



ADVANCED SIPHONIC SYSTEM

CATALOGUE



Company Introduction

Si-Flux Ltd

is a UK-registered global trading business. Its origins are in the Research & Development of self-priming Siphonic systems for customer utilization from 1983 onwards. Many of its pioneering developments have assisted in paving the way for the International standards & guidelines that exist in today's markets.

Initial Siphonic research and developments in 1983 pioneered the first self-priming Siphonic outlet with a 3-fin anti-vortex plate. This enabled full bore flow to occur whilst inhibiting vortex flow that compromises full bore flow. The development of analytical design software followed in conjunction with the University of Sheffield that generally still underpins the global industry approach. Key design concepts of a maximum -8.00 meters water column maximum negative pressure, and self cleansing flows plus 10% outlet reserve built in safety features that provide reliable low risk design solutions. Today's Siphonic industry generally follows these principles of fins or baffle in their outlet construction to create vortex-free laminar flow.

The downside of incorporating fins or baffles can be obstructive, creating the potential for blockages if not well maintained. This general disadvantage is well-noted within the industry.

With this disadvantage in mind, Si-Flux's pioneering R&D team embarked upon an in-depth study to evaluate and create a "game-changing" geometric an-vortex outlet without the use of Fins or baffle arrangements. Providing a safer block-resistant alternative Siphonic outlet.

From 2004, the same experienced and trusted R&D team that developed siphonic roof drainage technology for the world to benefit from has now commercialized the Si-Flux an-block finless siphonic outlet. The universal outlet is highly robust, compatible with concrete, membrane and metal roofing systems and can accommodate flows up to 90Lps. The outlet in conjunction with its supporting design software has been rigorously tested in conjunction with the University of Sheffield with UKAS calibrated and accredited flow testing rigs.

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SI-FLUX SIPHONIC ANTI -BLOCK OUTLET INTRODUCTION

Si-Flux is the result of 40 years of Siphonic Research & Development in the quest for a "safer, simple, accessible & competitive Siphonic outlet & design program solution".

From initial groundbreaking Siphonic development over 40 years ago, our team of experts has listened to the out pour of requests from customers to raise the bar higher and develop An -Block universal Siphonic outlets suitable for concrete, metal gutter & membrane-applied roofs.

Key benefits include

- Reduced Blockage potential, from leaves, plastic bags, sand & silt.
- Robust metallic H10 roof trafficable cover plate. EN Approved.
- EN-approved built-in Membrane clamping mechanism, without the need for ancillary Bolt On accessories.
- Hot work EN certification for Hot applied roof sealants.
- Universal outlet fits all, from 4 LPS up to 90 LPS in Alloy or Stainless body.
- Easy pipework connections and simple roof applications.

We were committed to developing a quality product that would incorporate the needs of customers, in this respect, our team devoted their time & expertise to evolve a geometric Siphonic solution that avoids fins that can cause potential blockages and provide a safer product that meets more sophisticated customer requirements.



AL-MP-01



SS-HD-02



AL-HD-03

THE KEY BENEFITS OF SI-FLUX SIPHONIC

SIMPLE

Easy Fusion Connection to HDPE Pipe in either S/S or Alloy Body.

CHOICE

Select either LM6 Alloy or Stainless-Steel Si-Flux outlet body.

OPTIONAL

Simple & safe connection to Cast-Iron or Stainless-Steel piping.

RESILIENT

All metallic outlet, Minimum 10 Year Warranty

COMPLIANT

Built in Membrane Clamping System, tested to. EN 1253-2-2003

ROBUST

Class H, Foot Trafficable Outlet, tested to. EN 1253-2 2003

UNIQUE

Outlet Roof Hot work application, tested to. EN 1253-2-2003

QUALITY

ISO 9001 TUV Rhineland Quality Certificate. 01 100 2235118

LOGISTICAL

Simple Outlet Delivery on Global basis.

PROVEN

Si-Flux An -Block Sand & Silt Calibrated UKAS Tests.

SAFETY

An -Block Outlet operates even with Debris & Plastic bags present.

PROTECTED

Intellectual Property Office Cer ficate Design No. 6169704

ORIGIN

Certificate of Origin UK: Alloy, AUSTRALIA: Stainless Steel

40 YEARS OF SUCCESSFUL SIPHONIC TRACK RECORD



**ALLOY BODY - FOR METAL PIPE APPLICATIONS (CI-PIPE En877)
STAINLESS STEEL ACO, EURO PIPE OR SIMILAR APPROVED**

CODE	DESCRIPTION
1. C/F/01	M6 S/S CAP NUT
2. C/OL/01	SI-FLUX AVP TOP
3. C/F/02	M6 S/S HALF NUT
4. C/F/03	M6 S/S 18mm WASHER
5. C/OL/02	ALOY CLAMP RING
6. C/F/02	M6 S/S HALF NUT
7. C/F/03	M6 S/S 18mm WASHER
8. C/OL/03	ALOY OUTLET BODY
9. C/F/05	M6 FIBER WASHER
10. C/F/04	M6 S/S 50mm BUTT SCREW

SI-FLUX ALLOY OUTLET COMPONENT DETAILS



STAINLESS STEEL BODY- FOR HDPE PIPE APPLICATIONS

SI-FLUX S/S OUTLET COMPONENT DETAILS

CODE	DESCRIPTION
1. C/F/01	M6 S/S CAP NUT
2. C/OL/01	SI-FLUX AVP TOP
3. C/F/02	M6 S/S HALF NUT
4. C/F/03	M6 S/S 18mm WASHER
5. C/OL/02	ALOY CLAMP RING
6. C/F/08	M6 S/S M/LOCK
7. C/F/05	M6 FIBRE WASHER
8. C/OL/04	S/S OUTLET
9. C/OL/05	HDPE SPIGOT/SEAL
10. C/F/07	S/S BACKING RING
11. C/F/04	M6 BUTT HEAD SCREW 60mm
12. C/F/03	M6 S/S 18mm WASHER



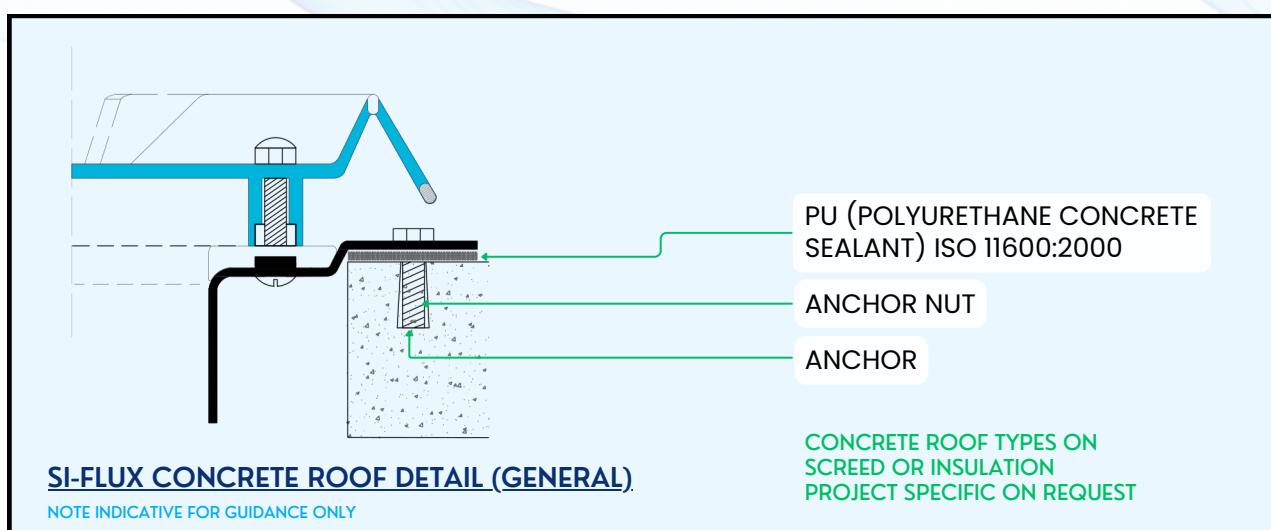
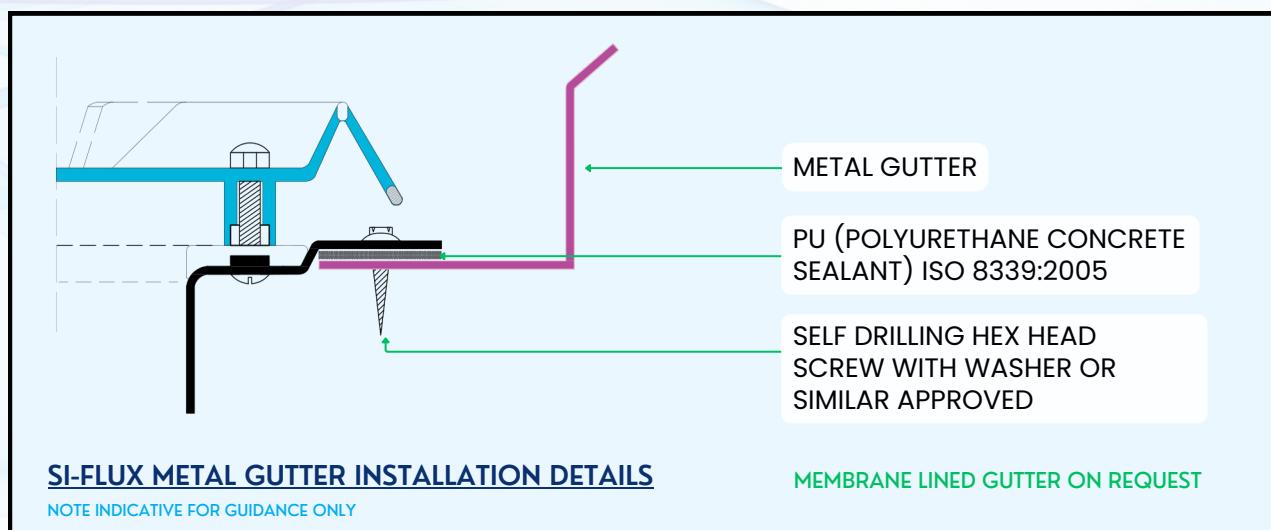
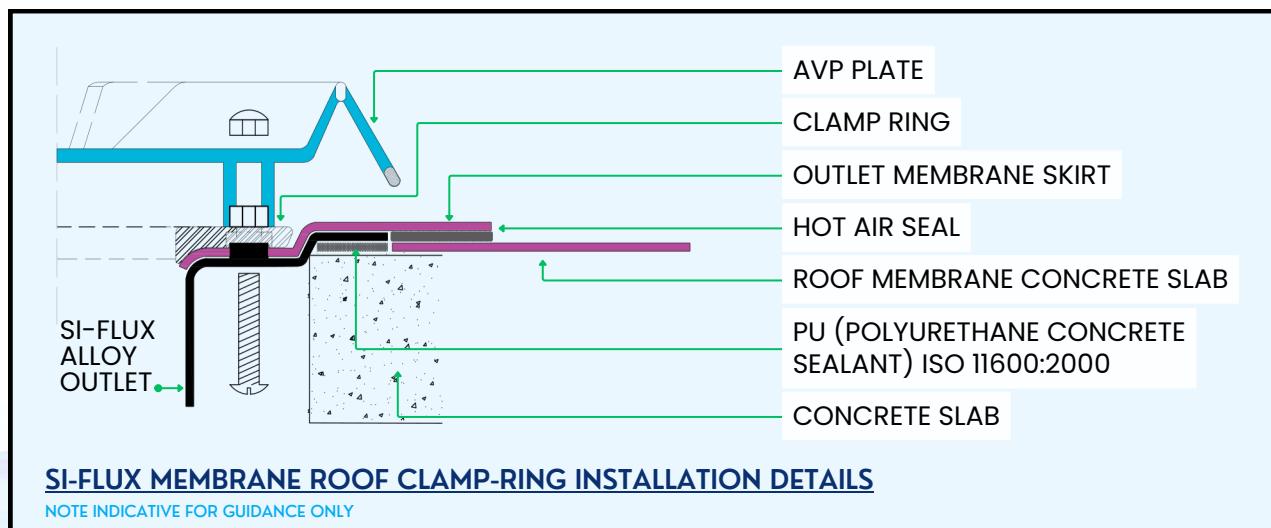
ALLOY BODY- FOR HDPE PIPE APPLICATIONS

SI-FLUX ALLOY HDPE OUTLET COMPONENT DETAILS

CODE	DESCRIPTION
1. C/F/01	M6 S/S CAP NUT
2. C/OL/01	SI-FLUX AVP TOP
3. C/F/02	M6 S/S HALF NUT
4. C/F/07	M6 S/S 14mm WASHER
5. C/OL/02	ALOY CLAMP RING
6. C/F/08	M6 S/S M/LOCK
7. C/F/05	M6 S/S FIBRE WASHER
8. C/OL/03	ALLOY OUTLET BODY
9. C/OL/06	RUBBER GASKET
10. C/OL/05	HDPE SPIGOT & SEAL
11. C/F/07	S/S BACKING RING
12. C/F/03	M6 S/S 18mm WASHER
13. C/F/04	M6 S/S BUTT HEAD SCREW 60mm

OUTLET INSTALLATION

INDICATIVE GUIDES



SI-FLUX TESTING & ACCREDITATION

Si-Flux have undertaken comprehensive empirical tests to ensure the analytical software model used by designers is closely aligned with real world physical testing.

The importance of having real world testing is to assure our customers that product solution is safe.

Si-Flux outlet assembly is QA Certified by ISO9001 Certification. The unique geometric design is protected by Intellectual Property Office certificate of registration.

INTELLECTUAL PROPERTY OFFICE:

DESIGN NO 6169704

PRODUCT: Anti-Vortex Plate

DATE: 12th October 2021

ISO-9001:2015 Certificate Reg. No.

01 100 2235118

SCOPE: Assembly for Si-Flux Rainwater Products

REFER ABRIDGED TESTING DATA

POC (Proof of Concept) Flow Data

**EN 1253 Testing Clauses 4, 9.3, 10.4.3 University of Sheffield
Sand & Silt Testing Apparatus Calibrated to UKAS.**



The
University
Of
Sheffield.



**FULL TEST RESULTS UPON APPLICATION TO;
Your Local Distributor or Contact : info@si-flux.com**

PROOF OF SI-FLUX CONCEPT FLOW DATA

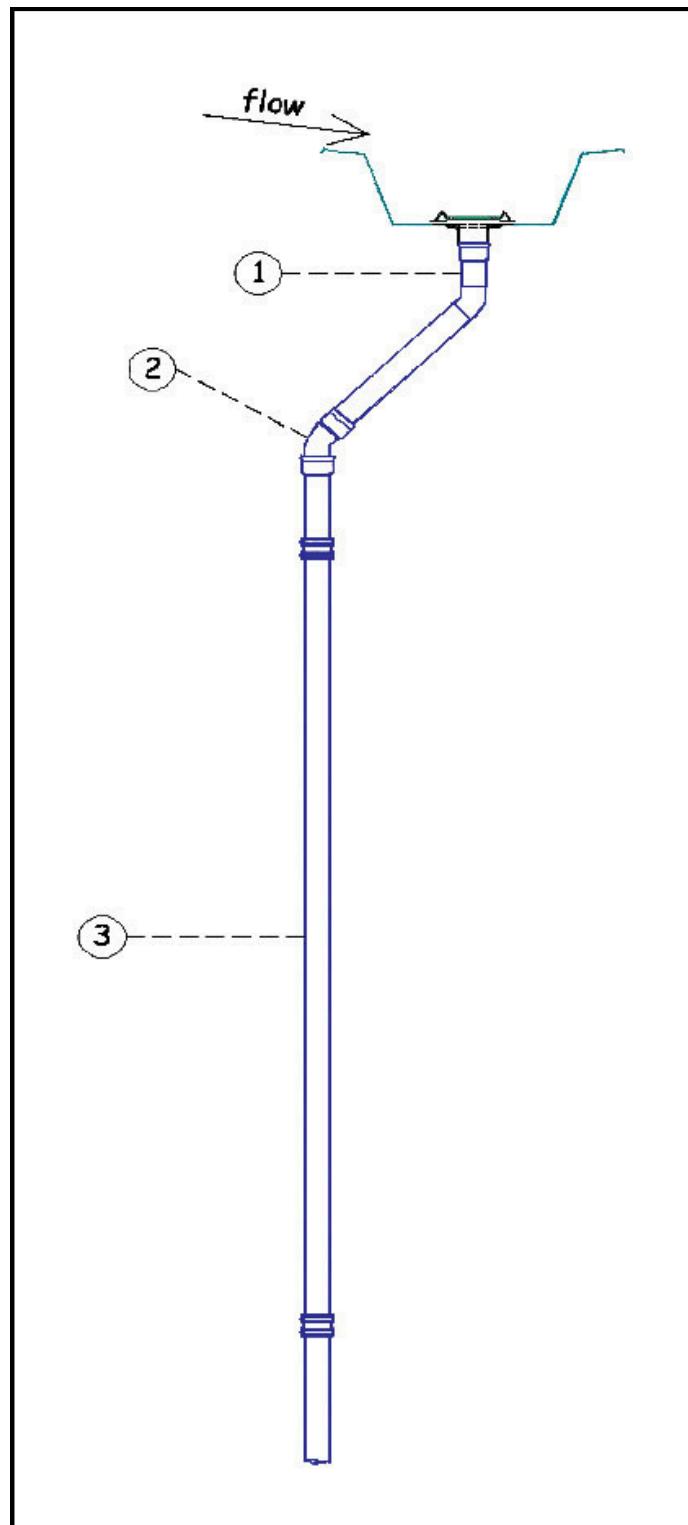


**UKAS
CALIBRATED
CERTIFICATE
0508
MAG-FLOW CER
IFICATE 6746**

SI-FLUX OUTLET FLOW TEST		
Pipe Diameter(ø)	Design Flow (l/p/s)	Design Neg. Pressure (bar)
75	19-0	-1.66
90	29-0	-1.82
110	49-0	-1.93
125	90-0	-1.98

COMMENTS:

- Flow Data in line with Si-Flux Calculation program parameters.
- Mag-Flow Water meter AO8-09075 Tested to 40/60 Cubic Meters +/-3% Certificate. No. 6746
- Pressure Gauges by Brunel Metrology calibrated to UKAS Certificate. No. 0508
- High velocity flow & negative pressure results confirm proof of SI-FLUX Siphonic Concept Flow.



*Full UKAS Calibrated Testing Evaluation reports & Data can be obtained from Accredited Si-Flux Distributors & Licensees.

DEPARTMENT OF CIVIL & STRUCTURAL ENGINEERING

TESTING OF ROOF OUTLETS CSE/KB/28/05/08



The
University
Of
Sheffield.

BS EN 1253-2:2003
(Annex BS EN 12056-3:2000)
CLAUSE'S 4, 9.3, 10.4.3

1. LOAD TESTING (CLAUSE 4)

Test	Outcome	Result
Class H	kN 1.5	Passed

The **Si-Flux outlet** comply with **Class H** and are fully robust on any roof to withstand foot traffic without breakage or distortion of manufactured geometry.

2. HOT OIL TEST (CLAUSE 9.3)

Test	Outcome	Result
Submerged in Bitumen @ 220°C for 5 mins	No visible distress to Si-Flux outlet	Passed

The **Si-Flux Outlets** also have passed the unique **Hot oil** test in the event of hot bitumen roof applications.

3. MEMBRANE CLAMP RING (CLAUSE 10.4.3)

Test	Outcome	Result
Test load 400N	Test completed @ 1,002 N	Passed

*Full University of Sheffield testing evaluation reports & Data can be obtained from accredited Si-Flux Distributors.

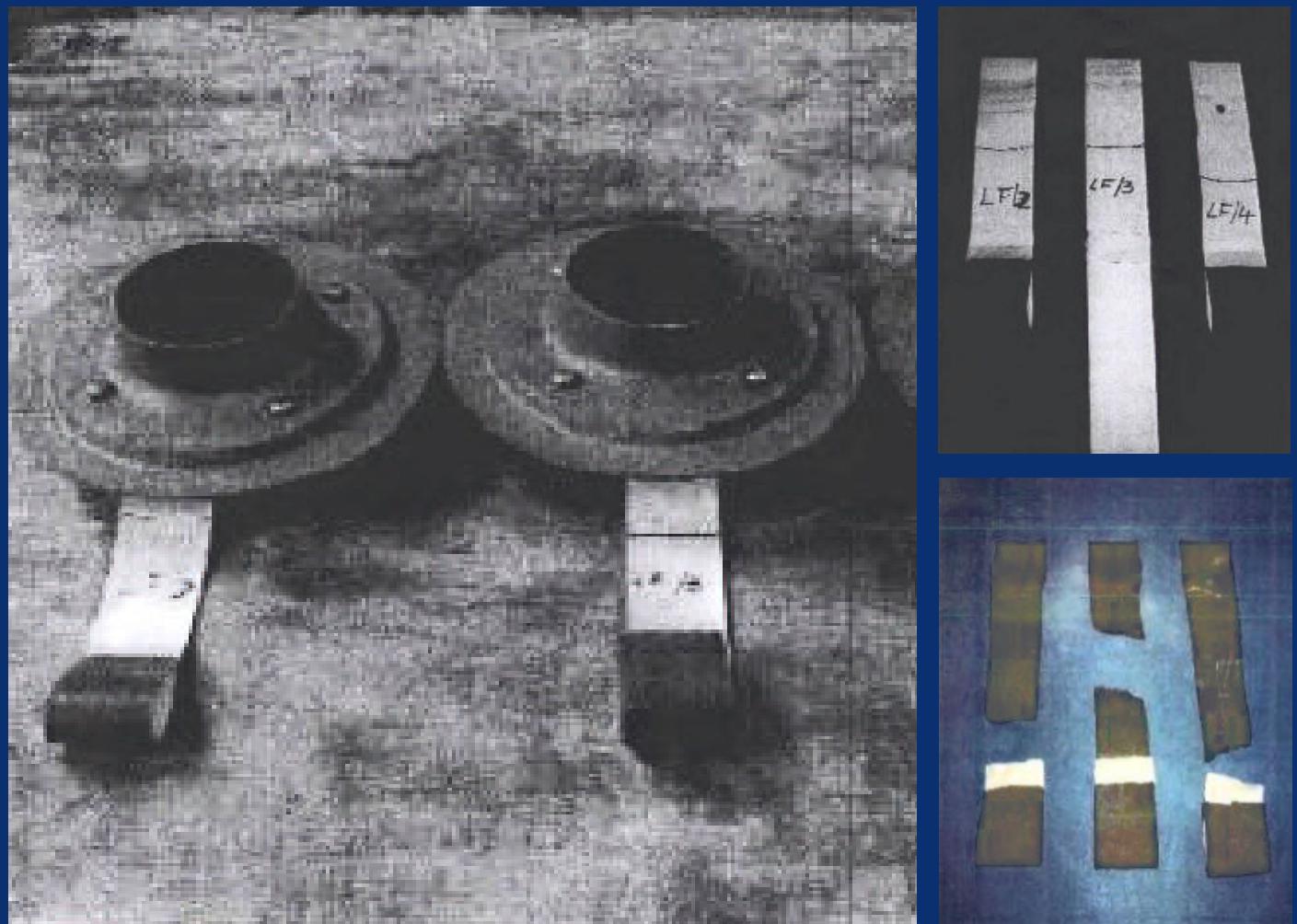


ACCREDITATION, EVALUATION, VERIFICATION

Roof Membrane

results are unique and provide data

for global Manufacturers of Polymer Membrane types such as TPO, EDPM & PVC,
also Bitumen Membranes such as SBS & APP compatibility & approved by **The Si-
Flux Clamp joining mechanism.**



The above tests were undertaken by The Department of Structural & Civil Engineering, to provide verification that Si-Flux Outlets are tested to the highest required standards in line with **BS EN 12056-3:2000**

Testing annex, **BS EN 1253-2:2000** clause's **4, 9.3 & 10.4.3** respectively.

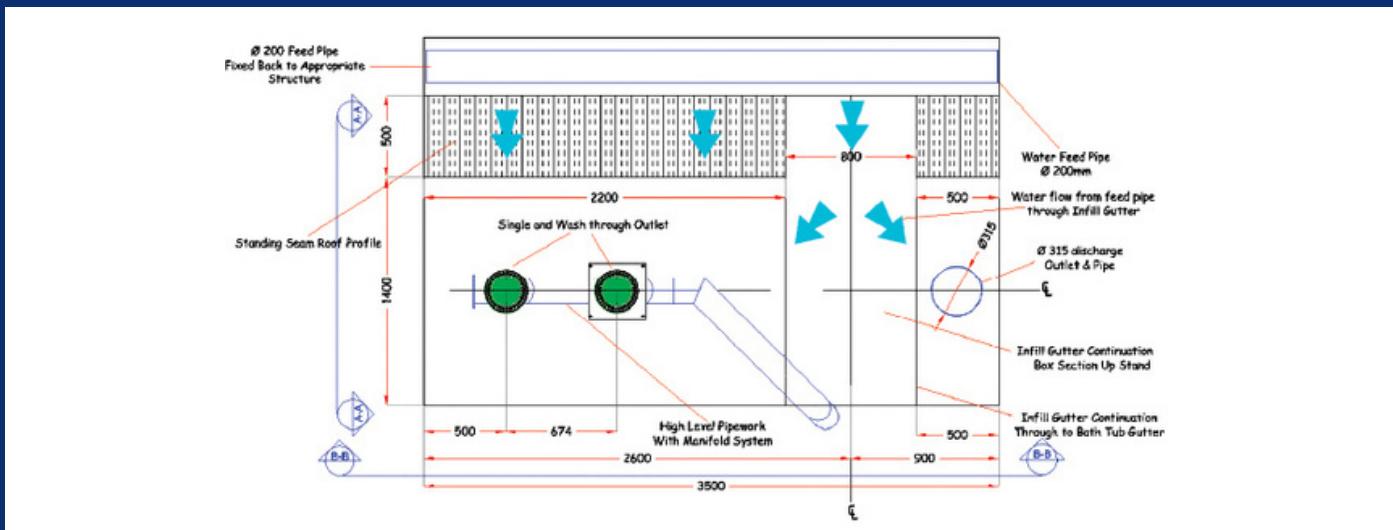
*Full University of Sheffield testing evaluation reports & Data can be obtained from accredited Si-Flux Distributors.

PERFORMANCE TEST AN - BLOCK SI-FLUX OUTLET

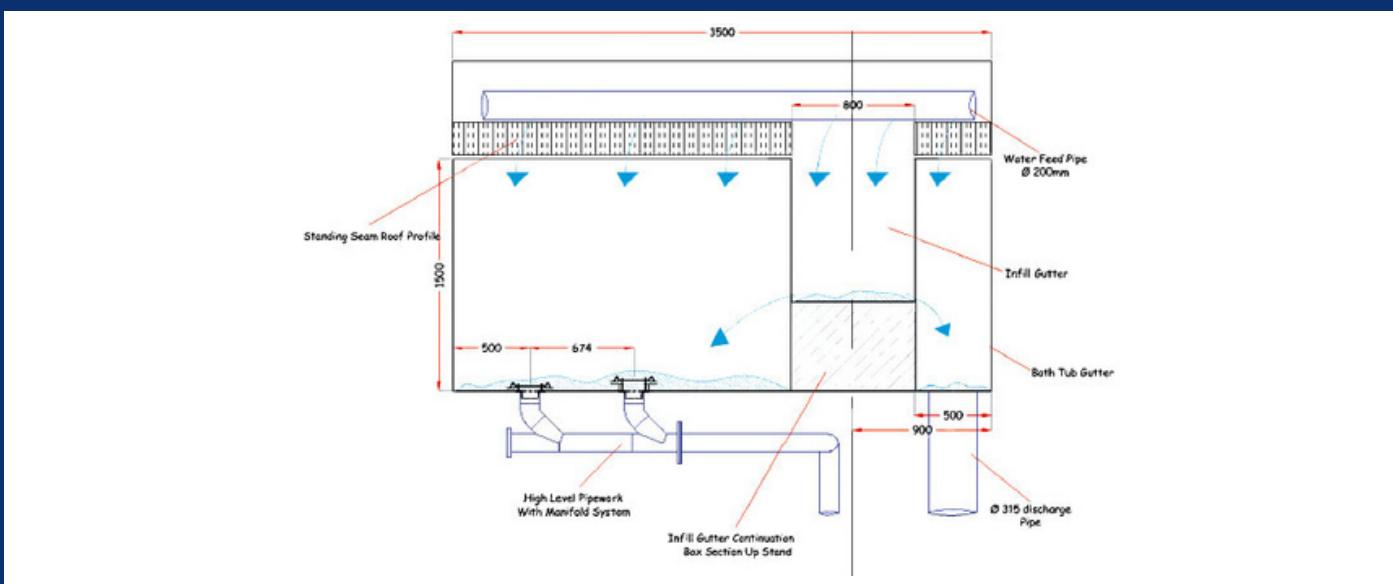
1. Introduction to Sand Test

The following tests are arranged to measure and analyse the performance of the SiFlux high Velocity Rainwater system outlets in high silt & sand conditions. The tests are based upon flow rates with regards to the Abu Dhabi International Airports roof area and outlet discharge. These Si-Flux Test results are applicable to all projects Globally that encounter sand of high silted areas.

TESTING APPARATUS BELOW



PLAN VIEW



ELEVATION VIEW

THE SAND BOX TEST, BLOCKED PIPE & CLEARED PIPE:



Test	Flow rate (l/p/s) Nominal	Sand depth (mm)	Highest depth of water with sand (mm)
1.	25	0	70
2.		20	90
3.		40	90

The above Test Data are values extracted from the SI-FLUX Sand Test results table.

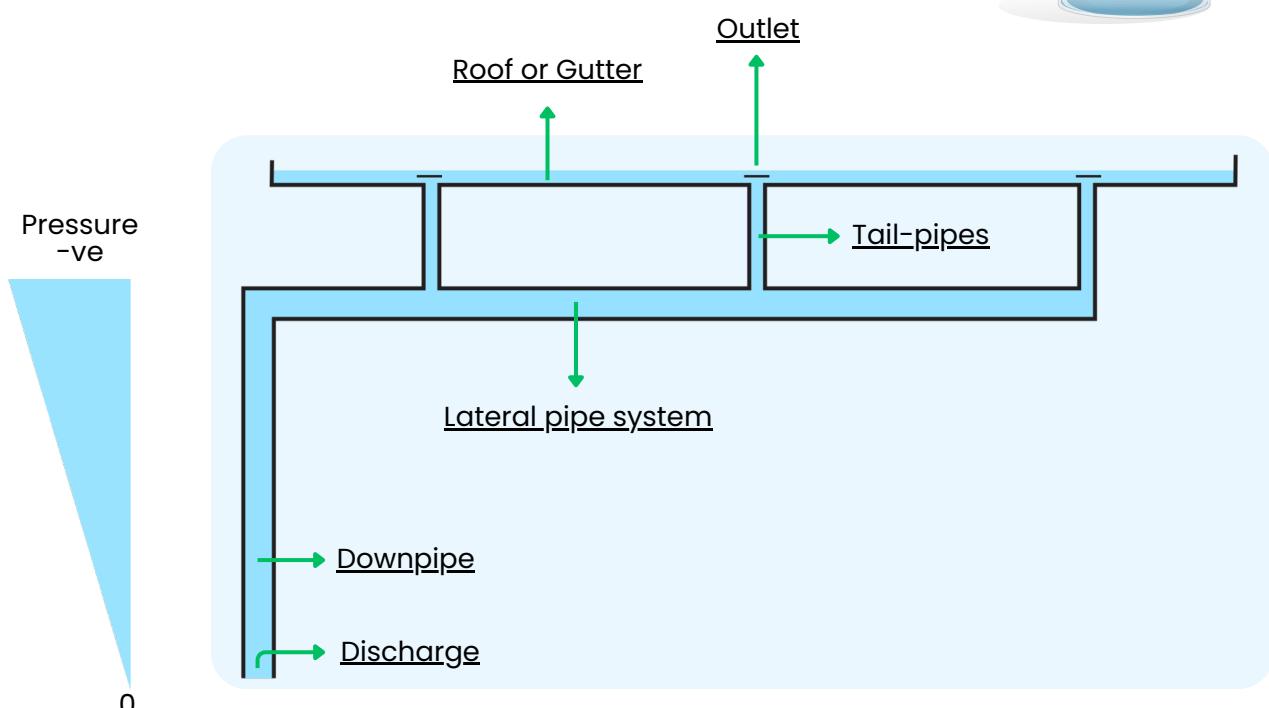
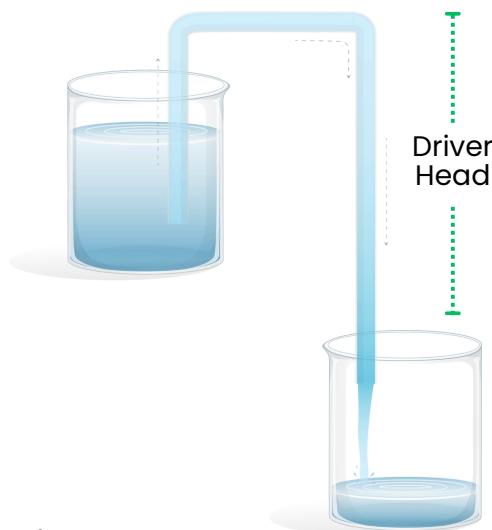
1. Si-Flux outlets tested with no sand involved. The highest depth of 70mm is regarded as the standard flow.
2. 1.Si-Flux outlets tested with an initial depth of 20mm of sand. There was an increase of 20mm to 90mm in the highest water depth when compared to standard flow in S/N 1.
3. Si-Flux outlets tested with an initial depth of 40mm of sand. There was an increase of also of 20mm in the highest water depth when compared to standard flow.

Full UKAS Calibrated Sand Testing Evaluation reports can be obtained from Accredited Si-Flux Distributors.



SIMPLE BRIEF ON SI-FLUX SIPHONIC SYSTEM

Si-Flux is based on the same principle as a siphon. The siphon is in general a reversed U shaped pipe full of liquid used to Siphon fluid from one container to another located in a lower position.



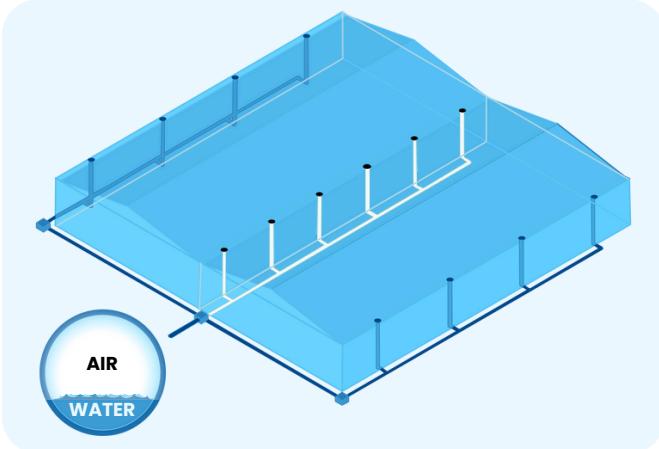
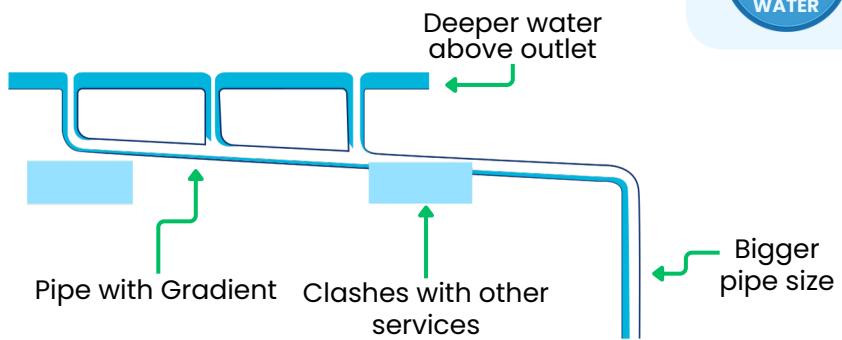
COMPONENTS OF A MULTI - OUTLET SIPHONIC SYSTEM

GRAVITY VS SI-FLUX

SYSTEMS

GRAVITY SYSTEM

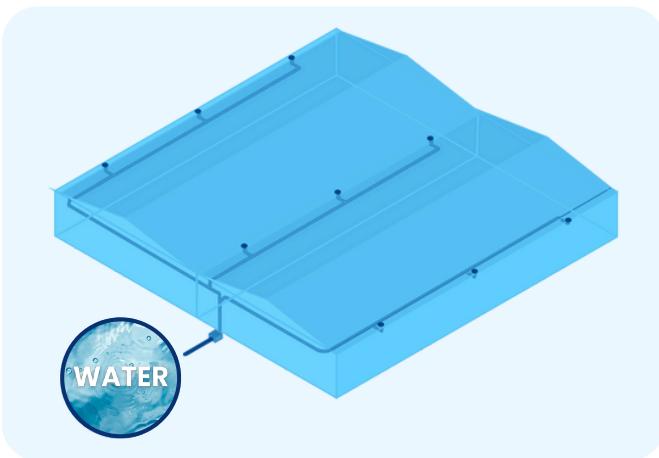
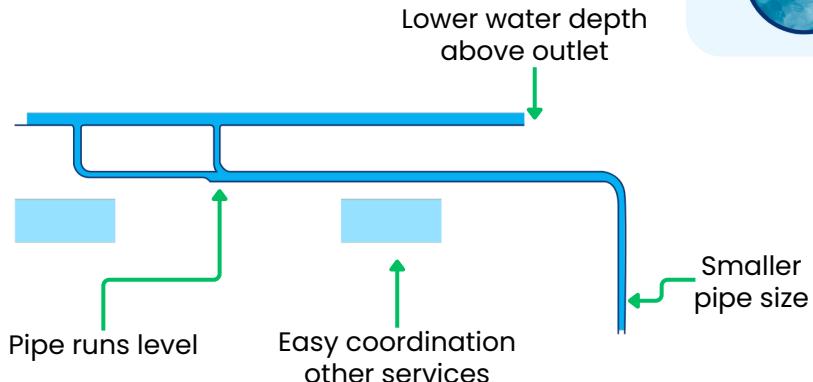
- In gravity systems, water adheres to the wall of the pipe.
- Typically only 30% of the pipework is filled with water - 70% is air.



UNDERGROUND PIPE REQUIRED

SIPHONIC DRAINAGE

- In a primed & working Siphonic system, 100% of the pipe is filled with water.
- Pipework can therefore be significantly smaller.



NO UNDERGROUND PIPE REQUIRED

4 STEPS OF FLOW

FOR A SIPHONIC SYSTEM

1. GRAVITY FLOW

(light rain events)

Air carried above water.



2. PLUG FLOW

(moderate rain events)

Air pockets driven down pipe with water 'plugs' to ensure self-cleaning.



3. BUBBLE FLOW

(heavy rain events)

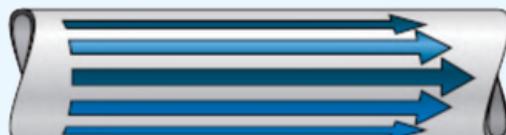
Water fills pipe and carries bubbles in suspension.



4. FULL BORE FLOW

(ultimate flow design rain event)

Water fills the pipe with air purged & excluded, delivering far greater capacity & flow rates.



GLOBAL APPLICATIONS

- Logistic Centers
- Train Stations
- Distribution Units
- Sports Media
- Airport Terminals
- Shopping Malls
- Office Complexes
- Convention Centers
- Warehouses
- Residential Multi-Story
- Aircraft Hangers
- Factories



UNION QUARTER
AUSTRALIA



DATA CENTER
MALAYSIA



BOX HILL,
AUSTRALIA



KAPSARC.
SAUDI ARABIA



CHAKAN,
INDIA



DOHA,
QATAR



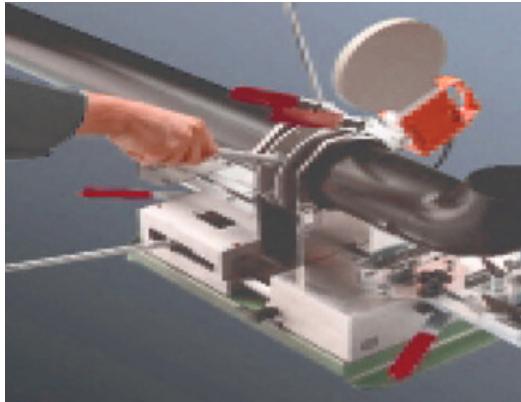
TUAS,
SINGAPORE



BLUE PLANET,
UNITED KINGDOM

HDPE

CONNECTION METHODS



PROCESSION



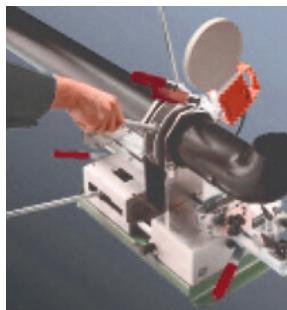
MANUAL BUTT WELDING

The welding plate is especially suitable for welding dimensions up to Φ 75mm. Due to its light weight it can easily be used on-site.



ELECTRO WELDING

The Italy Ritmo electrofusion machines are ideal for use on construction site to create a fast, simple & reliable connection. Electroweld sleeve couplings are available from Φ 50 to Φ 315mm.



MACHINE BUTT WELDING

The butt welding machines media and universal are for dimensions from 50-160mm (315mm respectively). They are especially suitable for prefabrication off site. The light weight properties of the system allow specifiers and contractors to design and build pipe runs away from a construction site.

ELECTRO FUSION

PREPERATIONS ➤

Ambient Temperature:
-5°C - +40°C

Check if the equipment
functions properly

Power
205V-250V

Check if the resistance wires are covered by the inserted pipe or
fitting to guarantee a proper working

WELDING ELECTROFUSION COUPLER AND COOLING TIME ➤

DIA (mm)	SYSTEM	WELDING TIME (Sec)	COOLING TIME (min)	AMBIENT TEMP.*(°C)
40-160	Constant current 5A	80	20	20
200-315	Constant Power 220V	420	30	20

Note: If the ambient temperature is lower than 20°C, the welding time should extend if it exceeds 20°C, the welding time should be shorted. It's not recommended to weld below -5°C or higher than 40°C. The cooling time can be reduced by 50% when there is no additional load or strain during cooling. The welding parameters was tested by Ritmo welder, and we suggest to use Ritmo welder.

WELDING PROCESS

CUT PIPE SQUARE ➤

Cut the pipe with a professional pipe cutter. Keep the right angle between the cutting edge and the pipe axis.



SCRAPE PIPE AND MARK INSERTION DEPTH ➤

Mark insertion depth + 10mm for removing the oxidized layer.



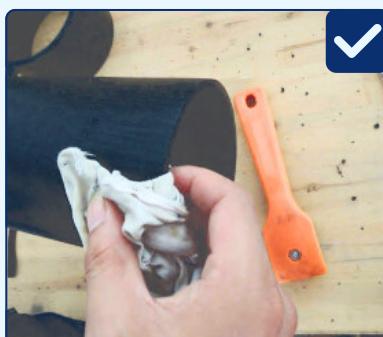
MARK INSERTION DEPTH ➤

Scrape the outer surface of the pipe that will be covered by the coupler (approx. 0.2mm)



CLEANING ➤

Clean the coupler with cloth to ensure that all surfaces are clean and dry.

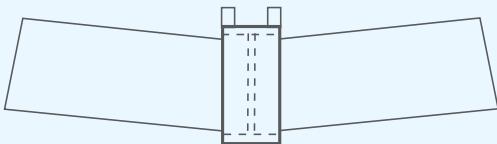


INSERTION ➤

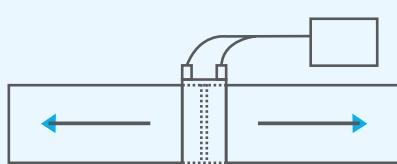
Push the pipe/fitting into the coupler as straight as possible and upto the marked insertion depth.



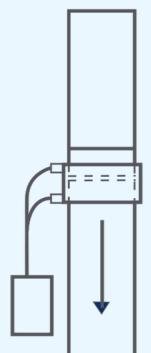
ATTENTION



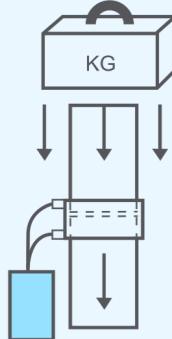
Prevent Misalignment



Prevent joint movement during welding



Prevent coupler from sliding down when center stop removed



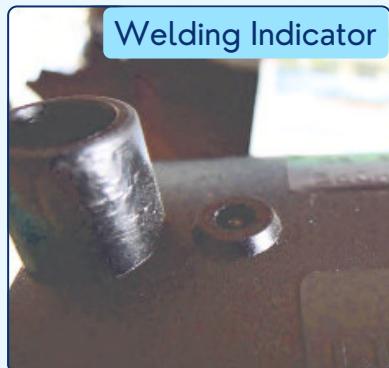
Prevent vertical loading during welding

ACCESSING AN ELECTROFUSION WELD

If all preparations have taken place successfully, a joint can be marked OK when the welding indicator is protruded.

If a significant quantity of melt exudes from the fitting after welding there may be a misalignment of the components, excessive tolerances or an accidental second welding of the fitting.

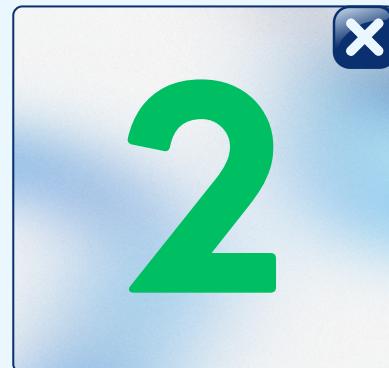
Before Electro Fusion



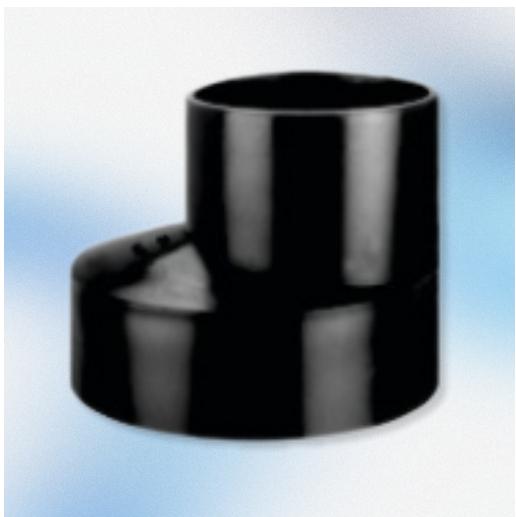
After Electro Fusion



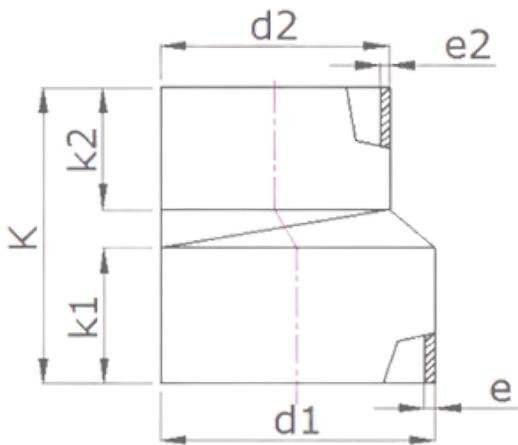
Never weld the coupler twice



HDPE PIPE & FITTINGS FOR DRAINAGE



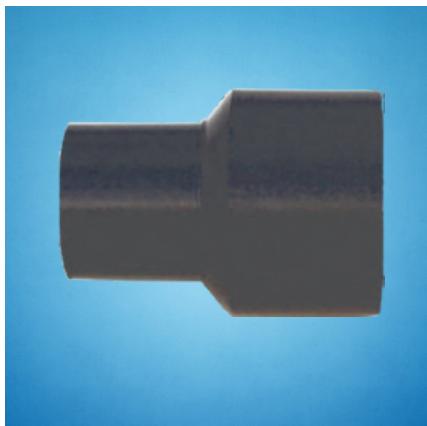
Eccentric Reducer



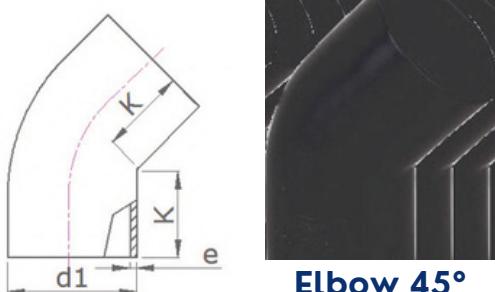
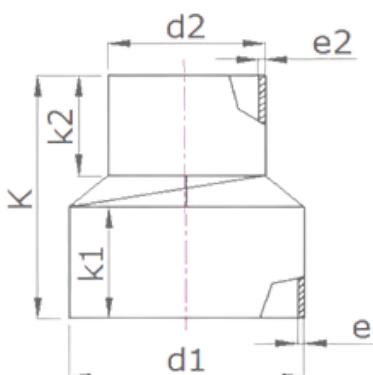
Article No.	d1/d2	K	K1	K2
HD/ER/63/50	63*50	94	43	43
HD/ER/75/50	75*50	94	43	43
HD/ER/75/63	75*63	94	43	43
HD/ER/90/50	90*50	94	43	43
HD/ER/90/63	90*63	94	43	43
HD/ER/90/75	90*75	94	43	43
HD/ER/110/50	110*50	100	48	44
HD/ER/110/63	110*63	100	48	44
HD/ER/110/75	110*75	100	48	44
HD/ER/110/90	110*90	100	48	44
HD/ER/125/50	125*50	100	48	44
HD/ER/125/63	125*63	100	48	44
HD/ER/125/75	125*75	100	48	44
HD/ER/125/90	125*90	100	48	44
HD/ER/125/110	125*110	100	48	44
HD/ER/160/110	160*110	100	48	44
HD/ER/160/125	160*125	100	48	44
HD/ER/200/110	200*110	195	105	65
HD/ER/200/125	200*125	195	105	65
HD/ER/200/160	200*160	195	105	65
HD/ER/250/160	250*160	195	105	65
HD/ER/250/200	250*200	245	110	110
HD/ER/315/200	315*200	260	110	120
HD/ER/315/250	315*250	260	110	120

Note: The dimensions (unit:mm) are for reference.

HDPE PIPE & FITTINGS FOR DRAINAGE



Concentric Reducer

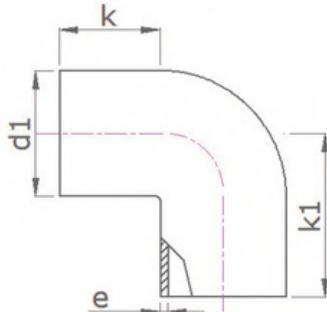


Elbow 45°

Article No.	d1/d2	K	K1	K2
HD/CR/63/50	63*50	140	65	67
HD/CR/75/50	75*50	160	68	65
HD/CR/75/63	75*63	150	68	65
HD/CR/90/50	90*50	150	69	72
HD/CR/90/63	90*63	160	69	72
HD/CR/90/75	90*75	160	69	75
HD/CR/110/50	110*50	210	115	92
HD/CR/110/63	110*63	210	120	95
HD/CR/110/75	110*75			
HD/CR/110/90	110*90	205	135	110
HD/CR/125/63	125*63			
HD/CR/125/75	125*75			
HD/CR/125/90	125*90			
HD/CR/125/110	125*110	200	110	86
HD/CR/160/110	160*110	220	90	78
HD/CR/160/125	160*125	220	90	107



Elbow 90°



Article No.	d1	K
HD/45/B/50	50	40
HD/45/B/63	63	42
HD/45/B/75	75	40
HD/45/B/90	90	41
HD/45/B/110	110	47
HD/45/B/125	125	47
HD/45/B/160	160	48
HD/45/B/200	200	108
HD/45/B/250	250	125
HD/45/B/315	315	105

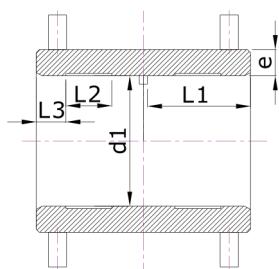
Article No.	d	K	K1
HD/90/B/50	50	41	69.3
HD/90/B/63	63	43	77.9
HD/90/B/75	75	42	82.9
HD/90/B/90	90	42	90.5
HD/90/B/110	110	48	106.5
HD/90/B/125	125	48	114.1
HD/90/B/160	160	51	134.3
HD/90/B/200	200	71	174.35
HD/90/B/250	250	70	215
HD/90/B/315	315	75	252.5

Note: The dimensions (unit:mm) are for reference.

HDPE PIPE & FITTINGS FOR DRAINAGE



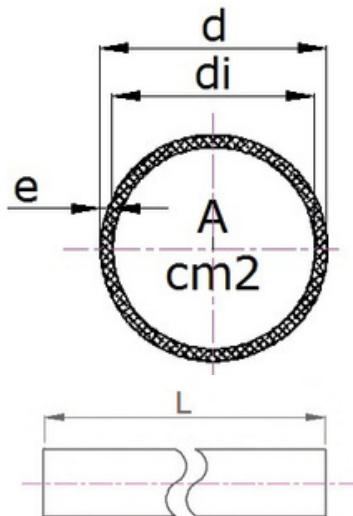
**EF Coupling/
Sleeve**



Article No.	d1	L1	L2	L3	e
HD/EFC/50	50.3	33.5	13.6	11.4	3
HD/EFC/63	63.8	35.7	14.6	12.2	3
HD/EFC/75	76	33.6	12.9	12.7	3
HD/EFC/90	90.8	33.6	15.2	10.7	3.5
HD/EFC/110	110.6	38.9	15.6	13.3	4.2
HD/EFC/125	125.7	38.5	17.1	13.2	4
HD/EFC/160	160.6	38.2	13.9	11.4	4.8
HD/EFC/200	202	57.2	26.5	17.9	7.7
HD/EFC/250	251.1	60.4	38.4	16.9	9.6
HD/EFC/315	316.3	64.4	36.6	13	12.1



HDPE Pipe



A CM²= cross sectional area of flow.

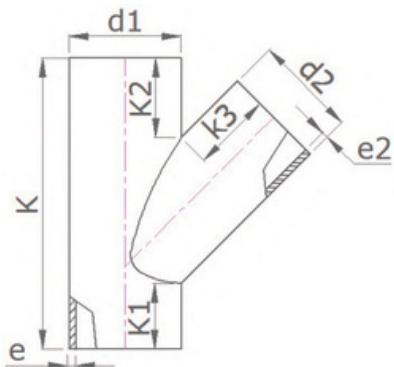
PE100 SDR 26					
Article No.	Nominal O/D d(mm)	Wall Thickness e(mm)	Inside dia. di(mm)	Area A (cm ²)	Length L(m)
HD/5m/P50	50	3	44	15.2	5
HD/5m/P63	63	3	57	25.4	5
HD/5m/P75	75	3	69	37.3	5
HD/5m/P90	90	3.5	83	54.1	5
HD/5m/P110	110	4.2	101.6	81.1	5
HD/5m/P125	125	4.8	115.4	104.5	5
HD/5m/P160	160	6.2	147.6	171.1	5
HD/5m/P200	200	7.7	184.6	267.5	5
HD/5m/P250	250	9.6	230.8	418.2	5
HD/5m/P315	315	12.1	290.8	663.8	5

Note: The dimensions (unit:mm) are for reference.

HDPE PIPE & FITTINGS FOR DRAINAGE



Y Branch 45°



Article No.	d1/d2	K	K1	K2	K3
HD/YB/50/50	50*50	162.8	38.3	53	67.5
HD/YB/63/63	63*63	181	35.7	55.8	69.8
HD/YB/75/50	75*50	159	34	51.6	56.5
HD/YB/75/63	75*63	178	33.9	54.2	60.4
HD/YB/75/75	75*75	195	35.4	52.3	55.4
HD/YB/90/50	90*50	163	33.5	55	58
HD/YB/90/63	90*63	182	34.7	55.8	60.2
HD/YB/90/75	90*75	192	32.3	58.2	57.7
HD/YB/90/90	90*90	223	36.7	56.2	54.8
HD/YB/110/50	110*50	182	44.8	65	51.8
HD/YB/110/63	110*63	216	59	65.6	63.5
HD/YB/110/75	110*75	215	44	63	53.3
HD/YB/110/90	110*90	241	44.5	66	55
HD/YB/110/110	110*110	264	60	44.8	44.6
HD/YB/125/63	125*63	224	62.7	69	70
HD/YB/125/75	125*75	239.5	62.3	69.6	69
HD/YB/125/90	125*90	288.5	58	75	65
HD/YB/125/110	125*110	260.3	58	75	65
HD/YB/125/78	125*125	309.8	58	75	65
HD/YB/160/75	160*75	260	74.5	75	77.6
HD/YB/160/90	160*90	277	65	85	85
HD/YB/160/110	160*110	305.5	65	85	85
HD/YB/160/125	160*125	326.8	65	85	85
HD/YB/160/160	160*160	376.3	65	85	85
HD/YB/200/90	200*90				
HD/YB/200/110	200*110	355.5	85	115	90
HD/YB/200/125	200*125	376.8	85	115	90
HD/YB/200/160	200*160	426.3	85	115	90
HD/YB/200/200	200*200	482.8	85	115	115
HD/YB/250/90	250*90				
HD/YB/250/110	250*110	365.5	90	120	90
HD/YB/250/125	250*125	386.8	90	120	90
HD/YB/250/160	250*160	436.3	90	120	90
HD/YB/250/200	250*200	492.8	90	120	110
HD/YB/250/250	250*250	563.5	90	120	120
HD/YB/315/110	315*110				
HD/YB/315/125	315*125	411.8	110	125	90
HD/YB/315/160	315*160	461.3	110	125	90
HD/YB/315/200	315*200	517.8	110	125	110
HD/YB/315/250	315*250	588.5	110	125	110
HD/YB/315/315	315*315	680.5	110	125	125

Note: The dimensions (unit:mm) are for reference.

FEATURES & BENEFITS



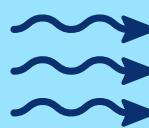
RESISTANCE TO COLD

HDPE parts stretch elastically with expanded ice water, & resume their original shape when the ice water melts, remaining completely intact & undamaged.



FLEXIBILITY

The strength of joint is stronger. The flexibility of the piping material can be the main criterion in certain buildings or on bridges, which are subject to traffic vibration.



LOW HEAT CONDUCTIVITY

Heat loss is about 90% less than copper pipe.



RESISTANCE TO RADIOACTIVE EFFLUENTS

There is no risk of damage as a result of slightly radioactive water.



RESISTANCE TO ABRASION

Smooth ID resistant to corrosion, abrasion and maintains flow capability.



RESISTANCE TO HOT WATER

HDPE can be safely used as waste pipe with continuous flow temperatures of up to 60° and for intermittent discharges of up to 95° for short periods (max 2 minute flow).



RESISTANCE TO IMPACT

Unbreakable at room temperature. It's resistance to impact is very high even at extremely low temperatures (down to approx. -40°C).



NO CONDENSATION

HDPE is a poor conductor of heat. No condensate should form during short periods of undercooling.



INSULATE NOISE

HDPE is a soft material with a low E-modulus. HDPE limits solid-borne conduction, but airborne noise should be insulated by duct wall.

RAIL AND FIXING METAL PARTS

FOR SI-FLUX SIPHONIC SYSTEM



MOUNTING PLATES

(Electro-Galvanised)
M10, M18



STEEL SQUARE PIPE CONNECTION ELEMENT

(Electro-Galvanised)
30mm x 30mm



CLAMP FOR STEEL SQUARE PIPE

(Electro-Galvanised)
30mm x 30mm
40mm x 40mm



TENSION WEDGE FOR SLIDING & ANCHOR BRACKET

(Electro-Galvanised)



GUIDE BRACKETS STEEL (RAIL ONLY)

(Electro-Galvanised)
 $\Phi 50 - \Phi 315$



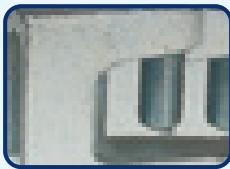
GUIDE BRACKETS STEEL (RAIL ONLY)

(Electro-Galvanised)
 $\Phi 50 - \Phi 315$



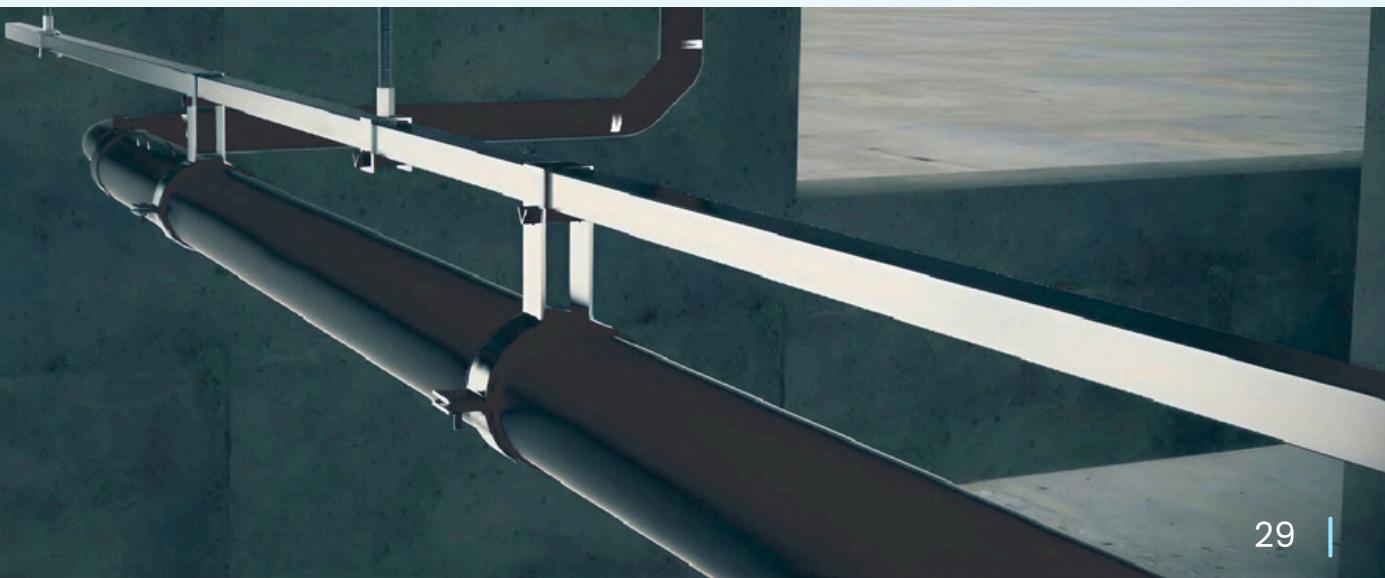
STEEL SQUARE PIPE

6m
30mm x 30mm
40mm x 40mm



DUCTILE BEAM CLAMP

Note: The dimensions (unit:mm) are just for reference. Updated sizes will not be informed.



ELECTRIC FUSION WELDER

COMPLETE WITH CANVAS CARRIER

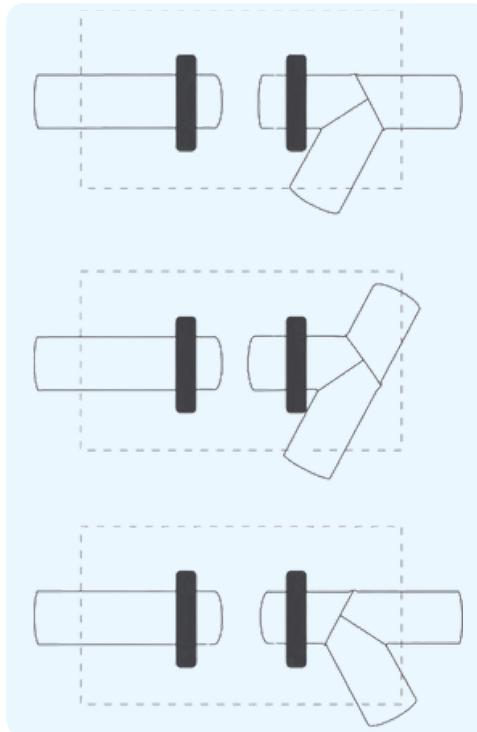
Is suitable for welding of domestic and international standard HDPE siphonic system and Soil/Vent drainage pipe. Easy to use, no need to set welding parameters for one-button welding, it is capable of detecting any malfunction that could occur before or during welding procedures and has automatic fault alarm function.



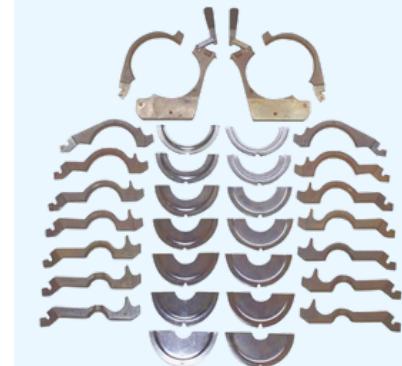
Model	Siphon-160	Siphon-315
Working range	32-160mm	32-315mm
Rated voltage	220VAC-50HZ	220VAC-50HZ
Rated current	5A	10. 7A
Rated power	900W	2450 W
Outside temperature range	-5-40°C	-5-40 °C
Ambient temperature probe	Automatic	Automatic
Dimension	245*210*300mm	245*210*300mm
Weight	3.2kg	3.9kg

BUTT WELDING MACHINE

Professional butt fusion welders for drainage pipes. Integrative design of the whole machine makes it easy and fast to operate, which greatly improves the construction efficiency. The special upper clamp is suitable for the Y-shape clamps suitable for Y-junctions which are reliable and durable.



SPECIAL Y-SHAPE CLAMPS FOR TEE



Model	Mini 160 Y
Working range	¢ 40–160m m
Materials	PE、PP、PB、PVDF
Rated voltage	220VAC 50/60Hz
Rated power	1850W
Rated power heating plate	1200W
Rated power milling cutter	850W
Dimensions	525×470×710mm
Weight	50/60Kg
Welding temperature	180–280°C
Time to reach welding temperature	<15min

BUTT FUSION MACHINE



P CLAMPS



Y CLAMPS



STANDARDS COMPOSITION:

- Steel frame on wheels (for transporting and for use as a work bench)
- Heating plate
- Milling cutter
- AC clamps
- Wooden case

ON REQUEST:

- Wyes clamps
- High workbench support



Model	MAXI 315 AC (On request SUPRA model)
Working range	¢ 90 – 315mm
Materials	PE, PP, PB, PVDF
Rated voltage	220VAC 50/60Hz
Rated power	4200W
Rated power heating plate	3000W
Rated power milling cutter	1200W
Dimensions	1200*680*1045mm
Weight	183Kg
Welding temperature	180 – 280°C
Time to reach welding temperature	< 20min

Supra model includes more advanced technology for fixed site heavy duty fabrication.

SI-FLUX ENVIRONMENTAL IMPACT

Si-Flux Siphonic provides a solution to reduce CO₂ emissions by providing a highly optimised solution, with fewer & smaller pipes, especially when compared to gravity systems. Significant additional carbon savings can also be realized by eliminating most of the gravity Below Ground system. This results in major savings on plant and machinery for excavation, no inboard underground pipes or connections, no in board manholes, and no concrete bedding required to secure the underground system.

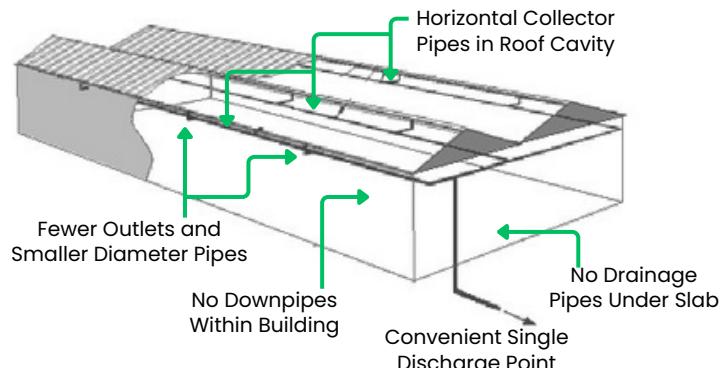
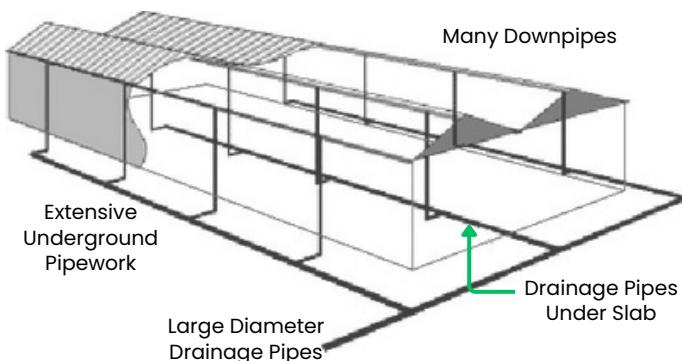
Y-junctions which are reliable and durable.

NOT ONLY IS THIS A MAJOR GREEN OPTION TO SAVE ON CO₂ EMISSIONS. BUT ALSO, A HUGE PROGRAM BENEFIT & SAVING ON TIME & MONEY. SI-FLUX SIPHONIC SAVES APPROXIMATELY 35 KG CO₂ PER M² IN COMPARISON TO GRAVITY SYSTEM*

*BASED ON A STD LARGE FORMAT SINGLE

BELOW, is an example of an average 4,000 M building

Model	Si-Flux CO ₂	Gravity CO ₂
ABOVE GROUND		
240mt HDPE pipe @30K g PLM	7,200Kg	
240mt PVC pipe @35K g PLM		8,400Kg
BELOW GROUND		
240mts x 250 PVC pipe @ 160kg Kg PLM		38,400 Kg
12 Manholes 440 Kg each		5,280 Kg
Excavation/Back fill 160Kg CO ₂ per/hr. App. 200 Hrs.		32,000 Kg
Concreate bedding Etc. 120M2 @ 62Kg CO ₂ M2		74,520Kg
Total	7,200Kg	158,600Kg



UNION QUARTER - MELBOURNE, AUSTRALIA CASE STUDY

SI-FLUX and Melbourne's Affordable Housing Crisis

Melbourne has a booming economy and its population of over 5 million is expected to grow to an eye watering 8 - 10 million by 2050 – It's already Australia's biggest city and has a reputation for being an exceptional place to live. Maintaining the esteemed title of the world's most liveable city with these growth projections presents serious challenges for government and industry and requires extensive social infrastructure investment.



The appeal of Melbourne does however attract high housing costs, now approaching 10X the annual income of a typical Melbourne household – Melbourne property is becoming very unaffordable to buy. Union Quarter is one part of Melbourne's housing and social infrastructure future that sees the mixed-use Build to Rent model enter Spotswood; a vibrant inner Melbourne suburb. The Build to Rent housing model is proliferating in Australia and is allowing average Australians to afford secure, high quality and flexible housing that's close to where they want to live and work. Build to Rent avoids the hassle of dealing with uncertain landlords and estate agents associated with the private rental market that can unexpectedly sell the premises or raise the rent without notice. The Union Quarter development houses some 500 people and offers the chance for people to easily access work, childcare, healthcare education and retail therapy – all just a short walk away. The scheme also offers broader social and community services that can help new Melbournians integrate with and build community.

The Build to Rent development model takes a long-term view on quality engineering systems and selected SI- FLUX as the preferred siphonic roof drainage solution that uses an -block technology to capture the roof areas for onsite rainwater re-use. Traditional siphonic roof drainage systems require an enhanced maintenance regime to ensure debris is regularly removed from roof catchments and their propensity for undue blockage is a consideration that the industry grapples with. SI-FLUX was able to demonstrate that the risk of blockage is substantially reduced with the outlet design and was a major reason why SI-FLUX was selected as the engineered drainage system. Coupled with a flexible engineering so ware, broad compatibility with pipework manufactures and compatibility with Rise Group Modular Prefabrication approach, SI-FLUX ticked the boxes.



Whilst the site is large with varying roof sizes, morphology, and levels, only 5 downpipes were required to capture the balance of roof areas which was around 10X less than would be required with conventional gravity drainage solutions – less space required for service risers. Delivering affordable housing for Melbourne's future must use engineering systems that are space and cost efficient with low operational risks and in the case of Union Quarter, SI-FLUX has helped deliver on this.

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SI-FLUX
SIPHONIC INNOVATORS 1983



The
University
Of
Sheffield.

