

# fischertechnik



**S T E M** M A T H E M A T I K  
I N F O R M A T I K  
N A T U R W I S S E N S C H A F T  
T E C H N I K



# 2022

The fun and creative way to explore technology



2022

DEUTSCHLAND  
**TEST**

**PREISTRÄGER  
NACHHALTIGES  
ENGAGEMENT**

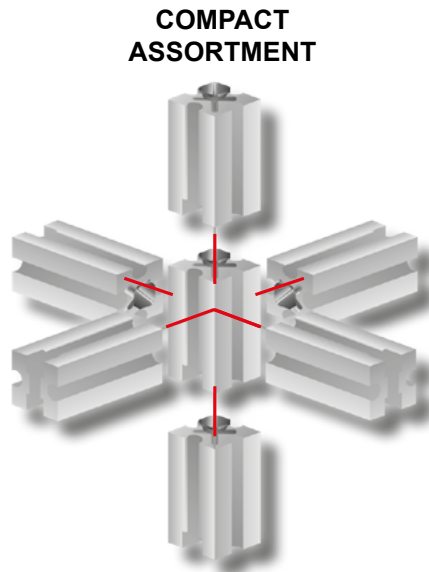
PRÄDIKAT „TESTSIEGER“  
fischertechnik  
UMFRAGE (FOCUS 11/21)  
[www.deutschlandtest.de](http://www.deutschlandtest.de)



## YOUR ADVANTAGE

USE OF FISCHERTECHNIK  
AT ‚MULTIPLIER‘ SCHOOL

ALL CONSTRUCTION  
SETS CAN BE COMBINED  
WITH ONE ANOTHER



PREMIUM BRAND WITH  
PREMIUM SERVICE

CHILDREN LEARN BASIC  
UNDERSTANDING OF TECHNOLOGY BY  
PLAYING

QUALITY:  
MADE IN  
**GERMANY**

The fischertechnik basic building block allows attachment on all six sides. This "many-sided" block forms the basis for all fischertechnik construction sets, which are put together according to age and capabilities of the children. These sets allow you to experience the real technology and learn it by playing.

## ECOLOGICAL AND SOCIAL STANDARDS

As a member of the Fair Toys Organisation (FTO), fischertechnik is working to improve the ecological and social standards for toy production.



## EDUCATIONAL TOYS



fischertechnik is an educational toy 'Made in Germany' and produced at the plant in Waldachtal in the „Black Forest“. All construction sets can be ideally combined with one another. In addition to the assembly instructions, the PROFI and ROBOTICS construction sets include educational background information, tasks and solutions. The high acceptance by parents, teachers and engineers make fischertechnik a successful teaching material at schools and universities.



## LEARNING ABOUT TECHNOLOGY BY PLAYING - WITH THE FISCHERTECHNIK eLEARNING PORTAL

The eLearning portal by fischertechnik let children learn online with fischertechnik. The [www.fischertechnik-elearning.com](http://www.fischertechnik-elearning.com) website provides lots of instructional information about various construction set topics.

The didactic material, videos and animations optimally support the discovery and comprehension of exciting technology topics such as mechanics, physics, electronics, pneumatics, hydraulics and robotics. For the inventors and engineers of tomorrow!



## AWARDS



## FOUR LINES FOR ALL AGES

Entry into the four different product lines is possible at any time. All of this taken together forms a logical concept where one fits with the other. Building block for building block. It doesn't matter how demanding the models become because you can always return to the components from other fischertechnik sets. To help you with the construction and discovery at the fascinating fischertechnik world, there is a comprehensive and easy to understand set of assembly instructions.



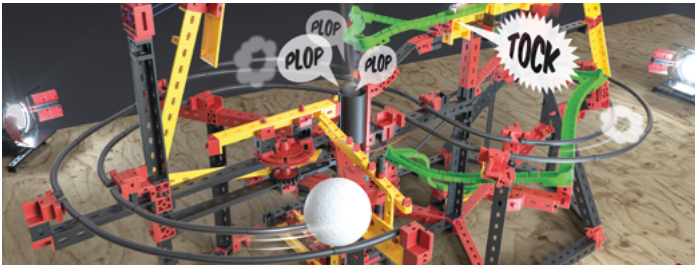
The fun of playing starts at the age of five with fischertechnik. The JUNIOR line provides the first experience with technology and the way it functions. The motto is learning by playing and building with fast success.

page 8

**JUNIOR**



**5+**



Six-year olds develop their knowledge and capabilities with the ADVANCED line. The models are not only realistic and understandable in their function, but really robust in construction and for playing.

from page 8

**ADVANCED**



**6+**



The PROFI line, which starts at seven of age, offers the technicians of tomorrow design construction sets that are very close to reality. Subjects such as mechanics, statics, pneumatics, electrical technology or regenerative energies guarantee outstanding experiences in the world of technology.

from page 13

**PROFI**



**7+**



Starting at the age of five, children can program and control fischertechnik models and robots from the computer or tablet with our easy-to-use graphic software. An app is even available for control with smartphone.

from page 22

**ROBOTICS**



**5+**



The optimum supplement. Everything to make fischertechnik even more attractive with light, motion and more fun.

from page 27

**PLUS**



# NEW

## CONSTRUCTOR

A starter building kit for young engineers age 5 and up. The varied, colorful fischertechnik parts can be used to build six different vehicles and two airplanes. Age-appropriate building instructions help children finish structures quickly and spark their interest in building their own, more creative models. At the same time, the kit promotes important skills like hand-eye coordination as well as large and small motor skills. Kids will enjoy many exciting adventures with the included figurine, fischertechnik.



5+  
8 MODELS  
68 PIECES

AVAILABLE FROM MARCH 2022

## ENGINEER

The big Junior starter kit for age 5 and up includes twelve different vehicles, planes and cranes. Child-friendly building instructions offer an easy introduction to the fischertechnik system. Learning about technology is important here, too – the included solar rotor and the ability to spray water with the pneumatic cylinder give young scientists a fun first look at the world of technology. The kit also includes Nik, the fischertechnik figurine, who lends a helping hand to the engineers of tomorrow.



5+  
12 MODELS  
153 PIECES

AVAILABLE FROM MARCH 2022

## ANIMAL FRIENDS

Sustainability is an important priority that we take to heart. For the first time, children can get excited about individual fischertechnik parts made from organic polyamide, with fun animal models and bright new colors. Our individual parts have always been very durable, which means they can be used for generations. But now they are also being made from organic polyamide, consisting of up to 60% renewable raw materials. The packaging and building instructions are also made from recycled materials, making an active contribution to the circular economy. Our close relationship with nature is also illustrated by the fun animal models – *Larry the lizard*, *Sammy the spider*, *Sandy the scorpion*, *Henry the horse* and *Cleo the cat* are all excited to join in the playtime adventures, and they are part of the sustainable overall concept.



6+  
5 MODELS  
222 PIECES

AVAILABLE FROM MARCH 2022

# NEW

## FIREFIGHTER

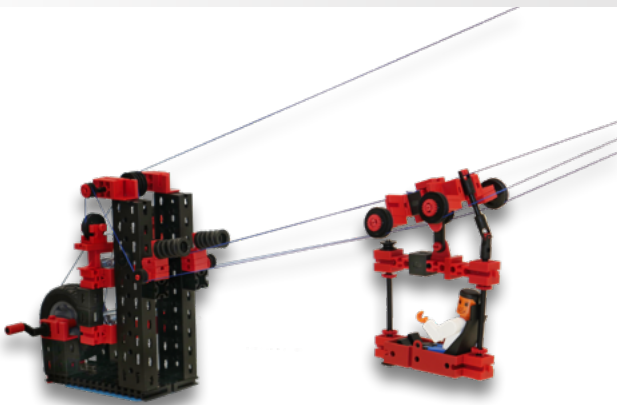


Whee-oo, here comes the fire truck – and it’s an essential part of every child’s room. These three great models are ready to perform heroic rescues and save whole cities in the playroom. The kit includes an adapter for a standard PET bottle, which is built into the model and used as a water tank. It helps children learn the importance of sustainability, and it teaches them – in a fun way – that everyday objects have many different uses. An air pump creates pressure in the water-filled plastic bottle. When the valve is opened, water sprays from up to three syringes out of the attached fire hose, and children learn about the relationship between air and water pressure as they play. With the included figurine, fischertechnik, kids can have many exciting adventures and go on thrilling missions as they put out fires and rescue people.



**AVAILABLE FROM JULY 2022**

## SEILBAHN / CABLE CAR



They travel through imposing mountain ranges, connect cities and neighborhoods, and transport people and freight. Cable Cars are impressive and well worth learning about. This kit includes three different realistic cable car models, attached partly with vacuum pads to span distances and heights in the playroom – the perfect place for this exciting subject, and for exploring the different functions of cable cars.



**AVAILABLE FROM JULY 2022**

## BUILD YOUR OWN GAME



Wouldn't it be great if you could build a variety of games from a single kit? No problem – fischertechnik Build your own game makes it possible! The kit includes eight different board games and skill games, like roulette, a prize wheel and a labyrinth. Who is the most precise, who is the fastest, who has luck on their side? The various games can be played alone or with multiple players – hours of fun for the whole family. Tired of the game? No problem! Just grab the building instructions, put together the next game, and keep the fun going!



**AVAILABLE FROM JULY 2022**

# NEW

## MARBLE COMPETITION

Designed for single players and even teams with up to four players, the fischertechnik Marble Competition lets you build exciting racetrack models for hours of interactive entertainment! The building kit includes three completely different action-filled models. Once the track is built, the fun really begins with exciting races! Kit highlights include the wide, flexible high-speed tracks and wide 180-degree curves for daring passing maneuvers. The colorful marbles also add a lot of fun, because each player picks a color and then watches and cheers them on through the fast obstacle course. But don't celebrate too soon – adjustable roadblocks can slow or stop the marbles, keeping the race exciting to the very end. All three models feature different racing modes with various launching devices.



**AVAILABLE FROM JULY 2022**

## STATICS

Why are buildings, bridges and other structures built the way they are? What makes them stable, and how can you improve their stability? The fischertechnik Statics kit helps young engineers answer these and other questions. The kit contains a total of eleven impressive models. From explanatory functional models to various bridges, towers and a crane, it has everything young explorers need for learning more about the world of statics. The kit even includes famous structures like the Eiffel Tower and Tower Bridge. The extensive accompanying materials, also available online, explain and deepen the knowledge gained through play.



**AVAILABLE FROM MARCH 2022**

## CONTROL SET

The Control Set lets fischertechnik models be controlled remotely via the Bluetooth Control App, using a smartphone or tablet. The Bluetooth low-energy technology offers a long range of up to 10 meters. The receiver has three motor outputs and a servo output, which enables smooth steering and continuous speed regulation. The set comes with one servo. The app can be used to operate up to two receivers, which allows for a large number of uses. The Bluetooth technology lets you use multiple control sets in the same room without crossing signals.

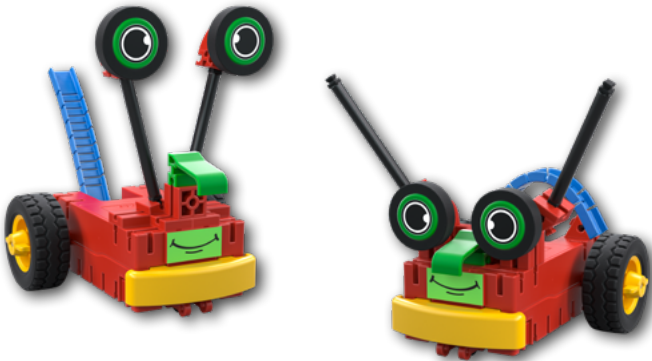


**AVAILABLE FROM MARCH 2022**

# NEW

## EARLY CODING

Writing your own program and bringing a robot to life is unbelievably fascinating and exciting. This technology is essential in today's world. Our fischertechnik Early Coding building set is the right choice to teach even the youngest developers about this exciting, important topic. They can get started in the world of IT and robotics in a fun, inspiring way using the finished components. The two motors and sensors are fully integrated into a block. That means all users need to do is switch them on, connect via Bluetooth using a mobile device, and get started! The simple graphic programming environment with pre-designed examples is built to be age-appropriate – the perfect way to get started with the world of robotics! Creating own programs using the First Coding App is quite simple. A Teach-In function is available as well as the manual control of the models.



+ eLearning Portal



3 MODELS

55 PIECES

AVAILABLE FROM MARCH 2022

## SMARTTECH RX

fischertechnik Smarttech RX works with our fischertechnik RX Controller and ROBO Pro Coding software to bring 9 exciting models to life. The graphic programming software is not dependent on any specific operating system, and can be used on mobile devices. From simple beginner models to a variety of driving robots to a funny dancing robot, there is something for everyone. One highlight of this building set are the omni-wheels, which are operated by four motors and allow the robot to move in any direction. The track sensor, gesture sensor and push button make it possible to construct and program a variety of exciting driving robots just waiting for developers and inventors to send them on a new adventure.

Includes new battery holder for six AA cells (batteries not included).



+ eLearning Portal



9 MODELS

530 PIECES

AVAILABLE FROM JULY 2022

**NEW**

## CONSTRUCTOR

Item No.	564065	Components	68
EAN	4048962458527	Dimension (mm)	280x65x180

A starter building kit for young engineers age 5 and up. The varied, colorful fischertechnik parts can be used to build six different vehicles and two airplanes. Age-appropriate building instructions help children finish structures quickly and spark their interest in building their own, more creative models. At the same time, the kit promotes important skills like hand-eye coordination as well as large and small motor skills. Kids will enjoy many exciting adventures with the included figurine, fischertechnik.

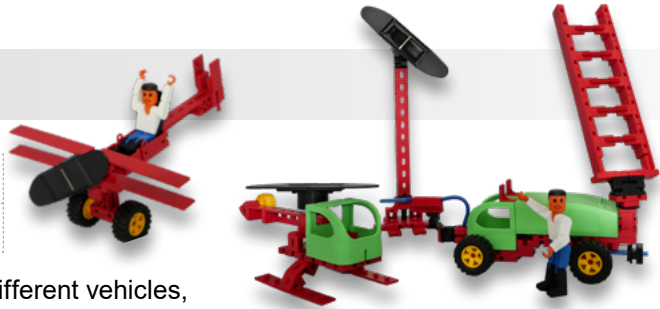


**NEW**

## ENGINEER

Item No.	564066	Components	153
EAN	4048962458534	Dimension (mm)	320x80x230

The big Junior starter kit for age 5 and up includes twelve different vehicles, planes and cranes. Child-friendly building instructions offer an easy introduction to the fischertechnik system. Learning about technology is important here, too – the included solar rotor and the ability to spray water with the pneumatic cylinder give young scientists a fun first look at the world of technology. The kit also includes Nik, the fischertechnik figurine, who lends a helping hand to the engineers of tomorrow.



## ADVANCED

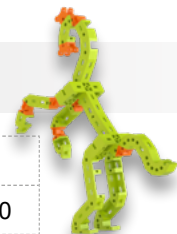
**NEW**



## ANIMAL FRIENDS



Item No.	563576	Components	222
EAN	4048962454666	Dimension (mm)	320x80x230



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## SOLAR

Item No.	544616	Components	80
EAN	4048962316223	Dimension (mm)	280x65x180



Children playfully gain their first experience with renewable energy with this construction kit. The solar rotor, a combination of solar cell and motor, is the heart of the three models and makes the propeller rotate by the power of the sun. The helicopter, airboat and fan models get moving with the help of solar energy.



## TRACTORS

Item No.	544617	Components	130
EAN	4048962316230	Dimension (mm)	280x65x180



The three farm vehicles bring plenty of family fun to the playroom and they all have realistic axle pivot steering. Also in this construction set there is an additional play figure included.



## RACERS

Item No.	540580	Components	50
EAN	4048962280005	Dimension (mm)	225x65x150



The speedy Racers have functional steering. The design parts give you lots of options for customising the little speedsters.



Ideal additions: Motor Set XS, LED Set, Power Set

## UNIVERSAL STARTER

Item No.	536618	Components	255
EAN	4048962250251	Dimension (mm)	320x80x230



Models such as the crane with cable winch and worm gear, racing car with steering, teeter-totter with four-bar linkage teach children a basic understanding for technology. Other creative, mechanical models can be made from the gears, basic building blocks, static parts, wheels and many other parts. This construction set helps children to understand everyday technology by playing.



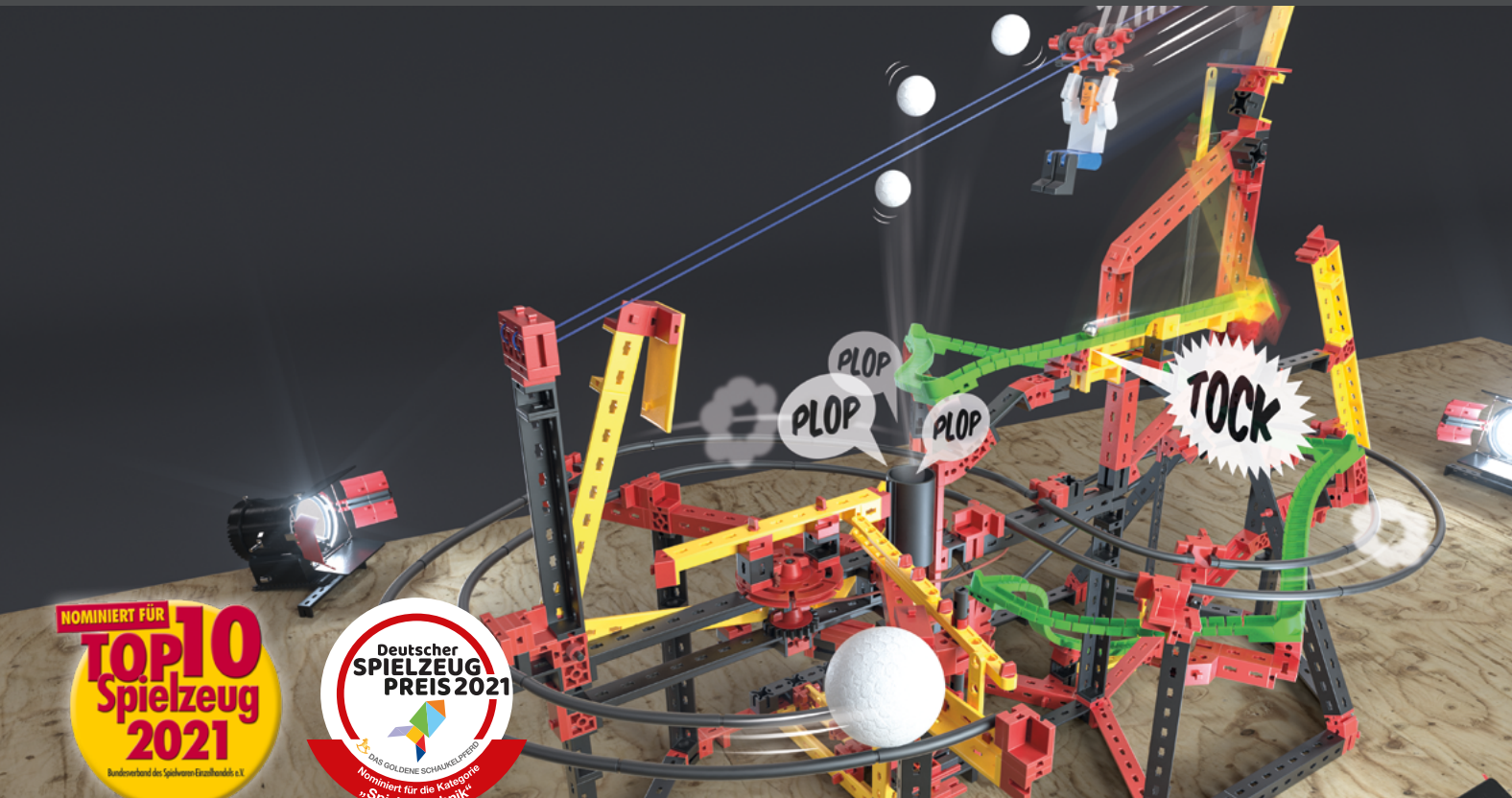
Ideal additions: Motor Set XS, Motor Set XM, LED Set, Power Set

## UNIVERSAL 4

Item No.	548885	Components	500
EAN	4048962350951	Dimension (mm)	465x80x320



With the Universal 4 building kit, builders can create a total of 40 models like vehicles with steering, bulldozers with crawler tracks, a construction crane, and much more. Several models can be built at the same time, which is a great feature. This allows kids to build toys of different types or from different play worlds, such as a cargo helicopter with a transmission mast, a construction site, playground, etc. These different topics and play worlds offer versatile building and playing fun in any child's room. Thanks to the large number of components, their creativity will know no bounds. In addition, many models can be expanded with Plus Sets. The comprehensive building instructions describe how to add motors, lights, etc.



Ideal additions: Funny Machines, LED Set, Creative Box Basic, Creative Box Mechanics, all construction sets in the Dynamic Line



## FUNNY REACTIONS

Item No.	559890	Components	682
EAN	4048962424713	Dimension (mm)	465x80x320



Just a little push is all it takes to start an exciting, action-packed chain reaction! The building instructions include three great models, but there's no limit to the creative fun they deliver! Create great stories and exciting courses. Maybe you already have something fun at home to add to your next chain reaction?



Incl. magnetic cannon

Ideal additions: Funny Reactions, LED Set, Creative Box Basic, Creative Box Mechanics, all construction sets in the Dynamic Line



## FUNNY MACHINES

Item No.	551588	Components	385
EAN	4048962354225	Dimension (mm)	465x80x320



a course. At the end of the funny chain reaction, a catapult is triggered to throw another ball to hit the target. Your child's creativity will know no bounds. Creative tinkerers can integrate fischertechnik parts or other toys like dominoes into the course to add even more funny features.

**NEW**

## FIREFIGHTER

Item No.	564069	Components	261
EAN	4048962458565	Dimension (mm)	465x80x320



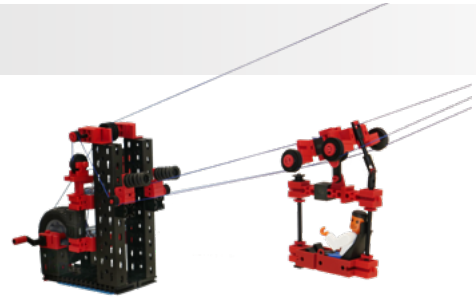
Whee-oo, here comes the fire truck – and it's an essential part of every child's room. These three great models are ready to perform heroic rescues and save whole cities in the playroom. The kit includes an adapter for a standard PET bottle, which is built into the model and used as a water tank. It helps children learn the importance of sustainability, and it teaches them – in a fun way – that everyday objects have many different uses. An air pump creates pressure in the water-filled plastic bottle. When the valve is opened, water sprays from up to three syringes out of the attached fire hose, and children learn about the relationship between air and water pressure as they play. With the included figurine, fischertechnik, kids can have many exciting adventures and go on thrilling missions as they put out fires and rescue people.



**NEW**

## SEILBAHN / CABLE CAR

Item No.	564068	Components	334
EAN	4048962458558	Dimension (mm)	320x80x230



They travel through imposing mountain ranges, connect cities and neighborhoods, and transport people and freight. Cable Cars are impressive and well worth learning about. This kit includes three different realistic cable car models, attached partly with vacuum pads to span distances and heights in the playroom – the perfect place for this exciting subject, and for exploring the different functions of cable cars.



**NEW**

## BUILD YOUR OWN GAME

Item No.	564067	Components	294
EAN	4048962458541	Dimension (mm)	320x80x230



Wouldn't it be great if you could build a variety of games from a single kit? No problem – fischertechnik Build your own game makes it possible! The kit includes eight different board games and skill games, like roulette, a prize wheel and a labyrinth. Who is the most precise, who is the fastest, who has luck on their side? The various games can be played alone or with multiple players – hours of fun for the whole family. Tired of the game? No problem! Just grab the building instructions, put together the next game, and keep the fun going!



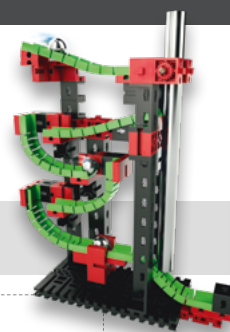


Incl. Sound tube, 4x 90° curve, 3x ball, 6x flex-rail 90, 3x flex-rail 180

Ideal additions: All construction sets in the Dynamic Line, LED Set

## DYNAMIC S

Item No.	536620	Components	140
EAN	4048962250275	Dimension (mm)	230x80x320



Ball obstacle course and fischertechnik: two classic toy systems guarantee lots of fun! The ball starts in the obstacle course and accelerates until it reaches the cross-over, where it drops further before racing down two different tracks – to the left and to the right! In the title model, the ball flies through several 90° curves and over a teeter-totter before brushing against the sound tube – „BING“! The balls are collected at the end of the course and can be easily removed again. Three impressive obstacle courses can be made with the assembly instructions from more than 140 parts. Young engineers also have plenty of scope for making many other courses according to their own ideas. Three models: simple obstacle course, action obstacle course and obstacle course with twin tracks! Get completely immersed in the fascinating, creative world of the fischertechnik ball obstacle course for heaps of action!



Incl. 2x rotary funnel, launching pad cover, 90° curve, 5x ball, 2x flex-rail 90, flex-rail 180

## DYNAMIC TRAMPOLINE

Item No.	544623	Components	145
EAN	4048962316292	Dimension (mm)	180x65x280



fischertechnik marble runs can be extended with a launching pad. The marble falls onto the launching pad and bounces into the rotary funnel. With this kit you can build an action-packed model, which can also be fitted perfectly onto other marble runs. For all fans of fischertechnik marble runs, there are free building instructions on the fischertechnik homepage that describe how the trampoline can be fitted onto the Dynamic M marble run. In addition, there are no limits to the creative ways in which the trampoline can be fitted onto any other fischertechnik marble run. Endless fun is guaranteed!



Incl. 2x rotary funnel, launching pad cover, 180° curve, 5x ball, 2x flex-rail 90, flex-rail 180

Ideal additions: All construction sets in the Dynamic Line, Motor Set XS, LED Set

## DYNAMIC XM

Item No.	544618	Components	280
EAN	4048962316247	Dimension (mm)	320x80x230



With this construction kit, pure marble run action is guaranteed. After being catapulted onto the launching pad via a mechanical clamping device, the marbles bounce off and land in the rotary funnel. To ensure that the marbles land safely in the collection tray, the launching pad can be adjusted around three axes. In total, three fun models can be constructed. For even more action, there are also free building instructions available on the fischertechnik homepage for the possible combination of this kit with the Dynamic L2 or Dynamic XXL.



Incl. rotary funnel, 3x sound tube, cross-over, 5x 90° curve, 8x ball, 4x flex-rail 90, 14x flex-rail 180

Ideal additions: All construction sets in the Dynamic Line, Motor Set XS, LED Set

## DYNAMIC M

Item No.	533872	Components	557
EAN	4048962229707	Dimension (mm)	465x80x320



Action and sound parts open up many possibilities for even more exciting courses. While they race downwards, the steel balls let the sound tubes create melodic tones. The rotary funnel offers a completely new way of bringing the balls onto the next rail. The balls also shoot and fly down the obstacle course through narrow 90° curves and a cross-over. On arriving at the bottom, the manual chain lift brings the balls back up to the top again. The Dynamic M construction set is ideal for making four exciting obstacle courses.

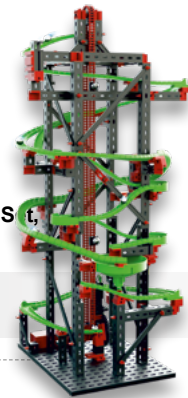


Incl. XS motor, 4x 90° curve, 3x 180° curve, 8x ball, 4x high-speed flex-rail, 8x flex-rail 90, 17x flex-rail 180, cross-over, rotary funnel, battery holder for 9V block (battery not included)

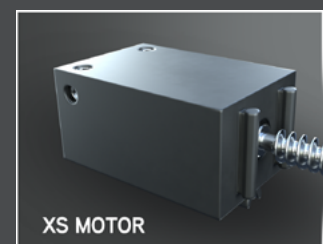
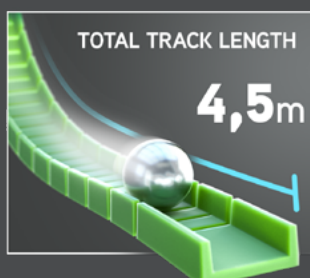
Ideal additions: All construction sets in the Dynamic Line, LED Set, Accu Set or Power Set

## DYNAMIC L2

Item No.	536621	Components	778
EAN	4048962250282	Dimension (mm)	465x80x390



The complete Dynamic L2 set guarantees even more fun with action models and the three 180° curves. The four high-speed flex-rails with raised side edge let the balls roll at full speed through the curve! The balls simply race through the mechanical cross-over into various tracks. They just fly through the cross-over toward the rotary funnel or over the teeter-totter which releases a ball at the stopping point. The 180° curve lets young architects change the direction of the ball in a confined space. After passing through the loops and other obstacles, the ball finally returns to the elevator waiting point. The balls are then brought back up to the top again by the elevator which is operated by an XS motor. The three different action courses with a length of up to 4.50 m offer unlimited fun on the ball obstacle course. The four instructional experiment models also unobtrusively explain the effects of the various physical phenomena (acceleration, mass inertia, the balance of forces, the law of conserving energy, the principle of linear momentum, the laws of motion). The eLearning portal includes exciting accompanying pedagogical materials on physics.





Incl. XS motor, 2x rainbow LED, 2x flex-tube 360, 7x 90°curve, 5x 180°curve, 7x high-speed flex-rail, 8x flex-rail 90, 16x flex-rail 180, 8x ball, 2x cross-over, 2x rotary funnel, battery holder for 9V block (battery not included)

Ideal additions: All construction sets in the Dynamic Line, Motor Set XS, Bluetooth Control Set, LED Set, Accu Set or Power Set

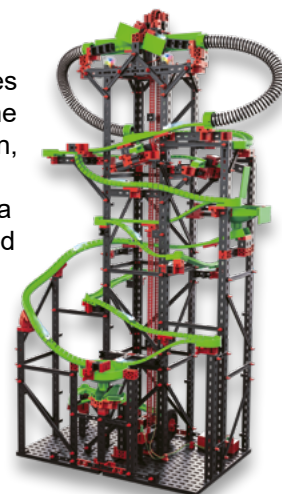


+ eLearning Portal

## DYNAMIC XXL

Item No.	544619	Components	1365
EAN	4048962316254	Dimension (mm)	465x80x390

Even higher, even faster, and even more action: All this is guaranteed with the Dynamic XXL marble run. Nearly a metre tall, with a track length of up to 5.60 m, with many features, new pieces and track crossings, this marble run promises unlimited fun. The flex-tubes enable fast routes. The marbles whiz over a mechanical cross-over into different track circuits. Then, on their way down, they shoot through the loop, across the quarter pipe, through the jumping loop, towards more mischief. Even more interaction is possible, as the user can intervene in the marble's route. With a mechanical track crossing, the layout of the flex-rails can be shifted and the route can be determined at another crossing with a switch lever. Additionally, the marbles can be stopped or released at a stop point. Once they get to the bottom, the marbles are transported right back to the top via the motor-powered chain lift. Three different marble runs can be constructed, and offer various opportunities for modification. By expanding the marble run with the PLUS sets: Bluetooth Control Set and Motor Set XS (up to two) can control chicanes at, for example, the track crossings or the stop points via Bluetooth, by controller or with a smartphone/ tablet.



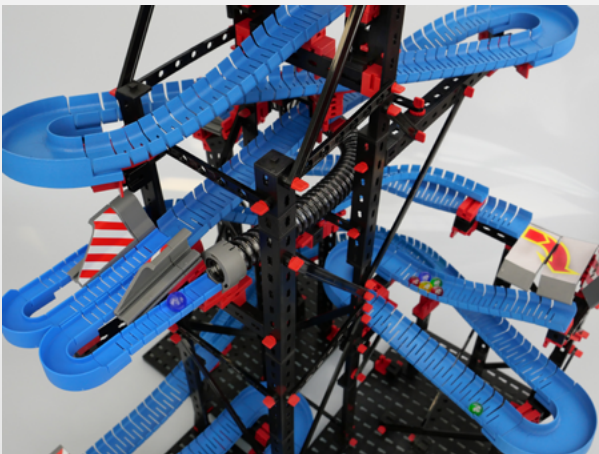


**NEW**

## MARBLE COMPETITION

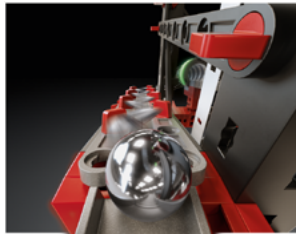
Item No.	564070	Components	698
EAN	4048962458572	Dimension (mm)	465x80x320

Designed for single players and even teams with up to four players, the fischertechnik Marble Competition lets you build exciting racetrack models for hours of interactive entertainment! The building kit includes three completely different action-filled models. Once the track is built, the fun really begins with exciting races! Kit highlights include the wide, flexible high-speed tracks and wide 180-degree curves for daring passing maneuvers. The colorful marbles also add a lot of fun, because each player picks a color and then watches and cheers them on through the fast obstacle course. But don't celebrate too soon – adjustable roadblocks can slow or stop the marbles, keeping the race exciting to the very end. All three models feature different racing modes with various launching devices.



JULY 2022





FREE HANGING  
BY VACUUM POWER

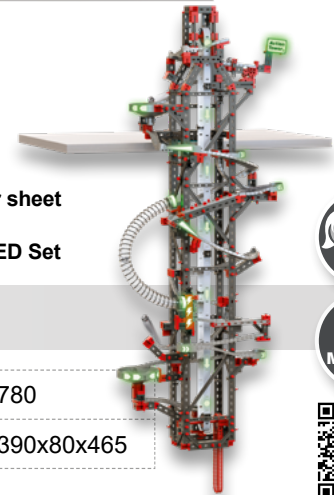


Incl. flex-tube 360, 5x 90°curve, 4x 180°curve, 10x flex-rail 90, 12x flex-rail 180, 5x ball, cross-over, 2x rotary funnel, vacuum pad, glow-in-the-dark sticker sheet

Ideal additions: Dynamic Trampoline, Motor Set XS, LED Set

## HANGING ACTION TOWER

Item No.	554460	Components	780
EAN	4048962395044	Dimension (mm)	390x80x465



This marble run sets new benchmarks in all aspects: the Hanging Action Tower is the first hanging marble run in the world! Due to the clever attachment by way of a vacuum pad, the flexible marble run can be affixed at any horizontal edge (shelf, cupboard etc.). The lift in this long marble run is solved by an innovative belt system: the fischertechnik Easy Elevator! Simple and quick to construct, perfectly suited for large altitude differences, efficient and with an elegant look! The cool look is complemented by a sticker sheet that glows in the dark! Lightning, arrows and much more can be stuck on. So the marble run in the darkened children's room becomes an absolute highlight! But, that's not all, is it? The drive is manual via a chain or additionally with a motor. The spring-mounted tension pulley on the lift ensures even tension of the belt and trouble-free operation. In addition, there is a marble collector, where the number of marbles can be set at random. A flex hose with rotatable ends ensures the simple and flexible installation into the model. The hanging marble run also holds several other refinements: a funnel catches flying marbles, a ramp provides proper lift - all in all a super entertaining track - and all that in a new, cooler colour, namely silver!

## STATICS **NEW**

Item No.	564071	Components	364
EAN	4048962458589	Dimension (mm)	320x80x230

Why are buildings, bridges and other structures built the way they are? What makes them stable, and how can you improve their stability?

The fischertechnik Statics kit helps young engineers answer these and other questions. The kit contains a total of eleven impressive models. From explanatory functional models to various bridges,

towers and a crane, it has everything young explorers need for learning more about the world of statics.

The kit even includes famous structures like the Eiffel Tower and Tower Bridge. The extensive accompanying materials, also available online, explain and deepen the knowledge gained through play.



MARZO 2022





**TOP 10**  
Spielzeug  
2021

Bundesverband des Spielwaren-Einzelhandels e.V.



Incl. fuel cell with power pack 3V $\bar{}$ /1A,  
fuel cell motor

Ideal addition: Green Energy

## H<sub>2</sub> FUEL CELL CAR

Item No.	559880	Components	117
EAN	4048962424614	Dimension (mm)	320x80x230



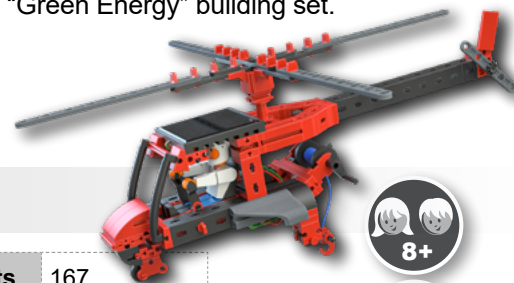
How does a fuel cell work, and how can you use it to produce hydrogen? And how can hydrogen be used to drive a vehicle? The fischertechnik H<sub>2</sub> Fuel Cell Car building set brings this future technology into your home, answering these and other important questions! Young inventors can produce hydrogen, then use it to power a vehicle and discover the world. They can also build other interesting models in conjunction with the “Green Energy” building set.



Incl. solar module 1V, solar motor

## SOLAR POWER

Item No.	559882	Components	167
EAN	4048962424638	Dimension (mm)	320x80x230



Our Solar Power set demonstrates a key future energy source in a fun way. Electricity is generated using a solar module, helping to power the helicopter, aeroplane, windmill and carousel. Whether on land or in the air - this building set is the perfect choice to discover solar power in a fun way. The eLearning portal includes exciting accompanying pedagogical materials on solar energy.



Incl. 2x solar module 1V, solar motor, Gold Cap power storage device, LED

Ideal addition: H<sub>2</sub> Fuel Cell Car

## GREEN ENERGY

Item No.	559879	Components	339
EAN	4048962424607	Dimension (mm)	465x80x320

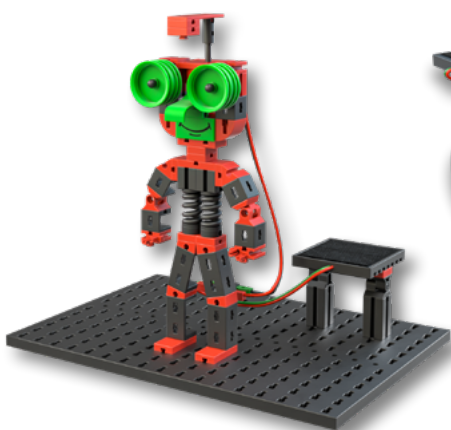


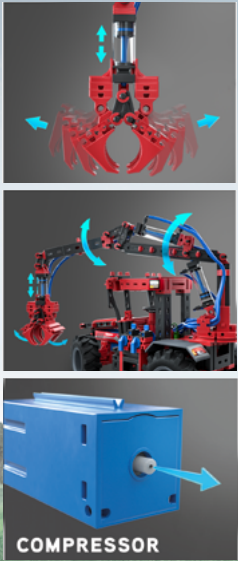
\*Two more models with H<sub>2</sub> Fuel Cell Car buildable



+ eLearning Portal

Climate and environmental protection are key values in today's world – that's why we are working to teach kids about this important issue through play. To learn about generating, storing and using electricity from natural sources, children can build exciting models that move using wind, water, or solar power and teach them about applied technology in a fun way. This helps stimulate their interest in these types of energy, which will become even more important in the future. The H<sub>2</sub> Fuel Cell Car is a great addition. This expansion set can be used to build additional models that run on a fuel cell.





Incl. compressor, 3x double acting cylinder, 3x exhaust throttle, 3x manual valve, battery holder for 9V block (battery not included)

Ideal additions: Accu Set

## STRONG PNEUMATICS

Item No.	559876	Components	660
EAN	4048962424577	Dimension (mm)	465x80x320



Even as early as the third century, people understood how practical and exciting pneumatics is! This building set teaches the fundamentals of pneumatics in a fun way, showing how components like compressors, pneumatic valves and cylinders, and an exhaust throttle valve work using realistic models, and demonstrating why this technology has been around for such a long time. It allows young inventors to enjoy exciting adventures at home with their tractor with tree grabber, front loader or double swather.



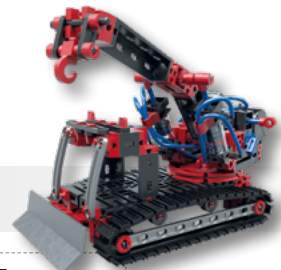
+ eLearning Portal



Incl. 2x pneumatic cylinder, pump cylinder, 2x hand valve, compressed air reservoir

## PNEUMATIC POWER

Item No.	533874	Components	207
EAN	4048962229721	Dimension (mm)	320x80x230



The Pneumatic Power takes a learning-by-playing approach to the principles of pneumatics, with realistic models to show how pneumatic valves and cylinders work. The air is pumped manually into an air chamber. Pressing the hand valves conveys the compressed air through the hoses into the pneumatic cylinder. An excavator and four other models can be constructed. The eLearning portal includes exciting accompanying pedagogical materials on pneumatic.



+ eLearning Portal



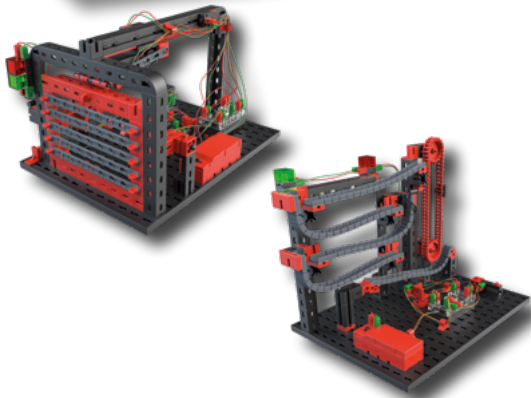
Incl. E-Tronics modul with 16 fixed programs, 2x push button, reed contact, XS motor, 2x transistor, 2x resistor, 2x capacitor, 2x LED, battery holder for 9V block (battery not included)

Ideal addition: Accu Set or Power Set

## E-TRONIC

Item No.	559883	Components	340
EAN	4048962424645	Dimension (mm)	465x80x320

The E-Tronic set allows you to discover the world of electronics through play! Kids can build simple circuits, series and parallel circuits, electronic switches with transistors, capacitors, resistors and LEDs. This building set teaches basic principles of electronics through a step-by-step process. The E-Tronic module, a controller with 16 set programs, has 2 motor outputs, 3 analogue inputs for sensors and a potentiometer for controlling the speed of a motor. This building set can be used to construct a variety of exciting models, from simple components to complex ones like alternating flashing lights. You can build a garage door, for example, or a marble run with exciting electronic components.



Incl. 4x control cylinder, 4x working cylinder, crawler tracks

## HYDRAULIC

Item No.	548888	Components	500
EAN	4048962350968	Dimension (mm)	465x80x320

The Hydraulic building kit helps kids learn the basic features of hydraulic systems through play. The fischertechnik hydraulic system is operated with water, demonstrating how force can be transmitted via liquid media. The system works on a very simple principle: a control cylinder is operated by hand, pressing the water into the drive cylinder through hoses. This extends the working cylinder, moving the digger arm or the shovel

on the powerful crawler excavator. Builders can control a total of three different excavator movements hydraulically. Five different models can be built with the Hydraulic building kit, meaning this new construction kit offers extensive building and playing fun.



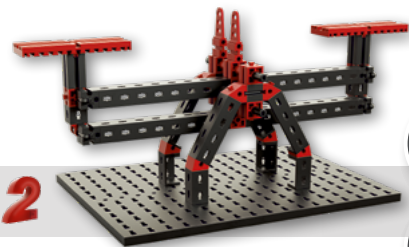
Incl. XS motor, battery holder for 9V block (battery not included)

Ideal addition: Accu Set

## MECHANIC & STATIC 2

Item No.	536622	Components	500
EAN	4048962250299	Dimension (mm)	465x80x320

The definitive technical construction set for all future engineers and technicians: How does a shaft drive or manual transmission work? What is a planetary gear? How do you design a stable bridge? The answers to these and other elementary questions from the subject areas of mechanics and statistics are found in this construction set with 30 different models. Discover the principles of technology by playing! The eLearning portal includes exciting accompanying pedagogical materials on mechanics and static.





Incl. BT Smart Controller (USB port/Bluetooth 4.0 LE port), 2x XS motor, 2x LED light barrier, 2x photo transistor, 2x push button, battery holder for 9V block (battery not included)

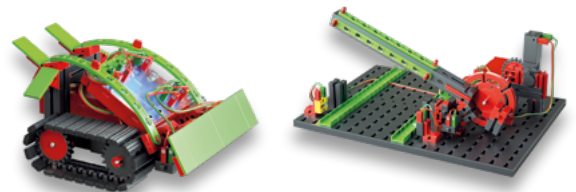
## BT SMART BEGINNER SET

Item No.	540586	Components	380
EAN	4048962280050	Dimension (mm)	465x80x320

The complete beginner set for children of 8 years and over. Over 380 pieces for children to combine with sensors (photo transistors, buttons) and actuators (XS motors, LED light barriers) to create 12 easy-to-follow models including a hand dryer, carousel, level crossing, conveyor belt with stamping machine and mobile

caterpillar machine. The BT Smart Controller with 4 inputs for sensors and 2 outputs for motors and lamps features a USB port and a Bluetooth 4.0 LE port. The ROBO Pro Light software (available for download) makes it possible to program the models quickly, easily and in a way that is easy to follow. In addition, it is also possible to program the models using a tablet (Android and iOS) via the ROBO Pro Smart app.

Software available free of charge!  
For mobile devices (Android/ iOS):  
ROBO Pro Smart  
For PC (Windows 10):  
ROBO Pro Light



**NEW**

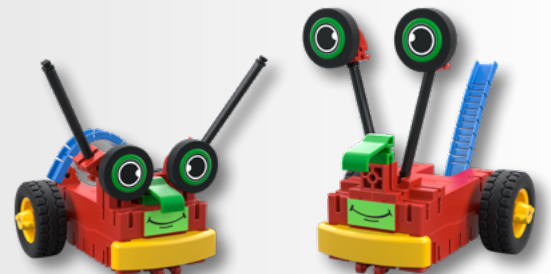
Incl. Early Coding Chassis consists of 2x motor, 2x push button and infrared sensor, parcours, compartment for 3x AAA batteries (batteries not included)

## EARLY CODING

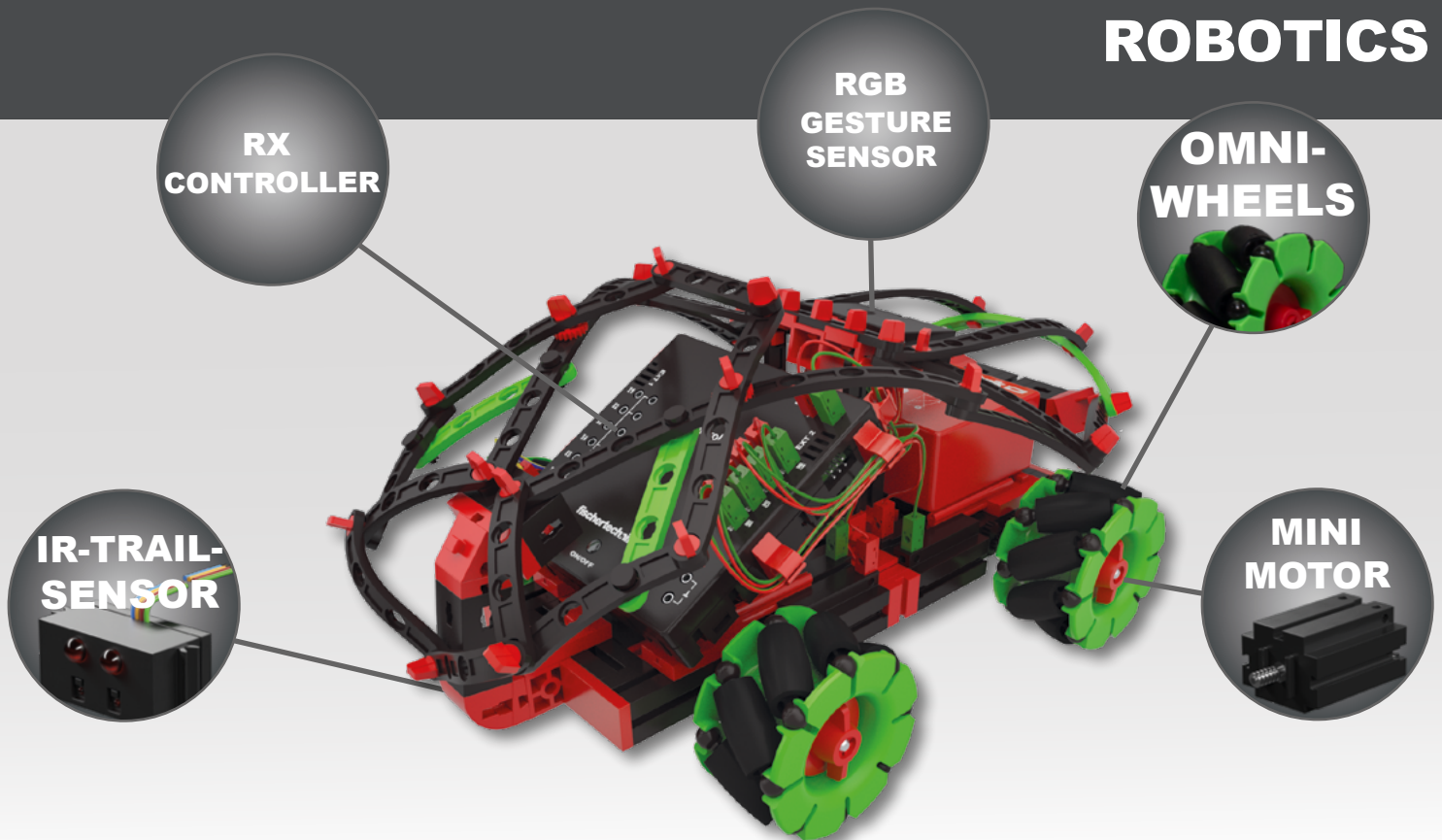
Item No.	559889	Components	55
EAN	4048962424706	Dimension (mm)	320x80x230

Writing your own program and bringing a robot to life is unbelievably fascinating and exciting. This technology is essential in today's world. Our fischertechnik Early Coding building set is the right choice to teach even the youngest developers about this exciting, important topic. They can get started in the world of IT and robotics in a fun, inspiring way using the finished components. The two motors and sensors are fully integrated into a block. That means all users need to do is switch them on, connect via Bluetooth using a mobile device, and get started! The simple graphic programming environment with pre-designed examples is built to be age-appropriate – the perfect way to get started with the world of robotics! Creating own programs using the First Coding App is quite simple. A Teach-In function is available as well as the manual control of the models.

Software available free of charge!  
For mobile devices (Android/ iOS):  
First Coding App



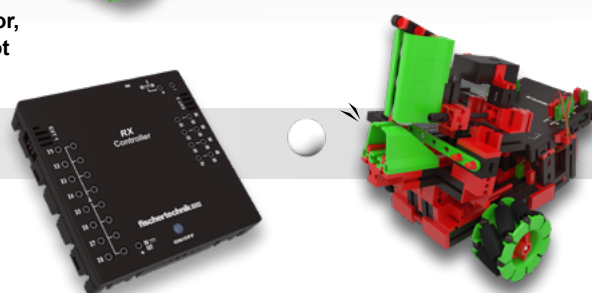
MARCH 2022



Incl. TXT Smart Controller, 4x omniwheels, 4x mini motor, IR trail sensor, gesture sensor, push button, Battery holder for 6 AA cells (batteries not included), USB connection cable and 6 pin expansion cable

## SMARTTECH RX **NEW**

Item No.	564111	Components	530
EAN	4048962458954	Dimension (mm)	465x80x320



fischertechnik Smarttech RX works with our fischertechnik RX Controller and ROBO Pro Coding software to bring 9 exciting models to life. The graphic programming software is not dependent on any specific operating system, and can be used on mobile devices. From simple beginner models to a variety of driving robots to a funny dancing robot, there is something for everyone. One highlight of this building set are the omniwheels, which are operated by four motors and allow the robot to move in any direction. The track sensor, gesture sensor and push button make it possible to construct and program a variety of exciting driving robots just waiting for developers and inventors to send them on a new adventure. Includes new battery holder for six AA cells (batteries not included).

### RX Controller data:

- › Flat shape - dimensions: 90x90x17.5 mm
- › 8 universal inputs: Digital/analog 0-9VDC, analog 0-5 kΩ
- › 4 motor outputs 9V/250mA (max. 1A): Infinitely adjustable speed, short circuit resistant, alternative 8 individual outputs, e.g. for LEDs
- › USB 2.0 client: Mini USB port for connecting to the PC
- › Bluetooth 4.0 LE interface
- › 2x 6 pin headers: to expand the inputs and outputs and I<sup>2</sup>C interface
- › Programming with ROBO Pro Coding (graphic and Python)
- › Available output voltages 9V, 5V and 3.3V
- › Power supply: 3.45 mm 9V DC port or 2.5 mm fischertechnik port (for battery pack)

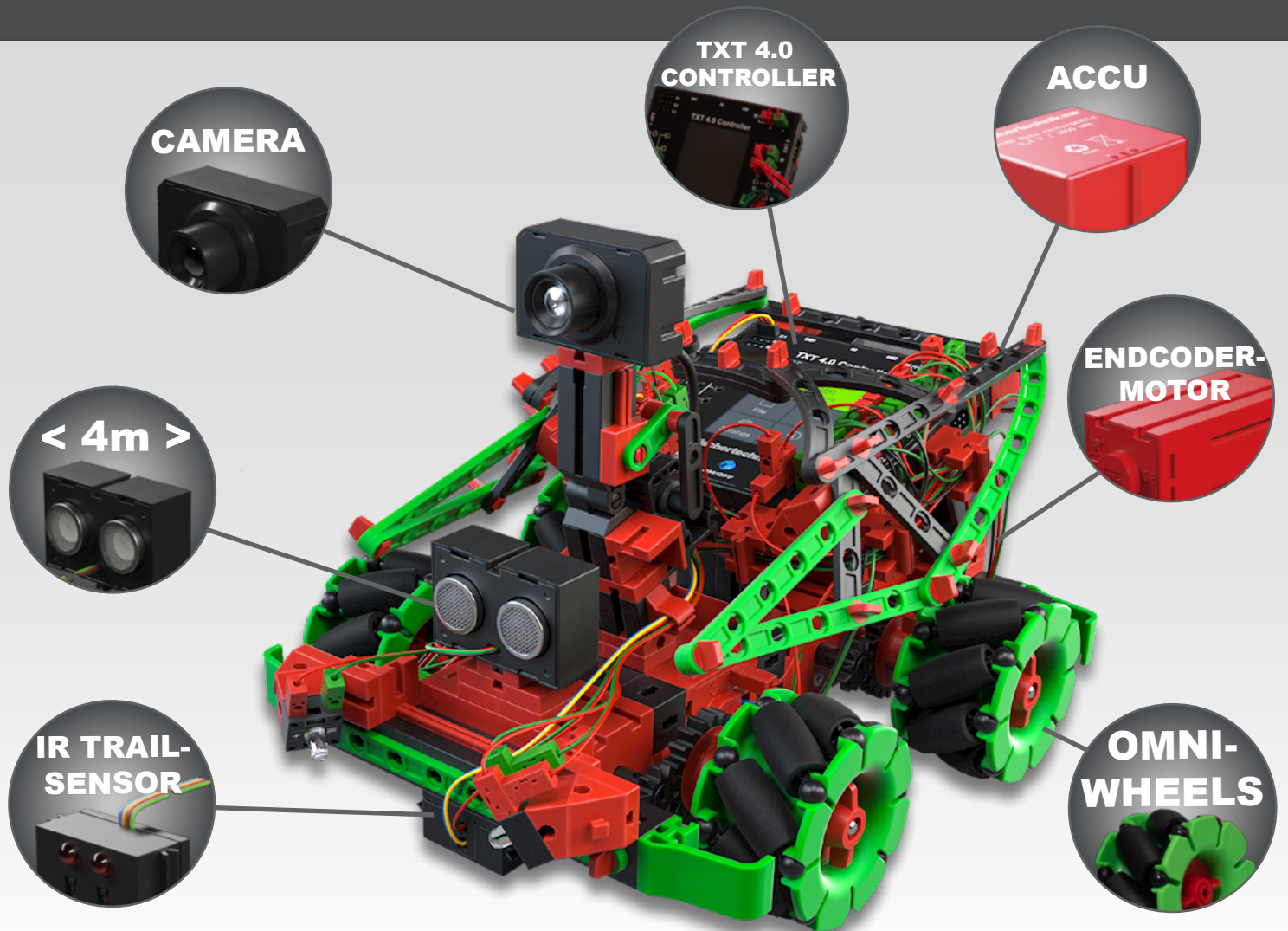
## ROBO PRO CODING SOFTWARE



The ROBO Pro Coding software has a multi-lingual programming environment that allows for graphic programming as well as text-based programming via Python. The software runs on computers with Windows, Linux or MacOS, as well as on mobile devices with Android or iOS. Users can choose from the different learning levels of beginner, advanced, and expert to work on their own level of difficulty. Example programs are available. Self-created programs can be stored locally on the device as well as online in the cloud. This allows for users to create different versions of programs they have made, and exchange them in the cloud memory. The interface test can be used to quickly test actuators and sensors.

**Software available free of charge for mobile devices (Android/ iOS) and PC (Windows/ macOS /Linux)**

# ROBOTICS



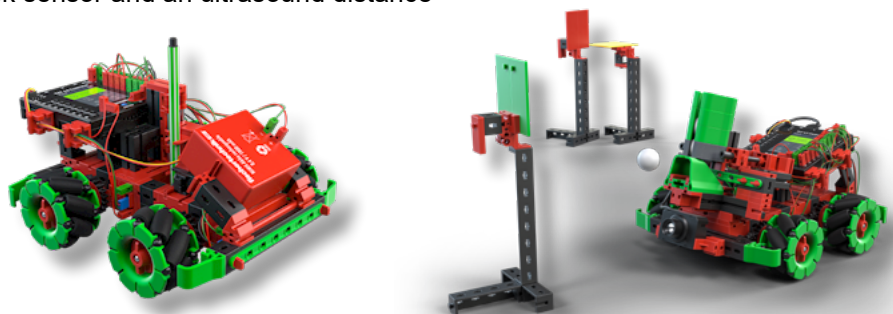
Incl. TXT 4.0 Controller, USB camera (1 MP), 4x encoder motor, servo motor, ultrasonic distance sensor, push button, 2x LED, IR trail sensor, charger and rechargeable battery pack

## ROBOTICS HIGHTECH

Item No.	559895	Components	580
EAN	4048962424768	Dimension (mm)	465x80x320



Program like a professional with fischartechnik Robotics Hightech! 9 exciting models are just waiting to be built and programmed. The beginner models offer an easy to understand glimpse of the world of robotics and programming. More advanced students can get started with the high-end models, like the painting- or ball robot. One highlight of this building set are the omnidirectional wheels, which are operated by four encoder motors and allow the robot to move in any direction. Our camera with image processing is also included, and allows the football robot, for example, to identify a ball – he shoots, he scores! The new fischartechnik TXT 4.0 Controller works with new ROBO Pro Coding programming software to offer a variety of new features. In addition to graphic programming in the Blockly library, it now also allows for programming using Python. The software is not dependent on any specific operating system, and can be used on mobile devices. The building set includes a servo motor, an infrared track sensor and an ultrasound distance sensor as well.







## TXT 4.0 CONTROLLER

The TXT 4.0 Controller delivers a wide range of new features with 512 MB RAM of storage space and 4 GB eMMC, three servo outputs and a capacitive touch display that supports gestures. The improved WiFi and Bluetooth module offers a wireless interface that works for many different applications. Another interface is the USB host port, which can be used to connect the fischertechnik USB camera or USB sticks, for example. Up to eight additional controllers can be connected to one controller as extensions. Thanks to the narrow housing, the controller integrates perfectly into the models. Firmware updates are downloaded automatically via the cloud to ensure the models always stay up to date, while retaining custom programs. The ROBO Pro Coding software can be used for graphic programming, as well as text-based programming via Python. It is not dependent on any operating system, and can also be used on mobile devices. Other features of the controller include:

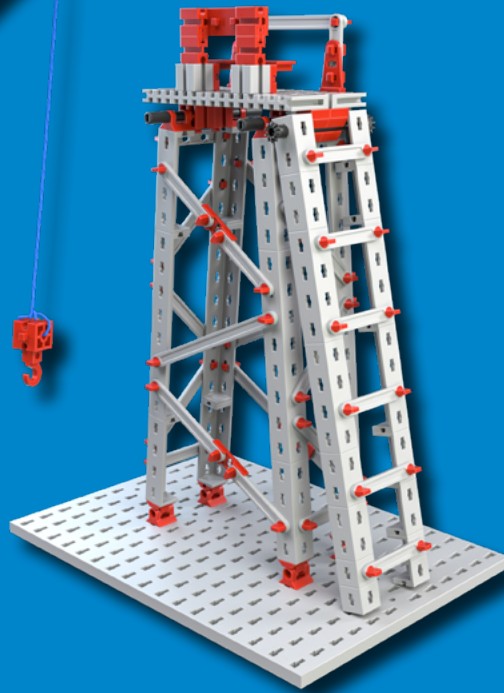
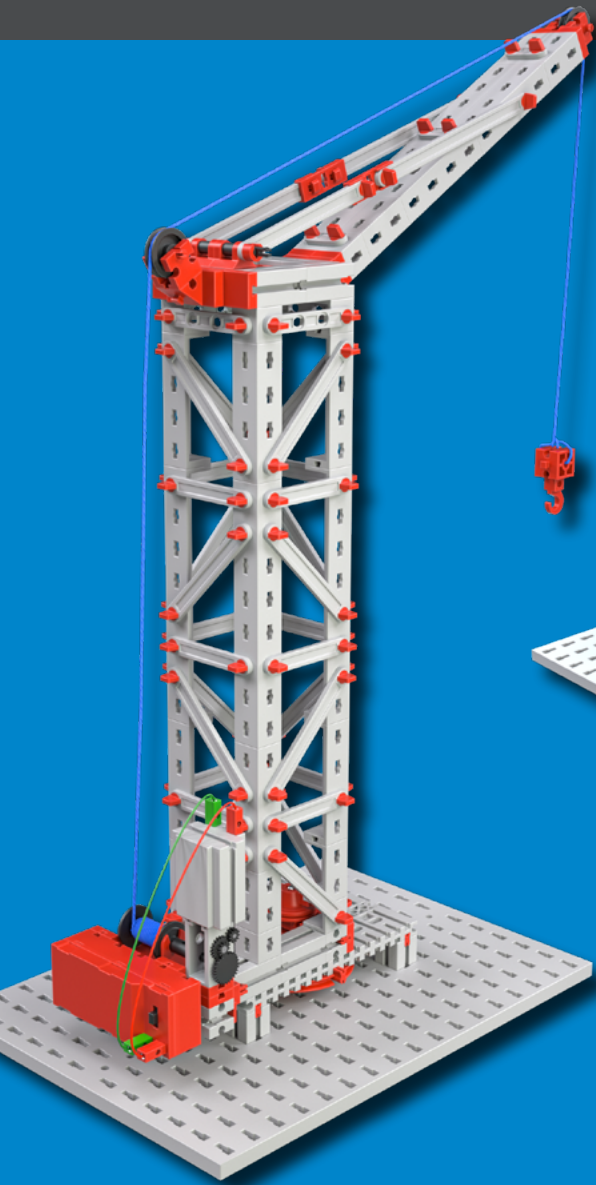
- › Processor: Arm® dual Cortex®-A7 650 MHz + Cortex®-M4
- › Memory capacity: 512 MB DDR3 RAM, 4 GB eMMC
- › Memory expansion: Micro SD card slot
- › Color touch display: 2.4", 320x240 pixels, capacitive (allows swipe gestures)
- › Flat shape - dimensions: 90x90x17.5 mm
- › 8 universal inputs: Digital/analog 0-9VDC, analog 0-5 kΩ
- › 4 high speed counter inputs: Digital, frequency to 1kHz
- › 4 motor outputs 9V/250mA (max. 1 A): Infinitely adjustable speed, short circuit resistant, alternative 8 individual outputs, e.g. for LEDs
- › 3 5V servo outputs (max. 2A) short circuit resistant
- › Combined Bluetooth / WiFi wireless module: Bluetooth 5.0 (BR, LE & EDR), WiFi dual band 2.4 GHz and 5 GHz 802.11 a/b/g/n
- › USB 2.0 client: Mini USB port for connecting to the PC
- › USB host interface: USB-A port, e.g. for fischertechnik USB camera or USB sticks
- › Camera interface: via USB host, Linux camera driver integrated into the operating system
- › 2x 6 pin headers: to expand the inputs and outputs (up to 9 TXT 4.0 controllers connectable) and I<sup>2</sup>C interface
- › Integrated speaker for playing sounds (WAV files)
- › Linux-based open source operating system, firmware update via cloud, USB stick or micro SD card
- › Programming with ROBO Pro Coding (graphic and Python), C/C++ compiler (not included)
  - Additional programming options via REST interface
- › Available output voltages 9V, 5V and 3.3V
- › Power supply: 3.45 mm 9V DC port or 2.5 mm fischertechnik port

## ROBO PRO CODING SOFTWARE



The ROBO Pro Coding software has a multi-lingual programming environment that allows for graphic programming as well as text-based programming via Python. The software runs on computers with Windows, Linux or MacOS, as well as on mobile devices with Android or iOS. Users can choose from the different learning levels of beginner, advanced, and expert to work on their own level of difficulty. Example programs are available. Self-created programs can be stored locally on the device as well as online in the cloud. This allows for users to create different versions of programs they have made, and exchange them in the cloud memory. The interface test can be used to quickly test actuators and sensors.

**Software available free of charge for mobile devices (Android/ iOS) and PC (Windows/ macOS /Linux)**



500 

30 models



Incl. mini motor, historical grey components, battery holder for 9V block (battery not included)

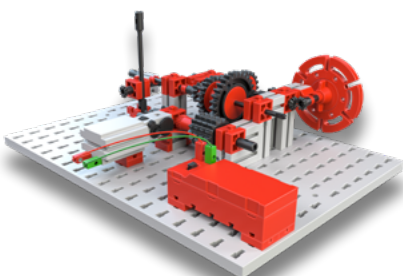
Ideal addition: Accu Set

### RETRO MECHANICS

Item No.	559885	Components	500
EAN	4048962424669	Dimension (mm)	465x80x320



Have you always wanted to know how a shaft drive, a bevel gear, or planetary gear works? Do you want to learn how to build a stable bridge or a scissors lift? Then our Retro Mechanics is the building set for you! The set has a cool retro design, and demonstrates mechanical and structural principles in a fun way based on 30 models. This is the ultimate technology set for any budding technician or mechanical engineer!





630



SORTING BOX



### CREATIVE BOX BASIC



Item No.	554195	Components	630
EAN	4048962390490	Dimension (mm)	393x103,5x273



If one wanted to give in to one's creativity and fantasy, the fischertechnik Creative Box Basic is just perfect: equipped with numerous basic building blocks, corner blocks and building plates, static elements and other „basics“, this set provides the perfect base to create great and creative things! In the process, it doesn't matter whether an entirely new model is being created or an existing model is expanded according to individual desires. The instructions provide information on the basic functionalities of the enclosed building blocks. A further highlight of the Creative Box Basic is the storage box with 8 compartments, which ensures flexible separation. The numerous building components can be ideally sorted, providing an overview at all times. The large fischertechnik base plate upon which the own model can be built serves as the lid.



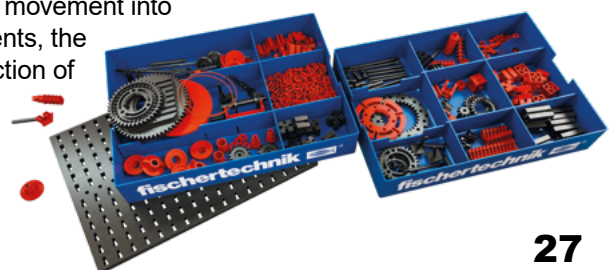
### CREATIVE BOX MECHANICS



Item No.	554196	Components	290
EAN	4048962390506	Dimension (mm)	269x79x193



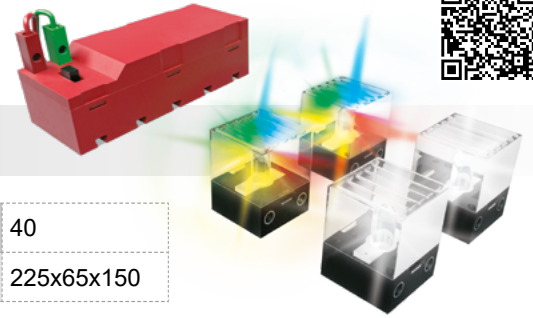
Technically interested children appreciate the Creative Box Mechanics: Full of gear wheels, pinions, axles, worms and other drive components, the Creative Box Mechanics is ideally suited to bring movement into almost any mechanism. Due to the opulent selection and number of components, the creativity and the implementation of plans are limitless. It permits the construction of a worm drive, winches with pulleys, chain transmissions and much more. The set is supplied with two stackable plastic tubs with flexible separators. The base building plate upon which the individual models can be constructed, serves as the lid.





Incl. 2x Rainbow LED, 2x white LED, battery holder for 9V block (battery not included)

Ideal addition: Accu Set or Power Set



## LED SET

Item No.	533877	Components	40
EAN	4048962229752	Dimension (mm)	225x65x150

The LED Set is just the right solution for more light! The construction sets can now be upgraded even further with more luster and additional light effects. The set contains two Rainbow LED's that flash in different colors and frequencies, together with two white LED's and a battery holder.



Additionally required: Bluetooth Control App (Android/ iOS), Accu Set or Power Set or battery holder 9V

**NEW**

## CONTROL SET

Art. No.	563931	Components	Receiver, servo
EAN	4048962457438	Dimension (mm)	225x65x150

The Control Set lets fischertechnik models be controlled remotely via the Bluetooth Control App, using a smartphone or tablet. The Bluetooth low-energy technology offers a long range of up to 10 meters. The receiver has three motor outputs and a servo output, which enables smooth steering and continuous speed regulation. The set comes with one servo. The app can be used to operate up to two receivers, which allows for a large number of uses. The Bluetooth technology lets you use multiple control sets in the same room without crossing signals.



## BOX 1000

Item No.	30383	Components	/
EAN	4006209303832	Dimension (mm)	390x95x270

Practical storage box with eight sorting boxes and 32 sorting partitions. The cover also serves as the big building board 390 x 270 mm.





## ACCU SET

Item No.	34969	Components	Charger + battery pack in one
EAN	4006209349694	Dimension (mm)	225x65x150



A Charger, which is controlled by a microcontroller and provides reliable protection against overcharging. Very short charging time, max. two hours, powerful NiMH rechargeable battery pack with fuse for protection against a short circuit, 8.4 V, 1800 mAh.

Power Pack Performance Data: Voltage 9V $\pm$ ./2,5 A

Power Controller Performance Data: Regulated output 1A max., additional output with 9V $\pm$ ./1 A max. (not regulated), both outputs short circuit-proof with overload protection



## POWER SET

Item No.	505283	Components	Power unit + control unit in one
EAN	4048962069440	Dimension (mm)	225x65x150



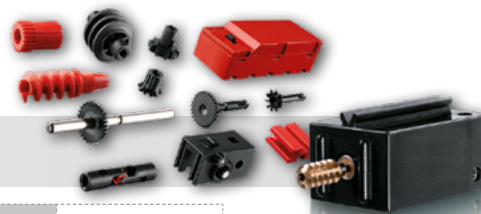
Power pack and infinite Power Controller. The power supply from the electrical socket for all fischertechnik models.



Performance data: Voltage 9V $\pm$ ., max. output 1.0 W at 6000 RPM

## MOTOR SET XS

Item No.	505281	Components	45
EAN	4048962069426	Dimension (mm)	225x65x150



Thanks to the compact measurements, this motor can be installed almost anywhere. In addition to the building blocks, gearbox parts and toothed gears, the set also contains a safety battery holder with integrated pole-reversing switch for 9V block (battery not included).

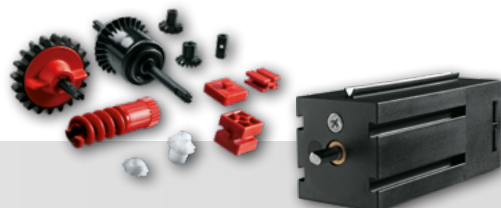


Performance data: Voltage 9V $\pm$ ., max. output 3.0 W about 340 RPM

Additionally required: Accu Set or Power Set

## MOTOR SET XM

Item No.	505282	Components	40
EAN	4048962069433	Dimension (mm)	225x65x150



High performance geared motor in compact plastic casing with numerous possibilities for attachments. With many toothed gears, axles and gearbox parts.

## SALES PROMOTION



**Flag, 200x80 cm**  
Item No. 500887



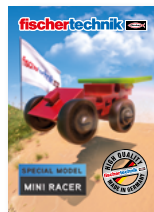
**Decorative cube,  
25x25x25 cm**  
Item No. 142202



**Consumer brochure**  
Item No. 44465



**Digital photo frame**  
(on request)



**Give-Away**  
Item No. 546459



**Brochure stand**  
Item No. 120949



**Shopping bag, 46x59 cm**  
Item No. 43355

## DECO MODELS

More deco models on request.



**Deco model  
Dynamic**  
Item No. 547094



**Deco model  
Shaking man**  
Item No. 560899



**Deco model  
Dynamic XS+S**  
Item No. 539689



Illustration shows assortment 2022. Subject to change.

## SCHOOL + TEACHING



- › **Assembly instructions**
- › **Activity booklet**
- › **Ready-made lesson plans**
- › **Experiments**



Discover, understand, design, build, learn: That's what drives us – A whole life long. At fischertechnik, we also call it “Learning about technology through play”. For over 55 years, we have been creating components, construction kits and building systems for children and students of all ages. Our products awaken different interests, promote skills, and inspire lifelong learning for every age level and school type. Teachers at schools, universities, and colleges all of the world understand that fischertechnik products motivate children and students to explore. Our building kits found their way into state and non-governmental teaching facilities through the toy market early on. Systems by fischertechnik Education continue to build on this history of success. Their success continues to grow with new topics and ideas relevant to the curriculum. fischertechnik systems combine the worlds of traditional and digital technology, an especially important consideration for the future. This is important in mechanics and robotics, for instance – today, you can't have one without the other.



## SIMULATION

fischertechnik and simulation – an optimal combination many engineers and experts have already put their trust in! With fischertechnik, experts can recreate complex processes realistically. fischertechnik products are already used in a variety of industrial applications through ready-made compact training models. They are designed to reproduce and simulate actual processes. fischertechnik training models are ideal for educational, simulation and demonstration purposes. Users can simulate and try out many processes important to the smart factory – then demonstrate them in a clear and easy to understand way. The fischertechnik training factory and all other training models are delivered fully constructed and can be operated using 24V industrial standard voltage. These models focus on simulation and demonstration, presenting digital networked applications in a real production environment.



## fischertechnik

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## FAN CLUB

More than 30.000 fans are members at no cost in the fischertechnik Fan Club. Every fan regularly receives current information, the biannual Fan Club NEWS and has his personal member identification.

fischertechnik opens the doors once a year on Fan Club Day. The fans receive the exclusive opportunity to take a peek behind the curtains of the traditional brand.

