Refer to PipeWorx 400 Welding System Owner's Manual for equipment safety precautions

Enabling Accu-Power capability configures the PipeWorx system to display the instantaneous output power while welding, which can then be used with the equation below to compute the heat input for a particular weld operation. The instantaneous output power is calculated internally by summing the product of rapidly sampled voltage and current, multiplied by the sample interval, over a one second period.

The Accu-Power Memory Card is only required to enable and/or disable the system; the card does not need to remain in the PipeWorx system once the system has been configured.

When enabled, the instantaneous power is displayed on the Wire Feed Speed display in kilojoules per second to the nearest tenth, updated once per second while welding. After the weld, the final instantaneous power value is held on the display for approximately ten seconds and then the display reverts to the wire feed speed setting. If the wire feed speed is adjusted during the weld operation, the display will show the wire feed speed setting while it is being adjusted and will revert back to instantaneous power when the wire feed speed is no longer being adjusted.

To calculate the weld heat input, multiply the instantaneous power by the arc time and divide by the weld bead length.

$$Heat\ Input\ [kJ/in.\ (kJ/mm)] = \frac{Power\ (kJ/s) \times Arc\ Time\ (s)}{Weld\ Bead\ Length\ [in.(mm)]}$$

To convert from kilojoules to joules, multiply this result by 1000.

Enabling Accu-Power

1. Insert the Accu-Power card.
   a. Hold open the memory card access cover.
   b. Insert the memory card into the slot (push the card all the way in and then release).
   c. Close the memory card access cover.
   d. CARD will illuminate on both the feeder and the power source to indicate the presence of the Accu-Power card.
   e. Volts display (upper display on the wire feeder) will show "AcP" and the Wire Feed display (lower display on the wire feeder) will show the current setting of the Accu-Power display ("OFF" or "On").
2. Set the desired selection.
   a. Use the Wire Feed Speed knob on the wire feeder to set the Accu-Power capability on or off as desired.
      i. To turn on the Accu-Power display, rotate the knob clockwise until the display reads "On".
      ii. To turn off the Accu-Power display, rotate the knob counter-clockwise until the display reads "OFF".
2. Remove the Accu-Power card.
   a. Hold open the memory card access cover.
   b. Push in and release the memory card to eject the memory card.
   c. Grasp the memory card and remove it from the slot.
   d. Close the memory card access cover.

PipeWorx Welding System

Accu-Power Memory Card
Usage Instructions