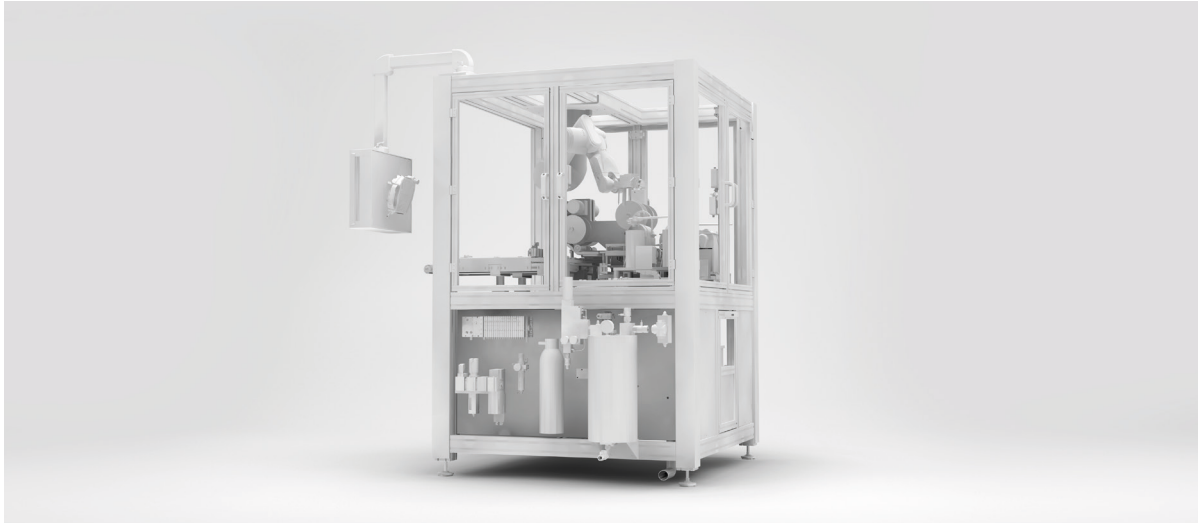


Coffee capsule test machine



Task

The test machine must take care of testing and handling the coffee capsules. The unit must be equipped with two different coffee machines in order to have two test circuits. These must be operable simultaneously and independently. The capsule machines must be exchangeable with little effort. An industrial robot equips and operates the coffee machines. The readings must be recorded and stored in the in-house database. A suitable capsule supply system must ensure autonomy of 30 minutes.

Solution

The master of this test cell is a Stäubli TX60 equipped with a complex gripper, which takes care of all handling tasks, the operation of four coffee machines as well as carrying out sensor-controlled quality tests. The test machine was designed for small space requirements (2.1 m²) and the necessary sensitivity and flexibility of the robot when operating the coffee machines was taken into consideration. In order to realise the complex multi functional gripper, the functions of all stations had to be considered. Mounting plates were manufactured for the different coffee machines, onto which they were pre-mounted and they can be quickly replaced using a quick-change system in case of faults in the test machine.

Result

At table height, the operating person can feed the capsules into the respective test circuit using two conveyor belts. The relevant data for testing is loaded from the database using the operating panel and the test results are saved. The testing process is initiated by the operating personnel at the touch of a button. With this automatic test cell, the factor human error is eliminated and tedious, permanently repeating work steps can be avoided for the operating personnel.

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