

# ORBITAL SANDER

Model NO. S1B-HD01-70×197

Model NO. S1B-HD02-80×133

Model NO. S1B-HD03-100×155×155



**WARNING! Please read all safety instructions and advises to lower the risk of injuries.**

## Dear customer,

*Thank you very much for purchasing this product. Please read all the instructions in this manual carefully before you assemble or use the product.*

### 1. SAFETY WARNINGS

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**WARNING! Read all safety warnings and all instructions.** *Failure to follow the warnings and instructions 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*

#### 1) Work area

- a) **Keep work area clean and well lit.** *Cluttered and 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.*

#### 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 safety equipment. Always wear eye protection.** *Protective equipment such as 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 plugging in 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, clothing and gloves 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.*

#### **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 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.** Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools 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 intended could result in a hazardous situation.*

#### **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.*

## **2. SAFETY INSTRUCTION FOR ALL OPERATION**

**a) This power tool is intended to function as a sander. 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.*

**b) Operations such as grinding, wire brushing, polishing or cutting-off are not recommended to be performed with this power tool. Operations for which the power tool was not designed may create a hazard and cause personal injury.**

**c) Do not use accessories which are not specifically designed and recommended by the tool manufacturer. Just because the accessory can be attached to your power tool, it does not assure safe operation.**

**d) The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool. Accessories running faster than their rated speed can break and fly apart.**

**e) The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool. Incorrectly sized accessories cannot be adequately guarded or controlled.**

**f) Threaded mounting of accessories must match the grinder spindle thread. For accessories mounted by flanges, the arbour hole of the accessory must fit the locating diameter of the flange. Accessories that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.**

**g) Do not use a damaged accessory. Before each use inspect the accessory such as abrasive wheels for chips and cracks, backing pad for cracks, tear or excess wear, wire brush for loose or cracked wires. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory, position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute. Damaged accessories will normally break apart during this test time.**

**h) Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments. The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtering particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.**

**i) Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment. Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.**

**j) Hold the power tool by insulated gripping surfaces only, when performing an operation where the cutting accessory may contact hidden wiring or its own cord. Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.**

**k) Position the cord clear of the spinning accessory. If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning accessory.**

**l) Never lay the power tool down until the accessory has come to a complete stop.** *The spinning accessory may grab the surface and pull the power tool out of your control.*

**m) Do not run the power tool while carrying it at your side.** *Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.*

**n) Regularly clean the power tool's air vents.** *The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.*

**o) Do not operate the power tool near flammable materials.** *Sparks could ignite these materials.*

**p) Do not use accessories that require liquid coolants.** *Using water or other liquid coolants may result in electrocution or shock.*

### **Other safety instructions for all operations**

#### **Kickback and related warnings**

**Kickback is a sudden reaction to a pinched or attaching a rotating wheel, a bearing pad, brush or any other accessory. Pinching or hanging causes rapid stalling of the rotating accessory which in turn forced the tool Power out of control in the opposite direction of rotation of the accessory to the point of seizing.**

**For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material, causing jumps or expulsion of the grinding wheel. The wheel can jump towards the operator or by moving away, as the direction of movement of the grinding wheel at the point of pinch. Abrasive wheels may also break under these conditions. Kickback is the result of misuse of the tool and / or procedures or conditions incorrect operation and can be avoided by taking proper precautions specified below.**

**a) Maintain firmly the power tool and position your body and arm for you allow to resist kickback forces. Always use auxiliary handle, where applicable, for maximum control of kickback or torque reaction during startup.** *The operator can control the reaction torques or forces rebound, if precautions are taken.*

**b) Never place your hand near the rotating accessory.** *The accessory can perform a bounce on your hand.*

**c) Do not place you in the area where power tool will move if kickback.** *The rebound pushes the tool in the opposite direction to movement of the wheel in point hooking.*

**d) Take special care when working corners, sharp edges etc.**

**Avoid twists and snaps of the accessory.** *Corners, edges or sharp twists tend to hang the rotating accessory and cause loss of control or kickback.*

**e) Do not attach a saw chain, blade wood carving saw chain or toothed saw blade.** *Such blades cause frequent rebounds and control losses.*






### **Additional safety instructions for sanding operations**

#### **Set specific security guard for sanding**

**a) Do not use sandpaper too oversized for sanding discs. Follow manufacturers' recommendations when selecting sanding paper.** *More abrasive paper extending beyond*

*the sanding pad presents a laceration hazard and may cause a crash, tearing of the disc or kickback.*

### **3. Warning symbol**

	WARNING-To reduce the risk of injury, user must read instruction manual.
	Always wear ear protection
	Always wear goggles
	Always wear a breathing mask
	In accordance with essential applicable safety standards of European directives

#### **3.1 Machine-related safety instructions**

– Harmful/toxic dust can be produced during your work (e.g. lead-containing paint, some types of wood and metal). Contact with this dust, especially inhaling it, can represent a hazard for operating personnel or persons in the vicinity. Comply with the safety regulations that apply in your country. Connect the electric power tool to a suitable extraction system.



To protect your health, wear a P2 protective mask.



Always wear protective goggles to protect against sanding hazards.

**–Use a residual current protective device when metal grinding, as well as when the operation of the power tool in a wet environment cannot be avoided.** In the event of an electric shock, the protective switch protects you against life-threatening current through the body.

**– 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.

**– Always use original sanding pads.** Foreign pads are not suitable for the speed of the sander and may break.

**– If the power tool is dropped or falls, check for damage to the machine and sanding pad. Remove the sanding pad for closer inspection. Repair damaged parts before using again.** Broken sanding pads and damaged machines can cause injuries and machine instability.

#### **3.2 Mixed dust containing metal and sanding damp surfaces**



With mixed dust containing metal (such as dust resulting from paint sanding in the automotive field) and when sanding damp surfaces, the following measures must be observed for reasons of safety:

- Connect the machine to a suitable dust extractor.
- Regularly blow out the motor housing of the machine to remove dust deposits.

#### 4. Intended use

The sanders are designed for sanding wood, plastic, composite, paint/varnish, filler and similar materials as directed. With mixed dust containing metals (such as dust resulting from paint sanding in the automotive industry) and when sanding damp surfaces, special safety instructions must be followed. The sanders are not intended to be suitable for grinding bare metal. Material containing asbestos cannot be processed.



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

## YOUR PRODUCT

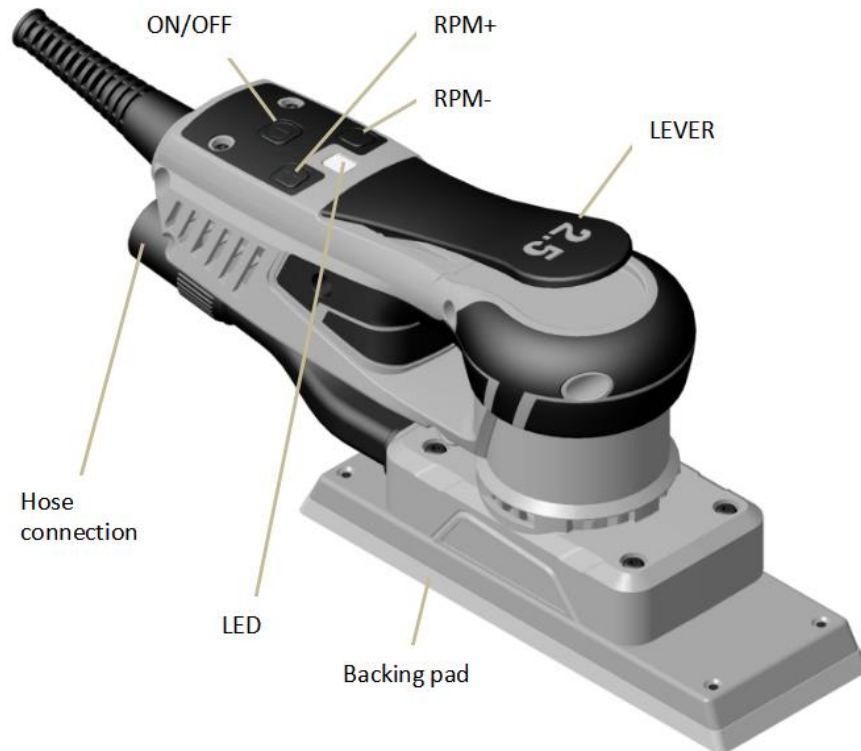
### 1. Technical data

Model NO.	S1B-HD01-70×197	S1B-HD02-80×133	S1B-HD03-100×155×155
Power	350W	350W	350W
Voltage	220–240VAC	220–240VAC	220–240VAC
Speed	4,000–10,000rpm	4,000–10,000rpm	4,000–10,000rpm
Rated Eccentricity	2.5 mm (1/10 inch)	3.0 mm (1/8 inch)	3.0 mm (1/8 inch)
Size of backing pad	70 × 197 mm (3 × 8 inch)	80 × 133 mm (3 × 5 inch)	100 × 155 × 155 mm (4 × 6 × 6 inch)
Weight	1.55 KG	1.52 KG	1.52KG
Degree of protection	I	I	I

### 2. Noise and vibration information

Model NO.	S1B-HD01-70×197	S1B-HD02-80×133	S1B-HD03-100×155×155
Sound pressure level(LPA)	79,7dB	79,7dB	79,7dB
Sound power level (LWA)	90,3dB	90,3dB	90,3dB
Vibration emission ah	3,221 m/s <sup>2</sup>	3,221 m/s <sup>2</sup>	3,221 m/s <sup>2</sup>
Vibration uncertainty K	1,5m/s <sup>2</sup>	1,5m/s <sup>2</sup>	1,5m/s <sup>2</sup>

**Figure1**



### 3. Commissioning



#### **WARNING**

#### **Unauthorized 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.

### 4. Operating instructions

4.1 The tool is intended to be operated as a hand held tool. The tool can be used in any position. Note! The sander can develop a torque reaction when started.

4.2 Make sure the sander is switched off. Select a suitable abrasive and secure it to the backing pad. Make sure the abrasive is centred on the sanding pad. For optimal performance we recommend original sanding pad and Sanding paper.

4.3 Switch on the sander by pressing the On/Off key,

4.4 The sander can now be started by pressing the lever.

4.5 The speed can be adjusted between 4,000 and 10000 rpm by rpm+ and rpm-. Each press increases or reduces the speed by 1,000 rpm until it reaches the limits.



4.6 When sanding, always place the tool on the work surface before starting the tool. Always remove the tool from the work surface before stopping it. This will prevent gouging of the work surface due to excess speed of the abrasive.

4.7 When sanding is finished, turn off the sander by pressing the On/Off key.

## 5. Replacing the sanding pad



**Always disconnect the power before maintenance! Only use original sanding pad!**

The triangle is fixed with 7 screws,

The square plate is fixed with 8 screws.

A = 10 mm

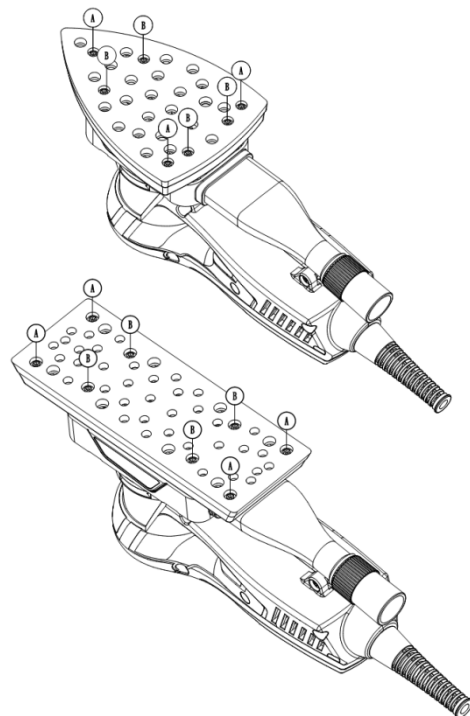
B = 20 mm

dismantle

1. Turn the tool upside down
2. Remove 3 (4) screws (A).
3. Remove four screws (B).
4. Remove the triangle / square plate.

install

1. Install 4 screws (B).
2. Install 3 (4) screws (A).
3. Finally tighten all screws.



## 6. Attaching sanding accessories

The suitable sand paper and **sanding cloth** can be attached quickly and simply to the sanding pad. Press the self-adhesive sanding accessory onto the sanding pad.



In the case of a weakening adhesive effect of the sanding paper surface, the sanding pad accessories, in particular those which are not yet touching the work piece, may come loose from the sanding pad and cause injuries. Replace the sanding pad!



## 7. 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.

The power tool does not have its own extractor unit. At the extractor connector, a mobile dust extractor with an extraction hose diameter of **40mm** should be connected.

Recommendation: **Use an anti-static suction hose. This helps reduce the electric charge.**



## 8. Working with the machine



**Risk of injury:** Always secure the workpiece in such a manner that it cannot move while being machined.

### 8.1 Observe the following instructions:

- The sanding capacity and quality are mainly dependent on the selection of the correct abrasive.
- Hold the machine with two hands, one on the motor housing and one on the gear head.

### 8.2 Sanding work:

9000-10000/min

Sanding with max. abrasion

Sanding off old paint

Sanding of wood and veneered surface prior to paintwork

Intermediate sanding of paintwork on surfaces

8000-9000/min

Sanding thinly applied undercoat

Sanding wood with sanding cloth

Edge breaking on wooden parts

Smoothing primed wooden surfaces

7000-8000/min

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

6000-7000/min

Intermediate sanding of paintwork on stained surfaces

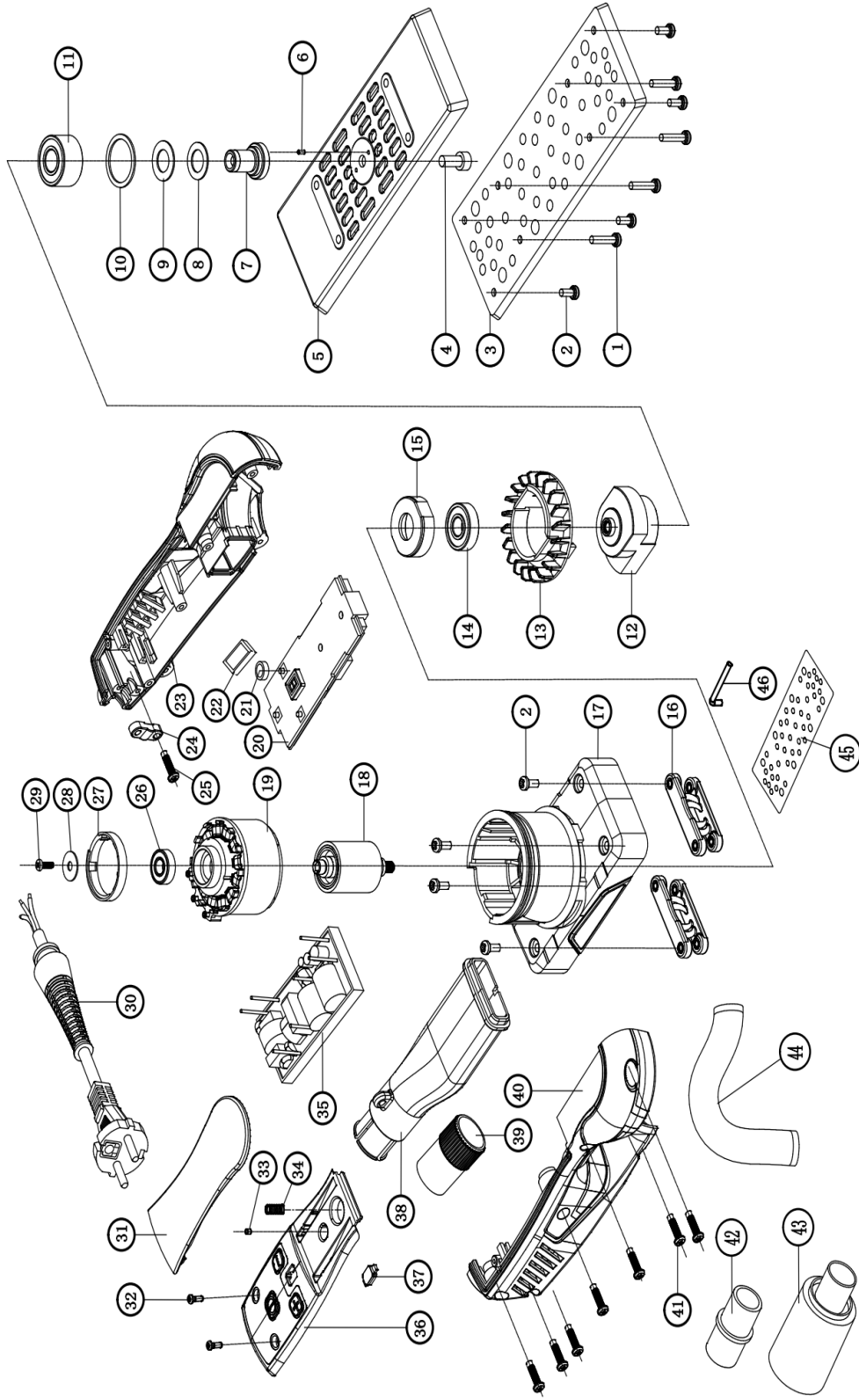
Cleaning natural wood window rebate using sanding cloth

4000-6000/min

Sanding stained edges

Sanding of thermoplastics

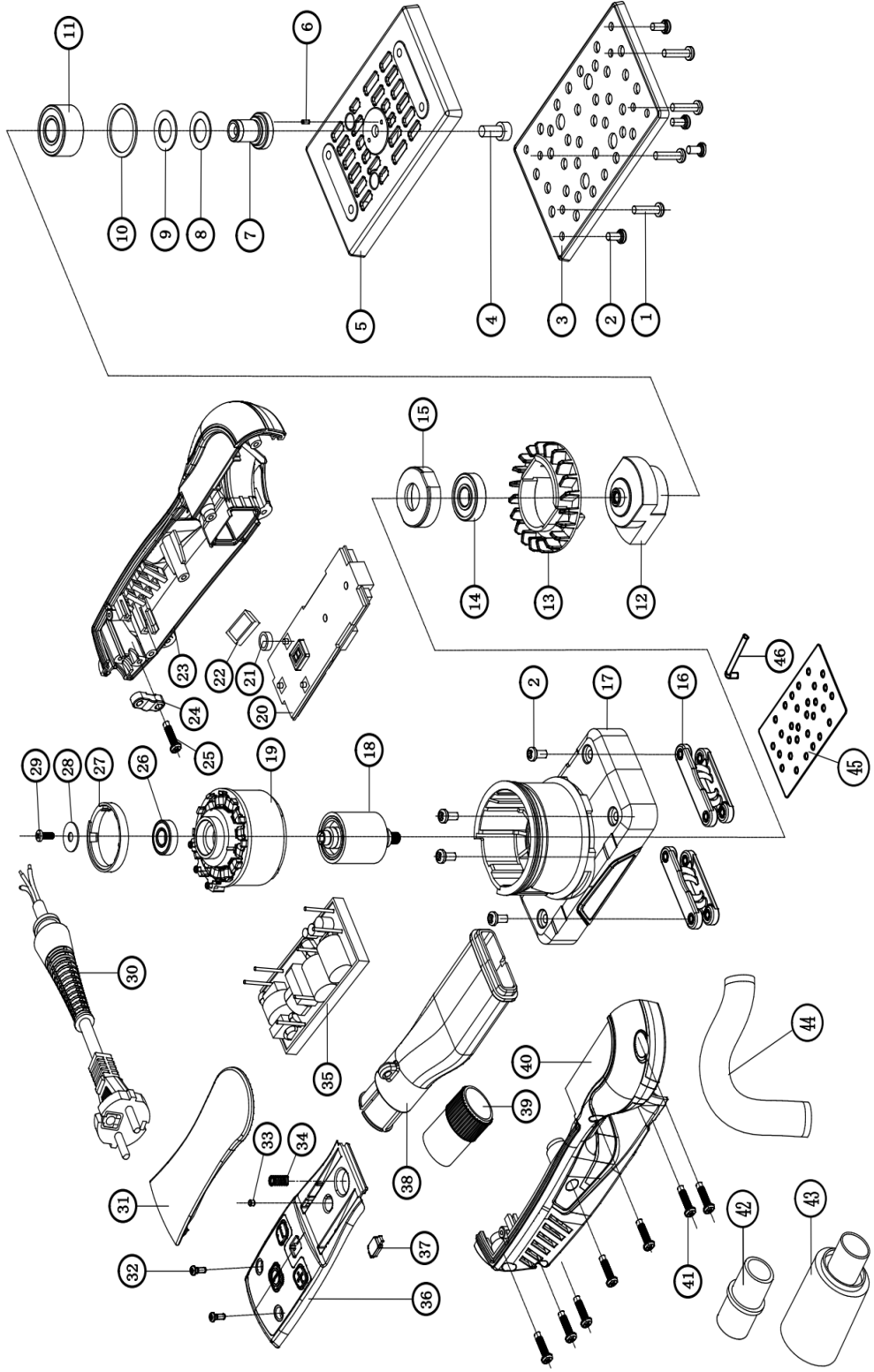
# S1B-HD01-70X197



S1B-HD01-70×197 Parts list

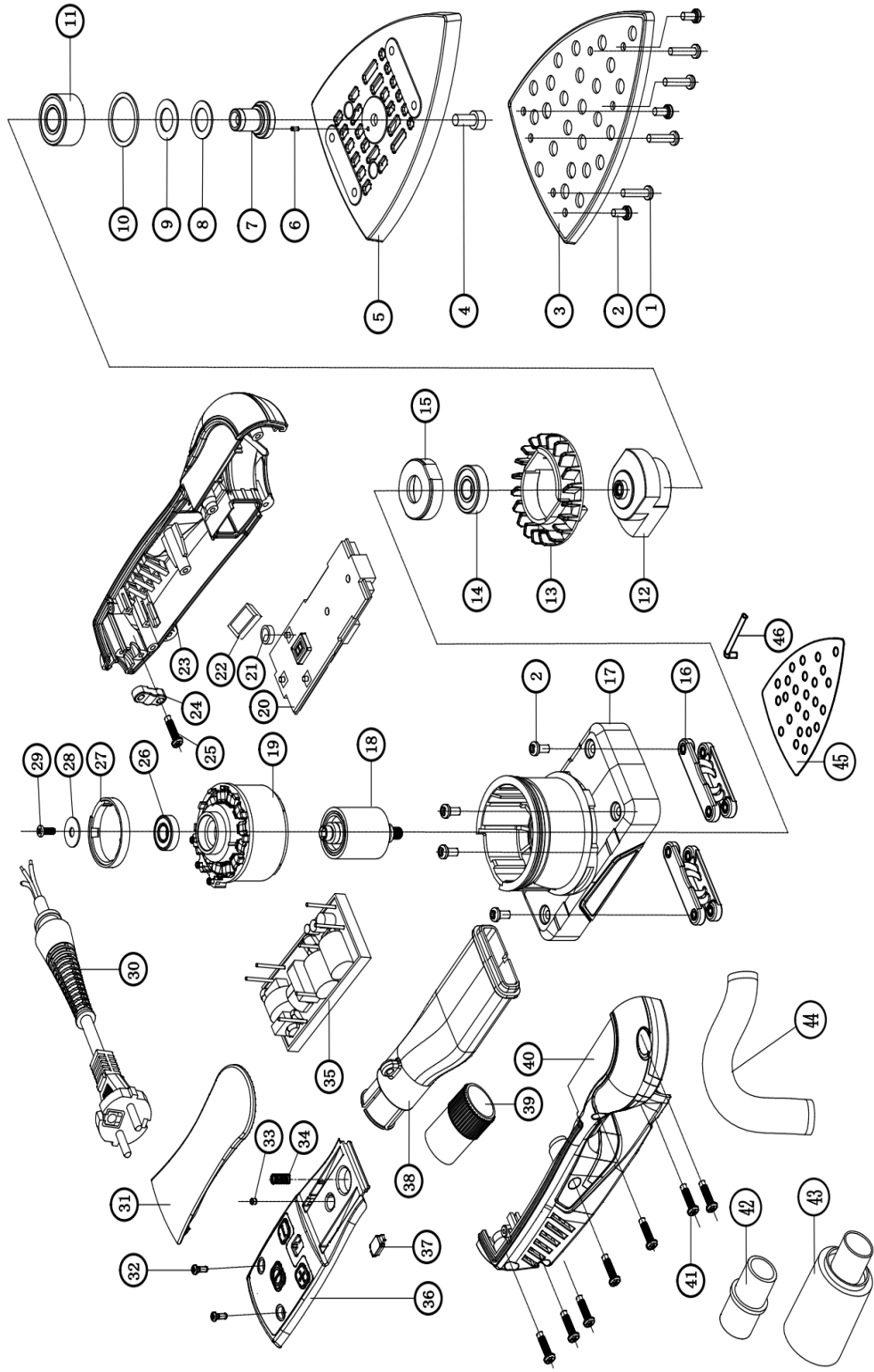
ITEM	SPARE PARTS	QTY	ITEM	SPARE PARTS	QTY
1	screws M4*20	4	25	screw ST3.9*16-F	1
2	screws M4*10	8	26	bearing 698	1
3	backing pad 70×197mm	1	27	hall positioning ring	1
4	screw M6*14	1	28	flat pad φ5	1
5	backing plate 70×197mm	1	29	screw M4*14	1
6	cylindrical pin φ2*5	1	30	cable+cover	1
7	output shaft	1	31	lever (2.5)	1
8	gasket φ12*φ20*1	1	32	screw ST2.9*12-C	1
9	wool pad φ12*φ20*1.5	1	33	lever cylindrical magnet φ3*3	1
10	internal circlip φ28	1	34	start button spring	1
11	bearing 5001-2RS	1	35	power supply controller set	1
12	eccentric block 2.5	1	36	cover plate	1
13	wind blade	1	37	square lens	1
14	bearing 6000-2RS	1	38	dust exhaust	1
15	bearing aluminum sleeve	1	39	adaptor	1
16	swing frame	2	40	right handle	1
17	housing	1	41	scrw ST3.9*20-F	7
18	rotor	1	42	adaptor	1
19	stator	1	43	adaptor	1
20	control system board	1	44	hose	1
21	key pillar cover	3	45	sanding paper	1
22	wool pad	1			
23	left handle	1			
24	clamping plate	1			

S1B-HD02-80×133爆炸图



S1B-HD01-80×133 Parts list					
NO.	SPARE PARTS	QTY	NO.	SPARE PARTS	QTY
1	screws M4*20	4	25	screw ST3.9*16-F	1
2	screws M4*10	8	26	bearing 698	1
3	backing pad 70×197mm	1	27	hall positioning ring	1
4	screw M6*14	1	28	flat pad φ5	1
5	backing plate 70×197mm	1	29	screw M4*14	1
6	cylindrical pin φ2*5	1	30	cable+cover	1
7	output shaft	1	31	lever (2.5)	1
8	gasket φ12*φ20*1	1	32	screw ST2.9*12-C	1
9	wool pad φ12*φ20*1.5	1	33	lever cylindrical magnet φ3*3	1
10	internal circlip φ28	1	34	start button spring	1
11	bearing 5001-2RS	1	35	power supply controller set	1
12	eccentric block	1	36	cover plate	1
13	wind blade	1	37	square lens	1
14	bearing 6000-2RS	1	38	dust exhaust	1
15	bearing aluminum sleeve	1	39	adaptor	1
16	swing frame	2	40	right handle	1
17	housing	1	41	scrw ST3.9*20-F	7
18	rotor	1	42	adaptor	1
19	stator	1	43	adaptor	1
20	control system board	1	44	hose	1
21	key pillar cover	3	45	sanding paper	1
22	wool pad	1			
23	left handle	1			
24	clamping plate	1			

# S1B-HD03-100×155×155






**S1B-HD03-100x155x155 Parts list**

NO.	SPARE PARTS	QTY	NO.	SPARE PARTS	QTY
1	screws M4*20	4	25	screw ST3.9*16-F	1
2	screws M4*10	8	26	bearing 698	1
3	backing pad 100×155×155mm	1	27	hall positioning ring	1
4	screw M6*14	1	28	flat pad φ5	1
5	backing plate 100×155×155mm	1	29	screw M4*14	1
6	cylindrical pin φ2*5	1	30	cable+cover	1
7	output shaft	1	31	lever	1
8	gasket φ12*φ20*1	1	32	screw ST2.9*12-C	1
9	wool pad φ12*φ20*1.5	1	33	lever cylindrical magnet φ3*3	1
10	internal Circlip φ28	1	34	start button spring	1
11	bearing 5001-2RS	1	35	power supply controller set	1
12	eccentric block	1	36	cover plate	1
13	wind blade	1	37	squre lens	1
14	bearing 6000-2RS	1	38	dust exhaust	1
15	bearing aluminum sleeve	1	39	adaptor	1
16	swing frame	2	40	right handle	1
17	housing	1	41	scrw ST3.9*20-F	7
18	rotor	1	42	adaptor	1
19	stator	1	43	adaptor	1
20	control system board	1	44	hose	1
21	key pillar cover	3	45	sanding paper	1
22	wool pad	1			
23	left handle	1			
24	clamping plate	1			



**CAUTION!** This product has been marked with a symbol relating to removing electric and electronic waste. This means that this product shall not be discarded with household waste but that it shall be returned to a  collection system which conforms to the European WEEE Directive.

Contact your local authorities or ask for advice on recycling. It will then be recycled or dismantled in order to reduce the impact on the environment. Electric and electronic equipment can be hazardous for the environment and for human health since they contain hazardous substances.

## 9. DECLARATION OF CONFORMITY

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States that the designated below machine:

Product: Orbital sander

Model NO. S1B-HD01-70×197

Model NO. S1B-HD02-80×133

Model NO. S1B-HD03-100×155×155

Serial number:

Developed, designed and manufactured in accordance with the requirements of directives:

Machinery Directive 2006/42/EC

EMC Directive 2014/30/EC

ROHS Directive 2011/65/EU

Also meets the following standards:

EN 62841-1:2015

EN 62841-2-4:2014

EN 55014-1:2017

EN 55014-2: 1997/A2 :2008

EN 61000-3-2: 2014

EN 61000-3-3: 2013

EN62321 :2009

03/12/2022

Responsible of the technical file: