Stainless Steel Weld Finishing System

TIG Brush™

Engineered & Made in Australia

ensitech®
Stainless Steel Weld Finishing System

Ensitech’s Proven Technology Now with Added Power for TIG & MIG Weld Finishing

The TIG Brush Stainless Steel Weld Cleaning System creates a unique combination of electricity, heat and chemistry to deliver superior results in weld cleaning, passivation and metal surface finishing. Its proprietary, conductive brush applies cleaning fluid to the work surface, producing an electrochemical cleaning action with astoundingly fast and effective results.

CLEAN & PASSIVATE WITH UNIQUE HIGH-TEMP BRUSH

Independent testing by Gauge Industrial and Environmental, using a Scanning Electron Microscope (SEM) and The Welding Institute (TWI) immersion test to the ongoing standardization ISO CD18069, have shown that cleaning with a TIG Brush and genuine TIG Brush fluids removes detectable oxides from the weld zone and returns chromium levels in the surface layer to equal or superior levels than that of the unwelded surface.

Scientifically Proven Technology

- One-Step Cleaning & Passivation
- Unparalleled Safety Features
- IP 65 Rated Housing (700 Series)
- 110/220V Single Phase Power
- Flexible Brush Applicators
- Portable Design
- International Sales & Support
- Low Toxicity, Water Soluble Fluids
- Low Voltage, High Current Output
One-Step Cleaning & Passivation

Effective stainless steel weld cleaning involves more than heat tint removal. Premium results are achieved by following a systematic process that begins with selecting the right combination of products for the task at hand.

The optimum combination of fluids depends on the type of weld being cleaned, the desired finish (e.g. satin or mirror) and the relative priority placed on speed vs. finish.

With a choice of four innovative cleaning fluids, plus dedicated fluids ranging from pre-weld preparation to finishing and marking, Ensitech has it covered.

TIG Brush Machine Selector

<table>
<thead>
<tr>
<th>TIG Brush TBE-160CM</th>
<th>TIG Brush TBE-250</th>
<th>TIG Brush TBE-700</th>
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<tbody>
<tr>
<td>Heat Tint Removal</td>
<td>WIDTH TO CLEAN</td>
<td>CLEANING SPEED</td>
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<td>TIG</td>
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<td>STD</td>
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<td>MIG</td>
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<td>EXTRA FAST</td>
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<td>CLEAN</td>
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<td>&lt;1.5”</td>
<td>PREMIUM FINISH</td>
<td>MARK</td>
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<td>&lt;3”</td>
<td>BRIGHTEN &amp; PROTECT</td>
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TIG Brush Fluid Selector for Stainless Steel

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<tr>
<th>PREPARE</th>
<th>TB-01 PRE-WELD CLEANING</th>
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<tr>
<td>PREPARE</td>
<td>TB-02 PRE-WELD CLEANING</td>
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<tr>
<td>CLEAN</td>
<td>TB-21 ND WELD CLEANING</td>
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<tr>
<td>NEUTRALIZE</td>
<td>TB-40 NEUTRALIZER FOR TB-21ND &amp; TB-25</td>
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<tr>
<td>BRIGHTEN &amp; PROTECT</td>
<td>TB-50 FINISHING FLUID</td>
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<tr>
<td>MARK</td>
<td>TB-90 MARKING FLUID</td>
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The correct choice of TIG Brush unit and setting also plays an important part, as the different models’ features interact with the various fluids and applications.

Extensive laboratory testing has confirmed that Ensitech’s weld cleaning process passivates stainless steels in accordance with ASTM international standards ASTM A967-05 & ASTM B912-02.
TIG Brush TBE-700
The ultimate performer with added power to clean TIG and MIG Welds

SELECTABLE POWER LEVEL

SWITCHED MODE SELECTION

POWERS THE LARGEST BRUSHES
The latest advancement of our patented technology is the most powerful TIG Brush to date. It includes extra safety features, unparalleled speed of operation and a new IP65 rated housing. All models are 110/220V.

TIG BRUSH MARKING KIT
The TIG Brush can also be used to indelibly mark (etch) stainless steel products with identifying marks such as logos, part numbers and barcodes.

Using a special marking head (a solid electrode in place of a brush), combined with a felt pad and appropriate fluid permanent marking of stainless steel is fast and easy.

Ask us for details of custom stencils to suit your requirements.
TIG Brush TBE-250
The Work Horse, for extended medium to heavy use

SELECTABLE POWER LEVEL

SWITCHED MODE SELECTION

OPTIMIZED FOR LARGER BRUSHES
The enhanced configuration of the base model features the same patented technology plus switchable power levels and mode control to give you greater flexibility for a wider range of applications. All models are 110/220V.

TIG Brush TBE-160CM
The most affordable unit, for light to medium use

CLEAN/MARK SETTING

SWITCH-FREE MODE SELECTION

FIXED POWER LEVEL

SINGLE BRUSH

The base model includes our patented technology delivered at a fixed power level for ease of operation. It incorporates the proven performance of the original TB-250 which it superseded. All models are 110/220V.
Premium Range of Innovative Fluids

Ensitech has invested heavily in market-leading research and development to create a complete, premium range of innovative fluids for every aspect of stainless steel surface preparation, weld cleaning and finishing.

If you place a high priority on cleaning quality and speed, passivation and safety, use your TIG Brush with genuine Ensitech fluids. By following the recommended procedures of Ensitech’s Surface Finishing System®, you can be confident of superior results.

PRE-WELD CLEANING
Removal of contaminants prior to welding is a sensible strategy to ensure firstly that the best weld quality is obtained and then a quick and effective clean and passivation is achieved with the TIG Brush weld cleaning process.

TB-01 | PRE-WELD CLEANING FLUID
Developed to remove residues such as light oils and greases on stainless steel surfaces. If contaminants are not removed, they can be included in the weld, leading to unsightly and difficult to remove inclusions in the weld. Using TB-01 first ensures a perfect finish.

TB-02 | HEAVY DUTY PRE-WELD CLEANING FLUID
A heavy duty decontaminant designed to remove persistent oils, adhesives and greases from metal surfaces before welding. A common hard to remove contaminant is residual adhesives and release aids that are added to steel surfaces as part of the film system to protect the metal surface in transport. Complete removal of such deposits before welding allows post-weld cleaning with the TIG Brush system to give a clean, clear, well passivated welded surface.

CHOOSING THE APPROPRIATE CLEANING FLUID
With a choice of four innovative cleaning fluids from chemically stringent to high-powered, genuine TIG Brush stainless steel cleaning fluids simultaneously clean and passivate with proven results.

TB-21ND | WELD CLEANING FLUID
A light-duty, high performance fluid, which cleans, polishes and passivates stainless steel without the corrosive classification given to TB-25. Its Non-Dangerous rating makes it slightly easier to handle and economical on freight costs. For best results, neutralize with TB-40 after cleaning.

TB-25 | WELD CLEANING FLUID
This high-powered premium stainless steel weld cleaning fluid is the strongest, fastest cleaning fluid in the range. With the highest quality components at high concentrations, TB-25 gives the user unequalled performance in cleaning, polishing and passivating on the harshest stainless steel welds. For best results, neutralize with TB-40 after cleaning.

* TB-25 is classified as a Dangerous Good (DG) and therefore a DG freight surcharge applies.

TB-30ND | WELD CLEANING FLUID
A biodegradable stainless steel weld-cleaning fluid developed for use in facilities where corrosive chemicals are not permitted. Environmentally friendly, it cleans as effectively as TB-25, but does not polish. For best results, neutralize with TB-41 after cleaning.

TB-31ND | NEUTRAL WELD CLEANING FLUID
When you have a need for added safety, this custom designed and patented fluid is pH neutral, fast-acting and needs no separate neutralization process. It cleans and passivates without polishing, leaves no white frosting and does not alter high-polish stainless. Environmentally safe TB-31ND allows maximum safety in use, handling, storage and transport.
NEUTRALIZING THE SURFACE
Before using any of the TIG Brush neutralizing fluids, rinse off the cleaning fluid thoroughly with clean water. Then apply the appropriate neutralizing fluid to remove any of the residual acidity. If your work has tendency to form a white “frosting” on the metal surface, the TIG Brush neutralizing products reduce this. As the white frosting can occur after many days, it is important to use your neutralizing fluid as soon as possible after cleaning.

**TB-40 | NEUTRALIZING FLUID FOR TB-21ND AND TB-25**
A non-dangerous (non-flammable, non-corrosive) formulation specifically developed for neutralization of TB-21ND and TB-25 without the development of any toxic or corrosive products. TB-40 neutralizing fluid is an important preventative step in the complete removal of any acidic chemicals on the work surface.

**TB-41 | NEUTRALIZING FLUID FOR TB-30ND**
Also a non-dangerous (non-flammable, non-corrosive) formulation, developed for neutralizing TB-30ND, TB-41 contains a range of fast acting, effective components that neutralize any residual acidic components within seconds. TB-41 contains unique components that remove the complex chemistry of TB-30ND.

FINISHING
Application of a finishing fluid will increase surface reflectability and prevent your perfect finished surfaces from marking through handling.

**TB-50 | FINISHING FLUID**
Cleans, brightens but also resists handling marks by leaving a molecular level layer on the surface of the stainless steel. Wipe or spray the cooled finished surface with TB-50, rinse down with water then buff with a microfiber cloth to achieve a brilliant shine and fingerprint resistance.

MARKING
Be proud of your work. Ensitech’s marking fluid can be used to permanently mark stainless with branding, part numbers, barcodes etc. Ask for details of our Marking Kits and custom stencils.

**TB-90 | MARKING FLUID FOR STAINLESS STEEL**
Used with your TIG Brush with a specially engineered conductive head and stencils, TB-90 creates permanent sharp and dark lettering, logos, or any other design on your stainless steel. The process is user friendly, safe and fast with outstanding results within seconds.

SAMPLE PACK
Don’t just take our word for it. Sample Packs are the perfect way to try our full range of award winning fluids to ensure your fluid choice will give you the performance you need.
Brush Components & Accessories

TIG Brush components and accessories are designed and manufactured to Ensitech’s specifications to ensure complete compatibility with the TIG Brush system. For maximum safety and performance, and to maximize the value of your investment in TIG Brush technology, use only genuine Ensitech accessories and consumables.

BRUSH TIPS

Ensitech brush tips are manufactured from premium quality materials to ensure the best performance from the TIG Brush. Brush tips are available in packs of 10.

DUAL BRUSH ADAPTOR

Clean larger TIG welds and surfaces more quickly using a dual brush. The dual brush adapter accepts two standard size brush tips to form a brush twice the size for greater coverage.

QUAD BRUSH ADAPTOR

The quad brush is designed for cleaning the largest welds and surface areas, as well as heavier-duty applications such as cleaning MIG, which require more heat and current delivered to the work surface. The quad brush adapter accepts four standard size brush tips.

INSULATING SHROUDS

Always use an insulating shroud in accordance with TIG Brush operating instructions. This is important for safety and to prevent damage to the equipment. Replacement shrouds are available for single brush tips (standard with all TIG Brush units), dual brush adapters and quad brush adapters.

WANDS

Stainless steel wand with heat resistant insulating sleeve in 2 sizes: standard 4” and small 2”.

TIG Brush™
EXTENSION CABLES
Extension cables are available to increase reach to 20’, 40’ and 60’, making it easy to use the TIG Brush for less-accessible work. Available individually (red or black cables) or as a pair. Check the maximum length compatible with your TIG Brush.

HANDLE CABLE COMBO & CLAMP CABLE
Replacement handle cable combo and clamp cables are available in 10’ and 20’ lengths. Available individually (red or black cables) or as a pair.

FLEXI HANDLE
Ergonomic flexible handle – can be positioned to suit operator and/or work piece.

FLEXI WAND
Screws onto standard straight handle to convert it into a flexi-handle.

TIG BRUSH MARKING KIT
Replacement parts for the TIG Brush Marking Kit to keep your permanent marking of stainless steel underway. Ask us for details of custom stencils to suit your requirements.
Passivating Stainless Steel

TWI (The Welding Institute), is the leading professional engineering institution responsible for the professional registration and certification of welding and joining personnel worldwide.

Ensitech is a member of TWI who collaborated with us recently to quantify the influence of the TIG Brush process for cleaning and passivating 316 stainless steel welds.

A key finding of the report from this collaborative project concluded:

“All the TIG Brush chemical variants studied improve the corrosion resistance of a welded sample, such that the corrosion rate is reduced to below that of unwelded steel.”

This result is reflected in the following graph:

Corrosion rates of post-weld treated samples relative to base steel

The full report is available on our website: TIGBrush.com
The TIG Brush’s breakthrough electrochemical cleaning process has finally enabled manufacturers to eliminate the use of pickling paste & less efficient weld-cleaning methods and is being rapidly adopted as the preferred stainless steel weld-cleaning technology of quality and safety conscious companies and industries across the globe including Food & Beverage, Oil & Gas, Defense, Chemical & Mining, Power Generation & Nuclear Energy, Water Treatment, Building & Construction.

**Food & Beverage**
Food-safety applications such as equipment for food & beverage manufacturing, dairy, wine making, brewing, as well as food preparation and service equipment, all demand the highest possible standards in surface hygiene and protection. These industries have been among the most enthusiastic adopters of TIG Brush technology, and their specific requirements and feedback have led to the expansion of Ensitech’s range of products suited to their needs.

**Featured Clients:**
Nestlé  Fonterra  Devro  DS Smith

**Metal Fabrication**
Metal fabricators and maintenance operators trust the TIG Brush for its reliable, high-quality results, coupled with speed and ease of use. The TIG Brush pays for itself over and over through increased productivity and cost savings. By massively reducing PPE requirements and OH&S costs, users find that the machine pays for itself over and over again. At the same time it enhances safety for operators and the environment and reduces the risks and costs of workplace injuries.

**Featured Clients:**

**Building & Construction**
Aesthetics and structural integrity are of equal – and paramount – importance in architecture, building and construction. Welds and metal surfaces used in these applications, especially in corrosive environments such as coastal locations, must be properly passivated and protected to ensure that they will withstand exposure to weather and environmental conditions, maintain their appearance, maximize asset life and lengthen maintenance cycles. Testing and comparison of welds and surfaces installed in coastal and other corrosive environments have demonstrated the superior performance of those cleaned by TIG Brush.

**Featured Clients:**

**Oil & Gas**
The oil & gas industry and fuel transport industry face unique challenges in meeting the stringent safety and environmental standards associated with the handling and transportation of fuel products. Where weld integrity, surface integrity and the avoidance of potentially hazardous contaminants is vital, the TIG Brush offers the industry a fast, safe and flexible maintaining equipment.

**Featured Clients:**
Bechtel  Monadelphous

**Marine**
Few environments expose metal more directly to salt corrosion than marine installations. With its portable design, safety features and unparalleled ease of use, the TIG Brush is ideally suited to the cleaning and maintenance of the wide range of stainless steel and brass work found on boats and marinas.

**Featured Clients:**

The TIG Brush is also widely used in the following industries:
- Mining
- Petrochemical
- Pharmaceutical
- Materials Handling
- Defence

TIGBrush.com
A Safer Future for the Welding Industry