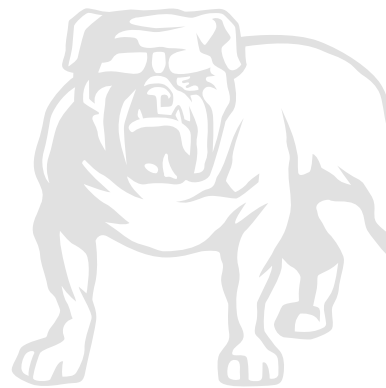


MIRKA

Mirka® DEROS

77 mm (3"), 125 mm (5") & 150 mm (6")

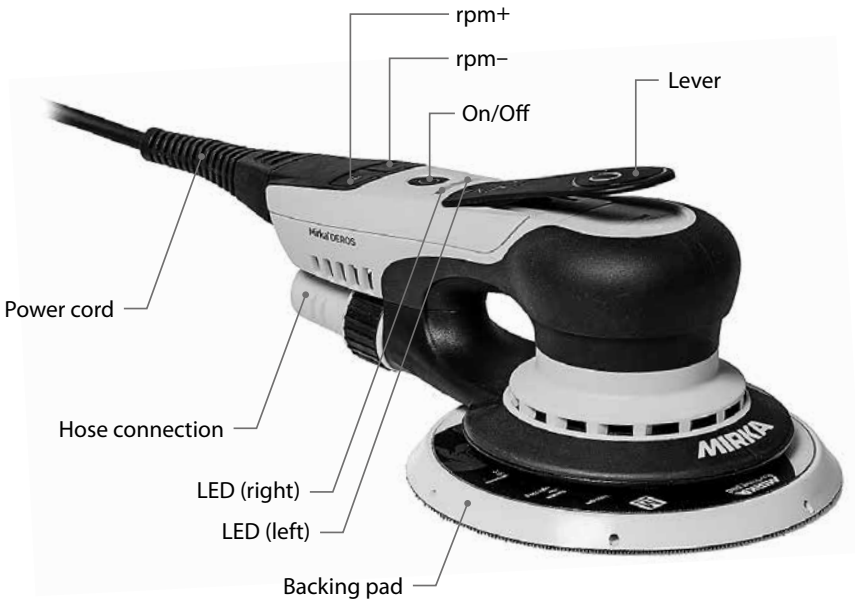


Mirka® DEROS

77 mm (3"), 125 mm (5") & 150 mm (6")



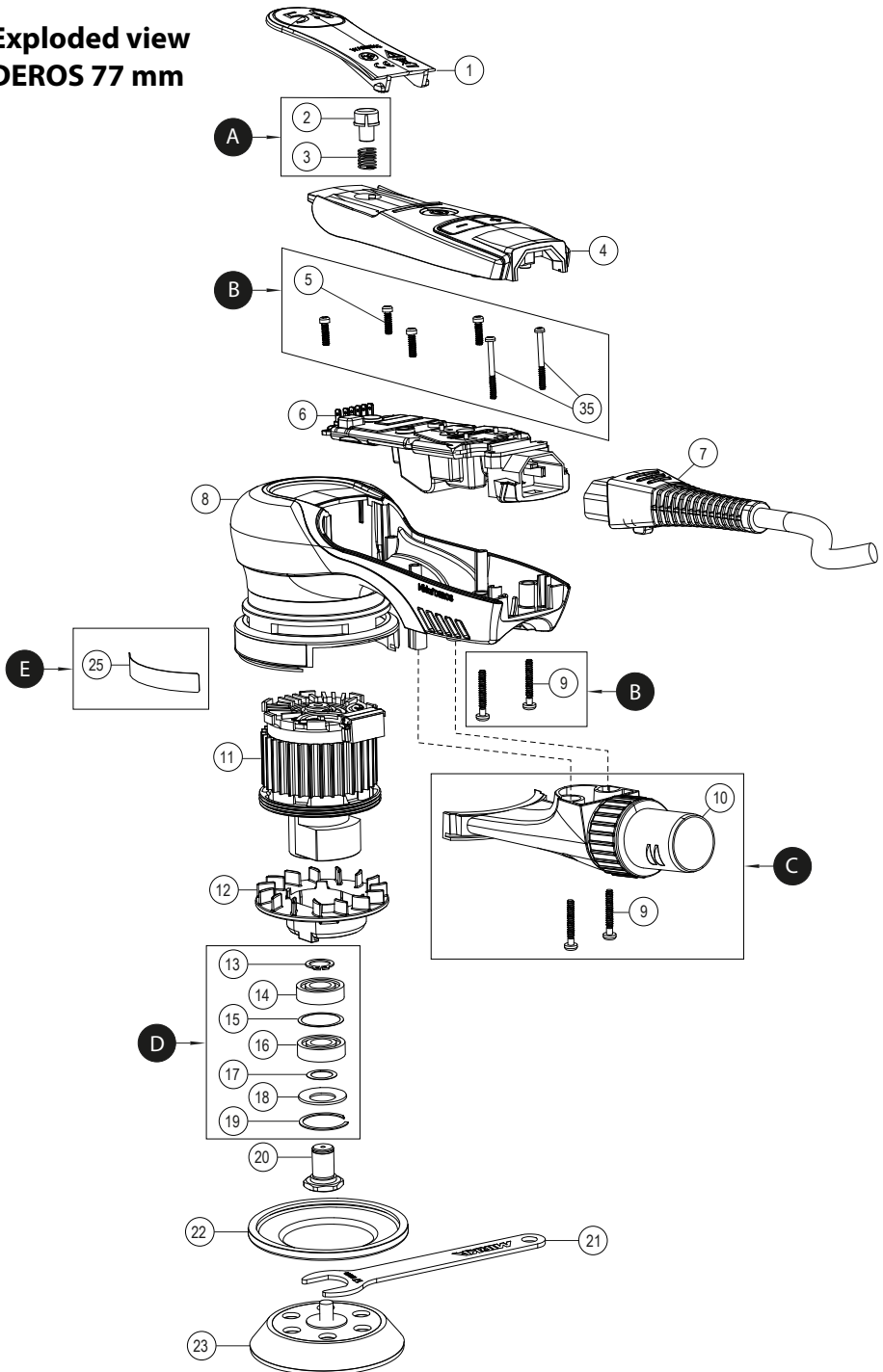
Figure 1



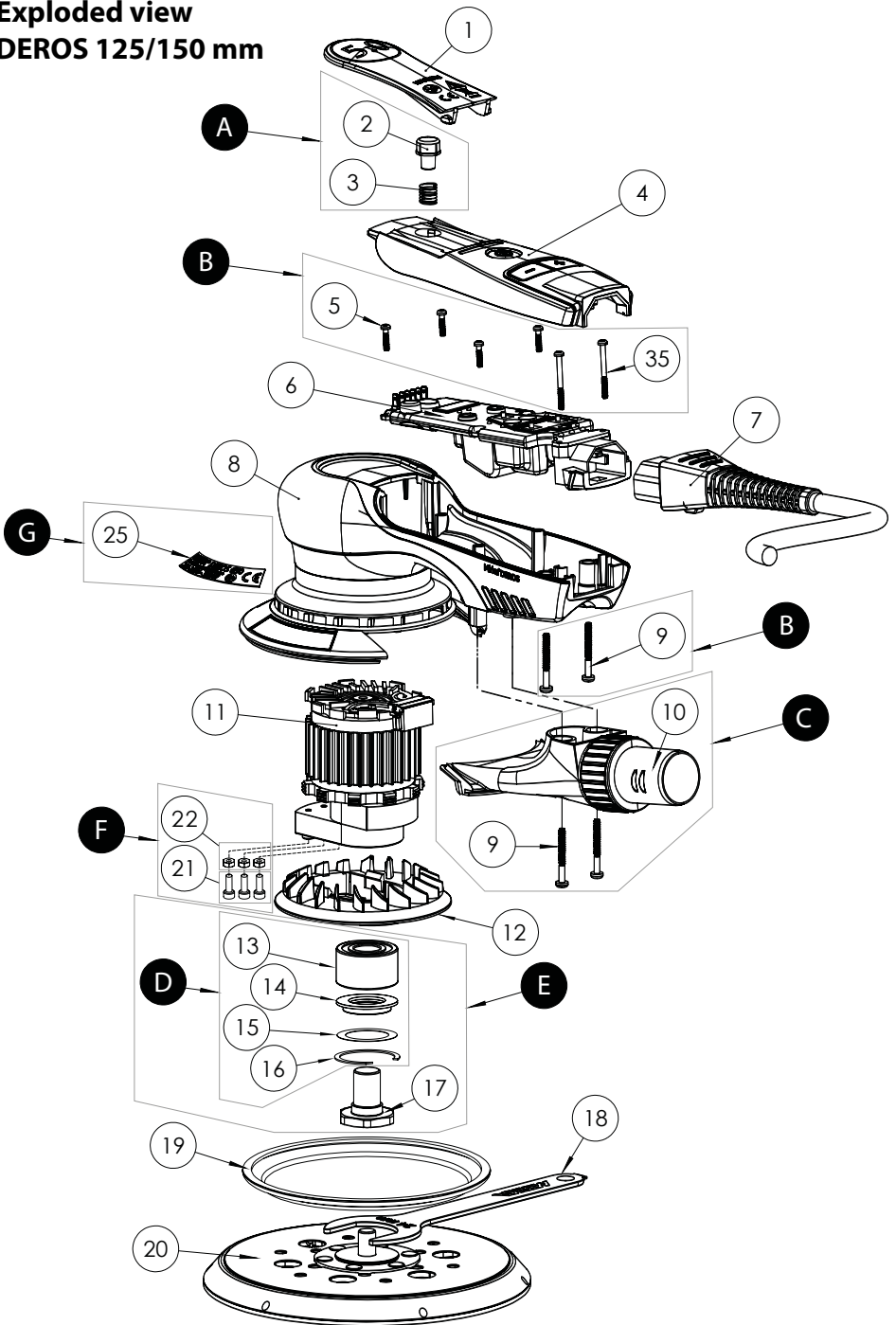
Pad Medium*	Mirka code	325X CV	350X CV	550X CV	625X CV	650X CV	680X CV	5650X CV
77 mm (3"), 80 g	8294791211	X	X					
125 mm (5"), 100 g	8292502011			X				
125 mm (5"), 130 g	8292502511							X
150 mm (6"), 130 g	8292605011				X	X	X	X

* Soft and hard pad variants available as accessories.

Exploded view DEROS 77 mm



**Exploded view
DEROS 125/150 mm**



Parts list – DEROS 77 mm kits

Mirka code	Item	Description	Kit	Qty	Tightening torque
MIE6520211		Start button kit	A		
	2	Start button		1	
	3	Start button spring		1	
MIE6520511		Screw kit	B		
	5	Screws		4	0.6 Nm
	9	Housing screws		2	1.4 Nm
	35	Screws		2	0.6 Nm
MIE3521011		Swivel exhaust kit	C		
	9	Housing screws		2	1.4 Nm
	10	Swivel exhaust		1	
8993019611		Bearing kit	D		
	13	Retaining ring		1	
	14	Bearing		1	
	15	Spacer		1	
	16	Bearing with dust seal		1	
	17	Shim		1	
	18	Belleville washer		1	
	19	Retaining ring 22.2 mm		1	
MIE3562511		Type label kit 110 V	E		
	25	Type label 350		5	

Electrical tool must be serviced by a qualified repair person and in accordance with national requirements.

NOTE! Repairs done by non-authorized repairer will breach the Mirka warranty.

Parts list – DEROS 77 mm spareparts & accessories

Mirka code	Item	Description	Kit	Qty	Tightening torque
MIE6210111	1	Lever 2.5 mm (77 & 150 mm)		1	
MIE6510111	1	Lever 5.0 mm (77, 125 & 150 mm)		1	
	2	Start button	A	1	
	3	Start button spring	A	1	
MIE6510411	4	Cover plate		1	
	5	Screws	B	4	
MIE6560611	6	Speed controller 110V*		1	
MIE9017211	7	Rewireable mains cable 4.3 m 100–120V US		1	
MIE9017311	7	Rewireable mains cable 4.3 m 100–120V UK		1	
MIE3520811	8	Housing		1	
	9	Housing screws	B, C	2,2	
	10	Swivel exhaust	C	1	
MIE3561111	11	Motor 5.0 mm / 30 g pad (77 mm) 110V*		1	25 Nm
MIE3511211	12	Fan 2.5 mm / 5.0 mm / 30 g pad (77 mm)		1	
	13	Retaining ring	D	1	
	14	Bearing	D	1	
	15	Spacer	D	1	
	16	Bearing with dust seal	D	1	
	17	Shim	D	1	
	18	Belleville washer	D	1	
	19	Retaining ring 22.2 mm	D	1	
8993015011	20	Spindle 1/4" 77 mm		1	
8993008013	21	Pad wrench 17 mm		1	
MIE3512211	22	Brake seal		1	
8294791211	23	Backing pad 77 mm 1/4" Grip 6H Medium		1	
	25	Type label 350 110V	E	1	
	35	Screws	B	1	

* Spare parts only available to authorized repairers.

Parts list – DEROS 125/150 mm kits

Mirka code	Item	Description	Kit	Quantity	Tightening torque
MIE6520211		Start button kit	A		
	2	Start button		1	
	3	Start button spring		1	
MIE6520511		Screw kit	B		
	5	Screws		4	0.6 Nm
	9	Housing screws		2	1.4 Nm
	35	Screws		2	0.6 Nm
MIE6521011		Swivel exhaust kit	C		
	9	Housing screws		2	1.4 Nm
	10	Swivel exhaust		1	
MIE6536211		Bearing dual seal kit	D		
	13	Double row bearing		1	
	14	Dual seal		1	
	15	Washer		1	
	16	Retaining ring		1	
MIE6536011		Spindle bearing dual seal kit	E		
	13	Double row bearing		1	
	14	Dual seal		1	
	15	Washer		1	
	16	Retaining ring		1	
	17	Spindle 5/16"		1	
8995690101		Balancing screw kit	F		
	21	Screws		5	
	22	Nut		3	
		Hex key		1	
MIE6522511US	25	Type label kit US (550, 625, 650)	G	30	



NOTE! Repairs done by non-authorized repairer will breach the Mirka warranty.
Electrical tool must be serviced by a qualified repair person and in accordance with national requirements.

Parts list – DEROS 125/150 mm spareparts & accessories

Mirka code	Item	Description	Kit	Quantity	Tightening torque
MIE6210111	1	Lever 2.5 mm (77 & 150 mm)		1	
MIE6510111	1	Lever 5.0 mm (77, 125 & 150 mm)		1	
MIE6810111	1	Lever 8.0 mm (150 mm)		1	
	2	Start button	A	1	
	3	Start button spring	A	1	
MIE6510411	4	Cover plate		1	
	5	Screws	B	4	
MIE6560611	6	Speed controller 110V*		1	
MIE9017211	7	Rewireable mains cable 4.3 m 100–120 V US		1	
MIE9017311	7	Rewireable mains cable 4.3 m 100–120 V UK		1	
MIE6520811	8	Housing		1	
	9	Housing screws	B, C	2,2	
	10	Swivel exhaust	C	1	
MIE5561111	11	Motor 5.0 mm / 100 g pad (125 mm)*		1	25 Nm
MIE6261111	11	Motor 2.5 mm / 130 g pad (150 mm)*		1	25 Nm
MIE6561111	11	Motor 5.0 mm / 130 g pad (150 mm)*		1	25 Nm
MIE65111B1	11-B	Ground wire		1	
MIE5511211	12	Fan 5.0 mm/100 g pad (125 mm)		1	
MIE6211211	12	Fan 2.5 mm/130 g pad (150 mm)		1	
MIE6511211	12	Fan 5.0 mm/130 g pad (150 mm)		1	
MIE6811211	12	Fan 8.0 mm/130 g pad (150 mm)		1	
	13	Double row bearing	D, E	1	
	14	Dual seal	D, E	1	
	15	Washer	D, E	1	
	16	Retaining ring	D, E	1	
8995603201	17	Spindle 5/16"	E	1	
8995604121	18	Pad wrench 24 mm for 125/150 mm		1	
8995603211	19	Brake seal		1	
8292502011	20	Backing pad Net 125 mm 5" 5/16" 28H Medium 100 g		1	
8292502511	20	Backing pad Net 125 mm 5" 5/16" 28H Medium 130 g		1	
8292605011	20	Backing pad Net 150 mm 6" 5/16" 48H Medium 130 g		1	
	21	Screws	F	5	
	22	Nut	F	3	
	25	Type label US	G	1	
	35	Screws	B	2	

* Spare parts only available to authorized repairers.

Declaration of conformity

<p>Mirka Ltd, 66850 Jeppo, Finland declare under our sole responsibility that the products Mirka® DEROS 77 mm (3"), 125 mm (5") & 150 mm (6") 10,000 rpm Electrical Random Orbital Sander (See "Technical data" table for particular model) to which this declaration relates are in conformity with the following standards or other normative documents: EN 62841-1:2015, 62841-2-4:2014, EN 55014-1:2006 + A1:2009 + A2:2011, EN 55014-2:2015, EN 61000-3-2:2014, 6100-3-3:2013, EN 300 328 V1.9.1, EN 301 489-1 V2.1.1, EN 301 489-17 V3.1.1 in accordance with the regulations 2006/42/EC, 2011/65/EU, 2014/53/EU.</p>	
<p>Jeppo 13.04.2020</p> <p>Place and date of issue</p>	 <p>Stefan Sjöberg, CEO</p>
<p>Operating instructions include: Exploded view, Parts list, Declaration of conformity, Important, Warning, Caution, Additional safety warnings, Compliance, Technical data, Noise and vibration information, Proper use of tool, Work stations, How to get started, Operating instructions, Bluetooth, Maintenance, Replacing the backing pad, Pad saver, Replacing the brake seal, Further service, Troubleshooting guide, Disposal information, Reducing vibrations when sanding with pad saver or interface.</p>	

Original instructions. We reserve the right to make changes to this manual without prior notice.

Important

Read these safety and operating instructions carefully before installing, operating or maintaining this tool. Keep these instructions in a safe and accessible location.

Required personal safety equipment



Read
operator's manual



Wear
safety glasses



Wear
ear protection



Wear
safety gloves



Wear
face mask



Warning: Potential hazardous situation that may result in death or serious injury and/or property damage.

Caution: Potential hazardous situation that may result in minor or moderate injury and/or property damage.

Please read and comply with

- General Industry Safety & Health Regulations, part 1910, OSHA 2206, available from: Superintendent of Documents;
- State and local regulations



WARNING

- Always wear required personal safety protection in accordance with manufacturer's instruction and local/national standards while using this tool.
- The safety of the tool is ensured only by using original Mirka backing pads.
- Do not use a power tool if you are tired or under the influence of drugs, alcohol or medication.
- Read the Materials Safety Data Sheet (MSDS) for the working surface.
- Use the tool with dust extraction. A suitable dust extraction unit will reduce hazardous dust.
- Do not overreach. The operator must always stand in a secure position with a firm grip and firm footing on a solid floor.
- Do not wear loose clothing or jewelry. Keep hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can get caught in moving parts.
- If any physical hand/wrist discomfort is experienced, stop working and seek medical attention. Hand, wrist and arm injury may result from repetitive work, motion and overexposure to vibrations.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools may create sparks which may ignite the dust or fumes.



CAUTION

- Remove pad wrench before connecting the tool to the power source.
- Keep work area clean and well lit.
- Always ensure that the work piece to be sanded is firmly fixed in place.
- Before changing the abrasive always disconnect the power source. Make sure the abrasive is perfectly centered and firmly attached to the backing pad.
- Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.
- Always pay attention to work safety. Never carry, store or leave the tool unattended with the power source connected.
- Keep hands clear of the spinning pad during use.
- Do not allow the tool to free speed without taking precautions to protect any persons or objects from the loss of the abrasive or pad.



Additional safety warnings

- Read all instructions before using this tool. All operators must be fully trained in the proper, safe use of this tool.
- All maintenance must be carried out by trained personnel. For service, contact a Mirka authorized service center!
- Always use the tools with a residual current device (RCD) with a rated residual current of 30 mA or less.
- The power supply socket and connector are non-IEC appliance couplers. Only use an original Mirka power supply cable. The Mirka power supply cable can be bought from your Mirka Dealer.
- Check the tool, backing pad, power cord and fittings regularly for wear.
- Clean or replace the vacuum unit dust collection bag daily. Dust can be highly combustible. Cleaning or replacing the bag also assures optimum performance.
- Always ensure that the power tool specifications correspond to the power source (V, Hz).
- Take care to avoid clothing, ties, hair, cleaning rags, etc., from getting caught in the tool's moving parts.
- If the tool appears to malfunction, stop using it immediately and arrange for service and repair.



Additional warnings

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known 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.

Your 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 those dust masks that are specially designed to filter out microscopic particles.



Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION TO THE USER: Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Technical data

Mirka® DEROS	325X CV	350X CV	550X CV	625X CV	650X CV	680X CV	5650X CV
Power	250 W	250 W	350 W	350 W	350 W	350 W	350 W
Mains voltage	100–120 VAC	100–120 VAC	100–120 VAC	100–120 VAC	100–120 VAC	100–120 VAC	100–120 VAC
Speed	4,000–10,000 rpm	4,000–10,000 rpm	4,000–10,000 rpm	4,000–10,000 rpm	4,000–10,000 rpm	4,000–10,000 rpm	4,000–10,000 rpm
Orbit	2.5 mm (3/32")	5.0 mm (3/16")	5.0 mm (3/16")	2.5 mm (3/32")	5.0 mm (3/16")	8.0 mm (5/16")	5.0 mm (3/16")
Size of backing pad	Ø 77 mm (3")	Ø 77 mm (3")	Ø 125 mm (5")	Ø 150 mm (6")	Ø 150 mm (6")	Ø 150 mm (6")	Ø 125 / 150 mm (5"/6")
Weight	0.8 kg (1.8 lbs)	0.8 kg (1.8 lbs)	1.0 kg (2.2 lbs)	1.0 kg (2.2 lbs)	1.1 kg (2.4 lbs)	1.1 kg (2.4 lbs)	1.1 kg (2.4 lbs)
Degree of protection							

Noise and vibration information

Measured values are determined according to EN 62841.

Mirka® DEROS	325X CV	350X CV	550X CV	625X CV	650X CV	680X CV	5650X CV
Sound pressure level (L_{pa})	67 dB(A)	67 dB(A)	71 dB(A)	71 dB(A)	71 dB(A)	71 dB(A)	71 dB(A)
Sound power level (L_{wa})	78 dB(A)	78 dB(A)	82 dB(A)	82 dB(A)	82 dB(A)	82 dB(A)	82 dB(A)
Sound measurement uncertainty K	3.0 dB	3.0 dB	3.0 dB	3.0 dB	3.0 dB	3.0 dB	3.0 dB
Vibration emission value a_{hs}^*	3.1 m/s ²	3.3 m/s ²	3.2 m/s ²	2.4 m/s ²	3.4 m/s ²	3.5 m/s ²	3.4 m/s ²
Vibration emission uncertainty K*	2.0 m/s ²	1.5 m/s ²	1.5 m/s ²	1.5 m/s ²	1.5 m/s ²	1.5 m/s ²	1.5 m/s ²

Specifications subject to change without prior notice. Model range may vary between markets.

* The values stated in the table are derived from laboratory testing in conformity with stated codes and standards, and are not sufficient for risk evaluation. Values measured in a particular work place may be higher than the declared values. The actual exposure values and amount of risk or harm experienced by an individual are unique to each situation and depend upon the surrounding environment, the way in which the individual works, the particular material being worked, work station design and the user's exposure time and physical condition. Mirka Ltd accepts no responsibility for the consequences of using declared values instead of actual exposure values for any individual risk assessment.

Proper use of tool

This sander is designed for sanding all types of material, i.e. metals, wood, plastic, etc. using abrasives designed for this purpose. Do not use this sander for any other purpose than that specified without consulting the manufacturer or the manufacturer's authorized supplier. Do not use backing pads that have a working speed less than 10,000 RPM free speed. Only use original Mirka backing pads that are designed for optimal performance with the brake seal. Never mount a backing pad without a spacer washer. Other backing pads may reduce performance and will increase vibration. The cooling air vents on the housing must be kept clean and free of blockages to ensure air circulation. Any maintenance or repair work requiring the motor housing to be opened may only be carried out by an authorized service center.

Work stations

The tool is intended to be operated as a hand-held tool. It is always recommended that the tool should be used when standing on a solid floor. It can be used in any position but before any such use, the operator must be in a secure position, have a firm grip and footing and be aware that the sander can develop a torque reaction. See the section "Operating instructions".

How to get started

When unpacking the tool, make sure it is intact, complete and has not been damaged in transport. Never use a damaged tool.

Before use, check that the pad is correctly mounted and tightened. Connect the power cord to the sander. Connect the power cord to a grounded outlet (100–120 VAC, 50/60 Hz).

In order to get the maximum performance from this tool it is recommended to use it with the Mirka dust extractor (or other suitable dust extraction unit) and Mirka Net Sanding products. The combination of Mirka sanders, net sanding products and Mirka dust extractor are the basis of Mirka dust-free sanding solutions.

The power cord from the sander is connected to the mains supply on the front of the dust extractor. By connecting the sander's power cord to the outlet on the dust extractor it is possible to use the dust extractor's autostart function.

Operating instructions

- 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.
- Make sure the sander is switched off. Select a suitable abrasive and secure it to the backing pad. Make sure the abrasive is centered on the pad. For optimal performance we recommend a Mirka backing pad and Mirka Net Sanding product.
- Switch on the sander by pressing the On/Off key, Figure 1. The sander LED (right) is now green.
- The sander can now be started by pressing the lever.
- The speed can be adjusted between 4,000 and max RPM by adjusting the position of the lever.
- The max RPM can be adjusted by pressing RPM+ or RPM- buttons, figure 1. Each press increases or reduces the speed by 1,000 RPM until it reaches the limits. The RPM can be adjusted in the range 4,000 to 10,000 RPM.
- The tool has two speed control modes. In the default mode the speed can be adjusted linearly by changing the position of the lever. In the other mode the speed remains fixed at the set max RPM when the tool is running. When the RPM+ and RPM- buttons are pressed simultaneously the tool toggles between the two controlling modes.

- 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.
- When sanding is finished, turn off the sander by pressing the On/Off key. The sander LED (right) is now turned off.

Bluetooth

This tool is equipped with Bluetooth® low energy technology and can be connected to an App from which additional tool functionality can be accessed.

Activate Bluetooth on your Mirka® DEROS as follows:

1. Connect the power cord to mains outlet.
2. Press and hold the rpm+ button while switching the tool on with the On/Off button.
3. Left LED lights up (green), to indicate that Bluetooth is active.
4. Bluetooth is deactivated when the tool is disconnected from mains outlet.

NOTE! If the App is not installed or if it is not available in your country, Bluetooth shall not be activated.

The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by Mirka Ltd is under license. Other trademarks and trade names are those of their respective owners.

Compliance with the radio regulations in North America has been verified in accordance with FCC Part 15 subpart B and C, RSS-GEN, RSS-247 and FCC §15.247.

Maintenance



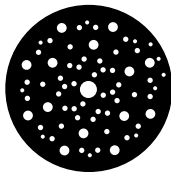
Always disconnect the power before maintenance!
Only use original Mirka spare parts!

Replacing the backing pad

1. Insert the pad wrench between the backing pad and brake seal to hold the spindle nut.
2. Turn the backing pad counterclockwise to remove it.
3. Fit and tighten the new backing pad with two washers.
4. Remove the pad wrench.

Pad saver

Mirka's pad savers are designed to protect the backing pad from wear and tear, when sanding aggressively and continuously with net products. These cost effective pad savers, placed between the backing pad and the sanding disc, should be changed regularly. The pad savers prolong the life of the backing pad.



Replacing the brake seal

NOTE! Too much vacuum in your dust extraction system may cause the brake seal to malfunction.

1. Remove the backing pad as described above.
2. Pull the old brake seal out of its groove.
3. Fit the new brake seal in the groove.
4. Fit the backing pad as described above.
5. Check the brake seal function. By changing the number of washers between the spindle and backing pad, the effect of the brake seal can be adjusted.



Further service

Servicing must always be performed by trained personnel. To keep the tool warranty valid and ensure optimal tool safety and function, servicing must be carried out by a Mirka authorized service center. To locate your local Mirka authorized service center, contact Mirka Customer Service or your Mirka dealer.

Troubleshooting guide

Symptom	Possible cause	Solution
The sander LED (right) flashes between red and green.	Connected to a mains outlet with wrong voltage.	Connect the sander to a mains outlet that correspond with the nominal voltage of the tool.
No light from Sander LED (right) when switched on.	Power cord not properly attached to the sander or to the mains socket.	Connect it properly.
The sander LED (right) is red and the sander slows down to 4,000 rpm when sanding.	Temperature too high in the sander. Too heavy long term load.	Reduce the load on the sander for some time and the sander will speed up again.
The sander LED (right) is red and rpm is slightly reduced.	Too heavy short term load.	Use lighter load and the LED (right) will automatically change to green.
Brake seal does not work.	Worn out brake seal or damaged spindle bearing.	Check and replace brake seal or spindle bearing if necessary.
The sander has stopped and LED (right) is red.	The tool is in safety mode due to high temperature.	Wait until the tool has cooled down.

Disposal information



DANGER

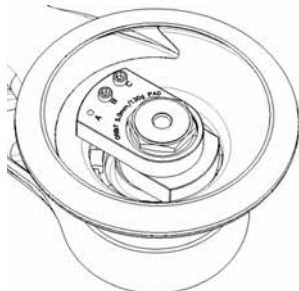
Disposal guidelines for old appliances. Render redundant power tools unusable by removing the power cord. Only for EU countries. Do not dispose of electric tools along with household waste. According to European Directives 2011/65/EC, 2015/863/EU and 2012/19/EU on waste electrical and electronic equipment and its implementation under national law, electric tools that have reached the end of their life must be collected separately and taken to an environmentally compatible recycling facility.

Reducing vibrations when sanding with pad saver or interface

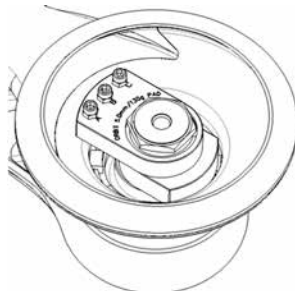
When a pad saver or interface is used for sanding, the set-up may increase the level of vibration. Your Mirka tool has a feature allowing you to reduce this vibration. To reduce vibration that may appear when a pad saver or interface is used, please follow these steps:

1. Disconnect power cable.
2. Remove backing pad.
3. Add hex nuts and screws in accordance with the table below, tighten to 2 Nm.

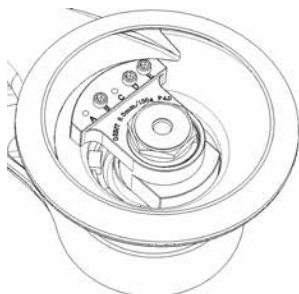
Example



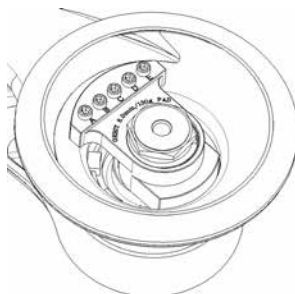
1. Machine configuration out of box.



2. Machine configuration for use with pad saver or interface.



3. Machine configuration out of box.



4. Machine configuration for use with padsaver or interface.

Model	Picture	Set-up out of box									
		Screw					Hex nut				
		A	B	C	D	E	A	B	C	D	E
550	1	-	X	X	-	-	-	-	-	-	-
625	1	-	X	X	-	-	-	-	-	-	-
650	1	-	X	X	-	-	-	-	-	-	-
680	3	-	X	-	X	X	-	-	-	-	-
5650	1	-	X	X	-	-	-	-	-	-	-
Model	Picture	Set-up for padsaver / interface									
550	2	X	X	X	-	-	X	X	X	-	-
625	2	-	X	X	-	-	-	X	X	-	-
650	2	X	X	X	-	-	X	X	X	-	-
680	4	X	X	X	X	X	-	-	-	-	-
5650	2	X	X	X	-	-	X	X	X	-	-