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FESTOOL

Instruction manual - Orbital sander

Page 6

IMPORTANT: Read all instructions before using.

Guide d'utilisation - Ponceuse vibrante

Page 17

IMPORTANT: Lire toutes les instructions avant de démarrer les travaux.

Manual de instrucciones - Lijadora orbital

Página 30

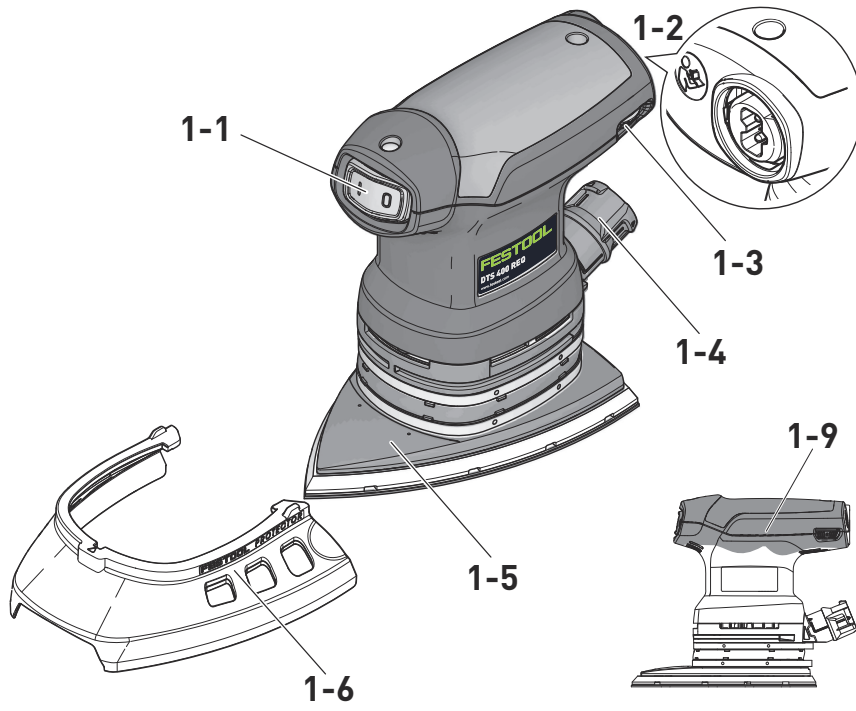
IMPORTANTE: Lea todas las instrucciones antes de usar.

**Instruction manual
Guide d'utilisation
Manual de instrucciones**

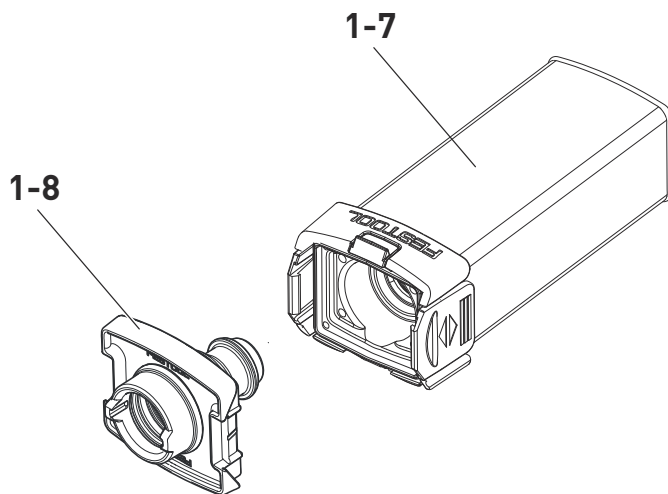
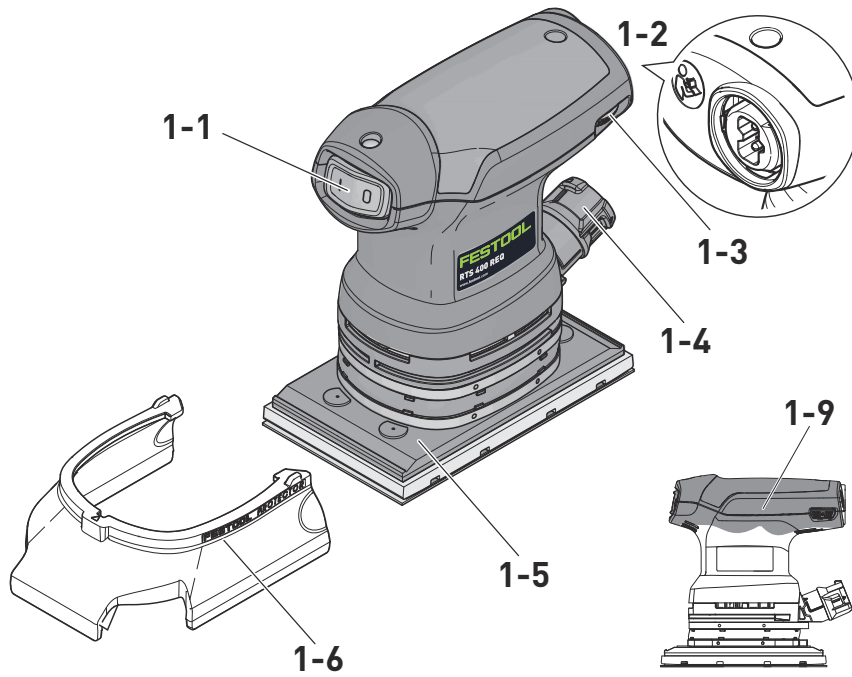
**RTS 400 REQ
DTS 400 REQ**



DTS 400 REQ



RTS 400 REQ






Original operating manual



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About this manual

Save these instructions

It is important for you to read and understand this manual. The information it contains relates to protecting **your safety** and **preventing problems**. The symbols below are used to help you recognize this information.

	DANGER	Description of imminent hazard and failure to avoid hazard will result in death.
	WARNING	Description of hazard and possible resulting injuries or death.
	CAUTION	Description of hazard and possible resulting injuries.



	NOTICE	Statement including nature of hazard and possible result.
	HINT	Indicates information, notes, or tips for improving your success using the tool.

Symbols

Symbol Significance

	Warning of general danger
	Risk of electric shock
	Read operating instructions and safety notices!
	Wear ear protection.
	Wear a dust mask.
	Wear protective goggles.
	Do not dispose of as domestic waste.
	Tip or advice
	Handling instruction

Symbol Significance

	Safety class II
V	volts
A	amperes
Hz	hertz
~ a.c.	alternating current
— d.c.	direct current
n_0	no load speed
rpm	revolutions per minute
min^{-1}	
"	inch
lbs	pound
	diameter
$^{\circ}\text{C}$	degree centigrade
$^{\circ}\text{F}$	degree Fahrenheit
Nm	Newton metre
mm	millimetre
Ah	amps hour

Safety instructions

General safety instructions



WARNING Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1 WORK AREA SAFETY

- a. **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c. **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.
- d. **Never leave the power tool unattended.** Only leave the power tool when the tool in use has come to a complete standstill.

2 ELECTRICAL SAFETY

- a. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b. **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d. **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e. **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.

- f. **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

3 PERSONAL SAFETY

- a. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b. **Use personal protective equipment. Always wear eye protection.** Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.
- c. **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d. **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f. **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- g. **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
- h. **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

4 POWER TOOL USE AND CARE

- a. **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b. **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be

controlled with the switch is dangerous and must be repaired.

- c. **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d. **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e. **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- f. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g. **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
- h. **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

5 SERVICE

- a. **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.
- b. **Only use original Festool parts for repair and maintenance.** The use of incompatible accessories or spare parts can result in electric shocks or other injuries.

Machine-related safety instructions

- **Dust that is harmful to your health may be produced as you work (e.g. paint products containing lead and some types of wood).** Contact with or inhalation of this dust may pose a risk for the operating personnel or persons in the vicinity. Observe the safety regulations that apply in your country.



Wear a P2 respiratory mask to protect your health. In enclosed spaces, ensure that

there is sufficient ventilation and connect an extraction system.



Always wear protective goggles to protect against sanding hazards.

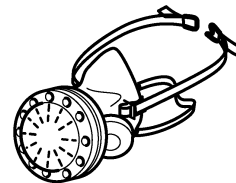
- **Clean work equipment soaked in oils, for example sanding pad or polishing felt, with water and allow to dry.** Work equipment soaked in oil may combust spontaneously.
- **Attention: Risk of fire! Avoid overheating the grinding material and the sander. Always empty the dust container before taking a break.** Swarf in the filter bag or filter of the mobile dust extractor may self-ignite in unfavourable conditions such as flying sparks when grinding metals. Particular danger exists if the swarf is mixed with paint, polyurethane residue or other chemical materials and the grinding material is hot after long periods of work.
- **If the power tool is dropped or falls, check for damage to the machine and sanding pad. Remove the sanding pad for closer inspection. Have the damaged parts repaired before use.** Broken sanding pads and damaged machines can cause injuries and machine instability.
- **Always use original Festool sanding pads.**

Health hazard by dust



WARNING! Various dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known (to the State of California) to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically treated lumber.



The risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles. Wash hands after handling.



WARNING

TO REDUCE THE RISK OF INJURY, USER MUST READ INSTRUCTION MANUAL.

Intended use

The sanders are designed for sanding wood, plastic, stone, composites, paint/varnish, filler and similar materials as directed. Metals and materials that contain asbestos must not be processed.

To guarantee electrical safety, the machine must

not be damp or operated in a damp environment. The machine must only be used for dry sanding.



The user is liable for improper or non-intended use.

Technical data

Orbital sander	DTS 400 REQ	RTS 400 REQ
Power	250 W	250 W
No-load speed	6000 - 12000 min ⁻¹	6000 - 12000 min ⁻¹
Max. speed ¹	16000 min ⁻¹	16000 min ⁻¹
Sanding stroke	5/64" (2.0 mm)	5/64" (2.0 mm)
Sanding pad	4" x 6" (100 x 150 mm)	3-5/32" x 5-1/4" (80 x 130 mm)
Weight (without mains cable, with sanding pad)	2.6 lbs (1.2 kg)	2.6 lbs (1.2 kg)

¹ Max. speed in the event of faulty electronics.

Functional description

The pictures for the functional description are on a fold-out page at the beginning of the instruction manual. While reading the manual you can fold out the page for comparison and quick reference.

- [1-1]** On/Off switch
- [1-2]** Plug it-connection
- [1-3]** Speed control
- [1-4]** Extractor connector

- [1-5]** Sanding pad
- [1-6]** Protector
- [1-7]** Long-life dust bag
- [1-8]** Dust bag adapter
- [1-9]** Handle (insulated gripping surface)

Accessories shown or described are sometimes not included in the scope of delivery.

Commissioning



WARNING

Unauthorised voltage or frequency!

Risk of accident

- ▶ The mains voltage and the frequency of the power source must correspond with the specifications on the machine's name plate.
- ▶ In North America, only Festool machines with the voltage specifications 120 V/60 Hz may be used.



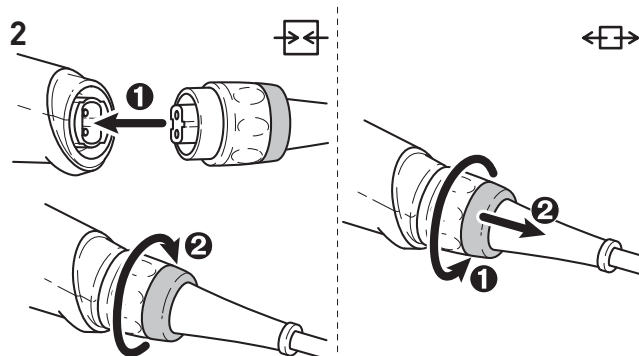
CAUTION

Heating of the Plug it connection if bayonet fitting is not completely locked

Risk of burns

- ▶ Before switching on the power tool, make sure that the bayonet fitting at the mains cable is closed fully and locked.

Connecting and detaching the mains power cable - see Fig. [2].



The switch [1-1] is an on/off switch (I = ON, 0 = OFF).

- ① In case of a power failure or if the mains connector is removed, move the on/off switch immediately to the Off position. This prevents uncontrolled restarting.

Settings



WARNING

Risk of injury, electric shock

- ▶ Always pull the mains plug out of the socket before performing any type of work on the machine!

machine is used as intended (reasonable contact pressure), a constant sanding speed is achieved.

Setting and adjusting the speed

The speed can be set [1-3] between 6000 and 12000 min⁻¹ using the adjusting wheel.

This enables you to optimise the sanding speed to suit the material (see chapter Working with the machine).

Electronics


Smooth start-up

The electronically controlled smooth start-up ensures that the machine starts up jolt-free.

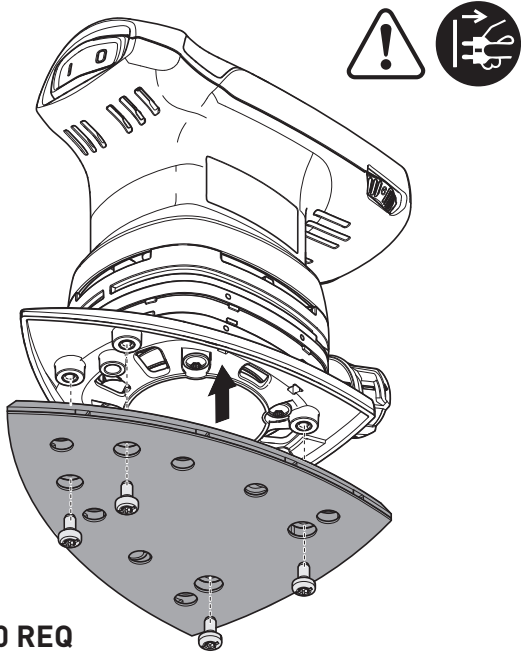
Constant speed

The preselected motor speed is kept constant through electronic control. This means that, if the

Changing sanding pad [3]

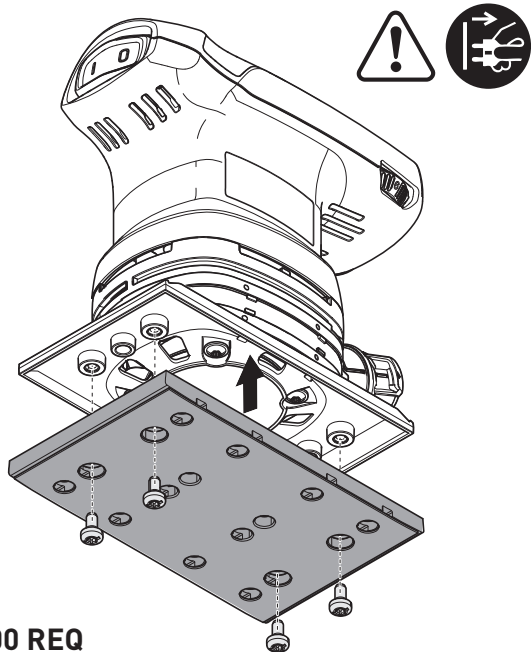
 An optimal work result can only be achieved using original accessories and consumables. The use of non-original accessories or consumables invalidates the right to claim under warranty.

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DTS 400 REQ

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If the StickFix coating on the sanding pad has worn out, the entire sanding pad can be replaced:

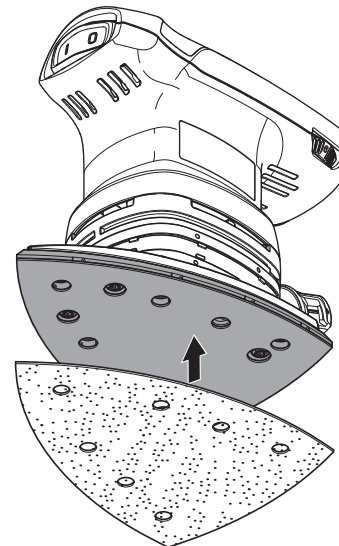
- 1 Undo the four screws.
- 2 Remove the sanding pad by pulling it downwards.
- 3 Attach the new sanding pad.
- 4 Use four screws to tighten it by hand (2.5 Nm).

Attaching sanding accessories using Stick-Fix [4]

The suitable StickFix sandpaper and StickFix sanding cloth can be attached quickly and simply to the StickFix sanding pad.

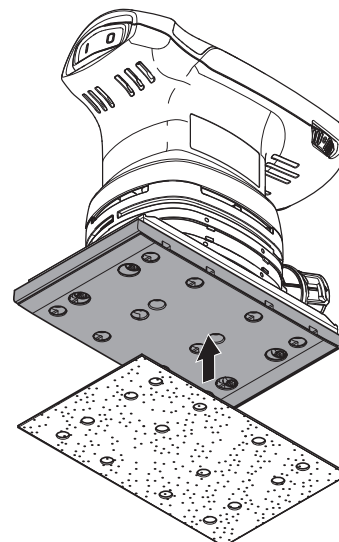
- Affix the self-adhesive sanding accessory to the sanding pad.

4



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Dust extraction



WARNING

Dust hazard

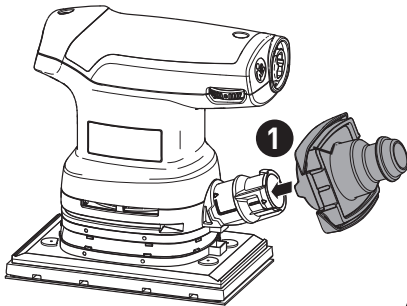
- ▶ Dust can be hazardous to health. Always work with a dust extractor.
- ▶ Always read applicable national regulations before extracting hazardous dust.

Integral dust extractor with long-life dust bag

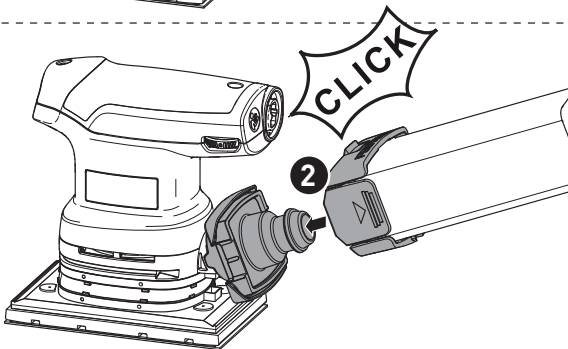
As standard, the sanders are equipped with an integral dust extractor. The sanding dust is extracted through extraction openings in the sanding pad and is collected in the dust bag.

Installing the dust bag [5]

- 1 Slide the dust bag adapter onto the extractor connection piece.
- 2 Slide the dust bag onto the adapter until it clicks into place.

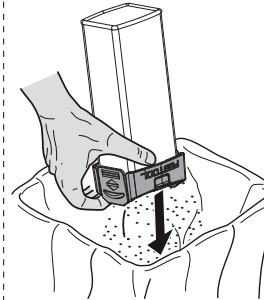
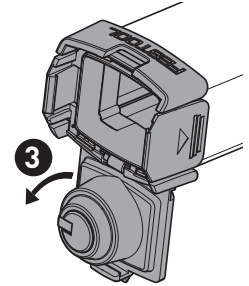
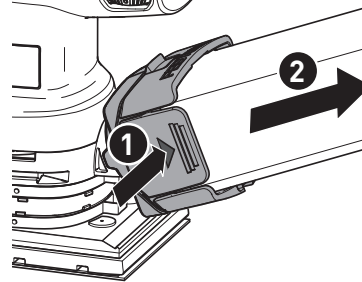
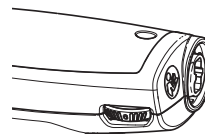


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If the suction power is decreasing, empty the dust bag.

- 1 Press the dust bag onto the actuating elements.
- 2 Remove the dust bag by moving it towards the rear.
- 3 Open the flap on the dust bag.
- 4 Empty the dust bag and dispose of the waste.



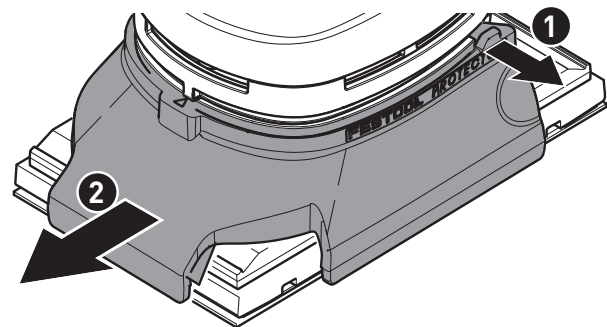
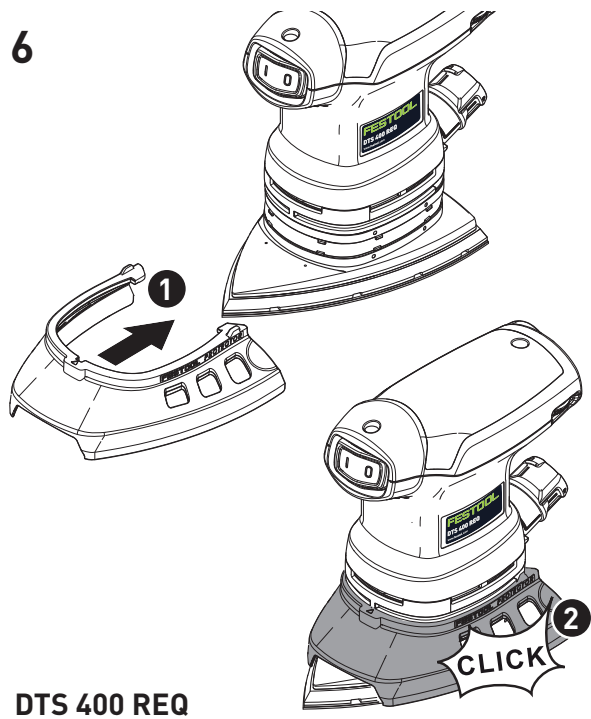
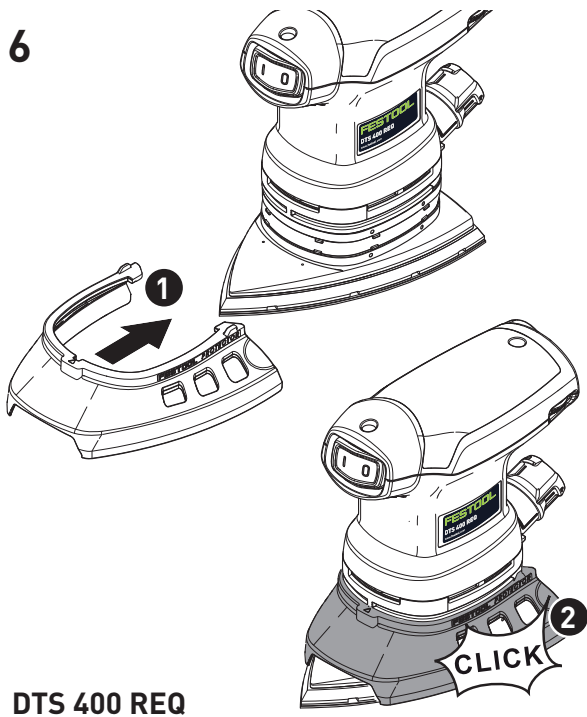
Dust extraction with Festool's mobile dust extractor

To prevent having to frequently empty the dust bag when carrying out sanding work for a long period of time, you can connect Festool's mobile dust extractor (with an extraction hose diameter of 27 mm) to the extractor connection piece [1-4].

Recommendation: Use an antistatic suction hose. This helps reduce the electric charge.

Edge protector [6]

The edge protector [1-6] prevents the sanding pad circumference from coming into contact with a surface (e.g. when sanding along a wall or a window), thus preventing back-kick of the machine, or machine damage.



Working with the machine



WARNING

Risk of injury

- ▶ Always secure the workpiece in such a manner that it cannot move while being machined.

Observe the following instructions:

- Do not overload the machine by pressing with excessive force! The best sanding results are achieved with moderate application pressure. The sanding capacity and quality are mainly dependent on the selection of the correct abrasive.
- Work in corners and on edges tends to subject the tip to increased stress and results in increased heat development. In such cases, work with reduced contact pressure.

- Hold the machine with one hand on the handle [1-9].

For sanding, we recommend the following settings for the adjusting wheel [1-3]:

Sanding work	Adjusting wheel setting
- Sanding with max. abrasion	5 - 6
- Sanding off old paint	
- Sanding of wood and veneered surface prior to paintwork	
- Intermediate sanding of paintwork on surfaces	

Sanding work	Adjusting wheel setting
<ul style="list-style-type: none"> - Sanding thinly applied undercoat - Sanding wood with sanding cloth - Edge breaking on wooden parts - Smoothing primed wooden surfaces 	4 - 5
<ul style="list-style-type: none"> - Sanding solid wood and veneered edges - Sanding rebate of windows and doors - Intermediate sanding of paintwork at edges - Light sanding of natural wood windows using sanding cloth - Smoothing wooden surfaces using sanding cloth before staining - Rubbing or removing excess limestone residue using sanding cloth 	3 - 4
<ul style="list-style-type: none"> - Intermediate sanding of paintwork on stained surfaces - Cleaning natural wood window rebate using sanding cloth 	2 - 3
<ul style="list-style-type: none"> - Sanding stained edges - Sanding of thermoplastics 	1 - 2

Service and maintenance



WARNING

Any maintenance or repair work that requires opening of the motor or gear housing should only be carried out by an authorised Customer Service Centre (name supplied by your dealer)!

- ▶ Maintenance or repair work carried out by an unauthorised person can lead to the wrong connection of the power cord or other components, which in turn can lead to accidents with serious consequences.



CAUTION

Certain cleaning agents and solvents are harmful to plastic parts.

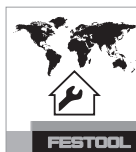
- ▶ Some of these include, but are not limited to: Gasoline, Acetone, Methyl Ethyl Ketone (MEK), Carbonyl Chloride, cleaning solutions containing Chlorine, Ammonia, and household cleaners containing Ammonia.



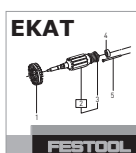
WARNING

Risk of injury, electric shock

- ▶ Always disconnect the battery pack from the machine before any cleaning or maintenance!
- ▶ All maintenance and repair work which requires the motor housing to be opened, must only be carried out by an authorised service workshop.



Customer service and repair only through manufacturer or service workshops: Please find the nearest address at:
www.festoolusa.com/service



Use only original Festool spare parts!
 Order No. at:
www.festoolusa.com/service

The machine is equipped with special carbon brushes. If they are worn out, the power is inter-

rupted automatically and the machine comes to a standstill.

To ensure constant air circulation, always keep the cooling air openings in the motor housing clean and free of any obstruction.

In the event of a slowdown in performance or increased vibrations, blow and clean cooling air openings.

Accessories

Use only original Festool accessories and Festool consumable material intended for this machine. These components are designed specifically for this machine. Using accessories and consumable material from other suppliers will most likely affect the quality of your results and limit warranty claims. Machine wear or your own personal workload may increase depending on the application. Protect yourself and your machine, and preserve your warranty claims by always using original Festool accessories and Festool consumable material!

The order numbers of the accessories and tools can be found in the Festool catalogue or on the Internet under "www.festoolusa.com".

Systainer

Many Festool products are shipped in a unique system container, called "Systainer". This provides protection and storage for the tool and accessories. The Systainers are stackable and can be interlocked together. They also can be interlocked atop Festool CT dust extractors.

To open the Systainer



Turn the T-loc [7-1] to this position.

To lock the Systainer



Turn the T-loc [7-1] to this position.

To connect two Systainers

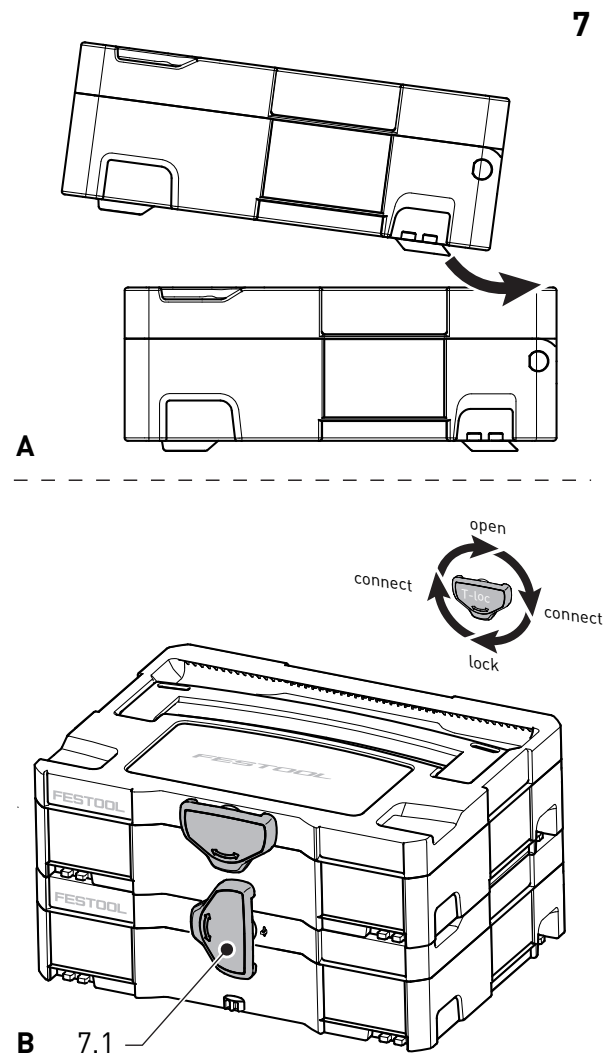
Place one Systainer on the top of the other (Fig. [7 A]).



Turn the T-loc [7-1] to one of this positions (Fig. [7 B]).

The Systainers are connected and locked.

- ① A new generation Systainer is connectable on top of a previous generation Systainer by the four latches of the previous Systainer.



Environment

Do not dispose of the device as domestic waste! Dispose of machines, accessories and packaging at

an environmentally responsible recycling centre. Observe the respective national regulations.