

Segment: Automobile Industry

Application: Ultrasonic Welding

Organization: Yaskawa India Pvt.Ltd.

Description:

Yaskawa is supplying Robotic Ultrasonic system for Automobile Industries. In this system Garnish cowl part will weld by Branson make horn assembly. This horn assembly includes booster, converter and ultrasonic generator along with RF cable.

Objective: Automated solution for welding of Garnish cowl plastic components & Spoiler plastic component. To achieve cycle time is big challenge in this project.

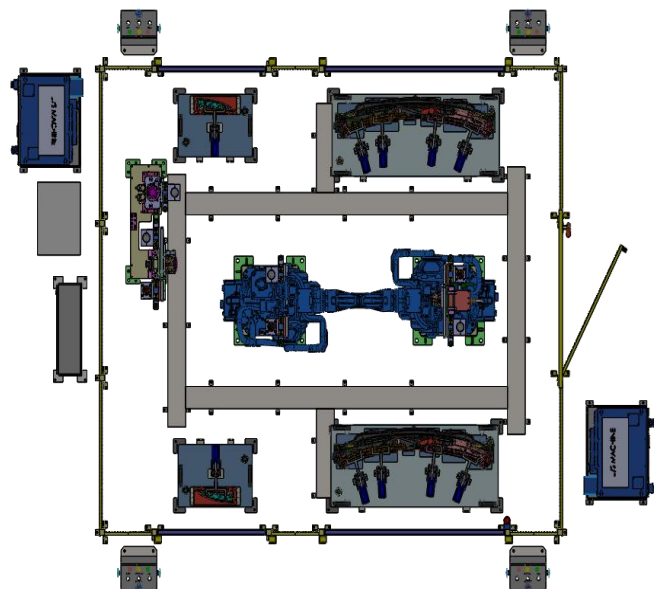
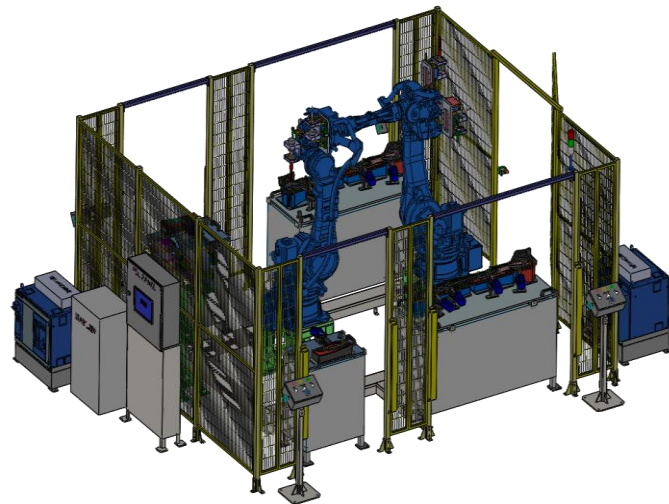
System Overview:

Considered total five number of fixture in which component RHD have maximum production per day i.e. 600 while production on LHD fixture is 120 per day. Hence 2 RHD fixture & one LHD fixture planned to achieve production. Other LH & RH spoiler fixture also considered in this system. Schunk make ATC & Branson make ultrasonic generator along with converter, booster & horn considered to achieve welding requirements.

Scope of supply:

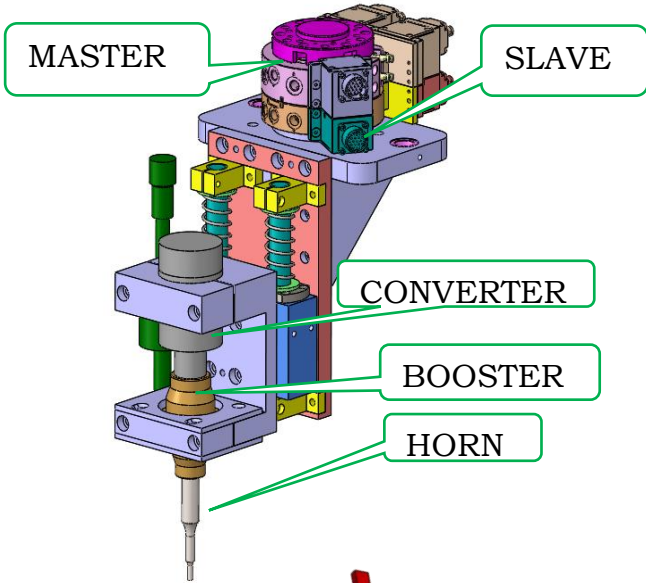
- Robot : GP50
- Controller : YRC1000
- Communication Protocol : CC LINK
- PLC: Mitsubishi
- HMI - Proface
- ATC (Schunk)
- Safety Fence & Safety Door
- ATC stand
- PLC panel & Operational Panel
- Variants Proved: 3

Application Layout:

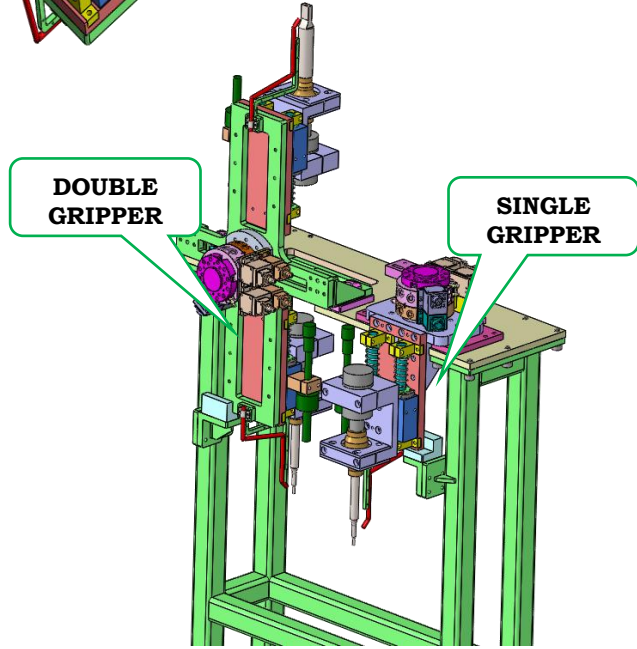
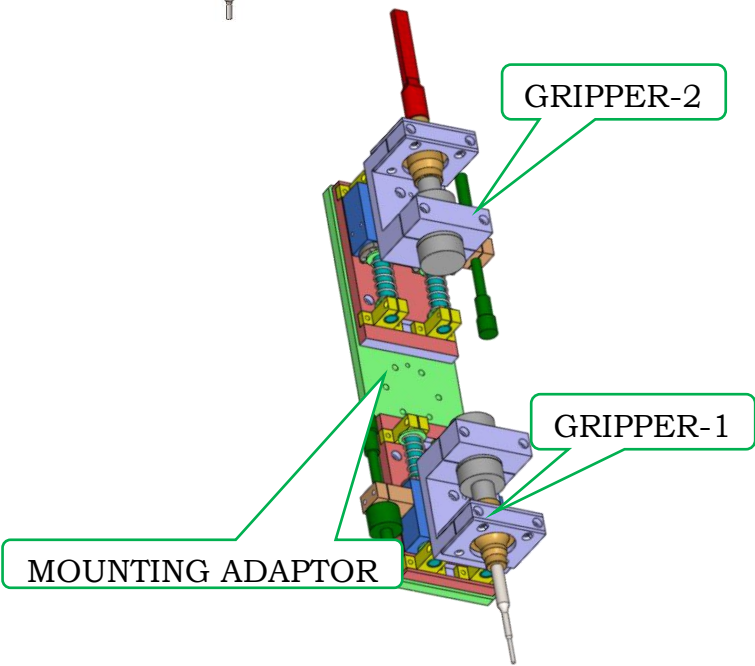
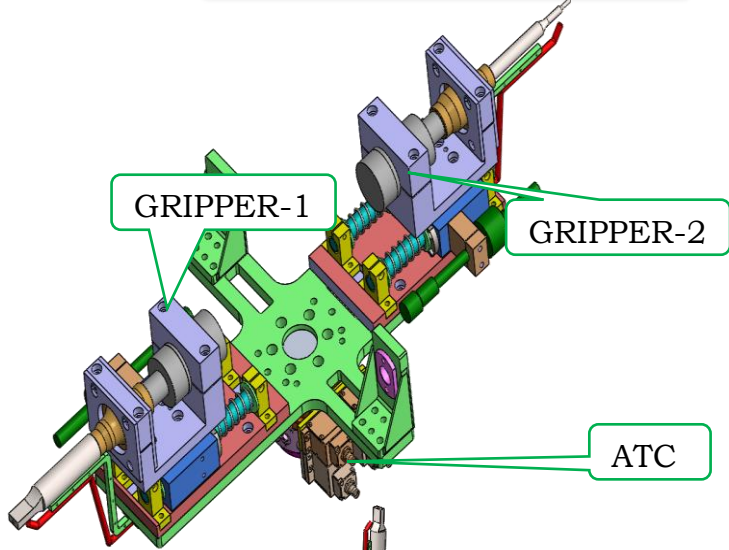


ULTRASONIC GRIPPERS WITH ATC

SINGLE HORN GRIPPER WITH ATC



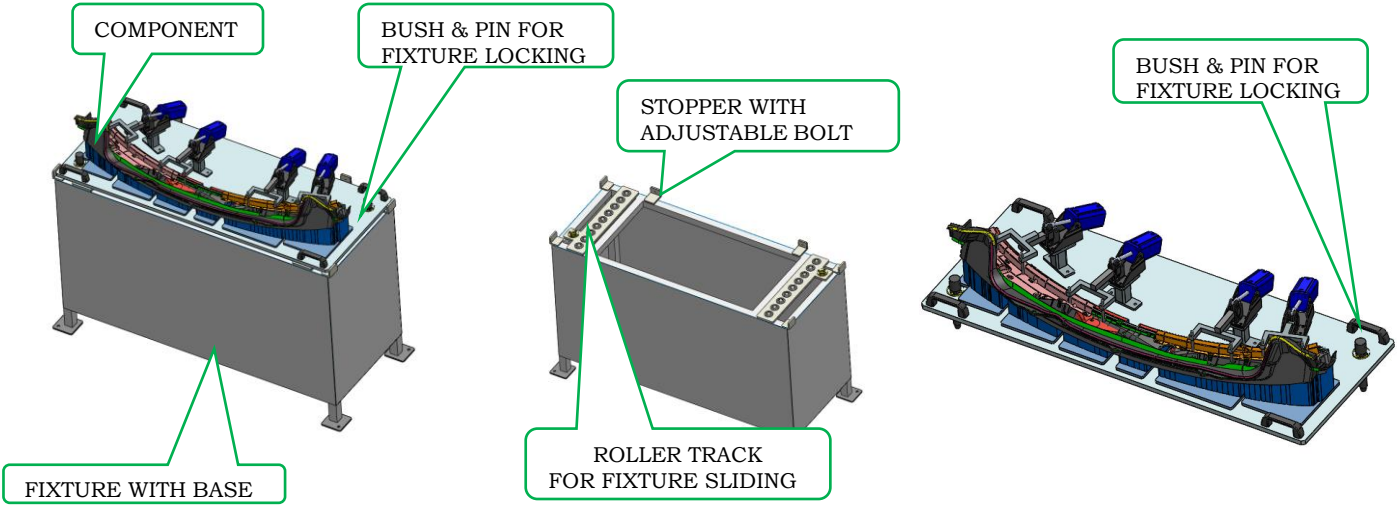
DUAL HORN GRIPPER WITH ATC



- NUMBER OF FIXTURES USED IN THE CELL - 5
- TOTAL FIXTURE CAN WORK AT A TIME - 4 NOS
- CYCLE TIME CONSIDERED FOR GARNISH COWL PART - 72 SEC
- CYCLE TIME CONSIDERED FOR SPOILER PART - 40 SEC
- PART LOADING & UNLOADING TIME PER MART - 12 SEC
- ATC CHANGEOVER TIME FROM ROBOT HOME - 12 SEC

ULTRASONIC FIXTURES WITH REPLACABLE PROVISION

FIXTURE TYPE-1



FIXTURE TYPE-2

