# Grind Matic Manual B-DTH

Operator's instructions Spare parts list





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It can be dangerous to use the grinding machine if the care and maintenance instructions are not followed carefully.



Before using the machine, read through these instructions carefully and keep them handy for future reference.

Always replace the machine data plate if it becomes damaged or illegible (Ordering No. 87005275).

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Original instructions.

# **Safety instructions**

• Before starting, read all instructions carefully.

- •The instructions contain important sections on safety.
- Special attention must be paid to the safety

information contained in frames and accompanied by a warning symbol (a triangle) and a signal word, as shown below.

#### 🚹 DANGER

Indicates an immediate risk that WILL result in serious injury or death if the warning is not observed.



Indicates hazards or hazardous procedures which COULD result in serious injury or death if the warning is not observed.

#### 

• Indicates hazards or hazardous procedures which COULD result in injury or damage to equipment if the caution is not observed.

• Use approved spare parts only. Any damage or malfunction caused by the use of parts not approved by Epiroc Drilling Tools is not covered by the Warranty or Product Liability.

### The following general safety instructions must also be observed:

• Make sure that there are no other personnel close to the grinding machine while grinding is in progress.

• Always wear protective goggles, protective clothing, protective gloves and ear protectors during grinding. Any local regulations must also be observed.

• Wear an approved dust mask or arrange an effective dust extraction system. This is especially important when dry grinding indoors.

•The machine must not be used for any work other than that for which it is intended i.e. that which is de-scribed under the heading "Applications" on page 3.

•The machine must not be modified without the permission of the manufacturer. Modifications not approved by Epiroc can incur the risk of serious injury to yourself and others.

• Before intervening in the air system or moving the machine, make sure there is no air pressure in the system.High pressure air can blow out with the risk of injury to the eyes and skin.

• Beware of the risk of fire and/or explosion that could be initiated by sparks from the grinding work.

## **Technical data**

| Air pressure, max  | 7 bar                          |  |  |
|--|--------------------------------|--|--|
| Air consumption  | 1380 l/min                     |  |  |
| Speed of bit rotation                                    | 0–45 r/min                     |  |  |
| Idling speed of button grinder                           | 30 000 r/min                   |  |  |
| Capacity of cooling-fluid container                      | 10 I                           |  |  |
| Weight of complete machine                               |                                |  |  |
| inclusive of packaging                                   | 148 kg                         |  |  |
| exclusive of packaging                                   | 110 kg                         |  |  |
| Max. bit head diameter                                   | 203 mm                         |  |  |
| Max. bit skirt diameter                                  | 170 mm                         |  |  |
| Max. height of bit                                       | 506 mm                         |  |  |
| Min. distance between buttons                            | 6,2 mm                         |  |  |
| Sound pressure level during grinding*                    | 82.2 dB(A)                     |  |  |
| Vibration level** during grinding                        | less than 2,5 m/s <sup>2</sup> |  |  |
| Ordering No. for Grind Matic Manual B-DTH                | 87002300                       |  |  |
| Manufacturer: Epiroc Drilling Tools AB, Fagersta, Sweden |                                |  |  |

\*Equivalent continuous A-weighted sound pressure level, measured at operator's ear level during grinding. Possible spread due to measuring method and production variables, 3 dB(A).

\*\*Measuring of vibration according to EN/ISO 8662.

#### Accessories delivered with machine

| Description                                 | Ordering No.  |
|---|---------------|
| Grinding gauge (1 pc)                       | 87005282      |
| Centring fingers (4 pcs)                    | 87004443      |
| 5 mm Allen key (1 pc)                       | 87002414      |
| 6 mm Allen key (1 pc)                       | 87003151      |
| 14 mm fixed spanner (2 pcs)                 | 87003124      |
| Protective goggles (1 pc)                   | 87001967      |
| Operators instructions and spare parts list | 9866 0038 01a |

# General

The Grind Matic Manual B–DTH is an air powered grinding machine for grinding button bits. The machine uses diamond-coated grinding wheels to redress spherical or ballistic cemented-carbide buttons.

# Applications

The Grind Matic Manual B–DTH is intended for grinding DTH and threaded button bits with cemented-carbide buttons only.

# Technical description

The Grind Matic Manual B–DTH is mounted in a sheet-metal box with wheels and retractible wheel-barrow type handles. The bit holder is mounted in the base of the box. It is rotated by an air powered angle gear.

The hand-held part of the Grind Matic Manual B–DTH consists of a straight pneumatic grinder adapted for use with Epiroc diamond-coated grinding- wheels. A steel spring is fitted into the profile of the grinding wheels to act as a centring device and facilitate grinding.

The air consumption of the Grind Matic Manual B–DTH is 1380  $\rm I/$  min Cooling water is supplied from a separate container supplied with the machine.

# General care instructions

- Keep the machine clean.
- Only use clean and dry compressed air.
- Always blow clean the compressed-air hose before connecting it to the machine.
- Check the water cooling regularly.

• Before moving the grinding machine, always blow out the hose before disconnect compressed-air hose.

• If the machine is not to be used for a long time, make sure that it is generously lubricated for storage.

Flush clean the machine regularly, ideally every day. This applies especially to the discharge section, since grinding debris has a tendency to harden with time and can become difficult to remove.

The ejector for water cooling should also be cleaned frequently. To do this, blow clean compressed air through the ejector.

# Setting up for grinding

#### 

• Always follow the safety instructions in respect of the installation, operation and maintenance of the machine.

• Make sure that the compressed-air hose is connected safely to the machine. If it comes loose, it can whip around wildly with great risk of injury to personnel.

• Before fitting or removing a grinding wheel, disconnect the compressed-air hose from the grinder.

The Grind Matic Manual B–DTH is equipped with wheels and handles to facilitate moving the machine. To move the machine, pull out the handles to the outermost position.

On delivery of the machine, the hand-held grinder (48) may be found clipped to the inside of the back door (7).

Screw the bit holder to the driver plate using the two screws supplied.

# Grinding

#### 

• Before grinding a drill bit, make sure there are no traces of explosive in the flushing holes of the drill bit. To clean out the flushing holes, use only a wooden rod, a piece of copper wire or flushing water.



Never remove the grinding-guard from the machine.

•When working on or near the rotating bit-clamping device, beware of the risk of getting your hand or fingers trapped between the bit-clamping device and the wall of the box.



#### 

•The exhaust air from pneumatic grinders contains oil. To inhale oil mist is bad for your health. Be sure to adjust the lubricator to give the correct dosage of oil.

• Make sure that the grinding station or worksite is well ventilated.

• Always wear protective goggles, protective clothing, protectivee gloves, ear protectors and an approved dust mask when grinding. Any local regulations must also be observed.

• Before changing the grinding wheel, always vent and disconnect the compressed-air hose.

• Before removing the drill bit from the holder, always switch off the air supply to the table motor.

• Beware of the risk of fire and explosion that could be initiated by sparks from the grinding work.

#### **General rules**

Use grinding wheels of the right shape and size for the buttons that are to be ground. See page 10.

The drill bit must be properly secured for grinding, so that it cannot move.

Good cooling is very important to the service life of the grinding wheel, and also to the grinding result. Poor cooling can result in heat stresses being "ground into" the cemented-carbide buttons, with button fracture as a result.

The service life of the grinding wheel falls dramatically if cooling is poor.

Pressing the grinding wheel too hard on to the cemented-carbide button will reduce the service life of the wheel.Both the grinding wheel and the cemented-carbide button can be damaged by excessive heat generation.

A new grinding wheel must always be "run in". Start grinding carefully and increase the feed pressure gradually. This will increase the service life of the grinding wheel substantially.

N.B. If anything other than original grinding wheels are used, Epiroc will not accept liability for any faults or damage, or the consequences thereof.

#### **Grinding hints**

The rate of bit wear depends on the rock formation, and is highest in rocks with a high quartz content. A suitable grinding interval should be determined according to the rate of bit wear. It is more economical to regrind too early rather than to suffer poor penetration rates and risk damaging the drill bit through overdrilling. A few hints about the care of drill bits:

#### When to regrind



Button bits should be reground when the penetration rate drops, or if any of the cemented-carbide buttons are damaged (fractured buttons should be ground flat). It is both practical and economical to redress the buttons when the wear

flat reaches about 1/2 of the diameter of the button.

#### Look out for "snake skin"



If microscopic fatigue cracks – socalled "snake skin" – begin to appear on the cemented carbide buttons, the cracks must be ground away. In any event, bits should be reground after 300 metres of drilling at the most.

This should be done even if there are no visible signs of wear and the penetration rate continues to be good. If snake-skin is not removed, the cracks will deepen and ultimately result in button fracture.

#### Do not grind away too much cemented carbide



Do not grind too much on the top of the buttons. Let a few millimetres of the wear flat remain on top of the button.

#### Always grind broken buttons flat



A drill bit can remain in service as long as the gauge buttons maintain the diameter of the bit. Fractured buttons must always be ground flat to prevent chips of cemented carbide from damaging the other buttons.

#### Avoid grinding the perimeter



Gauge button anti-taper has to be removed by grinding, although excessive reduction of the bit diameter should be avoided. Leave about 2 mm of the wear flat.

If necessary, remove some of the bit-body steel below the gauge buttons, so that a clearance (taper) of 0.5 mm is maintained. If the flushing holes start to deform, open them up with the aid of a rotary burr or steel file.

#### **Grinding instructions**



Connect the air and water hoses. Make sure that the hoses are connected to the correct inlets.



Cooling of the grinding wheel and drill bit is effected by means of water mist. The volume of water mist is adjustable by means of the wheel (G) and should be as generous as possible. Inadequate cooling wil result in a sharp reduction in the service life of the diamond-coated grinding wheel. It will also cause heat stresses to be "ground into" the cemented-carbide button, which can result in button fracture. In sub-zero temperatures, add industrial alcohol to the cooling water to prevent freezing.

#### 🚹 IMPORTANT

The cooling water must NOT be recirculated.



Before grinding, always check that there are no traces of explosive in the flushing holes of the drill bit. Clamp the drill bit securely in the holder. Use the right bit holder for the size and thread of the drill bit. To grind the gauge buttons, incline the holder to the correct angle so that the button is vertical during grinding.



Start the rotation of the drill bit by lifting the hand-held grinder from its holder.



The rotation speed can be regulated by means of the wheel (H).



Locate the grinding wheel over the centre of the button to be ground. The gap between the centering fingers must be equal to, or slightly greater than the diameter of the button. Normally the grinder should be inclined to the side at the start of grinding and then righted upwards as the button begins to take on the finished ground shape.



When determining a suitable gap between the centring fingers, the wear pattern on the drill bit should be taken into consideration. It is sometimes necessary to proceed through trial and error. The centering fingers can be adjusted by cutting with a pair of pincers, or by grinding them down.

#### Start the grinder.



Let the drill bit rotate through a few revolutions as you grind the button. Inspect the grinding result.Note that correct grinding is very important to the function of the drill bit during drilling.



 $\begin{array}{l} A = incorrect \ grinding \ result - too \ little \ protrusion \\ B = correct \ grinding \ result - spherical \ button \\ C = correct \ grinding \ result - ballistic \ button \\ \end{array}$ 

#### Drill bits with two button sizes



When grinding drill bits with two different button sizes, it can be more convenient to use two hand-held grinders (product code 87001913) with different grinding wheel dimensions.

#### **Overdrilled bits**



When a drill bit has been severely overdrilled, it can be difficult to get the centering fingers to guide the grinding wheel around the cemented-carbide buttons. In this case, stop the rotation of the drill bit and grind a few grooves into the body steel around the button. To do this, press the grinding wheel straight down over the button.

Repeat the above procedure a few times at different angles.



Start the rotation of the drill bit and grind the button to the correct shape.

# Changing the grinding wheel



• Before changing the grinding wheel, always vent and disconnect the compressed-air hose to the grinder.

Fit the grinding wheel on to the grinding spindle.

**N.B.** The marking on the grinding wheel must face away from the grinder. Make sure that the spindle journal is clean and slightly oiled. This will make it easier to remove the grinding wheel.

Tightening torque when fitting grinding wheel: min. 5 Nm.

If the grinding wheel cannot be pulled off by hand, an extractor can be used.

 $\ensuremath{\textbf{N.B.}}$  Do not use excessive force on either the spindle or the grinding wheel.

## Maintenance

#### 

• Before intervening in the air system, make sure that there is no pressure in the system. High pressure air can blow out with the risk of injury to the eyes and skin.

### Lubrication



The pneumatic system has two air preparation units:

- •The compressed-air filter (A)
- •The oil-mist lubricator (B).

The air filter serves both to clean the air and to separate water from the air. Be sure to drain the filter bowl before it becomes full. To drain the filter bowl, squeeze the lugs at the base of the bowl together and drain through the hose (C).

The oil-mist lubricator supplies the air motors with the necessary lubrication.

#### Cleaning the air filter

Unscrew the filter bowl and separator disc. Clean the filter in benzine or a similar agent. Blow the filter dry from the inside out. Fit back the filter and screw on the filterbowl.

The oil-mist lubricator must be filled with oil of a grade and quality suitable for compressed-air machines. See list of recommended lubricants.

#### Other maintenance

The ejector for water cooling must be cleaned regularly by blowing clean compressed air through it. To enable this to be done, the pneumatic part must be lifted up and the ejector removed.

If the machine is not going to be used for longer periods of time, pour a little oil into the compressed air hose, switch on the air briefly and let the oil enter the air motors. The machine must also be drained of water and cleaned before storage.

Change the centering fingers when they become worn.

#### **Recommended lubricants**

| ВР        | Energol RD-E46 |
|-----------|----------------|
| Mobil     | Almo Oil 525   |
| Shell     | Torcula 68/32  |
| Esso      | Arox EP 68     |
| Q8        | Q8 Chopin 46   |
| Texaco RD | Lube 32        |

#### Pneumatic circuit diagram



| ltem | Product No. | Description                    |  |  |  |
|------|-------------|--------------------------------|--|--|--|
| А    |             | Compressed air delivery        |  |  |  |
| 1    | 87001853    | Quick coupling                 |  |  |  |
| 2    | 87001854    | Quick coupling                 |  |  |  |
| 3, 4 | 87004770    | Filter and oil-mist lubricator |  |  |  |
| 5    | 87001270    | Shut-off valve                 |  |  |  |
| 6    | 87001851    | Valve                          |  |  |  |
| 7    | 87001920    | Air motor                      |  |  |  |
| 8    | 87127436    | Shut-off valve                 |  |  |  |
| 9    | 87001060    | Ejector                        |  |  |  |

### Accessories



#### Hand-held grinder

| Description                                 | Product code |
|---|--------------|
| One supplied with the machine, 30,000 r/min | 87001913     |



| Description                               | Product code |
|---|--------------|
| Centering finger kit 5 pcs (for 87001913) | 87004443     |

#### Grinding templates for button bits

| Dimension, mm | Product No. |  |
|---------------|-------------|--|
| Spherical     |             |  |
| 7 – 14.5      | 87005282    |  |
| 11 – 22       | 87005284    |  |
| Ballistic     |             |  |
| 7 – 14.5      | 87005283    |  |
| 11 – 22       | 87005285    |  |
| Trubbnos      |             |  |
| 6 – 12        | 87005287    |  |
| 12,1 – 19,1   | 87005288    |  |



#### Standard diamond-grain wheels

| Dimension, mm | Product No. | 1 |
|---------------|-------------|---|
| Spherical     |             |   |
| 7             | 87004554    |   |
| 8             | 87004555    |   |
| 9             | 87003969    | 1 |
| 10            | 87003970    | 1 |
| 11            | 87003971    | 1 |
| 12            | 87003972    | 1 |
| 13            | 87003973    | 1 |
| 14            | 87001025    | 1 |
| 15            | 87001384    | 1 |
| 16            | 87001027    | 1 |
| 18            | 87003964    | 1 |
| 19            | 87003966    | 1 |
| Ballistic     |             |   |
| 7             | 87004556    |   |
| 8             | 87004557    |   |
| 9             | 87003974    |   |
| 10            | 87003975    | 1 |
| 11            | 87003976    |   |
| 12            | 87003977    |   |
| 13            | 87003413    | ] |
| 14            | 87003414    | 1 |
| 15            | 87003415    | 1 |
| 16            | 87003416    | 1 |
| 18            | 87003965    | ] |
| 19            | 87003967    | ] |
| Trubbnos      | ·           |   |
| 9             | 87004589    |   |
| 10            | 87004590    |   |
| 11            | 87004591    |   |
| 12            | 87004592    |   |
| 12,7          | 87004593    |   |
| 14,5          | 87004594    |   |
| 15,8          | 87004595    |   |
| 19,1          | 87004596    |   |



| Bit shanks                                | Product No. |
|---|-------------|
| For DTH and COPROD bits                   |             |
| COP 32                                    | 87002420    |
| COP 34                                    | 87003691    |
| COP 35                                    | 87004514    |
| COP 44                                    | 87002391    |
| COP 44 Gold                               | 87004604    |
| COP 54                                    | 87002390    |
| COP 54 Gold                               | 87004033    |
| COP 64                                    | 87002389    |
| COP 64 Gold                               | 87004002    |
| COP 66                                    | 87004784    |
| DHD 3.5                                   | 87004514    |
| DHD 340A                                  | 87002391    |
| DHD 350R                                  | 87002390    |
| DHD 360                                   | 87002389    |
| RC 40                                     | 87004605    |
| RC 45                                     | 87004605    |
| RC 50                                     | 87004605    |
| TD 40                                     | 87004604    |
| TD 50                                     | 87004033    |
| QL 340                                    | 87002391    |
| QL 50                                     | 87004033    |
| QL 60                                     | 87004002    |
| QLX 35                                    | 87004514    |
| QLX 40                                    | 87004604    |
| QLX 50                                    | 87004033    |
| COPROD 76                                 | 87004414    |
| COPROD 89                                 | 87003155    |
| COPROD 102                                | 87004415    |
| COPROD 127                                | 87002396    |
| COPROD 140                                | 87004518    |
| MRX6                                      | 87004784    |
| W70                                       | 87004771    |
| W100                                      |             |
| * Clamping<br>device for<br>threaded bits | 87002391    |



## **Spare parts**



| Ref.<br>No. | Product No.  | Qty | Description                 | Specification |
|-------------|--------------|-----|-----------------------------|---------------|
| 1           | 87002303     | 1   | Metal box                   |               |
| 2           | 87001900     | 2   | Handle                      |               |
| 3           | 0129 3270 66 | 26  | Pop rivet                   | 4.8X10        |
| 4           | 87001771     | 3   | Plastic strip               |               |
| 5           | 87002310     | 1   | Protective plate            |               |
| 6           | 0147 1203 03 | 7   | Screw                       | M5x8          |
| 7           | 87002311     | 1   | Hatch                       |               |
| 8           | 87001996     | 1   | Lock                        |               |
| 9           | 87001910     | 2   | Holder                      |               |
| 10          | 87001904     | 2   | Hinge                       |               |
| 11          | 87002318     | 2   | Pipe                        | 25x2          |
| 12          | 87001888     | 2   | Handle                      |               |
| 13          | 87002304     | 1   | Front leg assy              |               |
| 14          | 87002305     | 2   | Rear leg                    |               |
| 15          | 0147 1322 03 | 20  | Screw                       | M8x16         |
| 16          | 0301 2335 00 | 16  | Washer                      | 8.4x16x1.6    |
| 17          | 0261 2110 00 | 16  | Nut                         | M 8           |
| 18          | 87001891     | 2   | Wheel                       |               |
| 19          | 87001869     | 2   | Washer                      | BRB 25x44x4   |
| 20          | 0111 1284 00 | 2   | Split pin                   | 3.2x35        |
| 21          | 87002314     | 2   | Collection channel assy     |               |
| 22          | 0211 1964 98 | 4   | Screw MC6S                  | M6x65         |
| 23          | 0301 2321 00 | 4   | Washer                      | 6.4x12x1.6    |
| 24          | 87001912     | 1   | Elbow                       | R3/4"         |
| 25          | 87001921     | 2   | Outlet hose                 |               |
| 26          | 87001933     | 1   | T-piece                     | R3/4"         |
| 27          | 87004570     | 1   | Clamping device<br>complete |               |
| 28          | 0216 1957 73 | 2   | Screw                       | 10x25         |
| 29          | 87002320     | 1   | Driver                      |               |
| 30          | 0147 1362 03 | 4   | Screw                       | M10x25        |
| 31          | 87002321     | 1   | Mounting<br>washer          |               |
| 32          | 87002363     | 1   | Radial shaft seal           |               |
| 33          | 0335 2147 00 | 1   | Circlip                     | SgH 55        |
| 34          | 87002364     | 2   | Ball bearing                |               |
| 35          | 87002325     | 1   | Bearing spacer              |               |

| Ref.<br>No. | Product No.  | Qty | Description                      | Specification |
|-------------|--------------|-----|----------------------------------|---------------|
| 36          | 87002322     | 1   | Bearing housing                  |               |
| 37          | 0335 1132 00 | 1   | Circlip                          | SgA 30        |
| 38          | 87002326     | 1   | Shaft coupling                   |               |
| 39          | 87129964     | 2   | Screw                            | M5x16         |
| 40          | 87002323     | 1   | Intermediate piece               |               |
| 41          | 0147 1246 03 | 4   | Screw                            | M6x16         |
| 42          | 87001919     | 1   | Worm gear assy                   |               |
| *43         | 87001920     | 1   | Pneumatic motor                  |               |
| 44          | 87000849     | 1   | Elbow                            | 8-1/4         |
| 45          | 87001892     | 1   | Plastic can                      |               |
| 46          | 87003052     | 1   | Cupper pipe<br>assy. For coolant |               |
| 47          | 87005275     | 1   | Machine data<br>plate            |               |
| 48*         | 87001913     | 1   | Hand-held<br>grinder             |               |
| 49          | 87002301     | 1   | Pneumatic assy<br>manual-B-DTH   |               |
| 50          | 87000416     | 1   | Bellows                          |               |
| 51          | 87001834     | 1   | Handle holder                    |               |
| 52          | 0347 6106 00 | 3   | Hose clamp                       | 19-25         |
| 53          | 0111 1260 00 | 2   | Split pin                        | 2.5x40        |

\* If you need to order parts, please contact local Atlas CopcoTools AB. Item number can be found at the body part.

For detailed instructions, visit: http://servaid.atlascopco.com\_

When ordering spare parts, please state the model designation of the grinding machine, the product number and description of the desired part (not the Ref No.) and also the serial number of the machine (see machine data plate, item No. 47).

Use approved spare parts only. Any damage or malfunction that can be attributed to the use of spare parts not approved by Epiroc is not covered by the company's warranty and will invalidate product liability.

## **Pneumatic assembly**



| Ref. No. | Product No.  | Qty | Description        | Specification |
|----------|--------------|-----|--------------------|---------------|
| 1        | 87001880     | 1   | Mounting plate     |               |
| *2       | 87004770     | 1   | Filter assy        |               |
| 3        | 87000536     | 1   | Plug               | 1/8"          |
| 4        | 87001060     | 1   | Ejector            |               |
| 5        | 87001061     | 2   | Angled connector   | 8-1/8         |
| 6        | 87127436     | 1   | Shut-off valve     | 7-1/4"        |
| 7        | 87129946     | 1   | Claw coupling      | 1/2"          |
| 8        | 87001851     | 1   | Valve              | 5501020003    |
| 9        | 87001852     | 2   | Connection         | 1/2-3/8       |
| 10       | 87001856     | 2   | Straight connector | 8-1/4         |
| 11       | 87001866     | 1   | Connection         | 12-3/8        |
| 12       | 87000021     | 1   | Nipple             | 1/2"          |
| 13       | 87002421     | 1   | T-nipple           | 3/8           |
| 14       | 87002422     | 2   | Connection         | 8-3/8         |
| 15       | 87002423     | 1   | Connection         | 12-3/8        |
| 16       | 87003756     | 1   | Joining angel      | 8-8           |
| 17       | 87001853     | 1   | Connection         | 8202 1302 44  |
| 18       | 0301 2321 00 | 4   | Washer             | 6.4x12x1.6    |

| Ref. No. | Product No.  | Qty | Description    | Specification |
|----------|--------------|-----|----------------|---------------|
| 19       | 87001840     | 1   | Pipe           |               |
| 20       | 0301 2358 00 | 1   | Washer         | 13x24x2.5     |
| 21       | 0301 2318 00 | 4   | Washer         | 5.3x10x1      |
| 22       | 0147 1244 03 | 4   | Screw          | M6x12         |
| 23       | 0147 1205 03 | 4   | Screw          | M5x12         |
| 24       | 87001854     | 2   | Connection     | 8202 1300 38  |
| 25       | 87001855     | 2   | Connection     | 8-1/4         |
| 26       | 87003765     | 1   | Hose           | 8/6 PU        |
| 27       | 87004064     | 1   | Hose           | 12/8 PU       |
| 28       | 87001850     | 2   | Bushing        | 2530-3/8-1/4  |
| 29       | 87001271     | 1   | Nut            | 3/8"          |
| 30       | 87000849     | 5   | Elbow          | 8-1/4         |
| 31       | 87001270     | 1   | Shut-off valve |               |
| 32       | 87127504     | 1   | Nut            | 1/4"          |
| 33       | 87001923     | 1   | Decal          |               |
| 34       | 0564 0005 00 | 1   | Coupling       | 1/2"          |
| 35       | 87001989     | 1   | Camozzi plug   | 1/2           |

\* If you need to order parts for filter assy, please contact local Atlas Copco Tools AB. Item number can be found at the body part. For detailed instructions, visit: http://servaid.atlascopco.com\_http://servaid.atlascopco.com

## Hand held grinder assembly



| Ref. No. | Product No.  | Qty | Description       | Specification |
|----------|--------------|-----|-------------------|---------------|
| 1        | 87001915     | 1   | Cooling unit      |               |
| 2        | 87001841     | 1   | Spindle           |               |
| 3        | 87000787     | 1   | Spacer            |               |
| 4        | 0216 1957 26 | 1   | Hand-held grinder | 6x16          |
| *5       | 87001916     | 1   | Hand-held grinder |               |
| 6        | 87002863     | 2   | Connection        | 10/8-1/4      |
| 7        | 87002864     | 2   | Holding spring    | 10/8          |

| Ref. No. | Product No. | Qty | Description    | Specification |
|----------|-------------|-----|----------------|---------------|
| 8        | 87002888    | 1   | Nylon tube     | 10            |
| 9        | 87002887    | 1   | Nylon tube     | 8.5/6         |
| 10       | 87002867    | 1   | Holding spring | 8/6           |
| 11       | 87002866    | 1   | Connection     | 8/6-1/4       |
| 12       | 87002868    | 1   | Nipple         | 8202 1205 83  |
| 13       | 87002865    | 1   | Nipple         | 8202 1202 86  |

\*If you need to order parts, please contact Atlas Copco Tools AB: http://servaid.atlascopco.com

## Worm gear assembly



| Ref. No. | Product No. | Qty | Description    | Specification |
|----------|-------------|-----|----------------|---------------|
| 1        | 87001925    | 1   | Worm gear      |               |
| 2        | 87001826    | 1   | Spacer         |               |
| 3        | 87001926    | 1   | Shaft coupling |               |

| Ref. No. | Product No.  | Qty | Description | Specification |
|----------|--------------|-----|-------------|---------------|
| 4        | 0301 2318 00 | 5   | Washer      | 5.3x10x1      |
| 5        | 0211 1208 03 | 5   | Screw       | M5x20         |
| 6        | 0261 1091 58 | 4   | Nut         | M6M 5         |

# **Clamping device**



| Ref. No. | Product No. | Qty | Description   | Specification |
|----------|-------------|-----|---------------|---------------|
| 1        | 87001426    | 2   | Bushing       |               |
| 2        | 87002324    | 1   | Inner holder  |               |
| 3        | 87002360    | 1   | Locking lever | M12x40        |
| 4        | 87002319    | 1   | Outer holder  |               |
| 5        | 87002027    | 2   | Shaft journal |               |

| Ref. No. | Product No.  | Qty | Description   | Specification |
|----------|--------------|-----|---------------|---------------|
| 6        | 0301 2358 00 | 1   | Washer        | 13x24x2.5     |
| 7        | 87002361     | 1   | Locking lever | M10x80        |
| 8        | 0147 1360 03 | 1   | Screw         | M10x20        |
| 9        | 5600572428   | 1   | Scale         |               |
| 10       | 0244 4143 00 | 2   | Drive screw   | 2.5x5         |

# **Cooling unit**



| Ref. No. | Product No.  | Qty | Description       | Specification |
|----------|--------------|-----|-------------------|---------------|
| 1        | 87004773     | 1   | Hand guard        |               |
| 2        | 87001995     | 1   | Hose              | PV6/4 L=2X80  |
| 3        | 87001994     | 1   | Y-hose connection |               |
| 4        | 87001897     | 5   | Hose clamp        |               |
| 5        | 0301 2321 00 | 1   | Washer            | 6.4x12x1.6    |

| Ref. No. | Product No.  | Qty | Description      | Specification |
|----------|--------------|-----|------------------|---------------|
| 6        | 0147 1246 03 | 1   | Screw            | M6x16         |
| 7        | 87004443     | 1   | Centering finger | 5 pcs         |
| 8        | 87001914     | 1   | Knob             |               |
| 9        | 87004774     | 1   | Protection       |               |

## Notes

| <br> | <br> |
|------|------|
|      |      |
|      |      |

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