



# **HEMRO Academy**

## **Distributor training: Mahlkönig EK43 / EK43S**

August 2022



ditting



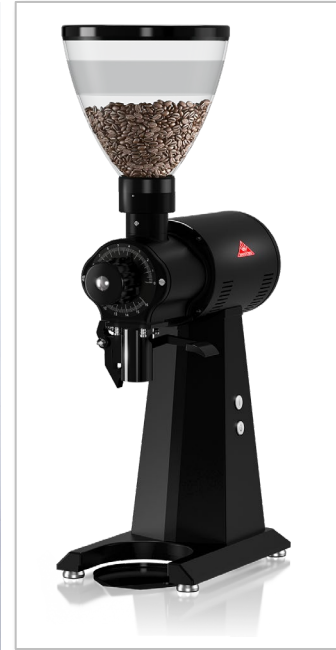
...often asked: what does „EK43“ mean and where does it come from?



*Mahlkönig EK23 ca. 1990*



*EK43 ca. 2000*



*...today*

- 
- E** : *“Einphasenstrom”* – German for “single phase power”  
**K** : *“Kaffee”* – German for “Kaffee”, compare “EP43” for pepper  
**43** : *version # after EK23; no historical records for an EK33 model*

# Content

- 01** Product overview
- 02** Product service
- 03** Information handouts





# Mahlkönig EK43 / EK43S: model and option overview

## Bean hoppers

- 250g : article 703753
- 500g : article 703754
- 800g : article 703292 (standard EK43 S)
- 1.500g : article 702926 (standard EK43)

## Burr options & grinding speed

- : article 703804 - 98mm cast steel, 19-21g/s (standard)
- : article 703803 - 98mm cast steel, Turkish fine, 19-21g/s
- : article 703801 - 98mm cast steel, grains
- : article 703635 - 98mm cast steel, linseed
- : article 703216 - 98mm cast steel, poppy seed

## Pre-breaker options

- : article 703794 - high output (standard)
- : article 703795 - medium output (60 Hz)
- : article 702916 - low output (grains & seeds)

## Standard body colors

- : black matte, white matte

## Motor configurations

- 100V 50/60Hz; 1.450 – 1.760 rpm
- 110-127V 60 Hz ; 1.450 – 1.760 rpm
- 220-240V 50/60Hz ; 1.450 – 1.760 rpm

## Weight (net / gross)

- : 26 kg / 30 kg

## Dimensions

- : 23 x 82.8 x 41cm / 23 x 68 x 41cm (S)

## Packaging dimensions

- : 37 x 58 x 71cm



# Mahlkönig EK43 / EK43S: notable features at a glance

**Durability and ease of maintenance & service**



**Allround grinding from Turkish fine to Cold Brew**



**Cast burrs for optimal distribution and unique taste**



**All-purpose from single dosing up to 250 kg / day**



**Recognized iconic design with durable components**



**Ability to grind spices, grains and other materials**

# Mahlkönig EK43 / EK43S: key sales arguments

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**EK43 is “the one that does it all”** from Turkish fine Mocca to coarse cold brew grind sizes, from premium single dosing shots to 250 kg per day commercial coffee grinding cycles

**Supreme extraction and “unbeatable taste”** due to unique burr geometry and cast steel burr material that withstands over 6 tons of grinding before losing performance  
→ **global gold standard for high-quality specialty coffee grinding**

**The most durable and easiest to service coffee grinder in the market** with no electronics, almost entirely mechanical operation and >90% metal parts → easy technician training

**Impressive grinding performance** and strong motor for high grind output even on very fine grind size settings, i.e. >10 grams per second on Turkish

**Low effort to sell and maintain:** as a globally trusted and omnipresent brand the EK43 enjoys constantly high demand with low after sales effort due to established knowledge among users

**Iconic design** that people associate with “being serious about specialty coffee” and that shops use to draw in customers

# Content

- 01 Product overview
- 02 Product service**
- 03 Information handouts



# Disclaimer



## **WARNING:**

The contents shown in this section are meant to support qualified technicians and trained staff only. Only parts that comply with the original appliance specification may be used for repairs. Errors in opening or assembling the machine may cause injuries and/or damages and malfunctions. If the machine is opened by an unauthorized person the manufacturer's liability and warranty expire.



# Often overlooked in the quest for best taste and operations performance: the relevance of equipment maintenance

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## Benefits of regular grinder maintenance

**More aroma extraction** due to lower grinding temperatures

**Exact recipe execution** due to higher dosing consistency

**Clearer taste** due to lack of coffee residues and cross contamination


**Reduced costs due to longer equipment life**, esp. burrs

*“Insufficient maintenance of key equipment always results in poor quality in the cup regardless of raw materials”*


# Hemro service resources: spare part list in the Mahlkönig website dealer section and YouTube service videos

ERSATZTEILLISTE | SPARE PARTS LIST Version 1.1

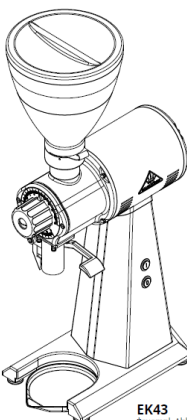
EK43 S / EK43 / EKK43 100 V 50/60 Hz | 110-127 V 60 Hz | 220-240 V 50/60 Hz



EK43 S  
INFORMATION



EK43 S  
SERVICEVIDEOS




**EK43**  
\*exempl. Abb. | example Fig.

Bei Bestellungen bitte unbedingt die Artikel- und Seriennummer angeben.  
Please indicate the article- and serial number when ordering.


**WARNUNG:**  
Diese Ersatzteilliste richtet sich ausschließlich an qualifizierte Techniker und geschultes Fachpersonal. Fehler beim Öffnen oder Montieren der Mühle können zu Verletzungen und/oder Beschädigungen und Fehlfunktionen führen. Bei Reparaturen dürfen nur Teile verwendet werden, die den ursprünglichen Gerätedaten entsprechen.  
Mit dem Öffnen der Mühle durch eine nicht autorisierte Person, erlöschen die Haftungs- und Garantiesprüche gegenüber dem Hersteller.

**WARNING:**  
This spare part list is meant to support qualified technicians and trained staff, only. Only parts that comply with the original appliance specification may be used for repairs. Mistakes in opening or assembling the grinder may cause injuries and/or damages and malfunctions.  
If the grinder gets opened by an un-authorized person, the manufacturer's liability and warranty expire.

gültig ab | valid from 2021-06-23 Änderungen ohne Vorankündigung vorbehalten. | Subject to change without prior notice.












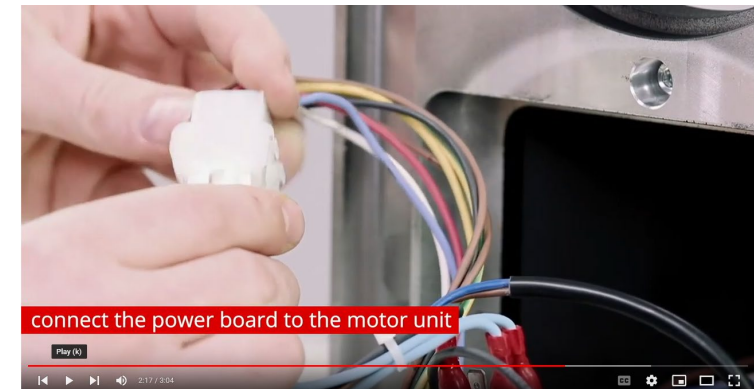
Hemro International AG  
Länggasse 34 | 8184 Bachschißlach, Switzerland  
T: +41 44 864 18 00 | F: +41 44 864 18 01  
info@hemrogroup.com | www.hemrogroup.com



**Mahlkönig EK43 S | Service & Repair**

Mahlkoenig - 1 / 10

- 1  **Mahlkönig EK43 S | Use of the pull off device**  
Mahlkoenig
- 2  **Mahlkönig EK43 S | Running capacitor replacement**  
Mahlkoenig
- 3  **Mahlkönig EK43 S | ON and OFF switch replacement**  
Mahlkoenig
- 4  **Mahlkönig EK43 S | Motor unit replacement**  
Mahlkoenig
- 5  **Mahlkönig EK43 S | Maintenance cleaning**  
Mahlkoenig
- 6  **Mahlkönig EK43 S | Burrs exchange**  
Mahlkoenig
- 7  **Mahlkönig EK43 S | Dial movement adjustment**  
Mahlkoenig
- 8  **Mahlkönig EK43 S | Contact stripe and spout gasket replacement**  
Mahlkoenig
- 9  **Mahlkönig EK43 S | Centering tool**  
Mahlkoenig




**YouTube Service & Repair Mahlkönig EK43**  
[https://www.youtube.com/playlist?list=PL6PDLeLQefbMwdh65KM5iz16\\_7ZpxSdYZ](https://www.youtube.com/playlist?list=PL6PDLeLQefbMwdh65KM5iz16_7ZpxSdYZ)

# Hemro service resources continued: Product Management Sharepoint for most recent documentations and knowledge





**HEMRO** Hemro - Product Management

+ New Page details Analytics



Global Coffee Grinding Solutions

CREATING QUALITY COFFEE MOMENTS SINCE 1924



**Hemro Group - Article Number Locator** **Brand Logos - Download**

For technical support and product management representatives please contact

**PM** Product Management

**Hemro Group - Sales Representatives**

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Documents > 04\_Mahlkönig > EK43\_EK43S\_EKK43

Name

- 01\_Product presentation
- 02\_Product pictures and 3D models
- 03\_Instruction manuals
- 04\_Spare parts
- 05\_Service videos & FAQs

**Downloadable knowledge repository for all of Hemro's products including most recent:**

- Product presentations
- Product pictures
- Instruction manuals
- Spare part lists, recommended spare part lists, spare part locator tools
- Service videos, frequently asked questions, How-To's, wiring diagrams, etc.

**If you do not yet have access, please reach out to [productmanagement@hemrogroup.com](mailto:productmanagement@hemrogroup.com) to receive it today**

# Mahlkönig EK43 / EK43S: key tools & accessories

- **Pulling tool** to release pre-breaker / rotary burr carrier from motor shaft (working for EK43, DK15, VTA)
  - Article 703750



- **Burr alignment tool** to re-assemble burrs after service or replacement
  - Article 105866



- **Food-safe lubrication** for motor shaft and grind size adjustment parts
  - Article 105168 (Kluber grease)
  - Article 309336 (Kluber lubrication)



- **GRINDZ** grinder cleaner for regular service
  - Article 101853



- **"Mini-hopper"** 250g
  - Article 703753



- **Dosing cups**
  - Article 703813
  - Article 704123 (portafilter cup)



# Mahlkönig EK43 / EK43S: build overview and frequent service parts

## Start & Stop switches:

- After 2018: articles 703574 (start), 703573 (stop), 703799 (micro element)
- Before 2018: articles 703793 (100-127V), 309705 (220-240V)

**Overcurrent switches:** articles 703739 (100-127V), 309705 (220-240V)

## Capacitors:

- 110-127V: articles 703775 (starting capacitor), 703774 (running capacitor)
- 220-240V: articles 703772 (starting capacitor), 703773 (running capacitor)

**Contactor:** article 703570 (100-240V)

**Ball bearing seat incl. bearing on motor shaft tip:** article 703776

**Pre-breaker bushing and pressure spring:** article 703770

**Pre-breaker shear plate:** article 702939

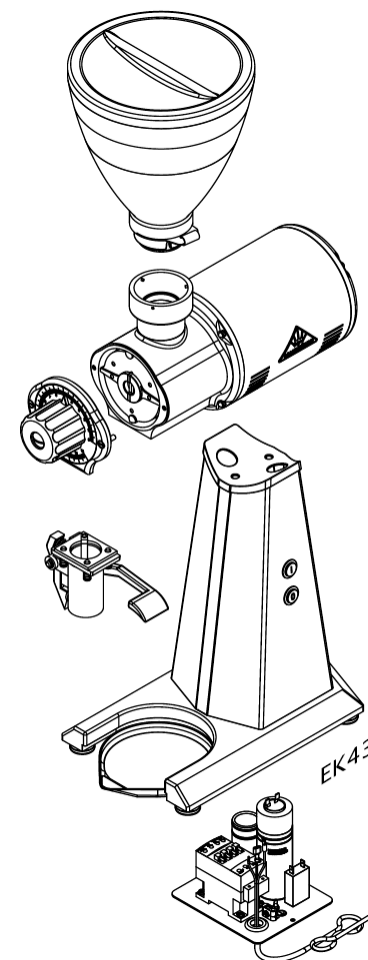
- Needs replacement each time the grinder encounters a mechanical blockade that causes the shear plate to break in order to prevent damage to the motor unit

**Cast steel burrs:** article 703804 (standard) or 703803 (Turkish fine)

**Spout contact stripe & sealings:** articles 700476 (stripe), 703752 (North America sealing), 703751 (standard sealing)

**Spout small parts:** articles 700479 (bag holder fixation & spring), 700478 (spout fixation)

## Overview grinder construction





# Mahlkönig EK43 / EK43S: recommended parts and service contacts

**EK43 / EK43 S**

PREVENTIVE MAINTENANCE



**Recommended spare part lists** & stock recommendations per 10 grinders available on request from the product management team

## Mahlkönig E-Shop for Spare Parts



### SPARE PARTS FOR EK43

The EK43 has conquered the international specialty coffee industry and rules as the undisputed queen of coffee grinders, with high performance, reliability and allround premium grinding results. Shop available spare parts for this model.

[FIND YOUR DISTRIBUTOR](#)

We cooperate with sales and service partners in more than 70 countries around the globe. Find the dealer that is closest to you and get into contact.

Home > Spare Parts for EK43

### Link:

<https://www.mahlkoenig.de/collections/ek43>

### For part or technical support, please contact:

- Service-center  
@hemrogroup.com
- Productmanagement  
@hemrogroup.com

# Mahlkönig EK43 / EK43S: frequently encountered problems (1/3)

**Problem** : loud and unpleasant vibrating noises

**Cause** : vibrating metal parts are insufficiently lubricated and create noises when coupling

**Solution** : lubricate

**Klüberpaste  
UH1 84-201**

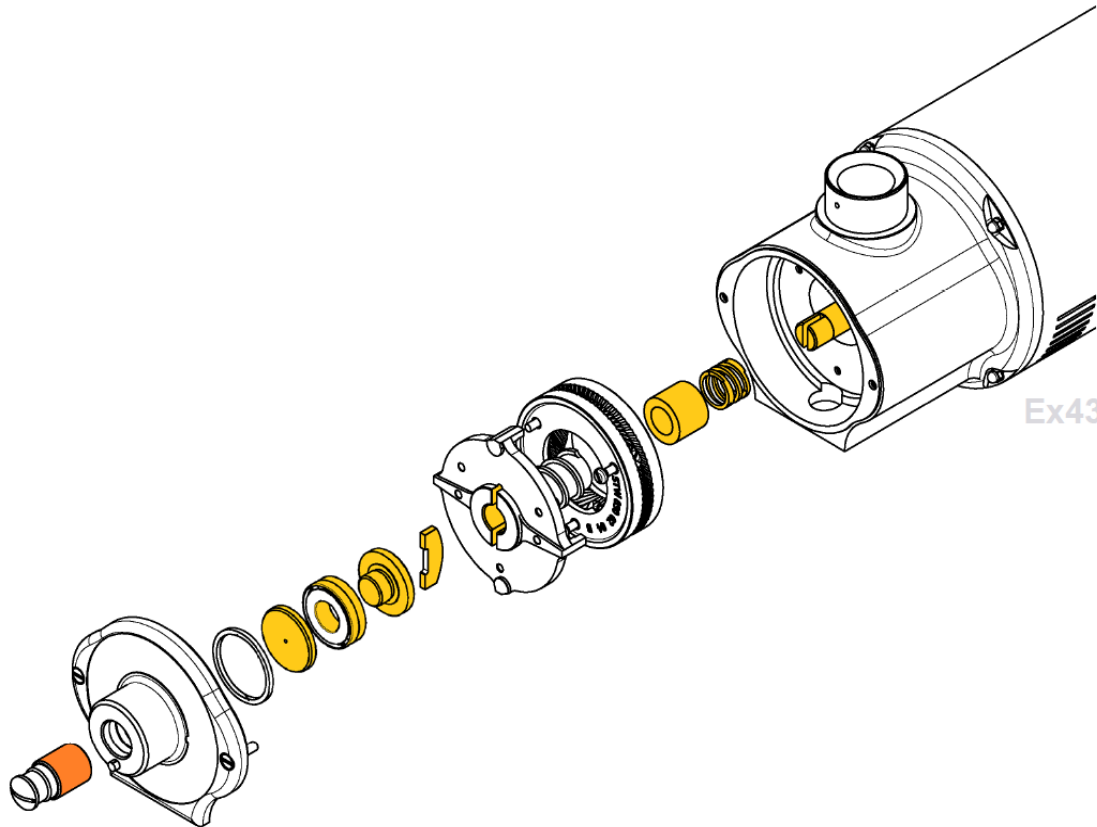
Special grease NSF/H1 60 g tube

PN: 309336

**Klubersynth  
UH1 64-62**

Special grease NSF/H1 50 g tube

PN: 105168



# Mahlkönig EK43 / EK43S: frequently encountered problems (2/3)

**Problem** : screeching noises from the back of the motor unit (“train approaching” noise)

**Cause** : centrifugal switch operation is slowly deteriorating

**Solutions** : NSF/H1 based-silicone spray into the back air slots to lubricate switch / switch replacement (article 305472)



# Mahlkönig EK43 / EK43S: frequently encountered problems (3/3)

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**Problem** : Excessive spray and static charging of grounds; static shocks when grinding into aluminum coated bags  
**Cause** : contact stripe in spout is broken / missing  
**Solution** : replace contact stripe (article 700476)

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**Problem** : **Grinder does not start / grinder does not have sufficient power to grind**  
**Causes** : Starting switch is broken at end of life  
: Capacitors are at end of life and do not achieve sufficient yield  
: Contactor is at end of life and can not longer establish contact  
**Solution** : Replace switches, capacitors or contactor

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**Problem** : **“Clicking noises” and metallic vibration during operation**  
**Causes** : Base-motor connection loosened during operation  
**Solution** : Tighten two main connection screws (requires disassembly of power board)

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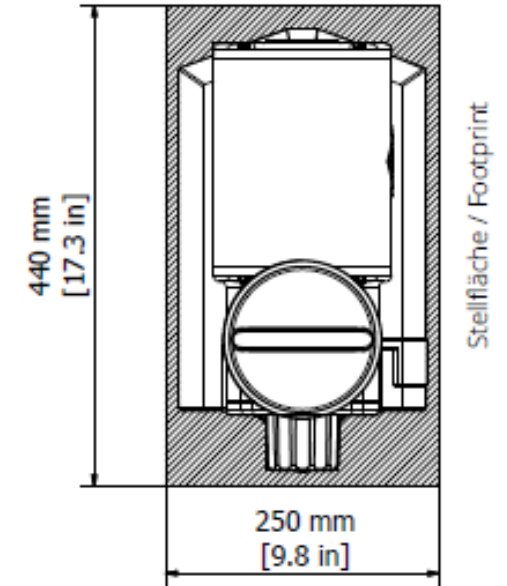
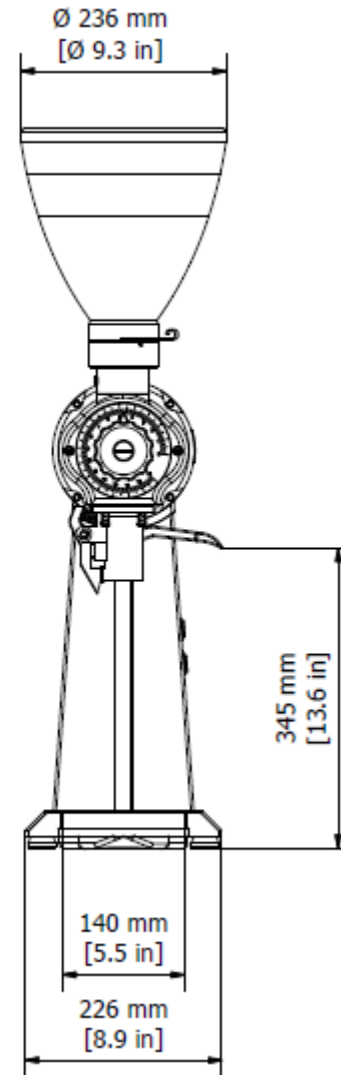
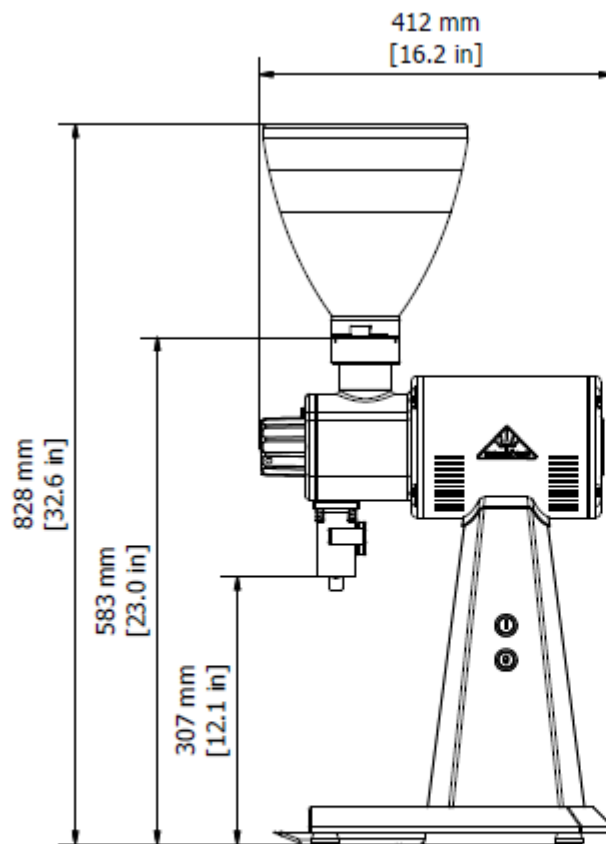




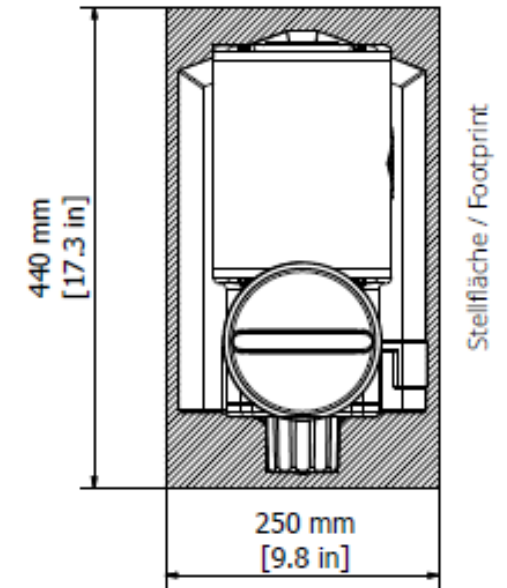
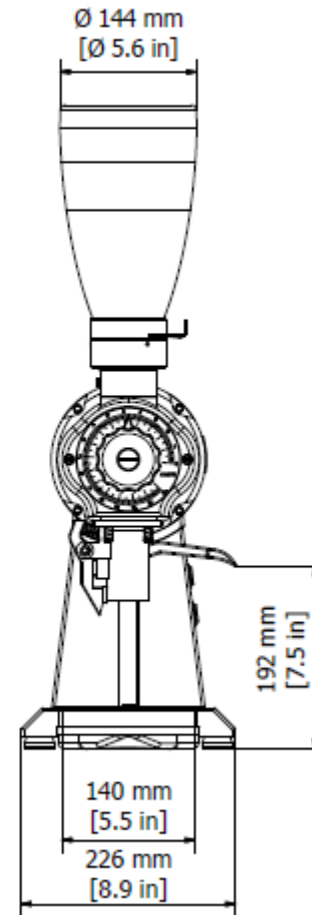
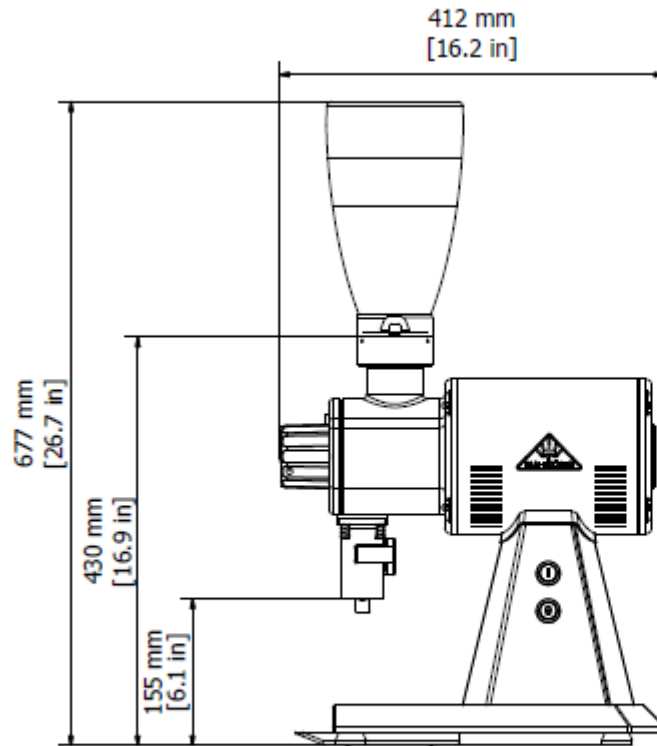
# Recommended tools for performing Hemro maintenance and service

Tools	Reference parts
<ul style="list-style-type: none"> <li>▪ 1x ¼ inch torque wrench</li> <li>▪ 1x universal ¼ inch bit set in short and long configurations</li> <li>▪ 1x 13mm combination wrench</li> <li>▪ 1x Wire cutter</li> <li>▪ 1x Telescope magnet for lost screws</li> <li>▪ 1x Cable stripper</li> <li>▪ 1x Long pliers</li> <li>▪ Pulling tool Mahlkönig EK43, DK15, VTA6S</li> <li>▪ Pulling tool Mahlkönig Guatemala 2.0</li> <li>▪ Burr change tool 65mm (Mahlkönig E65S, Mahlkönig E65S GbW, Anfim Pratica, Anfim Solida)</li> <li>▪ Burr change tool 80mm (Mahlkönig E80, Mahlkönig E80 GbW, Ditting 807)</li> <li>▪ Burr alignment tool Mahlkönig K30x</li> <li>▪ Burr alignment tool Mahlkönig EK43</li> <li>▪ Special grease NSF/H1 50g</li> <li>▪ Special lubrication NSF/H1 60g</li> <li>▪ Soft bristle brush</li> <li>▪ Multimeter (20A)</li> <li>▪ Digital coffee scale</li> <li>▪ Windows-PC for software updates</li> </ul>	<ul style="list-style-type: none"> <li>▪ Würth 071471 91</li> <li>▪ Würth 061425059</li> <li>▪ Würth 071330213</li> <li>▪ Würth 071401571</li> <li>▪ Würth 07153535</li> <li>▪ Würth 071401570</li> <li>▪ Würth 071401578</li> <li>▪ Hemro 703750</li> <li>▪ Hemro 703048</li> <li>▪ Hemro 700974</li> <li>▪ Hemro 703290</li> <li>▪ Hemro 306590</li> <li>▪ Hemro 105866</li> <li>▪ Hemro 105168</li> <li>▪ Hemro 309336</li> <li>▪ / - Any</li> <li>▪ / - Any</li> <li>▪ / - Any</li> <li>▪ / - Any</li> </ul>

# Mahlkönig EK43: dimensions



# Mahlkönig EK43 S: dimensions



# Mahlkönig EK43: reference particle analysis – finest setting

## PARTIKELGRÖSSENVERTEILUNG

PAQXOS 4.1 FREE

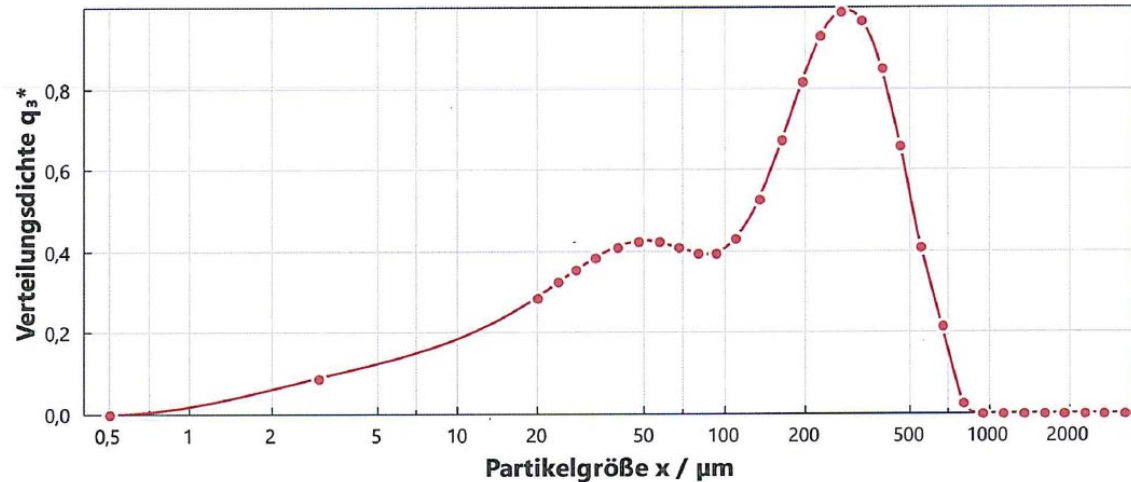
$x_{10,3} = 13,05 \mu\text{m}$

$x_{50,3} = 145,08 \mu\text{m}$

$x_{90,3} = 422,31 \mu\text{m}$

SMD = 40,57  $\mu\text{m}$

$C_{\text{opt}} = 7,92 \%$



## SYSTEM

Gerät HELOS (H4132) & RODOS/T4, R7  
Referenz 2022-07-14 14:12:31  
Software PAQXOS 4.1

## TRIGGERBEDINGUNG

Start Kanal 24  $\geq 1,2 \%$   
Gültig immer  
Stop 5 s Kanal 21  $\leq 1,2 \%$  oder 80 s Echtzeit

## DISPERGIERMETHODE

Druck 2 bar  
Unterdruck 105 mbar  
Drehzahl 0 %

Dosierer VIBRI  
Förderrate 65 %  
Spaltweite 7 mm

## BENUTZERDEF. PARAMETER

Mühle EK43  
Medium Songwa Kaffee  
Artikel Nr.  
Sonstiges Finest Setting

## KOMMENTAR

## Comments:

- Analysis performed on a laboratory Sympatec Helos Laser Diffraction analyzer
- For comparable results to series production image analyzers ca. 60  $\mu\text{m}$  need to be added to the median particle size value  $x_{50}$
- On finest factory setting Mahlkönig EK43 produces 200 $\mu\text{m}$  of median particle size**

# Mahlkönig EK43: reference particle analysis – medium setting

## PARTIKELGRÖSSENVERTEILUNG

PAQXOS 4.1 FREE

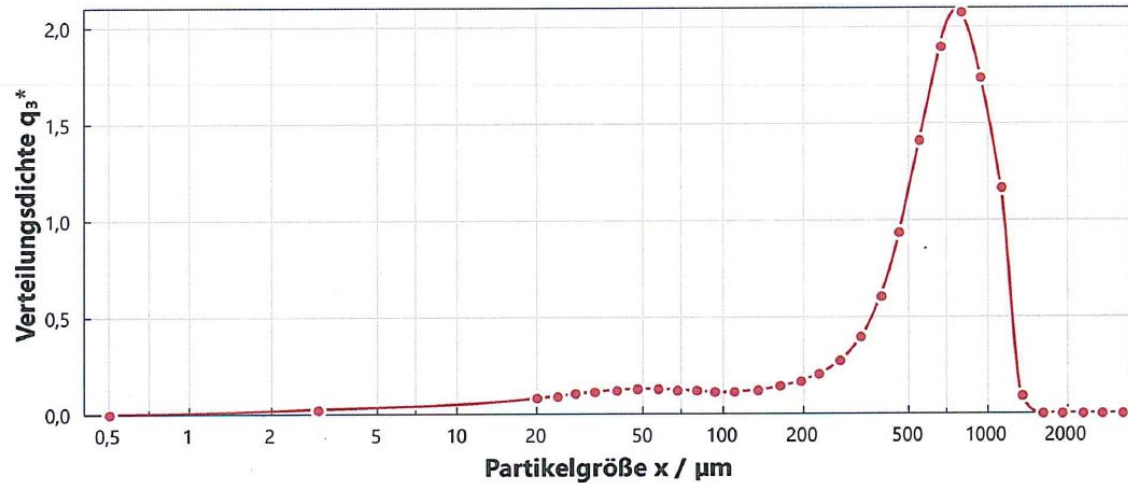
$x_{10,3} = 60,62 \mu\text{m}$

$x_{50,3} = 629,88 \mu\text{m}$

$x_{90,3} = 1017,59 \mu\text{m}$

SMD = 121,31  $\mu\text{m}$

$C_{\text{opt}} = 6,32 \%$



## SYSTEM

Gerät HELOS (H4132) & RODOS/T4, R7  
Referenz 2022-07-14 14:14:42  
Software PAQXOS 4.1

## DISPERGIERMETHODE

Druck 2 bar  
Unterdruck 105 mbar  
Drehzahl 0 %

## BENUTZERDEF. PARAMETER

Mühle EK43  
Medium Songwa Kaffee  
Artikel Nr.  
Sonstiges Medium Setting 8

## TRIGGERBEDINGUNG

Start Kanal 24  $\geq 1,2 \%$   
Gültig immer  
Stop 5 s Kanal 21  $\leq 1,2 \%$  oder 80 s Echtzeit

## KOMMENTAR

## Comments:

- Analysis performed on a laboratory Sympatec Helos Laser Diffraction analyzer
- For comparable results to series production image analyzers ca. 60  $\mu\text{m}$  need to be added to the median particle size value  $x_{50}$
- On medium factory setting Mahlkönig EK43 produces 690 $\mu\text{m}$  of median particle size**

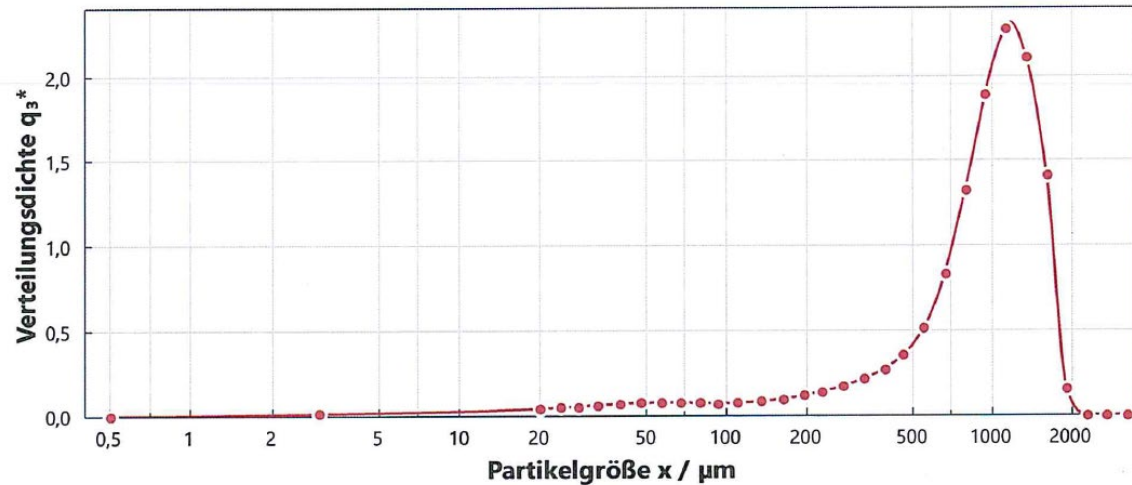


# Mahlkönig EK43: reference particle analysis – coarsest setting

## PARTIKELGRÖSSENVERTEILUNG

PAQXOS 4.1 FREE

$x_{10,3}$  = 207,41  $\mu\text{m}$      $x_{50,3}$  = 976,40  $\mu\text{m}$      $x_{90,3}$  = 1511,02  $\mu\text{m}$     SMD = 210,25  $\mu\text{m}$      $C_{\text{opt}}$  = 4,66 %



## SYSTEM

Gerät HELOS (H4132) & RODOS/T4, R7  
Referenz 2022-07-14 14:16:16  
Software PAQXOS 4.1

## TRIGGERBEDINGUNG

Start Kanal 24  $\geq$  1,2 %  
Gültig immer  
Stop 5 s Kanal 21  $\leq$  1,2 % oder 80 s Echtzeit

## DISPERGIERMETHODE

Druck 2 bar  
Unterdruck 105 mbar  
Drehzahl 0 %

Dosierer VIBRI  
Förderrate 65 %  
Spaltweite 7 mm

## BENUTZERDEF. PARAMETER

Mühle EK43  
Medium Songwa Kaffee  
Artikel Nr.  
Sonstiges Coarse Setting 16

## KOMMENTAR

## Comments:

- Analysis performed on a laboratory Sympatec Helos Laser Diffraction analyzer
- For comparable results to series production image analyzers ca. 60  $\mu\text{m}$  need to be added to the median particle size value  $x_{50}$
- **On coarsest factory setting Mahlkönig EK43 produces 1.000+ $\mu\text{m}$  of median particle size**

# Mahlkönig EK43T: reference particle analysis – finest setting

## PARTIKELGRÖSSENVERTEILUNG

PAQXOS 4.1 FREE

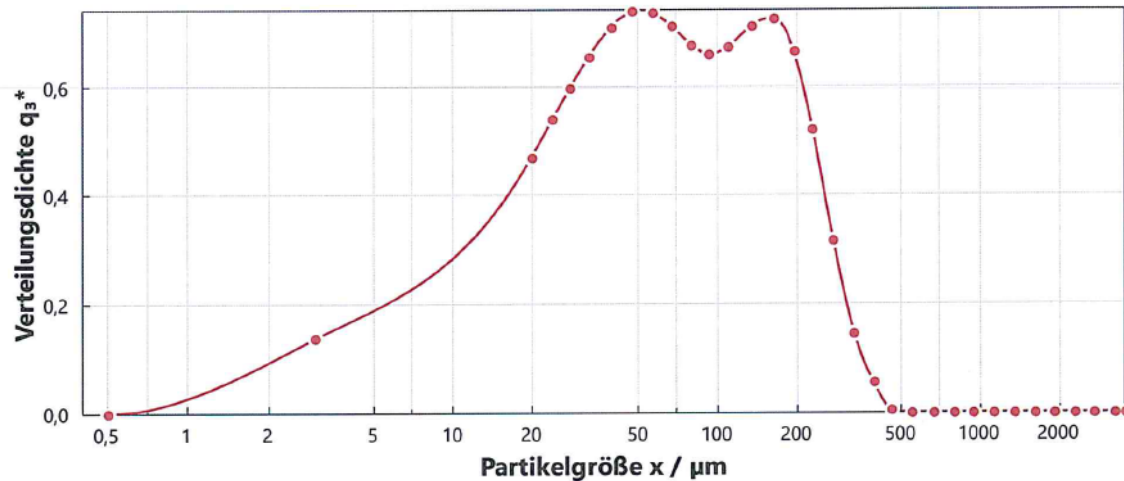
$x_{10,3} = 8,67 \mu\text{m}$

$x_{50,3} = 52,33 \mu\text{m}$

$x_{90,3} = 196,66 \mu\text{m}$

SMD = 26,99  $\mu\text{m}$

$C_{\text{opt}} = 10,33 \%$



## SYSTEM

Gerät HELOS (H4132) & RODOS/T4, R7  
Referenz 2022-07-14 14:18:05  
Software PAQXOS 4.1

## DISPERGIERMETHODE

Druck 2 bar  
Unterdruck 105 mbar  
Drehzahl 0 %

## BENUTZERDEF. PARAMETER

Mühle EK43T  
Medium Songwa Filter  
Artikel Nr.  
Sonstiges Fine Setting

## TRIGGERBEDINGUNG

Start Kanal 24  $\geq 1,2 \%$   
Gültig immer  
Stop 5 s Kanal 21  $\leq 1,2 \%$  oder 80 s Echtzeit

Dosierer VIBRI  
Förderrate 65 %  
Spaltweite 7 mm

## KOMMENTAR

## Comments:

- Analysis performed on a laboratory Sympatec Helos Laser Diffraction analyzer
- For comparable results to series production image analyzers ca. 60  $\mu\text{m}$  need to be added to the median particle size value  $x_{50}$
- **On finest factory setting Mahlkönig EK43T produces ca. 100 $\mu\text{m}$  of median particle size**