

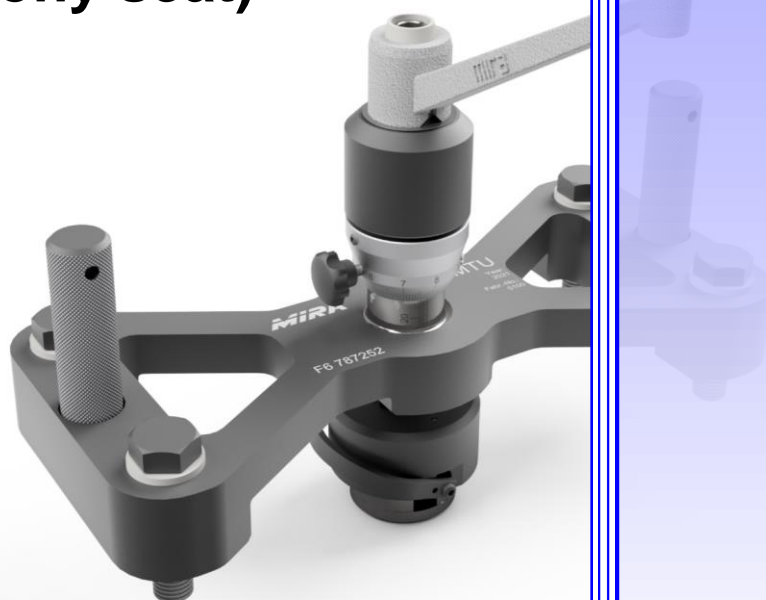
**MIRA<sup>®</sup>**

# ***BB-MTU***

**Instruction manual  
English (EN)**

**Special cutting device  
for sleeve counterbore  
operations**

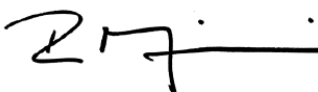
**MTU specific sleeve  
counterbore operations  
(balcony seat)**



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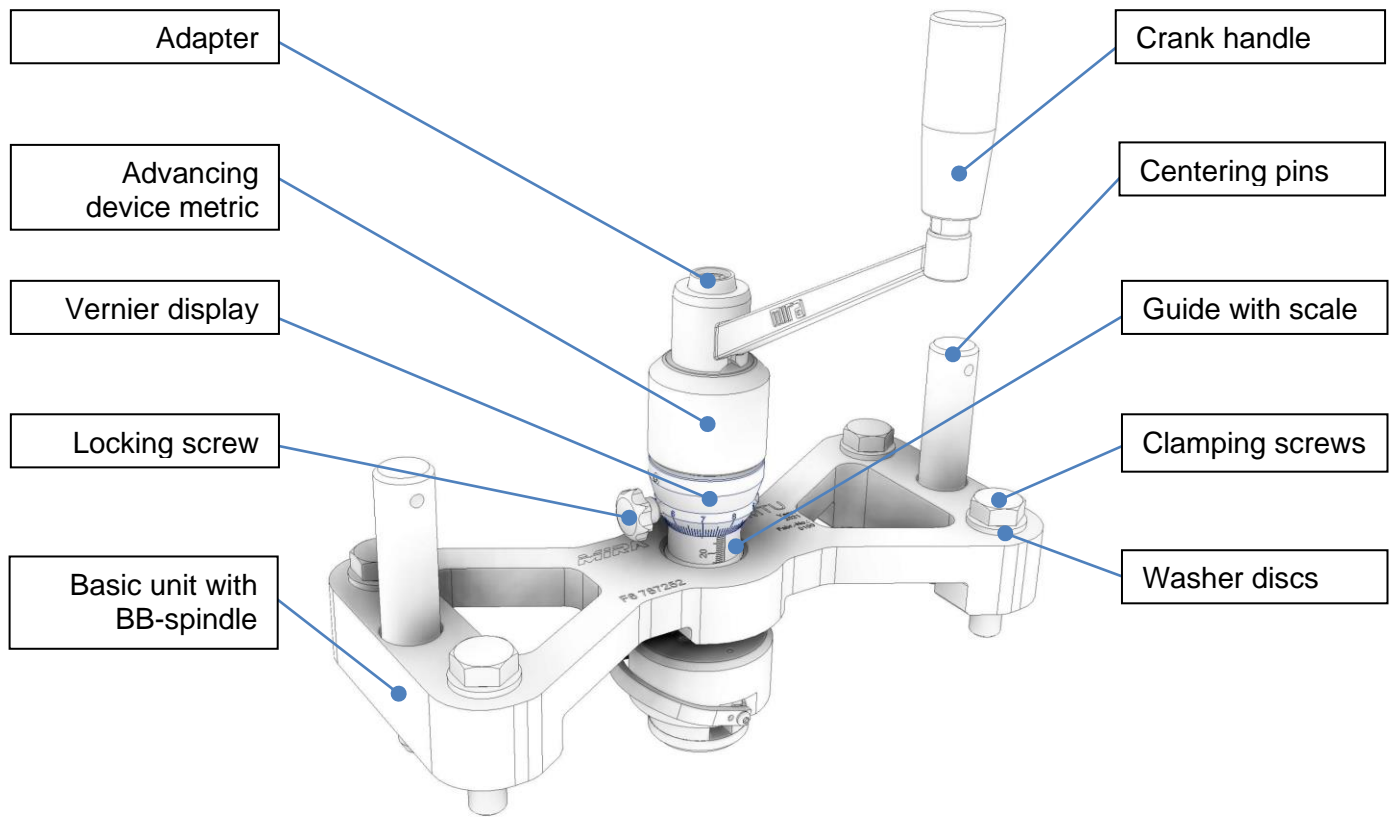
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**1 Declaration of conformity**

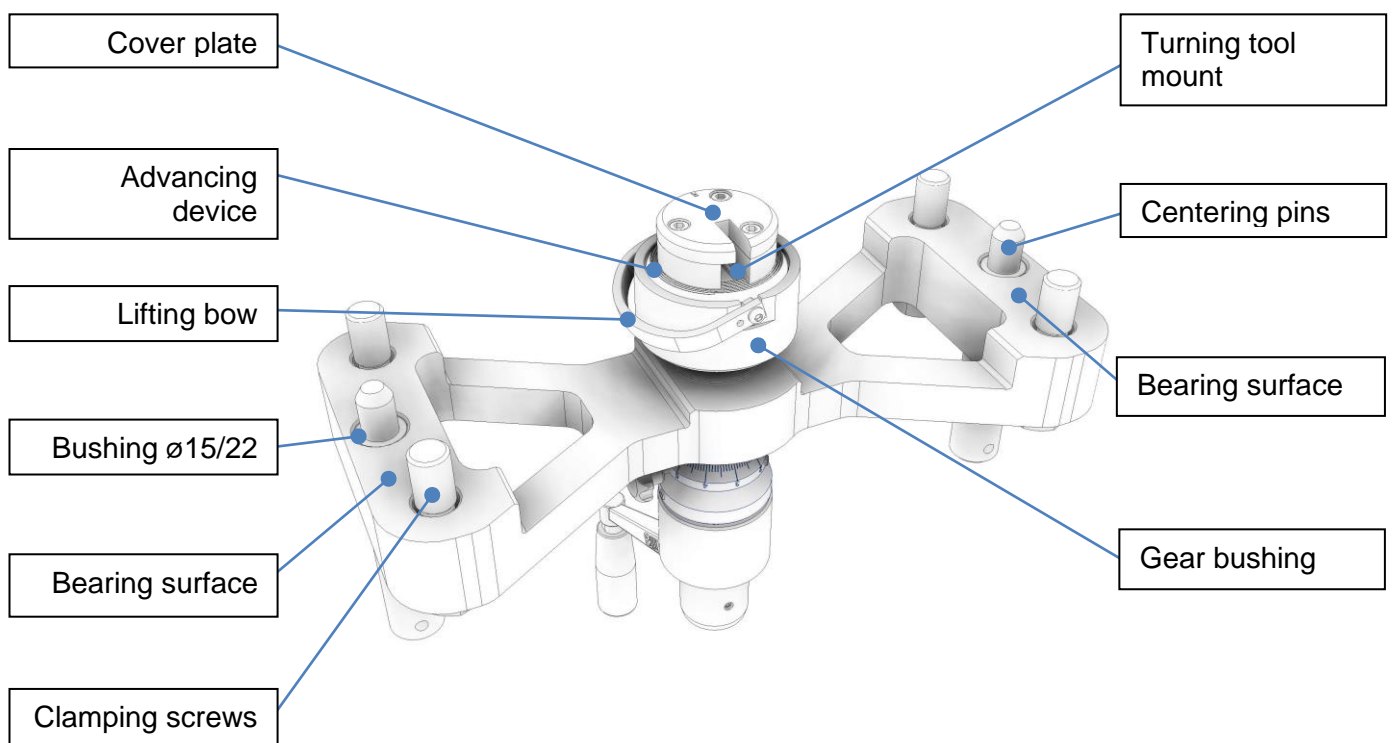
<p><b>MINELLI</b><sup>®</sup></p> <p>Minelli AG Mattenstrasse 3 CH-8330 Pfäffikon ZH Schweiz / Switzerland www.minelli.ch sales@minelli.ch</p>		<p><b>Konformitätserklärung</b> <i>Déclaration de conformité</i> Declaration of conformity Dichiarazione di Conformità</p>	
<p><b>Wir/Nous /We/Noi,</b></p>		<p><b>Minelli AG</b> Mattenstrasse 3 CH-8330 Pfäffikon ZH</p>	
<p><b>erklären in alleiniger Verantwortung, dass das Produkt</b> <i>déclarons de notre seule responsabilité que le produit</i> bearing sole responsibility, hereby declare that the product dichiariamo sotto la nostra sola e completa responsabilità che il prodotto</p>		<p><b>Beschreibung des Produkts</b> BB-MTU Drehapparat <b>Description du produit</b> BB-MTU L`appareil rotatif <b>Description of product</b> BB-MTU Turning device <b>Descrizione del Prodotto</b> BB-MTU L`apparato rotatorio <b>Typenreihe/ Série type / Type Series/ Serie Tipo</b> F6 787252</p>	
<p><b>auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokumenten übereinstimmt:</b> <i>auquel se rapporte la présente déclaration est conforme aux normes ou aux documents normatifs suivants:</i> referred to by this declaration is in conformity with the following standards or normative documents: riferente a questa dichiarazione è conforme alle seguenti regole e normative:</p>			
<p><b>Bestimmungen der Richtlinie</b> <i>Désignation de la directive</i> Provisions of the directive Denominazione della Direttiva</p>		<p><b>Titel und/oder Nummer sowie Ausgabedatum der Norm(en)</b> <i>Titre et/ou numéro ainsi que date d`émission de la/des norme(s)</i> Title and/or number and date of issue of the standard(s) Titolo e/o numero e data di promulgazione della norma</p>	
<p><b>2006/42/EG: Maschinenrichtlinie</b> <i>2006/42/CE: Sécurité des machines</i> 2006/42/EC: Machinery safety 2006/42/EC: Sicurezza Macchine</p>		<p>DIN EN ISO 12100: 2011-03</p>	
<p>Ort und Datum <i>Lieu et date</i> Place and date Luogo e Data</p>		<p></p>	
<p>Pfäffikon ZH, 20.07.2023</p>		<p>Reto Minelli (CEO/Geschäftsführer) <i>L`administrateur délégué</i> General Manager Amministratore delegato</p>	

**2 Overview**

**2.1 Top side**

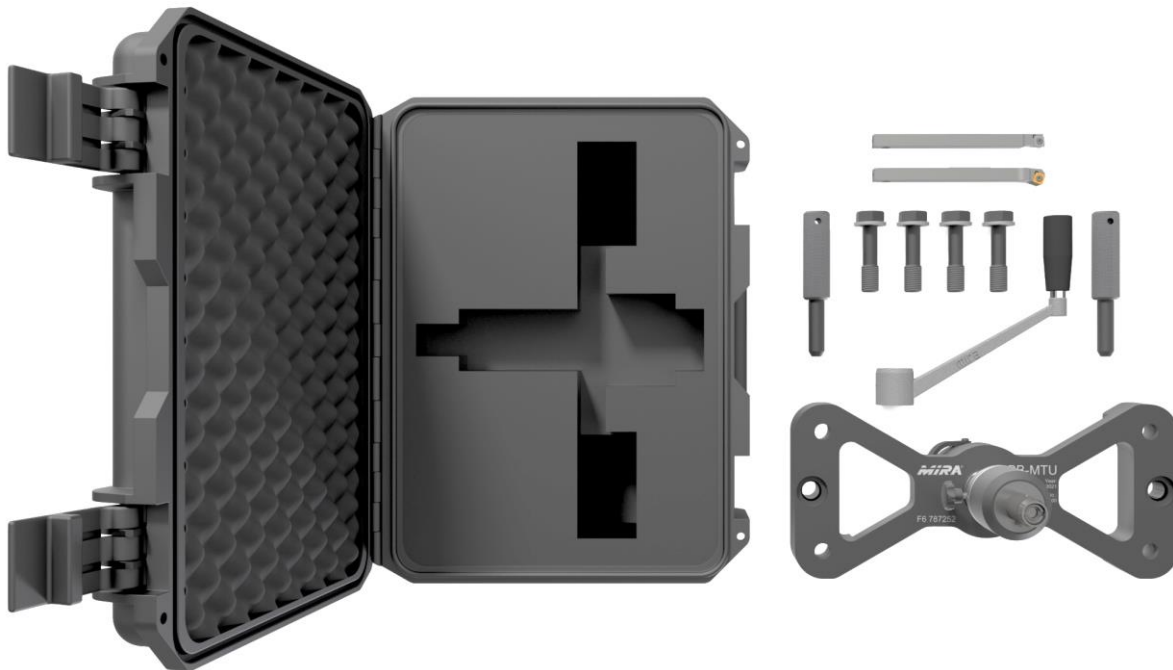


**2.2 Bottom side**



### 3 BB-MTU packaging

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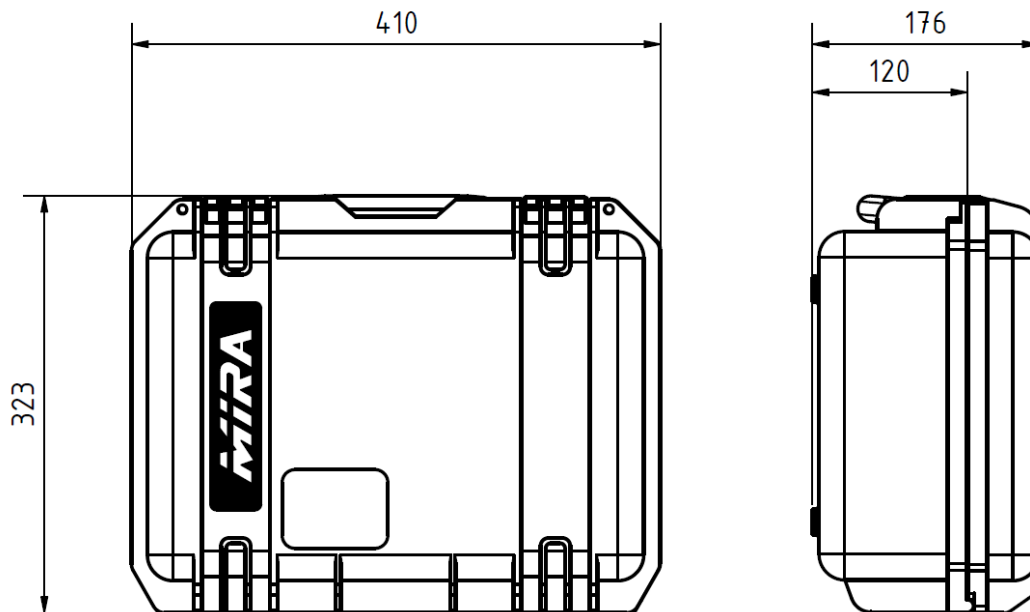


- 1x Peli Storm iM2200 transport case with foam inlay
- 1x BB-MTU basic unit with BB-spindle
- 1x MIRA Crank handle
- 4x M16 Clamping screws (8.8)
- 4x M16 Washer discs
- 2x Ø15 Centering pins
- 1x Instruction manual EN
- 1x \*BB special cutting tool 80° v2.0 (F30451555)
- 1x \*BB special cutting tool 90° v2.0 (F30451550002)

\*See page 6, chapter 6 «Related special cutting tools»

## 4 Dimensions and weight

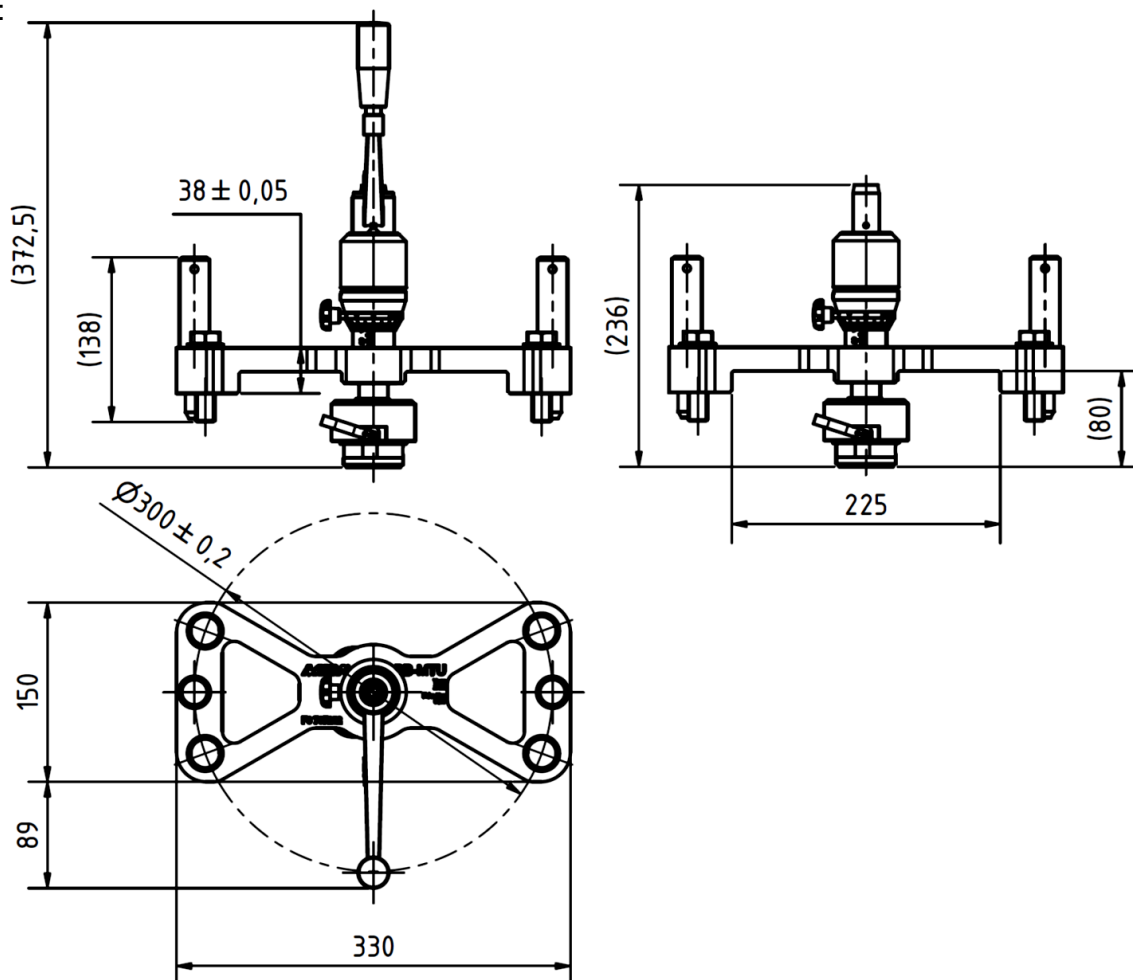
### 4.1 Transport case



Total weight BB-MTU Package: **12,5kg** (without cardboard box)

### 4.2 BB-MTU unit

Dimensions in mm:



Weight of the unit with crank handle (without cutting tools): **10,0kg**

## 5 Preconditions for operating work

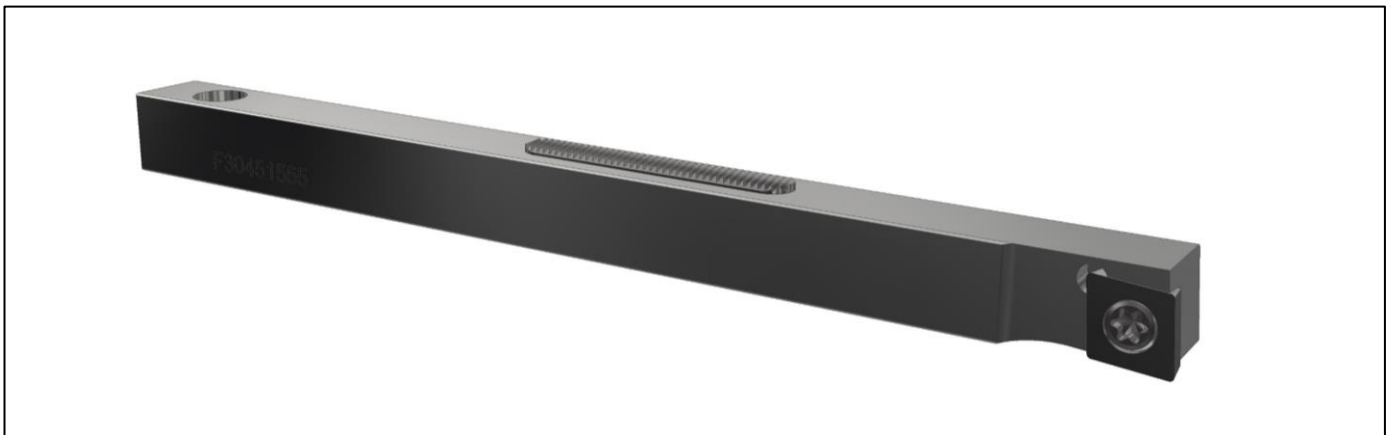


The preconditions for flawless processing and precise results are:

- Clean turning (cutting) tools, fitted with flawless cutting edges (no wearing tips)
- A properly functioning BB-MTU and a fully cleaned bottom side
- An absolutely clean and flat (evenness) clamping surface, free of any possible dirt residues
- A flawless functioning BB-spindle with advancing device and gear bushing
- Clean centering pins for an accurate centering atop of the counterbore-Ø
- Even tightening of the clamping screws with the correct tightening torque  
=> tension free set up of the unit
- Even rotation movements with the manual crank handle, during operation work
- Using of cutting oil or spirit, depending on counterbore material, for better cutting results

Preparing and cutting of the counterbores (balcony seats) according to the specified MTU-machining sequence.

## 6 Related special cutting tools

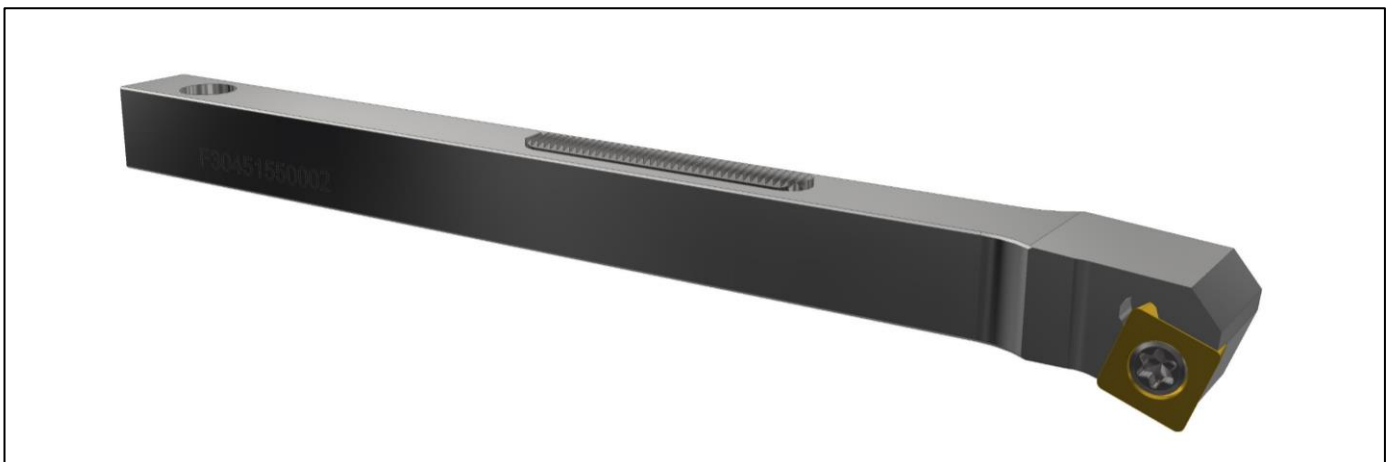


**BB special cutting tool 80° F30451555, L=160mm**

MIRA Order-No.: **18151.4.7095**

Cutting inserts No.: 1MHP09 (80°)

Clamping screw No.: 1MTS04.0



**BB special cutting tool 90° F30451550002, L=159mm**

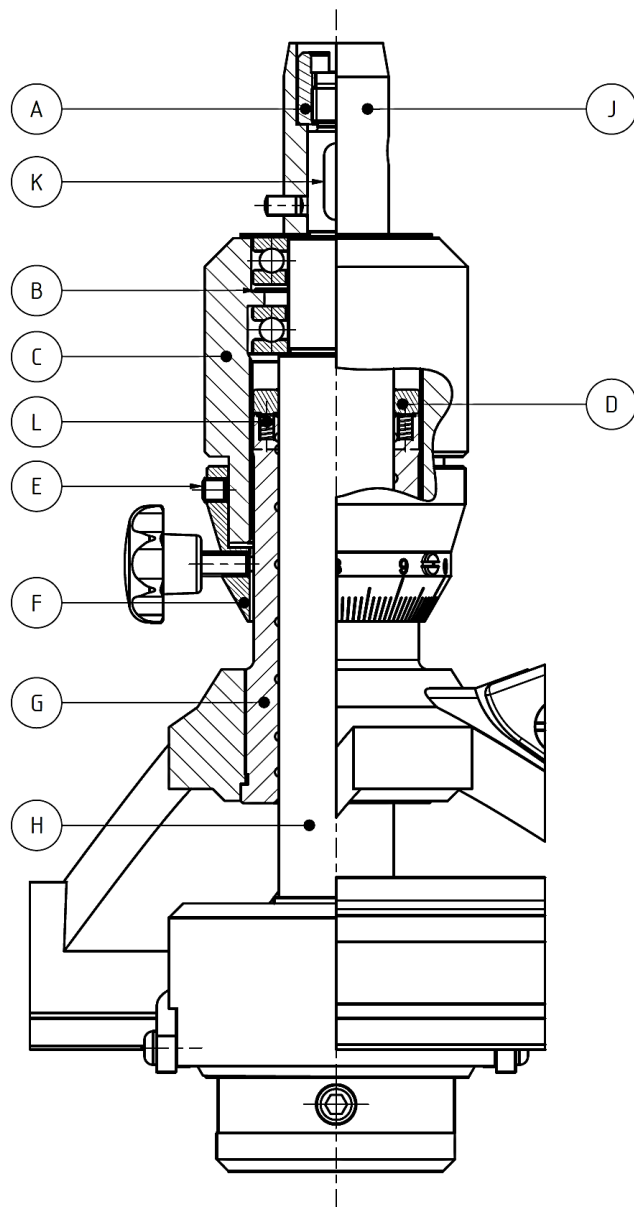
MIRA Order-No.: **18151.4.7096**

Cutting insert No.: 1KWP00598 (90°)

Clamping screw No.: 1MTS04.0

## 7 Maintenance and spare parts

### 7.1 Lubrication of the main spindle and the advancing mechanism

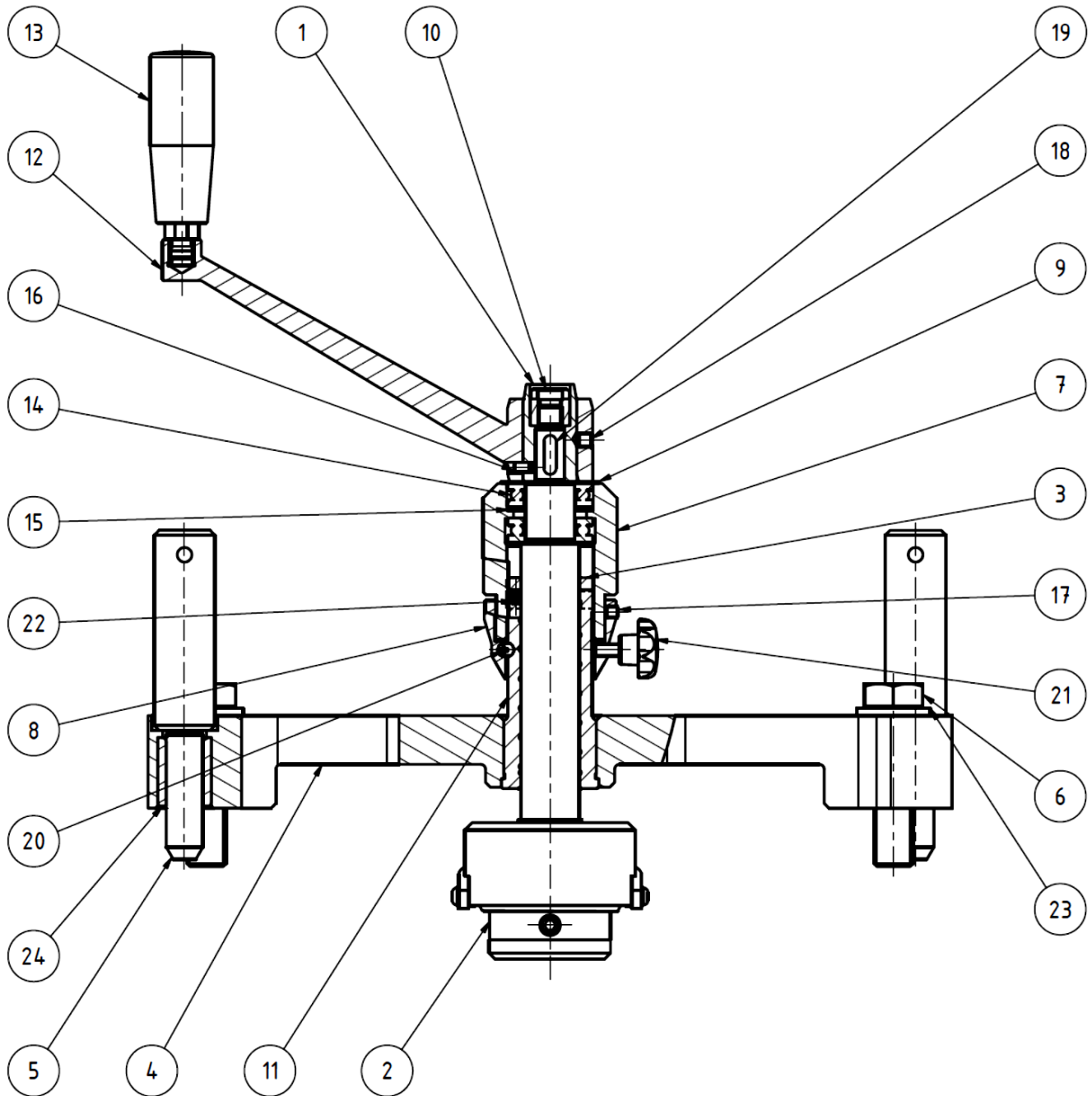


#### Annual service:

1. Remove the vernier (F) from the advancing mechanism (loosen worm screw (E)), but leave it on the spindle guide (G).
2. Loosen special nut (A) and remove adapter or crank handle (J). After removing the key (K), the main spindle (H) can be pulled down completely.
3. Slowly screw the advancing mechanism upward (C). Be careful that none of the parts from the spring-loaded threaded ring (D) get lost.
4. Clean all parts and lubricate them.
5. When screwing on the advancing mechanism (C), be sure the threaded ring (D) is being fixed again in the same position. When reaching the guide (G) with the threaded ring (D), press down the advancing mechanism (C) in order to reduce the play of the springs (L) to zero.
6. When placing the main spindle (H), be sure the compensating spring (B) is properly fixed.



**7.2 Spare parts drawing BB-MTU**



### 7.3 Spare part list to spare parts drawing BB-MTU

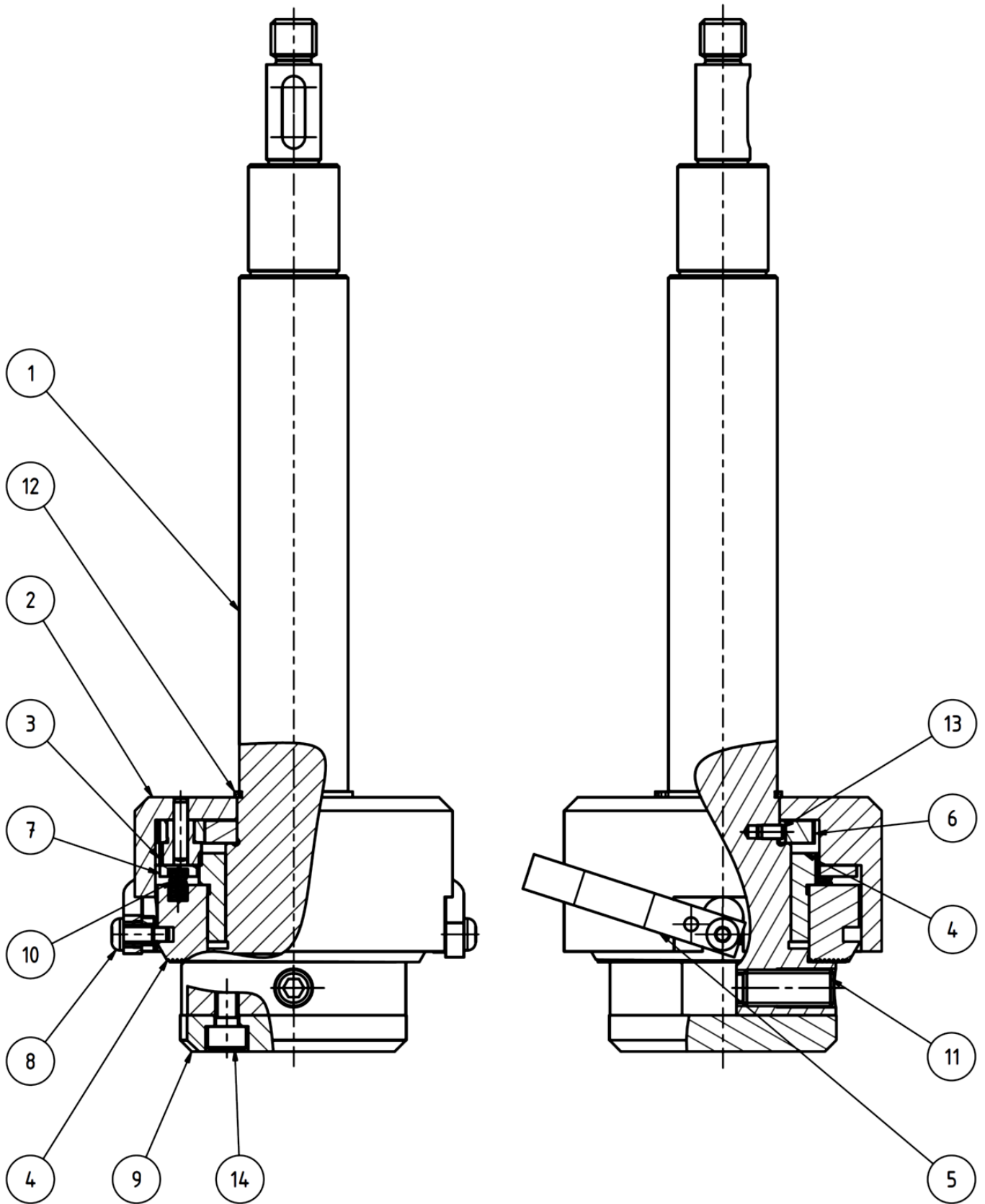
When ordering spare parts, the indication of the serial- and the manufacturing number is always essentially.

Spare parts valid with serial-No.: F6 787252

from manufacturing-No: 0100 < ...

Description	Pos.	Quantity	Part-No.:
Adapter	1	1	18042.4.2474
Main spindle assembly	2	1	18042.3.2390
Threaded ring	3	1	18042.4.2322
Clamping body (basic unit)	4	1	18011.1.7157
Centering pins	5	2	18011.1.7159
Clamping screws	6	4	18011.3.7160
Advancing device metric	7	1	18042.4.2323
Vernier	8	1	18042.4.2324
Cover disk	9	1	18042.4.2325
Special-nut	10	1	18042.4.2473
Guide	11	1	18051.3.2321
Crank handle body	12	1	10151.3.2456
Handle grip M10	13	1	10141.4.1242
Grooved axial ball bearing	14	2	1LAR20
Compensating spring	15	1	1MAS24.5
Dowel pin h6	16	1	1N085804x008
Setscrew	17	1	1N0024M05x004
Setscrew	18	1	1N0024M06x006
Key	19	1	1N087005x05x16
Setscrew slotted, Polyamide	20	2	1N1073M05x006
Locking screw	21	1	1NH6336M5KU
Compression spring	22	6	1MDF03
Washer	23	4	1N0715M16
Bushing Ø15x22/28, DIN 179 A	24	2	1KBB00616
Transport case complete	100	1	18011.2.7720
BB special cutting tool 80°	101	1	18151.4.7095
Cutting insert 80°	102	1	1MHP09
BB special cutting tool 90°	103	1	18151.4.7096
Cutting insert 90°	104	1	1KWP00598
Clamping screw	105	1	1MTS04.0

7.4 Spare parts drawing BB-spindle



## 7.5 Spare part list to spare parts drawing BB-spindle

When ordering spare parts, the indication of the serial- and the manufacturing number is always essentially.

Spare parts valid with serial-No.: F6 787252

from manufacturing-No: 0100 < ...

Description	Pos.	Quantity	Part-No.:
Main spindle	1	1	18051.3.2351
Gear bushing	2	1	18041.4.2352
Toothed wheel assembly	3	2	18041.4.1361
Advancing device assembly	4	1	18041.4.2357
Lifting bow (clamp)	5	1	18041.4.2354
Driving gear wheel	6	1	18041.4.1087
Gliding ring	7	1	18041.4.2353
Lifting bow screw	8	2	18041.4.2358
Cover plate	9	1	18041.4.1148
Compression spring	10	6	1MDF18
Pressure bolt	11	1	1MDB08/20
Retaining ring	12	1	1N0818A24
Dowel pin h6	13	3	1N085803x006
Allen screw	14	3	1N0272M05x008









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Manufacturer and worldwide distributor:

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Switzerland

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