



Specialist Electrofusion Solutions



www.plasson.co.uk

LARGE BORE ELECTROFUSION SADDLES

Why fit a PLASSON Saddle?

Making a connection to a new or existing polyethylene pipeline with a PLASSON saddle reduces costs and minimises disruption on site compared with the traditional methods, e.g. installing a ductile iron or polyethylene tee.

The saddle connection can be made in a small excavation and does not require separating the pipe. They can be fitted after the pipe has been completely installed and offer under-pressure connection to live main options too.

Fitting the saddle after the main is laid allows it to be positioned to account for variances between the drawing and 'as laid'.

Making a branch connection with a PLASSON branch saddle is as quick and far easier than cutting in a tee with less excavation and reinstatement. The saddle and tooling are light weight, lifting equipment is not needed.

The range of outlets permits the connection to branch mains connections, air valves and washouts.

A simple, highly reliable clamping tool has been developed to provide PN16 full pressure connections to a 16-bar pipe.



Spigot Saddle



Flanged Saddle



Repair Saddle

Ease of Installation

The PLASSON saddle requires no specialist skills to fit, the Saddle Clamp is purpose designed to provide the most reliable weld on a prepared pipe. The straps that pass round the main mean a small gap around the main is needed but a few mm only. These saddles have been fitted through windows cut in Cast Iron mains where the new PE main was inserted in the old CI pipe.

The saddle has a built-in test point to simplify weld integrity testing before tapping the main. The clamp is simple to use and requires no additional equipment.



Applications

- ✓ Pressurised and de-pressurised branch connections for Gas & water.
- ✓ Making fabricated tees by fixing onto a piece of pipe. (cheaper and shorter)
- ✓ Fitting air valves and hydrants on to water lines.
- ✓ Suitable for pipelines SDR11 - SDR41 (please check suitability)



LD, XL and XXL Branch Saddles

PLASSON's Large Diameter Branch Saddles are available for all pipe sizes from 280mm to 1200mm with an range of spigot outlets 90mm - 400mm and flanged outlets from 80mm to 400mm with PN16 coated backing rings.

Quality & Approvals

PLASSON Electrofusion fittings are certified to EN 1555 and EN 12201. All Plasson EF fittings comply with DWI Reg31 and Water Regulation 4.



Pressure ratings

- PN 16 (Water)
- PE100 SDR11 (Gas)

FEATURES AND BENEFITS



Large Diameter Saddles

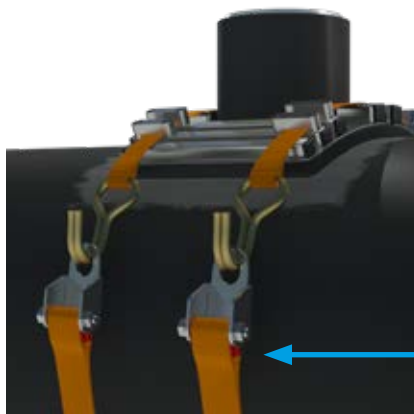
PLASSON saddles are uniquely designed to allow cost effective connections and branches from large diameter PE pipework. Simple and easy to install with confidence, for all Gas and Water pipelines up to 1200mm.

Here we have highlighted some of the many benefits and safety features.



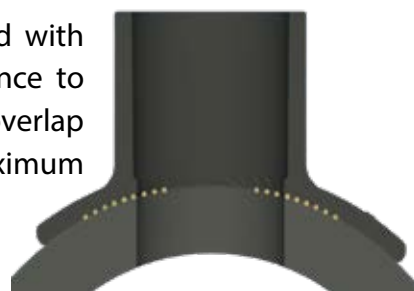
Simple Clamping System

Our unique clamping system has been engineered to ensure it's quick and easy to use. Simply pick the correct saddle plate and attach this to the tension straps around the pipework. Tighten until the orange indicators touch, signalling that the saddle is secured and ready for electrofusion on our LD range. Our XL and XXL range tension is controlled by use of a torque wrench.



Embedded heating wires ensure large weld zone

All PLASSON saddles are designed with large weld zones to give confidence to the installer. The embedded wires overlap the cut out area to ensure the maximum surface weld area is created.



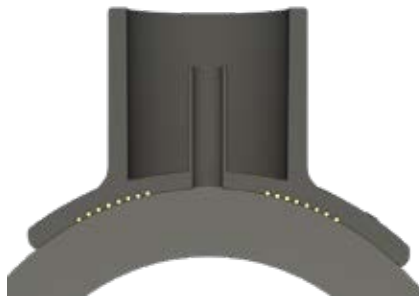
Built-in test point

Each saddle has an injection moulded test point built into the body of the outlet.

The test point provides a quick and simple way to test weld integrity of the saddle prior to drilling.

The connection to a standard pressure test pump is by 16mm push-fit fitting.

Ensure 3x cooling period prior to testing and drilling.



Maximum Bore

The full bore of the saddle is opened by using the PLASSON core drill. All saddles can be welded in place on pressurised or de-pressurised mains. Please see chart on page 8.

Repair Saddle

Our repair saddle is a simple and efficient way to repair PE pipework. One repair saddle fits all 250mm to 900mm. The repair saddle can cover and repair damaged areas up to 70mm diameter. Suitable for all pipes with walls 14.7mm thick and above.

Once the surface area is cleaned and prepared for Electrofusion, our repair saddle is fixed to the pipework using the LD saddle kit over the damaged surface area. Quickly and efficiently repairing the pipeline, is a more cost effective solution than cutting out and replacing the damaged area.



Key Features

- PN16 rating
- Full bore outlet
- Fits pipe diameters 280mm to 1200mm
- Suitable for SDR11 - 41
- Spigot outlets D90 to 400mm
- Flanged outlets DN80 to 400mm
- Simple pressure test point built-in
- Fast and simple installation
- Lightweight clamping system designed to obtain full contact along the welding zone, even when the pipe is oval or deformed
- Allows branch connections to pressurised or non-pressurised mains pipes
- Clamping and drilling tools available for purchase or hire from leading utility hire companies
- One weld time for all temperatures -10°C to +45°C

PRODUCT RANGE



Spigot Outlet

Pipe dia	90	110	125	160	180	200	225	250	280	315	355	400
280												
315	M	M	M	M				M				
355												
400					•	M	M	•				
450	M	M	M	M	•			•	•			
500					•	•		M	•	•	•	
560					•	•	M		•	•	•	•
630					•	•		M	•	•	•	•
710					•	•	•		•	•	•	•
800					•	•	•		•	•	•	•
900					•	•	•	•	•	•	•	•
1000		•	•	•	•	•	•	•	•	•	•	•
1200		•	•	•	•	•	•	•	•	•	•	•



Flanged Outlet

Pipe dia	80	100	150	200	250	300	400
280							
315	M	M	M		M		
355							
400				•	M	•	
450	M	M	M	•		•	
500				•	M	•	
560				•		•	•
630				•		•	•
710				•	•	•	•
800				•	•	•	•
900		•	•	•	•	•	•

- M** Multi-size saddle (stocked)
- M** Multi-size saddle (made to order)
- Single size (stocked)
- Made to order



Repair Saddle

Pipe dia	70
250mm - 900mm	M

- All Plasson saddles are suitable for gas and water applications, drilling either under pressure or not.
- All Plasson saddles are suitable to weld to any point on the pipeline, regardless of pipe ovality.
- All Plasson Multi sized saddles are suitable for non standard pipe sizes.

The PLASSON range is always evolving, please ask if you require a saddle size not shown on our charts.

INSTALLATION TOOLS

Saddle Pressing and Clamping Tools



LD Saddle clamping kit

Our LD saddle kit has everything you need to install saddles on to pipes 280mm to 900mm with spigot outlets 90mm to 160mm and flanged outlets dn 80mm to dn 150mm.

PLASSON's uniquely engineered clamping system is designed to make clamping in the trench simple, easy and 100% effective to ensure the pipe and saddle surface areas come together as one prior to electrofusion. Leaving a stamp to prove the correct plate and system has been used.

XL / XXL Saddle clamping kit

When you move into our large diameter outlet saddles an XL tensioning strap kit is required for all outlets 180mm to 400mm flanged and spigot. All size outlets use the same tensioning strap.

Then select the correct size fixing plate (and flanged bar for saddles) to suit the outlet size. Each plate kit comes complete with a re-rounding tool for the outlet.

Available Clamping Plates

200mm to use on 180/200mm flanged & spigot

250mm to use on 225/250mm flanged & spigot

315mm to use on 280/300 & 315mm flanged & spigot

400mm to use on 350/355 & 400mm flanged & spigot



HOT TAP DRILL FOR FLANGED SADDLES

The Hot Tapping Drill is available with a choice of electric or hydraulic motors.

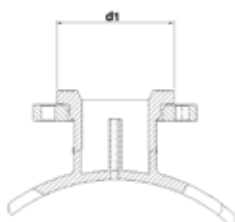
Housings for flange sizes DN80, 100, 150, 200, 250, 300 and 400 are designed specifically for the drilling of Plasson branch saddles for large pipes with core cutters.

The drive offers a high torque at low RPM. The hot tapping of pressurised PE pipes can only be done after the welding of the saddle and a following pressure test.



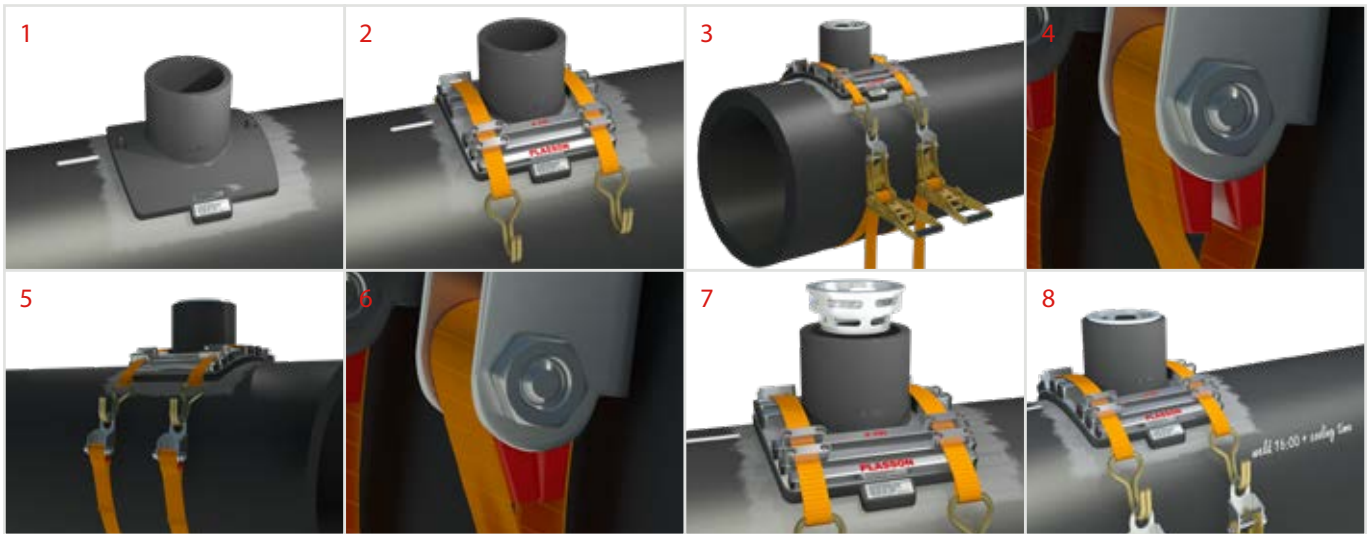
PE Cutter sizes

Our range of PE cutters are designed to maximise the internal bore of the branch to allow maximum flow through the fitting. All cutters are designed to retain the PE coupon and swarf once drilled.



Outlet d1	Outlet Bore	Cutter Size
d90 / dn80	73mm	71mm
d110 / dn100	90mm	87mm
d125	102mm	99mm
d160 / dn150	131mm	127mm
d180	147mm	143mm
d200 / dn200	164mm	159mm
d225	189mm	179mm
d250 / dn250	205mm	199mm
d280	230mm	223mm
d315 / dn300	259mm	251mm
d355	292mm	283mm
d400 / dn400	329mm	319mm

INSTALLATION STEP BY STEP GUIDE



1. Once pipe is cleaned and scraped.
2. Select plate for spigot size.
3. Attach straps ready for tightening.
4. Note the gap on the tension indicator.
5. Tighten straps until tension indicator gap closes.
6. Tension indicator gap has closed.
7. For spigot fittings select suitable re-rounder.
8. Fittings now ready for electrofusion.

Range of Tools



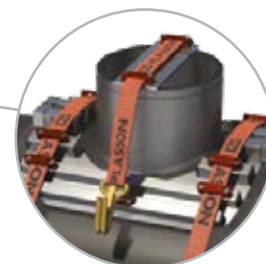
Rounding Ring

PN16 saddles with branches 180-250mm use a re-rounding ring to maintain the circular shape of the offtake during fusion.



Core Cutter

Especially designed core cutters enable cutting through thick and thin wall pipe.



Bar

PN16 saddles with branches 280-400mm and PN10 saddles with 225 branches, use a bar across the offtake to apply an even force over the fusion zone.



Torque Wrench

A torque wrench applies high tension to the straps and force to the clamp plate.

LARGE DIAMETER COUPLERS RANGE



PLASSON's unique range of Large diameter couplers allows the installer to choose the correct pressure rated fitting for the project. Designed for reliable high performance pipe joining. All fitted with 4mm pins. With a fitting to suit all pipework from SDR7.4 to SDR41 and pressures to suit all applications: Please check details for pipe SDR compatibility.

6.4 bar Super Lightfit
10 bar Lightfit
16 bar Standard



**Super
LightFit
Coupler**



**LightFit
Coupler**



Coupler

Max Pressure	PN6.4	PN10	PN16
450		• 40v	• 40v
500	• 44v	• 40v	• 40v
560	• 44v	• 40v	• 40v
630	• 44v	• 40v	• 40v
710	• 44v	• 40v	• 40v
800	• 44v	• 42v	• 42v
900	• 44v	• 44v	• 43v
1000	• 44v	• 45v	• 45v
1200		• 42v	

The PLASSON range is always evolving, please ask if you require a coupler size not shown on our charts.



FEATURES AND BENEFITS LARGE DIAMETER COUPLERS

Electrofusion fittings for D 450 – D 1200 PE Pipe

Insulating Weld Straps

- Prevent expansion during weld process
- Does not require tightening or intervention from the operator
- Will be loose after cooling
- Can be removed after cooling - not a structural element of the finished weld

Product Geometry

- Extra material at areas of maximum load
- Customised profile at weld zones to improve weld quality
- Long insertion depths allow longer cold zones to help prevent melt out

Dual Weld Zones

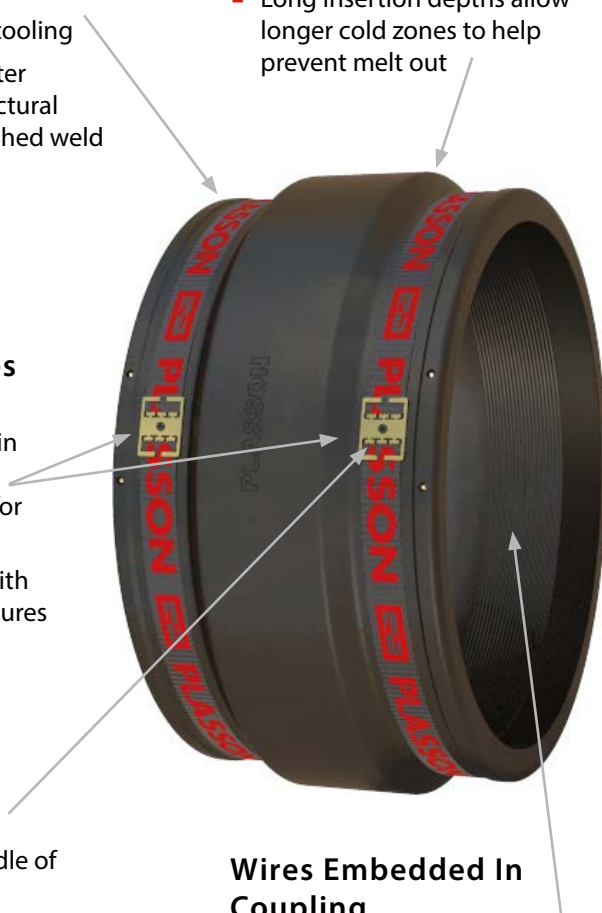
- Can be welded simultaneously or in a sequence. Please consult PLASSON for advice
- Allows flexibility with installation procedures

Rising Pin Weld Indicator

- Located in the middle of strap buckles
- Tapered design prevents melt out

Wires Embedded In Coupling

- Prevents damage during assembly
- Ensures even heat transfer during welding
- Internal machining after wire embedding to control internal diameter and provide a smooth welding surface



Key Features

- Insulating weld straps prevent expansion during weld process
- DWI approved
- EN12201 water, EN1555 gas certified
- No requirement for preheating
- Suitable for pipes SDR7.4 to SDR41
- All made from Virgin PE
- Full range fitted with 4mm Pins
- Extensive range 450mm to 1200mm
- Coupler design optimised to suit pipe SDR rating
- Superlightfit 6.4 bar 500mm to 1000mm
- Lightfit 10 bar 40mm to 1200mm
- Standard 16 bar 20mm to 1000mm

SENSOR SADDLE

Key Features

- Designed for instrumentation connections
- Permanent welded fixing
- Robust welded attachment provides PN16 rating
- Can be installed on live pipework
- The installation footprint is small
- easy to accommodate

The PLASSON Sensor Saddle provides a simple and reliable solution for providing a through wall connection into PE pipes, both new and existing.

Equipment such as pressure sensors, sampling points and flow sensors can easily be connected to both new and existing pipelines, by way of the BSP (ISO-7) thread in the saddle.

2 saddle sizes cover connection by Electrofusion to all PE pipes between 110mm and 1200mm and are PN16 rated and suitable for pipes SDR7.4 to SDR26.

Brass threads are standard. (Stainless steel threads are available for corrosive fluids on special request).

The use of the two unique yet simple clamping device options (strap for live or bolt for non-live systems) ensures professional, robust and leak-free component attachment.

Sensor Saddle
With Brass Thread



Size	Voltage
110-400 x 1/2"	30v
110-400 x 3/4"	30v
110-400 x 1"	30v
450-1200 x 1/2"	31v
450-1200 x 3/4"	31v
450-1200 x 1"	31v



Installation

Saddles are fitted to unpressurised pipes by a simple single bolt clamp. For fitting to pressurised systems, a strap clamp is required.



FLEX RESTRAINT

For axial restraint of PE pipe.

The restraint is a flexible bar, which is fused to the pipe by electrofusion to create a welded shoulder that can restrain the axial movement of pipes in various applications:



Anchoring the pipe to a concrete wall such as a manhole or tank.



Restraining the pipe to a gasket bell fitting to facilitate cross connection with other piping systems.



Blocking pipe movement after slip-lining.

Key Features

- Fits any PE pipe in the size range of 160mm to 1600mm
- Can be welded by any standard EF control box with barcode or manual input
- Option including bolt hole securing point
- Designed and tested to support 7000 LBS/3100 dN (kg) of axial force
- Use multiple units to achieve required force restraint

Clips for attaching the 50mm clamping strap.



Bolt hole for securing additional equipment.



Side mounted 4.0mm terminals.

Concealed wire - eliminates risk of smoke or unintentional contact with hot wire.

Technical Details:	
Size:	Fits any PE pipe in the size range of 160-1600mm. Wall thickness ≥ 8.5 mm
Raw Material:	Made of PE 100 / PE4710 resin.
Welding Data Input:	Can be welded by any standard EF control box with barcode or manual input.
Axial Load Restraint Capacity:	Designed and tested to support 7000 LBS/3100 dN (kg) of axial force.
	Use multiple units to achieve required force restraint
Terminal size:	4.0mm terminals.

Installation

The flex restraint is installed by using normal EF preparation (scraping and cleaning). The flex restraint(s) should be clamped by using a 1 1/4" or larger ratchet tie down strap. Make sure the flex restraint is in full contact with the pipe.

Allow to cool for the indicated time before removing the strap. Wait 4 times cooling period before applying full load.



Flex Restraint Tension Belt.

SPIGOT FITTINGS

PE100

Properties

- Excellent processing properties for Butt or Electrofusion welding
- Good chemical resistance
- Excellent corrosion resistance
- High impact strength
- UV degradation protected, no additional protection required
- High abrasion resistance
- Approved for Gas and Water use according to EN1555 and EN12201
- SDR11 and SDR17 options available

Our injection moulded Polyethylene fittings are characterised by excellent physical and mechanical properties. Through the fine surface structure, injection moulded PE fittings are ideal for transporting gases and liquids.

The excellent UV resistance allows their use for outside installation without further need for additional protection effort.

Our fittings have been approved and used for decades in the gas and water industries.

Material

High density Polyethylene (PE100). Colour: Black.
Approved to BSEN1555, BSEN12201 and Reg 4/WRAS.

Joining technology

- Butt-welding
- Electrofusion socket-welding
- Flange connection



Geometric Properties

Outside diameter and wall thickness according to EN 1555 and EN 12201.
Size range from 20mm - 1000mm.

SPIGOT FITTINGS SIZE RANGE

Short Spigot



Range	Size range	SDR17	SDR11
Elbow 90	25 - 315	•	•
Elbow 45	25 - 315	•	•
Bend 90	20 - 315	•	•
Tee 90	25 - 315	•	•
Reducer	20 - 1000	•	•
Flange adaptor	25 - 1000	•	•



Long Spigot



Range	Size range	SDR17	SDR11
Elbow 90	25 - 500	•	•
Elbow 45	25 - 500	•	•
Elbow 30	75 - 225	•	•
Tee 90	25 - 500	•	•
Y tee 45	40 - 315	•	•
Red tee	32 - 500	•	•
Reducer	20 - 630	•	•
End cap	25 - 630	•	•
Flange adaptor	25 - 630	•	•



Seamless Bends



Range	Size range	SDR17	SDR11
Bend 90	63 - 900	•	•
Bend 60	63 - 900	•	•
Bend 45	63 - 900	•	•
Bend 30	63 - 900	•	•
Bend 22	63 - 900	•	•
Bend 11	63 - 900	•	•



To find out more about our range of Spigot Fittings, please visit
www.plasson.co.uk

PLASSON's extensive range of solutions for connecting PE pipe is found in over 80 countries world-wide.

The combination of PLASSON's high quality products and first class customer service make it a world leader in the production of plastic pipe fittings.

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