gratings.

Product code	Dia	A	B	C	D	E	F	G	H	Nominal wt/kg
<b>87½° Garage gully trap • 330 diameter inlet - TD558</b>										
191418	100	560	520	180	405	50	285	215	85	75.5

Can be supplied with Galvanised Sediment Pan: product code 191185. Can be supplied with Grating: product code 191383.  
Maximum load 7.5 tonnes.

## Yard gully

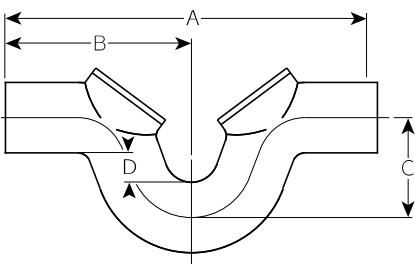
Heavy roadway hinged grating and frame.  
Grating dished 25mm deep for channel or flat.



Product code	Outlet dia	A	B	C	D	E	Nominal wt/kg
<b>Gully trap with luting flange - TD561</b>							
191357	225	445	375	335	265	205	44.0

For use with traps - TD550/TD551 and TD556.  
Raising pieces - TD678 and TD108/TD111 and tapered inlet gullies - TD684 and TD120/TD123.  
Grating maximum load 7.5 tonnes.  
Requires caulking into fittings.  
See p168 for details on caulking compound.

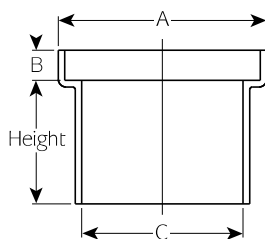
## Running traps



Product code	Dia	A	B	C	D	Nominal wt/kg
<b>Running trap with double access - TD475</b>						
191404	100	413	206	150	50	14.2
191405	150	775	370	215	50	55.4
191406	225	1200	600	325	100	144.0

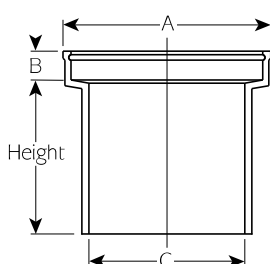
225 diameter comes supplied with foot.  
100 and 150 diameter have round accesses.  
225 diameter has rectangular accesses.

## Raising pieces



Product code	Height	A	B	C	Nominal wt/kg
<b>Raising piece - TD559</b>					
191354	75	380	50	305	12.7
191356	150	380	50	305	20.4
191355	300	380	50	305	37.0

For use with gully trap - TD554.  
Requires caulking into gully trap.  
See p168 for details on caulking compound.

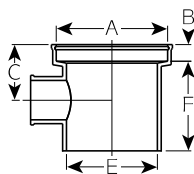


Product code	Height	A	B	C	Nominal wt/kg
<b>Raising pieces • 225 inside diameter • Plain - TD678</b>					
191363	75	305	43	225	9.5
191365	115	305	43	225	11.6
191364	150	305	43	225	13.5
191366	225	305	43	225	17.0
191367	300	305	43	225	21.5

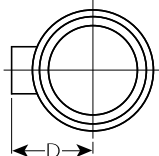


## Raising pieces

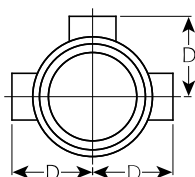
TD108/111



TD108



TD111



Product code	A	B	C	D	E	F	Nominal wt/kg
<b>Raising piece with 100 inlet branch - TD108</b>							
191347	305	43	140	205	225	225	19.0

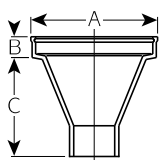
Product code	A	B	C	D	E	F	Nominal wt/kg
<b>Raising piece with 100 inlet branches - TD111</b>							
191348	305	43	140	205	225	225	23.1

Raising pieces - TD678 and TD108/TD111 can be used in conjunction with gully traps - TD64/TD467/TD550/TD551/TD556 and tapered gully inlets - TD684 and TD120/123. Can also be used with grating and covers - TD650-TD653 and TD661/TD662.

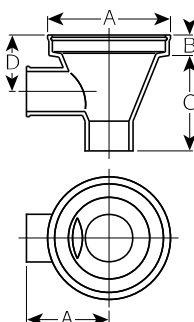
Raising pieces require caulking into Gully Traps. See p168 for details on caulking compound.

## Tapered gully inlets

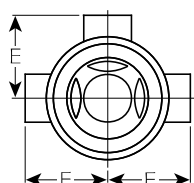
TD684



TD120



TD123



Product code	Outlet dia	A	B	C	Nominal wt/kg
<b>Tapered gully inlet • 225 inside diameter • Plain - TD684</b>					
191368	100	305	43	245	12.9
191369	150	305	43	225	12.3

Product code	Outlet dia	A	B	C	D	E	Nominal wt/kg
<b>Tapered gully inlet with 100 inlet branch - TD120</b>							
191352	100	305	43	245	140	205	14.2

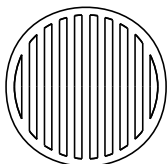
Commonly known as back inlet gully.

Product code	Outlet dia	A	B	C	D	E	Nominal wt/kg
<b>Tapered gully inlet with 100 inlet branches - TD123</b>							
191353	100	305	43	245	140	205	20.3

Tapered gully inlets - TD684 and TD120/TD123 can be used in conjunction with raising pieces - TD678 and TD108/TD111 and can be used with gratings and covers - TD650-TD653 or TD661/TD662.

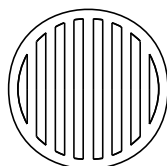
# Gratings and covers

For gully traps, raising pieces and tapered gully inlets 265 diameter to suit TD678 and TD108/TD111 raising pieces, TD684 and TD120/TD123 tapered gully inlets, and gully traps TD467/TD550/TD551/TD556.



Product code	Dia	Nominal wt/kg
<b>Light grating - TD650</b>		
191390	265	3.6

Maximum load 2.0 tonnes.



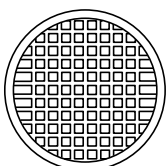
Product code	Dia	Nominal wt/kg
<b>BS heavy grating - TD651</b>		
191391	265	8.0

Maximum load 7.5 tonnes.



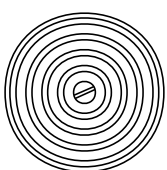
Product code	Dia	Nominal wt/kg
<b>Hinged and locking grating and frame - TD653</b>		
191360	265	5.3

Maximum load 2.0 tonnes.



Product code	Dia	Nominal wt/kg
<b>Sealing plate and frame fitted with two screws - TD661</b>		
191361	265	5.0

Maximum load 7.5 tonnes.

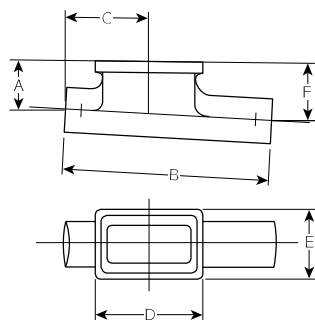


Product code	Dia	Nominal wt/kg
<b>Grease seal cover and frame fitted with two screws - TD662</b>		
191362	265	3.6

Maximum load 2.0 tonnes.

Requires caulking into above listed gully traps, raising pieces and tapered gully inlets. See p168 for details on caulking compound.

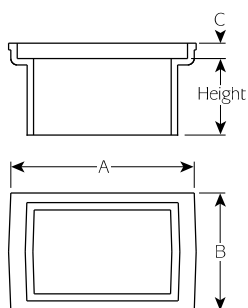
# Rainwater shoes



Product code	Dia	A	B	C	D	E	F	Nominal wt/kg
<b>Rainwater shoe with horizontal inlet - TD114</b>								
191349	100	125	530	215	280	180	147	15.5

Can be used with gratings and covers - TD790-TD795.  
Can be used with raising pieces - TD793.

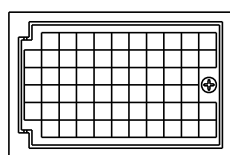
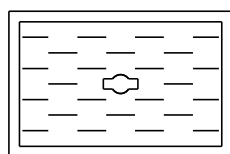
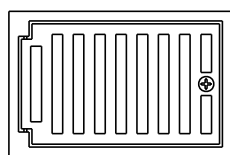
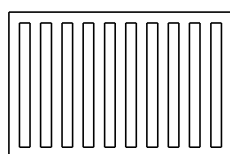
# Raising pieces



Product code	Height	A	B	C	Nominal wt/kg
<b>Raising piece - TD793</b>					
191378	305	280	180	25	15.4

For use with TD114.  
Can be used with gratings and covers - TD790-TD795.  
Raising pieces require caulking into rainwater shoes.  
See p168 for details on caulking compound.

# Gratings and covers



Product code	Dimensions	Nominal wt/kg
<b>Grating - TD790</b>		
191374	240 x 140	2.4

Product code	Dimensions	Nominal wt/kg
<b>Hinged and locking grating and frame - TD791</b>		
191375	240 x 140	3.2

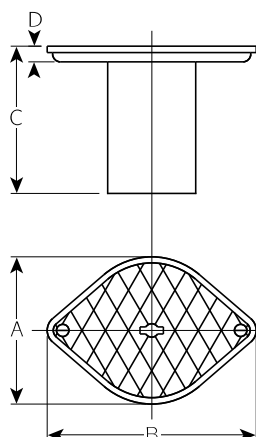
Product code	Dimensions	Nominal wt/kg
<b>Grease seal cover and frame - TD792</b>		
191376	240 x 140	2.4

Fitted with two screws if required.

Product code	Dimensions	Nominal wt/kg
<b>Hinged and locking cover and frame - TD795</b>		
191379	240 x 140	3.2

The above gratings and covers are for use with rainwater (drain) shoes - TD114 and raising pieces - TD793. Gratings - TD791-TD795 require caulking into above listed components. See p168 for details on caulking compound.

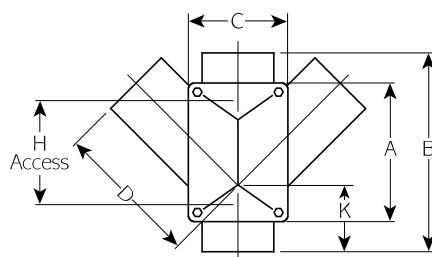
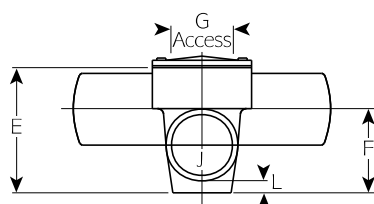
# Airtight inspection eye covers



Product code	Dia	A	B	C	D	Nominal wt/kg
<b>Airtight inspection eye covers - TD724</b>						
191394	100	215	270	190	35	10.0
191395	150	260	320	180	30	16.2

Loading: B125 (5 tonne slow moving load 12.5 tonne gross)

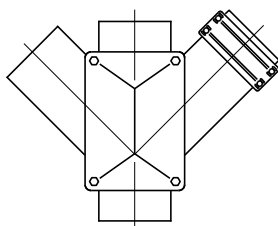
## Chambers



Product code	Dia	A	B	C	D	E	F	G	H	J	K	L	Nominal wt/kg
<b>Chamber • Double branch - TD14</b>													
191306	100 x 100	230	330	165	240	210	140	100	170	65	110	20	19.6
191307	150 x 100	210	300	215	285	250	170	150	150	90	55	25	24.7
191308	150 x 150	285	380	215	330	300	200	150	225	95	105	25	38.6
+ 191309	225 x 100	500	910	280	400	370	220	226	450	110	320	62	100.0
+ 191310	225 x 150	500	910	280	450	370	220	226	450	85	320	62	110.0
+ 191311	225 x 225	500	910	280	565	370	220	226	450	45	320	62	174.0

L and J are dimensions to invert.

+Made to order.



### Single branch arm:

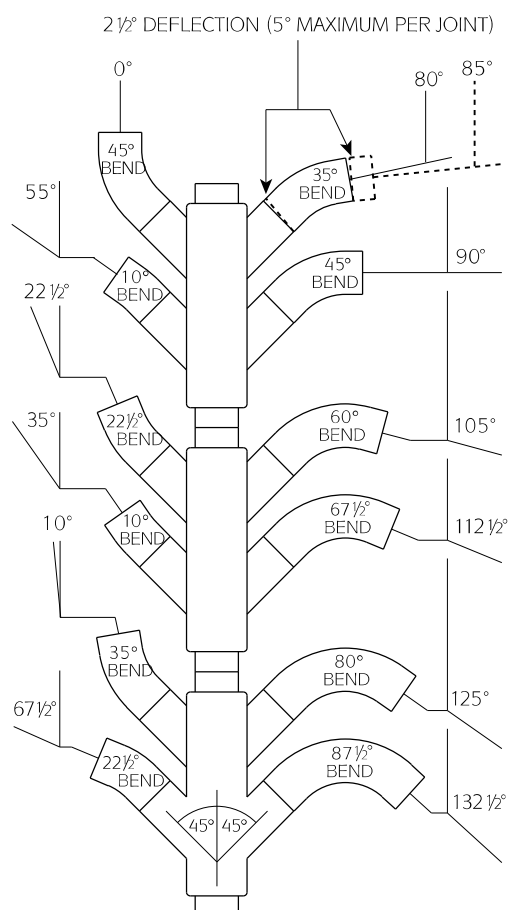
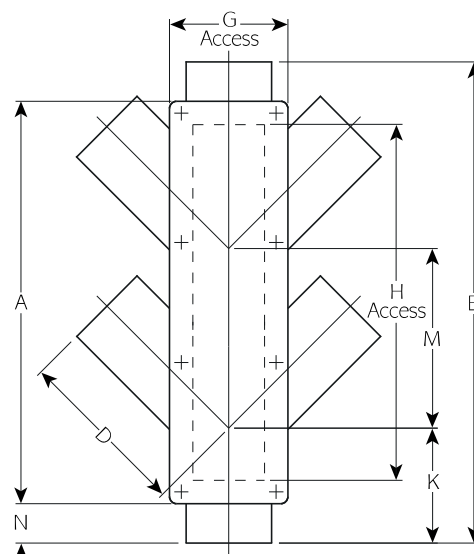
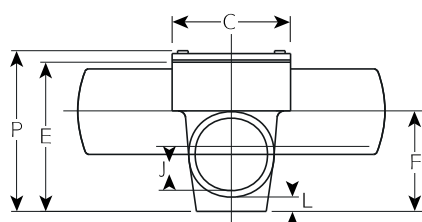
if only one branch arm is required,  
blank off unused arm using  
TD34 Blank End with TD01 coupling.

# Chambers

Product code	Dia	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Nominal wt/kg
<b>Chamber - TD17</b>																
191312	100 x 100	560	670	140	250	210	140	100	520	65	160	20	250	55	240	40.2
191313	150 x 100	560	670	190	285	245	165	150	520	90	160	25	250	55	280	55.9
191314	150 x 150	700	810	190	330	300	195	150	660	95	135	25	360	55	335	87.2
+ 191315	225 x 100	500	920	280	400	370	220	226	450	110	210	62	250	235	410	210.0
+ 191316	225 x 150	1050	1460	280	450	370	220	226	1000	85	320	62	550	235	410	220.0
+ 191317	225 x 225	1050	1460	280	565	370	220	226	1000	45	320	62	550	235	410	240.0

*L and J are dimensions to invert.*

*+Made to order.*



## Inspection chambers

Inspection chamber branch arm entries are all at 45° to conform with BS 437 and Codes of Practice BS EN 12056 Parts 2 and 3.

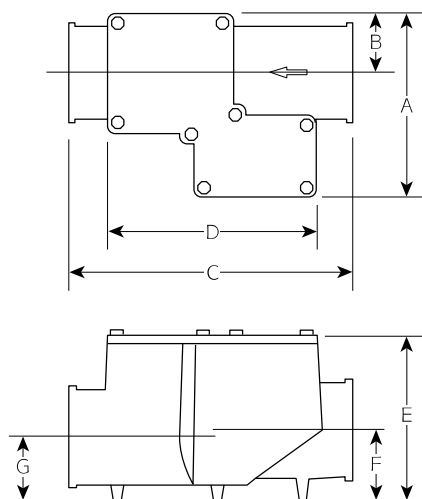
Where other angles of entry are necessary these can be achieved by the use of standard bends as shown. The Timesaver joint having at 5° deflection capability enables other angles to be achieved eg. 10° gap from 80° to 90° deflect each joint of 35° bend according to angle required. An 85° angle is illustrated.

The diagram assumes that the branch drains have a fall of 1 in 40 or less. Falls steeper than this will alter the bend apparent angle in plan.

*+Made to order.*



# Eureka anti-flooding trunk valves



Jones 'Eureka' anti-flooding trunk valves and interceptors for disconnecting chambers and tidal outfalls.

These valves consist of a cast iron body, stainless steel flap faced with rubber seal, separate cast iron valve seating, polystyrene float fixed to a brass pivot rod, and a bolted cover with rubber seal.

The valve and float are fixed to the same brass spindle in adjoining chambers separated by baffles which allow water to enter but excludes solids. Under normal circumstances the valve hangs clear of the flowing sewage, but when the flood water rises the float rises with it and closes the valve.

When flood water subsides the float falls, the valve is raised and the rush of pent up water cleans the valve.

**Inspection/maintenance required every 6-12 months.**

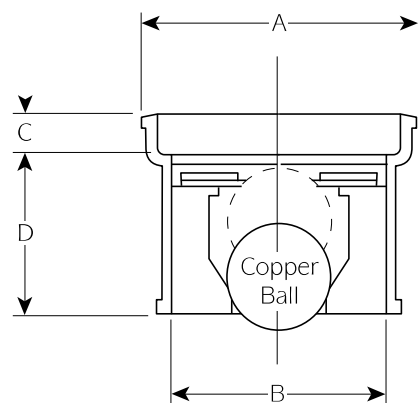
Product code	Dia	A	B	C	D	E	F	G	Nominal wt/kg
<b>Anti-flooding trunk valve 'Eureka' - TD750</b>									
191420	150	330	105	490	365	285	115	105	50.0

100, 225, 300mm diameter are currently available in traditional socket and spigot specification (see page 163).

225 and 300mm diameter are made to order.

Note: 1" BSP float vent is supplied plugged. Plug should be removed and a vent pipe carried upwards to such a height and so positioned as not to transmit foul air in such a manner as to become prejudicial to health or a nuisance. These valves are sold at customers' risk only without guarantee. They are checked before despatch and no liability can be accepted after installation. It is recommended that these valves are serviced before the start of each wet season or a least twice a year.

# Ball valve anti-flooding



Product code	A	B	C	D	Nominal wt/kg
<b>Anti-flooding ball valve - TD756</b>					
191421	305	225	43	180	21.8

Can be used with grating - TD650.

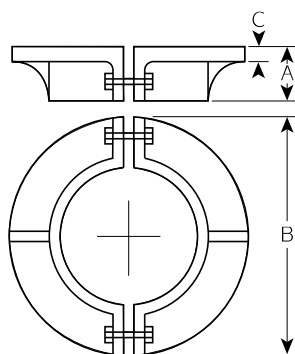
Can be used in conjunction with TD64/TD467/TD550/TD551/TD678 and TD684.

Not recommended for use in foul drain systems.

This valve is sold at customers' risk only without guarantee. They are checked before despatch and no liability can be accepted after installation.

It is recommended that these valves are serviced before the start of each wet season or a least twice a year.

# Flanges loose puddle



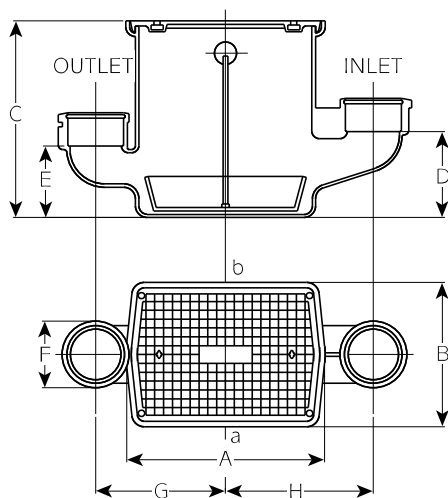
Product code	Dia	A	B	C	Nominal wt/kg
<b>Flange - TD777</b>					
191371	100	50	220	13	3.9
191372	150	65	275	13	5.6
191373	225	65	360	13	8.6

*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 material.*

# Grease traps



For use inside and outside building.  
Inside dimensions for TD706: 455 x 305 x 545.

Product code	Dia	A	B	C	D	E	F	G	H	Nominal wt/kg
<b>Grease trap - TD706 with grease seal cover</b>										
191419	100	545	400	545	250	210	185	360	410	113.1

*Single seal cover: product code 191393*

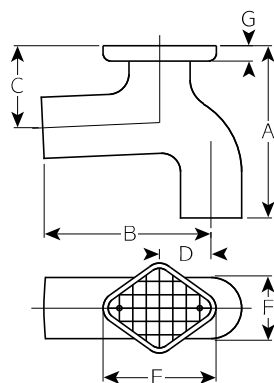
*Can be used with Galvanised Sediment Pan: product code 191187.*

*Can be used with Bellmouth - TD105 and TD106 on Inlet.*

*Can used with TD708 on outlet.*

*Can be tapped 1½" BSPT for vent at a or b to order.*

*It is recommended that if an appliance, which has its own water seal is connected directly to the grease trap, the waste pipe should be vented and this should be positioned as close to the grease trap as possible.*



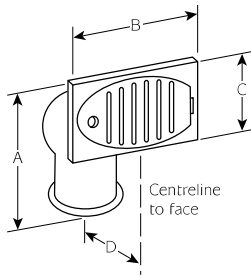
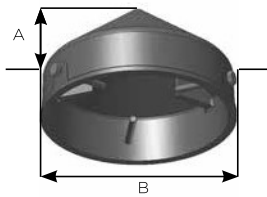
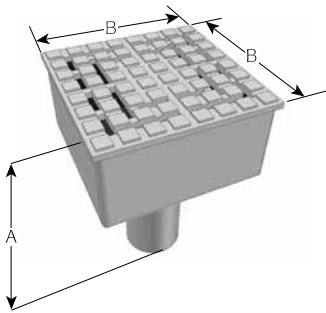
Product code	Dia	A	B	C	D	E	F	G	Nominal. wt/kg
<b>Grease trap outlet for TD706 grease trap - TD708</b>									
191370	100	330	330	155	100	220	175	30	17.1

## TRADITIONAL

## Inlets

## SOCKET AND SPIGOT DRAIN FITTINGS TO BS 437

## fresh air



Product code	Dia	A	B	Nominal wt/kg
<b>'CREGEEN' with hinged cover - 585</b>				
191590	100	343	305	22.2

Product code	Dia	A	B	Nominal wt/kg
<b>Ventilating head with three GM screws - 589</b>				
191591	100	178	292	8.8

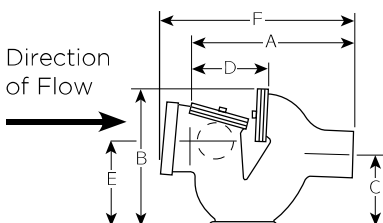
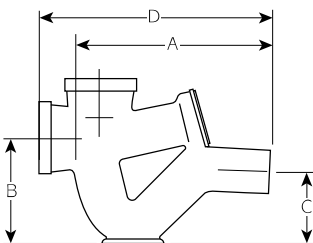
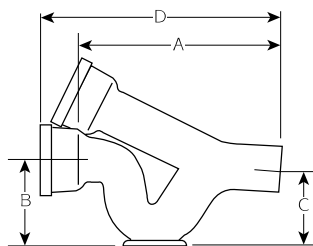
*To fit 100 drain pipe socket or 150 drain pipe spigot.*

Product code	Dia	A	B	C	D	Nominal wt/kg
<b>Fresh air inlet - 591</b>						
191592	100	315	255	175	115	10.0

*Without flap valve.*

*With locking grill.*

## Traps



Product code	Dia	A	B	C	D	Nominal wt/kg
<b>Intercepting trap - 477</b>						
191602	100	530	230	220	582	34.0
191603	150	660	300	290	740	66.0

Product code	Dia	A	B	C	D	Nominal wt/kg
<b>Intercepting trap - 479</b>						
191605	100	580	290	220	660	47.0

Product code	Dia	A	B	C	D	E	F	Nominal wt/kg
<b>Intercepting trap - 481</b>								
191607	100	530	240	230	240	235	660	44.0
191610	150	610	485	290	290	320	700	68.0

*100 and 150mm dia with 100 dia FAI. Can be supplied with fresh air inlet LH or RH. 100 LH 191608, 100 RH 191609, 50 LH 191611, 150 RH 191612. Position of inlet left/right decided when viewing against the direction of the flow. If in doubt - contact Technical Dept. 01952 262529*

# Eureka anti-flooding trunk valves

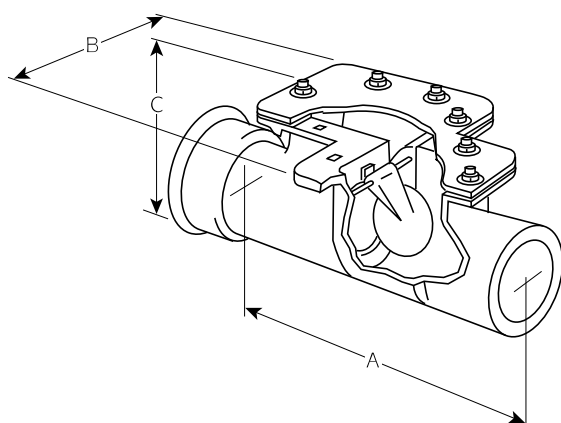
Jones 'Eureka' anti-flooding trunk valves and interceptors for disconnecting chambers and tidal outfalls.

These valves consist of a cast iron body, stainless steel flap faced with rubber seal, separate cast iron valve seating, polystyrene float fixed to a brass pivot rod, and a bolted cover with rubber seal.

The valve and float are fixed to the same brass spindle in adjoining chambers separated by baffles which allow water to enter but excludes solids. Under normal circumstances the valve hangs clear of the flowing sewage, but when the flood water rises the float rises with it and closes the valve.

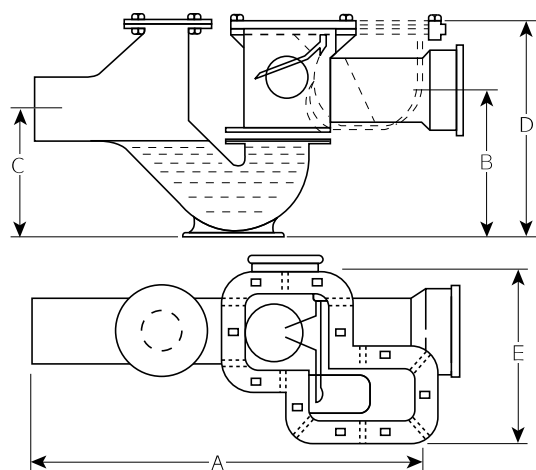
When flood water subsides the float falls, the valve is raised and the rush of pent up water cleans the valve.

Note: 1" BSP float vent is supplied plugged. Plug should be removed and a vent pipe carried upwards to such a height and so positioned as not to transmit foul air in such a manner as to become prejudicial to health or a nuisance. These valves are sold at customers' risk only without guarantee. They are checked before despatch and no liability can be accepted after installation. It is recommended that these valves are serviced before the start of each wet season or a least twice a year.



Product code	Dia	A	B	C	Nominal wt/kg
<b>Anti-flooding trunk valve 'Eureka' - 750</b>					
191593	100	597	356	241	51.0
+191594	225	889	610	406	120.0
+191870	300	1035	748	540	350.0

150mm diameter (see page 160).

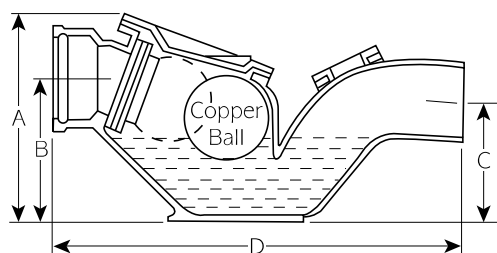


Product code	Dia	A	B	C	D	E	Nominal wt/kg
<b>Anti-flooding trunk valve 'Eureka' - 752</b>							
+191595	100	845	299	267	396	343	105.0
+191596	150	978	355	305	546	406	145.0
+191597	225	1372	559	432	800	584	-

Note: 1" BSP float vent is supplied plugged. Plug should be removed and a vent pipe carried upwards to such a height and so positioned as not to transmit foul air in such a manner as to become prejudicial to health or a nuisance. These valves are sold at customers' risk only without guarantee. They are checked before despatch and no liability can be accepted after installation. It is recommended that these valves are serviced before the start of each wet season or a least twice a year.

The PAM range of traditional drain anti-flooding traps and valves are progressively being updated. This involves the removal of the traditional socket and the spigot bead, which will simplify installation, enabling connections to be made with standard ductile iron mechanical couplings.

# Ball valve anti-flooding

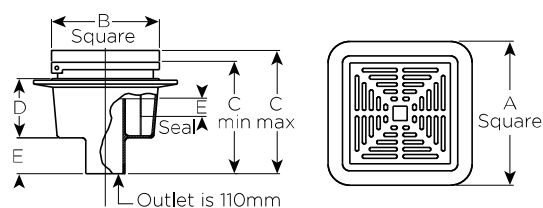


Product code	Dia	A	B	C	D	Nominal wt/kg
<b>Anti-flooding ball valve - 755</b>						
+ 191598	100	350	240	185	660	53.5
+ 191599	150	460	315	260	820	98.9
+ 191600	225	616	438	383	1219	-

*Not recommended for use in foul drain systems.  
These valves are sold at customers' risk only without guarantee.  
They are checked before despatch and no liability can be accepted after installation.  
It is recommended that these valves are serviced before the start of each wet season or a least twice a year.  
These valves should be set horizontally with the aid of a spirit level.*

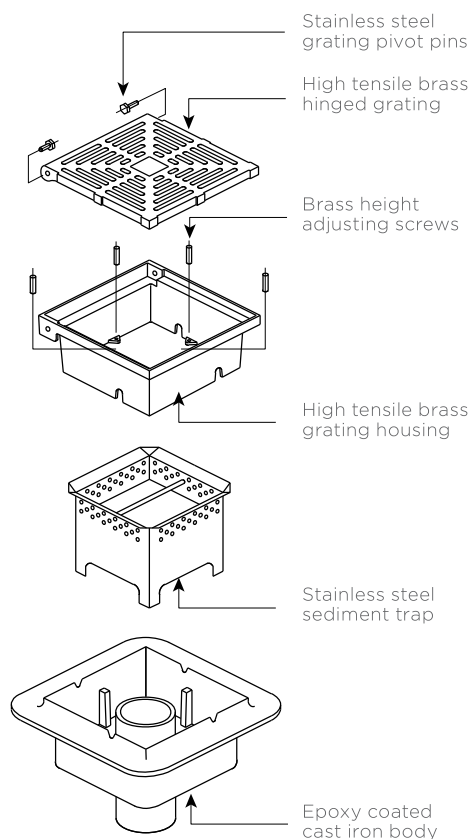
*+ Made to order.*

# Square bell trap



Product code	Dia	A	B	C min	C max	D	E	F
191396	100	400	300	310	335	160	100	50

*Adjustable height for use with non-membrane floors  
VX-F950 square trapped floor drain.  
Outlet is 110mm.*



Weights	kg
Body	20.6
Sediment trap	2.8
Grating housing	5.3
Grating	5.2

# Design recommendations

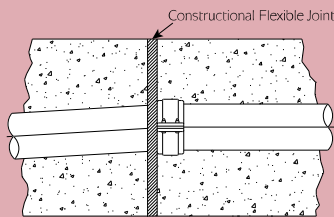


Fig. 1

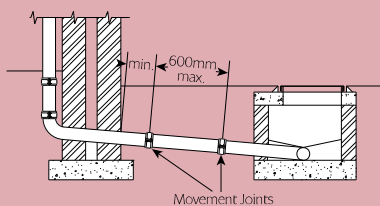
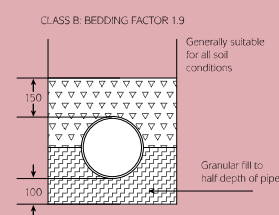
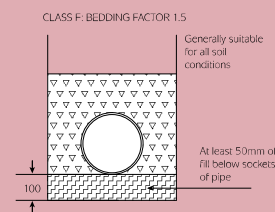
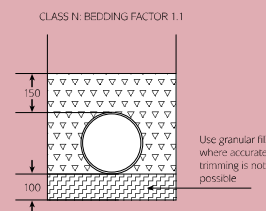
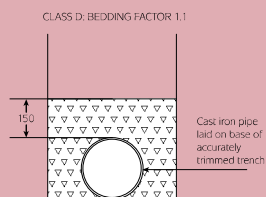


Fig. 2

## Backfilling for rigid pipes



## Trench preparation

Timesaver drain may be laid directly into a naturally trimmed trench allowing 50mm clearance at each joint between coupling and trench bottom. The trench bottom should be flat to give continuous support to the pipework.

If the subsoil can't be accurately trimmed with a spade, the trench should be excavated to a depth of 100mm below the pipe invert and a granular bed laid. This also should allow 50mm clearance at each joint between the coupling and the granular bed. Where Timesaver drain is to be set in concrete, the trench should be prepared as described above to allow a minimum of 100mm of concrete under the pipe.

The pipe should be supported on a compressible material (eg. expanded polystyrene), either side of each joint. The concrete should have a suitable flexible joint at intervals not greater than 5m in order to reduce the natural rigidity of the concrete. This should be made of a compressible material (eg. expanded polystyrene), which should be placed next to a pipe joint, and conform to the full cross section of the concrete (see Fig. 1).

Haunching and surround should not be carried out until the pipework has been tested and inspected.

## Differential movement

Timesaver couplings allow up to 5° deflection at each joint.

Pipelines leaving buildings, manholes or other structures which are likely to be subject to settlement, should have a minimum of two joints a maximum of 600mm apart, thereby allowing a short length of pipe to act as a 'rocker pipe'. The joint nearest the structure should be as close to it as possible and in areas where large settlement is expected, more than one 'rocker pipe' may be required (see Fig. 2).

## Minimum depth of pipework

Timesaver drain can be installed with a minimum cover of 75mm under building without further protection. Where Timesaver drain is installed under roads and yards, subject to normal usage, protection need only be considered if the cover is less than 300mm. However, in areas that are subject to special loadings or abuse, extra protection should be considered.

## Minimum bedding – limits of cover

The choice of bedding and backfilling depends on the depth at which the pipes are to be laid and the size and strength of the pipes. Rigid pipes like cast iron are more robust than flexible plastics pipes and backfilling can therefore be simpler. The Building Regulations specify the limits of cover for rigid pipes as follows:

## Limits of cover for standard strength rigid pipes in any width of trench (as

Pipe size	Bedding class	Fields and gardens		Light traffic roads		Heavy traffic roads	
		Min metres	Max metres	Min metres	Max metres	Min metres	Max metres
100	D or N	0.4	4.2	0.7	4.1	0.7	3.7
	F	0.3	5.8	0.5	5.8	0.5	5.5
	B	0.3	7.4	0.4	7.4	0.4	7.2
150	D or N	0.6	2.7	1.1	2.5	–	–
	F	0.6	3.9	0.7	3.8	0.7	3.3
	B	0.6	5.0	0.6	5.0	0.6	4.6

## per BS EN 752) Backfill sequence

Trenches should be backfilled in stages, and at least 150mm of earth free from stones larger than 40mm, lumps of clay over 100mm and vegetable matter should cover the pipe before tamping down. Further 300mm thick layers of selected fill should be tamped down until the trench is full.

# Design recommendations

## Falls

Pipework gradients should be chosen to obtain a self-cleaning action under normal discharge conditions. For flows of less than 1 litre/sec a gradient of 1 in 40 for 100mm pipe and 1 in 60 for 150mm pipe, are usually sufficient and for practical purposes, the gradients should not be less than 1 in 80 for 100mm pipe and 1 in 150 for 150mm pipe.

## Access

Access is required on all pipelines to facilitate the rodding and clearing of debris and can be provided by manholes, chambers, access fitting or rodding eye – the latter allowing downstream access only.

Generally, no part of a drain should be further from a manhole than 45m and the distance between manholes should not exceed 90m (see Fig. 3).

Where a drain connects with another drain without the provision of an inspection chamber or manhole, access should be provided on the branch drain within 12m of the junction (see Fig. 4 and Fig. 5).

It is recommended that access to the pipework is installed each time the drain changes direction either horizontally or vertically by the inclusion of an access fitting (see Fig. 6 and Fig. 7).

## Inspection chambers

Inspection chamber branch arm entries are all at 45° to conform with BS 437 and BS EN 12056 Parts 2 and 3.

Where other angles of entry are necessary these can be achieved by the use of standard bends as shown above. The Timesaver joint having at 5° deflection capability enables other angles to be achieved, eg. 10° gap from 80° to 90° deflect each joint of 35° bend according to angle required. An 85° angle is illustrated (see Fig. 10).

The diagram assumes that the branch drains have a fall of 1 in 40 or less. Falls steeper than this will alter the bend apparent angle in plan.

## Use of bends

Bends in drains should be kept to a minimum. Wherever possible bends should be at or near to manholes or in a position which will allow ease of rodding (see Fig. 8).

At the base of soil and rainwater stacks, it is recommended that long or large radius bends be used (see Fig. 9).

## Use of branches

Branches or junctions on drains should be, where possible, at access points, such as manholes, to facilitate rodding.

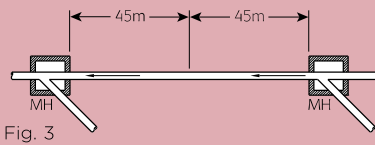


Fig. 3

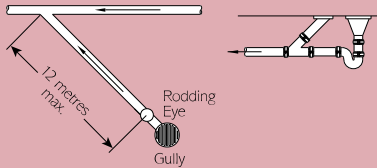


Fig. 4 + 5

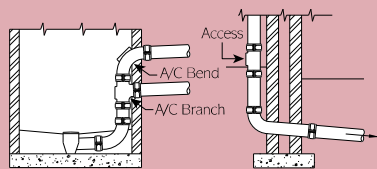


Fig. 6 + 7

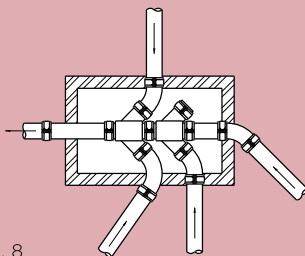


Fig. 8

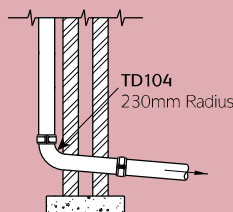


Fig. 9

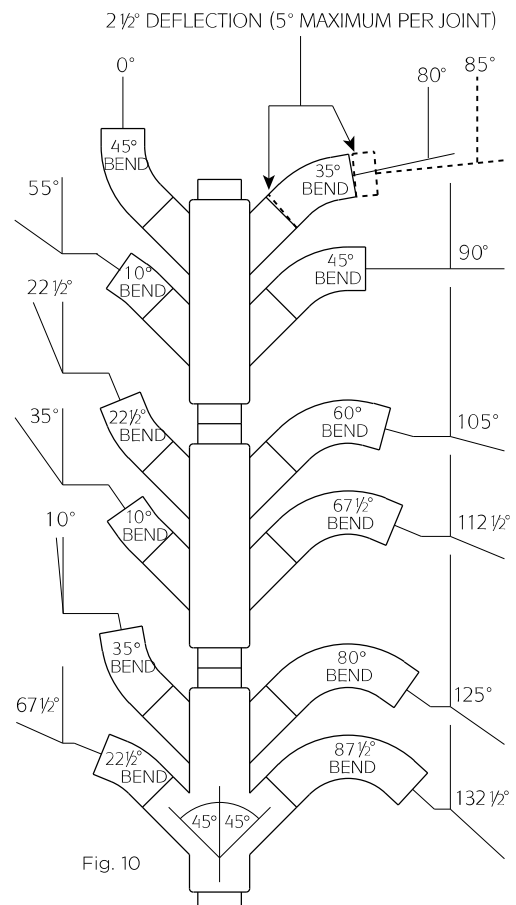


Fig. 10



# Design recommendations

TD777

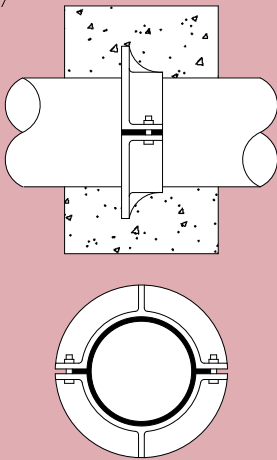


Fig. 11

## Gullies, floor drains and traps

A drainage gully is a fitting that enables wastewater to enter the drainage system without allowing smells or sewer gases to escape. A variety of designs have been developed to suit different situations, for example – back inlet gully, which is used to connect rainwater pipes and waste pipes from ground floor sinks.

## Ventilation of drains

It is important to allow a passage of air through the drainage system to enable any foul gases to escape. This is achieved by providing air inlets at the low point and vent pipes that terminate at high level, and also at the head of the drain. Convection currents cause a slow flow of air through the system. Also, if the air pressure in the drain was reduced, say by the pipes flowing full, the trap seals of gullies and WC's would be lost and the sewer gases would be able to enter the building.

## Puddle flanges

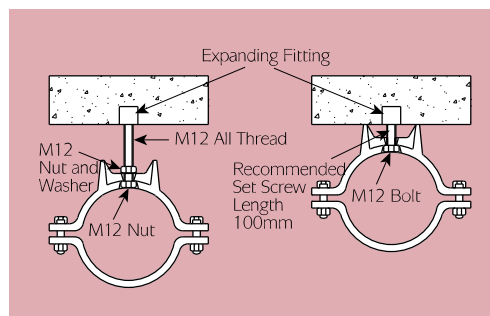
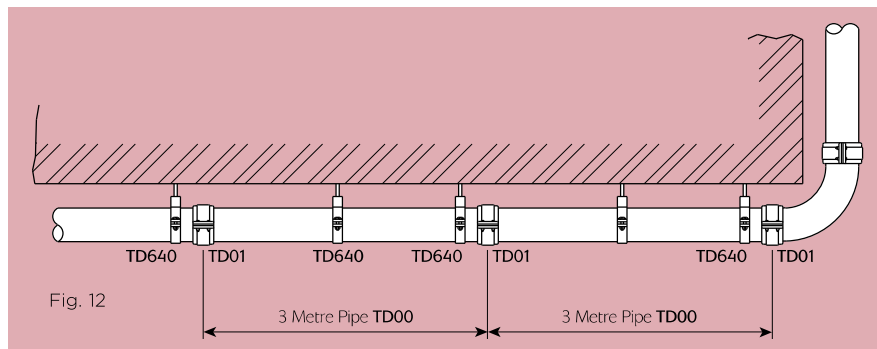
Where pipes pass through external walls, a puddle flange may be required to prevent water from entering where the pipe is below the natural ground water table, or methane gas from entering the building from made-up ground. Loose, two-piece flanges should be bedded onto 'Denso' tape and tightened into position (see Fig. 11).

# Support recommended for suspended drainage



It is important that all suspended horizontal pipework is adequately supported by brackets and fixings of sufficient strength to support the pipes and their maximum contents.

The distance between pipe supports should not exceed 3m (BS EN 12056-2 Code of Practice for Sanitary Pipework'). However, as shown in Fig. 12, it is recommended that suspended BS 437 pipes should have two bracket supports per 3m length.



# Connection to other systems

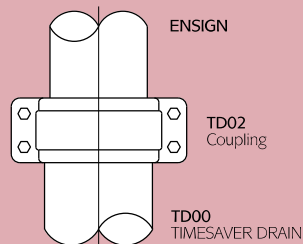


Fig. 13

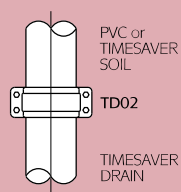


Fig. 14

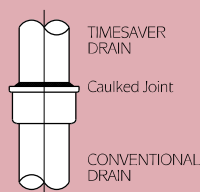


Fig. 15

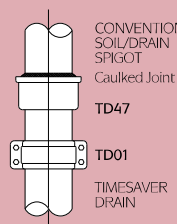


Fig. 16

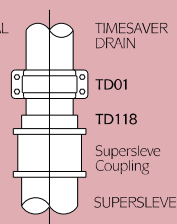


Fig. 17

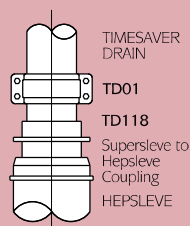


Fig. 18

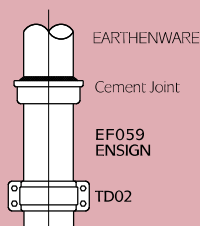


Fig. 19

## A. Timesaver drain dimensions

Most materials can be connected to Timesaver drain by using a TD01 coupling if their dimensions conform to the following table:

Timesaver drain nominal dia	Min o/dia	Max o/dia
100	116	119
150	170	173
225	250	256

or by using a TD02 coupling if their dimensions conform to the following table:

Other material

Timesaver drain nominal dia	Min o/dia	Max o/dia
100	110	114
150	161	165

## B. Ensign

Couple directly to Ensign using a TD02 transitional coupling (see Fig. 13). Four bolt, two piece coupling to BS 6087.

## C. Timesaver soil

Timesaver soil can be connected directly to Timesaver drain using a TD02 coupling (see Fig. 14).

## D. Conventional drain/soil

To connect Timesaver drain/soil into a conventional drain socket use a traditional caulked joint (see Fig. 15).

If connecting to a conventional drain/soil spigot use a TD47 with a caulked joint and a TD01 at the spigot of the TD47 (see Fig. 16).

## E. Hepworth clayware

100 and 150 Supersleve can be connected to Timesaver drain by using a TD118 adaptor and a TD01 coupling (see Fig. 17).

100 and 150 Hepsleve can be connected to Timesaver Drain by using a TD118 adaptor and a TD01 coupling in conjunction with a Supersleve to Hepsleve transitional coupling manufactured by Hepworth (see Fig. 18).

## F. Earthenware

Timesaver drain can be connected to an earthenware socket using a traditional cement joint.

If connecting to an earthenware spigot use a EF059 and a TD02 coupling with a traditional cement joint at the socket of the EF059 (see Fig. 19).

## Advice on cold caulking

For products which require to be caulked ie. socketed BS437 fittings or raising pieces we recommend the following:

## Cold Caulking

Item	Product code	Weight
Caulking Compound MS252NF	222754	12kg
Caulking Compound Hardener W252	222753	1.45kg

## Application Instructions

1. Empty the 1.45kg hardener into the 12kg container of resin and mix thoroughly for 5 minutes.
2. Centralise the pipe into the socket (the cut face of the pipe should be flush with the internal socket face). If any small gaps are present they can be sealed with a small amount of packing material to act as a barrier while the compound sets.
3. Use small Blocks or Wedges of wood to support the pipe centrally and steady within the socket.
4. Then simply fill the socketed joint around the pipe with the mixed caulking compound and finish at a flush level with the face of the socket.

**Please Note: This is a single use product and comes in one size only.**

All pipes, fittings and couplings are subjected to tests in accordance with the requirements of the relevant British Standard prior to despatch from works.

## Pipes and fittings

### A. Hydrostatic test

Pipes and fittings, after coating, conform to the hydrostatic pressure requirements of BS 437:

Pipes	345kPa	(3.45 Bars)
Fittings	170kPa	(1.70 Bars)

The test pressure is applied internally and maintained for not less than 15 seconds and up to a maximum of one minute.

### B. Crushing test

Pipes and, where applicable, fittings conform to the BS 437 requirements of being capable of withstanding a test load of 150kN per metre run.

## Couplings

### A. Deflection test procedure

Fully engage pipe ends into joint assembly. Align them axially with one pipe restrained from movement and the other pipe completely free to move. Separate the pipes axially by 5mm on either side of central register.

Angularly deflect one pipe with respect to the other, to an angle of 3° with the fulcrum on the centre line of the pipes within the joint. Apply and maintain a hydrostatic pressure of 1 bar for period of five minutes without leakage.

### B. Drain testing

It is normal practice to carry out two soundness tests on drainage systems. The first, before back filling the trench, followed by a second test after back filling which may be required to be witnessed by the local building control officer.

**Methods of testing** – two methods of soundness testing are possible: a water test or an air test.

**Water test** – to carry out a water test the length of drain to be tested is blocked off at its lower end by means of a drain stopper. Another stopper is fitted at the top of the run of drain with an up-stand pipe of 1.5m height attached. The drain is then filled with water and the joints can then be inspected for leaks. It is recommended that the total head of water should not exceed 4m so it may be necessary to test the drain in sections.

**Air test** – the air test is quicker to carry out and more searching than the water test, and should be used in preference. To carry out the test, drain stoppers are fitted to any open ends, and gullies have their traps filled with water. A length of hose is then passed through a trap and air is gently blown into the drain until a pressure of 100mm is indicated on a manometer. Provided a pressure of at least 75mm remains after 5 minutes of the test, the drain can be considered sound. Where traps or gullies are connected the drain should withstand a pressure of 50mm water gauge and this should not fall by more than 12.5mm in a 5-minute period.

### C. Straight draw test procedure

Fully engage the pipes in the joint assembly, as Fig. 20. Align them axially. Separate the pipes axially by 5mm on either side of the central register. Prevent further longitudinal movement. Apply and maintain a hydrostatic pressure of 1 bar for a period of five minutes without leakage.

### D. Shear loading test procedure

Fully engage the pipes in the joint assembly and align them axially on supporting structure, as Fig. 21. Separate the pipes axially by 5mm on either side of central register. Prevent further longitudinal movement. Apply a shear load of 0.025kN x nominal pipe diameter in mm, inclusive of the mass of the pipe and contents, uniformly over a length of 300mm adjacent to the coupling, as Fig. 21.

Apply and maintain a hydrostatic pressure of 1 bar for a period of five minutes without leakage.

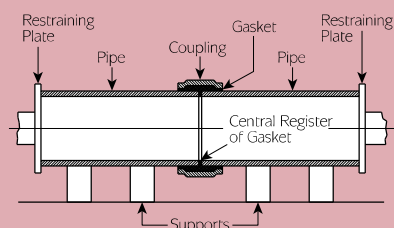


Fig. 20

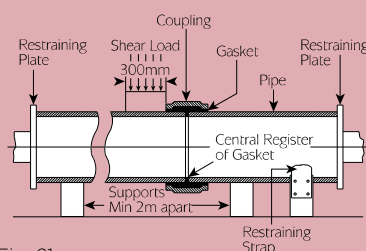


Fig. 21

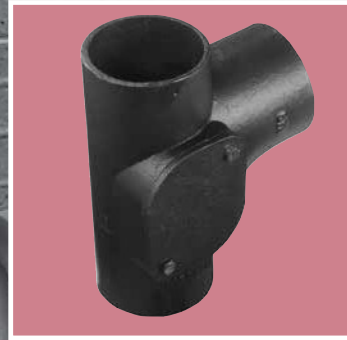
It is recommended that these technical notes should be read in conjunction with the following British Standards:

1. BS EN 12056-2: Code of Practice for Sanitary Pipework (inside the building).
2. BS EN 12056-3: Code of Practice for Drainage of Roofs and Paved Areas (inside the building).
3. BS EN 752: Drains and Sewers Outside Buildings.
4. BS 8301: Code of Practice for Building Drainage (now obsolete).



# Section 2

## Soil Pipes and Fittings



# Jointing method



- A. Pipe or fitting
- B. Pipe or fitting
- C. Synthetic rubber gasket
- D. Coupling
- E. Set screws and nuts

50, 75 and 100 diameter couplings have two set screws and nuts.  
150 couplings have four set screws and nuts.

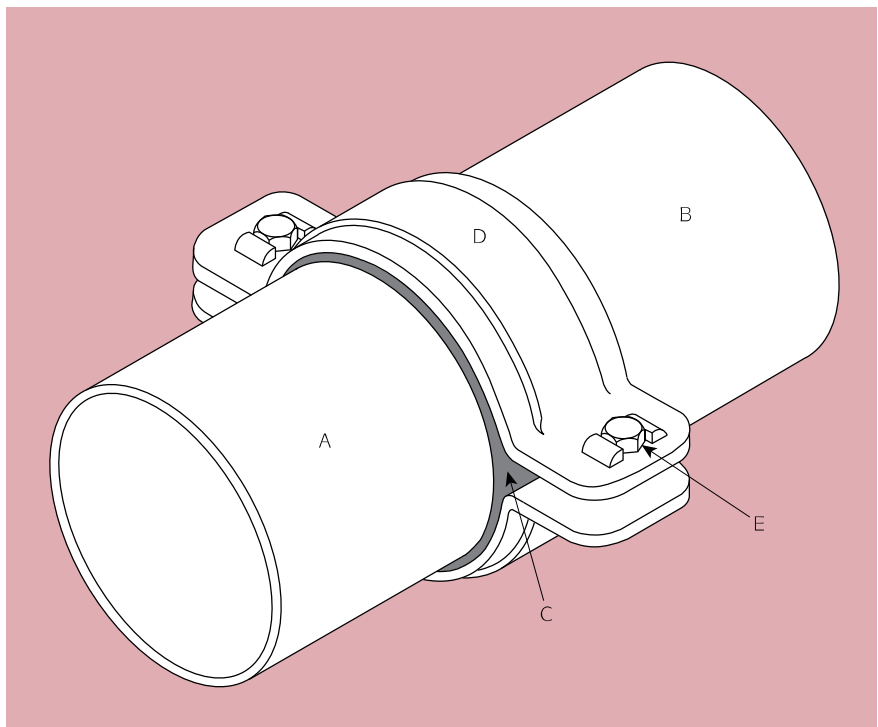
## **Couplings are supplied ready assembled**

1. Slacken bolts to fullest extent.
2. Place synthetic rubber gasket on end of pipe or fitting A, and slide loosely assembled coupling over pipe B.
3. Fit pipe B into gasket ensuring both A and B are butting against the internal central register.
4. Slide coupling over gasket ensuring that it is centrally located and tighten bolts alternately so that the gap between coupler halves is even on both sides. When hand tight check alignment of assembly.
5. Complete tightening operation by use of a Ratchet Spanner – EF100 with Deep Socket – EF101 until a suitable resistance is achieved (min 20Nm).

Joints may be deflected up to 5° without affecting the sealing properties.

The Timesaver couplings meet the performance requirements of BS 6087:1990 and incorporate synthetic rubber gaskets conforming to BS EN 681-1/ISO 4633 and set screws and nuts. A Ratchet Spanner – EF100 is the recommended tool required to tighten the set screws which give a 'for all time seal' water and airtight installation.

**Saint-Gobain PAM UK does not accept liability for any complaints on installations where components not manufactured by Saint-Gobain PAM UK are included.**



# Electrical continuity

Designed for use in situations where equipotential bonding (earthing) has been specified, the Timesaver electrical continuity clips are available for use with Timesaver soil and Timesaver drain systems.

The Timesaver electrical continuity clip fits a standard Timesaver coupling. Only one electrical continuity clip is required per coupling. Note: The electrical continuity test should be carried out in accordance with BS 6087.

## Continuity clips

These are supplied separately to the coupling in standard quantity bags of 25 number.

Coupling	Product code	Ref no.
To suit 50, 75, 100, GT01	191189	GT96S
To suit 150 GT01, 100, 150TD01	191190	GT96L
To suit 100 TD02	191191	GT96T
To suit 150 TD02	191192	GT96T6
To suit 225 TD01	191193	GT968

## Assembly instructions:

1. Slacken bolts to fullest extent.
2. Place synthetic rubber gasket C on pipe or fitting A and slide loosely assembled coupling over pipe B.
3. Fit pipe B into gasket ensuring both A and B are butting up to central register.
4. Fit continuity clip D centrally by peeling back one edge of the gasket and slipping it into the Continuity clip.
5. Repeat for other edge of gasket, so the gasket is held within the continuity clip D.
6. Position clip at 90° to gasket ears and in the direction of the pipe run.
7. Slide coupling over gasket and tighten bolts alternately so that the gap is even on both sides. When hand tight check alignment.
8. Complete tightening operation by use of a ratchet spanner – EF100 and deep socket – EF101 (min 20Nm).

Note: Use one continuity clip per coupling joint. Continuity clip must not be reused after tightening.

The installation should be tested to BS EN 12056 for a soil installation or to BS EN 752 for a drain installation and to IEE Regulations on equipotential bonding (earthing).

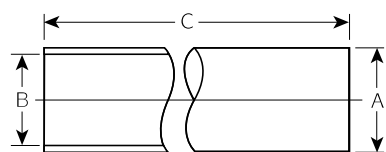
Provided that the Timesaver electrical continuity coupling is assembled and installed as recommended in our instructions, and the pipework is bonded to the main electrical earth or similar earth, it is considered that the Timesaver electrical continuity coupling will satisfy the IEE Regulations.

It is recommended that the installation is regularly checked for equipotential bonding (earthing) in case of accidental damage, unauthorised pipework modifications, etc.

If a Timesaver electrical continuity installation is to be modified for any reason Timesaver electrical continuity couplings must be used and the installation re-tested for equipotential bonding (earthing).



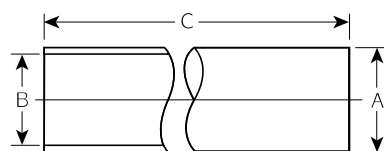
## Pipes double spigot



Product code	Nom dia	A Max o/dia	B Min i/dia	Min section	C Metre lengths available	Wt per mt kg
<b>Pipe - GT00</b>						
156366	50	63	50	4	3	6.4
156456	75	89	75	4	3	8.3
156567	100	112	101	4	3	9.3
156831	150	165	152	4	3	15.7

Pipes are internally lined with a two part epoxy paint (ochre colour). Externally coated with black acrylic paint and stencilled every metre with silver marking.

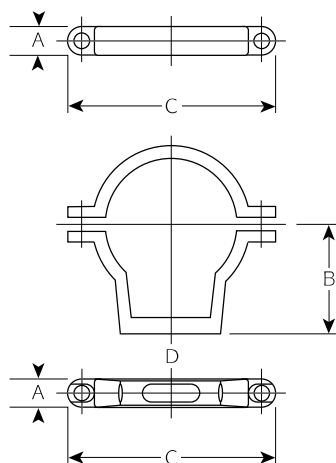
## Pipes double spigot - Heritage



Product code	Nom dia	A Max o/dia	B Min i/dia	Min section	C Metre lengths available	Wt per mt kg
<b>Pipe - GT00 - Timesaver Heritage</b>						
192423	100	112	101	4	1.8	9.3
206854	75	89	75	4	1.8	8.3

1.8 (6ft) pipe coated internally/externally in a black water based primer, for use with Timesaver Heritage couplings.

## Brackets



Product code	Dia	A	B	C	Nominal wt/kg
<b>Ductile iron bracket • Elongated slot at fixing point (D) to ease fixing - GT48</b>					
191720	50	27	64	110	0.3
191721	75	27	75	140	0.5
191722	100	27	90	166	0.6
191723	150	30	115	214	0.8

50-100 brackets suit M10 fixing.  
150 bracket suit M12 fixing.

Can be fitted with a new acoustic dampener for exceptional sound deadening performance (see page 187).  
Contact technical department 01952 262529 for information.

## Tools

EF100

EF098

### Ratchet spanner - EF100: product code 191201

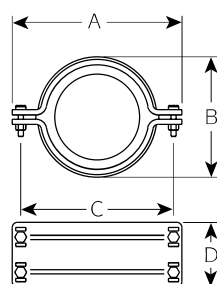
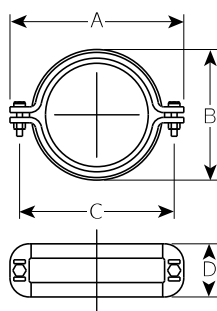
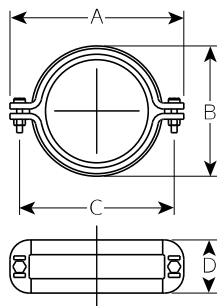
A ratchet spanner is the recommended tool required to tighten the set screws, used in conjunction with a deep socket - EF101: product code 191202.

### 'T' box spanner - EF098: product code 191200

13mm A/F, dual purpose, for use with Timesaver and Ensigen systems.



# Couplings



## Standard

Ductile iron coupling with synthetic rubber gasket for jointing Timesaver soil to Timesaver soil (black gasket).

Product code	Dia	A	B	C	D	*E	Nominal wt/kg
<b>Two-piece ductile iron coupling - GT01</b>							
191691	50	126	85	105	55	5	0.8
191692	75	158	110	130	55	5	1.0
191693	100	185	135	160	55	5	1.4
191694	150	250	190	220	75	5	2.8

Two set screws are supplied on 50, 75, 100 couplings.

Four set screws are supplied on 150 couplings.

Electrical continuity clips are available supplied separately in standard quantity bags (see ref table page 172).

\* Minimum allowance (E) to accommodate gasket register (for guidance only).

## Transitional

Ductile iron coupling with synthetic rubber gasket for jointing Timesaver soil to conventional soil (black gasket with identity marking).

Product code	Dia	A	B	C	D	*E	Nominal wt/kg
<b>Two-piece ductile iron coupling - GT12</b>							
191695	65-75	158	110	130	55	5	1.0
191429	+70-75	158	110	130	55	5	1.0
191696	90-100	185	135	160	55	5	1.4

Two set screws are supplied on GT12 couplings.

Designed for connecting:

65 (2½") conventional soil to 75 Timesaver soil.

90 (3½") conventional soil to 100 Timesaver soil.

† Connects 75mm Timesaver soil with 70mm Ensign.

\* Minimum allowance (E) to accommodate gasket register (for guidance only).

## Allowable pipe diameters when using the GT12 coupling

Coupling	Conventional pipe dia.		Timesaver pipe dia.	
	Min.	Max.	Min.	Max.
65-75	72	76	85	89
90-100	97	101	110	114

For connection to other materials see page 56.

## Transitional

Ductile iron coupling with stainless steel nuts and set screws and synthetic rubber gasket for jointing Timesaver drain to Timesaver soil (black gasket with identity marking).

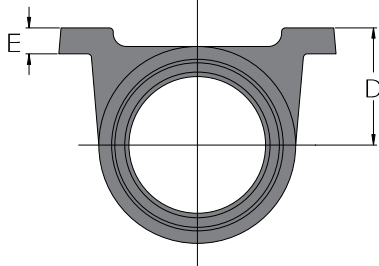
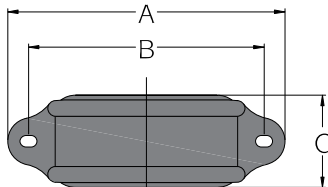
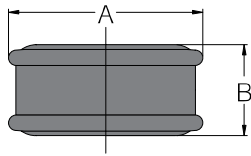
Product code	Dia	A	B	C	D	*E	Nominal wt/kg
<b>Two-piece ductile iron coupling - TD02</b>							
191297	100	203	140	180	75	5	2.8
191298	150	252	195	230	75	5	3.6

Four set screws are supplied on TD02 couplings.

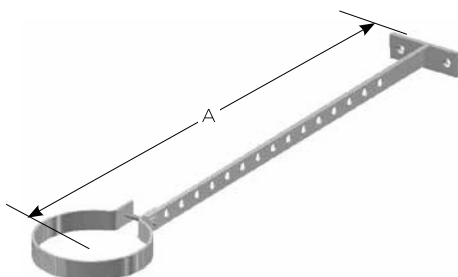
Electrical continuity clips are available supplied separately in standard quantity bags (see ref table page 172).

\* Minimum allowance (E) to accommodate gasket register (for guidance only).

# Heritage couplings



Reducing Gasket



Product code	Dia	A	B	Nominal wt/kg
<b>Joint • Plain no ears - GT05P</b>				
192418	50	99	73	0.9
206855	75	128	73	1.4
192421	100	152	73	1.8

Product code	CAD Ref	Dia	A	B	C	D	E	Nominal wt/kg
<b>Joint • With fixing ears - GT05E</b>								
192417		50	146	114	73	62	20	1.4
206856		75	178	146	73	76	20	2.0
192420		100	213	181	73	90	20	2.6

Product code	Dia	A	B	C	D	E	Nominal wt/kg
<b>Joint • Slip - GT05S with reduced central register</b>							
192419	50	146	114	73	62	20	1.4
206836	75	178	146	73	76	20	2.0
192422	100	213	181	73	90	20	2.6

To connect Timesaver Heritage couplings - 100mm diameter to 90mm traditional soil utilise reducing gasket: product code 156132 (see page 190).  
150mm diameter see Ensign range.

Product code	Dia	Nominal wt/kg
<b>Cast iron wall spacer</b>		
192424	50	0.2
206838	75	0.2
192425	100	0.3

To suit eared PFJ GT05E.

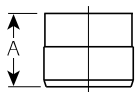
Product code	Dia	Nominal. wt/kg
<b>Mild steel restraining bracket - EF053</b>		
192333	100	0.5

To suit 100mm Timesaver Heritage coupling with ears GT05E.

Product code	Dia	A	Nominal wt/kg
<b>Mild steel restraining bracket - EF053A</b>			
192363	100	450	0.5

To suit 100mm diameter Timesaver Heritage pipework (see page 191 for typical installation).

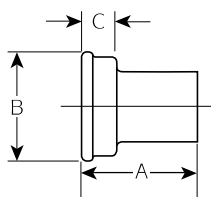
# Pipes transitional



Product code	Dia	A	Nominal wt/kg
<b>Adaptor from Timesaver drain to supersleve - TD118</b>			
191350	100	100	2.2
191351	150	125	5.1

Use in conjunction with TD02 connect to Timesaver soil to supersleve.

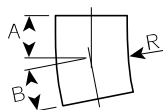
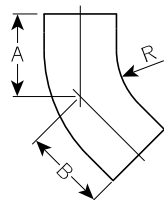
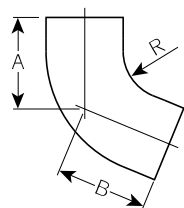
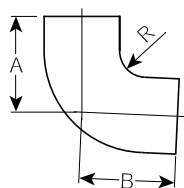
## Connectors WC



Product code	Dia	A	B	C	Nominal wt/kg
<b>Transitional EF059</b>					
156650	100	155	176	80	2.9

To connect, earthware, WC, stoneware, traditional, soil/drain etc. Note: Ensign product red epoxy coated.

## Bends short radius



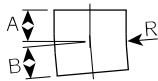
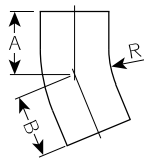
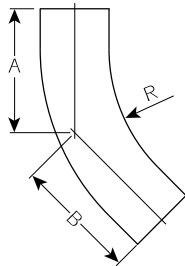
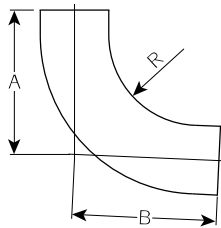
Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend • Short radius - GT02</b>					
191620	50	115	115	40	1.4
191622	75	135	135	40	2.9
191631	100	145	145	40	2.3
191634	150	145	145	15	3.9

Product code	Dia	A	B	R	Nominal wt/kg
<b>67½° Bend • Short radius - GT02</b>					
191625	100	135	135	70	4.0

Product code	Dia	A	B	R	Nominal wt/kg
<b>45° Bend • Short radius - GT02</b>					
191619	50	50	50	15	0.6
191621	75	115	115	70	2.3
191626	100	135	135	150	3.5
191632	150	90	90	15	3.0

Product code	Dia	A	B	R	Nominal wt/kg
<b>11° Bend • Short radius - GT02</b>					
191628	100	35	55	30	1.6

## Bends long radius



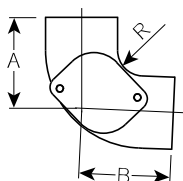
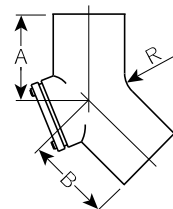
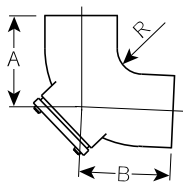
Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend • Long radius - GT02L</b>					
191623	75	230	230	150	4.5
191630	100	269	269	180	4.3
191635	150	274	274	150	10.1

Product code	Dia	A	B	R	Nominal wt/kg
<b>45° Bend • Long radius - GT02L</b>					
191627	100	205	205	275	6.1

Product code	Dia	A	B	R	Nominal wt/kg
<b>22½° Bend • Long radius - GT02L</b>					
191624	100	90	90	180	1.7
191633	150	140	140	150	4.8

Product code	Dia	A	B	R	Nominal wt/kg
<b>5° Bend • Long radius - GT02L</b>					
191629	100	50	50	230	1.5

## Bends short radius with oval access doors



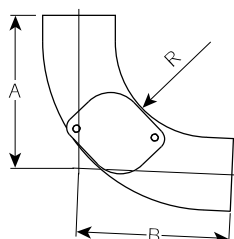
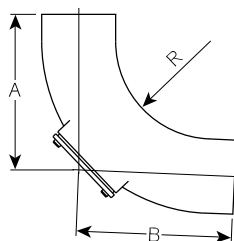
Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend with access rear • Short radius - GT03</b>					
191636	50	115	115	40	1.9
191638	75	135	135	40	3.6
191642	100	145	145	40	3.3
191644	150	145	145	15	6.1

Product code	Dia	A	B	R	Nominal wt/kg
<b>45° Bend with access rear • Short radius - GT03</b>					
191637	75	115	115	70	3.5
191640	100	130	130	120	5.0
191643	150	150	150	120	7.4

Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend with access side • Short radius - GT04</b>					
191646	100	145	145	40	4.8

## Bends

medium and long radius  
with oval access doors

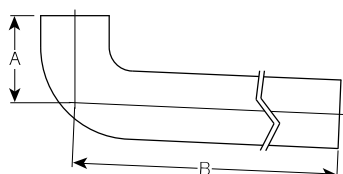
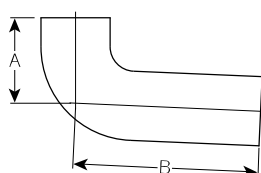


Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend with access rear • Long and medium radius • GT03L</b>					
191639	75	230	230	150	5.3
191641	100	269	269	180	7.4
191645	150	274	274	150	11.7

Product code	Dia	A	B	R	Nominal wt/kg
<b>87½° Bend with access side • Long radius - GT04L</b>					
191647	100	250	250	180	7.4

## Bends

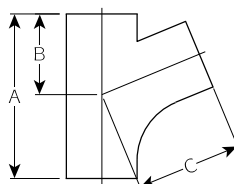
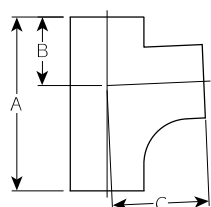
long tail



Product code	Dia	A	B	Nominal wt/kg
<b>87½° Bend • Long tail - GT43</b>				
191688	100	110	250	4.6

Product code	Dia	A	B	Nominal wt/kg
<b>87½° Bend • 815 long tail - GT55</b>				
191689	100	165	815	13.9

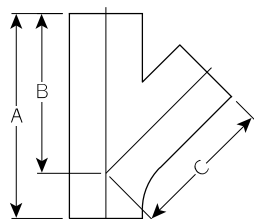
## Branches



Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Branch - GT06 Swept</b>					
191649	50 x 50	145	66	80	1.0
191651	75 x 50	205	75	125	2.6
191653	75 x 75	245	85	145	3.2
191655	100 x 50	204	90	120	2.4
191657	100 x 75	245	90	145	4.1
191660	100 x 100	270	102	150	3.5
191662	150 x 100	300	117	202	7.6
191664	150 x 150	375	145	215	10.7

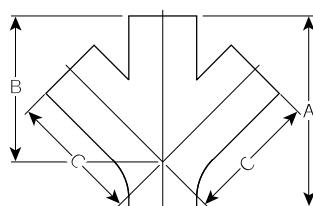
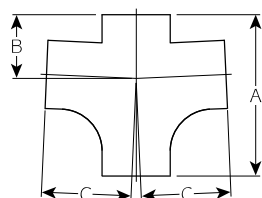
Product code	Dia	A	B	C	Nominal wt/kg
<b>67½° Branch - GT06</b>					
191658	100 x 100	265	130	170	5.0

# Branches



Product code	Dia	A	B	C	Nominal wt/kg
<b>45° Branch - GT06</b>					
191648	50 x 50	185	135	135	1.4
191650	75 x 50	250	190	170	3.5
191652	75 x 75	285	220	185	4.5
191654	100 x 50	200	165	165	2.4
191656	100 x 75	290	225	210	4.9
191659	100 x 100	275	205	205	3.8
191661	150 x 100	295	240	240	6.1
191663	150 x 150	355	265	265	9.0

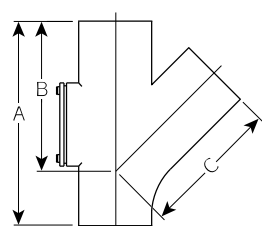
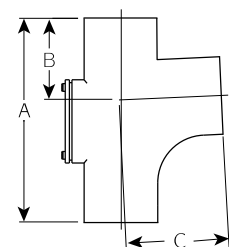
## Branches double



Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Double branch - GT10 Swept</b>					
191681	75 x 75	245	85	145	4.7
191683	100 x 100	270	102	150	4.2
191684	150 x 100	300	115	200	10.9

Product code	Dia	A	B	C	Nominal wt/kg
<b>45° Double branch - GT10</b>					
191682	100 x 100	260	190	190	4.0

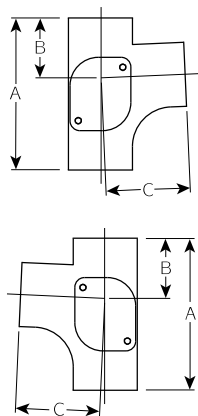
## Branches with access doors



Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Branch with access rear - GT07 Swept</b>					
191665	50 x 50	195	75	110	2.4
191666	75 x 50	205	75	125	3.7
191668	75 x 75	245	85	145	4.2
191670	100 x 50	204	90	120	3.0
191672	100 x 75	245	90	145	5.3
191674	100 x 100	270	102	150	4.3
191676	150 x 100	300	117	202	10.4
191678	150 x 150	400	140	260	13.9

Product code	Dia	A	B	C	Nominal wt/kg
<b>45° Branch with access rear - GT07</b>					
191673	100 x 100	320	245	220	7.6
191675	150 x 100	370	305	255	10.8

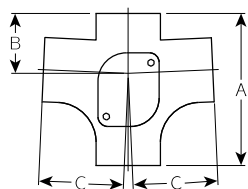
## Branches with oval access doors



Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Branch with access right - GT08 Swept</b>					
191679	100 x 100	270	100	150	6.6

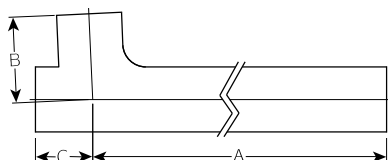
Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Branch with access left - GT09 Swept</b>					
191680	100 x 100	270	100	150	6.6

## Branches double with oval access doors



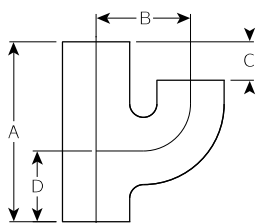
Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Double branch with access door - GT11 Swept</b>					
191685	100 x 100	265	109	150	7.0

## Branches 915 long



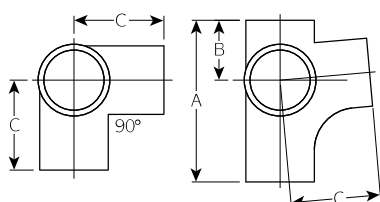
Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Branch • 915 long tail - GT56 Swept</b>					
191690	100	815	165	100	15.0

## Branches parallel



Product code	Dia	A	B	C	D	Nominal wt/kg
<b>Branch • Parallel - GT32</b>						
191686	100 x 100	305	160	65	125	7.4

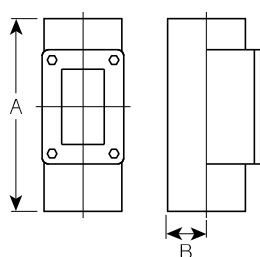
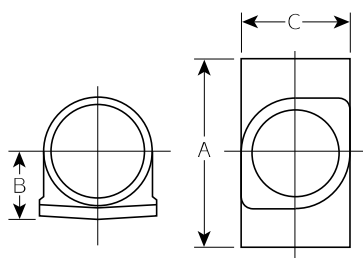
## Branches corner



Product code	Dia	A	B	C	Nominal wt/kg
<b>87½° Branch • Corner - GT35</b>					
191687	100 x 100	220	105	115	3.5



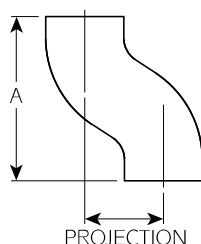
# Pipes access



Product code	Dia	A	B	C	Nominal wt/kg
<b>Pipe with oval access door - GT14</b>					
191697	75	280	100	90	4.1
191698	100	250	80	116	3.1
191699	150	280	110	170	6.2

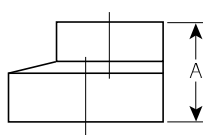
Product code	Dia	A	B	Nominal wt/kg
<b>Pipe with rectangular access door - GT15</b>				
191700	100	320	80	6.7
191701	150	395	105	12.2

# Offsets



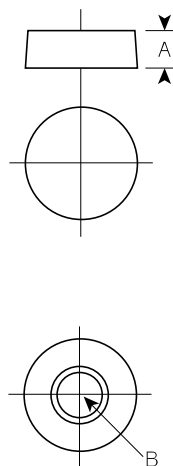
Product code	Dia	A	Nominal wt/kg
<b>Offsets - GT24</b>			
<b>75 Projection</b>			
191702	75	200	2.2
191705	100	215	2.9
<b>115 Projection</b>			
191704	75	220	3.2
191709	100	235	3.4
<b>150 Projection</b>			
191703	75	235	3.5
191706	100	250	4.4
<b>230 Projection</b>			
191707	100	280	5.0
<b>305 Projection</b>			
191708	100	310	6.1

# Pipes taper



Product code	Dia	A	Nominal wt/kg
<b>Pipes • Diminishing - GT28</b>			
191710	75 x 50	70	0.8
191711	100 x 50	80	0.9
191712	100 x 75	80	1.0
191713	150 x 100	105	1.9

## Blank ends



Product code	Dia	A	Nominal wt/kg
<b>Blank ends - GT70</b>			
191724	50	30	0.4
191725	75	35	0.8
191726	100	40	0.8
191727	150	50	2.0

Product code	Dia	A	Nominal wt/kg
<b>Blank ends - GT71</b>			
191728	75	35	0.8
191729	100	40	1.0
191731	150	50	2.0

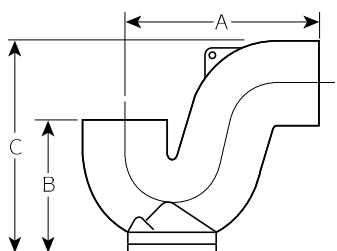
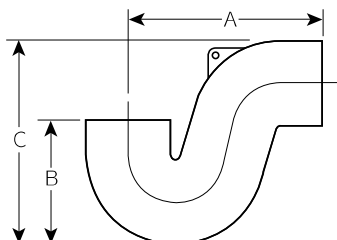
*B - Push-fit adaptor to accommodate 54/56mm o/dia PVC/copper waste.*

*Note: 50 x 56mm connector available (see Ensign product code 155759).*

### Blank ends - GT71T drilled and tapped 50mm BSPT

191730	100	40	1.0
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## Traps 'P'

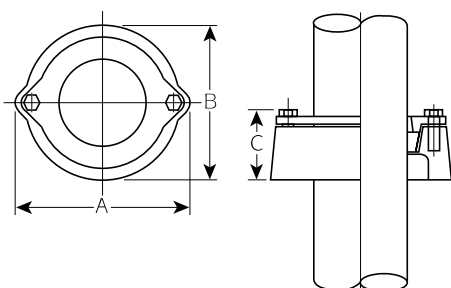


Product code	Dia	A	B	C	Nominal wt/kg
<b>'P' trap • Plain - GT34</b>					
191714	100	255	160	263	4.5

Product code	Dia	A	B	C	Nominal wt/kg
<b>'P' trap with access bottom - GT37</b>					
191715	50	160	115	167	2.0
191716	75	265	210	203	6.3
191717	100	255	175	270	5.2
191718	150	350	240	370	12.1

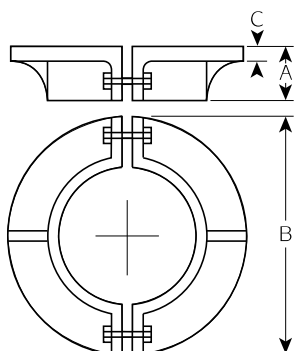
*50mm and 75mm do not have support lug as shown on drawing.*

## Connectors roof



Product code	Dia	A	B	C	Nominal wt/kg
<b>Roof connectors for asphalt - GT73</b>					
191733	100	185	170	72	2.1

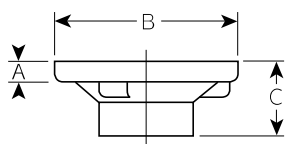
## Flanges loose puddle



Product code	Dia	A	B	C	Nominal wt/kg
<b>Flange - ED078 supplied grey epoxy coated only</b>					
191829	100	50	220	12	4.6

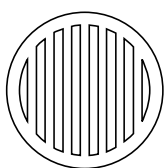
*This collar is in two halves which can be bolted around the pipe even when pipe is in position. Can also be used as a firestop. Due to manufacturing tolerances it is recommended that the puddle flange is bedded on Denso tape or similar.*

## Gully inlets Bellmouth



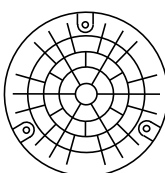
Product code	Dia	A	B	C	Nominal wt/kg
<b>Gully inlet - GT483</b>					
191737	100	25	215	90	2.5

## Gratings and covers



Product code	Dia	Nominal wt/kg
<b>Grating plain - TD612</b>		
191385	200	1.8

*Maximum load 2.0 tonnes.*



Product code	Dia	Nominal wt/kg
<b>Solid cover - TD613S</b>		
191386	200	2.0

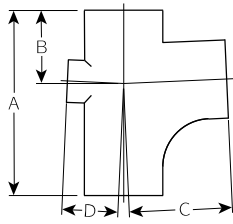
*Maximum load 2.0 tonnes.*



Product code	Dia	Nominal wt/kg
<b>Grating hinged and locking - TD614</b>		
191387	200	1.8

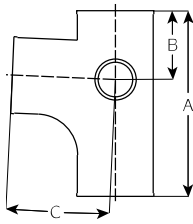
*Maximum load 2.0 tonnes.*

## Boss branches



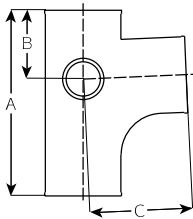
Product code	Dia	A	B	C	D	Nominal wt/kg
<b>87½° Boss branch • Back - GT06 Swept</b>						
191743	100 x 100	270	100	150	75	5.4

Available with 50mm BSPT boss only.



Product code	Dia	A	B	C	D	Nominal wt/kg
<b>87½° Boss branch • Left hand - GT06 Swept</b>						
191744	100 x 100	270	100	150	75	5.4

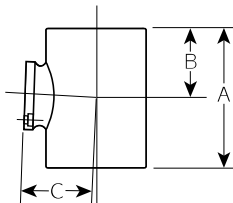
Available with 50mm BSPT boss only.



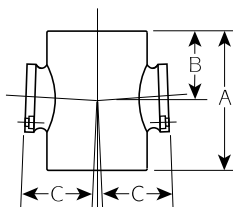
Product code	Dia	A	B	C	D	Nominal wt/kg
<b>87½° Boss branch • Right hand - GT06 Swept</b>						
191745	100 x 100	270	100	150	75	5.4

Available with 50mm BSPT boss only.

## Boss pipes

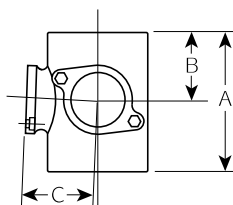


Product code	Dia	A	B	C	Nominal wt/kg
<b>Boss pipe • Single 'O' ring rubber compression boss - GT106</b>					
192236	50	150	75	55	1.2
192237	100	155	75	75	2.1
192239	150	175	87	105	3.8
<b>Boss pipe • Drilled • Tapped 50mm BSPT</b>					
191739	75	150	75	63	2.0
192238	100	155	75	75	2.1



Product code	Dia	A	B	C	Nominal wt/kg
<b>Boss pipe • Double 'O' ring rubber compression boss (opposed) - GT109</b>					
192240	100	155	75	75	2.5
192360	150	175	87	105	4.2

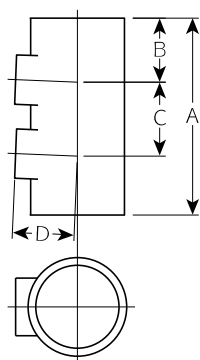
100mm Boss pipe • Drilled • Tapped 50mm BSPT available upon request.



Product code	Dia	A	B	C	Nominal wt/kg
<b>90° Boss pipe • Double 'O' ring rubber compression boss - GT115</b>					
192241	100	155	75	75	2.5

100mm boss pipe • Drilled • Tapped 50mm BSPT available upon request.

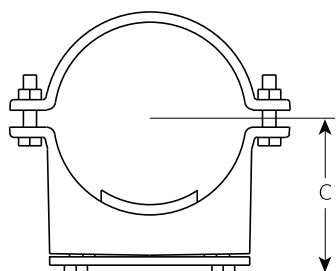
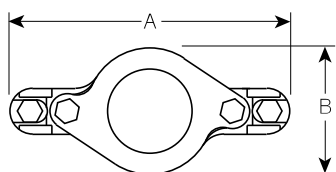
# Boss pipes



Product code	Dia	A	B	C	D	Nominal wt/kg
<b>87½° Boss pipe - GT132</b>						
191742	100	240	75	90	75	4.1

50mm push-fit connections.

## Strap-on boss fitting



Product code	Dia	A	B	C	Nominal wt/kg
<b>Strap-on boss - GT133</b>					
192323	100	166	76	100	1.4

Insertion depth = 30mm.

The strap-on boss provides a simple solution for fitting a 50mm copper or waste pipe to an existing 100mm cast iron soil pipe to BS 416 (pipe outside diameter min/max 109/114mm).

### Installation

- Simply determine where the waste pipe is to be positioned.
- Cut a 64mm hole into the cast iron soil pipe with a hole saw (the metal from the hole remains in the cutter – see tools below).
- Mechanically fit the boss strap in position (do not forget the rubber washer) tighten until fully secure.
- Insert in the waste pipe until fully seated in the boss.
- Tighten the boss plate to grip the rubber 'O' ring on the outside of the waste pipe.

### Tools required

- A 64mm hole saw: Product code 192326.
- Arbour: Product code 192327.
- ¼" pilot drill: Product code 192328.
- 13mm socket EF101: Product code 191202.  
or
- 13mm spanner for mechanically fitting the boss adaptor EF098: Product code 191200.

