

Closing Solution for the Moulding Industry

Case Study: Johnson Controls-IRB 7600

PART Foamed Car Seats
CUSTOMER Johnson Controls (Austria)

PRODUCT/PALLET DATA

Metal Lids
350kg payload
Mounted on a Moving
Conveyor (250mm/s)

INTEGRATOR Hennecke

CAPACITY 6 lids/minute

CYCLE TIME 2.7 seconds

INSTALLED 2001

STATED PURCHASING REASONS

- Trust in ABB
- Shorter cycle time than conventional mechanism
- High handling capacity
- Close relationship with ABB
- Technical support

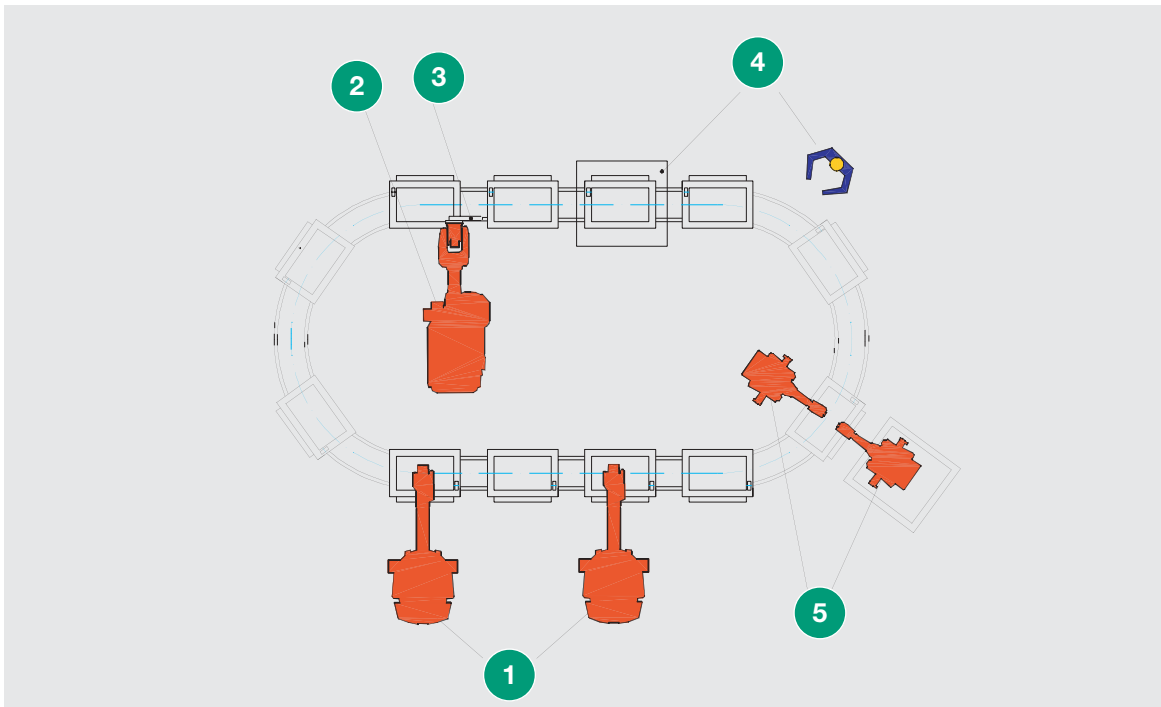
SCOPE OF SUPPLY

- 2 IRB 7600-400kg/2.55m
- Conveyor Tracking Equipment
- Programming
- Training
- 4 IRB 6400
- 4 IRB 2400 (one floor installation, one hanging installation)



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Installation Layout. 1 of 2 identical installations

Process Description

- 1 The foam that the car seats is made of is injected by two IRB 6400 into metal frames that are fixed on a conveyor circuit. The conveyor is continuously moving and once the frame is filled with foam the lid needs to be closed as quickly as possible. Time is crucial because once the foam has been injected it directly starts to react.
- 2 The conveyor tracking system sends a signal to the IRB 7600-400kg/2.55m. The signal communicates the position of the frames to the robot, which can keep track of up to six frames at the same time.
- 3 Via the conveyor tracking system the robot decides which frame lid it should close. The closing requires the robot, which is equipped with a tool pin, to insert the pin into a lifting eye on the frame and then close the lid while the conveyor is moving. The closing procedure extracts a force onto the robot that corresponds to a payload of 350 kg.
- 4 Once the moulding process is finished the metal frames are opened by passing an opening gate. The seats are then removed from the frames manually by a quality inspector that performs a visual inspection of the seats.
- 5 When the seat has been removed the frame is cleaned and then sprayed with a mould release agent using the two IRB 2400, of which one is mounted on the floor and the other is a hanging installation. The frame is then ready to be refilled with foam.

This IRB 7600 solution reduces the closing time of the frames with 30 % compared with conventional closing mechanisms.