



# Collaborative Industrial Robotics

P-Rob® – designed to work in close  
cooperation with humans

# Closing gaps in automation

F&P Robotics AG develops and produces innovative lightweight robot manipulators that cooperate with humans in their professional environment. The company focuses on reducing complexity in automation with all-in-one robotic solutions so many repetitive manual tasks can finally be performed by robots.

## Collaborative, safe and skilled robots

The design of the F&P robots is based on a consistent safety concept that enables direct human-robot collaboration. Soft materials, limited forces and collision detection allow operations without additional protection devices. As working environments are more and more dynamic, robots are equipped with Artificial Intelligence algorithms. They generate alternative solutions when the context changes or exceptions occur.

## Investment with short payback period

F&P robots and grippers are deployed in both new and existing working environments. Ready-to-use solutions including sensor-equipped end tools contribute to the reduction of costs in flexible automation. The payback period is typically 6 to 12 months. F&P robots are easy to redeploy or adapt to new tasks, so they fit to ever changing business requirements.

## Swiss company, international talents



F&P Robotics AG is a Swiss company headquartered in Zurich, Switzerland and leverages very strong professional and academic worldwide networks. The company combines experienced high-tech and robotics professionals with a young team of international talents. Together we strive for continuous product innovations that create unique value for our customers.



# P-Rob<sup>®</sup> 2 – All-in-One



## All-in-One – ready to use

P-Rob is a complete system encompassing everything needed in one single unit: arm, gripper, embedded PC, power supply, control software. As a standalone pre-integrated equipment, P-Rob is ready to be used as soon as unpacked and installed in less than 10 minutes.

## Intrinsically safe

The safety concept enables safe direct human-robot collaboration. No special costly protection system is needed to secure the area around P-Rob thanks to soft materials, force limitations and collision detection.

## Mobile and versatile

P-Rob can be used for many different tasks. It is easy to move as one single unit and fast to set-up for recurrent or new tasks, quick to learn how to perform small or large batches. Since no caging is needed, the robot requires no more space than what a human would need.

## Immediate acceptance – warm look & feel

Its fluid design and a colorful padded cover based on industrial leather gives a warm touch & feel so P-Rob is generally very well accepted by co-workers and not perceived as an other «cold» tool – Different set of colors can be chosen depending on taste and environment like one would choose the color of a car or its interior.

## Easy to integrate

On the hardware side, robot and gripper are equipped with different connectors extending the capability to add external sensors or equipment like vision systems or other automation systems. From software, standard API like web-services provide capability to remotely control the robot.

# myP – the clever software platform

## Intuitive web-based application

myP software consists of a solid back-end system based on a real-time web-server and database and an intuitive browser-based Graphical User Interface (GUI). The back-end runs on the embedded PC and provides all necessary functions to control and communicate with the hardware components – UI is very easy to grasp avoiding extended training.

## Context aware intelligence

Sophisticated software algorithms power P-Rob hardware. The software architecture is focused on adaptive behavior especially for grasping and manipulation tasks. Deep learning networks, including neural and probability network algorithms, enable the robot to adapt to a specific task and improve its performance based on feedback.



## No expertise required

Programming expertise is not necessary for simple tasks or applications. Poses and paths can be manually taught. The task generator assists and guides the user to record a complete task within a few minutes instead of having to go into detailed programming and writing of code.

## Open to industry standards

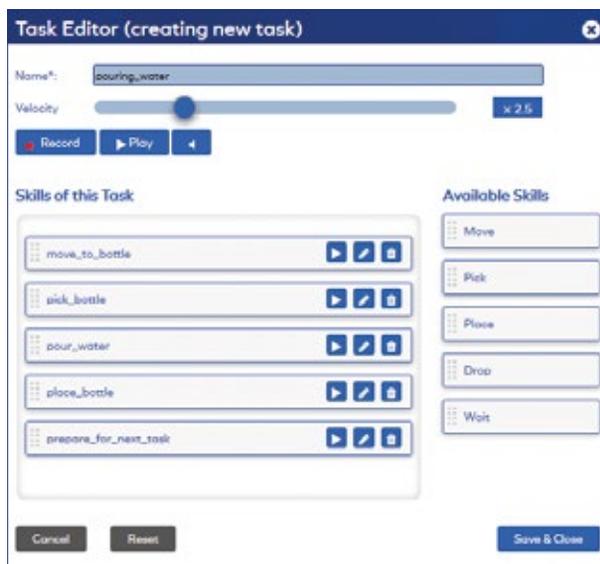
The API also supports Web Services protocols. Software developers can then create robot applications from all kind of 4th Generation Software Packages (such as Lab-View or MatLab/Simulink) including all major Programming Languages

# P-Rob® – the smart operator

Artificial Intelligence makes P-Rob® quick, skilled and aware.

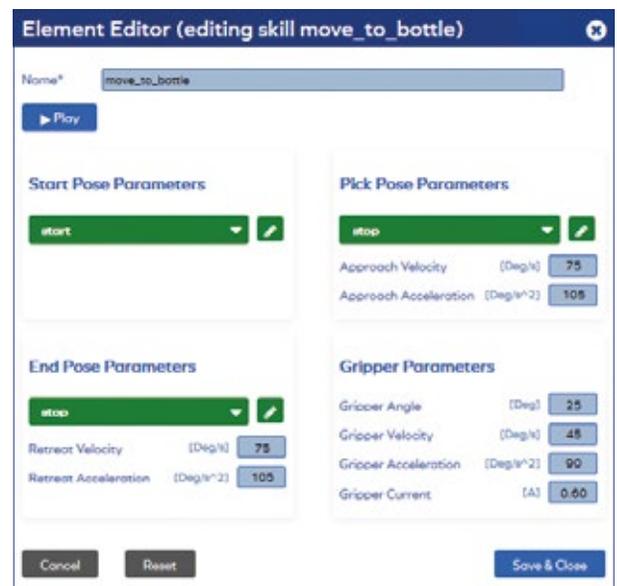
## Quick

P-Rob is quick: to install, to use, to teach, to re-deploy for a new task. A powerful task generator combined with the anti-gravity mode make teach-in easier than ever. Use a notebook, tablet or any other mobile device to program, teach or run your P-Rob.



## Skilled

P-Rob comes with a set of skills offering higher capability than raw functions. For example, P-Rob's skill «Grasp» includes various movements to perform the action including pre condition and post condition tests based on sensor and vision data.



## Aware



# Applications

Typical fields of applications where P-Rob can be used:



## Pick & place

P-Rob is perfect to perform quick and repetitive pick and place tasks. It is fast, safe and can be quickly adapted to changing size of lots, batches and type of parts.

## Assembly

P-Rob is capable of assisting humans in multi-step assembly tasks. Thanks to its versatility and ease of use, P-Rob is able to undertake even complicated and challenging assembly steps efficiently.



## Quality testing

P-Rob is also suited to automatize testing tasks. The multifunctional gripper and finger system of P-Rob allows the mounting of all kind of sensors, test- and measurement-equipment.

## ...and many more

You are not sure if the P-Rob is suitable for your specific requirements? Get in touch with us or our partners in your region, we will be happy to assist.

## Machine tending

The repetitive task of machine tending can be executed by a P-Rob. An integrated set of I/O functions and various communication protocols enable easy interactions between the P-Rob and other machines.



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