

Functioning of the HRC demonstrators AUTOMATICA 2016

- Short description -

Subject: machine loading in the industrial sector
– Automation

Integrator

FAUDE Automatisierungstechnik GmbH
Max-Planck-Str. 10
D-71116 Gärtringen
Telephone: +49 7034 2567 0
Telefax: +49 7034 2567 67
faude@faude.de
<http://www.fau.de/>



Assembly description

A UR5 with a Co-Act WSG fitted is on the pedestal. In the back section there is a lathe dummy with a pneumatic toolholder, at the front there are two storage racks mounted for three bolts each. The pneumatic toolholder is also protected from intervention with plastic elements.

Description of the program sequence

1. The robot grips the first component and inserts it into the toolholder, the toolholder is pneumatically actuated and clamps the component
2. The door of the lathe is closed by the robot
3. After a short waiting period, the robot opens the doors of the lathe again, removes the component and sets it onto the free space in the storage rack.
4. Steps 1-3 are repeated for all other components in the storage rack

The robot stops upon collision or contact with a human. By acknowledging the robot via the touch panel in the base of the pedestal, it continues with the programmed sequence.

Components used

Robots	Universal Robots UR5
Flange	ISO 050
Grippers	WSG 050-110-B (0306120)
Sensor system	Resistance strain gauges in the Attachment fingers
Attachment fingers	Attachment fingers ABF-WSG 35/50-DV, with protective coating in Automatica design, integrated lighting (colors: red; green; yellow; blue)
Protection cover	adapted to WSG 050, in Automatica design, material: PA 12 (reworked)
Adaptation	customer-specific, 1-part. Adapter plate between WSG and UR5, material: anodized aluminum

Further technical information

Control assembly	Sequential program via UR control
Communication	ModbusTCP
Electrical wiring	Connecting the gripper (voltage supply and communication) via external cable drag

Created by:
Benedikt Janßen

Anna Jung, Patrick Scherb,