PurgElite®
Inflatable Tube and Pipe
WELD PURGING SYSTEM

Purge your pipes the ‘Elite’ way!

© HFT®
USER INSTRUCTIONS
This Quick Start guide to using PurgElite® is not intended to replace the User Instruction Manual, which we request that you read in its entirety at some time, however where it is important to use the system immediately, these quick steps can be used.

1. The pipe purging system that you have purchased, has a specific range. If it is a 6” model, the range for example is for pipes with an internal diameter of 140 to 165 mm. For other sizes see page 12. Please check that your pipe does conform to the American Pipe Institute standard given here. Some 6” pipes may not conform. It the internal diameter is greater than 162 mm then use the next size up, otherwise your weld may not be completed satisfactorily and damage to your system could occur.

2. If you purchased the “PurgeGate®” to give your system an anti burst facility, connect it to the Inflatable system, taking care to follow the arrow in the centre of PurgeGate® that shows direction of gas flow.

3. Locate your Weld Purge Monitor® to have it standing by.

4. Connect one end of your 6 mm OD purge gas line to your argon supply ensuring that you have a two stage regulator and a flowmeter on the gas supply.

5. Connect the far end of your gas supply hose to your PurgElite® system using the 6 mm leaktight quick connect coupling.


7. Set the gas flow to 7.5 litres/min and inflate the system, checking that it functions correctly and releases gas from the IntaCal® purge valve. Once the inflatable dams become hard, turn the gas supply off.

Note: All Dimensions are based on the Imperial system. Sizes shown in mm are only mathematic conversions of the imperial dimensions and are not intended to represent metric standards.
8. Connect your pull wires to the loops on each end of the PurgElite® so that you can position the RootGlo® strip right under the weld joint.

9. Centralise the purge system and start the purging process according to your WPS (Weld Procedure Specification).

10. Please ensure that you have taped the outside of the joint to prevent the escape of Argon. (The unwanted air will find its way out of the purging system via the exhaust hose which is connected to the Weld Purge Monitor®.

11. Start to purge the interspace between the two inflated dams and once the oxygen level is below 100 ppm, then tack the welds to ensure they are clean, using a good gas shield outside the pipe tacks as well.
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Thank you for purchasing one of our advanced PurgElite® Inflatable Tube and Pipe Weld Purging Systems.

We hope that this will be successful for you and for the best results **please read instructions before use.** If other people use this system, please ensure that all users either read these instructions or receive training. Each system is provided with this instruction manual.

These instructions are designed to help the operator obtain the best results and to prevent damage to the system by incorrect operation. The procedures outlined must be followed to prevent the risk of any damage or operator injury.

Should the operator experience difficulty in understanding these instructions or the operation of this system, please contact your local HFT® exclusive distributor who is trained in the correct operation of these devices. In the event of further problems please notify the manufacturer, Huntingdon Fusion Techniques HFT®, prior to making any alterations or repairs.

It is intended that the device should be connected to the chosen inert purge gas supply. The purge gas will first inflate the system and then purge the interspace between the two dams. A two stage regulator should be used to ensure a regular gas output pressure.
RANGE

The complete range of PurgElite® Inflatable Tube and Pipe Weld Purging Systems has 16 models from 1” up to 24”. Each model has a variation in size capability, that covers sizes immediately above and below (see page 12).

Why use PurgElite® instead of QuickPurge® Tube, Pipe and Pipeline Inflatable Weld Purge Systems from 6” upwards?
The 6” up to 24” QuickPurge® Systems are more suitable to those users with large numbers of the same diameter joint to weld. Time and gas saving are dramatic.

SYSTEM OPERATION

Correct installation and use of the system will ensure clean, good and even penetration beads on all pipe joints. By localising the volume to be purged, savings can be made on waiting time as well as inert gas costs.

Monitoring the purge with one of the PurgEye® Family of Weld Purge Monitors® will guarantee oxide free welds, leading to no loss off corrosion resistance and minimised cleaning and pickling.

Productivity will increase and costs will drop when changing over from homemade or paper dam systems.

The PurgElite® Tube & Pipe Weld Purging System comprises two inflatable synthetic rubber devices with low vapour pressure protective covers, connected by a low vapour pressure, high temperature resistant, synthetic, intumescent joining hose that will not scratch the inside of polished tubes or pipes. Burn through of the purge gas hose is almost impossible.
(1) Purge gas connection, inflates first dam, (inside pipe).

(2) The purge gas goes through the spinal hose to second dam, (inside pipe).

(3) Inert purge gas fills second dam after first dam inflates.

(4) Remaining purge gas exits IntaCal® the new low profile valve to push all oxygen out of interspace between dams.

(5) Air pushed out of the exhaust tube by incoming argon gas.

(6) Connect to one of the PurgEye® family of Weld Purge Monitors®.

See also page 8

The spinal tube is fabricated from a low vapour pressure synthetic material to avoid scratching internally polished tubes.
To ensure consistent results the following ‘set up’ and operational procedures should be adhered to:

Pull wires can be attached to the 1,000 lb breaking strain handles to pull the purge system into place.
If the weld joint uses the open root process, the brightly illuminating RootGlo® can be used to see when the centre of the purge system is below the weld joint.

In use, the purge system will need a constant gas flow and pressure.

Set the outlet pressure on your two stage gas regulator (pressure gauge) between 5 and 7 Psi (0.35 - 0.5 bar).

At no time should this exceed 7.5 Psi (0.5 bar).

The system is fitted with a low profile IntaCal® argon release system to purge the interspace after the dams have inflated.

Pressure must be kept constant for good results by using a two stage regulator. By localising a purge, traditional purging methods using high flow rates are no longer appropriate.
1. The **PurgElite®** Tube and Pipe Inflatable Weld Purge System is positioned using the strong purpose designed pull tags.

2. Each **PurgElite®** System is inflated using the inert gas supply. Once the Purge System is inflated, the inert gas displaces the air between the dams through the exhaust port.

3. When the required oxygen level has been measured with the **PurgEye®** Monitor, the joint is ready for welding.

4. During welding, the purging process should be maintained to purge any outgassing released by the increasing temperature.

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**Note:** Outside of the joint will normally be taped when the joint design is not closed butt.
5. After the the weld is completed and the post purging time has passed, the purge gas can be closed and the line detached. The PurgElite® System automatically deflates once the purge gas supply has been closed or the line has been removed (see overleaf).

6. If the PurgElite® system is going to be used again, particularly on different materials, clean it as best possible to ensure that no contamination of any kind is carried over to the next job.

Note: It may be advisable to allow a cooling time before removal of the PurgElite® System.

Another perfect pipe weld!

Do not use old fashioned purge bladders with complex valves nad certainly do not use “makeshift” devices like paper, cardboard dams or foam bungs. They contain a lot of water, water vapour, air, possibly material contamination that has been taken into the holes in the sponge and put your weld at risk and end up costing you more money.

Use the proper tool for the job!

WARNING

Failure to comply with these instruction procedures may lead to damage being caused to the dam assembly which may not be covered by our warranty terms.
Due to the flexibility of the PurgElite® Tube and Pipe Inflatable Weld Purging System with the low profile inert gas release valve, it is possible to use the product for purging applications where fittings such as elbows, tee’s and reducers are used. Below are diagrams that show suggested procedures.

The expandable pipe plugs are also available from Huntingdon Fusion Techniques HFT® or from your local distributor.

Note: An alternative method of purging a tee piece is available using a 3 piece dam system. Please contact us for further information about this system.
COMPARATIVE EXAMPLES OF PURGE TIME

<table>
<thead>
<tr>
<th>Purge Time Length</th>
<th>Pipe Diameter</th>
<th>Normal Purge Time at 10 l/m</th>
<th>PurgElite® at 10 l/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 m (33’)</td>
<td>102 mm (4”)</td>
<td>26 mins</td>
<td>1.5 mins</td>
</tr>
<tr>
<td>10 m (33’)</td>
<td>203 mm (8”)</td>
<td>83 mins</td>
<td>4 mins</td>
</tr>
<tr>
<td>10 m (33’)</td>
<td>305 mm (12”)</td>
<td>173 mins</td>
<td>8 mins</td>
</tr>
</tbody>
</table>

REPLACEMENT DAMS

In the event of one of the dams being damaged, replacement dams are available.

The dams are easily changed and can be changed with different diameter ends.

Please contact us or your local distributor for information.

ACCESSORIES

Have you purchased a “Purgegate®” for use with your PurgElite® System(s)? If not ask for details. PurgeGate® will prevent your dams from bursting due to over inflation. This makes the system burst proof.

PurgEye® 100 IP65 WELD PURGE MONITOR®

Using evolving scientific technology to manufacture a ‘State of the Art’ instrument showing precise oxygen levels for perfect weld purging.
## INFLATABLE TUBE and PIPE PURGE SYSTEMS
### SMALL BORE TUBES and PIPES

<table>
<thead>
<tr>
<th>Size Inch</th>
<th>Size mm</th>
<th>Weight KG</th>
<th>Internal Diameter mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL10001</td>
<td>25</td>
<td>0.28 kg</td>
<td>13 - 38</td>
</tr>
<tr>
<td>PL10002</td>
<td>51</td>
<td>0.30 kg</td>
<td>38 - 64</td>
</tr>
<tr>
<td>PL10003</td>
<td>76</td>
<td>0.32 kg</td>
<td>64 - 89</td>
</tr>
<tr>
<td>PL10004</td>
<td>102</td>
<td>0.30 kg</td>
<td>89 - 114</td>
</tr>
<tr>
<td>PL10005</td>
<td>127</td>
<td>0.31 kg</td>
<td>114 - 140</td>
</tr>
<tr>
<td>PL10006</td>
<td>152</td>
<td>0.32 kg</td>
<td>140 - 165</td>
</tr>
<tr>
<td>PL10007</td>
<td>178</td>
<td>0.32 kg</td>
<td>165 - 191</td>
</tr>
<tr>
<td>PL10008</td>
<td>203</td>
<td>0.32 kg</td>
<td>191 - 216</td>
</tr>
<tr>
<td>PL10010</td>
<td>254</td>
<td>0.32 kg</td>
<td>241 - 267</td>
</tr>
<tr>
<td>PL10012</td>
<td>305</td>
<td>0.32 kg</td>
<td>292 - 318</td>
</tr>
<tr>
<td>PL10014</td>
<td>356</td>
<td>0.34 kg</td>
<td>343 - 368</td>
</tr>
<tr>
<td>PL10016</td>
<td>406</td>
<td>0.36 kg</td>
<td>394 - 419</td>
</tr>
<tr>
<td>PL10018</td>
<td>457</td>
<td>0.38 kg</td>
<td>445 - 470</td>
</tr>
<tr>
<td>PL10020</td>
<td>508</td>
<td>0.40 kg</td>
<td>495 - 521</td>
</tr>
<tr>
<td>PL10022</td>
<td>559</td>
<td>0.42 kg</td>
<td>546 - 572</td>
</tr>
<tr>
<td>PL10024</td>
<td>610</td>
<td>0.44 kg</td>
<td>597 - 622</td>
</tr>
</tbody>
</table>

Note: All Dimensions are based on the Imperial system. Sizes shown in mm are only mathematic conversions of the imperial dimensions and are not intended to represent metric standards.

**Sizes from 6” upwards are also available in the Argweld® QuickPurge® format.**
Argweld® PURGEYE® FAMILY RANGE of
WELD PURGE MONITORS®

The World standard PurgEye® 100 IP65 Hand Held
- Push button ‘Auto Calibration’ feature at precisely 100 ppm as well as at ambient (20.94%).
- Leak tight probe assembly.
- Low battery indicator and low sensor indicator.
- Increased sensor reading range.
- Quick connect/disconnect leak tight fittings for gas purge tubing.

The PurgEye® 200 IP65 Hand Held with PurgeNet™
- Readings from 1,000 down to 1 ppm.
- Internal electro-mechanical pump with 1 l/m flow rate.
- USB lead included to control PurgeLog™ software.
- Long life, faster response sensor.
- Warning alarm levels between 1 and 999 ppm.
- Flow detection for accurate reading of gas samples.

The PurgEye® 300 Nano
- ‘New’ unique solid state long life sensor.
- Less than 60 seconds warm up time.
- No need to constantly calibrate, integrally mounted sensor.
- Low cost, small, lightweight monitor reads accurately to 1 ppm, accurate 10 10 ppm.

The PurgEye® 500 Desk with PurgeNet™
- PurgeLog™ data logging software* included.
- Reads PPM or Percentage.
- Specially designed, extra long life sensor with faster response.
- OLED screen with stunningly clear, bright figures and text.
- Reading from 1000ppm - 1ppm.
- Audible alarm features to indicate low and high levels of oxygen.
- Visual Alarm System as an accessory.
- Integral pump with flow rate 3.5 - 4 l/m.

The PurgEye® 600 Touch Screen
- Reads from atmosphere all the way down to 1 ppm in one instrument, accurate to 10 ppm.
- PurgeLog™ data logging software* included.
- Large touch screen with on-screen graph of the current weld.
- Internal sampling pump with gas filtration.
- User port with two outputs to control welding equipment or activate alarms in the event of a rise in oxygen levels.
- No more wet cells to keep replacing and recalibrating.
- Quick fit and quick disconnect ‘leak tight’ purge tube fittings.

The PurgEye® 1000 Remote with PurgeNet™
- Reads from 1000 ppm down to 1 ppm, accurate to 10 ppm.
- Comes with a hand held display and a 10 m lead as standard.
- Optional 100 m reel of outdoor cable with locking connectors.
- Reels of extensions cable can be connected to make longer leads up to 1 km!
- Easy to pull through pipes.
- 1” ø stainless sensor holder to place at the weld site inside pipes to send purge data to the monitor up to 1km away.

The PurgEye® 1500 Site IP68 with PurgeNet™
- Reads from 1000 ppm down to 1 ppm, accurate to 10 ppm.
- Internal electro-mechanical pump with 3 l/m flow rate.
- USB lead included to control PurgeLog™ software.
- IP65 rated with the lid open, IP68 with lid closed.
- Warning alarm levels between 1 and 999 ppm.
- Flow detection for accurate reading of gas samples.
- Power on / off with standby button for sensor warm up.

PurgeNet™ controls the welding power sources such as orbital welders and any other automatic welding systems to switch on and off according to oxygen levels, transferring data easily with the ability to link to external devices.
Argweld® PurgElite® Inflatable Tube, Pipe and Pipeline Weld Purging Systems simplify the process of inert gas purging and are quick and easy to install. New, low profile Intacal® technology, eliminates the big metal valves that are difficult to set. Suitable for tubes and pipes from 1" - 24" (25 - 610mm).

Argweld® QuickPurge® Inflatable Tube, Pipe and Pipeline Systems are used for larger diameter, high quality, reliable welding of stainless steels, duplex steels and titanium tube and pipe joints to ensure a very fast weld purge time and a very high quality weld root, free from oxidation and discolouration. Suitable for pipes of 6” - 88” (152 - 2,235 mm). With new RootGlo® accessory and new IntaCal® purge gas release.

The Argweld® HotPurge® Pipe Weld Purging Systems For Heat Treated Chrome and High Strength Stainless Steels where the post weld heat treatment temperatures may be as high as 300°C (572°F). These high quality manufactured heat protected systems are suitable for the welding of pre-heated pipework, such as chrome steels, typically P91, CMV, etc.

Single ended Argweld® Inflatable Weld Purge Dams for closure welds, T piece joints, dome end connections and so on, where a conventional Tandem Purge System cannot be used. Manufactured for pipe diameters from 6” - 88” (152 - 2,235 mm).
Argweld® Water Soluble Weld Purge Film™ is supplied as a kit containing film, soluble adhesive, a cutting knife and instructions. Suitable for pipework where a closure weld is being performed.

The Argweld® range of Flexible Weld Purging Enclosures® have been designed for the applications where a rigid chamber may not be economically viable. Typical applications include the occasional repair welding of titanium components for the aerospace, pharmaceutical and sports vehicle industries and for the production welding of titanium and stainless steel components to eliminate the expensive cleaning of oxide discoloration.

Argweld® Weld Trailing Shields® allow the user to weld faster, save money, produce bright welds, save re-work, reduce gas use, avoid wasted material costs due to oxidation. Flat models for linear seam welding and radiused models for welding inside and outside of circumferential weld seams.

Argweld® Weld Backing Tape™ reduces welding costs when joining linear or circumferential seams, a backing tape can be applied to the rear of the weld seam allowing the molten metal to be cast onto the glass fibre matting leaving a smooth, coke free weld root.
Other LANGUAGES in PROGRESS

Les autres langues sont actuellement dans le progrès. Pour le moment, s’il vous plaît contacter votre Distributeur local

Andere Sprachen sind momentan im Gange. Kontaktieren Sie vorläufig, bitte Ihren örtlichen Verteiler

Otros idiomas son actualmente en progreso. Para ahora, contacta por favor su Distribuidor local
For further information and support, please contact us at:

Internet: www.huntingdonfusion.com
Email:     hft@huntingdonfusion.com
Tel:       +44 (0) 1554 836 836

Worldwide Offices, Partners and Distributors are listed on our website or contact us and we will direct you to the correct location.
All products are thoroughly tested to our Quality Control Procedures prior to leaving our manufacturing facility. Should you encounter a problem with your product, please notify us immediately upon receipt.

Huntingdon Fusion Techniques HFT® warrants this product to be free of defects in workmanship and material, with exceptions stated below.

Warranty applies for normal and intended use of the product.

Huntingdon Fusion Techniques HFT® will not be held responsible for any incorrect use of the product.

For further warranty information, please refer to our terms and conditions.

All warranties shall not apply to any product or component which has been repaired or altered by anyone other than Huntingdon Fusion Techniques HFT®.

Huntingdon Fusion Techniques HFT® shall not be liable for indirect, special, incidental or consequential damage or penalties and does not assume any liability of Purchaser, or to others, for injury to persons or property.

This warranty is in lieu of all other warranties, expressed and implied.

E&OE