Cobot – the helping hand

Automation is the order of the day. Manual, monotonous work is costly and error-prone. People are not machines. This is where cobots come into play. Machines that work hand in hand with humans.

Cobots are specifically designed to work with an operator

A cobot (collaborative robot) is a robot designed to work together with humans. Its purpose is therefore to support the work of the operator. This can be, for example, passing or clamping a product. Humans remain an essential part in this process, as opposed to the process that robots go through. Originally, cobots were developed for direct interaction between humans and machines.

Historical background

The idea and concept for cobots emerged as early as 1995 as part of a research project of the General Motors Foundation. The background was primarily workplace safety. The project was intended to make robots so safe that they could literally work hand in hand with humans. Today, cobots can be found in many industrial plants. They have become widely accepted. But in what exactly do cobots differ from their big brothers, the robots?

Human + Cobot = Team

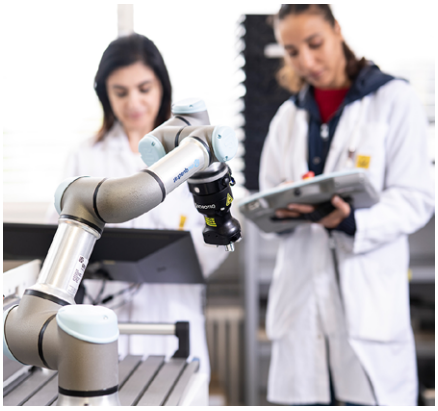
Industrial robots are true power packs that can lift large masses. They perform their tasks according to a rigid program. Almost always, they have to be locked behind glass walls, fences or the like so as not to endanger people. Although modern systems have sensors, accidents cannot be ruled out.
Cobots represent the exact opposite. Instead of being locked behind barriers, they perform their tasks in a work environment that is also common for humans and assist with complex tasks. Cobots are designed to work seamlessly with their human counterparts. Sophisticated sensors bring them to a standstill at the slightest touch. This means there is no danger to the operator and safety enclosures become obsolete.

Risky tasks

Another interesting and frequently used field of application is work that is risky for humans: Possible examples include the handling of sharp, piercing or particularly hot workpieces. Thanks to the use of cobots, fewer accidents occur.

High flexibility and learning ability

In order to teach an industrial robot its "job", specific programming skills are often required. Depending on the manufacturer,



Cobots are team players: humans and machines work hand in hand

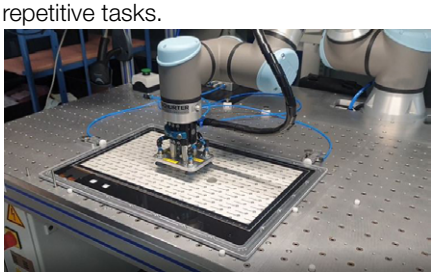
these also vary greatly. Cobots, on the other hand, are extremely undemanding in this respect and very easy to program. Some cobot models even learn on their own. For example, if a "programmer" performs a certain arm movement on the cobot, it can imitate the same movement. Various systems can even be provided with work instructions solely via a graphical user interface. This makes cobots enormously flexible and usable for a wide range of applications.

Lightweight, but less powerful

Compared to their big brothers, cobots are significantly smaller, but less powerful. This also has its advantages. A cobot is almost always so light that it can be transported by a single person and quickly deployed elsewhere. And it takes up very little space. In addition, there is its immense flexibility: With its six or seven axes and intuitive programming, new tasks can be learned within a very short time, which benefits the fast-moving and permanently changing production conditions.

Usage at SCHURTER

As a classic industrial company with group companies in 17 countries, SCHURTER has been relying on a high degree of automation for years. Robots are part of the daily routine. Otherwise, production in high-wage countries would no longer be possible. In recent years, however, more and more cobots have been introduced. They help to increase productivity, reduce operating costs in the long term and maintain quality at a consistently high level.
At SCHURTER AG's headquarters in Lucerne, where electrical components such as fuses and high-quality switches are manufactured in particular, the cobots primarily have an assisting function. Fuse production is fully automated, with robots at work here. In the case of the metal line switches, cobots become a helping hand, reliably performing highly precise, repetitive tasks.



Highly precise and never-tiring: cobot in an assembly line for touchscreens

Cobots are also used at other SCHURTER production sites, such as Germany and the Netherlands. Here, they provide support for universal assembly systems. Process steps such as loading, fixing, assembling, and similar are taken over by a cobot, while this gives the operator more freedom for other activities. The areas of application are very universal. Cobots are not only used for assembling steps, but also for laminating, potting and quality inspection.
In principle, the use of cobots leads to an increase in quality: lower tolerances in the positioning of components, constant parameters in processing due to defined press-in forces and controlled volumes in potting. Extremely short changeover times for the production of different customer-specific products are a significant advantage.

About SCHURTER

The SCHURTER Group is a globally successful Swiss family business. With our components ensuring the clean and safe supply of power, input systems for ease of use and sophisticated overall solutions, we impress our customers with agility and excellent product and service quality.

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