Instructions SharpX QUATTRO / HS

Keep for future use!



Manufacturer:



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2 General

2.1 Notes regarding warranty and damage prevention



Warning! Risk of bodily injuries and death



Warning! High electrical voltage



General rules!



Notes with these symbols serve as additional information

8. Action

Tasks are numbered in the order in which they are to be executed.

O Result of action

This symbol stands for a requirement or result of an action.

- Setup and instructions performed by your local dealer.
- Carefully read operating instructions before start-up of machine. These instructions are intended for correct setup, use and maintenance of the **SharpX** and should guarantee trouble-free operation.
- We are not liable for unauthorized setup and electrical installation, incorrect operation, non-intended use, structural changes, removal of protective devices or use of nonoriginal **SharpX** parts, replacement parts and accessories. In these cases, the user acts at his/her own risk! Damage resulting from the above mentioned cases is entirely the responsibility of the user.
- Therefore, we recommend the exclusive use of SharpX original and replacement parts and accessories!
- Defects and damage caused due to normal wear and tear may not be construed as a basis for any claims against SharpX.
- Operating staff is to be thoroughly trained according to these operating instructions regarding operation and maintenance of the SharpX.



Warnings to be adhered to and memorized!

SharpX machines are meeting the accident prevention regulations. However, there remains a risk of injury in case of incorrect or inattentive operation or maintenance. These operating instructions particularly highlight specific risks of injury.

Within our warranty terms and conditions the **SharpX** carries a warranty of 12 months (see warranty card).



Read operating instructions before start-up and keep handy! Follow instructions!

1.1 Intended use

This machine is solely intended for sharpening of clean knives. Any other use of the **SharpX** could constitute a hazard and is prohibited.

Only run the machine with ceramic block.

2.2 Description and characteristics

Device description

- Table version according to the latest findings in modern and efficient sharpening of tools.
- Design based on international accident prevention regulations.
- Water container for SharpX QUATTRO exchangeable without tools.
- Splash guard removable upward.
- High-performance drive with optimal speed.
- Uniform shaking motion or vibrating motion of polishing elements
- Removable sharpening elements for easy maintenance.
- Polishing unit quick and easy to replace.
- Separate water cooling system for SharpX QUATTRO
- Great stability due to non-slip suction feet
- Magnetic coupling to prevent knife damage in case of incorrect handling.



Winged wheels with diamond coating



Convex edge correct! Flat/concave edge incorr.

Features

- Modern, space saving and closed design.
- Long service life due to well-engineered technology and high quality material
- Time saving due to quick and easy handling as well as easy cleaning
- Little risk of injury due to highly effective accident prevention.
- Winged wheels for optimal convex edge preventing wedge formation at the blade. High resilience and edge retention of the blade can only be obtained by a convex edge.
- No dirt accumulation of the work environment since dust is collected by magnets.
- The water cooling system for model SharpX QUATTRO prevents overheating of the blade.

2.3 Safety guidelines

Safety guidelines according to EN 61029-1:2010

- 1. Keep your work area in good order
- Cluttered work areas may cause accidents.
- 2. Pay attention to environmental influences
- Do not expose electric tools to rain.
- Do not use electric tools in humid or wet environment.
- Make sure work area is well lit.
- Do not use electric tools in areas with fire or explosion hazard.

3. Protect yourself from electric shock

 Avoid physical contact with grounded parts (e.g. pipes, radiators, electric stoves, cooling units).

4. Keep other people away

 Prevent other persons, in particular children from touching electrical tools or cables. Keep them away from your work area.

5. Safeguard unused electric tools

 Unused electric tools should be kept in a dry, elevated or locked place outside the reach of children.

6. Prevent overloading of your electric tool

 You work better and safer within the indicated power range.

7. Use correct electric tool

- Do not use inefficient machines for heavyduty work.
- Do not use electric tools other than for their intended use.

8. Wear appropriate clothing

- Do not wear loose fitting clothes or jewelry which may get caught by moving parts.
- Do not use gloves.
- Wear a hairnet for long hair.

9. Use protective equipment

Wear safety goggles and ear protection.

10. Do not use cable other than for its intended use

 Do not use cable to unplug connector from outlet. Protect cable from heat, oil and sharp edges.

11. Avoid abnormal posture

 Ensure a firm footing while maintaining balance at all times.

12. Keep your tools in good order

- Do not work with worn grinding wheels or polishing elements.
- Follow directions for change of grinding wheels and polishing blocks.
- Check power cord of electric tool on a regular basis and have it replaced by an authorized specialist in case of damage.
- Check extension cords on a regular basis and replace if damaged.
- Keep machine clean and free of oil and grease.

13. Unplug connector from outlet

If electric tool is not in use, before maintenance and exchange of tools.

14. Remove tool keys from tools

Make sure that keys and adjustment tools are removed before switching on.

15. Avoid accidental start-up

 Make sure that machine is switched off when connecting plug to power outlet.

16. Pay attention

 Pay attention to what you are doing. Work intelligently. Do not use electric tool if you are not concentrated.

15. Check electrical tool for possible damage

- Before further use of the electric tool, protective equipment or slightly damaged parts must be carefully examined if they function properly and in accordance with their intended use.
- Check if movable parts function properly without jamming and check if any parts are damaged. All parts must be correctly installed and meet all requirements in order to guarantee perfect operation of the electric tool.
- Do not use damaged grinding wheels or polishing units.
- Unless otherwise specified in the operating instructions, damaged protective equipment and parts must be repaired or replaced according to their intended use by an authorized service center.
- Damaged switches must be replaced by an authorized service center.
- If an electric tool cannot be turned on/off via its on/off switch, it should not be used.

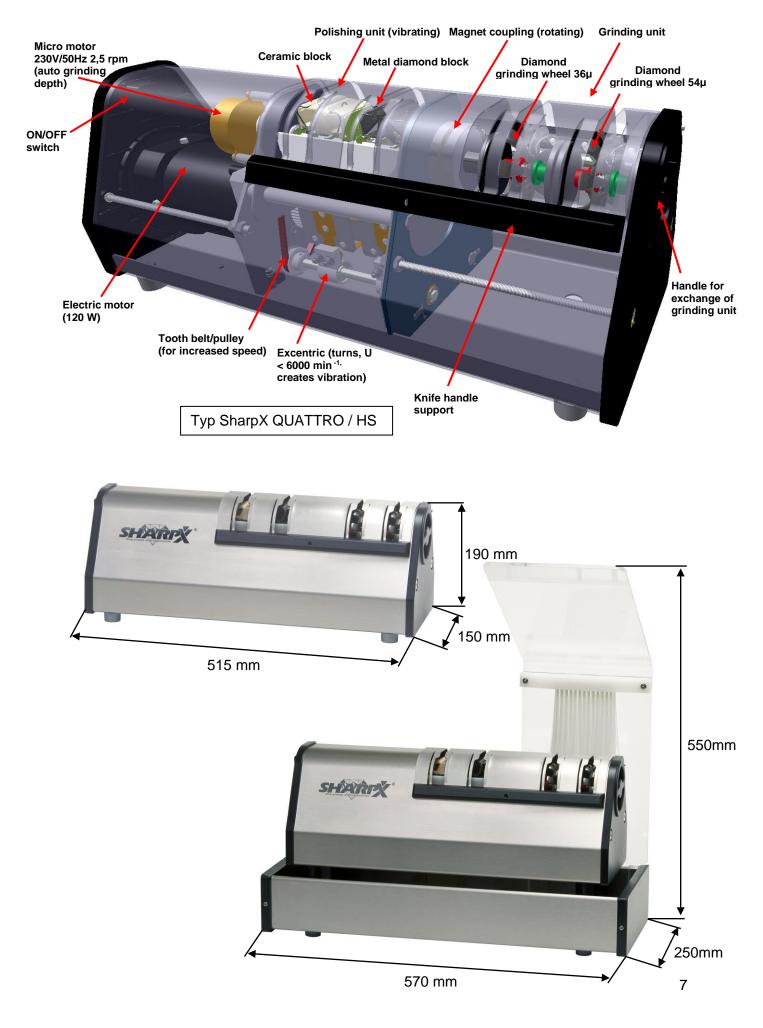
18. Attention

- Only use replacement parts recommended by the manufacturer.
- The use of other inserts and accessories may cause risk of injury and warranty loss.

19. Have your electric tools repaired by a certified electrician

 This electric tool is in conformance with relevant safety regulations. Repairs may only be carried out by a certified electrician by using original spare parts, otherwise there is a risk of accidents for the user (loss of warranty).

1.5 Overview



1.6 Technical data and dimensions

230V, 50 Hz AC 110 V, 60 Hz, 120 W 120 W 1,2 A	230V, 50 Hz AC 110 V, 60 Hz, 120 W 120 W
110 V, 60 Hz, 120 W 120 W	110 V, 60 Hz, 120 W
110 V, 60 Hz, 120 W 120 W	110 V, 60 Hz, 120 W
	120 W
	120 W
1,2 A	
1,2 A	
	1,2 A
max.10 A delay fuse	max.10 A delay fuse
IP 22	IP 22
2650 U/min	2650 U/min
2850 U/min	4860 U/min
100 cycles	100 cycles
36x32x24 mm	36x32x24 mm
36x22x30 mm	36x22x30 mm
	8 liters
Approx. 11 kg	Approx. 16,5 kg
400	
190 mm	550 mm total
450	252
150 mm	250 mm
F4F	570
515 mm	570 mm
Idle: 68 dB Grind: 75 dB	Idle: 75 dB Grind: 81 dB
	max.10 A delay fuse max.10

2 Getting started

2.1 Unpacking and checking of package content

The **SharpX** is shipped in a folding carton.

Package content:

- SharpX machine
- Allen key 2 pcs.
- Operating instructions
- Warranty card
- Declaration of conformity

2.2 Installation

The **SharpX** may only be operated in a dry working area separated from food. Please make sure that:

- there is sufficient working area for operation and cleaning
- there is a slip-proof floor for the operating personnel and
- there is a flat and even surface supporting the machines feet.

2.3 Electrical connection

- Compare mains voltage with information on type plate.
- Wiring and grounding of outlet as per VDE regulations (German Association for Electrical, Electronic & Information Technologies).



Only switch machine on when ready for operation!

2.4 Wet sharpening (type QUATTRO- HS) The water container of machine must be filled up to sheet metal edge: level 65 mm of water. The whole pump must submerged.

Carefully place machine in container. In order to turn on the water supply activate switch on the right hand side.



The pump must not run without water.

3 Cleaning



For cleaning, separate SharpX from mains power supply (pull out the power plug)!



The SharpX must not be cleaned with a pressure washer or placed in water!

See info 5.1 Changing of grinding wheels.

Color spots may appear on the grinding parts. Remove and clean the grinding parts.

Remove the gable with use of the supplied Allen key and clean the grinding space. After cleaning inside the grinding house mount the gable back in place.

Note that the gable is properly secured.



 QUATTRO HS. Change the water weekly and clean the pan of sanding dust. (Often with high grinding performance).

Prepare sharpening machine for operation

Installation of cleaned parts is performed in reversed order (chapter 5 maintenance).

4 Operation



Observe accident prevention regulations currently in force!



Wear protective goggles and ear protection!



Machine changes, machine additions or conversions are not allowed without prior approval by SHARPX AB.



Stop machine immediately in case of malfunction! Turn off main switch and unplug machine. All malfunctions must be fixed before further use.

 \triangle

Grinding wheels and other tools not specified by us for this machine must not be used.

4.1 Safety guidelines

Before using the **SharpX**, please follow the following safety guidelines:

- Concentrate on your work
- Do not talk to other persons
- Do not reach into grinding area
- Keep your work station clean and dry. Make sure machine is on firm basis.
- Use only for knife sharpening.
- Always hold knife blade in wheel direction (arrow).
- Never insert blade with tip downward or in a position other than intended.
- Make sure that the grinding wheels rotate freely before start-up of the machine and that they are not blocked by other objects.
- Do not wear gloves or items of clothing which could get caught in the machine during operation.
- Wear protective goggles and ear protection at all times while using the machine.

- Covers must be closed
- Never use force to open the cover or as long as the machine is connected to the power supply system.
- Never touch the grinding wheels or other movable parts as long as the machine is connected to the power supply system.
- During maintenance and cleaning, the machine must be separated from the power supply system (pull out the power plug).
- Make sure there is sufficient clean water in the container of model type SharpX QUATTRO.

Sharpen *clean* knives only

There is a risk of injury due to free-running grinding wheels as these cannot be covered due to the convex grinding procedure. Furthermore, operator negligence could result in some risk of injury due to the unused but vibrating sharpening body on the opposite side.

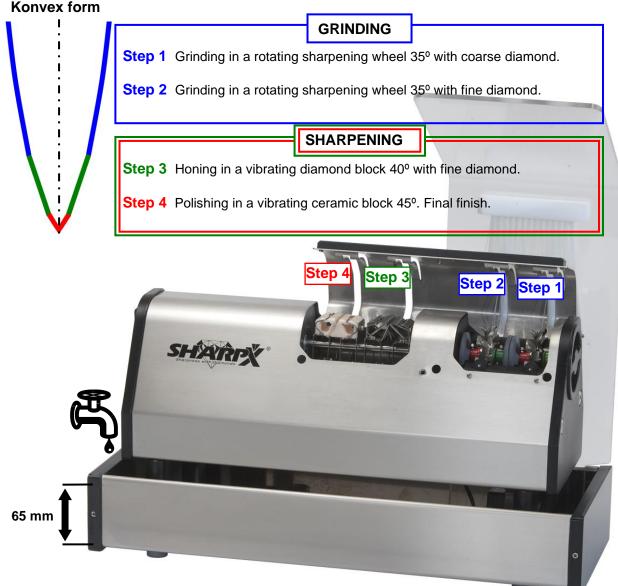
SHARPX QUATTRO / QUATTRO HS

Information on Sharpening Technique Including Sharpening Instructions

KNIFE SHARPENING TECHNIQUE

In order to make a knife sharp and to keep it sharp for as long as possible, the edge must be sharpened to a convex form and to the correct angle.

When you are grinding and sharpening with the SharpX QUATTRO / HS sharpener, equipped with two grinding stations and two sharpening stations, the result is an ultimately convex and centred edge, sharpened to the correct angle.





Recommendation: Choose newer knives when grinding with the diamond grinding wheel.

The first time the knife is ground in SharpX, more grindings are required until the knife edge is in the correct shape. Knives, which have been grinded many times on other systems, usually have a knife edge that has different grinding angles as well as an edge that is not centered.

Before the knives are grinded in the right convex angle and shape of the SharpX technology, many grindings are required.

When the knife is sharpened in SharpX, you do not need to grind the knife every time. Sharpening is enough to restore the sharpness.

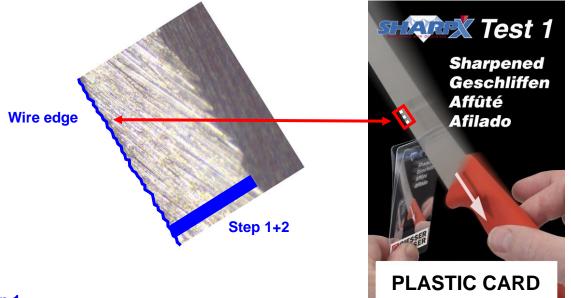


SHARPENING: Step 3 After a time of use / wear, the diamond block recreates a new edge and Step 4 polishes the edge to the optimal finish. If unsuccessful results are achieved after sharpening, the blade must be ground and re-polished from the beginning Step 1 - Step 4.

4.2.1 SHARPENING

The knife must be clean before sharpening. Fill the water container almost to the edge (65 mm). Sharpening is easier if you hold the knife with one hand and help steer the blade with the other hand. It is important that the knife is not held at an angle, but is steered vertically into the slot. Sharpen the knife until there is a wire edge. This is proof that the edge has been sharpened to a point.

Test 1. Ascertain that you have a wire edge by carefully pulling the knife, by its own weight and at an angle of approximately 30 degrees, over the edge of the plastic card. When the blade jumps against the card, making it vibrate, you have achieved a wire edge.



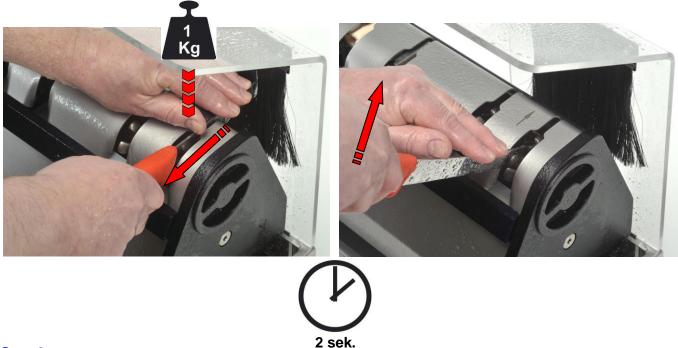
Step 1

Start the machine (as well as the water pump. Make sure that water spills on the grinding wheels. (SharpX QUATTRO HS) Press the knife blade into the slot with a pressure of about 1 kg. Start at the handle. Simultaneously pull the knife steadily towards you through the wheel, with a speed of about 2 sec. for a regular-length knife.

At the end, lift the handle in order to sharpen the tip of the knife.

Repeat until a wire edge is obtained.

If the pressure on the knife is too high, the wheel stops automatically with the help of a friction coupling. This prevents the sharpening wheel or the knife from being damaged.



Step 2

Repeat as in Step 1 with only a few strokes in order to make the sharpening surface smooth before polishing.

SHARPENING

When you have obtained a wire edge, the knife is ready to be honed / polished in the diamond and ceramic blocks. When you are sharpening the knife, the wire edge is removed. The knife edge is trimmed and receives its final form and finish.

Step 3

Press the wet knife blade, close to the handle, into the slot with a pressure of about 0,5-2,0 kg. Pull the knife slowly back and forth with a variable pressure of approx 0,5-2,0 kg. This is to make sure that the whole area of the honing block is being used. Use a speed of about 4 sec per stroke. Make sure that the tip of the knife is also being polished. Repeat about 4-5 times.



Note! A wet blade gives a better polishing result.

Step 4

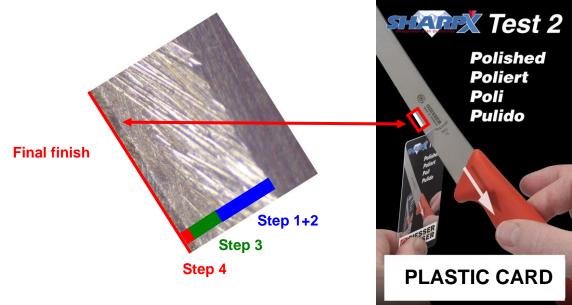
Repeat as in Step 3.

It is suitable to wet the knife blade before polishing it in the ceramic block. Thus coating of the ceramic surface is prevented.

4 sec.

Clean the ceramic block regularly using a hard brush and water.

Test 2. Check that the knife edge, which should now be smooth, without a wire edge, has attained its final finish by drawing it against the edge of the plastic card. The knife should now glide smoothly without resistance. Note that if the angle between the card and the knife blade is too large or if too much pressure is inserted, small "jumps" of the blade might occur. This is quite normal.



The knife edge now has a centred, ultimate, convex form and the knife is ready to use.

RE-GEGROUND / SHARPENING

When the knife is grinded in SharpX, you do not need to grind the knife every time. Sharpening is enough to restore the sharpness.

5 Maintenance / replacement of wear & tear parts



Important information

Maintenance / replacement of wear & tear parts. Page 15.

When you notice that the result after grinding is not satisfactory it is time to change the diamond grinding wheel and diamond block.

Contact your retailer to order replacement diamond wheel and diamond block.

Description	Items-No.	Granulation
Grinding diamond wheel	1.2	Coarse
Grinding diamond wheel	1.3	Medium
Diamond block	3.1	Fine
Ceramic block	3.2	Normal surface



Ceramic block No.3.2



Diamond block No.3.1



Diamond wheel No.1.3 Diamond wheel No.1.2



Separate SharpX from electrical power supply system before starting any maintenance work!



Wear protective goggles!

5.1 Changing of grinding wheels

1 - 2. Open swivel-mounted cover.

3. Turn handle anticlockwise until engaged.

4. Press down the hook arm to the bottom for lifting the pins.

5. Carefully remove complete grinding wheels with handle.

6. Remove lock washer.

7. Caution: it may jump out. Risk of injury.

8. Remove interlocking grinding wheels without using force.

9. Repeat steps 4 and 5 for types SharpX QUATTRO / HS.

10. Slide new grinding wheels with rubber ring on the shaft. **Green** side of the grinding wheels must point in direction of handle.

11. Use lock washers to lock grinding wheels into position.

12. Repeat steps 7 and 8 for types SharpX QUATTRO / HS.

13. Press down the hook arm to the bottom for lifting the pins.

14. Carefully re-install complete grinding wheels with handle. Pay attention to position of square shaft in magnet coupling.

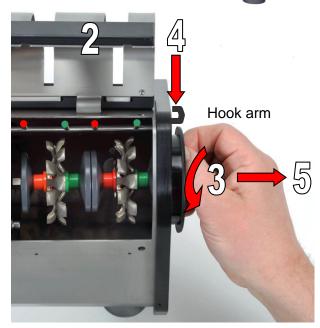
15. Turn sharpening shaft handle clockwise until stop. Do not use force. Spring (internal) must be engaged.

16. Cut open, remove and properly dispose of rubber rings.

17. Close cover and reattach screws.

18. Do not stand directly in front of grinding wheels during first start-up of machine as small parts left behind could whirl around.









5.2 Changing of polishing elements

19 - 20. Open swivel-mounted cover.

21. Carefully pass through screwdriver between spring and polishing element.

22. Lift spring upward until completely released.

23. Remove polishing element.

24. Repeat steps 21 and 22 for each polishing element to be exchanged.

25. Position first new polishing element on intended location.

26. Using the screwdriver pull spring over polishing element until it firmly engages in the middle notch.

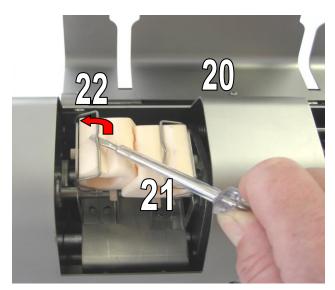
27. Repeat steps 26 for each new polishing element.

28. Check if each element fits tightly and retension spring if necessary in order to avoid damage to machine and knife.

29. Close cover and reattach screws.

30. Do not stand directly in front of grinding wheels during first start-up of machine as small parts left behind could whirl around.





5.3 Description: wheel / block

Description	Items-No.	Granulation
Grinding diamond wheel	1.2 (D54/35)	54 µ
Grinding diamond wheel	1.3 (D36/35)	36 µ
Diamond block	3.1 (Diamond block)	16 µ
Ceramic block	3.2 (Ceramic block)	normal surface

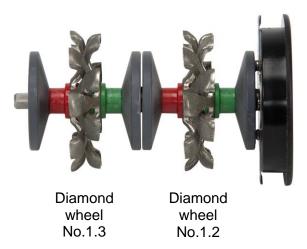
6 Wear parts



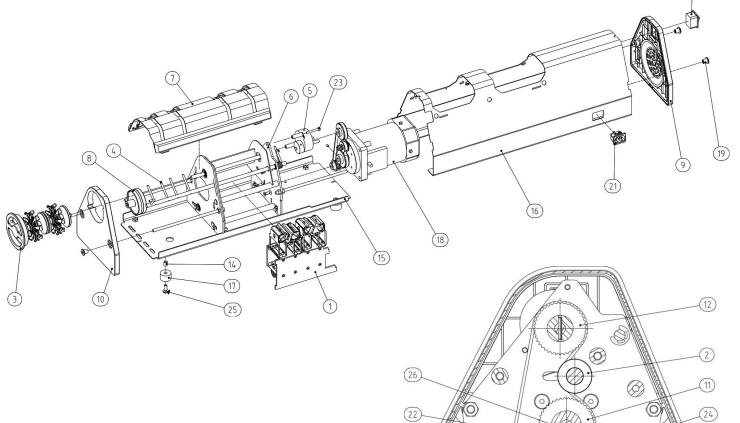
Ceramic block No.3.2



Diamond block No.3.1



7 Spare parts



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Title	(тинс	TRO, 50 Hz		Surface	treatment		
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ltem		Descriptio		Material	Dimensi	on Article no.		
1	1	VIBRATIO	NSENH./VIBRATION UNIT			11001		
2	1	SPÄNNRULLE/TENSION ROLLER				11002		
3	1	SLIPHJULSENH./GRIND.WHEEL UNIT				11007		
4	1	PINNARM	/ PIN ARM			11033		
5	1	MIKROMOT	FOR/MICRO MOTOR	230V/50Hz		11034		
6	1	AXELENH	ET / AXLE UNIT			11035		
7	1	LUCKA / LID				11036		
8	1	MAGNETKOPPLING/MAGNET CLUTCH				11041		
9	1	GAVEL / GABLE				20000-2		
10	1	GAVEL / GABLE		1		20001		-
11	1		HJUL / PULLEY,Z=44			20024		
12	1	KUGGREMHJUL / PULLEY, Z=41				20025		
13	1	-	HJUL / PULLEY, Z=24	1		20026		
14	4	DISTANS		1		20101		
15	1		LÅT / BOTTOM PLATE			20159		
16	1	KÅPA / C		Gorninintobbert	02477215	20160		
17	4	FOT / FOC		GUMMI/RUBBER	Ø21./7×15	30013		
19	4	MOTOR /	TTER / FLANGE NUT	230V / 50Hz	1.10	30020		
20	4		/ SWITCH	OEM	1550-XB M6	30006		
21	1		HANE/CONNECTION, MALE	OEM	0711-1-PW			
22	1	KUGGREM / TOOTH BELT			L=354	30009		
23	2	SKRUV / SCREW		A4-70	MC6S 4x30			
24	4	SKRUV /		A4-70	MF6S 5x12			
25	4	SKRUV / SCREW		A4-70	MRX-Z M6	x16 ISO 7045		
26	1	STOPPSKRUV / SET SCREW		A4-70	SK6SS 4x6			

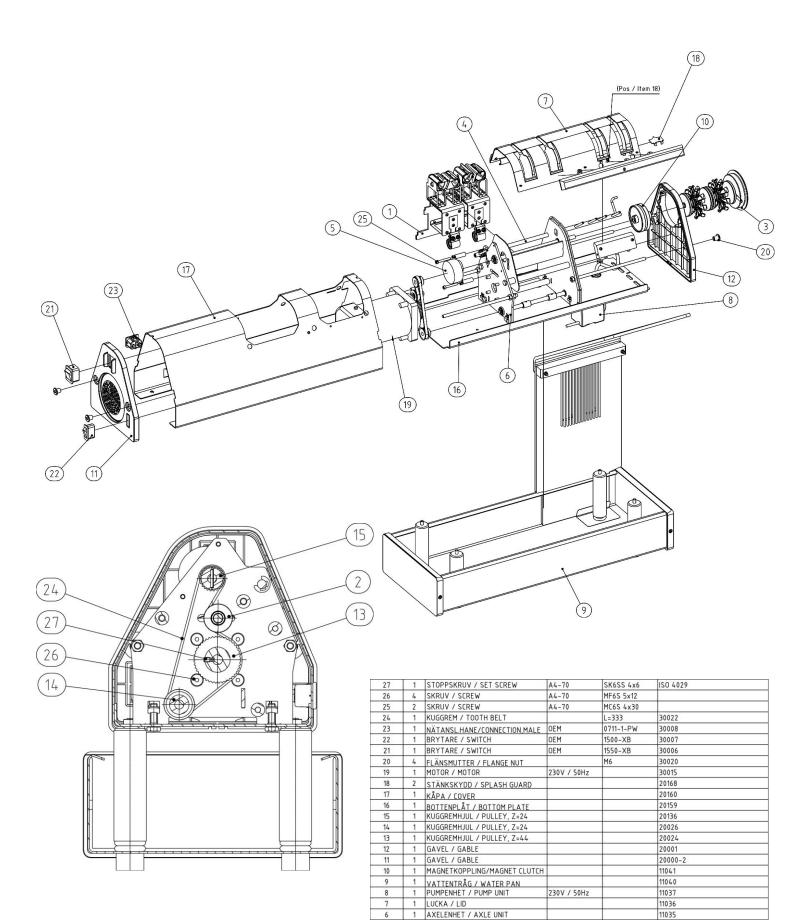
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5

4

3

2

1

Designed by

Title

Owner

A JN

1

Item Qty Description

Checked by

SHARPX AB Motala, Sweden

1 MIKROMOTOR / MICRO MOTOR

1 SLIPHJULSENH./GRIND.WHEEL UNIT

 1
 SPÄNNRULLE/TENSION ROLLER

 1
 VIBRATIONSENH./VIBRATION UNIT

Belong to assembly

QUATTRO HS, 50Hz

PINNARM / PIN ARM

1	Q
- I	0

Scale

1:5

Sheet 1(1)

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Edition 1

11034

11033

11007

11002

11001

Dimension

Surface treatment

File name 10013

Article no

General tol. Gen. surf. Ra View SS-ISO 2768-1 machin. surf.

N

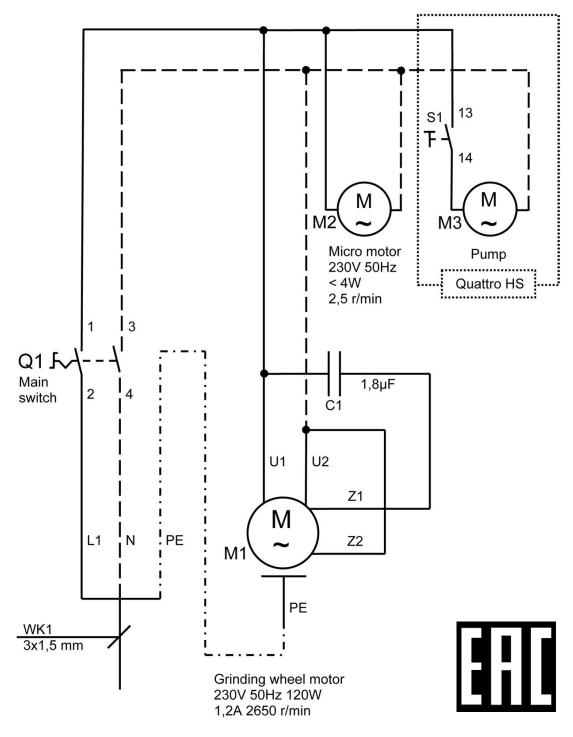
230V / 50Hz

Material

2012-07-10

Date

Art.no. 10 013



Electrical diagram. SharpX Quattro / HS 2012 09 20

SHARPX AB

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9. EC declaration of conformity

in accordance with EC Machinery Directive 2006/42/EC, attachment II A We hereby declare that, due to its design and type as well as the version placed on the market by us, the machine described below is conform with corresponding essential safety and health requirements of the relevant EC directives.

In case of changes performed on the machine/equipment without our prior approval this declaration becomes invalid.

Types:	SharpX QUATTRO / HS
Description of machine/equipment: Machine No.:	Diamond-Sharpener
Relevant EC directives:	EC Machinery Directive 2006/42/EC EC EMC 2004/108/EC
Applied harmonized standards in particular:	
	DIN EN ISO 12100:2010; Safety of machinery (March 2011)
	DIN EN 60204-1:2007 Electrical equipment of machines Part 1: General requirements
Applied national standards and technical specifications:	GS type examination certificate No.: MO 113101 until 19.05.2016 Inspection and certification authority: Fachausschuss Metall und Oberflächenbehandlung (MO), Hannover European notified body identification-no.: 0741
The following person / department is authorized to establish the documents:	Tore Eklund SHARPX AB Motala Sweden
	The operator receives operating instructions in the language of operation.
Date/manufacturer signature:	Motala, dated 1th December, 2012 SHARPX AB Motala Sweden
Information regarding signatory:	Karin Eklund Managing Director