Operating Manual BA 1123/7.6 E

(Original operating instructions)

Fine Impact Mill

500 UPZ

Triangular-ribbed grinding track narrow / wide pitch

This BA 1123/7.6 E forms an integral part of the operating manual for the 500 UPZ basic machine

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Keep in a safe place for future reference! 07.08 / S9

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The following form part of this operating manual:

Spare parts drawings	EZ 1123/7.6–01
Spare parts list	EL 1123/7.6–01 ..... order-specific

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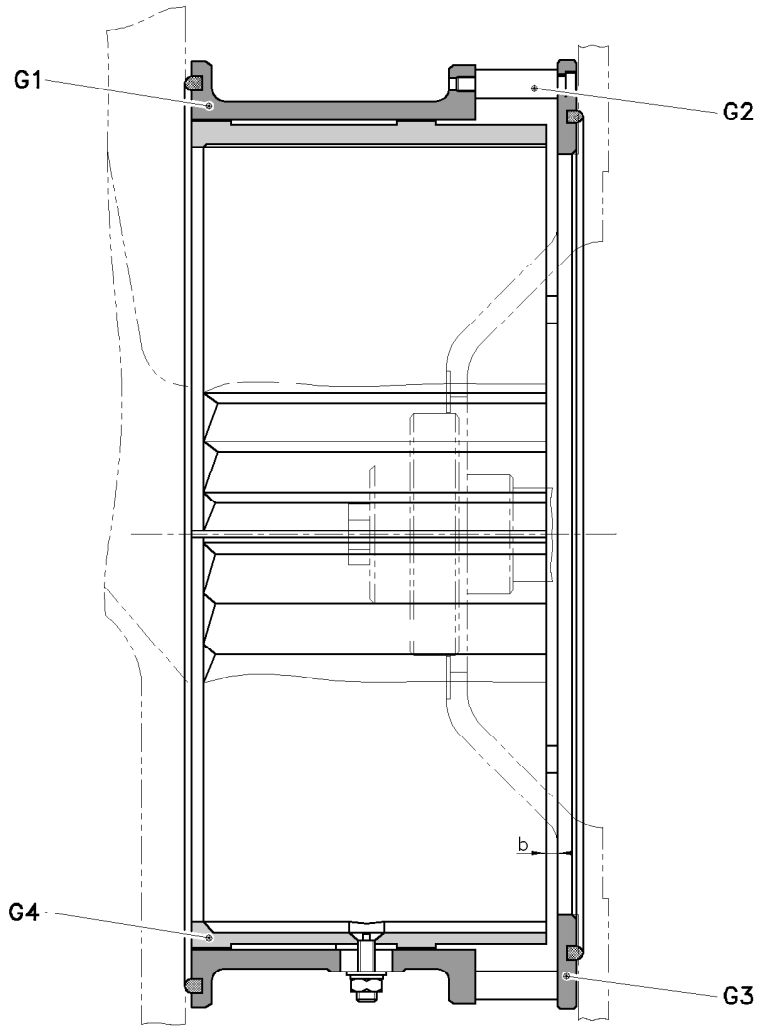
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1 General Information

The type and design of the grinding track is dictated primarily by the product or rather the desired end fineness, and is usually determined in advance by running trials and/or is based on experience.

The main components of the triangular-ribbed grinding track are:

- the grinding track ring (G1)
- the grinding track side ring (G3)
- the grinding track segments (G4)



G1	Grinding track ring		
G2	Spacer bolt	"b"	Discharge gap
G3	Side ring		
G4	Grinding track segment		

Figure 1: Grinding track

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Parameters which influence the fineness and throughput

Beater unit speed
A higher speed always results in a finer end product (do not exceed the max. permissible speed of the beater unit!).

Impact direction on the grinding track
Because the grinding track surfaces are asymmetrical, there are different ways in which the product impacts on the grinding track.

Impact direction **towards the short edge** is used for hard and brittle products. It generally results in a finer end product than the rotational direction towards the long edge.

Impact direction **towards the long edge** is the preferred direction for softer products that tend to deposit.

The direction of impact is mainly dependent on the product and the task:

To change the impact direction:

– Install grinding track segmetns with a different rib geometry (Section 5.1), or

– Change the direction of rotation (see the appended beater unit supplement)
Attention: the direction of rotation of the beater unit if the mill has a *tangential discharge* cannot be changed!

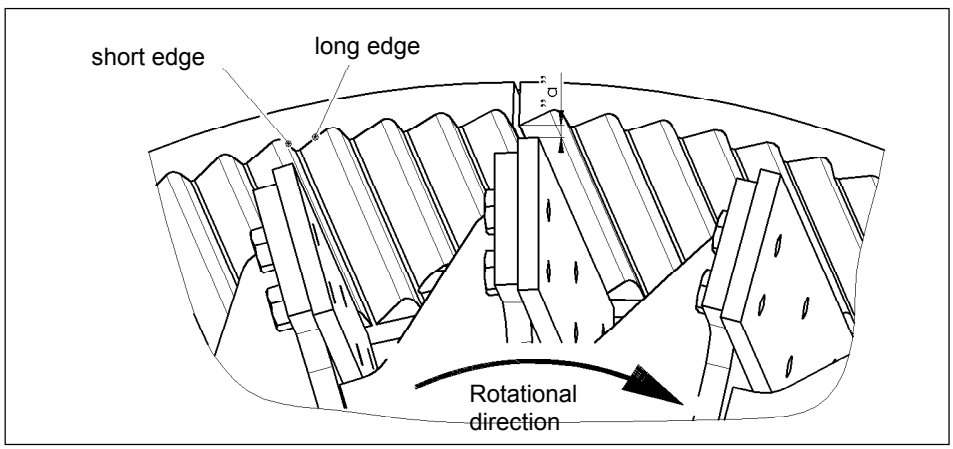


Figure 2: Grinding track with beater unit

Changing the grinding gap "a" (see Figure 2)
A narrow grinding gap increases the impact intensity of the product on the grinding track and extends the residence time of the product in the mill, **therefore:**

narrow grinding gap: less throughput but finer product

wide grinding gap: higher throughput but somewhat coarser product.

See Section 5.1 for details of changing the grinding gap "a".

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Changing the discharge gap “b” (see Figure 1)
Enlarging the discharge gap “b” causes a higher air throughput and thus a shorter residence time of the product in the mill, **therefore:**

narrow discharge gap:	less throughput but finer product
wide discharge gap:	higher throughput but coarser product.

The discharge gap "b" can be altered by installing shorter or longer grinding track segments (Section 5.1).

Narrow or wide pitch

The "wide pitch" grinding track design generally has only half as many impact surfaces.

narrow pitch:	less throughput but finer product
wide pitch:	higher throughput but somewhat coarser product. (also with products that tend to deposit)

The pitch can be altered by installing grinding track segments with a different number of triangular ribs (Section 5.1).

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2 Technical Specifications

Inside diameter of grinding track ring (G1) dependent on the installed spacer rings (G6) (see Section 5.1)	approx. 446, 448 or 450 mm
Discharge gap	7.5 or 13.5 mm (order-specific)

2.1 Direction of rotation

Both clockwise and anticlockwise operation is possible (see Section 1 for details of the influence on the fineness).

Exception: Mills with tangential discharge:

The direction of rotation of the beater unit is dictated in this case by the mill design and cannot be changed (beater unit must rotate towards the product discharge).

2.2 Weight

Total weight of grinding track	approx. 70 kg

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3 Removal and Installation of the Grinding Track Components

Pay attention to the safety regulations of the basic machine!



WARNING

Injuries can be caused by the rotating machine parts (grinding unit, drive) when opening or reaching into the machine.

- Make sure that the machine and system are switched off and secured against switching on.
- Wait until the drives have come to a complete standstill before opening the machine.

The exchangeable grinding track is installed in the mill housing.

Clean all parts thoroughly before reinstalling them.

When transporting the machine, the 89/655/EEC directive governing the use of plant and equipment or the corresponding national standards and directives must be observed.

In Germany, when selecting and using lifting units, slinging aids and transfer equipment, the indicated weight and the accident prevention regulation **"Load suspension units used in hoisting operations"** (VBG 9a) must be observed.

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3.1 Removal and Installation of Grinding Track

Removal

- Remove the beater unit (see the respective operating manual supplement).
- Detach the grinding track from its seat and either lift it out of the mill housing with a fork lift, elevating truck or the like,

  or

  have two people lift it out of the mill housing by hand.

Installation

Clean the contact and seating surfaces of the machine and grinding track carefully!

- Locate the grinding track in the mill housing by means of a fork lift, elevating truck or the like, and push it home to the mechanical stop

  or

  have two people lift it into the mill housing by hand.

  When locating, make sure that the discharge gap "b" is at the rear, i.e. at the drive-side housing wall.
- Install the beater unit (see the relevant supplementary operating manual).
- Check the beater unit for freedom of movement.
- Close the mill door (see operating manual for basic machine).

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4 Wear Control

See also the operating manual for the 500 UPZ basic machine.
Pay attention to the safety regulations!



WARNING
Wear parts that are not exchanged promptly pose a safety hazard to the operating personnel and can also lead to machine damage.

Inspection intervals

The wall thickness of the components that are subject to wear must be checked regularly.
The user must determine the **inspection intervals** and the **inspection procedures** and carry out the inspections as a function of the product such that the wall thickness never wears down to below the minimum value. The point where wear is worst is always decisive.

Permissible wear

Maximum permissible wear rates:

- Spacer bolt (G2): max. 5 mm in diameter
- Side ring (G3): max. 3 mm
- Grinding track segments (G4): until the grinding fineness deteriorates (use your own experience). Advanced wear can be recognised by a drop in performance or a deterioration of the end-product fineness.
- Remaining grinding track components in the product-contact zone: max. 2 mm.

If in doubt, contact HOSOKAWA ALPINE's service division for advice and assistance.

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5 Servicing

See also the operating manual for the 500 UPZ basic machine.
Pay attention to the safety regulations!

Never carry out servicing procedures personally unless sufficient expertise (skilled personnel) and facilities (workshop, tools) are available.

Professional servicing or repairs can only be guaranteed by the manufacturer.

Worn parts (see Section 4) must be renewed promptly.

5.1 Exchanging the grinding track segments

- Remove the grinding track as described in Section 3.1.
- Remove the grinding track segments (G4) from the grinding track ring (G1).
- Locate a new grinding track segment (G4) in the grinding track ring (G1).
- Install the grinding track in the machine.
- Install the beater unit (see the appended beater unit supplement).
- Measure the grinding gap "a".
- If the measured value corresponds to the desired value:
  Remove the grinding track and install the remaining grinding track segments (G4).
- If the measured value "a" is too large:
  Remove the grinding track and grinding track segment (G4), insert the supplied spacer rings (G6) of corresponding gauge to the left and right of the grinding track ring (G1) and install the grinding track segments (G4).
- Install the grinding track (Section 3.2) and check the grinding gap "a".

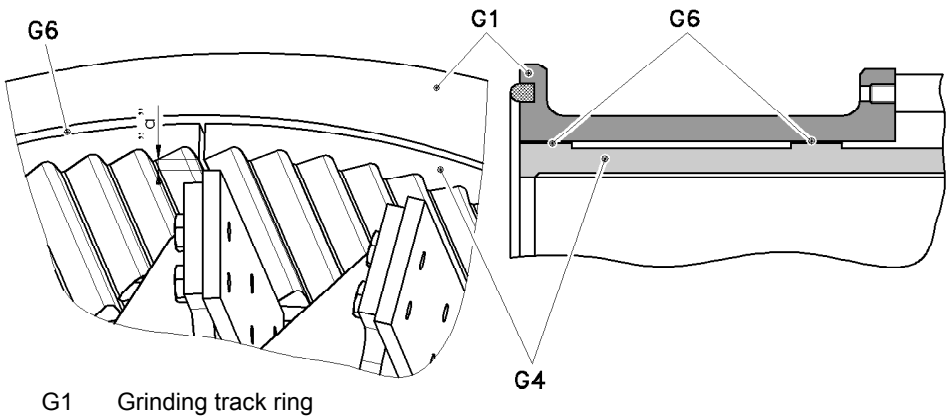
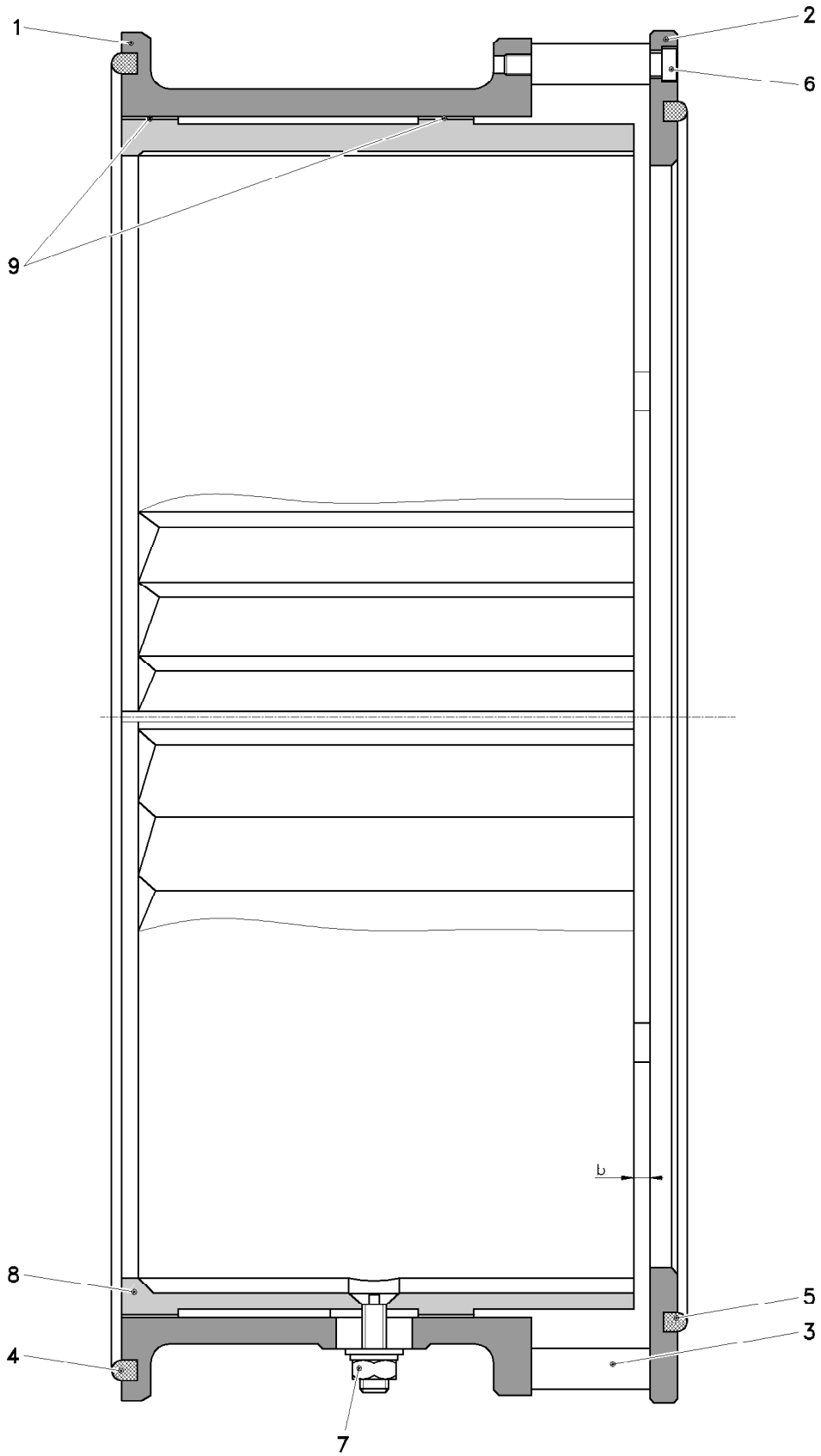


Figure 3: The grinding gap "a" can be adjusted by means of the spacer rings

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Bei Bestellung von Ersatzteilen
Maschinentyp, Maschinen-Nummer und Bestell-Nummer angeben.

When ordering spare parts please specify
machine type, serial number and order number.

Si vous commandez des pièces de rechange, veuillez bien indiquer
le type de machine, le numéro de série ainsi que, le numéro de la commande.

Ersatzteilzeichnung
Spare parts drawing
Voir schéma des pièces de rechange

EZ 1123/7.6-01

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Blatt-Nr. 1

Blattzahl 1

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Item	Order-No.	Additional information	Standard p.	Material	Quant.
1	123007	Grinding track ring		GGG-40	1
2	123009	Grinding track side ring		St	1
3	123029	Spacer tube D 16/8x46		St 35	6
4	115414	Profil seal 8x1659		NR/Mogu	1
5	115414	Profil seal 8x1521		NR/Mogu	1
6	008817	Cheese-head screw M8x60	DIN 6912	8.8	6
7	014407	Countersunk screw M10x40	DIN 604	4.6	6
	007295	Washer B 10.5	ISO 7090	St Zn	6
	013456	Safety washer 10		A2	6
	009047	Hexagon nut M10	ISO 4032	8 Zn	6
8	185576	Grinding track segment, gap 7.5 mm*		G-X 330	6
	185574	Grinding track segment, gap 13.5 mm*		G-X 330	6
9	123014	Spacer 1 mm thick*		St 1203	2
	123015	Spacer 2 mm thick*		St 1203	2

* order specific
see also "Order-specific data sheet"
in the Operating Manual

Fine Impact Mill
500 UPZ

Triangular-ribbed grinding track, narrow pitch / G-X 330

Spare parts list
EL 1123/7.6-01.07

See Spare parts drawing
EZ 1123/7.6-01

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