

KRONOGLASS



WATCH GLASS COPY MILLING MACHINE



Directions for use

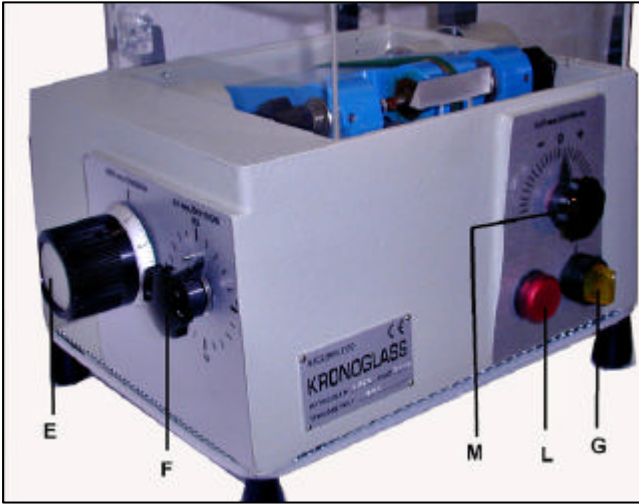
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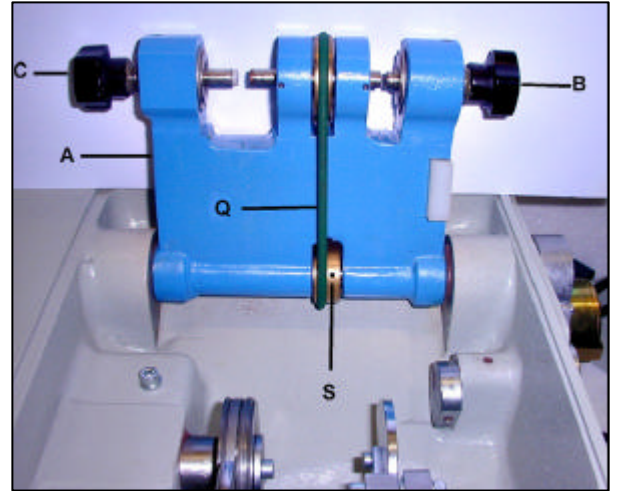
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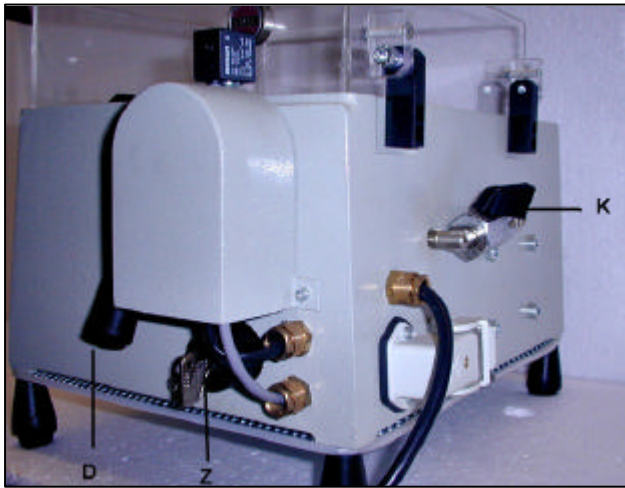
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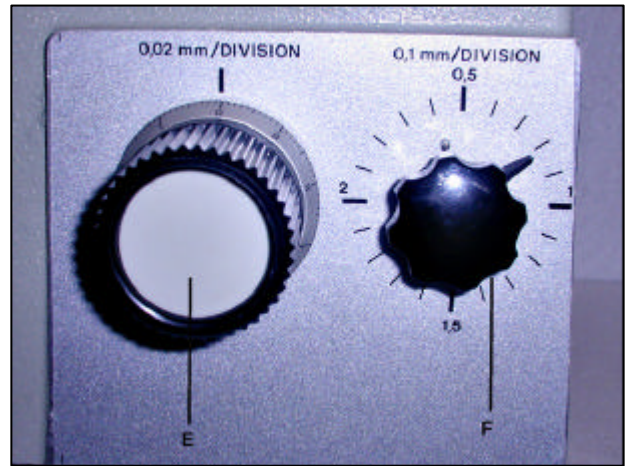
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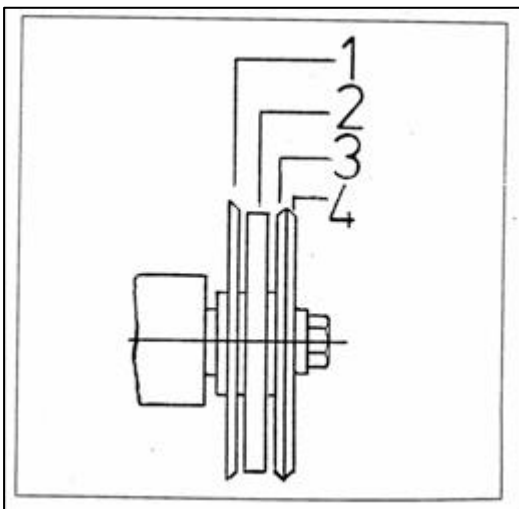
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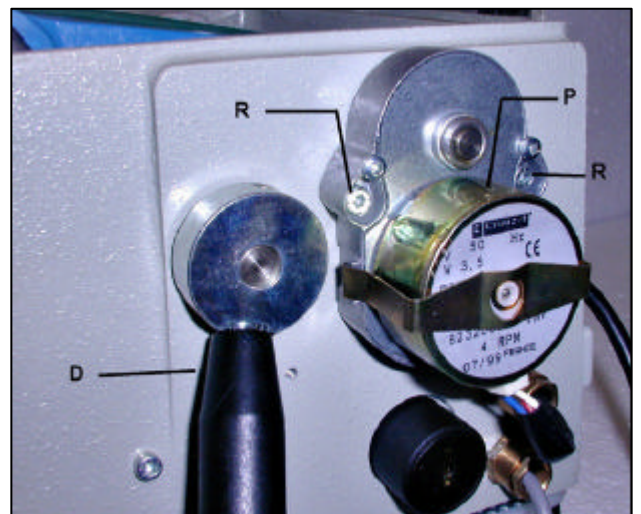
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1. INTRODUCTION

The KRONOGLASS machine has been planned to reproduce flat or concave mineral or sapphire glasses with bevel, for watches of any shape. It can work also with unbreakable material. This machine works on the copying basis, therefore when the original glass is available, it is possible to copy it perfectly.

2. MANUFACTURE OF A GLASS PATTERN (DIMA)

If the original glass is not available, you can easily manufacture a resin pattern directly from the watch case according to the following directions:

- Choose a sheet of glass as base (about 15 cm. ? or side) and slightly grease it.
- Mix a spoonful of resin "K1" with about half a spoon of hardening liquid "K2".
- Place the watch case (glass-side downwards) on to the soft paste and wait about 15 minutes.
- When the paste is solidified, take off the case and the surrounding paste with a small knife; break the excess of paste by hand (possible small imperfections can be scraped off with a thin file) and the glass pattern will be ready.

3. DIRECTIONS FOR USE

- Put the machine on a table and the water tank underneath it, on the floor.
- Plug the machine in (make sure of the exact feeding tension)
- Fill $\frac{3}{4}$ of the tank with water and add half a bottle of emulsible oil "K3" (that is about the 2%). Put the pump from above into the tank.
- Connect the machine to the water circulation pump with the two rubber pipes: connect, with the first pipe, the water pump and the supply with the back lever "K" (with which you can also adjust the water inflow). Connect the second pipe leads back from the machine into the water tank. Start the machine by switch "G" and check that the water comes out regularly.
- Lift the cover and lift the unit "A" by lever "D". Loosen lever "B", insert the original glass (or glass pattern) and fasten lever "B" (without tightening too much at the moment). Loosen lever "C", choose the mineral glass plate to be moulded and insert it, after cleaning the two sides (without tightening too much at the moment - see picture 2). Then tighten the two levers "B" and "C", **at the same time.**
- With the knob "E" you can move the grinding wheels to the side. Check that the plate to be moulded is on the main grinding wheel N°2 (picture 5).
- Turn knob "F" on the number marking the thickness of the mineral glass plate you choose.
- Lower the cover and slowly lower unit "A" with the lever "D" on the grinding wheel. Grind until the grinding noise stops.

This machine is in conformity with the CEE regulations and for this reason it is supplied with a micro-switch which switches off the engine automatically every time the protection plexiglass cover is raised.

On the right side of the machine, under the external auxiliary motor, there is a safety key switch "Z" which has two positions:



ONthe micro-switch is working



OFF the micro-switch is not working (ATTENTION: the machine remains lighted up when the cover is raised).

BEVELLING OF THE NEW GLASS

Turn knob "E" slowly anticlockwise till the red warning light "L" lights up, which shows that the glass is touching the beveling grinding wheel N°1. You can get a more marked bevel operating on knob "E", that is pushing the glass towards the grinding wheel more.

To get the bevel on the other side of the glass, turn the knob "E" clockwise till when the warning light "L" lights up: now the glass is touching the grinding wheel N°3 and you can operate in the same way as for the first bevel.

EXTERNAL BEVEL POLISHING

- Lift unit "A" by moving lever "D"
- Open the cover
- Turn knob "E" clockwise till the glass is beyond the grinding wheel N°4
- Lower unit "A" with lever "D" again and get the glass near the polishing wheel N°4, taking care not to touch it
- Lower the cover again and turn knob "E" anticlockwise slowly till it touches the grinding wheel: polish the bevel for approx. 1 minute
- Lift unit "A" by moving lever "D", switch off the machine and open it. Take off the glass by loosening lever "C". Dry the glass and clean it with soft leather.

SIZE OF THE GLASS TO BE MANUFACTURED

The machine is calibrated to get glasses of the same size as the pattern. If you wish to get a bigger glass (e.g. to glue in instead of gasket ring), turn the knob "M" to the right (each notch corresponds to 0,02 mm.) Operate viceversa if you wish to get a smaller glass.

Knob "M" serves also to centre the machine in case of excessive wear on the main grinding wheel N°2

4. MAINTENANCE AND ADVICES

Water pump: change the water and the emulsible oil about of every 250 glasses. Take care of the proper proportion of emulsible oil "K3" to be added to water (no more than 2%): too much oil clogs the grinding-wheels compromising the regular glass grinding, can wearing the paint and the rubber driving belt "Q".

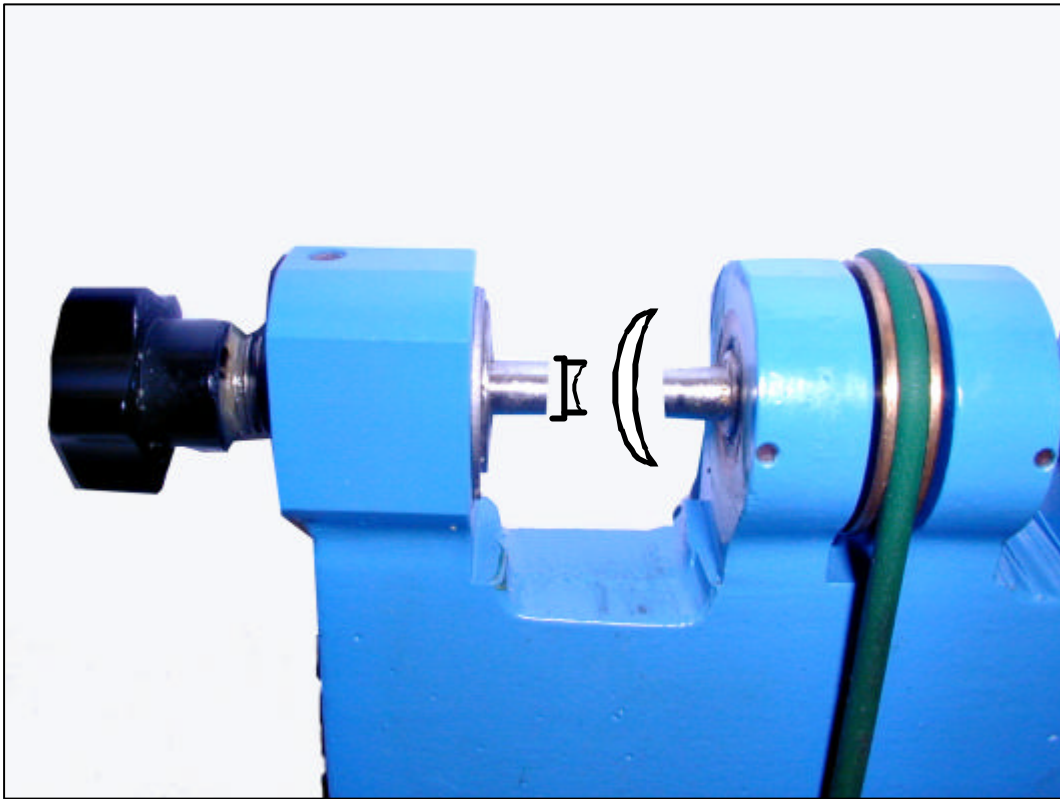
Lubrication: when work is over we suggest to clean, dry and lubricate all the parts of the machine with oil "K4" or silicone grease (thus the mechanical parts and the painting are well kept).

Grinding-wheels cleaning: as soon as you notice glass rolling difficulties on the main grinding wheel and/or indentations (this may happen after 250 glasses about) and/or the grinding of a glass takes longer that 4/6 minutes (according to the thickness and size of the glass), the grinding wheels have to be cleaned with the corundum stone "K5".

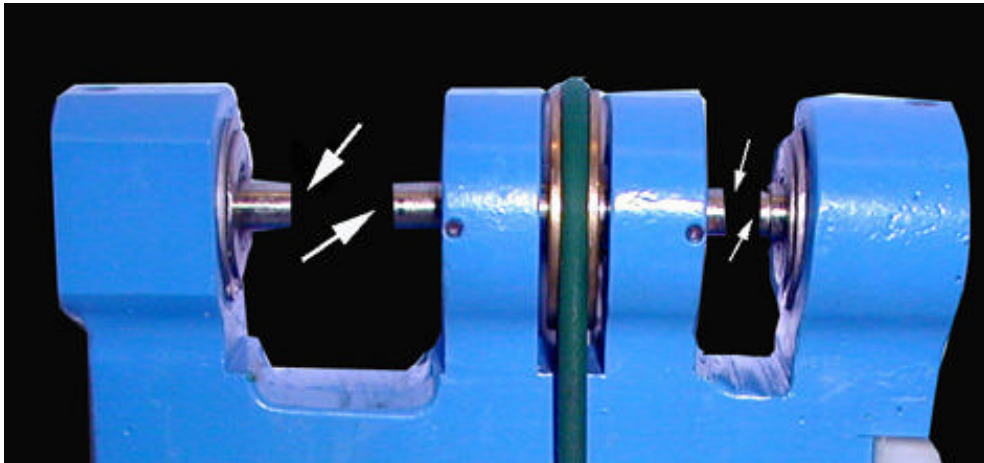
It will be sufficient to press this stone on all the grinding wheels, for some seconds, during the rotation and with water in circulation (the safety key switch "Z" must be in OFF position).

- For changing the driving belt "Q", you have to proceed as follows:

Disassemble the reducer from the side panel taking off the two fixing nuts "R" (the motor can be removed). Loosen the fixing screw "S" of picture 2 (you can pull out the axle: take care that all the spacing washers are at their place). Now the belt "Q" can be pulled across the unit "A" and be replaced.

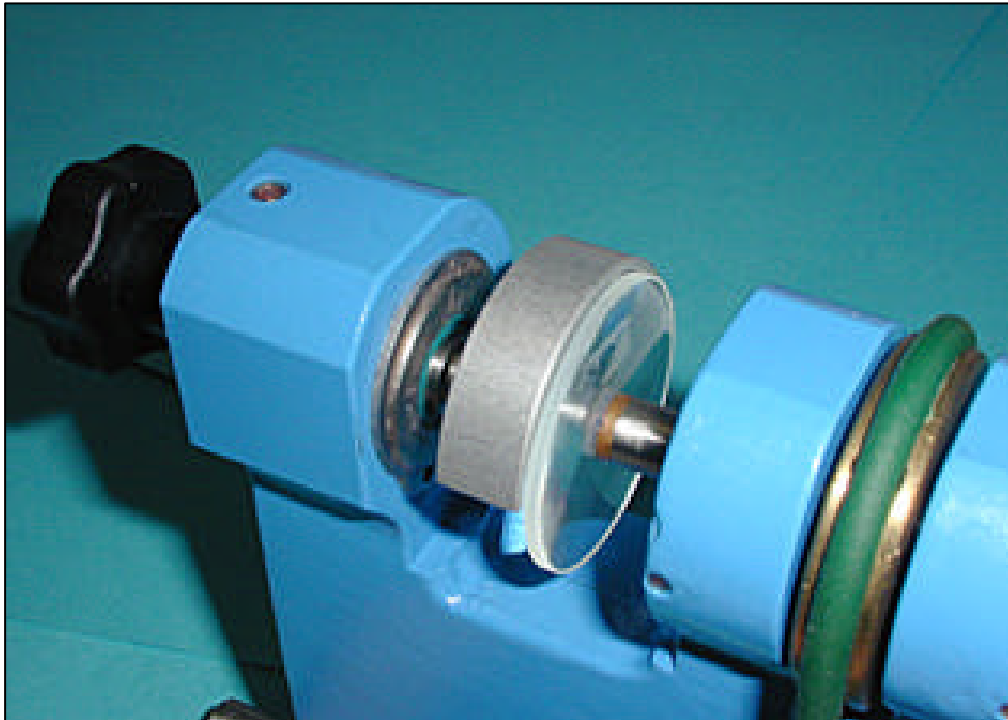


- To cut convex plates: place the convex glass holder, in supply, and the convex plate as per the above picture



- Keep always clean the parts where the glass and the dima lean (that are marked by arrows in the above picture), but never use files or cutting tools that may spoil these parts.

ACCESSORY TO CENTER ON THE BLOCK MINERAL GLASS PLATES (ALSO OPTICAL) OF Ø 35 MM.



1. Lift the cover and lift the unit "A" by lever "D". Loosen lever "B", insert the glass pattern and fasten lever "B" (without tightening too much at the moment). Loosen lever "C", choose the mineral glass plate to be moulded and insert it, after cleaning the two sides (without tightening too much at the moment)
2. Lean the accessory on the glass plate and make the centering
3. Then tighten the two levers "B" and "C", **at the same time.**

5. TECHNICAL DATA

Voltage	220 V. - 50 Hz (110 V. on request)
Power	0,110 Kw
Weight	13,600 Kilos
Size	40x28x27 cm.

WATER CIRCULATION PUMP

Voltage	220 V. - 50 Hz (110 V. on request)
Weight	4,350 Kilos
Size	45x28x27 cm.

STANDARD OUTFIT

- 1 water circulation pump
- 1 kit for making watch glass patterns
(200 grs. of resin K1 + 250 grs. of hardening liquid K2)
- 1 bottle (250 grs.) of emulsible oil K3
- 1 spray lubricating oil
- 1 corundum stone K5
- 1 convex glass holder
- 1 accessory to center on the block mineral glass plates (also optical) of Ø 35 mm.
- 60 mineral glass plates, Ø 40 mm. (0.7 0.9 1.1 1.3 1.5 1.8)
- 3 hexagonal keys (2 - 2,5 - 4 mm.)
- 1 fixed key (8 - 10 mm.)

6. Main spare parts and accessories

KRONOGLASS®

PARTI DI RICAMBIO ED ACCESSORI
SPARE-PARTS AND ACCESSORIES
PIECES DE RECHANGE ET ACCESSOIRES



<i>K1-P</i>	200 gr.
<i>K1-G</i>	1000 gr.

Resina K1 per impronte
Resin K1 for patterns
Résine K1 pour empreintes



<i>K2-P</i>	250 gr.
<i>K2-G</i>	500 gr.

Liquido K2 per impronte
Liquid K2 for patterns
Liquide K2 pour empreintes



<i>K3-P</i>	250 gr.
<i>K3-G</i>	1000 gr.

Olio emulsionabile K3
Emulsible oil K3
Huile émulsifiable K3



	100 gr.
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Spray lubrificante
Spray-lubricating
Atomiseur à huile lubrifiante



<i>K5</i>	18 gr.
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Pietra di corindone
Corundum-stone
Pierre de corindon



	6 gr.
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Cinghia: esterna (rossa) oppure
interna (verde) per motore
Belt: external (red) or
internal (green) for the motor
Courroie: extérieure (rouge) ou
intérieure (vert) pour le moteur



<i>C</i>	80 gr.
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Mola n°2: formazione vetro
Grinding-wheel n°2: rough-shaping
Meule n°2: dégrossissage



<i>D</i>	62 gr.
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Mola n°1: bisello esterno (45°)
Grinding-wheel n°1: external bevel
(45°)
Meule n°1: biseau extérieur (45°)

<i>B</i>	62 gr.
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Mola n°3: bisello interno (30°)
Grinding-wheel n°3: internal bevel
(30°)
Meule n°3: biseau intérieur (30°)

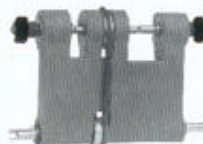
<i>A</i>	62 gr.
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Mola n°4: lucidatura bisello (45°)
Grinding-wheel n°4: bevel polishing
(45°)
Meule n°4: polissage du biseau (45°)



	266 gr.
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Gioco completo 4 mole
Complete set of 4 grinding-wheels
Jeu complet de 4 meules



	1500 gr.
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Basculante completo (A) - bianco
Complete block (A) - white
Bascule complète (A) - blanche



	110 gr.
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Vite fissaggio completa:
vetro (C) oppure dima (B)
Complete fixing screw:
glass (C) or dima (B)
Vis fixation complète:
verre (C) ou dima (B)