DESIGN OF TWIN STAGE WELDING MACHINE W/ FIXTURE

CONCEPT DESIGN AND EVALUATION FOR ROTARY WELDING (MIG WELDING)

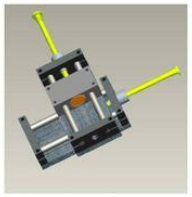
Business Challenge & Requirements

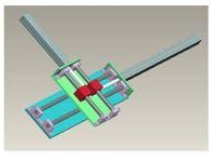
To achieve uniform circular welding, safety of the operator and increase in productivity by reducing time consumption to meet customer requirements in terms of quality and quantity. The end of session they decided to make some enhancements on their equipments .

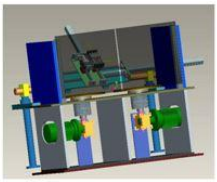
Implementation

The objective is to develop a automatic welding device of MIG type consisting of at least one carriage holding welding head comprising of a torch guiding a consumable electrode wire along a parting plane between the components to be welded, which brings the current to the end of the electrode wire in order to generate an electric arc and ensure melting of the filler metal.This is achieved by having two stations for LH part and RH part welding process.

Twin stage rotary welding consists of pneumatic cylinders and electric motors for automation which is controlled by using Programmable Logic Controller (PLC). This concept is used to achieve customer requirment.







Challenge:

Automation of welding process to increase the production rate without compromising the weldment quality and customer requirements.

Solution:

Srinsoft suggested with the concept of Twin Stage Rotary MIG Welding. This is an automated process, using pneumatic cylinders that is controlled by PLC systems(including automatic operated shield glass).

Results:

The productivity had increased by 80%
Maintenance has been reduced by 70%
Quality has been increased.
Cost of production reducrd
A well structured documents and manufacturing details has been produced
New designs had been implemented without disturbing the existing production line

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