

WSG 8-115 (A)/(B); WSG 8-125 (A)/(B); WSG 11-125 (A)/(B); WSG 11-150 (A)/(B); WSG 12-125P (A)/(B); WSG 17-125P; WSG 17-125PS; WSG 17-150P; WSG 17-70Inox



## Repair instructions





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- 2. Technical data**
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## 1. Models described

These instructions describe how to repair the following models:

<b>Model</b>	<b>Order number</b>
WSG 8-115 (A)	7 222 01 .. . .
WSG 8-125 (A)	7 222 02 .. . .
WSG 11-125 (A)	7 222 03 .. . .
WSG 11-150 (A)	7 222 04 .. . .
WSG 12-125P (A)	7 222 05 .. . .
WSG 17-125P	7 222 07 .. . .
WSG 17-125PQ	7 222 08 .. . .
WSG 17-125PS	7 222 09 .. . .
WSG 17-125PSQ	7 222 10 .. . .
WSG 17-150P	7 222 11 .. . .
WSG 17-150PQ	7 222 12 .. . .
WSG 17-70Inox	7 222 13 .. . .
WSG 15-125P (A)	7 222 24 .. . .



## **1. Models described**

<b>Model</b>	<b>Order number</b>
WSG 8-115 (B)	7 222 28 .. . .
WSG 8-125 (B)	7 222 29 .. . .
WSG 11-125 (B)	7 222 30 .. . .



## 2. Technical data

### Technical data

The complete technical data can be found in the operating instructions for the model.

### Test data

Up-to-date test data for all models can be found on the FEIN Extranet (Customer Service → Repair Guides).

### Lubricants

The lubricants and container sizes available from FEIN can be found on the FEIN Extranet (Customer Service → Repair Guides).

### Lists of spare parts

Lists of spare parts and exploded views are available online at [www.fein.com](http://www.fein.com)



### 3. Notes and requirements

#### Note

These instructions are only intended for persons with suitable technical training. It is assumed that the reader has mechanical and electrical training.

**Only use original FEIN spare parts!**

#### Provisions

Please note that power tools may only be repaired, maintained and checked by a trained electrician, as improper repair can result in serious risks to the user.

The provisions set out in **DIN VDE 0701-0702** should be observed after repairs.

The relevant accident prevention regulations of the employers' liability insurance associations are to be observed when commissioning.

The German Equipment and Product Safety Act applies for correct use.

**Outside Germany, the provisions applicable in the relevant country must be observed!**



## 4. Tools required

### Standard tools

Plastic hammer	
Slotted screwdriver (small)	
Torx screwdriver	T15; T20
Punch	
Arbor press	
Ball bearing support	19 mm; 26 mm
Sleeves	<ul style="list-style-type: none"> <li>• 35 mm inner diameter</li> <li>• 14 mm inner diameter 19 mm outer diameter</li> <li>• 30 mm inner diameter 42 mm outer diameter</li> <li>• 15 mm inner diameter 20 mm outer diameter</li> <li>• 15 mm inner diameter 27 mm outer diameter</li> </ul>
4x round material	Diameter 20 mm; length = 60 mm

### Special tools

Drawing-off socket cap	6 41 04 150 00 8
Chuck cone, 19 mm	6 41 07 019 00 7
Chuck cone, 26 mm	6 41 07 026 00 0
Drawing-off plate	6 41 02 069 00 7
Pipe	6 41 01 002 00 4
Assembly aid	6 41 22 121 01 0
Pressure piece	6 41 22 003 00 0





## 6. Disassembly

### Disassembling housing cover



1. Unscrew two screws (1) and take off bottom part of cover (2).

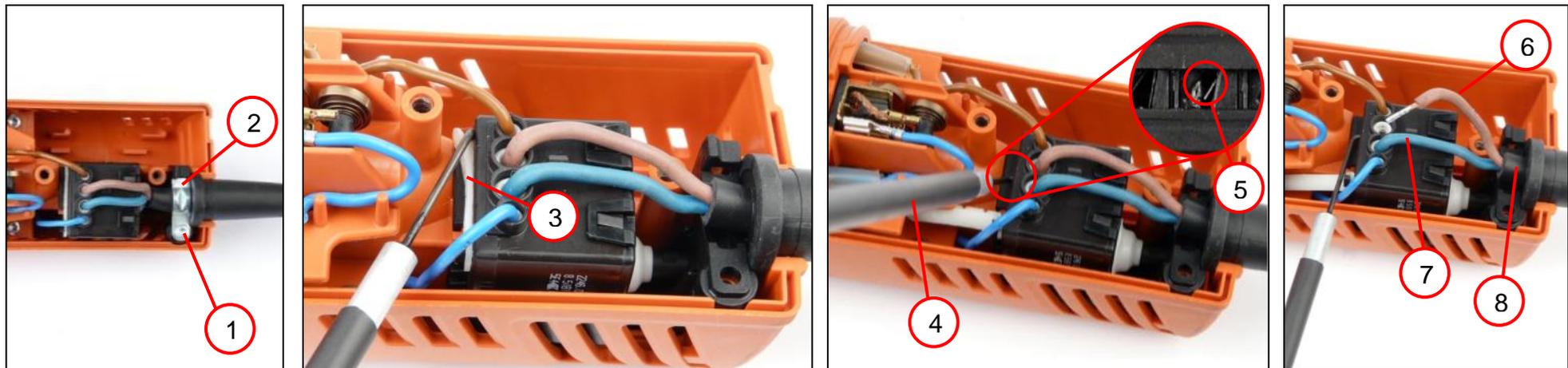
**Tools:**

- Torx T15



## 6. Disassembly

### Speedy mains cable replacement



1. Unscrew screw (1) and remove cable clamp (2).
2. Pull off cover (3).
3. Slide hook (4) into opening (5).
4. Turn hook and take out cable (6).
5. Turn hook and take out cable (7).
6. Remove cable (8) with plug

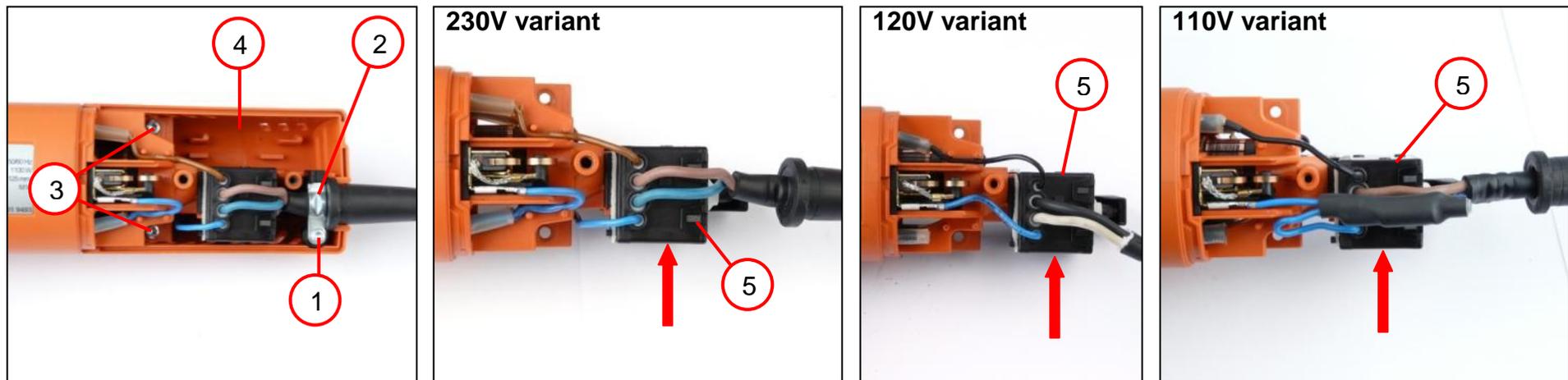
#### Tools:

- Torx T15
- Assembly aid



## 6. Disassembly

### Disassembling switch (applies to: WSG 8; WSG 11)



1. Unscrew screw (1) and remove cable clamping piece (2).
2. Unscrew two screws (3) and take off upper part of cover (4).
3. Slide switch (5) out of holder.

**Tools:**

- Torx T15



## 6. Disassembly

### Disassembling switch (applies to: WSG 8-115; WSG 11)



1. Open rubber cover (1).
2. Open spring clips by turning with a small slotted screwdriver.
3. Remove the four stranded wires (2).

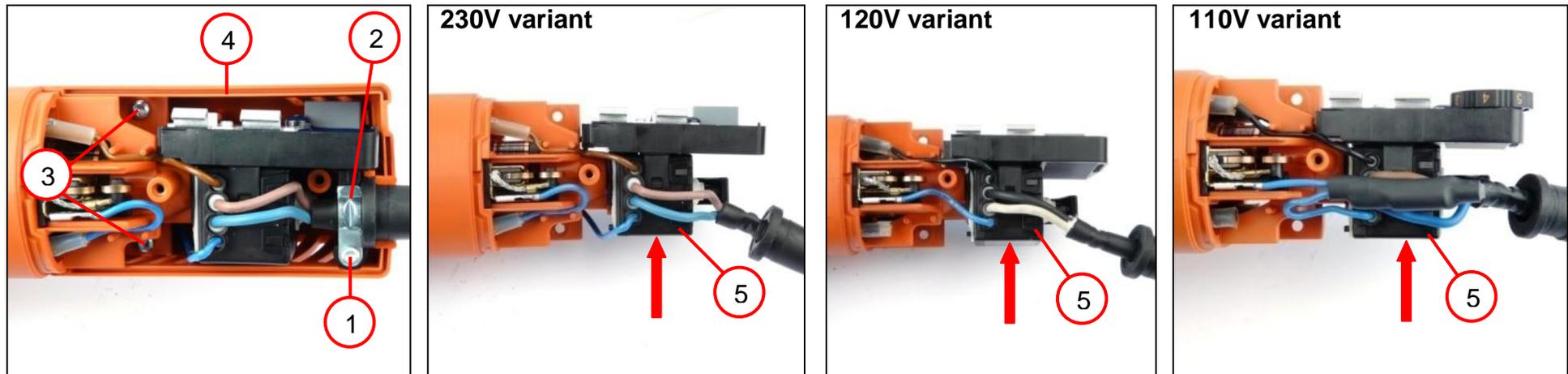
#### Tools:

- Slotted screwdriver (small)



## 6. Disassembly

### Disassembling switch (applies to: WSG 12; WSG 17)



1. Unscrew screw (1) and remove cable clamping piece (2).
2. Unscrew two screws (3) and take off upper part of cover (4).
3. Slide switch (5) out of holder.

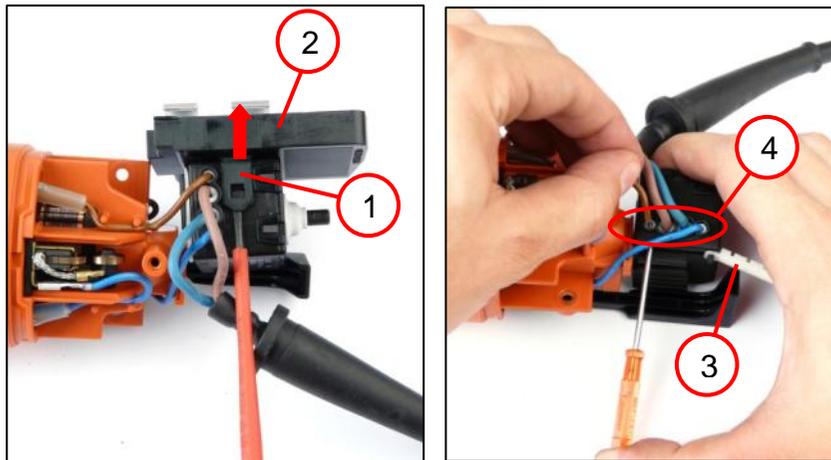
#### Tools:

- Torx T15



## 6. Disassembly

### Disassembling switch (applies to: WSG 12; WSG 17)



1. Lift hook (1) on both sides of switch and pull off electronics (2).
2. Open rubber cover (3).
3. Open spring clips by turning with a small slotted screwdriver.
4. Remove the four stranded wires (4).

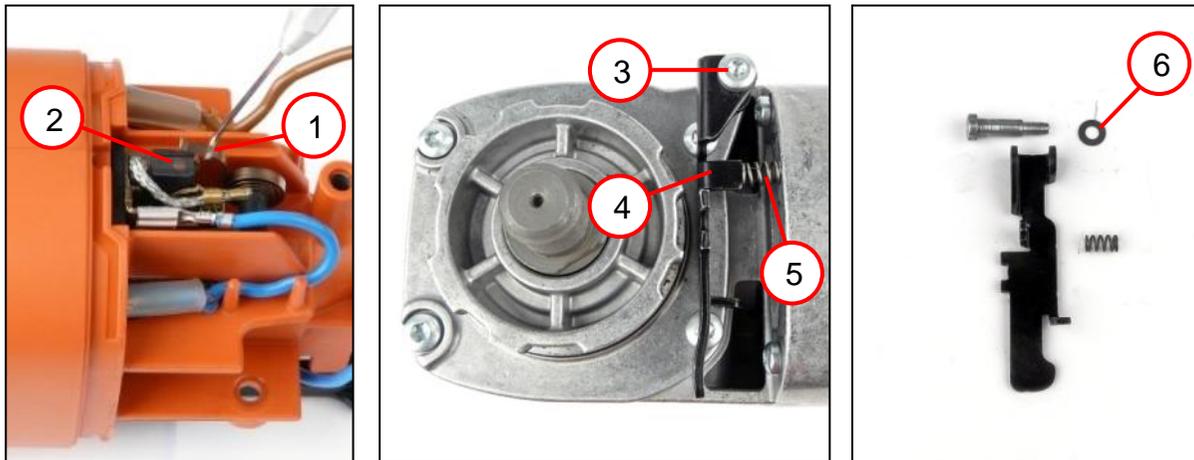
#### Tools:

- Slotted screwdriver (small)



## 6. Disassembly

### Disassembling stator



1. Pry tension spring (1) off carbon brush (2).
2. Pull out carbon brush (2).
3. Unscrew the screw (3).
4. Remove the lever (4).
5. Remove the disc (6).
6. Remove the spring (5).

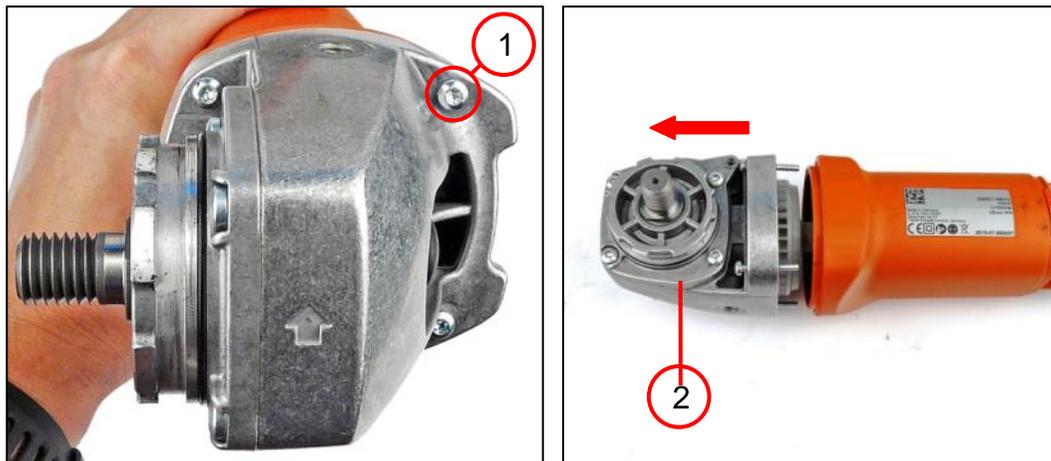
#### Tools:

- Assembly aid
- Torx T20



## 6. Disassembly

### Disassembling stator



1. Unscrew the four screws (1).
2. Pull gearbox housing (2) with armature out of housing.

#### Tools:

- Assembly aid
- Torx T15



## 6. Disassembly

### Disassembling stator

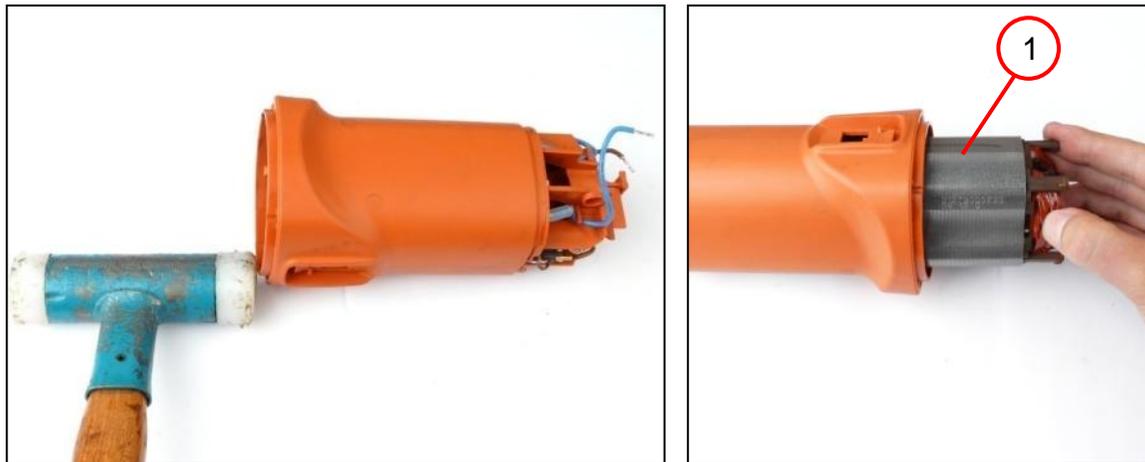


1. Remove air guide ring (1).
2. Lift up slide switch (2) and remove.
3. Remove two carbon bushes holders (3).
4. Pull out control rod (4).



## 6. Disassembly

### Disassembling stator



1. Remove stator (1).

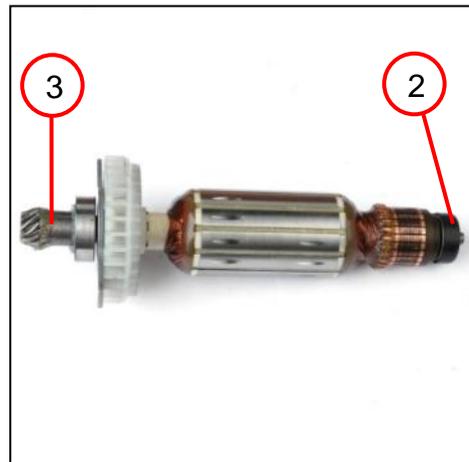
**Tools:**

- Plastic hammer



## 6. Disassembly

### Disassembling armature



1. Use a plastic hammer to remove armature (1).
2. Remove bearing bush (2).
3. Remove bevel pinion (3).

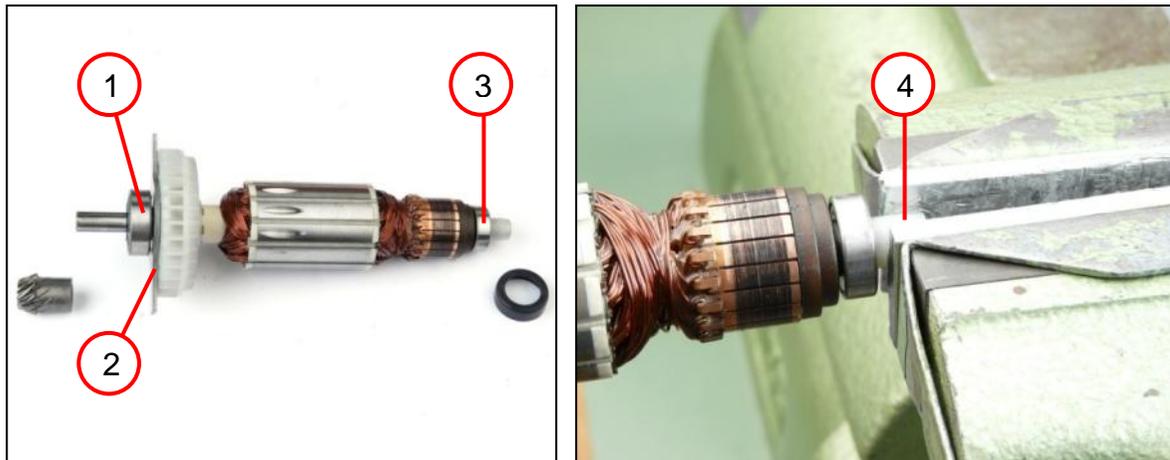
#### Tools:

- Plastic hammer
- Punch
- Arbor press
- Drawing-off plate  
6 41 02 069 00 7
- Pipe  
6 41 01 002 00 4



## 6. Disassembly

### Disassembling armature



1. Remove grooved ball bearing (1).
2. Remove plate (2).
3. Remove grooved ball bearing (3).
4. Pull off magnet (4).
  - ☞ The plastic sleeve is included in the following tool types: WSG 12; WSG 15
  - ☞ The magnet is destroyed during disassembly and has to be replaced.

#### Tools:

- Drawing-off socket cap  
6 41 04 150 00 8
- Chuck cone, 26 mm  
6 41 07 026 00 0
- Chuck cone, 19 mm  
6 41 07 019 00 7



## 6. Disassembly

### Removing the gearbox housing

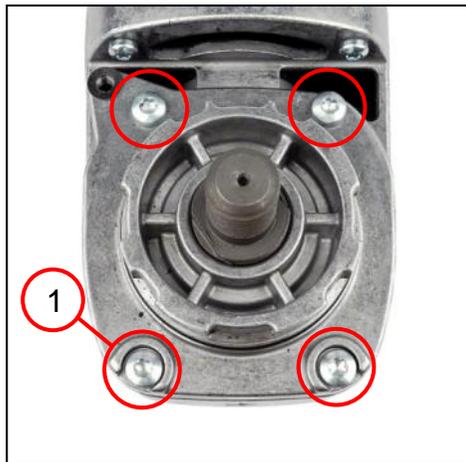


1. Remove the air guide ring (1).
2. Remove the sealing ring (2).



## 6. Disassembly

### Removing the gearbox housing



1. Unscrew the four screws (1).
2. Take off the bearing plate (2).
3. Remove the washer(s) (3).

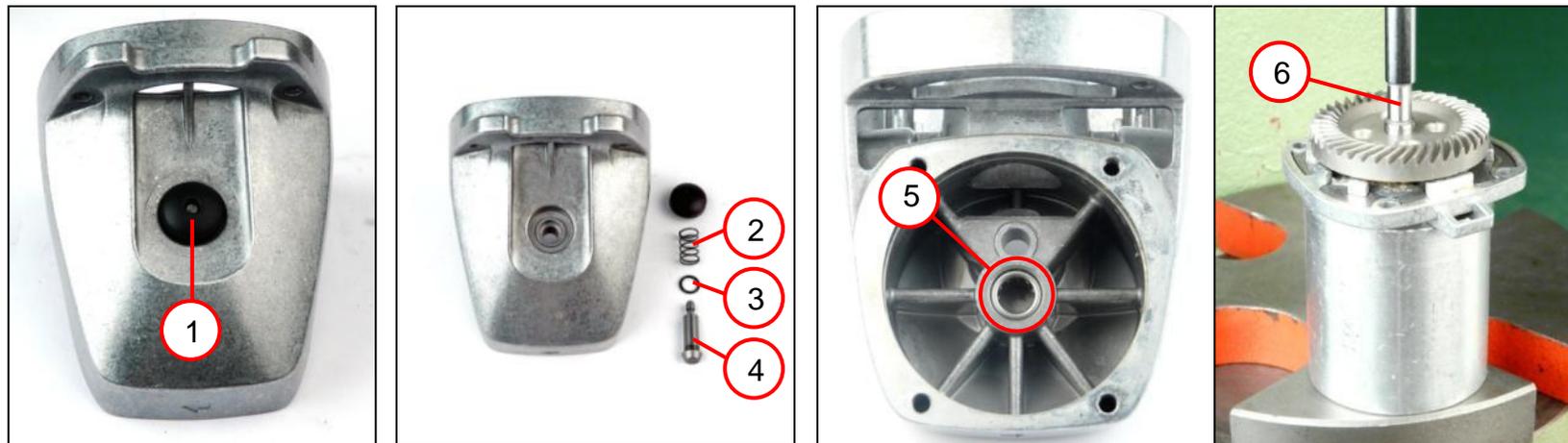
**Tools:**

- Torx T20



## 6. Disassembly

### Removing the gearbox housing



1. Remove the pushbutton (1).
2. Remove the spiral spring (2) and the bolt (3) with sealing ring (4).
3. Remove the needle sleeve (5).
4. Press out the shaft (6).

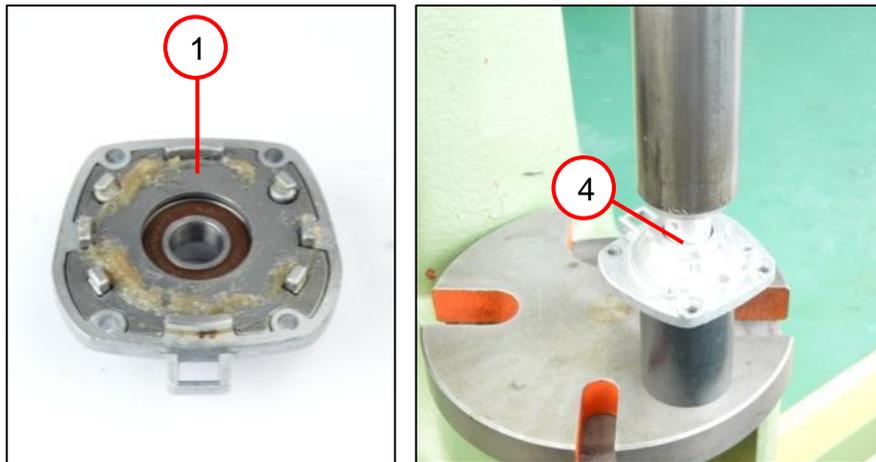
#### Tools:

- Slotted screwdriver
- Arbor press
- Punch
- Sleeve with 35 mm inner diameter



## 6. Disassembly

### Disassembling gearbox housing



1. Remove plate (1).
2. Press out grooved ball bearing (2).

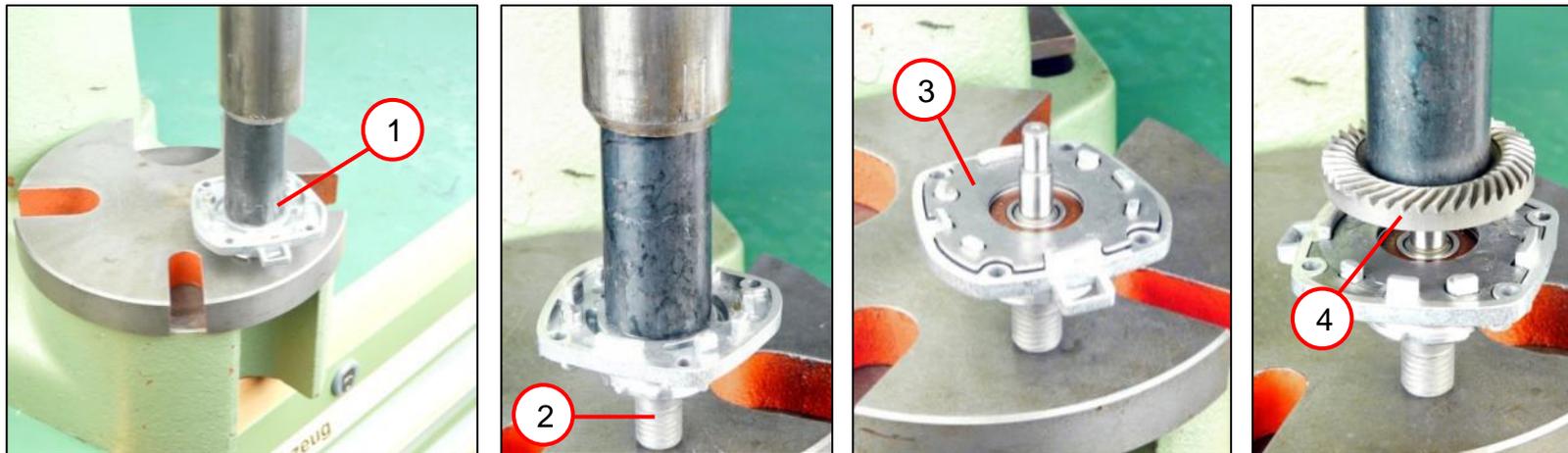
#### Tools:

- Arbor press
- Sleeve  
14 mm inner diameter  
19 mm outer diameter
- Sleeve  
30 mm inner diameter  
42 mm outer diameter



## 7. Assembly

### Assembling gearbox housing



1. Press grooved ball bearing (1) into bearing plate.
2. Press in shaft (2).
3. Insert plate (3).
4. Press gear-wheel (4) onto shaft.

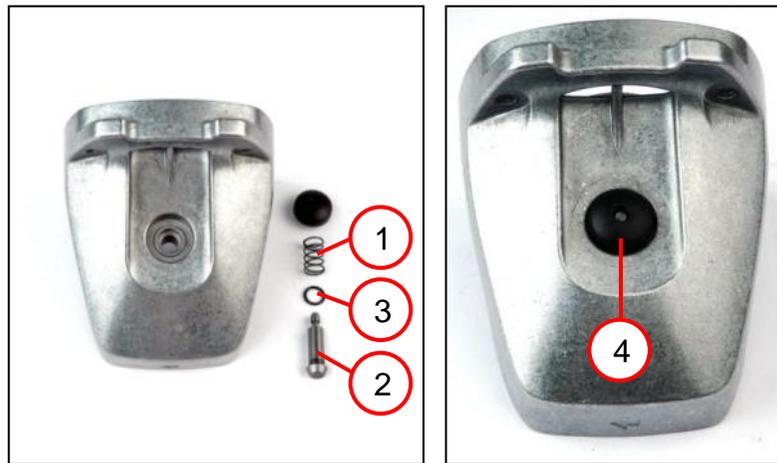
#### Tools:

- Arbor press
- Sleeve  
15 mm inner diameter  
27 mm outer diameter
- Sleeve  
15 mm inner diameter  
20 mm outer diameter



## 7. Assembly

### Assembling gearbox housing



1. Insert the spiral spring (1) and the bolt (2) with sealing ring (3).
2. Fit the pushbutton (4).



## 7. Assembly

### Assembling gearbox housing



1. Coat both sides of the washer(s) (1) with Loctite 573 and position the washer(s) on the gearbox housing.  
🔧 Replace the washer(s) during fitting.
2. Place the bearing plate (2) on the gearbox housing.
3. Screw in the four screws (3) [2.4 Nm].

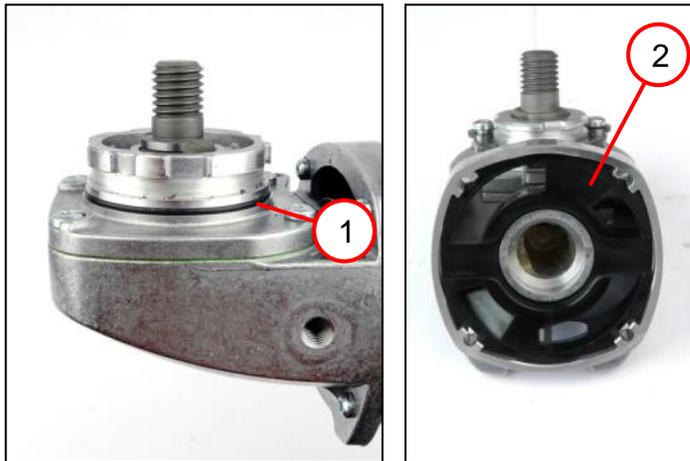
**Tools:**

- Torx T20



## 7. Assembly

### Assembling gearbox housing



1. Place the sealing ring (1) in the groove.
2. Insert the air guide ring (2) into the gearbox housing.



## 7. Assembly

### Assembling armature



1. Slide plate (3) onto armature.
2. Press grooved ball bearing (2) onto armature.
3. Press grooved ball bearing (4) onto armature.
4. Press bevel pinion (1) onto armature.
5. Carefully press magnet (6) onto armature.
  - ☞ The magnet is included in the following tool types: WSG 12; WSG 15.
  - ☞ The magnet must be replaced each time the armature is assembled.
6. Slide bearing bush (5) over ball bearing.

#### Tools:

- Arbor press
- Ball bearing support  
19 mm; 26 mm



## 7. Assembly

### Assembling armature



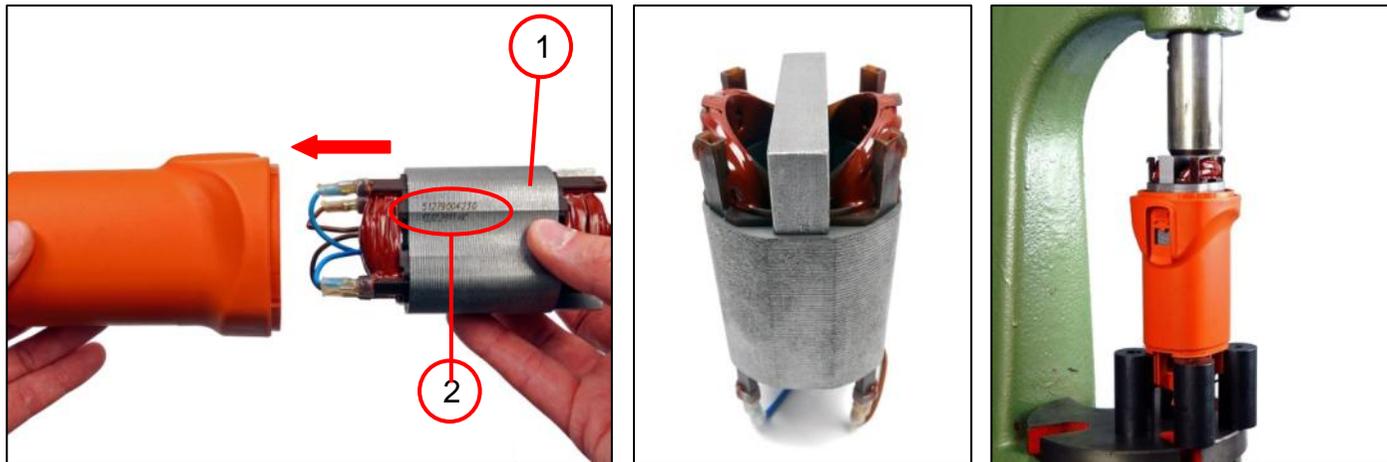
1. Press armature into gearbox housing.

- ☞ Ensure that plate lies in air guide ring's recess.
- ☞ When assembled, it must no longer be possible for the armature to be pulled out in an axial direction by hand. If the armature can be pulled out by hand, the gearbox housing must be replaced.



## 7. Assembly

### Assembling the stator



1. Press stator (1) into motor housing in correct position.  
☞ Use ID number (2) to align stator.

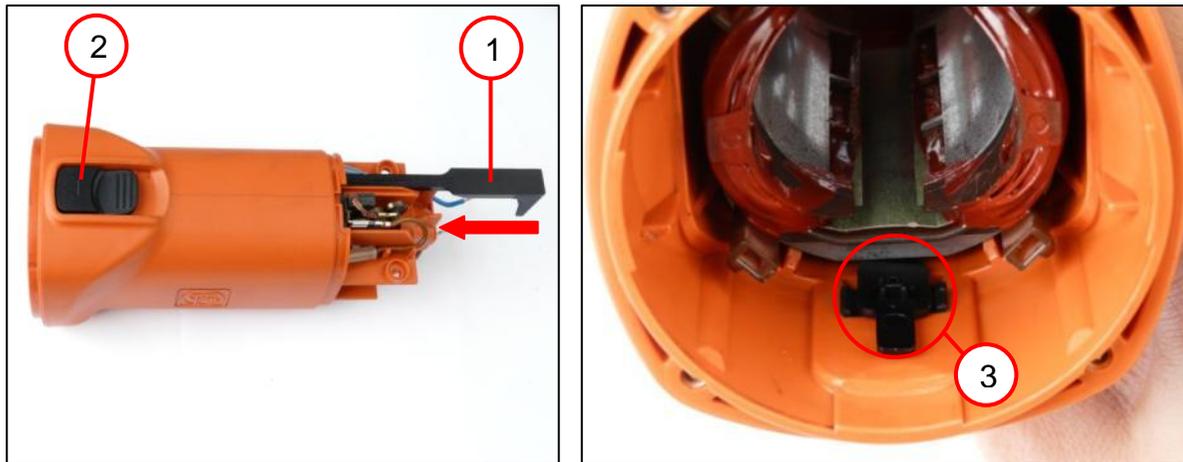
#### Tools:

- Arbor press
- Pressure piece
- 4x round material  
20 mm in diameter;  
length = 60 mm



## 7. Assembly

### Assembling the stator



1. Slide control rod (1) into motor housing.
2. Assemble slide switch (2).
3. Hook control rod onto slide switch (3).



## 7. Assembly

### Assembling gearbox head



1. Insert air guide ring (1) in motor housing.
2. Slide gearbox housing (2) with armature into motor housing (3).
3. Screw down gearbox housing with four screws (4) [2.7 Nm].

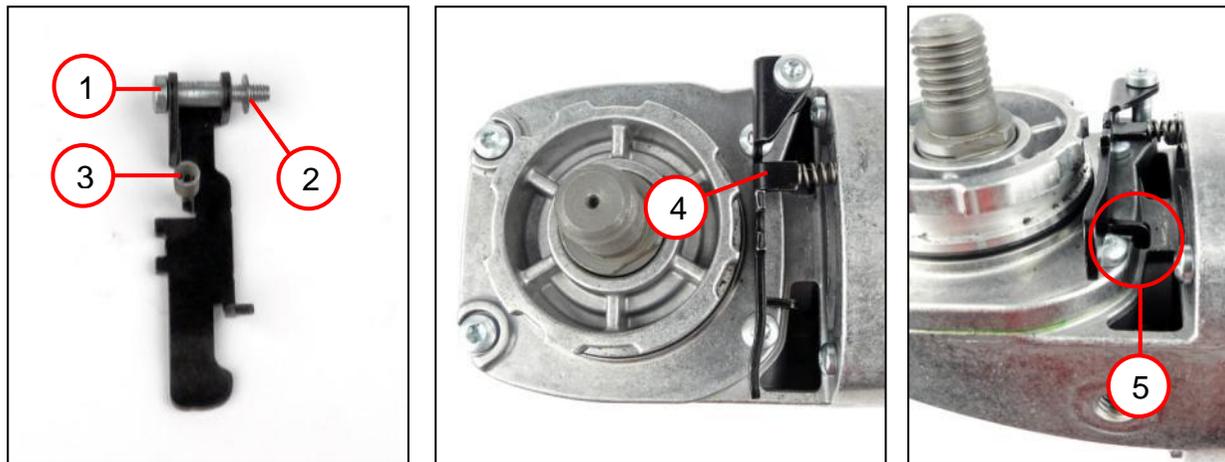
**Tools:**

- Torx T15



## 7. Assembly

### Fitting the gearbox housing



1. Position the screw (1).
2. Position the disc (2).
3. Position the spring (3).
4. Screw the lever (4) onto the bearing plate [2.4 Nm].
  - ☞ The screw (1) is a self-tapping screw.
  - ☞ Ensure that the screw is inserted perpendicular to the bearing plate.
  - ☞ Position the stop (5) as shown.

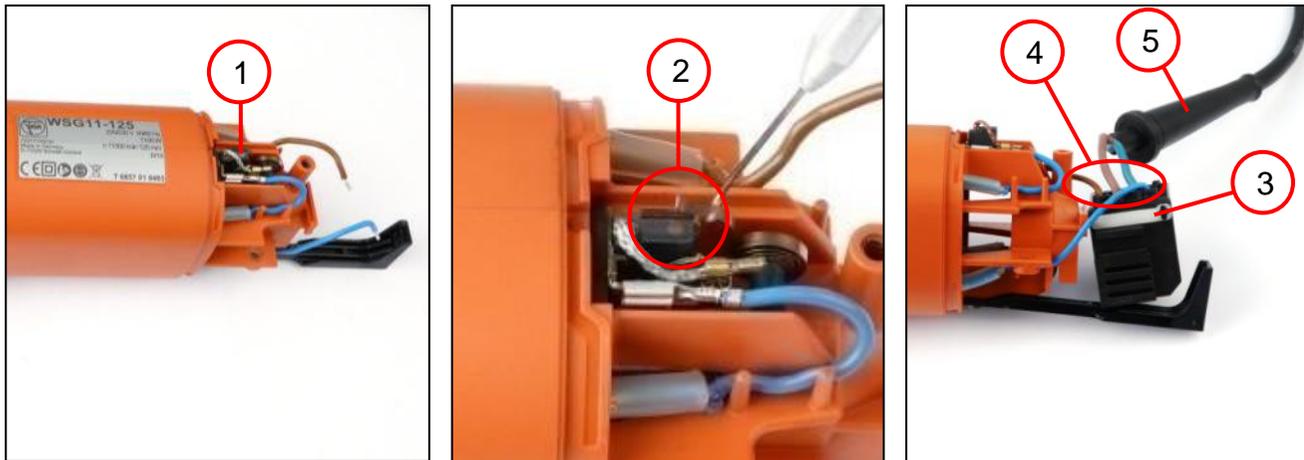
#### Tools:

- Torx T20



## 7. Assembly

### Assembling switch and electronics



1. Assemble carbon brushes (1) and connect.
2. Place springs (2) of carbon brush holder on carbon brush.
3. Close rubber cover (3) on switch.
4. Connect stranded wires of stator (4) and supply cable (5) to switch.  
☞ For connecting stranded wires, see chapter 8 Connection diagram.

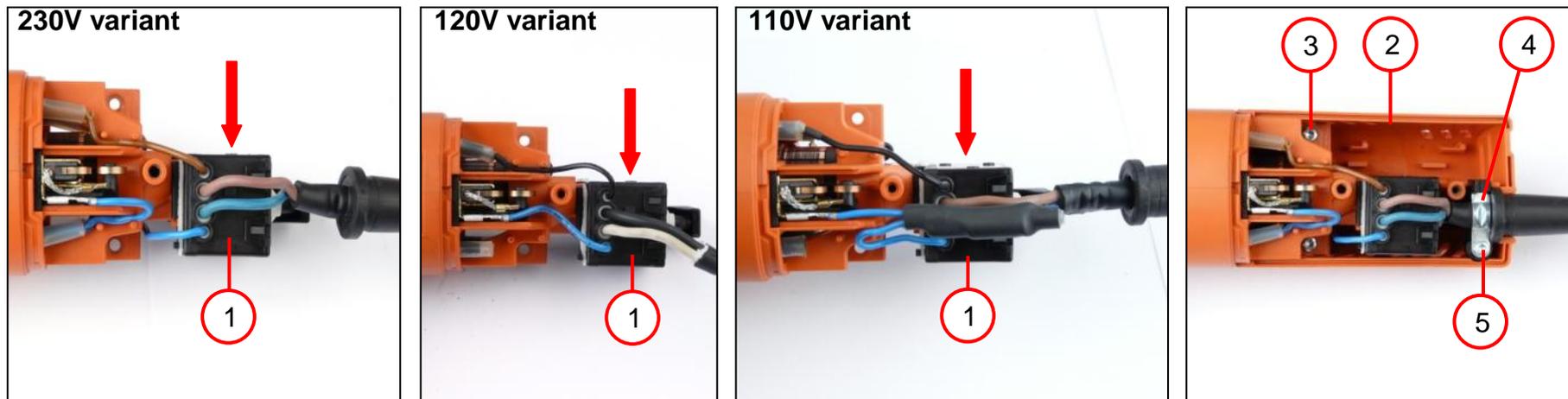
#### Tools:

- Assembly aid



## 7. Assembly

### Assembling switch and electronics (applies to: WSG 8-115; WSG 8-125; WSG 11-125)



1. Slide switch (1) on to motor housing.
2. Fit control rod on switch.
3. Fit upper part of cover (2).
4. Tighten two screws (3) [1.5 Nm].
5. Position supply cable.
6. Place cable clamping piece (4) on supply cable.
7. Tighten screw (5) [1.5 Nm].

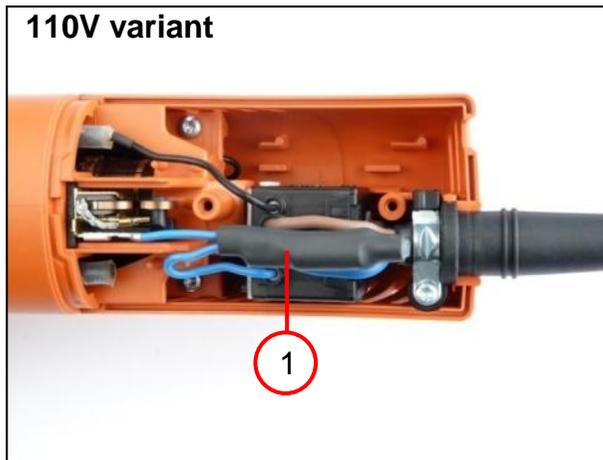
#### Tools:

- Torx T15



## 7. Assembly

### Assembling switch and electronics (applies to: WSG 8; WSG 11)



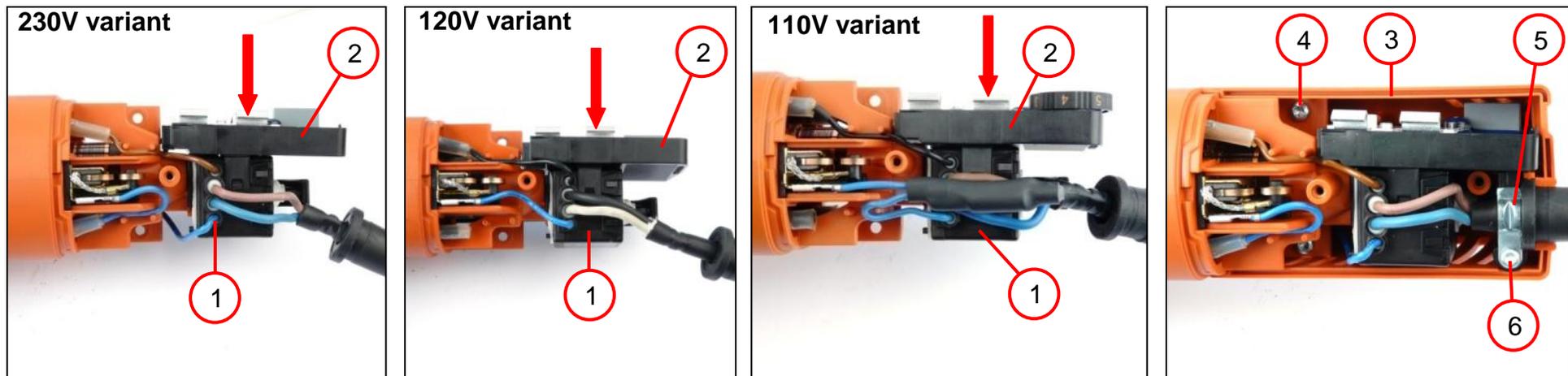
#### NOTE

If tools are fitted with a choke (1), ensure that the choke is positioned between the supply cable's stranded wires. Failure to do so may mean that upper part of cover cannot be fitted correctly.



## 7. Assembly

### Assembling switch and electronics (applies to: WSG 12; WSG 17)



1. Slide switch (1) on to motor housing.
2. Attach electronics (2) onto switch until they engage.
3. Fit control rod on switch.
4. Fit upper part of cover (3).
5. Tighten two screws (4) [1.5 Nm].
6. Position supply cable.
7. Place cable clamping piece (5) on supply cable.
8. Tighten screw (6) [1.5 Nm].

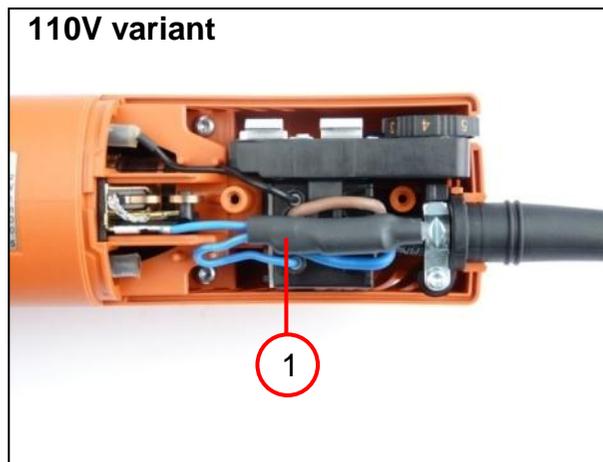
#### Tools:

- Torx T15



## 7. Assembly

### Assembling switch and electronics (applies to: WSG 12; WSG 17)



#### NOTE

If tools are fitted with a choke (1), ensure that the choke is positioned between the supply cable's stranded wires. Failure to do so may mean that upper part of cover cannot be fitted correctly.



## 7. Assembly

### Fitting the housing cover



1. Place lower part of cover (1) on upper part of cover.
2. Fasten lower part of cover with the two screws (2) [1.5 Nm].

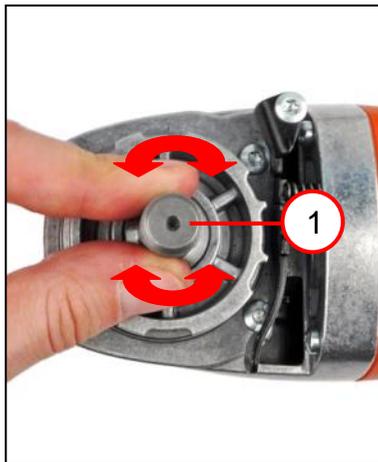
#### Tools:

- Torx T15



## 7. Assembly

### Setting gearbox clearance



1. Perform a test run.
2. Check gearbox clearance by turning shaft (1).
  - ☞ If there is no gearbox clearance, a second disc must be placed between bearing plate and gearbox housing [see page 26 "Assembling gearbox"].

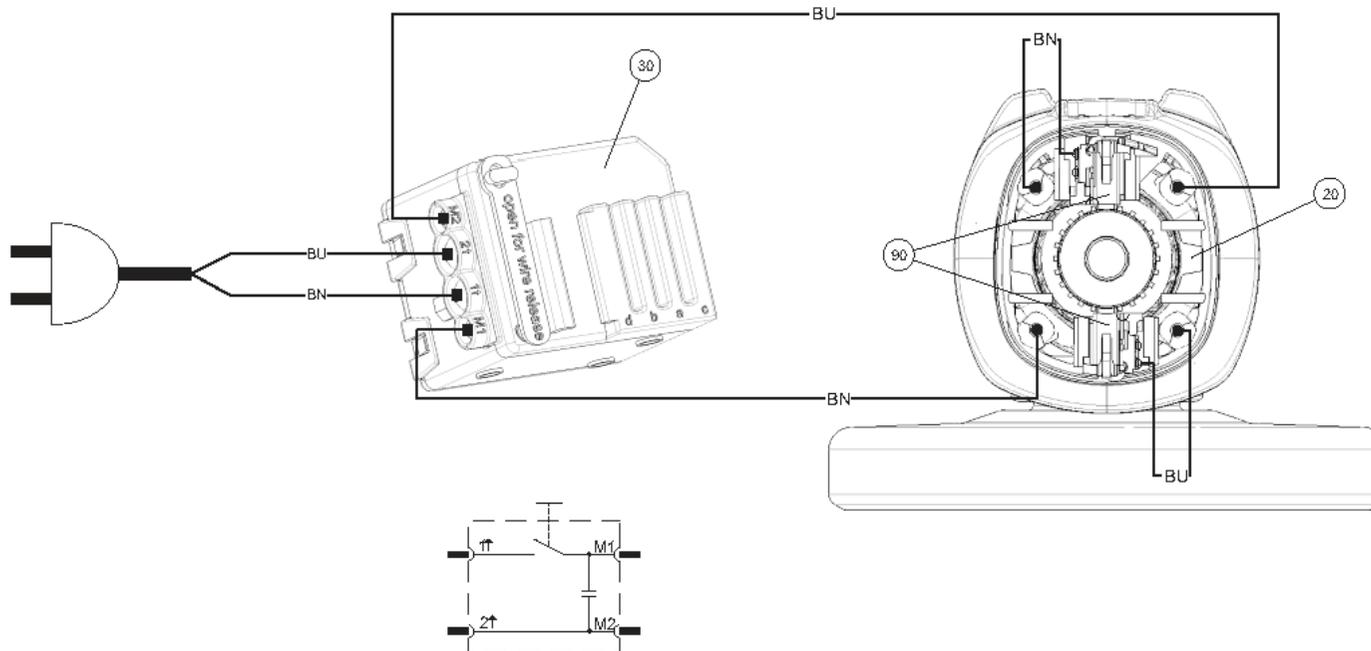


## 8. Connection diagram

### Anschlussplan

Connection diagram  
Esquemade conexiones  
Schémade connexion  
Схэма соединэний  
接线图

7 221 73 - WSG8-115 / 220V - 230V 50/60Hz  
7 221 74 - WSG8-125 / 220V - 230V 50/60Hz  
7 221 77 - WSG11-125 / 220V - 230V 50/60Hz  
7 221 85 - WSG11-150 / 220V - 230V 50/60Hz  
7 222 01 - WSG8-115(A) / 220V - 230V 50/60Hz  
7 222 02 - WSG8-125(A) / 220V - 230V 50/60Hz  
7 222 03 - WSG11-125(A) / 220V - 230V 50/60Hz  
7 222 04 - WSG11-150(A) / 220V - 230V 50/60Hz



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## 8. Connection diagram

### Anschlussplan

Connection diagram

Esquemade conexiones

Schéma de connexion

Схема соединений

接线图

7 221 75 - WSG12-125P / 220V - 230V 50/60Hz

7 221 76 - WSG12-125PQ / 220V - 230V 50/60Hz

7 221 78 - WSG15-125P / 220V - 230V 50/60Hz

7 221 79 - WSG15-125PQ / 220V - 230V 50/60Hz

7 221 80 - WSG15-125PS / 220V - 230V 50/60Hz

7 221 81 - WSG15-125PSQ / 220V - 230V 50/60Hz

7 221 82 - WSG15-150P / 220V - 230V 50/60Hz

7 221 83 - WSG15-150PQ / 220V - 230V 50/60Hz

7 277 07 - MOLL500P S2110 / 220V - 230V 50/60Hz

7 222 05 - WSG12-125P(A) / 220-230V 50/60Hz

7 222 07 - WSG17-125P / 220-230V 50/60Hz

7 222 08 - WSG17-125PQ / 220-230V 50/60Hz

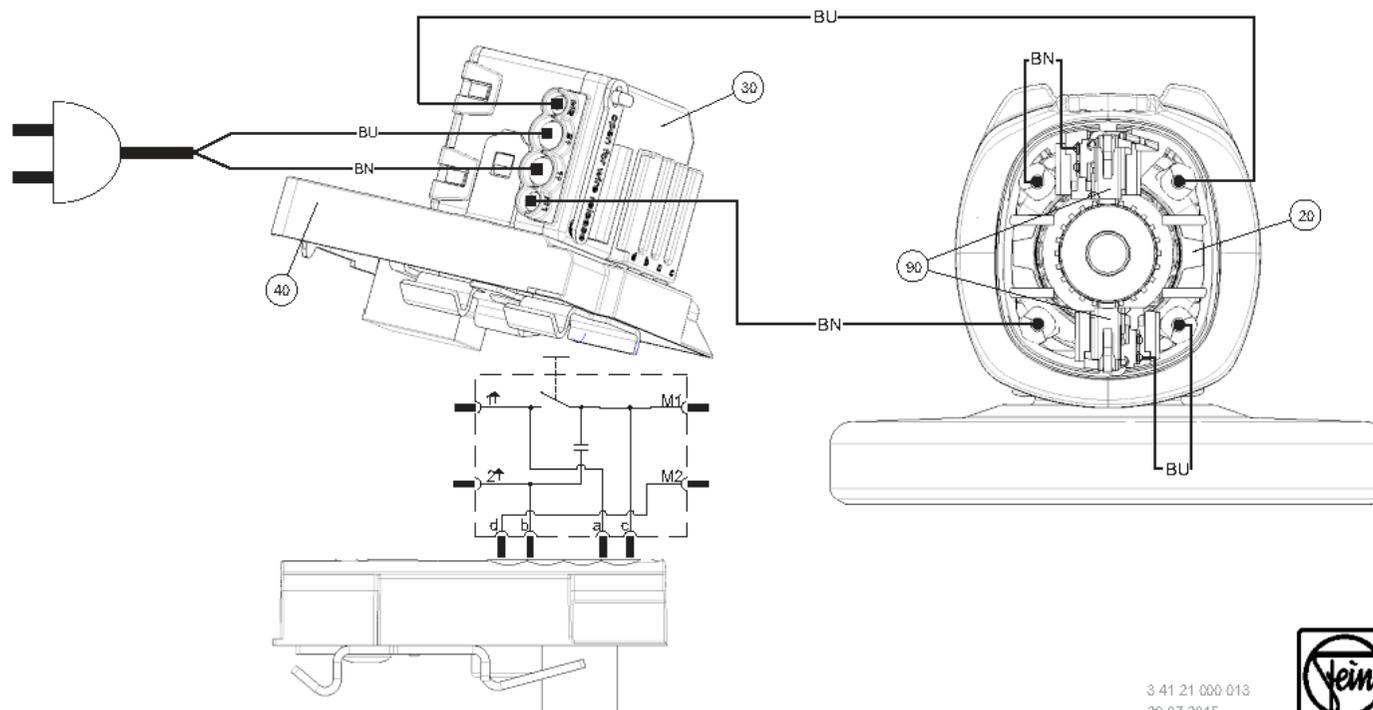
7 222 09 - WSG17-125PS / 220-230V 50/60Hz

7 222 10 - WSG17-125PSQ / 220-230V 50/60Hz

7 222 11 - WSG17-150P / 220-230V 50/60Hz

7 222 12 - WSG17-150PQ / 220-230V 50/60Hz

7 222 24 - WSG15-125P(A) / 220-230V 50/60Hz



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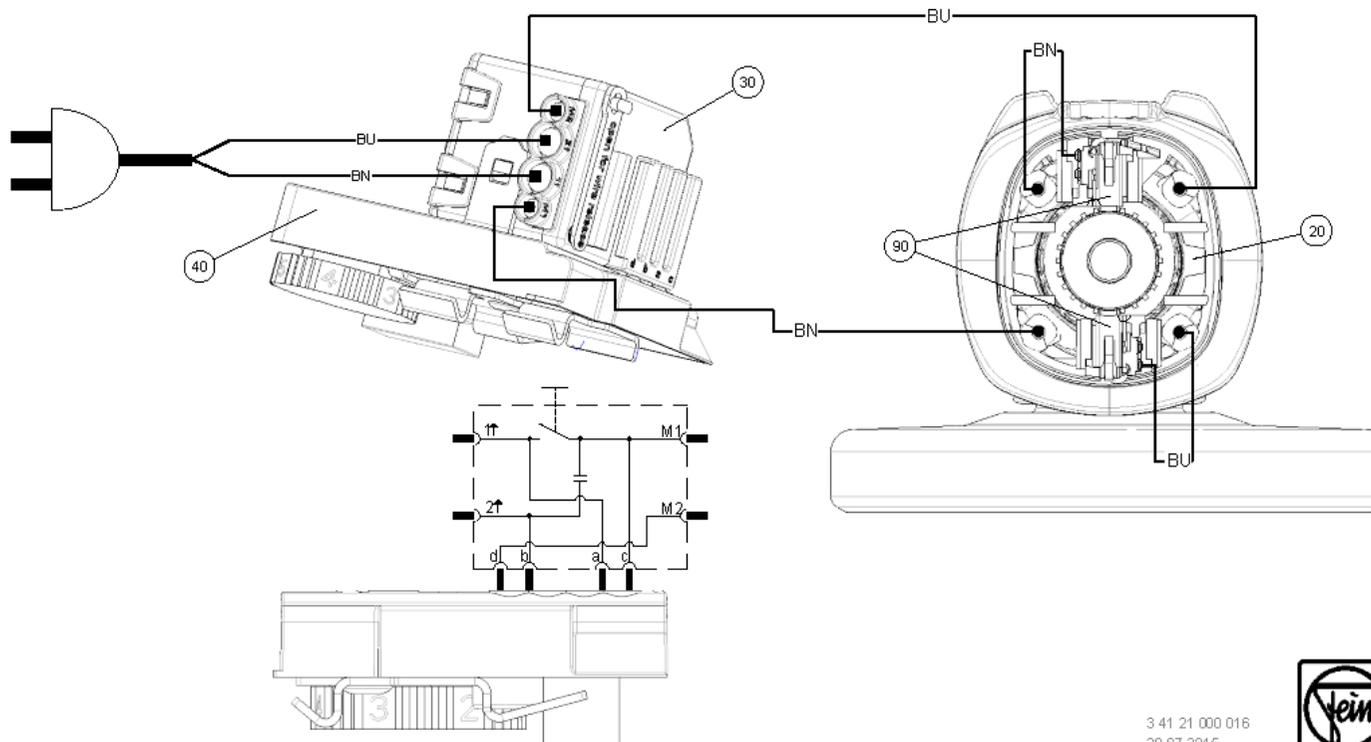


## 8. Connection diagram

### Anschlussplan

Connection diagram  
 Esquemade conexiones  
 Schémade connexion  
 Схема соединений  
 接线图

7 221 84 - WSG15-70INOX / 220V - 230V 50/60Hz  
 7 277 08 - MOL1500PE S2110 / 220V - 230V 50/60Hz  
 7 277 09 - MOL1500PE / 220V - 230V 50/60Hz  
 7 222 13 - WSG17-70Inox / 220V - 230V 50/60Hz



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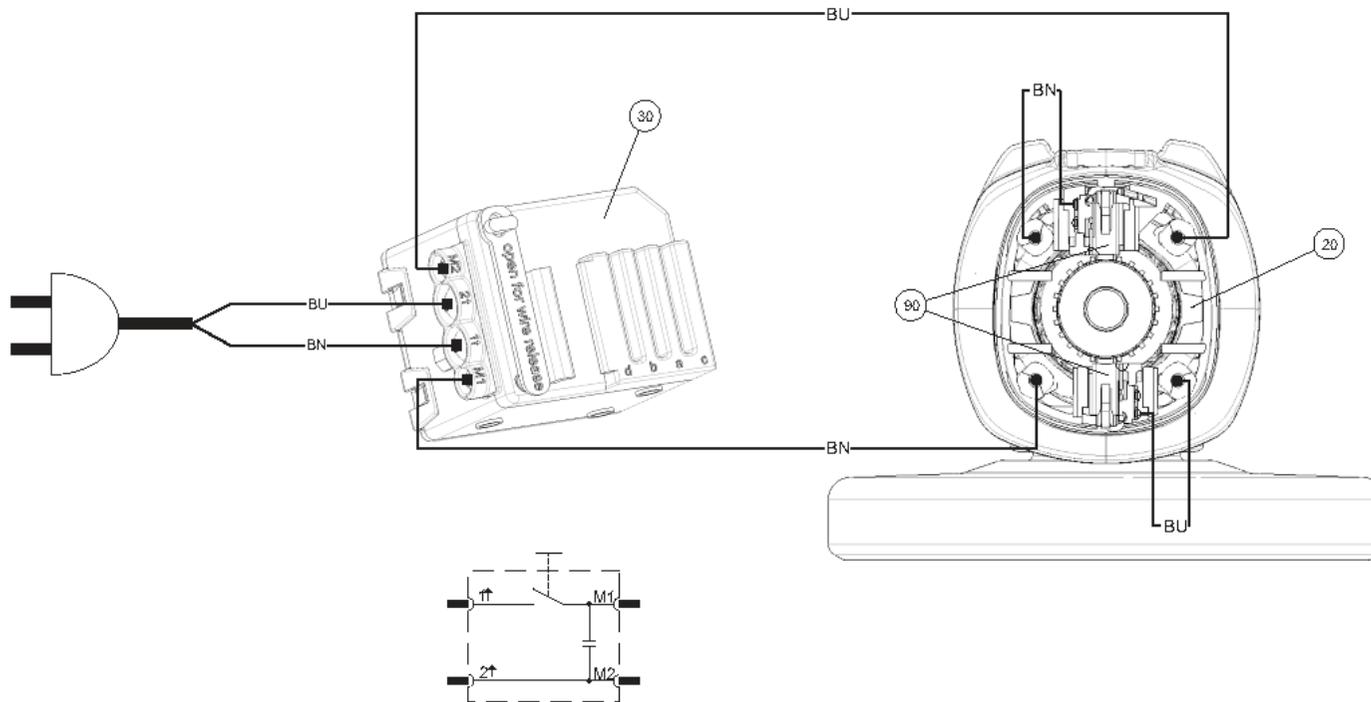


## 8. Connection diagram

### Anschlussplan

Connection diagram  
 Esquemade conexiones  
 Schémade connexion  
 Схема соединений  
 接线图

7 221 73 - WSG8-115 / 100V - 110V 50/60Hz  
 7 221 74 - WSG8-125 / 100V - 110V 50/60Hz  
 7 222 01 - WSG8-115(A) / 100V - 110V 50/60Hz  
 7 222 02 - WSG8-125(A) / 100V - 110V 50/60Hz



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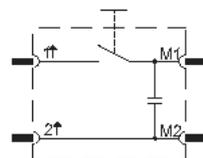
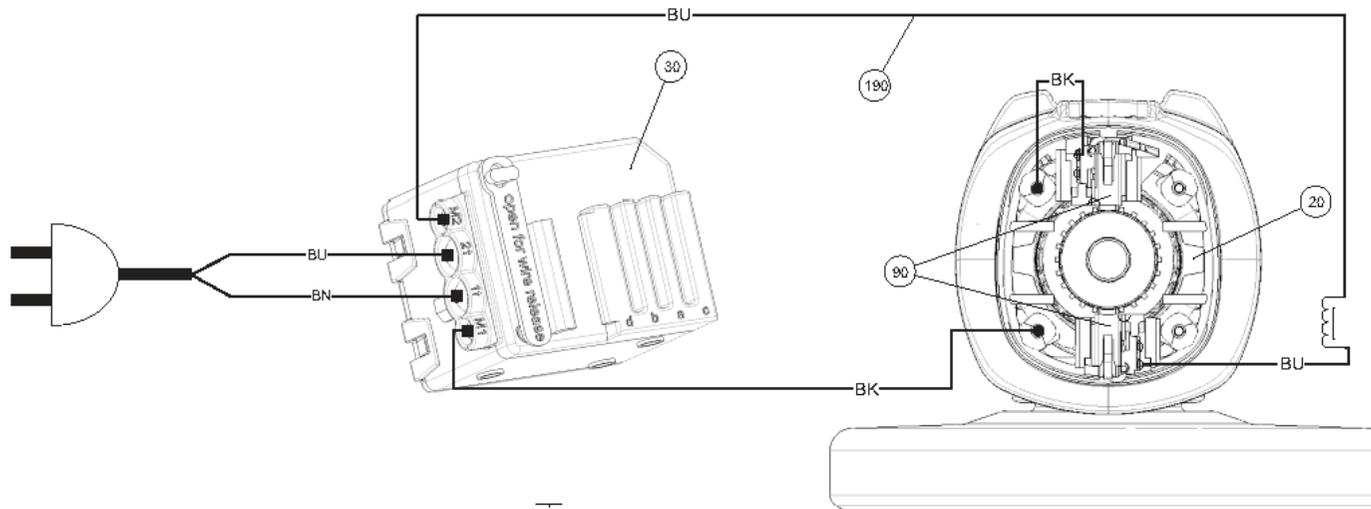
## 8. Connection diagram

### Anschlussplan

Connection diagram  
Esquemade conexiones  
Schémade connexion  
Схема соединений  
接线图

7 221 77 - WSG11-125 / 100V - 110V 50/60Hz

7 222 03 - WSG11-125(A) / 100V - 110V 50/60Hz



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## 8. Connection diagram

**Anschlussplan**

Connection diagram

Esquema de conexiones

Schéma connexion

Схема соединений

接线图

7 221 75 - WSG12-125P / 100V - 110V 50/60Hz

7 221 76 - WSG12-125PQ / 100V - 110V 50/60Hz

7 221 78 - WSG15-125P / 100V - 110V 50/60Hz

7 221 79 - WSG15-125PQ / 100V - 110V 50/60Hz

7 221 80 - WSG15-125PS / 100V - 110V 50/60Hz

7 221 81 - WSG15-125PSQ / 100V - 110V 50/60Hz

7 221 82 - WSG15-150P / 100V - 110V 50/60Hz

7 221 83 - WSG15-150PQ / 100V - 110V 50/60Hz

7 222 05 - WSG12-125P(A) / 100V - 110V 50/60Hz

7 222 07 - WSG17-125P / 100V - 110V 50/60Hz

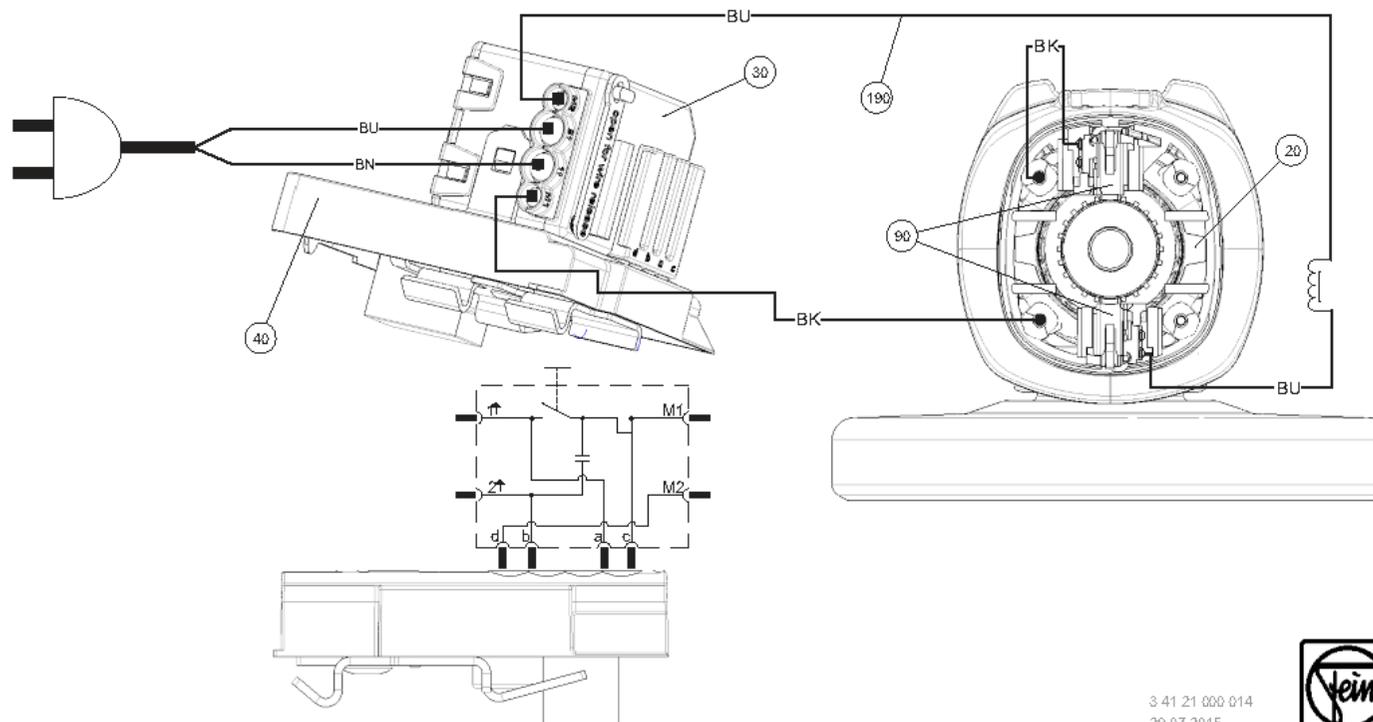
7 222 08 - WSG17-125PQ / 100V - 110V 50/60Hz

7 222 09 - WSG17-125PS / 100V - 110V 50/60Hz

7 222 10 - WSG17-125PSQ / 100V - 110V 50/60Hz

7 222 11 - WSG17-150P / 100V - 110V 50/60Hz

7 222 12 - WSG17-150PQ / 100V - 110V 50/60Hz



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29.07.2015



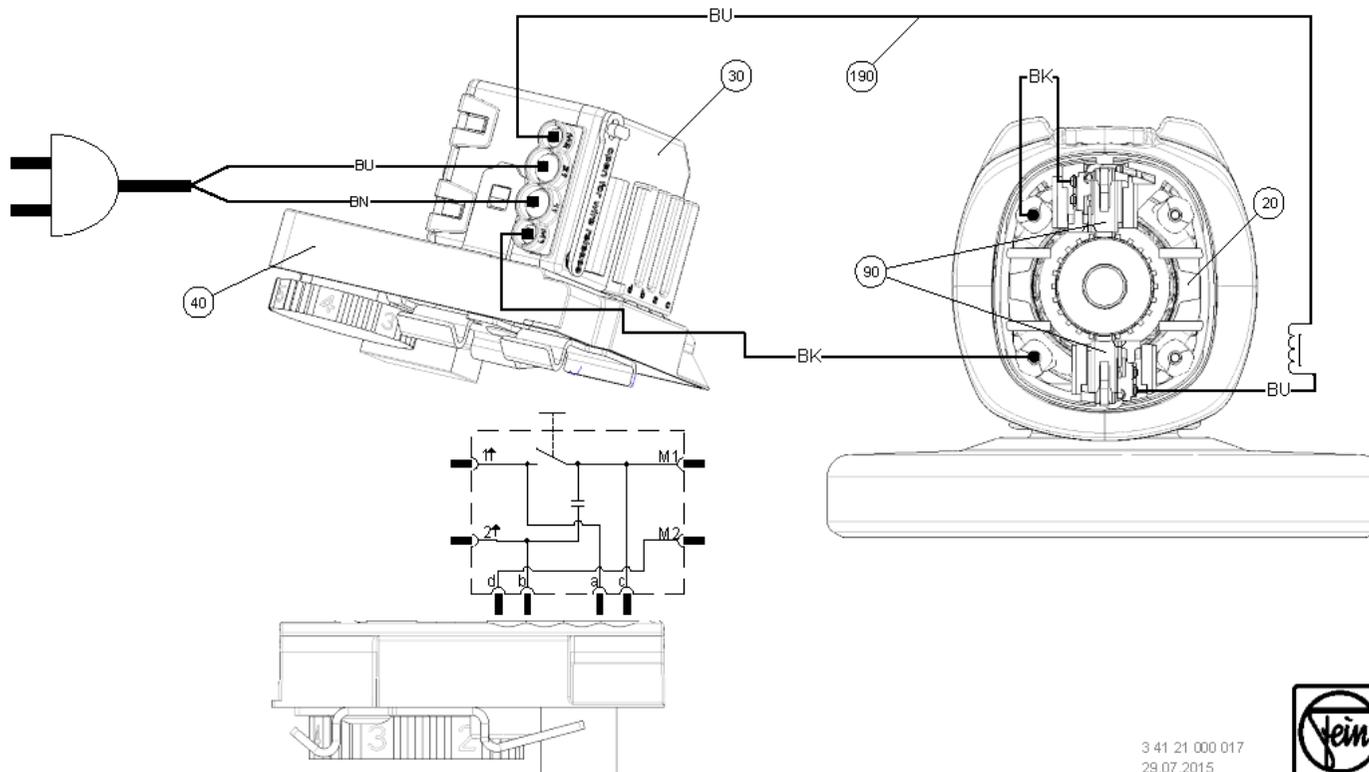
## 8. Connection diagram

### Anschlussplan

Connection diagram  
 Esquema de conexiones  
 Schémade connexion  
 Схэма соединэний  
 接线图

7 221 84 - WSG15-70INOX / 100V - 110V 50/60Hz

7 222 13 - WSG17-70Inox / 100V - 110V 50/60Hz



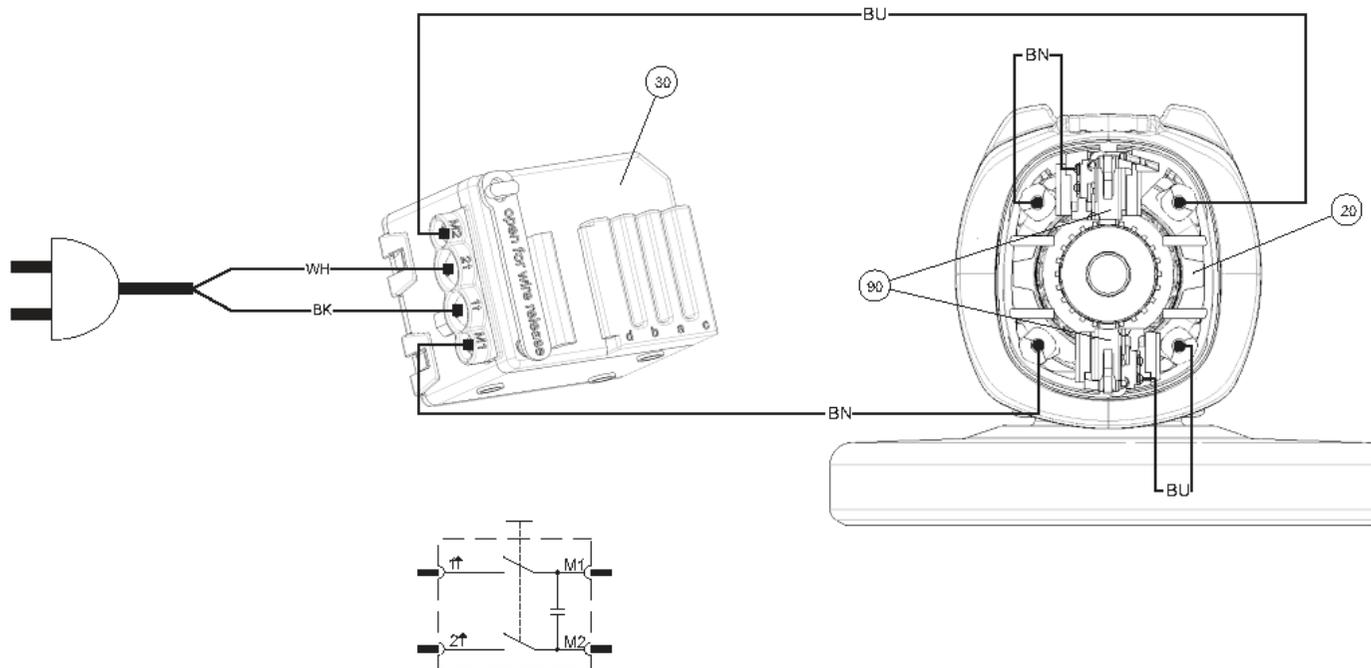


## 8. Connection diagram

### Anschlussplan

Connection diagram  
 Esquemade conexiones  
 Schémade connexion  
 Схэма соединений  
 接线图

7 221 73 - WSG8-115 / 120V 60Hz / dc  
 7 221 74 - WSG8-125 / 120V 60Hz / dc  
 7 222 01 - WSG8-115(A) / 120V 60Hz / dc  
 7 222 02 - WSG8-125(A) / 120V 60Hz / dc



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**WSG 8-115 (A)/(B); WSG 8-125 (A)/(B); WSG 11-125 (A)/(B); WSG 11-150 (A)/(B); WSG 12-125P (A)/(B); WSG 17-125P; WSG 17-125PS; WSG 17-150P; WSG 17-70Inox**

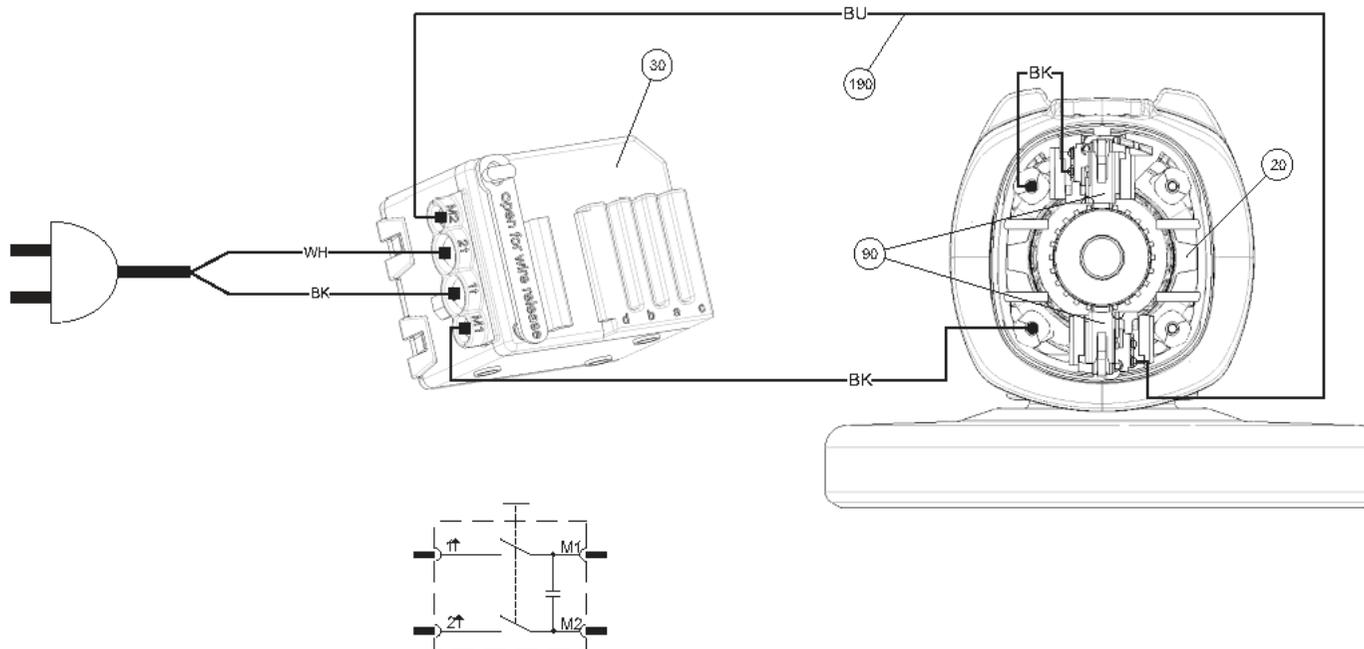


**8. Connection diagram**

**Anschlussplan**

Connection diagram  
 Esquemade conexiones  
 Schémade connexion  
 Схэма соединэний  
 接线图

7 221 77 - WSG11-125	/120V	60Hz / dc
7 221 85 - WSG11-150	/120V	60Hz / dc
7 222 03 - WSG11-125(A)	/120V	60Hz / dc
7 222 04 - WSG11-150(A)	/120V	60Hz / dc



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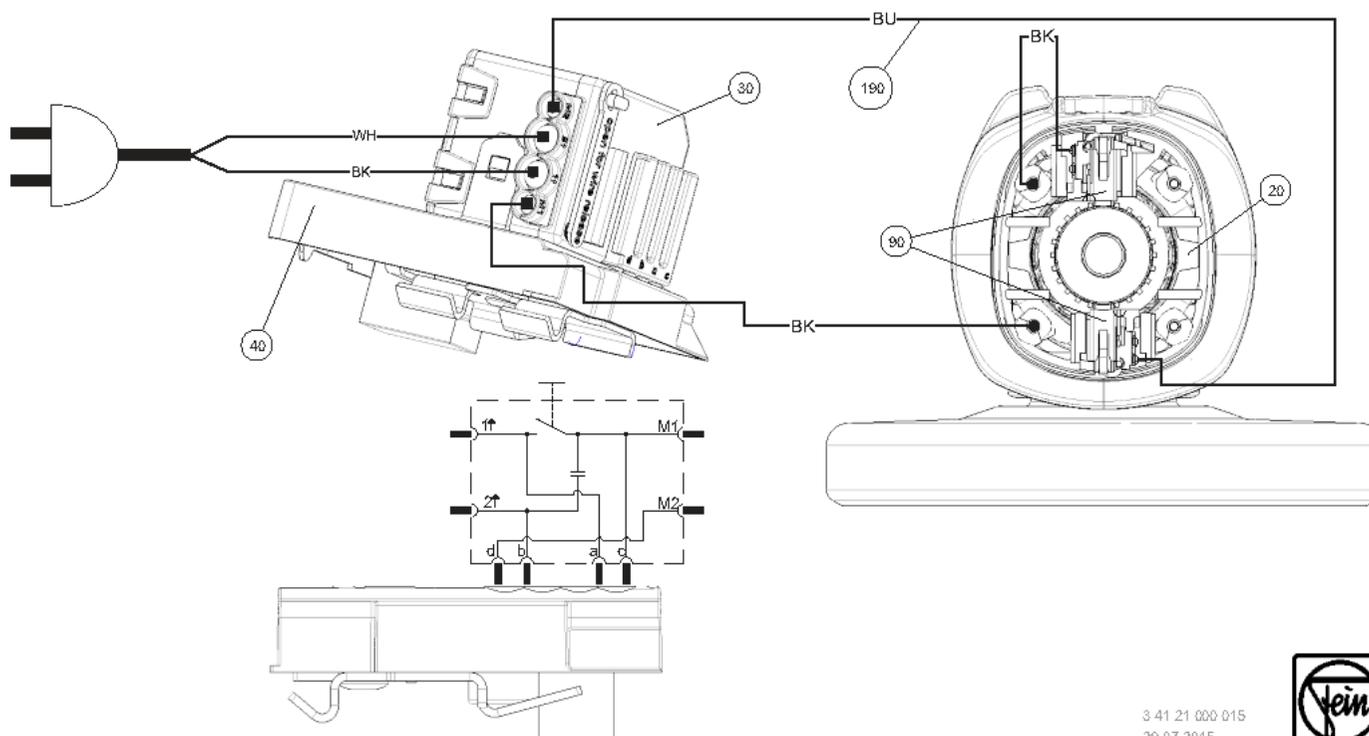
## 8. Connection diagram

### Anschlussplan

Connection diagram  
Esquemade conexiones  
Schémade connexion  
Схема соединений  
接线图

7 221 75 – WSG12-125P / 120V 60Hz  
7 221 76 – WSG12-125PQ / 120V 60Hz  
7 221 78 – WSG15-125P / 120V 60Hz  
7 221 79 – WSG15-125PQ / 120V 60Hz  
7 221 80 – WSG15-125PS / 120V 60Hz  
7 221 81 – WSG15-125PSQ / 120V 60Hz  
7 221 82 – WSG15-150P / 120V 60Hz

7 221 83 – WSG15-150PQ / 120V 60Hz  
7 277 07 – MOL1500P S2110 / 120V 60Hz  
7 222 05 – WSG12-125P(A) / 120V 60Hz  
7 222 07 – WSG17-125P / 120V 60Hz  
7 222 09 – WSG17-125PS / 120V 60Hz  
7 222 11 – WSG17-150P / 120V 60Hz



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29.07.2015

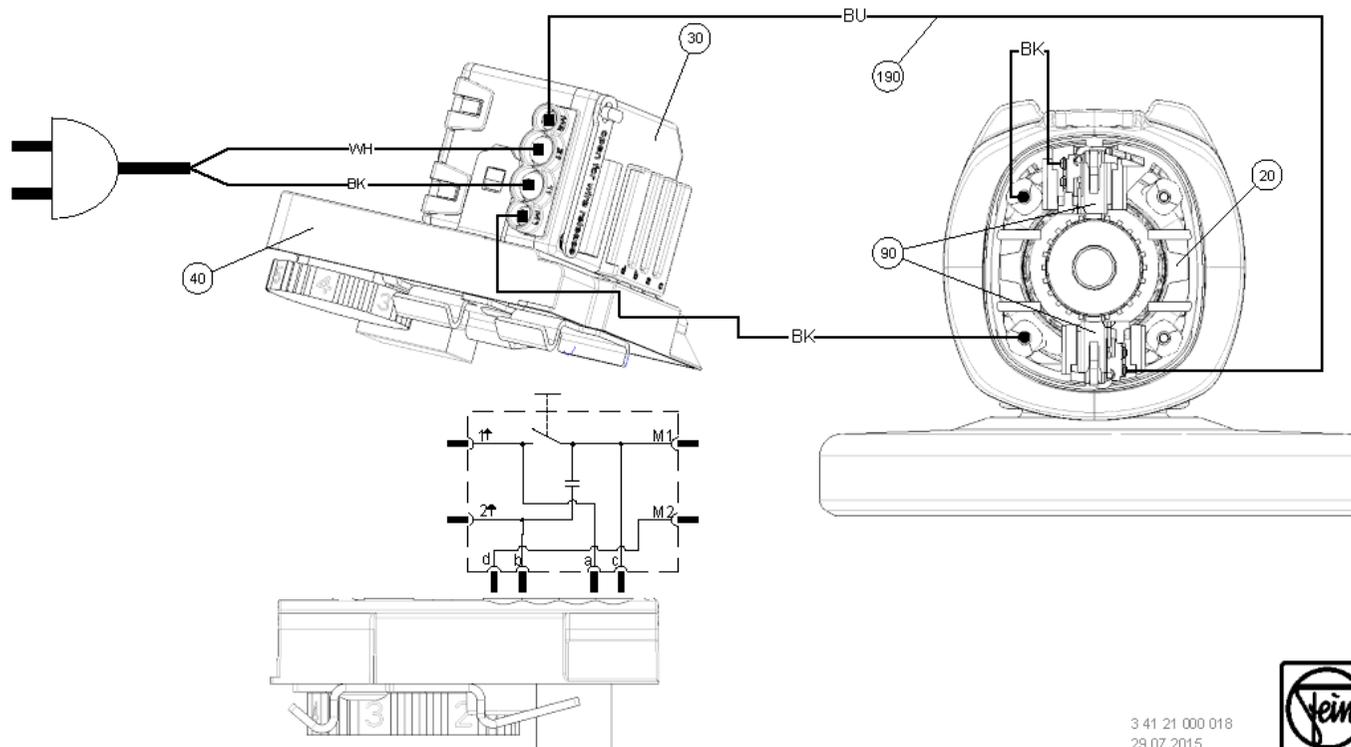


## 8. Connection diagram

### Anschlussplan

Connection diagram  
 Esquemade conexiones  
 Schémade connexion  
 Схэма соединений  
 接线图

7 221 84 – WSG15-70INOX / 120V 60Hz  
 7 277 08 – MOL1500PE S2110 / 120V 60Hz  
 7 277 09 – MOL1500PE / 120V 60Hz  
 7 222 13 · WSG17-70Inox / 120V 60Hz



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 29.07.2015



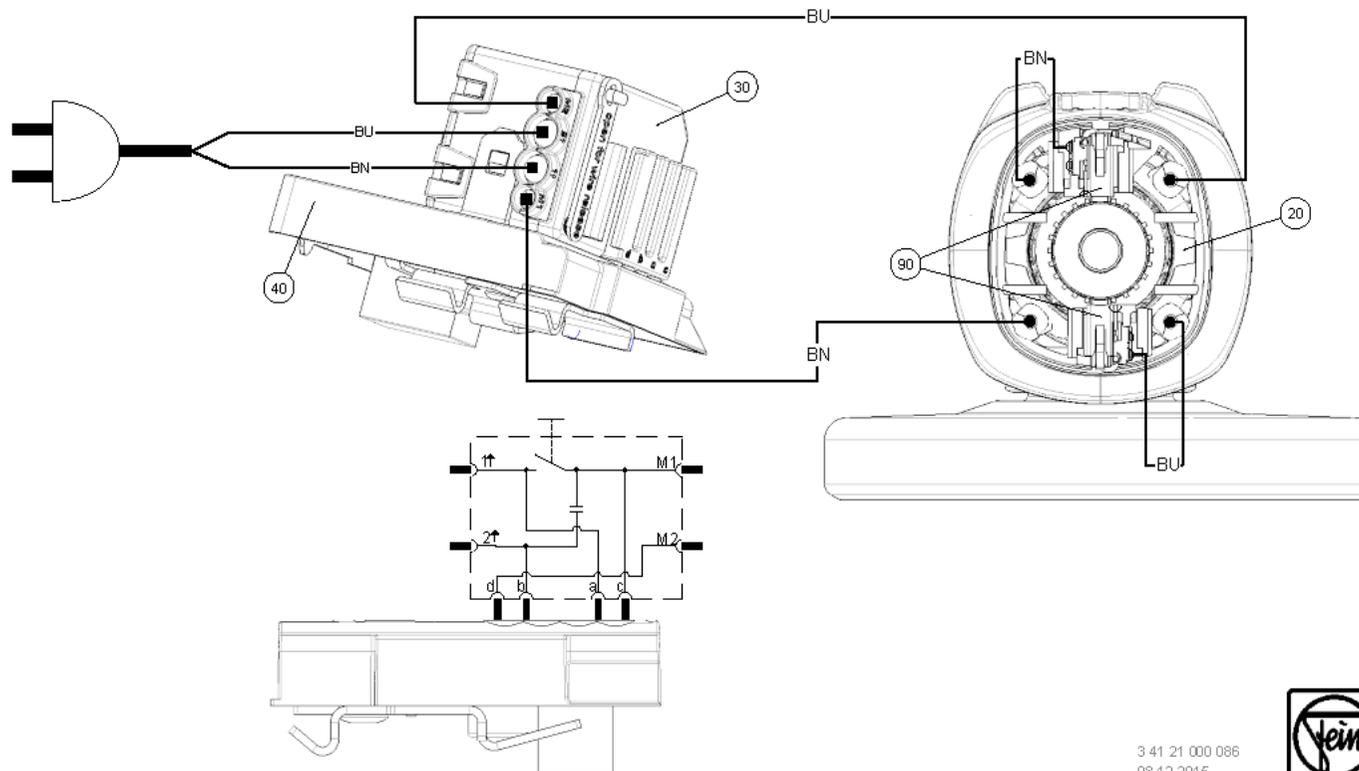


## 8. Connection diagram

### Anschlussplan

Connection diagram  
 Esquema de conexiones  
 Schémade connexion  
 Схема соединений  
 接线图

7 222 28 - WSG8-115 (B) / 220-230V 50/60Hz  
 7 222 29 - WSG8-125 (B) / 220-230V 50/60Hz  
 7 222 30 - WSG11-125 (B) / 220-230V 50/60Hz



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 08.12.2015

