

Electrofusion Fittings



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- ✓ Fast, accurate and efficient dispatch of products
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- ✓ Reliable products – over forty years of proven performance in harsh Australian conditions
- ✓ Attractive commercial arrangements
- ✓ Opportunities in new markets such as plumbing, municipal water and larger PE pipe diameter projects
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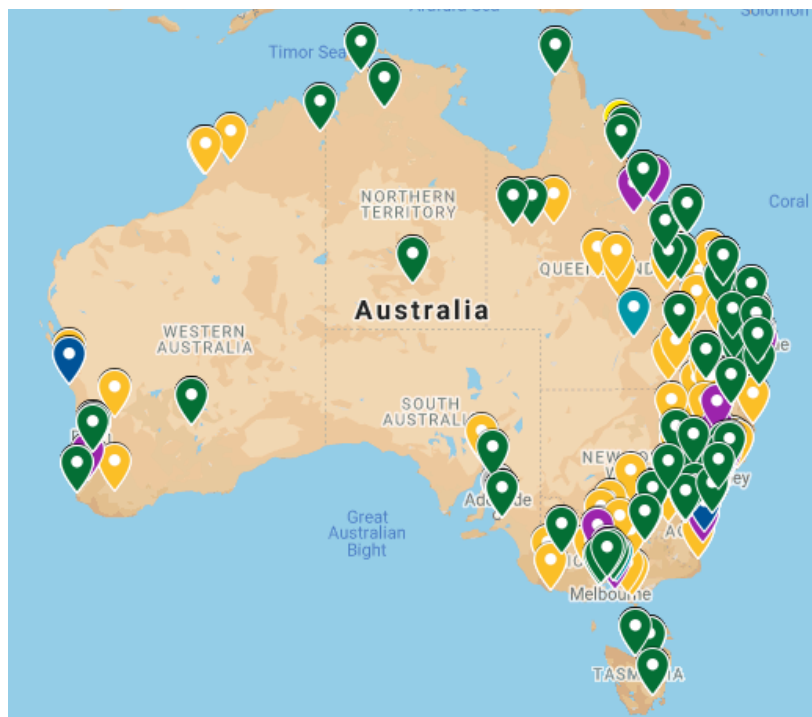
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Store Locator

When customers want to buy Plasson, make sure they can find you.



Register your store today at
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ELECTROFUSION FITTINGS

**PE100
HSCR
RESIN**

Suitable Plasson Control Boxes



DN	SmartFuse 180	Monomatic	PolymaticPlusUSB	PolyControlPlus V2
16 - 180	✓	✓	✓	✓
200 - 355	x	✓	✓	✓
400 - 800	x	x	✓*	✓
800 - 1200	x	x	x	✓

*Sizes above 355mm require cool down time between welds.

Some couplers between 800-1000 may need a 'Mamut' control box - check with Plasson sales staff.

Standard dimension ratios (SDRs) for series 1 pipes and equivalent pressure rating in Bar

Compound	PN3.2	PN4	PN6.3	PN8	PN10	PN12.5	PN16	PN20	PN25
PE80	41	33	21	17	13.6	11	9	7.4	-
PE100	-	41	26	21	17	13.6	11	9	7.4

4901 - COUPLER



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
16	16	11	7-11	4901001
20	16	11	7-11	4901002
25	16	11	7-11	4901003
32	16	11	7-11	4901004
40	16	11	7.4-17.6	4901005
50	16	11	7.4-17.6	4901006
63	16	11	7.4-17.6	4901007
75	16	11	7.4-17.6	4901008
90	16	11	7-17	4901009
110	16	11	7-17	4901010
125	16	11	7-17	4901011
140	16	11	7-17	4901012
160	16	11	7-17	4901013
180	16	11	7-17	4901014
200	16	11	7-17	4901015
225	16	11	7-17	4901016
250	16	11	7-21	4901017
280	16	11	7-21	4901018
315	16	11	7-26	4901019
355	16	11	7-20	4901020
400	16	11	7-26	4901021
450*	16	11	7-17	4901022
500*	16	11	7-17	4901023
560*	16	11	7-33	4901024
630*	16	11	7-33	4901025
710*	16	11	7-26	4901026
800*	16	11	7-17	4901027
900*	16	11	11-17	4901034
1000	16	11	11-17.6	4901035

*450-900 couplers have dual weld zones.

Series 3 couplers up to DN300 available on request.

ELECTROFUSION FITTINGS

**PE100
HSCR
RESIN**

4501 - COUPLER - FOR THICK WALLED PIPE



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
50	25	7.4	7-11	4501001
63	25	7.4	7-11	4501002
75	25	7.4	7-11	4501003
90	25	7.4	7-11	4501004
110	25	7.4	7-11	4501005
125	25	7.4	7-11	4501006
160	25	7.4	7-11	4501007
180	25	7.4	7-11	4501008
200	25	7.4	7-11	4501009
225	25	7.4	7-11	4501010
250	25	7.4	7-11	4501011
280	25	7.4	7-11	4501012
315	25	7.4	7-11	4501013
355	25	7.4	7-11	4501015
400	20	9	7-11	4501014

4901 - LONG COUPLER



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
32	16	11	7-11	4901028
40	16	11	7-11	4901029
50	16	11	7-11	4901030
63	16	11	7-11	4901031

4601 - LIGHTFIT COUPLER - FOR THIN WALLED PIPE



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
40	10	17	11-17	4601001
50	10	17	11-17	4601002
63	10	17	11-26	4601003
75	10	17	11-26	4601004
90	10	17	11-26	4601005
110	10	17	11-33	4601006
125	10	17	11-33	4601007
140	10	17	11-33	4601008
160	10	17	11-33	4601009
180	10	17	11-33	4601010
200	10	17	11-33	4601011
225	10	17	11-33	4601012
250	10	17	11-33	4601013
280	10	17	11-33	4601014
315	10	17	11-33	4601015
355	10	17	11-41	4601016
400	10	17	11-41	4601017
450+	10	17	11-41	4601018
500*	10	17	11-33	4601019
560*	10	17	11-41	4601020
630*	10	17	11-33	4601021
710*	10	17	11-33	4601022
800*	10	17	11-41	4601023
900	10	17	11-41	4601024
1000	10	17	11-33	4601026
1200	10	17	17.6-33	4601025

+450 Lightfit coupler is 42V Fitting.
*500-900 Lightfit Couplers have dual weld zones.

ELECTROFUSION FITTINGS

PE100
HSCR
RESIN

4601 - SUPER LIGHTFIT COUPLER - FOR VERY THIN WALLED PIPE



SIZE	*PN WATER	SDR GAS	SDR RANGE	CODE
500	6.4	26	17-41	4601101
560	6.4	26	17-41	4601102
630	6.4	26	17-41	4601103
710	6.4	26	17-41	4601105
800	6.4	26	17-41	4601104
900	6.4	26	17-41	4601107
1000	6.4	26	17-41	4601106

*Nominal Rating - Not certified to AS/NZS 4129.

4911 - REDUCING COUPLER



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
20 x 16*	16	11	7-11	4911001
25 x 20	16	11	7-11	4911002
25 x 20NB**	16	11	7-11	4911003
32 x 20	16	11	7-11	4911004
32 x 25	16	11	7-11	4911005
40 x 25	16	11	7-11	4911006
40 x 32	16	11	7-11	4911007
50 x 25	16	11	7-11	4911008
50 x 32	16	11	7-11	4911009
50 x 40	16	11	7-11	4911010
50 x 40NB**	16	11	7-11	4911011
63 x 32	16	11	7-11	4911012
63 x 40	16	11	7-11	4911013
63 x 50	16	11	7-11	4911014
63 x 50NB**	16	11	7-11	4911015
75 x 63	16	11	7-11	4911016
90 x 50	16	11	7-17	4911017
90 x 63	16	11	7-17	4911018
90 x 75	16	11	7-17	4911019
110 x 63	16	11	7-17	4911020
110 x 90	16	11	7-17	4911021
125 x 90	16	11	7-17	4911022
125 x 110	16	11	7-17	4911023
160 x 90	16	11	7-17	4911024
160 x 110	16	11	7-17	4911025
160 x 125	16	11	7-17	4911026
180 x 125	16	11	7-17	4911027

*Only 1x rising pin indicator

**Series 3, 25 x 20NB, 50 x 40NB, 63 x 50NB available on request

Plasson Large Bore Couplers

Electrofusion fittings for 450 OD – 1000 OD PE Pipe

PE100
HSCR
RESIN



Insulating weld Straps

- Prevent expansion during weld process
- Shorten fusion time by reducing heat loss
- Allows coupling to shrink during cooling - reduces stress on weld during cooling period
- 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

Dual Weld Zones

- Can be welded simultaneously or in sequence
- Allows flexibility with installation procedures

Product Geometry

- Extra material at areas of maximum load
- Thinner wall above fusion zone to enhance gap closing and weld quality
- Customised profile at weld zones to improve weld quality
- Long insertion depths allow longer cold zones to help prevent melt out

Rising Pin Weld Indicator

- Located in the middle of strap buckles
- Tapered design prevents melt out
- Not an indicator of weld quality

Wires Embedded In Coupling

- Prevents damage during assembly
- Thick melt layer to help close large gaps
- Ensures even heat transfer during welding
- Oxygen free environment around the heating wire all the way up to gap closure
- Internal machining after wire imbedding to control internal diameter and provide a smooth welding surface

Installation Tools

Plasson Large Bore Couplers



Rotary Circular Saw

Guarantees a straight cut at pipe ends and eliminates the need for chainsaws. Three sizes available for pipes up to 1200mm in diameter. See page 131



Battery Powered Chain Peeler

Self driven pipe peeler ensures accurate depth of peel removed from the pipe surface while saving significant man-hours. Available for pipe diameters from 400 to 1200mm. See page 134



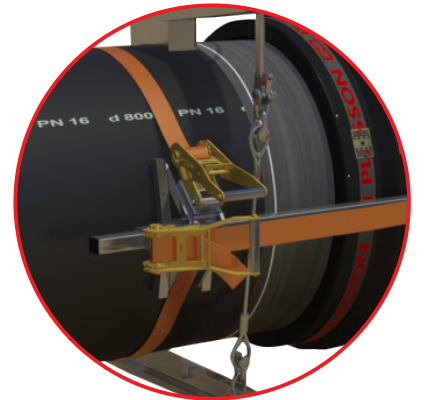
Hydraulic Rounder

Mechanical and hydraulic rounding tools available for pipes up to 1200mm in diameter. Eliminates ovality and ensures pipe geometry conforms with POP001. See page 135



Electrofusion Control Box

Plasson Polymatic and Polycontrol control boxes. See page 130



Restraint Clamp and Pulling Shoes

Pulling shoes aid in positioning the coupler anywhere along the pipe length. Restraint clamp then restrains the pipe/coupler assembly during fusion. See page 137

ELECTROFUSION FITTINGS

PET100
HSCR
RESIN

4905 - 90° ELBOW



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
20	16	11	7-11	4905001
25	16	11	7-11	4905002
32	16	11	7-11	4905003
40	16	11	7-17	4905004
50	16	11	7-17	4905005
63	16	11	7-17	4905006
75	16	11	7-17	4905007
90	16	11	7-17	4905008
110	16	11	7-17	4905009
125	16	11	7-17	4905010
140	16	11	7-17	4905011
160	16	11	7-21	4905012
180	16	11	7-17	4905013
200	16	11	7-17	4905014
225	16	11	7-17	4905015
250	16	11	7-17	4905016

4915 - 90° DUCKFOOT ELBOW



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
90 x 90	16	11	7-17	4915001

4915 - 90° DUCKFOOT ELBOW W/32 OUTLET



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
90 x 32 x 90	16	11	7-17	4915002

4906 - 45° ELBOW



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
32	16	11	7-11	4906001
40	16	11	7-17	4906002
50	16	11	7-17	4906003
63	16	11	7-17	4906004
75	16	11	7-17	4906005
90	16	11	7-17	4906006
110	16	11	7-17	4906007
125	16	11	7-17	4906008
140	16	11	7-17	4906009
160	16	11	7-21	4906010
180	16	11	7-17	4906011
200	16	11	7-17	4906012
225	16	11	7-17	4906013
250	16	11	7-17	4906014

ELECTROFUSION FITTINGS

**PE100
HSCR
RESIN**

4706 - 45° LIGHTFIT ELBOW



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
110	10	17	17-33	4706001
160	10	17	17-33	4606001

4633 - 30° LIGHTFIT ELBOW



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
160	10	17	17-33	4633001

4908 - 22.5° ELBOW



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
90	16	11	7-17	4908001
110	16	11	7-17	4908002
125	16	11	7-17	4908003
160	16	11	7-17	4908004
180	16	11	7-17	4908005

4637 - 15° LIGHTFIT ELBOW



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
160	10	17	11-33	4637001

4947 - ADJUSTABLE ELBOW - COUPLER TO COUPLER



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
90	16	11	7-17	4947012
110	16	11	7-17	4947001
125	16	11	7-17	4947002
160	16	11	7-17	4947003
180	16	11	7-17	4947004
200	16	11	7-17	4947005
225	16	11	7-17	4947026
250	16	11	7-17	4947013

Ideal for jointing misaligned pipes in trenches and tight locations.

4947 - ADJUSTABLE ELBOW ONE SIDED - COUPLER AND SPIGOT



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
90	16	11	7-17	4947014
110	16	11	7-17	4947006
125	16	11	7-17	4947007
160	16	11	7-17	4947008
180	16	11	7-17	4947009
200	16	11	7-17	4947010
225	16	11	7-17	4947011
250	16	11	7-17	4947015

Ideal for jointing misaligned pipes in trenches and tight locations.

New design

Adjustable Elbow

Innovative solutions adding flexibility to PE Pipe installations



Plasson's one-sided Adjustable Elbow allows the connection of pipes misaligned up to 12 degrees, while the double-sided Adjustable Elbow enables jointing of misaligned pipe up to 24 degrees.

The Plasson Adjustable Elbow simply and easily solves situations such as:

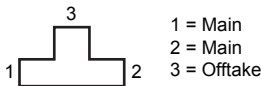
- ✓ Misaligned pipes
- ✓ Connections at an undefined angle
- ✓ Connection of misaligned pipes to valves, pumps and other stationary devices
- ✓ Connection of buried pipes where only a short section is exposed
- ✓ New design with increased fusion area

Prior to welding, the ball joints are fully adjustable up to $\pm 12^\circ$ degree. After welding, the joint is a fixed electrofusion welded connection.

The Adjustable Elbow is pressure rated as

- ✓ Water PN16
- ✓ Gas PE 100 SDR 11

4904 - 90° EQUAL TEE



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
1	2	3				
20	20	20	16	11	7-11	4904001
25	25	25	16	11	7-11	4904002
32	32	32	16	11	7-11	4904003
40	40	40	16	11	7-17	4904004
50	50	50	16	11	7-17	4904005
63	63	63	16	11	7-17	4904006
75	75	75	16	11	7-17	4904007
90	90	90	16	11	7-17	4904008
110	110	110	16	11	7-17	4904009
125	125	125	16	11	7-17	4904010
160	160	160	16	11	7-17	4904011
180	180	180	16	11	7-17	4904012
200	200	200	16	11	7-17	4904013
225	225	225	16	11	7-17	4904014
250	250	250	16	11	7-17	4904015

Plasson PE100 HSCR fittings
For ultimate crack resistance



Plasson electrofusion fittings above 63mm are now made of PE100 HSCR (High Stress Crack Resistant).

PE100 HSCR is a PE100 material which offers up to ten times higher resistance to slow crack growth than regular PE100. This is particularly important where the pipe is prone to damage during installation. It has the same pressure burst strength of conventional PE100 pipe but is specially formulated for use in critical or high-value pipeline assets where the risk of premature failure from slow crack growth is possible.

RC resins are listed in PIPA POP016 guideline.

Benefits of PE100 HSCR:

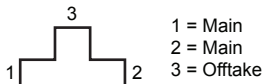
- ✓ Produces a durable, hard-wearing pipeline
- ✓ Extends the service life of the entire piping system
- ✓ Enables cost-saving installation methods
- ✓ Maximum operational reliability

For more information on POP016 go to www.pipa.com.au/technical/pop-guidelines/

ELECTROFUSION FITTINGS

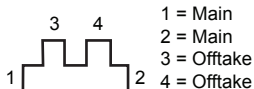
PE100
HSCR
RESIN

4914 - 90° REDUCING TEE



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
1	2	3				
25	25	20	16	11	7-11	4914001
25	25	32	16	11	7-11	4914002
32	32	20	16	11	7-11	4914003
32	32	25	16	11	7-11	4914004
40	40	20	16	11	7-17	4914005
40	40	25	16	11	7-17	4914006
40	40	32	16	11	7-17	4914007
50	50	20	16	11	7-17	4914008
50	50	25	16	11	7-17	4914009
50	50	32	16	11	7-17	4914010
50	50	40	16	11	7-17	4914011
63	63	20	16	11	7-17	4914012
63	63	32	16	11	7-17	4914013
63	63	40	16	11	7-17	4914014
63	63	50	16	11	7-17	4914015
75	75	63	16	11	7-17	4914016
90	75	90	16	11	7-17	4914037
90	90	63	16	11	7-17	4914017
110	110	63	16	11	7-17	4914018
110	110	90	16	11	7-17	4914019
110	110	75	16	11	7-17	4914036
125	125	90	16	11	7-17	4914020
125	125	110	16	11	7-17	4914021
160	160	90	16	11	7-17	4914022
160	160	110	16	11	7-17	4914023
160	160	125	16	11	7-17	4914024
180	180	90	16	11	7-17	4914025
180	180	110	16	11	7-17	4914026
180	180	125	16	11	7-17	4914027
180	180	140	16	11	7-17	4914028
180	180	160	16	11	7-17	4914029
200	200	90	16	11	7-17	4914030
200	200	110	16	11	7-17	4914031
225	225	90	16	11	7-17	4914032
225	225	110	16	11	7-17	4914033
250	250	90	16	11	7-17	4914034
250	250	110	16	11	7-17	4914035

4924 - 90° REDUCING TEE WITH DOUBLE OUTLET



SIZE				PN WATER	SDR GAS	SDR RANGE	CODE
1	2	3	4				
40	40	25	25	16	11	7-11	4924001
40	40	32	32	16	11	7-11	4924002
50	50	25	25	16	11	7-11	4924003
50	50	32	32	16	11	7-11	4924004
63	63	25	25	16	11	7-11	4924006
63	63	32	32	16	11	7-11	4924007
63	63	40	40	16	11	7-11	4924008

ELECTROFUSION FITTINGS

**PE100
HSCR
RESIN**

4904 - FULL FACED FLANGED HYDRANT TEE (W/SS 316 BACKING RING)



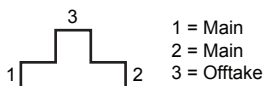
SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
1	2	3				
110	110	90	16	11	7-17	4904016
125	125	90	16	11	7-17	4904017
160	160	90	16	11	7-17	4904018
180	180	90	16	11	7-17	4904019
200	200	90	16	11	7-17	4904020
225	225	90	16	11	7-17	4904021
250	250	90	16	11	7-17	4904022

Elongated slots suitable for four or eight hole flange drilling w/ PCD b/w 145 and 180mm.
Full faced flange and SS ring drilled 4 x 18 @ 146 PCD and 4 x 18 @ 178 PCD.

4994 - DUCTILE IRON FLANGED TEE



FLANGE: PP COATED STEEL



SIZE			PCD	PN WATER	SDR GAS	SDR RANGE	CODE
1	2	3					
110	110	4" ISO	180	16	11	7-17	4994001
125	125	4" ISO	180	16	11	7-17	4994002
160	160	4" ISO	180	16	11	7-17	4994003
180	180	4" ISO	180	16	11	7-17	4994004
200	200	4" ISO	180	16	11	7-17	4994005
225	225	4" ISO	180	16	11	7-17	4994006
250	250	4" ISO	180	16	11	7-17	4994007

See page 43 for ISO Flange dimensions and equivalent Australian Standard Flanges

4977 - PE CAST IRON FLANGE COUPLER



SIZE		PCD	PN WATER	SDR GAS	SDR RANGE	CODE
PE x ISO FLANGE**						
63	x 2" ISO	125	16	11	7-11	4977001
110	x 4" ISO	180	16	11	7-17	4977002
125	x 4" ISO	180	16	11	7-17	4977003
160	x 6" ISO*	240	16	11	7-17	4977004
180	x 6" ISO*	240	16	11	7-17	4977005
225	x 8" ISO	295	16	11	7-17	4977006

*Use M16 bolts with 150 flanges

**See page 43 for ISO Flange dimensions and equivalent Australian Standard Flanges



DID YOU KNOW?

Plasson distributes its products from four locations across Australia.

Plasson currently runs distribution centres in Brisbane, Melbourne, Perth and Darwin.

ELECTROFUSION FITTINGS

PE100
HSCR
RESIN

4912 - END CAP - INCLUDES COUPLING & PLUG



Coupling + Plug



Monolithic (one piece)

SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
20	16	11	7-11	4912001
25	16	11	7-11	4912002
32*	16	11	7-11	4912003
32	16	11	7-11	4912035
40*	16	11	7-11	4912004
40	16	11	7-11	4912036
50*	16	11	7-11	4912005
50	16	11	7-11	4912037
63*	16	11	7-11	4912006
63	16	11	7-11	4912038
75	16	11	7-11	4912007
90	16	11	7-17	4912008
110	16	11	7-17	4912009
125	16	11	7-17	4912010
140	16	11	7-17	4912011
160	16	11	7-17	4912012
180	16	11	7-17	4912013
200	16	11	7-17	4912014
225	16	11	7-17	4912015
250	16	11	7-17	4912016

*Monolithic End Cap

4912 - END PLUG



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
20	16	11	-	4912017
25	16	11	-	4912018
32	16	11	-	4912019
40	16	11	-	4912020
50	16	11	-	4912021
63	16	11	-	4912022
75	16	11	-	4912023
90	16	11	-	4912024
110	16	11	-	4912025
125	16	11	-	4912026
140	16	11	-	4912027
160	16	11	-	4912028
180	16	11	-	4912029
200	16	11	-	4912030
225	16	11	-	4912031
250	16	11	-	4912032
280	16	11	-	4912033
315	16	11	-	4912034

May be fitted into any Plasson electrofusion ended fitting.
Must be spot welded in 3 places or held firmly, without movement, during electrofusion and cooling cycle.

ELECTROFUSION FITTINGS

PE100
HSCR
RESIN

4971 - MALE ADAPTOR E/F - PE100



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
25	x	3/4"	16	11	-	4971001
32	x	1"	16	11	-	4971002
40	x	1"	16	11	-	4971003
40	x	1.1/4"	16	11	-	4971004
40	x	1.1/2"	16	11	-	4971005
50	x	1.1/2"	16	11	-	4971006
63	x	1.1/2"	16	11	-	4971007
63	x	2"	16	11	-	4971008

Fits any electrofusion socket

4961 - FEMALE ADAPTOR E/F - PE100



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
20	x	1/2"	16	11	-	4961001
25	x	3/4"	16	11	-	4961002
32	x	1"	16	11	-	4961003
40	x	1.1/4"	16	11	-	4961004
50	x	1.1/2"	16	11	-	4961005
63	x	2"	16	11	-	4961006

Fits any electrofusion socket

3045 - BRASS REDUCING NIPPLE FOR TRANSITION UNIONS



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
1.1/4"	x	1"	16	11	-	3045001
2.1/2"	x	2"	16	11	-	3045004

4971 - MALE TRANSITION COUPLER - MALE PE100 OUTLET



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
25	x	3/4"	16	11	-	4971009
32	x	1"	16	11	-	4971010
40	x	1"	16	11	-	4971011
40	x	1.1/4"	16	11	-	4971012
40	x	1.1/2"	16	11	-	4971013
50	x	1.1/2"	16	11	-	4971014
63	x	1.1/2"	16	11	-	4971015
63	x	2"	16	11	-	4971016

ELECTROFUSION FITTINGS

**PET00
HSCR
RESIN**

4921 - TRANSITION COUPLING - MALE BRASS BSP OUTLET



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
20 x 1/2"	16	11	7-11	4921021
25 x 3/4"	16	11	7-11	4921022
32 x 1/2"	16	11	7-11	4921023
32 x 3/4"	16	11	7-11	4921024
32 x 1"	16	11	7-11	4921025
32 x 1.1/4"	16	11	7-11	4921026
32 x 1.1/2"	16	11	7-11	4921027
40 x 1"	16	11	7-11	4921028
40 x 1.1/4"	16	11	7-11	4921029
40 x 1.1/2"	16	11	7-11	4921030
40 x 2"	16	11	7-11	4921031
50 x 1"	16	11	7-11	4921032
50 x 1.1/4"	16	11	7-11	4921033
50 x 1.1/2"	16	11	7-11	4921034
50 x 2"	16	11	7-11	4921035
63 x 1.1/4"	16	11	7-11	4921036
63 x 1.1/2"	16	11	7-11	4921037
63 x 2"	16	11	7-11	4921038
75 x 2"	16	11	7-11	4921039
75 x 2.1/2"	16	11	7-11	4921040

The brass component can be turned inside the body of the fittings after welding and cooling is completed.

4951 - TRANSITION COUPLING - MALE STAINLESS STEEL (316) BSP OUTLET



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
32 x 1.1/4"	16	11	7-11	4951015
32 x 1.1/2"	16	11	7-11	4951002
40 x 1.1/4"	16	11	7-11	4951003
40 x 1.1/2"	16	11	7-11	4951004
50 x 1.1/2"	16	11	7-11	4951005
50 x 2"	16	11	7-11	4951014
63 x 1.1/2"	16	11	7-11	4951006
63 x 2"	16	11	7-11	4951007

The SS component can be turned inside the body of the fittings after welding and cooling is completed.

4931 - TRANSITION COUPLING - FEMALE BRASS BSP OUTLET



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
20 x 1/2"	16	11	7-11	4931013
25 x 3/4"	16	11	7-11	4931014
32 x 3/4"	16	11	7-11	4931015
32 x 1"	16	11	7-11	4931016
40 x 1"	16	11	7-11	4931017
40 x 1.1/4"	16	11	7-11	4931018
40 x 1.1/2"	16	11	7-11	4931019
50 x 1.1/2"	16	11	7-11	4931020
50 x 2"	16	11	7-11	4931021
63 x 1.1/2"	16	11	7-11	4931022
63 x 2"	16	11	7-11	4931023

The brass component can be turned inside the body of the fittings after welding and cooling is completed.

4941 - TRANSITION UNION (FREE NUT) - MALE BRASS BSP OUTLET



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
32 x 1"	16	11	7-11	4941001
40 x 1"	16	11	7-11	4941002
40 x 1.1/4"	16	11	7-11	4941003
50 x 1.1/2"	16	11	7-11	4941004
63 x 1.1/2"	16	11	7-11	4941005
63 x 2"	16	11	7-11	4941006

The brass component can be turned inside the body of the fittings after welding and cooling is completed.

ELECTROFUSION FITTINGS

PE100
HSCR
RESIN

4941 - TRANSITION UNION (FREE NUT) - FEMALE BRASS BSP OUTLET



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
20	x	3/4"	16	11	7-11	4941007
25	x	3/4"	16	11	7-11	4941008
25	x	1"	16	11	7-11	4941009
32	x	1"	16	11	7-11	4941010
32	x	1.1/4"	16	11	7-11	4941011
40	x	1.1/4"	16	11	7-11	4941012
40	x	1.1/2"	16	11	7-11	4941013
50	x	1"	16	11	7-11	4941014
50	x	2"	16	11	7-11	4941015
63	x	2"	16	11	7-11	4941016
63	x	2.1/2"	16	11	7-11	4941017

The brass component can be turned inside the body of the fittings after welding and cooling is completed.

4925 - 90° TRANSITION ELBOW - MALE BRASS BSP OUTLET



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
20	x	1/2"	16	11	7-11	4925001
25	x	3/4"	16	11	7-11	4925002
32	x	1/2"	16	11	7-11	4925003
32	x	3/4"	16	11	7-11	4925004
32	x	1"	16	11	7-11	4925005
32	x	1.1/4"	16	11	7-11	4925006
32	x	1.1/2"	16	11	7-11	4925007
40	x	1"	16	11	7-13.6	4925008
40	x	1.1/4"	16	11	7-13.6	4925009
40	x	1.1/2"	16	11	7-13.6	4925010
40	x	2"	16	11	7-13.6	4925011
50	x	1"	16	11	7-13.6	4925012
50	x	1.1/4"	16	11	7-13.6	4925013
50	x	1.1/2"	16	11	7-13.6	4925014
50	x	2"	16	11	7-13.6	4925015
63	x	1.1/4"	16	11	7-13.6	4925016
63	x	1.1/2"	16	11	7-13.6	4925017
63	x	2"	16	11	7-13.6	4925018

The brass component can be turned inside the body of the fittings after welding and cooling is completed.

4935 - 90° TRANSITION ELBOW - FEMALE BRASS BSP OUTLET



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
20	x	1/2"	16	11	7-11	4935001
25	x	3/4"	16	11	7-11	4935002
32	x	1"	16	11	7-11	4935003
40	x	1"	16	11	7-13.6	4935004
40	x	1.1/4"	16	11	7-13.6	4935005
40	x	1.1/2"	16	11	7-13.6	4935006
50	x	1.1/2"	16	11	7-13.6	4935007
50	x	2"	16	11	7-13.6	4935008
63	x	1.1/2"	16	11	7-13.6	4935009
63	x	2"	16	11	7-13.6	4935010

The brass component can be turned inside the body of the fittings after welding and cooling is completed.

ELECTROFUSION FITTINGS

**PE100
HSCR
RESIN**

4945 - 90° TRANSITION UNION (FREE NUT) ELBOW - FEMALE BRASS BSP OUTLET



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
20	x	3/4"	16	11	7-11	4945001
25	x	3/4"	16	11	7-11	4945002
25	x	1"	16	11	7-11	4945003
32	x	1"	16	11	7-11	4945004
32	x	1.1/4"	16	11	7-11	4945005
40	x	1.1/2"	16	11	7-13.6	4945006
63	x	2"	16	11	7-13.6	4945009
63	x	2.1/2"	16	11	7-13.6	4945010

4926 - 45° TRANSITION ELBOW - MALE BRASS OUTLET



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
32	x	1/2"	16	11	7-11	4926001
32	x	3/4"	16	11	7-11	4926002
32	x	1"	16	11	7-11	4926003
32	x	1.1/4"	16	11	7-11	4926004
32	x	1.1/2"	16	11	7-11	4926005
40	x	1"	16	11	7-13.6	4926006
40	x	1.1/4"	16	11	7-13.6	4926007
40	x	1.1/2"	16	11	7-13.6	4926008
40	x	2"	16	11	7-13.6	4926009
50	x	1"	16	11	7-13.6	4926010
50	x	1.1/4"	16	11	7-13.6	4926011
50	x	1.1/2"	16	11	7-13.6	4926012
50	x	2"	16	11	7-13.6	4926013
63	x	1.1/4"	16	11	7-13.6	4926014
63	x	1.1/2"	16	11	7-13.6	4926015
63	x	2"	16	11	7-13.6	4926016

The brass component can be turned inside the body of the fittings after welding and cooling is completed.

4936 - 45° TRANSITION ELBOW - FEMALE BRASS OUTLET



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
32	x	1"	16	11	7-11	4936001
40	x	1"	16	11	7-13.6	4936002
40	x	1.1/4"	16	11	7-13.6	4936003
40	x	1.1/2"	16	11	7-13.6	4936004
50	x	1.1/2"	16	11	7-13.6	4936005
50	x	2"	16	11	7-13.6	4936006
63	x	1.1/2"	16	11	7-13.6	4936007
63	x	2"	16	11	7-13.6	4936008

The brass component can be turned inside the body of the fittings after welding and cooling is completed.

4946 - 45° TRANSITION UNION (FREE NUT) ELBOW - FEMALE BRASS BSP OUTLET



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
32	x	1"	16	11	7-11	4946001
32	x	1.1/4"	16	11	7-11	4946002
40	x	1.1/2"	16	11	7-13.6	4946003
63	x	2"	16	11	7-13.6	4946005
63	x	2.1/2"	16	11	7-13.6	4946006



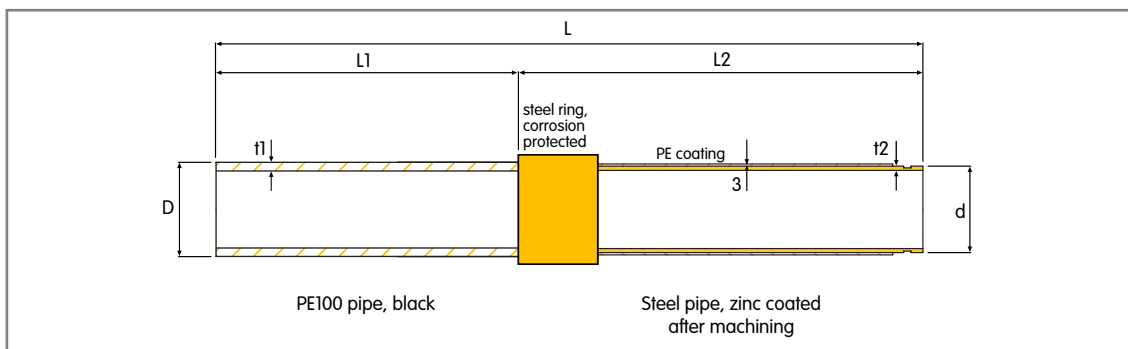
SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
125-4" (DN100)	16	11	-	4927022
180-6" (DN150)	16	11	-	4927023

Plasson Polyethylene (PE) to Steel Roll Groove Adaptors

Plasson PE to Steel Roll Groove Adaptors provide a simple solution for joining PE ring mains to surface hydrant assembly pipework.

TECHNICAL SPECIFICATIONS

- ✓ Complies with AS/NZS 4129:2008 Fittings for polyethylene (PE) pipes for pressure applications
- ✓ Pressure rating PN16
- ✓ Steel pipe is protected by zinc coating and 3mm layer of PE100
- ✓ Available in sizes
DN125 PE to DN100-114.3mm (4") Roll Groove Steel and
DN180 PE to DN150-165.1mm (6") Roll Groove Steel
- ✓ Long PE pipe section allows for up to two electrofusion welds with Plasson couplers



PE Size	D	d	L	L1	L2	t1	t2
DN125	125	114.3 (4")	935	400	535	11.3 (SDR11)	6.02
DN180	180	165.1 (6")	800	400	400	16.4 (SDR11)	5.5

ELECTROFUSION FITTINGS

PET100
HSCR
RESIN

4927 - WELDABLE TRANSITION - POLYETHYLENE TO UNTREATED STEEL

PN16 Water



SIZE	SDR GAS	SDR RANGE	CODE
32-1" (DN25)	SCH80	11	4927001
40-1.1/4" (DN32)	SCH80	11	4927002
50-1.1/2" (DN40)	SCH80	11	4927003
63-2" (DN50)	SCH80	11	4927004
63-2" (DN50)	SCH40	11	4927005
90-3" (DN80)	SCH40	11	4927029
110-4" (DN100)	SCH40	11	4927006
125-4" (DN100)	SCH40	11	4927007
160-6" (DN150)	SCH40	11	4927008
200-8" (DN200)	SCH40	11	4927009
250-10" (DN250)	SCH40	11	4927010
315-12" (DN300)	SCH40	11	4927011
355-12" (DN300)	SCH40	11	4927012
400-16" (DN400)	SCH40	11	4927013
560-20" (DN500)	SCH40	11	4927014
630-24" (DN600)	SCH40	11	4927015

Customised size available - talk to Plasson.



DID YOU KNOW?

The name Plasson stands for Plastic (Plass) and strength/power (on) in Hebrew.

As a globally operating company, Plasson was born in Israel in the 1960s.

Plasson Quality Assurance

Quality forms one of our core values. Plasson has built a reputation as a manufacturer of high-quality products meeting the strictest industry standards in its area of application.

Plasson Australia's products are certified by **ApprovalMark International (AMI)** to various **Australian Standards** and hold **ISO Type 5** and **WaterMark** certifications where applicable.



Standards are only the starting point. All standards are the minimum requirement; Plasson in all cases exceeds minimum requirements.

Quality is the keyword in all Plasson processes, from design through manufacture, assembly, packaging, distribution, and delivery. Raw materials are painstakingly chosen to ensure that only the best and most appropriate virgin plastic is used for each new product.

Top-quality precision moulds and the latest injection moulding machines contribute to the excellence of Plasson. Quality control is rigorous at every stage of the process, from testing during production to careful examination of the final product.

Plasson's design department uses a sophisticated CAD system, directly connected to the CAM system in the mould production department. Computerised simulations of extreme working conditions are set up to analyse the performance of new products.

Stringent testing is carried out in Plasson's laboratories, which are fully equipped with state-of-the-art measuring equipment, materials testing devices, and mechanical and hydraulic testing machines.

Plasson's quality system conforms to the exacting requirements of ISO 9001:2000.

Plasson Electrofusion Saddles

For Large Diameter PE Pipes - save space, cost and time

PLASSON Electrofusion Solution

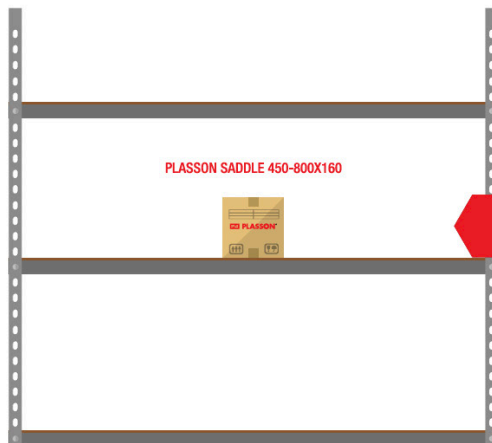
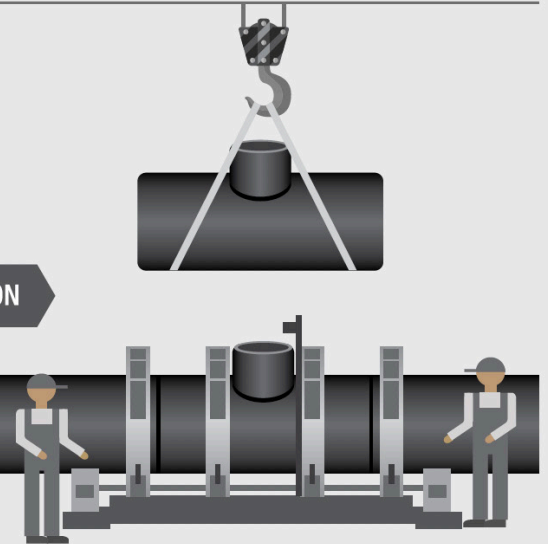
ALTERNATIVE - old butt weld fittings



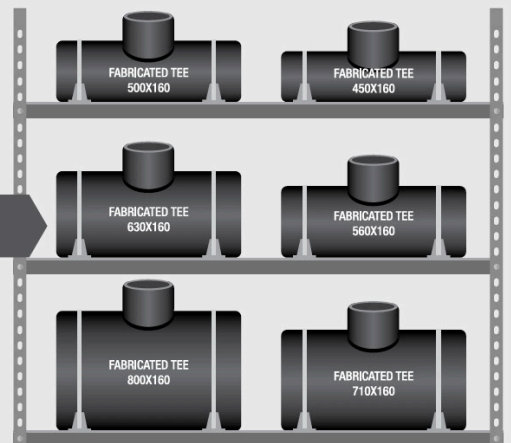
TRANSPORTING



APPLICATION



STORAGE



New Product

Electrofusion Branch Saddle with Integral Wire Clamp

PE100
HSCR
RESIN

For pipes up to 250mm with offtakes 110mm

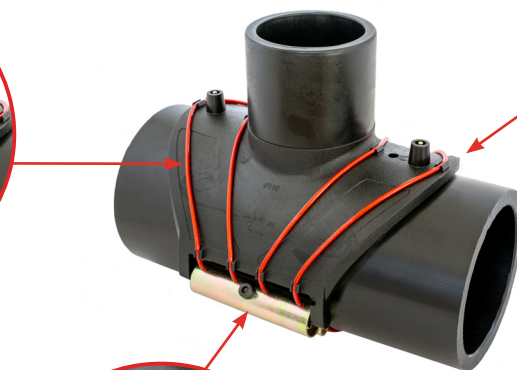
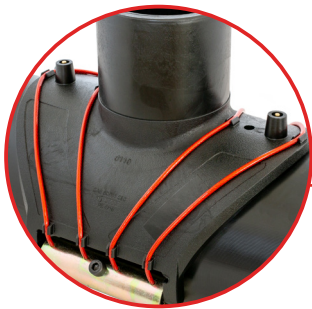
Plasson's new electrofusion saddle does away with the need for fiddly parts and tools. The integral wire fastening system makes installation quick and easy.

Once the pipe has been prepared, the saddle can be installed within minutes using an Allen key to hand tighten one bolt.

Integral wire clamping system evenly distributes force over the fusion area, further improving electrofusion effectiveness

Full bore offtake minimises head loss

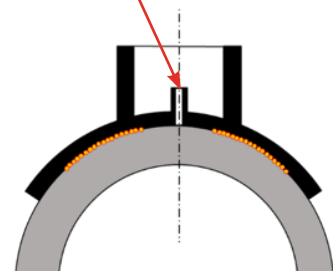
Large fusion zone increases welded contact area between saddle and pipe surfaces



Clamping via a single bolt tightened with a 18cm Allen key



Internal test spigot enables hydraulic test of weld before cutting into the pipe



CODE	PIPE DN	OFFTAKE	AVAILABILITY
4958154*	125	110	Available
4958156	160	110	Available
4958157	180	110	Available
4958158	200	110	Available
4958159	225	110	Available
4958160	250	110	Available
4958161*	250	160	Available

Other outlet sizes coming soon
*Awaiting shipment

4958 - BRANCH SADDLE - WITH UNDERPART



Rigid Underpart
DN63-DN180 with
offtakes to 90mm



Strap Underpart
200-315mm with offtakes
to 90mm



Integral Red Wire
125-250mm with
110mm offtakes

SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
63 x 32	16	11	7-11	4958001
63 x 40	16	11	7-11	4958002
63 x 50	16	11	7-11	4958003
63 x 63	16	11	7-11	4958004
75 x 32	16	11	7-11	4958005
75 x 40	16	11	7-11	4958006
75 x 50	16	11	7-11	4958007
75 x 63	16	11	7-11	4958008
90 x 32	16	11	7-17	4958009
90 x 40	16	11	7-17	4958010
90 x 50	16	11	7-17	4958011
90 x 63	16	11	7-17	4958012
90 x 90	16	11	7-17	4958013
110 x 32	16	11	7-17	4958014
110 x 40	16	11	7-17	4958015
110 x 50	16	11	7-17	4958016
110 x 63	16	11	7-17	4958017
110 x 90	16	11	7-17	4958018
125 x 32	16	11	7-17	4958019
125 x 40	16	11	7-17	4958020
125 x 50	16	11	7-17	4958021
125 x 63	16	11	7-17	4958022
125 x 90	16	11	7-17	4958023
125 x 110	16	11	7-17	4958154
140 x 32	16	11	7-17	4958024
140 x 40	16	11	7-17	4958025
140 x 50	16	11	7-17	4958026
140 x 63	16	11	7-17	4958027
140 x 90	16	11	7-17	4958028
160 x 32	16	11	7-17	4958029
160 x 40	16	11	7-17	4958030
160 x 50	16	11	7-17	4958031
160 x 63	16	11	7-17	4958032
160 x 90	16	11	7-17	4958033
160 x 110	16	11	7-17	4958156
180 x 32	16	11	7-17	4958034
180 x 40	16	11	7-17	4958035
180 x 50	16	11	7-17	4958036
180 x 63	16	11	7-17	4958037
180 x 90	16	11	7-17	4958038
180 x 110	16	11	7-17	4958157
200 x 63	16	11	7-17	4958039
200 x 90	16	11	7-17	4958040
200 x 110	16	11	7-17	4958158
225 x 63	16	11	7-17	4958041
225 x 90	16	11	7-17	4958042
225 x 110	16	11	7-17	4958159
250 x 63	16	11	7-17	4958043
250 x 90	16	11	7-17	4958044
250 x 110	16	11	7-17	4958160
280 x 90	16	11	7-17	4958045
315 x 90	16	11	7-17	4958046

Plasson recommend waiting 4x cool down time indicated on the bar code before pressure and drilling hole in pipe

ELECTROFUSION FITTINGS

PE100
HSCR
RESIN

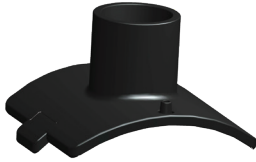
4958 - BRANCH SADDLE - LARGE BORE



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
280-400	x	90	16	11	7-17	4958047
280-400	x	110	16	11	7-17	4958048
250	x	125	16	11	7-17	4958115
250	x	160	16	11	7.4-17.6	4958161
280-400	x	125	16	11	7-17	4958049
280-400	x	160	16	11	7-17	4958050
315-450	x	225	10	17	17-33	4758028*
315-355	x	250	16	11	7-17	4958092
400	x	225	16	11	11-26	4958162
400	x	250	16	11	7-17	4958082
450	x	250	16	11	7-17	4958093
450	x	280	16	11	11-26	4958116*
450	x	315	16	11	7-17	4958094
450-630	x	225	10	17	17-33	4758029*
450-800	x	90	16	11	7-26	4958051
450-800	x	110	16	11	7-26	4958052
450-800	x	125	16	11	7-26	4958053
450-800	x	160	16	11	7-26	4958054
500	x	200	16	11	11-26	4958105*
500	x	225	16	11	11-26	4958106*
500	x	280	16	11	11-26	4958117*
500	x	315	16	11	7-26	4958095
500	x	355	16	11	11-26	4958118
500-630	x	250	16	11	7-26	4958083
560	x	200	16	11	11-26	4958107*
560	x	225	16	11	11-26	4958108*
560	x	280	16	11	11-26	4958119
560	x	315	16	11	7-26	4958096*
560	x	355	16	10	11-26	4958120*
560	x	400	16	11	7-26	4958084
630	x	200	16	11	11-26	4958109*
630	x	225	16	11	11-26	4958110*
630	x	280	16	11	11-26	4958121*
630	x	315	16	11	7-26	4958097
630	x	355	16	11	11-26	4958122*
630	x	400	16	11	7-26	4958085
630-800	x	225	10	17	17-33	4758030*
710	x	200	16	11	11-26	4958111*
710	x	225	16	11	11-26	4958112*
710	x	250	16	11	7-33	4958098
710	x	280	16	11	11-26	4958123*
710	x	315	16	11	7-33	4958099*
710	x	355	16	11	11-26	4958124*
710	x	400	16	11	7-33	4958100*
800	x	200	16	11	11-26	4958113*
800	x	225	16	11	11-26	4958114*
800	x	250	16	11	7-41	4958101*
800	x	280	16	11	11-26	4958125*
800	x	315	16	11	7-41	4958102
800	x	355	16	11	11-26	4958126*
800	x	400	16	11	7-33	4958103*
900	x	90	-	-	-	4958086*
900	x	110	16	11	11-26	4958088*
900	x	125	16	11	11-41	4958089
900	x	160	16	11	11-41	4958090*

Requires specialised installation tools - see page 139 for more information.
*Made to order

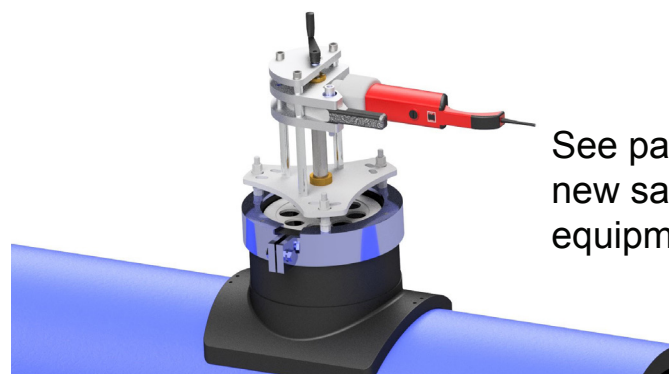
4958 - BRANCH SADDLE - LARGE BORE



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
900	x	180	16	11	11-26	4958151*
900	x	200	16	11	11-41	4958152*
900	x	225	16	11	11-41	4958153*
900	x	250	16	11	11-41	4958087
900	x	280	16	11	11-41	4958127*
900	x	315	16	11	11-41	4958104*
900	x	355	16	11	17-41	4958128*
900	x	400	16	11	11-41	4958091*
1000	x	110	10	17	17-41	4958145*
1000	x	125	10	17	17-41	4958146*
1000	x	160	10	17	17-41	4958147*
1000	x	180	10	17	17-41	4958129*
1000	x	200	10	17	17-41	4958130*
1000	x	225	10	17	17-41	4958131*
1000	x	250	10	17	17-41	4958132*
1000	x	280	10	17	17-26	4958133*
1000	x	315	10	17	17-41	4958134*
1000	x	355	10	17	17-26	4958135*
1000	x	400	10	17	17-41	4958136*
1200	x	110	16	11	11-41	4958148*
1200	x	125	10	17	17-41	4958149*
1200	x	160	10	17	17-41	4958150*
1200	x	180	10	17	17-41	4958137*
1200	x	200	10	17	17-41	4958138*
1200	x	225	10	17	17-41	4958139*
1200	x	250	10	17	17-41	4958140*
1200	x	280	10	17	17-26	4958141*
1200	x	315	10	17	17-41	4958142*

Requires specialised installation tools - see page 139 for more information.

*Made to order



See page 140 for Plasson's
new saddle core cutting
equipment

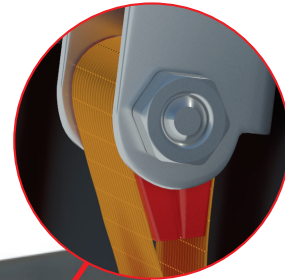
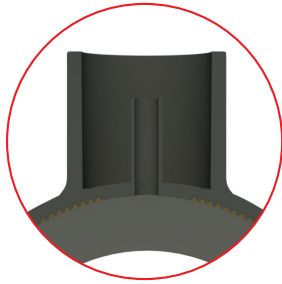
Large Bore Electrofusion Branch Saddles

Pipes 280-1200mm with offtakes to 160mm

PE100
HSCR
RESIN

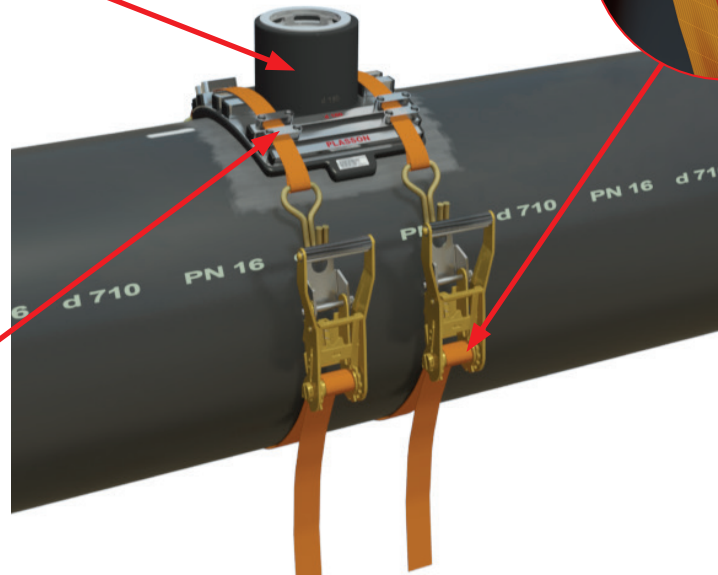
Weld Integrity Test

- A test port is incorporated into the saddle to enable a pressure test before cutting into the pipe



Correct Clamp Indicator Stamp

- Clamping Tool leaves a mark on the saddle to show if the correct clamps have been used at the correct tension

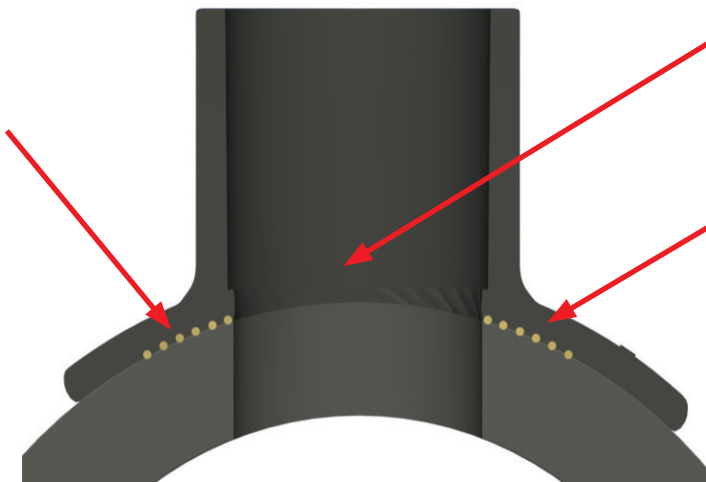


Correct Tightening Torque Indicator

- Correct tightening by either a torque indicator built-in into the straps or a torque wrench

Embedded Heating Wires

- Embedded heating wires limit the risk of physical damage to the wire
- Embedded wires are protected from environment during storage
- Instant heat transfer between coil and PE for fast gap closure
- Single welding time for ambient temperatures between -10°C to +45°C
- No temperature compensation required



Full Bore Outlet

- Better flow characteristics

Large Fusion Areas

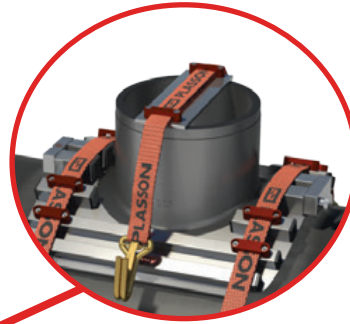
- The welding zone reaches up to the internal bore of the outlet
- Ensures area of highest stress in the fitting occurs at the strongest part of the electrofusion weld
- Better durability under hard operating conditions

Installation Tools

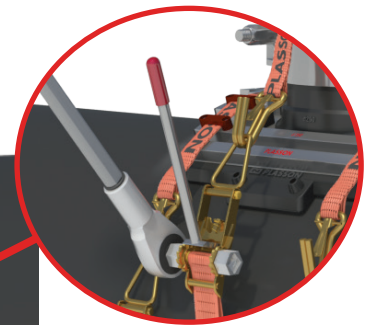
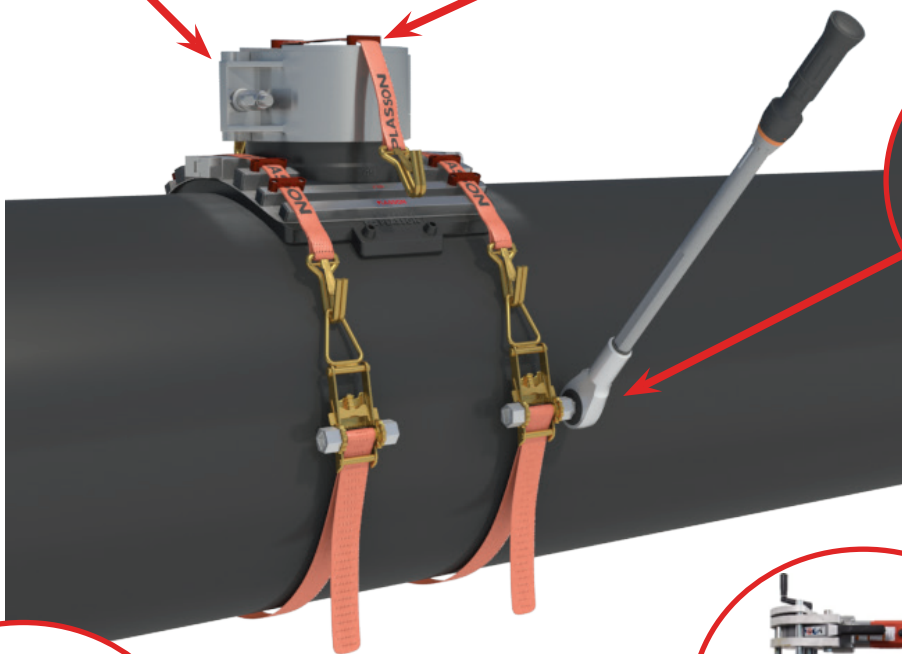
Plasson Large Bore Electrofusion Saddles with offtakes 180-400mm



Rounding Ring
PN16 saddles with branches 180-250mm use a re-rounding ring to maintain the circular shape of the offtake during fusion. See page 135



Bar
PN16 saddles with branches 280-400mm and saddles with 225 branches, use a bar across the offtake to apply an even force over the fusion zone. See page 141



Torque Wrench
A torque wrench applies high tension to the straps and force to the clamp plate. See page 140



Core Cutter
Especially designed core cutters enable cutting through thick and thin wall pipe. See page 141



Drill
A drill support is necessary when core cutting offtakes above 250mm. See page 142



Hand-Held Drill
The core cutter can be operated with a hand-held drill and stabilizing arm up to and including 250mm offtakes. See page 142

ELECTROFUSION FITTINGS

PE100
HSCR
RESIN

4963 - TAPPING SADDLE - WITH UNDERPART



SIZE	WELDING CAP TYPE**	PN WATER	SDR GAS	SDR RANGE	CODE
40 x 20 mb	Type C	16	11	7-11	4963001
40 x 32 mb	Type C	16	11	7-11	4963002
50 x 20 mb	Type C	16	11	7-11	4963003
50 x 25 mb	Type C	16	11	7-11	4963004
50 x 32 mb	Type C	16	11	7-11	4963005
63 x 20 mb	Type C	16	11	7-11	4963006
63 x 25 mb	Type C	16	11	7-11	4963007
63 x 32 mb	Type C	16	11	7-11	4963008
63 x 40	Type A	16	11	7-17	4963009
63 x 50	Type A	16	11	7-17	4963010
63 x 63	Type A	16	11	7-17	4963011
75 x 20 mb	Type A	16	11	7-17	4963012
75 x 32	Type A	16	11	7-17	4963013
75 x 40	Type A	16	11	7-17	4963014
75 x 50	Type A	16	11	7-17	4963015
75 x 63	Type A	16	11	7-17	4963016
90 x 20 mb	Type A	16	11	7-17	4963017
90 x 25 mb	Type A	16	11	7-17	4963018
90 x 32 mb	Type B	16	11	7-17	4963019
90 x 40 mb	Type B	16	11	7-17	4963020
90 x 50	Type A	16	11	7-17	4963021
90 x 63	Type A	16	11	7-17	4963022
110 x 20 mb	Type A	16	11	7-17	4963023
110 x 25	Type A	16	11	7-17	4963068
110 x 32 mb	Type B	16	11	7-17	4963024
110 x 40 mb	Type B	16	11	7-17	4963025
110 x 50	Type A	16	11	7-17	4963026
110 x 63	Type A	16	11	7-17	4963027
125 x 20 mb	Type A	16	11	7-17	4963028
125 x 25 mb	Type B	16	11	11-17	4963067
125 x 32 mb	Type B	16	11	7-17	4963029
125 x 40 mb	Type B	16	11	7-17	4963030
125 x 50	Type A	16	11	7-17	4963031
125 x 63	Type A	16	11	7-17	4963032
140 x 20 mb	Type A	16	11	7-17	4963033
140 x 32	Type A	16	11	7-17	4963034
140 x 40	Type A	16	11	7-17	4963035
140 x 50	Type A	16	11	7-17	4963036
140 x 63	Type A	16	11	7-17	4963037
160 x 20 mb	Type A	16	11	7-17	4963038
160 x 25	Type A	16	11	7-17	4963066
160 x 32 mb	Type A	16	11	7-17	4963039
160 x 40 mb	Type A	16	11	7-17	4963040
160 x 50 mb	Type A	16	11	7-17	4963041
160 x 63 mb	Type A	16	11	7-17	4963042
180 x 20 mb+	Type A	16	11	7-11	4963043
180 x 25 mb+	Type A	16	11	7-17	4963065
180 x 32 mb+	Type A	16	11	7-11	4963044
180 x 40 mb+	Type A	16	11	7-11	4963045
180 x 50 mb+	Type A	16	11	7-11	4963046
180 x 63 mb+	Type A	16	11	7-11	4963047

**A Welding Cap can be permanently fixed to the Tapping Saddle via the electrofusion process. This prevents any accidental disassembly which can occur with the standard cap. Refer to page 103 for details of the Welding Cap. mb = Mono Block with fully moulded offtake.

*Strap underpart
+12 x 195mm Hex Key required to operate cutter.
13mm socket to tighten saddle-nuts elongated 25 x 13 socket for saddles ≤ 180.
Cut hole after welding and cooling completed.
Standard 30mm cutter in 160-250mm saddles will cut up to 25mm wall.

ELECTROFUSION FITTINGS

PE100
HSCR
RESIN

4963 - TAPPING SADDLE - WITH UNDERPART CONT.



SIZE	WELDING CAP TYPE**	PN WATER	SDR GAS	SDR RANGE	CODE
200 x 40*	Type A	16	11	7-17	4963050
200 x 50*	Type A	16	11	7-17	4963051
200 x 63*	Type A	16	11	7-17	4963052
225 x 20*	Type A	16	11	7-17	4963053
225 x 32*	Type A	16	11	7-17	4963054
225 x 40*	Type A	16	11	7-17	4963055
225 x 50*	Type A	16	11	7-17	4963056
225 x 63*	Type A	16	11	7-17	4963057
250 x 20*	Type A	16	11	7-17	4963058
250 x 32*	Type A	16	11	7-17	4963059
250 x 40*	Type A	16	11	7-17	4963060
250 x 50*	Type A	16	11	7-17	4963061
250 x 63*	Type A	16	11	7-17	4963062

**A Welding Cap can be permanently fixed to the Tapping Saddle via the electrofusion process. This prevents any accidental disassembly which can occur with the standard cap.

mb = Mono Block with fully moulded offtake.

*Strap underpart.

13mm socket to tighten saddle-nuts elongated 25x13 socket for saddles ≤ 180

Cut hole after welding and cooling completed.

Standard 30mm cutter in 160-250mm saddles will cut up to 25mm wall.

d (main pipe diameter)	OD of Cutter (mm)
MONOBLOCK	
40 - 63	20
90 - 125	25
160 - 180	30
NON-MONOBLOCK	
63 - 250	30

4966 - LIGHTFIT TAPPING SADDLE



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
Suitable for wastewater				
63 x 20	10	17	7-17	4966001

4983 - WELDING CAP FOR TAPPING SADDLES



SIZE	WELDING CAP TYPE	PN WATER	SDR GAS	SDR RANGE	CODE
40	Type C	16	11	7-11	4983001
50	Type B	16	11	7-11	4983002
57	Type A	16	11	7-11	4983003

2013 - HEX KEY FOR TAPPING SADDLES



The Plasson Hex Key is designed for use with all Plasson tapping saddles.

It comes with a 12mm square drive connection.

Wrench not included.

SIZE	CODE
12 x 200mm	2013001

Cut hole after 4x the cooling period indicated on the fitting label.

Plasson Sensor Adaptor



The Plasson Electrofusion Sensor Adaptor provides an innovative solution for connecting a sensor or gauge to the piping system, eliminating the need to apply improvised connections with high a risk of leakage or premature failure.

Plasson's sensor adaptors enable quick and easy integration of various sensors onto a wide range of PE pipe diameters.

Features

- ✓ Compact solution for fitting multiple sensors on a pipeline*
- ✓ 110-1200mm (110-400, 450-1200) pipes covered in two fittings reducing stock and increasing flexibility
- ✓ PN16 pressure rating
- ✓ 316 stainless steel outlet
- ✓ Eliminates unreliable hand-welding of fittings into a system
- ✓ Installation via a specialised tool with an optional strap or bolt to hold the sensor adaptor onto the pipe during welding

*A barcode reading machine is required to install the Plasson sensor adaptor.

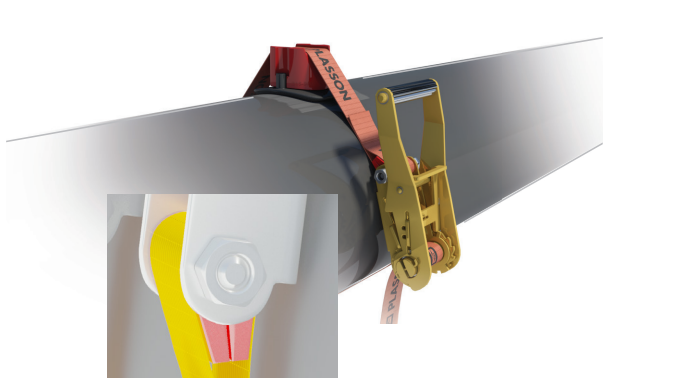


SADDLE TYPE	PIPE DN & SDR REQUIRED	CODE
110 - 400 x 1/2" BSP	DN225 ≤ SDR11	4938101
110 - 400 x 3/4" BSP	DN250 to DN280 (inclusive) ≤ SDR17.6	4938102
110 - 400 x 1" BSP	DN315 to DN355 (inclusive) ≤ SDR21	4938103
450 - 1200 x 1/2" BSP	DN400 ≤ SDR26	4938104
450 - 1200 x 3/4" BSP	≤ SDR26	4938105
450 - 1200 x 1" BSP		4938106

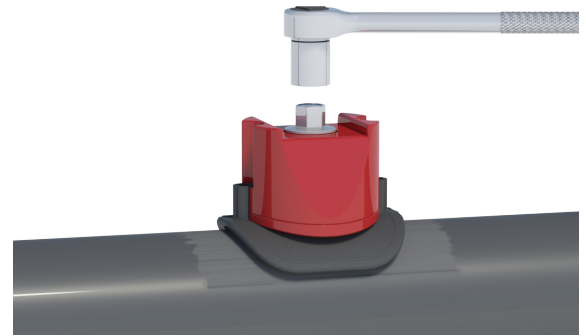
NPT Thread available on request.

Fast and Simple Installation

The Sensor Adaptor is designed to deal with the challenges of connecting to large PE pipes by obtaining full contact along the welding area. Challenges may be caused by ovality, deformation resulting from aging, handling and storage. Using one of the two unique yet simple clamping device options (strap or bolt) ensures the correct welding of the Sensor Adaptor.



Correct tightening force indicator on strap mechanism



Sensor Adaptor Installation Tool

SIZE	CODE
Sensor Adaptor Tool with Plastic Adaptor Plates	2015002



Hand-welded fittings



Plasson Sensor Adaptor

CASE STUDY

Eighty Plasson Sensor Adaptors installed at water treatment plant in Adelaide

South Australian company and PE pipe fabrication specialist, Statewide Poly Service Pty Ltd, were contracted to construct polyethylene pipework infrastructure for SA Water's Northern Adelaide Irrigation Scheme's (NAIS) Advanced Water Recycling Plant 20km north of Adelaide. The \$155.6m scheme will see new water treatment facilities built within the Bolivar precinct to increase its production of recycled irrigation water by 60 per cent.



Doug Sabel and his team at Statewide Poly Service Pty Ltd used Plasson Sensor Saddles to connect instrumentation, drain valves, take off's and pH sensors to a wide range of large bore PE pipe sizes. The project called for the installation of more than eighty Plasson Electrofusion Sensor Adaptors. The Plasson Sensor Adaptor alleviated the challenge of installing sensors in a limited space environment and negated the requirement for large bore PE saddles and tee pieces.

Plasson Sensor Adaptors are welded to the pipe using electrofusion technology. They are a safe, fast and reliable alternative to connecting instrumentation by means of attaching take-offs with extrusion welded fittings.



More than eighty sensor points were to be joined to pipes ranging in size from 225mm to 630mm. Due to the compact nature, several sensors were often designed to be installed circumferentially around the pipe.

Project Summary

Project Steps

1. Design by SA Water and Guidera O'Connor
2. Fabrication by Statewide Poly Service at Salisbury North SA
3. Delivery of components to the site by an oversize trailer truck
4. Further on-site fabrication and installation by Statewide Poly Service

Requirements

To install a wide range of instrumentation, valves and sensors to large bore PE pipe in a radial configuration

Project Planning

Guidera O'Connor

Products Used

Plasson Sensor Adaptor
Sensor Adaptor Installation Tool
Plasson Electrical Saddle Peeler

Product Range

Electrofusion Fittings & Tooling

Project Duration

February to July 2019

Plasson Sensor Adaptor

The Plasson Electrofusion Sensor Adaptor provides an innovative solution for connecting sensors, valves or gauges to PE piping system, eliminating the need to apply improvised connections with a high risk of leakage or premature failure. It also eliminates the requirement for extrusion welded fittings.

Initial Situation

In December 2017 SA Water announced the construction of a water recycling plant and associated infrastructure at the Bolivar Waste Water Treatment Plant in Adelaide (SA) to increase the production of recycled water.

The design by Guidera O'Connor called for more than eighty sensor points to be connected to pipes ranging in size from 225mm to 630mm. Due to the compact nature of the installation, several sensors were designed to be installed circumferentially around the pipe. Statewide Poly Service Pty Ltd, were contracted to construct polyethylene pipework infrastructure.

Task & Challenges

Traditionally, products like the Plasson large bore electrofusion transition saddle with a 2" offtake would be used with the outlet and then bushed down to the required outlet size, typically 1/2" or 3/4".

In this application, the footprint of a large bore saddle would create spacial issues, and the bushing down of the outlet would add unnecessary threaded connections and potential leak points in the system. Other methods such as extrusion welding were not deemed suitable because they would derate the pressure rating of the entire system.

The Plasson Electrofusion Sensor Adaptor overcame these challenges due to its compact footprint and smaller thread allowing direct connection of the sensor.

Outcome & Solution

The Plasson Sensor Adaptor is designed to deal with the challenges of connecting to large PE pipes by obtaining full contact along the welding area. These challenges may be caused by ovality, deformation resulting from aging, handling and storage.

The use of the Plasson Sensor Adaptor also alleviated the challenges of space and potential for leaks associated with large threaded reductions. Using an electrofusion process certified to an Australian Standard provided a fully rated system where other methods would derate the system or be impractical to install.

"The Plasson Sensor Adaptor provided an excellent cost-effective solution to the challenging task of installing a variety of different instruments and valves around the pipe in a radial fashion. The sensor saddles are a convenient single unit and are very easy to install. The final connection can be made using fewer components than would be required with a conventional saddle, and the simple clamping mechanism makes it very easy to install multiple saddles in a shorter time frame, reducing fabrication time. Plasson's service throughout the project has been excellent too."

Doug Sabel, Managing Director, Statewide Poly Service Pty Ltd

ELECTROFUSION FITTINGS

**PE100
HSCR
RESIN**

4938 - TRANSITION SADDLE - BRASS FEMALE THREAD



NEW PRODUCT
SENSOR ADAPTOR
For more information go to page 104



Sizes 250-400, 450-800

SIZE		PN WATER	SDR GAS	SDR RANGE	CODE
63	x 1.1/4"	16	11	7-11	4938001
75	x 1.1/4"	16	11	7-11	4938002
90	x 1.1/2"	16	11	7-17	4938003
90	x 2"	16	11	7-17	4938004
110	x 1.1/2"	16	11	7-17	4938006
110	x 2"	16	11	7-17	4938007
125	x 1.1/2"	16	11	7-17	4938009
125	x 2"	16	11	7-17	4938010
140	x 1.1/2"	16	11	7-17	4938011
140	x 2"	16	11	7-17	4938012
160	x 1.1/2"	16	11	7-17	4938013
160	x 2"	16	11	7-17	4938014
180	x 1.1/2"	16	11	7-17	4938016
180	x 2"	16	11	7-17	4938017
200	x 2"	16	11	7-17	4938018
225	x 2"	16	11	7-17	4938019
250	x 2"	16	11	7-17	4938020
280-400	x 2"	16	11	7-17	4938021
450-800	x 2"	16	11	7-17	4938022

Cut hole after welding and cooling completed.

*Strap underpart

Saddle size 250-800 requires specialised installation strap clamp. See page 140 for details.

4958 - TRANSITION SADDLE - WITH UNDERPART PLASTIC FEMALE THREAD



SIZE		PN WATER	SDR GAS	SDR RANGE	CODE
63	x 1"	16	11	7-11	4958055
63	x 1.1/4"	16	11	7-11	4958056
63	x 1.1/2"	16	11	7-11	4958057

Threads 1.1/4" and above have a stainless steel reinforcing ring.

4968 - BALLOON SADDLE



SIZE		PN WATER	SDR GAS	SDR RANGE	CODE
90	x 2.1/2"	16	11	7-17	4968001
110	x 2.1/2"	16	11	7-17	4968002
125	x 2.1/2"	16	11	7-17	4968003
160	x 2.1/2"	16	11	7-17	4968004
180	x 2.1/2"	16	11	7-17	4968005
200	x 2.1/2"	16	11	7-17	4968006
225	x 2.1/2"	16	11	7-17	4968007
250	x 2.1/2"	16	11	7-17	4968008

Note: Sizes 110-250 have fabric understraps.

ELECTROFUSION FITTINGS

PE100
HSCR
RESIN

4952 - REPAIR SADDLE - WITH UNDERPART



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
63	16	11	7-11	4952001
75	16	11	7-11	4952002
90	16	11	7-17	4952003
110	16	11	7-17	4952004
125	16	11	7-17	4952005
140	16	11	7-17	4952006
160	16	11	7-17	4952007
180	16	11	7-17	4952008

4952 - DOUBLE REPAIR SADDLE



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
63	16	11	7-11	4952009
90	16	11	7-17	4952010
110	16	11	7-17	4952011
160	16	11	7-17	4952012
200	16	11	7-17	4952013

4952 - LARGE BORE REPAIR SADDLE



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
250-900	16	11	>14.7mm*	4952014

Repaired damage diameter 70mm: maximum diameter of a hole or length of crack that can be covered by the repair saddle

- * 250-280: SDR 7-17
- 315-355: SDR 7-21
- 400-450: SDR 7-26
- 500-560: SDR 7-33
- 630-900: SDR 7-41

Requires specialised installation tools - see page 140 for information.



ELECTROFUSION FITTINGS

**PE100
HSCR
RESIN**

4958 - FULL FACED FLANGED HYDRANT BRANCH SADDLE (W/SS 316 BACKING RING)



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
90 x 3" Flange	16	11	7-17	4958058
90 x 3 1/4" Flange	16	11	7-17	4958069
110 x 3" Flange	16	11	7-17	4958059
110 x 3 1/4" Flange	16	11	7-17	4958070
125 x 3" Flange	16	11	7-17	4958060
125 x 3 1/4" Flange	16	11	7-17	4958071
140 x 3" Flange	16	11	7-17	4958061
140 x 3 1/4" Flange	16	11	7-17	4958072
160 x 3" Flange	16	11	7-17	4958062
160 x 3 1/4" Flange	16	11	7-17	4958073
180 x 3" Flange	16	11	7-17	4958063
180 x 3 1/4" Flange	16	11	7-17	4958074
200 x 3" Flange	16	11	7-17	4958064
200 x 3 1/4" Flange	16	11	7-17	4958075
225 x 3" Flange	16	11	7-17	4958065
225 x 3 1/4" Flange	16	11	7-17	4958076
250 x 3" Flange	16	11	7-17	4958066
250 x 3 1/4" Flange	16	11	7-17	4958077
280 x 3" Flange	16	11	7-17	4958067
280 x 3 1/4" Flange	16	11	7-17	4958078
315 x 3" Flange	16	11	7-17	4958068
315 x 3 1/4" Flange	16	11	7-17	4958079

Elongated slots suitable for four or eight hole flange drilling w/ PCD b/w 145 and 180mm.
 3" Flange drilled 3" AS4087 PN16 / AS2129 Table D 316SS.
 4" Flange drilled 3" and 4" AS4087 PN16 / AS2129 Table D 316SS.
 Refer to page 173 and following for flange dimensions.

4902 - FULL FACED HYDRANT FLANGE ADAPTOR KIT



* For larger PE Full Face Flanges go to page 149

	CODE
90mm SDR 11 Full Faced Flange with 3 1/4" SS316 Table D / PN16 Universal Backing Ring	4902004
90mm Full Faced Flanged Pupp to 450mm with 3/4" Table D / PN16 SS316 Universal Backing Ring	4902005
90mm SDR 11 Full Faced Flange with 3" SS316 Table D / PN16 Backing Ring*	4902007
90mm Full Faced Flanged Pupp to 450mm with 3" Table D / PN16 SS316 Backing Ring	4902008
UNIVERSAL BACKING RING:	
90 x 80/100 S/S 316 Backing Ring to suit FFF Adaptors (Drilled 4 x 18 @ 146 PCD and 4 x 18 @178 PCD)	

Suits 80 to 100mm fire hydrant mountings - max ID of mating flange 80mm.
 The Plasson SDR11/PE100 100mm full face flange complies with AS4087 PN16 and AS/NZS4129, is pressure rated at PN16 and can be connected to the various 90mm PE pipes using the following methods.

	PE 63	PE 80	PE 100
PN16	EF	EF	EF or BW
PN12.5	EF	EF	EF
PN10	EF or BW	EF or BW	EF
PN8	EF	EF	-
PN6.3	EF	-	-

4954 - TAPPING VALVE - WITH UNDERPART



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
63	x	32	16	11	7-11	4954001
63	x	40	16	11	7-11	4954002
63	x	50	16	11	7-11	4954003
63	x	63	16	11	7-11	4954004
75	x	32	16	11	7-11	4954005
75	x	40	16	11	7-11	4954006
75	x	50	16	11	7-11	4954007
75	x	63	16	11	7-11	4954008
90	x	32	16	11	7-17	4954009
90	x	40	16	11	7-17	4954010
90	x	50	16	11	7-17	4954011
90	x	63	16	11	7-17	4954012
110	x	32	16	11	7-17	4954013
110	x	40	16	11	7-17	4954014
110	x	50	16	11	7-17	4954015
110	x	63	16	11	7-17	4954016
125	x	32	16	11	7-17	4954017
125	x	40	16	11	7-17	4954018
125	x	50	16	11	7-17	4954019
125	x	63	16	11	7-17	4954020
140	x	32	16	11	7-17	4954021
140	x	40	16	11	7-17	4954022
140	x	50	16	11	7-17	4954023
140	x	63	16	11	7-17	4954024
160	x	32	16	11	7-17	4954025
160	x	40	16	11	7-17	4954026
160	x	50	16	11	7-17	4954027
160	x	63	16	11	7-17	4954028
180	x	32	16	11	7-17	4954029
180	x	40	16	11	7-17	4954030
180	x	50	16	11	7-17	4954031
180	x	63	16	11	7-17	4954032
200	x	32	16	11	7-17	4954033
200	x	40	16	11	7-17	4954034
200	x	50	16	11	7-17	4954035
200	x	63	16	11	7-17	4954036
225	x	32	16	11	7-17	4954037
225	x	40	16	11	7-17	4954038
225	x	50	16	11	7-17	4954039
225	x	63	16	11	7-17	4954040
250	x	32	16	11	7-17	4954041
250	x	40	16	11	7-17	4954042
250	x	50	16	11	7-17	4954043
250	x	63	16	11	7-17	4954044

PE TO NYLON FITTINGS

PE100
HSCR
RESIN

4911 - PE - NYLON COUPLING SYSTEM

400kPa gas



SIZE	SDR GAS	SDR RANGE	CODE
20PE(M) x 18(F) Nylon	-	7-11	4911029
20PE(M) x 23(F) Nylon	-	7-11	4911030
25PE(M) x 18(F) Nylon	-	7-11	4911031
32PE(M) x 18(F) Nylon	-	7-11	4911032
40PE(M) x 18(F) Nylon	-	7-11	4911033
40PE(M) x 40(M) Nylon	-	7-11	4911034
63PE(M) x 40(M) Nylon	-	7-11	4911035
63PE(M) x 50(M) Nylon	-	7-17	4911036

4961 - TAPPING SADDLE - PE TO NYLON WITH UNDERPART

400kPa gas



SIZE	SDR GAS	SDR RANGE	CODE
40 x 18 (F)	-	7-11	4961007
40 x 50 (M)	-	7-11	4961008
48* x 18 (F)	-	7-11	4961009
50 x 18 (F)	-	7-11	4961010
63 x 18 (F)	-	7-11	4961011
63 x 50 (M)	-	7-11	4961012
90 x 18 (F)	-	7-11	4961013
90 x 50 (M)	-	7-17	4961014
110 x 18 (F)	-	7-17	4961015
110 x 50 (M)	-	7-17	4961016
160 x 18 (F)	-	7-17	4961017
160 x 50 (M)	-	7-17	4961018
180 x 18 (F)	-	7-17	4961019
180 x 50 (M)	-	7-17	4961020
200+ x 18 (F)	-	7-17	4961021
200+ x 50 (M)	-	7-17	4961022

Cut hole after welding and cooling completed.

+12mm Hex Key required to operate cutter. 13mm socket to tighten saddle nuts.

Elongated 25x13 socket for saddles ≤ 180.

*Supplied with curved bolts for AS4130 Series 3 GAS pipe.

4900 - FLEX RESTRAINT

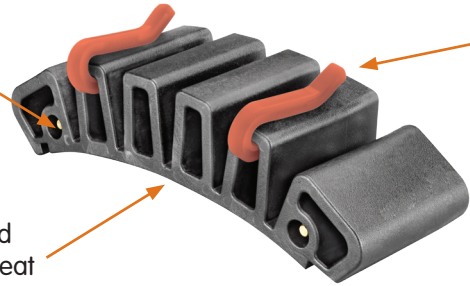


SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
160 to 1600 (6"-63")	-	-	-	4900001

Each unit restrains 31,000N (3,100kg) of axial force. Use multiple units to restrain higher forces.
Welding with barcode unit only.
Requires temperature compensation.
Requires specialised installation strap clamp. See page 137 for details.

Plasson Flex Restraint Advantages:

Terminals are side mounted, enabling use of a wide 50mm/2" strap, for better clamping



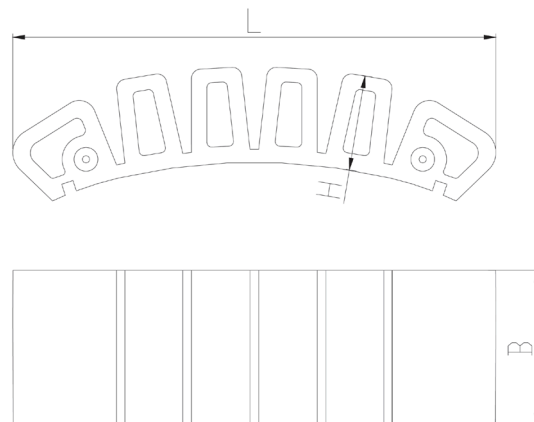
Clips allow easy positioning of clamping strap

The embedded conducting wire is protected from damage. Embedding also improves heat transfer during fusion, creating a stronger bond between the restraint and pipe

Technical Specifications:

- Fits any PE pipe in the size range of 160-1600mm
- Made from virgin PE100 resin
- Can be welded by any standard EF control box with barcode reading or manual input
- Designed and tested to support 31,000N (3,100kg) of axial force. Use multiple units to achieve required force

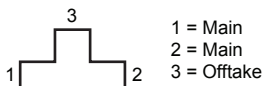
L	H	B	Wt.
202mm	40mm	65mm	300g



GEOHERMAL ELECTROFUSION SYSTEM

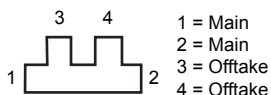
**PE100
HSCR
RESIN**

4911 - REDUCING TEE



SIZE			PN WATER	SDR GAS	SDR RANGE	CODE
1	2	3				
32	32	25	16	-	7-11	4914004
40	40	25	16	-	7-11	4914006
40	40	32	16	-	7-11	4914007
50	50	25	16	-	7-11	4914009
50	50	32	16	-	7-11	4914010
50	50	40	16	-	7-11	4914011
63	63	32	16	-	7-11	4914012
63	63	40	16	-	7-11	4914014

4924 - REDUCING TEE TWO OUTLETS



1	2	3	4	PN WATER	SDR GAS	SDR RANGE	CODE
40	40	32	32	16	-	7-11	4924002
50	50	25	25	16	-	7-11	4924003
50	50	32	32	16	-	7-11	4924004
63	63	25	25	16	-	7-11	4924006
63	63	32	32	16	-	7-11	4924007
63	63	40	40	16	-	7-11	4924008

4919 - Y REDUCER



1	2	3	PN WATER	SDR GAS	SDR RANGE	CODE
40	32	32	16	11	7-11	4919002
50	40	40	16	11	7-11	4919003

4909 - 180° ELBOW



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
25	16	11	7-11	4909001
32	16	11	7-11	4909002
40	16	11	7-11	4909003

GEOHERMAL ELECTROFUSION SYSTEM

**PE100
HSCR
RESIN**

4909 - 180° ELBOW CONNECTING BOLT KIT



SIZE		SDR GAS	SDR RANGE	CODE
25	Bolt Type M6 x 70	-	-	4909004
32	Bolt Type M6 x 90	-	-	4909005
40	Bolt Type M6 x 100	-	-	4909006

2007 - 180° ELBOW CLAMP



SIZE		SDR GAS	SDR RANGE	CODE
25-40	180° Elbow Clamp	-	-	2007009



DID YOU KNOW?

Plasson operates in more than 100 countries. With approximately 2,000 employees and over 25 subsidiaries worldwide, Plasson is a world leader in providing a wide range of flow solutions (fittings and valves) for connecting polyethylene pipelines.

ELECTROFUSION WASTEWATER SYSTEMS

Note: Fittings comply with AS/NZS 5065-2005. Pipes to SDR33. Lightfit fittings to be used with all wastewater spigots.

4758 - WASTEWATER SADDLE - FIXED 110MM 45° OUTLET



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
160 - 200 x 110	0.5	-	11-26	4758001
225 - 315 x 110	0.5	-	11-26	4758002

Requires specialised installation tool; see page 139

4706 - 45° LIGHTFIT ELBOW - FOR PIPES SDR 11 TO 33



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
110	10	17	11-33	4706001

4758 - WASTEWATER SADDLE - ADJUSTABLE 160MM OUTLET



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
225-250 x 160	-	-	11-26	4758003
280-315 x 160	-	-	11-26	4758004
355-560 x 160	-	-	11-26	4758005

Requires specialised installation tool; see page 139

4747 - ADJUSTABLE ELBOW FOR WASTE WATER 0 - 12°



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
160	16	-	11-26	4747001

4772 - 3702 - MANHOLE ADAPTOR



SIZE	PN WATER	SDR GAS	SDR RANGE	CODE
160	-	-	-	4772001
225	-	-	-	4772002
280	-	-	-	4772003
180	-	-	-	3702001
200	-	-	-	3702002
250	-	-	-	3702003
315	-	-	-	3702004
355	-	-	-	3702005
400	-	-	-	3702006
500*	-	-	-	3702007
560*	-	-	-	3702008
630*	-	-	-	3702009

*Requires special shortened Plasson Lightfit coupler to connect to PE pipe. Contact Plasson.

Terms and Conditions

1. DEFINITIONS

"Agreement" means the agreement for supply of Goods between PLASSON and the Customer of which these "Conditions of Sale" form part.

"Charges" includes all monies payable by the Customer to PLASSON in relation to the supply of goods.

"Confirmation of Order" means a written document which sets out a description of the Goods, the Charges and other necessary terms and which may include details of the Customer's offer to purchase the Goods.

"Customer" means the entity which orders Goods from PLASSON or to which Goods are delivered by PLASSON and includes the Customer's agents and permitted assigns.

"Ex Works" has the same meaning as is ascribed to that term in Incoterms 1990.

"Goods" includes parts and supplies which may subsequently be supplied under any warranty given in relation the Goods.

"GST" means goods and services tax imposed in Australia by the GST law.

"PLASSON" means Plasson Australia Pty Ltd ACN 053 788 891, its agents and assigns.

"Permitted Security Interest" means any security interest which PLASSON consents to or otherwise agrees in writing with the Customer will be a Permitted Security Interest for the purposes of these terms and conditions. "Persons" includes corporations, partnerships and unincorporated associations.

Words importing the singular number shall include the plural and vice versa.

"PPSA" means the Personal Property Securities Act 2009 (Cth) as amended. "PPSR" means the Personal Property Security Register. "Purchase Money Security Interest" that has the meaning prescribed to it in the PPSA. "Security Interest" includes any security interest under the PPS Act.

2. CONDITIONS

2.1. These Conditions of Sale apply to all agreements for the supply of Goods by PLASSON and are varied or excluded only where such variation or exclusion is in writing and signed by a director of PLASSON and either is expressed to be a variation of these Conditions or is so inconsistent with them as to allow no other interpretation than that there has been an intentional variation of them.

2.2. Where a Customer has agreed to purchase goods from PLASSON upon the basis of these Conditions of Sale, these Conditions of Sale shall be incorporated into every subsequent agreement for purchase of Goods by that Customer from PLASSON unless specifically varied or excluded in the manner prescribed by clause 2.1.

3. QUOTATIONS AND ENTRY INTO AGREEMENT

3.1. No brochure, catalogue, price list, quotation or other communication published or forwarded by PLASSON to the Customer, whether in writing or not, shall constitute anything other than an invitation by PLASSON to the Customer to do business and shall not represent that the Goods or Charges referred to in them shall be available to the Customer. Any purchase order placed by the Customer with PLASSON constitutes only an offer to purchase Goods. Notwithstanding any prior communication between PLASSON and the Customer, there shall be no obligation by PLASSON to accept an offer to purchase Goods made by a Customer. The Customer's offer is only accepted by PLASSON issuing a Confirmation of Order to the Customer.

3.2. In the event of any inconsistency between the Customer's purchase order or other request and PLASSON's Confirmation of Order (which includes these Conditions), the terms of the Confirmation of Order shall prevail.

3.3. Unless otherwise stated in the Confirmation of Order prices quoted are exclusive of GST and the Customer is required to pay any GST payable by PLASSON in respect to the supply of Goods at the same time as the price is required to be paid by the Customer to PLASSON.

4. FUNCTIONALITY AND PERFORMANCE

4.1. All information, specifications or other data provided by PLASSON in relation to the Goods represent approximations only and small deviations or slight variations from them which do not substantially diminish the functionality or performance of the Goods will not entitle the Customer to either reject the Goods or make any claim in respect of them.

4.2. Information provided by PLASSON in relation to the performance of Goods represents only a guide as to the performance of the Goods under optimum operating conditions.

4.3. Without limiting the operation of Clause 4.2, PLASSON may at its sole discretion provide the Customer with training manuals and other materials in relation to the Goods. PLASSON gives no representation or warranty as to the accuracy of such materials or the use of them by the Customer.

5. CHARGES

5.1. The Customer shall pay to PLASSON all Charges within thirty (30) days from the date of the Invoice without reduction or deferment on account of any claim, counterclaim or setoff.

5.2. The Customer acknowledges that the cost of transportation and freight for the Goods is not included in the Charges and the Customer shall pay a reasonable additional fee for such costs. All other charges such as duty, insurance and taxes and other related expenses shall unless otherwise agreed in writing) be paid by the Customer.

5.3. Should the Customer fail to pay any amount when due to PLASSON, the Customer shall be liable to pay to PLASSON without demand interest thereon at the rate of 1% above the rate charged on commercial overdraft accounts in excess of \$100,000.00 applicable from time to time and charged by PLASSON's bankers as nominated by Plasson at the relevant time. Interest payable hereunder shall be compounded monthly and calculated from the due date for payment to the date upon which payment is actually made.

5.4. Notwithstanding anything else appearing in the Agreement, all Charges shall immediately become due if the Customer shall fail to make any payment when due or shall become subject to the bankruptcy laws or enter into any composition with its creditors or enter into any liquidation or suffer a receiver or receiver and manager to be appointed for all or part of its assets.

5.5. Where payment of the Charges or part of the Charges is due prior to delivery of the Goods and where the Customer fails to make such payment, PLASSON may withhold delivery and give the customer a notice requiring payment to be made within seven days. Should the Customer fail to make the payment which is due within the time required by the notice, PLASSON may terminate the Agreement.

6. PROPERTY OF GOODS PURCHASED

6.1. No legal or equitable title to the Goods shall pass to the Customer until payment in full has been made by the Customer not only of all Charges for all Goods the subject of the Agreement (unless waived in writing by PLASSON) but also until payment has been made of all Charges for all goods previously supplied by PLASSON to the Customer.

6.2. Subject to Clause 6.5, until the legal and equitable title to the Goods passes to the Customer, the Customer shall

(a) Hold the Goods as bailee of PLASSON returnable at will and without prior demand by PLASSON;

(b) Store the Goods in such a manner as enables them to be readily identified and distinguished from all other goods held by the Customer and, where such other goods include goods previously supplied by PLASSON to the Customer and in respect of which title has passed to the Customer, then the Customer shall attach to the Goods in respect of which title has not passed a notice indicating that the Goods are held as bailee for PLASSON.

(c) Upon demand by PLASSON immediately deliver up the goods to PLASSON; and

(d) Authorise and the Customer does hereby authorise PLASSON to enter upon the premises upon which the Goods are stored for the purpose of taking possession of them.

7. SERVICE

Some Goods may require recalibration annually or at other periods nominated by PLASSON. The Customer may at its own cost transport and deliver the Goods to and from PLASSON's nominated premises from time to time. On receipt of the Goods, PLASSON agrees to recalibrate the Goods (if necessary) provided that the Customer pays PLASSON its then current service charges in respect of such recalibration.

8. INTELLECTUAL PROPERTY LICENCE

PLASSON hereby grants to the Customer a nonexclusive licence to use any software or firmware used in connection with the Goods and supplied by PLASSON. The licence shall be subject to any terms and conditions imposed by PLASSON or the owner of copyright in the software or firmware.

9. FINANCIER

9.1. If Plasson sells the Goods to a third party financier (the "Financier") at the request of the Customer, then PLASSON agrees to grant the licence referred to in Clause 10 to the Customer.

9.2. The Customer represents and warrants to PLASSON that if PLASSON sells the Goods to a Financier at the request of the Customer, the Customer shall continue to be bound by all of the terms of the Agreement in relation to the use of the Goods as if the Customer continued to be the legal and equitable owner of the Goods.

10. DELIVERY AND RISK

10.1. The Goods are sold on an Ex Works basis: delivery of the Goods will occur when the Goods are placed at the disposal of the Customer at PLASSON's premises and risk of loss or damage to the Goods then passes to the Customer. In these circumstances, PLASSON may agree to arrange carriage of the Goods for the Customer, but will do so as the agent for the Customer and delivery will occur and risk will pass when the Goods are placed at the disposal of the carrier. The Customer shall pay to PLASSON its Charges for carriage incurred upon the Customer's behalf.

10.2. Delivery dates represent only an estimation of the date of delivery of the Goods and are not binding on PLASSON. Nothing in the Confirmation of Order shall be construed as making time of the essence in the Agreement unless it is expressly stated to be so.

10.3. PLASSON reserves the right to deliver the Goods by installments and to invoice the Customer for each installment of Goods delivered where, in the opinion of PLASSON, it is reasonable to do so.

10.4. Failure by the Customer to pay for any installments, or any other amounts when due, shall entitle PLASSON to withhold or delay delivery of any remaining Goods.

10.5. If PLASSON determines that it is or may be unable to deliver the Goods within a reasonable time or at all, PLASSON may at its sole discretion terminate the Agreement. In the event of termination the Customer shall have no claim against PLASSON for any damage, loss or expense whatsoever.

10.6. If PLASSON is unable to effect delivery, PLASSON may store the Goods and charge the Customer for all costs and expenses associated with such storage and delayed delivery.

10.7. Subject to any express warranty provided in writing by PLASSON to the Customer, failure by the Customer to notify PLASSON within seven days of delivery that the Goods are not in accordance with their description in the Confirmation of Order shall constitute an unqualified acceptance of the Goods and a waiver by the Customer of all claims with respect to the Goods.

10.8. In arranging carriage, storage, insurance and forwarding of the Goods PLASSON shall at all times be acting as the Customer's agent and all Charges in relation to same shall be reimbursed by the Customer. This clause shall also apply to any partial delivery of the Goods.

10.9. Any Goods returned to Plasson by the Customer other than Goods incorrectly supplied, or Goods with major defects will only be accepted by Plasson on condition that:

(i) a re-stocking fee of 25% of the Charges applicable to the Goods plus GST and return freight charges are paid by the Customer to Plasson; and (ii) delivery by the Customer of a Return Authority from Plasson; and (iii) the Goods are of merchantable quality.

11. IMPLIED TERMS AND LIMITATION OF LIABILITY

11.1. Where conditions, warranties or other rights for the benefit of the Customer are implied or given in respect of the Agreement by Competition and Consumer Act, 2010 and / or the Sales of Goods Act 1896 (as amended) or other laws and it is not lawful or possible to exclude the same, then such conditions, warranties or other rights shall (but only to the extent required by law) apply to the Agreement, Save as aforesaid all such implied conditions, warranties and rights are hereby excluded.

11.2. To the extent permitted by law, liability of PLASSON for breach of this contract by PLASSON or negligence of PLASSON or for breach of any conditions or warranty implied by the Competition and Consumer Act, 2010 and / or the Sales of Goods Act 1896 (as amended) shall be limited to one of the following at PLASSON's option:

(a) the replacement of the Goods or the supply of equivalent Goods; or

(b) the repair of the Goods; or

(c) the payment of the costs of replacing the Goods or of acquiring equivalent Goods;

(d) the payment of the cost of having the Goods repaired; and in the case of services supplied, to one of the following (as PLASSON may determine): (1) the supplying of the services again, or (2) the payment of the costs of having the services supplied again.

11.3. Save as expressly provided in any written warranty provided in writing by PLASSON to the Customer and in Clauses 11.1 and 11.2 and notwithstanding any implication arising from any other clauses in the Agreement, PLASSON shall not be liable to the Customer or any person claiming under it in contract or in tort for, or in respect of, any direct, indirect or consequential loss, damage, expense or injury suffered by the Customer or any other person whatsoever, arising out of, in connection with or relating to the performance,

non-performance or any breach of the Agreement (including, by way of illustration and not in limitation, liability due to the negligence or wilful default of PLASSON) or any matter relating to the Agreement or any error (whether negligent or not) in information supplied to the Customer before or after the date of the Agreement in connection with its subject matter. "Consequential loss" shall include but not be limited to loss of profit, use or good will (or similar financial loss), payment made or due to any other person and any loss or damage caused by delay in the performance of any obligation, together with any expenses incurred by the Customer in connection therewith, arising therefrom or incurred in mitigation or attempted mitigation of such loss or damage.

11.4. Clause 11.3 shall apply to all express warranties provided in writing by PLASSON except to the extent that those warranties specifically provide otherwise.

11.5. Where any law implies into the Agreement a condition that the Goods are of merchantable quality, and the Goods are purchased by the Customer for particular purpose, the Goods will not be considered by the Customer as being fit for any other purpose, whether or not that other purpose is one for which goods of that kind are commonly bought.

12. DEPOSIT

12.1. Where PLASSON agrees to supply Goods upon the condition that a deposit of part or all of the charges is paid prior to delivery ("the Deposit"), in the event that the Customer terminates the Agreement or fails to take delivery of the Goods or is otherwise in breach of its obligations to PLASSON so that PLASSON is entitled to terminate the Agreement, the Customer shall forfeit ten per cent of the Deposit to PLASSON for PLASSON's benefit and PLASSON shall refund the balance to the Customer.

12.2. The forfeiture of the Deposit shall not be deemed any limitation, in damages or otherwise including damages for loss of profits, of the liability of the Customer to PLASSON.

13. TERMINATION

In addition to the rights of termination provided in the above conditions, PLASSON may terminate the Agreement upon the occurrence of any of the following events.

- (a) Failure by the Customer to perform any obligation of this Agreement where such failure is not rectified within 30 days of notice from PLASSON requesting rectification.
- (b) The Customer becomes bankrupt or an order is made or a resolution is passed for the winding up of the Customer or a ground arises on which a court may order its winding up or upon which a meeting may rely for the purposes of placing the Customer under official management or an inspector is appointed to investigate its affairs or it proposes to or enters into any arrangement, scheme, reconstruction or composition with creditors.
- (c) A receiver of receiver and manager of the Customer's assets, income or business or any part thereof is appointed or a mortgagee goes into possession thereof and such appointment is not terminated or such possession does not cease within fourteen days.
- (d) The Customer shall fail to pay its debts as they shall fall due or cease or threaten to cease to carry on business or sell, assign, transfer the whole or any part of its undertaking or assets otherwise than in the ordinary course of business.
- (e) The Customer purports to assign its rights under the Agreement.
- (f) Any event occurs outside the reasonable control of PLASSON which in PLASSON's estimate makes it impracticable or impossible for it to fulfil its obligation under the Agreement.

14. FORCE MAJEURE

14.1. PLASSON will not be liable for any loss or damage suffered by the Customer due to any delay or any breach or default under the Agreement in circumstances where such delay, breach or default results from causes beyond PLASSON's reasonable control including but not limited to any breach or default under the Agreement by the Customer, compliance with any laws, regulations, orders, acts, instructions or priority requests of governments, acts of God, fires, floods, weather, strikes, lockouts, factory shutdown or alterations, embargoes, wars, riots, delay or shortage in transportation or inability to obtain labour, manufacturing facilities, electricity, oil or other materials from PLASSON's or the Manufacturer's usual sources.

14.2. Any delay resulting from such cause shall immediately extend the delivery date by the period of delay in which event the Customer shall take, if necessary, steps to secure payment for the Goods.

15. MISCELLANEOUS

15.1 Any indulgence, latitude or extension of time which PLASSON may show towards the Customer in relation to any of the provisions of the Agreement or any matter or thing relating thereto or arising therefrom shall not in any way prejudice or interfere with PLASSON's rights under the Agreement and shall not be claimed to constitute a waiver thereof.

15.2 The Customer acknowledges that no oral terms or representations form part of the Agreement unless they have been reduced to writing and signed by PLASSON prior to entering into the Agreement.

15.3 Any notice to be given to a party shall be in writing and shall be sent by post, email or facsimile to the address of that party as shown in the Confirmation of Order or as subsequently notified by that party to the party giving the notice and shall be deemed to have been given at the time it would have been received in the normal course of post if forwarded by post and if otherwise given at the time it was actually received.

15.4 The Agreement shall be governed by the laws of New South Wales and the parties agree to submit to the jurisdiction of the Courts for that State.

15.5 In the event of PLASSON seeking to recover any amount due from the Customer or to enforce any of its other rights under the Agreement, the Customer undertakes to pay to PLASSON any costs incurred by PLASSON in so doing, including any legal costs incurred on the solicitor and own client basis.

16. SECURITY INTEREST

(a) The Customer hereby acknowledges that these terms and conditions of sale constitute a security agreement which creates a Security Interest in favour of PLASSON and in all Goods supplied by PLASSON to the Customer and all after acquired Goods supplied to the Customer by PLASSON (or for the Customer's account) to secure the payment from time to time for Goods, including future advances. The Customer agrees to grant to PLASSON a Purchase Money Security Interest. (b) The Customer gives PLASSON a Security Interest in all of its present and after acquired property in which Goods supplied or financed by PLASSON have been attached or incorporated, including any Commingled Goods and in any proceeds of sale of Goods.

17. GENERAL COVENANTS

(a) Until such time as payment in full has been received by PLASSON from the Customer in respect to an Order, the Customer covenants to PLASSON not to create, cause or permit to exist any other Security Interest over any Goods the subject of the applicable Order, other than a Permitted Security Interest and covenants that it shall comply with the terms of each Permitted Security Interest binding on it in respect of the relevant Goods from time to time and shall ensure that: (i) there is no increase in the amount secured under a Permitted Security Interest (excluding any part of a Permitted Security Interest which is a purchase money security interest); and (ii) there is no variation to a Permitted Security Interest that increases the collateral the subject of the Permitted Security Interest, other than in the case of a purchase money security interest, without obtaining the prior written consent of PLASSON. (b) The Customer covenants to PLASSON that it shall sign anything and do anything PLASSON requires to further or more effectively secure PLASSON's rights over the applicable Goods or under these terms and conditions. This includes anything PLASSON requires in order for it to: (i) register and maintain (including renew before expiry) one or more financing statements in relation to any Security Interest in the relevant Goods created by these terms and conditions and/or any Order; (ii) remove any financing statement which is registered against the Customer or in relation to a Security Interest which is not a Permitted Security Interest; and (iii) obtain possession or control of any Goods for the purposes of perfecting any Security Interest in that property by possession or control for the purposes of the PPSA. (c) The Customer waives its rights to receive a verification statement in respect of any financing statement or financing change statement registered by or on behalf of PLASSON under the PPSA to the extent permitted by the PPSA and agrees to that as between PLASSON and the Customer, to the extent permitted by the PPSA, the Customer will have no rights under (or by reference to) sections 95, 96, 117, 118, 120, 121(4), 123, 125, 126, 128, 129, 130, 132(3)(d), 132(4), 134(1), 135, 142 and 143 of the PPSA.

Terms and Conditions

1. DEFINITIONS

"Agreement" means the agreement for supply of Goods between PLASSON and the Customer of which these "Conditions of Sale" form part.

"Charges" includes all monies payable by the Customer to PLASSON in relation to the supply of goods.

"Confirmation of Order" means a written document which sets out a description of the Goods, the Charges and other necessary terms and which may include details of the Customer's offer to purchase the Goods.

"Customer" means the entity which orders Goods from PLASSON or to which Goods are delivered by PLASSON and includes the Customer's agents and permitted assigns.

"Ex Works" has the same meaning as is ascribed to that term in Incoterms 1990.

"Goods" includes parts and supplies which may subsequently be supplied under any warranty given in relation the Goods.

"GST" means goods and services tax imposed in Australia by the GST law.

"PLASSON" means Plasson Australia Pty Ltd ACN 053 788 891, its agents and assigns.

"Permitted Security Interest" means any security interest which PLASSON consents to or otherwise agrees in writing with the Customer will be a Permitted Security Interest for the purposes of these terms and conditions. "Persons" includes corporations, partnerships and unincorporated associations.

Words importing the singular number shall include the plural and vice versa.

"PPSA" means the Personal Property Securities Act 2009 (Cth) as amended. "PPSR" means the Personal Property Security Register. "Purchase Money Security Interest" that has the meaning prescribed to it in the PPSA. "Security Interest" includes any security interest under the PPS Act.

2. CONDITIONS

2.1. These Conditions of Sale apply to all agreements for the supply of Goods by PLASSON and are varied or excluded only where such variation or exclusion is in writing and signed by a director of PLASSON and either is expressed to be a variation of these Conditions or is so inconsistent with them as to allow no other interpretation than that there has been an intentional variation of them.

2.2. Where a Customer has agreed to purchase goods from PLASSON upon the basis of these Conditions of Sale, these Conditions of Sale shall be incorporated into every subsequent agreement for purchase of Goods by that Customer from PLASSON unless specifically varied or excluded in the manner prescribed by clause 2.1.

3. QUOTATIONS AND ENTRY INTO AGREEMENT

3.1. No brochure, catalogue, price list, quotation or other communication published or forwarded by PLASSON to the Customer, whether in writing or not, shall constitute anything other than an invitation by PLASSON to the Customer to do business and shall not represent that the Goods or Charges referred to in them shall be available to the Customer. Any purchase order placed by the Customer with PLASSON constitutes only an offer to purchase Goods. Notwithstanding any prior communication between PLASSON and the Customer, there shall be no obligation by PLASSON to accept an offer to purchase Goods made by a Customer. The Customer's offer is only accepted by PLASSON issuing a Confirmation of Order to the Customer.

3.2. In the event of any inconsistency between the Customer's purchase order or other request and PLASSON's Confirmation of Order (which includes these Conditions), the terms of the Confirmation of Order shall prevail.

3.3. Unless otherwise stated in the Confirmation of Order prices quoted are exclusive of GST and the Customer is required to pay any GST payable by PLASSON in respect to the supply of Goods at the same time as the price is required to be paid by the Customer to PLASSON.

4. FUNCTIONALITY AND PERFORMANCE

4.1. All information, specifications or other data provided by PLASSON in relation to the Goods represent approximations only and small deviations or slight variations from them which do not substantially diminish the functionality or performance of the Goods will not entitle the Customer to either reject the Goods or make any claim in respect of them.

4.2. Information provided by PLASSON in relation to the performance of Goods represents only a guide as to the performance of the Goods under optimum operating conditions.

4.3. Without limiting the operation of Clause 4.2, PLASSON may at its sole discretion provide the Customer with training manuals and other materials in relation to the Goods. PLASSON gives no representation or warranty as to the accuracy of such materials or the use of them by the Customer.

5. CHARGES

5.1. The Customer shall pay to PLASSON all Charges within thirty (30) days from the date of the Invoice without reduction or deferment on account of any claim, counterclaim or setoff.

5.2. The Customer acknowledges that the cost of transportation and freight for the Goods is not included in the Charges and the Customer shall pay a reasonable additional fee for such costs. All other charges such as duty, insurance and taxes and other related expenses shall unless otherwise agreed in writing) be paid by the Customer.

5.3. Should the Customer fail to pay any amount when due to PLASSON, the Customer shall be liable to pay to PLASSON without demand interest thereon at the rate of 1% above the rate charged on commercial overdraft accounts in excess of \$100,000.00 applicable from time to time and charged by PLASSON's bankers as nominated by Plasson at the relevant time. Interest payable hereunder shall be compounded monthly and calculated from the due date for payment to the date upon which payment is actually made.

5.4. Notwithstanding anything else appearing in the Agreement, all Charges shall immediately become due if the Customer shall fail to make any payment when due or shall become subject to the bankruptcy laws or enter into any composition with its creditors or enter into any liquidation or suffer a receiver or receiver and manager to be appointed for all or part of its assets.

5.5. Where payment of the Charges or part of the Charges is due prior to delivery of the Goods and where the Customer fails to make such payment, PLASSON may withhold delivery and give the customer a notice requiring payment to be made within seven days. Should the Customer fail to make the payment which is due within the time required by the notice, PLASSON may terminate the Agreement.

6. PROPERTY OF GOODS PURCHASED

6.1. No legal or equitable title to the Goods shall pass to the Customer until payment in full has been made by the Customer not only of all Charges for all Goods the subject of the Agreement (unless waived in writing by PLASSON) but also until payment has been made of all Charges for all goods previously supplied by PLASSON to the Customer.

6.2. Subject to Clause 6.5, until the legal and equitable title to the Goods passes to the Customer, the Customer shall

(a) Hold the Goods as bailee of PLASSON returnable at will and without prior demand by PLASSON;

(b) Store the Goods in such a manner as enables them to be readily identified and distinguished from all other goods held by the Customer and, where such other goods include goods previously supplied by PLASSON to the Customer and in respect of which title has passed to the Customer, then the Customer shall attach to the Goods in respect of which title has not passed a notice indication that the Goods are held as bailee for PLASSON.

(c) Upon demand by PLASSON immediately deliver up the goods to PLASSON; and

(d) Authorise and the Customer does here by authorise PLASSON to enter upon the premises upon which the Goods are stored for the purpose of taking possession of them.

7. SERVICE

Some Goods may require recalibration annually or at other periods nominated by PLASSON. The Customer may at its own cost transport and deliver the Goods to and from PLASSON's nominated premises from time to time. On receipt of the Goods, PLASSON agrees to recalibrate the Goods (if necessary) provided that the Customer pays PLASSON its then current service charges in respect of such recalibration.

8. INTELLECTUAL PROPERTY LICENCE

PLASSON hereby grants to the Customer a nonexclusive licence to use any software or firmware used in connection with the Goods and supplied by PLASSON. The licence shall be subject to any terms and conditions imposed by PLASSON or the owner of copyright in the software or firmware.

9. FINANCIER

9.1. If Plasson sells the Goods to a third party financier (the "Financier") at the request of the Customer, then PLASSON agrees to grant the licence referred to in Clause 10 to the Customer.

9.2. The Customer represents and warrants to PLASSON that if PLASSON sells the Goods to a Financier at the request of the Customer, the Customer shall continue to be bound by all of the terms of the Agreement in relation to the use of the Goods as if the Customer continued to be the legal and equitable owner of the Goods.

10. DELIVERY AND RISK

10.1. The Goods are sold on an Ex Works basis: delivery of the Goods will occur when the Goods are placed at the disposal of the Customer at PLASSON's premises and risk of loss or damage to the Goods then passes to the Customer. In these circumstances, PLASSON may agree to arrange carriage of the Goods for the Customer, but will do so as the agent for the Customer and delivery will occur and risk will pass when the Goods are placed at the disposal of the carrier. The Customer shall pay to PLASSON its Charges for carriage incurred upon the Customer's behalf.

10.2. Delivery dates represent only an estimation of the date of delivery of the Goods and are not binding on PLASSON. Nothing in the Confirmation of Order shall be construed as making time of the essence in the Agreement unless it is expressly stated to be so.

10.3. PLASSON reserves the right to deliver the Goods by installments and to invoice the Customer for each installment of Goods delivered where, in the opinion of PLASSON, it is reasonable to do so.

10.4. Failure by the Customer to pay for any installments, or any other amounts when due, shall entitle PLASSON to withhold or delay delivery of any remaining Goods.

10.5. If PLASSON determines that it is or may be unable to deliver the Goods within a reasonable time or at all, PLASSON may at its sole discretion terminate the Agreement. In the event of termination the Customer shall have no claim against PLASSON for any damage, loss or expense whatsoever.

10.6. If PLASSON is unable to effect delivery, PLASSON may store the Goods and charge the Customer for all costs and expenses associated with such storage and delayed delivery.

10.7. Subject to any express warranty provided in writing by PLASSON to the Customer, failure by the Customer to notify PLASSON within seven days of delivery that the Goods are not in accordance with their description in the Confirmation of Order shall constitute an unqualified acceptance of the Goods and a waiver by the Customer of all claims with respect to the Goods.

10.8. In arranging carriage, storage, insurance and forwarding of the Goods PLASSON shall at all times be acting as the Customer's agent and all Charges in relation to same shall be reimbursed by the Customer. This clause shall also apply to any partial delivery of the Goods.

10.9. Any Goods returned to Plasson by the Customer other than Goods incorrectly supplied, or Goods with major defects will only be accepted by Plasson on condition that:

(i) a re-stocking fee of 25% of the Charges applicable to the Goods plus GST and return freight charges are paid by the Customer to Plasson; and (ii) delivery by the Customer of a Return Authority from Plasson; and (iii) the Goods are of merchantable quality.

11. IMPLIED TERMS AND LIMITATION OF LIABILITY

11.1. Where conditions, warranties or other rights for the benefit of the Customer are implied or given in respect of the Agreement by Competition and Consumer Act, 2010 and / or the Sales of Goods Act 1896 (as amended) or other laws and it is not lawful or possible to exclude the same, then such conditions, warranties or other rights shall (but only to the extent required by law) apply to the Agreement, Save as aforesaid all such implied conditions, warranties and rights are hereby excluded.

11.2. To the extent permitted by law, liability of PLASSON for breach of this contract by PLASSON or negligence of PLASSON or for breach of any conditions or warranty implied by the Competition and Consumer Act, 2010 and / or the Sales of Goods Act 1896 (as amended) shall be limited to one of the following at PLASSON's option:

(a) the replacement of the Goods or the supply of equivalent Goods; or

(b) the repair of the Goods; or

(c) the payment of the costs of replacing the Goods or of acquiring equivalent Goods;

(d) the payment of the cost of having the Goods repaired; and in the case of services supplied, to one of the following (as PLASSON may determine): (1) the supplying of the services again, or (2) the payment of the costs of having the services supplied again.

11.3. Save as expressly provided in any written warranty provided in writing by PLASSON to the Customer and in Clauses 11.1 and 11.2 and not withstanding any implication arising from any other clauses in the Agreement, PLASSON shall not be liable to the Customer or any person claiming under it in contract or in tort for, or in respect of, any direct, indirect or consequential loss, damage, expense or injury suffered by the Customer or any other person whatsoever, arising out of, in connection with or relating to the performance,

non-performance or any breach of the Agreement (including, by way of illustration and not in limitation, liability due to the negligence or wilful default of PLASSON) or any matter relating to the Agreement or any error (whether negligent or not) in information supplied to the Customer before or after the date of the Agreement in connection with its subject matter. "Consequential loss" shall include but not be limited to loss of profit, use or good will (or similar financial loss), payment made or due to any other person and any loss or damage caused by delay in the performance of any obligation, together with any expenses incurred by the Customer in connection therewith, arising therefrom or incurred in mitigation or attempted mitigation of such loss or damage.

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12. DEPOSIT

12.1. Where PLASSON agrees to supply Goods upon the condition that a deposit of part or all of the charges is paid prior to delivery ("the Deposit"), in the event that the Customer terminates the Agreement or fails to take delivery of the Goods or is otherwise in breach of its obligations to PLASSON so that PLASSON is entitled to terminate the Agreement, the Customer shall forfeit ten per cent of the Deposit to PLASSON for PLASSON's benefit and PLASSON shall refund the balance to the Customer.

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In addition to the rights of termination provided in the above conditions, PLASSON may terminate the Agreement upon the occurrence of any of the following events.

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- (b) The Customer becomes bankrupt or an order is made or a resolution is passed for the winding up of the Customer or a ground arises on which a court may order its winding up or upon which a meeting may rely for the purposes of placing the Customer under official management or an inspector is appointed to investigate its affairs or it proposes to or enters into any arrangement, scheme, reconstruction or composition with creditors.
- (c) A receiver of receiver and manager of the Customer's assets, income or business or any part thereof is appointed or a mortgagee goes into possession thereof and such appointment is not terminated or such possession does not cease within fourteen days.
- (d) The Customer shall fail to pay its debts as they shall fall due or cease or threaten to cease to carry on business or sell, assign, transfer the whole or any part of its undertaking or assets otherwise than in the ordinary course of business.
- (e) The Customer purports to assign its rights under the Agreement.
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15.2 The Customer acknowledges that no oral terms or representations form part of the Agreement unless they have been reduced to writing and signed by PLASSON prior to entering into the Agreement.

15.3 Any notice to be given to a party shall be in writing and shall be sent by post, email or facsimile to the address of that party as shown in the Confirmation of Order or as subsequently notified by that party to the party giving the notice and shall be deemed to have been given at the time it would have been received in the normal course of post if forwarded by post and if otherwise given at the time it was actually received.

15.4 The Agreement shall be governed by the laws of New South Wales and the parties agree to submit to the jurisdiction of the Courts for that State.

15.5 In the event of PLASSON seeking to recover any amount due from the Customer or to enforce any of its other rights under the Agreement, the Customer undertakes to pay to PLASSON any costs incurred by PLASSON in so doing, including any legal costs incurred on the solicitor and own client basis.

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17. GENERAL COVENANTS

(a) Until such time as payment in full has been received by PLASSON from the Customer in respect to an Order, the Customer covenants to PLASSON not to create, cause or permit to exist any other Security Interest over any Goods the subject of the applicable Order, other than a Permitted Security Interest and covenants that it shall comply with the terms of each Permitted Security Interest binding on it in respect of the relevant Goods from time to time and shall ensure that: (i) there is no increase in the amount secured under a Permitted Security Interest (excluding any part of a Permitted Security Interest which is a purchase money security interest); and (ii) there is no variation to a Permitted Security Interest that increases the collateral the subject of the Permitted Security Interest, other than in the case of a purchase money security interest, without obtaining the prior written consent of PLASSON. (b) The Customer covenants to PLASSON that it shall sign anything and do anything PLASSON requires to further or more effectively secure PLASSON's rights over the applicable Goods or under these terms and conditions. This includes anything PLASSON requires in order for it to: (i) register and maintain (including renew before expiry) one or more financing statements in relation to any Security Interest in the relevant Goods created by these terms and conditions and/or any Order; (ii) remove any financing statement which is registered against the Customer or in relation to a Security Interest which is not a Permitted Security Interest; and (iii) obtain possession or control of any Goods for the purposes of perfecting any Security Interest in that property by possession or control for the purposes of the PPSA. (c) The Customer waives its rights to receive a verification statement in respect of any financing statement or financing change statement registered by or on behalf of PLASSON under the PPSA to the extent permitted by the PPSA and agrees to that as between PLASSON and the Customer, to the extent permitted by the PPSA, the Customer will have no rights under (or by reference to) sections 95, 96, 117, 118, 120, 121(4), 123, 125, 126, 128, 129, 130, 132(3)(d), 132(4), 134(1), 135, 142 and 143 of the PPSA.



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