



Si-FLUX
SIPHONIC INNOVATORS 1983

**ADVANCED
SIPHONIC SYSTEM
CATALOGUE**



THE SAFE SIPHONIC CHOICE

Company Introduction

Si-Flux Ltd, a UK-registered enterprise with a global presence, has been at the forefront of self-priming siphonic system innovation since 1983. Its groundbreaking developments have played a pivotal role in shaping today's global standards and guidelines.

Beginning with the inception of siphonic systems in 1983, Si-Flux pioneered the first patent self-priming siphonic outlet. This innovative outlet featured an anti-vortex plate with three fins, effectively eliminating vortex flow and facilitating full-bore peak storm flow. Developed in collaboration with the University of Sheffield, Si-Flux's analytical design program incorporated essential safety parameters, including a maximum negative pressure of 8.00 meters water column (m.w.c), a minimum flow of 1.00m/s, and a 10% outlet reserve. These automatic safety features are fundamental in siphonic system design.

Today, the siphonic industry widely adopts the principles of fin or baffle utilization in outlet construction to achieve vortex-free laminar flow. However, the incorporation of fins or baffles can pose a challenge, potentially leading to blockages if not adequately maintained—an issue well-recognized within the industry.

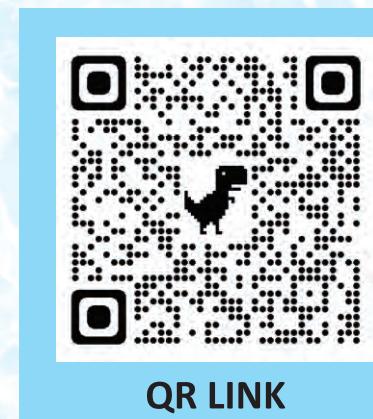
In response to this challenge, Si-Flux's pioneering R&D team conducted an extensive study to develop a "game-changing" geometric flow outlet. The objective was to create a safe and obstruction-resistant alternative to traditional siphonic outlets by designing a geometric anti-vortex full-bore outlet without the use of fins or baffle arrangements.

The culmination of this research effort is the Si-Flux anti-block finless siphonic outlet. Accredited with EN 1253 certification for its H10 Crushproof AVP, suitability for hot work use, and membrane clamping mechanism, this outlet has been rigorously tested by the University of Sheffield. Additionally, it undergoes UKAS Calibrated accredited anti-block and flow tests up to 90Lps, ensuring reliability and performance. Engineered for easy integration and cost-effectiveness, the Si-Flux outlet offers a universal solution for siphonic system applications.

DEVELOPED BY SI-FLUX, FROM CUSTOMER REQUIREMENTS

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QR LINK

Si-Flux Siphonic Anti-Block Outlet

INTRODUCTION

The Ultimate Siphonic Solution after 40 Years of Research & Development

Si-Flux stands as the culmination of four decades of dedicated research and development in the realm of siphonic systems. Our mission? To craft a siphonic outlet and design a program solution that is safer, simpler, more accessible, and competitively superior.

From our pioneering work in siphonic development four decades ago, our team of experts has continuously strived to exceed customer expectations. We've heeded their feedback, pushing the boundaries further to introduce Anti-Block universal siphonic outlets tailored for concrete, metal gutter, and membrane-applied roofs. These outlets not only meet but exceed operational requirements, boasting:

- Enhanced Blockage Prevention: Say goodbye to worries about leaves, plastic bags, sand, and silt obstructing your system.
- Sturdy Metallic H10 Roof Trafficable Cover Plate: EN-approved for reliability and durability.
- EN-Approved Built-in Membrane Clamping Mechanism: No need for additional bolt-on accessories, ensuring seamless integration.
- Hot Work EN Certification: Suitable for roofs sealed with hot-applied sealants, guaranteeing safety and compliance.
- Universal Fit: From 4 LPS to 90 LPS, our outlets are available in Alloy or Stainless body, accommodating a wide range of needs.
- Easy Installation: Simple pipework connections and straightforward roof applications make setup hassle-free.

Our commitment to delivering a high-quality product that aligns with customer needs is unwavering. That's why our team dedicated their time and expertise to developing a geometric siphonic solution as an alternative to fin-operated outlets. This innovation ensures a safer product that fulfills all operational requirements, providing peace of mind to our valued customers.

THE RESULT IS "Si-Flux"

THREE OUTLET PICTURES HERE,

AL-MP-01



SS-HD-02



AL-HD-03



The Key Benefits of Si-Flux Siphonic



AL-MP-01



SS-HD-02



AL-HD-03

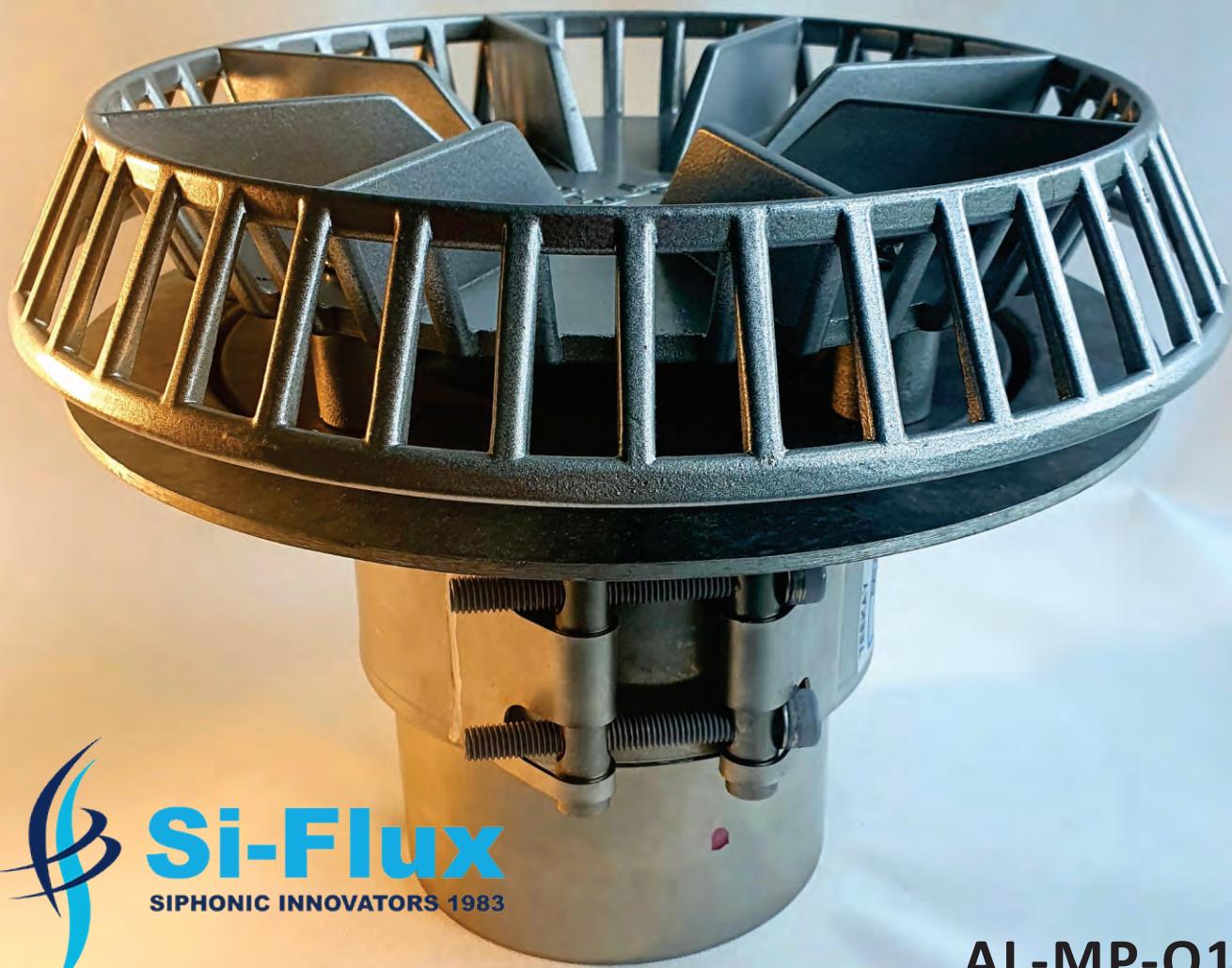
- SIMPLE:** Easy Fusion Connection to HDPE Pipe in either S/S or Alloy Body.
- CHOICE:** Select either LM6 Alloy or Stainless-Steel **Si-Flux** outlet body.
- OPTIONAL:** Simple & safe connection to Cast-Iron or Stainless-Steel piping.
- RESILIENT:** All metallic outlet, Minimum 10 Year Warranty.
- COMPLIANT:** 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.
- SUPERIOR:** Tested HIGH flow range up to 90lps in **Si-flux** Outlet single unit.
- PROVEN:** **Si-Flux** Anti-Block Sand & Silt Calibrated UKAS Tests.
- SAFETY:** Anti-Block Outlet operates even with Debris & Plastic bags present.
- PROTECTED:** Intellectual Property Office Certificate Design No. 6169704
- ORIGIN:** Certificate of Origin UK: Alloy, AUSTRALIA: Stainless Steel.

40 Year's Successful Siphonic Track Record

Please visit Our website www.si-flux.com



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



AL-MP-01

COMPONENT DRAWING ISO 9001 CODE LIST AL-MP-01

ITEMS	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 18 mm WASHER
5	C/OL/02	ALLOY CLAMP RING
6	C/F/02	M6 S/S HALF NUT
7	C/F/03	M6 S/S 18 mm WASHER
8	C/OL/03	ALLOY OUTLET BODY
9	C/F/05	M6 FIBRE WASHER
10	C/F/04	M6 S/S 50mm BUTT SCREW

SI-FLUX ALLOY OUTLET COMPONENT DETAILS



STAINLESS STEEL BODY- FOR HDPE PIPE APPLICATIONS



COMPONENT DRAWING ISO 9001 CODE LIST SS - HD - 02

ITEMS	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	ALLOY 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/OL/07	S/S BACKING RING
11	C/F/04	M6 BUTT HEAD SCREW 60mm
12	C/F/03	M6 S/S 18mm WASHER

SI-FLUX S/S OUTLET COMPONENT DETAILS



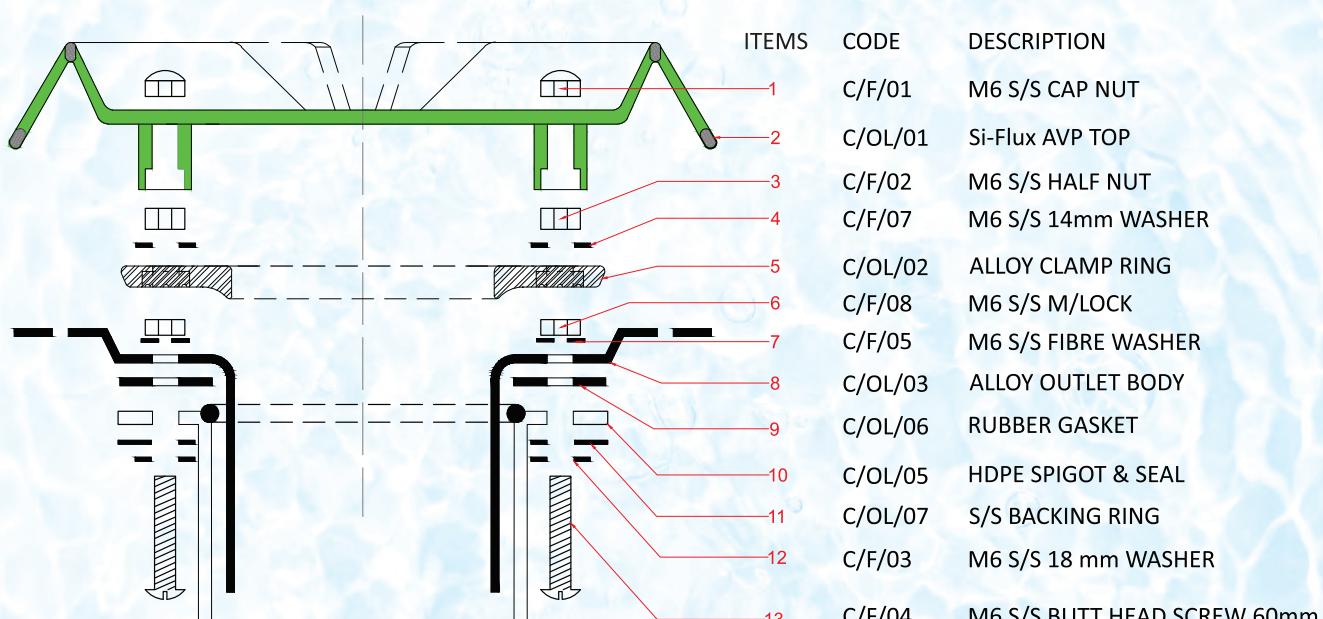
ALLOY BODY- FOR HDPE PIPE APPLICATIONS



Si-Flux
SIPHONIC INNOVATORS 1983

AL-HD-03

COMPONENT DRAWING ISO 9001 CODE LIST AL - HD - 03

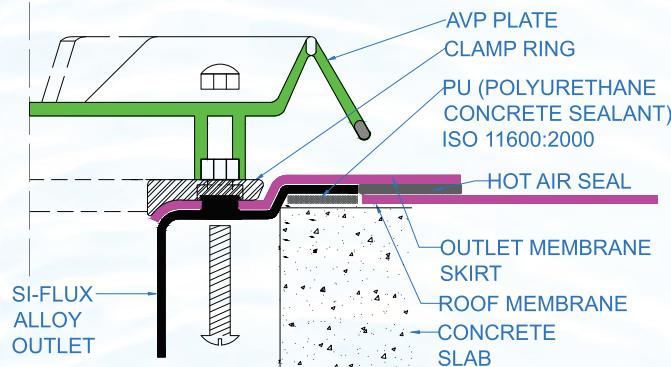


SI-FLUX ALLOY HDPE OUTLET COMPONENT DETAILS

Si-Flux
SIPHONIC INNOVATORS 1983

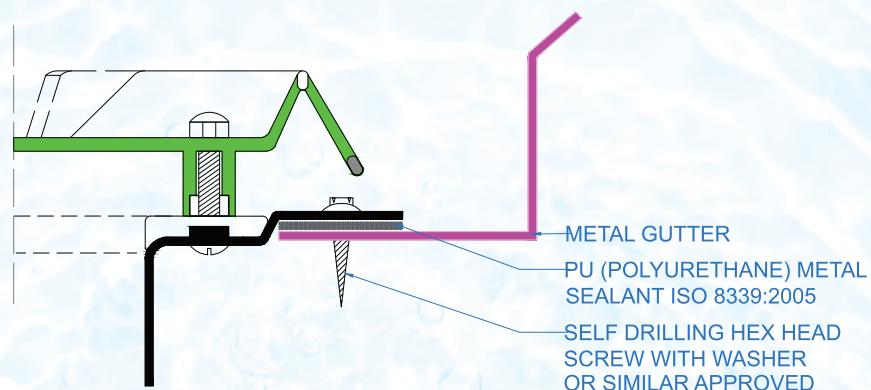
OUTLET INSTALLATION INDICATIVE GUIDES

MEMBERANE ROOF APPLICATIONS



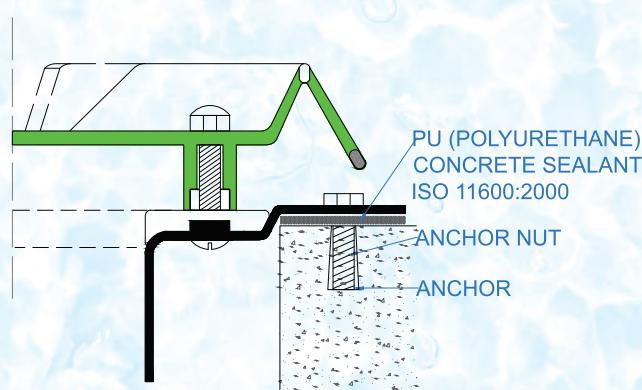
SI-FLUX MEMBRANE ROOF CLAMP-RING INSTALLATION DETAILS
 NOTE: INDICATIVE FOR GUIDANCE ONLY

METAL GUTTER APPLICATIONS



SI-FLUX METAL GUTTER INSTALLATION DETAILS
 MEMBRANE LINED GUTTER ON REQUEST
 NOTE: INDICATIVE FOR GUIDANCE ONLY

CONCRETE ROOF APPLICATIONS



SI-FLUX CONCRETE ROOF DETAIL (GENERAL)
 CONCRETE ROOF TYPES ON SCREED OR INSULATION
 PROJECT SPECIFIC ON REQUEST
 NOTE: INDICATIVE FOR GUIDANCE ONLY

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.



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

SI-FLUX Rainwater Standards

Accreditation, Evaluation, Verification

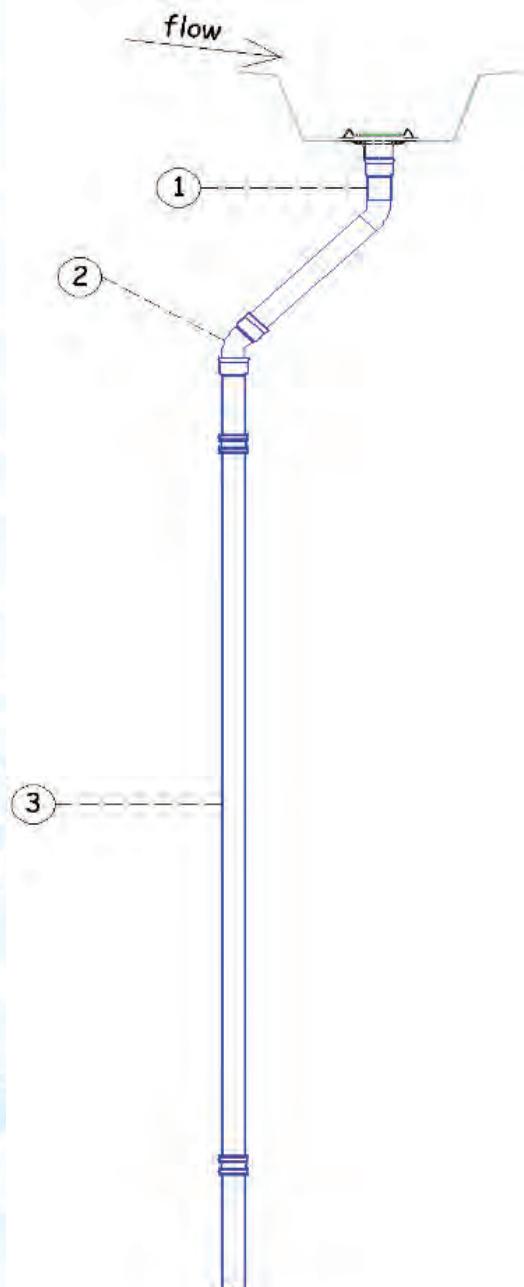
Proof of Si-Flux concept flow data



UKAS calibrated certificate 0508

Mag-Flow certificate 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 cert

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 and Structural Engineering

Testing of roof outlets CSE/KB/28/05/08

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

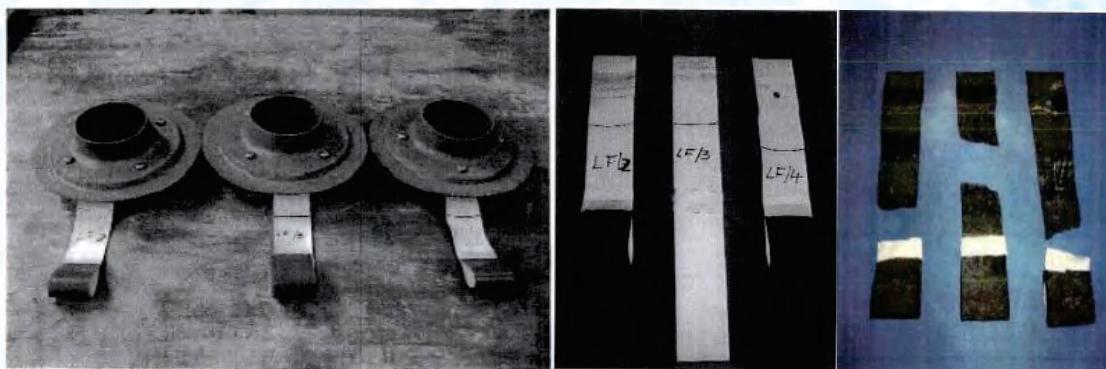
The **Si-Flux Outlets** also have passed the unique **Hot oil** test in the event of hot bitumen roof applications.

3. Membrane clamp ring (Clause 10.4.3)

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

Accreditation, Evaluation, Verification

Roof Membrane results are unique and provide data for global Manufacturers of Polymer Membrane types such as TPO, EDPM & PVC & Bitumen Membranes such as SBS & APP compatibility & approved by **The Si-Flux Clamp jointing 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.

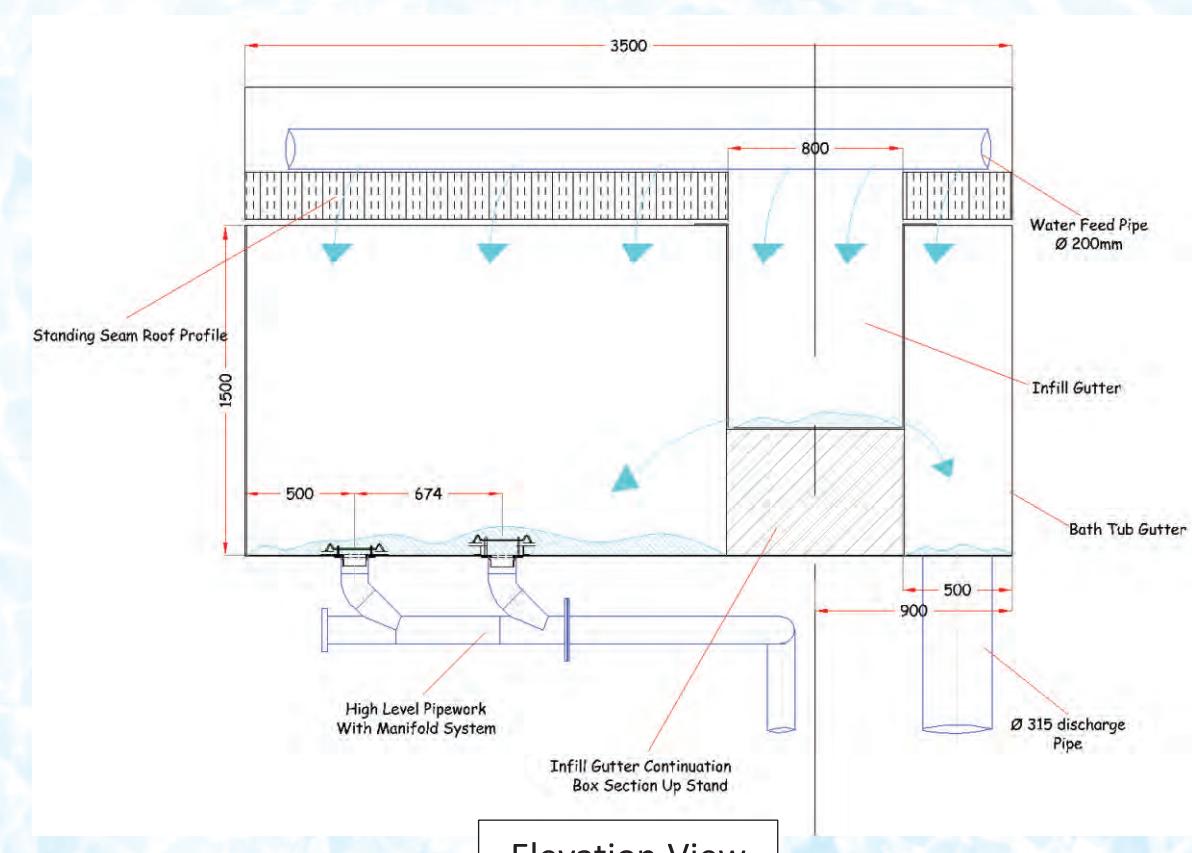
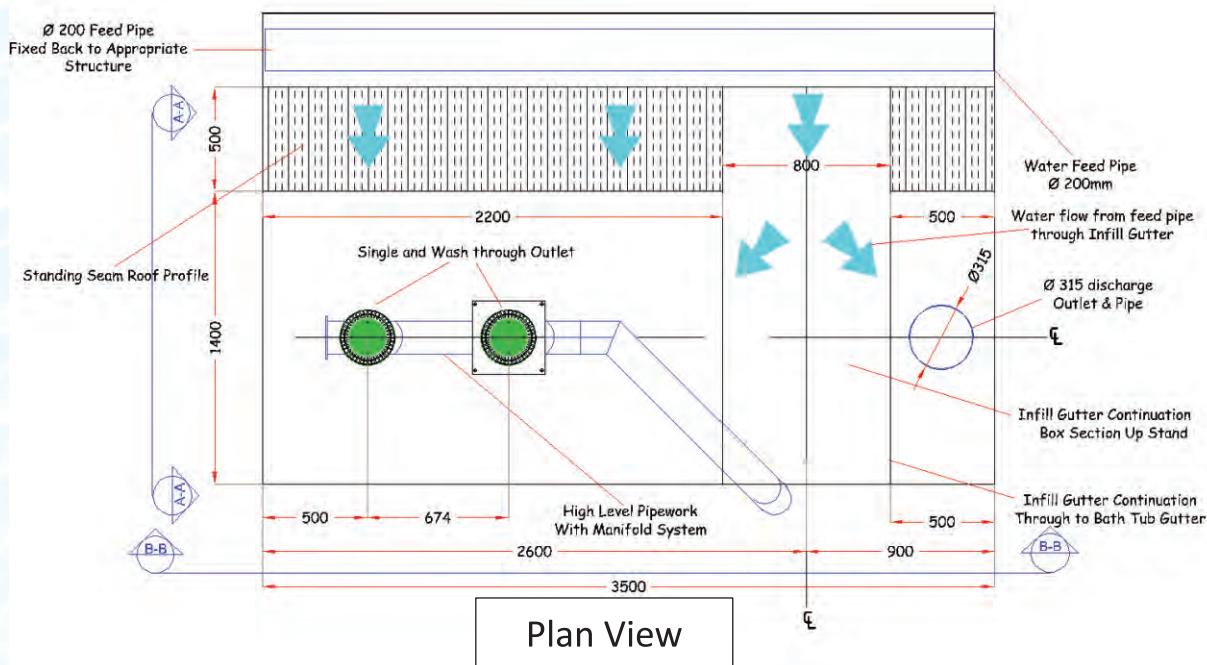
*Full University of Sheffield testing evaluation reports & Data can be obtained from accredited Si-Flux Distributors

Performance Test Anti-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



SI-FLUX Rainwater Standards

Accreditation, Evaluation, Verification

3 PICTURES OF THE SAND BOX TEST, BLOCKED PIPE & CLEARED PIPE:

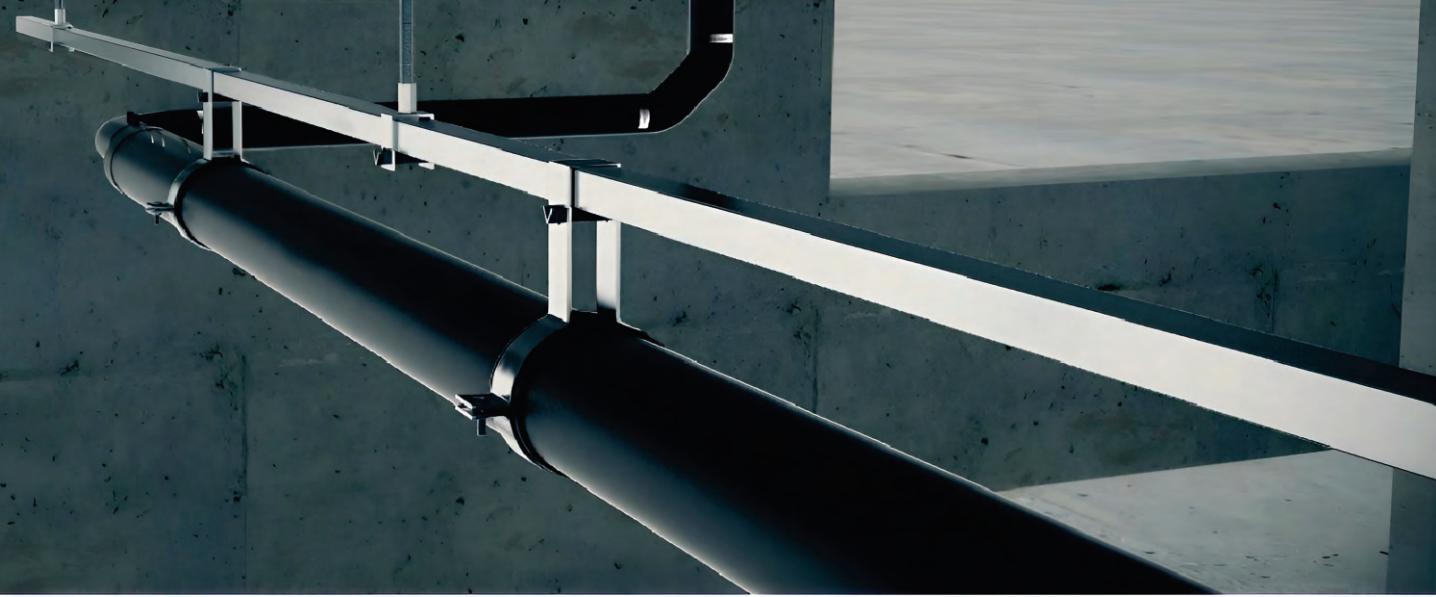


TEST	Flow rate (l/p/s) Nominal	Sand depth (mm)	Highest depth of water with sand (mm)
1		0	70
2	25	20	90
3		40	90

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

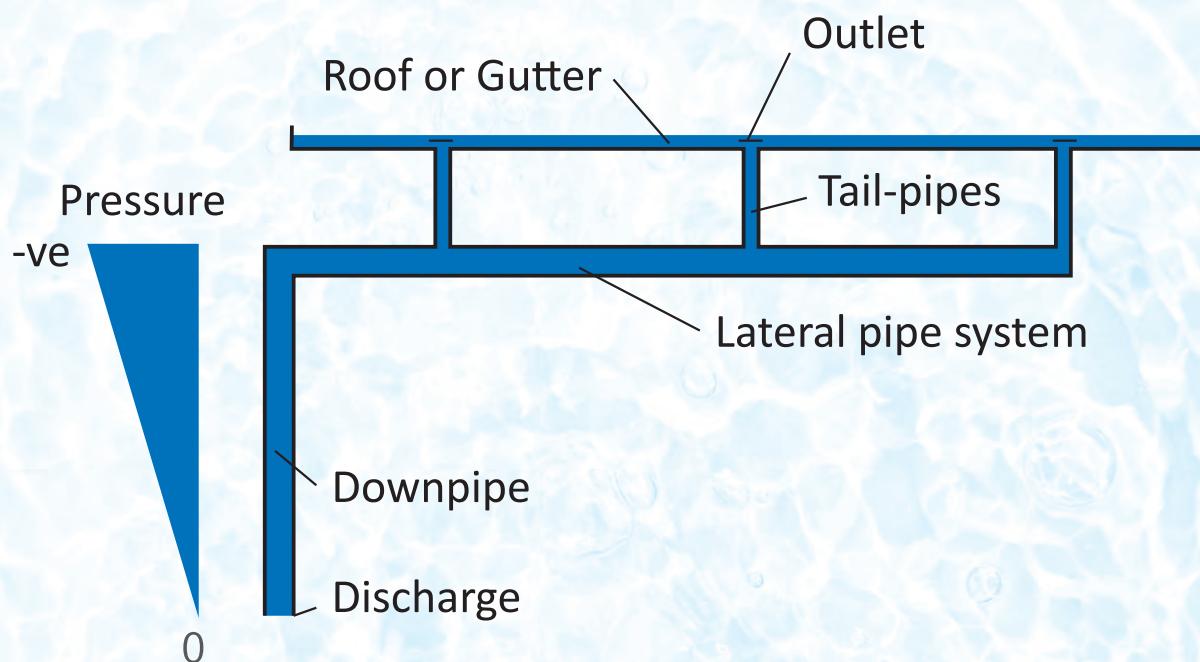
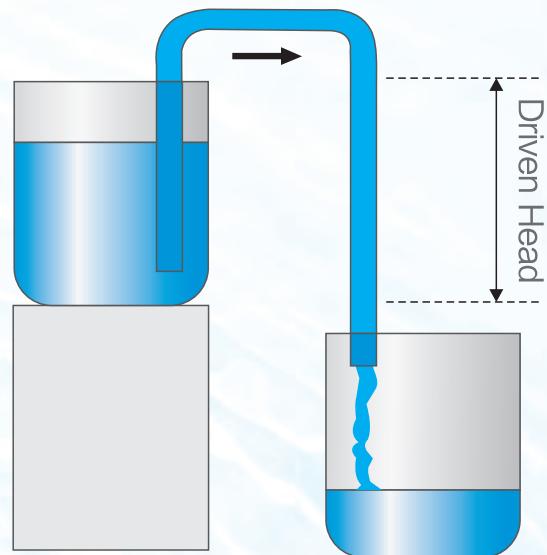
1. Are Si-Flux outlets tested with no sand involved. The highest depth of 70mm is regarded as the standard flow.
2. Are Si-Flux outlets tested with an initial depth of 20mm of sand. There was an increase of 20mm to 90mm in the highest water depth when compared to standard flow in S/N 1.
3. Are Si-Flux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

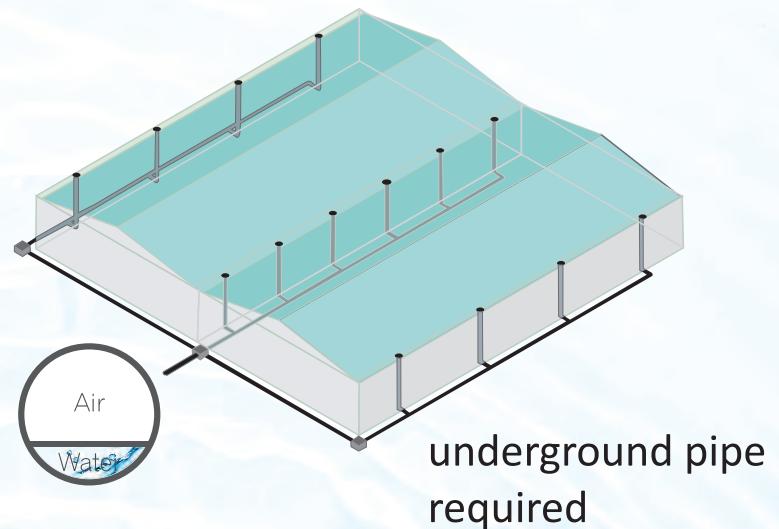
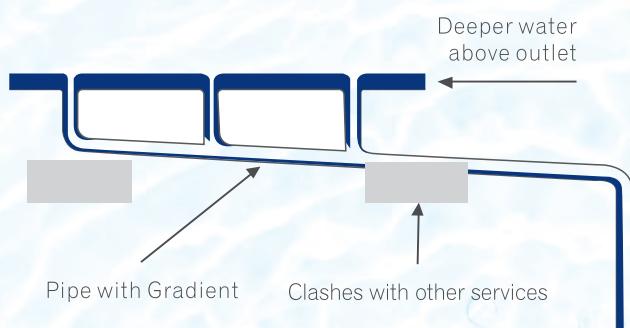


Components of a multi-outlet siphonic system

Gravity VS Si-Flux Systems

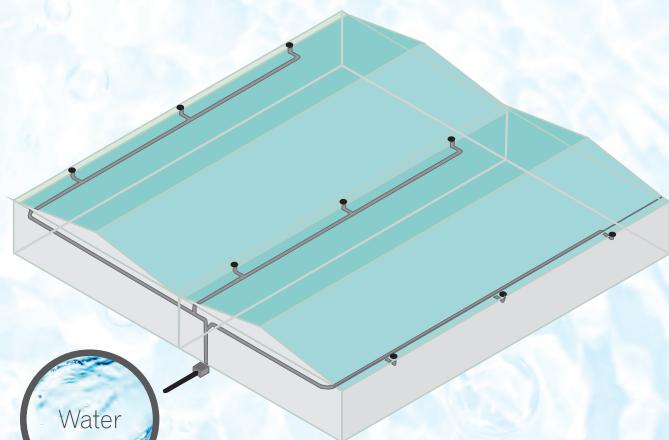
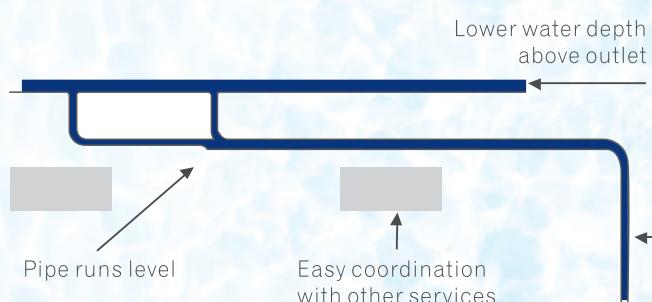
Gravity Drainage

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



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 and excluded, delivering far greater capacity and flow rates.



GLOBAL APPLICATIONS

- Logistic Centers
- Distribution Units
- Airports Terminals
- Aircraft Hangers

- Train Stations
- Sports Stadia
- Shopping Malls
- Factories

- Office Complexes
- Convention Centers
- Warehouses
- Residential Multi-Story



UNION QUARTER
AUSTRALIA



DATA CENTER
MALAYSIA



BOX HILL,
AUSTRALIA



KAPSARC.
SAUDI ARABIA



CHAKAN,
INDIA



DOHA, QATAR

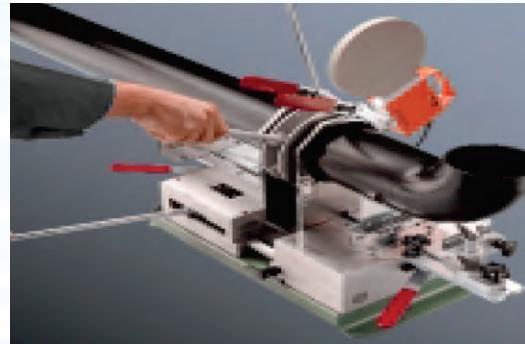


MALDIVES
AIRPORT



BLUE PLANET,
UNITED KINGDOM

| HDPE Connection Methods



Procession



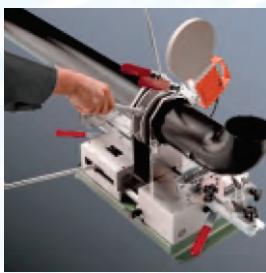
Manual Butt Welding ▶

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 and 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

Preparations ▶

- Ambient Temperature: -5°C - +40°C
- Power: 205V-250V
- Check if the equipment functions properly.
- 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 and if it exceeds 20°C, the welding time should be shortened. 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 were 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 the depth of the insertion ▶



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

Cleaning ▶



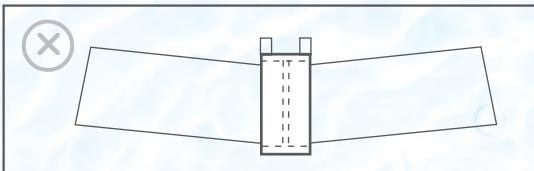
Clean the coupler with cloth to ensure that all surfaces are clean and dry.

Insertion ▶

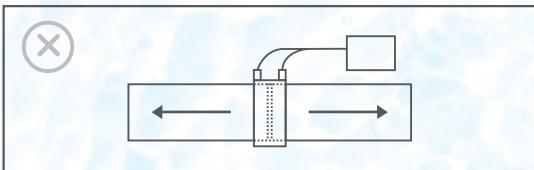


Push the pipe/fitting into the coupler as straight as possible and up to the marked insertion depth.

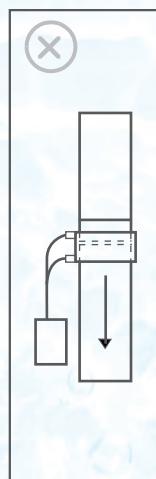
Attention



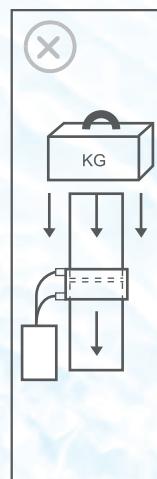
Prevent misalignment.



Prevent joint movement during welding.



Prevent coupler from sliding down when center stop removed.

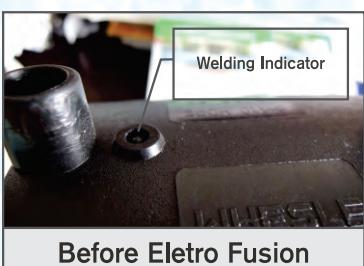


Prevent vertical loading during welding.

Accessing an electrofusion weld

If all preparations have been 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.

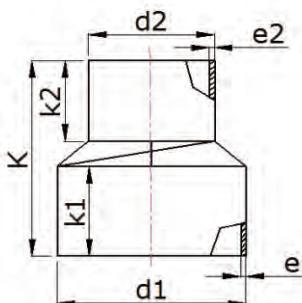


Never weld the coupler twice.

HDPE PIPE AND FITTINGS FOR DRAINAGE S12.5 CODE



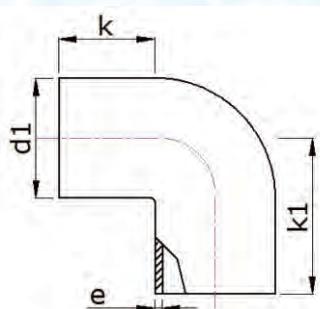
Concentric Reducer



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

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

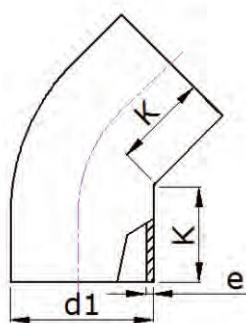
HDPE PIPE AND FITTINGS FOR DRAINAGE S12.5 CODE



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

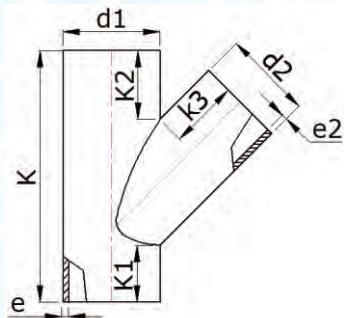


Article No.	d1	K
HD/45/B/50	50	40
HD/45/B/63	63	42
HD/45/B/75	75	40
HD/45/B/90	90	41
HD/45/B/110	110	47
HD/45/B/125	125	47
HD/45/B/160	160	48
HD/45/B/200	200	108
HD/45/B/250	250	125
HD/45/B/315	315	105



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

HDPE PIPE AND FITTINGS FOR DRAINAGE S12.5 CODE



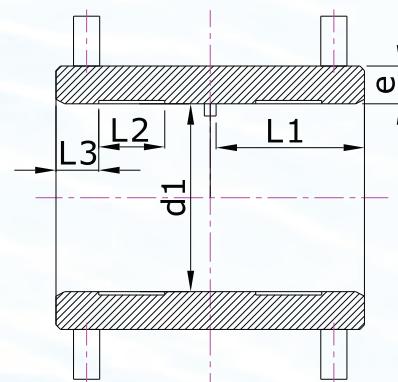
Article No.	d1/d2	K	k1	k2	k3
HD/YB/50/50	50*50	162.8	38.3	53	67.5
HD/YB/63/63	63*63	181	35.7	55.8	69.8
HD/YB/75/50	75*50	159	34	51.6	56.5
HD/YB/75/63	75*63	178	33.9	54.2	60.4
HD/YB/75/75	75*75	195	35.4	52.3	55.4
HD/YB/90/50	90*50	163	33.5	55	58
HD/YB/90/63	90*63	182	34.7	55.8	60.2
HD/YB/90/75	90*75	192	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 just for reference. Updated sizes will not be informed.

HDPE PIPE AND FITTINGS FOR DRAINAGE S12.5 CODE

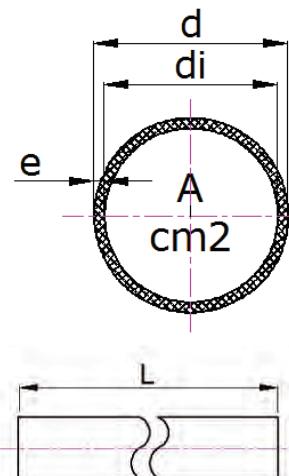


EF coupling/sleeve



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 AND FITTINGS FOR DRAINAGE S12.5 CODE



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	5m
HD/5m/P63	63	3	57	25.4	5m
HD/5m/P75	75	3	69	37.3	5m
HD/5m/P90	90	3.5	83	54.1	5m
HD/5m/P110	110	4.2	101.6	81.1	5m
HD/5m/P125	125	4.8	115.4	104.5	5m
HD/5m/P160	160	6.2	147.6	171.1	5m
HD/5m/P200	200	7.7	184.6	267.5	5m
HD/5m/P250	250	9.6	230.8	418.2	5m
HD/5m/P315	315	12.1	290.8	663.8	5m

A cm² = cross sectional area of flow.

PIPE CHART WITH WATER

Dia.	kg/m	Dia.	Kg/m
50	1.83	125	12.30
63	3.03	160	20.17
75	4.40	200	31.50
90	6.38	250	49.25
110	9.54	315	78.04

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

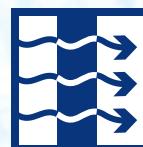
Features and Benefits



Resistance to cold
HDPE parts stretch elastically with expanded ice water, and resume their original shape when the ice water melts, remaining completely intact and 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.



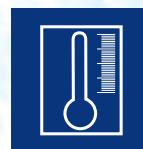
Low Heat conductivity
Heat loss is about 90% less than copper pipe.



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°C and for intermittent discharges of up to 95°C for short periods (max 2 minute flow).



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



No Condensate
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,M12

HD-MP-M10 / HD-MP-M12

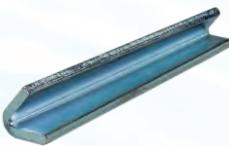


Steel Square Rail
Connection Element
(electro-galvanised)
30mm × 30mm

HD-SSPC-30



M10-M12
Clamp For Steel
Square Rail
(Electro-Galvanised)
30mm × 30mm



Tension Wedge For Sliding
And Anchor Bracket
(Electro-Galvanised)

HD-PC-030-M10 / HD-PC-030-M12



Guide Brackets Steel
(Rail Only)
(Electro-Galvanised)
Φ50–Φ315



M10-M12
Guide Brackets
Steel
(Electro-Galvanised)
Φ50–Φ315

HD-BRK-XXX-SP30

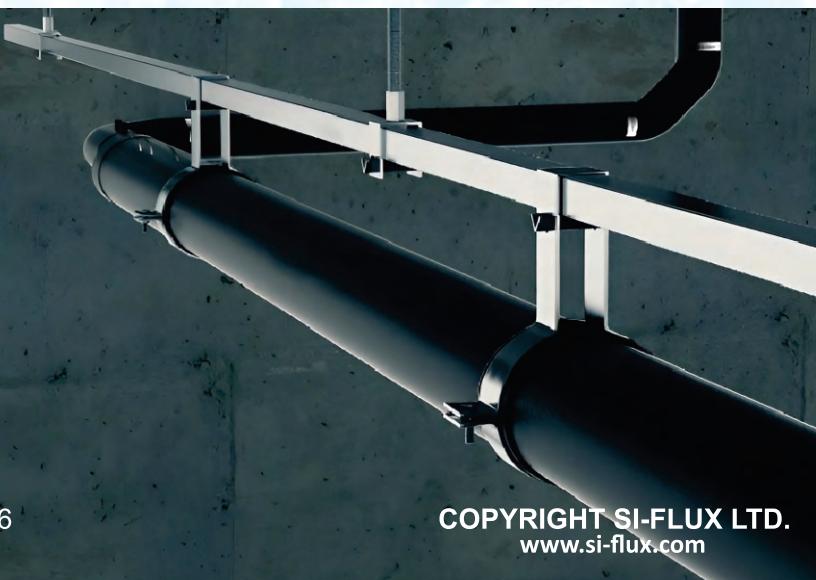
HD-BRK-XXX-M10/HD-BRK-XXX-M12



Steel Square Rail
6m/根
30mm × 30mm

HD-SSP-30-18-6MT

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	HD/ASW/160	HD/ASW/315
Working range	32-160mm	32-315mm
Rated voltage	220VAC-50HZ	220VAC-50HZ
Rated current	5A	10.7A
Rated power	900W	2450W
Outside temperature range	-5-40°C	-5-40°C
Ambient temperature probe	automatic	automatic
Dimensions	245*210*300mm	245*210*300mm
Weight	3.2kg	3.9kg

Butt welding machine

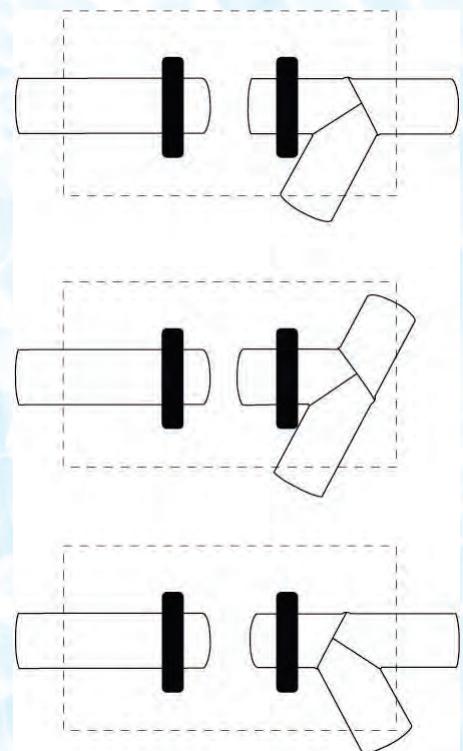
Professional butt fusion welders for drainage pipes. Integrative design of the whole machine makes it easy and fast to operate, which greatly improves the construction efficiency. The special upper clamp is suitable for the Y-shape clamps suitable for Y-junctions which are reliable and durable.



INCLUDE WITH
HD-MINI-160Y-SUPRA
Special Y-shape clamps
For Tee



Model	HD-MINI-160
Working range	Φ 40–160mm
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



HD-MINI-160Y SUPRA INCLUDES Y CLAMPS

Butt Welding machine

P clamps



**Y clamps
ON REQUEST**



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	HD-MAXI-315AC
Working range	Φ 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

HD-MAXI-315AC SUPRA HAS ADJUSTABLE FRAME

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.

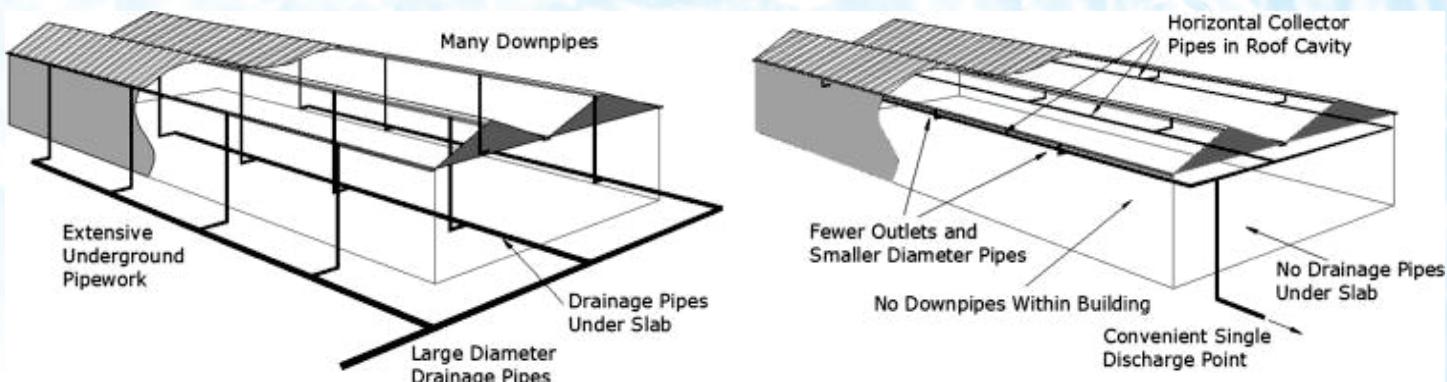
NOT ONLY IS THIS A MAJOR GREEN OPTION TO SAVE ON CO₂ EMISSIONS. BUT ALSO, A HUGE PROGRAM BENEFIT & SAVING ON TIME & MONEY.

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 M² building

	Si-Flux CO₂	Gravity CO₂
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
Concrete 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 8-10million 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 anti-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 software, broad compatibility with pipework manufacturers 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.





Si-Flux Ltd

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