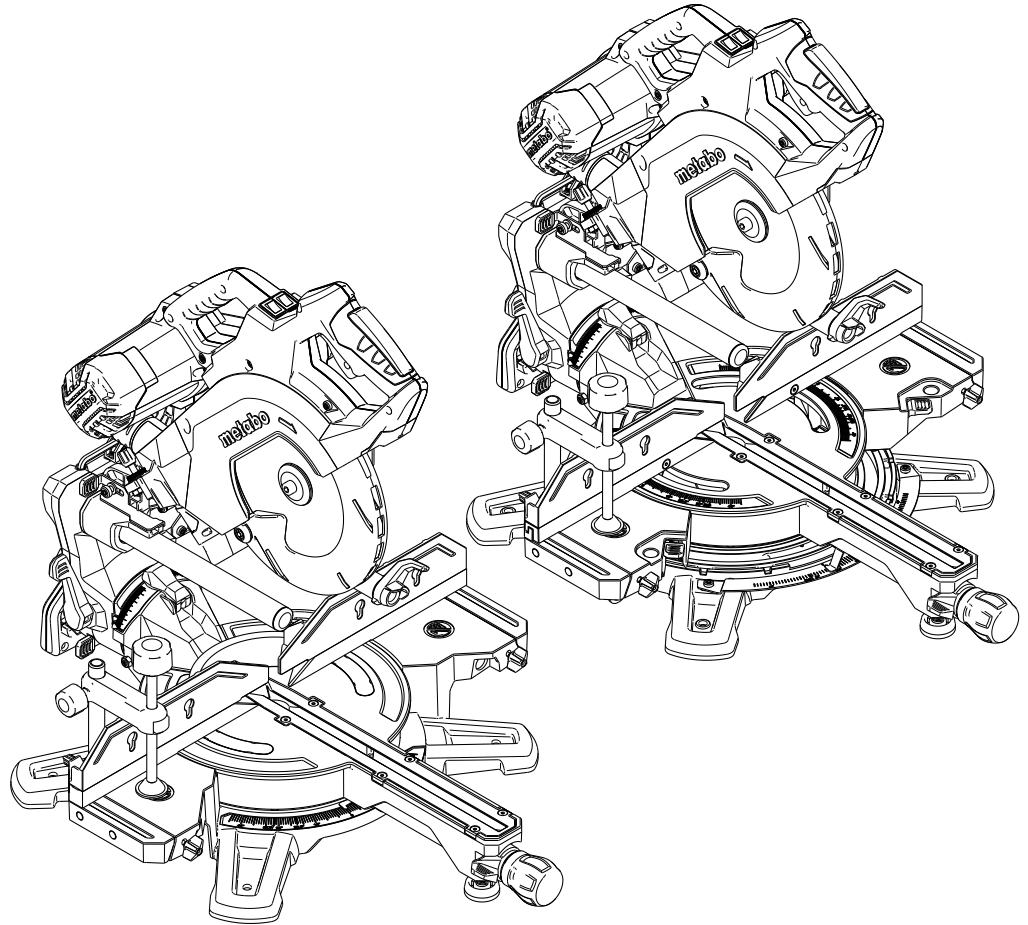


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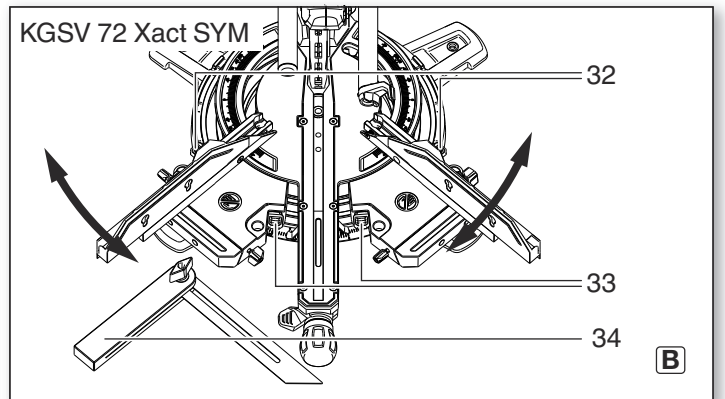
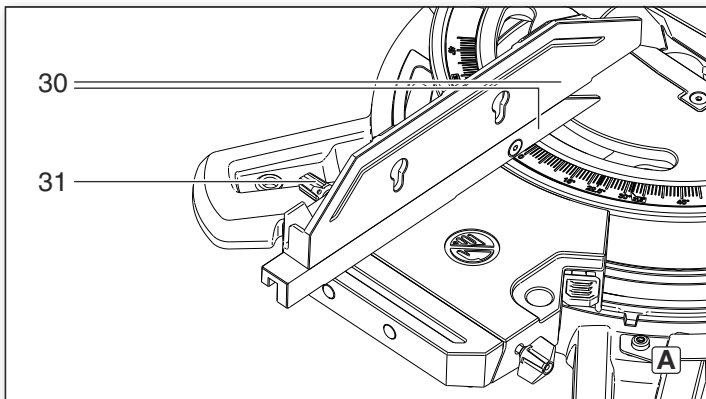
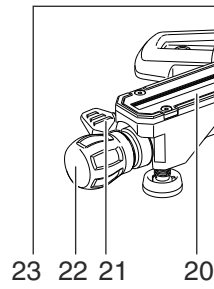
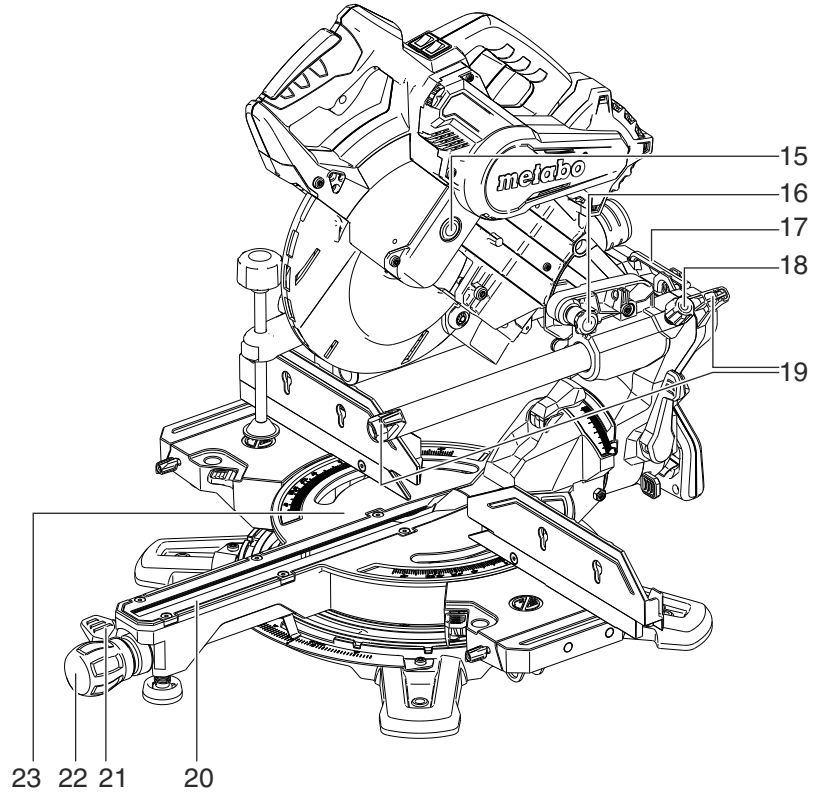
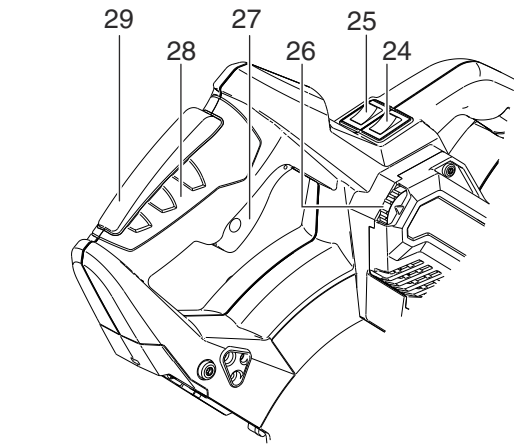
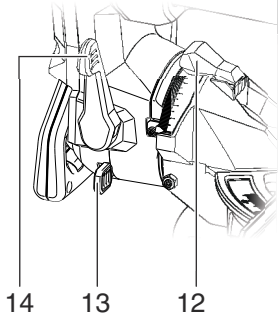
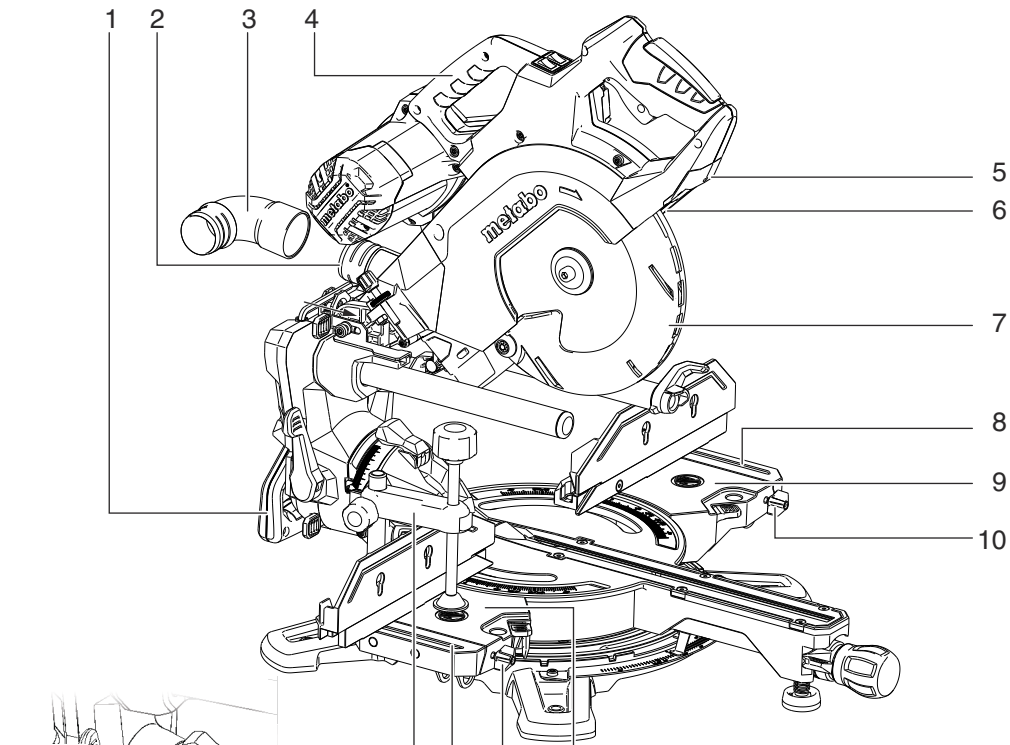
PROFESSIONAL POWER TOOL SOLUTIONS

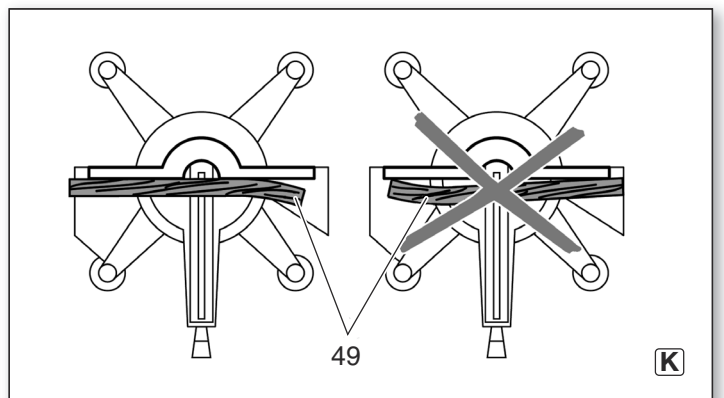
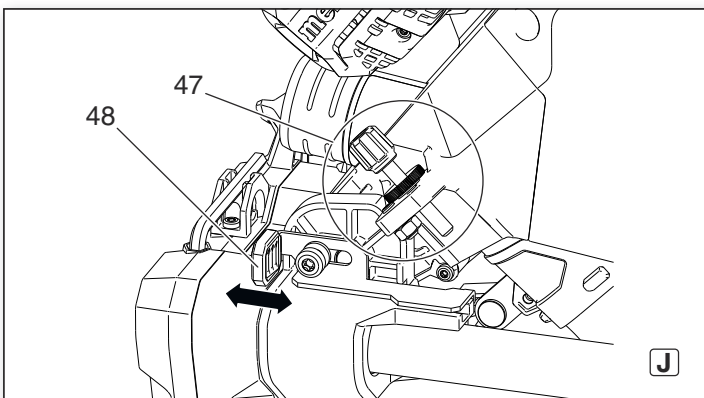
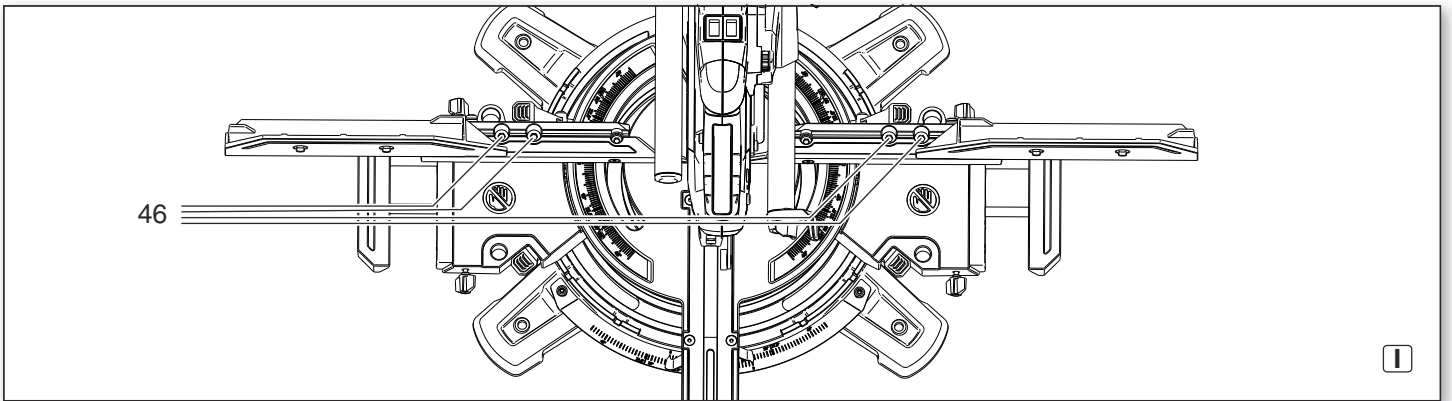
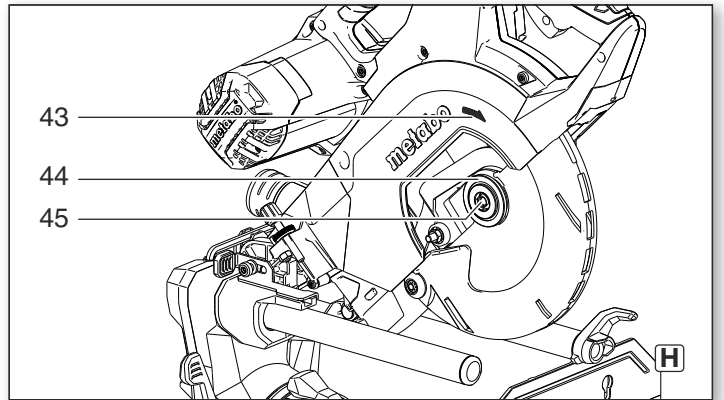
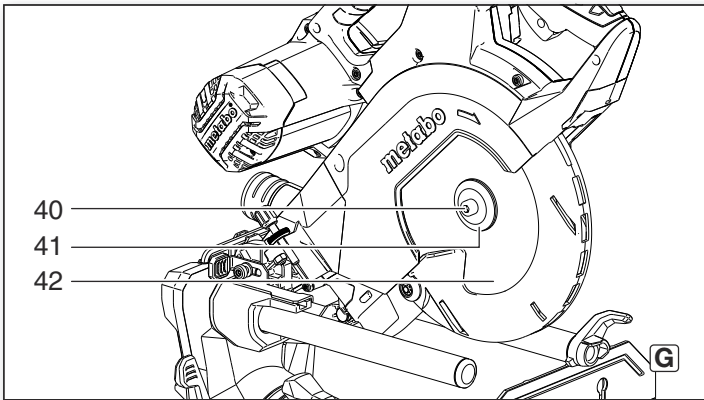
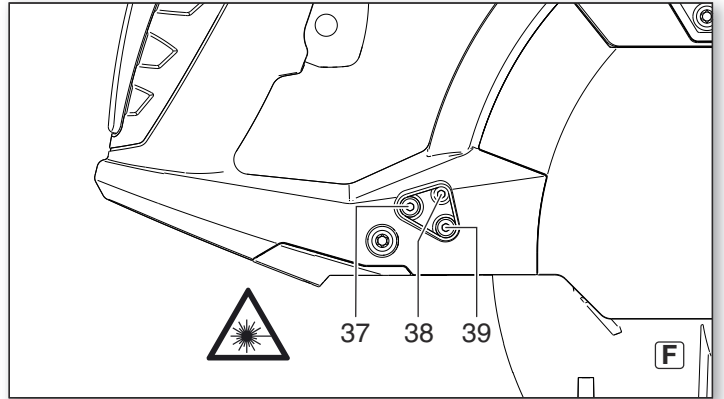
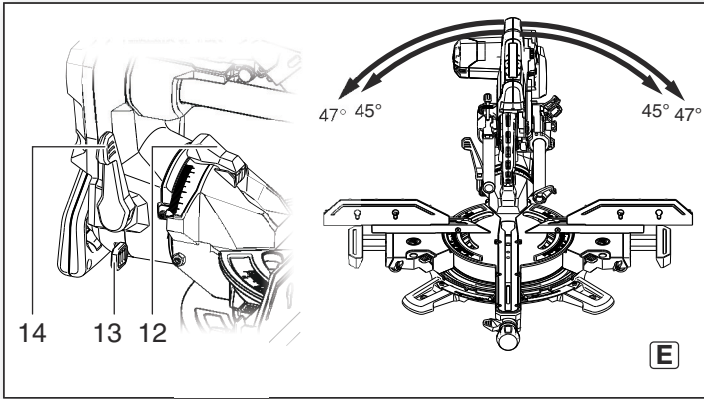
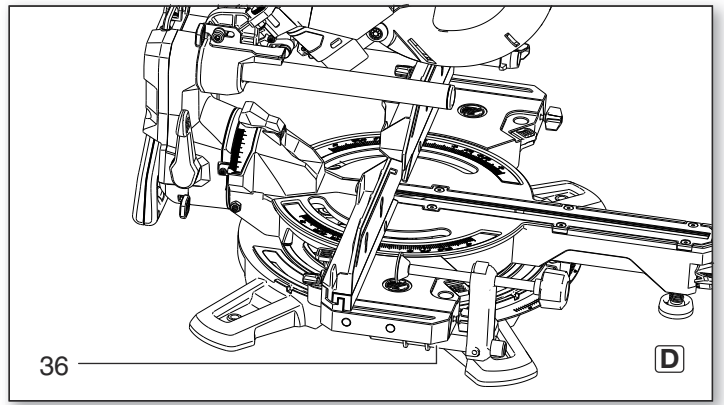
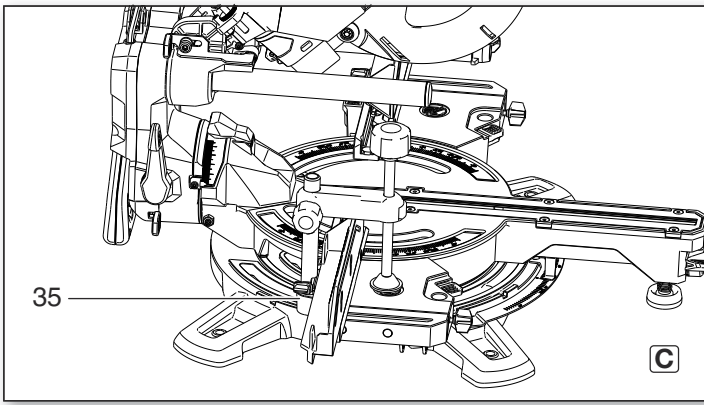
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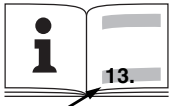


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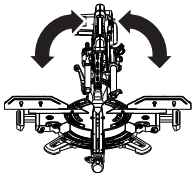
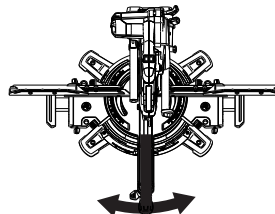
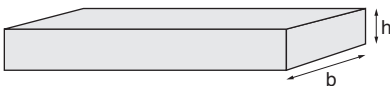


KGSV 72 Xact

KGSV 72 Xact SYM

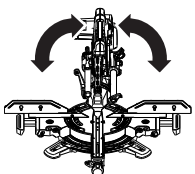
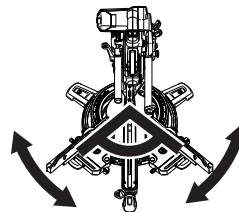
*1) Serial Number		11216..	12216..
U	V	220 - 240 (50/60 Hz)	
I	A	6.5	
F	A	T 10 A	
P₁	kW	1,5 kW (S1)	
IP	-	IP 20	
n₀	/min, rpm	6300	
v₀	m/s	70	
D	mm	216	
d	mm	30	
b	mm	2,4	
a₁	°	-47° ... 0 ... 47°	
a₂	°	-50° ... 0 ... 50°	
a_{SYM1}	°	-	0 ... 50°
a_{SYM2}	°	-	0 ... 50°
A	mm	660 x 540 x 415	
m	kg	16,1	18,3
D_{1-i}	mm	35	
D_{1-o}	mm	41	
D₂	m³/h	460	
D₃	Pa	530	
D₄	m/s	20	
L_{pA}/K_{pA}	dB(A)	84 / 3	
L_{WA}/K_{WA}	dB(A)	97 / 3	

b x h



KGSV 72 Xact, KGSV 72 Xact SYM

b x h	0°	15°	22,5°	30°	45°
0°	305 mm x 72 mm	295 mm x 72 mm	280 mm x 72 mm	260 mm x 72 mm	215 mm x 72 mm
45° left	305 mm x 42 mm	295 mm x 42 mm	280 mm x 42 mm	260 mm x 42 mm	215 mm x 42 mm
45° right	305 mm x 22 mm	295 mm x 22 mm	280 mm x 22 mm	260 mm x 22 mm	215 mm x 22 mm



KGSV 72 Xact SYM

b x h	90°	135°	180°	225°	270°
0°	75 mm x 72 mm	40 mm x 72 mm	305 mm x 72 mm	260 mm x 72 mm	215 mm x 72 mm



*2) 2014/30/EU, 2006/42/EC, 2011/65/EU

*3) EN 62841-1:2015, EN 62841-3-9:2015, EN IEC 63000:2018, EN 60825-1: 2014

ppa. B.F.

2021-05-05, Bernd Fleischmann

Direktor Produktentstehung & Qualität (Vice President Product Engineering & Quality)

*4) Metabowerke GmbH - Metabo-Allee 1 - 72622 Nuertingen, Germany

Original Instructions

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2. Specified Use
3. General Safety Instructions
4. Special Safety Instructions
5. Overview
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15. Troubleshooting
16. Technical Specifications

1. Declaration of Conformity

We, being solely responsible: Hereby declare that these crosscut and mitre saws, identified by type and serial number *1), meet all relevant requirements of directives *2) and standards *3). Technical documents for *4) - see page 4.

For UK only:

UK We as manufacturer and authorized person **CA** to compile the technical file, see *4) on page 4, hereby declare under sole responsibility that these crosscut and mitre saws, identified by type and serial number *1) on page 4, fulfill all relevant provisions of following UK Regulations S.I. 2016/1091, S.I. 2008/1597, S.I. 2012/3032 and Designated Standards EN 62841-1:2015, EN 62841-3-9:2015, EN IEC 63000:2018, EN 60825-1: 2014.

2. Specified Use

The mitre saw is suited for longitudinal and cross cuts, inclined cuts, mitre cuts and double mitre cuts. Furthermore grooves can be machined.

Only materials for which the respective saw blade is suited may be machined (approved saw blades see chapter 12. Accessories).

The permissible dimensions of the stock have to be adhered to (see chapter 16. Technical Specifications).

Workpieces with round or irregular cross-section (such as firewood) must not be cut, as they cannot be held securely during the cutting process. When sawing a thin workpiece laid on its edge, a suitable guide must be used for firm support.

Any other use does not comply with the intended purpose. Unspecified use, modification of the device or use of parts that have not been tested and approved by the manufacturer can cause unforeseeable damage!

Where applicable, follow the legal directives or regulations for the prevention of accidents.

3. General Safety Instructions



For your own protection and for the protection of your electrical tool, pay attention to all parts of the text that are marked with this symbol!



WARNING – Reading the operating instructions will reduce the risk of injury.

Pass on your power tool only together with these documents.

General Power Tool Safety Warnings



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!

3.1 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.**

3.2 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.**

3.3 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 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 extraction 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.**

3.4 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 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. 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 with care. 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, tool bits etc. in accordance with these instructions. Take 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.**

3.5 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.**

3.6 Additional Safety Instructions

– These operating instructions are intended for people with basic technical knowledge in handling machines such as the one described here. If you have had no experience with machines of this kind, you should initially work under the supervision of people with previous experience.

– The manufacturer bears no liability for damage caused by non-compliance with these operating instructions.

Information in these operating instructions is designated as shown below:



Danger!
Risk of personal injury or environmental damage.



Risk of electric shock!
Risk of personal injury from electric shock.



Drawing-in/trapping hazard!
Risk of personal injury by body parts or clothing being drawn into the rotating saw blade.



Caution!
Risk of material damage.



Note:
Additional information.

4. Special Safety Instructions

Safety Instructions for Mitre Saws

a) **Mitre saws are intended to cut wood or wood-like products, they cannot be used with abrasive cut-off wheels for cutting ferrous materials such as bars, rods, studs etc.**

Abrasive dust causes moving parts such as the lower guard to jam. Sparks from abrasive cutting will burn the lower guard, the kerf insert and other plastic parts.

b) **Use clamps to support the workpiece whenever possible. If supporting the workpiece by hand, you must always keep**

your hand at least 100 mm from either side of the saw blade. Do not use this saw to cut pieces that are too small to be securely clamped or held by hand. If your hand is placed too close to the saw blade, there is an increased risk of injury from blade contact. Do not hold on the side to which the saw head is inclined. Do not cross your hands.

c) **The workpiece must be stationary and clamped or held against both the fence and the table. Do not feed the workpiece into the blade or cut "freehand" in any way.** Unrestrained or moving workpieces could be thrown at high speeds, causing injury.

d) **Push the saw through the workpiece. Do not pull the saw through the workpiece. To make a cut, raise the saw head and pull it over the workpiece without cutting. Start the motor, press the saw head down and push the saw through the workpiece.** Cutting on the pull stroke is likely to cause the saw blade to climb on top of the workpiece and violently throw the blade assembly towards the operator.

e) **Never cross your hand over the intended line of cutting either in front or behind the saw blade.** Supporting the workpiece "cross handed" i.e. holding the workpiece to the right of the saw blade with your left hand or vice versa is very dangerous.

f) **Do not reach behind the fence with either hand closer than 100 mm from either side of the saw blade, to remove wood scraps, or for any other reason while the blade is spinning.** The proximity of the spinning saw blade to your hand may not be obvious and you may be seriously injured.

g) **Inspect your workpiece before cutting. If the workpiece is bowed or warped, clamp it with the outside bowed face toward the fence. Always make certain that there is no gap between the workpiece, fence and table along the line of the cut.** Bent or warped workpieces can twist or shift and may cause binding on the spinning saw blade while cutting. There should be no nails or foreign objects in the workpiece.

h) **Do not use the saw until the table is clear of all tools, wood scraps, etc. except for the workpiece.** Small debris or loose pieces of wood or other objects that contact the revolving blade can be thrown with high speed.

i) **Cut only one workpiece at a time.** Stacked multiple workpieces cannot be adequately clamped or braced and may bind on the blade or shift during cutting.

j) **Ensure the mitre saw is mounted or placed on a level, firm work surface before use.** A level and firm work surface reduces the risk of the mitre saw becoming unstable.

k) **Plan your work. Every time you change the bevel or mitre angle setting, make sure the adjustable fence is set correctly to support the workpiece and will not interfere with the blade or the guarding system.** Without turning the tool "ON" and with no workpiece on the table, move the saw blade through a complete simulated cut to assure there will be no interference or danger of cutting the fence.

l) **Provide adequate support such as table extensions, saw horses, etc. for a workpiece that is wider or longer than the table top.** Workpieces longer or wider than the mitre saw table can tip if not securely supported. If the cut-off piece or workpiece tips, it can lift the lower guard or be thrown by the spinning blade.

m) **Do not use another person as a substitute for a table extension or as additional support.** Unstable support for the workpiece can cause the blade to bind or the workpiece to shift during the cutting operation pulling you and the helper into the spinning blade.

n) **The cut-off piece must not be jammed or pressed by any means against the spinning saw blade.** If confined, i.e. using length stops, the cut-off piece could get wedged against the blade and thrown violently.

o) **Always use a clamp or a fixture designed to properly support round material such as rods or tubing.** Rods have a tendency to roll while being cut, causing the blade to "bite" and pull the work with your hand into the blade.

p) **Let the blade reach full speed before contacting the workpiece.** This will reduce the risk of the workpiece being thrown.

q) **If the workpiece or blade becomes jammed, turn the mitre saw off. Wait for all moving parts to stop and disconnect the plug from the power source. Then work to free the jammed material.** Continued sawing with a jammed workpiece could cause loss of control or damage to the mitre saw.

r) **After finishing the cut, release the switch, hold the saw head down and wait for the blade to stop before removing the cut-off piece.** Reaching with your hand near the coasting blade is dangerous.

4.1 Additional Safety Instructions

- Please also observe the special safety instructions in the respective chapters.
- Where applicable, follow the legal directives or regulations for the prevention of accidents.



General hazards!

- Consider environmental conditions:
- Use suitable workpiece supports when cutting long stock.
- The saw shall only be started and operated by persons familiar with circular saws and who are at any time aware of the dangers associated with the operation of such tools. Persons under 18 years of age shall use this tool only in the course of their vocational training, under the supervision of an instructor.
- Keep bystanders, particularly children, out of the danger zone. Do not permit other persons to touch the tool or power cable while it is running.
- Avoid overheating of the saw teeth.
- When sawing plastic, avoid melting of the plastic.



Risk of personal injury and crushing by moving parts!

- Do not operate the tool without installed guards.
- Always keep sufficient distance to the saw blade. Use suitable feeding aids, if necessary. Keep sufficient distance to driven components when operating the power tool.
- Wait for the saw blade to come to a complete stop before removing cutoffs, scrap, etc. from the work area.
- Cut only workpieces of dimensions that allow for safe and secure holding while cutting.
- Use clamping devices or a vice to hold the workpiece. It is held safer by these devices than by your hand.
- Do not attempt to stop the saw blade by pushing the workpiece against its side.
- Disconnect the mains plug before starting any setting, maintenance or repair work.
- Disconnect the mains plug if the tool is not used.



Cutting hazard, even with the cutting tool at standstill!

- Wear gloves when changing cutting tools.
- Store saw blade in such manner that nobody will get hurt.



Danger from kickback of the saw head (saw blade gets caught in the workpiece and the saw head suddenly kicks back)!

- Select a saw blade suited for the material to be cut.
- Keep the handle tight. When the saw blade enters the workpiece, the risk of kickback is particularly high.
- Cut thin or thin-walled workpieces only with fine-toothed saw blades.
- Always use sharp saw blades. Replace damaged saw blades immediately. There is an increased risk of kickback if a blunt sawtooth gets caught in the workpiece's surface.
- Do not jam workpieces.

- If in doubt, check workpiece for inclusion of foreign matter (e.g. nails or screws).

- Never cut several workpieces at the same time – and also no bundles containing several individual pieces. Risk of personal injury if individual pieces are caught by the saw blade uncontrolled.

- When making grooves avoid lateral pressure on the saw blade - use a clamping device.



Drawing-in/trapping hazard!

- Ensure that during operation no parts of the body or clothing can be caught and drawn in by rotating components (**no ties no gloves, no clothes with wide sleeves; contain long hair with a hairnet**).
- Never cut workpieces to which ropes, cords, strings, cables or wires are attached or which contain such materials.



Hazard generated by insufficient personal protection gear!

- Wear hearing protection.
- Wear protective goggles.
- Wear dust mask.
- Wear suitable work clothes.
- Wear non-slip footwear.
- Wear gloves when handling saw blades and rough tools. Carry saw blades in a container.



Risk of injury by inhaled wood dust!

- Work only with a suitable dust collector attached to the saw. The dust extraction unit must comply with the values stated in chapter 16..

Reducing dust exposure:

WARNING - 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.

This also applies to dust from other materials such as some timber types (like oak or beech dust), metals, asbestos. Other known diseases are e.g. allergic reactions, respiratory diseases. Do not let dust enter the body.

Observe the relevant guidelines and national regulations for your material, staff, application and place of application (e.g. occupational health and safety regulations, disposal).

Collect the particles generated at the source, avoid deposits in the surrounding area.

Use suitable accessories for special work. In this way, fewer particles enter the environment in an uncontrolled manner.

Use a suitable extraction unit.

Reduce dust exposure with the following measures:

- do not direct the escaping particles and the exhaust air stream at yourself or nearby persons or on dust deposits,
- use an extraction unit and/or air purifiers,
- ensure good ventilation of the workplace and keep clean using a vacuum cleaner. Sweeping or blowing stirs up dust.
- Vacuum or wash the protective clothing. Do not blow, beat or brush.



Hazard generated by modification of the machine or use of parts not tested and approved by the equipment manufacturer!

- Assemble tool in strict accordance with these instructions.

- Use only parts approved by the equipment manufacturer. This applies especially for:
 - saw blades (for order numbers, refer to chapter 12. Accessories).
 - Safety devices.
 - Cutting laser.
 - Cutting line illumination.
- Do not change any parts.
- Ensure that the speed indicated on the saw blade is at least the same as the speed indicated on the saw.

Hazard generated by tool defects!

- Prior to each use check the tool for any eventual damage: Before continuing to use the tool, safety devices, protective devices or lightly damaged parts must be carefully inspected for correct and proper operation. Check to see that all moving parts work properly and do not jam. All parts must be correctly installed and fulfil all conditions necessary to ensure perfect operation of the unit.
- Do not use any damaged or contorted saw blades.

Risk of injury by noise!

- Wear hearing protection.

Danger from blocking work pieces or work piece parts!

If blockage occurs:

1. switch machine off,
2. unplug mains cable,
3. wear gloves,
4. clear the blockage using a suitable tool.

4.2 Symbols on the machine (depends on model)



Read the operating instructions.



Never place hands into running saw blade.



Wear protective goggles and ear protectors.



Never operate the tool in a damp or wet environment.



Laser radiation - Do not look into the light beam.

4.3 Safety devices

Retractable blade guard (7)

The retractable blade guard protects against unintentional contact with the saw blade and from chips flying about.

Safety lock (29)

The retractable blade guard opens and the saw can be lowered only when the safety lock is activated.

Parallel guide/ ripping fence (30)

The parallel guide/ ripping fence prevents that the workpiece can be moved during the cutting process. During operation, the parallel guide/ ripping fence always has to be installed.

Make sure the adjustable fence is set correctly to support the workpiece and will not interfere with the blade or the guard. Lock using the set screw (31).

- 8 Table extension
- 9 Table
- 10 Locking screw of the table width extension
- 11 Work clamp
- 12 Locking lever for setting the angle of inclination
- 13 Locking button (to extend the angle of inclination by +/- 2 °)
- 14 Locking lever for setting the angle of inclination
- 15 Saw blade lock
- 16 Transport lock
- 17 Allen key / tool storage for Allen key
- 18 Set screw for pulling device
- 19 Hook for cable winding
- 20 Table insert
- 21 Safety catch for stop positions of the turntable
- 22 Locking handle for turntable
- 23 Turntable
- 24 On/off switch of the cutting line illumination
- 25 On/off switch of the cutting laser
- 26 Speed adjustment wheel
- 27 On/off switch of the saw
- 28 Saw handle
- 29 Safety lock
- 30 Movable parallel guides/ripping fences (incl. attachment)
- 31 Locking screw of the parallel guides/ripping fences
- 32 Locking lever (only KGSV 72 Xact SYM)
- 33 Safety catches (only KGSV 72 Xact SYM)
- 34 Adjustable angle

* depends on model / equipment

6. Setup and transport

Mounting the locking handle for the turntable

Insert the locking handle (22) into the turntable (23) and screw in.

Attaching the additional handle

The machine is supplied with a laser warning label in German. Before using the machine, cover this label with the relevant enclosed laser warning label in your national language.

Installation

The device has to be mounted on a stable support for safe working.

– The support can either be a fixed worktop or workbench or one of the Metabo stands (see chapter Accessories)

– Even when machining larger workpieces the device has to have a secure stand.

– Long workpieces must get additional support with suitable accessories.



Note:

For mobile use, the device can also be fixed to a plywood or coreboard panel (500 mm x 500 mm, at least 19 mm thick) using screws. During use, the panel has to be fixed to a work bench using screw clamps.

1. Screw device tightly to the base (through the holes in the feet).
2. Loosening the transport lock (16): Push the saw head slightly downwards and hold. Pull out transport lock (16).
3. Swivel saw head slightly upwards.

Transport

1. Swivel saw head downwards and push in transport lock (16).
2. Lock the pulling device in the rear position using the set screw (18).



Caution!

Do not hold the saw at the protective installations during transport.

3. Lift the tool at the carry handle (1) or at the carry handle (4) and carry.

7. The device in detail

7.1 On/Off switch motor (27)

Switching on the motor:

- Press the on/off switch and keep pressed.

Switching off the motor:

- Let go of the on/off switch.

7.2 On/off switch cutting line illumination (24)

Switching on/ off the illumination of the cutting line.



Danger!

Do not direct the light beam into the eyes of people or animals.

7.3 On/off switch cutting laser (25)

Switching on/off of the cutting laser.

The cutting laser marks a line on the left and a line on the right to the cut. Make a trial cut to become familiar with the positioning.



Danger!

LASER BEAM
DO NOT LOOK INTO THE BEAM
LASER CLASS 2
EN 60825-1:2007
P<1mW, λ=650nm

7.4 Setting the angle of inclination

Swivel the saw head upwards. Fold the locking lever (12) towards the front. After loosening the locking lever (14) (swivel towards the rear), the saw can be inclined between 0° and 45° to the left and right to the vertical.

If the locking lever (12) is folded towards the rear, the saw locks in particular positions.

Press the locking button (13) during the adjustment process in order to also set angles up to 47° to the left of the vertical/ up to 47° to the right of the vertical.



Danger!

In order for the mitre angle not to change during cutting, the locking lever (14) of the turntable has to be tightened (also in the stop positions!).

7.5 Turntable

After loosening the locking lever (22) and activating the safety catch (21), the turntable can be turned by 50° to the left or by 50° to the right for mitre cuts.

If the safety catch (21) is pushed upwards, the turntable locks in particular angle levels. If the safety catch (21) is pushed downwards all the way, the locking function is deactivated.



Danger!

In order for the mitre angle not to change during cutting, the locking handle (22) of the turntable has to be tightened (also in the stop positions!).

7.6 Only KGSV 72 Xact SYM: Symmetrical cuts

For fast and easy sawing of mitre cuts with symmetrically adjustable guide system.

Pull both locking levers (32) upwards and loosen the clamping mechanism.

Push the safety catches (33) all the way downwards, this deactivates the locking function. Set the desired angle by positioning of the "adjustable angle" (34): move both halves of the table (9) / parallel guides/ripping fences (30) at the same time and adjust to the desired angle.

If the safety catches (33) are in their top position, the two halves of the table (9) / parallel guides/ripping fences (30) lock at particular angle levels.



Danger!

- Both locking levers (32) must be pushed downwards (also in the stop positions) so that the angle cannot change during the sawing process.

7.7 Pulling device

Using the pulling device, also larger workpieces with greater cross sections can be cut. The

5. Overview

See page 2.

- 1 Handle
- 2 Chip extraction nozzle
- 3 Angled extraction adapter
- 4 Handle
- 5 Cutting line illumination
- 6 Laser beam egress point
- 7 Retractable blade guard

pulling device can be used for all types of cuts (straight cuts, mitre cuts, slanted cuts and double mitre cuts, and cutting of grooves).

If the pulling device is not required, lock the pulling device in the rear position using the set screw (18).

7.8 Cutting depth limitation

Together with the pulling device the cutting depth limitation (47) permits the cutting of grooves.

Turn the set screw and fix with the counter nut. The cutting depth limitation can be deactivated, if the parallel guide (48) is pushed towards the rear.

7.9 Setting the speed

Select the speed at the setting wheel (26). See table for recommended setting wheel positions.

Wood:	3 - 6
Aluminium:	3 - 6
Plastic:	1 - 3

8. Commissioning

8.1 Connect the chip and dust extraction unit



Danger!

Dust of certain timber species (e.g. beech, oak, ash) can cause cancer when inhaled.

- Use only a suitable dust extraction unit when working.
- In addition, use a dust mask, as not all saw dust is collected or extracted.

If you connect the device to a chip and dust extraction unit:

- Connect the chip and dust extraction unit / a mobile all-purpose vacuum cleaner to the chip extraction adapter nozzle (2). If needed, connect the angled extraction adapter (3).
- Ensure that the dust extraction unit meets the requirements stated in chapter 16. "Technical Specifications".
- Observe the dust collector's operating instructions as well!

8.2 Installing the workpiece clamping device

The workpiece clamping device (11) can be installed in two positions:

- For wide workpieces:
Insert the workpiece clamping device into the rear drilling (35) of the table.
- For narrow workpieces:
Insert the workpiece clamping device into the front drilling (36) of the table.

8.3 Power-supply connection



Danger! High voltage

Operate machine only on a power source meeting the following requirements (see also chapter 16. "Technical Specifications"):

- Mains voltage and system frequency must conform to the voltage and frequency shown on the machine's rating label;
- fuse protection by a residual current operated device (RCD) of 30 mA sensitivity;
- outlets properly installed, earthed or grounded, and tested.
- Position power supply cable so it does not interfere with the work and is not damaged.
- Use only rubber-jacketed extension cables with sufficient lead cross-section (3 × 1.5 mm²).
- Use extension cables for outdoor areas. When working outdoors, only use the correspondingly marked extension cable approved for this purpose.
- Avoid accidental start-up. Ensure that the on/off switch is switched off when inserting the plug in the socket.

9. Operation

- Before starting work, check to see that the following are in proper working order.

- Assume proper operating position:
 - at the front of the saw;
 - in front of the saw;
 - next to the line of cut.



Danger!

If possible, fix the workpiece using the workpiece clamping device (11).



Danger of crushing!

When inclining or swivelling the saw head, never reach into the hinge area or below the device!

- Hold the saw head during inclination.
- Use during work:
 - workpiece support – for long workpieces, if otherwise workpiece would fall off the table after cutting;
 - Chip and dust extraction unit.
- Cut only workpieces of dimensions that allow for safe and secure holding while cutting.
- Always hold the workpiece down on the table and do not jam it. Do not attempt to stop the saw blade by pushing the workpiece against its side. Risk of personal injury if the saw blade is blocked.

9.1 Straight cuts

Starting position:

- Transport lock (16) pulled out.
- Saw head swivelled upwards.
- Cutting depth limitation (48) deactivated.
- Turntable is in 0° position, locking button (22) for turntable is tightened.
- The inclination of the swivel arm to the vertical is 0°, locking lever (14) for inclined position is tightened.
- Pulling device at the very rear.
- Set screw (18) of the pulling device has been loosened.
- Set workpiece stop (30):
Release locking screw (31). Slide the movable workpiece stop (30) (upper and lower part) such that it supports the workpiece as well as possible without touching the blade or the protective cover. Fasten with locking screw (31).

Cutting the workpiece:

1. Push the workpiece against the parallel guide/ripping fence and clamp using the workpiece clamping device (11).
2. For wider workpieces: pull the saw head forwards (towards the operator) (pulling device).
3. Activate the safety lock (29), press on/off switch (27) and keep pressed.
4. Slowly lower the saw head at the handle all the way down and, if required, push towards the rear (away from the operator). During the sawing process press on the workpiece just enough for the motor speed not to lower too much.
5. Cut the workpiece in one operation.
6. Release the on/off switch (27) and slowly let the saw head swivel back into the upper starting position.

9.2 Mitre cuts

Starting position:

- Transport lock (16) pulled out.
- Saw head swivelled upwards.
- Cutting depth limitation (48) deactivated.
- The inclination of the swivel arm to the vertical is 0°, locking lever (14) for inclined position is tightened.
- Pulling device at the very rear.
- Set screw (18) of the pulling device has been loosened.
- Set workpiece stop (30):
Release locking screw (31). Slide the movable workpiece stop (30) (upper and lower part) such that it supports the workpiece as well as possible without touching the blade or the

protective cover. Fasten with locking screw (31).

WARNING - Only for KGSV 72 Xact SYM: Align parallel guides/ripping fences (30) flush (in one line). (It is recommended to push the safety catches (33) downwards to that both halves of the table (9) / parallel guides/ripping fences (30) lock in the 0° angular stop.)

- Push both locking levers (32) all the way downwards.

Cutting the workpiece:

1. Loosen locking lever (22) of the turntable and loosen safety catch (21).
2. Set the desired angle.



Note:

If the safety catch (21) is pushed upwards the turntable locks in the 0°, 15°, 22.5°, 31.6°, 45° and 60° angle levels. If the safety catch (21) is pushed downwards all the way, the locking function is deactivated.

3. Tighten the locking button (22) of the turntable.



Caution!

- In order for the mitre angle not to change during cutting, the locking handle (22) of the turntable has to be tightened (also in the stop positions!).
4. Cut workpiece, as described for "Straight cuts".

9.3 Inclined cuts

Starting position:

- Transport lock (16) pulled out.
- Saw head swivelled upwards.
- Cutting depth limitation (48) deactivated.
- Turntable is in 0° position, locking button (22) for turntable is tightened.
- Pulling device at the very rear.
- Set screw (18) of the pulling device has been loosened.
- Set workpiece stop (30):
Release locking screw (31). Slide the movable workpiece stop (30) (upper and lower part) such that it supports the workpiece as well as possible without touching the blade or the protective cover. Fasten with locking screw (31).

For certain angle positions, it may be necessary to remove the right-hand, movable upper part of the workpiece stop (30) entirely, after loosening the lock screw (31). Retighten locking screw (31). (After the saw cut, reattach the upper part and fasten with locking screw (31) so that it is not lost.)

Cutting the workpiece:

1. Loosen the locking lever (14) for the inclination setting of the saw.
2. Slowly tilt the swivel arm into the desired position.
 - Pull the latch lever (12) in direction of the operator side = infinite adjustment of the swivel arm.
 - Push the latch lever (12) in direction of the rear side = lock swivel arm in stop positions.



Note:

The swivel arm locks at the angle levels of 0°, 22.5° and 33.9°.

3. Tighten the locking lever (14) for the inclination setting.



Caution!

- In order for the mitre angle not to change during cutting, the locking lever of the turntable has to be tightened (also in the stop positions!).
4. Cut the workpiece, as described for "Straight cuts".

9.4 Double mitre cuts



Note:

The double mitre cut is a combination of mitre cut and inclined cut. This means, the workpiece is cut at an angle to the rear contact edge **and** at an angle to the top.

Starting position:

- Transport lock (16) pulled out.
- Saw head swivelled upwards.
- Cutting depth limitation (48) deactivated.
- Lock the turn table in the desired position.
- Swivel arm inclined at desired angle to the workpiece surface and locked.
- Pulling device at the very rear.
- Set screw (18) of the pulling device has been loosened.
- Set workpiece stop (30): Release locking screw (31). Slide the movable workpiece stop (30) (upper and lower part) such that it supports the workpiece as well as possible without touching the blade or the protective cover. Fasten with locking screw (31). For certain angle positions, it may be necessary to remove the right-hand, movable upper part of the workpiece stop (30) entirely, after loosening the lock screw (31). Retighten locking screw (31). (After the saw cut, reattach the upper part and fasten with locking screw (31) so that it is not lost.)
- Only KGSV 72 Xact SYM: Align parallel guides/ripping fences (30) flush (in one line). Push both locking levers (32) all the way downwards.

Cutting the workpiece:



Danger!

With a double mitre cut, the saw blade is easier accessible due to the steep inclination – this results in a higher risk of injury. Always keep sufficient distance to the saw blade!

- Cut the workpiece, as described for "Straight cuts".

9.5 Cutting grooves



Note:

The cutting depth limitation together with the pulling device permits the cutting of grooves. This does not result in a separating cut, but only a cut of a certain depth is effected in the workpiece.

Risk of kickback!

When cutting grooves it is particularly important that no lateral pressure is exerted on the saw blade. Otherwise, the saw head might suddenly kick back! Use a clamping device when cutting grooves. Avoid lateral pressure on the saw head.

Starting position:

- Transport lock (16) pulled out.
- Saw head swivelled upwards.
- Swivel arm inclined at desired angle to the workpiece surface and locked.
- Lock the turn table in the desired position.
- Pulling device at the very rear.
- Set screw (18) of the pulling device has been loosened.

Cutting the workpiece:

1. Set the cutting depth limitation (47) to the desired cutting depth and fix with counter nut.
2. Loosen safety lock (29) and swivel saw head downwards to check the set cutting depth:
3. Effect trial cut.
4. If required, repeat steps 1 and 3 until the desired cutting depth has been set.
5. Cut the workpiece, as described for "Straight cuts".

9.6 Only KGSV 72 Xact SYM: Symmetrical cuts



Note:

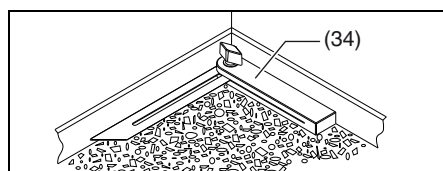
For fast and easy sawing of mitre cuts with symmetrically adjustable guide system.

Starting position:

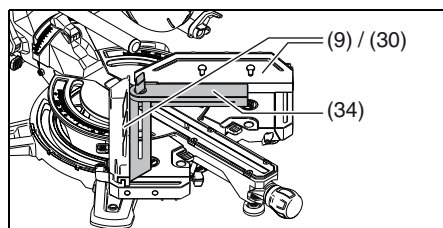
- Transport lock (16) pulled out.
- Saw head swivelled upwards.
- Cutting depth limitation (48) deactivated.
- Turntable is in 0° position, locking button (22) for turntable is tightened.
- Inclination of the saw head to the vertical is normally 0°. The saw head can also be inclined for special cuts. The locking lever (14) for setting the angle of inclination is tightened.
- The pulling device must be locked in the rear position using the set screw (18).
- Make sure the adjustable parallel guide/ripping fence (30) is set correctly to support the workpiece and will not interfere with the blade or the guard. Fix both parallel guides/ripping fences (30) with set screws (31).

Adjusting the angle:

1. Place the supplied "adjustable angle" (34) at the original angle (e.g. the corner of the room). Transfer the original angle to the "adjustable angle" (34).



2. Pull both locking levers (32) upwards and loosen the clamping mechanism.
3. Push the safety catches (33) all the way downwards to deactivate the locking function.
4. Place the "adjustable angle" (34) on the turntable (23)
5. Transfer the angle of the "adjustable angle" (34) to the guide system by sliding both halves of the table (9) / parallel guides/ripping fences (30) at the same time and place at the "adjustable angle" (34).



Note:

If the safety catches (33) are in their top position, the two halves of the table (9) / parallel guides/ripping fences (30) lock at the angle levels of 45°, 22.5°, 0°, -22.5° and -45°. If the safety catches (33) are pressed downwards the locking function is deactivated.

6. Press both locking levers (32) all the way downwards to lock this position.



Danger!

- Both locking levers (32) must be pushed downwards (also in the stop positions) so that the angle cannot change during the sawing process.

Cutting the workpiece:

7. If required, push the opposite parallel guide/ripping fence (30) to the side. Push the first workpiece against the left parallel guide/ripping fence and fix with workpiece clamps (11) and saw as described in "Straight cuts".
8. If required, push the opposite parallel guide/ripping fence (30) to the side. Push the second workpiece against the right parallel guide/ripping fence and fix with workpiece clamps (11) and saw as described in "Straight cuts".

10. Care And Maintenance



Danger!

Disconnect from the mains power before any maintenance or cleaning work.

- Repair and maintenance work other than described in this section should only be carried out by qualified specialists.
- Replace damaged parts, in particular safety installations, only with original parts. Parts not approved by the equipment manufacturer can cause unforeseeable damage.
- Check that all safety devices are operational again after each service.

10.1 Saw blade change



Risk of burning!

Directly after cutting the saw blade can be very hot. Let a hot saw blade cool down. Do not clean the hot saw blade with combustible liquids.



Risk of injury, even with the blade at standstill!

When loosening and tightening the tensioning screw (40) the retractable blade guard (7) has to be swivelled over the saw blade. Wear gloves when changing blades.

1. Disconnect the mains plug.
2. Put the saw head in the upper position.
3. Lock saw blade: press the locking button and turn the saw blade with the other hand until the locking button engages. Hold down the locking button.
4. Remove the tensioning screw with washer (40) on the saw blade shaft with Allen key (17) in clockwise direction (left-hand thread!).
5. Loosen safety lock (29) and push the retractable blade guard (7) upwards and hold.
6. Carefully remove outer flange (41) and saw blade (42) from the saw blade shaft and close again the retractable blade guard.



Danger!

Do not use cleaning agents (e.g. to remove resin residue) that could corrode the light metal components of the saw; the stability of the saw would be adversely affected.

7. Cleaning the clamping surfaces:
 - Saw blade shaft (45),
 - saw blade (42),
 - outer flange (41),
 - inner flange (44).



Danger!

Place inner flange properly! If this is not the case, the saw can block or the saw blade could work loose. The inner flange is in the correct position if the ring groove points towards the saw blade and the flat side to the motor.

8. Put on inner flange (44).
9. Loosen safety lock (29) and push the retractable blade guard (7) upwards and hold.
10. Put on a new saw blade - observe direction of rotation: Seen from the left (open) side, the arrow on the saw blade has to correspond to the direction of the arrow (43) on the saw blade cover!



Danger!

Use only saw blades, which fulfil the requirements and specifications listed in these operating instructions.

Use only saw blades designed for the maximum speed (see "Technical Specifications") – if unsuitable or damaged saw blades parts are used, parts can be ejected due to centrifugal force in an explosive-type manner.

en ENGLISH

Saw blades intended for cutting wood or similar materials have to conform to EN 847-1.

Do not use:

- saw blades made of high-alloy speed steel (HSS);
- damaged saw blades;
- cut-off wheel blades.



Danger!

- Mount saw blade using only genuine parts.
 - Do not use loose-fitting reducing rings; the saw blade could work loose.
 - Saw blades have to be mounted in such way that they do not wobble or run out of balance and cannot work loose during operation.
11. Close again retractable blade guard (7).
 12. Push on the outer flange (41) - The flat side must point towards the tensioning screw with washer (40)!
 13. Put on the tensioning screw with the washer (40) in anti-clockwise direction (left-hand thread) and tighten by hand.
 14. Lock saw blade: press the locking button (15) and turn the saw blade with the other hand until the locking button engages. Hold down the locking button.



Danger!

- Do not extend the hexagon wrench.
 - Do not tighten the tensioning screw by hitting the hexagon wrench.
15. Firmly tighten the tensioning screw (40) using the hexagon wrench (17).
 16. Check function. Loosen the safety lock (29) and fold the saw downwards:
 - when folding down the retractable blade guard, it has to provide free access to the saw blade without touching other parts.
 - When folding the saw upwards into the starting position, the retractable blade guard has to cover the saw blade automatically.
 - Rotate the saw blade manually. You should be able to rotate the saw blade into any possible position without touching other parts.

10.2 Table insert change



Danger!

With a damaged table insert (20) there is a risk of small parts getting stuck between table insert and saw blade, blocking the saw blade. Replace damaged table inserts immediately!

1. Remove screws at table insert. If required, rotate turntable and incline saw head to be able to reach the screws.
2. Remove table insert.
3. Insert new table insert.
4. Tighten the screws at the table insert.

10.3 Adjust parallel guide/ripping fence

1. Loosen Allen screws (46).
2. Adjust the parallel guide/ripping fence (30) in such a way that it is exactly perpendicular to the saw blade when the turntable engages in the 0° position.
3. Tighten the Allen screws (46).

10.4 Adjust the cutting laser



Danger!

**LASER BEAM
DO NOT LOOK INTO THE BEAM**

You will need a 2.5 mm hexagon wrench for the adjustment. Place a board with a vertical line at the parallel guide/ripping fence to see the laser beam better.

1. Twist the screw (38), thus setting the laser beam parallel to the saw blade (42).
2. Twist the screw (37) OR (39), thus setting the laser beam parallel to the saw blade (42).

3. Twist the screw (37) AND (39), thus adjusting the clearance to the saw blade (42)
4. Repeat steps 1 to 3 if required.

10.5 Cleaning the device

Remove chips and saw dust with vacuum cleaner or brush from:

- adjustment installations
- controls;
- motor vent slots;
- space under table insert;
- space under turntable (accessible through openings on the rear);
- cutting laser;
- Cutting line illumination

10.6 Storage of device



Danger!

- Store the device in such a way that it cannot be put into operation by unauthorised personnel.
- Ensure that the stationary device cannot cause injury.



Caution!

- Do not store the tool outdoors or in damp conditions without protection.

10.7 Maintenance

Prior to each use

- Remove saw chips with vacuum or brush.
- Check power cable and power cable plug for damage; if necessary have damaged parts replaced by a qualified electrician.
- Check all movable parts if they can be moved freely across the entire range of movement.
- Check whether that retractable blade guard (7) works correctly and does not stick. When folding down, it has to provide free access to the saw blade without touching other parts. When folding the saw upwards into the starting position, it must cover the saw blade automatically. If damaged or not functioning correctly, have the device repaired before using.

Regularly, depending on conditions of use

- Check all screwed joints, retighten if necessary.
- Check reset function of the saw head (saw head has to return to the upper starting position by means of spring force), if required have spring replaced.
- Slightly oil guide elements.

11. Tips and Tricks

- Use appropriate supports on the left and right of the saw for long workpieces.
- When cutting small pieces, use additional guide (a suitable wooden board attached with screws to the guide of the device, can be used as additional guide).
- When cutting a curved (contorted) board (49) place the convex side at the parallel guide/ripping fence.
- Do not cut workpiece upright, but flat on the turntable.

12. Accessories

Use only genuine Metabo accessories.

Use only accessories which fulfil the requirements and specifications listed in these operating instructions.

A Spray for maintenance and care for the removal of resin residues and to preserve the metal surfaces: 0911018691

B Metabo all-purpose vacuum cleaner (see catalogue)

C Stands:
Universal machine stand UMS: 6.31317
Machine stand KSU 251: 6.29005
Machine stand KSU 401: 6.29006

D Saw blade Power Cut: 6.28009
216 x 2.4 / 1.8 x 30 24 WZ 5° neg

For good cutting results for longitudinal and cross cuts in solid wood

E Saw blade Precision Cut Classic 6.28060
216 x 2.4 / 1.8 x 30 40 WZ 5° neg

For good cutting results for longitudinal and cross cuts in solid wood and chipboard

F Saw blade Multi Cut Classic: 6.28066
216 x 2.4 / 1.8 x 30 60 FZ/TZ 5° neg

For good cutting results with longitudinal and cross cuts in coated materials, laminate, plastic and aluminium profiles

G Saw blade Precision Cut: 6.28041
216 x 2.4 x 30 48 WZ 5° neg for very good cutting results with longitudinal and cross cuts in solid wood

H Saw blade Multi Cut: 6.28083
216 x 2.4 x 30 60 FZ/TZ 5° neg for very good cutting results in coated materials, laminate, plastic and aluminium profiles

For a complete range of accessories, see www.metabo.com or the catalogue.

13. Repairs



Danger!

Repair of power tools must be carried out by qualified electricians only!

If the supply cord of this power tool is damaged, it must be replaced by a specially prepared supply cord

available through the service organization.

If you have Metabo power tools that require repairs, please contact your Metabo service centre. For addresses see www.metabo.com.

You can download a list of spare parts from www.metabo.com.

14. Environmental Protection

Observe national regulations on environmentally compatible disposal and on the recycling of disused machines, packaging and accessories.



Only for EU countries: Never dispose of power tools in your household waste! Used power tools must be collected separately and handed in for environmentally compatible recycling in accordance with European Directive 2012/19/EU on waste electrical and electronic equipment and its implementation in national legal systems.

15. Troubleshooting

Following you will find a description of problems and faults that you may remedy yourself. If the corrective measures described here do not help, kindly refer to chapter 13. "Repairs".



Danger!

There are particularly many accidents in connection with problems and faults. Therefore keep in mind:

- Disconnect the mains plug prior to any fault service.
- Check that all safety devices are operational again after each fault service.

No trimming function

Transport lock activated:

- pull out transport lock.

Safety lock activated:

- loosen safety lock.

Cutting power too low

Saw blade blunt (possibly tempering marks on blade body);

Saw blade unsuitable for the material (see chapter 12. "Accessories");

Saw blade contorted:

- Replace saw blade (see chapter 10. "Maintenance").

Saw vibrates a lot

Saw blade contorted:

- Replace saw blade (see chapter 10. "Maintenance").

Saw blade not installed properly:

- Install saw blade properly (see chapter 10. "Maintenance").

Turntable hard to turn

Chips under turntable:

- remove chips.

KGSV 72 Xact SYM: Angle setting hard to effect when moving the table halves (9)

Chips under turntable:

- remove chips. The space under the turntable is accessible through openings on the rear

16. Technical Specifications

Explanatory notes on the specifications on page 3.

Changes due to technological progress reserved.

U	= mains voltage
I	= rated power
F	= min. fuse protection
P ₁	= rated input power
IP	= protection class
n ₀	= No-load speed
v ₀	= max. cutting speed
D	= saw blade diameter (outer)
d	= saw blade hole (inside)
b	= max. tooth width of the saw blade
a ₁	= angle range saw head adjustment
a ₂	= angle range turntable
a _{SYM1}	= inside angle at the guide system
a _{SYM2}	= outside angle at the guide system
A	= dimensions (lxwxh)
m	= weight

Requirements for chip and dust extraction unit:

D ₁	= connection diameter of the extraction nozzle
D ₂	= minimum air throughput
D ₃	= minimum negative pressure at extraction nozzle
D ₄	= minimum air speed at extraction nozzle

Maximum cross-section of workpiece, see table on page 4.

~ AC Power

Machine in protection class II

The technical specifications quoted are subject to tolerances (in compliance with the relevant valid standards).

Emission values

These values make it possible to assess the emissions from the power tool and to compare different power tools. The actual load may be higher or lower depending on the operating conditions, the condition of the power tool or the accessories. Please allow for breaks and periods when the load is lower for assessment purposes. Arrange protective measures for the user e.g. organisational measures based on the adjusted estimates.

Typical A-effective perceived sound levels:

L _{pA}	= sound-pressure level
L _{WA}	= acoustic power level
K _{pA} , K _{WA}	= uncertainty

 **Wear ear protectors!**