

# STAINLESS



We lead in our experience delivering technical and practical advice since 1992 to supply project scale solutions with a focus on food processing, commercial and industrial applications.

> More information can be found at auspress.com.au

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### AusPress® Drainage Stainless Pipe & Fittings

Install stainless pipe and fittings quickly without flame for hygienic & high temperature applications.



### AusPress<sup>®</sup> Drainage **Floor Gully Range**

High performance stainless steel floor drains specifically designed for hygiene & high flows.



### AusPress® Drainage **Hygienic Channel Range**

Stainless channel linear drainage for high flow applications where hygiene and performance matters.



### AusPress® Drainage **Channel Range**

Stainless channel linear drainage for high flow applications where hygiene and performance matters.



## AusPress<sup>®</sup> Drainage **Technical Information**

Reference installation and performance information for AusPress drainage products.







We've been working with plumbers, installers and consultants since 1992 to deliver the highest quality products for their individual projects.

From these projects, we've gained an extensive experience in large, complex and specialised installations with our team around the country able to support our customers.

#### **Customer Service**

We offer a high level of customer service before, during and after supply. Sales representatives covering each state. On-site assistance and tool training. Dedicated Customer Service Centre.

#### **Technical Support**

We lead in data and practical experience with extensive resources of information and testing, support from metallurgists & water analysis testing for specialised applications.

#### **Quality Products**

We stock in Australia the original design of system products, proven by over 45 years of installed performance across the world.

#### **Design & Manufacturing Services**

In-house design & trade experienced team. Project specific designs to your requirements, large or small. We manufacture our channels & custom products in Australia. **STAINLESS** 



Join

### Faster to Install

with ACO

Fast and reliable push-fit design. No welding, glueing, priming or electro-fusing required.

Lightweight to carry and position onsite. Less dead weight to support. Pipe stays straight and doesn't distort from direct sun or heat.

A wide range of fittings off-the-shelf, available in diameters **50 to 315mm**.

## Experience Counts

We were the first to supply stainless drainage in Australia and New Zealand.

We work with consultants and installers on specialised complex projects regularly.

In-house design staff with local fabrication available for project requirements.

### Quality to Install

Approved to WaterMark, Australian and international standards. Superior temperature tolerance.

Designed specifically for hygiene, WaterMark and HACCP approved.

Temp

Suitable

## Reliable Design

Used by leading Australian food processors in demanding environments since 2002.

With the strength and chemical resistance qualities of stainless steel. Pre-fitted double lip ring seal for trouble-free sealing.

## Environmental Choice

Long service life. Closed loop material (completely recycled to make more stainless).

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AP 14 Design

# **Installation Guide**

**Start** to install stainless quicker... AusPress Stainless Drainage is a socket & spigot design that joins together by pushing the fittings together easily & quickly.

Refer to the technical section for installation recommendations & more information.

Start

here

Cutters are available for hire or purchase.





Confirm the stainless steel and the ring seal (eg EPDM) are suitable for the application and situation. Some chemicals and environments can be unsuitable, please ask us if unsure.

### **Ring Seal Colours**

EPDM ring seals are supplied as standard unless ordered otherwise.

Colour	Motorial	Temperature*						
Colour	wateria	Min	Max					
Black	EPDM	-50°C	100°C					
Green	FPM	-20°C	200°C					
* Maximum continuous temperatures.								
For ring seal suitability								

For ring seal suitability with chemicals and other applications, please contact us for assessment.

#### This guide is only for standard applications.

For specific or specialised applications please contact us first - www.auspress.com.au

#### Ordering & Design

Stainless drainage pipe is available in different lengths (from 150mm to 6m) so choose the length closest to what is needed to reduce offcut waste.

### Cut Pipe to Length

Cutting stainless drainage to length is easy with an appropriate cutter that:

- Is fitted with 'inox' blades designed to cold cut stainless,
- Clamps the pipe in position,
- Cuts the pipe square (with or without a guide) and,
- Forms a bevel to the spigot end of the pipe.

Approved cutting tools are listed below for reference - if in doubt, please contact us for advice.

Pipes are supplied with a socket and a spigot end; cut off from the spigot end keeping the socket. Using offcut spigotspigot pipe pieces is not recommended.

Note fittings are not to be cut.

		Diameter:	50	75	110	160	200	250	315
		006.050.110	$\checkmark$	$\checkmark$	$\checkmark$				
	Blucher Tools	800.050.160	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$			
		006.125.200			$\checkmark$	$\checkmark$	$\checkmark$		
		006.200.315					$\checkmark$	$\checkmark$	$\checkmark$
		419363	$\checkmark$	$\checkmark$	$\checkmark$				
	Aco Tools	400738			$\checkmark$	$\checkmark$			
		417225				$\checkmark$	$\checkmark$	$\checkmark$	

Note: Using a guide or holder is recommended for diameters 160mm & larger.



### **Dual Lip Ring Seal**

ACO's dual lip ring seal provides superior sealing technology where hygiene and joint security are of the utmost importance.

#### Inspect the Ring Seal

In the socket, check that the rubber ring seal is:

- The correct material specified (by colour) and,
- With the mitred edges facing outwards and,
- Not damaged and is free of debris.



**Lubricate** the Ring Seal Apply a small amount of joining lubricant to the ring seal inside the socket. We stock a silicon based lubricant.

Do not use oil or grease as a lubricant, this may damage the ring seal material.

### Push, Twist & Pull

Using a slight twisting movement, push the spigot fully into the socket.

Then, retract 5-10mm to allow for expansion & contraction to occur within each socket. Marking the full insertion depth is a good method to see the distance retracted.

#### Pipe Lengths Socket - Spigot Material: 316 stainless steel, mill finish. Ring Seal: EPDM x1 fitted.

Supplied in stainless steel, items identified with a green label are grade 316L.

Each length of stainless drainage pipe is supplied with a socket (fitted with a rubber ring seal) and spigot end.

Ordered in various lengths to reduce offcut wastage then cut to length on site using an appropriate cutter.

#### The system is directional; the water flow must travel from socket to spigot.

An EPDM ring seal is prefitted in the socket end and can be change to another type of rubber type depending on chemicals or temperature requirements.

Our extensive technical experience is available to help with your individual project requirements or further information.



Refer to the technical section for installation guides & other reference information.

### Socket & Spigot Details



		Insertion Depth			
D1	Х	i	D2	D3	Т
50	42	32 - 37	51	62	1.0
75	50	40 - 45	76	88	1.0
110	57	47 - 52	111	126	1.0
160	70	60 - 65	161	178	1.25
200	80	70 - 75	201	219	1.5
250	90	80 - 85	251	269	1.5
315	100	90 - 95	316	334	2.0
		Retract 5-10mm after pushing together for expansion & contraction.			

	Product No	L	D1	Weig	ht (kg)
				Dry	Wet *
K	AP.P.0150.050	150	50	0.2	0.5
(50)	AP.P.0250.050	250	50	0.4	0.8
mm	AP.P.0500.050	500	50	0.7	1.5
	AP.P.0750.050	750	50	1.0	2.3
	AP.P.1000.050	1000	50	1.3	3.1
	AP.P.1500.050	1500	50	1.9	4.2
	AP.P.2000.050	2000	50	2.6	6.0
	AP.P.3000.050	3000	50	3.8	9.0
	AP.P.4000.050	4000	50	5.0	12.0
$\sim$	AP.P.0150.075	150	75	0.4	0.9
(75)	AP.P.0250.075	250	75	0.6	1.5
	AP.P.0500.075	500	75	1.0	3.0
	AP.P.0750.075	750	75	1.5	4.5
	AP.P.1000.075	1000	75	2.0	6.0
	AP.P.1500.075	1500	75	2.9	9.0
	AP.P.2000.075	2000	75	3.6	12.1
	AP.P.3000.075	3000	75	5.7	18.0
	AP.P.4000.075	4000	75	7.6	24.1
K	AP.P.0150.110	150	110	0.6	1.8
(110)	AP.P.0250.110	250	110	0.9	3.0
mm	AP.P.0500.110	500	110	1.5	6.0
	AP.P.0750.110	750	110	2.2	8.9
	AP.P.1000.110	1000	110	2.9	11.9
	AP.P.1500.110	1500	110	4.3	17.8
	AP.P.2000.110	2000	110	5.7	23.7
	AP.P.3000.110	3000	110	8.4	35.6
,	AP.P.6000.110	6000	110	16.7	71.8
K	AP.P.0250.160	250	160	1.6	6.6
(160)	AP.P.0500.160	500	160	2.9	12.7
	AP.P.0750.160	750	160	4.1	18.8
	AP.P.1000.160	1000	160	5.4	25.0
	AP.P.1500.160	1500	160	7.9	37.2
	AP.P.2000.160	2000	160	10.4	49.5
	AP.P.3000.160	3000	160	15.4	74.0
. /	AP.P.6000.160	6000	160	30.4	147.6
	AP.P.0500.200	500	200	4.5	19.8
(200) mm	AP.P.1000.200	1000	200	8.3	38.8
	AP.P.2000.200	2000	200	15.8	76.7
. /	AP.P.3000.200	3000	200	23.2	114.5
050	AP.P.0500.250	500	250	5.5	29.8
(250) mm	AP.P.1000.250	1000	250	10.2	58.4
	AP.P.2000.250	2000	250	19.4	115.5
. /	AP.P.3000.250	3000	250	28.7	172.7
215	AP.P.0500.315	500	315	9.8	47.9
(315)	AP.P.1000.315	1000	315	17.7	93.7
	APP2000315	2000	315	335	1751

315 <sup>‡</sup>Wet weights calculated using full volume filled with water.

49.3

276.7

#### Lubricant

AP.P.3000.315



3000

Product No	Description
AP.Lube.250	Lubricant jointing paste 250mL
AP.Lube.500	Lubricant jointing paste 500mL
AP.Lube.1000	Lubricant jointing paste 1000mL

Ring Seal: EPDM x1 fitted.







### Swept Bend 87.5° Socket - Spigot



Material: 316 stainless	Material: 316 stainless steel, mill finish.							
Product No	D1	X1	X2	ХЗ				
AP.SB.87.050	50	102	97	22				
AP.SB.87.075	75	128	126	30				
AP.SB.87.110	110	173	160	46				
AP.SB.87.160	160	229	224	75				

### Bend 45° Socket - Spigot



Double bend arrangements shown for offset dimensions only - each bend sold separately.

Material: 316 stainless steel, mill finish.

**D**1

50

75

110

160

200

250

315

Image

А

А

А

А

в

В

В

X1

86

107

134

181

215

297

393

Х2

40

53

67

105

129

198

286

Product No

AP.B.87.050

AP.B.87.075

AP.B.87.110

AP.B.87.160

AP.B.87.200

AP.B.87.250

AP.B.87.315

Material: 316 stainless steel, mill finish.						Ring Seal: EPDM x1 fitted.		
Product No	D1	X1	X2	ХЗ	X4	X5	X6	
AP.B.45.050	50	62	24	157	68	130	95	
AP.B.45.075	75	76	32	197	83	159	121	
AP.B.45.110	110	93	42	243	103	195	150	
AP.B.45.160	160	131	55	331	138	269	200	
AP.B.45.200	200	152	60	380	156	308	228	
AP.B.45.250	250	177	76	438	185	362	273	
AP.B.45.315	315	199	91	502	212	411	317	

### Bend 30° Socket - Spigot



#### Double bend arrangements shown for offset dimensions only - each bend sold separately.

Material: 316 stainless	Ring Se	al: EPDM x1 fitted.				
Product No	D1	X1	X2	ХЗ	X4	
AP.B.30.050	50	57	16	138	37	
AP.B.30.075	75	71	21	172	45	
AP.B.30.110	110	85	27	223	61	
AP.B.30.160	160	110	40	278	73	
AP.B.30.200	200	137	45	336	89	
AP.B.30.250	250	153	58	413	110	
AP.B.30.315	315	172	68	448	121	

#### Bend 15° Socket - Spigot



## Double bend arrangements shown for offset dimensions only - each bend sold separately.

Material: 316 stainles	Ring Seal: EPDM x1 fitted.				
Product No	D1	X1	X2	ХЗ	X4
AP.B.15.050	50	54	12	134	18
AP.B.15.075	75	66	16	162	21
AP.B.15.110	110	78	15	198	26
AP.B.15.160	160	99	29	250	32
AP.B.15.200	200	123	31	300	38
AP.B.15.250	250	136	40	366	48
AP.B.15.315	315	151	46	388	51

### Single Junction 45°

Material: 316 stainless steel, mill finish. Ring Seal: EPDM x2 fitted.



Product No	D1	BR	X1	X2	ХЗ		
AP.SJ.45.050	50	50	128	57	76		
AP.SJ.45.075	75	75	179	74	110		
AP.SJ.45.110	110	110	233	88	149		
AP.SJ.45.160	160	160	332	119	222		
AP.SJ.45.200	200	200	415	151	274		
AP.SJ.45.250	250	250	513	172	336		
AP.SJ.45.315	315	315	616	195	521		
AP.RJ.45.075.050	75	50	144	56	94		
AP.RJ.45.110.050	110	50	147	42	119		
AP.RJ.45.110.075	110	75	182	60	135		
AP.RJ.45.160.110	160	110	332	119	191		
AP.RJ.45.200.160	200	160	359	123	250		
AP.RJ.45.250.200	250	200	429	175	307		
AP.RJ.45.315.250	315	250	518	154	382		

### ■ Single Junction 87.5°

Material: 316 stainless steel, mill finish. Ring Seal: EPDM x2 fitted.



Product No	D1	BR	X1	X2	
AP.SJ.87.050	50	50	106	71	
AP.SJ.87.075	75	75	139	90	
AP.SJ.87.110	110	110	183	117	
AP.SJ.87.160	160	160	288	184	
AP.SJ.87.200	200	200	333	206	
AP.SJ.87.250	250	250	363	215	
AP.SJ.87.315	315	315	476	281	
AP.RJ.87.075.050	75	50	139	90	
AP.RJ.87.110.050	110	50	183	117	
AP.RJ.87.110.075	110	75	183	117	
AP.RJ.87.160.110	160	110	288	184	
AP.RJ.87.200.160	200	160	293	186	
AP.RJ.87.250.200	250	200	349	226	
AP.RJ.87.315.250	315	250	411	248	

#### Double Junction 45°

Material: 316 stainless steel, mill finish. Ring Seal: EPDM x3 fitted.



#### **Double Junction 87.5°**

Material: 316 stainless steel, mill finish. Ring Seal: EPDM x3 fitted.



Product No	D1	BR	X1	X2	X3		
AP.DJ.45.050	50	50	128	57	76		
AP.DJ.45.075	75	75	179	74	110		
AP.DJ.45.110	110	110	233	88	149		
AP.DJ.45.160	160	160	332	184	222		
AP.DRJ.45.075.050	75	50	144	56	94		
AP.DRJ.45.110.050	110	50	147	42	119		
AP.DRJ.45.110.075	110	75	182	60	135		
AP.DRJ.45.160.110	160	110	332	119	190		

Product No	D1	BR	X1	X2
AP.DRJ.87.075.050	75	50	139	90
AP.DRJ.87.110.050	110	50	183	117
AP.DRJ.87.110.075	110	75	183	117
AP.DRJ.87.160.110	160	110	288	184

Increaser Eccentric Socket - Spigot 

Material: 316 stainless steel, mill finish. Ring Seal: EPDM x1 fitted (D1).



Product No	D1 —	> D2	X1	X2	
AP.IE.050.075	50	75	75	7	
AP.IE.050.110	50	110	110	25	
AP.IE.075.110	75	110	110	15	
AP.IE.110.160	110	160	160	22	
AP.IE.160.200	160	200			
AP.IE.200.250	200	250	180	15	
AP.IE.250.315	250	315	190	15	

#### **Expansion Socket** Socket - Spigot

Material: 316 stainless steel, mill finish. Ring Seal: EPDM x1 fitted.



Although each socket is designed to allow some linear expansion & contraction, for greater movement dimensions are available on request. Installing? Ensure the minimum insertion distance is marked on the incoming spigot prior to inserting.

X1

121

170

×

D1

Т

Μ

74

110

#### **Clearout** (IP Cover)

D1

Material: 316 stainless steel, polished top finish. Lid seal: Neoprene gasket.

Polished 316 stainless steel top finish. Allen head screws fitted standard. Security screws are available on request.

 $\mathbf{\Sigma}$ 



Product No	D1	D2	X1	
AP.CO.110	110	128	90	
AP.CO.160	160	180	100	

#### Vent Cowl

Material: 316 stainless steel, mill finish.



Product No	D1	X1	Slot	
AP.VC.050	50	90	5x60	
AP.VC.075	75	120	5x60	
AP.VC.110	110	83	11x50	
AP.VC.160	160	127	10x60	

### Straight Coupling Socket - Socket

Material: 316 stainless steel, mill finish. Ring Seal: EPDM x2 fitted.

Straight coupling has centre stopper. Recommended vertical use only (to prevent debris catching on the outward lip).



Product No	D1	X1		
AP.SC.050	50	15		
AP.SC.075	75	25		
AP.SC.110	110	25		
AP.SC.160	160	25		
AP.SC.200	200			
AP.SC.250	250			
AP.SC.315	315			





Designed with no centre

coupling can slide entirely

over pipe for new fittings

to be added and then slid

stopper so the repair

Product No	D1	L	
AP.RC.050	50	89	
AP.RC.075	75	96	
AP.RC.110	110	102	
AP.RC.160	160	131	
AP.RC.200	200		
AP.RC.250	250		
AP.RC.315	315		

back over the join. Mark min insertion depth on both spigots to ensure adequate insertion.

#### Access Pipe Socket - Spigot

Material: 316 stainless steel, mill finish. Ring Seals: EPDM x1 fitted, EPDM gasket x1.





elevation

elevation

Product No	D1	X1	X2	I/O	
AP.IP.075	75	139	90	75	
AP.IP.110	110	183	117	110	
AP.IP.160	160	288	184	160	
AP.IP.200	200	293	186	200	

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See technical section for more information.

Working Pressures (bar)

#### Socket Joint Clamp

Material: 316 stainless steel, mill finish.





'Tiger' version of clamp shown. Smooth version also available on request.

Socket Clamps are only needed where possible pressures or force on a join could dislodge the spigot from the socket.

Joins without a clamp are rated up to positive 0.5 bar pressure. Fitting a clamp will increase this rating as listed.

#### Installing?

Fit the Socket Clamp over the bump of the socket (as shown dashed above) noting the correct direction ... Small lip edge (fit over the socket),

- Large lip edge (fit over the spigot)

Pipe length shown for clarity, not included.

Product No	D1	Without Clamp	With Clamp
AP.SCL.050	50	-0.8 to 0.5	-0.8 to 2.0
AP.SCL.075	75	-0.8 to 0.5	-0.8 to 2.0
AP.SCL.110	110	-0.8 to 0.5	-0.8 to 2.0
AP.SCL.160	160	-0.8 to 0.5	-0.8 to 1.0
AP.SCL.200	200	-0.8 to 0.5	-0.8 to 1.0
AP.SCL.250	250	-0.8 to 0.5	-0.8 to 1.0
AP.SCL.315	315	-0.8 to 0.5	-0.8 to 1.0
			41 40010

1bar = 100kPa



 Leave the ring seal in the pipe socket. Fully insert the plug into

the socket bump, as shown

Tighten nuts x4 to secure

Pipe length shown for clarity,

F

AP.AFS.160

the pipe socket. Position the clamp behind

dashed.

not included.

Product No

AP.SPC.050

AP.SPC.075

AP.SPC.110

AP.SPC.160

AP.SPC.200

AP.SPC.250

AP.SPC.315

Material: 316 stainless steel, mill finish.



#### **Adaptor Flange - Socket**

Material: 316 stainless steel, mill finish. Ring Seal: EPDM x1 fitted. ୍ଚିତ୍ର <- Flow Т 5 AP.AFS.110 elevation X1 D2

#### **Adaptor Flange - Spigot**

Material: 316 stainless steel, mill finish.



Other flange types and diameters on request.

We manufacture Adaptor Flanges to suit the flange type and pipe length you require.

Product No	D1	Table	X1	Tmin	D2	PCD	D3 x qty
AP.AFS.050	50	E	140	10	150	114	18Ø x4
AP.AFS.075	75	Е	140	11	185	146	18Ø x4
AP.AFS.110	110	E	140	13	215	178	18Ø x8

D1

50

75

110

160

200

250

315

240 280 235 22Ø x8 Confirm flange type at time of ordering. Flange table dimensions are in accordance with AS 2129.

160

F.

We manufacture Adaptor Flanges to suit the flange type and pipe length you require.

Product No	D1	Table	X1	Tmin	D2	PCD	D3 x qty
AP.AF.050	50	E	140	10	150	114	18Ø x4
AP.AF.075	75	E	140	11	185	146	18Ø x4
AP.AF.110	110	E	140	13	215	178	18Ø x8
AP.AF.160	160	E	240	17	280	235	22Ø x8

Confirm flange type at time of ordering. Flange table dimensions are in accordance with AS 2129.

Other flange types and diameters on request.



#### Stainless Steel Rubber Lined Brackets

Material: 316 stainless steel, mill finish. EPDM rubber lining.





Installing? Do not fit the bracket to the socket part of the stainless pipe.

Product No	Image	<b>D</b> 1	X1	Thk	
316.PC.050	D	50	45	1.5	
316.PC.075	D	75	58	1.5	
316.PC.108	D	110	75	1.5	
316.PC.160	D	160	100	1.5	
316.PC.200	D	200	120	1.5	
316.PC.250	D	250	145	1.5	
316.PC.315	D	315	178	1.5	

Cover Flange (Escutcheon Plate)
 Material: 316 stainless steel, spun finish.





Product No	D1	D2	X1
AP.CF.050	50	160	51
AP.CF.075	75	185	51
AP.CF.110	110	221	51
AP.CF.160	160	270	51
			Pipe length shown for clarity, not included.

 Vermin Flap Socket - Outlet Material: 316 stainless steel, satin finish. Ring Seal: EPDM x1 fitted.



Swinging door prevents the ingress of vermin.

Installing? Install horizontally with the hinge tab at the top.

Product No	D1	X1
AP.VFS.050	50	75
AP.VFS.075	75	100
AP.VFS.110	110	135
AP.VFS.160	160	185

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В

С

WMT-5-BACK

TUN.INWL.AUS

38

1.1/2"

135

71

100

128

80

25

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79

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189

120

150

### Joining Drainage To & From Other Materials

Confirm the materials are compatible with stainless steel and the rubber ring seal is lubricated (not with oil). **Remember to observe the flow rule when installing.** All items sold separately. Confirm with manufacturer suitability of non-AusPress products.

This is a guide only! Read with the technical section and contact us for more information.



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## Tech Data Sheet: AusPress Stainless Drainage





	AusPress Stainless Drainage Push-Fit Pipe & Fittings	AusPress Stainless Floor Gully Floor Waste Gully System	AusPress Stainless Channels Linear Trench Drainage
Product Description:	A push together pipe and fitting system installed easily and quickly with the socket ends pre-fitted with a rubber ring seal.	A drain bowl system designed specifically for hygiene sensitive areas with interchangeable components to suit the application.	Linear drainage trough manufactured in Australia to your project requirements with high hygiene, flow and load ratings.
	Where hygiene and high performa processing with the benefits of our care, medical & hospital, defence	ance is critical. Traditionally stainless i systems now extending to pharmace e, corrections, education facilities, hea	is used in food (meat) & beverage utical, laboratories, laundry & aged avy industrial and mining sectors.
Applications:	<ul> <li>Trade waste &amp; sewer.</li> <li>Contaminated wastes (eg PC3).</li> <li>Fuels &amp; oils.</li> <li>Chemical lines.</li> <li>Stormwater &amp; downpipes.</li> <li>Rising main, vacuum &amp; siphonic.</li> </ul>	<ul> <li>Equipment washdown areas.</li> <li>Chiller &amp; freezer rooms.</li> <li>Truck and loading bay areas.</li> <li>High flow water processing.</li> <li>Bowl tops for concrete. tiled. epoxy of vinyl sheet floors.</li> </ul>	<ul> <li>Equipment washdown areas.</li> <li>Chiller &amp; freezer rooms.</li> <li>Pharmaceutical laboratories.</li> <li>Commercial kitchen &amp; deli areas.</li> <li>Truck and loading bay areas.</li> <li>High flow water processing.</li> </ul>
Key Features:	<ul> <li>High temperature suitable.</li> <li>Lightweight for suspended or in-ground installation.</li> <li>Double lip ring seal standard.</li> <li>Stocked in Australia.</li> <li>Fire resistant design.</li> <li>Chemical resistant<sup>‡</sup>.</li> <li>Adapts to other systems.</li> <li>Full range of fittings available.</li> </ul>	<ul> <li>One-piece hygienic design.</li> <li>Self-draining internal surfaces.</li> <li>High load rated hygienic edging.</li> <li>Extra deep filter basket option.</li> <li>High load rated grates.</li> <li>Connects to common drainage materials incl HDPE &amp; KG2000.</li> <li>Stocked in Australia.</li> <li>Removable water seal option.</li> </ul>	<ul> <li>Hygienic and strong epoxy edge infill standard.</li> <li>Fall to outlet standard.</li> <li>No lap single piece design.</li> <li>Extra deep filter basket option.</li> <li>High load rated grates.</li> <li>Levelling angles standard.</li> <li>Connects to common drainage materials incl HDPE &amp; KG2000.</li> </ul>
Standard Sizes:	Diameter ODWall50mm1.0mm75mm1.0mm110mm1.0mm160mm1.25mm200mm1.5mm250mm1.5mm315mm2.0mmPipe lengths supplied in pre-cutM-F lengths, from 150mm to 6m.	<ul> <li>Drain bowl tops available in square or round tops, polished.</li> <li>200, 300 or XL 400 and 600 sizes,</li> <li>For concrete, tiled, epoxy and vinyl sheet flooring.</li> <li>Standard or low height models.</li> <li>Outlets: Vertical or horizontal, 110 or 160mm.</li> <li>Inlets: Available on request.</li> </ul>	<ul> <li>Hygiene focus channel types include HygieneMAX, Vee, Slot and Half-Round.</li> <li>Width: Standard 150, 200, 300, 400mm.</li> <li>Lengths: Any, made to project requirement. Over 6m supplied in sections with gasket sealed bolted joins.</li> <li>Outlets: 1 or multiple, vertical or horizontal, 110 or 160mm OD.</li> </ul>
Material Specs: <sup>‡</sup> Contact us for suitability assessment.	<ul> <li>Stainless steel, grade 316L.</li> <li>Mill finish standard, other finishes available on request.</li> <li>Chemically pickled and passivated standard.</li> <li>Longitudinally TIG welded.</li> <li>Low thermal expansion.</li> <li>Ring seal pre-fitted socket end.</li> </ul> Ring Seal Options: <ul> <li>EPDM (black) standard.</li> <li>FPM (green) on request.</li> </ul>	<ul> <li>Stainless steel, grade 316L.</li> <li>Chemically pickled and passivated standard.</li> <li>TIG welded.</li> <li>Epoxy edge infill (square tops).</li> <li>Removable Components:</li> <li>Grate – various designs for flow and load ratings.</li> <li>Filter Basket (3mm mesh).</li> <li>Removable Foul Air Trap (FAT) (WM compliant).</li> </ul>	<ul> <li>Stainless steel, 316 or 304.</li> <li>Polished top surface.</li> <li>Epoxy edge infill (option).</li> <li>FKM gasket flange join where channels greater 6.0m in length.</li> <li>Removable Components:</li> <li>Grate – various designs for flow and load ratings.</li> <li>Filter Basket (3mm mesh).</li> <li>Removable Foul Air Trap (FAT) (WM compliant).</li> </ul>
System Standards & Approvals:	AusPress operates to an externally a HACCP Certification for all AusPress WaterMark Approved for stainless pi	audited ISO 9001 & ISO 45001 system s Stainless Drainage products items to pes and fittings, and floor drain gullies	n. o zone class "SSZ". s, and channel components.
Country of Manufacture:	Czech Republic & Australia. Australian content includes manufacturing of channel bases, channel & floor gull components and custom manufactured items.		
Warranty & Lifecycle	25 year product guarantee, 50+ year design life. Manufacturer plus Australia based technical support. Refer to our Tech Note TN.16 for more information. Stainless is a closed loop material; recycle and reuse.		

AusPress developed hygiene & high flow drainage systems in partnership with ACO for Australian conditions.







# FLOOR GULLY



Load

Ratings

## **Hygienic** Performance

Partnering

with ACO

AusPress<sup>®</sup> Drainage

Self-draining internal design to prevent stagnant water pooling. Concrete, tiled, epoxy and vinyl sheet floor type suitable.

Epoxy edge lip infill for strength and hygiene.

HACCP & EHEDG approved.

Removable internal components for easier cleaning.

## **Experience** Counts

We were the first to supply stainless drainage in Australia and New Zealand.

We work with consultants and installers on specialised complex projects regularly.

In-house design staff with local fabrication available for project requirements.

### **Quality** to Install

Square, round and vinyl lock top designs available & stocked.

Temp

Suitable

Approved to WaterMark, Australian and international standards.

Easy adjust support legs standard with stabilising feet.

Designed specifically for hygiene and easy cleaning.

## **Reliable** Design

With the strength and chemical resistance qualities of stainless steel. Range of grate options for pedestrian, forklift and truck load requirements.

## **Environmental** Choice

Long service life. Closed loop material (completely recycled to make more stainless).

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Hygienic

Design

**FLOOR GULLY** 









Installed with



Installed with

#### Product No Ref Item Notes G Grate See 'G2.SQ' grate options page AD36. FB Filter Basket (Standard) AD.FB2.075.03 3mm aperture FBX Filter Basket (Extended) AD.FB2.200.03 3mm aperture SB Silt Basket (Solid Bottom) AD.SB2.200.03 3mm aperture FAT Removable Foul Air Trap (FAT) WM AD.FAT2.KIT Flow Rate<sup>‡</sup>: 3.5 L/sec SS Secondary Strainer Kit AD.SSK.110.03 3mm aperture DB Drain Bowl AD.DB2.SQS.110V PT P-Trap <sup>™</sup> AP.PT.110 Flow Rate<sup>‡</sup>: 3.4-10.4 L/sec

<sup>+</sup> Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further. <sup>WM</sup> Item approved as part of a WaterMark approved assembly.





Ref	Item	Product No	Notes
G	Grate	See 'G2.SQ' grate options	page AD36.
FB	Filter Basket (Standard)	AD.FB2.075.03	3mm aperture
SS	Secondary Strainer Kit	AD.SSK.110.03	3mm aperture
DB	Drain Bowl	AD.DB2.SQL.110V	
PT	P-Trap WM	AP.PT.110	Flow Rate <sup>‡</sup> : 3.4-10.4 L/sec

<sup>±</sup> Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further. Item approved as part of a WaterMark approved assembly.

Design



<sup>+</sup> Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further. <sup>WM</sup> Item approved as part of a WaterMark approved assembly.



 PT
 P-Trap
 M
 AP.PT.110
 Flow Rate\*: 3.4-10.4 L/sec

 \* Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further.
 \* Milem approved as part of a WaterMark approved assembly.

PT





Ref	Item	Product No	Notes
G	Grate	See 'G3.SQ' grate	options page AD36.
FB	Filter Basket (Standard)	AD.FB3.075.03	3mm aperture
FBX	Filter Basket (Extended)	AD.FB3.200.03	3mm aperture
SB	Silt Basket (Solid Bottom)	AD.SB3.200.03	3mm aperture
FAT	Removable Foul Air Trap (FAT) WM	AD.FAT3.KIT	Flow Rate <sup>‡</sup> : 4.6 L/sec
SS	Secondary Strainer Kit	AD.SSK.110.03	3mm aperture
DB	Drain Bowl WM	AD.DB3.SQS.110	V
PT	P-Trap <sup>™</sup>	AP.PT.110	Flow Rate <sup>‡</sup> : 3.4-10.4 L/sec
‡ Max	rate based on a continuous flow of water in	clean conditions. Access	ories may reduce flow further.



Installed with

Installed with

Height

FB

FAT

DB



AD.DB3.SQS.160V

Flow Rate<sup>‡</sup>: 7.5-28.5 L/sec

AP.PT.160

<sup>+</sup> Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further. <sup>WM</sup> Item approved as part of a WaterMark approved assembly.



<sup>WM</sup> Item approved as part of a WaterMark approved assembly.



Drain Bowl

P-Trap W

DB

PT





<sup>+</sup> Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further. <sup>WM</sup> Item approved as part of a WaterMark approved assembly.



Top: Round top for concrete or epoxy floor finishes.







<sup>+</sup> Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further. <sup>WM</sup> Item approved as part of a WaterMark approved assembly.



Ref	Item	Product No	Notes
G	Grate	See 'G3.SQ' grate options	s page AD36.
FB	Filter Basket (Standard)	AD.FB3.075.03	3mm aperture
FBX	Filter Basket (Extended)	AD.FB3.200.03	3mm aperture
SB	Silt Basket (Solid Bottom)	AD.SB3.200.03	3mm aperture
FAT	Removable Trap (FAT) 🖤	AD.FAT3.KIT	Flow Rate <sup>‡</sup> : 4.6 L/sec
SS	Secondary Strainer Kit	AD.SSK.110.03	3mm aperture
DB	Drain Bowl <sup>WM</sup>	AD.DB3.RDS.110V	
PT	P-Trap <sup>wm</sup>	AP.PT.110	Flow Rate <sup>‡</sup> : 3.4-10.4 L/sec
†		and a stand and the second state of the second	

<sup>+</sup> Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further. <sup>WM</sup> Item approved as part of a WaterMark approved assembly.



High Volume

Option

DB

524

Δ



<sup>‡</sup> Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further.

#### Drain Bowl 600 Square, Standard Height, 200-V Outlet 600 Material: 316L stainless steel body. **(**]

Top: Square top for concrete, tiled or epoxy floor finishes.

Ref	Item	Product No	Notes	
G	Ladder Grate (568x284mm)	AD.G6.SQ.L12*	2x required per Drain Bowl.	
DB	Drain Bowl	AD.DB6.SQS.200V*	Flow Rate <sup>*</sup> : ~60.0 L/sec	
	<sup>‡</sup> Max rate based on a continuous flow of water in clean conditions. Accessories may reduce flow further.			



### G2.SQ Grate Options

168x168mm for 200 Square Top Drain Bowls

Style	Product Number	Class	Ultimate Load
L	AD. <b>G2</b> .SQ. <b>L12</b>	В	4250 <sup>‡</sup>
М	AD. <b>G2</b> .SQ. <b>M</b>	-	1500*
С	AD. <b>G2</b> .SQ. <b>C</b>	В	3600 <sup>‡</sup>
S	AD. <b>G2</b> .SQ. <b>S</b>	-	5000*
W	AD. <b>G2</b> .SQ. <b>W</b>	-	1500*
GTS	AD. <b>G2</b> .SQ. <b>GTS</b>	-	5000*
GTP	AD.G2.SQ.GTP	-	5000*

300

### G3.SQ Grate Options

268x268mm for 300 Square Top Drain Bowls

Style	Product Number	Class	Ultimate Load
L	AD. <b>G3</b> .SQ. <b>L12</b>	В	8000 <sup>‡</sup>
М	AD. <b>G3</b> .SQ. <b>M</b>	-	1500*
С	AD. <b>G3</b> .SQ. <b>C</b>	В	8150 <sup>‡</sup>
S	AD. <b>G3</b> .SQ. <b>S</b>	-	5000*
W	AD. <b>G3</b> .SQ. <b>W</b>	-	1500*
GTS	AD. <b>G3</b> .SQ. <b>GTS</b>	-	5000*
GTP	AD. <b>G3</b> .SQ. <b>GTP</b>	-	5000*



#### G4.SQ Grate Options

XL	368x368mm for 400	) Square Top	o Drain Bowls
Style	Product Number	Class	Ultimate Load
L	AD. <b>G4</b> .SQ. <b>L12</b>	-	5000*
М	AD. <b>G4</b> .SQ. <b>M</b>	-	1500*

200 G2.RD Grate Options Ø170mm for 200 Round & Vinyl Lock Drain Bowls

Style	Product Number	Class	Ultimate Load
С	AD. <b>G2</b> .RD. <b>C</b>	С	5350 <sup>±</sup>
L	AD. <b>G2</b> .RD. <b>L12</b>	-	12500*
М	AD. <b>G2</b> .RD. <b>M</b>	-	1500*
S	AD. <b>G2</b> .RD. <b>S</b>	-	8000*
GTS	$AD.\textbf{G2}.RD.\textbf{GTS}^{\Omega}$	-	5000*
GTP	$AD.\textbf{G2}.RD.\textbf{GTP}^{\Omega}$	-	5000*
W	AD. <b>G2</b> .RD. <b>W</b>	-	1500*

 $^{\mbox{\tiny \Omega}}$  Item not suitable for vinyl lock drain types.

300

#### **G3.RD** Grate Options Ø268mm for 300 Round Drain Bowls

Style	Product Number	Class	Ultimate Load
С	AD. <b>G3</b> .RD. <b>C</b>	С	15050 <sup>‡</sup>
L	AD. <b>G3</b> .RD. <b>L12</b>	-	12500*
М	AD. <b>G3</b> .RD. <b>M</b>	В	8000 <sup>‡</sup>
S	AD. <b>G3</b> .RD. <b>S</b>	-	8000*
GTS	$AD.\textbf{G3}.RD.\textbf{GTS}^{\Omega}$	-	5000*
GTP	$AD.\textbf{G3}.RD.\textbf{GTP}^{\Omega}$	-	5000*
W	AD. <b>G3</b> .RD.W	-	1500*

<sup>‡</sup> Load ratings to AS3996-1029 testing in kilograms (kg). Lesser values for solid wheel and moving wheel loads. Slip ratings tested to EN13036. \*Indicative load shown. Contact AusPress for further details.



R10 SLIP RATING

Slot Grate Material: 316 stainless steel. Finish: Electropolished.



Secondary Strainer Option

Material: 316 st	ainless steel.								
			Str	ainer (Screw	/ Fixed)	Outlet O	D Aperture	Style	Product No
	)		Sec the	ured with 3x to Drain Bowl out	orx screws to tlet_Screw	110	3.2mm	SS1	AD. <b>SSK</b> .110.0
Ŭ _			Fixe	ed available on	request.	160	3.8mm	SS1	AD. <b>SSK</b> .160.0
	Two w into du	vays to fit rain ain Bowl	. (				Requirements Some Water Au Fixed' Seconda requirement. Ple Key to rem	of <b>for Trade</b> uthorities lis ry Strainers ease ask if y ove? Order	Waste: t 'Screw as a standard rou're unsure.
	Fixir	ng Ring	Str	ainer (Clip-Ir	n)	Outlet O	D Hole Dia	Style	Product No
`` (included v	ith screw fixe	ed type)	Wit	n 3x support le	gs, no fixing	110	3.8mm	SS2	AD. <b>SSC</b> .110.(
			ring	required (not	shown).	160	3.8mm	SS2	AD. <b>SSC</b> .160.(
A small vertical leng may be required. Ri length sold separate	th ser ely.	AP.P.01 AP.P.02	5.110 5.160	110 160	225 345		4		
A small vertical leng may be required. Ri length sold separate	th ser ely.	AP.P.01 AP.P.02	5.110 5.160	110 160	225 345		(4		
P-Trap Proc	luct No	D	1 X	1 X2	ХЗ	Flow Rate <sup>*</sup>	→ _		
AP.F	<b>Т</b> .110	11	0 13	32 300	254	3.4-10.4 L/se	ec ×		+
AP.F	РТ.160	16	0 19	0 403	347	7.5-28.5 L/se	ec		
	+ Max ra	ate based (	on a conti	nuous flow of v	water in clean cond	litions with 20m	nm head.	-	X2
Bend 45°	Socket	- Spig	ot			Cle	arout (IP C	over)	
Material: 316 stainless steel, mill finish. Ring Seal: EPDM x1 fitted.						Material: 316 stainless steel, polished top finish. Lid seal: Neoprene gasket.			
9X	X5	X1	D1	Double 45 ben arrangements for offset dimer only - each ber separately.	ld shown nsions nd sold	Polished 3 steel top f Allen head fitted stan Security s available o	316 stainless inish. d screws dard. crews are on request.	0 0	TX TX
Product No	D1	X1	X5	X6		Product	No C	01 D2	X1
AP.B.45.110	110	93	195	150		AP.CO.1	110 <b>1</b>	<b>10</b> 128	90
AP.B.45.160	160	131	269	200		AP.CO.1	160 <b>1</b>	<b>60</b> 180	100
Mini Filt	er Bask	et						-	

'Mini'

Filter Basket Suitable to selected 110mm spigot outlets.

Product No

AD.FB1.075.03

FB

A Retaining Chain can be fitted between the Filter Basket and the Drain Bowl to prevent the basket being left out of the Drain Bowl or discarded.

Correct
---------

Open %

42%

43%

Open %

36%

41%

5

х

D2 Î

D1

Length	Product No
700mm	AD. <b>RCK</b> .0700*

See technical section for more information.

Mesh

3mm

Hole

3.25Ø

When use the Mini

volume of 300mL, the

when solids are few in washdown water.

Mini Basket is used

Suits items with a

110mm spigot outlet.

With a collection

Basket?

# **Floor Gully Invert Chart**

Configurations show the minimum invert level (IL) for each drain bowl type, with P-Trap and 2x 45 Bend scenarios. Fitting dimensions used from the AusPress Stainless Drainage Range, other fitting types may vary.







# CHANNEL



AusPress Stainless Channels are designed to meet the demanding requirements of linear drainage for industrial & commercial environments.









Hygienic Design

### Performance Features

Load rated channel and grate designs to suit heavy loads such as forklifts.

Epoxy lip infill option to increase strength and prevent bacteria growth.

To improve flow and prevent stagnant water, fall to outlet is incorporated as standard.

Range of channel base designs to suit high flows, flows with solids, multiple outlets and floor types.

Designed specifically for hygiene: HACCP and EHEDG approved.

## **Experience** Counts

We've been working with consultants and installers on specialised solutions since 1992 with a focus on food processing, commercial and industrial projects across Australia and New Zealand.

### Quality to Install

Levelling angles and concrete tags fitted standard.

Supplied as single piece or when over 6m in length, as bolted segments with Viton gasket.

Spigot and Drain Bowl outlets are integrated into the channel body. Grate types to match the Floor Gully range.

## Reliable Design

Used by leading Australian food processors in demanding environments since 2002.

In-house design staff with custom fabrication for all project requirements. With the strength and chemical resistance qualities of stainless steel.

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Product numbers and detailed information for each accessory can be found listed further in this section of the catalogue.



CHANNEL



Product numbers and detailed information for each accessory can be found listed further in this section of the catalogue.





Product numbers and detailed information for each accessory can be found listed further in this section of the catalogue.

CHANNEL



Product numbers and detailed information for each accessory can be found listed further in this section of the catalogue.

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CHANNEL



Product numbers and detailed information for each accessory can be found listed further in this section of the catalogue.

**CHANNEL** 



Product numbers and detailed information for each accessory can be found listed further in this section of the catalogue.

CHANNEL



Product numbers and detailed information for each accessory can be found listed further in this section of the catalogue.

# Cast Stainless Grate

Material: 316 stainless steel, electopolished finish. Surface: Raised dimple pattern.

GW	Product No	W	L	Class	Ultimate Load
200	AC.G <b>C</b> .168.499	168	499	D	14480 <sup>‡</sup>
300	AC.G <b>C</b> .268.499	268	499	С	15050 <sup>‡</sup>
150	AC.G <b>C</b> .118.499	118	499	-	15000*

Material: 304 or 316 stainless steel, mill finish.

W

L

499 B

Ultimate Load

4800<sup>±</sup>

8150<sup>±</sup>

Class

No joins, single piece construction





# Mesh Grate

Ladder Grate

Surface: Half round notch.

**200** AC.GLM.168.499 168

300 AC.GLMX.268.499 268 499 B

**GW** Product No

Material: 304 stainless steel, electropolished finish. Surface: Half round notch.

GW	Product No	W	L	Class	Ultimate Load
200	AC.G <b>M</b> .168.499	168	499	-	1500*
300	AC.G <b>M</b> .268.499	268	499	-	1500*
400	AC.G <b>M</b> .368.398	368	398	-	1500*
500	AC.G <b>M</b> .468.499	468	499	-	1500*





#### Wedge Grate (Heel Safe) Material: 316 stainless steel, mill finish.

Surface: Raised dimple pattern.

GW	Product No	W	L	Class	Ultimate Load
200	AC.G <b>W</b> .168.499	168	499	-	1500*
300	AC.G <b>W</b> .268.499	268	499	-	1500 <sup>*</sup>

<sup>‡</sup> Load ratings to AS3996-1029 testing in kilograms (kg). Lesser values for solid wheel and moving wheel loads. Slip ratings tested to EN13036. \*Indicative load shown. Contact AusPress for further details.



Grate with a dimpled surface achieves a R12 slip rating across (transverse) & R11 with the bars (longitudinal).



# Load Rating Class

Tests are completed according to different standards depending on the grate type (ie floor gully grates are tested to different methods than a linear channel grate). Both Australian and European stardars are considered however, note the two standards do not align in actual weight values per class, as summaried below. Refer to the relevant standard for full details and limitations.

<b>Ultimate Limit:</b> Design Load: Wheel Load:	<b>10kN</b> 6.7kN 330kg		<b>80kN</b> 53kN 2,670kg		<b>150</b> 100 5,00	<b>DKN</b> DKN DOKg		<b>240kN</b> 160kN 8,000kg
AS 3996:2019	Α	В		С			D	
EN 1433:2002	Α		В			С		
<b>Ultimate Limit:</b> Design Load: Wheel Load:	<b>15kN</b> 10kN 330kg			<b>125</b> 83k 2,67	k <b>N</b> :N Okg			<b>250kN</b> 167kN 5,000kg

Note: Load rating standards include EN 1433:2002, EN 124:2015 & AS 3996:2019, depending on the type and application and region. Lesser values expected for solid and moving/turning wheel loads. Slip ratings tested to EN13036.

ENNAHO



<sup>‡</sup> Max rate based on a continuous flow of water in clean conditions with vertical outlet drain bowl.

AC 52

Open %

42%

43%

**~** • •

# Secondary Strainer Option

Material: 316 stainless steel.



-	Strainer (Screw Fixed)	Outlet OD	Aperture	Style	Product No	
Secured with 3x torx screws to the Drain Bowl outlet. Screw Fixed available on request.		110	3.2mm	SS1	AD. <b>SSK</b> .110.0	23
		160	3.8mm	SS1	AD. <b>SSK</b> .160.0	)3
	D1 SS1 SS2 D1 D1 D1 SS2 D1 D1 D1 SS2 SS2	Re Sc Fib red	equirements ome Water Aut (ed' Secondan quirement. Ple Key to remo	for Trade thorities lis: y Strainers ase ask if y ove? Order	Waste: t 'Screw as a standard rou're unsure.	]
	Strainer (Clip-In)	Outlet OD	Hole Dia	Style	Product No	
1						_

ng tung		Outlet OD	Hole Dia	Style	FIGURETING	Open %
eu type)	With 3x support legs, no fixing	110	3.8mm	SS2	AD. <b>SSC</b> .110.03	36%
	nng required (not snown).	160	3.8mm	SS2	AD. <b>SSC</b> .160.03	41%



# Bend 45° Socket - Spigot

Material: 316 stainless steel, mill finish. Ring Seal: EPDM x1 fitted.



	Developed Nie	<b>D</b> 4	V.	VE	Vo
	Product No	וט	XI	ζ	70
Double 45 bend	AP.B.45.110	110	93	195	150
arrangements shown	AP.B.45.160	160	131	269	200
for offset dimensions	AP.B.45.200*	200	152	308	228
separately.	AP.B.45.250*	250	177	362	273
	AP.B.45.315*	315	199	411	317

#### Mini Filter Basket

Material: 316 stainless steel.

#### When use the Mini Basket?

With a collection volume of 300mL, the Mini Basket is used when solids are few in washdown water.

Suits items with a 110mm spigot outlet.



Mesh

3mm

Hole Product No AD.FB1.075.03 3.25Ø







# TRADE WASTE & CIVIL







**Diameters** 10 to 630mm





High Temp Suitable

# Faster to Install

Push-together drainage systems offer superior installation times compared to welding, threading, grooving or glueing.

# **Quality** to Install

- Approved to WaterMark and International standards.
- Lightweight to handle, install and support on site.
- Superior temperature tolerance compared to uPVC or HDPE.

# **Experience** Counts

We've been working with consultants and installers on specialised solutions since 1992 with a focus on food processing, mining, commercial and industrial projects across Australia and New Zealand.

# Stronger Design

Engineered 'mineral modified' polypropylene (PP-MD) material to provide SN10 and SN16 class material strength.

Extremely strong pipe and fittings with increased wall thickness.

# **Reliable** Design

- 3-Lip Seal standard for fast installation and secure sealing.
- High abrasion resistant surface.
- Excellent chemical resistance.
- Suits a wide range of applications including sewer, storm water, trade waste and cable conduit.

# **Environmental** Choice

Long lifespan and service life. Closed loop material (may be completely recycled).

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# **Installation Guide**

Start to install drainage quicker... With the polypropylene pipe and fittings designed with a socket & spigot, joining is simply pushing the fittings together.

installation recommendations &





Check for suitability... Confirm the material and the ring seal (eg SBR) are suitable for the application and situation. Some chemicals and environments can be unsuitable, please ask us if unsure.

**Ring Seal Colours** 

SBR ring seals are supplied as standard unless ordered otherwise.

0.1		Temperature*			
Colour	Material	Min	Max		
Black	SBR	-20°C	90°C		
Black	NBR	-20°C	90°C		
* Maximum	continuous	temperati	ures.		

For ring seal suitability with chemicals and other oplications, please contact us for assessment.

Start here





# This guide is only for standard applications.

For specific or specialised applications please contact us first - www.auspress.com.au

# **Ordering** & Design

Drainage pipe is available in different lengths (from 500mm to 6m) so choose the length closest to what is needed to reduce offcut waste.

# **Cut** Pipe to Length

Cutting to length is easy using a suitable fine tooth hand saw or plastic pipe cutter;

- Cut the pipe square (wrap-around tape & mark) or,
- Use a cutting guide frame/box for assistance.

Pipes are supplied with a socket and a spigot end; cut off from the spigot end keeping the socket. Using offcut spigotspigot pipe pieces is not recommended. Note fittings are not to be cut.

# Bevel the Cut End

Each cut spigot requires the external edge to be bevelled to an angle of 15° to protect the ring seal and help to lead the pipe or fitting into the socket .:

- Use a bevelling tool or coarse file,
- Bevel the pipe to ~15° (refer table below).



# Inspect & Lubricate the Ring Seal

In the socket, check that the ring seal is:

- The correct material specified and,
- With the mitred edge facing inwards and,
- Not damaged and is free of debris.

Apply a small amount of joining lubricant to the ring seal inside the socket. We stock a silicon based lubricant.

Do not use oil or grease as a lubricant, this may damage the ring seal material.

# Push, Twist & Pull

Using a slight twisting movement, push the spigot fully into the socket. Mark the full insertion depth with a texta on the spigot end of the pipe/fitting. Then, retract 10-12mm from the socket to allow for expansion & contraction to occur within each socket.

# Limited UV Resistance

Due to it's composition of materials, colourants and UV protective agents, KG2000 can be stored outdoors for 2 years post production without affecting the physical properties of the pipe. Fading of the pipe components due to outdoor storage does not affect the mechanical properties of pipes and fittings.





Each length of polypropylene drainage pipe is supplied with a socket (fitted with an SBR rubber ring seal) and tapered spigot end.

Available in two load classes, SN10 and SN16, the pipe is ordered in various lengths to reduce offcut wastage on site.

#### The system is directional; the water flow must travel from socket to spigot.

Confirm the material and ring sea are suitable for your application!



				10			
	Insertion Depth		SN rati	ng	SN rati	1 <b>0</b> ng	
D1	i	В	t	D2	t	D2	
110	78 - 68	6	3.4	129	4.2	131	
160	100 - 90	7	4.9	187	6.2	190	
200	120 - 110	9	6.2	236	7.7	239	
250	143 - 133	9	7.7	288	9.6	292	
315	150 - 140	12	9.7	359	12.1	364	
400	195 - 185	15	12.3	455	15.3	461	
500	170 - 160	18	15.3	565	19.1	573	
630			19.3		24.1		
	Retract 10mm after pushing together for expansion &						

#### B = Bevel

After cutting square, bevel the spigot end of the pipe with an appropriate tool, forming a bevel  $\sim 15^{\circ}$ .

contraction.



500

630

630

630

6m

1m

3m

6m

SN10

**SN10** 

**SN10** 

**SN10** 

205.7

1,244.0



Product No	L	D1	Load Class	Weig Dry	ht (kg) Wet <sup>‡</sup>
KG. <b>P16</b> .1000.110	1m	110	SN16	1.8	9.9
KG. <b>P16</b> .3000.110	3m	110	SN16	4.9	29.2
KG. <b>P16</b> .6000.110	6m	110	SN16	9.8	58.4
KG. <b>P16</b> .1000.160	1m	160	SN16	3.7	20.8
KG. <b>P16</b> .3000.160	3m	160	SN16	9.7	61.0
KG. <b>P16</b> .6000.160	6m	160	SN16	19.4	122.1
KG. <b>P16</b> .1000.200	1m	200	SN16	5.9	32.7
KG. <b>P16</b> .3000.200	3m	200	SN16	16.5	96.8
KG. <b>P16</b> .6000.200	6m	200	SN16	33.0	193.6
KG. <b>P16</b> .1000.250	1m	250	SN16	9.3	51.2
KG. <b>P16</b> .3000.250	3m	250	SN16	25.0	150.5
KG. <b>P16</b> .6000.250	6m	250	SN16	48.7	299.7
KG. <b>P16</b> .1000.315	1m	315	SN16	15.2	81.6
KG. <b>P16</b> .3000.315	3m	315	SN16	39.8	239.0
KG. <b>P16</b> .6000.315	6m	315	SN16	76.7	475.2
KG. <b>P16</b> .1000.400	1m	400	SN16	26.8	134.0
KG. <b>P16</b> .3000.400	3m	400	SN16	67.2	388.7
KG. <b>P16</b> .6000.400	6m	400	SN16	126.3	769.3
KG. <b>P16</b> .1000.500	1m	500	SN16	44.7	212.2
KG. <b>P16</b> .3000.500	3m	500	SN16	110.2	612.7
KG. <b>P16</b> .6000.500	6m	500	SN16	205.7	1,210.6
KG. <b>P16</b> .1000.630	1m	630	SN16		
KG. <b>P16</b> .3000.630	3m	630	SN16		
KG. <b>P16</b> .6000.630	6m	630	SN16		

KG.P10.6000.500

KG.P10.1000.630

KG.P10.3000.630

KG.P10.6000.630







Double bend arrangements shown for offset dimensions only - each bend sold separately.

Product No	D1	X1	X2	ХЗ	X4	X5	X6
KG. <b>B.45</b> .110	110	94	29	217	94	188	123
KG. <b>B.45</b> .160	160	144	45	330	141	285	186
KG. <b>B.45</b> .200	200	189	57	427	181	370	238
KG. <b>B.45</b> .250	250	199	77	478	202	401	279
KG. <b>B.45</b> .315	315	233	98	572	241	474	339
KG. <b>B.45</b> .400	400	283	120	695	292	575	412
KG. <b>B.45</b> .500	500	334	254	1,011	423	757	677
KG. <b>B.45</b> .630	630						

#### Bend 30° Socket - Spigot Material: Polypropylene (PP-MD). Ring Seal: SBR x1 fitted.



Double bend arrangements shown for offset dimensions only - each bend sold separately.

Product No	D1	X1	X2	ХЗ	X4	
KG. <b>B.30</b> .110	110	95	23	229	64	
KG. <b>B.30</b> .160	160	125	34	305	85	
KG. <b>B.30</b> .200	200	162	46	397	109	
KG. <b>B.30</b> .250	250	297	217	968	262	

Bend 15° Socket - Spigot





Double bend arrangements shown for offset dimensions only - each bend sold separately.

Lubricant



Product No	Description
AP.Lube.250	Lubricant jointing paste 250mL
AP.Lube.500	Lubricant jointing paste 500mL
AP.Lube.1000	Lubricant jointing paste 1000mL

# ■ Single Junction 45°

Material: Polypropylene (PP-MD). Ring Seal: SBR x2 fitted.



Product No	<b>D</b> 1	BR	X1	X2	ХЗ		
KG. <b>J.45</b> .110	110	110	228	94	134		
KG. <b>J.45</b> .160	160	160	320	125	195		
KG. <b>J.45</b> .200	200	200	433	189	244		
KG. <b>J.45</b> .250	250	250	500	189	311		
KG. <b>J.45</b> .315	315	315	617	224	393		
KG. <b>J.45</b> .400	400	400	914	231	683		
KG. <b>RJ.45</b> .160.110	160	110	250	88	168		
KG. <b>RJ.45</b> .200.160	200	160	380	162	221		
KG. <b>RJ.45</b> .250.160	250	160	500	189	258		
KG. <b>RJ.45</b> .315.160	315	160	442	192	301		
KG. <b>RJ.45</b> .315.200	315	200	617	224	325		
KG. <b>RJ.45</b> .400.160	400	160	544	18	394		
KG. <b>RJ.45</b> .400.200	400	200	601	46	417		
KG. <b>RJ.45</b> .400.315	400	315					
KG. <b>RJ.45</b> .500.160	500	160	610	80	490		
KG. <b>RJ.45</b> .500.315	500	315					
KG. <b>RJ.45</b> .630.160	630	160					
KG. <b>RJ.45</b> .630.200	630	200					



#### Double Socket with Centre Stopper Material: Polypropylene (PP-MD). Ring Seal: SBR x2 fitted.



Product No	D1	L	
KG. <b>DS</b> .110	110	141	
KG. <b>DS</b> .160	160	185	
KG. <b>DS</b> .200	200	239	
KG. <b>DS</b> .250	250	275	
KG. <b>DS</b> .315	315	299	
KG. <b>DS</b> .400	400	345	
KG. <b>DS</b> .500	500	407	
KG. <b>DS</b> .630	630	407	

Increaser Eccentric Socket > Spigot

Material: Polypropylene (PP-MD). Ring Seal: SBR x1 fitted (D1).



Product No	D1 –	> D2	X1	X2	
KG. <b>IE</b> .160.110	110	160	135	25	
KG. <b>IE</b> .200.160	160	200	175	20	
KG. <b>IE</b> .250.200	250	200	181	25	
KG. <b>IE</b> .315.250	250	315	215	33	
KG. <b>IE</b> .400.315	315	400	271	43	
KG.IE.500.400	400	500	312	50	
KG. <b>IE</b> .630.500	500	630			

Repair Coupling Socket - Socket Material: Polypropylene (PP-MD). Ring Seal: SBR x2 fitted.



Designed with no centre stopper so the repair coupling can slide entirely over pipe for new fittings to be added and then slid back over the join.

Mark min insertion depth on both spigots to ensure adequate insertion.

Product No	D1	L	<i>i</i> (min)	
KG. <b>RC</b> .110	110	141	68	
KG. <b>RC</b> .160	160	185	90	
KG. <b>RC</b> .200	200	239	110	
KG. <b>RC</b> .250	250	275	133	
KG. <b>RC</b> .315	315	299	140	
KG. <b>RC</b> .400	400	345	185	
KG. <b>RC</b> .500	500	394	160	
KG. <b>RC</b> .630	630	394	160	

AusPress<sup>®</sup> Drainage



#### **Inspection Pipe**

Material: Polypropylene (PP-MD). Ring Seal: SBR x1 fitted.



D1

110

160

200

X1

308

380

410

Х2

200

225



Product No	D1
KG. <b>PG</b> .110	110
KG. <b>PG</b> .160	160
KG. <b>PG</b> .200	200
KG. <b>PG</b> .250	250
KG. <b>PG</b> .315	315
KG. <b>PG</b> .400	400
KG. <b>PG</b> .500	500
KG. <b>PG</b> .630	630

Pro

KG.

KG.

KG.

Diar

Socket Clamp Material: Metal n Ζ D1

KG.**PT**.110

KG.PT.160

		Working Pressures (bar)		
duct No	D1	In Ground	Clamped Joint*	
<b>SCL</b> .110	110	-0.3 to 3.0	-0.3 to 3.8	
<b>SCL</b> .160	160	-0.3 to 3.0	-0.3 to 3.6	
<b>SCL</b> .200	200	-0.3 to 3.0	-0.3 to 1.9	
neters <b>250</b> to	o <b>500</b> :	-0.3 to 3.0	N/A	

Product No

KG.IP.110

KG.IP.160

KG.IP.200

\* Above ground on grade and bracketed suitably to prevent movement.

Socket Clamps are needed where possible pressures or force on a join could dislodge the spigot or cap from the socket.

Vacuum? We recommend joint clamps are used for vacuum applications.

#### Installing?

Fit the Socket Clamp over the bump of the socket (as shown dashed above) noting the correct direction ...

- Small lip edge (fit over the socket), - Large lip edge (fit over the spigot).

133

Pipe length shown for clarity, not included.

1 bar = 100 kPa = 14.5 psi



 $x_1 
ightarrow x_2$ Х3 - Lubricate the Outlet spigot 175 380 235 Add 45° Bend Observe the flow rule 200 490 355 (arrow direction).

# **Adaptor: Cast Iron**

#### Material: Polypropylene (PP-MD)



KG. <b>CI</b> .110	124	110

Installing?

- Instaining?
   Lubricate the Cast Iron spigot.
   Fully insert into the PP-MD fitting socket.
   Bracket/Support suitably to prevent separation.
   Observe the flow rule (arrow direction).

- Observe the flow rule (arrow direction).



- Observe the flow rule (arrow direction).

AusPress Systems Pty Ltd

KG2000 slotted and perforated pipes are designed with either small slots or holes to allow water to exit or enter easily. KG2000 slotted or perforated pipes are designed for the economic removal of excess ground water in areas such as pastures, crop lands, orchids, sports fields, roads, land fill and general construction works. Available in various levels of water entry and exit, through many years of professional engineering and product development, KG2000 pipes retain their SN16 rating.

# **KG2000-Perforated Pipe**

Perforated (basic pipe KG2000 SN 10).



Product No	Description	Unit/Pallet	Bundle Size
KG. <b>PP10</b> .5000.110	DN/OD 110 x 5000 mm	80	Pallet
KG. <b>PP10</b> .5000.125	DN/OD 125 x 5000 mm	54	Pallet
KG. <b>PP10</b> .5000.160	DN/OD 160 x 5000 mm	35	Pallet
KG. <b>PP10</b> .5000.200	DN/OD 200 x 5000 mm	25	Pallet

#### Product information for KG2000 perforated in DN/OD 110 - DN/OD 200

Version	Hole lines	Bore diameter (mm)	Drill hole spacing per row (mm)	Number of holes / m	Water entry area (cm²/m)
Multipurpose pipe	4	Ø 12	240	18	20,3

Multipurpose pipe = the water inlet openings are arranged equally over a range of  $\leq 120^{\circ}$  at the pipe apex.

# KG2000-Slotted Pipe

Slotted (basic pipe KG2000 SN 10)



Example of partial seepage pipe slotted







Product No	Description	Unit/ Pallet
KG. <b>PSM</b> .6000.110.166	EM Multi-purpose pipe slotted DN/OD 110 x 6000 mm (Water entry area 166 cm <sup>2</sup> /m)	80
KG. <b>PSM</b> .6000.110.110	EM Multi-purpose pipe slotted DN/OD 110 x 6000 mm (Water entry area 110 cm <sup>2</sup> /m)	80
KG. <b>PSM</b> .6000.160.166	EM Multi-purpose pipe slotted DN/OD 160 x 6000 mm (Water entry area 166 cm <sup>2</sup> /m)	35
KG. <b>PSM</b> .6000.160.110	EM Multi-purpose pipe slotted DN/OD 160 x 6000 mm (Water entry area 110 cm <sup>2</sup> /m)	35
KG. <b>PSP</b> .3000.110	EM Partial seepage pipe slotted DN/OD 110 x 3000 mm (Water entry area 165 cm <sup>2</sup> /m)	80
KG. <b>PSP</b> .6000.110	EM Partial seepage pipe slotted DN/OD 110 x 6000 mm (Water entry area 165 cm <sup>2</sup> /m)	80
KG. <b>PSP</b> .3000.160	EM Partial seepage pipe slotted DN/OD 160 x 3000 mm (Water entry area 165 cm <sup>2</sup> /m)	35
KG. <b>PSP</b> .6000.160	EM Partial seepage pipe slotted DN/OD 160 x 6000 mm (Water entry area 165 cm <sup>2</sup> /m)	35
KG. <b>PSF</b> .6000.110	EM Full seepage pipe slotted DN/OD 110 x 6000 mm (Water entry area 220 cm <sup>2</sup> /m)	80
KG. <b>PSF</b> .6000.160	EM Full seepage pipe slotted DN/OD 160 x 6000 mm (Water entry area 220 cm²/m)	35

#### Product information for KG2000 slotted in DN/OD 110 and DN/OD 160

Version	Slotted rows	Slot width (mm)	Slot length (mm)	Slot spacing per row (mm)	Number of slots / m	Water entry area (cm²/m)
Multipurpose pipe	4	10	240	100	20	>100 (110)
Multipurpose pipe	4	10	240	100	20	>150 (166)
Partial seepage pipe	4	10	240	100	30	> 150 (165)
Full seepage pipe	4	10	240	100	40	> 200 (220)

Multi-purpose pipe = the water inlet openings are arranged evenly over a range of  $\leq 120^{\circ}$  at the pipe apex. Partial seepage pipe = the water inlet openings are arranged evenly over a range of  $\leq$  220° at the pipe apex. Full seepage pipe = the water inlet openings are arranged evenly over a range of 360°.

# KG2000 Rainwater (blue) EM

Pipe SN16



Product No	Description	Unit/ Pallet	Bundle Size
KG. <b>PR16</b> .1000.160	KG2000 Rainwater (blue) EM pipe DN/OD 160 x 1000mm SN 16	80	1
KG. <b>PR16</b> .3000.160	KG2000 Rainwater (blue) EM pipe DN/OD 160 x 3000mm SN 16	80	1
KG. <b>PR16</b> .6000.160	KG2000 Rainwater (blue) EM pipe DN/OD 160 x 6000mm SN 16	80	1
		05	
KG.PR16.1000.200	KG2000 Rainwater (blue) ENI pipe DN/OD 200 X 1000mm SN 16	25	1
KG. <b>PR16</b> .3000.200	KG2000 Rainwater (blue) EM pipe DN/OD 200 x 3000mm SN 16	25	1
KG. <b>PR16</b> .6000.200	KG2000 Rainwater (blue) EM pipe DN/OD 200 x 6000mm SN 16	25	1
KG. <b>PR16</b> .1000.250	KG2000 Rainwater (blue) EM pipe DN/OD 250 x 1000mm SN 16	16	1
KG. <b>PR16</b> .3000.250	KG2000 Rainwater (blue) EM pipe DN/OD 250 x 3000mm SN 16	16	1
KG. <b>PR16</b> .6000.250	KG2000 Rainwater (blue) EM pipe DN/OD 250 x 6000mm SN 16	16	1
KG. <b>PR16</b> .1000.315	KG2000 Rainwater (blue) EM pipe DN/OD 315 x 1000mm SN 16	9	1
KG. <b>PR16</b> .3000.315	KG2000 Rainwater (blue) EM pipe DN/OD 315 x 3000mm SN 16	9	1
KG. <b>PR16</b> .6000.315	KG2000 Rainwater (blue) EM pipe DN/OD 315 x 6000mm SN 16	9	1
	KG2000 Poinwater (blue) EM pine DN/OD 400 x 1000mm SN 16	1	1
KG.PR16.1000.400	KC2000 Rainwater (blue) EM pipe DN/OD 400 x 1000mm SN 10	4	1
KG.PR10.3000.400	KO2000 Rainwater (blue) EM pipe DN/OD 400 x 3000mm 3N 18	4	1
KG. <b>PR16</b> .6000.400	KG2000 Rainwater (blue) EM pipe DN/OD 400 x 6000mm SN 16	4	1
KG. <b>PR16</b> .1000.500	KG2000 Rainwater (blue) EM pipe DN/OD 500 x 1000mm SN 16	4	1
KG. <b>PR16</b> .3000.500	KG2000 Rainwater (blue) EM pipe DN/OD 500 x 3000mm SN 16	4	1
KG. <b>PR16</b> .6000.500	KG2000 Rainwater (blue) EM pipe DN/OD 500 x 6000mm SN 16	4	1
KG. <b>PR16</b> .1000.630	KG2000 Rainwater (blue) EM pipe DN/OD 630 x 1000 mm SN 16	2	1
KG. <b>PR16</b> .3000.630	KG2000 Rainwater (blue) EM pipe DN/OD 630 x 3000 mm SN 16	2	1
KG. <b>PR16</b> .6000.630	KG2000 Rainwater (blue) EM pipe DN/OD 630 x 6000 mm SN 16	2	1



# Tech Data Sheet: AusPress KG2000 PP Drainage





What is KG2000?

A high strength polypropylene drainage system, pushed together to install quickly and easily using rubber ring seal socket-spigot joins.

#### Applications:

Common applications include:

- Stormwater.
- Wastewater & tradewaste.
- Civil & transportation surface water.
- Food & beverage processing.
- Abattoir & meat processing.
- Truck & loading areas.
- Airport & transport aprons.
- Fuel and service station drainage.
  High temperature drainage up to 90°C constant.
- Siphonic drainage.
- Vacuum.
- Other applications on request.

Refer to our Media Chart and Technical Catalogue for specific information and suitability.

#### **Key Features**

- Very fast installation process.
- Injection moulded (one piece) SN16 rated fittings standard,
- High impact resistance.
- Smooth internal surface.
- Stocked in Australia in diameters 110 to 250mm.
- Simple process to train users to install using common site tools.
- Low thermal expansion (0.035 10<sup>-6</sup>m/mK).
- Long service life and recyclable product.
- One system suits a wide range of applications.
- No need for hot-work permits.
- Efficient and waste free install.
- Adapts to other drainage systems including stainless.

#### FAQ:

# A guide only, refer to full information in the Technical Catalogue:

- What is PP-MD? KG2000 uses a patented mineral modified polypropylene material with a higher strength than standard polypropylene, HDPE or PVC.
- Chemicals? Check both ring seal and pipe material ask us!
- Load Rating? SN10 and SN16 rated, coverage 0.8 to 6m.
- Suspended? Suitable for vertical and graded installations.
- Exposed? UV stabilised additive, paint and/or protect for long term.

#### KG2000 Pipe

- Metric OD sizing, 110 to 630mm actual outside diameter.
- Mineral modified polypropylene (PP-MD) construction.
- Lengths different lengths stocked from 1/2m to 6m max, socket-spigot to reduce offcut wastage on site.
- Ring seal pre-fitted to socket end of pipe length.
- Markings black.

Outer Colour	Inner Colour	Pipe Rating
Green	Green	SN10
Green	White	SN16

Pipe	Pipe	Wet		
OD	SN10	SN10 SN16		
110	3.4	4.2	10.2	
160	4.9	6.2	21.4	
200	6.2	7.7	33.6	
250	7.7	9.6	52.6	
315	9.7	12.1	83.8	
400	12.3	15.3	137.5	
500	15.3	19.1	217.7	
630	19.3	24.1		
Wet weights calculated using full volume filled with water.				

#### KG2000 Fittings

- Injection moulded (one piece), preformed fittings, no site fabrication required.
- Metric OD sizing, 110 to 630mm actual outside diameter.
- Wide range of fitting types, socketspigot design.
- Ring seal pre-fitted to socket end of fittings.
- Rated to SN16 (marked with SN8 / SN16 as European standards only require up to SN8 rating).

#### **Ring Seals (Elastomers)**

- Triple lip design, pre-fitted to socket ends as standard.
- SBR rubber type standard.
- NBR type option available for contaminated waters, such as oil.

Seal Type*	Colour	Temp Range*		
SBR	Black	-20 to 90°C		
hNBR	Grey	-20 to 90°C		
*Maximum constant - refer to our Media Chart & contact us for suitability before installation.				

#### Installation:

Simply cut the pipe to length square, bevel the cut end, lubricate the seal and push/twist together to join.

Suitable to pass through concrete providing movement is allowed and socket is not embedded.

Fire collars suitable, must not be positioned over the socket.

#### Pressure Ratings:

The maximum working pressure for inground installation of all KG2000 diameters is 300kPa (3.0 bar).

Suspended or vertical exposed insulation, higher values are possible with suitable bracketing and joint clamps fitted – please contact us for more information.

#### System Approvals & Compliance:

- WaterMark AS 5065
- AS 3500.3

# Technical Assistance

- Suitability checks for projects & applications on request.
- Tech Notes and Media Chart product reference material.
- AusPress staff available across Australia & New Zealand.

#### Need More Information?

Please contact us for product support, technical advice or your project specific requirements:

- Phone: 1300 287 773
- Email: sales@auspress.com.au

Visit auspress.com.au for the latest product information, tech notes & catalogues.



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# **Technical Guide**

## AusPress Stainless Drainage Products

The following information is only a guide. All work must comply with AS/NZ 3500 and any other relevant standards applicable to the installation. For specific installation assistance, or if you're in doubt, please contact us before proceeding.

As with all work using tools, the following points are to be adhered to and understood, along with the general safety practices such as wearing suitable clothing and equipment, being alert and focused, keeping the work area clear of obstacles and observing WHS (OH&S) requirements. **Stainless Drainage Pipe & Fittings** 

# Installing Stainless Drainage

The socket-spigot stainless drainage system comprises directional pipe and fittings (installed with flow into the socket, out the spigot) with the socket pre-fitted with a rubber ring to seal each join.

Refer to the installation guides at the front of each AusPress Drainage catalogue section for more information.

#### 1. Cutting

Stainless drainage pipe lengths are supplied in set lengths from 150mm through to 6.0m and may be cold cut using an approved pipe cutter that creates a bevel on the pipe end and assists fitting. Care should be taken as cut ends could be sharp.

Do NOT cut with drop saws or angle grinders.

Ensure the socket is retained on pipe lengths when cutting shorter. Spigot-spigot pipe lengths are not recommended.

#### 2. Ring Seals

Ring seals are fitted to each socket end with an EPDM type supplied pre-fitted as standard.

Check the ring seal is free of debris and the correct type of seal is fitted for the application and temperatures to be used. **Not sure? Ask!** 

Ensure the ring seal is fitted correctly with taper facing outward (see image).

Replace the seal if unsure or incorrect. Remove the seal to see the type labelled on the inside flat surface of the ring seal.

#### 3. Joining

Apply lubricant to ring seal & outside of spigots.

Material	Colour	Application <sup>*</sup>	Operating Temp
EPDM	Black (Dull)	General use.	-40° to +100°C
FPM	Green (or Purple)	High temp, gas, oil, fuel.	-25° to +200°C
NBR	Black (Shiny)	Gas, oil, fuel.	-30° to +80°C

\*Confirm with AusPress prior to installation.

Preferred lubricant is silicon based (such as Super Glidex) but an approved soap based lubricant can also be used. Grease is not to be used as this may damage ring seals.

Push the spigot into the socket fully with a slight turning movement.



Joint is then pulled back 5mm to 10mm to allow for expansion and contraction within the socket.

#### 4. In-Ground Installation

When stainless drainage products are being installed inground, grade 316L stainless is to recommended.

Bedding and surrounding fill is to be a minimum thickness of 50mm pH neutral sand, free of chlorides and/or salts.

Crushed aggregate or fine gravel is NOT to be used.

Wrapping of inground drainage is not required for standard applications - contact us if wrapping is required for your installation.

**NOTE:** Check with us prior to installation if soil is constantly damp, wet or subject to often or occasional high water table levels, reclaimed or contaminated soil or soil of unknown origin is used!

#### 5. Bracketing

Bracketing is to comply with AS/NZ 3500.

If a dissimilar bracket metal is used, a protective isolation barrier is to be provided between the stainless surface and the bracket.

Changes of direction on main suspended drainage should be bracketed in both directions as close as possible to bend, to prevent lateral movement.

Extra bracketing may also be required at socket joints to prevent sagging.

#### 6. Good Practice

Preference installing 45° branches.

All main horizontal 90 degree direction changes should be made using  $2 \times 45^{\circ}$  bends with a minimum 150mm length between.

Venting procedures must comply with AS/NZ 3500.

#### 7. Welding

If welding is to be carried out, prior approval must be obtained from AusPress. Purge-welding procedures must be undertaken and all welds are to be pickled and passivated prior to installation and backfilling.

#### 8. Special Applications

Stainless drainage pipe and fitting products can be used for special applications such as ducting, vacuum, siphonic drainage and low pressure pumping applications. Please consult us for technical advice and vacuum specific products.

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# **Expansion & Contraction**

Pipes in any direction (including horizontal suspended and horizontal in ground) must be supported to prevent the force arising through heat expansion can neither bend the pipes nor pull the spigot ends from the sockets.

Expansion Sockets are available for larger expansion and contraction movements.

The below graphs the expected expansion of grade 316 stainless steel with change in temperature. This is expressed as the formula E=L. T.



A 3m length pipe at ambient temperature (20°C) is filled with 70°C hot water. The temperature difference of 50°C (70°C minus 20°C) expands the grade 316L stainless longitudinally approximately 2.5mm overall.

Stainless has a very low coefficient of expansion under normal conditions; as a general rule, fixing points and expansion sleeves may be omitted if the temperature remains under 100°C *and* the maximum straight run of pipework is under 40m. Spigot ends must be pulled the 5 to 10mm from the socket after full insertion.

# **Suspended Graded Installation**

Diameter	Support Spacing
50mm	2.2m
75mm	2.5m
110mm	2.8m
160mm	3.3m
200mm	3.0m
250mm	3.0m
315mm	3.0m

The distance between the suspended supports must be calculated on the basis of a permissible 1mm bending of the pipe. The bending for a single mounting is calculated for a water-filled pipe.

Spacing distances apply to continuous straight lengths. At joins in the suspended drainage, additional fixing points must be placed that either the branch or the through pipe is held directly under the sleeve (not on the socket part). Changes in direction shall be supported with suitable bracketing to prevent movement & the join separating.

If this is not possible, the span between fixing points must be reduced by half or, as an alternative, Joint Clamps can be installed for stability.

# Vertical Installation

3.0m maximum gap between each support or designed to support water-filled pipe plus any expected loads.

Where larger inlets are connected, the pipe must be secured immediately below the inlet and under (not on) each socket.

Consideration for forces against change in directions for vertical drops must be provided to suit and securing any joins as part of the installation.

# **Connecting at Floor Level**

Protecting the drainage & socket from damage & debris.



# **Fire Protection**

Stainless drainage is a class A1 fire resistant product (highest rating) and certified as non-combustible (EN1124 parts 1 & 2).

Penetrations that require fire rating can be sealed between the opening and stainless pipe with a suitably rated mortar or insulation/mastic product that is compatible with stainless steel (eg low chloride). Fire collars are not required for stainless pipework. Consult standards for local requirements.

# Vacuum & Siphonic

Stainless drainage is suitable for vacuum (sewer) piping and siphonic (rainwater) installations. We recommended these systems are professionally designed - we have more information on request.

The material strength of stainless provides a high resistance to implosion and the rigid lengths are lightweight to install. We recommend Joint Clamps are used on each join and bracketing to resist the vibrations at 3m internals maximum or at a change in direction.

# Handling & Surface Finish

Stainless is resistant and durable but care must be given during transport and installation to not damage the shape or stainless surface.

**Storing:** Ensure stainless is kept suitably protected from contaminants, welding and/or grinding sparks, excessive weight or over stacked. Long lengths are recommended to be handled by more than one person.

**Mill Finish:** A dull surface finish, suitable for drainage however not suitable for exposed or aesthetic applications (such as downpipes as it shows fingerprints). For exposed installations, polishing the external surface is available on request.

# Installing Floor Gully & Channel

# **Stainless Drain Bowls & Channel Bases**

Both these systems are installed with the body/base fixed into position permanently with the accessories including grates, filter basket and foul air trap (FAT) fitted into the body/ base afterwards.

These instructions are based on common installation situations for our products. If conditions, requirements or situations vary, contact AusPress for advice before installing. Other elements, including structural, are to be designed and specified by suitably qualified others and shown here for illustration purposes only.

# 1. Preparation

If to be installed in a recess, it should have a minimum 50mm gap on all edges (eg the cutout is 100mm wider overall than the channel) and 50mm deeper than the outer dimensions.

Remember to allow for the anchor tags and levelling angles in sizing the cutout hole size.

If connecting to metric drainage such as ACO Pipe<sup>®</sup>, Blucher<sup>®</sup> EuroPipe or KG2000<sup>®</sup>, the outlet spigot will push into a socket end connection. For HDPE and PVC, use an expansion socket; for cast iron use an 'Ensign' joining socket.

Standard outlet dimensions are 110mm and 160mm outside diameter (OD).

# 2. Installing

Points are illustrated in the adjacent diagrams.

- Ensure drainage piping is set up at correct height to suit depth of floor drain chosen (refer to technical information for measurements).
- Position the support brackets for threaded rod or the supplied support legs to suitably support the drain bowl or channel base from moving.
- Ensure appropriate moisture barriers are used to prevent corrosion as best practice construction, such as under each support leg stand for suspended slabs.
- 4) Place the drain bowl or channel into position and align with the levelling supports.

Long channels with bolted flanges will require this to be completed in sections and with multiple people to prevent the channel from torquing.

- Adjust each of the supports to adjust & level the drain bowl or channel to the correct height. Threaded rod is recommended to be secured with a second nut, one each side of the tag.
- 6) Tie anchor tags to steel reinforcement. This will help prevent movement or floating during concreting and earth the drain bowl or channel.
- 7) Confirm the drain bowl is at correct height and is level.
- Install 10mm thick x 20mm deep styrene foam to outside perimeter of the top of the drain bowl or channel edge.
- 9) Protect the opening with plywood or similar to ensure concrete and other foreign matter does not enter during construction.

- 10) Concrete footing is poured.
- 11) After concrete is set, and before final floor finish is applied (eg epoxy coating), remove the styrene foam from around outside perimeter.
- 12) Fill the gap made by the foam with an approved polyurethane sealant (such as Sikaflex-11FC) as per manufacturer's instructions and ensuring the product installation procedures are adhered to.

Two common methods are used to secure & level the drain bowl or channel when installing are shown below.



Use the easy adjust support legs or threaded rod.







# 3. Installing Grates and Accessories

We recommend installing the grates and accessories as part of commissioning to prevent damage or loss of items during construction.

Remove any protective covering only if no damage can occur to the drain bowl or channel before use.

Fit the grate and accessories within the drain bowl as supplied. If a removable Foul Air Trap (FAT) is supplied, fit the rubber seal over the drain bowl bump first, then fit the FAT to the seal. The filter basket must be positioned above the removable Foul Air Trap (FAT) within the drain bowl.

Confirm the grating fitted is suitable for the traffic load and application prior to use.

Prevent construction traffic, scissor lifts, forklifts, vehicles or heavy loads from driving over an unprotected floor gully or channel.

# 4. Bolted Flange Connections

Channels manufactured with bolted connections are supplied with the fixings and a Viton rubber gasket to assemble and join the channel sections together. Tighten bolts evenly and ensure the gasket is not over or under compressed.

# 5. Special Installation Notes

Site materials can contaminate and damage the surfaces. Ensure the drain bowl and channel are clear of debris and cleaned in the approved method to avoid damage.

It is recommended that channels greater than 2.5m in length or irregular shapes be handled and installed with multiple people. This is to prevent the channel from accidental twisting and being damaged.

# 6. Flow Rates

Depending on the accessories installed and the drain bowl selected, the flow rates are expected based on 'clean' continuous flow of water, without solids. Flows with solids or contaminated water will experience lesser values.

Use the component with the lowest flow rate value when making flow calculations. Accessories such as Filter Baskets, Secondary Strainers and Silt Baskets will restrict the flow further, whether clean or otherwise.

# Corrosion Resistance

## **Resistance Against Corrosion**

316 stainless steel is resistant to corrosion when it is exposed to clean atmosphere (ambient air). The probability of corrosion is increased by contact with corrosionpromoting construction materials or by installation in corrosive atmospheres such as coastal areas or chemical production facilities.

We offer technical advice and have access to metallurgist specialists for water quality & purity testing for specialised applications or projects with specific needs.

# **External Surface Protection**

High ground water, external conditions such as coastal environments and contaminated soils can all effect the external surface of stainless steel drainage.

In areas where a risk of damaging effects exists, installation of stainless without protection should be avoided.

If there is the risk of corrosive substances (eg. Unsuitably high chloride content waters, plaster, building materials containing chloride, specialised concrete, high ground water levels, nitrite or ammonium) acting on the drainage over prolonged periods, surface-mounting or suitable corrosion protection is recommended.

Protection against external corrosion must meet the following requirements:

Waterproof. Non-porous. Resistant to heat and ageing. Undamaged.

The minimum protection against external corrosion is coating, priming or painting. Denso<sup>®</sup> wrapping is also suitable. Plastic wrapping in not recommended. Contact AusPress for recommended protection options.

# **Potable Water**

Corrosion-resistant steels do not react with potable water due to their protective chromium oxide layer. This makes stainless steel corrosion-resistant to potable water.

Local corrosion effects such as pitting or crevice corrosion can occur in water with unduly high chloride content. This can occur from excessive chlorous disinfectant use or naturally occurring such as in bore water. Therefore, the duration of application and concentration for use must be strictly observed.

The content of water-soluble chloride ions at ambient temperature in potable water and water which is similar to potable water should not exceed 250 mg/l (250 ppm).

Corrosion resistance decreases as the temperature increases. Therefore, AusPress must be notified of maximum media temperature and media contents (eg water analysis) to enable a suitability recommendation.

# **Treated Water**

All water treatment methods such as ion exchange or reverse osmosis can be used with grade 316 stainless steel. No additional measures to protect against corrosion are necessary.

Stainless steel is corrosion-resistant to treated water such as:

Softened/decarbonised water.

Fully desalinated water (deionised, demineralised, distilled and pure condensates).

Ultrapure water with a conductivity of < 0.1  $\mu$ S/cm.

# **Chemical Suitability**

Some chemicals are not suitable for stainless steel, diluted or otherwise. Please confirm suitability with the chemical manufacturer before use or contact AusPress for an assessment.

Complete a Project Info Sheet with the relevant MSDS and details from our website.

# Commissioning & Maintenance

Stainless products require little maintenance. In most environments, little or no maintenance is necessary. This would include wet areas and shower rooms with no washdown debris.

We recommend installing the grates and accessories as part of commissioning to prevent damage during construction.

Please ensure wash down waters or waste debris do not contain chemicals that are either high in chlorides or not suitable for stainless.

Care is to be taken to prevent scratching the stainless steel surface. Avoid any contact with, grinding and welding sparks, metal shavings, corrosive chemicals or any material or process which may cause failure during construction and also from future maintenance.

Ensure that all drains and accessories are properly "dry" cleaned to remove any foreign products from drain bowls etc, before initial wet clean. A visual inspection is recommended if any rust spots appear caused by these foreign products, please ensure these are removed using a scotch bright cleaning pad only, then thoroughly washed out with cold potable water. This process should also be followed after any maintenance once plant is commissioned.

In especially demanding environments, such as food processing, chemical industries and agriculture, it may be necessary to clean to avoid coating that could lead to corrosion later. Cleaning can be carried out with highpressure cleaning or high pressure flushing equipment using potable water.

If installed in locations effected by coastal conditions, a regular cleaning regime must be implemented to remove external salts and contaminants from the stainless.

Where there is heavy coating, plastic or brass tools can be used. With especially persistent coating, diluted citric acid can be used to loosen the deposit. This must be flushed with large quantities of cold potable water afterwards.

Cleaning of drains, including the emptying of filter basket, is to be performed at least once every shift and when required.

In cases of difficulty, users should consult us for technical advice.

# **Disinfecting the System**

This is carried out to meet more stringent hygiene requirements, and in the event of severe microbial contamination. Contact us for more information.

To protect the environment and simplify handling, the Australian Drinking Water Guidelines (ADWG) recommend the use of hydrogen peroxide, however chlorine can also be used to disinfect.

Before commissioning the system carefully follow the instructions for use, particularly in relation to the contact time, maximum solution concentration and subsequent flushing requirements.

**Note:** To reliably prevent corrosion damage, during disinfection do not exceed the maximum chlorine concentration and contact times as tabled below:

The Australian water regulations allow dosing with up to 1.2mg/l of free chlorine in the disinfectant solution, provided a limit of 0.3mg/l of free (active) chlorine is not exceeded in the drinking water.

Quantities can be increased to 6mg/l and 0.6mg/l respectively in exceptional circumstances for example, high or increased micro bacterial contamination.

## **Flushing the System**

In the case of stainless steel, the possibility of corrosion promoted by foreign matter such as dirt or swarf can be ruled out. It is therefore sufficient to simply flush the system with potable (drinking) water ensuring the content of watersoluble chloride ions is within approved AusPress limits.

When using any solution, ensure the system is flushed correctly and the manufactures instructions are followed in an accurate and safe manner at all times.

# Commissioning

Systems must be commissioned in accordance with the applicable standards and regulations.

The installation contractor must familiarise the user(s) with the system. This is to be documented with a hand-over and acceptance record.

The user must also be provided with the manufacturer's maintenance and operating instructions for all installed valves and equipment.

# **Test Protocol Form**

To pressure test AusPress press-fit, use (potable) water, oilfree compressed air or suitable inert gas as the test medium.

Testing to be in accordance with the recommendations in the Technical Section of the AusPress catalogue.

For the current version of this guide, visit our website.

Project Name:				lr	nportant		
Location:			lf at	the system is to be emptied ter a water pressure test,			
Customer Name:			OI it	not remain completely full,			
Customer Phone:				to	avoid an increased risk of		
Contractor Name:				pi	tting and corrosion.		
Contractor Phone:	-			S lo	tagnant water, periods of water flow (limited or		
AusPress System	/Material:			no	o flushing) and dead legs		
Max Operating Pro	essure:		kpa / PSI / bar (d	ircle unit)	commended.		
	All pipelines a	are sealed, ready for t	est.				
Pre-Test	Appliances, p	ressure tanks or hot	water heaters are isol	ated from the piping	j system.		
Checks	A visual check	k has been carried ou	it to ensure all pipe jo	ints have been exec	cuted professionally.		
	A test plan ha	s been prepared and	confirmed as suitable	e for the application.			
		AS/NZS 3500.1	AS/NZS 5601.1	AS 2419.1	ASME B31.3		
		Potable Water	Gas	Fire Hydrant	Compressed Air		
	Test Pressure	1,500 kPa (218 psi) or	7.0 kPa (1.0 psi) or	1,700 kPa (247 psi) or	1,000 kPa (150 psi) or		
Pressure Test Parameters	greater of):	Using (	g water = 1.5 times th dry) air = 1.1 to 1.33 t	e operating pressur	re, or pressure.		
	Minimum Test Time Required:	45 minutes	2 minutes temp stabilisation time + 5 minutes for test	4 hours	30 minutes		
	Note: Refer t Start at	to the relevant standa 50% operating press	ard in full for specific re ure, increase pressur	equirements and lin es gradually, max 2	nitations of testing. 5% per step.		
	Test Medium:	Potable Water	Compressed Air*	Nitrogen			
Test	Test Temp	Те	st Pressure	Test Ti	me		
Conditions		°C kpa / PSI / bar (circle unit) mins / hrs			/ hrs (circle unit)		
System tested as an entire system or, in sections - qty:							
	There was no pressure drop in test pressure during the test time.						
	Visual check	sual check of all joins resulted in no leaks identified during the test time.					
Test	The piping s	The piping system has been professionally tested and found to be leak proof.					
Results	Pressure drop	o noted = System faile	ed pressure test, rewo	ork required before I	re-testing.		
	NCR Number:						

Print Name (Contractor)

Print Name (Witness)

/ Date Signed

Signature (Contractor)

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Signature (Witness)

Keep this completed document as a record of the process for your records.

# **Project Information Form**

Please complete this form so we can best advise product suitability and technical assessment for your project.

#### **Contact Information** (please complete all fields below)

Customer Name:	
Date:	
Client:	
Contractor:	
Main Contact Name:	
Main Contact Phone:	
Main Contact Email:	
Main Contact Address:	

# **Project Information**

(please complete all fields below)

Project Name:			
Project Address:			
Application:			
Diameter:			
Product / Media Name:			
Product Concentra	tion (%):		
	Item:	Temperature	Pressure
Operating Conditions:	Minimum:	°C	kpa / PSI / bar (circle unit)
	Maximum:	°C	kpa / PSI / bar (circle unit)
MSDS: (Material Safety Data Sheets)		I've attached the relevant sheets with this form.	
Water Test Results: (Including pH levels)		I've attached the reports with this form.	

# **More Information?**

Any other relevant information...

For the current version of this guide, visit our website.

# When Use This Form?

Customers should complete and submit this form for all projects.

Most supply this information at the design stage - the earlier this information is available, the better response we can provide for your design.

# Why?

As part of our product quality assurance, we'd like to ensure what we're supplying will meet the needs of your project.

The more you can tell us, the more certain we can be in supplying you with the right answers.

We have project based water analysis and metallurgy analysis services available for customers too.

Email your completed form directly to **technical@auspress.com.au** for assessment.

Please ensure all items are completed for a faster response.

# **Technical Guide**

# AusPress Polypropylene Drainage Products

The following information is only a guide. All work must comply with AS/NZ 3500 and any other relevant standards applicable to the installation.

#### For specific installation assistance, or if you're in doubt, please contact us before proceeding.

As with all work using tools, the following points are to be adhered to and understood, along with the general safety practices such as wearing suitable clothing and equipment, being alert and focused, keeping the work area clear of obstacles and observing WHS (OH&S) requirements.

# Installing KG2000 Drainage

## **Polypropylene Drainage Pipe & Fittings**

The socket-spigot polypropylene (PP-MD) drainage system comprises directional pipe and fittings (installed with flow into the socket, out the spigot) with the socket pre-fitted with a rubber ring to seal each join.

Refer to the installation guide at the front of the catalogue section for more information.

The water flow must travel socket to spigot.



#### 1. Ring Seals

Ring seals are fitted to each socket end with an SBR type supplied pre-fitted as standard.

Check the ring seal is free

type of seal is fitted for the

of debris and the correct



Ensure the 3-lip ring seal is fitted correctly with taper facing inward (see image).

Replace the seal if damaged, unsure or incorrect. Remove the seal to see the type labelled on the inside flat surface of the ring seal.

#### 2. Joining

Material	Colour	Application <sup>*</sup>	Temp Range
SBR (Styrene- butadiene)	Black	General use	-20° to +90°C
NBR (Nitrile butadiene)	Black	Oil & fuels	-20° to +90°C

<sup>‡</sup>Confirm suitability with AusPress prior to installation.

Apply lubricant to ring seal & outside of spigots.

Preferred lubricant is silicon based (such as Super Glidex) but an approved soap based lubricant can also be used. Grease is not to be used as this may damage ring seals.

Push the spigot into the socket fully with a slight turning movement.

Mark the spigot end to identify the full insertion depth with a waterproof permanent texta.

Joint is then pulled back 10-12mm to allow for expansion and contraction within the socket.

#### 3. In-Ground Installation

The KG2000 system is suitable for in-ground installation following AS/NZS 2566.1, especially;

- Bedding and surrounding fill is to support the full length of the pipework and,
- A minimum bed thickness of 100mm fine soil or sand below the pipework (150mm if trench rocky or solid for example concrete) and,

In heavy duty areas (SLW 60) coverage shall be between 0.8 and 6m in depth above the pipework to the underside of ground level or structure (such as road base).

#### 4. Good Practice

Preference installing 45° branches.

All main horizontal 90 degree direction changes should be made using 2 x 45° bends with a minimum 150mm length between.

Venting procedures must comply with AS/NZ 3500.

#### 5. Welding

If welding is to be carried out, written approval must be obtained from AusPress first.

# **Bracketing, Above Ground Graded Suspended & Vertical**

Bracketing is to comply with AS/NZ 3500.

Spacing distances apply to continuous straight lengths.

Installation is to be designed to suitably support the drainage system at full volume and accommodate any external loads or movement (thermal or otherwise).

At joins in the suspended drainage, additional fixing points must be placed that either the branch, or the through pipe, is held directly under the sleeve (not on the socket part).

Changes in direction shall be supported with suitable bracketing to prevent movement & the join separating.

Consideration for forces against change in directions (including vertical drops) must be provided to suit and securing any joins as part of the installation (such as thrust blocks).

Diameters:		110 - 315mm	400 - 630mm
Support Spacing (max)	Graded	1.0m	Not Suitable
	Vertical	2.0m	2.0m

As per AS 3500, Table 9.1. AS 3500 is limited to DN300 (315mm) in diameter.

Engineer assessment and confirmation is recommended.

# TRADE WASTE

Polypropylene is suitable to be embedded in concrete with the following precautions;

Protect the join to prevent concrete entering the socket,

Ensure the pipes do not uplift with supports consistently along the drainage to prevent sagging points,

Thermal movement is allowed for the installation.

# Fire Collars

When passing through fire-rated building elements, the installation of a fire collar is not to be positioned over the socket part of the pipe or fittings. Collars are to be installed as per manufacturers instructions. Consult standards for local requirements.

# **Chemical Suitability**

Although highly chemical resistant, some chemicals are not suitable for polypropylene, diluted or otherwise. Please confirm suitability with the chemical manufacturer before use or contact AusPress for an assessment.

Complete a Project Info Sheet with the relevant MSDS and details from our website.

# Heat Tracing

KG2000 is suitable for heat tracing - please contact us for more information. Note to specify the NBR seal for grease and oil based contaminants up to 40°C.

# Expansion & Contraction

Pipes in any direction (including horizontal suspended and horizontal in-ground) must be supported to prevent the force arising through heat expansion can neither bend the pipes nor pull the spigot ends from the sockets.

The formula E=L. T. calculates the expected expansion of polypropylene (PP) with change in temperature where

=0.035 x10<sup>-6</sup>m/mK. The thermal coefficient of PP is much lower than other plastics including HDPE and PVC.

Ensure the spigot ends are retracted the 10-12mm from the socket after full insertion.

# Commissioning & Maintenance

In most environments, little or no maintenance is necessary.

Ensure wash down waters or waste debris do not contain chemicals that are not suitable for polypropylene.

In especially demanding environments, such as food processing, chemical industries and agriculture, it may be necessary to clean to avoid coating. Cleaning can be carried out with high-pressure cleaning or high pressure flushing equipment using potable water. Avoid scratching or roughing the pipe surface with equipment.

In cases of difficulty, users should consult us for technical advice.

# Disinfecting the System

This is carried out to meet more stringent hygiene requirements and in the event of severe microbial contamination. Contact us for more information.

To protect the environment and simplify handling, the Australian Drinking Water Guidelines (ADWG) recommend the use of hydrogen peroxide, however chlorine can also be used to disinfect.

Before commissioning the system carefully follow the instructions for use, particularly in relation to the contact time, maximum solution concentration and subsequent flushing requirements.

**Note:** During disinfection do not exceed the maximum chlorine concentration and contact times as tabled below:

The Australian water regulations allow dosing with up to 1.2mg/l of free chlorine in the disinfectant solution, provided a limit of 0.3mg/l of free (active) chlorine is not exceeded in the drinking water.

Quantities can be increased to 6mg/l and 0.6mg/l respectively in exceptional circumstances for example, high or increased micro bacterial contamination.

# Flushing the System

It is sufficient to simply flush the system with potable (drinking) water.

When using any solution, ensure the system is flushed correctly and the manufactures instructions are followed in an accurate and safe manner at all times.

Chemicals are to be confirmed suitable with polypropylene and within temperature limits of the system prior to flushing the system.

# Commissioning

Systems must be commissioned in accordance with the applicable standards and regulations.

The installation contractor must familiarise the user(s) with the system. This is to be documented with a hand-over and acceptance record.

The user must also be provided with the manufacturer's maintenance and operating instructions for all installed valves and equipment.

# Storage in Direct Sunlight

KG2000 pipes and fittings do not have UV protection against direct sunlight. Care should be taken when considering long term effects.

Information below in accordance with DIN CEN/TS 14758-3 on the outdoor storage of KG2000. If pipes and fittings are exposed to direct sunlight for long periods of time deformations may occur which may have an influence on the subsequent connections.

In order to avoid this, the following precautionary steps should be taken:

- Height of pipe stacks must be limited
- Pipes and fittings should be protected from constant and direct sunlight and arranged in such a way for unobstructed air supply.

Fading of pipe components due to outdoor storage does not effect mechanical properties of KG2000 pipes and fittings.

# The Strength of Press-Fit

Press Tool

# It's All In The Join

The socket on each press fitting is fitted with a rubber ring seal, engineered to provide both a strong and sealed join after being pressed with a press tool.

By using a calibrated press tool, each join is permanent and uniform as the join is deformed in two ways;

> The engineered shaping of the fitting against the tube to provide strength to the join as the primary seal plus,

The deformation of the rubber ring seal to form the secondary seal in the encapsulated pocket between the fitting and tube.

The press jaw (or collar) determines the shape and it is important to ensure the jaw (or collar) used with the press tool matches not only the diameter but also the fitting profile to ensure a successful pressed joint.

Since the original M-Profile was invented by Larsson, other profiles have been developed based on his design. Although appearing to be similar, each profile performs with different strength, deformation and ability characteristics.

Originally designed in 1962 by Swedish engineer Gunther Larsson, the first press fittings were manufactured by German company Mannesmann from 1969.

Two different cross section shapes are pressed depending on the tube diameter - the hexagonal and the lemon shape.

#### Section A:

This forms the mechanical strength of the pressed join.

## Section B:

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The deformation of the rubber ring seal ensures a permanently tight join.



Press Jaw Available in a range of sizes and abilities. Insert into tool directly.

Adaptor Jaw + Press Collar Insert jaw into the tool, jaw clamps onto collar.

Above: Press Tools are fitted with an interchangeable jaw or, adaptor jaw and collar combination depending on the fitting material, system diameter and fitting press profile to be pressed. All must match for the press to be successfu



Above: Hexagonal shape section profile - Before pressing (fitting left), after pressing (fitting right) & Section A through pressed join.





Above: Lemon shape section profile - Before pressing (fitting left), after pressing (fitting right) & Section A through pressed join.

# **Using a Press Tool**

The Tool Does All The Work

Press Tools are designed specifically for the installation of press fittings and come in a range of shapes and sizes. They often have an on-board computer that controls the press pressure, duration and other quality control parameters that is recorded on the press tool.

Press fittings can only be pressed with a press tool that is fitted with the correct jaw or collar that matches the profile type and diameter of the fitting. After a successful press, a permanent joint between the fitting and the tube is made.

Different press tools have different abilities and determine the working pressure of the completed system so use the 'Select a Press Tool' charts at the start of each section to check for suitability.

Every press tool is slightly different so check with the tool manufacturer for their specifications and operating instructions.

Read in conjunction with the Installing AusPress guide at the start of each catalogue section.

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Check the press jaw (A) or collar (B+C) matches the profile and diameter of the fitting and is suitable for the press tool.

- 2 Retract the retaining pin (RP) of the tool and insert the jaw into the press tool. Once seated, close the retaining pin.
- 3 Open the press jaw and align the inner groove of the jaw with the raised profile of the fitting.
- 4 Check the fitting is fully engaged by the insertion depth mark and if so, press and hold the start button (GO) to begin the press.
- 5 Once complete the tool will 'click' and retract the internal roller pins. Open the press jaw and move away from the fitting.
- 6 An occasional spray with Inox lubricant on the jaw moving parts and press zone will ensure ongoing smooth operation.

**Tool, Jaw & Collar Calibration** Tool calibration show when next due for calibration.



# Half or Cancelled Press?

If the press tool operation is stopped before completing a full press cycle, the press tool must reset before removing the jaws. **Press fittings cannot be re-pressed.** 

# **Tool Training & Safety**

For OH&S and product warranty reasons, before using a press tool you must of completed the relevant AusPress Tool Training.



# Use the Right Tool...

The Press Tool used determines the maximum working pressure of the installation.

Use the 'Select a Press Tool' chart to check suitability.



#### **Safety & Tool Training** We offer on-site tool training and maintain records of attendees for OH&S and Quality Assurance.

# **Tool Servicing**

We're authorised press tool repair & service centre for our Novopress & Vetec tools.

#### Tool Maintenance Every 10x Presses:

Lightly lubricate inside press zone groove of jaws & collars with an lnox spray.

## Weekly:

Lubricate and inspect press jaws and collars for wear or damage.

## **Regular Servicing:**

Refer to manufacturer's tool manual for service interval & warranty details.

# **Tool Not Working?**

Press the Reset Button? LED status? Contact Us...

#### Green LED

Off = Tool is on standby or press is in progress. Steady = Tool is ready. Flash = Check retaining pin or Battery Charge.

#### Red LED

Steady = Fault / Service. Flash (x3) = Extreme temperatures or tool fault.

Red & Green LEDS Flash = Service.

# Generators

Please contact us before using generators with the 240V Press Tools.

## **Batteries**

Press tools generally don't commence a press unless there is enough battery charge to complete a press.

# **Jaw & Collar Clearances**







Dimensions for AusPress Metric 316 Stainless, AusPress CuNiFe & AusPress 2205 Fittings

D1	Т	Е	F	G	Н	J	K
15	Jaw	20	56	25	31	75	135
18	Jaw						
22	Jaw	23	65	31	38	80	155
28	Jaw	25	75	31	39	83	160
35	Jaw	30	75	36	45	90	180
42	Collar	75	115	-	75	-	265
54	Collar	85	120	-	85	-	290
66.7	Collar						
76.1	Collar	110	140	-	110	-	360
88.9	Collar	120	150	-	120	-	390
108	Collar	140	170	-	140	-	450
168.3	Collar	200	335	-	200	-	850





clearances before proceeding with your installation. Measurements may differ depending on the press tool, jaw or collar model used. ACO203 tooling options used as example only. F U Dimensions presume an equal or larger diameter of the two pipes is shown with the press collar attached.

Measurements are dependant on the actual fitting dimensions and the Press Tool used to join. Confirm



Dimensions for AusPress Copper Fittings



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# **Material Performance**

# **Material Composition**

mposition		P	304	(P)	(P)	(P)	
		AusPress*	S/S	AusPress	AusPress*	AusPress*	
		STAINLESS		CuNiFe	COPPER	DUPLEX 2205	
		AISI 316L	AISI 304	90/10	C12200	AISI S31803	
Grade No:		1.4404	1.4301	2.1972	C12200	1.4462	
Chromium (Cr)	%	16.5 - 18.5	18 - 19.5	-	-	21.0 - 23.0	
Carbon (C)	% max	0.03	0.03	0.05	-	0.03	
Copper (Cu)	% min	-	-	85.6	99.9	-	
Iron (Fe)	%	bal	bal	1.5 - 1.8	-	bal	
Lead (Pb)	% max	-	-	0.01	-	-	
Manganese (Mn)	% max	2	2	1	-	2	
Molybdenum (Mo)	%	2 - 2.5	-	-	-	2.5 - 3.5	
Nickel (Ni)	%	10 - 13	8 - 10.5	10 - 11	-	4.5 - 6.5	
Nitrogen (N)	%	-	-	-	-	0.08 - 0.20	
Phosphorus (P)	% max	0.045	0.045	0.02	0.04	0.03	
Silicon (Si)	% max	1	1	-	-	1	
Sulphur (S)	% max	0.015	0.03	0.005	-	0.02	
Zinc (Zn)	% max	-	-	0.05	-	-	
Zirconium (Zr)	% max	-	-	0.01	-	-	
PREN	ave	24.9	18.8	-	-	34.2	

# **Temperature Correction Factor**

The graph below shows the correction factor (Kc) based on the water temperature.



# Batch Numbers (Tube & Fittings)

Our fittings and tubes are marked with a batch (or heat) number identifying the material as part of our 3.1 certifications for our 316, IPS & 2205 ranges.





# **Design for Press-Fit**

This information is suitable for 'normal' applications within the abilities of press-fit including potable water and compressed air however some applications require additional consideration; these include (but not limited to) steam, pressurised oil lines and chemical lines. In these instances, contact us before installation for technical assessment.

# 1: Ring Seal (Elastomer) Suitability

The rubber ring seal is an important part of the press fitting join and must be assessed as suitable for the application and media to be used. AusPress fittings are supplied with a pre-fitted EPDM (black) ring seal standard, unless otherwise noted at the time of ordering. We don't recommend the swapping of ring seals from one type to another after the time of ordering.

Refer to our AusPress Suitability Guide for specific ring seal suitability and limits and/or contact us for confirmation before installation by completing a Project Information form available from our website.

## 2: System Pressures

Maximum working pressure depends on a combination of the press tool used to install, the fitting profile, fitting diameter, the system material, operating temperature and application (use) as approved by AusPress. Some applications are limited to a lesser pressure despite the system able to achieve higher; in these cases, the lesser pressure is used.

Working Pressure – 'normal' operating pressure, designed for and in accordance to relevant standards.

Test Pressure – 1.5x the working pressure, during site test conditions only (see Pressure Testing section).

For suitability of other press tools, applications and limits for

Refer to the 'Select a Press Tool' page at the beginning of each AusPress catalogue section to find the right tool for your project.

AusPress products, please contact us for advice.

# 3: Insulation & Lagging

Insulating AusPress is suitable however consideration must be given to the piping material and the insulation type to be installed. *Tech Note available.* 

For example, insulation materials used with stainless 316 must be specified 'low chloride' (less than 0.05% soluble chloride ion content by weight). This issue is critical to the performance of stainless installations at any temperature. (For further info refer to TN.04)

## 4: Threaded Fittings & Sealants

Support the threaded press fitting using the fixed nut to tighten and prevent torsional forces being applied to the pressed join. For threads, both thread tapes and liquid/paste sealants must be chloride free and suitable with the material and application.

Contact us for more information.

The following information is a general guide only. For project & application specific assessment, contact us directly.



# Tech Notes Available

Contact us for Technical Notes that cover topics in much greater detail.

### 5: Bracketing

Install bracketing & centres (spans) to AS/NZS 3500 & AS/NZS 4041 as required appropriate to the application.

Bracketing is to be the same material as the pipework or separated with an inert lining such as rubber.

Brackets are not to be positioned directly on a fitting.

Refer to the Expansion & Contraction section for bracket type and positioning. (For further info refer to TN.20)

# 6: Bending Tubes

Tube up to 35mm diameter can be cold bent using a commercial tube bender to a radius no less than 3.5x the tube diameter. Do not heat stainless or CuNiFe to bend.

# 7: Material Suitability

AusPress is suitable for a range of applications; please complete a Project Info Form and contact us for product suitability based on your project requirements.

#### **Press-Fit for Potable Water**

AusPress systems are resistant to potable water meeting the requirements of the Australian Drinking Water Guidelines (ADWG) 2011.

Stainless & copper are resistant due to the protective layer these materials create naturally. The content of water-soluble chloride ions at ambient temperature (including in potable water) should not exceed 250mg/l (250ppm).

Copper Nickel (CuNiFe) is not suitable for potable water applications but can be tested with potable water.

Problems can occur with high chloride content found in some chlorous disinfectants or naturally occurring sources such as bore water. Confirm suitability with AusPress before use.



# Stagnant water, low flow periods and dead legs require caution and are not recommended.

Water analysis testing by a NATA certified laboratory is required to confirm the composition of waters.

#### **Press-Fit for Purified Waters**

Purified waters such as softened, de-carbonised, fully desalinated, de-ionised, de-mineralised, distilled and pure condensates are suitable. Ultrapure water with a conductivity of > 0.1  $\mu$ S/cm is also suitable. No additional measures to protect against corrosion are necessary.

Other types are to be confirmed before installation on request.

Water sample and parameters may be required. Note Copper and CuNiFe are not suitable for purified water types.

#### Press-Fit for Chemicals, Disinfectants and Additives

Please complete a Project Info Sheet with the relevant MSDS and contact us to check the suitability.

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# Press-Fit for Compressed Air

Dry or wet (lubricated) systems are suitable with AusPress; use the FKM ring seal for wet systems or when oil is possible.

# Press-Fit for Wet Steam

Only the Red FKM ring seal is suitable for wet steam. Water quality and additives must be confirmed as suitable. For AusPress stainless, max limits of 75 psi (550 kpa) & 160°C installed with pressure relief valve, temp gauge & suitable press tool. Contact us for advice and the *Tech Note*.

# Press-Fit for Oil, Fuels, Grease & Viscous Liquids

Systems must be installed with a thermal expansion safety valve, the pump isolated and system depressurised during non-operational periods. Confirm the ring seal suitability before installation. *Tech Note available.* 

# Press-Fit for Sewer, Stormwater or Gravity Waters

Press-Fit is not suitable, designed or approved for these applications. Contact us for information about our range of stainless drainage pipes and floor drains.

# Press-Fit in Cold Climates

Allowance must be allowed for expansion of water within the pipework that may freeze. Various methods such as trace heating are used, please contact us for specific advice.

# 8: Protecting External Surfaces

# Material Resistance

Despite the robust protective layer to the material formed naturally, the external environment and conditions must be considered; contaminants settling or in contact for a period of time may effect the outside surface of the tube & fittings.

#### For example;

316 stainless is susceptible to chlorides; coastal areas where the tube is exposed, unwashed or buried;

Building materials in contact such as concrete, galvanised brackets or grinding sparks;

Chemicals (including cleaning), alkaline or acidic environments where AusPress is to be installed;

Underground installation of press-fit is not recommended where protection from damage, interference from plant roots or soil/groundwater conditions is not provided. Refer our Tech Note for more information. **(For further info refer to TN.01)** 

#### **Protection of External Surfaces**

In areas at risk of unsuitable external conditions, installation of AusPress without protection is not recommended - contact AusPress for advice before installation.

To prevent against direct contact issues, installing press-fit using off-set brackets, material separation (such as inert rubber spacers) and other 'material' solutions is suitable.

Covering the external surface can protect and insulate the surface from contaminants. Care to prepare the press-fit surface before applying the covering is critical to prevent locking any contaminants between the tube and protection.

Protection against external contaminants must be waterproof and non-porous and resistant to heat and ageing and continuous (no gaps or damage). The use of encased or sealed blanket insulation, allowing to drain trapped condensation and barrier wrapping are all recommended. Materials that retain moisture including felts are not recommended.

## Effects of Bi-Metal (Mixed) Installations

Caused by the direct connection of different materials or the water passing from one material to another (the flow rule), bimetallic reactions can effect some metals.

AusPress stainless is not effected by the flow rule and with potable water can be used with other nonferrous metals although this is not a preferred method of installation.

Colouring caused by deposits of other metals does not necessarily indicate corrosion.

Materials that do bimetallicly react are separated by an inert section to reduce the reaction.

For example, if stainless is directly connected to galvanised steel pipe, bimetallic reaction will occur to the galvanised steel. This can be prevented by:

Installing an inert separation piece between the two or;

Fitting a ball valve made of non-ferrous material.

# 9: Flushing the System

It is best practice to avoid the introduction of foreign matter or contaminants during installation including dirt and swarf. Flushing the pipework is recommended to reduce the negative effects contaminants may cause and AS/NZS 3500 has further directions for flushing water supply systems.

Flushing Water Systems: Potable water is recommended.

Flushing Air, Oil & Gas Systems: Use oil-free air or an inert gas such as carbon dioxide or nitrogen. Oxygen or other flammable gasses are not to be used.

Flush main-line separately before connection.

# **10: Pressure Testing**

Conduct the pressure test in accordance with AS/NZS 3500 (and AS/NZS 2419.1 for Fire Hydrant applications).



Testing with Water: Potable water is recommended.

Testing with Air: Use oil-free air or an inert gas such as carbon dioxide or nitrogen. Oxygen or other flammable gasses are not to be used.

#### Water Supply Systems:

Flush the system then fill with potable water so that it is free from air pockets before commencing the test. If connecting to an existing water supply, flush any connecting pipework before connection.

#### Hot and Warm Water Systems:

In addition to the notes above for Water Supply Systems, conduct the preliminary and main tests with cold water first. As soon as possible after a successful cold water test, slowly heat up the system to the full designed hot water temperature and re-inspect for any issues.

Note the system will expand when heated and bracketing should not be fully tightened nor insulation fitted before normal operating temperature has been reached.
### LPG and Natural Gas Systems:

Conduct the pressure test of the system in accordance with AS/ NZS 5601. Water is not a suitable medium for testing, use the air testing method.

### **Pressure Test Process:**

We recommend using the Test Protocol Form to record the test results as a record that can be downloaded from our website. Use the more stringent requirements of those listed below and the relevant AS/NZS standard to your installation.

	Test Pressure (the greater of):		Minimum Test Time Required:	
AS/NZS 3500	1,500 kPa or	1.5 times the	45 minutes	
AS/NZS 5601	7.0 kPa (pipework only) or	maximum operating working pressure	2 minutes temp stabilisation time + 5 minutes for test	
AS/NZS 2419.1	1,700 kPa or	for the system.	4 hours	
Refer to the relevant standard for specific requirements of testing.				

For hot water systems, the duration may be longer allowing for the water to heat after the first cold water test.

For flange pressures, consult the relevant standard (i.e. AS/ NZS 2129 for Table & ASME B16.5 for ANSI).

#### System considered 'passed' if:

No pressure drop over the test duration (as per relevant AS/NZS for the installation) and a visual inspection confirmation of no leaks or deformation.

# 11: Disinfecting the System

Prior to commissioning the system or in the event of microbial contamination, the Australian Drinking Water Guidelines

- (ADWG) recommend the use of hydrogen peroxide to
- disinfect pipework. Chlorine is also listed as suitable in this context.

# Please contact us so we can offer project specific advice before you proceed.

Familiarise the manufacturer's safety precautions of using the chemical and instructions for use, particularly in relation to the contact time, maximum solution concentration and subsequent flushing requirements.

The Australian water regulations allow dosing with up to 1.2ppm of free chlorine in the disinfectant solution, provided a limit of 0.3ppm of free (active) chlorine is not exceeded in the drinking water.

Quantities can be increased to 6ppm and 0.6ppm respectively in exceptional circumstances for example, high or increased micro-bacterial contamination.

To prevent damage to AusPress products during disinfection, do not exceed the maximum chlorine concentration and contact times as tabled:

	Option 1	Option 2
Maximum concentration of free chlorine in water:	100ppm	50ppm
Maximum contact time:	16 hours	24 hours
Thorough flushing with potable (drinking) water:	Residue free chlorine in potable (drinking) water <1ppm.	
		1ppm = 1mg/L

### 12: De-Scaling

Limescale on the bore tubes can be caused by a variety of service conditions including high water temperatures or excessively 'hard' water quality.

# Additives for de-scaling tubes must be checked for suitability with the pipe material, rubber seal ring and approved for use with AusPress before use.

When using any solution, ensure the system is flushed correctly and the manufacturer's instructions are followed in an accurate and safe manner at all times.

### 13: Commissioning

Systems must be commissioned in accordance with the applicable standards and regulations.

The installation contractor must familiarise the owners and users with the system. This is to be documented with a hand-over and acceptance documentation.

Completing an *Operation and Maintenance Manual* is recommended to record the actual products installed, the ring seals used and the installer's information for future reference.

# 14: Operation and Maintenance

The user (or owner) of the system is under an obligation to ensure the system is maintained in a serviceable and safe condition at all times.

The system must be operated in such a way that faults and other factors affecting the reliability of the system are resolved before a hazard or issue occurs.

Ongoing maintenance includes assessing the interior and exterior of the pipework with regular inspections and timely rectification if required.

Avoid damage by keeping the system clean & free of contaminants, protect from sparks, grindings and confirm changes in media before making changes to operating conditions.

The user is advised to enter into a maintenance agreement with an installation contractor.