

Segment: Automobile Industry

Application: Press Handling System

Organization: Yaskawa India Pvt.Ltd.

Description:

Yaskawa is market leader for Press Automation. We had supplied Press handling system in various Automobile & Non-Automobile Industries. This system is used to transfer parts between Tandem press.

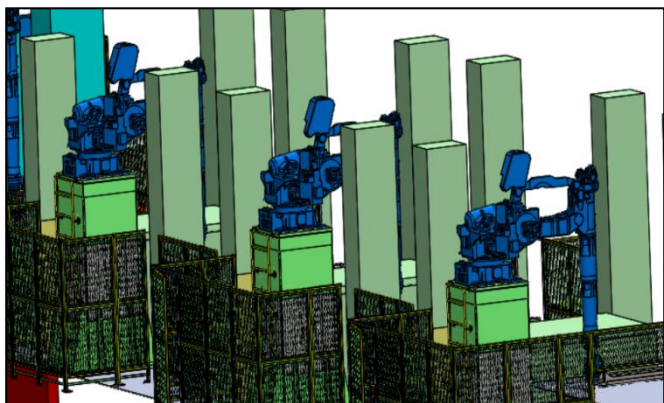
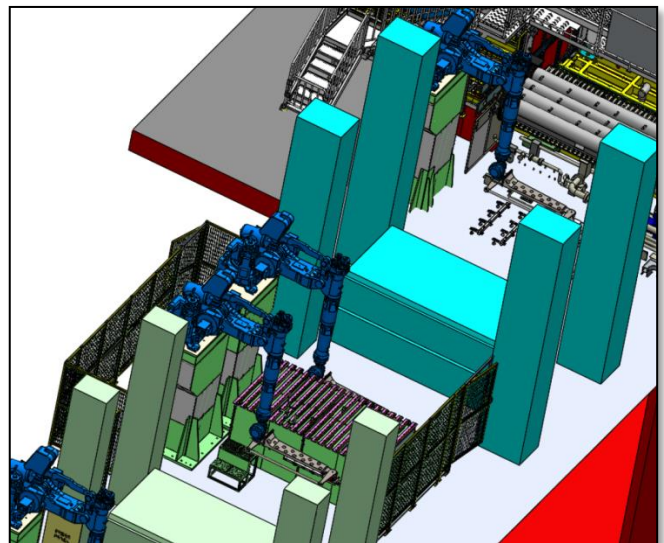
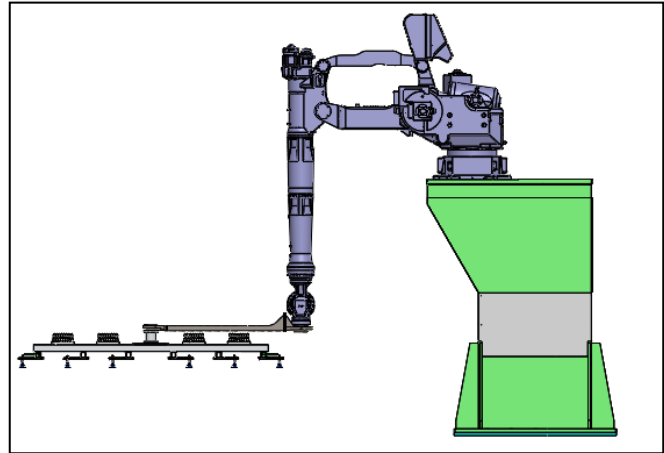
Objective: Line automation for interlinking 4 no. of Tandem Press to increase productivity with high efficiency. & to reduce hazardous Press operation.

System Overview:

1500T Tandem Press Automation system for part transfer between 4 no. of press. Robot is interlocked with DE stacker, centering unit & 4 Presses. Yaskawa master PLC controls the complete line. Master PLC to press interlocking is done through CC-Link IE Field Communication. Master PLC to robot communication is through CC-link. All safety signals are interlinked through safety PLC & satisfy industry category 4 safety.

Scope of supply:

- Robot : PH200RF – 6 Nos.
- Controller : YRC1000
- Robot option: Parallel Link Arm 1650mm
- PLC : Mitsubishi IQR-series
- Safety PLC : Mitsubishi
- Auto Tool Changer
- Common Gripper : 30 vacuum cup in R1 & 8 vacuum cup in R2-R6
- EOL Line Conveyor : 4000mm (L) x 3000mm(W)
- Idle Die system
- DE stacker & centering unit Enclosure
- ATC change station

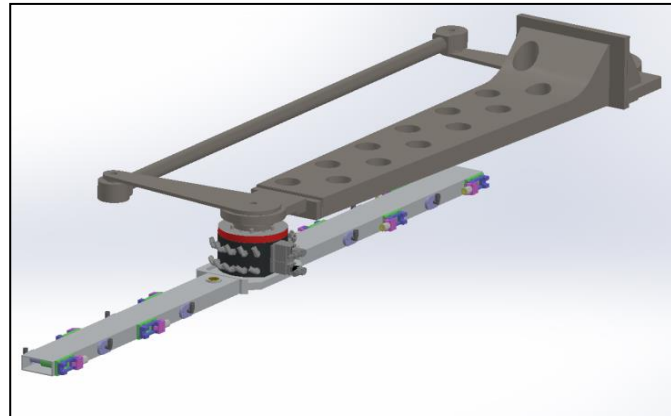
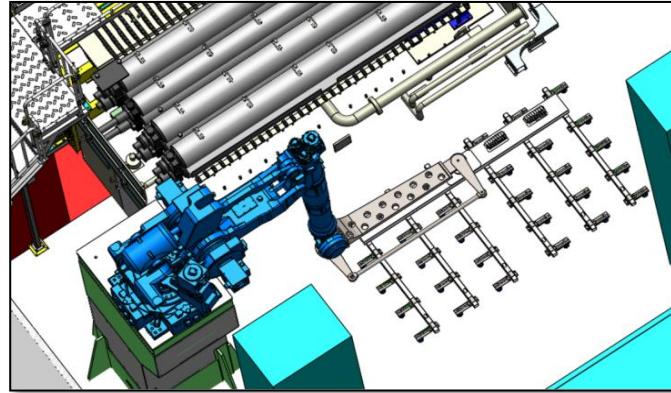


Objective of Robotics & Automation:

- To increase production volume
- To reduce manual work
- To achieve uniform quality in part handling
- Reduce manpower

Process Description:

- 1st robot will pick the part from Centering table & load to Press 1.
- The pitch distance between Press 1 & Press 2 is about 9.5m ,so we used an idle station in between. Two no. of robots are used between Press1 & Press2.
- Robot 2 will pick part from Press1 & place on Idle Die, then Robot 3 pick part from Idle die & place in Press 2.
- After Press 2 there are single robots between presses for part transfer.
- 6th Robot place the final part to EOL Conveyor.



Gripper Specification:

- Robot 1 : Common Gripper with 30 vacuum cup.
- Robot 2-6 : Yellow Arm Tool with removable vacuum finger setup. ATC unit is also used in R2-R6 .

Press Line Specifications:

- Press : Kumatsu
- DE stacker & Centering Unit : MSIL
- Press SPM : 10 (Intermittent)
- Line SPM achieved : 8.7 SPM

