

# TIG Brush®

Stainless Steel Weld Finishing System



**A Safer Future for  
the Welding Industry**





# TIG Brush®

## Celebrating 10 Years!

The World's Premium  
Stainless Steel Weld Cleaning System

### Ensitech's Proven Technology

Ensitech, an Australian owned company began operations in 2006 and is currently celebrating its tenth anniversary as the inventor and manufacturer of the TIG Brush® Stainless Steel Weld Cleaning System. The TIG Brush technology was created as a solution to a specific and recurring problem of removing discolouration from stainless steel welds. Previous weld cleaning alternatives had issues including, lack of safety (such as incredibly strong acids like Pickling Paste), slow performance (such as the "pad" machines) or caused damage to the work (such as mechanical removal). The challenge the TIG Brush technology has succeeded in was to find a conductive material that could withstand the high

temperatures, a fluid that could remove the weld heat-tint when hot, and a power supply that could provide sufficient electricity to the brush, all in a safe and easy to use way. The TIG Brush product has resulted from finding a way to combine all of these attributes.



### The best stainless steel surface finishing solutions as well as exceptional customer care

2016 is Ensitech's 10th year of operation. To celebrate this milestone the company has released a new line-up of TIG Brush models. The TBE-700 is the fastest weld-cleaning machine currently available, the TBE-550 model is a general-purpose machine and the TBE-440 is the most economic solution. Ensitech has also recently launched a modified method of applying the technology called the PROPEL™ Torch. The brush bristles are confined to concentrate the effect, easy adjustment allows the length of the brush to be varied, and a quick-release mechanism enables the user to change brushes quickly.

The user grip has been changed to a "Tee" handle shape, providing a more comfortable and ergonomic handle. Ensitech continues to provide industries world wide ranging from nuclear to general fabrication with the most up-to-date stainless steel surface finishing technology. Moreover, Ensitech customers warrant and demand the highest quality products, service and solutions. To achieve this goal, management and staff have instilled a culture of continual improvement within the organization by adhering to the principles of ISO 9001:2008. 10 years of research and development have culminated in the TIG Brush brand maintaining its status as the world leader in stainless steel weld cleaning and passivation, innovative approaches to business and dedication to customer care.

# Superior Anti-Corrosion Protection

## One Step Cleaning and 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 finish, marking and etching. Ensitech has is covered.

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® Machine Selector

	HEAT TINT REMOVAL		WIDTH TO CLEAN			CLEANING SPEED			MATERIAL THICKNESS			PURPOSE		
	TIG	MIG	<.5"	<1.5"	<3.5"	STD	FAST	EXTRA FAST	<.19"	<.39"	<.78"	CLEAN	POLISH	ETCH & MARK
TIG Brush TBE-440	✓		✓			✓			✓			✓	✓	✓
TIG Brush TBE-550	✓	✓		✓		✓			✓			✓	✓	✓
TIG Brush TBE-700	✓	✓			✓		✓			✓		✓	✓	✓

## Passivating Stainless Steel

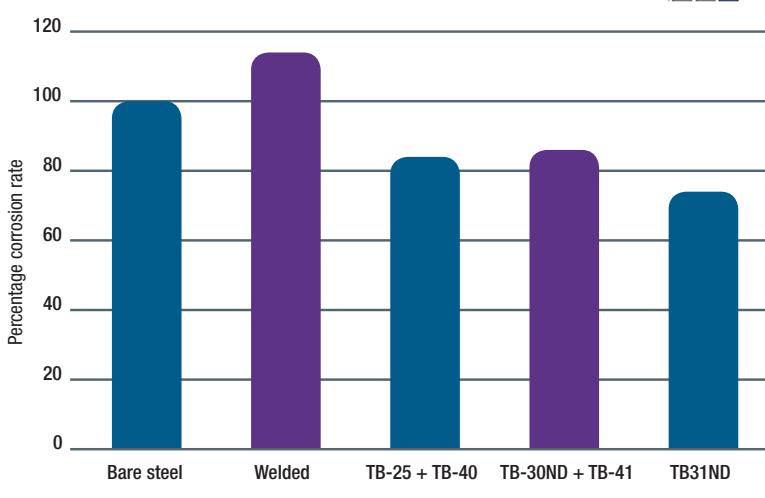
TWI (The Welding Institute), is the leading professional engineering institution responsible for the professional registration and certification of welding and joining personnel worldwide.

Ensitech, a member of TWI, collaborated 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 stainless steel."

This result is reflected in the following graph:



The full report is available on our website: [TIGBrush.com](http://TIGBrush.com)

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

# TIG Brush® TBE-700

The fastest MIG cleaner in the world



## DYNAMIC POWER SELECTION

### DYNAMIC MODE CONTROL

### HIGHEST POWER ON THE MARKET

Years of experience ongoing research and development and, customer feedback have resulted in the TIG Brush 700 attaining this status! Already recognised as the fastest and most powerful machine of its type in the industry at a competition ending 90 amps; the well known and reliable 700 series eliminates the competition offering a speed for MIG & TIG weld cleaning that is at least twice the speed of the nearest alternative. The 700 series remains the innovative, streamlined package you have come to expect from Ensitech, and continues to provide our proven combination of heat, electricity and chemistry to give you a surface finish and level of passivation, on both MIG & TIG welds which is the best in the industry. Combining the TIG Brush patented power delivery with the PROPEL™ Torch and Ensitech genuine fluids, gives the user peace of mind knowing they are operating the MIG MASTER and achieving the fastest, safest and most effective weld cleaning results. Available as a Complete Kit.



### THE PROPEL TORCH

Introducing the world's first adjustable weld cleaning torch



To retain its leading position, Ensitech understood the necessity to think outside the box. User focus has now shifted from the power supply to the application process; the user requiring a solution that is fast, safe, ergonomic and economical.

The patent pending design of the Propel Torch differs radically. The 'T' shaped handle allows the user's wrist to assume a more natural position during weld cleaning, reduces user fatigue, and provides a safer, more powerful method of cleaning.



# TIG Brush® TBE-550

TIG Brush innovation provides lightning fast weld cleaning



## DYNAMIC POWER SELECTION

## DYNAMIC MODE CONTROL

## OPTIMISED FOR PROPEL™ TORCH

The 550 utilizes a specifically focused adaptation of the 700 series design, to align its performance with Ensitech's latest technological advance, the PROPEL Torch. As you would expect, this gives you superior results consistently and reliably delivered by our proven combination of heat, electricity and use of genuine TIG Brush cleaning, marking and etching fluids. TIG Brush ongoing innovation and patented power delivery system gives you peace of mind knowing that you have achieved the industry's highest level of passivation in a fast but safe way. Available in a standard or PROPEL Torch Kit



# TIG Brush® TBE-440

TIG Brush genuine technology enhanced to give you a superior finish



## DYNAMIC POWER SELECTION

## DYNAMIC MODE CONTROL

## FASTEST IN ITS CLASS

The all new 440 is perfect for the light user and optimised to include the latest advances in TIG Brush technology and streamlined to deliver the quality you've come to expect from Ensitech. The new design and innovative technology continues to provide our proven combination of heat, electricity and chemistry to give you a surface finish and level of passivation, which is the best in the industry. Available in a standard or PROPEL Torch Kit





# 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. In addition to this, Ensitech fluids are now NSF certified and conform to the

requirements of the NSF Non-Food Compounds Registration Programme. The NSF mark is your assurance that Ensitech pre, post and weld cleaning fluids have been tested and certified by one of the most respected independent certification organisations in existence today.

## 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 to remove these contaminants will ensure a cleaner weld and provide more efficient post weld cleaning and passivation. NSF Registration number: 150959 NSF Category code: A1

### 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.

\*TB-02 is classified as a Dangerous Good (DG) and therefore a DG freight surcharge applies



## 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, neutralise with TB-40 after cleaning. NSF Registration Number: 150090 NSF Category code: A3



### 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, neutralise with TB-40 after cleaning.

\* TB-25 is classified as a Dangerous Good (DG) and therefore a DG freight surcharge applies. NSF Registration Number: 150001 NSF Category code: A3



### 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, neutralise with TB-41 after cleaning. NSF Registration Number: 150056 NSF Category code A3



### 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 neutralisation process. It cleans and passivates without polishing, leaves no white frosting and does not alter high-polish stainless. It is especially suited to the needs of sensitive environments such as food and beverage, pharmaceutical and petrochemical industries. Environmentally safe TB-31ND allows maximum safety in use, handling, storage and transport. NSF Registration Number: 150057 NSF Category A1





## NEUTRALISING THE SURFACE

Before using any of the TIG Brush neutralising fluids, rinse off the cleaning fluid thoroughly with clean water. Then apply the appropriate neutralising 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 neutralising products reduce this. As the white frosting can occur after many days, it is important to use your neutralising fluid as soon as possible after cleaning.

### TB-40 | NEUTRALISING FLUID FOR TB-21ND AND TB-25

A non-dangerous (non-flammable, non-corrosive) formulation specifically developed for neutralisation of TB-21ND and TB-25 without the development of any toxic or corrosive products. TB-40 neutralising fluid is an important preventative step in the complete removal of any acidic chemicals on the work surface. NSF Registration Number: 150055 NSF Category P1



### TB-41 | NEUTRALISING FLUID FOR TB-30ND

Also a non-dangerous (non-flammable, non-corrosive) formulation, developed for neutralising TB-30ND, TB-41 contains a range of fast acting, effective components that neutralise 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. NSF Registration Number: 150174 NSF Category Code: P1

## MARKING & ETCHING

Be proud of your work. Ensitech's marking fluid can be used to permanently mark stainless steel with branding, logos, 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. NSF Registration Number: 150170 NSF Category Code: P1



### TB-95 | ETCHING FLUID FOR STAINLESS STEEL

Used with your TIG Brush, a specially engineered conductive head and heat resistant stencils, TB-95 creates a sharp, clear etch for lettering, logos, or any other design on your stainless steel. The process is unequalled in speed, ease and permanency in adding an etch to stainless steel. NSF Registration Number: 151123 NSF Category Code: P1

## 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.



# TIG 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.



## TIG BRUSH TIPS - 10 PACK

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



## PROPEL™ TORCH BRUSH TIPS - 10 PACK

Ensitech's second generation PROPEL Torch brushes (patent pending) are manufactured in Australia with premium quality materials to ensure the best performance with your PROPEL Torch. PROPEL Torch brush tips are available in packs of ten.



## DUAL BRUSH ADAPTOR & SHROUD

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



## QUAD BRUSH ADAPTOR & SHROUD (TBE-700 ONLY)

The quad brush adaptor & shroud 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 & shroud 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 adapter.



## WAND ASSEMBLY

Stainless steel wand with heat resistant insulating sleeve in 2 sizes: standard 100mm and small 50mm.



## EXTENSION CABLES

Extension cables are available to increase reach to 6m, 12m and 18m 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.



## CLAMP CABLE

Replacement handle cable combo and clamp cables are available in 3m, 4m and 6m lengths. Available individually (red or black cables) or as a pair.



## HANDLE CABLE COMBO & CLAMP CABLE

Replacement handle cable combo and clamp cables are available in 3m, 4m and 6m lengths. Available individually (red or black cables) or as a pair.



## FLEXI HANDLE WITH RED LEAD

Ergonomic flexible handle - can be positioned to suit operator and/or work piece



## PROPEL TORCH WITH LEAD AND BRUSHES

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



## TIG BRUSH MARKING KIT

Indelible marking and etching stainless steel

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.



**MARKING HEAD  
& ADAPTOR**



**"O" RINGS**



**FELT ROLL**



# TIG Brush® Fluid Selector for Stainless Steel

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.

	PREMIUM FINISH	HEAVY DUTY	MAXIMUM SPEED	MAXIMUM SAFETY	GENERAL USE
PREPARE	TB-01 PRE-WELD CLEANING				
PREPARE	TB-02 PRE-WELD CLEANING				
CLEAN	TD-21 ND WELD CLEANING	TB-25 WELD CLEANING	TB-25 WELD CLEANING	TB-30 ND WELD CLEANING	TB-21 ND WELD CLEANING
NEUTRALISE	TB-40 NEUTRALISER FOR TB-21ND & TB-25	TB-40 NEUTRALISER FOR TB-21ND & TB-25	TB-40 NEUTRALISER FOR TB-21ND & TB-25	TB-41 NEUTRALISER FOR TB-30ND	TB-40 NEUTRALISER FOR TB-21ND & TB-25
BRIGHTEN & PROTECT	TB-50 FINISHING FLUID				
MARK	TB-90 MARKING FLUID				
ETCH	TB-95 ETCHING FLUID				

## Featured Industries

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.

### 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.

### 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.

### 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.

### 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 the TIG Brush.

# Featured Testimonials

## Ideal Stainless

We originally started using a competitor's weld cleaning machine with nothing but breakdown issues. We decided to opt for the TIG Brush® technology and since have had faster production, superior results and after sales support second to none. I would highly recommend the TIG Brush to all stainless steel fabricators.

- Stuart Wilkinson, Ideal Stainless



## Metal Works

The TIG Brush system is by far the most efficient and cost effective means for cleaning and passivating stainless steel that we have ever used, not to mention the OH&S issues with other methods.

- Paul Davies, Metal Works

## Bell Stainless

The TBE-700 has been BY FAR THE BEST PURCHASE WE HAVE MADE IN A VERY LONG TIME. And I am not talking slightly better, this thing is stinkin' fantastic!! We're thinking about a second unit already. To be honest my only hesitation in writing this is that my competition might see it and buy one - good for Ensitech, not so good for my competitive advantage. To wrap it all up I would highly recommend the TIG Brush, and as a company, Ensitech have been great to deal with!

- David Vine, Managing Director Bell Stainless

## Diamond Manufacturing

I read an article about the TIG Brush in Product Finishing magazine and thought this may be a real solution for our applications. We had internally discussed the machines and were wondering if we could actually see one and better yet actually lay our hands on one and polish our own products. We were thrilled when we called and Aaron told us he would come and demo the unit. We were sold as soon as we saw the TIG Brush clean up our worst welds in seconds. The only question was which machine to get and how fast could we get one. This product is one of those must have pieces of equipment if you do stainless steel welding. It's a great investment!

- Todd Cull, GM, Diamond Manufacturing

## Key Technologies

The TIG Brush machine is about 3 times faster than the machine we were using. Another feature we like is that it doesn't scratch the surface and gets into corners easily. Another saving is the cleaning fluid, our previous machine had a pump applicator and used a lot of cleaner. Dipping the brush is a better solution and reduces waste of the cleaning fluid. We do a lot of etching, so I tested the TIG Brush, the TIG Brush took 2 minutes to etch and the machine we were using took 15 minutes!

- Dan James, Key Technologies





# Making Stainless **STAIN LESS!**

## TIG Brush®

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