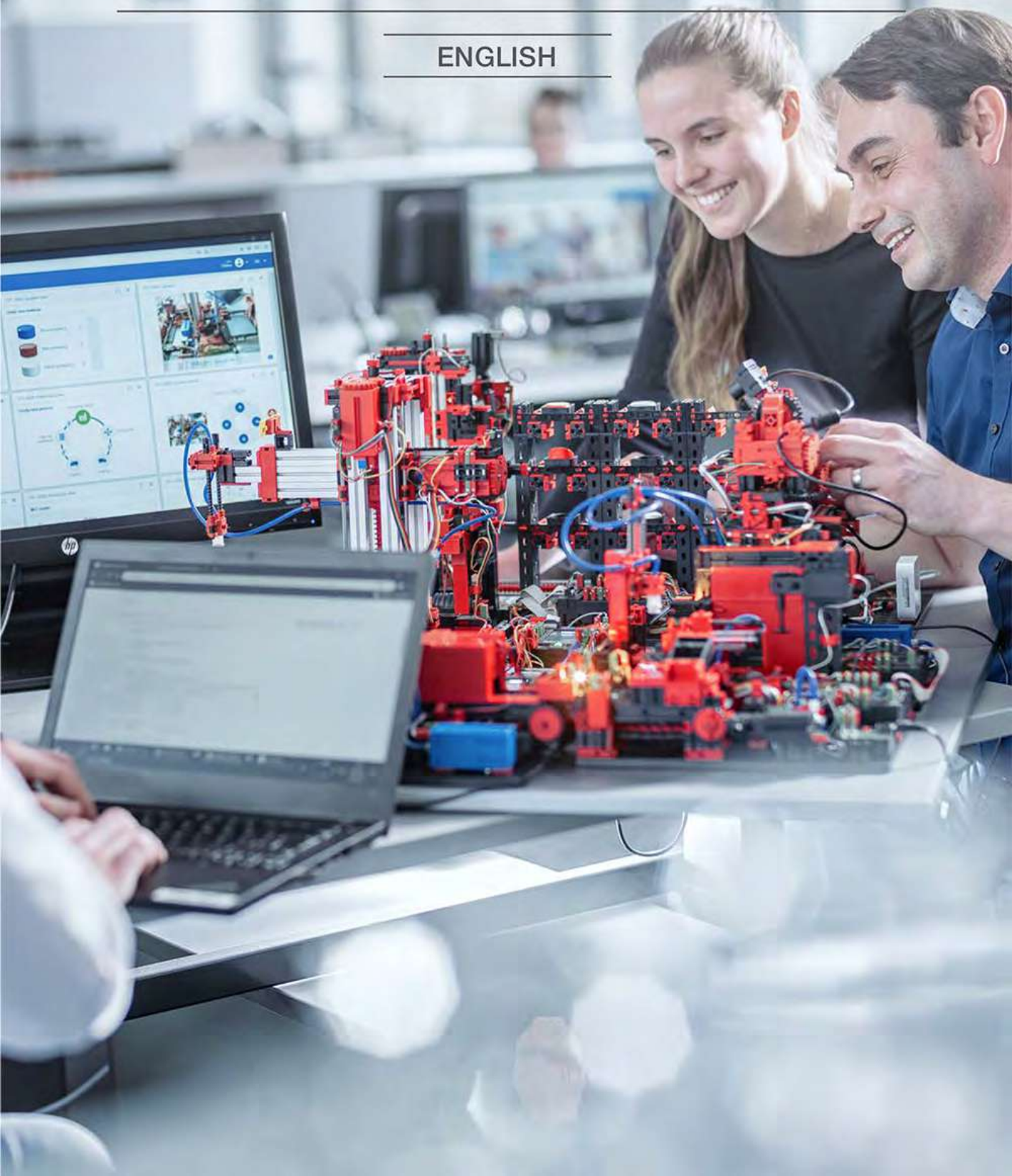
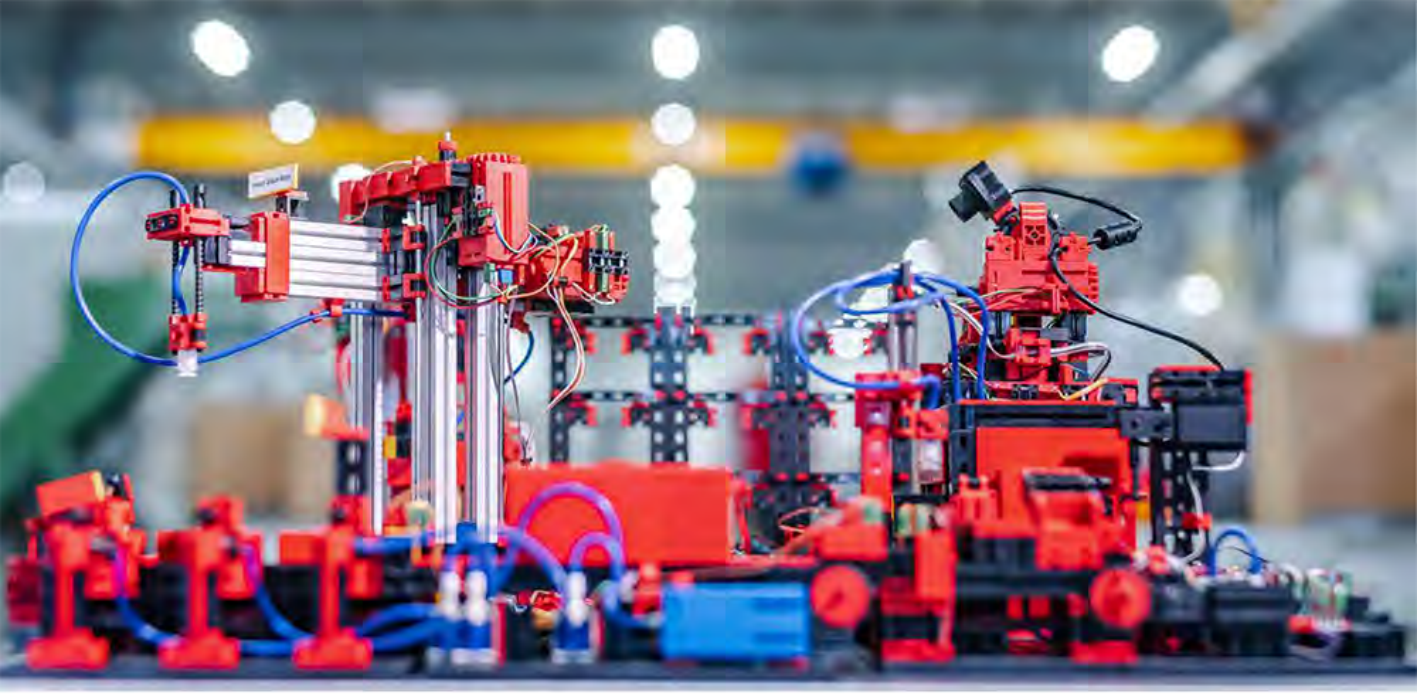
fischertechnik

TRAINING | SIMULATION | DEMONSTRATION

ENGLISH





FISCHERTECHNIK AND SIMULATION

fischertechnik and simulation – an optimal and cost-effective combination enjoying growing popularity that already has many engineers, trainers, instructors, product developers, designers, and software specialists excited!
fischertechnik makes it possible to map complex industrial processes in a realistic manner. The focus is on training, simulation, and demonstration as well as displaying automation and digital, networked applications in a realistic production environment in an understandable manner. The most popular areas of application for fischertechnik training models are:

- Education and training in companies and vocational schools
- Universities and colleges
- Product and software development
- Logistics and production planning
- Automation and digitization

9V / 24V MODELS

There are fischertechnik simulation models either in 9V standard voltage with fischertechnik controller(s) or in the worldwide 24V industry standard for connection to all common PLCs. The 24V models have a PCB with relay to reverse the motor's direction of travel for this purpose.
Inputs and outputs are designed for pin connectors (26-pin, 2.54 mm grid) and terminal blocks with push-in connections. Wiring plans and technical information are available at **www.fischertechnik.de**.

FULLY ASSEMBLED

fischertechnik training models are delivered pre-assembled as compact functional models. For this purpose, they are fixed onto wooden boards using screws to increase stability, so that mobility to carry the models with you for projects, exhibitions or trade fairs is guaranteed at all times. The screws can be easily loosened to take advantage of the flexibility and modular design of fischertechnik, if an independent conversion and extension of further models is required at any time. fischertechnik has been a "Made in Germany" brand for over 55 years and continues its manufacturing in Germany. Profit from the excellent high quality which makes fischertechnik models extremely durable and well-known.

MADE IN GERMANY

TUTORIALS / DOCUMENTATION

eLearning Portal
The portal provides technical documentation, wiring plans, data sheets, and additional didactic material for free download. Innovative teaching materials by fischertechnik for teachers, instructors, and trainers supports the development of technical understanding among high school and university students and trainees and helps transmit knowledge.
It offers visual models and tasks for easily preparing lectures, and includes problems as well as solutions. Handouts and copying templates are also included.
www.fischertechnik-elearning.com

eLearning Portal

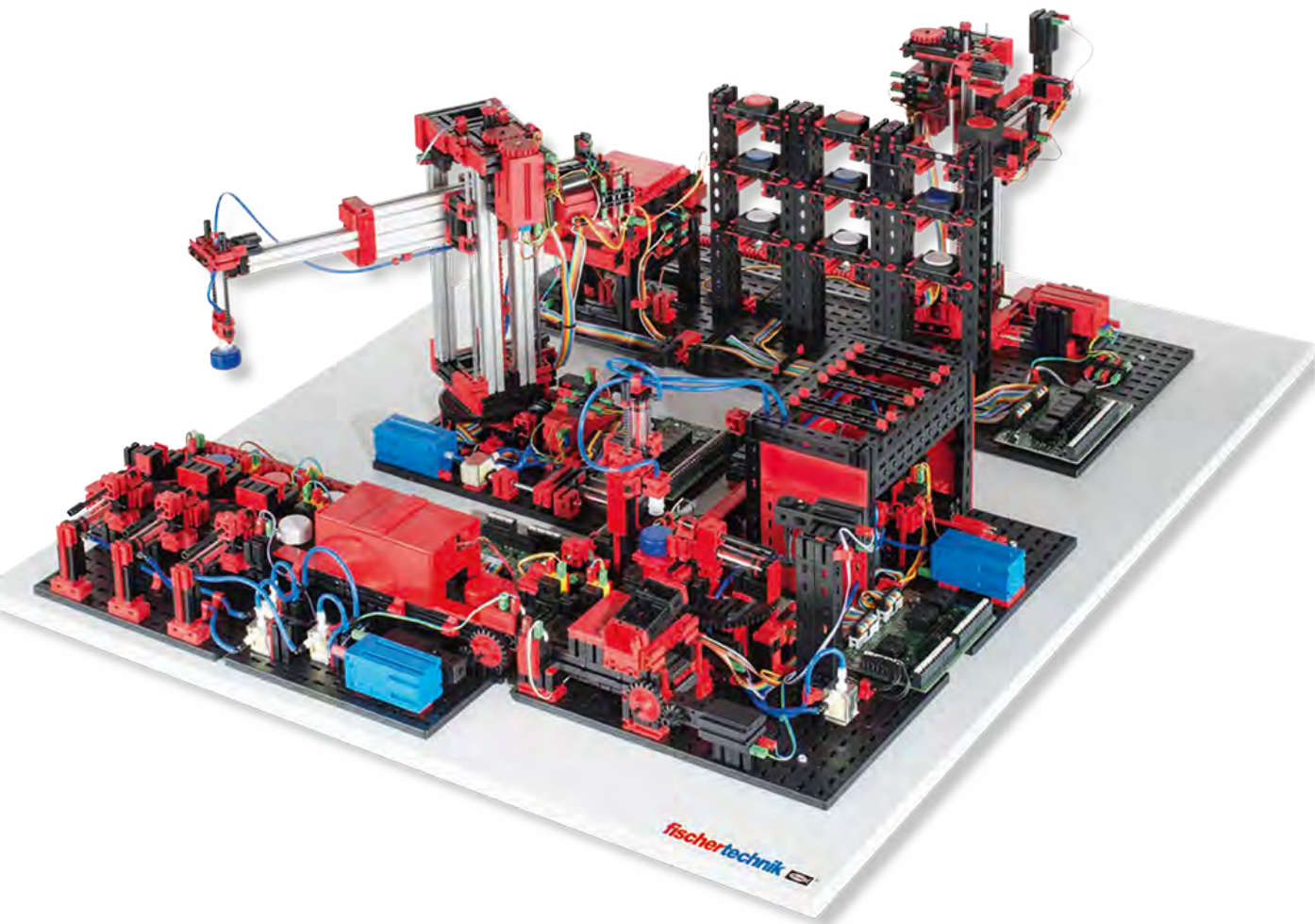
FACTORY SIMULATION

24V

Combination of the models Sorting Line With Color Detection, Multi Processing Station With Furnace, Automated High-Bay Warehouse and Vacuum Gripper Robot.

Self-contained material cycle:
Workpieces are retrieved from the Automated High-Bay Warehouse, processed in the Multi Processing Station With Furnace, then sorted by color in the Sorting Line With Color Detection and finally stored in the Automated High-Bay Warehouse again.

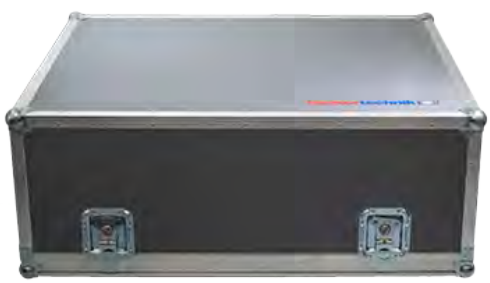
Item No.	536634
EAN	4048962250411
Dimension (mm)	972 x 772 x 402
Weight (kg)	19,5
Control	PLC (not included)
Software	(not included)
Power Supply	(not included)

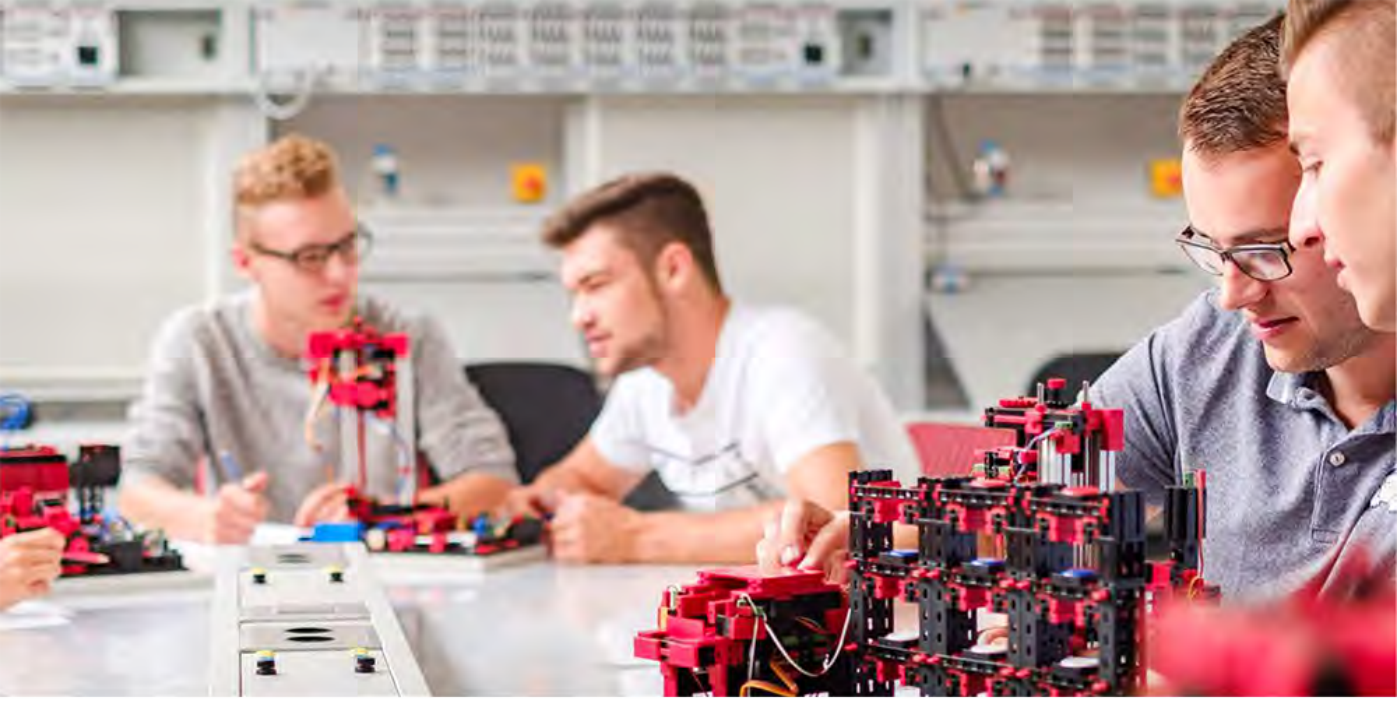


✱ Models included in the factory

STORAGE & TRANSPORT

The matching storage and transport case is now available for all factory models. See inside pages for description and dimensions.



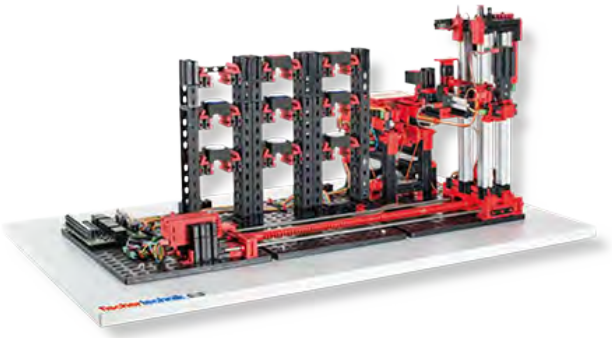


AUTOMATED HIGH-BAY WAREHOUSE *

24V

Transfer station with conveyor belt, shelf stacker for storing and retrieving special workpiece carriers, 9 storage slots.

> Incl. 2x encoder motors, 2x mini motors, 4x push buttons (limit switch), 2x phototransistors, 2x LED light barriers, workpiece carriers, various colored workpieces (6 pcs.)



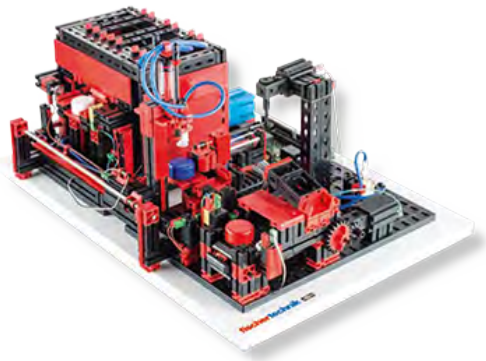
Item No.	536631
EAN	4048962250381
Dimension (mm)	472 x 722 x 382
Weight (g)	8000
Control	PLC (not included)
Software	(not included)
Power Supply	(not included)
Possible combination	Vacuum Gripper robot

MULTI PROCESSING STATION WITH FURNACE *

24V

Furnace with pneumatic sliding door. Downstream processing station with pneumatic transfer unit including vacuum gripper, cutter with rotary table and conveyor belt.

> Incl. 4x mini motors, 6x push buttons (limit switch), 2x photo-transistors, 2x LED light barriers, 4x solenoid valves, compressor



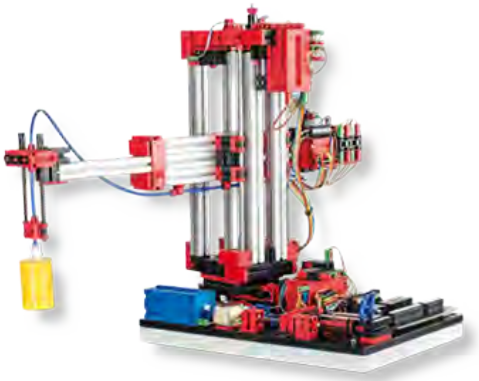
Item No.	536632
EAN	4048962250398
Dimension (mm)	502 x 342 x 302
Weight (g)	4680
Control	PLC (not included)
Software	(not included)
Power Supply	(not included)
Possible combination	Vacuum Gripper robot Sorting Line With Color Detection

VACUUM GRIPPER ROBOT *

24V

The 3-axis robot with vacuum gripper works quickly and precisely, positioning workpieces in three-dimensional space. Working range: x-axis 270°, y-axis (forwards/back) 140 mm, z-axis (up/down) 120 mm

> Incl. 3x encoder motors, 3x push buttons (limit switch), vacuum suction device, compressor, solenoid valve



Item No.	536630
EAN	4048962250374
Dimension (mm)	222 x 482 x 382
Weight (g)	3120
Control	PLC (not included)
Software	(not included)
Power Supply	(not included)
Possible combination	All Training models

SORTING LINE WITH COLOR DETECTION *

24V

Detects workpieces of different colors and sorts them via a conveyor belt into the provided storage unit.

> Incl. 2x mini motors, 5x phototransistors, 5x LED light barriers, 3x solenoid valves, compressor, optical color sensor

Item No.	536633
EAN	4048962250404
Dimension (mm)	502 x 342 x 302
Weight (g)	4290
Control	PLC (not included)
Software	(not included)
Power Supply	(not included)
Possible combination	Vacuum Gripper robot Multi Processing Station With Furnace

INDEXED LINE WITH 2 MACHINING STATIONS

24V

Conveyor line with a milling and drilling station with four conveyor belts in a U-shaped arrangement.

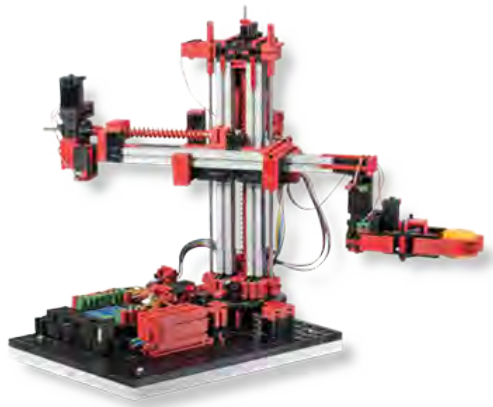
> Incl. 4x conveyor belt, 8x XS motors, 4x push buttons (limit switch), 5x phototransistors, 5x LED light barriers

Item No.	96790
EAN	4006209967904
Dimension (mm)	475 x 450 x 270
Weight (g)	3547
Control	PLC (not included)
Software	(not included)
Power Supply	(not included)
Possible combination	3D-Robot Vacuum Gripper robot

3D-ROBOT

The 3-axis robot with gripping forceps quickly and precisely positions workpieces in three-dimensional space.
Degrees of freedom: Axis 1: turn 180°, axis 2: forward/back 90 mm, axis 3: raise/lower 150 mm.

> Incl. 2x XS motors, 2x encoder motors, 4x push buttons (limit switch)

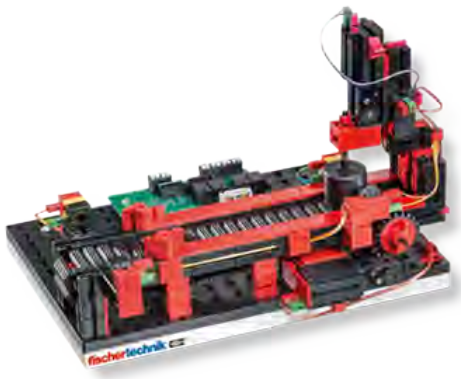


	9V	24V
Item No.	511937	511938
EAN	4048962111705	4048962111316
Dimension (mm)	480 x 400 x 220	480 x 400 x 220
Weight (g))	3100	2700
Control	1x ROBOTICS TXT Controller	PLC (not included)
Software	ROBO Pro	(not included)
Power Supply	(not included) 1x power supply required 505287 (for 230V) 122952 (for 120V)	(not included)
Possible combination	Indexed Line with 2 Machining Stations	Indexed Line with 2 Machining Stations
	Punching Machine with Conveyor Belt	Punching Machine with Conveyor Belt
	Conveyor Belt	Conveyor Belt
	Vacuum Gripper robot	Vacuum Gripper robot

PUNCHING MACHINE WITH CONVEYOR BELT

The punching machine with conveyor belt simulates conveying and punching of workpieces.

> Incl. 2x XS motors, 2x push buttons (limit switch), 2x phototransistors, 2x LED light barriers



	24V
Item No.	96785
EAN	4006209967850
Dimension (mm)	375 x 290 x 190
Weight (g)	1450
Control	PLC (not included)
Software	(not included)
Power Supply	(not included)
Possible combination	3D-Robot
	Vacuum Gripper robot

CONVEYOR BELT

Transport belt with a length of 275 mm transports workpieces with a diameter of up to 29 mm. Several conveyor belts can be connected to each other to form an endless conveyor belt.

> Incl. XS motor, push button (limit switch), 2x phototransistors, 2x LED light barriers

	24V
Item No.	50464
EAN	4006209504642
Dimension (mm)	345 x 240 x 100
Weight (g)	670
Control	PLC (not included)
Software	(not included)
Power Supply	(not included)
Possible combination	3D-Robot
	Vacuum Gripper robot

FISCHERTECHNIK CLOUD

The Training Factory Industry 4.0 has already been integrated in the fischertechnik cloud - see inside pages. All other models cannot use this as yet, but can be connected with other clouds using separate programming.
The connection to the fischertechnik cloud is established via the WiFi router supplied and integrated into the training factory.
We recommend using the web browsers such as Chrome or Firefox. The cloud can be used via a personal access that is created once (www.fischertechnik-cloud.com).
The cloud servers are located in Germany and ensure that strict European requirements regarding the storage of data are applicable. Personal data is protected in an account with password access that uses extremely secure "OAuth2" industry standard. All data sent to the cloud is transmitted encrypted with certificates (https standard, green lock in web browser).

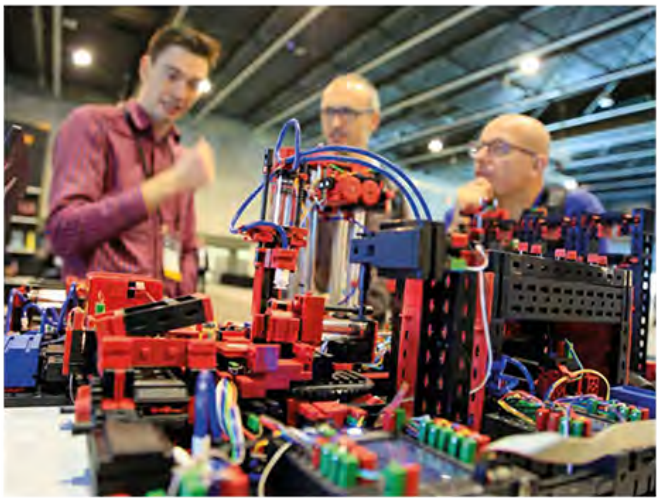
Dashboard:
The dashboard can be accessed and operated via mobile devices such as tablets and smartphones as well as laptops and PCs. It enables platforms to be displayed from three different perspectives:

- Customer view
- Supplier view
- Production view

fischertechnik cloud

INDUSTRY 4.0 INTERNET OF THINGS

The fischertechnik models are compatible with Industry 4.0 even today. Core topics in digitally networked production can be visualized physically and demonstrated in an easy to understand way, enriched with sensors and combined with a cloud.
These include preventative maintenance, production quality predictions, human-machine interactions, remote control, data exchange via dashboard. The SAP UCC has developed a teaching scenario for the factory simulation with case studies that helps both teachers and students alike to understand the opportunities offered by Industry 4.0. Further information available at:
www.fischertechnik.de/en/simulating/industry-4-0



SAP University Alliances

SAP UCC Magdeburg

SERVICE OFFERS

- **Contact:**
  Information on fischertechnik simulation models is available at our homepage www.fischertechnik.de, along with helpful questions and answers at www.fischertechnik.de/FAQs. If you need any consultation or have further questions, you can contact Monday to Friday by phone and email.

- **Delivery:**
  All fischertechnik training and simulation models are delivered in a particularly sturdy shipping carton, which guarantees a safe delivery across the world.

- **Spare parts:**
  Each fischertechnik component can be purchased and replaced individually even years after your model purchase. Thus it is guaranteed that you always have a fully functional model in operation.
  The complete overview of individual parts can be found at www.fischertechnik.de/spare-parts.

- **CAD data:**
  If you need CAD data for the training and simulation models, please contact us so that we can advise you individually and make you an offer.

- **References:**
  Simulation and training models from fischertechnik create flexible options for industry, training institutions and schools to test out processes and easily teach basic technical concepts. Several fischertechnik reference projects are available on our homepage, and can be accessed easily via QR code.

WHAT CUSTOMERS REPORT

"We at Accso use fischertechnik models to implement and visualize innovative Industry 4.0 projects. Factory simulation 24V is an outstanding basis for our showcase project, the SmARt Factory, which supports planning and maintenance of production systems using augmented reality apps. Both we and our customers are impressed by the quality of fischertechnik products."

Dariusz Drzimalla
Smart Industry Consultant
Accso - Accelerated Solutions GmbH

ACCSO ACCELERATED SOLUTIONS

"Fischertechnik Training Factory Industry 4.0 model was implemented into the cources of Electrical Engineering Faculty at Dnipro University of Technology in 2019. This step has drammatically increased the competitiveness of young Ukrainian engineers, and satisfied the needs of major technological employers in our region, including Interpipe Metallurgical Corporation."

Serhii Khudolii
Ph.D. of Engineering Sciences
Professor at Electric Drives Department
Dnipro University of Technology, Dnipro city, Ukraine

DNIPRO UNIVERSITY of TECHNOLOGY 1899

"With the fischertechnik PLC models, the transfer from dry theory to practice succeeds in a playful way."

Florian Stöger
Contact person in the field of automation technology
sps4you

sps4you

fischertechnik

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