



# KEF MOTOR

## Manual

### BSH Belt Grinding Machines

**20-50**

**20-75**

**20-100**

**20-150**

**22-75**

**25-75**

**25-150**

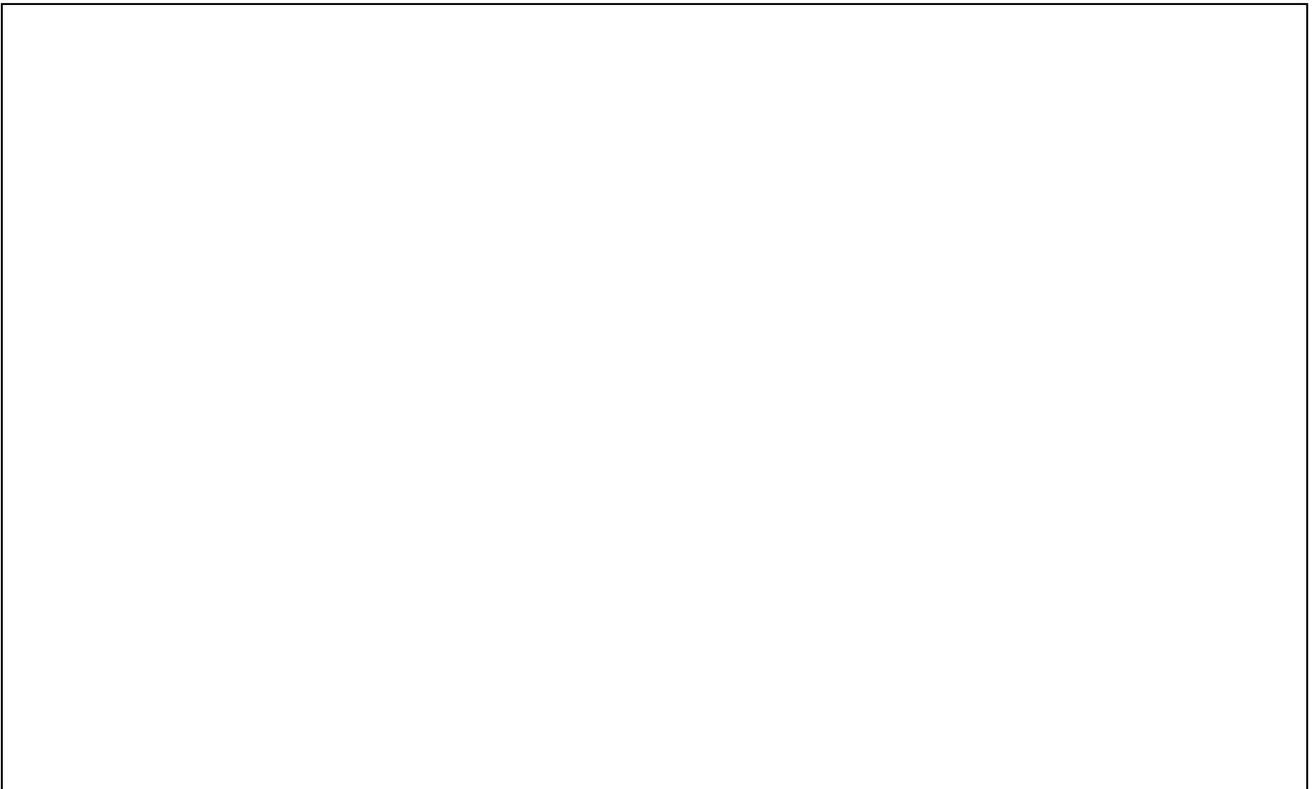


**CE**

**UK**



**READ THIS MANUAL BEFORE USE**



## EU declaration of conformity

### **KEF-MOTOR A/S**

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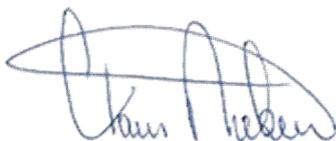
hereby declares that

**BSH Belt Grinding Machines** are manufactured in accordance with the provisions of the European Parliament and Council Directive 2006/42 / EC of 17 May 2006

#### **And also in accordance with:**

- EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 2014/35 / EU of 26 February 2014
- EUROPEAN PARLIAMENT AND COUNCIL DIRECTIVE 2014/30 / EU of 26 February 2014

DK 9460 Brovst

A handwritten signature in blue ink, appearing to read 'Claus Nielsen', written over a horizontal line.

Claus Nielsen,  
Producent

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# 1. Transport & Handling

## 1.1 Transport

The BSH belt grinding machine is packed in protective wrapping and delivered on a pallet with the following measures: 120 x 80 x 120 cm

## 1.2 Handling

The machine can easily be transported on the pallet on which it is delivered.

## 1.3 Placing

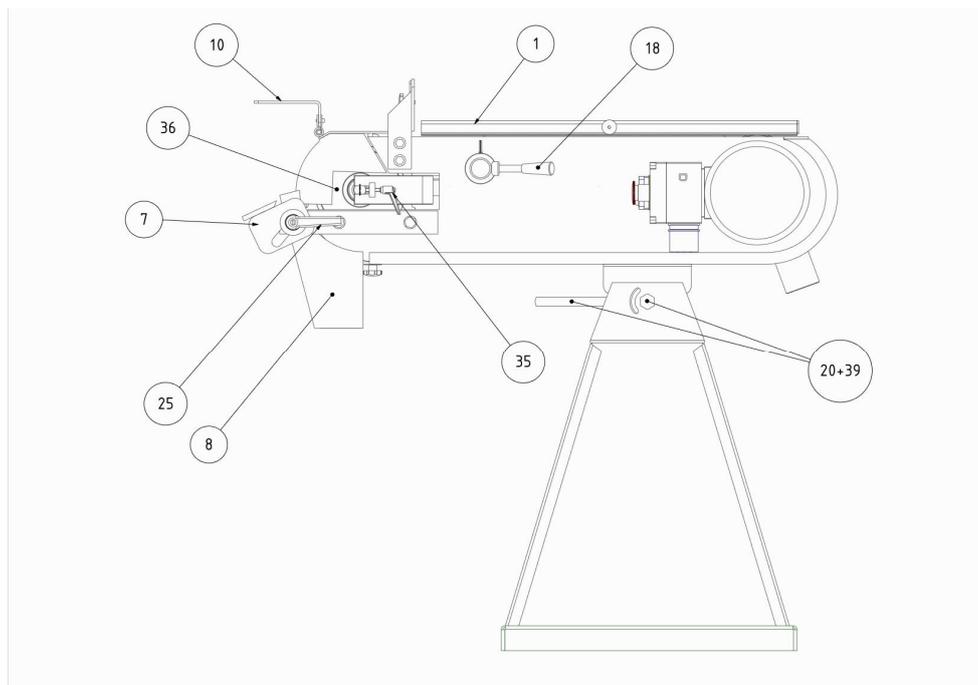
Mounting of the belt grinder must take place on a firm and level ground. The machine must be fastened to the ground by means of the four fittings which are used to fasten the belt grinder to the pallet.

The machine is provided with no-volt release protection switch and connected for the wanted voltage (V). The electrical connection must be performed by an authorized electrician, and it is important to control that the motor (and ventilator) has the correct direction or rotation (please see the arrow on the motor).

Eye shields, suction hose and perhaps dust bag must be mounted before use. The clamps for mounting the suction hose are placed in the dust bag. The eye shields (A) must be mounted into the eye shield fitting (see *fig.: 1.1*).

The tool rest (B) must be mounted at a distance of minimum 2 mm from the belt, and the handle (C) must be fastened. Turn the contact wheel by your hand and adjust the belt by means of the handle (D) until it runs just on the contact wheel. It must be controlled that the spark box (F) is properly fastened. The wanted working height is adjusted by means of the (G).

Fig.: 1.1



## 2. Directions

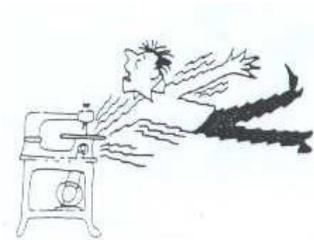
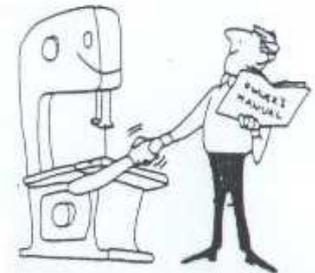
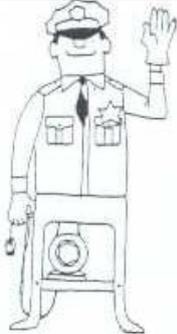
### 2.1 Operation

After adjustment and connection, the belt grinding machine is ready for use. The grinding can take place by the contact wheel or on the surface grinding table by opening the cover (H) (see *fig.: 1.1*). By loosening the handle (E) the cover (I) can be opened and make grinding of long materials possible. The lifetime of a new belt is prolonged if the grinding starts with a light pressure.

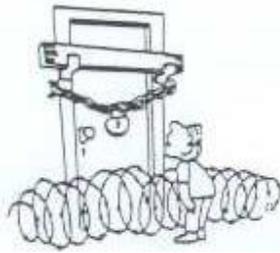
### 2.2 Safety rules for stationary power tools.

Follow them to achieve best results and full benefit from your new machine.

<p>The good craftsman respects the tools with which he works. He knows they represent years of constantly improved design. He also knows that they are dangerous if misused. This is the theme of a new safe-use program for stationary power tools. The safety rules are based on approved practices in industrial and home shops.</p>	<p><b>1. Know your power tool.</b> Read the owner's manual carefully. Learn its applications and limitations, as well as the specific potential hazards peculiar to this tool.</p>
<p><b>2. Keep guard in place and in working order.</b></p>	<p><b>3. Ground all tools.</b> If tool is equipped with three-prong plug, it should be plugged into a three-hole electrical receptacle. If an adapter is used to accommodate a two-prong receptacle, the adapter wire must be attached to a known ground. Never remove the third prong.</p>
<p><b>4. Remove adjusting keys and wrenches.</b> Form habit of checking to see that keys and adjusting wrenches is removed before turning it on.</p>	<p><b>5. Cluttered areas and benches invite accidents.</b></p>
<p><b>6. Avoid dangerous environment.</b> Don't use power tools in damp or wet locations or expose them to rain. Keep your work area well lighted.</p>	<p><b>6. Keep children away.</b> All visitors should be kept in a safe distance from work area.</p>



<p><b>8.</b> Make workshop kidproof with padlocks, master switches, or by removing starter keys.</p>	<p><b>9.</b> Don't force tool. It will do the job better and be safer at the rate for which it was designed.</p>
<p><b>10.</b> Use right tool. Don't force tool or attachment to do a job it was not designed for.</p>	<p><b>11.</b> Wear proper apparel. Wear no loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.</p>
<p><b>12.</b> Always use safety glasses. Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistant lenses. They are <b>NOT</b> safety glasses.</p>	<p><b>13.</b> Secure works. Use clamps or vise to hold works, when practical. It's safer than using your hands and it frees both hands to operate tool.</p>
<p><b>14.</b> Don't overreach. Keep proper footing and balance at all times.</p>	<p><b>15.</b> Maintain tools with care. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.</p>
<p><b>16.</b> Disconnect tools before servicing and when changing accessories such as grinding wheels, polishing mops, grinding belts, blades, bits, cutters, etc.</p>	<p><b>17.</b> Reduce the risk of unintentional starting. Make sure switch is in off position before plugging in.</p>
<p><b>18.</b> Use recommended accessories. Consult owner's manual for recommended accessories. Use of improper accessories may cause risk of injury to persons.</p>	



### 2.3 Maintenance

Empty the spark box with regular intervals and control if the suction canals need a cleaning. The dust bag has to be emptied after use. The contact wheel should be replaced when the edges have been worn round or the tyre has been damaged. The graphite pad on the surface grinding table is changed as required.

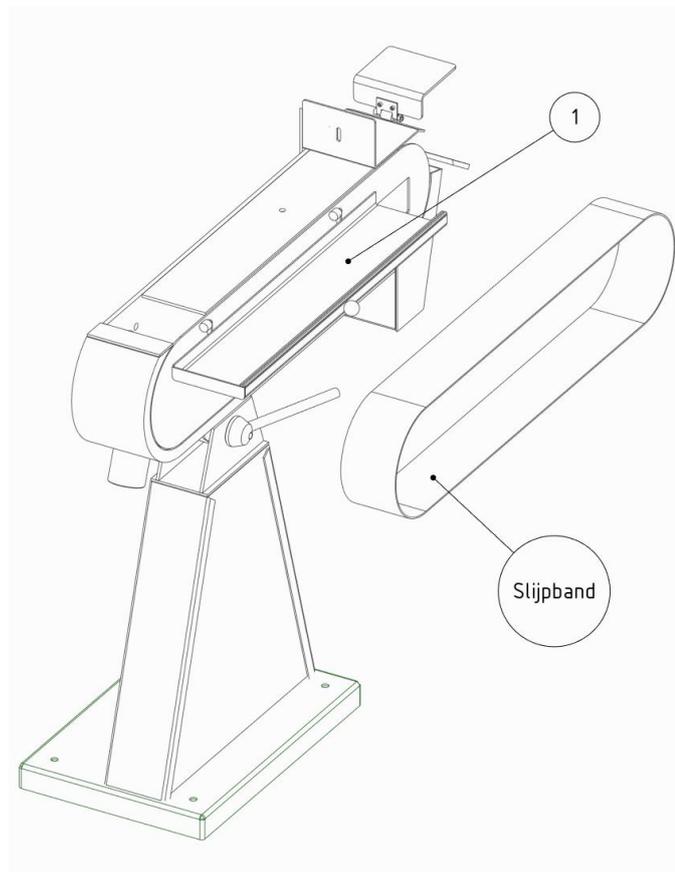
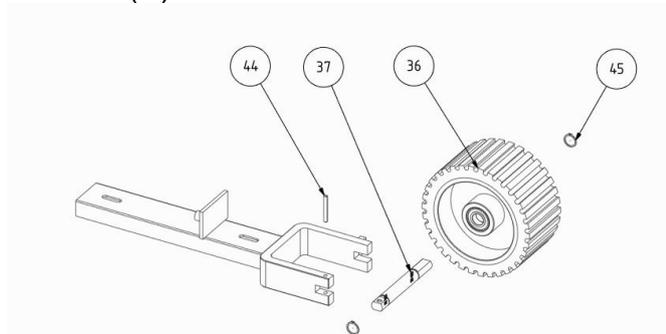


Fig.: 2.1

When changing the belt it is released by turning the handle (J) in anti-clock-wise direction (see *fig.: 1.1*), the cover (H) and the side plate (L) is opened and the worn-down belt (K) is removed by driving the belt against the direction of rotation, the belt is removed from the machine by the drive wheel. The new belt is fitted. It must be checked that the direction of the arrows on the back side of the belt correpond to the direction of rotation. Fasten the handle (J) again and bring it into alignment with the handle (D).

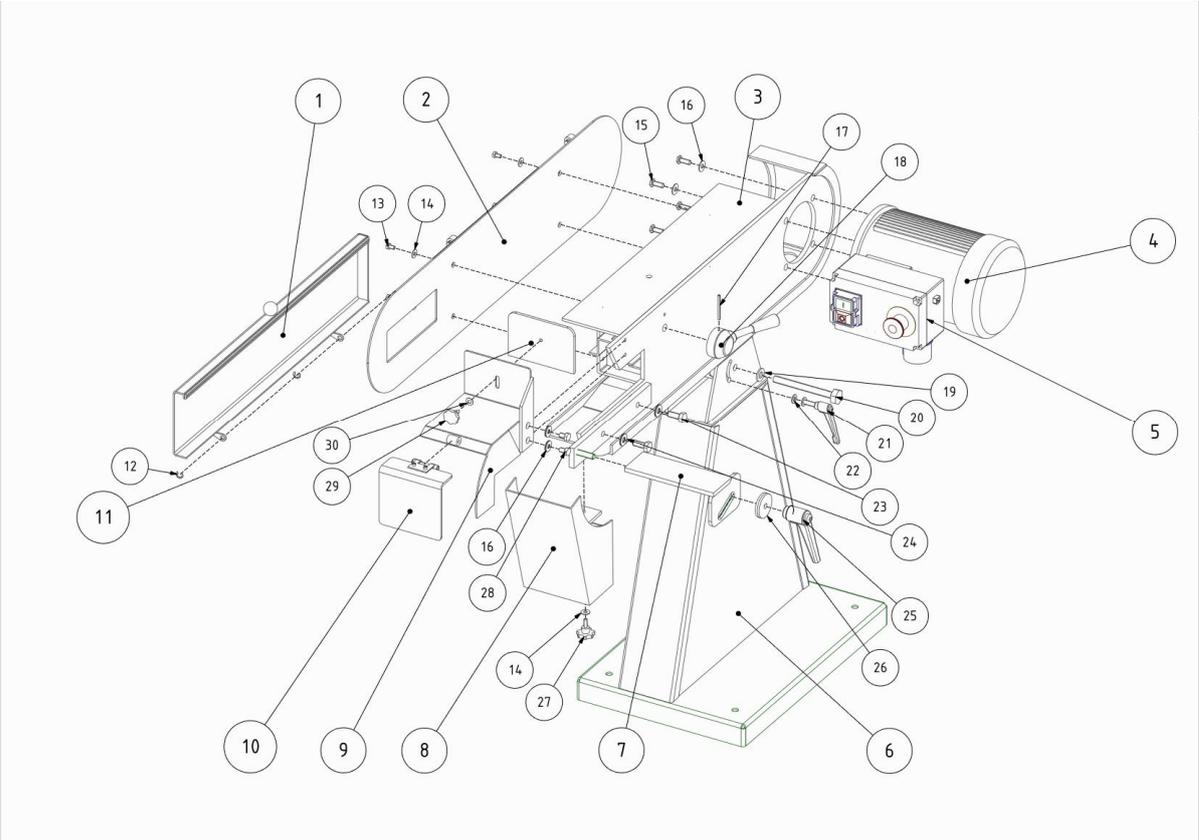


**Fig.: 2.2**

To change the contact wheel remove the grinding belt, tool rest and spark arrester. Use a 6 mm mandrel to hammer out the pin (L). Now the contact wheel with axle and bearings can be taken out. One of the lock rings (M) and the axle (N) can be taken out. The new contact wheel (O) is fitted in in reverse order.

# 3. Spare Parts List

## 3.1 Drawing of Belt Grinding Machine without Exhaust system



1

### 3.2 Spare Parts List for Belt Grinding Machine without Exhaust System

When ordering spare parts please state machine type and serial number together with item number and description of the part according to this list.

	<b>Figure 4</b>		<b>75</b>	<b>150</b>
Item no	Part name	QTY	Ident. No	Ident. No
1	Belt guard	1	0239202	0239502
2	Side plate	1	6549081	6549081
3	Body	1	1055868	1055573
4	Motor	1	-	-
5	Switch	1	-	-
6	Base without exhaust system	1	0239832	0239832
7	Tool rest	1	0233207	0233507
8	Spark box without exhaust	1	0101224	0101524
9	Spark arrester/tool rest	1	0880002	4532344
10	Eye shield	1	0233750	0233750
11	Plant to level	1	1055681	1055681
12	Lock ring Ø7	2	0915720	0915720
13	Bolt M6x10	4	0110090	0110090
14	Washer 1/4" Z, DIN 522A	5	0105024	0105024
15	Bolt M8x20	4	0233020	0233020
16	Washer - 8mm	8	5437850	5437850
17	Split pin Ø4x45	1	3454351	3454351
18	Belt release handle	1	0102267	0102267
19	Spring washer - 12mm	1	0132305	0132305
20	Bolt M12	1	4567832	4567832
21	Handle for adjustment	1	0105133	0105133
22	Washer - 8mm	2	0231347	0231347
23	Bolt M10x25	2	0300134	0300134
24	Washer - 10mm	4	0101491	0101494
25	Handle for tool rest	1	0233808	0233808
26	Washer Ø45xØ10x4	2	0860327	0860327
27	Star handle M6x15 Ø32 DIN 6336	1	0233806	0233806
28	Bolt M8x12	2	0300144	0300144
29	Star handle M6x10 Ø25	1	0250610	0250610
30	Washer - 6mm	1	0737631	0737631

### 3.3 Drawing for Belt Grinding Machine with Exhaust System

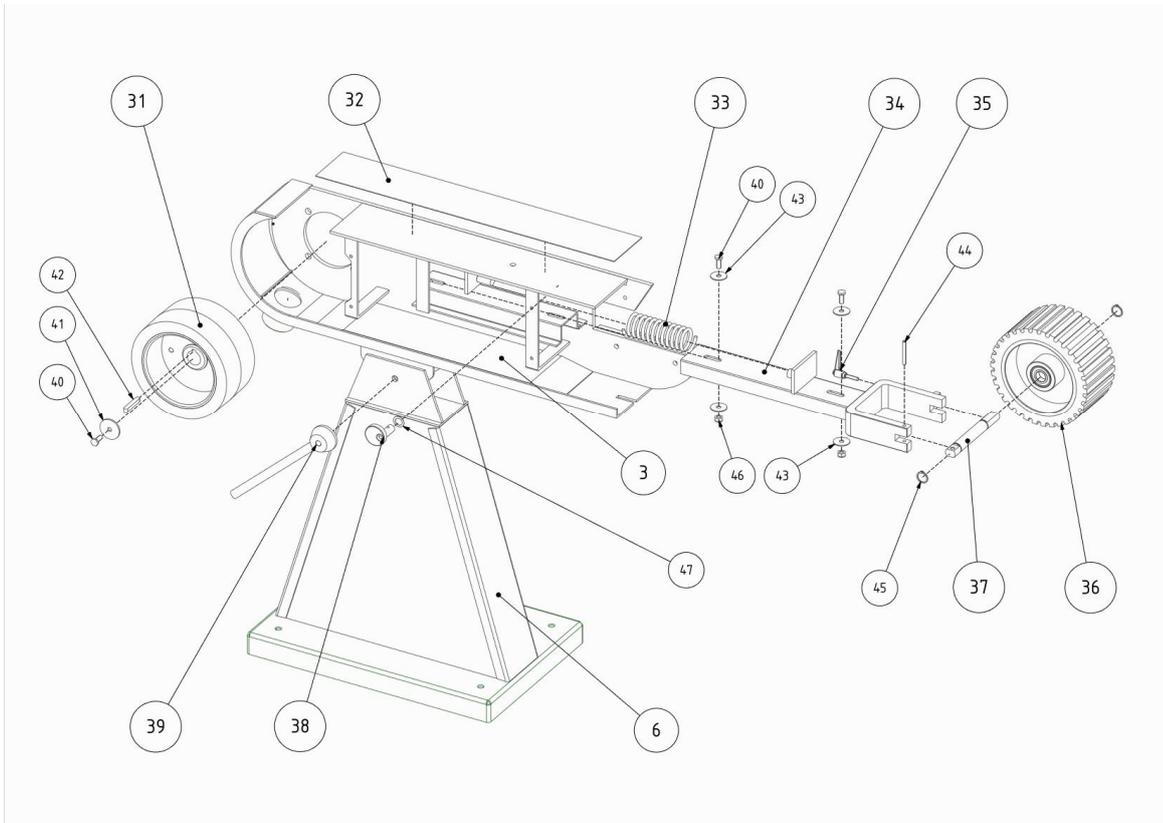


Fig.: 3.2

	Figure 5		75	150
Item no	Part name	QTY	Ident. No	Ident. No
6	Base without exhaust system	1	0239832	0239833
3	Body	1	1055904	1055573
31	Drive wheel	1	7510028	15020028
32	Graphite pad 100x620mm	1	0233321	0233323
33	Spring 5,5x43x125x11V.TES.	1	0102265	0102265
34	Cradle for contact wheel	1	0110223	0110523
35	Handle for belt adjustment M6x25	1	0233025	0233025
36	Contact wheel with bearings	1	1535005	1535007
37	Axle for contact wheel	1	0233251	0233551
38	Eccentric for 8mm motor sheet	1	0752262	0752262
39	Handle for belt grinders	1	0233192	0233192
40	Bolt M8	3	0233021	0233021
41	Washer $\varnothing$ 8x40x3	1	6540985	6540985
42	Parallel key 50x8x7	1	0110071	0011071
43	Washer $\varnothing$ 8x30x1,5mm	4	6540981	6540981
44	Split pin $\varnothing$ 6x50	1	0233050	0233050
45	Lock ring $\varnothing$ 20 Udv.	2	0311262	0311262
46	Lock nut M8	2	0928644	0928644
47	Wave spring 14x21x0,3	1	0102268	0102268

## Additional Drawing for Belt Grinding Machine with Exhaust System

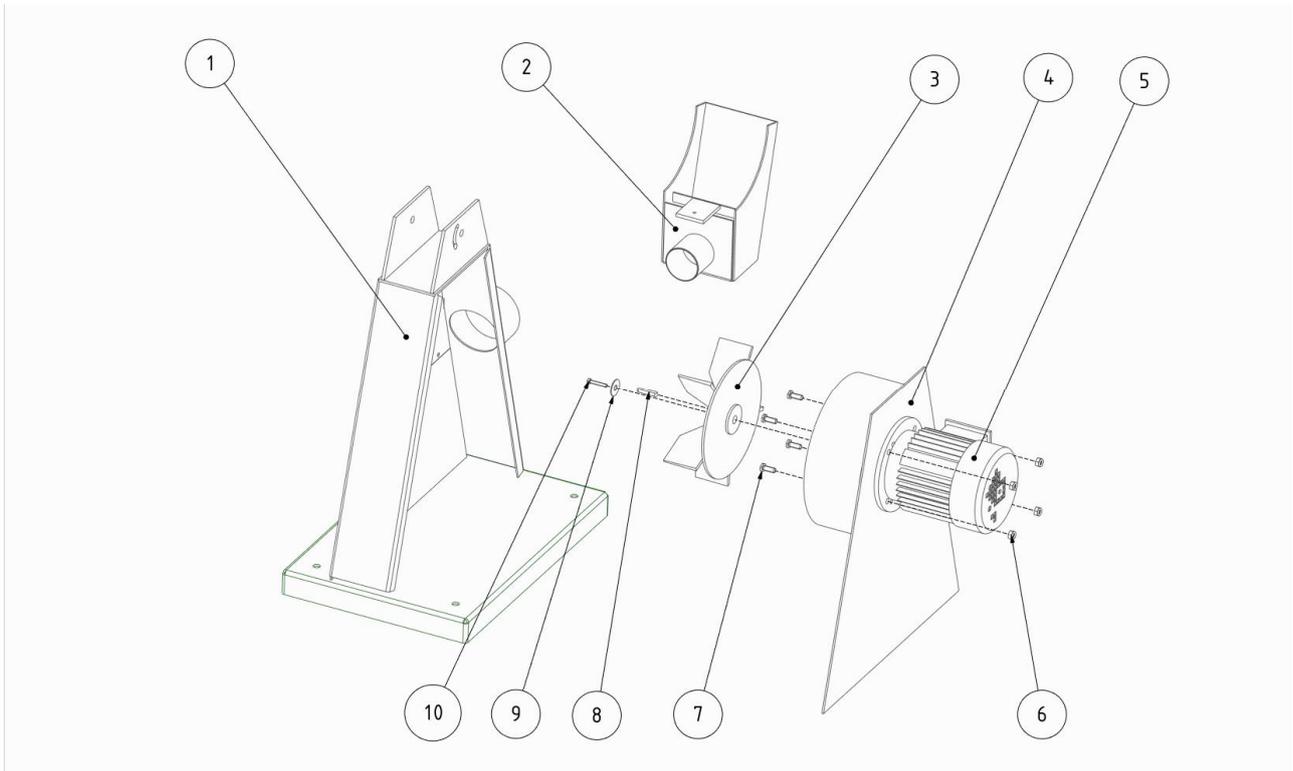


Fig.: 6

### **Spare Parts List for Belt Grinding Machine with Exhaust System**

When ordering spare parts please state machine type and serial number together with item number and description of the part according to this list.

Item no	Part name	QTY	Ident. No	Ident. No
1	Base with exhaust system	1	0239853	0239853
2	Spark box with exhaust	1	0102224	0102524
3	Fan wheel large 250 mm	1	0995704	0995704
4	Side plate for motor	1	0100212	0100212
5	Motor	1	-	-
6	Lock nut	1	0928644	0928644
7	Bolt	1	0233020	0233020
8	Parallel key	1	0110077	0110077
9	Washer	1	0233030	0233030
10	Bolt	1	0331786	0331786

## 4. Technical Data

### 4.1 Technical Specifications

Model	20-50	20-75	20-100	20-150
Grinding belt	50x2000	75x2000 75x2250 75x2500	100x2000	150x2000 150x2500
Motor 3x400-440 V 50 Hz	1,5/3,6 HK	4,1 HK 4,8 HK	4,8 HK	4,8 HK*
Class	IEC 34-1	IEC 34-1	IEC 34,1	IEC 34-1
IP Class	54	54	54	54
r/min.	2800	2860	2860	2860
Amp	10.6/6.1	10,6/6,0	10,6/6,0	10.6/6.8
Cos φ	0,91	0,91	0,91	0,91
Belt speed	30 m/s	30/34 m/s	30/34 m/s	30/34 m/s
Contact wheel	Ø200x50	Ø200x75	Ø200x100	Ø200x150
Fan motor	0,5 HK	0,5 HK	0,5 HK	0,5 HK
Weight(kg) (20) without fan/with fan	50 / 70	60 / 80	65 / 90	80/100
Weight (kg) (22) without fan/with fan	-	70 /90	-	-
Weight (kg) (25) without fan/with fan	-	90 / 100	-	110/130

\* 5,5 HP motor available.

The noise level for KEF belt grinding machine has been measured to 80 dB(A) according to the measuring instruction in the note 561 from the Work Inspection Department on device of technical aids.

### 4.2 Dimensions

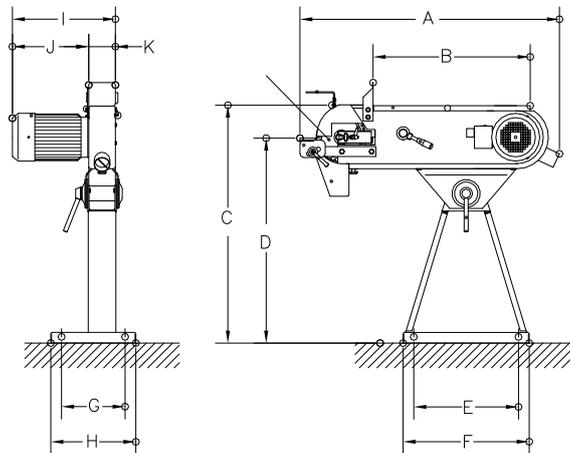


Fig.: 4.2

Model	A	B	C	D	E	F	J	G	H	I	K
20-50	995	660	890	780-1070	420	506	255	341	392	306	86
20-75	995	660	835	780-1070	420	506	306	255	255	199	107
22-75	1050	775	835	780-1070	420	506	306	255	365	199	107
25-75	1180	900	835	780-1070	420	506	306	255	255	199	107
20-100	995	660	835	780-1070	420	506	306	255	255	199	107
20-150	955	660	835	780-1070	420	506	306	255	255	491	185
25-150	1180	900	835	780-1070	420	506	306	255	255	491	185

### 4.3 Circuit diagrams

BSH belt grinding machines can be connected to 3 x 400/440 V, 50/60 cycles and to 3 x 230 V 50/60 cycles. There is three kinds of circuit diagrams:

1. One velocity grinder without brakes see 4.3.1 and 4.3.2
2. One velocity grinder with brakes see 4.3.3 and 4.3.4
3. Two velocity grinder with no brakes see 4.3.5 and 4.3.6

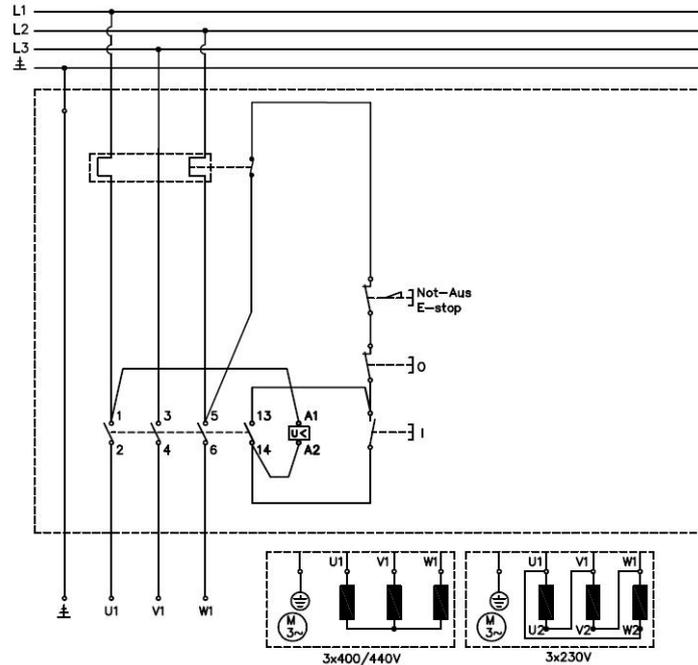


Fig. 4.3.1.: Diagram of belt grinder with no exhaustmotor.

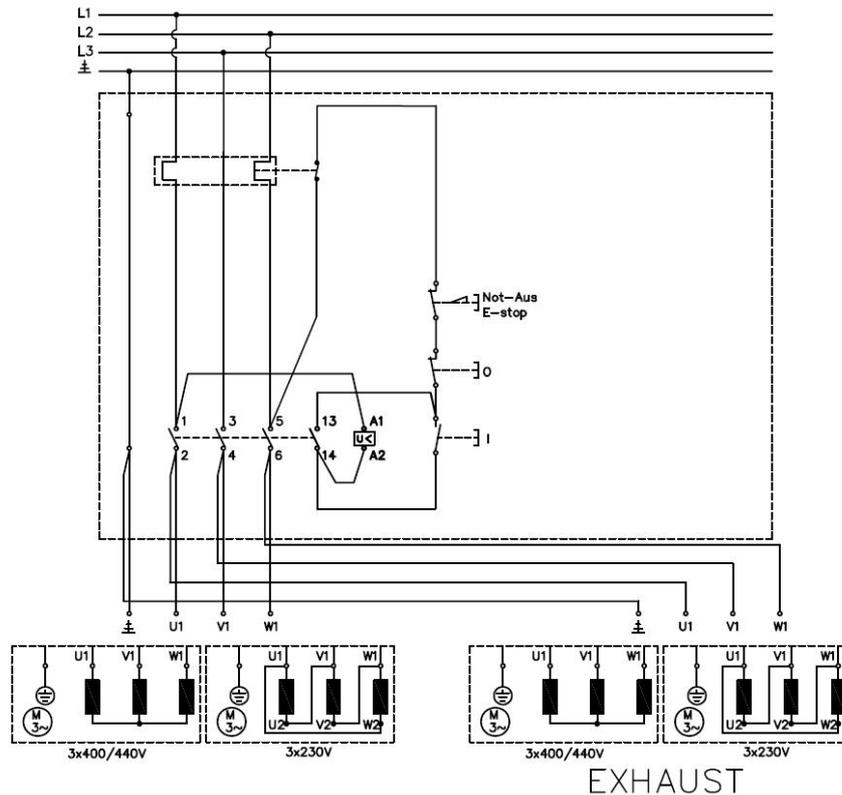


Fig. 4.3.2.: Diagram of belt grinder with exhaustmotor.

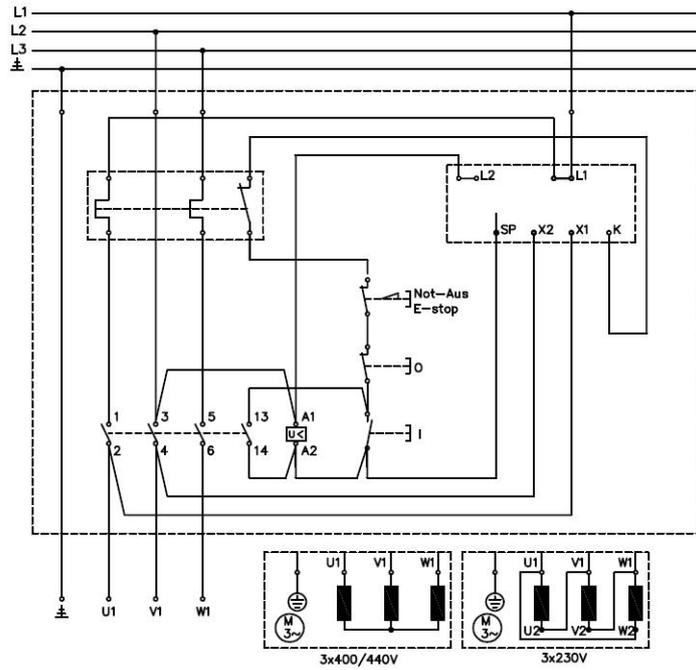


Fig.: 4.3.3 Diagram of belt grinder with brake and no exhaustmotor.

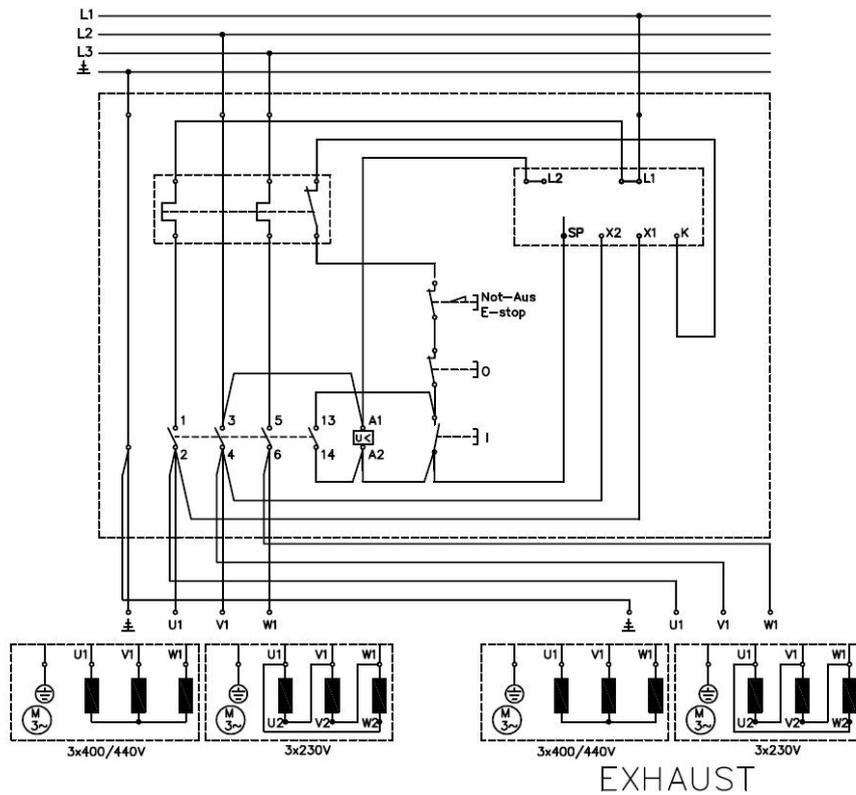
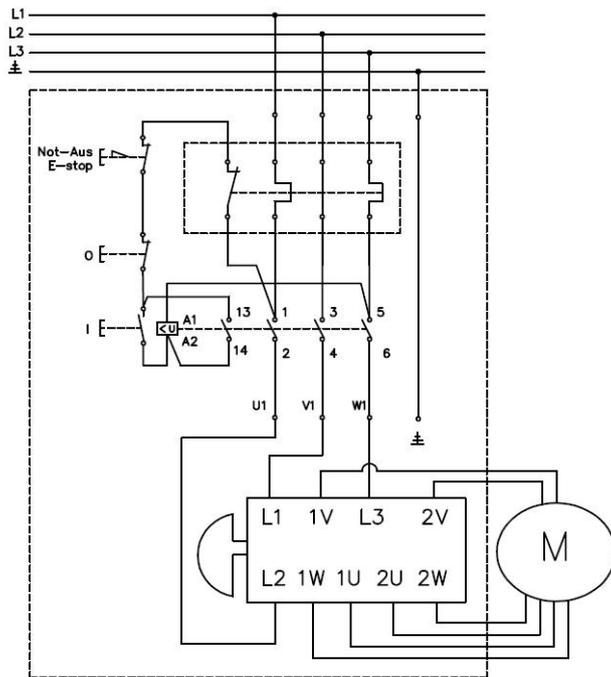
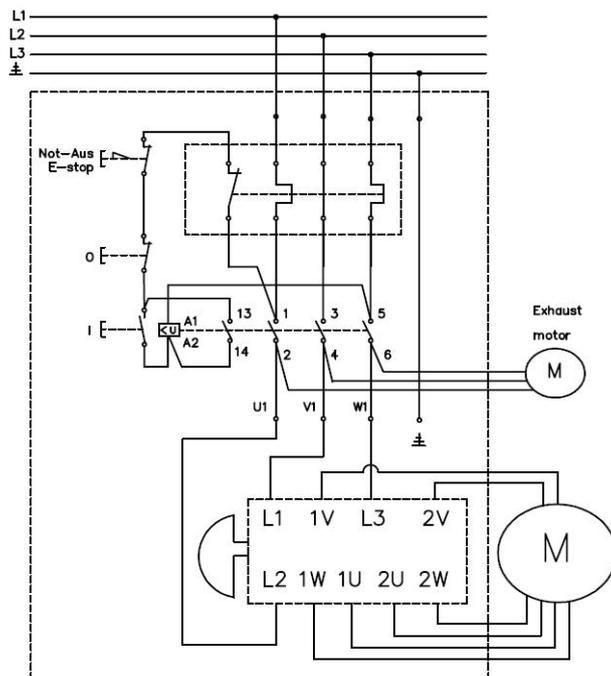


Fig.: 4.3.4 Diagram of belt grinder with brake and exhaustmotor.



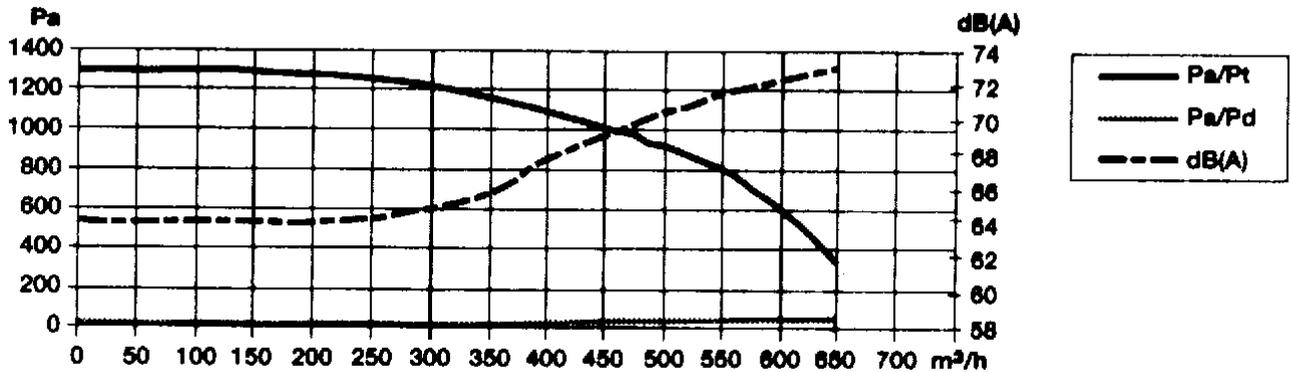
**Fig.: 4.3.5 Diagram of belt grinder with two velocities and no exhaustmotor.**



**Fig.: 4.3.6 Diagram of belt grinder with two velocities and exhaustmotor.**

## 4.4 Pressurediagram

The fan is especially developed for belt grinders. It can set up a pressure up to 1300 Pa and a air flow from 0 to 650 m<sup>3</sup>/hour. It is constructed of 1,5 mm steel plate and is spot welded. It has a 3-phase motor 3x230/400 V and 1x230V 50/60 Hz, 2800 r.p.m. . The fan is enclosed in Class IP 54.



## 5. Warranty

### 5.1 Guarantee

If within 2 year of purchase this machine supplied by KEF MOTOR A/S becomes defective due to faulty materials or workmanship we guarantee to repair or replace the machine or defective part or parts free of charge provided that:

1. The product is returned complete to one of our Service Branches or Official Service Agents.
2. The product has not been misused or carelessly handled and in particular has not been used in a manner contrary to the operating instructions.
3. Repairs have not been made or attempted by other than our own Service Staff or the staff of our Official Service Agents.
4. Documentary proof of purchase date is produced when the goods are handed in or sent for repair.
5. Wear parts are not covered by the warranty

**KEF-MOTOR A/S offers you five years guarantee on the electrical motor if the motor becomes defective or even burns-out within the first 5 years from date of invoice.**