G2412-1

Die grinder

Printed Matter No. 9839 0484 01
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Valid from Serial No. C9810001

Product Instructions

G2412-1 (20000 r/min) (20000 rpm)	8423031221	

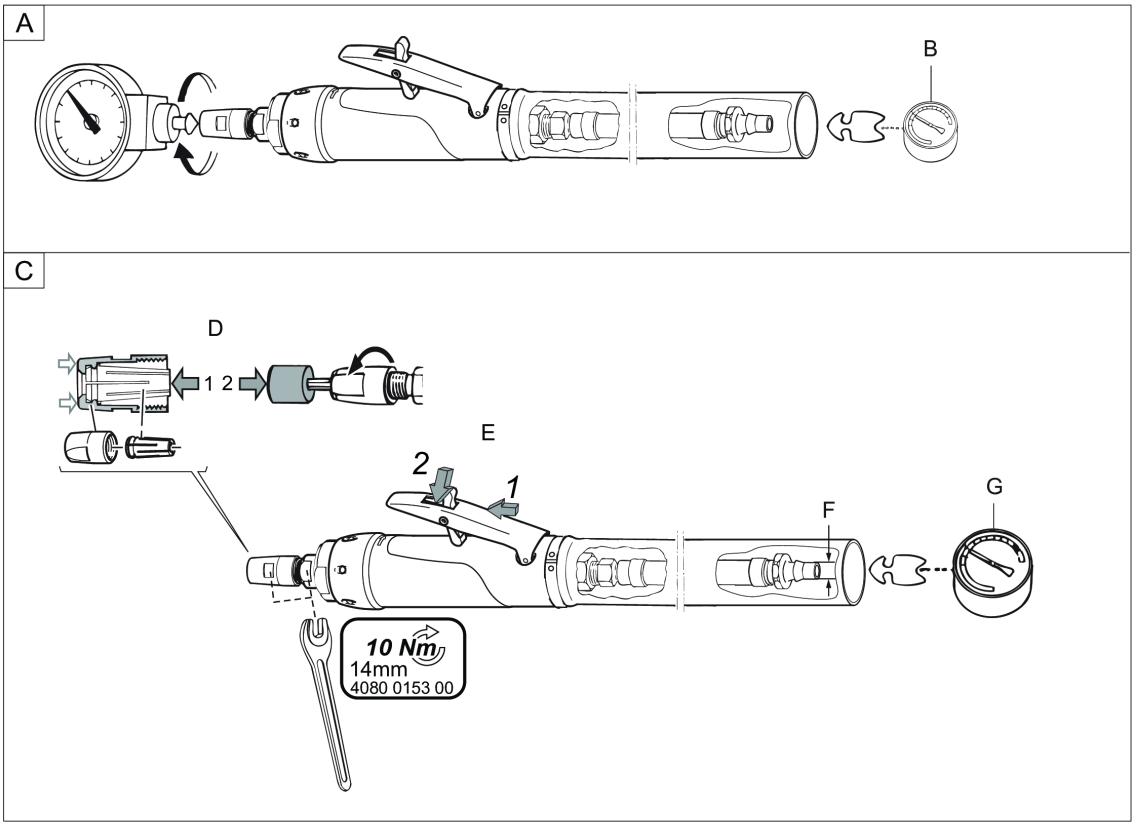
⚠ WARNING

Read all safety warnings and instructions

Failure to follow the safety warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference

Atlas Copco



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Product information

General information

⚠ WARNING Risk of Property Damage or Severe Injury

Ensure that you read, understand and follow all instructions before operating the tool. Failure to follow all the instructions may result in electric shock, fire, property damage and/or severe bodily injury.

- ► Read all Safety Information delivered together with the different parts of the system.
- ► Read all Product Instructions for installation, operation and maintenance of the different parts of the system.
- ► Read all locally legislated safety regulations regarding the system and parts thereof.
- ► Save all Safety Information and instructions for future reference.

Safety signal words

The safety signal words Danger, Warning, Caution, and Notice have the following meanings:

DANGER	DANGER indicates a hazardous situation which, if not avoided, **will** result in death or serious injury.
WARNING	WARNING indicates a hazardous situation which, if not avoided, **could** result in death or serious injury.
CAUTION	CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	NOTICE is used to address practices not related to personal injury.

Warranty

- Product warranty will expire 12 months after the product is first taken into use, but will in any case expire at the latest 13 months after delivery.
- Normal wear and tear on parts is not included within the warranty.
  - Normal wear and tear is that which requires a part change or other adjustment/overhaul during standard tools maintenance typical for that period (expressed in time, operation hours or otherwise).
- The product warranty relies on the correct use, maintenance, and repair of the tool and its component parts.
- Damage to parts that occurs as a result of inadequate maintenance or performed by parties other than Atlas Copco or their Certified Service Partners during the warranty period is not covered by the warranty.
- To avoid damage or destruction of tool parts, service the tool according to the recommended maintenance schedules and follow the correct instructions.
- Warranty repairs are only performed in Atlas Copco workshops or by Certified Service Partners.

Atlas Copco offers extended warranty and state of the art preventive maintenance through its ToolCover contracts. For further information contact your local Service representative.

For electrical motors:

- Warranty will only apply when the electric motor has not been opened.

ServAid

ServAid is a portal that contains technical information for all hardware and software products such as:

- Safety Information including declarations, standards and directives

- Technical data

- Installation, Operation and Service Instructions
- Spare parts lists
- Accessories

ServAid is continuously updated and is available at:
https://servaid.atlascopco.com

For further information contact your local Atlas Copco representative.

Website

Log in to Atlas Copco: www.atlascopco.com.

You can find information concerning our products, accessories, spare parts and published matters on our website.

Safety Data Sheets MSDS/SDS

The safety data sheets describes chemical products sold by Atlas Copco.

For more information, consult the website:
www.atlascopco.com/sds

Country of origin

Please refer to the information on the product label.

Dimensional drawings

For information about the dimensions of a product, see the Dimensional drawings archive:

http://webbox.atlascopco.com/webbox/dimdrw

Overview

Design and function

This die grinder is intended for mounted wheels and rotary burrs only. This model is lubricated. The machine, its attachments and accessories must only be used for the purpose for which they were designated, all other use is prohibited.

- Never use grinding wheels attached with an adapter as this machine is not fitted with a wheel guard
- Never attach circular saw blades or other cutters than the abrasive wheels or brushes specified for the tool

Technical data

Ordering No	8423031221
Model	G2412-1
Max wheel diameter	- mm (- in)
Max pad diameter	- mm (- in)
Spindle thread	-
Spindle length	- mm (- in)
Air inlet thread	1/41/4 in
Air consumption at free speed	10.3 l/s (21.8 cfm)
Air consumption at max output	13.0 l/s (27.5 cfm)
Max working pressure	7 bar (102 psig)
Max free speed	20000 r/min (20000 rpm)

Max output	0.35 kW (0.47 hp)
Motor type	Vane
Recommended hose size (d x l)	10 mm x 3 m (3/8 in x 10 ft)
Weight	0.5 kg (1.1 lb)

Service overview

Maintenance and service instructions

The service must only be done by authorized workshops or qualified service technicians.

⚠ WARNING Polymer hazard

The vanes in this product contain PTFE (a synthetic fluoropolymer). Due to wear, there might be PTFE particles inside the product. Heated PTFE can produce fumes which may cause polymer fume fever with flu-like symptoms, especially when smoking contaminated tobacco.

Health and Safety recommendations for PTFE must be followed when handling vanes and other components:

- ► Do not smoke when servicing this product
- ► PTFE-particles must not come in contact with open fire, glow or heat
- ► Motor components must be washed with cleaning fluid and not blown clear with an air line
- ► Wash your hands before starting any other activity

Replacement of vanes

Replace the vanes in the motor when a power drop of the tool is experienced. If the vanes are not replaced in time other motor parts may be damaged. For increased life length of the vanes use an oil lubricator to dose oil into the air inlet.

Service recommendations

Preventive maintenance is recommended at regular intervals. See the detailed information on preventive maintenance. If the product is not working properly, take it out of service and inspect it.

If no detailed information about preventive maintenance is included, follow these general guidelines:

- Clean appropriate parts accurately
- Replace any defective or worn parts

Installation

Installation requirements

Air quality

- For optimum performance and maximum product life we recommend the use of compressed air with a maximum dew point of +10°C (50°F). We also recommend to install an Atlas Copco refrigeration type air dryer.
- Use a separate air filter which removes solid particles larger than 30 microns and more than 90% of liquid water. Install the filter as close as possible to the product and prior to any other air preparation units to avoid pressure drop.

For impulse/impact tools make sure to use lubricators adjusted for these tools. Regular lubricators will add too much oil and therefore decrease the tool performance due to too much oil in the motor.

Make sure that the hose and couplings are clean and free from dust before connecting to the tool.

Both lubricated and lubrication free products will benefit from a small quantity of oil supplied from a lubricator.

Air lubrication guide

Brand	Air lubrication
Atlas Copco	Optimizer (1 liter) 9090 0000 04
Q8	Chopin 46
Shell	Shell Air Tool Oil S2 A 320

Compressed air connection

⚠ WARNING Compressed air can cause serious injury

► Always shut off the air supply, drain hose of air pressure and disconnect the tool from air supply; when not in use, before making any adjustments to the product - for example changing accessories, or when making repairs.

⚠ WARNING Whipping hoses can cause serious injury

► Always make sure that there are no damaged or loose hoses or fittings.

⚠ WARNING Compressed Air

High air pressure can cause severe damage and bodily injury.

► Do not exceed maximum air pressure.

► Make sure that there are no damaged or loose hoses or fittings.

For correct air pressure and hose size, see section **Technical data**.

Make sure that the hose and couplings are clean and free from dust before connecting to the tool.

Installation instructions

Visual inspection - Tool and accessories

Inspect the tool and its parts visually before use.

- Collet holder.

- Throttle lever.
- Lever catch.

Look for any damages or oil leakage that can compromise the safety of the tool.

Installation of vibrating tools

We recommend using a minimum length of 300 mm (12") of flexible hose for compressed air between a vibrating tool and the quick-action coupling.

Operation

Ergonomic guidelines

Consider your workstation as you read through this list of general ergonomic guidelines and see if you can identify areas for improvement in posture, component placement, or work environment.

- Take frequent breaks and change work positions frequently.
- Adapt the workstation area to your needs and the work task.
  - Adjust for convenient reach range by determining where parts or tools should be located to avoid static load.
  - Use workstation equipment such as tables and chairs appropriate for the work task.
- Avoid work positions above shoulder level or with static holding during assembly operations.
  - When working above shoulder level, reduce the load on the static muscles by reducing the weight of the tool, using for example torque arms, hose reels or weight balancers. You can also reduce the load on the static muscles by holding the tool close to the body.
  - Make sure to take frequent breaks.
  - Avoid extreme arm or wrist postures, particularly for operations requiring a degree of force.
- Adjust for convenient field of vision by minimizing movement of the eyes and head during the work task.
- Use the appropriate lighting for the work task.
- Select the appropriate tool for the work task.
- Use ear protection equipment in noisy environments.
- Use high-quality inserted tools or consumables to minimize exposure to excessive levels of vibration.
- Minimize exposure to reaction forces.
  - When cutting:

    A cut-off wheel can get stuck if the wheel is either bent or if it is not guided properly. Make sure to use the correct flanges for cut-off wheels and avoid bending the wheel during cut-off operation.
  - When drilling:

    The drill might stall when the drill bit breaks through. Makes sure you use support handles if the stall torque is too high. The safety standard ISO11148 part 3 recommends using something to absorb the reaction torque above 10 Nm for pistol grip tools and 4 Nm for straight tools.
  - When using direct-driven screw or nutrunners:

    Reaction forces depend on tool setting and joint characteristics. The ability to bear reaction forces depends on the operator’s strength and posture. Adapt the torque setting to the operator's strength and posture and use a torque arm or reaction bar if the torque is too high.
- Use dust extraction system or mouth protection mask in dusty environments.

Setting-up instructions

⚠ **WARNING Risk of Serious Injury or Death**

Overspeed can cause serious injury or death!

- ► Do not manipulate the speed of the tool.
- ► Do not override the maximum speed marked on the tool.

Testing of the die grinder should only be done by professional technicians. The technicians must be authorized to test this type of tool and to operate a pneumatic system in accordance with national directives.

- Do a free speed check of the tool every day and whenever the tool has been serviced. Do the free speed check with the grinding equipment removed.
- Use a pressure regulator to prevent a too high air pressure which can cause overspeed.
- Make sure that connections and the air hose are in good condition.

Legend to page 2

A	Do a free speed check Maximum 20000 r/m
B	Maximum air pressure 7 bar 102 psig

Operating instructions

Operation instructions

⚠ WARNING Risk of severe injury

Air under pressure can cause injury.

- ► Always shut off the air supply when not in use or before any adjustments.
- ► Drain the hose of air pressure and disconnect the tool from air supply when not in use or before any adjustments.
- ► Always use the correct hose size and air pressure for the tool.

⚠ WARNING Risk of Serious Injury or Death

Wrong insert tool can burst and cause serious injury or death.

- ► Use an insert tool with a max operating speed higher than or equal to the tool speed.
- ► Do not use any other insert tool than specified by the manufacturer (no cutting off wheels or router bits).

- Do not mix mm shanks with inch collets and vice versa.
- Observe a minimum of 10 mm (0.4") axial grip of the shank.
- When attaching mounted wheels or burrs, reduce the overhang by pushing the shank all the way into the collet. Also do a check of the recommendations given by the tool manufacturer.
- Observe that increased overhang of shank reduces permissible speed.
- Before starting the machine, make sure that the collet is tightened correctly.
- Do a test run of every newly attached wheel in a safe position for 30 seconds. Use a barrier (such as under a heavy work table) to stop any possible broken wheel parts. Stop immediately if the vibration is too much.

Legend to page 2

C	Operation instructions
D	Attach collet and shank
E	Press safety catch forward and press trigger to start
F	Air hose size: 13 mm (1/2 ")
G	Maximum air pressure: - 7 bar (- 102 psig)

Mounted wheel and carbide burr

⚠ WARNING Compressed air can cause serious injury

- ► Always shut off the air supply, drain hose of air pressure and disconnect the tool from air supply; when not in use, before making any adjustments to the product - for example changing accessories, or when making repairs.

⚠ WARNING Risk of Serious Injury or Death

Wrong insert tool can burst and cause serious injury or death.

- ► Use an insert tool with a max operating speed higher than or equal to the tool speed.
- ► Do not use any other insert tool than specified by the manufacturer (no cutting off wheels or router bits).

- Use only recommended sizes and types of abrasives.
- Do not use mounting wheels that are chipped or cracked, or may have been dropped.
- Correct mounting is necessary to prevent injury from broken mounted wheels
- Make sure that the shaft diameter of the accessory is correct for the size of the collet.
- Do not mix mm shanks with inch collets and vice versa.
- Observe a minimum of 10 mm axial grip of the shank.
- When fitting mounted wheels or burrs, reduce the overhang by pushing the shank all the way into the collet. (Check also the recommendations given by the tool manufacturer)
- Observe that increased overhang of shank reduces the permissible speed.
- Before starting the machine, check that the collet is tightened correctly.
- Do a test run of every new mounted wheel in a safe position for 30 seconds. Use a barrier such as under a heavy work table to stop any possible broken wheel parts. Stop immediately if the vibration is excessive. 

Service

Maintenance instructions

Maintenance and service instructions

The service must only be done by authorized workshops or qualified service technicians.

⚠ **WARNING Polymer hazard**

The vanes in this product contain PTFE (a synthetic fluoropolymer). Due to wear, there might be PTFE particles inside the product. Heated PTFE can produce fumes which may cause polymer fume fever with flu-like symptoms, especially when smoking contaminated tobacco.

Health and Safety recommendations for PTFE must be followed when handling vanes and other components:

- ► Do not smoke when servicing this product
- ► PTFE-particles must not come in contact with open fire, glow or heat
- ► Motor components must be washed with cleaning fluid and not blown clear with an air line
- ► Wash your hands before starting any other activity

Service recommendations

Preventive maintenance is recommended at regular intervals. See the detailed information on preventive maintenance. If the product is not working properly, take it out of service and inspect it.

If no detailed information about preventive maintenance is included, follow these general guidelines:

- Clean appropriate parts accurately
- Replace any defective or worn parts

Replacement of vanes

Replace the vanes in the motor when a power drop of the tool is experienced. If the vanes are not replaced in time other motor parts may be damaged. For increased life length of the vanes use an oil lubricator to dose oil into the air inlet.

Lubrication instructions

Rust protection and cleaning

Water in the compressed air can cause rust. To prevent rust we strongly recommend to install an air dryer.

Water and particles can cause sticking of vanes and valves. This can be prevented by installing an air filter close to the product to avoid pressure drop.

Before longer standstills always protect your tool by adding a few drops of oil into the air inlet. Run the tool for 5–10 seconds and absorb any access oil at the air outlet in a cloth.

NOTICE Do not try to clear the air path using sharp tools.
The air inlet is equipped with a strainer. If this is punctured, foreign objects may harm the valves, resulting in overspeed.

Lubrication

For flexible spindle extension – When fitting the extended spindle – apply 0.5 cm^3 (0.03 cu in) of grease type “Lubricating Engineers LE3752” (or EP grease) at the bottom of the hole in the collet holder.

Lubricating guide

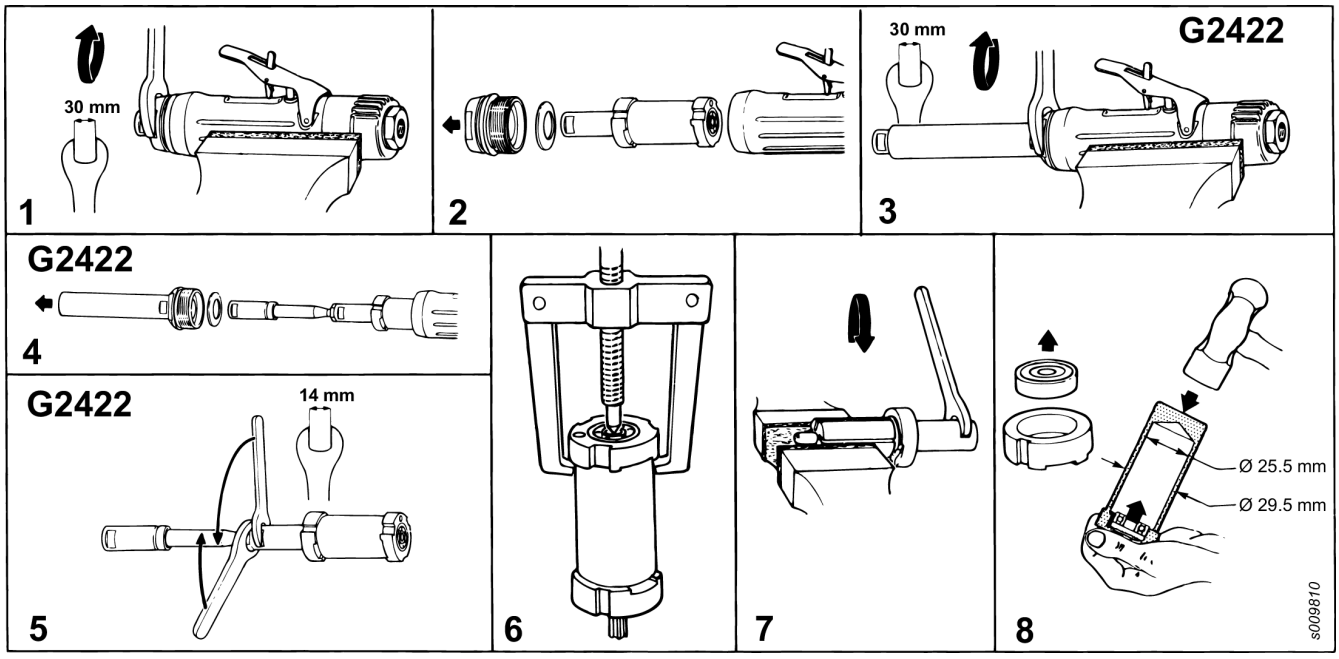
Use lubricants of good quality. The oils and greases listed in the lubrication table are examples of lubricants that can be recommended.

Brand	General purpose Bearings
BP	Energrease LS-EP2
Castrol	Spheerol EP L2
Esso	Beacon EP2
Q8	Rembrandt EP2
Mobil	Mobilegrease XHP 222
Shell	Alvania EP2
Texaco	Multifak EP2
Molycote	BR2 Plus

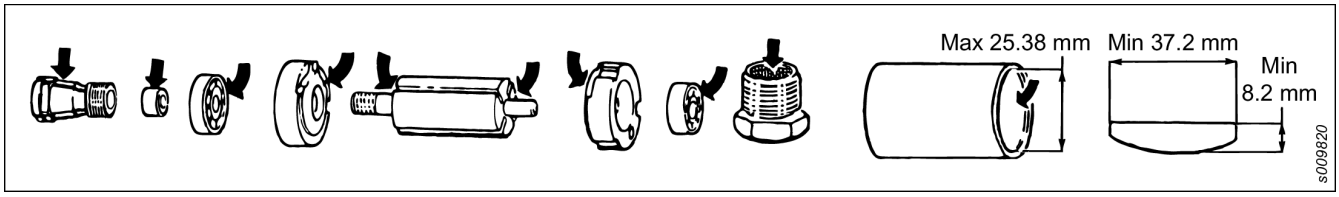
Dismantling/Assembling instructions

Instructions for complete tool

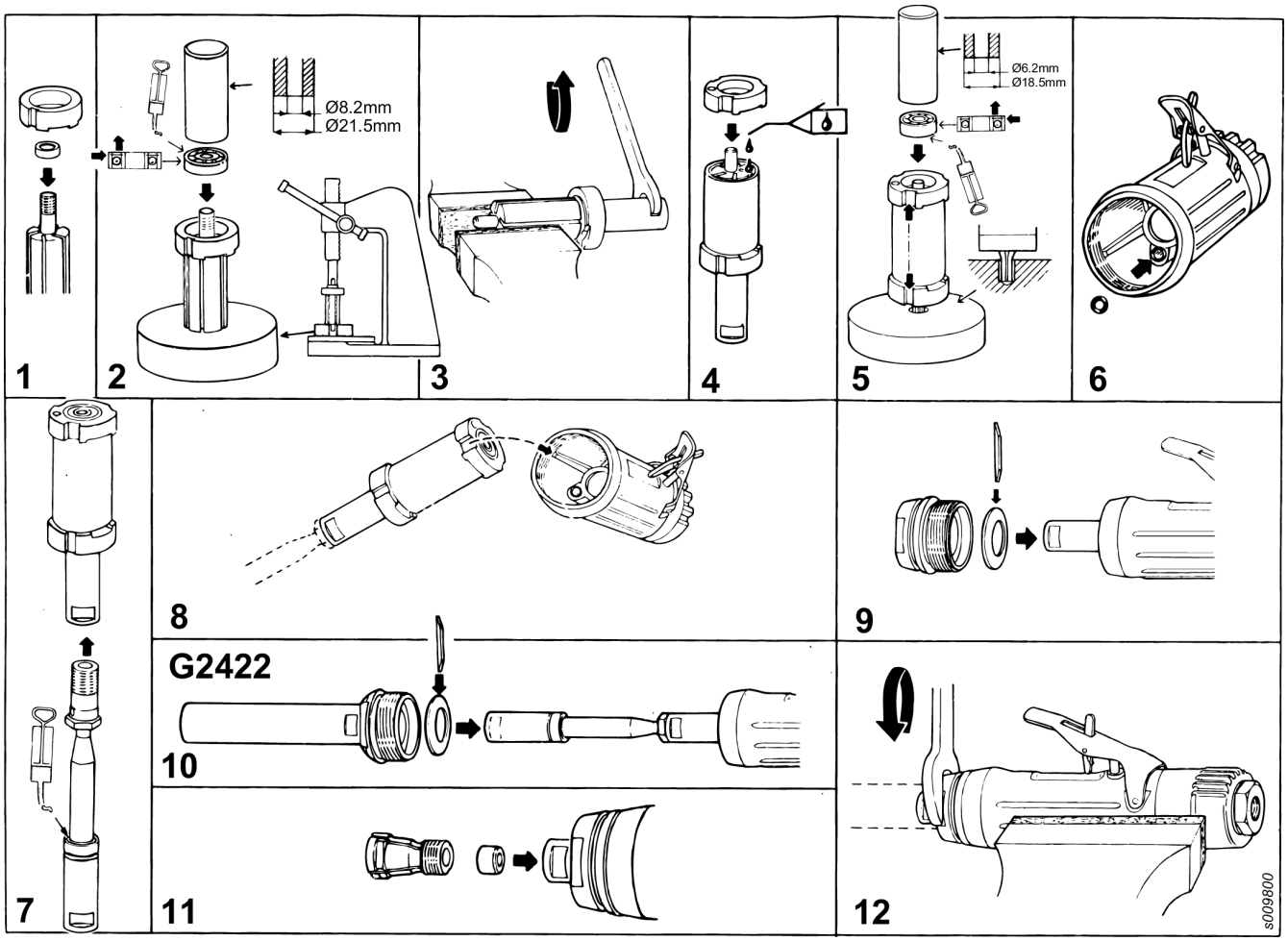
Dismantling



Inspection



Assembly



Instructions for vane motor

⚠ WARNING Polymer hazard

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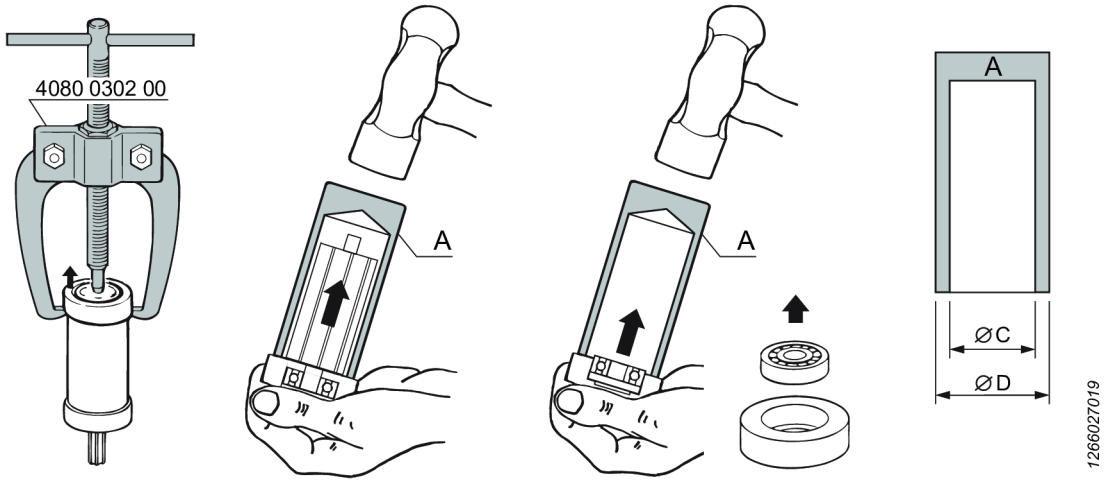
Health and Safety recommendations for PTFE must be followed when handling vanes and other components:

- ► Do not smoke when servicing this product
- ► PTFE-particles must not come in contact with open fire, glow or heat
- ► Motor components must be washed with cleaning fluid and not blown clear with an air line
- ► Wash your hands before starting any other activity

Dismantling

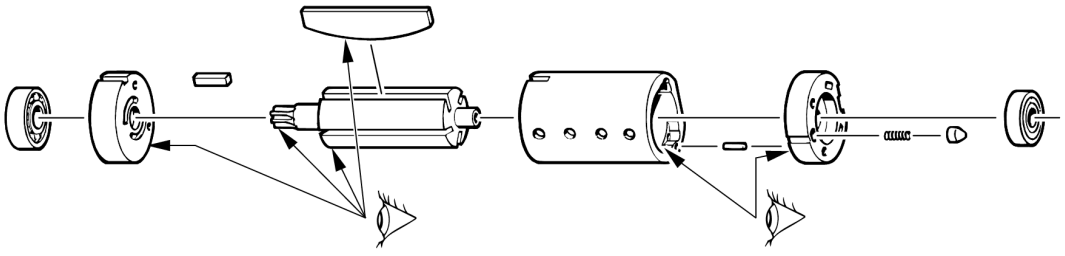


Service tools are also included in the **Basic Service Tools** set. For further information see ordering No. 9835 5485 00

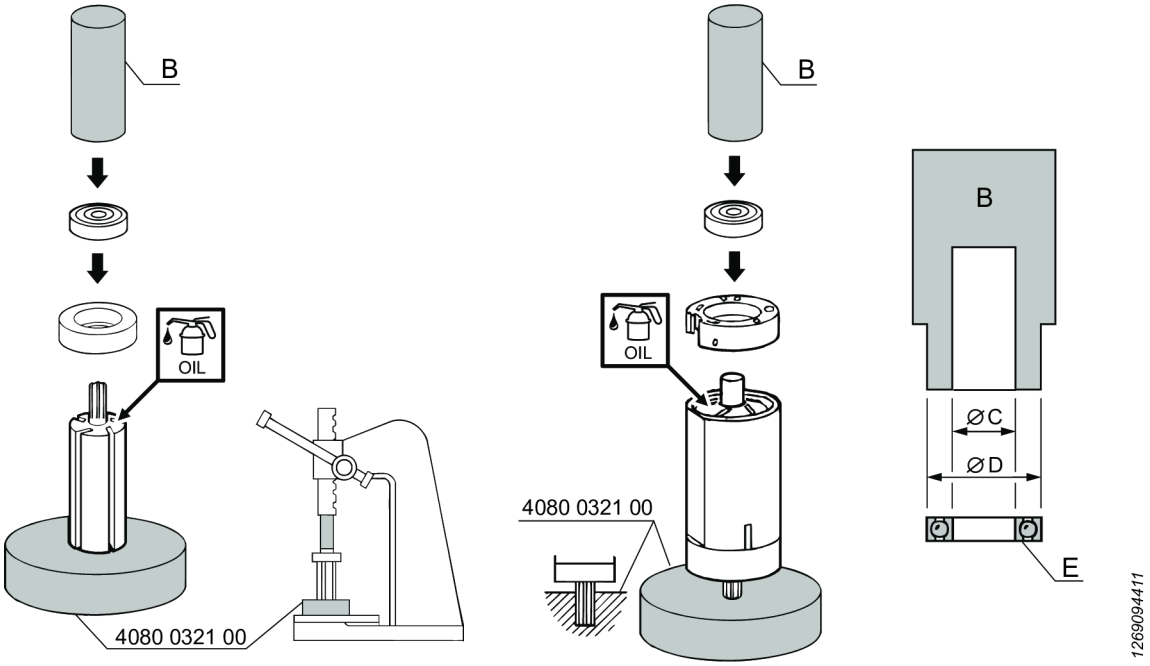
Ordering No.	Ø D	Ø C
4080 0182 01	7	3.5
4080 0182 02	8	4.5
4080 0182 03	9	5.5
4080 0182 04	10	6.5
4080 0182 05	13	8.5
4080 0182 06	16	10.5
4080 0182 07	19	12.5
4080 0182 08	22	15.5
4080 0182 09	24	17.5
4080 0182 10	26	20.5
4080 0182 11	30	25.5
4080 0182 12	35	30.5
4080 0182 13	40	35.5
4080 0182 14	47	40.5

Dismantling tool Mandrel A

Inspection of motor parts



Assembling - According to Bäckströms method



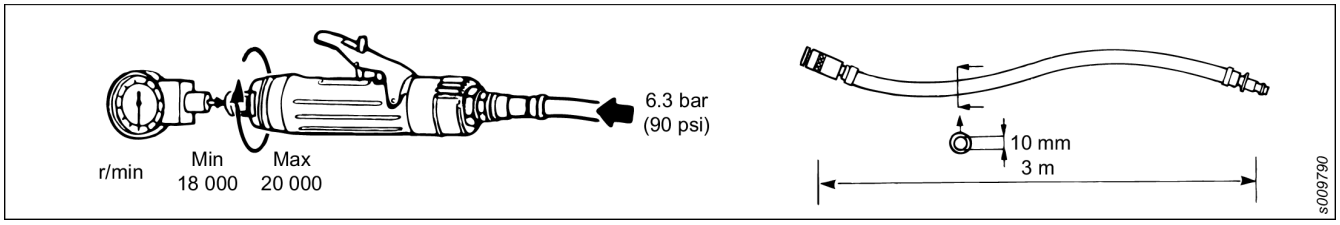
Service tools are also included in the **Basic Service Tools** set. For further information see ordering No. 9835 5485 00

Ordering No.	Ø D	Ø C
4080 0567 04	12.5	5.2
4080 0567 11	14.5	6.5
4080 0567 01	15.5	5.2
4080 0567 05	18.5	6.2
4080 0567 02	18.5	8.2
4080 0567 06	21.5	7.5
4080 0567 03	21.5	8.2
4080 0567 07	25.5	10.5
4080 0567 08	27.5	12.5
4080 0567 09	31.5	15.5
4080 0567 10	34.5	18.5

Dismantling tool Mandrel B

E: Ball bearing

Testing



Recycling

Recycling instruction

When a product has served its purpose it has to be recycled properly. Dismantle the product and recycle the components in accordance with local legislation.

Batteries shall be taken care of by your national battery recovery organization.

Original instructions

Atlas Copco Industrial Technique AB
SE-10523 STOCKHOLM
Sweden
Telephone: +46 8 743 95 00
www.atlascopco.com