



Instruktionsbok
Vinkelslip

Manual
Angle grinder

BAG - 900
Code no. 19694 - 1108

ENGLISH

Original instructions

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1. INTRODUCTION



Read this operators guide carefully, before using the machine. Ensure that you know how the machine works, and how it should be operated. Maintain the machine in accordance with the instructions,

and make certain that the machine functions correctly. Keep this operator's guide and other enclosed documentation with the machine.

The angle grinder is suitable for non-professional use for cutting or separating materials. Any other use is strictly forbidden.

2. TECHNICAL SPECIFICATION

Voltage	V	230
Frequency.....	Hz	50
Power input	W	850
No-load speed	r/min	11 000
Disc diameter	mm	125
Spindle dimension.....		M14
Weight	kg	2.3
Lpa (sound pressure).....	dB(A)	87.4+3
Lwa (sound power).....	dB(A)	98.4+3
Vibration value.....	m/s ²	7.41
.....	m/s ²	K=1.5

Vibration level

The vibration emission level stated in this instruction manual has been measured in accordance with a standardised test given in EN 60745; it may be used to compare one tool with another and as a preliminary assessment of exposure to vibration when using the tool for the applications mentioned.

- Using the tool for different applications, or with different or poorly maintained accessories, may significantly increase the exposure level.
- The times when the tool is switched off or when it is running but not actually doing the job, may significantly reduce the exposure level.

Protect yourself against the effects of vibration by maintaining the tool and its accessories, keeping your hands warm, and organizing your work patterns.

3. CONTENTS OF PACKING

- 1 Angle grinder
- 1 Side handle
- 1 Spanner
- 1 Instruction manual
- 1 Safety instructions

Check the machine, loose parts and accessories for transport damage.

4. FEATURES



Fig. 1

- 1. On/off switch
- 2. Guard
- 3. Side handle
- 4. Spindle lock



5. SAFETY INSTRUCTIONS

In this manual and/or on the machine the following symbols are used:



Denotes risk of personal injury, loss of life or damage to the tool in case of non-observance of the instructions in this manual.



Indicates electrical shock hazard.



Keep bystanders away



Wear ear and eye protection



Wear protective gloves

5.1 Safety warnings common for grinding or abrasive cutting-off operations

- This power tool is intended to function as a grinder or cut-off tool. 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.
- Operations such as sanding, wire brushing or polishing 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.
- 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.
- 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.
- 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.
- The arbour size of wheels, flanges, backing pads or any other accessory must properly fit the spindle of the power tool. Accessories

with arbour holes that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.

- 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.

- 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.
- 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.
- Hold 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 shock the operator.
- 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.

- 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.
- 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.
- 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.
- Do not operate the power tool near flammable materials. Sparks could ignite these materials.
- Do not use accessories that require liquid coolants. Using water or other liquid coolants may result in electrocution or shock.

5.2 Kickback and related warnings

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad, brush or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory’s rotation at the point of the binding. 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 the wheel to climb out or kick out. The wheel may either jump toward or away from the operator, depending on direction of the wheel’s movement at the point of pinching. Abrasive wheels may also break under these conditions.

Kickback is the result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

- Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces. Always use auxiliary

handle, if provided, for maximum control over kickback or torque reaction during start-up. The operator can control torque reactions or kickback forces, if proper precautions are taken.

- Never place your hand near the rotating accessory. Accessory may kickback over your hand.
- Do not position your body in the area where power tool will move if kickback occurs. Kickback will propel the tool in direction opposite to the wheel's movement at the point of snagging.
- Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory. Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.
- Do not attach a saw chain woodcarving blade or toothed saw blade. Such blades create frequent kickback and loss of control.

5.3 Safety warnings specific for grinding and abrasive cutting-off operations

- Use only wheel types that are recommended for your power tool and the specific guard designed for the selected wheel. Wheels for which the power tool was not designed cannot be adequately guarded and are unsafe.
- The guard must be securely attached to the power tool and positioned for maximum safety, so the least amount of wheel is exposed towards the operator. The guard helps to protect operator from broken wheel fragments and accidental contact with wheel.
- Wheels must be used only for recommended applications. For example: do not grind with the side of cut-off wheel. Abrasive cut-off wheels are intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.
- Always use undamaged wheel flanges that are of correct size and shape for your selected wheel. Proper wheel flanges support the

wheel thus reducing the possibility of wheel breakage. Flanges for cut-off wheels may be different from grinding wheel flanges.

- Do not use worn down wheels from larger power tools. Wheel intended for larger power tool is not suitable for the higher speed of a smaller tool and may burst.

5.4 Additional safety warnings specific for abrasive cutting-off operations

- Do not "jam" the cut-off wheel or apply excessive pressure. Do not attempt to make an excessive depth of cut. Overstressing the wheel increases the loading and susceptibility to twisting or binding of the wheel in theDo not "jam" the cut-off wheel or apply excessive pressure. Do not attempt to make an excessive depth of cut. Overstressing the wheel increases the loading and susceptibility to twisting or binding of the wheel in the cut and the possibility of kickback or wheel breakage.
- Do not position your body in line with and behind the rotating wheel. When the wheel, at the point of operation, is moving away from your body, the possible kickback may propel the spinning wheel and the power tool directly at you.
- When wheel is binding or when interrupting a cut for any reason, switch off the power tool and hold the power tool motionless until the wheel comes to a complete stop. Never attempt to remove the cut-off wheel from the cut while the wheel is in motion otherwise kickback may occur. Investigate and take corrective action to eliminate the cause of wheel binding.
- Do not restart the cutting operation in the workpiece. Let the wheel reach full speed and carefully reenter the cut. The wheel may bind, walk up or kickback if the power tool is restarted in the workpiece.
- Support panels or any oversized workpiece to minimize the risk of wheel pinching and kickback. Large workpieces tend to sag under

their own weight. Supports must be placed under the workpiece near the line of cut and near the edge of the workpiece on both sides of the wheel.

- Use extra caution when making a “pocket cut” into existing walls or other blind areas. The protruding wheel may cut gas or water pipes, electrical wiring or objects that can cause kickback.

5.5 Special safety instructions

- Check that the maximum speed indicated on the grinding disc corresponds to the maximum speed of the machine. The speed of the machine must not exceed the value on the grinding disc.
- Make sure that the dimensions of the grinding disc correspond to the specifications of the machine.
- Make sure that the grinding disc has been mounted and fastened properly. Do not use reducing rings or adapters to make the grinding disc fit properly.
- Treat and store grinding discs in conformance with the supplier’s instructions.
- Do not use the machine for grinding workpieces with a maximum thickness exceeding the maximum grinding depth of the grinding disc.
- Do not use grinding discs for deburring.
- When grinding discs have to be mounted on the thread of the spindle, make sure that the spindle has sufficient thread. Make sure that the spindle is sufficiently protected and does not touch the grinding surface.
- Before use, inspect the grinding disc for any damage. Do not use grinding discs which are crack-ed, ripped or otherwise damaged.
- Before use, let the machine run idle for 30 seconds. Immediately switch off the machine in case of abnormal vibrations or occurrence of another defect. Carefully inspect the machine and grinding disc before switching the machine on again.
- Make sure that sparks do not put people into

danger or that they contact highly flammable substances.

- Make sure that the workpiece is sufficiently supported or clamped. Keep your hands away from the surface to be cut.
- Always wear safety goggles and hearing protection. If desired or required also use another kind of protection like for example an apron or helmet.
- Ensure that mounted wheels and points are fitted in accordance with the manufacturer’s instructions.
- Ensure that blotters are used when they are provided with the bonded abrasive product and when they are required.
- If a guard is supplied with the tool never use the tool without such a guard.
- For tools intended to be fitted with threaded hole wheel, ensure that the thread in the wheel is long enough to accept the spindle length.
- Ensure that ventilation openings are kept clear when working in dusty conditions. If it should become necessary to clear dust, first disconnect the tool from the mains supply (use non metallic objects) and avoid damaging internal parts.
- Though poor conditions of the electrical mains, shortly voltage drops can appear when starting the equipment. This can influence other equipment (eq. blinking of a lamp). If the mains-impedance $Z_{max} < 0.348 \text{ Ohm}$, such disturbances are not expected. (In case of need, you may contact your local supply authority for further information.)

5.6 Electrical safety

When using electric machines always observe the safety regulations applicable in your country to reduce the risk of fire, electric shock and personal injury. Read the following safety instructions and also the enclosed safety instructions.



Always check that the power supply corresponds to the voltage on the rating plate.



Your machine is double insulated; therefore no earthwire is required.

Replacing cables or plugs

Immediately throw away old cables or plugs when they have been replaced by new ones. It is dangerous to insert the plug of a loose cable in the wall outlet.

Using extension cables

Only use an approved extension cable suitable for the power input of the machine. The minimum conductor size is 1.5 mm². When using a cable reel always unwind the reel completely.

6. ASSEMBLY



Prior to mounting an accessory always unplug the tool.

6.1 Assembling the hand grip (Fig. 1)

The hand grip is suitable for either left or right-handed use.

- Turn the hand grip (3) to the notch on the right side of the machine for left-handed use.
- Turn the hand grip (3) to the notch on the left side of the machine for right-handed use.
- Turn the hand grip to the notch on the top of the machine to use it vertically.

6.2 Disassembly

- Remove the flange nut and the grinding disc with lower flange from the spindle.
- Unscrew the 4 screws (with washers) and remove the fixing-ring.
- Remove the guard from the machine.

6.3 Mounting a grinding disc (Fig. 2)

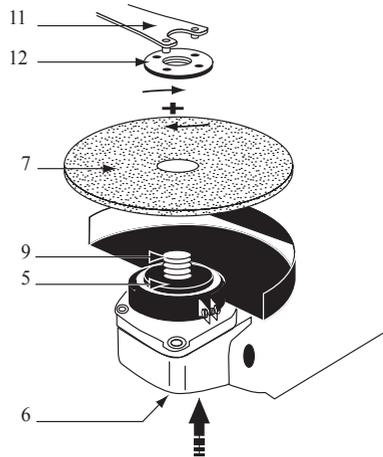


Fig. 2

Use grinding discs of the correct dimension. Use fibre reinforced grinding discs only. The grinding disc must not touch the edge of the guard.

- Press the spindle lock (6) and turn the spindle (9) until it engages in the lock. Keep the spindle lock pressed during this procedure.
- Remove the flange nut (12) from the spindle using the spanner(11).
- Position the grinding disc (7) on the flange (5).
- Place the flange nut on the spindle and tighten it using the spanner.
- Release the spindle lock and check that the spindle is unlocked by rotating it.

6.4 Mounting grinding discs and roughing discs

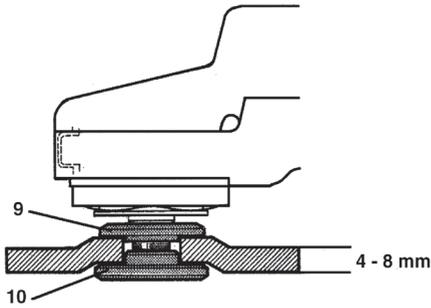


Fig. 3

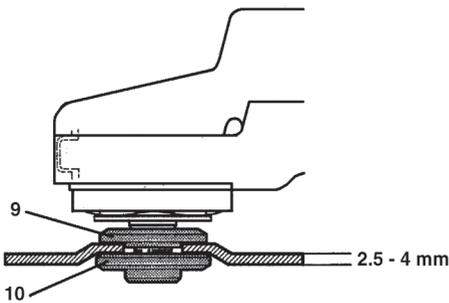


Fig. 4

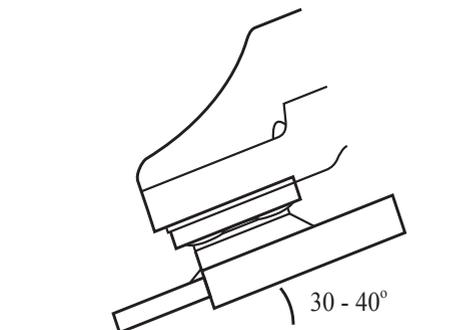


Fig. 5

Fig. 4 and 5 show how to mount the flange (10) when using thick (4-8 mm) and thin (2,5-4 mm) discs.

The following grinding discs can be used with this grinder.

- For deburring: grooved, fibreglass reinforced type 27. Dimensions $\text{Ø } 125 \times 6.0 \times 22.2$ mm.
- For slitting/ cutting: grooved, fibreglass reinforced, type 41 and type 42. Dimensions $\text{Ø } 125 \times 3.0 \times 22.2$ mm.



If you use normal grinding discs they should always be fibreglass reinforced.

7. USE



Always follow the safety instructions and keep to the applicable regulations.

Hold the machine away from the workpiece when turning it on and off because the grinding disc could damage the workpiece.

- Clamp the workpiece firmly or use another method to ensure that it cannot move while working.
- Check the discs regularly. Worn grinding discs have a negative effect on the machine's efficiency. Change to a new grinding disc in good time.
- Always first turn the machine off after use before removing the plug from the socket.

7.1 Deburring (Fig. 5)

An angle of inclination of 30° to 40° will give the best results when deburring. Move the machine back and forth using light pressure. This will prevent the workpiece from discolouring or becoming too hot and will avoid making groves.



Never use abrasive cutting discs for deburring work!

7.2 Cutting (Fig. 6)

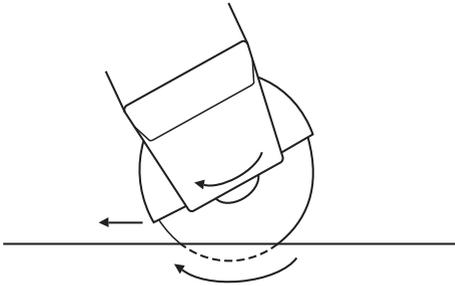


Fig. 6

Maintain firm contact with the workpiece to prevent vibration and do not tilt or apply pressure and when cutting. Use moderate pressure when working, appropriate to the material that is being worked on. Do not slow down grinding discs by applying sideways counter pressure. The direction in which you want to cut is important. The machine must always work against the direction of the cut; so never move the machine in the other direction! There is the risk that the machine will catch in the cut causing kickback and that you will lose control.

7.3 The ON/OFF/ switch (Fig. 1)

Switching on

- Slide the ON/OFF switch forwards.
- The machine will start and keeps engaged when releasing the switch.

Switching off

- Press the ON/OFF switch: this will then jump to the OFF-position.



The grinder will continue to run after it is turned off.

Only lay the machine down once the motor has completely stopped turning. Do not put the machine on a dusty surface. Dust particles can penetrate the machine.



Never use the spindle key to stop the motor turning.



Never use the machine to grind magnesium workpieces.

7.4 Carbon brush indicator (Fig. 1)

When the carbon brushes are worn this indicator will light up. The carbon brushes need to be replaced by the manufacturer's customer service department or equally qualified persons.

8. SERVICE & MAINTENANCE



Make sure that the machine is not live when carrying out maintenance work on the motor.

The machines have been designed to operate over a long period of time with a minimum of maintenance. Continuous satisfactory operation depends upon proper machine care and regular cleaning.

8.1 Trouble shooting

Should the machine fail to function correctly, a number of possible causes and the appropriate solutions are given below:

Machine fails to operate.

- Power turned off.
- (Extension) cable damaged.

The electromotor hardly reaches maximum speed.

- The extension cable is too thin and/or too long.
- The mains voltage is lower than 230 V.

Machine overheats.

- Air vents are blocked. Clean them with a dry cloth.
- The machine has been overloaded. Use the machine for the purpose it is made for

Excessive sparking or elektromotor runs irregular

- There's dirt inside the motor or the carbon brushes are worn.
- Replace the carbon brushes or bring the machine to a specialized repair centre.



Repairs and servicing should only be carried out by a qualified technician or service firm.

8.2 Cleaning

Keep the ventilation slots of the machine clean to prevent overheating of the engine.

Regularly clean the machine housing with a soft cloth, preferably after each use. Keep the ventilation slots free from dust and dirt. If the dirt does not come off use a soft cloth moistened with soapy water. Never use solvents such as petrol, alcohol, ammonia water, etc. These solvents may damage the plastic parts.

8.3 Faults

Should a fault occur, e.g. after wear of a part, please contact your reseller. On the separately enclosed spare parts list you can find an overview of the parts that can be ordered.

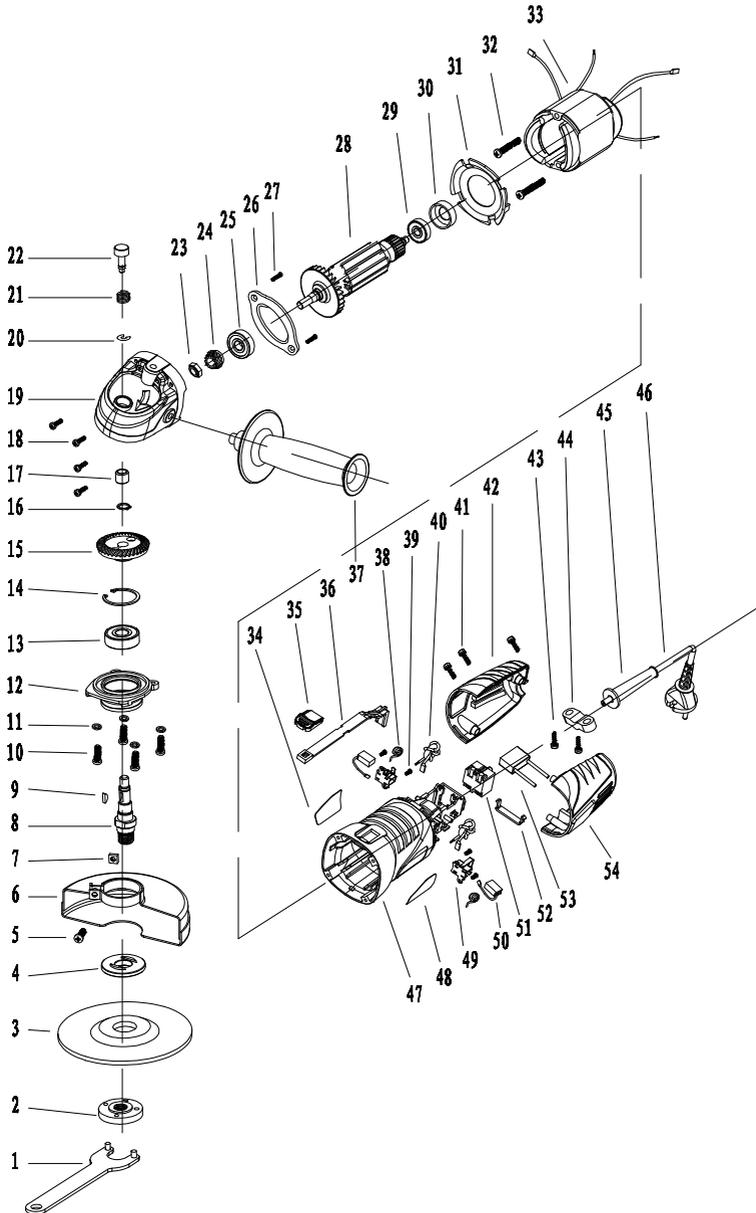
8.4 Environment

To prevent damage during transport, the appliance is delivered in a solid packaging which consists largely of reusable material. Therefore please make use of options for recycling the packaging.



Faulty and/or discarded electrical or electronic apparatus have to be collected at the appropriate recycling locations.

BAG-900 DIAGRAM





BAG - 900 PART LIST

No.	Description	Specification	Qty	No.	Description	Specification	Qty
1	Special spanner		1	28	Rotor		1
2	Pressure plate		1	29	Bearing	627	1
3	Grinding wheel		1	30	Bearing sheath		1
4	Pressure plate		1	31	Wind screen		1
5	Screw	M5 × 20	1	32	Cross screw	ST4 × 75	2
6	Guard		1	33	Stator		1
7	Nut		1	34	Nameplate		1
8	Main spindle		1	35	Pushbutton		1
9	Woodruff key	3 × 10	1	36	Pull pole		1
10	Screw	M4 × 14	4	37	Side handle		1
11	Spring washer	4	4	38	Spring		2
12	Bearing block		1	39	Cross screw	ST3 × 10	4
13	Bearing	6201	1	40	Inductor		2
14	Check ring	32	1	41	Cross screw	ST4 × 16	3
15	Large bevel gear		1	42	Right handle		1
16	Check ring	10	1	43	Cross screw	ST4 × 16	2
17	Bearing	8 × 12 × 10	1	44	Cable clip		1
18	Cross screw	ST4 × 22	4	45	Cable jacket		1
19	Reduction gear box		1	46	Power cord		1
20	Check ring	5	1	47	Housing		1
21	Spring		1	48	Nameplate		1
22	Lock pin		1	49	Brush holder		2
23	Nut		1	50	Carbon brush		2
24	Small bevel gear		1	51	Switch		1
25	Bearing	6000	1	52	Cover board		1
26	Press plate of bearing		1	53	Capacitor		1
27	Screw	M5 × 10	2	54	Left handle		1



Angle grinder

BAG - 900

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