fischer

BauBot.

Productivity and safety through digitization and automation.

Strong support in your everyday challenges.

Productivity and precision.

By using the fully automatic fastening robot in combination with a digital construction plan, you are able to automate your construction site processes. This results in large increases in productivity. Through precise drilling and setting of anchors in the right place defined in the construction plan, rework and delays can be avoided. This is even further optimized by a complete simulation of the drilling and setting processes of the robot before the execution has started. Exceeding budgets and delays in the project schedule will be reduced or even avoided.

Shortage of skilled workers and the health of your employees.

It is more important than ever in times of a shortage of skilled workers to support your team. The fischer BauBot takes on physically demanding, exhausting tasks and reduces the risk of injury. With the integrated dust extraction system the robot makes a great contribution to the dust-free construction site and thus ensures a cleaner and healthier working environment.

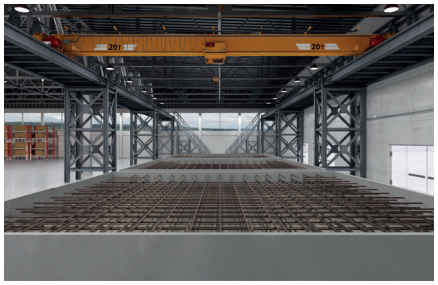
Documentation and safety.

Through the use of innovative sensors, the robot detects any deviation from the standard drilling and setting process and responds with a predefined strategy. The process parameters of each step are documented in the BIM-model. A complex manual documentation can be omitted.
To ensure safety during operation the robot is always operated and supervised by an fischer operator. In addition, the robot is equipped with LiDAR-sensors that create a security zone around the robot to prevent unauthorized entry to the working area of the robot.

Floor, wall or ceiling – The BauBot can be used versatile.

Tunnels

Bridges



Civil engineering

Renovation

Building construction

Production hall

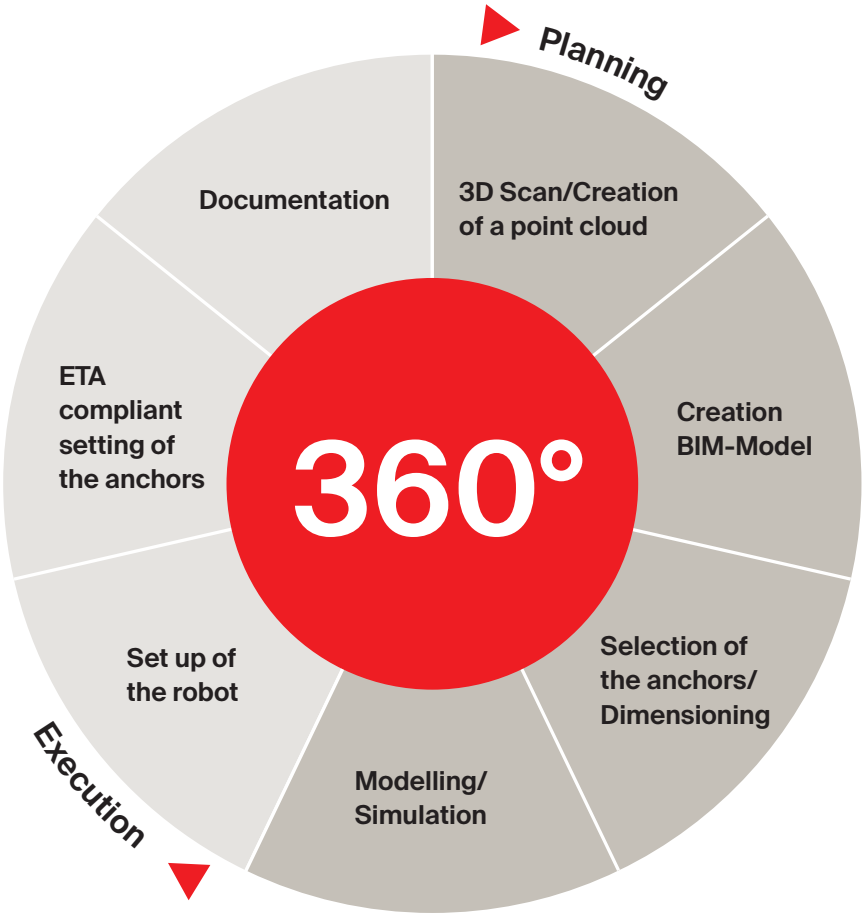
Detailed applications:

- Technical building equipment
- Handrails
- Shelves
- Industry robots
- Rails
- And many more

Usable fastening solutions:

- Bolt anchors like FAZ II
- Hammerset anchors like EA II
- Chemical glas capsules like RSB with rod bar
- And many more

fischer 360° Service.
All from a single source!



Your project in good hands. fischer supports you with digitization and automation.

fischer offers you the complete service from creation of the BIM-model and dimensioning to execution and documentation.
With our engineers in our own fischer planning office and our fastening specialists on site we provide qualified application advice for your project before the robot is used. Together with the robot we offer an operator who is trained and certified on the robot. So you do not need to train your employees on the work processes of the robot, we do that for you. In addition, the 24-hour emergency service ensures that the robot quickly recovers in the event of a break down, minor repairs are carried out by the operator independent, uncomplicated and fast. Plan your next project with us and automate your construction site with our team and the fischer BauBot.

From planning to documentation.

3D scan.

If no digital data of the construction site is available, a 3D scan is executed. The created point cloud of the construction site environment is then used to create the BIM-model. The accurate recording of all structures and obstacles enables an automatic movement of the robot without any complications.

Creation of the BIM-model.

For the creation of a digital building plan, the recorded point cloud is cleaned at fischer Autodesk Revit. Based on this BIM-model further planning takes place.

Selection and dimensioning of the products.

In order to guarantee that all loads can be carried, the right fischer products for the applications are selected based on application standards and approvals.

Dimensioning.

Merging the BIM-model with the selected fischer product creates the data basis for the robot. In the digital model the complete process of the robot, from the path of the platform up to the motion sequence of the robot arm is simulated in advance. Enabling us to detect collisions or any other complications in advance. Furthermore a very accurate prognosis of the required working time and costs is possible, resulting in the reduction of exceeded budgets and delays in the project.

Setting up the robot.

Before the drilling starts the robot needs to be positioned in the working area by remote control. The fischer operator sets up the total station based on the digital plan and connects it to the robot. After this set up the robot moves and positions itself fully automatic.

Drilling.

Position, diameter and depth of the drill holes are defined in the BIM-model. This data is used by the robot as a basis for the drilling of the holes. The integrated dust extraction system prevents drilling dust to escape into the environment, thereby saving the health of workers on the construction site. The drill bit change between different diameters or when wear occurrs is fully automatic.

Cleaning and marking.

The ETA-compliant cleaning of the drill holes also works fully automatically. The integrated dust extraction system prevents the escape of drilling dust into the environment. After cleaning the drill hole is marked. Thanks to the marking an assignment to the different trades is easily possible.

Anchor setting.

The selected anchor is automatically extracted from the equipped anchor magazine and set ETA-compliant into the underground.

Documentation.

With the embedded force and torque sensor a monitoring of all drilling and setting processes is possible and can be recorded so that a detailed documentation of the installation parameters is available. This data will be stored in the BIM-model. The integrated video camera also documents the process flow. Disagreements can thus easily be examined afterwards.

Advantages at a glance.

The automation of work processes **increases productivity** and accelerates the operational time of your project.

The **BauBot software** enables the simulation of work processes in the planning phase, and thus **prevents the occurrence of unexpected problems** before execution starts.

The **working range of 360 degrees** allows drilling under any angle and setting of anchors to ceilings, walls and floors, thus covering the majority of all applications. The **working height on the ceiling and wall is more than 5 metres.** The BauBot can hereby cover a **drill hole range from diameter 6 to 18 mm**.

The large radius of the robotic arm allows more holes to be drilled in shorter time without changing the position of the robot's plattform, which further increases productivity. The **high precision of the robot of +/-1mm** within a drill holes assembly for a mounting plate allows pre-installation of anchors and leads in combination with the fully automatic drilling and marking to increases in efficiency.

The **automatic drill hole cleaning enables an ETA-compliant and safe setting of anchors** and creates a health-friendly and clean working environment for more safety on construction sites. The robot is capable of **setting anchors from diameter M6 to M16.**

The **automatic drill hole marking guarantees a fast identification of the drill holes for the individual trades** for quick completion on the construction site.

The **automatic tool change completes the automated process** for efficient work without additional manpower and free from interruptions.

The **possibility of documenting the entire process** in the BIM-model, **enables an end-to-end digital process** from drill hole creation to the setting of anchors. That saves a lot of manual work and costs.

BIM and digitization – **You can plan with us.**

Did you know?

All relevant fischer products are available as a digital model with all it's basic attributes. That is the premise for cost-efficient planning and construction in the BIM-model and on site.

What is not yet digitized, fischer will make digital.
Due to the 3D scanning, the real environment becomes a digital twin. With Field to BIM we enable precise modelling, also in the case of renovation or expansion measures.

Optimized construction process from end to end through upstream planning.
The cross-trade planning in the technical building equipment enables space and assembly optimization at an early stage, saving installation time and costs. Furthermore, construction logistics and deployment times of the necessary employees can be optimized.

Automation through digitization.
Our fischer BauBot works on the basis of these digital data. The 3D scan and the creation of the BIM-model allows a prior simulation of the drilling/setting process sequence to detect any errors and remove them. The ETA-compliant setting of anchors and their documentation is fully automated and reliable for a health-friendly, efficient and safe construction site.

For more information about the BauBot and our contact persons in the different countries please visit our website:
fischer-international.com/BauBot

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