

# QuickPurge®

## TUBE, PIPE and PIPELINE WELD PURGING SYSTEMS



Inert gas is expensive; it's probably the second most costly contribution to welding after filler wire. Care needs to be taken when selecting a purging technique since the majority of pipe purge systems are flagrant abusers that demand very high levels of inert gas use.

The most efficient systems are those such as **QuickPurge®** and based on twin inflatable dams. The designs are such as to minimise the purge volume and incorporate automatic advanced gas flow and control technology. Losses due to leakage are insignificant.

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

**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®** would be less than 3 minutes for a 12"  $\varnothing$  joint and 8 minutes for a 36"  $\varnothing$  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® quickly and accurately. It 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® 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 88" (152 to 2,235 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 **PurgEye**® 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.

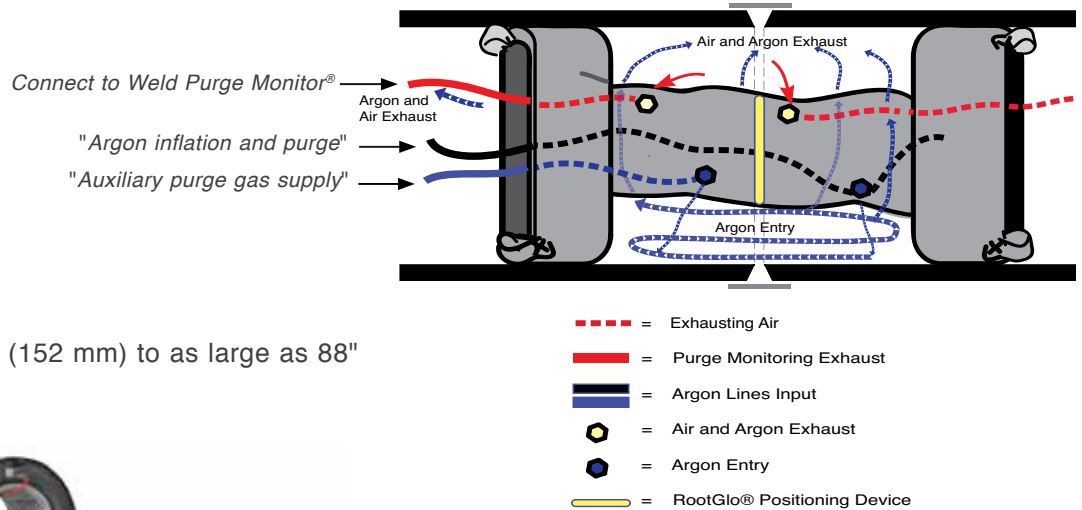
When welding chrome steel and high strength stainless steel joints, our HotPurge® range is recommended due to the requirements for preheating and post heating (see separate literature for more information).



## SPECIFICATION:

- Range from 6 to 88" (152 to 2,235 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.
- Maximum operating temperature 80°C (176°F).
- 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



Sizes from as small as 6" (152 mm) to as large as 88" (2,235 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 300°C (572°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.



## HUNTINGDON FUSION TECHNIQUES ■ HFT

### Other HFT® Weld Purging Products

Argweld® Inflatable Tube Pipe & Pipeline Weld Purging Systems  
Argweld® PurgEye® Weld Purge Monitors®  
Argweld® Weld Purge Film® & Weld Purge Super Adhesive®  
Argweld® Weld Backing Tape® & Weld Purge Tape®  
Argweld® Weld Trailing Shields®  
Argweld® Flexible Welding Enclosures®  
Argweld® Weld Purge Plugs™ & Orbital Welding Plugs  
Techweld® MultiStrike® Tungsten Electrodes

### Our HFT Pipestoppers® Division

Nylon, Aluminium, Steel and Rubber Pipe Plugs and Inflatable Stoppers