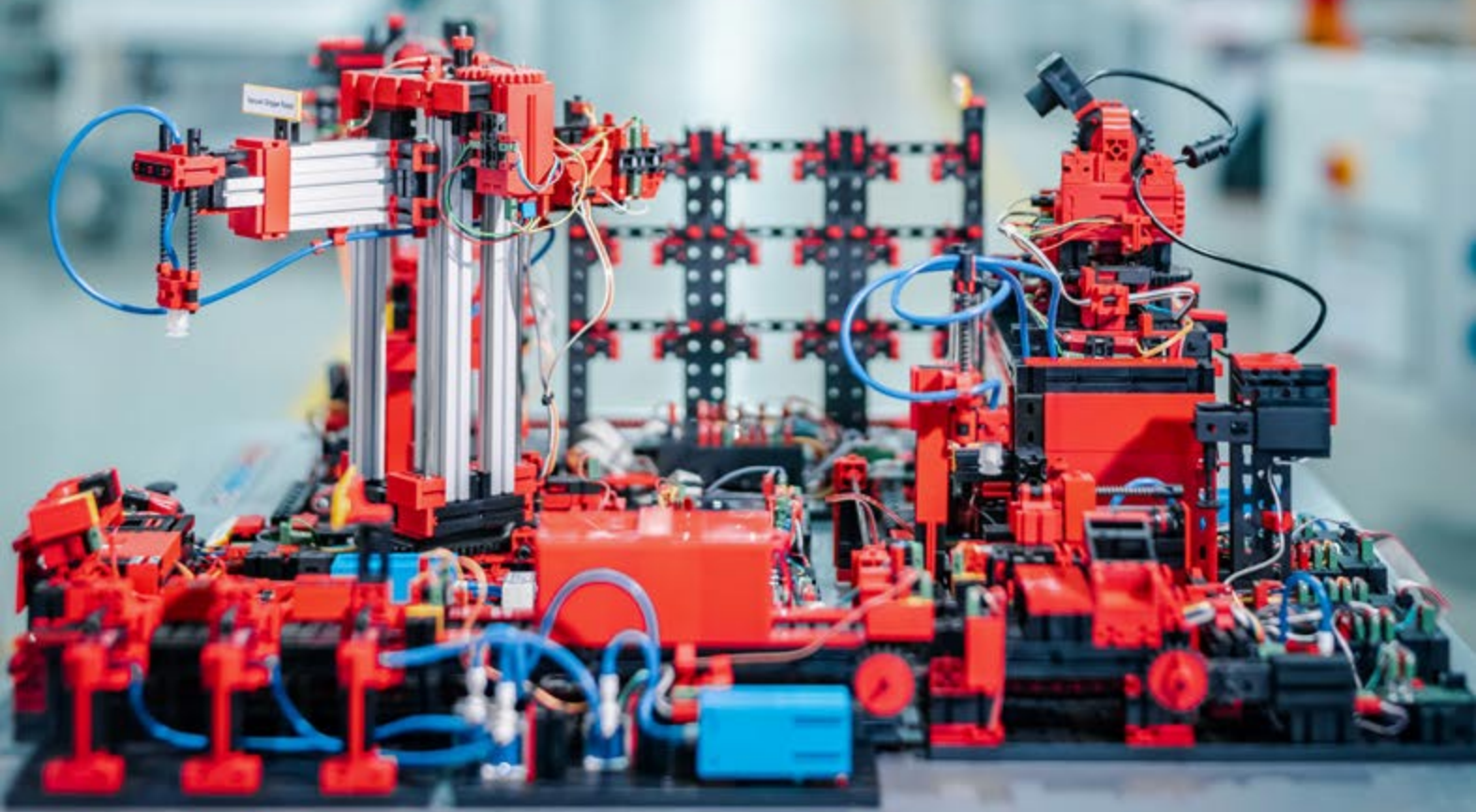


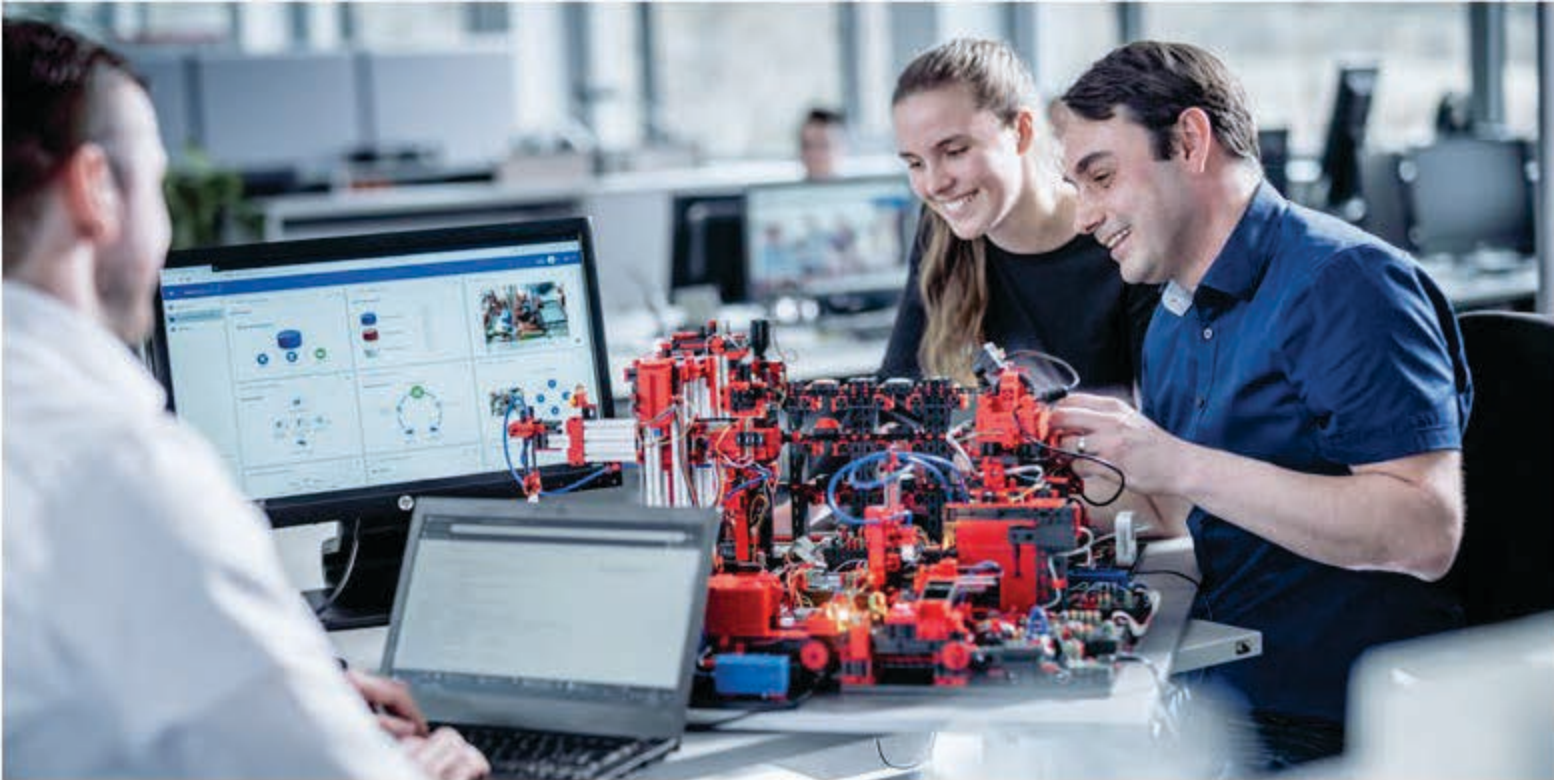
fischertechnik



TRAINING & SIMULATION

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

Except the Training Factory Industry 4.0 that is available only in the 9V model, all other models, optionally in, are available in 9V standard voltage with a TXT Controller and RoboPro control programmes. Also available in global 24V industrial standard for connection to any current PLC. 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 50 years and continues its manufacturing in Germany. Profit from the excellent high quality which makes fischertechnik models extremely durable and well-known.



TUTORIALS / DOCUMENTATION

eLearning Portal

The portal provides technical documentation, wiring plans, datasheets, 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



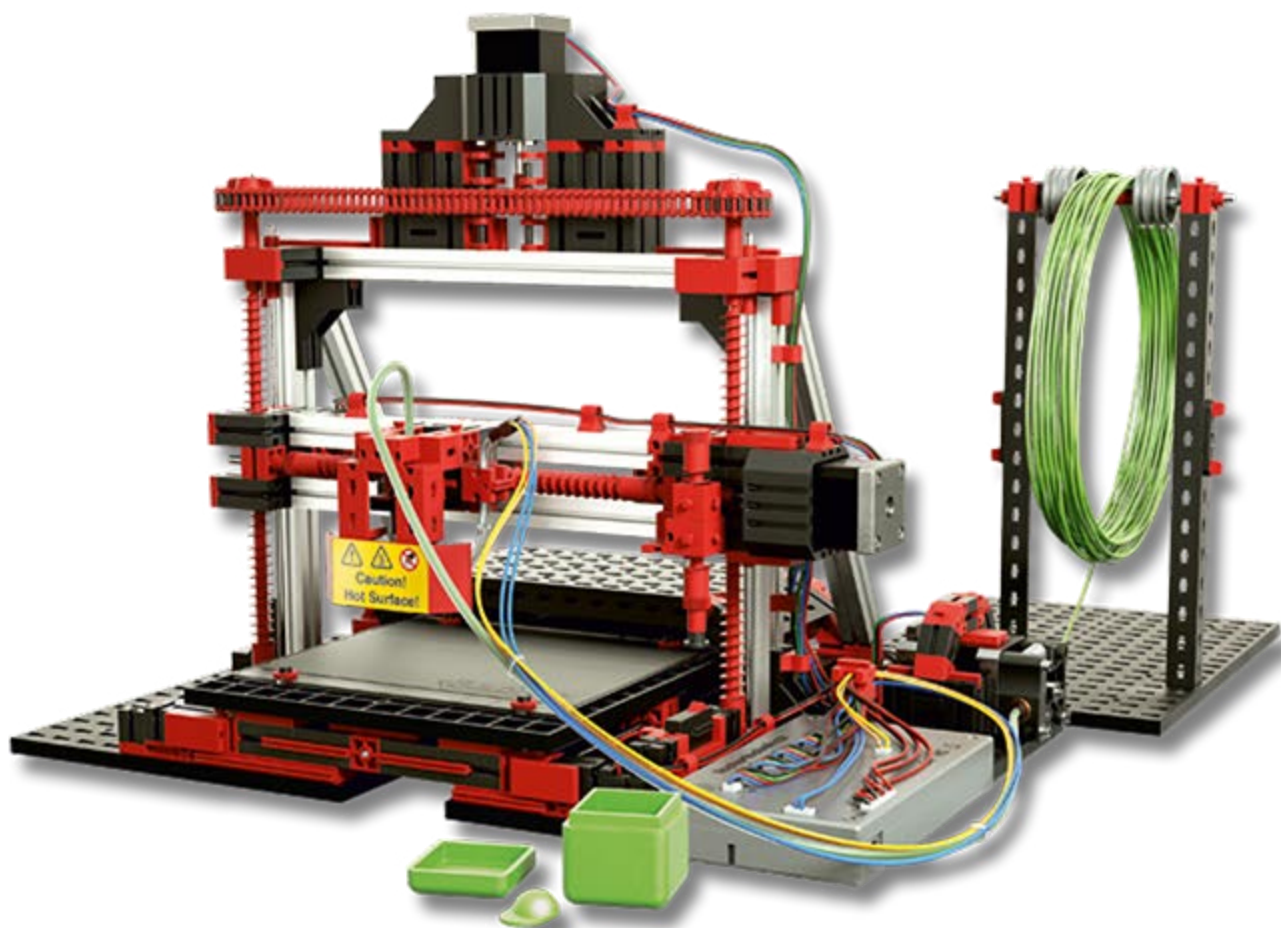
3D PRINTER

Build, Plug & Print! This build-it-yourself kit gives users a fascinating insight into the groundbreaking technology of 3D printing. Print your own parts yourself at any time - so distinct, so easy, so flexible - for use! Use either the supplied printing examples, different examples on our eLearning portal (fischertechnik-elearning.com) or your very own print data. The robust 3D Printer is easy to build and can be used for 3D printing of different parts. Users acquire basic knowledge about 3D printing and an insight into this revolutionary technology that promises a high degree of future potential. Includes PC software for controlling the printer via the USB interface. The eLearning portal offers exciting, instructional activity information and videos.

Item No.	536624
EAN	4048962250312
Dimension (mm)	465 x 160 x 390
Weight (g)	6337
Components	890
Printing range	115 x 100 x 65 mm
Layer thickness	min. 0.2 mm
Filament diameter	1.75 mm
Nozzle diameter	0.5 mm
Material	PLA (polylactide)



- > Incl. 3D Controller with Atmel microcontroller, USB interface for PC (Micro B USB port, incl. interface cable), 4 step motor drivers (for x-, y- and z-axes and extruder), one power output (MOS-FET) for the extruder nozzle (hot end), connections for 3 limit switches and a temperature sensor, DC port for voltage supply 19V, 6.3A
- > Incl. 3D Print Control software, with slicer and printer control, specially adapted to fischertechnik 3D Printers (Windows 7, 8, 10). Numerous finished printing examples included as G-codes and STL files. Also works with Mac OS X and Linux with the software RepetierHost: www.fischertechnik.de/3DPrinter-FAQ
- > Incl. 4 high-torque step motors (x-, y- and z-axes, extruder), 3 mini push-buttons (as limit switches for x-, y- and z-axes), heated nozzle (for 1.75 mm diameter filament) with temperature monitoring, printing bed with removable printing plate
- > Incl. power unit (AC input 100-240VDC output 19V, 6.3A, 50-60Hz)
- > Incl. high quality filament (50g roll, PLA, 1.75mm diameter, green). Premium filament in eight special fischertechnik colors (50g roll or 500g coil) can be ordered separately



fischertechnik 

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FISCHERTECHNIK CLOUD

The Training Factory Industry 4.0 has already been integrated 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 learning 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

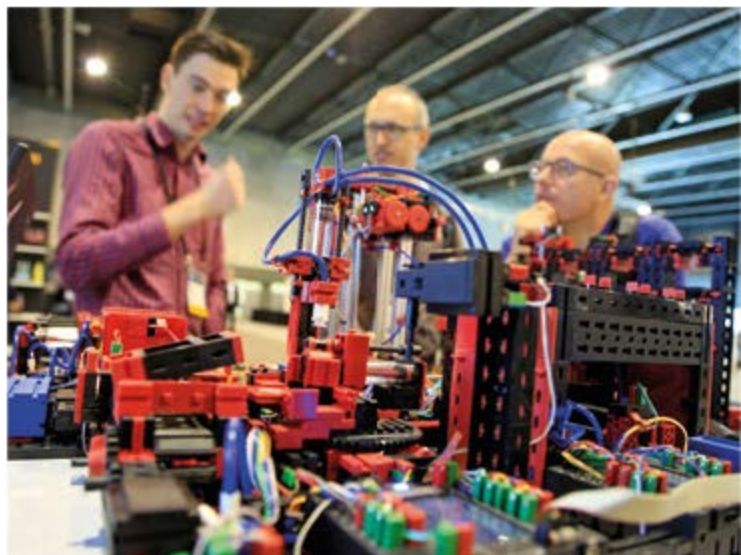


INDUSTRY 4.0 INTERNET OF THINGS

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


FACTORY SIMULATION

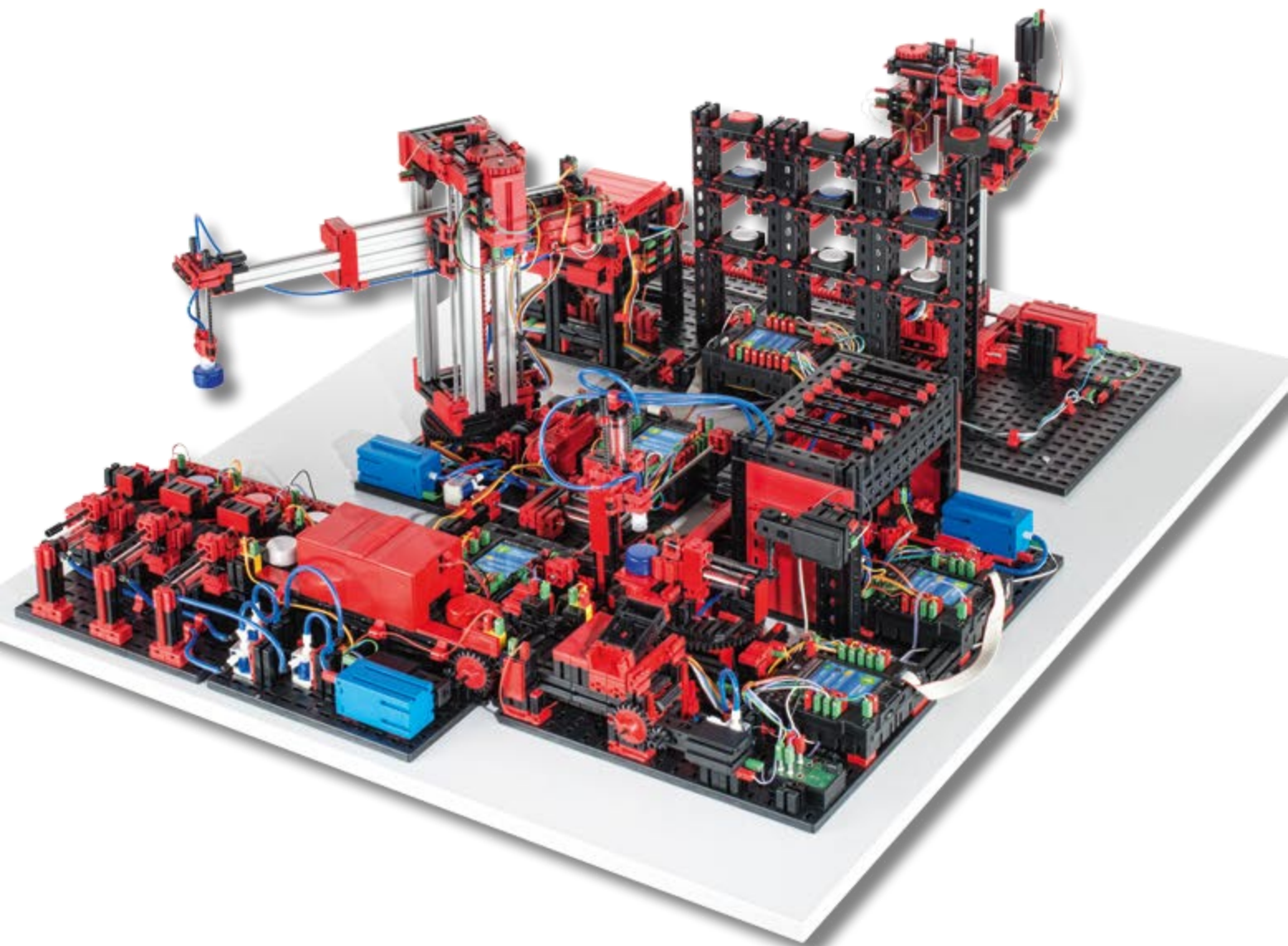
9V

24V

Combination of the models Sorting Line With Color Detection, Multi Processing Station With Oven, 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 Oven, then sorted by color in the Sorting Line With Color Detection and finally stored in the Automated High-Bay Warehouse again.

Item No.	536629	536634
EAN	4048962250367	4048962250411
Dimension (mm)	972 x 772 x 402	972 x 772 x 402
Weight (kg)	20,6	19,5
Control	5x ROBOTICS TXT Controller	SPS (not included)
Software	ROBO Pro	(not included)
Power Supply	(not included)	(not included)
	 3x power supply required 505287 (for 230V) 122952 (for 120V)	



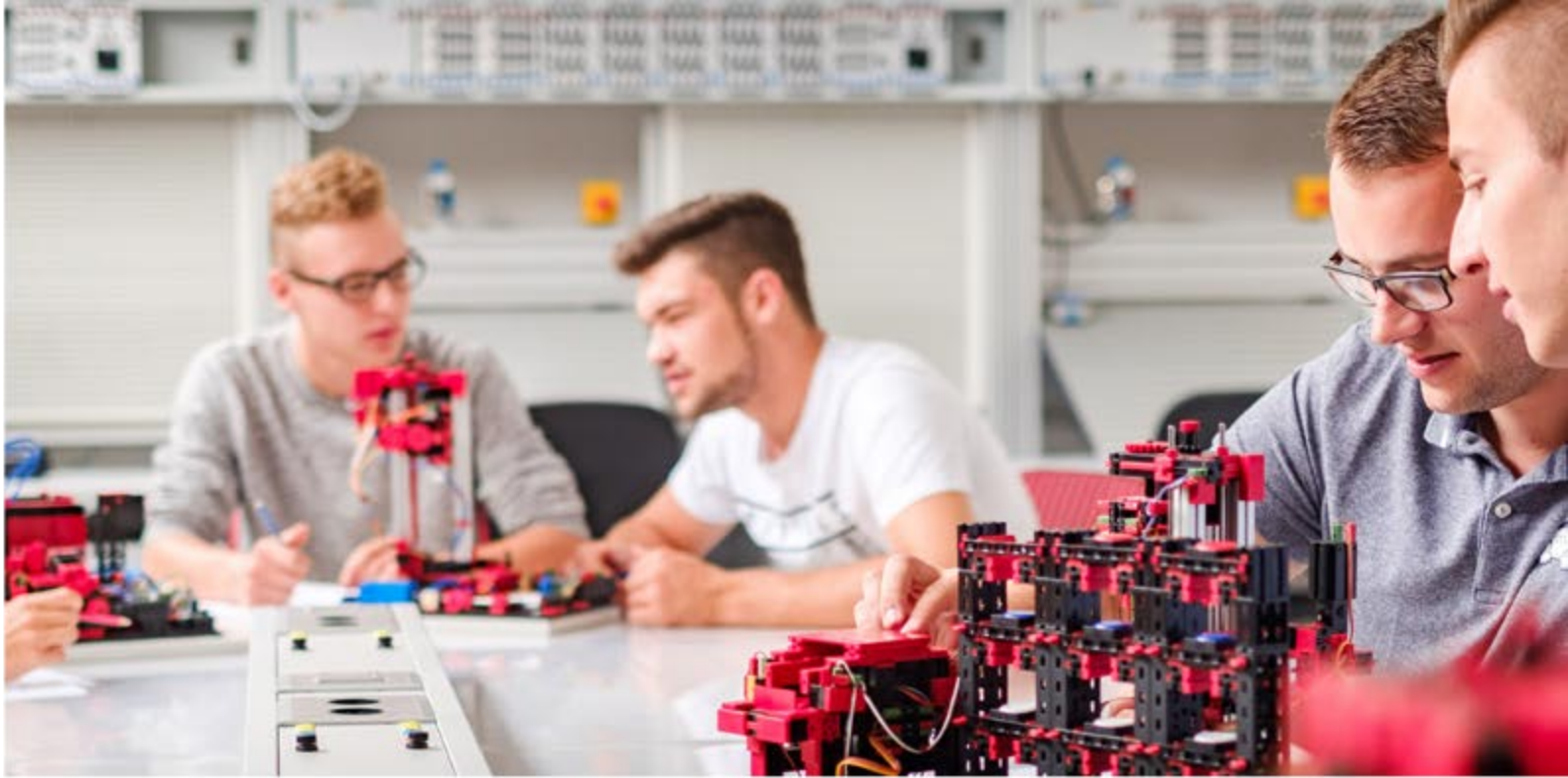
* Models included in the factory

NEW

The matching storage and transport case is now available for all 3 factory models. See inside pages for description and dimensions.



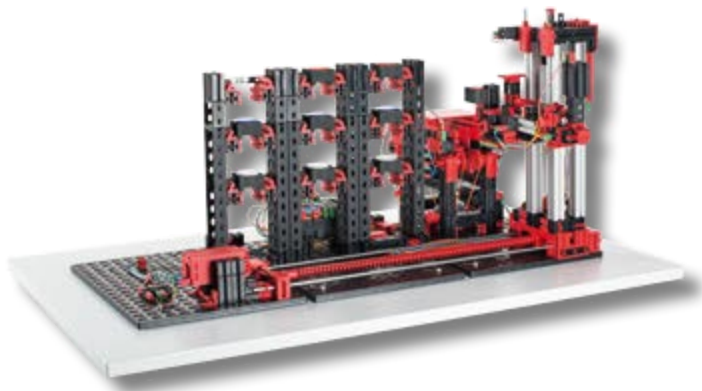
Example illustration



AUTOMATED HIGH-BAY WAREHOUSE *

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

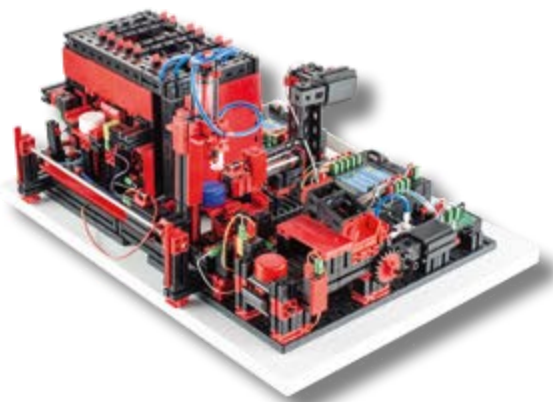
- > Incl. 2x encoder motors, 2x mini motors, 4x push buttons (limit switch), 2x phototransistors, 2x LED light barriers, workpiece carriers, various colored workpieces (6 pcs.)



MULTI PROCESSING STATION WITH OVEN *

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 phototransistors, 2x LED light barriers, 4x solenoid valves, compressor



9V

24V

Item No.	536626	536631
EAN	4048962250336	4048962250381
Dimension (mm)	472 x 722 x 382	472 x 722 x 382
Weight (g)	8200	8000
Control	1x ROBOTICS TXT Controller	SPS (not included)
Software	ROBO Pro	(not included)
Power Supply	(not included) ⚠ 1 x power supply required 505287 (for 230V) 122952 (for 120V)	(not included)
Possible combination	Vacuum Gripper robot	Vacuum Gripper robot

9V

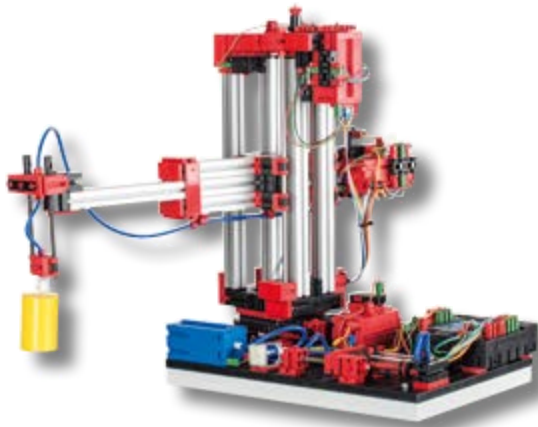
24V

Item No.	536627	536632
EAN	4048962250343	4048962250398
Dimension (mm)	502 x 342 x 302	502 x 342 x 302
Weight (g)	4900	4680
Control	2x ROBOTICS TXT Controller	SPS (not included)
Software	ROBO Pro	(not included)
Power Supply	(not included) ⚠ 1 x power supply required 505287 (for 230V) 122952 (for 120V)	(not included)
Possible combination	Vacuum Gripper robot Sorting Line With Color Detection	Vacuum Gripper robot Sorting Line With Color Detection

VACUUM GRIPPER ROBOT *

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



9V

24V

Item No.	536625	536630
EAN	4048962250329	4048962250374
Dimension (mm)	222 x 482 x 382	222 x 482 x 382
Weight (g)	3300	3120
Control	1x ROBOTICS TXT Controller	SPS (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	All Training models	All Training models

SORTING LINE WITH COLOR DETECTION *

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



9V

24V

Item No.	536628	536633
EAN	4048962250350	4048962250404
Dimension (mm)	502 x 342 x 302	502 x 342 x 302
Weight (g)	4500	4290
Control	1x ROBOTICS TXT Controller	SPS (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	Vacuum Gripper robot Multi Processing Station With Oven	Vacuum Gripper robot Multi Processing Station With Oven

INDEXED LINE WITH 2 MACHINING STATIONS

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



9V

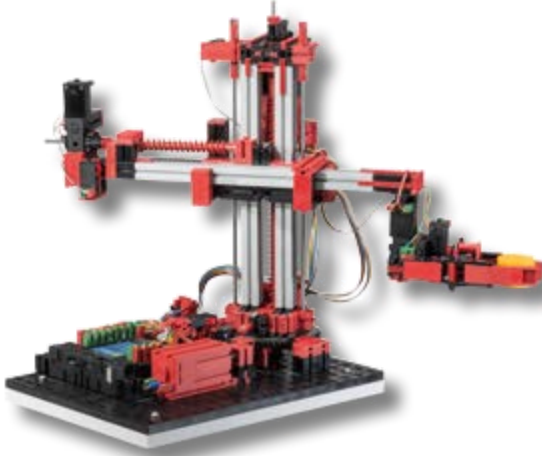
24V

Item No.	51664	96790
EAN	4006209516645	4006209967904
Dimension (mm)	475 x 450 x 270	475 x 450 x 270
Weight (g)	5100	3547
Control	2x ROBOTICS TXT Controller	SPS (not included)
Software	ROBO Pro	(not included)
Power Supply	(not included) ⚠ 2x power supply required 505287 (for 230V) 122952 (for 120V)	(not included)
Possible combination	3D-Robot Vacuum Gripper robot	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)



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



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




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	SPS (not included)
Software	ROBO Pro	(not included)
Power Supply	(not included)	(not included)
	 1x power supply required 505287 (for 230V) 122952 (for 120V)	
Possible combination	Indexed Line with 2 Machining Stations Punching Machine with Conveyor Belt Conveyor Belt Vacuum Gripper robot	Indexed Line with 2 Machining Stations Punching Machine with Conveyor Belt Conveyor Belt Vacuum Gripper robot


9V

24V

Item No.	51863	96785
EAN	4006209516638	4006209967850
Dimension (mm)	375 x 290 x 190	375 x 290 x 190
Weight (g)	1650	1450
Control	1x ROBOTICS TXT Controller	SPS (not included)
Software	ROBO Pro	(not included)
Power Supply	(not included)	(not included)
	 1x power supply required 505287 (for 230V) 122952 (for 120V)	
Possible combination	3D-Robot Vacuum Gripper robot	3D-Robot Vacuum Gripper robot

9V

24V

Item No.	50463	50464
EAN	4006209504635	4006209504642
Dimension (mm)	345 x 240 x 100	345 x 240 x 100
Weight (g)	860	670
Control	1x ROBOTICS TXT Controller	SPS (not included)
Software	ROBO Pro	(not included)
Power Supply	(not included)	(not included)
	 1x power supply required 505287 (for 230V) 122952 (for 120V)	
Possible combination	3D-Robot Vacuum Gripper robot	3D-Robot Vacuum Gripper robot