



TECHNICAL MANUAL

Irrigation

Philmac[®]

The connection you can trust.

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Related Technical Manuals

- **BSP Threaded Fittings**
- **Valve Boxes**
- **Valves**
- **Compression Fittings**

Spray Jets – fixed flow-rate

Part Number	Description	Order Quantity	Carton Quantity
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XL-JET+® Garden Series – “Stream & Feather” pattern

SF3617	360° Stream & feather pattern, 140 L/h orange nozz.	100	3,000
SF1812	180° Stream & feather pattern, 70 L/h green nozzle	100	3,000
SF9009	90° Stream & feather pattern, 35 L/h black nozzle	100	3,000

Matched Precipitation – provide uniform coverage – 360° is double the flow of 180° which is double the flow of the 90° unit

XL-JET+® Horticultural Series – “Spaced Streams”

S361609	360° x 16 Streams, 35 L/h black nozzle	100	3,000
S361610	360° x 16 Streams, 45 L/h blue nozzle	100	3,000
S361612	360° x 16 Streams, 70 L/h green nozzle	100	3,000
S361614	360° x 16 Streams, 90 L/h red nozzle	100	3,000
S361617	360° x 16 Streams, 140 L/h orange nozzle	100	3,000

Only available in 360° pattern – 16 strong water streams - from 35 Litres per hour to 140 Litres per hour

XL-JET+® Mister

MXL09	Green House Mister - 35 L/h - Black nozzle	100	3,000
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XL-JET+® Strip Sprays (Bowtie pattern)

SXL12	Strip Spray - 3.2 m radius x 1.1 m maximum width - 70 L/h - Green nozzle	100	3,000
SXL14	Strip Spray - 3.7 m radius x 1.3 m maximum width - 90 L/h - Red nozzle	100	3,000

XL-JET+® Nozzles Only

NXL09	Black nozzle, 35 L/h	100	2,000
NXL10	Blue nozzle, 45 L/h	100	2,000
NXL12	Green nozzle, 70 L/h	100	2,000

XL-JET+® Deflector Frame Only

FSF36	360° Stream & Feather pattern frame	100	2,000
FRS	Strip spray frame	100	2,000
FRM	Mister frame	100	2,000



Technical Data

Nozzle	Flow (L/hr) @ 150 kPa	Radius (metres) @ 150 kPa					
		360° S&F	180° S&F	90° S&F	360° 16 Stream	Mister	Strip Spray
Black	35	-	-	2.1	2.1	2.4	-
Blue	45	-	-	-	2.3	-	-
Green	50	-	2.0	-	2.7	-	3.2 x 1.1
Red	90	-	-	-	2.8	-	3.7 x 1.3
Orange	140	2.3	-	-	3.4	-	-

Further technical information is available in Specification Sheet WSS-023

Spray Jets – fixed flow rate

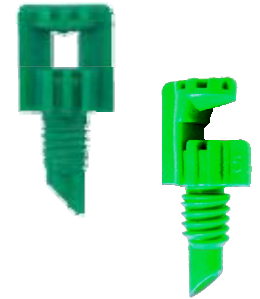
Part Number	Description	Order Quantity	Carton Quantity
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ONE PIECE

Full-circle and Part-circle - 55 litres per hour, 4mm threaded inlet

JSF12	360° Green – 1.2mm Jet; 1.2m radius	100	12,000
JSH12	180° Green – 1.2mm Jet; 1.2m radius	100	12,000
JSQ12	90° Green – 1.2mm Jet; 1.2m radius	100	12,000

Flow rates and radius throw rated at 125 kPa.



Full-circle and Part-circle - 90 litres per hour, 4mm threaded inlet

JSF16	360° Black – 1.6mm Jet; 1.5m radius	100	12,000
JSH16	180° Black – 1.6mm Jet; 1.5m radius	100	12,000
JSQ16	90° Black – 1.6mm Jet; 1.6m radius	100	12,000

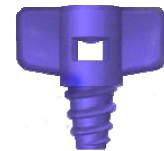
Flow rates and radius throw rated at 125 kPa.

Strip-Spray (Bowtie pattern) – 90 litres per hour, 4mm threaded inlet

DVI6/T	Strip Spray - Blue - 1.6mm Jet, 1.9 metre radius x 1.4 metre max width (narrow vine spray jet)	100	12,000
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Flow rates and radius throw rated at 125 kPa.



Further technical information is available in Specification Sheet WSS-012

TWO PIECE – base & cap

Full-circle and Part-circle – 54 litres per hour, 4mm threaded inlet

M36018	360° 18 Hole Cap – 3.2 m radius, (green base)	100	8,000
M36015	360° 15 Hole Cap – 2.9 m radius, (green base)	100	8,000
M36012	360° 12 Hole Cap – 2.5 m radius, (green base)	100	8,000
M270	270° Cap – 1.7 m radius, (green base)	100	8,000
M180	180° Cap – 2.0 m radius, (green base)	100	8,000
M90	90° Cap – 2.2 m radius, (green base)	100	8,000

Flow rates and radius throw rated at 100 kPa.



Strip-Spray – 33 litres per hour, 4mm threaded inlet

M220	Strip Spray (Bowtie pattern) - 2 x 20° strips, 2.9 m radius, (blue base)	100	8,000
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Flow rates and radius throw rated at 100 kPa.



Mister – 18 Litres per hour, 4mm threaded inlet

MST	Mister – 0.4 m radius, (yellow base)	100	8,000
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Flow rates and radius throw rated at 100 kPa.



Further technical information is available in Specification Sheet WSS-013

Spray Jets – adjustable flow-rate

Part Number	Description	Order Quantity	Carton Quantity
4 mm Threaded Inlet			
VJ360	VariJet® - 360° - Adjustable flow-rate micro spray, 4mm threaded inlet	50	1,500
VJ180	VariJet® - 180° - Adjustable flow-rate micro spray, 4mm threaded inlet	50	1,500
VJ90	VariJet® - 90° - Adjustable flow-rate micro spray, 4mm threaded inlet	50	1,500

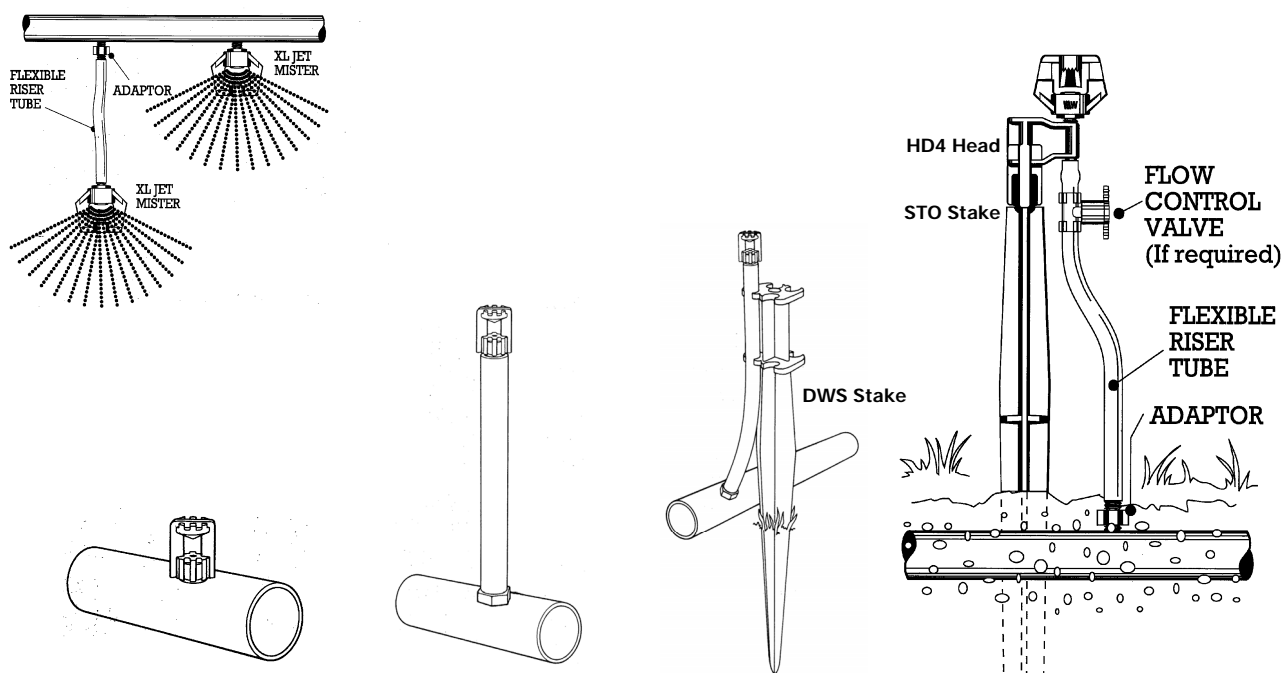


Technical Data

Pressure (kPa)	Flow (L/h)	Radius (metres) (closed to fully open)		
		360°	180°	90°
50	0 - 53 L/h	0 - 2.4	0 - 1.9	0 - 1.5
100	0 - 78 L/h	0 - 3.4	0 - 2.4	0 - 2.4
150	0 - 98 L/h	0 - 4.1	0 - 3.0	0 - 2.9
200	0 - 115 L/h	0 - 4.1	-	-

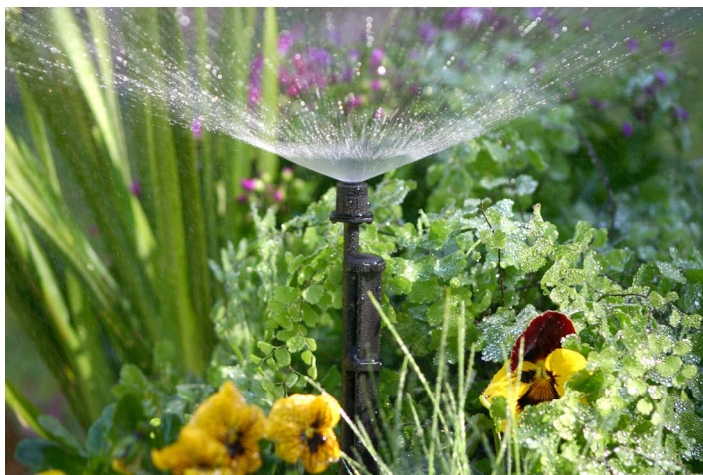
Further technical information is available in Specification Sheet WSS-013

Typical Installations – Spray Jets

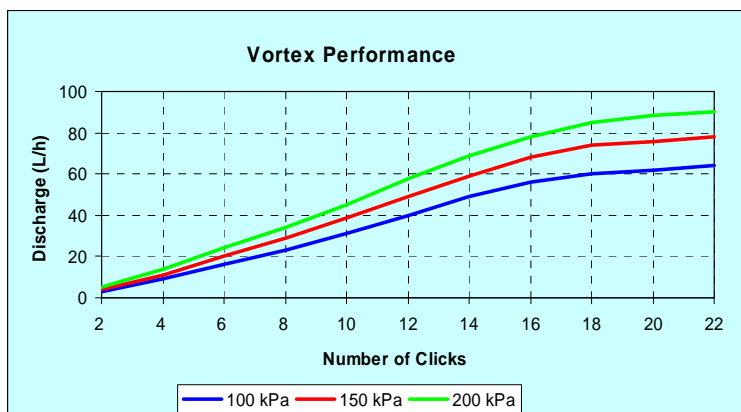


Spray Jet - adjustable flow-rate

Part Number	Description	Order Quantity	Carton Quantity
4mm Inlet			
VS360T	Vortex 360° Spray – 4mm threaded inlet	100	2,000
VS360B	Vortex 360° Spray – 4mm barbed inlet	100	2,000
½” Threaded Inlet			
VS360TH	Vortex 360° Spray ½” female threaded inlet	25	700
Spike with 4mm Inlet			
VS360S	Vortex 360° Spike Spray – 4mm barbed inlet including 4mm take-off	25	350



Technical Data



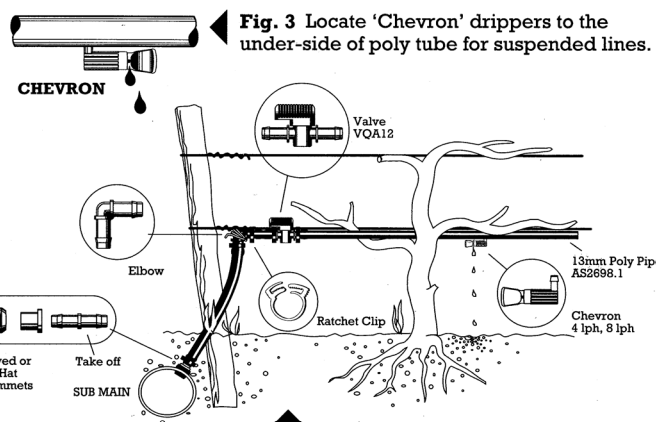
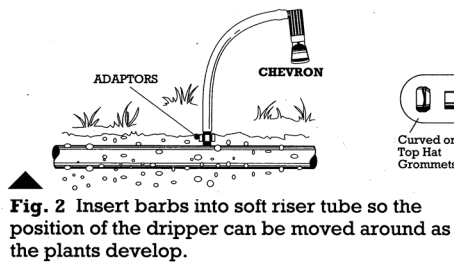
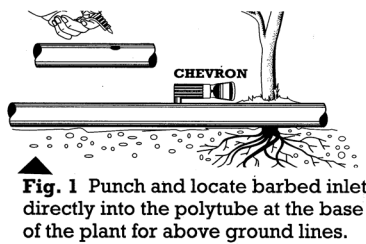
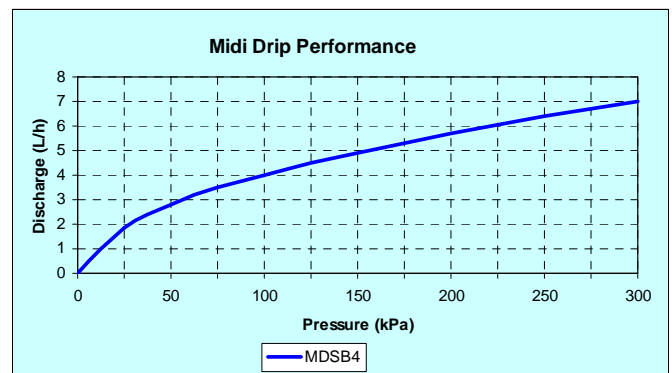
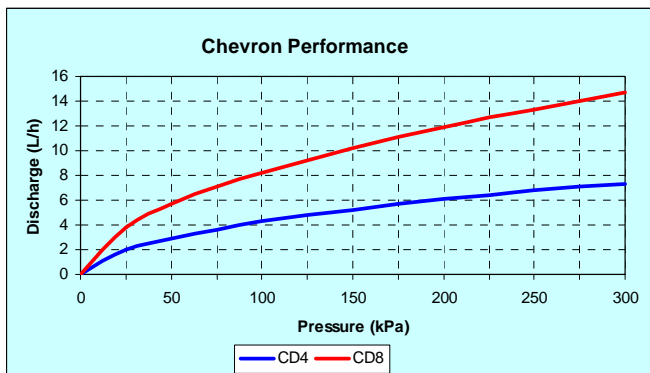
Performance (fully open)		
Pressure (kPa)	Flow (L/h)	Diameter (metres)
100	64	2.8
150	78	3.6
200	90	4.0

Drippers - Fixed Flow-Rate - serviceable

Part Number	Description	Order Quantity	Carton Quantity
<ul style="list-style-type: none"> Key Drippers – two piece 			
CD4	Chevron Turbo Path 4 L/h @ 100 kPa – two piece cleanable, 4mm barbed inlet (Black Key)	100	2,500
D8	Chevron Turbo Path 8 L/h @ 100 kPa – two piece cleanable, 4mm barbed inlet (Green Key)	100	2,500
<ul style="list-style-type: none"> Key Dripper on a Spike - two piece 			
MDSB4	Midi Drip® Spike, 4L/h @ 100 kPa – two piece cleanable, 4mm barbed side inlet	25	625



Technical Data



Further technical information is available in Specification Sheet WSS-021D

Drippers - Fixed Flow-Rate – serviceable

Part Number	Description	Order Quantity	Carton Quantity
■ CETA® - pressure compensated			
CETA2PC	CETA® Pressure Compensating 2 L/h – 4mm barbed inlet, Red base	100	2,500
CETA4PC	CETA® Pressure Compensating 4 L/h – 4mm barbed inlet, Green base	100	2,500
CETA8PC	CETA® Pressure Compensating 8 L/h – 4mm barbed inlet, Black base	100	2,500
■ CETA® on a Spike - pressure compensated			
CETA4SPIKE	CETA® Pressure Compensated 4 L/h – Spike – 4mm side entry barbed inlet	25	350
■ CETA® on an In-Line Spike - pressure compensated			
CETA4ILSPIKE	CETA® Pressure Compensated 4 L/h – Spike – In-Line 4mm side entry/outlet barbs	25	350



CETA4PC

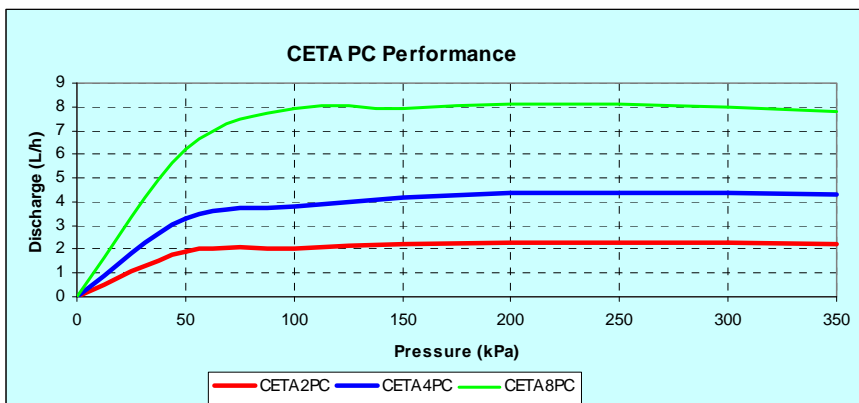


CETA4SPIKE

CETA4ILSPIKE



Technical Data

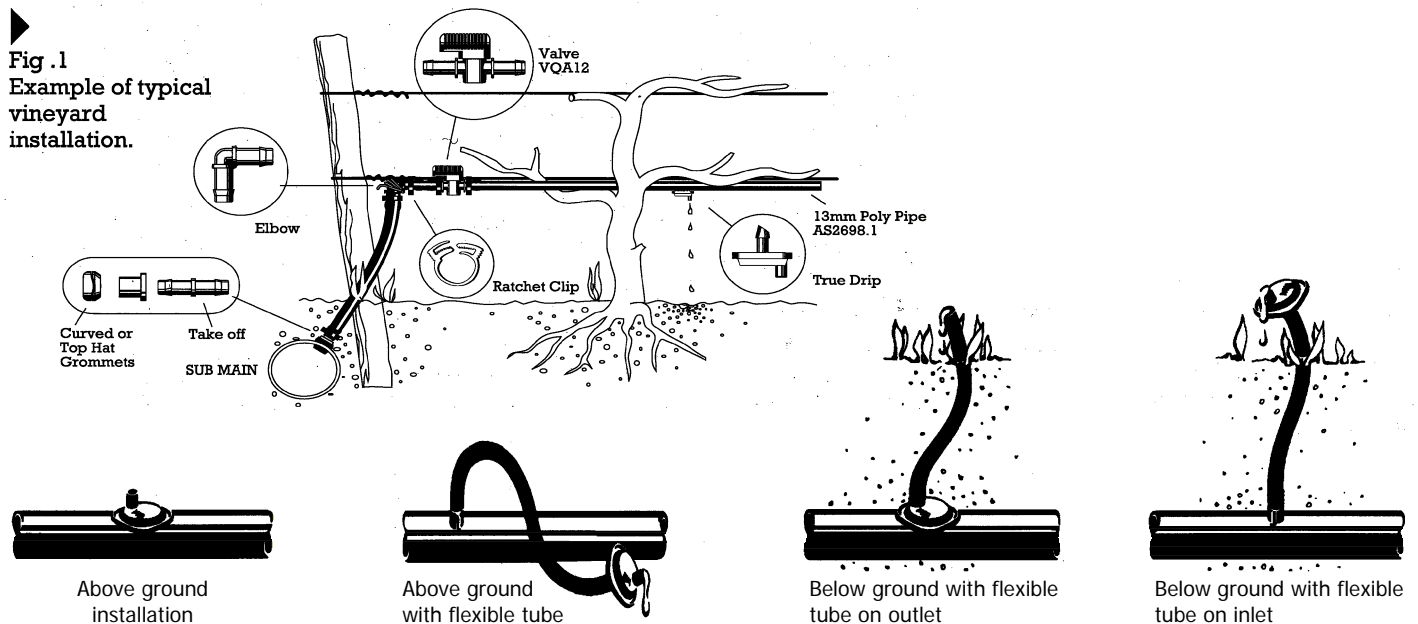
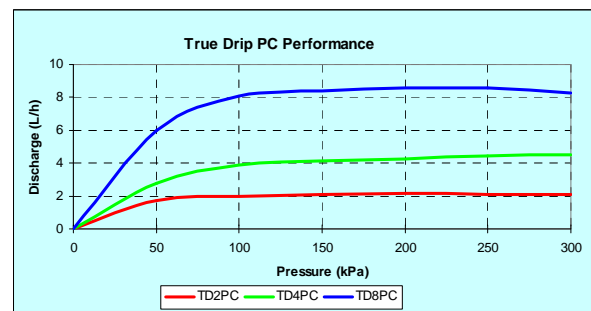
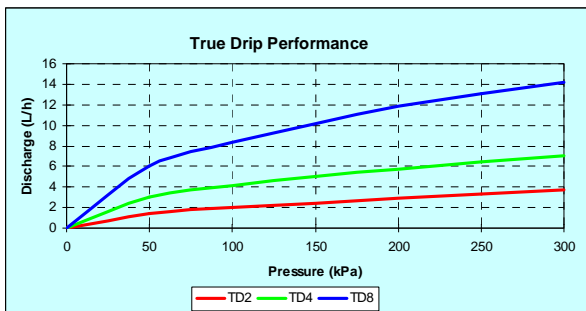


Drippers - Fixed Flow-Rate - sealed

Part Number	Description	Order Quantity	Carton Quantity
True Drip – standard			
TD2	True Drip Turbo Flow, 2 L/h @ 100 kPa – sealed – 4mm barbed inlet	100	2,500
TD4	True Drip Turbo Flow, 4 L/h @ 100 kPa – sealed – 4mm barbed inlet	100	2,500
TD8	True Drip Turbo Flow, 8 L/h @ 100 kPa – sealed – 4mm barbed inlet	100	2,500
True Drip - pressure compensated			
TD2PC	True Drip Pressure Compensating, 2 L/h – sealed – 4mm barbed inlet	100	2,500
TD4PC	True Drip Pressure Compensating, 4 L/h – sealed – 4mm barbed inlet	100	2,500
TD8PC	True Drip Pressure Compensating, 8 L/h – sealed – 4mm barbed inlet	100	2,500



Technical Data



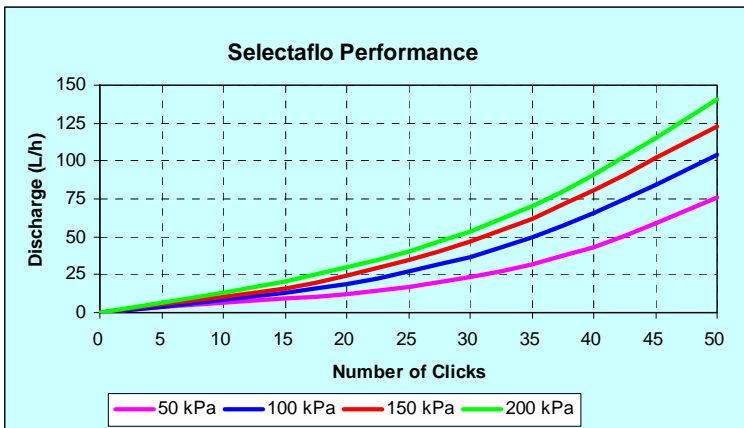
Further technical information is available in Specification Sheet WSS-014C

Dripper - High Discharge - Adjustable - 4 Outlet

Part Number	Description	Order Quantity	Carton Quantity
SD4	Selectaflo Ratchet adjustable flow, 4mm barbed inlet, Flow rate 0 – 100 L/hr	100	2,000



Technical Data



No. of Clicks	Radius of Streams (m)			
	Pressure (kPa)			
	50	100	150	200
5	DRIP TO BUBBLER ZONE			
10	DRIP TO BUBBLER ZONE			
15		0.10	0.10	0.10
20	0.10	0.20	0.20	0.25
25	0.20	0.35	0.35	0.40
30	0.26	0.40	0.40	0.45
35	0.35	0.45	0.45	0.60
40	0.40	0.60	0.60	0.85
45	0.45	0.85	0.85	1.00
50	0.60	1.00	1.00	1.00

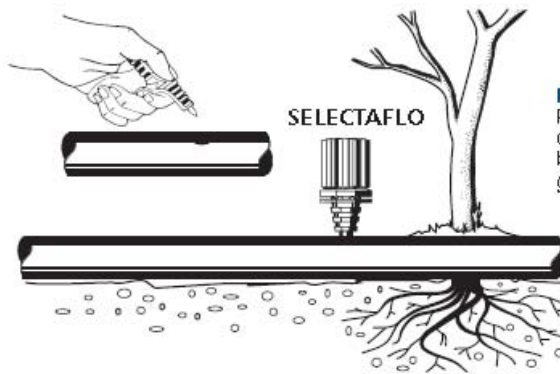
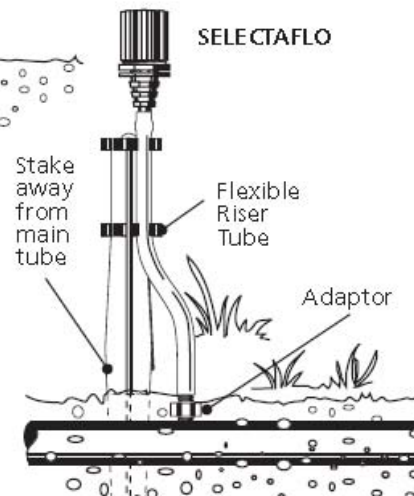


Fig. 1
Punch and locate barbed inlet directly into the polytube at the base of the plant for above ground lines.



Fig. 2
Insert barb into soft riser tube so the position of the dripper can be moved around as the plants develop. Support 'Selectaflo' drippers with a garden stake.



Further technical information is available in Specification Sheet WSS-024

Dripper - High Discharge - Adjustable - 8 Outlet

Part Number	Description	Order Quantity	Carton Quantity
4mm Barbed and Threaded Inlet			
OCTA-8	Octa-mitter [®] , 8 port, 4mm Threaded inlet with black base, Flow Rate 0 – 70 L/h	100	1,800
OCTA-8B	Octa-mitter [®] , 8 port, 4mm Barbed inlet with green base, Flow Rate 0 – 70 L/h	100	1,800
½” Threaded Inlet			
S360ST	Shrubbler [®] 360°, 8 port, ½” Female Thread inlet, Flow Rate 0-33L/h	25	700
Spike with 4 mm Inlet			
S360S	Shrubbler [®] 360° Spike, 8 port, 4 mm side inlet barb, Flow Rate 0 – 33 L/h, includes 4mm barb take-off	25	350
In-Line Spike with 4 mm Inlet/Outlet			
S360SIL	Shrubbler [®] 360° In-Line spike, 8 port, 4 mm in-line side entry inlet/outlet barbs, Flow Rate 0-33L/h	25	350



OCTA-8B



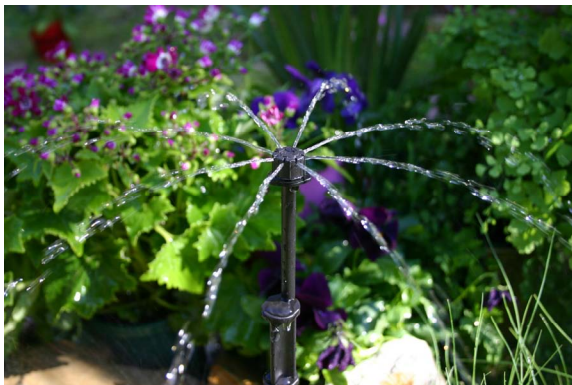
S360ST



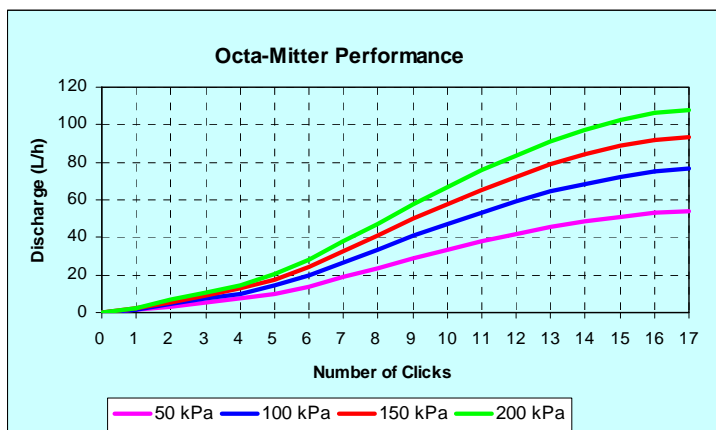
S360S



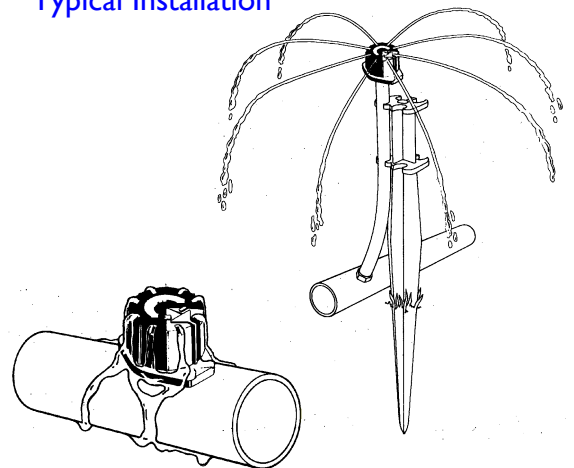
S360SIL



Technical Data



Typical Installation



Dripper - High Discharge - Adjustable - 8 Outlet

Typical Installation

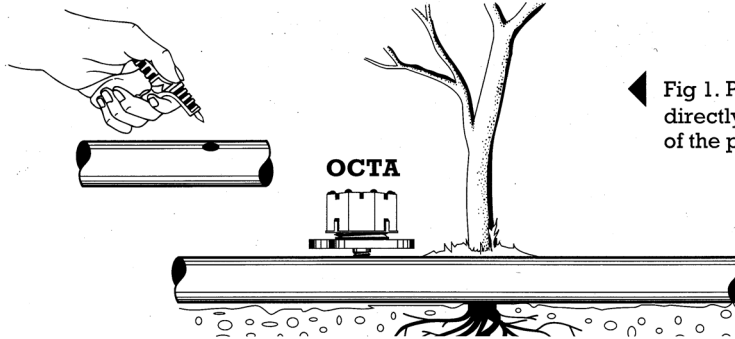


Fig 1. Punch and locate barbed inlet directly into the polytube at the base of the plant for above ground lines.

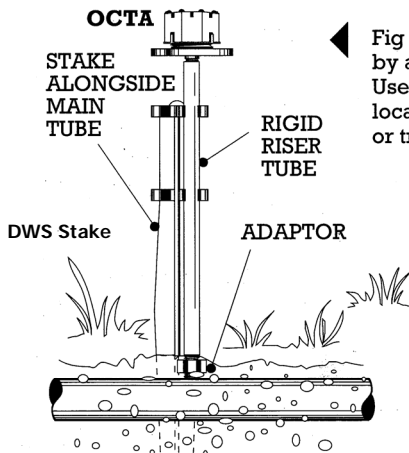
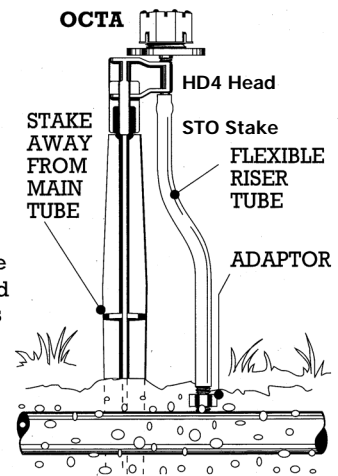
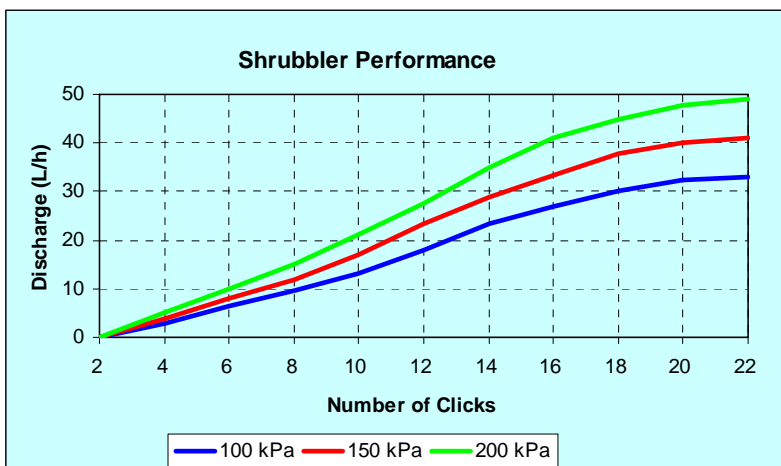


Fig 2. Screwed into a rigid riser and supported by a stake, for lines that are below ground. Use only where there is no need to move the location of the "dripper" e.g. border shrubs or trees.

Fig 3. Screwed into a landscape stake. The most flexible method of installation where the pipe is either above or below ground. The position of the "dripper" can be moved around as the plants develop.



Technical Data



Performance (fully open)		
Pressure (kPa)	Flow (L/h)	Diameter (metres)
100	33	0.4
150	41	0.6
200	49	0.9

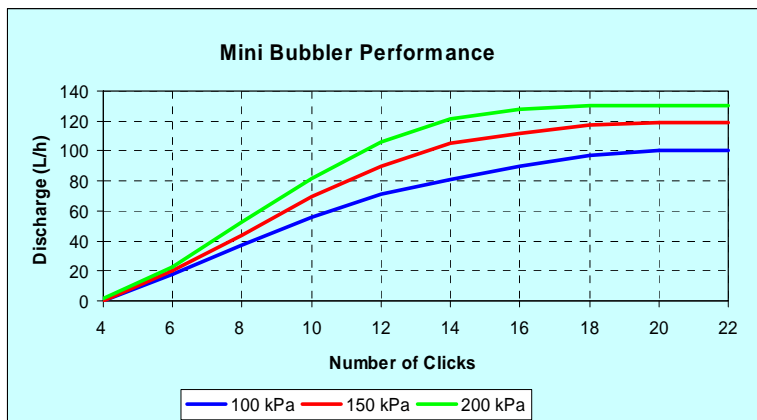
Further technical information is available in Specification Sheet WSS-023

Bubbler - Adjustable Flow-Rate

Part Number	Description	Order Quantity	Carton Quantity
<ul style="list-style-type: none"> 4mm Barbed and Threaded Inlet 			
MB360T4	Mini Bubbler® 360° - 4mm Thread inlet	100	2,800
<ul style="list-style-type: none"> ½" Threaded Inlet 			
MB360TH	Mini Bubbler® 360° - ½" female threaded inlet	25	700
<ul style="list-style-type: none"> Spike with 4 mm Inlet 			
MB360S	Mini Bubbler® 360° Spike, 4mm barbed side inlet	25	350



Technical Data



Performance (fully open)		
Pressure (kPa)	Flow (L/h)	Diameter (metres)
100	100	0.2
150	119	0.3
200	130	0.5

Micro Sprinklers - anti-insect

Part Number	Description	Order Quantity	Carton Quantity
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▪ **Orbitor – head only, 3/8" Male BSP base**
(to suit 3/8" threaded stake heads refer page 28)

OAA13	White nozzle	55 L/h – 2.3m radius @150kPa	50	900
OAA14	Maroon nozzle	70 L/h – 2.3m radius @150kPa	50	900
OAA16	Green nozzle	90 L/h – 2.4m radius @150kPa	50	900
OAA20	Blue nozzle	120 L/h – 2.4m radius @150kPa	50	900
OAA22	Grey nozzle	150 L/h – 2.6m radius @150kPa	50	900
OAA24	Yellow nozzle	185 L/h – 3.1m radius @150kPa	50	900
OAA27	Red nozzle	240 L/h – 3.4m radius @150kPa	50	900

▪ **Orbitor – head only, 1/2" Male BSP base**

OAA13/12	White nozzle	55 L/h – 2.3m radius @150kPa	50	900
OAA14/12	Maroon nozzle	70 L/h – 2.3m radius @150kPa	50	900
OAA16/12	Green nozzle	90 L/h – 2.4m radius @150kPa	50	900
OAA20/12	Blue nozzle	120 L/h – 2.4m radius @150kPa	50	900
OAA22/12	Grey nozzle	150 L/h – 2.6m radius @150kPa	50	900
OAA24/12	Yellow nozzle	185 L/h – 3.1m radius @150kPa	50	900
OAA27/12	Red nozzle	240 L/h – 3.4m radius @150kPa	50	900

▪ **Orbitor Assembly (Bulk Pack)**

Assembled with Sprinkler, stake (STO), head (HD5), 0.5m x 5mm tube & adaptor (TO0505).

OAA1305K	Orbitor kit – White	55 L/h – 2.3m radius	50(Bulk pack)	50
OAA1405K	Orbitor kit – Maroon	70 L/h – 2.3m radius	50(Bulk pack)	50
OAA1605K	Orbitor kit – Green	90 L/h – 2.4m radius	50(Bulk pack)	50
OAA2005K	Orbitor kit - Blue	120 L/h – 2.4m radius	50(Bulk pack)	50

▪ **Orbitor Deflector - refer to Challenger Deflector – page 20**



Technical Data

Nozzle Colour	White	Maroon	Green	Blue	Grey	Yellow	Olive	Red
Nozzle Orifice (mm)	1.1	1.3	1.4	1.7	1.8	1.9	2.2	2.3
Pressure	Flow Rate (L/h)							
100 kPa	46	56	72	101	125	153	167	196
150 kPa	55	70	90	125	150	185	200	240
200 kPa	65	80	101	143	176	215	235	278
	Radius of Throw (metres)							
100 kPa	1.9	2.0	2.0	2.3	2.5	2.7	2.7	3.0
150 kPa	2.3	2.3	2.4	2.4	2.6	3.1	3.2	3.4
200 kPa	2.4	2.3	2.4	2.7	2.6	3.4	3.4	3.6
	Stream Height (metres)							
150 kPa	0.08	0.08	0.09	0.09	0.09	0.10	0.10	0.10
	Filtration Requirement (for non-colloidal water)							
Microns	150	150	200	200	200	300	300	300

Further technical information is available in Specification Sheet WSS-001

Micro Sprinklers - anti-insect

Part Number	Description	Order Quantity	Carton Quantity
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StreamMaster® with 5mm Barbed Base

PSB09	Black Nozzle	35 L/h	2.8m radius	50	700
PSB11	White Nozzle	50 L/h	2.8m radius	50	700
PSB13	Maroon Nozzle	70 L/h	3.0m radius	50	700
PSB14	Green Nozzle	90 L/h	3.2m radius	50	700
PSB17	Blue Nozzle	120 L/h	3.4m radius	50	700
PSB18	Grey Nozzle	150 L/h	3.6m radius	50	700
PSB19	Yellow Nozzle	185 L/h	3.8m radius	50	700
PSB21	Olive Nozzle	200 L/h	3.9m radius	50	700
PSB23	Red Nozzle	240 L/h	3.9m radius	50	700

Flow rates and radius throw rated at 150 kPa. Operation below 100 kPa not recommended

StreamMaster® with 3/8" Threaded Base (to suit 3/8" threaded stake heads refer page 28)

PST09	Black Nozzle	35 L/h	2.8m radius	50	700
PST11	White Nozzle	50 L/h	2.8m radius	50	700
PST13	Maroon Nozzle	70 L/h	3.0m radius	50	700
PST14	Green Nozzle	90 L/h	3.2m radius	50	700
PST17	Blue Nozzle	120 L/h	3.4m radius	50	700
PST18	Grey Nozzle	150 L/h	3.6m radius	50	700
PST19	Yellow Nozzle	185 L/h	3.8m radius	50	700
PST21	Olive Nozzle	200 L/h	3.9m radius	50	700
PST23	Red Nozzle	240 L/h	3.9m radius	50	700

Flow rates and radius throw rated at 150 kPa. Operation below 100 kPa not recommended

StreamMaster® Deflector Flippers (spare part flipper available to deflect water for new plantings)

PDF	Deflector Flipper	50
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Water Efficiency Tip - Deflectors

Deflectors are used with new plantings and allow water to be placed around the root system of new plantings.

As the plant grows the Deflector is replaced with the Flipper converting the sprinkler to normal operation

To install the Director remove the Flipper supplied with the sprinkler and replace with a Director.

Models are available with the Deflector pre-assembled and supplied with a Flipper for later installation

Micro Sprinklers - anti-insect

Part Number	Description	Order Quantity	Carton Quantity
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StreamMaster® Sprinkler Assembly – barbed base

Sprinkler assembled with stake (STO), 0.5m x 5 mm tube and adaptor (TO0505)

Part Number	Nozzle Colour	Flow Rate (L/h)	Radius (m)	Order Qty	Carton Qty
PSB09A5	Black Nozzle	35 L/h	2.8m radius	1	50
PSB11A5	White Nozzle	50 L/h	2.8m radius	1	50
PSB13A5	Maroon Nozzle	70 L/h	3.0m radius	1	50
PSB14A5	Green Nozzle	90 L/h	3.2m radius	1	50
PSB17A5	Blue Nozzle	120 L/h	3.4m radius	1	50
PSB18A5	Grey Nozzle	150 L/h	3.6m radius	1	50

Flow rates and radius throw rated at 150 kPa. Operation below 100 kPa is not recommended

StreamMaster® Sprinkler Assembly – 3/8" threaded base

Sprinkler assembled with stake (STO), head (HD5), 0.5m x 5 mm tube and adaptor (TO0505)

Part Number	Nozzle Colour	Flow Rate (L/h)	Radius (m)	Order Qty	Carton Qty
PST09A5	Black Nozzle	35 L/h	2.8m radius	1	50
PST11A5	White Nozzle	50 L/h	2.8m radius	1	50
PST13A5	Maroon Nozzle	70 L/h	3.0m radius	1	50
PST14A5	Green Nozzle	90 L/h	3.2m radius	1	50
PST17A5	Blue Nozzle	120 L/h	3.4m radius	1	50
PST18A5	Grey Nozzle	150 L/h	3.6m radius	1	50

Flow rates and radius throw rated at 150 kPa. Operation below 100 kPa not recommended



Technical Data

Body (Nozzle) Colour	Black	White	Maroon	Green	Blue	Grey	Yellow	Olive	Red
Nozzle Orifice (mm)	0.9	1.1	1.3	1.4	1.7	1.8	1.9	2.1	2.3
Pressure	Flow Rate (L/h)								
100 kPa	28.6	40.8	57.2	73.5	98	112	151	163	196
150 kPa	35.0	50.0	70.0	90.0	120	150	185	200	240
200 kPa	40.4	57.7	80.8	103	138	173	231	230	277
	Radius of Throw (metres)								
100 kPa	2.5	2.5	2.7	2.9	3.0	3.3	3.4	3.5	3.4
150 kPa	2.8	2.8	3.0	3.2	3.4	3.6	3.8	3.9	3.9
200 kPa	2.9	3.0	3.2	3.4	3.7	3.9	4.2	4.3	4.2
	Stream Height (metres)								
150 kPa	0.25	0.30	0.35	0.38	0.43	0.45	0.45	0.5	0.5
	Filtration Requirement (for non-colloidal water)								
Microns	130	150	190	200	200	200	300	300	300

Micro Sprinklers - anti-insect

Part Number	Description	Order Quantity	Carton Quantity
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- StreamMaster® with Deflector Flipper and 3/8" Threaded Base (supplied with a black flipper) (to suit 3/8" threaded stake heads refer page 28)

PDST09	Black Nozzle	35 L/h	0.7m radius	50	650
PDST11	White Nozzle	50 L/h	0.7m radius	50	650
PDST13	Maroon Nozzle	70 L/h	0.7m radius	50	650
PDST14	Green Nozzle	90 L/h	0.7m radius	50	650
PDST17	Blue Nozzle	120 L/h	0.7m radius	50	650
PDST18	Grey Nozzle	150 L/h	0.7m radius	50	650
PDST19	Yellow Nozzle	185 L/h	0.7m radius	50	650
PDST21	Olive Nozzle	200 L/h	0.7m radius	50	650
PDST23	Red Nozzle	240 L/h	0.7m radius	50	650

Flow rates and radius throw rated at 150 kPa. Operation below 100 kPa not recommended



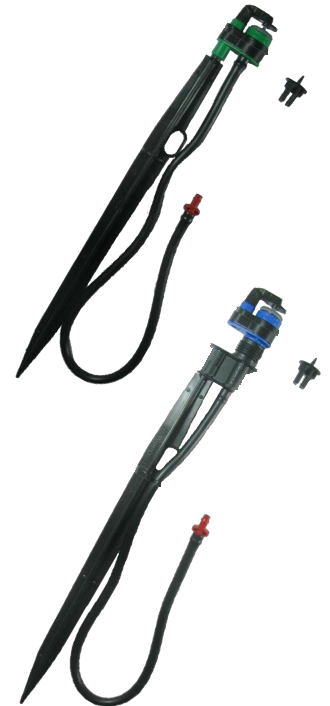
Black Flipper

- StreamMaster® Deflector Sprinkler Assembly – barbed base

Sprinkler assembled with stake (STO), 0.5m x 5 mm tube and adaptor (TO0505) plus spare black flipper

PDSB09A5	Black Nozzle	35 L/h		50	50
PDSB11A5	White Nozzle	50 L/h		50	50
PDSB13A5	Maroon Nozzle	70 L/h		50	50
PDSB14A5	Green Nozzle	90 L/h		50	50
PDSB17A5	Blue Nozzle	120 L/h		50	50

Flow rates and radius throw rated at 150 kPa, Operation below 100 kPa not recommended



- StreamMaster® Deflector Sprinkler Assembly – 3/8" threaded base

Sprinkler assembled with stake (STO), head (HD5), 0.5m x 5 mm tube and adaptor (TO0505) plus spare black flipper

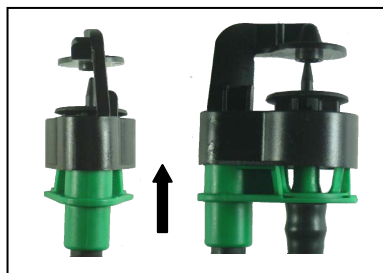
PDST09A5	Black Nozzle	35 L/h	0.7m radius	50	50
PDST11A5	White Nozzle	50 L/h	0.7m radius	50	50
PDST13A5	Maroon Nozzle	70 L/h	0.7m radius	50	50
PDST14A5	Green Nozzle	90 L/h	0.7m radius	50	50
PDST17A5	Blue Nozzle	120 L/h	0.7m radius	50	50

Flow rates and radius throw rated at 150 kPa, Operation below 100 kPa not recommended

Changing Flipper and Deflectors & StreamMaster® Maintenance



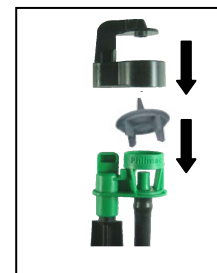
Push Release button



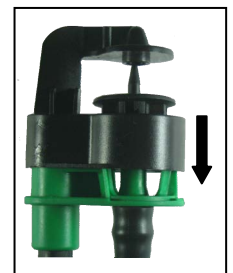
Slide Black frame upward



Separate body, flipper and frame



Insert Director or flipper and Slide Frame down



Push Frame down until button locks frame to body

Micro Sprinklers

Part Number	Description	Order Quantity	Carton Quantity
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▪ **Challenger® – head only, 3/8" BSP base (to suit 3/8" threaded stake heads refer page 28)**

SMB13	Head White Nozzle	55 L/h	3.5m radius	50	1
SMB14	Head Maroon Nozzle	70 L/h	3.7m radius	50	1
SMB16	Head Green Nozzle	90 L/h	4.3m radius	50	1
SMB20	Head Blue Nozzle	120 L/h	4.6m radius	50	1
SMB22	Head Grey Nozzle	150 L/h	5.0m radius	50	1
SMB24	Head Yellow Nozzle	185 L/h	5.4m radius	50	1
SMB25	Head Olive Nozzle	200 L/h	5.5m radius	50	1
SMB27	Head Red Nozzle	240 L/h	5.5m radius	50	1

Flow rates and radius throw rated at 150 kPa



▪ **Challenger® – head only, 3/8" BSP base, low angle trajectory (to suit 3/8" threaded stake heads refer page 28)**

SLA20	Low Angle Head Blue Nozzle	125 L/h	3.9m radius	50	1
SLA24	Low Angle Head Yellow Nozzle	185 L/h	4.9m radius	50	1
SLA27	Low Angle Head Red Nozzle	240 L/h	5.5m radius	50	1

Flow rates and radius throw rated at 150 kPa



▪ **Challenger® – head only, 1/2" BSP base**

SMB13/12	Head White Nozzle	55 L/h	3.5m radius	50	700
SMB16/12	Head Green Nozzle	90 L/h	4.3m radius	50	700
SMB20/12	Head Blue Nozzle	120 L/h	4.6m radius	50	700
SMB22/12	Head Grey Nozzle	150 L/h	5.0m radius	50	700
SMB24/12	Head Yellow Nozzle	185 L/h	5.4m radius	50	700
SMB25/12	Head Olive Nozzle	200 L/h	5.5m radius	50	700
SMB27/12	Head Red Nozzle	240 L/h	5.5m radius	50	700

Flow rates and radius throw rated at 150 kPa



▪ **Challenger® – head only, 1/2" BSP base, low angle trajectory**

SLA2712	Low Angle Head Red Nozzle	240 L/h	5.5m radius	25	700
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Flow rates and radius throw rated at 150 kPa



Micro Sprinklers

Part Number	Description	Order Quantity	Carton Quantity
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Challenger® Sprinkler Assembly – 3/8” threaded base

Sprinkler assembled with stake (STO5), 0.5m x 5 mm tube and adaptor (TO0505)					
SMB1305K	Assembly White Nozzle	55 L/h	3.5m radius	50	50
SMB1405K	Assembly Maroon Nozzle	70 L/h	3.7m radius	50	50
SMB1605K	Assembly Green Nozzle	90 L/h	4.3m radius	50	50
SMB2005K	Assembly Blue Nozzle	120 L/h	4.6m radius	50	50

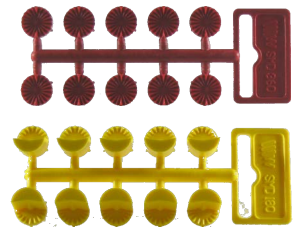
Flow rates and radius throw rated at 150 kPa



Deflectors – suit Challenger® and Orbitor

-	Short Range 360° (Black) – supplied on frame	-	-
SMD360	Deflector 360° (Red)	50	4,000
SMD180	Deflector 180° (Yellow)	50	4,000

NOTE: Deflectors are sold in pack quantities only. Ten per pack. Priced per unit

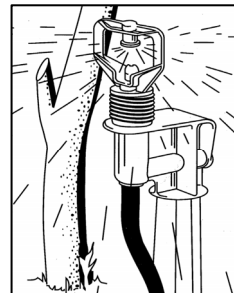


Challenger® & Orbitor Deflector -

Deflectors: 360° Short Range (Black) Supplied with sprinkler on frame.
 360° Long Range (Red) SMD 360
 180° Half Circle (Yellow) SMD 180

Installation Instructions

Unscrew sprinkler from stake head, remove nozzle by screwing a rigid riser onto coloured nozzle base and pull. Remove the flipper and insert the deflector into the frame. Re-insert nozzle.



Technical Data

Nozzle Colour	White	Maroon	Green	Blue	Grey	Yellow	Olive	Red
Nozzle Orifice (mm)	1.1	1.3	1.4	1.7	1.8	1.9	2.2	2.3
Pressure	Flow Rate (L/h)							
100 kPa	46	56	72	101	125	153	167	196
150 kPa	55	70	90	125	150	185	200	240
200 kPa	65	80	101	143	176	215	235	278
	Radius of Throw (metres)							
100 kPa	3.4	3.4	3.8	4.0	4.8	4.8	4.9	4.9
150 kPa	3.5	3.7	4.3	4.6	5.0	5.4	5.5	5.5
200 kPa	3.5	3.8	4.4	4.8	5.3	5.7	5.7	5.7
	Stream Height (metres)							
150 kPa	0.6	0.6	0.7	0.8	0.8	0.9	0.7	0.7
	Filtration Requirement (for non-colloidal water)							
Microns	150	150	200	200	200	300	300	300

Further technical information is available in Specification Sheet WSS-001, WSS-001C

Uniformity Data available in Specification Sheet WSS-002B to 007B

Micro Sprinklers

Part Number	Description	Order Quantity	Carton Quantity
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Microspin (also suits STO Combi Stake)

MS13	White nozzle	55 L/h	2.8m radius	25	2,000
MS14	Maroon nozzle	70 L/h	3.3m radius	25	2,000
MS16	Green nozzle	90 L/h	3.6m radius	25	2,000
MS20	Blue nozzle	125 L/h	3.9m radius	25	2,000

Flow rates and radius throw rated at 150 kPa

Inverted Microspin

IMS13	White nozzle	55 L/h	3.6m radius	25	2,000
IMS14	Maroon nozzle	70 L/h	3.8m radius	25	2,000
IMS16	Green nozzle	90 L/h <td 4.0m radius	25	2,000	
IMS20	Blue nozzle	125 L/h	4.3m radius	25	2,000

Flow rates and radius throw rated at 150 kPa

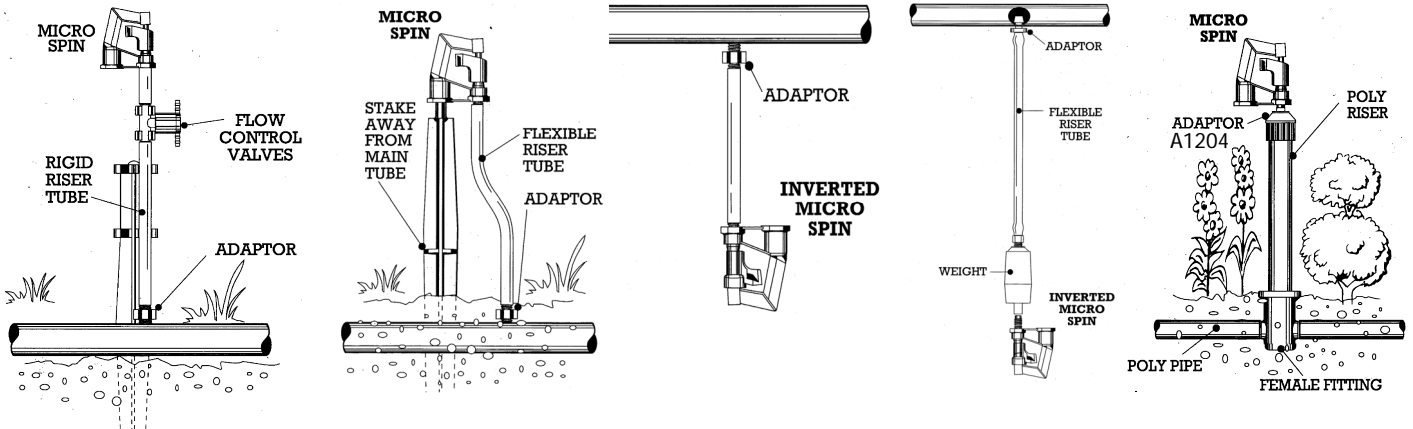
Microspin – variable flow

VRS15	Vari Roto-Spray	0-97 L/h
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Flow rates and radius throw rated at 150 kPa



Typical Installations



Further technical information is available in Specification Sheet WSS-025

Butterfly Sprinklers – 1/2" female BSP base, large drop size, low trajectory

6602	Butterfly Sprinkler, 2.5mm nozzle	300 L/h,	4.5m radius	25	125
6603	Butterfly Sprinkler, 3.0mm nozzle	420 L/h	5.0m radius	25	125
6604	Butterfly Sprinkler, 4.0mm nozzle	660 L/h,	5.0m radius	25	125

Flow rates and radius throw rated at 150 kPa

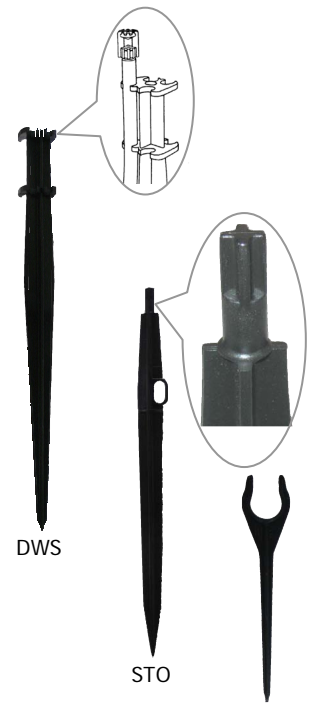


Use Adaptor to convert from 1/2" to 3/4", - part number 5620, 3/4" Female x 1/2" Male (refer page 26)

Further technical information is available in Specification Sheet WSS-BUTTERFLY

Stakes & Stake Heads

Part Number	Description	Order Quantity	Carton Quantity
<ul style="list-style-type: none"> Stake to secure 4mm tube vertically 			
DWS	Jet Stake – 300mm long	10	180
Designed to secure 4mm tube vertically complete with emitter			
<ul style="list-style-type: none"> Stake with top spike (accepts a range of heads & sprinklers) 			
STO	Combi-Stake – 340mm long (suits HD4, HD5, HD10, HD13 heads & Microspin)	50	400
<ul style="list-style-type: none"> Stakes to secure poly-tube horizontally 			
PS12	Snap on pipe stake to secure 13mm poly-tube	25	750
PS34	Snap on pipe stake to secure 19mm poly-tube	25	700



Heads to suit Combi-Stake (STO)

HD4	<ul style="list-style-type: none"> Bottom entry – 4mm poly-tube barb Top outlet – 4mm hole to accept 4mm threaded sprays 	50	1,500
HD5	<ul style="list-style-type: none"> Bottom entry – 5mm poly-tube barb Top outlet – 3/8" female internal thread and 1/2" male external thread 	100	1,000
HD10	<ul style="list-style-type: none"> Side Entry – 10mm poly-tube barb Top outlet – 3/8" female internal thread and 1/2" male external thread 	100	800
HD10S	<ul style="list-style-type: none"> Swivel Entry – 10mm poly-tube barb Top outlet – 3/8" female internal thread and 1/2" male external thread 	100	800
HD13	<ul style="list-style-type: none"> Side Entry – 13mm poly-tube barb Top outlet – 3/8" female internal thread and 1/2" male external thread 	100	800



Heads to suit 26.7mm (OD) PVC pipe stakes

CPS1010	Collar Pipe Stake <ul style="list-style-type: none"> Bottom entry – 10mm poly-tube barbed inlet Top outlet 3/8" female thread 	100	200
CPS1013	Collar Pipe Stake <ul style="list-style-type: none"> Bottom Entry – 13mm poly-tube barbed inlet Top outlet, 3/8" female thread 	100	200



Heads to suit 5mm (OD) Steel rod stakes

ARS105	Rod Stake Adaptor <ul style="list-style-type: none"> Bottom entry – 5mm poly-tube barb Top outlet - 3/8" female internal thread 	100	600
ARS1010	Rod Stake Adaptor <ul style="list-style-type: none"> Bottom entry – 10mm poly-tube barb Top outlet - 3/8" female internal thread 	100	500



Further technical information is available in Specification Sheet WSS-026

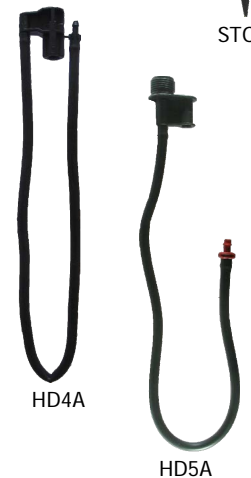
Stakes & Stake Heads

Part Number	Description	Order Quantity	Carton Quantity
Combination Stake and Heads (no tube or barbed take-off fittings)			
STO5	Combi-Stake 340mm (STO) plus head (HD5) <ul style="list-style-type: none"> 5mm bottom entry barbed inlet Dual threaded outlet with 3/8" female thread and 1/2" male thread 	1	250
ST10	One piece unit incorporating stake and integrated head <ul style="list-style-type: none"> 10mm side-entry barbed inlet Dual threaded outlet with 3/8" female thread and 1/2" male thread 	1	220
ST10S	Combi-Stake 340mm (STO) plus head (HD10S) <ul style="list-style-type: none"> 10mm barbed inlet – swivel elbow Dual threaded outlet with 3/8" female thread and 1/2" male thread 	1	240
STO13	Combi-Stake 340mm (STO) plus head (HD13) <ul style="list-style-type: none"> 13mm side-entry barbed inlet Dual threaded outlet with 3/8" female thread and 1/2" male thread 	1	220



Assembled Heads (head, tube and barb-fitting)

HD4A	HD4 Stake head assembly with 0.5m x 4mm tube and take off – fits Combi Stake (STO)	25	200
HD5A	Stake Head Assembly with 0.5m x 5mm tube & take-off - fits Combi Stake (STO)	50	300



Assembled Stakes (stake, head, tube and barb fitting)

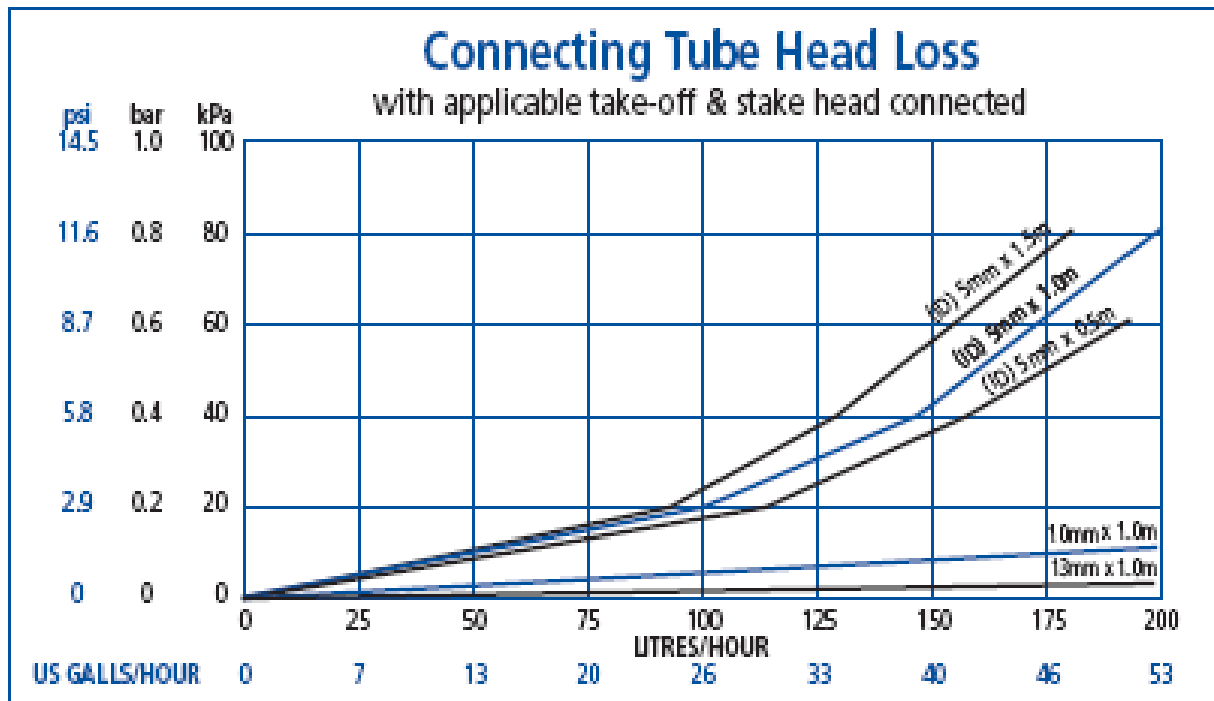
LST4A	HD4A head assembly complete with STO stake,	25	100
STO5A	HD5A head assembly complete with STO stake	25	175



Further technical information is available in Specification Sheet WSS-010G

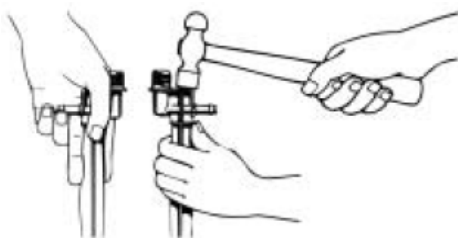
Stakes & Stake Heads

Technical Data



Installation

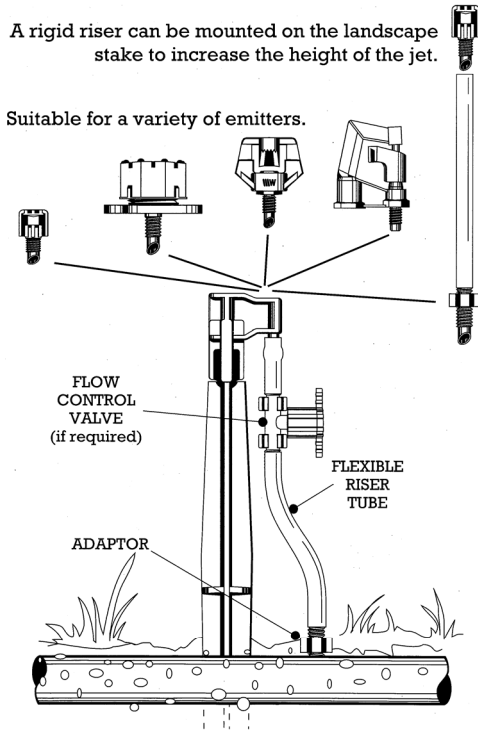
The original offset “hammer head” design allows maximum force to be applied for insertion into soil.



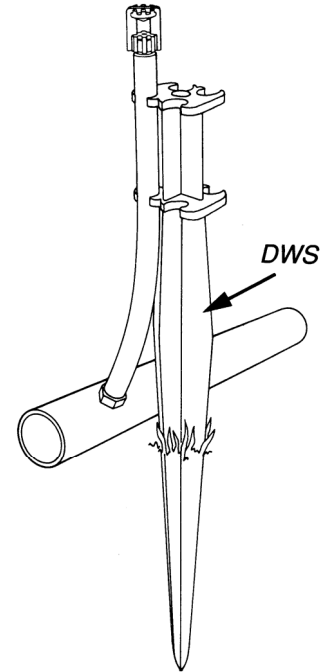
Insert securely by either hammer or hand

Stakes & Stake Heads

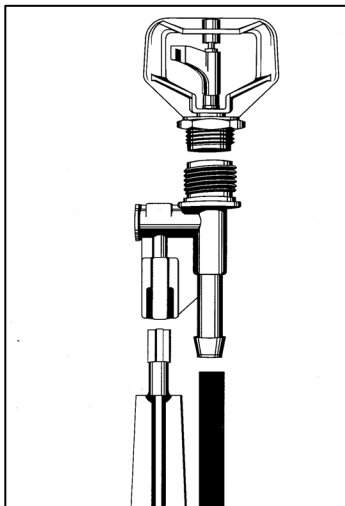
Typical Installation - HD4 head



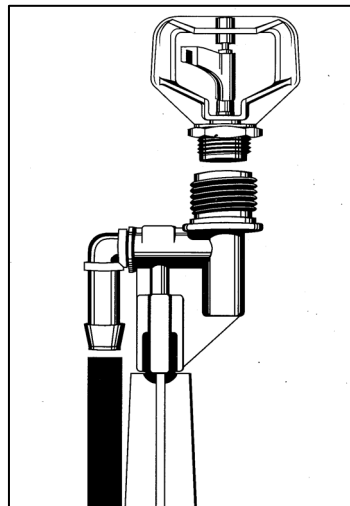
Typical Installation - DWS Stake



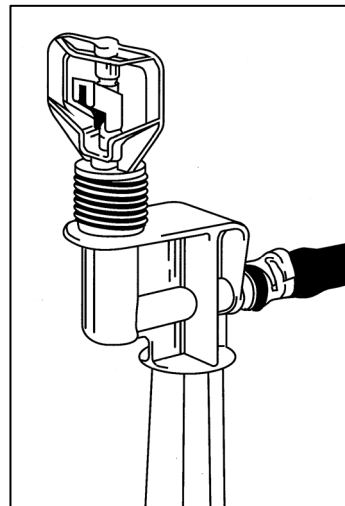
Typical Installation - Heads to suit Combi Stake (STO) - HD5, HD10, HD13 and MicroSpin Sprinkler



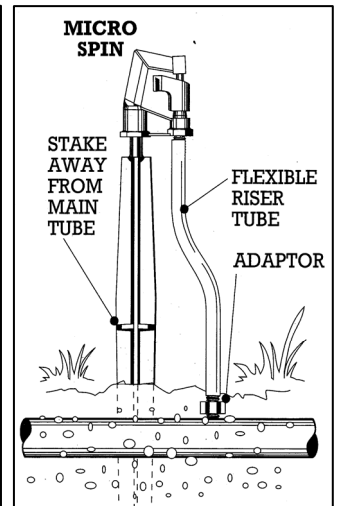
Bottom Entry 5mm
Model STO5 - Combination of Stake (STO) & Head (HD5)
 Use with 5mm flexible rise tube connection to the lateral



Swivel Elbow Stake 10mm
Model ST10S - Use with 10mm poly tubing connection to the lateral
 Swivel Elbow – reduces lateral drag on the stake to retain its vertical position., especially with above ground laterals



Side Entry Stake 10mm & 13mm
 Barbed side entry, use poly tube connection to the lateral
Model ST10 (10mm poly tube) is a one piece integrated head and stake
Model STO13 (13mm poly tube) is a combination Stake (STO) and Head (HD13)



MicroSpin sprinkler
 MicroSpin sprinklers fit directly to STO stakes - refer page 21

Further technical information is available in Specification Sheet WSS-010G

Adaptors & Articulated Risers

Part Number	Description	Order Quantity	Carton Quantity
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Shrub Head Adaptors (for Rain Bird® and Toro® nozzles)

6100R	Shrub Adaptor Male, Rain Bird® Compatible x 1/2" female	50	800
6100T	Shrub Adaptor Female, Toro® Compatible x 1/2" female	50	700



Riser Adaptor

A1204	Poly Riser Jet Adaptor 1/2" female x 4mm female <i>To connect a 1/2" threaded pipe to 4mm tube</i>	25	900
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Adaptors

5615	Adaptor M&F 1/2" - (1/2" Male x 1/2" Female)	50	700
5620	Adaptor (Reducer) M&F - 1/2" Male x 3/4" Female	50	400
80390200	Adaptor M&F 1" - (1" Male BSP x 1" Female BSP)	50	200

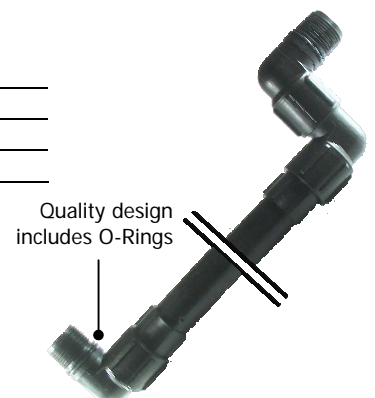


Articulated Riser Assemblies – with O-rings

82291500	Artic. Riser Assembly 1/2" BSP M x 200mm	50	100
82290800	Artic. Riser Assembly 3/4" BSP M x 300mm	50	50
82290300	Artic. Riser Assembly 1" BSP M x 300mm	30	30

Installation Tip: Is PTFE tape required on the threads of an Articulated Riser?

Philmac high performance Articulated Risers are supplied with O'Ring seals to prevent leakage. It is the installer's choice, but using PTFE tape eliminates leaks from the threads matching the performance of the Articulated Riser.



Static Fittings for LDPE (Poly) Irrigation Pipe

- Fittings designed to suit Low Density Polyethylene (LDPE) irrigation pipe
- Expected maximum pressure of 300 kPa (45psi)
- Designed for use with Tube Clips
- Metric pipe sizes are nominal inside diameter
- Actual pipe Inside Diameters are Imperial

1/4" (6 mm)	3/8" (10 mm)	1/2" (13 mm)	5/8" (16 mm)
3/4" (19 mm)	1" (25 mm)	1-1/4" (32 mm)	

Part Number	Description	Order Quantity	Carton Quantity
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Joiners – Barbed

I4HJ	Joiner 6mm	100	5,000
38HJ	Joiner 10mm	25	2,400
I2HJ	Joiner 13mm	25	1,500
58HJ	Joiner 16mm	25	800
34HJ	Joiner 19mm	25	600
I0HJ	Joiner 25mm	25	300
I14HJ	Joiner 32mm	10	160

Joiners – Reducing Barbed

RJ5612	Reducing joiner 8mm x 13mm	25	1,500
RJ3814	Reducing joiner 10mm x 6mm	25	2,500
RJ1214	Reducing joiner 13mm x 6mm	25	1,500
RJ1238	Reducing joiner 13mm x 10mm	25	1,500
RJ5812	Reducing joiner 16mm x 13mm	25	1,000
RJ3412	Reducing joiner 19mm x 13mm	25	700
RJ3458	Reducing joiner 19mm x 16mm	25	600
RJ1012	Reducing joiner 25mm x 13mm	25	500
RJ1034	Reducing joiner 25mm x 19mm	25	400
RJ11410	Reducing joiner 32mm x 25mm	25	200

Tees – Barbed

T14	Tee Joiner, 6mm	100	3,000
T38	Tee Joiner, 10mm	25	1,000
T12	Tee Joiner, 13mm	25	600
T58	Tee Joiner, 16mm	25	450
T34	Tee Joiner, 19mm	25	300
T10	Tee Joiner, 25mm	25	175
T114	Tee Joiner, 32mm	25	75

Tees – Reducing Barbed

I214RT	13mm line x 6mm branch	25	400
I238RT	13mm line x 10mm branch	25	600
5812RT	16mm line x 13mm branch	25	400
3412RT	19mm line x 13mm branch	25	300
3458RT	19mm line x 16mm branch	25	300
I012RT	25mm line x 13mm branch	25	175
I058RT	25mm line x 16mm branch	25	200
I034RT	25mm line x 19mm branch	25	175
I1412RT	32mm line x 13mm branch	25	100
I1434RT	32mm line x 19mm branch	25	100
I1410RT	32mm line x 25mm branch	25	100



Static Fittings for LDPE Pipe

Part Number	Description	Order Quantity	Carton Quantity
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▪ Tees – Increasing Barbed

IT1258	13mm line x 16mm branch	25	500
IT1234	13mm line x 19mm branch	25	400
IT5834	16mm line x 19mm branch	25	400
IT3410	19mm line x 25mm branch	25	200

▪ Tees – Threaded Female

T12G14F	13mm line x 1/4" BSP female branch	25	600
T12G12F	13mm line x 1/2" BSP female branch	25	250
T34G12F	19mm line x 1/2" BSP female branch	25	200
T10G12F	25mm line x 1/2" BSP female branch	25	150

▪ Tees – Threaded Male

T12G12M	13mm line x 1/2" BSP male branch	25	450
T34G12M	19mm line x 1/2" BSP male branch	25	300
T3434M	19mm line x 3/4" BSP male branch	25	250
T10G12M	25mm line x 1/2" BSP male branch	25	200
T10G34M	25mm line x 3/4" BSP male branch	25	150
T114G12M	32mm line x 1/2" BSP male branch	25	100

▪ Elbows – Barbed

E14	90° Elbow 6mm	100	5,000
E38	90° Elbow 10mm	25	1,600
E12	90° Elbow 13mm	25	1,000
E58	90° Elbow 16mm	25	600
E34	90° Elbow 19mm	25	450
E10	90° Elbow 25mm	25	250
E114	90° Elbow 32mm	25	100

▪ Elbows – Threaded Female

E12G12F	13mm x 1/2" BSP female 90° elbow	25	350
E34G12F	19mm x 1/2" BSP female 90° elbow	25	250
E10G12F	25mm x 1/2" BSP female 90° elbow	25	200

▪ Elbows – Threaded Male

E12G12M	13mm x 1/2" BSP male 90° elbow	25	700
E34G12M	19mm x 1/2" BSP male 90° elbow	25	400
E3434M	19mm x 3/4" BSP male 90° elbow	25	400
E10G12M	25mm x 1/2" BSP male 90° elbow	25	250
E10G34M	25mm x 3/4" BSP male 90° elbow	25	225



Static Fittings for LDPE Pipe

Part Number	Description	Order Quantity	Carton Quantity
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Elbows – Male x Female

EG12FM	½" BSP M&F 90° elbow	25	300
EG34FM	¾" BSP M&F 90° elbow	25	250
EG10FM	1" BSP M&F 90° elbow	25	150



Elbow – Corner

3CJ	19mm x ½" BSP male corner elbow	25	250
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Director

D3812	10mm tail x ½" BSP male	25	1,000
D3834	10mm tail x ¾" BSP male	25	1,000
D1214	13mm tail x ¼" BSP male with washer	25	1,200
D1212	13mm tail x ½" BSP male	25	1,000
D1234	13mm tail x ¾" BSP male	25	800
D1325	13mm tail x 1" BSP male	25	350
D5812	16mm tail x ½" BSP male	25	900
D3412	19mm tail x ½" BSP male	25	700
D3434	19mm tail x ¾" BSP male	25	500
D1925	19mm tail x 1" BSP male	25	300
D1034	25mm tail x ¾" BSP male	25	350
D1010	25mm tail x 1" BSP male	25	250
D11410	32mm tail x 1" BSP male	25	200



Cross – Four Way

CI2	Cross 13mm	25	400
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Snap Couplings

AS13	13mm snap coupler x 13mm barb	25	1,250
AS1319	13mm snap coupler x 19mm barb	25	500
Snap Coupler suits garden hose snap-on quick connectors			



Static Fittings for LDPE Pipe

Part Number	Description	Order Quantity	Carton Quantity
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▪ Nut with barbed tail

N3412	3/4" BSP Nut with Washer x 13mm tail	25	450
N3458	3/4" BSP Nut with Washer x 16mm tail	25	450
N3434	3/4" BSP Nut with Washer x 19mm tail	25	400
NI012	1" BSP Nut with Washer x 13mm tail	25	325
NI058	1" BSP Nut with Washer x 16mm tail	25	350
NI034	1" BSP Nut with Washer x 19mm tail	25	300
NI010	1" BSP Nut with Washer x 25mm tail	25	200



▪ Nut with male threaded tail

NI034M	1" BSP Nut with Washer x 3/4" Male threaded tail	25	300
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▪ Back to back nuts

BBN3434	3/4" BSP Nut back to back with 3/4" Interconnection	25	300
BBN1010	1" BSP Nut back to back with 1" Interconnection	25	150



▪ Blank nuts & washers

BN34	3/4" BSP Blank Nut with washer	25	600
BN10	1" BSP Blank Nut with washer	25	500



▪ Nut (with hole)

AN34	3/4" BSP white Acetal Nut without washer	25	700
N34	3/4" BSP Nut with washer	25	700



Static Fittings for LDPE Pipe

Part Number	Description	Order Quantity	Carton Quantity
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End Plugs

EP38	End plug 10mm	25	2,500
EPI2	End plug 13mm	25	2,500
EP58	End plug 16mm	25	1,000
EP34	End plug 19mm	25	1,000
EP10	End plug 25mm	25	650
EP114	End plug 32mm	25	300

Sealing Sleeves

SS12	13mm end sealing sleeve	25	600
SS58	16mm end sealing sleeve	25	400
SS34	19mm end sealing sleeve	25	1,600

Alternative to End Plug. Fold PE tube back and forth to seal, secure with Sealing Sleeve

Pipe Saddle Clamps

PC13	Pipe saddle 13mm	100	3,000
PC34	Pipe saddle 19mm	100	1,600
SR4	Riser Tube Saddle (to suit 4mm tube)	100	6,000

Tube Clips

(also suit thin walled LDPE (polyethylene) irrigation pipe to AS2698.1)

Part Number	Suits Polyethylene irrigation Pipe	Nominal Outside Diameter (mm)	Range Pipe Outside Diameter (mm)	Order Quantity	Carton Quantity
CT10		10mm	9-10	50	3,000
CT12		12mm	11-12	50	3,000
CT13	10mm	13mm	12-13	100	4,000
CT15	13mm	15mm	15	100	3,500
CT17		17mm	16-18	100	2,500
CT19	16mm	19mm	18-19	100	3,000
CT20		20mm	19-20	50	2,000
CT23	19mm	23mm	22-23	100	2,000
CT24		24mm	23-25	100	1,600
CT29	25mm	29mm	27-30	100	1,200
CT32		32mm	30-33	50	1,000
CT37	32mm	37mm	35-38	100	1,000
CT40		40mm	38-42	50	600



SS34 & SS58

SS12



PC13 & PC34



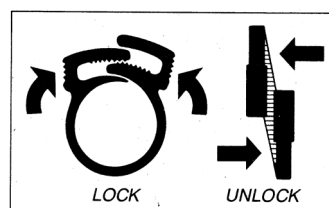
SR4



Technical Data

Installation

1. Position clip around tube and squeeze jaws together by hand
2. The clip can then be further secured by squeezing one or two clicks with the use of pliers, multi-grips or channel-locks
3. To Remove, use pliers to hold top jaw of clip and slide sideways



Further technical information is available in Specification Sheet WSS-020B

In-Line Valves

Part Number	Description	Order Quantity	Carton Quantity
Valve Quick Action – barb x barb			
VQA38	Quick Action Shut Off Valve 10mm tails (Black ring)	20	360
VQA12	Quick Action Shut Off Valve 13mm tails (Black ring)	20	300
VQA58	Quick Action Shut Off Valve 16mm tails (Black ring)	20	240
VQA34	Quick Action Shut Off Valve 19mm tails (Red ring)	20	100
VQA10	Quick Action Shut Off Valve 25mm tails (Green ring)	20	80
<i>We recommend the use of Ratchet Clips with valves</i>			



Further technical information is available in Specification Sheet WSS-018D

Valve Quick Action – barb x male thread			
VT1212	Valve quick action 13mm barb x 1/2" BSP male (1/2" MPT)	50	250
VT1234	Valve quick action 13mm barb x 3/4" BSP male (3/4" MPT)	50	250
VT5812	Valve quick action 16mm barb x 1/2" BSP male (1/2" MPT)	50	250
VT5834	Valve quick action 16mm barb x 3/4" BSP male (3/4" MPT)	50	250
<i>We recommend the use of Ratchet Clips with valves</i>			



Shut-Off Valve (multi-turn) – barb x barb			
SO12	Shut Off Valve – 13mm tails both ends	20	200
SO34/S	Shut Off Valve – 19mm tails both ends	20	160
<i>We recommend the use of Ratchet Clips with valves</i>			



Further technical information is available in Specification Sheet WSS-019C

Pressure Controllers and Filters

Part Number	Description	Order Quantity	Carton Quantity
<ul style="list-style-type: none"> Pressure Controller – barbed inlet and outlet 			
PR12	Pressure Reducer 4:1 , 13mm barbed tail (outlet pressure approx. 1/4 of inlet pressure)	1	120



Further technical information is available in Specification Sheet WSS-PR

<ul style="list-style-type: none"> Pressure Controller – threaded inlet and outlet 			
SPPR10	10 psi Regulator. 3/4" Male Inlet x 3/4" Female Outlet	Bulk Pack	120
SPPR15	15 psi Regulator. 3/4" Male Inlet x 3/4" Female Outlet	Bulk Pack	120
SPPR20	20 psi Regulator. 3/4" Male Inlet x 3/4" Female Outlet	Bulk Pack	120
SPPR25	25 psi Regulator. 3/4" Male Inlet x 3/4" Female Outlet	Bulk Pack	120



Further technical information is available in Specification Sheet WSS-SPPR

<ul style="list-style-type: none"> Filters – with 50 mesh 'B' Cartridge 			
I-IS-12BB	Black Case – 13mm tails with both ends	1	50
I-IS-34BB	Black Case – 19mm tails with both ends	1	50
I-IS-10BB	Black Case – 25mm tails with both ends	1	50
<i>Includes I-IS-B black case, 2 end caps and BC-50 50 mesh filter</i>			



<ul style="list-style-type: none"> Cases Only 			
I-IS-B	150mm Black Case 1" BSP male thread both ends – (Bulk Pack)	20	120
I-IS-C	150mm (Poly Carbonate) Clear Case 1" BSP male thread both ends (Bulk pack)	20	120

<ul style="list-style-type: none"> Filter Cartridges Only 			
AC-30	19mm Dia. X 135mm long, Cartridge 30 mesh (Coarse)	20	260
BC-50	19mm Dia. X 135mm long, Cartridge 50 mesh (Fine)	20	260

Take-Offs and Grommets

Part Number	Description	Order Quantity	Carton Quantity
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RIGID PIPE (eg PVC, MDPE, HDPE, GI etc)

▪ Grommet – Double Flanged Rubber – for thin walled PVC pipes only

GR56	8mm I.D. Double Flange Grommet (to suit TO5612) <i>(Use 11mm or 7/16" drill)</i>	50	6,000
GR34	19mm I.D. Double Flange Grommet (to suit TO3458, TO3434, TO3410, TO3114) <i>(Use 24mm or 15/16" hole saw)</i>	50	900



▪ Grommet – Top Hat Rubber – suits rigid pipe (PVC, MDPE, HDPE, GI etc)

GR56TH	8mm I.D. Top Hat Grommet (to suit TO5612) <i>(Use 10mm or 13/32" drill)</i>	50	4,500
GRI2TH	13mm I.D. Top Hat Grommet (to suit TO1234, TO1212, TLTO13) <i>(Use 16mm or 5/8" hole saw)</i>	50	2,500
GR58TH	16mm I.D. Top Hat Grommet (to suit TO5812, TO5858, TLTO16) <i>(Use 19mm or 3/4" hole saw)</i>	50	1,500
GR34TH	19mm I.D. Top Hat Grommet (to suit TO3458, TO3434, TO3410, TO34114) <i>(Use 22mm or 7/8" hole saw)</i>	50	1,000



▪ Take-Off – to suit 8mm ID Grommets

TO5612	Take-off – 8mm grommet inlet x 13mm poly tube	50	1,000
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▪ Take-Off – to suit 13mm ID Grommets

TO1212	Take-off – 13mm grommet inlet x 13mm poly tube	50	1,000
TO1234	Take-off – 13mm grommet inlet x 19mm poly tube	50	500

▪ Take-Off – to suit 16mm ID Grommets

TO5812	Take-off – 16mm grommet inlet x 13mm poly tube	50	600
TO5858	Take-off – 16mm grommet inlet x 16mm poly tube	50	650

▪ Take-Off – to suit 19mm ID Grommets

TO3458	Take-off – 19mm grommet inlet x 16mm poly tube	50	400
TO3434	Take-off – 19mm grommet inlet x 19mm poly tube	50	400
TO3410	Take-off – 19mm grommet inlet x 25mm poly tube	50	250
TO34114	Take-off – 19mm grommet inlet x 32mm poly tube	50	100



LDPE PIPE – direct insertion

▪ Take-Off – to suit 8mm ID Grommets

TO0610	6mm tail x 10mm tail take-off adaptor	50	2,000
TOE0610	6mm x 10mm 90° Elbow take-off adaptor	50	1,500



Further technical information is available in Specification Sheet WSS-017

Tape-Lock® Fittings for 5/8" (16mm) Drip-Tape

Part Number	Description	Order Quantity	Carton Quantity
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▪ Layflat Connectors

LFI625	Connector Layflat – 25mm tear drop to suit Layflat Hose x Drip-Tape 5/8" (16mm)	50	300
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▪ Layflat hole punch

PLFTL	Oval Eye layflat hole punch	1	1
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▪ Take-Offs (to suit Top-Hat Grommets)

TLTO13	Take-off – suits 13mm Top-Hat Grommet (GR12TH) x Drip-Tape 5/8" (16mm)	50	300
TLTO16	Take-off – suits 16mm Top-Hat Grommet (GR58TH) x Drip-Tape 5/8" (16mm)	50	300

Take-offs also suitable to connect 13mm and 16mm LDPE poly-tube to Drip-tape



▪ Tee – Drip-Tape (line) x Polytube barbed fitting (branch)

TLTI3	Tee – Drip-Tape 5/8" (16mm) x 13mm poly tube branch	50	150
TLTI6	Tee – Drip-Tape 5/8" (16mm) x 16mm poly tube branch	50	150



▪ Coupler/Joiner to connect Drip-Tape x Drip-Tape

TLJI6	Joiner Tape – Drip Tape 5/8" (16mm) x Drip Tape 5/8" (16mm)	50	250
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▪ Valve to join Drip-Tape x Polytube barbed fitting

TLVI3	Valve Tape-lock® – Quick Action valve, 13mm barbed tail x Drip Tape 5/8" (16mm)	20	160
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▪ Flushing Valves to suit Drip-Tape

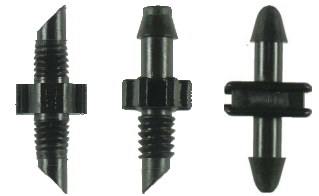
TLVF5	Tape-lock® flushing valve, seals at 5 kPa (Red Cap)	50	300
TLVF12	Tape-lock® flushing valve, seals at 12 kPa (Black Cap)	50	300



Further technical information is available in Specification Sheet WSS-016

Micro Fittings for 4mm and 5mm Tube

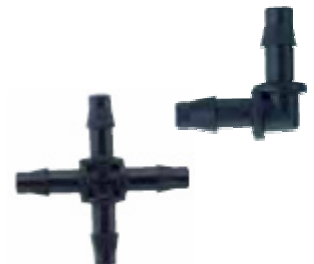
Part Number	Description	Order Quantity	Carton Quantity
<ul style="list-style-type: none"> Coupler/Joiner/Adaptors <ul style="list-style-type: none"> - Adaptors inserted into side of thin walled poly tube - Joiner/Couplers to join lengths of tube 			
JAT	Adaptor 4mm x 4mm threaded	100	12,000
A4BT	Adaptor 4mm barbed x 4mm threaded	100	10,000
JAB	Adaptor/Joiner 4mm x 4mm barbed tails	100	7,000
A05	5mm tail x 5mm tail adaptor	50	6,000
TO0505	5mm tail x 5mm tail take off adaptor (high flow – red)	50	6,000
<ul style="list-style-type: none"> Coupler/Joiner Reducer 			
AB54	Adaptor/Reducing 5mm x 4mm barbed tails	100	6,000
<ul style="list-style-type: none"> Tee 			
T3M4M	Tee 3mm and 4mm barbed (Dual size barbs)	100	6,000
TB4	Tee 4mm barbed	50	5,000
<ul style="list-style-type: none"> Elbow 			
EB4	Elbow 4mm barbed	50	6,000
<ul style="list-style-type: none"> Cross 			
CB4	Cross 4mm barbed	50	4,000
<ul style="list-style-type: none"> Repair Plug 			
PG4	Repair Plug 4mm	100	5,500
PR5	Repair Plug 5mm	100	4,000
<ul style="list-style-type: none"> Flow Control Valve 			
V4T	Flow Control Valve 4mm threaded	50	2,000
<ul style="list-style-type: none"> Riser Adaptor 			
A1204	Poly Riser Jet Adaptor 1/2" female x 4mm female	25	900
<i>To connect a 1/2" threaded pipe to 4mm tube</i>			
<ul style="list-style-type: none"> Hole Punch 			
PK4	Punch Spanner for 1&2 piece jets	25	600



JAT A4BT JAB

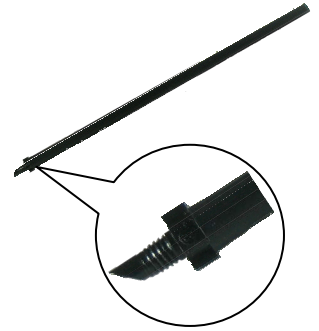


A05 TO0505



Rigid Pipe Risers & Tube

Part Number	Description	Order Quantity	Carton Quantity
<ul style="list-style-type: none"> 4mm Rigid Riser tube complete with 4mm threaded adaptor 			
RGR200	Rigid Riser Tube 200mm with Adaptor (JAT)	100	2,300
RGR300	Rigid Riser Tube 300mm with Adaptor (JAT)	100	1,800
RGR450	Rigid Riser Tube 450mm with Adaptor (JAT)	100	1,100



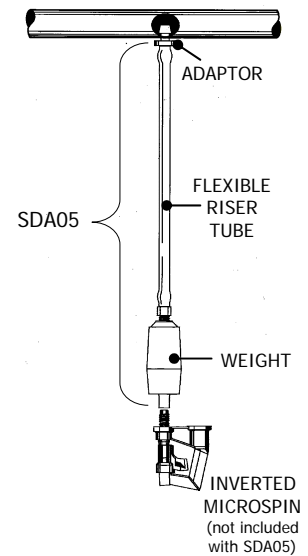
<ul style="list-style-type: none"> 4mm (nominal) flexible PVC thick-walled tube 			
FR5/39	Multiflex Riser Tube 3.9mm x 5 metre coil	1	
FR25/39	Multiflex Riser Tube 3.9mm x 25 metre coil	1	
FR50/39	Multiflex Riser Tube 3.9mm x 50 metre coil	1	



<ul style="list-style-type: none"> 4mm (nominal) low density flexible tube 			
LD50/39	Low Density Riser Tube 3.9mm x 50metre coil	1	

<ul style="list-style-type: none"> 5mm flexible PVC thick-walled tube 			
FR50/5	Multiflex Riser Tube 5mm x 50 metre coil	1	

<ul style="list-style-type: none"> Overhead spray/sprinkler drop pipes 			
SDA05	Sprinkler Weighted Drop Assembly Consisting of Adaptor, Flexible Riser Tube & Weight (Refer diagram – Inverted Micro-Sprinkler not included)	1	100



Plastic Disk Filters

Part Number	Description	Micron	Mesh	Max Flow (m ³ /hr)	Carton Quantity
¾" Filter					
L-830122	¾" disk filter (large)	125	120	4	80
1" Filters					
L-830123	1" disk filter (large)	125	120	5	60
L-830153	1" disk filter (large)	100	150	5	60
1" Filter – Higher flow rate					
L-860123	1" disk filter (special)	125	120	6	40
1¼" Filter					
L-860154	1-¼" disk filter (special)	125	120	6	35
1½" Filter					
L-860156	1-½" disk filter	125	120	14	17
Maximum operating pressure of ¾", 1" and 1-¼" Disk Filters is 6 bar (87 psi)					
Maximum operating pressure of 1½" Disk Filter is 8 bar (116 psi)					



Further technical information is available in Specification Sheet LE104/6-01

Plastic Screen Filters

Part Number	Description	Micron	Mesh	Max Flow (m ³ /hr)	Carton Quantity
¾" Filters					
L-820062	¾" screen filter (large)	250	60	5	80
L-820082	¾" screen filter (large)	200	80	5	80
L-820122	¾" screen filter (large)	125	120	5	80
1" Filters					
L-820063	1" screen filter (large)	250	60	6	80
L-820083	1" screen filter (large)	200	80	6	80
L-820123	1" screen filter (large)	125	120	6	80
L-820153	1" screen filter (large)	100	150	6	80
1" Filters – Higher Flow rate					
L-840083	1" screen filter (special)	200	80	8	40
L-840123	1" screen filter (special)	125	120	8	40
L-840153	1" screen filter (special)	100	150	8	40
L-840183	1" screen filter (special)	85	180	8	40
1¼" Filters					
L-840084	1-¼" screen filter (special)	200	80	8	35
L-840124	1-¼" screen filter (special)	125	120	8	35
L-840154	1-¼" screen filter (special)	100	150	8	35
L-840184	1-¼" screen filter (special)	85	180	8	35
1½" Filters					
L-870065	1-½" screen filter	250	60	14	17
L-870085	1-½" screen filter	200	80	14	17
L-870125	1-½" screen filter	125	120	14	17
L-870155	1-½" screen filter	100	150	14	17
2" Filters					
L-870066	2" screen filter	250	60	20	11
L-870086	2" screen filter	200	80	20	11
L-870126	2" screen filter	125	120	20	11
L-870156	2" screen filter	100	150	20	11
Maximum operating pressure of ¾", 1" and 1-¼" Disk Filters is 6 bar (87 psi)					
Maximum operating pressure of 1 ½" Disk Filter is 8 bar (116 psi)					



Further technical information is available in Specification Sheet LE104/6-01

Plastic Screen Filters

Part Number	Description	Micron	Mesh	Max Flow (m ³ /hr)	Carton Quantity
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HYDROCYCLONE SCREEN FILTERS

1½" Filters

L-880065	1-½" Hydrocyclone	250	60	8	15
L-880085	1-½" Hydrocyclone	200	80	8	15
L-880125	1-½" Hydrocyclone	125	120	8	15
L-880155	1-½" Hydrocyclone	100	150	8	15

2" Filters

L-880066	2" Hydrocyclone	250	60	16	9
L-880086	2" Hydrocyclone	200	80	16	9
L-880126	2" Hydrocyclone	125	120	16	9
L-880156	2" Hydrocyclone	100	150	16	9

Maximum operating pressure of 1 ½" and 2" Hydrocyclone Screen Filters is 8 bar (116 psi)

Hydrocyclone Screen Filters are supplied with a Flush Valve



Further technical information is available in Specification Sheet LE104/6-01

Further technical information is available in Specification Sheet "Jimten Filter Tech Sheet.pdf"

CONVERSION CHARTS

HANDY INFORMATION

1 bar = 100 kPa (approx)
 1 metre head = 10 kPa (approx)
 1 atmosphere = 100 kPa (approx)
 1 kg/cm² = 10 metre head
 1,000 litres = 1 kilo litre (1 kL)
 1,000 litres = 1 cubic metre (1m³)

10mm = 1cm
 100cm = 1m
 1,000m = 1 Km
 1 ha = 10,000m²
 1 US Gallon = 3.785L
 1 gallon = 4.55 L

APPLICATION (PRECIPITATION RATE)

A/R = Application rate (mm/h)
 Q = Discharge or flow (L/h)
 S = Spacing between sprinklers/drippers along the line (m)
 L = Spacing between lines (m)

$$A/R = \frac{Q}{S \times L}$$

CONVERSION FACTORS TABLE

FROM	TO	MULTIPLY BY	FROM	TO	MULTIPLY BY
VOLUME			PRESSURE		
imperial gallons	us gallons	1.2	kilograms/sq. cm	pounds/sq. inch	14.223
us gallons	imperial gallons	0.83	kilograms/sq. cm	pascals	9.807
imperial gallons	litres	4.65	kilograms/cu. m	pounds/cu. foot	0.06243
litres	imperial gallons	0.22	pounds/cu. foot	kilograms/cu. m	16.019
litres	cubic metres	0.001	pounds/sq. foot	kilograms/sq. m	4.8824
cubic feet	litres	28.32	pounds/sq. foot	pascals	47.88
FLOW			pounds/sq. inch	pascals	6.894
gallons/min	cubic metres/sec	0.0000523	feet head	kilopascals	3.35
gallons/min	cubic metres/hour	0.272	kilopascals	feet head	0.2984
cubic metres/hour	gallons/min	3.67	pounds/sq. inch	feet head	2.31
litres/sec	cubic metres/hour	3.6	kilopascals	metres head	0.102
litres/min	cubic metres/hour	0.06	metres head	kilopascals	9.83
VELOCITY			metres head	pounds/sq. inch	1.422
feet/min	metres/sec	0.00508	pounds/sq. inch	metres head	0.703
feet/sec	metres/sec	0.3048	kilopascals	pounds/sq. inch	0.146
kilometres/hour	metres/sec	0.2778	pounds/sq. inch	kilopascals	6.896
POWER			AREA		
kilowatts	horsepower	0.746	square metres	hectares	0.0001
horsepower	kilowatts	1.34	hectares	square metres	10,000
			acres	hectares	0.405
			hectares	acres	2.469

Note: Gallons are Imperial gallons unless otherwise stated

DEGREES OF FILTRATION

MICRON	50	80	100	130	150	200	300	500	1000	1500
mm	0.05	0.08	0.10	0.13	0.15	0.20	0.30	0.50	1.00	1.50
MESH	300	200	150	120	100	80	50	30	20	10

Note: Conversion to and from Mesh to Micron are approximate

IMPERIAL THREAD SIZES

Imperial size	Metric equivalent (nominal)	Imperial size	Metric equivalent (nominal)
1/16"	1.6mm	1"	25mm
1/8"	3.2mm	1-1/4"	32mm
3/16"	5mm	1-1/2"	40mm
1/4"	6mm	2"	50mm
3/8"	10mm	2-1/2"	65mm
1/2"	13mm or 16mm	3"	80mm
3/4"	19mm or 20mm	4"	100mm

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