



HUNTINGDON FUSION
TECHNIQUES ■ HFT

Short Form Catalogue

Argweld[®], Techweld[®]
&
HFT Pipestoppers[®] Product Lines

Introduction



Huntingdon Fusion Techniques HFT®, established in 1975, is acknowledged as a worldwide leader, designer and manufacturer in the fields of pipe weld purging systems, weld purge monitors and other areas of weld purging technology.

Advanced engineering and technical expertise together with a fundamental scientific knowledge in the welding and weld purging market places, HFT® design and manufacture an ever expanding range of tube, pipe and pipeline weld purging equipment, weld purge monitoring instruments and ancillary weld purging products.

HFT®, the recognised international pipe purging specialists and weld purging experts provide worldwide customer support, cost effective solutions, qualified technical advice and quality weld purging products for achieving ultra clean welds produced in a well purged environment.

The recording and auditing capabilities of the HFT® Family Series of **Weld Purge Monitors**® are considered vital to the tube and pipe sector where traceability is now becoming a critical issue. These **Weld Purge Monitors**® have been designed and manufactured specifically for welding as oxygen monitors are not accurate enough for weld purging. Equally the HFT **Argweld**® Range of **Inflatable Tube and Pipe Weld Purge Systems** are considered absolutely vital to the welding industry.

For the weld purging of pipes or flat sheet and plate, whether using **Water Soluble Weld Purge Film**™, **Weld Trailing Shields**®, **Weld Backing Tape**™, **Weld Purge Plugs**™, **Weld Purge Monitors**® etc., HFT® as weld purging specialists have a product to satisfy your requirements.

If you need to close or plug all inlets and outlets in pipework fabrications or pipework systems so that weld purging and pressure testing can be successfully achieved, HFT® also has a range of products for these applications.

Leading pipework fabricators, sheet metal welding companies and pipeline manufacturers around the globe in construction, petrochemical, aerospace, power generation and process industries rely on these advanced products for the welding of stainless steel, titanium and other corrosion resistant metals as well as for plugging pipes and orifices made of all other tubular metal materials.

All our products manufactured to internationally recognised standards following fully accredited quality control procedures.

Pipe purging specialist and acknowledged weld purging expert, HFT® is a powerful international company with highly trained teams and specialists across the globe.

With offices and branches stretching across all 5 continents, HFT® are able to provide all tube and pipe purging systems, **Weld Purge Monitors**® and weld purging accessories necessary for achieving that perfect clean weld using a dense ring purge of gas, fast purge methods and rapid purge times. Hence one of our most popular names **QuickPurge**®.

The trademarks and product names **Argweld**®, **PurgEye**®, **PurgElite**®, **QuickPurge**®, **IntaCal**®, **RootGlo**®, **PurgeGate**®, **Techweld**®, **MultiStrike**®, **Tungsten Electrodes**, **Weld Purge Monitors**®, **Weld Trailing Shields**®, **Flexible Welding Enclosures**®, **Weld Purge Film**™, **Weld Purge Super Adhesive**™, **Weld Backing Tape**™, **Weld Purge Tape**™, **Weld Purge Plugs**™, **HFT Pipestoppers**® are synonymous with HFT® for design, innovation and manufacture of advanced tube, pipe and pipeline weld purging products as well as weld purging accessories for sheet metal and platework manufactured from stainless steels and reactive alloys.

HFT® is proud to be the world's premier pioneering innovator, designer and manufacturer in the field of tube, pipeline and pipe weld purging equipment, weld purge monitoring and weld purging technology.

Index



- Argweld® PurgEye® 100 IP65 Weld Purge Monitor®
- Argweld® PurgEye® 200 IP65 Weld Purge Monitor®
- Argweld® PurgEye® 300 Weld Purge Monitor®
- Argweld® PurgEye® 300 Nano Weld Purge Monitor®
- Argweld® PurgEye® 500 Weld Purge Monitor®
- Argweld® PurgEye® 600 Weld Purge Monitor®
- Argweld® PurgEye® 1000 Weld Purge Monitor®
- PurgEye® Family Series of Weld Purge Monitors®
- Argweld® PurgElite® Inflatable Tube & Pipe Weld Purge System
- Argweld® QuickPurge® Tube, Pipe & Pipeline Inflatable Weld Purge System
- Argweld® HotPurge® Inflatable Pipe Weld Purge System
- Weld Purge Dams Inflatable Tube & Pipe Weld Purge System
- Argweld® Water Soluble Weld Purge Film™
- Argweld® Weld Backing Tape™ and Weld Purge Tape™
- Argweld® Weld Trailing Shields®
- Argweld® Flexible Welding Enclosures®
- Argweld® Nylon Weld Purging Plugs
- Techweld® MultiStrike® Tungsten Electrodes
- HFT Pipestoppers® Nylon Plugs
- HFT Pipestoppers® Aluminium Pipe Plugs
- HFT Pipestoppers® Steel Expanding Single Plugs
- HFT Pipestoppers® Steel Expanding Double Plugs
- HFT Pipestoppers® PlugFast™ Drain Test Plugs
- HFT Pipestoppers® Inflatable Stoppers and Test Plugs
- HFT Pipestoppers® PetroChem™ Stoppers
- HFT Pipestoppers® Rubber Plugs and Stoppers
- HFT Pipestoppers® Pancake Stoppers
- HFT Pipestoppers® Accu-Freeze™
- HFT Pipestoppers® Qwik-Freezer™
- World Wide Care and Customer Support
- Address and Contact Details

PurgEye® 100 IP65

WELD PURGE MONITOR®



Sealed Dustproof and Waterproof



HFT® bring to the market place for the first time, a fully accredited IP65 standard rated Weld Purge Monitor® Gas Detection and Analysing Instrument. The **PurgEye® 100** now has a dustproof and waterproof outer case that prevents the ingress of dust or moisture even to the extent of having hard water spray directed against it.

More new features make the **PurgEye® 100 IP65** incredible value for money and the best technical choice available.

The innovative push button auto calibration facility allows the user to calibrate at atmospheric level and again at the lowest oxygen reading for increased accuracy.

The **PurgEye® 100** will indicate oxygen levels from 20.94% down to 100 ppm (0.01%).

PurgEye®, the only genuine Weld Purge Monitor® Gas Detection and Analysing Instrument on the market, developed by HFT® original innovators and manufacturers for over 40 years.

MAIN FEATURES:

- New IP65 dustproof and waterproof accredited.
- Vacuum brazed stainless steel probe assembly.
- Robust carry / presentation storage case.
- Auto safety break wrist or neck carry strap.
- Push button 'auto calibration' feature.
- Low battery indicator and low sensor indicator.
- Enlarged screen and larger digits.
- Tripod mount.
- Protective rubber cover (optional).
- Special leak tight quick connect/disconnect fittings for gas purge tubing.
- Automatic sleep mode when not in use.

Keeping your Eye on the Purge!

SOME ADVANTAGES and KEY FEATURES :

IP65 Sealed Dustproof and Waterproof Accredited

Dustproof standard rated 6 dust tight (no ingress of dust) and waterproof standard rated 5 protected against water jets (water projected from a nozzle against the enclosure from any direction shall have no harmful effect).

Vacuum Brazed Stainless Steel probe Assembly

Leak tight 'one piece' sealed assembly prevents erroneous readings due to leaks in connections.

More Robust Carry/Presentation Storage Case

Ergonomically designed case with double sided preformed cut outs, give a safe location for each part of your **PurgEye®** instrument.

Auto Safety Break Wrist Or Neck Carry Strap

Quality lanyard fitted with an auto break.

Automatic Sleep Mode

When the monitor registers more than 20% oxygen for periods longer than 1 hour, it will automatically switch off to conserve sensor and battery life.



Low Sensor Indicator

You will never again be with an unusable monitor!

The "low sensor level signal", allows plenty of time to obtain a new sensor which you can simply fit and calibrate yourself.

Low Battery Indicator

The **PurgEye® 100** Weld Purge Monitor® Gas Detection and Analysing Instruments have a low battery indicator that appears in the corner of the screen. This was a feature designed for the first time in the earlier models, such as the Mark V (MKV) meter which used old technology in comparison to this revolutionary latest **PurgEye® 100** model.

Auto Calibration Feature

Calibrate your own monitor at any time without having to return it to the factory. Also, each time you weld to ensure that your readings are the most accurate possible.

The calibration facility even has the ability at the touch of a small button to calibrate both at atmospheric level of 20.94% and at 0.01% (100 ppm) level of oxygen.



Tripod Mount

A rugged tripod mount has been integrated into the housing. This allows the **PurgEye® 100 IP65** Weld Purge Monitor® Gas Detection and Analysing Instrument to be firmly mounted on a tripod of your choice. With mounting the instrument on a tripod, easy visual observation is provided so you can see the **PurgEye® 100** from any part of the working space.

A range of tripods or other fixing Instruments are available on which you can mount and station your **PurgEye® 100**.

Enlarged Easy To Read Screen

The new enlarged screen uses 24 mm height digits for easy viewing at longer distances from the work station. These digits are approximately 41% larger than the previous obsolete MKV model.

Immediate Welding

After connecting the **PurgEye® 100** to the purge gas exhaust, you will have immediate readings showing reduction of oxygen down to your desired level.

Guaranteed Accuracy

The **PurgEye® 100** Weld Purge Monitor® Gas Detection and Analysing Instrument indicates oxygen levels from 20.94% down to 100 ppm (0.01%), so use an Argweld® **PurgEye®** Weld Purge Monitor® everytime for guaranteed accuracy of oxygen indication to allow a weld start with minimal risk of oxidation.

TECHNICAL DATA:

The **PurgEye® 100** Weld Purge Monitor® is shipped in a new low volume ergonomically designed, attractive, more robust carry / presentation and storage case to maintain the instrument in good condition and to keep it together with all accessories.

The **PurgEye® 100** Weld Purge Monitor® can be used with any pipe welding system, any weld purging chamber or weld purging enclosure.

The sensor is easy to replace and self calibrate using the advanced calibration features of the **PurgEye® 100** and the specially written algorithm that provides extreme accuracy at 0.1% where it is especially important for weld purging.

The **PurgEye® 100** Weld Purge Monitor® can be used as a continuously reading instrument with free flow of the purge exhaust gas across the sensor, or as a sampling instrument with the hand vacuum pump and the new vacuum brazed leak tight stainless steel probe assembly extracting samples from the purged volume, as and when desired.



SPECIFICATIONS:

PurgEye® 100 IP65 Weld Purge Monitor® Accuracy Range

Measuring 20.94% down to 100 ppm oxygen

Range: (100 ppm to atmosphere)

Accuracy: At oxygen level 20.0% = $\pm 0.2\%$
At oxygen level 2% = $\pm 0.02\%$

Size: 94 mm (top width)
58.5 mm (handle width)
199 mm high (from bottom to top of eyelet) 63 mm deep (with flow adaptor)
44 mm deep (without flow adaptor)

Power: Battery type 2 x AA (included)

Scale: LCD (liquid crystal display) 24 mm
Ref: Obsolete MKV Model 17 mm
41% increase in size

Weight: 0.870 kg

Supplied With

- New leaktight vacuum brazed stainless steel probe for sampling.
- New safety easy auto break lanyard for neck or wrist.
- New strong ergonomically designed carrying storage presentation case.
- 2 x AA batteries.
- 2 meters of sampling hose.
- Sampling bulb (vacuum pump).
- User instruction booklet.





PRODUCT CODES and SIZES:

PurgEye® 100 IP65 Weld Purge Monitor® Gas Detection and Analysing Instrument

Model part number API0100 (stock code).

Dimensions with carrying storage case:

290 x 265 x 120 mm

Nett weight 0.870 kg

Gross weight 1.1 kg

Volumetric weight 1.42 kg

Instrument weight 0.870 kg instrument only
(excluding carry case).

Customs tariff for international shipments around the world:

European customs tariff: 9026 1089

International customs tariff: 9026 80 6000

United States customs tariff: 9026 80 6000

ACCESSORIES, SPARES and REPLACEMENTS:

- Gorilla tripod.
- Camera tripod.
- Sensor removal tool.
- Rubber protective housing.



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PurgEye® 100 IP65 shown with protective rubber housing available as an accessory.

Don't use cheap instruments that are merely oxygen monitors which are re-labelled or repackaged, use a purpose designed, high quality Weld Purge Monitor®, Gas Detection and Analysing Instrument.



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PurgEye® 200 IP65

WELD PURGE MONITOR®



Reads down to 1 ppm
Accurate to 10 ppm



This **PurgEye® 200 IP65** hand held model reads very accurately down to 10 parts per million (ppm).

This low cost unit has made several breakthroughs in design and development technology in weld purge monitoring.

Being rechargeable battery operated and hand held, this is an excellent model for use on construction sites where high purity tubing or pipe is being welded.

The **PurgEye®** Family Range of Weld Purge Monitors® have become the standard instruments of today, recognised and used by most companies who need to produce quality weld joints.

PurgEye®, a Family Series of Weld Purge Monitors®, helping customers to keep your 'Eye' on the Purge!

MAIN FEATURES:

- Multi-function power (power, standby, mute, pump).
- Electromechanical internal pump with 1 l/m flow rate.
- Accurate readings from 1000 to 10 ppm.

- Auto power-Off after 15 mins, automatic sleep mode when not in use.
- Rechargeable battery operated.
- Low battery indicator.
- Hand held easy to use instrument.
- Lightweight, only 400 gms (without batteries).
- Warning alarm levels between 1 and 999 ppm.
- Flow detection for accurate reading of gas samples.
- Large character LCD screen for easy reading.
- Power on / off with standby button for sensor warm up.
- Alarm mute where desired.
- Alarm + and - Buttons for displaying threshold settings.
- Quick connect / disconnect exhausting gas hose connections.
- Safety lanyard for wrist or neck.

Auto Power-Off

If the **PurgEye® 200 IP65** is left with an over-range reading for more than 15 minutes, then it will automatically turn off to conserve battery power.

Warning Alarm

The Warning Alarm can be set to any level between 1 and 999 ppm and has both audible and visual indication when the alarm threshold is exceeded.

Flow Detection

The flow warning exclamation icon will be displayed whenever the flow of sample gas drops below the minimum flow rate required for an accurate reading. Please note, this could be due to a blocked filter in need of replacement.

Large Character LCD Screen

The large LCD screen allows the reading to be easily read and helps conserve battery power compared to other display technologies.

Power On / Off

If the **PurgEye® 200 IP65** is off, then pressing the standby button will switch it on and it will start the sensor warm-up procedure. The **PurgEye® 200** can be turned off by holding the standby button for approx. 10 seconds or until it turns off.

Integral Sample Pump

With the **PurgEye® 200 IP65** switched on and the alarm inactive or muted, pressing the standby button will turn the integral sample pump on and off.

Alarm Mute

If the alarm is sounding, then pressing the standby button will mute the alarm, subsequent presses will control the sample pump.

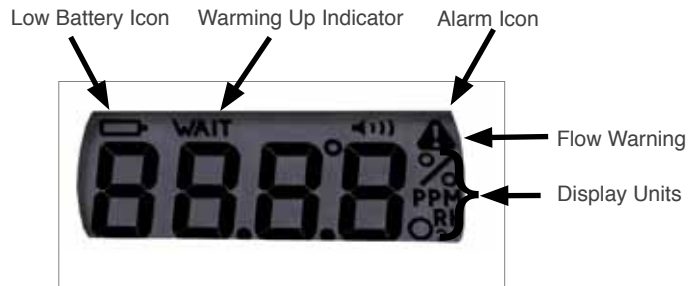
Alarm + and Alarm - Buttons

Pressing either of the alarm buttons will display the current alarm threshold setting. When the alarm threshold is displayed, the first digit will flash, pressing either of the alarm buttons at this point will increase or decrease the value of the flashing digit.

Guaranteed accuracy

The **PurgEye® 200 IP65** Weld Purge Monitor® indicates oxygen levels from 1000 down to 10 ppm (0.001%), so use an Argweld® **PurgEye®** Weld Purge Monitor® everytime for guaranteed accuracy of oxygen indication to allow a weld start with minimal risk of oxidation.

PurgEye® 200 IP65 includes a large character and easy to read display



Low Battery Indicator

When the low battery icon appears, the user should swap to the fully charged battery set. From the time the indicator appears, there should be 10 to 20 minutes working time remaining.



Warming up

The wait icon indicates when the **PurgEye® 200** is warming up and not yet ready to give a reading. During the warming up procedure, the progress will be indicated by either 1, 2, 3 or 4 flashing bars across the display.



Alarm Icon

The alarm icon will indicate when the display is showing the alarm threshold rather than the current reading, it will also flash when the current reading exceeds the alarm threshold.

Blocked Filter

The Alert Icon, indicates when there is insufficient flow of purge gas which could be caused by a blocked filter.



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TECHNICAL DATA and SPECIFICATION

The **PurgEye® 200 IP65** Weld Purge Monitor® can be used with any tube or pipe weld purging system, any weld purging chamber or weld purging enclosure.

PurgEye® 200 IP65 Weld Purge Monitor® Accuracy Range:

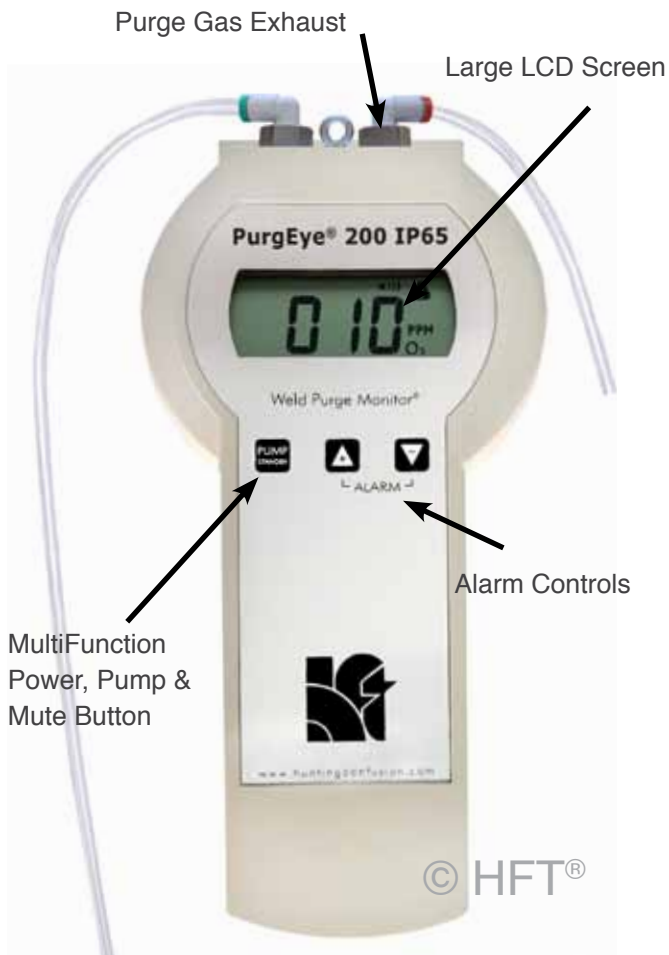
Measuring 1000 down to 10 ppm oxygen Range

Accuracy: = $\pm 0.002\%$

Power: 4 x AA rechargeable batteries

Scale LCD: 25 mm high x 60 mm long

The **PurgEye® 200 IP65** Weld Purge Monitor® can be used as a continuously reading instrument with free flow of the purge exhaust gas across the sensor, or as a sampling instrument with the integral electro-mechanical vacuum pump.



SHIPPING DETAILS

The **PurgEye® 200 IP65** Weld Purge Monitor® is shipped in a new, low volume, ergonomically designed, robust carrying, presentation and storage case to maintain the instrument in good condition and to keep it together with all accessories.

Storage Carry Case dimensions: 377 x 322 x 95 mm

Shipping dimensions: 380 x 100 x 300 mm

Netto weight: 2.0 kg

Volumetric weight with case: 2.28 kg

Supplied with:

- Storage case.
- 8 x AA rechargeable batteries (4 in use, 4 in charger).
- Rechargeable battery unit with mains adaptor.
- Sample tube set with filter (150 mm green tubing and 1 metre clear tubing with filter, as per models PurgEye® 300 & PurgEye® 500).
- Neck or wrist safety lanyard.
- Calibration and quality control test certificate.
- User instruction booklet.

Actual Instrument dimensions:

225 length x 115 widest point x 40 mm depth.

Actual Instrument weight:

400 gms (without batteries).



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ARGWELD® PURGEYE® FAMILY RANGE OF WELD PURGE MONITORS®

Huntingdon Fusion Techniques HFT® is the only company to have a complete 'Family' Series of Weld Purge Monitors®. Pioneering the way in weld purging technology where real science has been used to create a family range to suit all weld purging, purity levels and budgets.

The PurgEye® 'Family' series includes:

- **PurgEye® 100 IP65** for levels from 20.94% to 0.01% (100 ppm).
- **PurgEye® 300 Nano** low cost entry level model for 1000 to 10 ppm.
- **PurgEye® 300** fully programmable with data recording for 1000 to 10 ppm.
- **PurgEye® 500** like the 300 and including an integral pump.
- **PurgEye® 600** fully computerised colour touch screen model with wireless USB download of recorded data from 1000 ppm down to 10 ppm.
- **PurgEye® 1000 Remote Weld Purge Monitor®**. The 10 ppm sensing head can monitor up to 1 km away.



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PurgEye® 300 Nano

WELD PURGE MONITOR®



An accurate “Eye” on your Money



The Argweld® **PurgEye® 300 Nano** is an ultra low cost entry level **Weld Purge Monitor®** that measures and clearly indicates actual oxygen levels from 1000 parts per million (ppm) right down to 10 ppm on a large alpha numeric display.

There are no knobs, no switches, no controls, making this a really simple ‘plug and play’ instrument.

A unique new low cost lifetime sensor is used, that has the capacity to measure oxygen down to 10 ppm. Sensor warm up time is less than 60 seconds. Readings are exceptionally accurate down to 10 ppm.

The **PurgEye® 300 Nano** avoids the disadvantages of monitors with 'wet cell' technology that have to be constantly calibrated and have sensors replaced.

The **PurgEye® 300 Nano** can be used as a calibration check instrument for other **Weld Purge Monitors®** in use as well as for oxygen monitors that may be used for weld purging. In addition, the instrument can be used to check purge gas quality and whether there are leaks of air into purging hose connections anywhere in the system.

FEATURES

- Small, light and inexpensive compared to more sophisticated instruments within this range
- Integrally mounted sensor shielded against electrical interference
- Specifically developed for weld purging of high quality weld joints where pristine purging techniques are used
- Suitable for all aseptic, hygienic and clean-in-place welds
- Low repair, refurbishment and recalibration costs
- Operation with orbital welders, tube and pipe welding as well as for all welding enclosures, chambers and boxes
- Ideal for welding stainless steel in high purity and ultra clean applications, as well as recommended for titanium, zirconium and nickel alloy welding
- No pump, no moving parts to fail
- AC 110/220 single phase operation
- International electrical standards and connectors
- Ultra low cost

PurgEye®, a complete family of Weld Purge Monitors®



The Argweld® **PurgEye® 300 Nano** has secure 'leak tight' connectors for weld purge hoses.

Also, the instrument can be used with optional accessory hand pump and gas sampling probe.



Rear of **PurgEye® 300 Nano** with mains lead and power supply connection to allow operation from AC 115 to 230 V single phase 50/60 Hz electrical supplies.

These are the only individual components making the instrument easy to set up and truly 'plug and play'.



SPECIFICATION

- Operating voltage 115/230 V single phase 50/60Hz, the unit uses an external 12 V PSU with an input voltage range of AC 90 to 260 which is included
- Less than 60 seconds warm up time
- Readings accurately displayed in ppm
- Power consumption 18 W
- Dimensions: 145 x 190 x 70 mm
- Range: 1000 - 10 ppm
- Accuracy: $\pm 2\%$ of scale reading
- 40 cm of red tube
- 1 metre of green tube

PURGEYE®

A FAMILY RANGE OF WELD PURGE MONITORS®

The family range includes the following models:

- **PurgEye® 100 IP65** which is our most popular instrument worldwide. This is a portable, battery operated, general purpose instrument for use in workshops as well as on construction sites for all tube and pipework, as well as for chamber purging and basic testing of weld purge gas supplies.
- **PurgEye® 200** new rechargeable battery powered measuring down to 10 ppm.
- **PurgEye® 300 Nano** as per this brochure.
- **PurgEye® 300** fully programmable with data recording for 1000 to 10 ppm.
- **PurgEye® 500** like the 300 with an integral pump.
- **PurgEye® 600** 'All in one' Computerised Colour Touch Screen fully computerised colour touch screen model with wireless USB download of record data from 1000 ppm down to 10 ppm.
- **PurgEye® 1000** Remote Weld Purge Monitor®. The 10 ppm sensing head can monitor up to 1 km away.

PurgEye® 300

WELD PURGE MONITOR®



The **PurgEye® 300 Weld Purge Monitor®** has been specifically designed for indicating low oxygen levels in argon gas for weld purging.

It measures and clearly indicates actual oxygen levels down to 10 parts per million (ppm) on a large alpha-numeric display.

The unit is menu driven by four push buttons on the front panel and has an internal alarm with high and low oxygen levels which can be set with those buttons.

A unique new lifetime sensor is used which has very little maintenance requirement.

PurgeLog™ software package is included for a computer to be used to store and print results and graphs for quality control purposes.

FEATURES

- Small, light and portable
- Integrally mounted sensor to eliminate electrical interference
- Automatic fault finding diagnostics
- Low repair, refurbishment and recalibration costs
- Operation with orbital welders, welding enclosures, pipe welding and chamber welding
- Ideal for welding stainless steel in ultra clean applications as well for titanium which is required to be welded in an inert gas atmosphere where the oxygen level has to be reduced to less than 20 ppm oxygen
- Weld start / stop facility

PurgeEye® 300 Weld Purge Monitor® connected via computer interface to PurgeLog™ software.



SPECIFICATION

- The unit is supplied with an external 12 V Power Supply Unit (PSU) with an input voltage range of 90 to 260 AC
- RS232 port for computer interface
- PurgeLog™ data logging software* included
- User interface for external alarm, high/low ppm settings, on/off welder switching etc.
- Two minute warm up time only
- Switchable facility for readings in ppm or percentage
- Power consumption: 18 Watt
- Dimensions: 250 mm x 250 mm x 100 mm
- Accuracy: $\pm 2\%$ of scale reading

* **PurgeLog™** 2010 Data Logging Software requires a PC running Microsoft® Windows 95/98/XP or NT4 to run. This software is unable to run on any other operating system.

KEY FEATURE

The PurgeEye® 300 Weld Purge Monitor® can be connected with a welding power supply to switch off an arc in the event that the oxygen level rises above the preset level.

SHIPPING INFORMATION

Dimensions	380 x 330 x 110 mm
Nett weight	2.2 kg
Gross weight	3.0 kg
Volumetric weight	2.1 kg
Instrument weight	1.9 kg



CASE FOR PURGEYE® 300 WELD PURGE MONITOR®

This case is manufactured from a rigid ABS plastic allowing for maximum protection, carrying and storage of the PurgeEye® 300 Weld Purge Monitors®. A machine cut foam insert affords the monitor excellent protection.

Also the case has a specially cut section in the lid to allow the manual and any other important documentation to be stored.

This case is ideal for storage and retrieval of Argweld® Weld Purge Monitors® in workshops or on site where they could be placed with other equipment.

PurgEye® 500

WELD PURGE MONITOR®



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The **PurgEye 500® Weld Purge Monitor®** will give very accurate readings down to 10 ppm. It has an integral pump for drawing gas samples across the sensor and it comes the **PurgeLog™** for data capture to allow a print out of all weld purge results for providing quality control certification for each weld.

This model is ideal for critical welds on material such as stainless, duplex and chrome steels, titanium, nickel and cobalt alloys. It can be used for joints made in welding chambers and **Flexible Welding Enclosures®** as well as for orbital welding applications and for use with pipe weld purging systems.

This rugged, HF proof instrument measures and clearly indicates actual oxygen levels from 1000 down to 10 parts per million (ppm) [0.001%] on an alpha-numeric display.

The unit is menu driven by two of the four buttons on the front panel and it has an internal alarm with high and low points for oxygen level that can be set with the other two buttons.

The integral Electro-Mechanical pump is designed to extract samples from the purge volume at pre-determined, user settable intervals where a strong continuous flow of exhaust gas is unavailable.

The lifetime zirconia sensor has very little maintenance requirement and saves the constant bi-annual changing of "wet cells" that are used in other oxygen measuring systems.

PurgeLog™ software package is included for a computer to be used to store and print results and graphs for quality control purposes.

FEATURES

- Automatic pump to extract gas sample
- Small, light and portable
- Automatic fault-finding diagnostics
- Unique fast response sensor with expected 5 year life
- Specifically developed for weld purging of critical welds in duplex steel, titanium, nickel and cobalt alloys as well as some stainless steel components
- Low repair, refurbishment and recalibration costs
- Ideal for working with orbital welding equipment
- Perfect for welding with all kinds of welding chambers and welding enclosures or glove boxes

PurgeEye® 500 Weld Purge Monitor® connected via computer interface to PurgeLog™ software.



SPECIFICATIONS

- The unit is supplied with an external 12 V Power Supply Unit (PSU) with an input voltage range of 90 to 260 AC
- PurgeLog™ data logging software* included
- User interface for switching welding power sources on/off warning lights, external alarms etc. at high and low settings of oxygen levels in ppm
- Readings accurately displayed in ppm
- Power consumption 18 W
- Instrument dimensions: 145 x 190 x 70 mm
- Range: 1000 - 10 ppm
- Accuracy: $\pm 2\%$ of scale reading
- Pump flow rate: 3.5 - 4 l/m
- 150 mm of green tube with filter supplied

* PurgeLog™ Data Logging Software requires a PC running a minimum of Microsoft® Windows 95/98/XP or NT4.

KEY FEATURES

The PurgeEye® 500 Weld Purge Monitor® can be connected with a weld set to switch off an arc in the event that the oxygen level rises above the preset level. It has two Volt free contact relay outputs operated by two alarm set-points. These contacts can be used to switch gas valves, sounders or welding equipment. (max rating 50 V at 1 Amps).

Highly improved shielding against all sources of HF, RF and EMF radiation.

Tested and approved in the harshest of welding environments.

CASE FOR PURGEYE® 500 WELD PURGE MONITOR®

This storage carrying case is manufactured from rigid ABS allowing for maximum protection of PurgeEye® 500 Weld Purge Monitors®.

A machine cut foam insert, affords the monitor, probe, spigots, carry strap and aspirator bulb excellent protection.

There is an integrated specially cut section in the lid to allow the manual and any other important documentation to be stored.

This case is ideal for storage and retrieval of PurgeEye® 500 Weld Purge Monitors® in workshops or on site where they could be placed with other equipment.



SHIPPING INFORMATION

Dimensions:	385 x 330 x 100 mm
Nett weight:	2.2 kg
Gross weight:	2.7 kg
Volumetric weight:	2.5 kg

PurgEye® 600

WELD PURGE MONITOR®



‘All in one instrument’ the PurgEye® 600 Computerised Colour Touch Screen measuring from atmosphere to 10 ppm!

With the ever more stringent quality control standards being applied to the welding of titanium, nickel alloys, stainless and duplex steels in aerospace, offshore, pharmaceutical, food, beverage, semi conductor, bio-technical fields etc., it has been necessary to develop an attractively priced **Weld Purge Monitor®** that will read from atmospheric oxygen levels down to 1 part per million (ppm).

The **PurgEye® 600** Weld Purge Monitor® has broken all technological boundaries as an ‘all in one’ unique instrument.

This touch screen state of the art instrument is the first to be able to accurately read oxygen levels in the welding environment from atmosphere 20.94% down to 10 ppm.

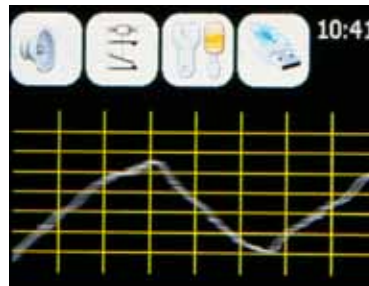
This colour touch screen model also has **PurgeLog™** data logging capability that allows the operator to download data onto a memory stick, obviating the need for a computer connection.

Not only have we been able to achieve these terrific World beating features, we have also included a sampling pump.

FEATURES

- Indefinite lifespan sensor technology to read from 25% down to 10 ppm.
- Readings indicated as a percentage or in ppm.
- State of the art circuitry providing stable, accurate readings.
- 3.2" Full colour touch screen with on screen graph of current weld.
- USB transfer of data logging and weld certification Quality Control documentation with unique **PurgeLog™** software.
- Real time clock to date stamp quality control records.
- Internal sampling pump with gas filtration.
- User port with two outputs to control welding equipment or activate alarms in the event of rise in oxygen levels.
- No more wet cells to keep replacing and recalibrating.
- Quick fit / disconnect ‘leak tight’ purge tube fittings.
- Brushed stainless steel front panel.
- Highly improved shielding against all sources of HF, RF and EMF radiation.
- Tested and approved in the most difficult of circumstances.
- Stylish desktop enclosure only 150 x 90 x 170 mm.
- Power from 110 / 220 AC Single Phase Supply.
- Storage, carrying presentation case included.

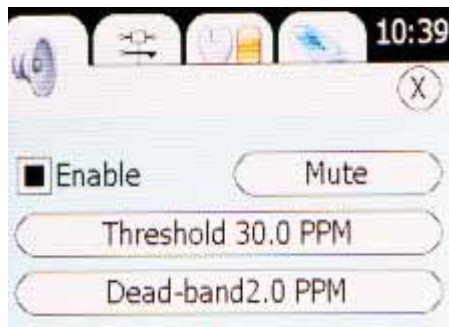
MAIN DISPLAY



The main display can be in one of three modes (see above). The user can switch between these display modes by touching the display area (not the top toolbar) of the screen.

When the user touches one of the top icons, a menu will appear. The required option needs simply to be selected. These icons and menu items are as follows.

Alarm menu

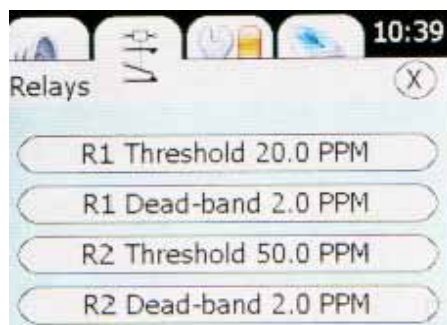


Mute: Select mute to toggle the mute feature of the sounder.

Threshold: This is the level over which the alarm will be active.

Dead-band: This sets an area where the alarm will not change state, to prevent rapid alternating when the measured reading is close to the threshold.

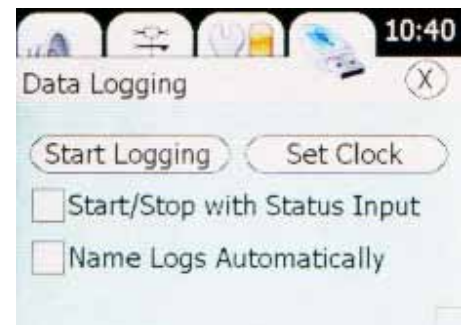
Relay menu



Threshold: This is the level over which relay one (R1) or relay two (R2) will be active.

Dead-band: This sets an area where the relevant relay will not change state, to prevent rapid switching when the measured reading is close to the threshold level.

Data logging menu

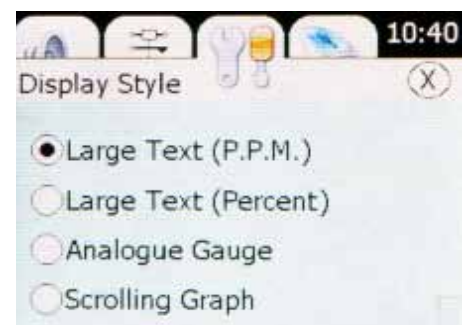


Start Logging: Select 'start' to begin a new log file.

Stop logging: Select 'Stop' to end the current log file, this will ask for the serial number for the weld (only if 'auto naming' is not ticked). This is used as the 'file name'.

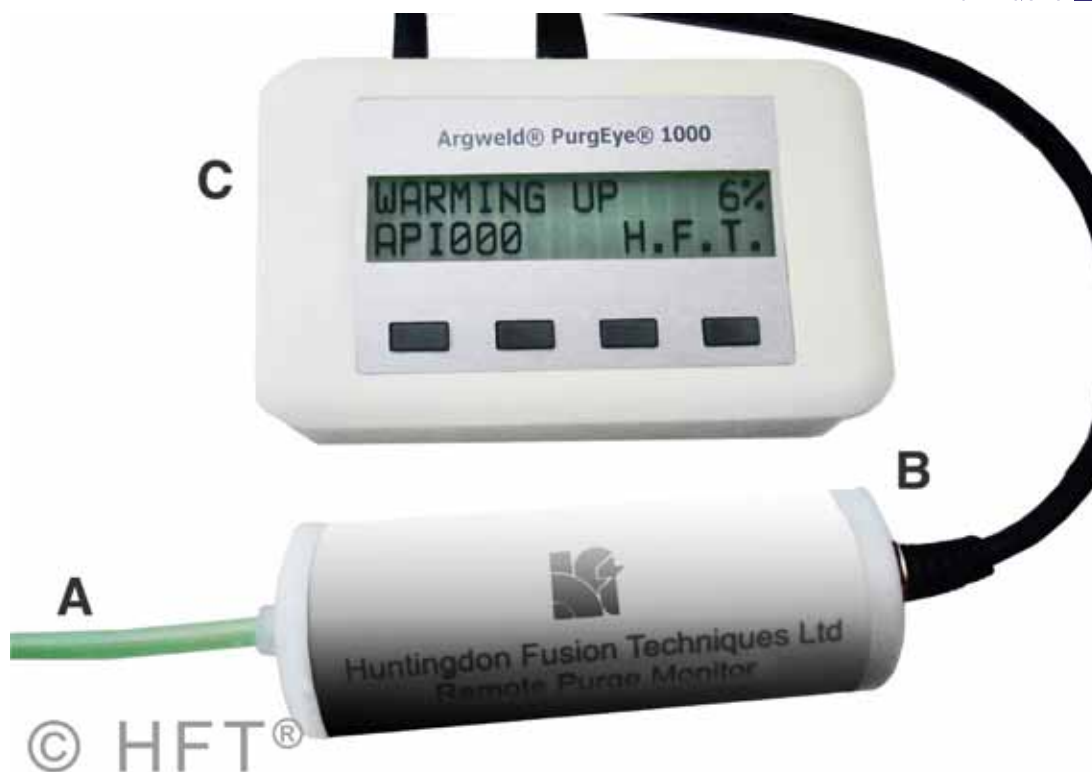
Set Clock: Select this option to select the current time and date. (note, this icon will only appear if a compatible memory stick has been connected.)

Display style



This allows the user to select which of the main display styles to use, examples show at top of page.

PurgEye® 1000 remote WELD PURGE MONITOR®



When welding joints in long tube line or pipeline sections, it is not normally practical to measure the purge gas exhaust close to the weld.

Measuring purge gas exiting in the joint gap is also unsatisfactory because of the heat generated in that area, the oxygen being drawn in from outside and other variable factors.

HFT® has developed an answer to this difficulty, namely a remote sensing head that can be fitted onto the purging system, directly at the weld location and will measure oxygen level in the purge gas and transmit the information electronically to the monitor up to 1 km away.

In this way, the operator can be certain that the weld purge reading is correct and that the joint will not be adversely affected by oxidation.

The exhaust purge gas flows through tube **A** and is measured by the remote sensing unit **B** which sends the result electronically back to the display unit **C**.

The sensing head **B** can be supplied with fixing brackets so that it can be fitted to an internal pipe clamp with purging seals or stand alone pipe weld purging system.

FEATURES and ADVANTAGES

- The Argweld® **PurgEye® 1000 Remote** Weld Purge Monitor® 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 extension cable can be connected together to make longer leads up to 1 km
- Shorter or longer lengths can be supplied to order to suit application
- The unit will be powered from the data cable, so only one cable is required
- Because the unit is small and round, it is easy to pull through pipes

Huntingdon Fusion Techniques HFT® are bringing yet another innovation to the market place with this new **Remote Monitoring Weld Purge Monitor®**.

Portable 'handy' Weld Purge Monitor® to read from 1000 ppm down to 10 ppm. A distant 'Eye' on the Purge up to 1 km away!

Remote Purge Monitor



Remote Purge Monitor



Electro mechanical Weld Purge Monitor® sensing head fitted with internal mechanical pump

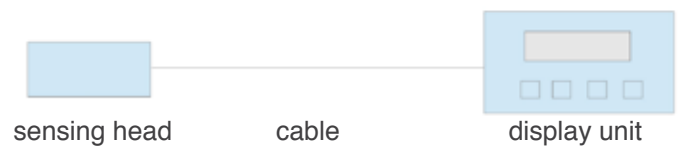
Display Unit



Integral sample pump all powered by the data cable from the display unit



Portable 'handy' Weld Purge Monitor® to read from 1000 ppm down to 10 ppm



Variable length cable
Max length up to 1km depending on conditions

PurgEye®

FAMILY RANGE of WELD PURGE MONITORS®



Weld Purge Monitor® invented by HFT® in the 1970's.
Registered Trademark in USA and Europe.



The PurgEye® 100 IP65 Dustproof and Waterproof Hand Held

IP65 Standard Accredited • Dustproof rated to level 6 (dust tight) • Waterproof to level 5 (protected against water) • A newly developed user replaceable electrochemical sensor • A sturdy storage case • User calibration button for both 20.94% and 0.01% levels of oxygen and below • Leak tight quick connect 6 mm purge hose fittings • New one piece 'leak tight' stainless steel sampling probe and hose connector • Low battery and low sensor signals.



The PurgEye® 200 IP65, Rechargeable Battery Driven Weld Purge Monitor®

Multi-Function power • Electro-mechanical internal pump with 1 l/m flow rate • Accurate readings from 1000 ppm to 10 ppm • Auto power-off after 15 minutes, automatic sleep mode when not in use • Rechargeable battery operated • Hand held easy to use instrument • Warning alarm levels between 1 ppm and 999 ppm • Flow detection for accurate reading of gas samples • Leak tight quick connect 6 mm purge hose fittings.



The PurgEye® 300 Nano, the World's 'first and only' super low cost, entry level instrument measuring accurately down to 10 ppm.....!

Small, lightweight and inexpensive • 'New' unique lifetime sensor • Less than 60 seconds warm up • Virtually no maintenance • No 'wet cell', no need to constantly calibrate, integrally mounted sensor • Large alpha numeric display • Small and lightweight.



The PurgEye® 300 Weld Purge Monitor®

Unique, fast response, lifetime sensor measures and indicates down to 10 ppm • Ideal for welding zirconium, titanium, nickel alloy, stainless and duplex steels in ultra-clean applications • State of the art circuitry providing accurate, stable readings (extremely accurate to 10 ppm) special attention has been paid to electrical shielding to avoid interference • No more wet cells to keep replacing and re-calibrating • Weld start / stop facility • Internal alarm and security pin code facilities • Automatic fault-finding diagnostics.



The PurgEye® 500 Weld Purge Monitor® with integral pump

Unique, fast response, lifetime sensor measures accurately and indicates down to 10 ppm • Integral sampling pump with gas filtration • User port with two outputs to control welding equipment or activate alarms in the event of rise in oxygen levels • Automatic fault-finding diagnostics • Internal alarm and security pin code facilities • Weld start / stop facility • No more wet cells to keep replacing and re-calibrating • PurgeLog™ software for data acquisition to store and print results and graphs etc. for quality management.



The PurgEye® 600 Weld Purge Monitor® is a computerised touch screen model

Full range measurement from atmosphere (20.94%) to 10 ppm using long life sensor technology • Readings indicates a percentage or in ppm • 3.2" Full colour touch screen with on screen graph of current weld • Integral sampling pump with gas filtration • Real time clock to date stamp quality control records • Includes PurgeLog™ software • Wireless USB memory stick accessory slot to support data logging and weld certification • The most comprehensive Weld Purge Monitor® available.



The PurgEye® 1000 Remote Weld Purge Monitor®

PurgEye® 1000 monitor has been developed for those instances where the measuring point is more than 20 metres away from the monitor. The very slow time for the gas to travel and reach the sensor and the contamination of actual reading that can take place inside the gas tube, leads to serious delays and erratic readings. To improve this, the sensor is placed in a small module attached to a weld purge system and the reading transmitted instantaneously to a hand held display via a data cable.

PurgElite®

INFLATABLE TUBE and PIPE WELD PURGING SYSTEM



Incorporating
"NEW" 1 Inch (25 mm)
System, a first to the market
place, another great innovation by
Huntingdon Fusion Techniques HFT®



© HFT®

After 35 years of manufacturing expertise in the field of Tube and Pipe Purging Dams, Huntingdon Fusion Techniques HFT® brings to the market yet another great advanced innovation

PurgElite® is designed to help tube and pipe welders save money, time, gas and achieve better welds.

These superior systems, with many unique features keep us right at the forefront of technical innovation, by bringing you a simple low cost solution to make the cleanest welds.

With dramatic savings due to the new design, we have reduced prices significantly whilst at the same time, bringing you a technically superior product.

The volume to purge is kept small, resulting in valuable savings in both time and cost of inert gas used.

The **PurgElite®** Inflatable Pipe Weld Purging Systems have two heavily protected inflatable dams connected by a new design, high temperature resistant, inert gas purging tube.

The inert gas purges air as well as other unwanted gases and vapours out of the space between the dams with inert gas coming through **IntaCal®**, a unique, much lower cost, simpler, trouble free valve than used elsewhere.

This new, low profile valve allows us to manufacture a 1" Inflatable Pipe Purging System which has never been achieved previously.

Don't use old fashioned purge bladders or homemade devices like cardboard or paper dams or foam bungs.

They contain a lot of water, water vapour and air, put your weld at risk and end up costing you more money.

Use the proper tool for the job!

PURGE THE 'ELITE' WAY!

HUNTINGDON FUSION
TECHNIQUES ■ HFT

KEY FEATURES and BENEFITS

Quick and easy to install

IntaCal® innovative purge gas feed device

No complicated valve to set.

Inflation and purging with only one line.

Specially developed flexible dam connection hose, with protection sleeve, resistant to hot metal up to 700°C (1292°F).

Low vapour pressure material.

No scratching of polished surfaces.

For all grades of stainless steel and duplex, polished interiors, titanium, exotic metals and alloys.

PurgElite® cost saving systems can be positioned accurately.

RootGlo® centrepiece glow positioning indicator

The glow strip in the centre of each system gives ease of use when positioning the device underneath the weld.

RootGlo® is resistant to high temperatures whereas competitors material shrivels up to nothing, outgassing into the purgespace.

RootGlo® gives 20 hours of illumination for only 10 minutes exposure to daylight.

FASTER

The **PurgElite®** system is very quick and easy to install. It can be positioned accurately and the dams inflate instantly.

Purging time is a fraction of that required by conventional methods leading to significant savings and waiting costs. Cost savings charts are available on request.

The volume to be purged is localised.

FLEXIBLE SPINAL HOSE

The hose can be bent to go through the tightest of bends. For further information see the last page of this leaflet.



Size range: 1 to 24" (25 to 600 mm) OD

The first ever 1 inch (25 mm) Ø system to the market place. Another innovation by Huntingdon Fusion Techniques HFT® as leading the way in Weld Purging Technology!



LOW PRICE

Dramatic decrease in prices over all similar models.

Payback in less than one weld.

REPEATABILITY

Highly reliable, giving regular, repeatable, controlled high quality results.

Gas pressure control ensures an even positive root bead with no notching.

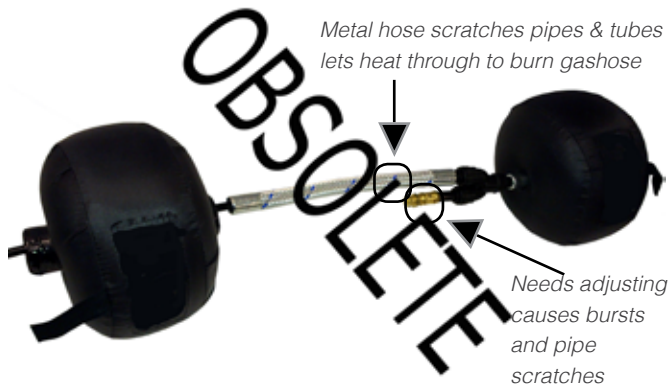
Manufactured to nuclear quality standards with nuclear approved materials, these systems guarantee bright, shiny, coke and oxide-free welds.

Because **PurgElite®** Inflatable Pipe Weld Purging Systems have no metal parts exposed, internally polished stainless steel tubes are protected from contamination and scratching.



OUT OF DATE

- Large profile valve
- Complicated valve adjustment
- Occasional burst bladders
- Metal parts scratch interiors of polished pipes
- High vapour pressure materials that outgas when heated



NEW.... PURGELITE® SYSTEM

- No metal parts to scratch interior of polished pipes
- No large complicated valve
- No wasted time setting valve
- Low vapour pressure materials



MIX and MATCH

Any one size of dam can be connected with any other diameter, see example below:



PurgeElite® Inflatable Tube and Pipe Weld Purge Systems in use together with the latest state of the art technology **PurgeEye®** Weld Purge Monitor®.

The **PurgeEye®** Monitors allow the user to see when the conditions are perfect for welding. In this way, bright clean welds are easily achieved.

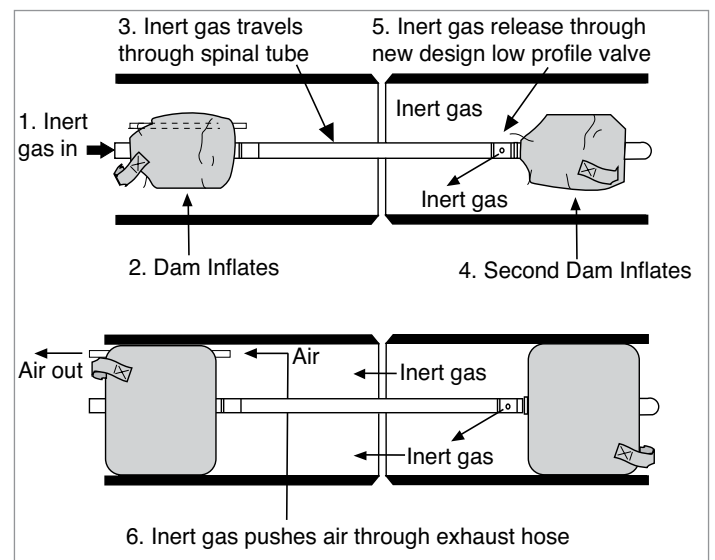


This range of **PurgeElite®** Tube and Pipe Purging Systems are for pipes of nominal diameters from 25 mm (1") to 600 mm (24").

The connecting spinal tube can be shortened or lengthened to accommodate special requirements.



SIMPLE STEPS FOR TUBE and PIPE WELD PURGING FOR THAT PERFECT OXIDE FREE CLEAN WELD!





Suitable for bent fabrications



Suitable for Swept bends and 90° bends



Suitable for twisting in and out of pipe work systems

PURGELITE® PURGE TIME (to 0.1% oxygen and less)

By using **PurgeElite®** Tube and Pipe Purging Systems, the main savings, over any other system, are obtained in reduced purging and waiting time, and in the much lower quantity of inert gas used.

Purging with old fashioned systems and home made devices will require a flow rate of at least 24 ltrs/min (50 cu ft/hr) for longer periods.

The chart below shows a typical purge time to reduce the air space to less than 0.01% oxygen.

Test Pipe Diameter 4" (100 mm)

Old fashioned or home made devices:

Purge time to 1000 ppm..... 26 minutes

Flow rate 50 CFH (24 L/min)..... inert gas usage
18 Cu ft (624 litres)

PurgeElite® Pipe Purging System

Purge Time to 100 ppm..... 3 mins 6 secs

Flow rate 21 CFH (10 L/min)..... inert gas usage
0.9 Cu ft (30 litres)

Purge Time below 35 ppm.....7 - 10 mins
(with extra gas inlet and exhaust integrated)

HUNTINGDON FUSION TECHNIQUES HFT® LEAD BY SCIENTIFIC KNOWLEDGE, INNOVATION AND HI-TECH DEVELOPMENT

Do not use old fashioned purge bladders that burst or makeshift or homemade devices like cardboard or paper dams or foam bungs. They contain a lot of water, water vapour and air, put your weld at risk and end up costing you more money.

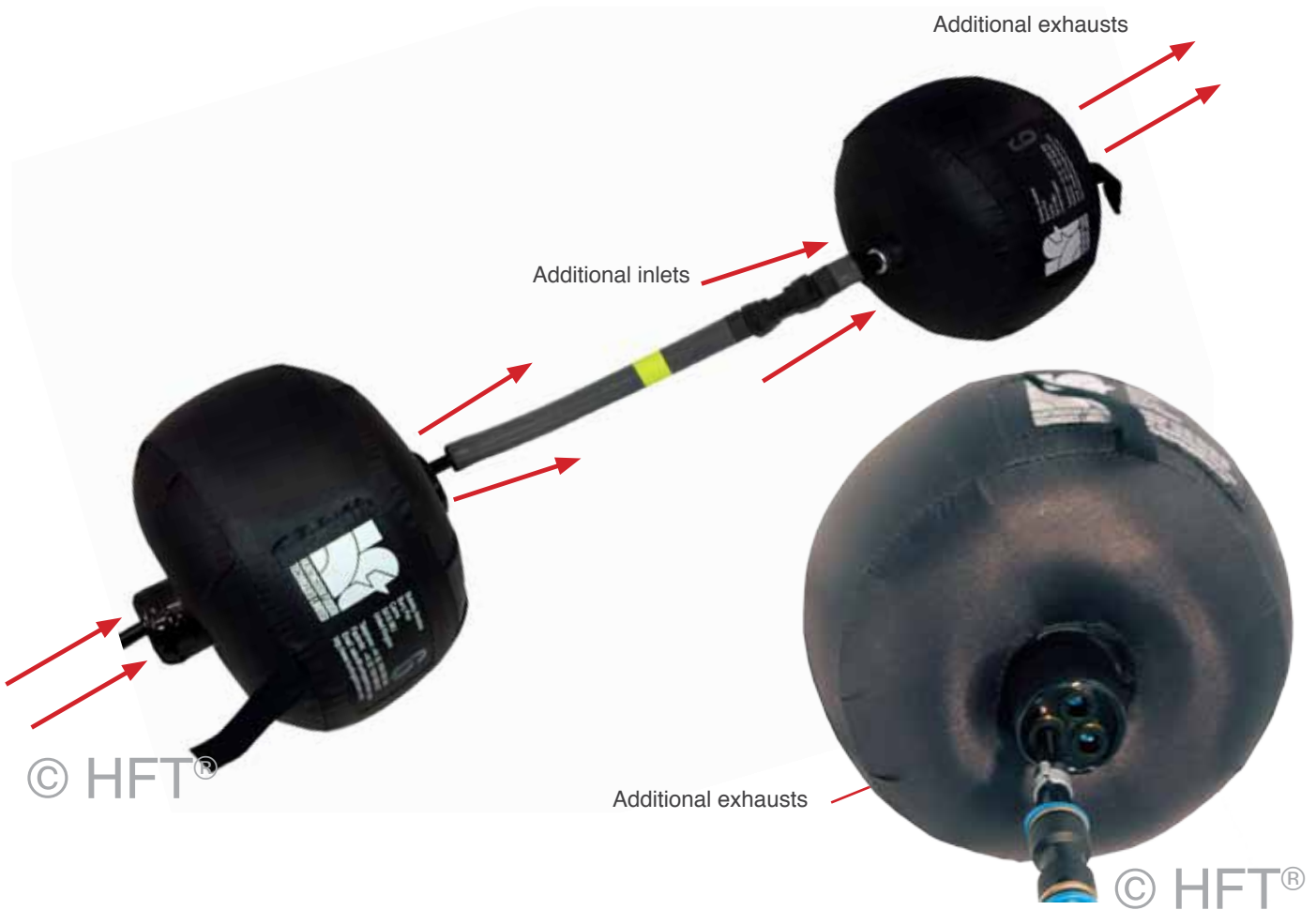
Use the proper tool for the job!

**A PURGELITE® SYSTEM
TO PURGE YOUR TUBES AND PIPES
THE 'ELITE' WAY!**

PurgExtra®

INFLATABLE PIPE WELD PURGING SYSTEMS

(addition to the PurgElite®)



In special cases such as with the welding of titanium tubing and piping, as well as 'zero colour' welds in stainless steel, it may be necessary to have extra inert purge gas being fed into the weld zone to keep away harmful vapours or gases.

The best systems devised for this are the Argweld® **PurgExtra® Inflatable Pipe Weld Purging Systems**. They are quick, reliable, easy to use and attractively priced. The volume to purge is kept small, resulting in significant savings in both time and cost of inert gas used.

The Argweld® PurgExtra® Inflatable Pipe Weld Purging Systems are based on a simple idea. It comprises two protected inflatable dams connected by a spinal tube. The tube carries inert gas to inflate the dams and the **IntaCal®** release valve to purge the space between them.

The Multiple inlet and exhaust ports with this series allows the extra inert weld purge gas to be fed into the weld zone, to capture any harmful gas atoms and/or molecules and then carry them through the extra exhaust ports.

The selected system is inserted into the bore of the pipe or tube to be welded with one dam either side of the weld joint.

The dams are inflated to form a seal, after which the primary purge gas flows through the IntaCal® purge valve and is then fed into the space between the dams expelling the air through the exhaust port.



Each extra inlet port and exhaust port is supplied with a blanking plug so that gas will not pass through if the port is unused

In the event that welding procedure calls for extra purge gas, the secondary gas supply can be introduced.

Once your Weld Purge Monitor® shows the purge level required, welding can then be carried out, the inert gas ensuring a clean even penetration bead.

Afterwards, the purge gas hose is disconnected and the dams are deflated allowing the PurgExtra® to be easily removed.

The uniquely designed IntaCal® requires one inlet for both dam inflation and introduction of the initial purge gas.

Compared to other methods purging titanium and other reactive metals, the Argweld® PurgExtra® Inflatable Pipe Weld Purging Systems has a number of distinct advantages leading to major cost savings and zero colour welds.

DISTINCT ADVANTAGES

- **Highly flexible spinal tube** to allow movement through tight bends and elbows.
- **Uses less inert gas** - The volume to be purged is localised. For a typical pipe run, the volume of gas used is less than 2% of that required for a conventional purge.
- **Faster** - The system is very quick and easy to install. It can be positioned accurately and the dams inflate instantly. The purging time is a fraction of that required to purge by conventional methods.
- **Easy to use** - The systems greatly simplify the process of inert gas purging. Training is minimal, leading to bright shiny welds very quickly.

Inflatable dams accommodate any variations in tube or pipe diameter and also fit all of the different schedules of pipe for that size. Thus eliminating the necessity of purchasing additional models for variations.

- **Improved quality of welds** - The process involved is highly reliable. It gives regular, controlled high quality results.

The additional purge gas inlets allow zero colour welds to be achieved on titanium, stainless steel, duplex steel and any other reactive metals or alloys.

- **Fast pay back** - The Argweld® PurgExtra® Inflatable Pipe Weld Purging Systems usually pays for itself in just one weld.

- **No scratching of polished surfaces** - Argweld® PurgExtra® Inflatable Pipe Weld Purge Systems have no metal parts to scratch the interiors of polished internal surfaces.

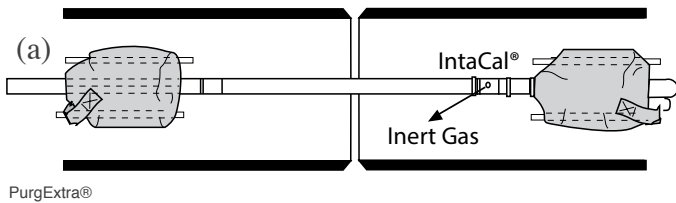
The Argweld® PurgExtra® Inflatable Pipe Weld Purging Systems are for tube and pipes 2 to 24" (50 to 600 mm).

The Argweld® PurgExtra® contains quick fit couplings complete with "o" ring for gas tight sealing and stainless steel collet to hold the tube mechanically tight. Now fitted with "Anti-Release" circlip to prevent parts accidentally separating inside the pipe.



SIMPLE STEPS FOR PERFECT RESULTS

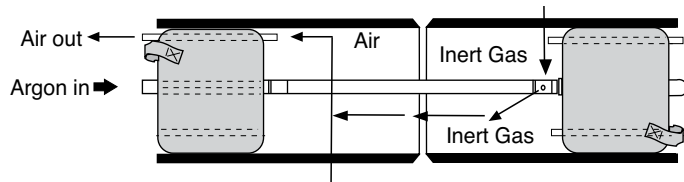
1. The Argweld® PurgExtra® Inflatable Pipe Weld Purging Systems is positioned using the nylon pull tags (a).



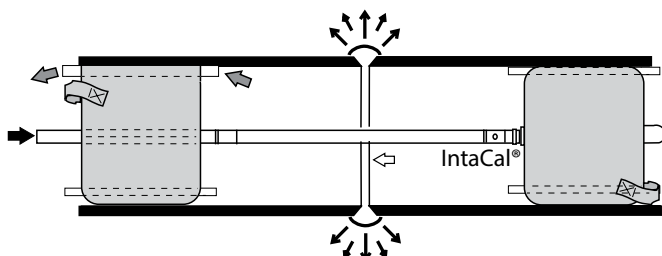
The PurgExtra® Systems have several additional gas inlets and outlets to provide extra flow rates for welding titanium or other highly reactive metals.

Excess argon flows through the IntaCal® valve.

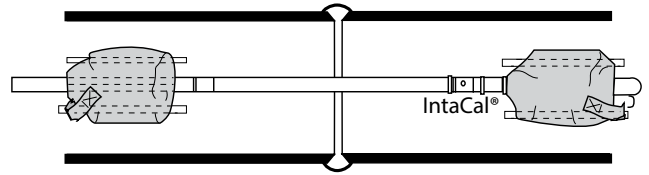
2. The Pipe Purge System is inflated using the inert gas supply. Once the Purge System is inflated, the pressure opens the purge valve, the air space is purged by the inert gas, displacing the air between the dams. At the required O₂ level, the joint is ready for welding.



Note: Outside of the joint will normally be taped when the joint design is not closed butt



3. During welding the flow rate of inert gas should be maintained to purge any oxygen released by the increasing temperature.



4. When the weld is completed and allowed to cool below oxidation temperature, the purge gas can be shut off (or closed), the purge system will deflate and then can be removed.

The connecting spinal tube can be shortened or lengthened to accommodate special requirements.



ANOTHER PERFECT PIPE WELD!

Do not use makeshift or homemade devices like cardboard dams or foam bungs. They contain a lot of water, water vapour and air, put your weld at risk and end up costing you more money.



**THE ARGWELD® PURGEYE®
FAMILY OF WELD PURGE MONITORS®**



PurgEye® 100 IP65 to indicate from 20.94% to 0.01% (100 ppm).



PurgEye® 300 fully programmable with data recording for 1000 to 10 ppm.



PurgEye® 200 IP65 new rechargeable battery powered measuring down to 10 ppm.



PurgEye® 500 like the 300 with an integral pump.



PurgEye® 600 fully computerised colour touch screen model with wireless USB download of recorded data from 1000 ppm down to 10 ppm.



PurgEye® 300 Nano low cost entry level model for 1000 to 10 ppm.



PurgEye® 1000 Remote Weld Purge Monitor®. The 10 ppm sensing head can monitor up to 1 km away.

QuickPurge®

TUBE, PIPE and PIPELINE WELD PURGING SYSTEMS



After a decade of manufacturing **QuickPurge®** Inflatable Tube and Pipe Purging Systems, Huntingdon Fusion Techniques HFT® launched the vastly improved QuickPurge® Mark III System.

This model has new innovations that place the design firmly ahead in the field of tube and pipe weld purging.

Developed specifically for high speed weld joint purging of pipes, tubes and vessels, the Argweld® QuickPurge® is already in use internationally.

QuickPurge® provides dramatic savings in time and volumes of inert gas giving a return on investment to be less than one weld.

Argweld® QuickPurge® is used for high quality, weld purging of reactive metal tube and pipe joints, as well as other cylindrical product joints, to ensure that zero colour welds are achieved.

INNOVATIONS INCLUDE:

- **IntaCal®** technology eliminates the old fashioned valve system and all of the presetting necessary, as well as helping to prevent the risk of over inflation.

- Typical purge times for the QuickPurge® System would be less than 3 minutes for a 12" ø joint and 8 minutes for a 36" ø joint, down to 0.1% oxygen and correspondingly faster for smaller diameters.
- **RootGlo®** positioning strip is a highly luminescent central band that allows the operator to position the QuickPurge® System quickly and accurately. The RootGlo® can be clearly seen through the weld root gap. RootGlo® absorbs enough energy during daylight hours to provide up to 20 hours of luminescence inside the joint.
- **PurgeGate®** is an addition to QuickPurge® III Systems that will prevent the inflatable dams from bursting due to excess pressure or flow.

HEALTH AND SAFETY:

Using QuickPurge® will avoid the filling of complete pipe systems with argon, reducing cost and obviating a risk to life, when releasing a pipe system full of argon at the end of a weld.

Key applications include weld purging of weld joints from 6" to 96" ø (150 to 2440 mm) in fields including refineries, mining operations, power stations, LNG terminals, compressor stations, LNG carriers, pipelines, biomass systems and all process industry joints in tubes, pipes and vessels.

FEATURES:

- QuickPurge® is manufactured from a heat resistant material so that the high temperatures at close proximity to the weld do not damage the devices.
- Leak tight quick fit coupling for purge / inflation hose are complete with “o” ring for gas tight sealing and stainless steel collet to hold the tube mechanically tight. Also fitted with “ anti-release” circlip to prevent parts accidentally separating inside the pipe.
- Light weight, allowing easy insertion, easy positioning and easy movement from joint to joint.
- Special attention has been paid to the selection of low vapour pressure materials to minimise outgassing in the purge space during welding, giving greater assurance of obtaining a clean, oxide free weld root.
- The unique design of the central sleeve dramatically reduces purge volumes.
- QuickPurge® Systems are ready to use with little set-up time.
- Perfect central alignment and weld root observation with the new RootGlo® centring band.
- There are no metal parts in the proximity of the weld ensuring that NDT examination is not disrupted and there is no scratching of internal pipe surfaces.
- The weld purge gas is dispersed evenly through IntaCal® to avoid turbulence in the purge space.
- Four pull straps are manufactured on each dam, which are multiple stitched with tough kevlar thread, each with a breaking strain of over 1000 lbs, enables easy manipulation around bends and fittings as well as in straight pipes.
- Friction free coatings are applied to allow easy movement through pipes from one joint to another.
- Lower operating costs, with gas and time savings.

OPERATION:

The system has a large diameter sleeve to reduce the volume to be purged and this connects to its two inflatable dams that isolate the purge volume.

Inside this sleeve is a black hose for inert purge gas entry, which is connected to the new IntaCal® system. There are no complicated valves to set.

There is an additional hose (blue) for auxiliary purging with extra inert gas, plus a **Weld Purge Monitor®** hose (red) that connects directly to any one of the **PurgeEye®** Weld Purge Monitors®.

Once inserted and positioned, the QuickPurge® System is inflated by the inert purge gas supply to seal the dam ends, after which the excess gas purges the interspace.

The two inflatable end dams seal the purge zone with gas tight seals to prevent any ingress of air during the root pass, the hot pass, right through to the end of any post weld heat treatment.

No contamination can reach the inside of the weld zone and it is highly unlikely that there can be any weld failures attributable to root oxidation.

QuickPurge® is the perfect choice for the golden welds, as well as all other welds in stainless, duplex, titanium and nickel alloy pipes.

When welding chrome steel and high strength stainless steel joints, our range of HotPurge™ is recommended due to the requirements for preheating and post heating (see separate literature for more information).



SPECIFICATION:

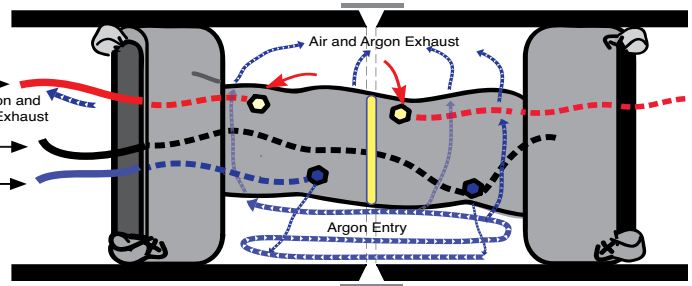
- Range from 6 up to 96" ø (150 to 2440 mm).
- Most sizes are kept in stock for immediate delivery.
- Rugged material, no outgassing, high temperature resistant and friction free to allow easy movement through pipes.
- Operating temperature 250°C (482°F) continuous use and up to 280°C (536°F) for short periods. (HotPurge™ Systems are recommended for use where temperatures could be as high as 760°C).
- RootGlo® central band will glow up to 20 hours after exposure to daylight.
- As standard, PurgeGate® is fitted to all systems and protects the inflatable dams from bursting due to over pressurisation. QuickPurge® is really the easiest ‘plug and play’ system available for tube, pipe, vessel and pipeline weld purging.
- Purge gas release system IntaCal® prevents complicated valve setting, ensuring the inert gas is dispersed evenly and helps eliminate over inflation of the dams.

Typical installation of a standard QuickPurge® System

Connect to Weld Purge Monitor®

"Argon inflation and purge"

"Auxiliary purge gas supply"



- = Exhausting Air
- = Purge Monitoring Exhaust
- = Argon Lines Input
- = Air and Argon Exhaust
- = Argon Entry
- = RootGlo® Positioning Device

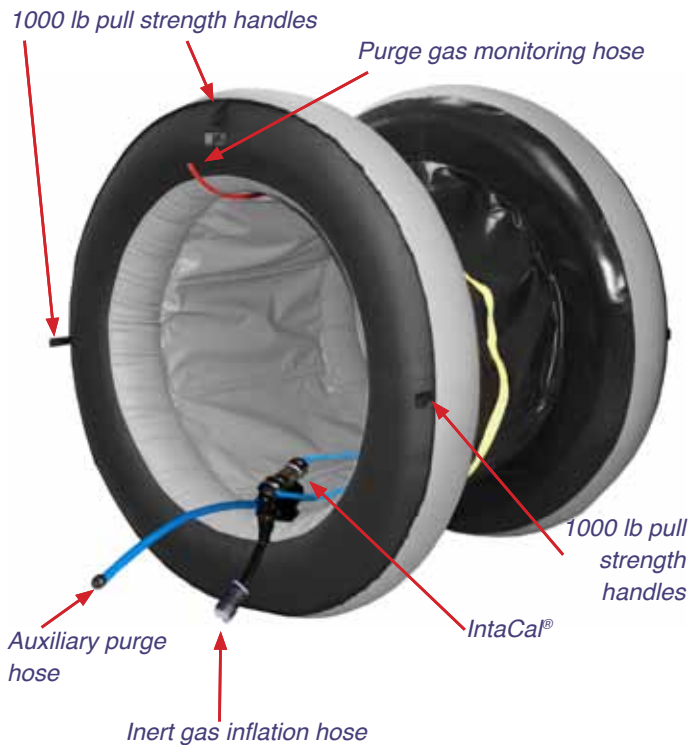
Sizes from as small as 6" ø (150 mm) to as large as 96" (2440 mm).



1. The QuickPurge® System is positioned using the pull straps.
2. It is inflated using the same inert gas source for purging.
3. Once the purging system is inflated and seals in the pipe, the air space is purged by the inert gas, displacing the air between the dams to the outside via the exhausts, until the oxygen reading on your Weld Purge Monitor® is low enough to commence welding.
4. During welding, the flow rate of inert gas should be maintained, to purge any unusual outgassing around the weld zone caused by increasing temperature.
5. When the weld is completed and allowed to cool below oxidation temperature, the purge gas hose can be disconnected.

The system then auto-deflates and is removed using the pull straps.

Do not use makeshift or homemade devices like cardboard dams or foam bungs. They contain a lot of water, water vapour and air, putting your weld at risk and end up costing you more money.



RootGlo® to position QuickPurge® in pipe



OTHER PURGING PRODUCTS:

HotPurge® Inflatable Pipe Weld Purging System for Heat Treated Chrome Steel Pipe Joints where the post weld heat treatment temperatures may be as high as 760°C (1400°F).



These high quality heat protected systems are suitable for the welding of chrome steel pipework such as P11, P22, P91, P92, CMV and high strength stainless steels.

Argweld® HotPurge® Systems are manufactured with a RootGlo® central luminescent band for easy positioning inside the pipe.

The welder can position these systems prior to preheating and leave them in place throughout the preheating, welding and post-heat treatment cycles, allowing the weld to be purged continuously for up to 24 hours.

These systems are the only heat resistant product of this kind.

PurgEye® 100 IP65 Weld Purge Monitor®



Before welding can begin, it is essential to know that the oxygen level at the weld zone has been reduced to an acceptably low level to achieve oxide free, zero colour welds.

The **PurgEye® 100 IP65** Weld Purge Monitor® is specifically designed to measure oxygen content down to 0.01% (100 parts per million ppm) with a high degree of accuracy.

The Weld Purge Monitor® was invented by Huntingdon Fusion Techniques HFT® in the 1970's and with over 40 years of innovation, design and manufacturing experience, the company now has a Family Range of PurgEye® Weld Purge Monitors® to measure oxygen levels from atmospheric content (20.94%) down to 10 ppm (0.001%) at which point no discolouration in welds should occur.

Please ask for further information about the PurgEye® 100 and other low cost PurgEye® Weld Purge Monitors® that will read down to 10 ppm as may be necessary for duplex and super duplex steels, titanium, zirconium and some stainless steel applications.

PurgElite® Inflatable Pipe Weld Purging Systems®

The Argweld® PurgElite® Inflatable Pipe Purging Systems® are a twin dam system for creating a small purge volume in all tubes, pipes and fittings from 1 up to 24" ø.

The systems isolate a 10" length either side of the weld and allow quality, fast purging of the interspace and easy removal afterwards.



HotPurge®

Inflatable Pipe Weld Purging Systems for Heat Treated Chrome Steel Pipe Joints



INTRODUCTION:

A wide range of high strength steels containing chromium, vanadium and molybdenum as alloying elements (generally referred to as CMV steels) is prone to cracking during welding.

The crack tendency can be reduced by a combination of preheat and post weld heating since this prevents steep temperature excursions and the formation of brittle and undesirable intermetallic phases.

Pre- and post-weld heating is required to prevent cracking of many ferritic and martensitic steels.

Ferritic stainless steels have a chromium content in the range of 11-28% and commonly used in alloys including the 430 and 407 grades. These alloys exhibit poor heat affected zone (HAZ) toughness and preheating will reduce the HAZ cooling rate, maintain the weld metal above the ductile-brittle transition temperature and may reduce residual stresses. Preheat temperature should be within the range 50-250 °C depending on material composition.

The most common martensitic alloys e.g. type 410, have a moderate chromium content of 12-18% and this type of stainless steel is very prone to hydrogen cracking. The risk of cracking can be reduced by preheating to between 200 and 300°C and by carrying out post-weld heat treatment, typically at 650-750°C.

HotPurge® Inflatable Pipe Weld Purging Systems for Heat Treated Chrome Steel Pipe Joints have been developed so that preheating, welding and post-weld heat treatment (PWHT) can be carried out with the purge system in place.

The systems are suitable for use where temperatures may exceed 760°C (1400°F) for up to 24 hours.

KEY FEATURES:

HotPurge® is now fitted with **PurgeGate®** which guarantees that the systems will never burst due to over inflation.

Each system incorporates RootGlo®, a band around the centre, for positioning purposes, which will glow up to 20 hours inside the pipe after only 10 minutes exposure to light.

IntaCal® technology eliminates complicated valves and valve setting procedures.

The Inflatable Dams provide an excellent leak tight seal at both ends of the purge zone.

Each system is manufactured to meet a specified internal diameter and has an expansion range of ± 12 mm.

All purging systems are re-usable.

AVAILABLE SIZES:

The Argweld® **HotPurge®** Systems are available in sizes from 6 to 96" (150 - 2440 mm).

OPERATION:

The system is connected to an inert gas supply and inserted into the pipe to be welded.

The two inflatable dams are connected by an extra long sleeve so that they sit at the outer edge of the zone being heat treated.

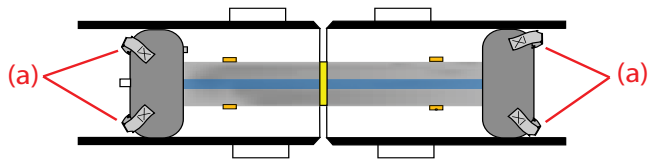
After positioning the system the argon source is opened, the dams inflate to size and the interspace is purged.

The purge will remain on during preheat, welding and post weld heat treatment.

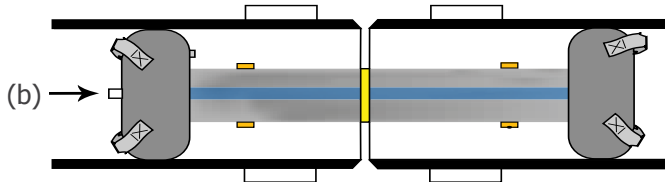
Do not use makeshift or homemade devices like cardboard dams or foam bungs. They contain a lot of water, water vapour and air, putting your weld at risk and end up costing you more money. Use the proper tools for the job!

FIVE SIMPLE STEPS FOR PERFECT RESULTS, EVERY TIME:

1. The Argweld® **HotPurge**® is positioned using the heat resistant pull tags (a).

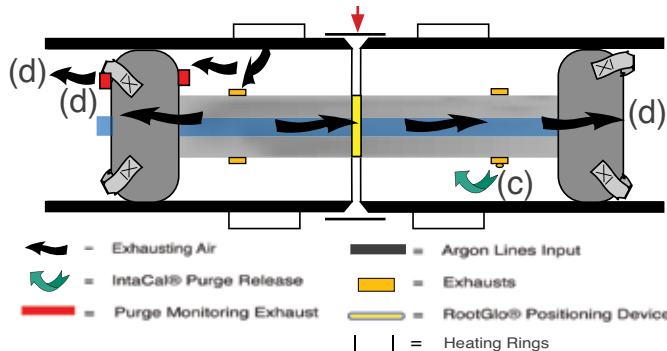


2. The **HotPurge**™ is inflated using the inert gas supply (b).

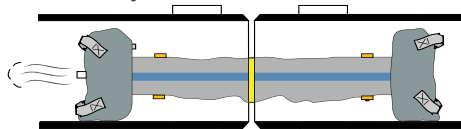


3. Once the Argweld® **HotPurge**® is inflated, the pressure opens the purge valve (c), the air space is purged by the inert gas, displacing the air between the dams to the outside (d). At the required oxygen level, the joint is ready for welding.

Joint gap normally taped for purging and removed inch by inch during root welding.



4. During welding an appropriate flow rate of inert gas should be maintained.
5. When the weld is completed and the pwht cycle has finished, the pipe should be allowed to cool below its oxidation temperature at which point the purge gas supply can be closed. Disconnect the hose to deflate the system, which can then be removed.



Another perfect pipe weld!

Argweld® PurgEye® 100 IP65 Weld Purge Monitor®

Before welding can begin using an inert gas, it is essential to know that the oxygen level at the weld area has been reduced to a satisfactorily low level.

The **PurgEye**® 100 IP65 is specifically designed to measure oxygen content in weld purge gas down to 0.01%. For alloy steels an oxygen content below 0.01% is normally considered suitable to ensure that there is no oxidation of the weld.

The waiting time is dramatically reduced and by watching the Weld Purge Monitor® it will ensure that no oxygen has entered the weld zone while the metal is still hot.

Measure the oxygen content of the purged volume reliably and accurately.



Also use PurgEye®100 IP65 to measure your inert gas supplies to ensure that they are to the purity that has been ordered.

Weld Purge Dams

INFLATABLE TUBE and PIPE PURGING SYSTEMS



© HFT®

Huntingdon Fusion Techniques HFT® design and manufacture a range of Inflatable Weld Purge Dams for closure welds, T piece joints and dome end connections, where a conventional Tandem Purge System cannot be used.

Each Weld Purge Dam provides an excellent grip in the pipe with an effective all-round seal.

Manufactured for pipe diameters from 6 – 96 inch (150 mm up to 2,440 mm).

The Weld Purge Dams are heat resistant up to 90°C (194°F).

Each Weld Purge Dam is easy to inflate using the purge gas. Once the Dam is inflated and seals all around the internal circumference of the pipe, the excess purge gas spills out and purges the space around the weld joint, which then pushes the air out into the open atmosphere.

Each Weld Purge Dam is equipped with a purge / inflation hose (black), an extra purge gas hose (blue) as well as an exhaust for connecting a Weld Purge Monitor® (red).

Four pull tags are located around the circumference of the Weld Purge Dam.

It is not always practical to use a complete Argweld® Inflatable Tandem Purge System, so these easy to insert and easy to use stoppers, made from the correct materials for weld purging, are much more suitable.

These simple to use Weld Purge Dams can be purchased for any diameter within their manufacturing range and can be used in connection with other styles or sizes of dams elsewhere within the piping system.

Now there is no more reason to put welds at risk by using cheaper materials, when for a very low cost, Argweld® Inflatable Weld Purge Dams can be purchased instead.

USE AN ENGINEERED SOLUTION AND ELIMINATE:

- Weld coking.
- Oxidation.
- Weld root contamination.
- Weld cut-outs.
- Loss of corrosion resistance.
- Other issues that might occur as a result of using plastic, foam or other unsuitable materials that can release massive amounts of air, oxygen, hydrogen, carbon, gasses and water into the weld zone during the welding process.



Apart from the benefit of having a metallurgically sound weld, the difficulties of cleaning an oxidised weld are eliminated, saving vast amounts of money in labour and material costs as well as the disposal costs where acids are concerned.

OTHER HFT® PRODUCTS:

Argweld® Inflatable Tube, Pipe and Pipeline Weld Purging Systems.



PurgeElite® Inflatable Tube and Pipe Weld Purge Systems simplify the process of inert gas purging and are quick and easy to install.



PurgeExtra™ Systems have an extra purge gas input facility, which can be used for obtaining zero colour welds and for assisting in reaching interpass temperature specifications. The extra gas will also ensure that there is no loss of corrosion resistance because of oxidation.

PurgeGate® valve designed to fit **PurgeElite®** and **PurgeExtra™** as well as any other similar devices to prevent the dams from bursting due to over inflation. Available as an optional accessory.



QuickPurge® 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.



HotPurge® Inflatable Pipe Weld Purging Systems for Heat Treated Chrome Steel Pipe Joints where the post weld heat treatment temperatures may be as high as 760°C (1400°F).

Argon Gas Feed Hose and Fittings



Huntingdon Fusion Techniques HFT® now manufactures tailor made Argon Gas Feed Hoses complete with end fittings to attach immediately to the Argweld® Range of Tube and Pipe Weld Purging Systems: PurgElite®, PurgExtra™, QuickPurge®, HotPurge®.

These high quality hoses can be supplied to all other TIG/ GTAW welders, with their own special fittings as required.

This special, high quality Argon Gas Feed Hose, complete with leak tight end fittings, provides end users with a guaranteed method to feed non contaminated argon gas to a weld zone.

Argon Gas Feed Hose is available off the shelf complete with end fittings in a standard range of lengths, 30 m, 25 m, 15 m, 20 m, 10 m and 5 m.

Quality components are provided for attaching the hose to an argon gas regulator at one end and a selection of fittings for the other end. Specific fittings are available on request.

With our new high speed crimping machinery, we can tailor make your hoses to suit specific requirements, selecting from the range of fittings. If no option is given then we will fit a 12 mm to 12 mm adaptor as standard.

All of these high quality fittings will obviate any connection difficulties you might have on site, saving valuable hours in some cases while trying to source that special item that you need.

When you receive your hose, these connections and our crimping machinery will ensure that you have a leak tight product that puts you into action immediately.

Within the family range of Argweld® Purging Products, Argon Feed Hose Assemblies and Fittings are available from Huntingdon Fusion Techniques HFT®. All of our products are made to a high quality and standard and are the best quality available for argon gas use.

MAIN FEATURES:

- No leaks and no dirty welds because of leaks.
- The Gas Feed Hose is manufactured for use within a temperature range from -30°C up to +80°C and conforms to BS EN 559.
- The safety factor of the Argon Gas Feed Hose is 3 times working pressure, 20 bar (300 psi).
- Each hose has a smooth black natural rubber finish. Natural rubber has mechanical properties making it particularly appreciated in environments subject to heavy wear due to friction.
- Argon Gas Feed Hose fittings also suit all Weld Purge Systems.
- Use only top quality to feed your argon gas.



OTHER HFT® PRODUCTS:

HFT® manufactures other products for Tube and Pipe Weld Purging, including **QuickPurge®**, **HotPurge®**, **PurgElite®** and **PurgExtra™** Systems.

They are designed to purge the contaminating gasses such as oxygen, nitrogen and water vapour etc, from the rear of the weld.

This eliminates possible reject at worst and at best the post weld cleaning of the weld root, saving significant amounts of money in labour and material costs, as well as the disposal costs where acids are concerned, ensuring you achieve a oxide free, zero colour weld.

Many companies are still fabricating their own home made purging systems made of foam, cardboard, adhesive tape, wood and so on. Like paper, these materials contain a high percentage of water and water is very undesirable to have in the presence of a weld.

It is very cost effective to change to Argweld® Purging Systems where you will pay for the purging products in only one weld and start to save your company money immediately afterwards.



QuickPurge®

Inflatable Tube, Pipe and Pipeline Weld Purge Systems.



HotPurge®

Inflatable Pipe Weld Purging Systems for Heat Treated Chrome Steel Pipe Joints where the post weld heat treatment temperatures may be as high as 760°C (1400°F).



PurgEye® 100 IP65 Weld Purge Monitor®.

Argweld®

Heat Resistant Covers

For Inflatable Tube and Pipe Purging Systems

PurgElite® and **PurgExtra®**

and other similar models



© HFT®

INTRODUCTION:

Now that the popularity of the **PurgElite®** and the

PurgExtra® Systems has been established, we have released Heat Resistant Covers as accessories, to protect the systems for applications where the temperature of the metal near the dams is likely to exceed 80°C (176°F).

Argweld® Heat Resistant Covers are designed to prevent damage to the PurgElite® and PurgExtra™ Inflatable Tube and Pipe Purging Systems, in particular when they are exposed to temperatures of up to 300°C (572°F).

These specially designed Heat Resistant Covers can endure such high temperatures, which protects the inflatable dams, preventing them being damaged or bursting.

These Heat Resistant Covers provide a simple, low cost solution to help to make the cleanest, non-oxidised, zero colour welds.

Like the purging systems, the Heat Resistant Covers are reusable time and time again, without losing their heat protecting properties.

The HFT® HotPurge® Systems are very popular for heat-treated pipework, however it is not possible to manufacture this design for diameters below 6", which is one reason for providing Heat Resistant Covers for the PurgElite® and PurgExtra® Systems.

The Heat Resistant Covers are usually provided as pairs, although they can be purchased individually in case of damage or loss.

MAIN FEATURES:

- The Heat Resistant Covers have a temperature resistance up to 300°C (572°F).
- They are available for PurgElite® and PurgExtra™ Systems, sizes ranging from 1 to 24" (25 to 600 mm).
- Ties on each Heat Resistant Cover ensure they are held securely to the Inflatable Tube and Pipe Purging System.
- Holes are designed and manufactured on each Heat Resistant Cover for the PurgElite® and PurgExtra™ fittings, such as inlet, exhaust, Weld Purge Monitor® connection and crimped end.
- The Heat Resistant Covers are sold as a set of two, however individual ones can be purchased if necessary.
- Heat Resistant Covers can also be manufactured for any other make of Inflatable Tube and Pipe Purging System.
- PurgElite® and PurgExtra® Systems can be manufactured with longer spinal hoses, so that the dams sit further to the outside of the heat treated zone, where the temperature has cooled sufficiently to suit the dams and any heat protecting material used.



OTHER HFT® PRODUCTS:

HFT® manufactures other products for tube and pipe welding, including **QuickPurge®**, **HotPurge®**, **PurgElite®** and **PurgExtra®** Systems.

They are designed to purge the contaminating gasses such as oxygen, nitrogen and water vapour etc, from the rear of the weld.

This eliminates possible reject at worst and at best the post weld cleaning of the weld root, saving significant amounts of money in labour and material costs, as well as the disposal costs where acids are concerned.

Many companies are still fabricating their own home made purging systems made of foam, cardboard, adhesive tape, wood and so on. Like paper these materials contain a high percentage of water and water is very undesirable to have in the presence of a weld.

It is very cost effective to change to Argweld® Purging Systems where you will pay for the purging products in only one weld and start to save your company money immediately afterwards.



QuickPurge®

Inflatable Tube, Pipe and Pipeline Weld Purge Systems



HotPurge®

Inflatable Pipe Weld Purging Systems for Heat Treated Chrome Steel Pipe Joints where the post weld heat treatment temperatures may be as high as 760°C (1400°F).



PurgEye® 100 IP 65 Weld Purge Monitor®.

PurgeGate® for PurgElite®, PurgExtra®

and other Inflatable Tube and Pipe Weld Purge Systems



The PurgeGate® Valve is designed to fit onto HFT®'s PurgElite® and PurgExtra® Inflatable Tube and Pipe Weld Purging Systems as well as any other similar devices to prevent the dams bursting due to over inflation.

Inflatable Tube and Pipe Weld Purging Systems are at risk of overinflating during the weld purging process due to unwanted manipulation of gas pressure and flow settings.

PurgeGate® Valves will prevent unwanted and undesirable changes from causing weld failure due to lost purge as a result of dam burst.

These fit all system sizes and can be moved from system to system as the weld size is changed.

The PurgeGate® is fitted as standard onto the range of QuickPurge® and HotPurge® Tube and Pipe Purging Systems.

OVERVIEW:

The PurgeGate® Valve System can be used with the PurgElite® and PurgExtra® Systems as well as any other manufacturers' versions of Inflatable Tube and Pipe Purging Systems to eliminate the risk of over-pressurising the pipe purging systems.

The valve system can fit all system sizes (1" to 96") and can be moved from system to system.



KEY FEATURES:

- PurgeGate® regulates the gas flow during purging to prevent the Inflatable Tube and Pipe Purging Systems from over inflating.
- Fitted as standard to QuickPurge® and HotPurge® (PurgeGate® II).
- An accessory to be purchased separately for PurgElite® and PurgExtra® as well as for any other type of Inflatable Tube and Pipe Purging Systems.
- They can be purchased individually.
- Easy push fit connection.
- Simply plug and play.
- They fit all system sizes (1" to 96").
- The PurgeGate® Valve is reusable and can easily be moved from system to system.
- The PurgeGate® Valve is not suitable for Inflatable Stoppers.
- It is important to connect the PurgeGate® in the correct direction with the arrow shown, pointing in the direction of the purge gas flow.



Argweld® PurgExtra® Systems have an extra purge gas input facility, which can be used for obtaining zero colour welds and for assisting in reaching interpass temperature specifications. The extra gas will also ensure that there is no loss of corrosion resistance because of oxidation.



Argweld® QuickPurge® 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.

OTHER HFT® PRODUCTS:

Argweld® Inflatable Tube, Pipe and Pipeline Weld Purging Systems.



Argweld® PurgElite® Inflatable Tube and Pipe Weld Purge Systems simplify the process of inert gas purging and are quick and easy to install.



The **Argweld® HotPurge®** Inflatable Pipe Weld Purging Systems for Heat Treated Chrome Steel Pipe Joints where the post weld heat treatment temperatures may be as high as 760°C (1400°F).

Water Soluble Weld Purge Film™



For the manufacture of pipe purging dams, Argweld® **Water Soluble Weld Purge Film™** and Argweld® **Super Weld Purge Adhesive™** is an easy and cost effective solution.

The use of water soluble film for manufacture of purging dams is well proven and the Argweld® **Water Soluble Weld Purge Film™** gives superior results over all other water soluble products. It can be used for stainless, duplex and chrome-moly steels as well as titanium.

The Argweld® **Water Soluble Weld Purge Film™** and Argweld® **Super Weld Purge Adhesive™** material makes dams which produce an impenetrable purge barrier but which can easily be washed away when hydrostatically testing the pipe or just by normal wash out.

It dissolves away completely without leaving any fibres to clog up filters or other sensitive parts in a system and it is strong in all directions so that it can maintain a good gas barrier throughout the purging process.

Trace element certification can be provided to show that Argweld® **Water Soluble Weld Purge Film™** does not contain any harmful elements and that the quantity of halides is well below the permissible levels. The film and adhesive are completely biodegradable and all packaging materials are recyclable.

APPLICATIONS

- Where Mechanical Purging Devices cannot be retrieved.
- See the weld root clearly by using Argweld® **Water Soluble Weld Purge Film™**.
- Argweld® **Water Soluble Weld Purge Film™** can be used up to 300°C (572°F) without the material burning and losing the weld purge.
- Make tough impenetrable weld purge dams with Argweld® **Water Soluble Weld Purge Film™** and Argweld® **Water Soluble Super Adhesive™**.
- No more dams coming loose and lost purge gas during welding.
- Approved for use in nuclear environments.
- Significantly lower priced than other water soluble materials.
- The Argweld® **Water Soluble Weld Purge Film™** has been designed and developed by Huntingdon Fusion Techniques HFT® as a complete kit.
- Each kit is supplied ready for use containing 20 square meters (215 square feet) of Argweld® **Water Soluble Weld Purge Film™**, two bottles of Argweld® **Super Weld Purge Adhesive™**, a Safety Knife for cutting out the dams and a user instruction manual.

A video presentation giving instructions on 'how to use' is also available.

OTHER PURGING PRODUCTS

PurgElite® Inflatable Tube and Pipe Weld Purging Systems

The Argweld® **Inflatable Tube and Pipe Weld Purging Systems™** are a twin dam system for creating a purge area in all pipe and fitting sizes of 25 - 2.000 mm (1-12") diameter.

The systems isolate a 10" length either side of the weld and allow quality, fast purging of the interspace and easy withdrawal afterwards.



Argweld® Quick Purge® Inflatable Pipeline and Pipe Weld Purging Systems

The Argweld® **Inflatable Tube and Pipe Weld Purging Systems™** are a twin dam system for creating a purge area in all pipe and fitting sizes of 150 - 2440 mm (6-96") diameter.

Argweld® Flexible Welding Enclosures®

The Argweld® range of **Flexible Welding Enclosures®** has been designed for the applications where a rigid chamber may not be economically viable.

Typical applications include the occasional and production welding of titanium components for the aerospace, medical and racing car industries and for the welding of stainless steel components to eliminate the expensive cleaning of oxide discolouration.

Apart from the standard models, special enclosures can be designed and manufactured very quickly to suit all applications. Experience is available for nuclear and chemical industry applications for the handling of a wide range of products and materials.



Argweld® PurgEye® 100 IP65 Dustproof and Waterproof Weld Purge Monitors®

The **PurgEye® 100 IP65 Weld Purge Monitor®** measures the oxygen percentage content in the purge gas and indicates when welding can be carried out. This saves dramatically on waiting time and ensures that no oxygen can enter the weld zone while the metal is still hot.

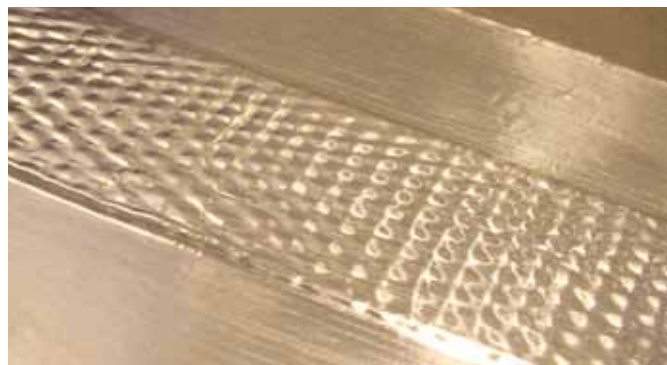
Weld Backing Tape™ & Weld Purge Tape™



© HFT®

To reduce 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.

Huntingdon Fusion Techniques HFT®, manufactures three grades of backing tape, suitable for different weld current levels.



Picture above: a close up shot of the 25 mm wide glass fibre matting affixed to the 75 mm wide adhesive aluminium tape, applied so that no air pockets are trapped underneath the foil.

A light duty grade for welding up to 80 Amps, a medium current version for welding up to 160 Amps and a heavy duty grade for welding up to 240 Amps.

KEY ADVANTAGES

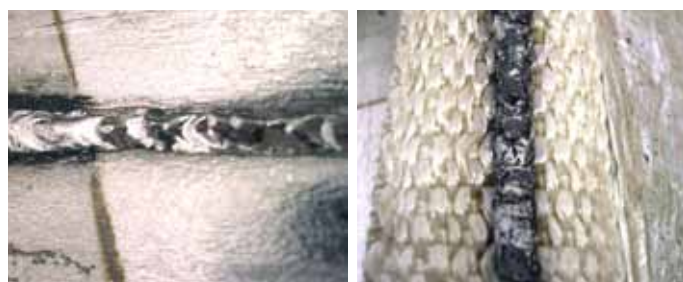
- 1.5 mm (1/16") thick fibre glass band.
- Typical for welding up to 80 amps with TIG/GTAW.
- Can be used with any arc welding process.
- Weld is cast flat onto the fibre band leaving a smooth, coke free surface.
- Welding can be carried out by operatives with lower skill levels.
- The amount of weld root grinding and cleaning is minimised, giving a significant financial saving.
- Allows faster welding thus saving more time and money. Other advantages will be highlighted later in this leaflet
- Tape rolled up and delivered in a multilingual labelled box complete with user instructions

ABT0004 - LIGHT DUTY TAPE

Available in pre-cut 25 metre lengths. The light duty backing tape with its weave thickness of 1.5 mm (0.06"), will aid in the production of a flat weld underbead with minimum oxidation and porosity. The use of Argweld® **Weld Backing Tape™** will also eliminate weld coking, drop through and icicles, sugaring and is allowing for faster welding. Welding can be carried out by lower skilled labour and result in a valuable reduction in post production cleaning and pickling.



Close-up of the weld bead achieved with Light Duty Weld Backing Tape. 8 mm Plate, 3 mm Root Gap, Manual TIG Process at: 90 Amps, 25 V



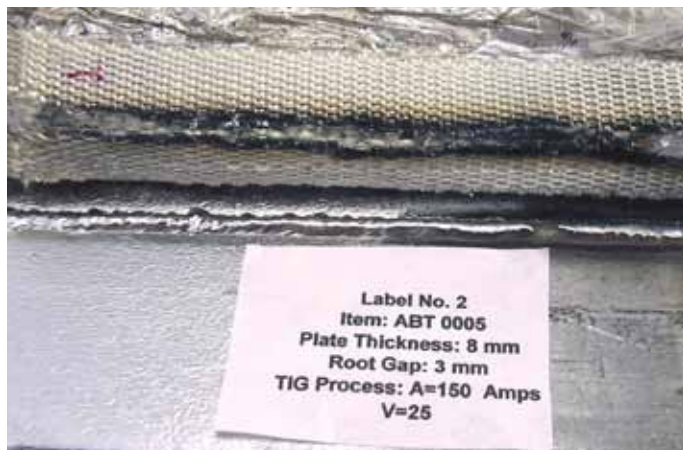
Close-up of the Argweld® Light Duty Weld Tape after one weld at: 90 Amps, 25 V

TYPICAL APPLICATIONS:

- Suitable for light duty stainless steel fabrication up to 80 Amps.
- Typical customers are pipework fabricators for the dairy, brewery and pharmaceutical industries.
- Using flat sheet metal, as well as cylindrical structures nominally up to 1.6 mm thick.

ABT0005 - MEDIUM DUTY TAPE

Available in pre-cut 12.5 metre lengths. The medium duty backing tape with its weave thickness of 2.5 mm (0.098") ,allows for welding up to 160 amps with any arc process, while obtaining faster welding with lower skilled labour. Producing a flat weld underbead minimises oxidation and porosity and eliminates weld coking drop through and icicles.



Close-up of the weld bead achieved with Medium Duty Weld Backing Tape. 8 mm Plate, 3 mm Root Gap, TIG Process at: 150 Amps, 25 V



Close-up of the Argweld® Medium Duty Weld Tape

TYPICAL APPLICATIONS:

- Suitable for medium duty stainless steel fabrication up to 160 Amps in the dairy industry, using flat sheet metal, as well as cylindrical structures nominally up to 2.4 mm thick, pipework fabricators for the pharmaceutical, petrochemical industry and vessel manufacturers.

ABT0006 - HEAVY DUTY TAPE

Available in pre-cut 12.5 metre lengths. The heavy duty backing tape with its weave thickness of 3.0 mm (0.120"), allows for welding up to 240 amps with any arc process, while obtaining faster welding with lower skilled labour. This produces a flat weld underbead which minimises oxidation and porosity, thus eliminating weld coking and drop through. Additional benefits are the reduction of post production cleaning and pickling costs.



Close-up of the weld bead achieved with Heavy Duty Weld Backing Tape. 8 mm Plate, 3 mm Root Gap, TIG Process at: 250 Amps, 25 V



Close-up of a finished weld

TYPICAL APPLICATIONS:

- Suitable for heavy duty welding applications, such as welding of plate in the shipbuilding and ship repair industries.
- Also for use with boilers, heat exchangers and pipelines.
- It helps to produce flat, coke free underbead and reduce weld purge requirements.

ABT0003 - ARGWELD® WELD PURGE ALUMINIUM TAPE™ ONLY WITHOUT GLASS WOVEN SUPPORT

Available roll length is 45 metres (144 ft). Comprising 50 mm (2") wide adhesive heat resistant Argweld® **Weld Purge Aluminium Tape™**.

Ideal for use as weld joint tape to prevent purge gas from escaping through open root weld joint fit-up prior to welding.

Contact HFT® for special procedure to seal weld gap without adhesive touching the adjacent metal.



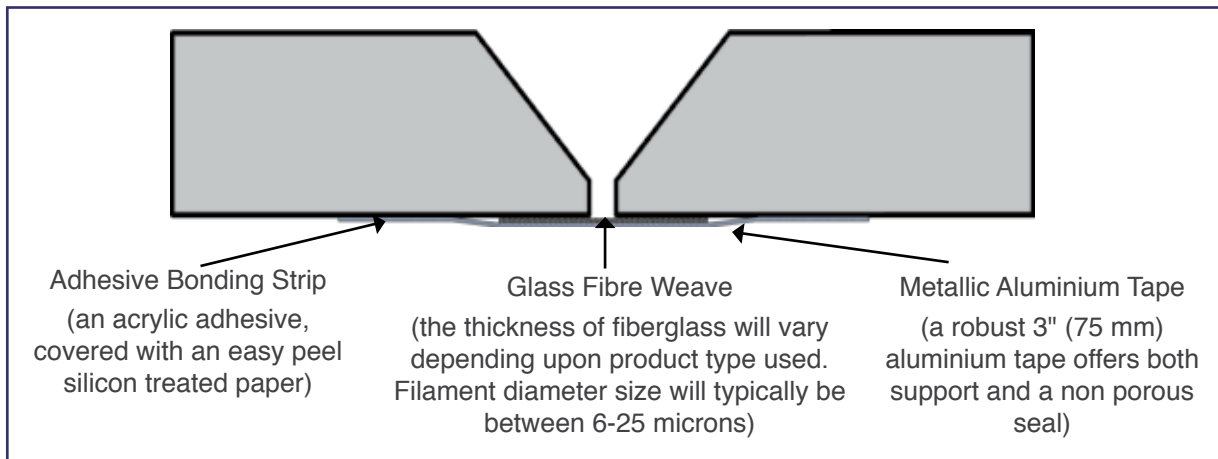
Close-up of Weld Purge Tape™



0.5 mm thickness

APPLYING THE BACKING TAPE:

The following illustration is a typical profile, showing the correct application of the Argweld® **Weld Backing Tape™**.



Step 1: Simply stick the tape onto the pre-cleaned weld joint area.



Step 3: Remove the tape to see a flat, well formed bead

ADDITIONAL / SUPPORTING LITERATURE:

As with all of our other products we also have for the Argweld® **Weld Backing Tape™**:

- A material safety data sheet
- An application guide
- Training poster
- User list
- Technical papers (as published in The Fabricator and Welding & Cutting)

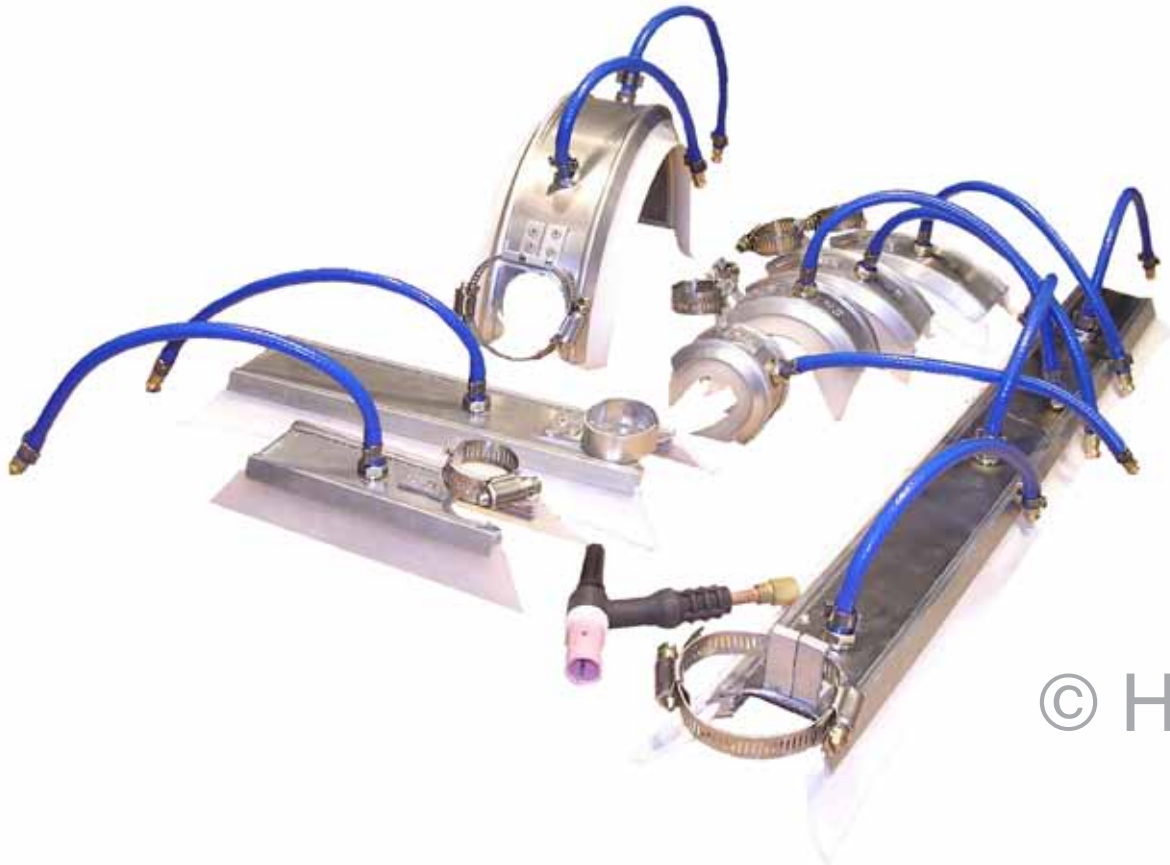
All are available at request. Sample packs are available by contacting HFT® with a description of your application. The sample pack contains a small trial strip of each grade of **Weld Backing Tape™**.



*Step 2: Weld onto the Argweld® **Purge Tape™***

Weld Trailing Shields®

for Titanium and Stainless Steel Welding



© HFT®

Argweld® **Weld Trailing Shields®** are designed for high quality gas coverage of titanium and stainless steel during welding to prevent oxidation and weld defects.

They will fit any make of TIG (GTAW) or plasma (PAW) welding torch for manual or automatic welding, on flat sheet or plate and the outsides or insides of tubes or pipes.

For pipes and vessels the radiused versions are o.d. welding are manufactured to suit all diameters from 1 inch and upwards.

By using an Argweld® Weld Trailing Shield® welds will be left bright and shiny and eliminate discolouration and oxidation.

Argweld® Weld Trailing Shields® will reduce gas consumption, save re-work and eliminate wasted material costs due to oxidation and weld defects.

Argweld® Weld Trailing Shields® can be used for welding stainless steels, duplexes as well as titanium and any other weldable metal where discolouration or oxidation needs to be eliminated.

The radiused models are provided to suit the exact diameter of pipe or vessel being welded.

User Quotes:

“Easier to use than you would think”.

“The best advantage is that it keeps the weld torch 90° to the weld pool”.

WELD TRAILING SHIELDS® for AUTOMATIC WELDING TORCHES



Huntingdon Fusion Techniques HFT®, manufactures Trailing Shields® for Automatic TIG (GTAW) and plasma (PAW) welding applications, as well as for manual welding torches.

The Trailing Shields® for automatic welding applications are longer and wider than those for manual welding. They have additional gas hoses for extra gas shielding necessary for the faster welding speeds encountered with automatic welding techniques.

Special widths and lengths are available on request.



The picture above shows a typical radiused Trailing Shield® for the internal manual welding of pipes and vessels on the left.

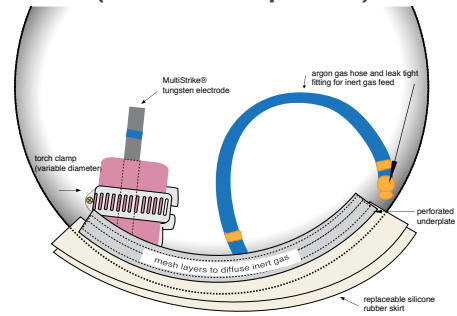
The channels in which the replaceable silicone gasket are located, can be clearly seen.

On the right is a Trailing Shield® for an automatic welding torch to weld outside diameters of pipes and vessels, showing the multiple shield gas hoses.

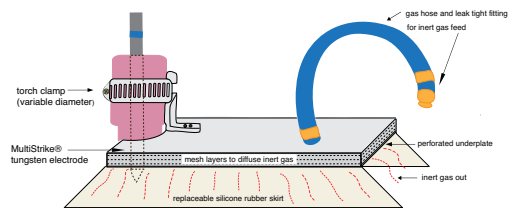
All shield gas hoses are fitted with non return valves so that the gas supply is isolated as soon as the trailing shields are unplugged from the gas supply.

The silicone rubber gaskets, wear, burn and become brittle during use (you will need to replace the gaskets from time to time). They are available either prefabricated to length or as continuous strip available by the metre length. These are regarded as a consumable.

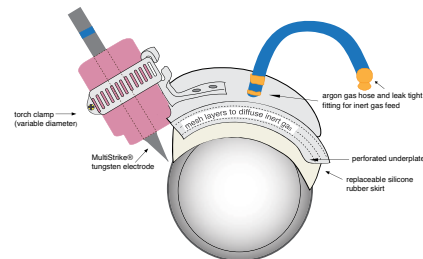
TYPICAL I.D. RADIUS TRAILING SHIELD® APPLICATION (from 4" i.d. upwards)



TYPICAL FLAT TRAILING SHIELD® APPLICATION



TYPICAL O.D. RADIUS TRAILING SHIELD® APPLICATION (from 1" o.d. upwards)



Argweld® Flexible Welding Enclosures®

The Argweld® range of Flexible Welding Enclosures® has been designed for applications where a rigid chamber may not be economically viable or where space may be at a premium.

Typical applications include the occasional and production welding of titanium and nickel alloy components for the aerospace, medical and sports vehicle industries and for the welding of stainless steel components to eliminate the expensive cleaning of discolouration.

Flexible Welding Enclosures®



HUNTINGDON FUSION
TECHNIQUES ■ HFT



The Argweld® range of **Flexible Welding Enclosures®** has been designed for applications where a rigid chamber may not be economically viable or where space may be at a premium.

Typical applications include the occasional and production welding of titanium and nickel alloy components for the aerospace, medical and racing car industries and for the welding of stainless steel components to eliminate the expensive cleaning of discolouration.

Apart from the standard models, special enclosures are designed and manufactured to suit all applications. Experience is available of nuclear and chemical industry applications for the handling of a wide range of products and materials, as well as in the pipeline industry with clam shell models to fit on and off pipes.

STANDARD ENCLOSURES (MM)

Diameter:	920	1200	1530	1830
Side Height:	450	550	550	550
Overall Height:	550	800	800	800
Top Panel:	200	450	450	450



SPECIFICATION

- Each enclosure contains an argon entry port and an exhaust valve to vent displaced gas to atmosphere.
- Two pairs of sleeves and gloves are fitted to each enclosure and the glove ports are fitted with drawstrings to prevent the gloves and sleeves from blowing out and helping to reduce the risk of damage by passing out objects or people.
- The vertical sides of the enclosure are made from translucent plastic, while the top is constructed from an optically clear plastic to provide total visibility.
- The plastic used for Argweld® Flexible Welding Enclosures® is resistant against ultraviolet hardening and damage.
- A standard entry zip is provided together with a service panel having feed-throughs for welding torch, earth cable, electrical wires for manipulators, etc. and water cooling pipes should they be needed.
- An additional feed-through is provided for a welding torch on the opposite side of the service panel, so that both left handed and right handed welders can work without having a long weld torch cable doubled up in front of them.
- Each enclosure is provided with a repair kit to allow on site repairs in the event of accidental damage.
- A standard posting port with purge gas hose entry port and vent is fitted to each model to allow small objects to be transferred into the enclosure without disturbing the quality of the purge environment. The standard port comprises a 600 mm long sleeve of 230 mm width when flat.

OPTIONS

- Extra pairs of glove ports.
- Special lock for the purging port to maintain purge argon in the chamber.
- Other sizes and shapes are available as non standard items on special request.

Note: We do not supply the internal metal base plate, the internal purge line or the external stand to support the enclosure.

RECTANGULAR ENCLOSURES

Large Posting Ports (ante chambers) • Lengths of 900, 1200, 1500 and 1800 mm • 3 sets of glove ports with sleeves and gloves • These and other specials available on request



WELD PURGE MONITORS®

The Argweld® **PurgEye®** 'Family' series includes:

PurgEye® 100 IP65 for levels from 20.94% to 0.01% (100 ppm).

PurgEye® 200 IP65 new rechargeable battery powered measuring down to 10 ppm.

PurgEye® 300 Nano low cost entry level model for 1000 to 10 ppm.

PurgEye® 300 fully programmable with data recording for 1000 to 10 ppm.

PurgEye® 500 like the 300 with an integral pump.

PurgEye® 600 fully computerised colour touch screen model with wireless USB download of recorded data from 1000 ppm down to 10 ppm.

PurgEye® 1000 Remote Weld Purge Monitor®. The 10 ppm sensing head can monitor up to 1 km away.



Weld Purge Plugs™

FOR ORBITAL WELDING



The Purge Plug Case for Orbital Welding has been designed specifically for Orbital Tube and Pipe welder users.

This kit contains the most common sizes of **Argweld® Weld Purge Plugs™** used for Orbital welding.

All plugs are manufactured in hygienic white nylon and are contained in a robust ABS storage and presentation case.

For welding of tubes and pipes made from stainless steels, titanium, nickel alloys and any other reactive materials, Weld Purge Plugs™ are available as single units or as kits for typical applications such as Orbital Welding

When complicated pipework systems have to be filled with inert gas, the Argweld® Weld Purge Plugs™ are a perfect low vapour pressure speciality product to seal all holes and orifices for quality internal purging.

Increasing use of internal inert gas purging for process and hygienic stainless steel pipework has called for additional dams which help operators achieve an air tight seal.

The Weld Purge Plugs™ offer a useful alternative for purging small bore pipework and can also be used for leak testing.

They can also be used for small or odd diameter pipes where purge systems or dam systems may not be available or practical.

When other pipe or tube weld purging systems or methods cannot be used to make a suitable barrier for weld purging the Argweld® Weld Purge Plugs™ may offer a satisfactory option.

TYPICAL PURGING APPLICATIONS INCLUDE:

- For small or odd diameter pipes.
- For short lengths and stubs.
- Complicated, variable size assemblies.
- For use in the outlets of tee pieces, elbows or other fittings.

These plugs are also ideal for for leak testing operations.



FEATURES:

- Made from engineering quality nylon.
- Shatter-proof.
- Easily cleaned.
- Will not rust or corrode.
- A patented slip washer inserted between the top plate and wing nut provides easy expansion and release.
- Larger sizes incorporate strengthening ribs to provide rigidity in use.
- Standard seals made from natural rubber.
- Optional higher temperature and chemically resistant seals available, made from nitrile and silicon rubber.

RIGIDITY:

HFT® Nylon Plug plates do not flex or distort like other plastic plugs.

DEMOUNTABILITY:

HFT® Nylon Plugs are demountable to allow cleaning and part replacement.

LEAK TIGHTNESS:

The hollow shaft plugs (1½" to 6") have an "O" ring seal around the stem to ensure leak tightness.

FRICTION FREE WASHER:

The hollow shaft plugs (1½" to 6") have a friction free washer between the wing nut and the top plate to enable easy tightening and loosening.

TEMPERATURE:

The plugs can be used up to 75°C (167°F) continuously and 105°C (221°F) intermittently. With special high temperature seals they can be used continuously up to 120°C (248°F).



The HFT Pipestoppers® division of Huntingdon Fusion Techniques HFT® manufactures larger mechanical plugs and inflatable plugs and stoppers to suit all diameters of ports and pipes. These can be used to plug all holes, outlets and entries for weld purging or for sealing during purging or transportation to maintain an inert atmosphere.



1" BSP Nipple Cap



0.5" fixed Nipple Cap

THE ORBITAL WELDING PURGE PLUG KIT™ INCLUDES

2 x 0.5"	Solid Shaft Blanking Plugs
2 x 0.75"	Solid Shaft Blanking Plugs
2 x 1.0"	Solid Shaft Blanking Plugs
2 x 1.25"	Solid Shaft Blanking Plugs
2 x 1.5"	Solid Shaft Blanking Plugs

2 x 0.5"	Hollow Shaft Small Bore Purge Plugs
2 x 0.75"	Hollow Shaft Small Bore Purge Plugs
2 x 1.0"	Hollow Shaft Small Bore Purge Plugs
2 x 1.25"	Hollow Shaft Small Bore Purge Plugs
2 x 1.5"	Hollow Shaft Small Bore Purge Plugs

2 x 1.5"	Hollow Shaft Large Bore Purge Plugs
2 x 2.0"	Hollow Shaft Large Bore Purge Plugs
2 x 2.5"	Hollow Shaft Large Bore Purge Plugs
2 x 3.0"	Hollow Shaft Large Bore Purge Plugs
2 x 4.0"	Hollow Shaft Large Bore Purge Plugs

All hollow shaft plugs are fitted with blanking caps

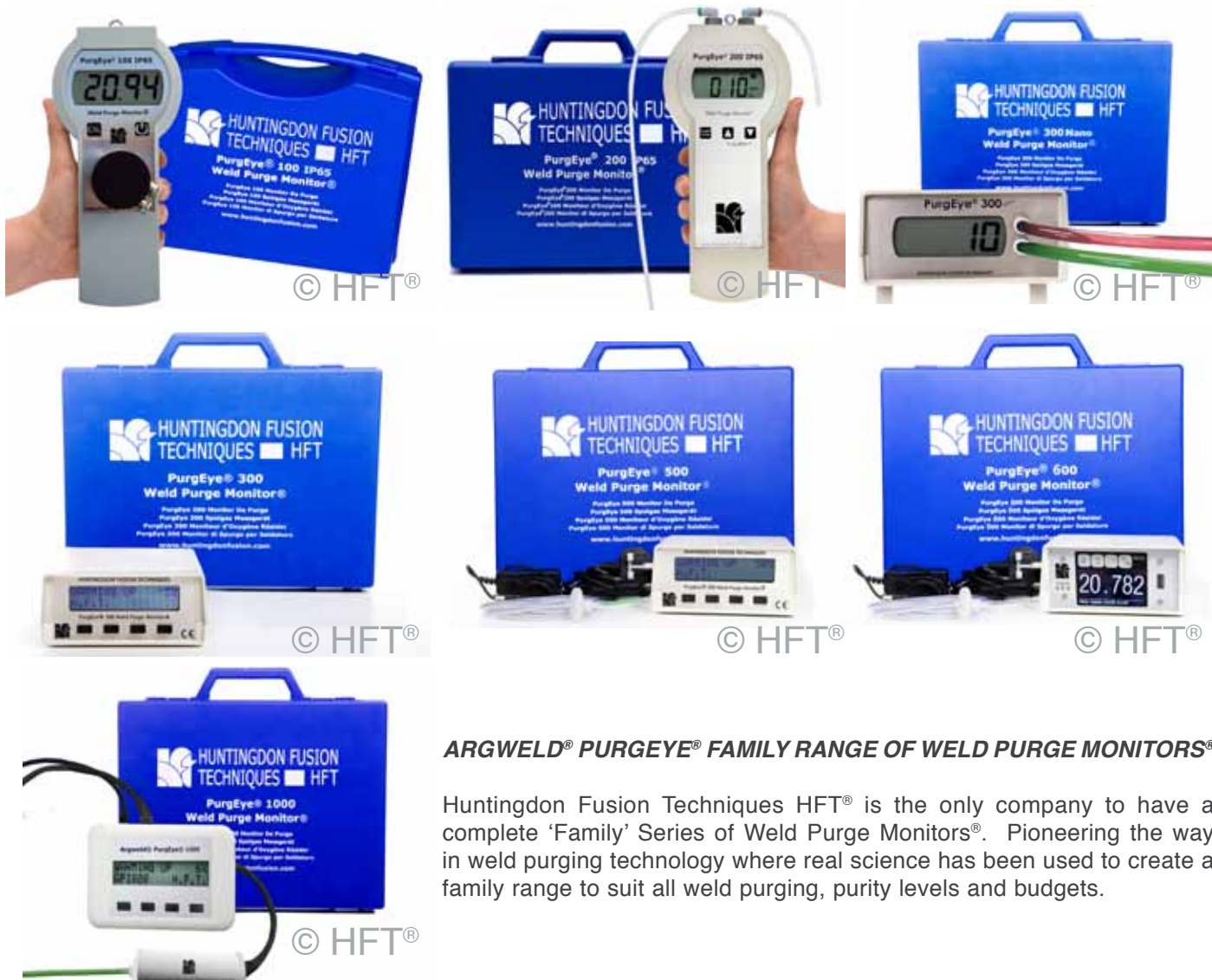
4 x 0.5" BSP Nipple Caps

4 x 0.5" BSP Swivel Nut and Hose Tail

5 x Nipple Caps for Hollow Shaft Small Bore Purge Plugs

The Orbital Welding Purge Plug™ Kit is delivered in a tough ABS case with all components fitted snugly in pre-cut, easily identifiable places to ensure easy storage and repeat presentation.





ARGWELD® PURGEYE® FAMILY RANGE OF WELD PURGE MONITORS®

Huntingdon Fusion Techniques HFT® is the only company to have a complete 'Family' Series of Weld Purge Monitors®. Pioneering the way in weld purging technology where real science has been used to create a family range to suit all weld purging, purity levels and budgets.

The PurgEye® 'Family' series includes:

- **PurgEye® 100 IP65** for levels from 20.94% to 0.01% (100 ppm).
- **PurgEye® 200 IP65** handheld, battery operated monitor, which reads down to 0.001% (10 ppm).
- **PurgEye® 300 Nano** low cost entry level model for 1000 to 10 ppm.
- **PurgEye® 300** fully programmable with data recording for 1000 to 10 ppm.
- **PurgEye® 500** like the 300 and including an integral pump.
- **PurgEye® 600** fully computerised colour touch screen model with wireless USB download of recorded data from 1000 ppm down to 10 ppm.
- **PurgEye® 1000** Remote Weld Purge Monitor®. The 10 ppm sensing head can monitor up to 1 km away.

Techweld® MultiStrike®



‘Green Safe’ Tungsten Electrodes



Techweld® **MultiStrike® Tungsten Electrodes** have been developed with the health and safety of the end user in mind.

MultiStrike® Tungsten Electrodes generate up to 10 times the performance of 2% thoriated electrodes under identical conditions.

MultiStrike® Tungsten Electrodes lower the working temperature giving cooler welds.

The number of arc strikes is increased before regrinding is needed. MultiStrike® Tungsten Electrodes represent the highest quality, totally traceable, longest lasting and are the most reliable tungsten electrodes available.

They can be used for welding of steels and alloys with DC as well as aluminium with AC techniques giving narrower, lower heat input welds.

The carefully balanced mix of non-radiotoxic dopants used in MultiStrike® Tungsten Electrodes produces a 10 times greater performance than conventional thoriated tungsten electrodes and provide a stable performance over the current range from 0 - 300 Amps.

SUMMARY OF MAIN FEATURES

For improved TIG welding of steels, aluminium and their alloys:

- Increased number of arc strikes before reshaping is necessary
- Contains no radioactive material, non-radiotoxic
- Non Thoriated, eliminates carcinogenic thorium
- Non Carcinogenic
- Improved dopant distribution
- Lowers the working temperature giving cooler welds
- Special packaging gives guarantee of quality and traceability
- Traceability with every tungsten
- AC & DC welding

MultiStrike® Tungsten Electrodes are totally traceable, each being identified by a batch number shown on the special packaging.

Immediate delivery is available for MultiStrike® Tungsten Electrodes.

TWICE THE STRIKING POWER

Because of growing concerns of potential hazards of ingestion of radioactive dust, MultiStrike® Tungsten Electrodes contain a rare earth dopant to replace thoria and eliminate the radioactive content.

The unique dopant content of Multi Strike® Tungsten Electrodes has only half the density of thoria. With the 2% of our dopant that is included, there is twice as much dopant and twice as much striking power than in thoriated tungstens.

The larger volume of dopant in MultiStrike® Tungsten Electrodes gives much improved distribution of the dopant itself.

Furthermore, these special electrodes give good welding results from low to high current levels.

MultiStrike® Tungsten Electrodes can be used on aluminium and its alloys as well as steels.



*2% Thoriated Tungsten
after 20 automatic welds*



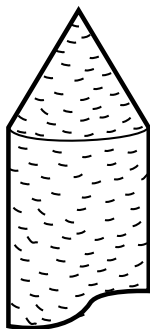
*MultiStrike® Tungsten
after 200+ welds*



Radiation Monitor - low background radiation level



*2% Thoriated Tungsten
showing risk of uneven thoria
distribution*



*MultiStrike® Tungsten
showing double the dopant
with even distribution*



SPECIAL PACKAGING GUARANTEES QUALITY WITH EACH BATCH CONTROL

MultiStrike® Tungsten Electrodes always originate from the identical source, giving the user a guarantee of product quality, reliability, repeatability, consistency and traceability.

Each pack of 10 is supplied in special packaging which is your guarantee of **quality and traceability** every time.



NO RADIO-ACTIVE ELEMENTS

Unlike tungsten-thoria, MultiStrike® Tungsten Electrodes contain no radioactive element. Where health and safety authorities or others are concerned about the radioactive or carcinogenic effects of thoria, MultiStrike® Tungsten Electrodes are a high quality alternative.



Radiation Monitor - Relatively high radiation level compared to MultiStrikes®

MULTISTRIKE®, A GREEN TUNGSTEN ELECTRODE, SAFE FOR USE, NON-TOXIC and NON-CARCINOGENIC

- **They are safer.** They do not contain radioactive thoria, known as a carcinogen
- **They last longer.** Under most conditions, MultiStrike® Tungstens Electrodes should provide more than twice the number of starts than thoriated tungstens
- **They do not generate as much heat.** Having a lower electron voltage potential than thoriated tungstens, MultiStrike® Tungsten Electrodes are especially useful for applications requiring low heat input, like orbital welding, micro-TIG and micro-plasma welding
- **They require lower voltages.** MultiStrike® Tungstens Electrodes contain a special dopant which reduces the starting voltage needed to establish the arc
- **They can reduce stocking costs.** The same electrodes can be used in some AC welding techniques as well as in DC welding

If you are a New User. . . .

- You may need to vary your welding current slightly to compensate for the MultiStrike® Tungsten Electrodes lower operating voltage and temperature
- Check out the reliability, repeatability and reproducibility of the MultiStrike® Tungsten Electrodes

5 REASONS TO USE MULTISTRIKE® TUNGSTENS



Radiation Monitor - shows comparison of radiation levels

1. Contain NO carcinogenic material
2. For AC and DC welding
3. Can be used on aluminium welding
4. Increases the number of arc strikes before re-sharpening is necessary
5. Lowers the working temperature giving cooler welds



WORK FUNCTION - some specific background and science

The work function of a metal or alloy is the energy needed to remove an electron from Fermi level in the material to a point at an infinite distance outside the surface.

This is relevant to TIG welding since the lower the work function of an electrode, the lower the voltage necessary to strike an arc.

The work function of tungsten is 4.35 ev. Therefore, the addition of a stable metal oxide with a work function lower than pure tungsten, lowers the work function of the tungsten.

Thorium's work function is 3.4 ev

The special blend of dopants in MultiStrike® Tungsten Electrodes has a work function of 2.9 ev.

Huntingdon Fusion Techniques HFT® special blend of dopants along with its stringent in-house production specification ensure that the dopant is distributed evenly through the Techweld® MultiStrike® Tungsten Electrodes maintaining an even performance from start to finish.

SEE WHAT OUR CUSTOMERS HAVE TO SAY....

Huntingdon Fusion Techniques HFT® have received numerous letters of praise from users, many of them major international manufacturers.

Here are some comments which have been received in writing to give you an idea of the benefits others have experienced using Techweld® MultiStrike®.

"We manufacture small pharmaceutical fittings using manual TIG welding and produce tube-tube joints using mechanised orbital welding. In both applications we have observed a four to five time improvement between re-grinding when replacing thoriated tungsten with your MultiStrike®." New York, USA

"The number of arc strikes between re-sharpening is considerably greater with MultiStrike® than with thoriated electrodes. We also find the lower heat input is a benefit since we often weld in very close proximity to glass." Senior Production Engineer

"The introduction of MultiStrike® has been welcomed by all our welding staff. The new electrodes are giving excellent results and demonstrating much improved strike characteristics. Although more expensive than the previous electrodes, their life is significantly longer which is expected to lead to long-term cost savings. We are also aware of the health and safety benefits of using non-thoriated electrodes." European Manufacturing Facility

"We have tested your MultiStrike® under production conditions where we need to make short lengths welds using the TIG process. On a batch of 50 components only 2 light re-grinds were required compared to 7 heavy regrinds when using thoriated electrodes. Even when the welder occasionally touched the work with the electrode there was no material change in performance whereas we would normally expect to have to re-grind. Better weld quality and finish was observed. We were particularly impressed with the health and safety aspects and have taken the decision to remove all thoriated electrodes from site." Production Service Manager

"We manufacture thin-walled hollow shaft products in type 316 stainless steel. Whereas with thoriated electrodes we regularly encounter problems with weld pitting which necessitates re-welding and often re-machining, this has been virtually eliminated when using MultiStrike®. Significant savings in the cost of post weld operations have been observed." Texas, USA

"We have now had an opportunity to evaluate your MultiStrike® Electrodes and can report extended working life between re-grinds and improvement in initial strike rates. The most significant improvement however is in automatic machine use." Technical Manager

"We use computer controlled equipment for hot wire cladding with stellite. With thoriated electrodes we observed rapid contamination leading to regrinding after only 15/30 minutes. Using MultiStrike® has been a revelation since we can achieve 8 hours of work between regrinds. Savings in downtime have thus been significant." Welding Engineer, Brighouse, UK

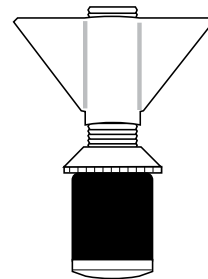


© HFT®

You will prefer using Techweld® MultiStrike® Tungsten Electrodes from Huntingdon Fusion Techniques HFT®.

REPEATABLE STRIKES EVERYTIME.....!

HFT Pipestoppers® Nylon Plugs



HFT PIPESTOPPERS®



HFT Pipestoppers® **Nylon Pipe Plugs** are suitable for a myriad of applications. They are mostly used for weld testing, leak testing of pipework fabrications, weld purging or simply stopping to prevent the ingress of dirt, rodents and other unwanted material. However there are over 100 different applications for these plugs.

These plugs are constructed from injection moulded nylon components and rubber rings. They have the advantages of being light, non rusting easy to expand and can be dismantled for cleaning purposes.

The grade of nylon chosen is pure nylon 6 which has considerable wear characteristics and makes them stronger and more robust than other plastic plugs.

These plugs will provide airtight seals and in tests with plastic pipes they are capable of sealing against pressures from 60 Psi - 4 bar, to over 100 Psi - 7 bar.

Effective sealing is simple, insert the plug into a pipe opening and tighten the wing nut clockwise. The rubber ring will expand and provide a positive seal. To remove simply reverse the process.

APPLICATIONS

They are in normal usage for plumbing operations in a wide variety of industries, including domestic and industrial water and drainage systems.

Also for ducting and conduit, plastic pipe bending, swimming pools, masking in painting and casting industries and many others.

SOLID SHAFT PLUGS

Sizes available are for pipe bore sizes

Nominal	I.D. Range	Psi	Bar
½"	12 - 16 mm	100-150*	7-10*
¾"	18 - 24 mm	150*	10*
1"	23 - 32 mm	130*	9*
1¼"	31 - 42 mm	70*	5*
1½"	37 - 54 mm	60*	4*

HOLLOW SHAFT PLUGS

With 10mm BSP threaded waterway:

Nominal	I.D. Range	Psi	Bar
½"	12 - 16 mm	100-150*	7-10*
¾"	18 - 24 mm	150*	10*
1"	23 - 32 mm	130*	9*
1¼"	31 - 42 mm	70*	5*
1½"	37 - 54 mm	60*	4*

With ½" BSP threaded waterway:

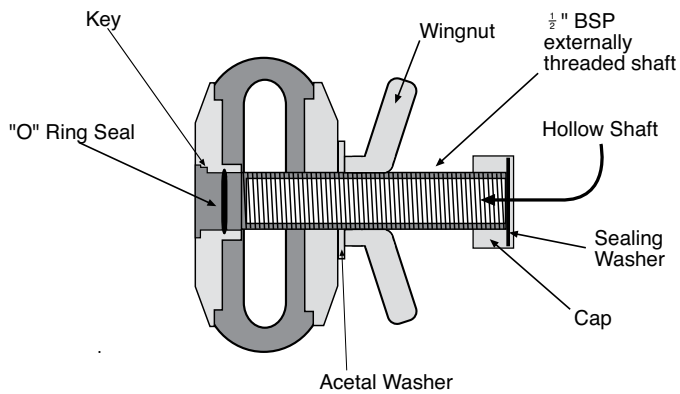
Nominal	I.D. Range	Psi	Bar
2"	48 - 65 mm	18 - 50*	1.2 -3.4*
2 ½"	60 - 77 mm	34.5*	2.3*
3"	70 - 87 mm	15*	1.0*
3.5"	83 - 97 mm	-	-
4"	95 - 110 mm	15*	1.0*
4.5"	114 - 130 mm	-	-
5"	121 - 142 mm	12*	0.8*
6"	148 - 162 mm	10*	0.6*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material.

* Pressure tests were carried out at 18°C (64.4°F). As working temperature is increased, it can be expected that pressure ratings must be reduced.

HFT PIPESTOPPERS®

TECHNICAL INFORMATION



As can be seen from the sectioned view, the unique assembly of the central waterway into the base plate via a snap taper fit and "O" ring seal provides a positive water and air tight joint. The provision of a friction reducing acetal copolymer thrust washer inserted between the wing nut and top plate facilitates easy expansion and release.

Sizes available are for pipe bore sizes.

These plugs conform to ISO Standards for low pressure testing and sealing of pipes.

NOTES:

- They are slightly less efficient at the extreme higher limits of expansion than in the middle and lower ranges
- Pressure testing depends upon the cleanliness and condition of the pipe bore
- Nitrile, silicone and viton rubber seals to resist different chemicals and higher temperatures are available from stock as accessories
- Operators using air or other gases to make leak tests must take the appropriate precautions



ALUMINIUM EXPANDING PLUGS

To complete the HFT Pipestoppers® range of **Nylon Expanding Plugs** we offer all sizes of **Aluminium Plugs**.

These are provided in sizes from 3" (75 mm), for more arduous duties such as long immersion in water and higher temperature and are manufactured with 1/2", 1", 2" (12 mm, 25 mm, 50 mm) outlets.

The standard seals are made from natural rubber and special rubber seals are available for chemical applications where greater resistance is required.



INFLATABLE STOPPERS

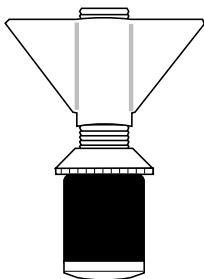
Available as **Cylindrical**, **Spherical** or **Special Stoppers** for use when breaking into existing lines for repairs, maintenance and new sections.

These are especially useful where entrance and exit apertures are difficult to access with solid plugs.

Each stopper is available in 1" (25 mm) sizes from 2" (50 mm) up to 82" (2 m) as standard and larger to special order.



Nylon Plugs Test Plug Kits



HFT PIPESTOPPERS®

Automotive Test Plug Kit



The Pipestoppers® division of Huntingdon Fusion Techniques HFT® manufactures plugs and kits of plugs for leak testing a variety of heat exchangers, particularly radiators and inter-coolers for cars and trucks.

For leak testing automotive car radiators, ready made kits of plugs to make the sealing of all holes easy and fast for reliable leak testing.

The plugs are made from nylon and natural rubber, so they will not corrode and seize up. They can also be totally dismantled for cleaning and part replacement

The Automotive Test Plug Kit contains:

- | | |
|---------------------------|----------------------------|
| 2 x ½" Solid Shaft Plugs | 2 x ½" Hollow Stem Plugs |
| 2 x ¾" Solid Shaft Plugs | 2 x ¾" Hollow Stem Plugs |
| 2 x 1" Solid Shaft Plugs | 2 x 1" Hollow Stem Plugs |
| 2 x 1¼" Solid Shaft Plugs | 2 x 1¼" Hollow Stem Plugs |
| 2 x 1½" Solid Shaft Plugs | 2 x 1½" Hollow Shaft Plugs |
| 2 x 2" Hollow Shaft Plugs | |

Also included are 4 x 0.5" BSP nipple caps and 4 x 0.5" BSP swivel nuts and hose tails. Plus the rigid ABS plastic storage case with special cut to size foam.

Size	QTY	Range (mm)	Pressure	
Solid shaft			Psi	Bar
0.5"	2	12 - 16	100 - 150*	7 - 10*
0.75"	2	18 - 24	150*	10*
1.0"	2	23 - 32	130*	9*
1.25"	2	31 - 42	70*	5*
1.5"	2	37 - 54	60*	4*
Hollow shaft				
0.5"	2	12 - 16	100 - 150*	7 - 10*
0.75"	2	18 - 24	150*	10*
1.0"	2	23 - 32	130*	9*
1.25"	2	31 - 42	70*	5*
1.5"	2	37 - 54	44*	3*
2"	2	48 - 65	18 - 50*	1.2 - 3.4*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material.

For larger diameters see the details of the commerical vehicle leak test plug kit. All plugs are available as individual items for replacement purposes.

Sizes from 1.5" (38 mm) and above have an ½" BSP threaded hollow shaft for connecting air lines to pressurise the items under test.

See next page for Commerical Vehicle Radiator and Inter-cooler test plug kit.

HFT PIPESTOPPERS®

Commercial Test Plug Kit



For leak testing the commercial vehicle components with the large ports, a separate HFT Pipestoppers® kit is available with large size plugs.

The Commercial Test Plug Kit contains:

2 x 2½" Hollow Shaft Plugs 2 x 5" Hollow Shaft Plugs
 2 x 3" Hollow Shaft Plugs 2 x 6" Hollow Shaft Plugs
 2 x 4" Hollow Shaft Plugs 4 x ½" BSP Nipple Caps
 4 x ½" BSP Swivel Nut & Hose Tail

Also included are 4 x 0.5" BSP nipple caps and 4 x 0.5" BSP swivel nuts and hose tail. Plus the rigid ABS plastic storage case with special cut to size foam

These plugs all have hollow shafts with 0.5" BSP threads for the connection of an air hose.



Hollow shaft plugs being prepared for testing an intercooler

Size	QTY	Range (mm)	Pressure	
Hollow shaft			Psi	Bar
2.5	2	60 - 77	34.5*	2.3*
3.0	2	70 - 87	15*	1.0*
4.0	2	95 - 110	15*	1.0*
5.0	2	121 - 142	12*	0.8*
6.0	2	148 - 162	10*	0.6*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material.

Cast Aluminium Expanding Drain and Pipe Plugs

To complete the range of **Expanding Plugs** we offer an extensive range of Cast aluminium plugs. These are provided firstly in sizes up to 6" for more arduous duty such as long immersion in water and higher temperature applications are secondly in sizes up to 36" (600) diameter where it would be uneconomical to manufacture **Nylon Plugs**.

They are manufactured with ½", 1" and 2" outlets (13, 25 and 50 mm).



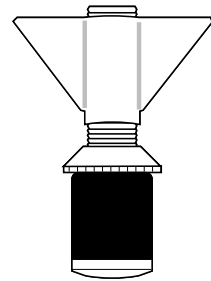
HFT PIPESTOPPERS®

Our Product Range:

Argweld® Inflatable Pipe Weld Purge Systems
 Argweld® PurgEye® Weld Purge Monitors® (100 to 1000)
 Argweld® Water Soluble Weld Purge Film and Weld Purge Super Adhesive™
 Argweld® Weld Trailing Shields®
 Argweld® Weld Backing Tape™ & Weld Purge Tape™
 Argweld® Flexible Welding Enclosures®
 Argweld® Weld Purging Plugs™ & Orbital Welding Plugs
 Techweld® MultiStrike® Tungsten Electrodes
 HFT Pipestoppers® Pipe Plugs & Stoppers, Nylon, Aluminium & Steel
 HFT Pipestoppers® Inflatable Stoppers

HFT PIPESTOPPERS®

Nylon Plugs Test Plug Kits



HFT PIPESTOPPERS®

Pool and Spa Test Plug Kit



For leak testing the typical pipework found in swimming pool and spa installations, the HFT Pipestoppers® division of Huntingdon Fusion Techniques HFT® manufactures ready made kits of plugs to make the sealing of all holes easy and fast for reliable leak testing.

The plugs are made from nylon and natural rubber, so they will not corrode and seize up. They can also be totally dismantled for cleaning and part replacement.

Each kit comprises:

- 1 off 4" U-gauge, bulb, Y union and hoses
- 2 off 1.5" Nylon Plugs
- 2 off 2" Nylon Plugs
- 2 off 3" Nylon Plugs
- 2 off 4" Nylon Plugs
- 1 off Blue ABS carry case with cut foam liner
- 1 off 0.5" BSP Nipple caps
- 1 off 0.5" Swivel nut with free tail piece

For larger diameters see the details of the Drain Test Plug Kit. All plugs are available as individual items for replacement purposes.

Plug sizes from 1.5 inch and above have an ½" BSP threaded hollow shaft for connecting air lines to pressurise the items under test.

Plugs size 1.5" are available with a narrow bore threaded stem or are available as a solid stem.

Effective sealing is simple, insert the plug into a pipe opening and tighten the wing nut clockwise. The rubber ring will expand and provide a positive seal. To remove simply reverse the process.

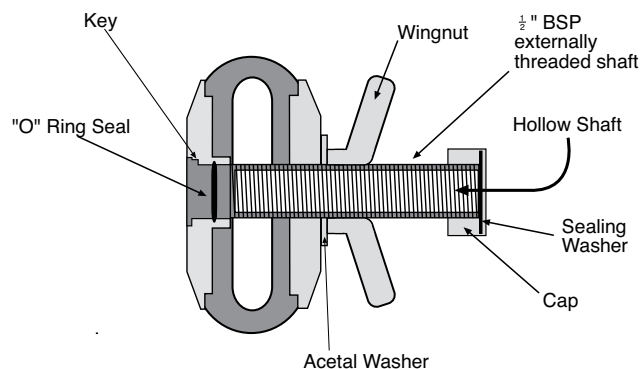


The manometer is used to measure pressure drop in a pipework system and thereby establish where there are leaks.

The plugs will seal the open pipes. An air hose with a ½" BSP threaded female end can be screwed straight onto the plugs with the ½" BSP hollow shaft (larger diameter plugs).

Alternatively, one of the nipple caps provided in the kit can be used. The nipple cap is screwed onto the shaft and a hose can be connected to the nipple and sealed with a worm drive clip (jubilee clip). Hoses can be pushed straight onto the shaft of the smaller plugs and sealed with a clip, or they can be screwed on with a 10 mm threaded connector.

TECHNICAL INFORMATION



As can be seen from the sectioned view, the unique assembly of the central waterway into the base plate via a snap taper fit and "O" ring seal provides a positive water and air tight joint. The provision of a friction reducing acetal copolymer thrust washer inserted between the wing nut and top plate facilitates easy expansion and release.

Sizes available are for pipe bore sizes.

These plugs conform to ISO Standards for low pressure testing and sealing of pipes.

Notes:

- 1) They are slightly less efficient at the extreme higher limits of expansion than in the middle and lower ranges.
- 2) Pressure testing depends upon the cleanliness and condition of the pipe bore.
- 3) Nitrile, silicone and viton rubber seals to resist different chemicals and higher temperatures are available from stock as accessories.
- 4) Operators using air or other gases to make leak tests must take the appropriate precautions.

HFT Pipestoppers® Nylon Plug Range						
Size		Weight	Outside measurement			
In	mm	gms	Unexpanded		Max. expansion	
			In	mm	In	mm
0.5	12.7	10	0.47	12	0.62	16
0.75	19.0	15	0.70	18	0.94	24
1.0	25.4	20	0.90	23	1.25	32
1.25	31.8	35	1.22	31	1.65	42
1.5	38.1	45	1.45	37	1.69	54
2.0	50.8	80	1.88	48	2.55	65
2.5	63.5	130	2.36	60	3.03	77
3.0	76.2	140	2.75	70	3.42	87
3.5	88.9	148	3.26	83	3.81	97
4.0	101.6	160	3.74	95	4.33	110
4.5	114.3	216	4.48	114	5.11	130
5.0	127.0	280	4.76	121	5.59	142
6.0	152.4	390	5.82	148	6.37	162

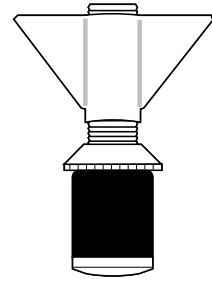
HFT Pipestoppers® Nylon Expanding Plugs

HFT Pipestoppers® nylon plugs are light, non rusting easy to expand and can be dismantled for cleaning purposes and part replacement if required.

All plugs have hollow shafts for gas or liquid testing or draining and are supplied with a sealing cap.



Aluminium Pipe Plugs



HFT PIPESTOPPERS®

Leak Test and Isolation Plugs



THE ALUMINIUM RANGE

Huntingdon Fusion Techniques HFT® manufacture a large range of hand tightened **Aluminium Test Plugs** with a central waterway / vent / bypass.

They are manufactured with ½", 1" and 2" BSP outlets / bypass diameters as shown in the chart on page 3 overleaf.

The standard seals are made from natural rubber and special rubber seals are available for applications where greater resistance to chemicals and / or temperatures is required.

All plugs conform to British Standards BS 8005 for low pressure testing and sealing of pipes. They are simple to install and work with, the wing nut easily expands the rubber seal using our friction free washer system. The cast aluminum plates of the HFT® range of **Expansion Plugs** make them strong and durable **Aluminium Plugs** will not rust or seize up like **Steel Plugs**.

APPLICATIONS

Aluminium Pipe Plugs are suitable for low pressure test or temporary closure and have traditionally been used for basic low pressure air or water testing of sewer or water pipes, maintenance in ground works and they are increasingly finding applications in the offshore industry.

TOPSIDE APPLICATIONS IN THE OFFSHORE INDUSTRY INCLUDE:

- Temporary sealing gas of fuel pipes during hot work
- General maintenance
- Diving contractors finding subsea uses

These combine with the traditional uses for domestic and industrial plumbing operations in blocking off water and drainage systems and testing during emergency problems or maintenance.

They are also used for ducting and conduits, swimming pools, masking in painting and casting industries, for leak testing, isolation, sealing, stopping and purging pipework.

When transporting large vessels and tanks, such as heat exchangers, fractionation columns, shells for other petrochemical applications etc., **Aluminium Plugs** are used for sealing stubs and entries for interconnecting pipework so that the vessels can be sealed, with inert gas inside if necessary, to prevent oxidation or contamination during transportation.

In particular **Aluminium Test Plugs** are suitable for arduous duties such as immersion in chemicals and use at higher temperatures.

For more complex applications, chemical and higher temperature resistant seals are available.

HFT PIPESTOPPERS®



MECHANICAL PLUG WARNING

We do not specify a pressure rating on the **Aluminium Pipe Plugs**. As the plug is expanded out there is less seal contacting the wall and thus these plugs have lower back pressure capabilities. Use for very low pressure test or temporary closure only.

Note: the effectiveness of HFT® **Expansion Plugs** varies at higher limits of expansion. HFT® can help you by supplying the proper sizes for your requirements.



SPECIFICATION / TECHNICAL INFORMATION

HFT® **Aluminium Pipe Plugs** are fitted as standard with natural rubber seals which are ideal for temporarily sealing all types of pipe with diameters from 1.5" to 36".

They are up to 70% lighter than similar HFT® **Steel Plugs** and are negatively buoyant so there is no problem using them subsea.

Being solid there is little concern about the rise and fall of the tides having an effect.

They are simply tightened by hand once in position and there is no requirement for inflation equipment.

They will withstand back pressure up to 0.5 bar maximum with bracing although this varies from the smallest to largest sizes.

The aluminium plates have strength with low weight. The centre stem, or bypass, is made from galvanised carbon steel and is cast into the plate during manufacturing. The stems are generally ½", 1" or 2" diameter, dependant upon size. They are threaded externally with a BSP thread. Each plug is fitted with a removable sealing cap, which has a rubber sealing disc inside.

A wing nut is fitted to the threaded stem, with an HFT® designed special slip washer underneath for easy tightening, for all plug sizes available.

The **Aluminium Pipe Plugs** are widely used for basic air testing and general sealing of pipes.

Our **Aluminium Pipe** stoppers are robust, relatively lightweight and easy to use, if maintained appropriately then they can be re-used indefinitely.



The rubber sealing ring is held captive by the specially designed lip in the aluminium plates. As the wing nut is tightened the rubber ring expands uniformly to seal against the wall of the pipe or orifice into which the plug has been inserted.

Aluminium Pipe Plugs are generally kept in stock and are available for immediate delivery.



TECHNICAL INFORMATION ALUMINIUM PIPE PLUGS

Nominal Size		Expanded Diameter		Relaxed Diameter		By pass size		Shipping weight LBS
Inches	mm	Inches	mm	Inches	mm	BSP	mm	
1.5	38	1.889	48	1.456	37	0.5	13	1
2	51	2.440	62	1.889	48	0.5	13	1
2.5	64	2.775	70	2.440	62	0.5	13	1
3	76	3.425	87	2.795	71	0.5	13	1
3.5	89	3.700	94	3.503	89	0.5	13	1
4	102	4.133	105	3.779	96	0.5	13	1
4.5	114	4.724	120	4.400	112	0.5	13	1
5	127	5.393	137	4.842	123	0.5	13	2
6	152	6.500	166	5.900	150	0.5	13	2
7	178	7.300	185	6.550	166	1.0	25	4
8	203	8.550	217	7.700	196	1.0	25	4
9	229	9.100	231	8.200	208	1.0	25	5
10	254	10.250	260	9.200	234	1.0	25	6
11	279	11.200	284	10.300	262	1.0	25	9
12	305	12.450	316	11.350	288	1.0	25	9
14	356	15.100	384	13.800	351	1.0	25	13
15	381	15.800	401	14.350	364	1.0	25	14
16	406	17.000	432	15.600	396	1.0	25	16
18	457	19.250	489	17.450	443	1.0	25	20
20	508	20.650	525	19.150	486	2.0	51	30
21	533	22.100	561	20.650	525	2.0	51	32
24	610	25.500	648	23.550	598	2.0	51	38
27	686	27.700	704	26.250	667	2.0	51	44
30	762	31.000	787	29.250	743	2.0	51	60
32	812	32.00	812	31.125	794	2.0	51	36
36	914	36.800	935	34.500	876	2.0	51	96

The HFT Pipestoppers® Division, manufacture ranges of other plugs and stoppers, briefly described below. Full individual leaflets are available for each type.

HFT Pipestoppers® **Nylon Plugs** are light, non rusting easy to expand and can be dismantled for cleaning purposes and part replacement if required.

All plugs have hollow shafts for gas or liquid testing or draining and are supplied with a sealing cap.



Steel Expanding Single & Double Plugs for increased stability and higher pressure duties. For pressure testing and stopping all pipework from 1.5 inch (38 mm) upwards. The test pressure capability of the single stoppers is limited and the double versions increase that capability, while offering a greater stability in the pipe.



© HFT®

Rim Fastening Steel Plugs, single and double port, for pressure testing and stopping all pipework from 17" (432 mm) up to 95" (2400 mm). **Rim Fastening Steel Plugs**, especially the large sizes, have the advantage over centre locking plugs, that the nuts enable plates to be closed together evenly with ease and even seal in pipes that have slight out of roundness.

INFLATABLE PIPE PLUGS AND STOPPERS



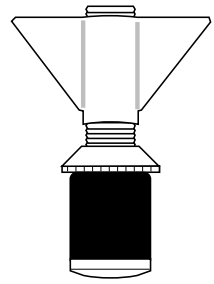
The range includes **Cylindrical**, **Spherical** or **Special Stoppers** like **Oil Chem** for use when breaking into existing lines for repairs, maintenance and new sections. As well as **Heat Protected Stoppers** for use up to 300°C (572°F).

These are especially useful where entrance and exit apertures are difficult to access with solid plugs.

Each inflatable bag is available in 1" (25 mm) sizes from 2" (50 mm) up to 82" (2 m) as standard and larger to special order.

These stoppers are ideal for debris stopping and to prevent the ingress of foreign bodies.

Steel Expanding Plugs



HFT PIPESTOPPERS®

Single



© HFT®

For pressure testing and stopping all pipework from 1.5 inch (38 mm) upwards.

To complete the HFT **Pipestoppers®** range of **Nylon** and **Alumimium Expanding Plugs** we offer all sizes of **Steel Expanding Plugs**.

These are provided in sizes from 1.5", for more arduous duties such as long immersion in water and higher temperature.

The plugs are merely inserted into the pipe and the wings tightened to force the top and bottom plates together, thereby expanding the rubber ring to seal tightly in the pipe.

They are manufactured with ½", 1" and 2" outlets as shown in the chart overleaf.

The standard seals are made from natural rubber and special rubber seals are available for chemical applications where greater resistance is required.

All plugs conform to British Standards BS 8005 for low pressure testing and sealing of pipes.

HFT PIPESTOPPERS®

TECHNICAL INFORMATION STEEL EXPANDING PLUGS

Diameter			Pressure	Weight
Inches	Outlet	Range (mm)	Bar	KG
1.5	½"	38.1 - 49	1 - 3	0.25
2	½"	49 - 60	1 - 3	0.25
2.5	½"	61 - 75	2.0	0.3
3	½"	73 - 85	1.0	0.3
3.5	½"	84 - 95	1.0	0.3
4	½"	94 - 110	1.0	0.3
6	½"	146 - 163	0.6	0.6
7	1"	170 - 195	0.3	1
8	1"	191 - 211	0.3	1.4
9	1"	216 - 235	0.3	2
10	1"	244 - 260	0.3	2.2
12	1"	275 - 305	0.3	3.5
14	1"	340 - 375	0.3	4.3
15	1"	365 - 400	0.3	4.5
16	1"	390 - 425	0.3	6
18	1"	440 - 475	0.3	7.4

ALUMINIUM EXPANDING PLUGS

In addition to **Steel Plugs** our product range includes **Aluminium Plugs**.

These are provided in sizes from 3" (75 mm), for where steel may not be the preferred material of manufacture.

The standard seals are made from natural rubber and special rubber seals are available for chemical applications where greater resistance is required.



NYLON EXPANDING PLUGS



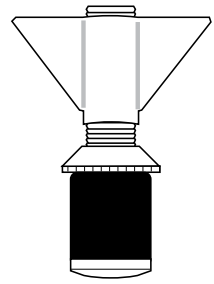
This long established range of **Nylon Expanding Pipe Plugs** are manufactured from injection moulded components and rubber expansion rings.

The sizes available are as follows: -

Diameter			
Inches	Range (mm)	Psi	Bar
Solid shaft			
½	12 - 16	100 - 150	7 - 10
¾	18 - 24	150*	10*
1	23 - 32	130*	9*
1¼	31 - 42	70*	9*
1½	37 - 54	60*	9*
Small hollow shaft			
½	12 - 16	100 - 150*	7 - 10*
¼	18 - 24	150*	10*
1	23 - 32	130*	9*
1¼	37 - 54	70*	5*
Hollow shaft			
1½	37 - 54	44*	3*
2	48 - 65	18 - 50*	1.2 - 3.4*
2½	60 - 77	34.5*	2.3*
3	70 - 87	15*	1.0*
4	95 - 110	15*	1.0*
5	121 - 142	12*	0.8*
6	148 - 162	10*	0.6*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material.

Steel Expanding Plugs



HFT PIPESTOPPERS®

Double



© HFT®

For pressure testing and stopping all pipework from 1.5 inch (38 mm) upwards.

To complete the Pipestoppers® Range of **Nylon Expanding Plugs**, **Aluminium Plugs**, **Steel Drain Plugs** and **Inflatable Stoppers**, we offer **Double Steel Plugs** for increased stability and higher pressure duties.

The test pressure capability of the single stoppers is limited and the double versions increase that capability, while offering a greater stability in the pipe.

As **Single Plugs** approach their pressure limits, they can tend to tip over like a butterfly valve. The **Double Plugs** will prevent the tipping and guarantee the seal.

They are manufactured with ½", 1" and 2" outlets as shown in the chart overleaf.

The standard seals are made from natural rubber although special rubber seals are available for improved chemical resistance and higher temperature applications.

All plugs conform to British Standards BS 8005 for low pressure testing and sealing of pipes.

TECHNICAL INFORMATION FOR DOUBLE STEEL EXPANDING PLUGS

Diameter		Range	Pressure	Weight
Inches	Outlet	(mm)	Psi	(kg)
1.5	½"	36 - 48	7	0.25
2	½"	49 - 60	7	0.25
2.5	½"	61 - 75	7	0.27
3	½"	73 - 85	7	0.30
3.5	½"	84 - 95	7	0.30
4	½"	94 - 110	7	0.30
4.5	½"	108 - 120	7	0.45
5	½"	121 - 138	7	0.50
5.5	½"	138 - 148	7	0.55
6	½"	146 - 163	7	0.60
7	1"	170 - 195	7	0.90
8	1"	191 - 211	7	1.40
9	1"	216 - 235	7	1.70
10	1"	244 - 260	7	2.20
11	1"	275 - 305	7	2.75
12	1"	296 - 314	7	3.50
14	1"	340 - 375	5	4.00
15	1"	365 - 400	5	5.00
16	1"	390 - 425	5	6.00

INFLATABLE STOPPERS



Available as **Cylindrical**, **Spherical** or **Special Stoppers** for use when breaking into existing lines for repairs, maintenance and new sections.

These are especially useful where entrance and exit apertures are difficult to access with solid plugs.

Each bag is available in 1" (25 mm) sizes from 2" (50 mm) up to 82" (2 m) as standard and larger to special order.

These stoppers are ideal for debris stopping and to prevent the ingress of foreign bodies.

NYLON EXPANDING PLUGS



This long established range of **Nylon Expanding Pipe Plugs** are manufactured from injection moulded components and rubber expansion rings.

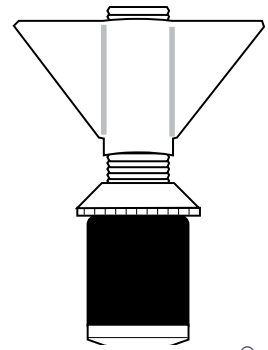
The sizes available are as follows: -

Diameter			
Inches	Range (mm)	Psi	Bar
Solid shaft			
½	12 - 16	100 - 150*	7 - 10*
¾	18 - 24	150*	10*
1	23 - 32	130*	9*
1 ¼	31 - 42	70*	5*
1 ½	37 - 43	60*	4*
Small hollow shaft			
½	12 - 16	100 - 150*	7 - 10*
¾	18 - 24	150*	10*
1	23 - 32	130*	9*
1 ¼	31 - 42	70*	5*
Hollow shaft			
1 ½	37 - 54	44*	3*
2.0	48 - 65	18 - 50*	1.2 - 3.4*
2 ½	60 - 77	34.5*	2.3*
3.0	70 - 87	15*	1.0*
4.0	95 - 110	15*	1.0*
5.0	121 - 142	12*	0.8*
6.0	148 - 162	10*	0.6*

*= results depend upon exact ID of the tube/pipe, number of turns, condition of the inside of the pipe and the material. All nylon hollow shaft plugs come with a ½" outlet.

PlugFast™

PERIPHERAL SEALING PLUGS



HFT PIPESTOPPERS®



© HFT®

Peripheral Sealing Steel Plugs are manufactured in a number of different diameters, including sizes not covered by Aluminium plugs from 17 - 95" (432 - 2400 mm)Ø. These are manufactured both as a single port series and a double port option.

Peripheral sealing allows the plates to be closed evenly with ease and even seal in pipes with slight out of roundness or ovality. Special diameters can be produced on request.

The centre Stem is 2" (50 mm diameter) and is threaded to accept a 2" bsp screw cap.

TWIN PORT PERIPHERAL SEALING STEEL PLUGS

The second port is normally fitted with a 4" (100 mm) plain bore and supplied complete with a 4" (100 mm) steel drain test plug.

This port is normally offset to the outer edge of the test plug allowing the water to be easily drained from the pipeline after testing, without having to remove the testplug. Alternative ports are available to order.

HFT PIPESTOPPERS®



METHOD OF USE:

- Select the correct size of plug to suit the internal diameter of the pipe.
- Remove any grease or foreign material from installation point.
- Ensure plug is inserted square to pipe wall.
- Tighten peripheral nuts progressively in diametrically opposite order. They must be tightened equally. Over-tightening of nuts may result in distortion of the clamp ring.
- Ensure sealing cap is tight. If the plug has a second outlet ensure that this is also tightly sealed.
- For safety: these plugs must be supported by an engineered brace to withstand the calculated back pressure. They must NOT be used without such a brace.

SIZE INFORMATION

Nominal pipe size metric / mm	Min/Max operating range inches	Nominal pipe size imperial	Min/Max operating range inches
432	419 - 445	17"	16.5 - 17.5"
450	437 - 463	18"	17.5 - 18.5"
475	462 - 488	19"	18.5 - 19.5"
500	487 - 513	20"	19.5 - 20.5"
525	512 - 538	21"	20.5 - 21.5"
600	587 - 613	22"	21.5 - 22.5"
675	662 - 688	23"	22.5 - 23.5"
700	687 - 713	24"	23.5 - 24.5"
750	737 - 763	26"	25.5 - 26.5"
800	787 - 813	27"	26.5 - 27.5"
825	812 - 838	28"	27.5 - 28.5"
850	837 - 863	30"	29.5 - 30.5"
900	887 - 913	31"	30.5 - 31.5"
950	937 - 963	32"	31.5 - 32.5"
975	962 - 988	33"	32.5 - 33.5"
1000	987 - 1013	34"	33.5 - 34.5"
1050	1037 - 1063	36"	35.5 - 36.5"
1125	1112 - 1138	38"	37.5 - 38.5"
1150	1137 - 1163	39"	38.5 - 39.5"
1200	1187 - 1213	40"	39.5 - 40.5"
1250	1237 - 1263	42"	41.5 - 42.5"
-	-	47"	46.5 - 47.5"
-	-	48"	47.5 - 48.5"

Both the metric and imperial sizes are with 2" BSP outlet size.



Cylindrical or Spherical inflatable stoppers for use when breaking into existing lines for repairs, maintenance and new sections.

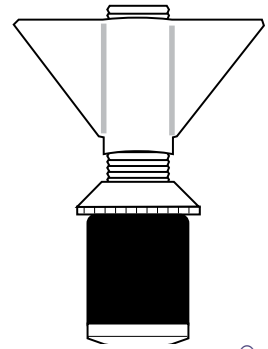
These are especially useful where entrance and exit apertures are difficult to access with solid plugs.

Each bag is available in 1" (25 mm) sizes from 2" (50 mm) up to 82" (2 m) as standard and larger to special order.

These stoppers are ideal for debris collection and to prevent the ingress of foreign bodies.



Inflatable Stoppers and Test Plugs



HFT PIPESTOPPERS®

***AN EASY WAY TO STOP THE FLOW OF GAS OR LIQUID
ALONG A PIPE OR DUCT, FOR COLLECTION OF DEBRIS AND
TO PREVENT INGRESS OF UNWANTED MATERIAL OR ANIMALS***



The HFT Pipestoppers® Division of Huntingdon Fusion Techniques HFT® manufactures a range of standard as well as non-standard Inflatable Stoppers for pipes, ducts and other shaped orifices.

The range includes **Spherical, Cylindrical, Special** like **Oil Chem** models as well as **Heat Protected** stoppers for use up to 300°C (572°F).

These versatile HFT® Inflatable Stoppers are used to service a wide variety of industrial applications including the isolation of voids in tanks to minimise volumes for weld purging applications.

All **Inflatable Stoppers** are manufactured with a strong internal inflatable bag made to the required shape and covered in waterproof sewn polyurethane coated nylon for low friction and to prevent the production of static electricity or accidental sparking.

MOST COMMONLY USED FOR

- Debris stopping during machining operations.
- Leak testing of pipework systems in commercial, domestic and industrial applications.
- Low pressure hydrostatic tests.
- On-site thermoforming of bends in ducting and conduit materials.
- Fibre-optic construction projects.
- Debris and animal barriers for overnight protection of pipelines.
- Plumbing operations.

The standard range of HFT Pipestoppers® Inflatable Stoppers are available for immediate delivery in a variety of shapes and formats with sizes ranging from 1 to 96" (25 to 2440 mm).

HFT PIPESTOPPERS®

DESCRIPTION

Standard Cylindrical Inflatable Stoppers are commonly used for stopping off pipes particularly where access is difficult. They are frequently used for testing new pipes and drains.

Spherical Inflatable Stoppers give less contact area than the Cylindrical version, but are very useful where access is limited. Since the position of the Inflatable Stopper in the pipe is not critical, it can be put at any angle. This is particularly useful when inserting into a small opening at the top of a pipe rather than at the end of the pipe.



Spherical Inflatable Stoppers

OTHER TEST PLUGS

HFT Pipestoppers® also manufacture a range of expanding pipe plugs. **Expanding Test Plugs** form a positive seal between surfaces and achieve an air and water-tight seal. Nylon, aluminium and steel plugs conform to ISO Standards and British Standard BS 8005 for low pressure testing and sealing of pipes.



SPECIFICATIONS

1" to 96" (25 to 2440 mm) Inflatable Stoppers have a 1.3 m hose length, 8 mm ID, 14 mm OD and are fitted with a standard Schrader valve.

It is generally accepted that the pressure which an Inflatable Stopper will hold back depends on five factors:

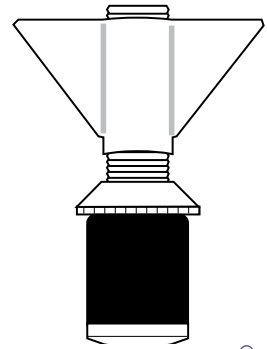
1. The surface of the pipe into which the Inflatable Stopper is to be inserted.
2. The friction resistance of the Inflatable Stopper cover material.
3. The total area of contact between the Inflatable Stopper and pipe.
4. Whether or not the Inflatable Stopper is supported.
5. The pressure inside the Inflatable Stopper itself.

A SIMPLE EXAMPLE:

A 4" nylon-covered Inflatable Stopper inflated to 10 Psi would withhold an upstream pressure, without danger of it sliding along the pipe, of 2.5 Psi in a normal cast iron pipe.

Size	Pressure Psi
1 - 6"	10
7 - 8"	8
9 - 10"	5
12 - 13"	4
18 - 30"	2
32 - 33"	1.5
36 - 42"	1
44 - 72"	0.5
80 - 96"	0.2

Inflatable Stoppers Spherical



HFT PIPESTOPPERS®

***SPHERICAL STOPPERS, WHEN DEFLATED, CAN BE PASSED THROUGH
RELATIVELY SMALL HOLES IN PIPES.***

***THIS ALLOWS THEM TO BE USED FOR MANY APPLICATIONS
WHERE ACCESS TO THE JOB SITE IS DIFFICULT.***



Since the position of the Inflatable Stopper in the pipe is not critical, it can be put at any angle.

This is particularly useful when inserting into a small opening at the top of a pipe rather than at the end of the pipe. No high pressure equipment is needed for inflation.

MOST COMMONLY USED FOR

- Applications where only small entry ports are available.
- Isolating openings from environmental contamination
- Sealing pipes and ducts during washing of factories and larger plants or products.
- Emergency plugging or isolation of drainage points and sumps from spills.
- Sealing in pipes and ducts that are not to size.
- For difficult to access voids or spaces.
- Closing off pipes to be kept clean during maintenance.
- Weld purging of closing welds where a small retrieval port is available.

SPECIFICATIONS

1" to 96" (25 to 2440 mm) Inflatable Stoppers have a W1.3 m hose length, 8 mm ID, 14 mm OD and are fitted with a standard Schrader valve.

It is generally accepted that the pressure which an Inflatable Stopper will hold back depends on five factors.

1. The surface of the pipe into which the Inflatable Stopper is to be inserted.
2. The friction resistance of the Inflatable Stopper cover material.
3. The total area of contact between the Inflatable Stopper and pipe.
4. Whether or not the Inflatable Stopper is supported.
5. The pressure inside the Inflatable Stopper itself.

HFT PIPESTOPPERS®

OTHER PIPESTOPPERS PRODUCTS

The HFT Pipestoppers® Division manufactures ranges of standard and non standard Inflatable Stoppers for pipes, ducts and other shaped orifices.

The range also includes, **Cylindrical, Specials** like **Oil Chem** models as well as **Heat Protected** Stoppers for use up to 300°C (572°F).

These versatile HFT Inflatable Stoppers are used to service a wide variety of industrial applications, including stopping, testing and weld purging to isolate volumes in tanks, to minimise gas purging volumes.

All Inflatable Stoppers are manufactured with a strong internal inflatable bag made to the required shape and covered in a suitable fabric to suit the application.

INFLATABLE STOPPER HOLD BACK PRESSURE

A SIMPLE EXAMPLE:

A 4" nylon-covered Inflatable Stopper inflated to 10 Psi would withhold an upstream pressure, without danger of it sliding along the pipe, of 2.5 Psi in a normal cast iron pipe.

Size	Pressure Psi
1 - 6"	10
7 - 8"	8
9 - 10"	5
12 - 13"	4
18 - 30"	2
32 - 33"	1.5
36 - 42"	1
44 - 72"	0.5
80 - 96"	0.2

The standard range of HFT Pipestoppers® Inflatable Stoppers are available for immediate delivery in a variety of shapes and formats with sizes ranging from 1 to 96" (25 to 2440 mm).



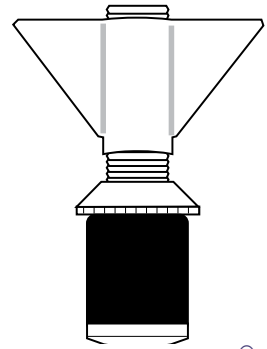
Heat and Petrochemical resistant stoppers

TEST PLUGS

HFT Pipestoppers® also manufacture a range of expanding pipe plugs. **Expanding Test Plugs** form a positive seal between surfaces and achieve an air and water-tight seal. Aluminium plugs conform to ISO Standards and British Standard BS 8005 for low pressure testing and sealing of pipes.



PetroChem Stoppers



HFT PIPESTOPPERS®

AN EASY WAY TO STOP THE FLOW OF GAS OR LIQUID ALONG A PIPE OR DUCT, FOR COLLECTION OF DEBRIS AND TO PREVENT INGRESS OF UNWANTED MATERIAL OR ANIMALS.

SUITABLE FOR USE IN PETROCHEMICAL APPLICATIONS WHERE HYDROCARBONS ARE PRESENT IN GAS OR LIQUID FORM.



The HFT Pipestoppers® Division of Huntingdon Fusion Techniques HFT® manufactures a range of standard as well as non-standard Inflatable Petrochemical Resistant Stoppers for pipes, ducts and other circular orifices.

The total range includes **Spherical and Cylindrical** versions as well as **Heat Protected** stoppers for use up to 300°C (572°F).

All **Inflatable Stoppers** are manufactured with a strong internal inflatable bag made to the required shape and covered in a petrochemical resistant inflatable membrane, which is in turn covered in waterproof sewn polyurethane coated nylon for low friction and to prevent the production of static electricity or accidental sparking.

HFT PIPESTOPPERS®

These versatile HFT® Inflatable Stoppers are used to service a wide variety of petrochemical and industrial applications such as:

- All petrochemical operations where hydrocarbons are present in liquid and gas form.
- Debris stopping during machining operations where pipes have had hydrocarbon liquids or solids inside.
- Leak testing of pipework systems where pipes have had hydrocarbon liquids or solids inside.
- Low pressure hydrostatic tests where pipes have had hydrocarbon liquids or solids inside.
- On-site thermoforming of bends in ducting and conduit materials.
- Fibre-optic construction projects.
- Debris and animal barriers for overnight protection of pipelines where pipes have had hydrocarbon liquids or solids inside.
- Plumbing operations.

The standard range of HFT Pipestoppers® Inflatable Stoppers are available for immediate delivery in a variety of shapes and formats with sizes ranging from 1 to 96" (25 to 2440 mm).

DESCRIPTION

Standard PetroChem Cylindrical Inflatable Stoppers are commonly used for stopping off pipes with hydrocarbon gases and liquids inside where the inner membrane of the stopper protects the inflatable latex bag inside that.

Spherical PetroChem Inflatable Stoppers give less contact area than the Cylindrical version, but are very useful where access is limited. Since the position of the Inflatable Stopper in the pipe is not critical, it can be put at any angle. This is particularly useful when inserting into a small opening at the top of a pipe rather than at the end of the pipe.



Spherical Inflatable Petrochemical Resistant Stoppers

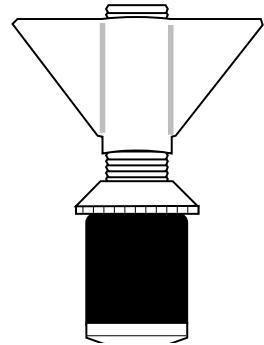
SPECIFICATIONS

1" to 96" (25 to 2440 mm) Inflatable Stoppers have a 1.3m hose length, 8 mm ID, 14 mm OD and are fitted with a standard Schrader valve.

It is generally accepted that the pressure which an Inflatable Stopper will hold back depends on five factors:

1. The surface of the pipe into which the Inflatable Stopper is to be inserted.
2. The friction resistance of the Inflatable Stopper cover material.
3. The total area of contact between the Inflatable Stopper and pipe.
4. Whether or not the Inflatable Stopper is supported.
5. The pressure inside the Inflatable Stopper itself.

Inflatable Rubber Pipe Plugs and Stoppers



HFT PIPESTOPPERS®



© HFT®

The Pipestoppers® Division of Huntingdon Fusion Techniques HFT® has added a new range of inflatable **rubber plugs and stoppers** to its existing range of inflatable, aluminium, nylon, steel plugs and stoppers.

These new inflatable rubber stoppers each have a wide diameter range and are suitable for use in petrochemical applications, as well as many others some of which are shown in the next column.

These new standard devices can be inflated quickly to working pressure and are resistant to most hydrocarbon gases and fluids.

Inflatable rubber stoppers are ideal for fast, reliable and safe stopping and blocking of pipes, joints, channels, inlets and a number of other uses.

SIZES AVAILABLE:

To suit 35 mm – 2000 mm (1.5" to 78").

USAGE and APPLICATION:

Inflatable rubber pipe plugs are used during new pipeline installation or for carrying out routine maintenance and repairs.

They seal off sections of a pipe quickly, safely and are very simple to use.

Inflation can be carried out almost instantly with a compressor and they can be inflated with hand or foot pumps too.

USES:

- Blocking pipes, tubes, dams, inlets, storage tanks, manholes and channels.
- For use in water, sewage, fluid production (milk, beer, chemicals), petrochemical, pharmaceutical, gas pipeline systems.
- Restricting, diverting and bypassing flow during pipeline maintenance or modification.
- Keeping pipeline free of dirt and contaminants by capping and blocking the ends.
- Can be floated down pipes and stopped at a desired location.

MATERIAL:

The plugs are manufactured from high quality rubber, comprising a mix of styrene, butadiene and isoprene.

KEY FEATURES:

- Flexible.
- Easy installation.
- Takes only seconds to fully inflate.
- Lightweight.
- Easy removal.
- Resistant from -40 to 70°C.
- High resistance against oils, hydrocarbons, petrochemicals.
- Tough, durable and have a long-life.
- Quick disconnect fittings.
- Temporary or long term use.
- Easy to handle.
- Each plug covers a range of sizes (see chart below).



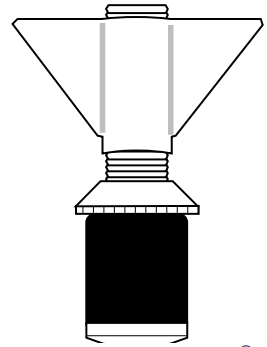
Deflated Rubber Plug



Inflated Rubber Plug

Inflation or Working Pressure:							
Part No	Min Pipe Dia mm	Max Pipe Dia mm	Inflation Pressure (bar)	Back Pressure (tolerance)	Deflated Diameter mm	Length mm	Weight KG
RPP3570	35	70	2	0.5	33	210	0.3
RPP5010	45	100	1.5	0.5	47	280	0.4
RPP7015	70	150	1.5	0.5	68	375	0.6
RPP1020	100	200	1.5	0.5	91	550	1.15
RPP1530	150	300	1.5	0.5	140	550	2.1
RPP2040	200	400	1.5	0.5	187	650	3.1
RPP2050	200	500	1.5	0.5	187	800	4.5
RPP3060	300	600	1.5	0.5	286	850	9.5
RRP5010	500	1000	1.5	0.5	486	1150	26.5
RRP6012	600	1200	1.5	0.5	586	1300	35
RRP6515	650	1500	1	0.3	595	2500	70
RRP1002	1000	2000	1	0.3	860	3000	190
All plugs are tested at 3x times their working pressure for safety and durability.							

Inflatable Pancake Stoppers



HFT PIPESTOPPERS®



© HFT®

MAIN FEATURES:

- Single ended Inflatable Pancake Stoppers for closure welds, T piece joints and dome end connections, where a conventional Tandem Purge System cannot be used.
- These Inflatable Stoppers provide an excellent grip in the pipe with an effective all-round seal.
- Manufactured for pipe diameters from 6 - 96 inch (150 mm up to 2,440 mm).
- Each stopper is easy to inflate using the purge gas.
- Once the stopper is inflated and seals all around the internal circumference of the pipe, the excess purge gas spills out and purges the space around the weld joint, which then pushes the air out to the open atmosphere.
- Each stopper is equipped with a purge / inflation hose (black), an extra purge gas hose (blue) as well as a hose for connecting a Weld Purge Monitor® (red).

Inflatable Pancake Stoppers are a low-cost alternative to plastic foam or cardboard dams that are still very frequently hand made at great expense by welders on site.

It is not always practical to use a complete Argweld® Inflatable Tandem Purge System, so these easy to insert and easy to use stoppers made from the correct materials for weld purging are much more suitable.

These simple to use Inflatable Pancake Stoppers can be purchased for any diameter within their manufacturing range and can be used in connection with other styles or sizes of stoppers elsewhere within the piping system.

Now there is no more reason to put welds at risk by using cheaper materials, when for a very low cost, Argweld® Inflatable Weld Purge Dams can be purchased instead.

HFT PIPESTOPPERS®

USE AN ENGINEERED SOLUTION AND ELIMINATE:

- Weld coking.
- Oxidation.
- Weld root contamination.
- Weld cut-outs.
- Loss of corrosion resistance.
- Other issues that might occur as a result of using plastic foam or other unsuitable materials that can release massive amounts of air, oxygen, hydrogen, carbon, gases and water into the weld zone during the welding process.



PurgExtra® Systems have an extra purge gas input facility, which can be used for obtaining zero colour welds and for assisting in reaching interpass temperature specifications. The extra gas will also ensure that there is no loss of corrosion resistance because of oxidation.



QuickPurge® 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.

OTHER HFT® PRODUCTS:

Argweld® Inflatable Tube, Pipe and Pipeline Weld Purging Systems.



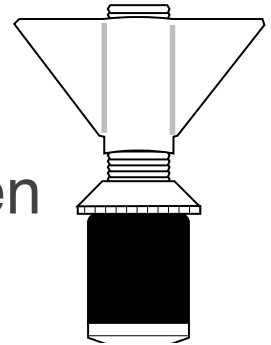
PurgElite® Inflatable Tube and Pipe Weld Purge Systems simplify the process of inert gas purging and are quick and easy to install.



HotPurge® Inflatable 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 760°C (1400°F).

Accu-Freeze™

Automatically Controlled Liquid Nitrogen Pipe Freezing System



HFT PIPESTOPPERS®



Accu-Freeze™ The Automatically Controlled Liquid Nitrogen Pipe Freezing System

Accu-Freeze™ utilises liquid nitrogen in a controlled system to freeze stationary liquids in a selected section of pipe or tubing.

By controlling the surface temperature of the pipe, Accu-Freeze™ can accurately and safely form an in-line ice plug, capable of withstanding 138 bar (2000 Psi) in pipe up to 12 inch (300 mm) diameter.

This temporary plug isolates the section, allowing repairs or modifications to be made without shutting off or draining the entire system.

Accu-Freeze™ is the world's only patented, digitally controlled pipe freezing system thus allowing you to accurately and safely create an ice plug.

The ice plug only forms beneath the Accu-Freeze coil wrap and jacket which is used on a 6 to 12" (150 to 300 mm) pipe and does not expand outside of this point.

MAJOR ADVANTAGES OF ACCU-FREEZE™

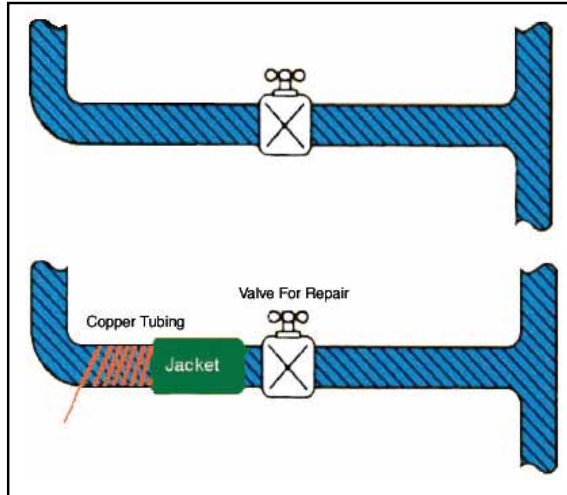
- Saves valuable time normally lost draining and refilling a system.
- Avoids complete shutdown of systems and equipment.
- Prevents waste of large amounts of water.
- Eliminates handling of contaminated water.
- Safe and cost effective.
- Standard products to suit pipe and tube sizes up to 12" (300 mm) .
- Accu-freeze is more cost effective than other refrigeration systems.
- Liquid N₂ delivery system is notably colder than other refrigerants.
- Ability to digitally set a specific freeze temperature.
- Ability to automatically control the freeze temperature.
- Able to control the system from a remote location.

HFT PIPESTOPPERS®

Accu-Freeze™ Procedure

An Accu-Freeze™ ice plug starts with wrapping copper tubing and a specially designed insulated jacket around the section of pipe to be frozen.

The nitrogen is then injected through the patented control system.



Water is brought to a static condition (no flow).

The Accu-Freeze™ wrap is placed around the pipe upstream from the section to be repaired.

Next, set the recommended surface temperature of the pipe in the digital controller.

Accu-Freeze® takes over by automatically injecting the liquid nitrogen through the system over the in-line ice plug.

Once the plug is formed, maintenance and repair can take place without draining or shutting off the entire system.

Jacket Sizes

The Accu-Freeze™ insulating jacket accommodates pipe sizes from 6" (150 mm) to 12" (305 mm).

The design of the jacket incorporates adjustable straps, this will allow the user to alter the jacket size according to the application requirements.

Factory Set Options

Each Accu-Freeze™ unit can be set to 220 V or 110 V and a working scale of °C or °F.

Optional Aluminium jackets.

The Accu-Freeze™ Kit Contains

- Carrying Case
- Control Solenoid Valve Header Complete
- Digital Controller Complete
- 10 ft. Flexible Cryogenic Hose
- Ferrules, Fittings, T- Connectors
- "T"Connector Plug (Male)
- "T" Connector Jack (Female)
- 4 ft. T/C Wire With Male End Connector
- 33 ft. T/C Wire With Male & Female Connector
- Spool
- T/C Support Strap
- 2 Channel Temperature Monitor
- Battery Operated)
- Operating Instruction Manual
- Roll of Soft Copper Tubing (5/16" or 1/4")
- Insulated Gloves
- Safety Glasses
- Insulating Jacket
- 35 Psi Relief Valve
- 50 Psi Relief Valve

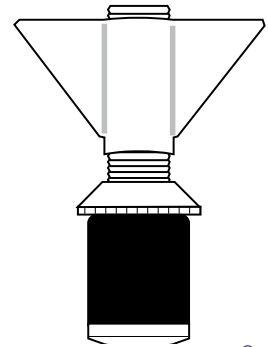


Safety Notes:

- Accu-Freeze™ utilises liquid nitrogen to create the cryogenic temperature necessary to form ice plugs.
- Safety precautions must always be taken with use of this product.
- Protective clothing i.e. gloves, goggles, etc. must be worn at all times when operating this product.
- Liquid nitrogen is heavier than air and will displace oxygen. Sufficient ventilation is required, especially when operating in confined areas.
- Accu-Freeze™ is designed to operate with liquid nitrogen tanks fitted with low pressure safety valves.
- Use with any tanks other than properly specified, will cause damage to the unit and possibly harm the operator.

Qwik-Freezer™

Portable Pipe Freezing Equipment



HFT PIPESTOPPERS®



HFT®

Portable Pipe Freezing Equipment

Qwik-Freezer™ equipment utilises liquid carbon dioxide (CO₂) to freeze stationary water in selected sections of pipe or tubing. By producing very low "dry ice" temperatures, Qwik-Freezer® forms a secure in-line ice plug.

This temporarily isolates the water in the system and allows repairs or modification to be made without draining or shutting off systems.

Simplifies Pipe Repair and Modification

The Qwik-Freezer™ kit is easy to use. A specially designed jacket is wrapped around the pipe at the point where the freeze is required. A nozzle on the jacket is then coupled to a cylinder of liquid CO₂ by means of a high pressure hose.

When liquid CO₂ is injected into the space between the jacket and the pipe, it immediately expands to form solid carbon dioxide (dry ice) at a temperature of -78°C (-108°F). This low temperature quickly freezes the contents forming a secure "ice plug" which seals the pipe.

The "ice plug" forms only in the section of pipe covered by the jacket so the resulting rise in pressure is very small, and there is no damage to the pipe. The technique can be used safely on iron, lead, stainless steel, copper, brass and plastic pipe.

MAJOR ADVANTAGES

- Saves valuable time normally lost draining and refilling a system.
- Avoids complete shutdown of systems and equipment (as in a sprinkler or water supply system).
- Prevents waste of large amounts of water.
- Eliminates handling of wasted water.
- Safe and cost effective.
- Standard products to suit Pipe and Tube sizes from 3/8" to 8" (10 mm - 200 mm) diameter.
- Liquid Carbon Dioxide is inexpensive!
- Other "refrigeration" systems are more expensive.
- Long freeze length provides large plug size.
- Liquid CO₂ delivery system "Dry Ice" is notably colder than other refrigerants.
- Qwik-Freezer™ systems allow operators to source their own CO₂ (no expensive refills or replacements of refrigerant).
- No Recalibration of Qwik-Freezer™ Products necessary.

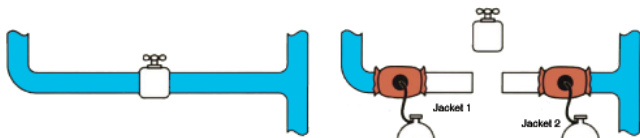
HFT PIPESTOPPERS®

A Typical Qwik-Freezer™ Application:

Replacing a defective valve

- The water is brought to a static condition.
- The Qwik-Freezer® jacket (orange) is then wrapped around the pipe.
- Place Jacket 1, at a nearby upstream location.
- Inject liquid CO₂ into the jacket.

The CO₂ rapidly freezes the water in the pipe, permitting valve removal for servicing or replacement.



Jacket 2 shows positioning of a second Qwik-Freezer® jacket and tank used when a double freeze is required to block flow on both sides of the valve.

Qwik-Freezer™ Pipe Freezing Kits

Qwik-Freezer™ systems are supplied as kits containing different jackets and required hoses to connect to a CO₂ supply.

Our table confirms jackets and hoses supplied in various kits.

Model N° & Size range	QF101 Jacket 8" 200 mm long	QF102 Jacket 12" 305 mm long	QF103 Jacket 14" 356 mm long	QF104 Jacket 20" 508 mm long	QF106 Jacket 28" 711 mm long	QF108 Jacket 33" 838 mm long	QF800 Hose 10 ft.	QF800B Hose 16 ft.	QF801 Valve Adaptor
QF 1500 3/8"-1.5" (10mm-37mm) pipe	1	1	0	0	0	0	1	0	1
QF 2000 3/4"-1.5" (19mm-37mm) pipe	0	1	0	0	0	0	1	0	1
QF 2200 3/4"-1.5" (19mm-37mm) pipe	0	2	0	0	0	0	2	0	1
QF 3000 3/8"-3" (10mm-75mm) pipe	1	1	1	0	0	0	2	0	2
QF 4000 3/8"-4"	1	1	1	1	0	0	0	4	2
QF 4100 3"-4"	0	0	0	1	1	0	0	4	4
QF 6000 3/8"-6"	1	1	1	1	1	0	0	4	4
QF 6100 5"-6"	0	0	0	0	1	0	0	3	4
QF 8000 3/8"-8"	1	1	1	1	1	1	0	4	4
QF 8100 7"-8"	0	0	0	0	0	1	0	4	4

Accu-Freeze™ Automatically Controlled Liquid Nitrogen Pipe Freezing System.

Accu-Freeze™ utilises liquid nitrogen in a controlled system to freeze stationary liquids in a selected section of pipe or tubing. By controlling the surface temperature of the pipe, Accu-Freeze™ can accurately and safely form an in-line 'ice plug', capable of withstanding 2000 Psi in pipes up to 12" (300 mm) in diameter.

This temporary plug isolates the section, thus allowing repairs or modifications to be made without shutting off or draining the entire system.

Qwik-Freezer™ Standard Kits Contain:

- Insulating pipe jackets.
- Reinforced high pressure hose.
- Valve Adaptor.
- T - Connector.
- Insulated work gloves.
- Rubber mallet.
- Safety glasses.
- Operating manual.
- Timing log.
- Rigid fibre carrying case



Qwik-Freezer™ Jackets:

- QF 101 for 3/8" (9.4mm) to 3/4" (18.8 mm) pipe size.
- QF 102 for 3/4" (18.8mm) to 1 1/2" (38 mm) pipe size.
- QF 103 for 1 1/2" (38mm) to 3" (75 mm) pipe size.
- QF 104 for 3" (87.5mm) to 4" (100 mm) pipe size.
- QF 106 for 5" (125mm) to 6" (150 mm) pipe size.
- QF 108 for 7" (175mm) to 8" (200 mm) pipe size.

The jacket sizes refer to the associated pipe ID.

Accu-Freeze™ Technique

Water is brought to a static condition (no flow). The Accu-Freeze™ wrap is placed around the pipe up stream from the section to be repaired. Next, set the recommended surface temperature of the pipe in the digital controller. Accu-Freeze™ takes over by automatically injecting the liquid nitrogen through the system over the in-line ice plug. Once the plug is formed, maintenance and repair can take place without draining or shutting off the entire system.

World Wide Care and Customer Support



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