



FRIATEC

THE GLOBAL LEADERS IN ELECTROFUSION TECHNOLOGY

Famous for its engineering pedigree, FRIATEC shapes the future of industrial plastics development at its manufacturing and R&D facility in Mannheim Germany.

Driven by an 1,100 strong team, FRIATEC invests heavily in research to further improve its products and continually surprise the market with new advances. This commitment is reflected in the large number of patents FRIATEC has been awarded for its significant technical discoveries.



QUALITY

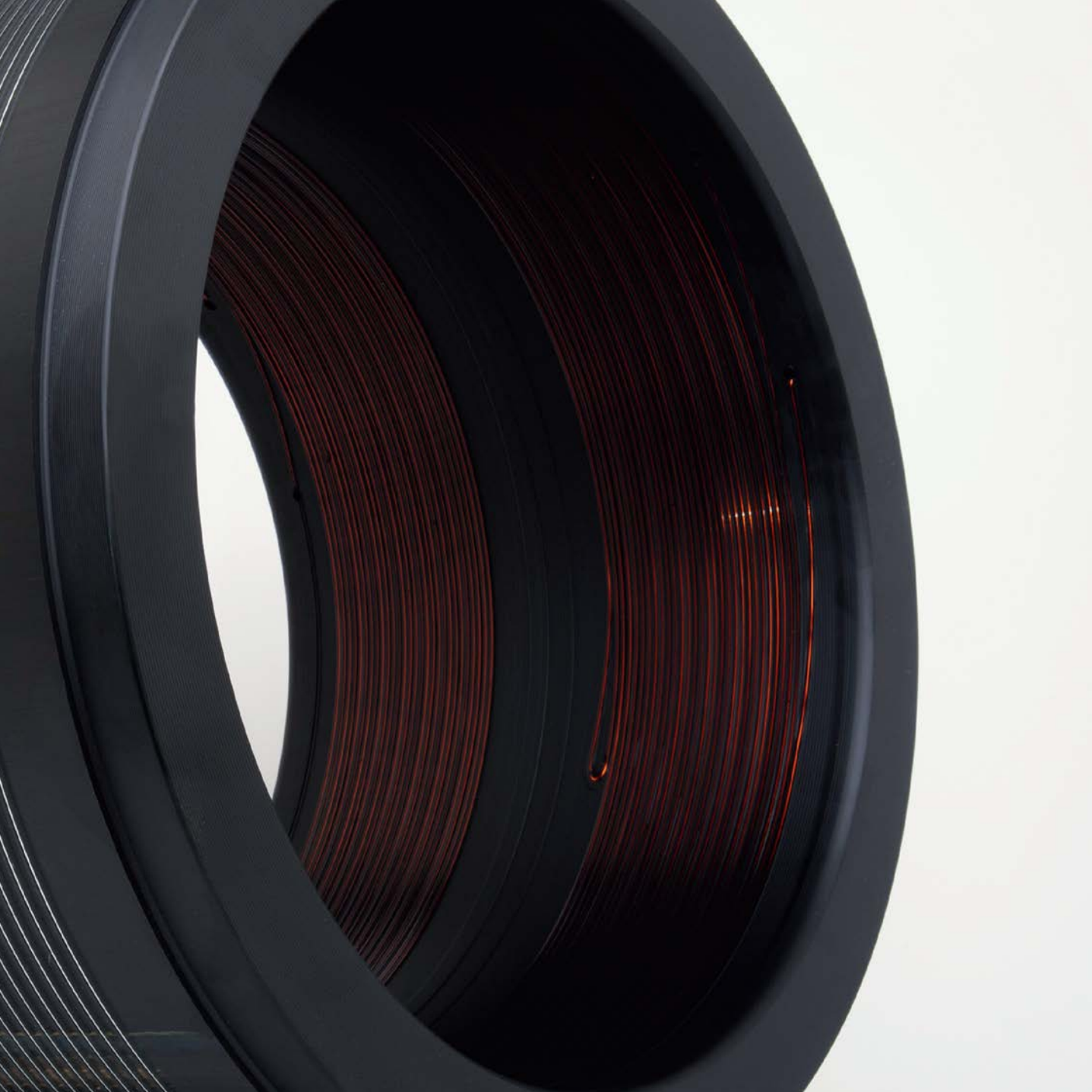
SINCE

1863

A global market leader in fittings since 1863, FRIATEC is intensely focused on quality, producing a wide range of products for the world's most demanding applications.

Bringing together precision engineering and cutting edge materials technology, the company produces in excess of 12 million fittings per year at its state-of-the-art Mannheim manufacturing facility in Germany.

A pioneer of electrofusion technology since the 70's, FRIATEC continues to set the standard that others follow. And now, FRIATEC's advanced range of electrofusion fittings, welders and tools are available through Reece in Australia.



EXPOSED HEATING COIL

Using a highly efficient, exposed heating coil design, FRIATEC's electrofusion system provides ideal heat transfer from fitting to pipe, delivering a faster and more precise weld. What's more, this unique design eliminates the risk of contamination through oxidation. The coils are embedded two thirds of the way the fitting so they simply cannot be dislodged. This ensures excellent bridging of gaps and ideal heat penetration for the perfect seal every time.



LONGEST COUPLER LENGTH

To guarantee outstanding performance, FRIATEC's couplings feature extra-long fusion zones. These zones are up to 2.7 times longer than the minimum required standard.

The larger fusion area helps to absorb energy while offering improved safety and stability. Extra-long cold zones reduce bending stress and ensure no loss of melting pressure.

Long coupler length also translates to better pipe support, better pipe alignment inside the fitting, a reduction of bending stress and a larger insertion depth at each end.

FULL RANGE



FRIATEC offers a range of couplers from 20mm – 1200mm in diameter. Each coupler is available in a choice of three different pressure ratings. These are SDR 17 (1000kPa), SDR 11 (1600 kPa) or SDR 7.4 (2500 kPa). If you need to fuse coiled pipe, FRIATEC offers its innovative 'Long coupler' which is 80% longer than its standard coupler. FRIATEC also offers elbows in 11°, 30°, 45° & 90°; pressure tapping tees and saddles.

SMARTER WELDERS

18kg

10amp
plug

**BARCODE
READER**

**AUTOMATIC
TEMPERATURE
COMPENSATION**

**BLUETOOTH
CONNECTIVITY**

**USB SMART
PHONE
CHARGING PORT**

The new FRIAMAT eco welders bring all new functionality and large colour screen display, for improved customer usability.

With smart weld functions, once scanned in the welder automatically adjust all variables including ambient temperatures to create the perfect weld. The eco Prime range of welders also feature Bluetooth connectivity with the Friamat App for smartphones, with scanner and documentation capabilities.

The 10 amp plug means it's suitable to run off any standard power point or generator. Torodial transformer technology with active cooling, for reduced process times at any size.

FRIATEC

FAQs

MINIMUM POWER REQUIREMENTS

- When using a generator, it must have a minimum output of 6.25kVA.
- A 10 amp GPO is recommended for optimal performance and results.

MAXIMUM EXTENSION LENGTH

- Extension leads must have a conductor cross section of 2.5mm² up to 50m in length or 4mm² up to 100m in length.

BARCODE IS NOT SCANNING

- Try shading barcode with your hand or scanning an identical fitting.
- Use Barcode Structure for manual entry.

THE WELDER IS SHOWING A CALIBRATION WARNING

- Servicing is required every 12 months, contact your local Reece Civil branch to book in for servicing. It is important to not delay as to ensure safe operation and handling, as well as maintaining optimal welding performance.
- You will be given a limited number of additional uses once the calibration warning appears.

BARCODE STRUCTURE

Barcode according to ISO 13950 in 2/5 interleaved ANSI.



— Manufacturer's mark

— Dimension 9 - 11

— Fusion voltage in volt 13 + 14

— Electrical resistance in Ohm 15 - 17

— Fusion time in seconds 19 - 21

— Temperature compensation + / - 22 + 23



COMMON ERROR CODES

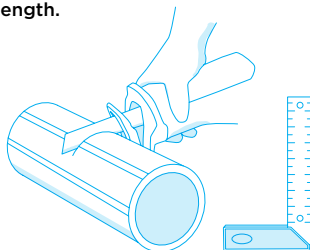
NO.	TEXT IN DISPLAY	REMEDY
02	Temperature outside range	Ambient Temperature is too high, set up a tent if necessary
03	Resistance outside tolerance	Issue with fitting, please check contacts, replace if necessary
05	Fitting winding open circuit	Issue with fitting, please check contacts, replace if necessary
08	Mains voltage outside range	Power outside permitted range, ensure generator and extension cables are within recommended range
13	Mains failure	Supply voltage may be too low, ensure good connection at contacts
23	Generator failure	Generator may not be suitable, ensure it meets minimum requirements.
30	Exhaust failure	Clear out exhaust fan of welder unit using an air compressor.

WELDING TUTORIAL

A step-by-step guide to creating a weld using the FRIAMAT system.

01

Cleanly cut pipe to length.



A square cut is essential.

02

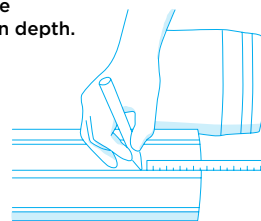
Inspect pipe cross-section for imperfections and ovality.



A rounding clamp can help fix this.

03

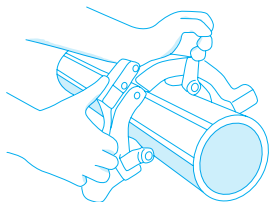
Measure and mark the insertion depth.



Use the fitting to find the required depth.

04

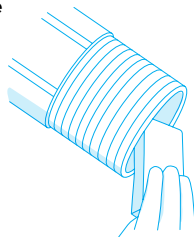
Remove the top oxide layer up to the marking.



A rotational scraper will give the best results.

05

Slightly chamfer the pipe's inside and outside then clean with a wipe.



Removes any burrs and chips.

06

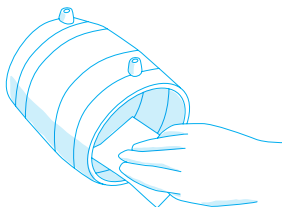
Clean the weld zone with an isopropyl wipe.



Removes debris and any particulates.

07

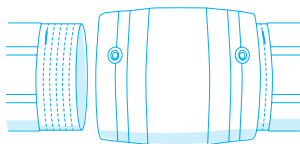
Remove fitting from packaging and clean with an isopropyl wipe.



Fittings must be kept sealed until ready to install.

08

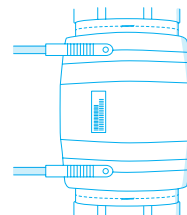
Mark insertion depth again and insert pipe into fitting.



If you feel resistance, ensure fitting is clear of debris.

09

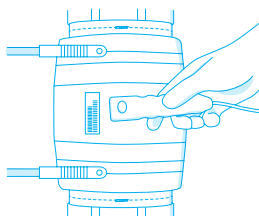
Connect welder leads to fitting, use adapters if necessary.



If using a generator, start it BEFORE connecting to welder.

10

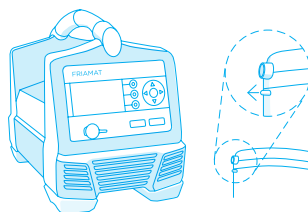
Use provided reader to scan the fitting's barcode.



This can be entered manually if needed. See FAQs.

11

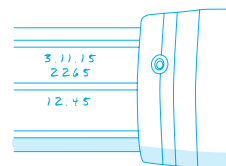
The welder will count down remaining weld time.



Indicator barbs will pop up on the fitting.

12

The cooldown timer appears after welding. Wait for this to finish before removing the welder leads.



Cooling is essential before testing the weld.

CASE STUDY

FRIALEN XL Electrofusion technology utilised on major Mornington Peninsula pressure sewer project.

THE BACKGROUND

More than 16,000 properties will be connected to the new sewer network

The pollution of ground water & waterways in the Mornington Peninsula region due to the ageing and failing of poorly maintained septic tanks was the catalyst for South East Water to roll out one of the largest pressure sewer constructions in Australian history. Construction works are taking place between the suburbs of Rye & Portsea and commenced mid-November 2013 and are anticipated to be completed within 30 months.

THE CHALLENGE

Installation of Electrofusion couplers on Large Bore PE pipe

Deformations in larger size PE pipes including ovality and local flattening (due to storage) can potentially create an issue during the installation process of PE Electrofusion couplers.

THE SOLUTION

FRIALEN XL Electrofusion Fittings - Special technology

The solution was to use FRIALEN XL Couplers which are equipped with many features to safely join PE pipes:

- Pre - heating technology - Capable of closing gaps between 1mm - 3mm
- External reinforcement - Prevents the fitting expanding off the pipe during fusion
- Exposed heating coil for improved hold
- Longer fusion zone for an enlarged force transferring area
- Longer cold zone - Compensates shrunken pipe ends and pipe not cut at a right angle
- Larger insertion depth to better compensate bending stresses
- Extra wall thickness - No loss of melting pressure

THE BENEFITS

FRIATEC is a world leader in Electrofusion technology. The safety features available on all FRIALEN XL fittings (400mm - 1200mm) are designed for the construction site and offer technical solutions to the contractor in the area of large pipe technique. FRIALEN Electrofusion fittings provide innovative, modern connection concepts designed to ensure long term reliability and durability of pipe systems.



FRIALEN XL 560mm coupler installed near Weeroona Street, Rye - Victoria

SUMMARY TABLE

CUSTOMER NAME	FHDB
Application/Product	Large diameter FRIALEN XL Electrofusion couplers
Size(s) used	560mm, 450mm, 400mm
Functional Requirements	Pre heat technology for out of round large bore PE pipe No clamping required due to external reinforcement
Benefits	<ul style="list-style-type: none"> • Exposed heating coil for improved hold • Greater installation safety • Longer fusion zone for more bite • Larger insertion depth for a perfect result • Designed to ensure long term reliability & durability • Excellent & fast bridging of gap • Fusion result is not affected by oxide layer in fitting • Optimum homogenous connection • Symmetrical fusion ellipse ensures a strong bond



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