



FUSEMATIC™
Leadership In Portable Fusematic Bonding Technology

APPLICATIONS

MILITARY AND COMMERCIAL SHIPPING

Replacement of Studs for Anodes
Rigging
Grating
Barge and Ship Repair

PETROCHEMICAL AND PROCESSING PLANTS

Replacement of Studs
Rigging
Grating
Instrumentation Valve
Leak Repair

MANUFACTURING AND MACHINE SHOPS

Attachment of Fasteners
Assembly of Systems
Metal to Ceramics
Joining of Dissimilar Materials



ABOUT FUSEMATIC

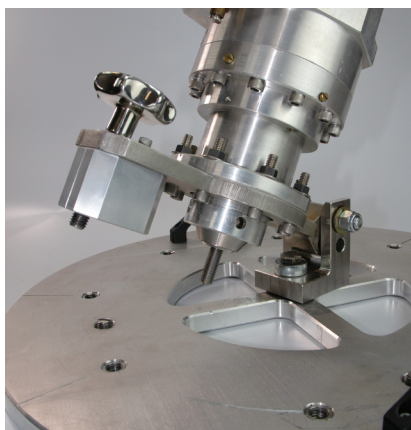
Fusematic Corporation is a product research and development company that manufactures and markets the most advanced, portable, latest generation friction welding systems available today

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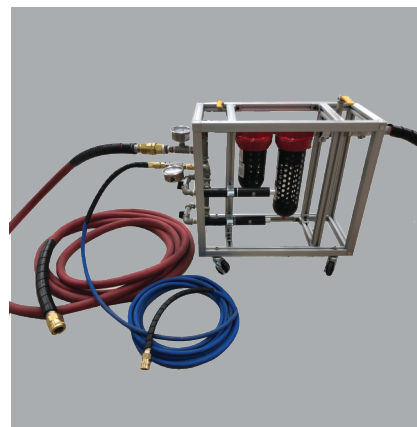
PHOENIX FUSEMATIC BONDING SYSTEM

Fusematic Bonding™ Fuses Materials on the Surface, Underwater, and in Outer Space

Our proprietary Fusematic Bonding™ technology uses friction rather than flame to automatically bond metals at the molecular level, literally fusing them together achieving consistent, incredibly high-strength bonding in a fraction of the time, in a safer environment, and at significant cost savings.



**FUSEMATIC BONDING SYSTEM
(SHOWN WITH VACUUM CLAMP)**



VACUUM MANIFOLD



HOSE ASSEMBLY



**MULTI-POSITION
VACUUM CLAMP**

Clamping Options: Mechanical, Chain Clamp (come-along) Vacuum Clamp, MPVC, Magnetic clamp, Custom Application specific clamp designs.

SPECIFICATIONS

OPERATING ENVIRONMENT

Outdoor or indoor use
Below water line up to 50 ft
Fresh or saltwater
Can be in harsh environments

OPERATING TEMPERATURE

35F - 120F

WEIGHT

44lbs

SIZE

20" long x 10" height x 10" wide

POWER SUPPLY

compressed air 125 psi

AIR MOTOR

4.4 horsepower motor
(producing 3282.4 watts of energy)

OPERATING HUMIDITY

0 to 100% RH condensing
(outdoor use).

INTERFACES

Easy to use start, stop, and reset buttons.

FAC module to control length of weld

FPC to adjust for material type

SAFETY

Compliant with safety rules according ASME standards, as well as international standards.

STUD CAPABILITIES*

0.25
0.3125
0.375
0.50
0.625

*Using proprietary material and collet

BENEFITS

INCREASED OPERATIONAL EFFICIENCIES

INCREASED LEVELS OF SAFETY

SCALABLE & INCREASED RELIABILITY



PORTABLE, SAFE, AND CAPABLE FRICTION WELDING

WHAT IT IS

A Cold Work Alternative method to Legacy welding, powered by air only. The Fumatic Bonding™ System (FBS) is virtually automatic: Clamp in position, press "Start", and the FBS stops automatically. Move to the next position and repeat process.

WHAT IT DOES

Using Friction and Pressure, the FBS provides a single step, virtually automatic bonding of 3/16 to 3/4" OD studs & bosses to most surfaces in seconds. Weld through most scale, coatings, paints, corrosion with no or very little preparation and post work required. Friction welding delivers significantly higher yields over legacy welding in a fraction of the time with a resulting bond that meets and exceeds the AWS requirements for torque and tensile testing.

SAVE TIME AND MONEY

Significantly lowers total installed costs. Increases operational efficiencies for attaching studs & bosses by allowing cold work & automatic friction bonding in seconds with increased yields and no rework.

NO PREP OR POST WORK

Cold work capability allows stud/boss placement after paint, on fueled systems, when the work should be done, vs. hot work when the work must be done currently. Reduces or eliminates pre & post work operations.

REDUCE SAFETY RISKS

For topside and underwater locations, FBS operates on air power with a controlled process to lower safety risks while reducing time and increasing yields and reliability with no flame, no heat, no sparks, no rods, no electricity.

SIMPLE OPERATION

Simple, virtually automatic operation allows use by unskilled craft allowing certified welders to be assigned to higher risk operations. A simple, defined and controlled process. Training and certification take less than a day, with proficiency levels achieved within hours. The FBS significantly reduces or eliminates operator/craft variability in Stud/boss welds delivering consistent results from all operators/craft.



FBS SHOWN WITH
BUOYANCY TOOL