CNC ⚡ MELDING

A WELDING ATTACHMENT FOR YOUR CNC

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INTEGRATED ENGINEERING

BACKGROUND

There are currently no commercially available CNC attachments to perform welding on a CNC machine. Alternate options on the market currently require dedicated machines which are large, expensive and can only do one task at a time. The only other similar product available is only capable of additive manufacturing, but not welding.
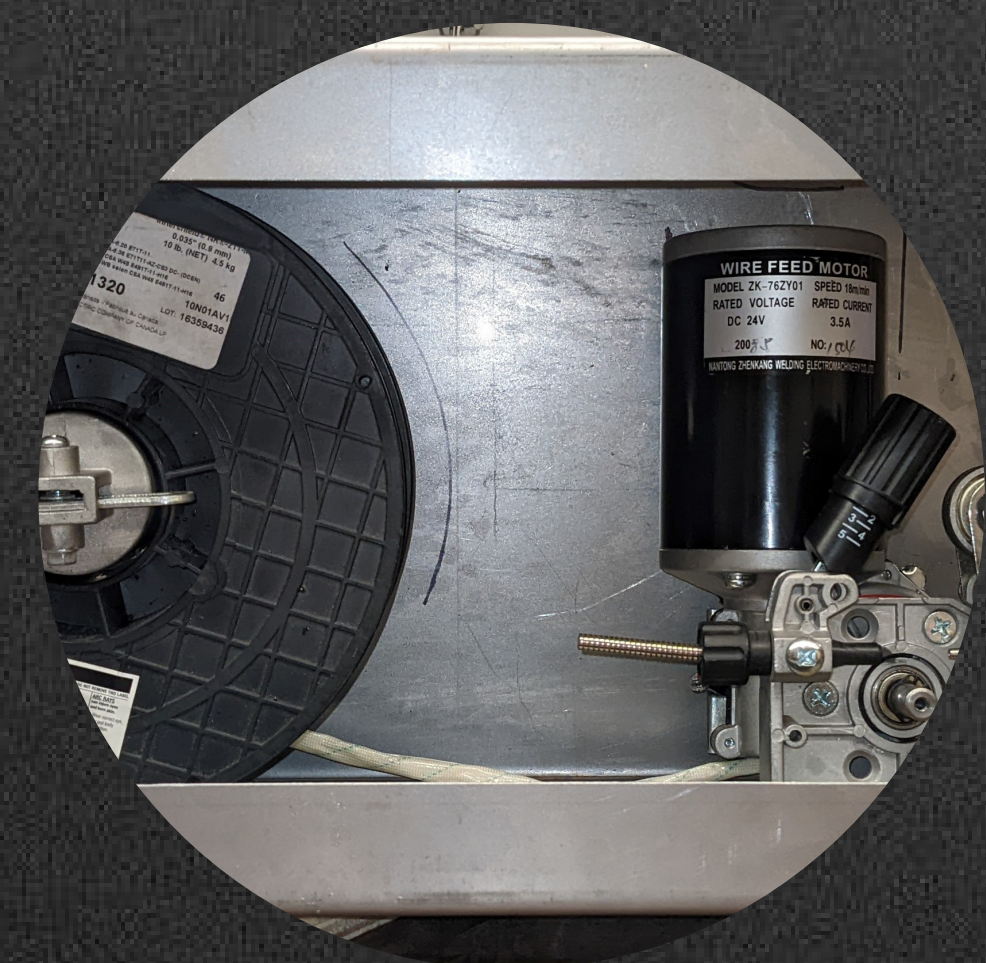
OBJECTIVE

Increase the versaitility of nearly any combination of CNC Mill and Welder, allowing them to provide a wide variety of tasks such as:
- Welding
- Additive Manufacturing
- Selective Heat Treatment

HOW

By employing a combination of a spindle held tool and external box that seemlessly connects a CNC and Welder
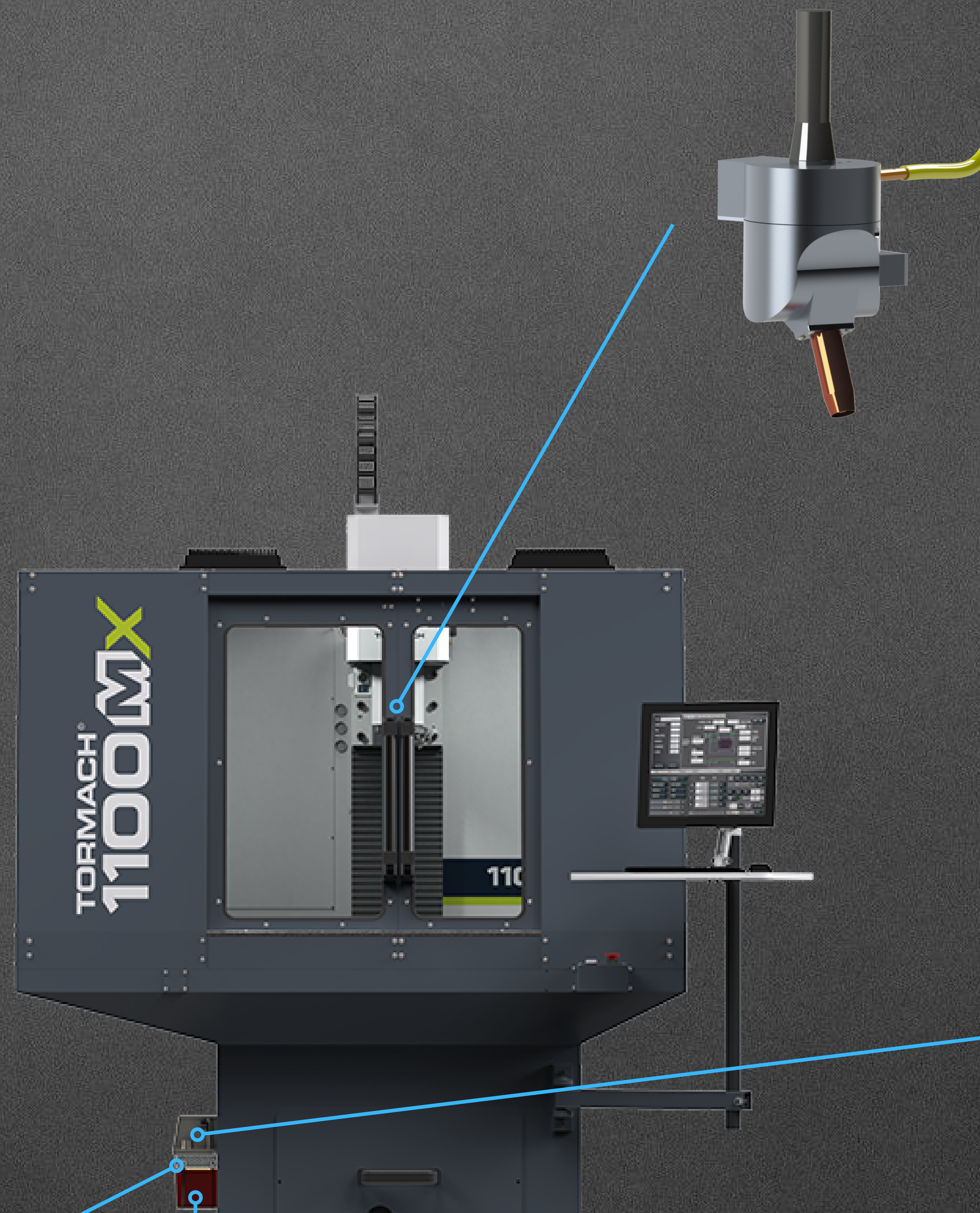
WIRE FEED

Feeds filler material into the weld pool at a rate determined by the user. Contained in a protective metal box.

SELECTIVE HEAT TREATMENT

Hardens or softens certain areas of a steel object. Creating a difference of hardness between these areas.
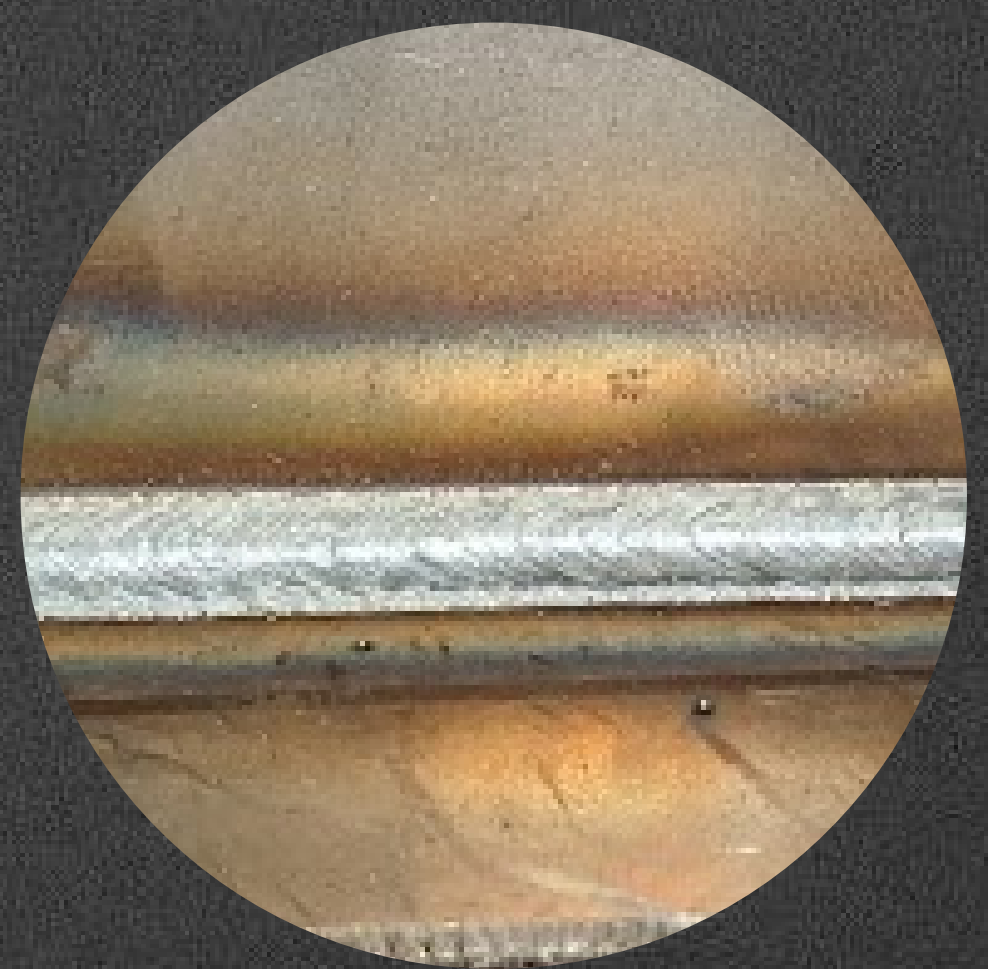
WELDING HEAD

Allows for both TIG and MIG processes, 2 axes of rotation to reach any joint.
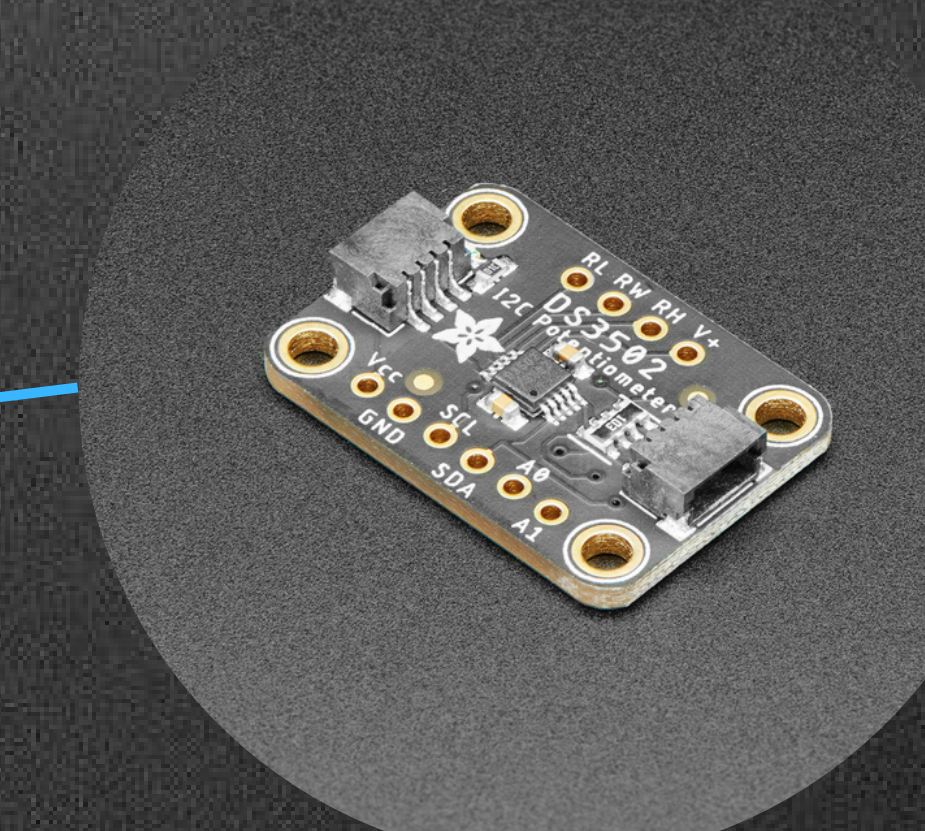
WELDING

Produces fillet and groove welds on mild steel under CSAW 59 (NDT). Inspected with volumetric, surface and visual testing.
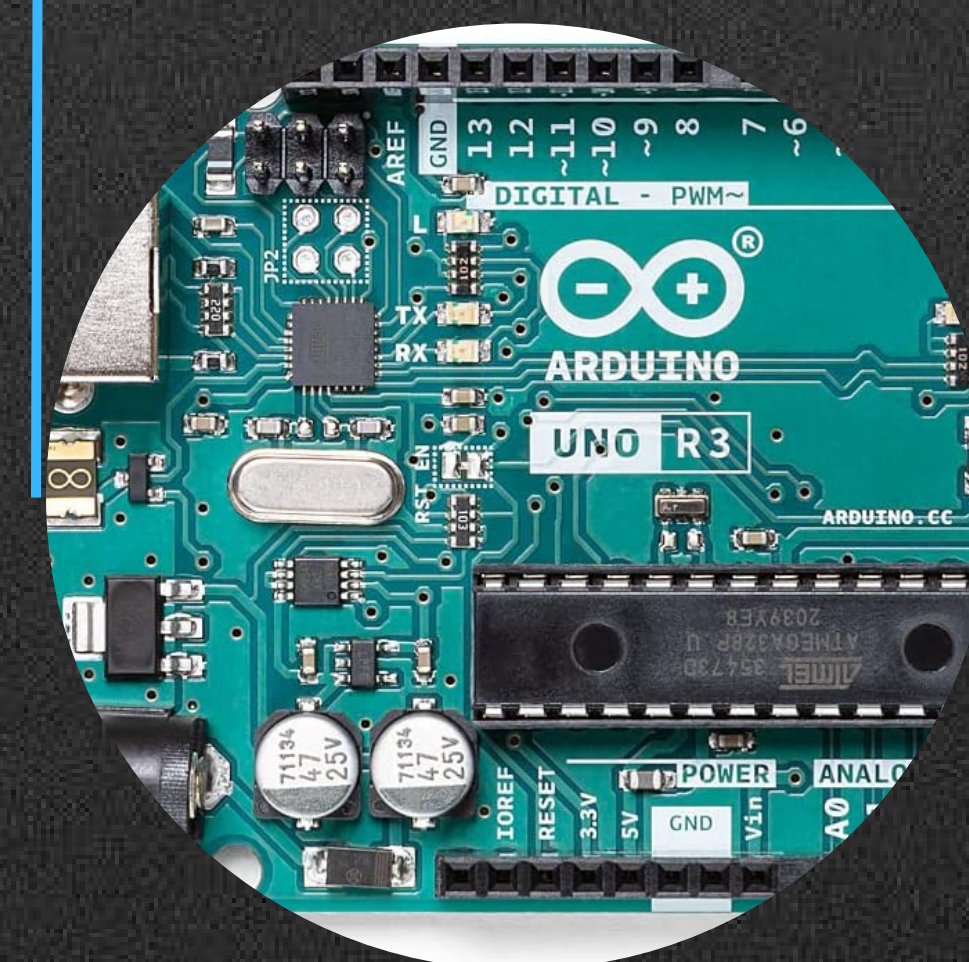
AMP CONTROL

Sets the power of the welding head, Provides 2T or 4T amperage control

ADDITIVE MANUFACTURING

Homogenous deposits filler material onto the base metal. Allows for the revitalization of end-of-life components.

THE BRAIN

A simple user interface allows the operator to control shielding gas flow, welding amperage and wire feed speed. The PC interface communicates with an Arduino via a serial connection, allowing for dynamic control of the welding process.

UBC