

ARC-11R Robotic Screen Welding & Shrink Fit Assembly System

Turnkey Solutions Built Right

The rod base welding process utilizes a robot controlled system with capacity to handle 4' to 20' screen lengths with an OD range of 4" to 20" to weld screen to couplings by using the GMAW process. The control system has the ability to store weld schedules and real time override capabilities. The base of the machine is a steel plate for mounting the equipment. The torch is manipulated by a robot mounted to the base. A thru-hole headstock with dual auto chucking assembly for holding the screen and coupling during welding. The screen is manipulated by the rotating screen travel support assembly which moves in the horizontal and vertical axis. The screen also rotates 180 degrees to weld the other end without having to handle the screen twice. The screens are stored on the screen rack manually prior to welding. The screen rack is gravity fed and introduces one screen at a time by utilizing a singulator to the rotating screen travel support assembly.

The shrink-fit assembly process utilizes the same robot and screen manipulating equipment as the rod based welding process to handle 2 3/8" to 7" screen OD. The assembly process varies slightly from the rod based welding process. The system also has the capability to manipulate the shrink-fit end rings in/out of an induction heating coil, control of the induction heating coil, and assembly of the heated end ring onto the screen jacket. The robot system detects when too much force is required to push the end ring onto the screen jacket and alarm the operator that manual assembly is required.

