

Automatic machine loading

Maximum quantity with minimum use of resources



Customer benefits

- + Production expansion without additional personnel costs
- + Higher utilization of machine capacity
- + Mobile table enables both automatic and manual operation of the machine
- + Automatic calibration of the loading position even after table movement
- + Blow-off of the machined parts through the gripper
- + No mechanical modification of the machine necessary

Mobile table with robot arm for automatic 24/7 loading of a machine without personnel

Automatic loading is required for higher production and better utilization of the machine capacity. In this case, the loading system must run fully automatically and without an operator, and no modifications must be made at the machine. To ensure maximum flexibility of machine use, the system can be removed from the machine if required, so that manual operation is also possible.

The basic structure for this solution includes:

- Roboter UR10e*
- Gripper with force measurement
- Theater as supply and removal of the parts**
- Universal workpiece carrier
- Universal tool clamp
- Gripper addition, for opening and closing the tool clamp
- Compressed air nozzles on the gripper for blowing off the parts

Implementation of the task

A robot system on a mobile table is used, which can be moved with little force. This allows the machine to be loaded both manually and automatically. Supply line for up to 20 parts is possible thanks to the universal workpiece carrier.

The robot uses its gripper to open and close the machine doors. With the aid of a gripper extension, the robot also takes care of clamping, unclamping and blowing off the workpiece carriers. Thanks to the sensitivity of the robot and a special guide on the gripper, the robot system can automatically calibrate itself to the new position even if the table has been moved, and recognize the new loading position in the machine.

* Depending on the application, the system can also be implemented with other UR robots (UR5e / UR16e).

** The feed incl. magazine holder can be designed flexibly.



Technical specifications for UR10e

Table size L x B x H	1 800 x 800 x 1 080 mm
Robot reach	1 300 mm
Max. load capacity (incl. grippers / parts)	10 kg

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