



**Utility Innovations Services**

# **Operators Manual**

**UIS Power Push™ Pipe Pusher**

# Welcome

## ABOUT US

Utility Innovations Services Limited (UIS Ltd) are specialists in manufacturing new innovations equipment for the utilities sector.

Within the staff employed at UIS Ltd, we have a wealth of experience in gas, water and electricity replacement, rehabilitation and reinforcement projects. Our experience has enabled us to target key areas and functions within utilities we feel we can improve upon with new innovations created and manufactured in house.

The concept of UIS Ltd is to develop and advance innovation products that aid the process of replacing / renewing pipe utility work. A main aim is that all of our products should eradicate the inherent safety and technical faults encountered by existing methods. Aligned to safety, quality and engineering compliances there are also productivity benefits that allows our products to be compliant, versatile and proven speedier than alternative approved methods of works within utilities.

As our products have been developed through extensive trials, a detailed technical assessment has been made in which includes a detailed analysis of its performance against alternatives. The use of this equipment may be adapted to water, gas and cabling activities or any other use for the process of insertion and a / best practice / information is provided.



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# UIS Power Push™ Pipe Pusher

## SCOPE

The purpose of this operator's manual is to demonstrate the safe working process and procedure of the UIS Power Push™ Pipe Pusher. In this operators manual you will find all of the safe working practices which are required for using the product for its designed purpose.

## BENEFITS

- Safety
- Environmental Migration
- Standard & Custom made shims for all Power Push Models
- Engineering Compliant
- Multi-use Attachment Tool



## GENERAL

The UIS Power Push™ is an attachment which fits onto an excavator and is used for inserting new polyethylene pipe on predominantly gas and water sites. The UIS Power Push™ may also be used for inserting cables through ducting, and can be used as an alignment clamp.

## SYMBOLS & ABBREVIATIONS

UIS – Utility Innovations Services

PP – Power Push™

PPE – Personal Protective Equipment  
1.5T/3T/5T/8T/12T/20T-

Tonne Excavator

SDR Range – Standard Dimension  
Ratio

PE – Polyethylene



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# DESIGN BASIS & SPECIFICATIONS

The UIS Power Push™ has been designed, tested and implemented to suit the needs of small / large scale gas / water / electric mains replacement schemes.

55mm – 180mm Power Push Pipe Pusher	
SPECIFICATION	
Height	420mm
Length	310mm
Width	335mm
Weight	46kg
Jaw Opening Width	100mm
Recommended Working pressure	Max 200 Bar
Recommended Excavator Size	Up To 3 Tonne



55mm – XL 180mm Power Push Pipe Pusher	
SPECIFICATION	
Height	480mm
Length	312mm
Width	345mm
Weight	85kg
Jaw Opening Width	100mm
Recommended Working pressure	Max 200 Bar
Recommended Excavator Size	Up To 8 Tonne

90mm – 300mm Power Push Pipe Pusher	
SPECIFICATION	
Height	605mm
Length	415mm
Width	475mm
Weight	110kg
Jaw Opening Width	100mm
Recommended Working pressure	Max 200 Bar
Recommended Excavator Size	Up To 8 Tonne



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# DESIGN BASIS & SPECIFICATIONS Continued

## 180mm – 400mm Power Push Pipe Pusher

### SPECIFICATION

Height	910mm
Length	450mm
Width	650mm
Weight	172kg
Jaw Opening Width	150mm
Recommended Working pressure	Max 200 Bar
Recommended Excavator Size	Up To 13 Tonne



## 400mm – 630mm Power Push Pipe Pusher

### SPECIFICATION

Height	1100mm
Length	600mm
Width	910mm
Weight	350kg
Jaw Opening Width	180mm
Recommended Working pressure	Max 200 Bar
Recommended Excavator Size	Up To 25 Tonne

## 630mm – 900mm Power Push Pipe Pusher

### SPECIFICATION

Height	1420mm
Length	600mm
Width	1250mm
Weight	600kg
Jaw Opening Width	180mm
Recommended Working pressure	Max 200 Bar
Recommended Excavator Size	Up To 30 Tonne



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Power Push Model	180mm	180mm XL	300mm	400mm	630mm	900mm
1.5T Excavator	✓	✓				
3T Excavator	✓	✓	✓			
5T Excavator		✓	✓	✓		
8T Excavator			✓	✓	✓	✓
12T Excavator				✓	✓	✓
13T Excavator				✓	✓	✓
15T Excavator				✓	✓	✓
Up To 20T Excavator					✓	✓
Up To 30T Excavator						✓
Additional Items						
Power Push Storage Box	✓	✓				
Shim Storage Box	✓	✓				
Hydraulic Hose Extension Kit	✓	✓	✓	✓	✓	✓
Shim Sizes						
55mm Shim Set	✓	✓				
63mm Shim Set	✓	✓				
75mm Shim Set	✓	✓				
90mm Shim Set	✓	✓	✓			
110mm Shim Set	✓	✓	✓			
125mm Shim Set	✓	✓	✓			
140mm Shim Set	✓	✓	✓			
160mm Shim Set	✓	✓	✓			
180mm Shim Set	✓	✓	✓	✓		
213mm Shim Set			✓	✓		
225mm Shim Set			✓	✓		
250mm Shim Set			✓	✓		
280mm Shim Set			✓	✓		
315mm Shim Set				✓		
355mm Shim Set				✓		
400mm Shim Set				✓	✓	
450mm Shim Set					✓	
500mm Shim Set					✓	
560mm Shim Set					✓	
630mm Shim Set					✓	✓
710mm Shim Set						✓
800mm Shim Set						✓
900mm Shim Set						✓
Bespoke Shim Set	✓	✓	✓	✓	✓	✓



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# Product Storage

The UIS Power Push™ 180mm model comes stored in its own storage box which is where the product should always be stored when it is not in use. The UIS Power Push™ can be fitted to the excavator directly from the storage box to aid the manual handling process of lifting the unit in and out of the storage box. Please remember that the UIS Power Push™ always equates to a two person lift, so lifting procedures / regulations should be adhered to at all times. The product will also come with a holdall bag or another storage box, which is for the storage of shim sets. These shims should always be stored in the bag / box when they are not being used by the UIS Power Push™.

The larger UIS Power Push™ models should always be stored safely and securely when not in use. Making sure it is securely stored on an even sturdy surface to avoid risk of the product falling, causing a collision / crushing, serious injury or even death could occur if risks are taken when storing the product. Please remember that when moving the UIS Power Push™, lifting procedures / regulations should be adhered to at all times.

During storage the crane/machine shall not be put in such a position that the crane boom is resting on the equipment. Never leave the machine with a hanging load.

## CAUTION!

It is recommended that extreme caution is to be taken when “splitting” the UIS Power Push™.

If removing the bottom clevis pin to change the shims, UIS advise in the training briefing that two hands should be used at all times. One hand should be used to remove the Clevis pin whilst the other hand supports the weight of the bottom of the Power Push to stop it from “swinging” open.

## SHIM SYSTEM

The UIS Power Push™ uses an interchangeable shim system which is made from recycled plastic. These shims are made internally by UIS to fit each diameter of pipe which they are being used to insert. The shims are fixed in place using countersunk bolts. The correct size shims must be used for the diameter of pipe which they are intended for to ensure the safe and correct use of the UIS Power Push™. The larger shims for the 630mm & 900mm PP models are made from steel and are lined with the same plastic used for the smaller Power Push models.

Using the incorrect sized shims for the diameter pipe being inserted may cause damage to the pipe wall and effect the efficiency of the operation.



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# OPERATING VARIABLES & CONTROLS

The operations of the UIS Power Push™ are all done through the operations of the excavator which the unit is attached to. These are the same controls that the excavator operator would use to operate the excavator in the same manner as digging an excavation or using an excavator mounted hydraulic breaker. The open and close function on the UIS Power Push™ is done using the “dual flow” hydraulics on the excavator, which is either via a foot pedal on the excavator or through the buttons on the operating levers. This is dependent on the make and model of the excavator which the UIS Power Push™ is attached to as this may vary for different manufacturers.



## START-UP & SHUT-DOWN PROCEDURE

The UIS Power Push™ fits onto an excavator in the same way an excavator bucket or a hydraulic breaker would, which is via pins or a quick hitch system. The universal head brackets which can be supplied with the UIS Power Push units are made to fit the majority of excavators up to the recommended size excavator for the Power Push model being used.

The UIS Power Push™ 180mm model can be fitted directly out of its storage box, this unit is always strictly a 2-person lift. Any other UIS Power Push™ models are always to be handled with extreme care using correct lifting and handling equipment to do so. When fitting the unit to the excavator make sure the UIS Power Push™ is placed on a sturdy/stable flat surface.



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# START-UP & SHUT-DOWN PROCEDURE Continued

Fitting the UIS Power Push™ to an excavator is done by removing the pins, unless the excavator uses a quick hitch system. Once the pins have been removed the excavator operator should line the dipper arm up inside the head bracket of the UIS Power Push™. When the holes of the dipper arm align with the holes in the head bracket the pins can be inserted. The lynch pins / retaining clips should always be fitted to ensure the unit remains safely attached to the excavator.

The UIS Power Push™ is now ready to be fitted to the dual flow hydraulic system of the excavator. The excavator should be turned off for this process, ensuring all pressures on the auxiliary hydraulic circuit have been released. When this process has been completed the UIS Power Push™ can be safely linked up to the excavator using the quick release couplings attached. This is done by simply pushing together the quick release couplings on the Power Push™ to the couplings on the excavator, enough pressure should be applied to allow the connections to securely come together and a small ball bearing should be made visible to indicate the correct connection. This operation is completed for both of the quick release couplings, there is usually one Male and one Female quick release coupling to attach but this can differ depending on the make and model of the excavator. It is important that the excavator has a dual flow hydraulic system to allow the UIS Power Push™ to work correctly.

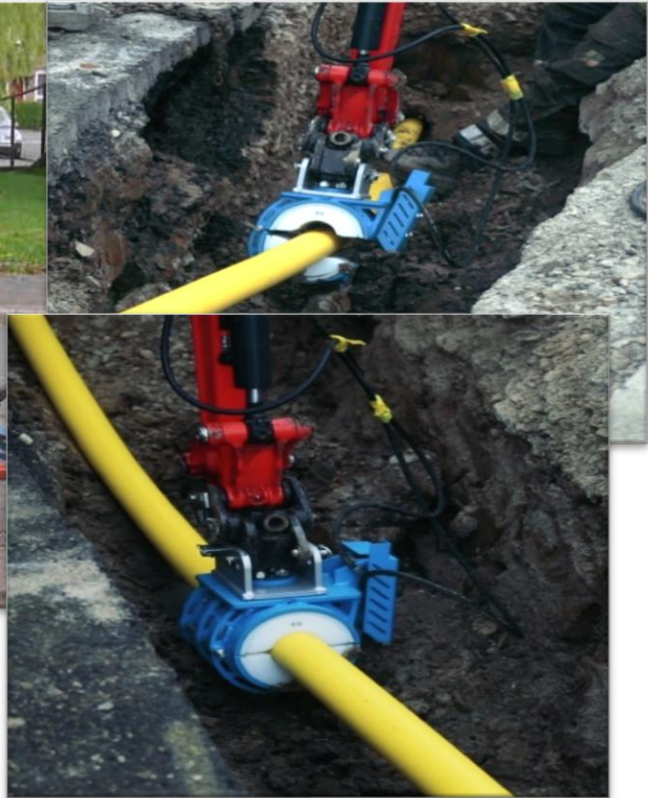


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# Equipment Operation

The excavator should be positioned at the edge of the excavation where the new polyethylene pipe / cable is going to be inserted from. Once the excavator is in the correct position with the UIS Power Push™ fitted, the new polyethylene pipe / cable can start to be inserted inside the carrier main / ducting. There must be a banks man in contact with the excavator operator at all times to ensure the safe insertion of the polyethylene pipe / cable. The UIS Power Push™ is used to push / pull the pipe into the carrier main / ducting, when the excavator arm is at the edge of the excavation and can no longer move and further back, the excavator operator then pushes the dual flow hydraulic pedal / button, which opens up the UIS Power Push™ allowing the machine driver to slide the excavator arm back up the pipe / cable as far as the excavator arm will reach. The dual flow hydraulics on the excavator are then used again this time closing the UIS Power Push™ which in turn grips the pipe. The same process is then repeated until the insertion length of pipe / cable is achieved.



## EMERGENCY SHUT DOWN PROCEDURE

In case of any emergencies whilst using the UIS Power Push™, the most efficient way of shutting down all operations is to turn off the excavator using the key. This operation will stop all workings of the excavator and also stop the flow of hydraulic oil to the UIS Power Push™.



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# INSPECTION & MAINTENANCE PROCEDURES

The UIS Power Push™ should be inspected prior to every use using the following checks:

- Hydraulic Hoses and Connections should be checked for significant damage / leaks, the hydraulic hoses should be replaced every 2 years, regardless of its perceived condition
- Head Bracket - Pins for Head Bracket [correct pins for machine]
- Condition of Shims [free from debris]
- Bolts / Nuts on Head Bracket [all in place and secure]
- All countersunk bolts in place for shims and securely fixed

Daily maintenance checks should be carried out in accordance with the 'UIS Operators Daily Inspection' checklist, which are supplied by UIS Ltd.

If you suspect that there are any problems / faults with your UIS Power Push™, then either contact your site supervisor or UIS Ltd direct on 0161 428 7959.

If you have the UIS Power Push™ on a long term hire, after a 12 month period the unit will be recalled by UIS Ltd for a 12 month inspection where the unit will be thoroughly checked and serviced by a competent person.

## Operators Daily Inspection Check Sheet



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+

Name:	
Week Commencing Date:	
Company:	
Plant Number:	
Item Description:	

**Note:** The below checks MUST be completed prior to and during the use of the product. If any of the inspections result in fail, STOP and report it to your supervisor immediately prior to use.

Item:	Check to be performed:	Mon	Tue	Wed	Thu	Fri	Sat	Sun
<b>Generic Inspection Checks</b>								
1	Hydraulic Rams							
2	Hydraulic Hoses							
3	Hydraulic Connectors							
4	Head Bracket							
5	Swivel Unit							
6	Locking Mechanism							
7	Pins [Safety Clips]							
8	Site Conditions							
9	PPE							



This is just a section of one of our Operators daily inspection sheets

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# SAFETY

To be using the Push™ in the safe and correct manner, the operator should have completed the following before using the equipment:

- Be trained in the correct use of the UIS Power Push™
- Make sure the person using the carrier excavator has all the correct qualifications and is competent in the use of an excavator.
- Make sure the correct PPE is being worn, items such as Safety Glasses, Hard Hat, Safety Toe Cap Boots, High Visibility Work Wear and Protective Gloves. Additional PPE may be required dependant on the site specific requirements.
- Ensure it is a safe working environment before attaching the product to the carrier excavator, i.e. inside a clear and safe area away from members of the public etc.

Please note that using the attachment outside the parameters of the information contained in this manual may cause harm, disruption, damage or even injury.



## ADVISORIES & CONTROL MEASURES

- Product not to be used as a lifting aid at any time, other than for PE pipes
- The driver / operator must have a valid CITB / CPCSC card
- Speed of operation dictated by specific site conditions
- The Excavator must be sited on good firm ground
- Driver be aware of permit to work controls and restrictions
- Live Gas pipelines to be protected against impact damage
- Banksman to control close working
- Underground services to be protected
- Site set out to restrict public access (barriers / herras fencing)
- All works to be contained within the site area, no working over live footpaths or traffic
- Mechanical Excavators to work within demarcated site, no swinging across or into live carriageway
- Any existing gas pipe and other utilities to be adequately protected against accidental contact / damage
- Machine to be adequately maintained
- Operator to perform pre-start checks of all connectors
- No excessive pressure to be applied
- Spill kits to be readily available
- Training given in the correct handling and use of hand tools
- Correct maintenance of hand tools. Replace or maintain as necessary
- Use the correct tool for the job and appropriate PPE, e.g. gloves, eye protection etc. as instructed
- Full compliance with NRSWA (New Roads and Streetworks Act)
- Site barriered off, signed and guarded with appropriate signs, care for pedestrians
- This product is to be used in accordance & full compliance with the excavators operators manual
- Nobody to work in close proximity of the product at any time during operation
- Ensure that the product is safely isolated (excavator turned off and hydraulic pressures released) before commencing works in close proximity to the product
- To reduce / eradicate the risk of entrapment in the product, please ensure hands and other body parts are kept away from the product whilst in operation
- Ensure that lifting procedures are adhered to whilst moving the object
- The UIS Power Push™ has a noise level of less than 70dbA



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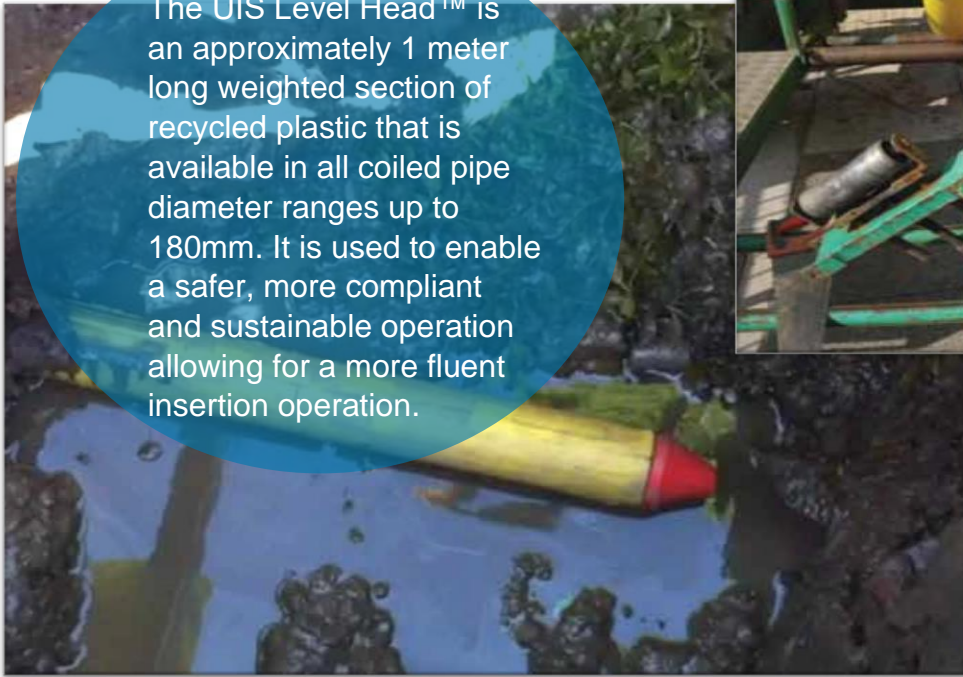
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# UIS LEVEL HEAD™

Historically there have been a number of serious personal injuries / near misses associated with the handling and manipulation of coiled pipe during insertion activities. One of the major difficulties encountered whilst pushing / inserting and winching pipe is when the new main comes to an open service / connection excavation pit. Due to the P.E. pipe being coiled, this has natural energised pressure resulting in the pipe naturally springing upwards. The UIS Level Head™ resolves this problem with ease and is simple to install.

The UIS Level Head™ is an approximately 1 meter long weighted section of recycled plastic that is available in all coiled pipe diameter ranges up to 180mm. It is used to enable a safer, more compliant and sustainable operation allowing for a more fluent insertion operation.



## KEY BENEFITS

TIME · COST · ENVIRONMENT  
SAFETY · ENGINEERING

- Can be installed onto lead end of coiled pipe within 2 minutes
- Low cost / very effective product
- Simple design, simple to install, no special training required
- Manufactured from recycled plastics
- Sustainable product reducing overall P.E. wastage and associated time

- Significantly reduces stored energy contained in lead end of coiled pipes
- Eliminates operatives entering excavations to manipulate pipe through the next host section of main due to the pipes natural energy contained in the end
- Enables the handling of coiled pipe easier and safer on ground surface in the preparation of the coiled pipe from trailer to host main
- Significantly reduces the scraping / grating of the inserted pipe on the up-side of the host main, reducing the wall damage throughout the inserted pipe and ensuring cleanliness of pipe
- The UIS Level Head™ has more enhanced protection thus eliminating cut back and wastage in preparation for connections
- Reduces overall tension and resistance encountered in insertion process

INSERT

ALIGN

CONNECT



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# UIS Pipe Entry Guide™

A common occurrence whilst inserting pipe through pushing or winching is that the new P.E. main catches the original host main, therefore scraping the pipe as it enters. With the UIS Pipe Entry Guide™ this problem is eradicated. The UIS Pipe Entry Guide™ is a low-cost, lightweight and easy fit solution to solving the problems incurred whilst inserting P.E. pipe into cast / spun / ductile iron or steel host mains.

The UIS Pipe Entry Guide™ is produced from recycled plastic & is available in diameter ranges up to 12", this enables a safer, more compliant & fluent insertion operation whilst also preventing the new main from being damaged upon entry.



## KEY BENEFITS

TIME · COST · ENVIRONMENT  
SAFETY · ENGINEERING

- Can be installed onto the existing host main within 2 minutes
- Low cost / very effective product
- Simple design, simple to install, no special training required
- Manufactured from recycled plastics
- Sustainable product reducing overall P.E. wastage and associated time
- Significantly reduces the scraping / grating of the inserted pipe on the up-side of the host main, reducing the wall damage throughout the inserted pipe and ensuring cleanliness of pipe
- Can be utilised and have some benefits when using the traditional winching method
- Making sure no damage occurs to the new P.E. main being inserted, and also making the insertion process a lot smoother and simpler



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# Spare & Replacement Parts 180mm PP

V1. = Twin Ram Power Push

V2. = Single Ram Power Push

Order Code	Item
UIS/PP/001	1.5 Tonne Head Bracket
UIS/PP/002	3 Tonne Head Bracket
UIS/PP/003	Bespoke Head Bracket up to 3T
UIS/PP/004	Head Reducer Bushes 25mm>30mm
UIS/PP/005	Head Reducer Bushes 30mm>35mm
UIS/PP/006	25mm Head Attachment Pin (Set)
UIS/PP/007	30mm Head Attachment Pin (Set)
UIS/PP/008	35mm Head Attachment Pin (Set)
UIS/PP/009	Lynch Pin (Set)
UIS/PP/010	Nyloc Nut (Set of 4)
UIS/PP/011	Head Bracket Retaining Washer
UIS/PP/012	Countersunk Screws (Set of 4)
UIS/PP/013	55mm Shim Set
UIS/PP/014	63mm Shim Set
UIS/PP/015	75mm Shim Set
UIS/PP/016	90mm Shim Set
UIS/PP/017	110mm Shim Set
UIS/PP/018	125mm Shim Set
UIS/PP/019	140mm Shim Set
UIS/PP/020	160mm Shim Set
UIS/PP/021	180mm Shim Set
UIS/PP/022	Bespoke Shim Set
UIS/PP/023	Unit Storage Box
UIS/PP/024	Shim Storage Box
UIS/PP/025	14mm Spanner
UIS/PP/026	19mm Spanner
UIS/PP/027	24mm Spanner
UIS/PP/028	5mm Allen Key
UIS/PP/029	Advisory Stickers (per full set)
UIS/PP/030	Operators Manual
UIS/PP/031	Product Risk Assessment
UIS/PP/032	Hydraulic Cylinder Ram (V2. Single Ram)
UIS/PP/032.5	Hydraulic Cylinder Ram Set of 2 (V1. Twin Ram)
UIS/PP/033	Hydraulic Cylinder Ram Top Bolt
UIS/PP/034	Hydraulic Cylinder Ram Bottom Clevis Pin (V2.)
UIS/PP/034.5	Hydraulic Cylinder Ram Bottom Bar (V1.)
UIS/PP/035	Hydraulic Protector Cover (V.1)
UIS/PP/035.5	Hydraulic Protector Cover (V2)
UIS/PP/036	Hydraulic Protector Cover Screws (Set, with washers)
UIS/PP/037	2.0 mtr Feed Hose Thermoplastic (Set)
UIS/PP/038	2.5 mtr Feed Hose Thermoplastic (Set)
UIS/PP/039	1/2 inch Male Quick Release Coupling
UIS/PP/040	1/2 inch Female Quick Release Coupling
UIS/PP/041	3/4 inch Male Quick Release Coupling
UIS/PP/042	3/4 inch Female Quick Release Coupling
UIS/PP/043	1 inch Male Quick Release Coupling
UIS/PP/044	1 inch Female Quick Release Coupling
UIS/PP/045	1/4 inch Dowty Washer
UIS/PP/046	1/2 inch Dowty Washer
UIS/PP/047	3/4 inch Dowty Washer
UIS/PP/048	1 inch Dowty Washer
UIS/PP/049	1/4 inch to 1/2 inch Male/Male Adapter
UIS/PP/050	1/4 inch to 3/4 inch Male/Male Adapter
UIS/PP/051	1/4 inch to 1 inch Male/Male Adapter
UIS/PP/052	Bulkhead Fitting (Set of 2)
UIS/PP/053	Internal Feed Hose (Set of 2)
UIS/PP/054	Ram Link Hose (Set of 2)
UIS/PP/055	Banjo Fitting (Set of 2)
UIS/PP/056	Banjo Bolt (Set of 4)
UIS/PP/057	Side Cam Set of 2

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# Spare & Replacement Parts 300mm PP

Order Code	Item
UIS/PP/058	3 Tonne Head Bracket
UIS/PP/059	5 Tonne Head Bracket
UIS/PP/060	Bespoke Head Bracket up to 8T
UIS/PP/061	Head Reducer Bushes 35mm>30mm
UIS/PP/062	Head Reducer Bushes 45mm>40mm
UIS/PP/063	30mm Head Attachment Pin (Set)
UIS/PP/064	35mm Head Attachment Pin (Set)
UIS/PP/065	40mm Head Attachment Pin (Set)
UIS/PP/066	45mm Head Attachment Pin (Set)
UIS/PP/067	Lynch Pin (Set)
UIS/PP/068	Head Bracket Retaining Washer
UIS/PP/069	Countersunk Screws (Set of 4)
UIS/PP/070	180mm Shim Set
UIS/PP/071	213mm Shim Set
UIS/PP/072	225mm Shim Set
UIS/PP/073	250mm Shim Set
UIS/PP/074	280mm Shim Set (Fixed Liner)
UIS/PP/075	Bespoke Shim Set
UIS/PP/076	5mm Allen Key
UIS/PP/077	Advisory Stickers (per full set)
UIS/PP/078	Operators Manual
UIS/PP/079	Product Risk Assessment
UIS/PP/080	Hydraulic Cylinder Ram
UIS/PP/081	Hydraulic Cylinder Ram Top Bolt (Set of 2)
UIS/PP/082	Hydraulic Cylinder Ram Bottom Clevis Pin
UIS/PP/083	2.0 mtr Feed Hose Thermoplastic (Set)
UIS/PP/084	2.5 mtr Feed Hose Thermoplastic (Set)
UIS/PP/085	1/2 inch Male Quick Release Coupling
UIS/PP/086	1/2 inch Female Quick Release Coupling
UIS/PP/087	3/4 inch Male Quick Release Coupling
UIS/PP/088	3/4 inch Female Quick Release Coupling
UIS/PP/089	1 inch Male Quick Release Coupling
UIS/PP/090	1 inch Female Quick Release Coupling
UIS/PP/091	1/4 inch Dowty Washer
UIS/PP/092	1/2 inch Dowty Washer
UIS/PP/093	3/4 inch Dowty Washer
UIS/PP/094	1 inch Dowty Washer
UIS/PP/095	1/4 inch to 1/2 inch Adapter
UIS/PP/096	1/4 inch to 3/4 inch Adapter
UIS/PP/097	1/4 inch to 1 inch Adapter
UIS/PP/098	Bulkhead Fitting (Set of 2)
UIS/PP/099	Internal Feed Hose (Set of 2)
UIS/PP/100	Ram Link Hose (Set of 2)
UIS/PP/101	Banjo Fitting (Set of 2)
UIS/PP/102	Banjo Bolt (Set of 4)



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# Spare & Replacement Parts 400mm PP

Order Code	Item
UIS/PP/103	5 Tonne Standard Head Bracket (fits certain 8T)
UIS/PP/104	8 Tonne Bespoke Head Bracket
UIS/PP/105	13 Tonne Head Bracket
UIS/PP/106	Bespoke Head Bracket larger than 13T
UIS/PP/107	45mm Head Attachment Pin (Set)
UIS/PP/108	50mm Head Attachment Pin (Set)
UIS/PP/109	60mm Head Attachment Pin (Set)
UIS/PP/110	65mm Head Attachment Pin (Set)
UIS/PP/111	80mm Head Attachment Pin (Set)
UIS/PP/112	Lynch Pin (Set)
UIS/PP/113	180mm Shim Set
UIS/PP/114	213mm Shim Set
UIS/PP/115	225mm Shim Set
UIS/PP/116	250mm Shim Set
UIS/PP/117	280mm Shim Set
UIS/PP/118	315mm Shim Set
UIS/PP/119	355mm Shim Set
UIS/PP/120	400mm Shim Set (Fixed Liner)
UIS/PP/121	Bespoke Shim Set
UIS/PP/122	6mm Allen Key
UIS/PP/123	17mm Spanner
UIS/PP/124	Advisory Stickers (per full set)
UIS/PP/125	Operators Manual
UIS/PP/126	Product Risk Assessment
UIS/PP/127	Hydraulic Cylinder Ram
UIS/PP/128	Hydraulic Cylinder Ram Top 30mm Pin (Set)
UIS/PP/129	Hydraulic Cylinder Ram Bottom 30mm Pin (Set)
UIS/PP/130	Rear Hinge Pin 30mm
UIS/PP/131	2.5 mtr Feed Hose (Set)
UIS/PP/132	1/2 inch Male Quick Release Coupling
UIS/PP/133	1/2 inch Female Quick Release Coupling
UIS/PP/134	3/4 inch Male Quick Release Coupling
UIS/PP/135	3/4 inch Female Quick Release Coupling
UIS/PP/136	1 inch Male Quick Release Coupling
UIS/PP/137	1 inch Female Quick Release Coupling
UIS/PP/138	3/8 inch Dowty Washer
UIS/PP/139	1/2 inch Dowty Washer
UIS/PP/140	3/4 inch Dowty Washer
UIS/PP/141	1 inch Dowty Washer
UIS/PP/142	3/8 inch to 1/2 inch Male/Male Adapter
UIS/PP/143	3/8 inch to 3/4 inch Male/Male Adapter
UIS/PP/144	3/8 inch to 1 inch Adapter
UIS/PP/145	Bulkhead Fitting (Set of 2)
UIS/PP/146	Internal Feed Hose (Set of 2)
UIS/PP/147	Ram Link Hose (Set of 2)
UIS/PP/148	Banjo Fitting (Set of 2)
UIS/PP/149	Banjo Bolt (Set of 4)
UIS/PP/150	Side Cam Set of 2

**LEADING THE WAY IN UTILITY INNOVATIONS**

# Spare & Replacement Parts 630mm PP

Order Code	Item
UIS/PP/151	8 Tonne Head Bracket
UIS/PP/152	13 Tonne Head Bracket
UIS/PP/153	Bespoke Head Bracket larger than 13T
UIS/PP/154	45mm Head Attachment Pin (Set)
UIS/PP/155	50mm Head Attachment Pin (Set)
UIS/PP/156	60mm Head Attachment Pin (Set)
UIS/PP/157	65mm Head Attachment Pin (Set)
UIS/PP/158	80mm Head Attachment Pin (Set)
UIS/PP/159	Lynch Pin (Set)
UIS/PP/160	400mm Shim Set
UIS/PP/161	450mm Shim Set
UIS/PP/162	500mm Shim Set
UIS/PP/163	560mm Shim Set
UIS/PP/164	630mm Shim Set
UIS/PP/165	Bespoke Shim Set
UIS/PP/166	19mm Spanner
UIS/PP/167	Advisory Stickers (per full set)
UIS/PP/168	Operators Manual
UIS/PP/169	Product Risk Assessment
UIS/PP/170	Hydraulic Cylinder Ram
UIS/PP/171	Hydraulic Cylinder Ram Top 30mm Pin (Set)
UIS/PP/172	Hydraulic Cylinder Ram Bottom 30mm Pin (Set)
UIS/PP/173	Rear Hinge Pin 30mm
UIS/PP/174	2.5 mtr Feed Hose (Set)
UIS/PP/175	1/2 inch Male Quick Release Coupling
UIS/PP/176	1/2 inch Female Quick Release Coupling
UIS/PP/177	3/4 inch Male Quick Release Coupling
UIS/PP/178	3/4 inch Female Quick Release Coupling
UIS/PP/179	1 inch Male Quick Release Coupling
UIS/PP/180	1 inch Female Quick Release Coupling
UIS/PP/181	3/8 inch Dowty Washer
UIS/PP/182	1/2 inch Dowty Washer
UIS/PP/183	3/4 inch Dowty Washer
UIS/PP/184	1 inch Dowty Washer
UIS/PP/185	3/8 inch to 1/2 inch Adapter
UIS/PP/186	3/8 inch to 3/4 inch Adapter
UIS/PP/187	3/8 inch to 1 inch Adapter
UIS/PP/188	Bulkhead Fitting (Set of 2)
UIS/PP/189	Internal Feed Hose (Set of 2)
UIS/PP/190	Ram Link Hose (Set of 2)
UIS/PP/191	Banjo Fitting (Set of 2)
UIS/PP/192	Banjo Bolt (Set of 4)
UIS/PP/193	Side Cam Set of 2



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# Spare & Replacement Parts 900mm PP

Order Code	Item
UIS/PP/194	10 Tonne Head Bracket
UIS/PP/195	13 Tonne Head Bracket
UIS/PP/196	Bespoke Head Bracket larger than 13T
UIS/PP/197	60mm Head Attachment Pin (Set)
UIS/PP/198	65mm Head Attachment Pin (Set)
UIS/PP/199	70mm Head Attachment Pin (Set)
UIS/PP/200	75mm Head Attachment Pin (Set)
UIS/PP/201	80mm Head Attachment Pin (Set)
UIS/PP/202	Lynch Pin (Set)
UIS/PP/203	630mm Shim Set
UIS/PP/204	710mm Shim Set
UIS/PP/205	800mm Shim Set
UIS/PP/206	900mm Shim Set
UIS/PP/207	Bespoke Shim Set
UIS/PP/208	19mm Spanner
UIS/PP/209	Advisory Stickers (per full set)
UIS/PP/210	Operators Manual
UIS/PP/211	Product Risk Assessment
UIS/PP/212	Hydraulic Cylinder Ram
UIS/PP/213	Hydraulic Cylinder Ram Top 30mm Pin (Set)
UIS/PP/214	Hydraulic Cylinder Ram Bottom 30mm Pin (Set)
UIS/PP/215	Rear Hinge Pin 30mm
UIS/PP/216	2.5 mtr Feed Hose (Set)
UIS/PP/217	1/2 inch Male Quick Release Coupling
UIS/PP/218	1/2 inch Female Quick Release Coupling
UIS/PP/219	3/4 inch Male Quick Release Coupling
UIS/PP/220	3/4 inch Female Quick Release Coupling
UIS/PP/221	1 inch Male Quick Release Coupling
UIS/PP/222	1 inch Female Quick Release Coupling
UIS/PP/223	3/8 inch Dowty Washer
UIS/PP/224	1/2 inch Dowty Washer
UIS/PP/225	3/4 inch Dowty Washer
UIS/PP/226	1 inch Dowty Washer
UIS/PP/227	3/8 inch to 1/2 inch Adapter
UIS/PP/228	3/8 inch to 3/4 inch Adapter
UIS/PP/229	3/8 inch to 1 inch Adapter
UIS/PP/230	Bulkhead Fitting (Set of 2)
UIS/PP/231	Internal Feed Hose (Set of 2)
UIS/PP/232	Ram Link Hose (Set of 2)
UIS/PP/233	Banjo Fitting (Set of 2)
UIS/PP/234	Banjo Bolt (Set of 4)
UIS/PP/235	Side Cam Set of 2

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# SAFETY MANAGEMENT SYSTEM

# RISK ASSESSMENT

Product: **UIS Power Push™ Pipe Pusher**

Document Number: **UIS/QMS/009**

Version: **4.1**

Date: **07/04/2018**

Client / Contract: **ALL**

## GENERAL RISK ASSESSMENT

**Note: All employees are to be informed of control measures prior to work commencing**

ACTIVITY: Use of UIS Power Push™ Pipe Pusher [Insertion /Alignment and correction of PE Pipe]							RISK RATING
Activity affecting (Tick appropriate box)	EMPLOYEE	✓	THIRD PARTY	✓	VEHICLE	✓	Frequency x Severity
	PLANT	✓	PROPERTY	✓	OTHER		
1	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Mechanical operations	Impact injury, crushing, damage to property and plant. Collapse/overturning of lifting plant					
	PRE-CONTROL	CONTROL MEASURES					
4 x 3 = 12	All equipment must be inspected as per UIS specifications [normally 6 months] prior to being used so as to comply with site specific regulations / requirements. 1. All equipment is examined before use in accordance with <u>Doc Ref: UIS/QMS/014</u> , with defective equipment being removed from site 2. The driver/operator must have an in date CITB/CPCS card. Weekly equipment registers to have been completed. 3. Speed of operations dictated by Specific Site Conditions. 4. Ensure that outriggers are deployed and machine is sited on good firm ground. 5. A competent person must assume the role of a banksman at all times, and take precautions to ensure others are kept away from whilst in operation.						
2	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Working environment	Crush injuries caused by moving parts of machinery or local surroundings					
	PRE-CONTROL	CONTROL MEASURES					
5 x 5 = 25	1. Drivers to be aware of Permit to Work controls and restrictions. 2. Banksman to control close working. 3. Underground services to be protected. 4. Site set out to restrict public access (barriers/herras fencing) 5. All works to be contained within the site area, no working over live footpaths, public property or traffic. 6. Ensure that the product is safely isolated before commencing works in close proximity of the product.						
3	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Damage to persons and / or property	Personal injury to operatives/users Damage to property and plant.					
	PRE-CONTROL	CONTROL MEASURES					
5 x 5 = 25	1. Drivers to be aware of Permit to Work controls and restrictions. 2. Banksman to control close working. 3. Underground services to be protected. 4. Site set out to restrict public access (barriers/herras fencing) 5. All works to be contained within the site area, no working over live footpaths, public property or traffic. 6. Ensure that the product is safely isolated before commencing works in close proximity of the product. 7. To reduce / eradicate the risk of entrapment in the product, please ensure hands and other body parts are kept away from the product whilst in operation. 8. Ensure guards are correctly positioned when attachment is operational 9. Ensure that lifting procedures are adhered to whilst manually moving the object (both in and out of storage box)						
4	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Working in close proximity to live apparatus	Impact Damage To Pipe work causing uncontrolled release of gas.					
	PRE-CONTROL	CONTROL MEASURES					
6 x 5 = 30	1. Mechanical excavators to work within demarcated site, no swinging buckets across or into live carriageway. 2. Any existing gas pipe and other utilities to be adequately protected against accidental contact/damage.						
5	HAZARD	POSSIBLE CONSEQUENCES					POST-CONTROL
	Pressurised system (Hydraulics)	Un controlled release of high pressure hydraulics causing injury and possible damage to the environment.					
	PRE-CONTROL	CONTROL MEASURES					
2 x 3 = 6	1. Machinery to be adequately maintained. 2. Operator to perform pre-start checks of all connectors 3. No excessive pressure to be applied. 4. Spill kits to be readily available.						





# SAFETY MANAGEMENT SYSTEM

# RISK ASSESSMENT

Product:	UIS Power Push™ Pipe Pusher	Document Number:	UIS/QMS/009
Version:	4.1	Date:	07/04/2018
		Client / Contract:	ALL

	HAZARD	POSSIBLE CONSEQUENCES	POST-CONTROL
6	Use of hand tools	Personal injury to operatives/users	
	PRE-CONTROL	CONTROL MEASURES	
	3 x 2 = 6	<ol style="list-style-type: none"> <li>1. Training given in the correct handling and use of hand tools</li> <li>2. Correct maintenance of hand tools, , Replace or maintain as necessary</li> <li>3. Use the correct tool for the job and appropriate PPE, e.g. gloves, eye protection etc. as instructed</li> </ol>	
7	Traffic & General Construction Hazard	Collision, crushing, trips & falls	
	PRE-CONTROL	CONTROL MEASURES	
	6 x 4 = 24	<ol style="list-style-type: none"> <li>1. Full compliance with NRSWA</li> <li>2. Site barriered off, signed and guarded with appropriate signs, care for the pedestrian.</li> <li>3. Ensure vehicles and trailers are parked in safe area and not obstructing traffic movements or visibility of road users.</li> </ol>	
8	Working in and around excavations	Asphyxiation, crushing, falling	
	PRE-CONTROL	CONTROL MEASURES	
	6 x 6 = 36	<ol style="list-style-type: none"> <li>1. Guidance in procedures (Main layers/service layers).</li> <li>2. Planning for excavations in advance to ensure the supply of adequate trench support systems for the work taking place.</li> <li>3. Excavation work and support systems installed by a competent person taking into account ground and weather conditions.</li> <li>4. Spoil stored away from excavation edge.</li> <li>5. When vehicles are operated next to the excavations, place stop blocks to prevent vehicles falling in.</li> <li>6. Full compliance with HSG 185 – Be safe and shore [Safety in excavations].</li> <li>7. Ensure adequate access and egress for employees.</li> </ol>	
9	Handling of PE Coils	Crushing /trapping/Impact injuries	
	PRE-CONTROL	CONTROL MEASURES	
	5 x 5 = 25	<ol style="list-style-type: none"> <li>1. When possible all coils of PE Pipe should be loaded into coil trailers by a combination of manual handling and mechanical handling (JCB/Grab) smaller diameter 63 &amp; below can be loaded by at least 2 men by hand.</li> <li>2. Coils to be loaded on to approved and mechanically sound coil trailers by use of nylon slings appropriated for the weight lifted.</li> <li>3. Avoid trapping injuries whilst loading the trailer by use of guidelines / tags where possible.</li> <li>4. Secure all retention arms / device prior to cutting coil banding.</li> <li>5. Towing heads to be used on larger diameter coils and the tail end secured against whiplash.</li> <li>6. Secure the end of the coil against springing.</li> <li>7. Ensure that adequate access is in place for operatives to access dispensing trailer.</li> </ol>	

KEY			SEVERITY OF:INJURY / DAMAGE OR LOSS		SCORE
Improbable	Infrequent	1	Trivial	First Aid Only	1
Possible	Annual	2	Minor	Medical Treatment	2
Occasional	Quarterly	3	Major	Lost Time	3
Frequent	Monthly	4	Major	Multiple injuries	4
Regular	Weekly	5	Death	Fatality	5
Common	Daily	6	Multiple	Fatalities	6
RISK RATING	ACTION	TIMESCALE	MONTHS		
Low	1 - 4	Review Risk & Existing Controls	12 – 14		
Medium	5 – 9	Review Risk & Existing Controls	6 – 7		
High	10 – 16	Review Risk & Existing Controls	3 – 6		
Major	17 – 19	Implement Action Plan for progressive reduction	0 – 3		
Unacceptable	20 – 36	Stop activity immediately	Urgently		

Compiled By: David G Stevens	Date:	Reviewed by: J J Iredale	Date:
Signature(s): <i>D G Stevens</i>	07/04/2018	Signature: <i>J J Iredale</i>	07/04/2018

# Operators Daily Inspection

## Check Sheet



**Innovative utility technologies**

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Name:	
Week Commencing Date:	
Company:	
Plant Number:	
Item Description:	

**Note:** The below checks **MUST** be completed prior to and during the use of the product. If any of the inspections result in fail, **STOP** and report it to your supervisor immediately prior to use.

Item:	Check to be performed:	Mon	Tue	Wed	Thu	Fri	Sat	Sun

### Generic Inspection Checks

1	Hydraulic Rams	<ul style="list-style-type: none"> <li>Pressure test completed and satisfactory?</li> <li>Visual condition satisfactory?</li> </ul>																
2	Hydraulic Hoses	<ul style="list-style-type: none"> <li>Pressure test completed and satisfactory?</li> <li>Visual condition satisfactory?</li> <li>Free from outer casing damage?</li> </ul>																
3	Hydraulic Connectors	<ul style="list-style-type: none"> <li>Correct connectors, which are free from dirt/debris?</li> </ul>																
4	Head Bracket	<ul style="list-style-type: none"> <li>Free from signs of damage/stress?</li> </ul>																
5	Swivel Unit	<ul style="list-style-type: none"> <li>Swivel unit free from obstructions and fit for use?</li> <li>Head bracket locking in place and satisfactory?</li> </ul>																
6	Locking Mechanism	<ul style="list-style-type: none"> <li>Locking nuts in place and free from wear?</li> <li>Fixing lugs in place and free from wear?</li> </ul>																
7	Pins [Safety Clips]	<ul style="list-style-type: none"> <li>Pins fit the head bracket satisfactory?</li> <li>2 x Safety pins in place?</li> </ul>																
8	Site Conditions	<ul style="list-style-type: none"> <li>Does the site provide sufficient access to deploy and operate the Excavator [if applicable] and UIS product?</li> </ul>																
9	PPE	<ul style="list-style-type: none"> <li>Operatives wearing the correct PPE as stated within the Operators Manual and site specific requirements set by contract?</li> </ul>																
10	Paperwork	<ul style="list-style-type: none"> <li>All necessary documentation including UIS product Operators Manual for additional guidance?</li> </ul>																
11	Operator Competence	<ul style="list-style-type: none"> <li>Excavator operator competent in the use of the Excavator [if applicable] and UIS product?</li> </ul>																

### UIS Power Push™ Inspection Checks

12	Shim Set	<ul style="list-style-type: none"> <li>Shim set(s) gripping and releasing the PE main as required?</li> <li>Shim set(s) free from signs of damage/stress?</li> </ul>																
13	H Link Manual Lifting Aid	<ul style="list-style-type: none"> <li>H Link in place and fits to unit head bracket?</li> <li>2 person lift sign displayed?</li> </ul>																
14	Storage Box(s) / Bag(s)	<ul style="list-style-type: none"> <li>Good condition dressed / painted?</li> </ul>																

### Corrective Actions Required / Additional Comments

UIS/QMS/014



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